

EDGE READY PLATFORMS

AI

Selection Guide
1st ed.

2026



MEON

▶ Table of Contents

00 Introduction

| | |
|-------------------------------|------|
| About Us | 00-1 |
| Operation Strength | 00-2 |
| AAEON AI Website | 00-3 |
| AAEON eShop | 00-4 |
| AAEON's Embedded OS Solutions | 00-5 |
| AAEON AI-Angel | 00-6 |
| AAEON Hi-Safe | 00-7 |
| AAEON BIOX | 00-8 |

01 Board Level Products

AI Edge Computing Solutions

| | |
|--------------------|------|
| MEX-BTS | 01-1 |
| PICO-APL3-A10-FA11 | 01-2 |
| GAR-A750E | 01-3 |

Gateway Board

| | |
|-------------|------|
| SRT-IMX8P | 01-4 |
| PICO-IMX8PL | 01-4 |
| PICO-AM62 | 01-4 |

Pico-ITX Boards

| | |
|----------------------|-------|
| PICO-ARU4 | 01-5 |
| PICO-MTU4 | 01-5 |
| PICO-MTU4-SEMI | 01-6 |
| PICO-RAP4 | 01-6 |
| PICO-TWL4 Rev.B | 01-7 |
| PICO-ASL4 Rev.B | 01-7 |
| PICO-ADN4 Rev.B | 01-8 |
| PICO-ADN4 | 01-8 |
| PICO-ADN4-SEMI Rev.B | 01-9 |
| PICO-V2K4 | 01-9 |
| PICO-V2K4-SEMI | 01-10 |
| PICO-TGU4 | 01-10 |
| PICO-TGU4-SEMI | 01-11 |
| PICO-WHU4 | 01-11 |
| PICO-WHU4-SEMI | 01-12 |
| PICO-KBU4 | 01-12 |
| PICO-KBU4-SEMI | 01-13 |
| PICO-EHL1 | 01-13 |
| PICO-EHL4 | 01-14 |
| PICO-EHL4-SEMI | 01-14 |
| PICO-APL1 | 01-15 |
| PICO-APL2 | 01-15 |

| | |
|----------------|-------|
| PICO-APL3 | 01-16 |
| PICO-APL3-SEMI | 01-16 |
| PICO-APL4 | 01-17 |
| PICO-BT01 | 01-17 |
| PER-P30D | 01-17 |

Computing On Module

| | |
|-----------------|-------|
| COM-ARHC6 | 01-18 |
| COM-MTHC6 | 01-18 |
| COM-ASLC6 | 01-18 |
| COM-ADNC6 | 01-19 |
| COM-RAPC6 | 01-19 |
| COM-TGHB6 | 01-19 |
| COM-CFHB6 | 01-20 |
| COM-TGUC6 | 01-20 |
| COM-TGUC6 Rev.C | 01-20 |
| COM-WHUC6 | 01-21 |
| COM-ICDB7 | 01-21 |
| NanoCOM-ARH | 01-21 |
| NanoCOM-MTU | 01-22 |
| NanoCOM-RAP | 01-22 |
| NanoCOM-ASL | 01-22 |
| NanoCOM-ADN | 01-23 |
| NanoCOM-TGU | 01-23 |
| NanoCOM-EHL | 01-23 |
| HPC-RPSC | 01-24 |
| HPC-ARHm | 01-24 |
| uCOM-ADN | 01-25 |
| uCOM-ASL | 01-25 |
| uCOM-IMX8P | 01-25 |
| uCOM-IMX93 | 01-26 |
| uCOM-M700/M510 | 01-26 |
| uCOM-3588 | 01-26 |
| uCOM-Q6490 | 01-27 |
| AQ7-ADN | 01-27 |

Computing On Module: Carrier Boards

| | |
|---------------|-------|
| ECB-920A-A11 | 01-28 |
| ECB-927A | 01-28 |
| ECB-980A | 01-28 |
| ECB-960T-A15 | 01-29 |
| ECB-960P | 01-29 |
| ECB-960P-SEMI | 01-29 |

EPIC Boards

| | |
|---------------|-------|
| EPIC-PTH9 | 01-30 |
| EPIC-BTS7 | 01-30 |
| EPIC-ASL9 | 01-31 |
| EPIC-RPS9 | 01-31 |
| EPIC-RPS7 | 01-32 |
| EPIC-ADN9 | 01-32 |
| EPIC-TGH7 | 01-33 |
| EPIC-TGH7-PUC | 01-33 |
| EPIC-BT07 | 01-34 |

SubCompact Boards

| | |
|---------------|-------|
| GENE-MTH6 | 01-35 |
| GENESYSM-MTH6 | 01-35 |
| GENE-ARH6 | 01-36 |
| GENESYSM-ARH6 | 01-36 |
| GENE-TWL5 | 01-37 |
| GENE-ASL5 | 01-37 |
| GENE-ADN5 | 01-38 |
| GENE-ADN6 | 01-38 |
| GENESYSM-ADN6 | 01-39 |
| GENE-TWL6 | 01-39 |
| GENE-ASL6 | 01-40 |
| GENESYSM-ASL6 | 01-40 |
| GENE-RAP6 | 01-41 |
| GENESYSM-RAP6 | 01-41 |
| GENE-ADP6 | 01-42 |
| GENESYSM-ADP6 | 01-42 |
| GENE-TGU6 | 01-43 |
| GENESYSM-TGU6 | 01-43 |
| GENE-WHU6 | 01-44 |
| GENESYS-WHU6 | 01-44 |
| GENE-KBU6 | 01-45 |
| GENE-SKU6 | 01-45 |
| GENE-EHL5 | 01-46 |
| GENE-EHL7 | 01-46 |
| GENE-APL5 | 01-47 |
| GENE-APL6 | 01-47 |
| GENE-APL7 | 01-48 |
| GENE-BT05 | 01-48 |
| GENE-BT06 | 01-49 |

Table of Contents

| | |
|--|-------|
| de next | |
| de next-RAP8 | 01-50 |
| de next-TGU8 | 01-50 |
| de next-V2K8 | 01-50 |
| de next-TGU8-EZBOX | 01-51 |
| de next-RAP8-EZBOX | 01-51 |
| UP Boards | |
| UP 4000 | 01-52 |
| UP 7000 | 01-52 |
| UP 710S | 01-52 |
| UP TWL | 01-53 |
| UP TWLS | 01-53 |
| UP Squared | 01-53 |
| UP Squared V2 | 01-54 |
| UP Squared i12 | 01-54 |
| UP Squared 7100 | 01-54 |
| UP Squared TWL | 01-55 |
| UP Squared Pro 7000 | 01-55 |
| UP Squared Pro TWL | 01-55 |
| UP Squared Pro 710H | 01-56 |
| UP Xtreme i11 | 01-56 |
| UP Xtreme i12 | 01-56 |
| UP Xtreme i14 | 01-57 |
| UP Xtreme ARL | 01-57 |
| UP Xtreme 7100 | 01-57 |
| UP Boards: UP Expansion Modules | |
| MIPICSI Camera RPI Converter Kit | 01-58 |
| MIPICSI Camera RVP Converter Kit | 01-58 |
| UP 4000 M.2 Plus | 01-58 |
| UP POE V2 Expansion Board | 01-58 |
| HDMI In Carrier Board | 01-58 |
| CAN Bus Carrier Board | 01-58 |
| Industrial Motherboards | |
| EMB-APL1 | 01-59 |
| EMB-APL3 | 01-59 |
| EMB-BT1 | 01-60 |
| EMB-BT2 | 01-60 |
| EMB-BT4 | 01-61 |
| MIX-EHLD1 | 01-61 |
| MIX-TLUD1 | 01-62 |
| MIX-H310A1 | 01-62 |
| MIX-H310A2 | 01-63 |

| | |
|---------------------------------|-------|
| MIX-H310D1 | 01-63 |
| MIX-H310D2 | 01-64 |
| MIX-H610A1 | 01-64 |
| MIX-H610A2 | 01-65 |
| MIX-Q370A1 | 01-65 |
| MIX-Q370D1 | 01-66 |
| MIX-Q370D2 | 01-66 |
| MIX-Q670A1 | 01-67 |
| MIX-Q670D1 | 01-67 |
| MIX-ALND1 | 01-68 |
| MIX-ASLD1 | 01-68 |
| MIX-MTLD1 | 01-69 |
| MIX-H810WV1 | 01-69 |
| MIX-Q870A1 | 01-70 |
| MAX-H810A | 01-70 |
| MAX-Q870A | 01-71 |
| MAX-Q670A | 01-71 |
| MAX-Q470A | 01-72 |
| MAX-Q370A | 01-72 |
| MAX-C246A | 01-73 |
| MAX-H310A | 01-73 |
| ATX-Q870A | 01-74 |
| ATX-Q670A | 01-74 |
| ATX-Q370A | 01-75 |
| ATX-C246A | 01-75 |
| ATX-H310A | 01-76 |
| MIX-PTLWV1 | 01-76 |
| Server & Workstation | |
| ARES-WHIO | 01-77 |
| ARES-EAGO | 01-77 |
| ZEUS-PURO | 01-78 |
| ZEUS-WHIO | 01-78 |
| 02 System Level Products | |
| AI@Edge Solutions | |
| BOXER-8221AI | 02-1 |
| BOXER-8223AI | 02-1 |
| BOXER-8224AI | 02-1 |
| BOXER-8240AI | 02-2 |
| BOXER-8251AI | 02-2 |
| BOXER-8253AI | 02-2 |
| BOXER-8256AI | 02-3 |
| BOXER-8621AI | 02-3 |

| | |
|---|-------|
| BOXER-8622AI | 02-3 |
| BOXER-8623AI | 02-4 |
| BOXER-8640AI | 02-4 |
| BOXER-8641AI | 02-4 |
| BOXER-8641AI-PLUS | 02-5 |
| BOXER-8642AI | 02-5 |
| BOXER-8645AI | 02-5 |
| BOXER-8646AI | 02-6 |
| BOXER-8649AI | 02-6 |
| BOXER-8651AI | 02-6 |
| BOXER-8651AI-PLUS | 02-7 |
| BOXER-8652AI | 02-7 |
| BOXER-8652AI-PLUS | 02-7 |
| BOXER-8653AI | 02-8 |
| BOXER-8653AI-PLUS | 02-8 |
| BOXER-8654AI-KIT | 02-8 |
| BOXER-8654AI-KIT-PLUS | 02-9 |
| BOXER-8655AI | 02-9 |
| BOXER-8658AI | 02-9 |
| BOXER-8658AI-PLUS | 02-10 |
| BOXER-8740AI | 02-10 |
| BOXER-8741AI | 02-11 |
| BOXER-8742AI | 02-11 |
| AI Inference Server | |
| MAXER-2100 | 02-12 |
| MAXER-5100 | 02-12 |
| MAXER-5000 | 02-12 |
| RISC Gateway Solutions | |
| SRG-IMX8P | 02-13 |
| SRG-IMX8PL | 02-13 |
| SRG-AM62 | 02-14 |
| SRG-CM4 | 02-14 |
| Compact Fanless BOX PC Solutions | |
| BOXER-6614 | 02-15 |
| BOXER-6616 | 02-15 |
| BOXER-6617-ADN | 02-15 |
| BOXER-6617-ASL | 02-16 |
| BOXER-6619-TWL | 02-16 |
| BOXER-6641 | 02-16 |
| BOXER-6641-PRO | 02-17 |

▶ Table of Contents

| | |
|-----------------|-------|
| BOXER-6642-CML | 02-17 |
| BOXER-6643-TGU | 02-17 |
| BOXER-6645-ADS | 02-18 |
| BOXER-6645U-RPL | 02-18 |
| BOXER-6646-ADP | 02-18 |
| BOXER-6647-MTH | 02-19 |
| BOXER-6648-ARS | 02-19 |
| BOXER-6649-RAP | 02-19 |

Ultra Slim Fanless BOX PC Solutions

| | |
|-----------------|-------|
| BOXER-6404U | 02-20 |
| BOXER-6404 | 02-20 |
| BOXER-6404WT | 02-20 |
| BOXER-6404M | 02-21 |
| BOXER-6405 | 02-21 |
| BOXER-6405M | 02-21 |
| BOXER-6406-ADN | 02-22 |
| BOXER-6406-ASL | 02-22 |
| BOXER-6406U-ADN | 02-22 |
| BOXER-6406U-ASL | 02-23 |
| BOXER-6407-TWL | 02-23 |
| BOXER-6451-ADP | 02-23 |

DIN Rail Fanless BOX PC

| | |
|----------------|-------|
| BOXER-6751-ADP | 02-24 |
| BOXER-6711-ADN | 02-24 |
| BOXER-6710 | 02-24 |

Expandable Fanless BOX PC Solutions

| | |
|----------------|-------|
| BOXER-6801-RAP | 02-25 |
| BOXER-6839-CFL | 02-25 |
| BOXER-6839-RPL | 02-25 |
| BOXER-6842M | 02-26 |
| BOXER-6843-ADS | 02-27 |
| BOXER-6845-BTL | 02-27 |

Smart In-vehicle & AMR BOX PC

| | |
|-----------|-------|
| VPC-3350S | 02-28 |
| VPC-5600S | 02-28 |
| VPC-5640S | 02-28 |

UP Systems

| | |
|--------------|-------|
| UP 4000 Edge | 02-29 |
| UP 7000 Edge | 02-29 |
| UP 710S Edge | 02-29 |

| | |
|---|-------|
| UP TWL Edge | 02-30 |
| UP TWLS Edge | 02-30 |
| UPS-GWS01 | 02-30 |
| UP Squared V2 Edge | 02-31 |
| UP Squared i12 Edge | 02-31 |
| UP Squared 7100 Edge | 02-31 |
| UP Squared TWL Edge | 02-32 |
| UP Squared Pro 7000 Edge | 02-32 |
| UP Squared Pro 710H Edge | 02-32 |
| UP Squared Pro TWL Edge | 02-33 |
| UP Xtreme i11 Edge | 02-33 |
| UP Xtreme i12 Edge | 02-33 |
| UP Xtreme i14 Edge | 02-34 |
| UP Xtreme ARL Edge | 02-34 |
| UP Xtreme PTL Edge | 02-34 |
| UP Xtreme 7100 Edge | 02-35 |
| Intelli i14 Edge | 02-35 |
| Intelli TWL01 Edge | 02-35 |
| UP Xtreme i11 Edge Compute Enabling Kit | 02-36 |

Turn-Key Chassis Solutions

| | |
|----------------|-------|
| ACS-1U01-BT4 | 02-37 |
| ACS-1U01-H110B | 02-38 |
| ACS-1U01 | 02-38 |

03 Network Appliances

Desktop Network Appliances

| | |
|----------|------|
| FWS-2365 | 03-1 |
| FWS-2360 | 03-1 |
| FWS-2280 | 03-1 |
| FWS-2276 | 03-2 |
| FWS-2275 | 03-2 |
| FWS-2273 | 03-2 |
| FWS-2272 | 03-3 |
| FWS-2271 | 03-3 |
| FWS-2277 | 03-3 |
| FWS-2290 | 03-4 |
| FWS-2291 | 03-4 |
| FWS-2292 | 03-4 |
| FWS-2370 | 03-5 |

Rackmount Network Appliances

| | |
|----------|------|
| FWS-8600 | 03-6 |
|----------|------|

| | |
|----------|------|
| FWS-7541 | 03-6 |
| FWS-7840 | 03-6 |
| FWS-7830 | 03-7 |
| FWS-7831 | 03-7 |
| FWS-7360 | 03-7 |
| FWS-7851 | 03-8 |
| FWS-7850 | 03-8 |
| FWS-7370 | 03-8 |
| NIM-S13B | 03-9 |
| NIM-S13D | 03-9 |
| NIM-S13E | 03-9 |
| NIM-C13B | 03-9 |
| NIM-C13D | 03-9 |
| NIM-S26B | 03-9 |
| NIM-S26C | 03-9 |
| NIM-S26D | 03-9 |
| NIM-C15A | 03-9 |

Industrial Network Appliances

| | |
|----------|-------|
| ICS-6270 | 03-10 |
| ICS-6280 | 03-10 |

04 Rugged Mobile & Panel PC Solutions

Rugged Tablet Computers

| | |
|------------|------|
| RTC-710RK | 04-1 |
| RTC-710AP | 04-1 |
| RTC-1010 | 04-2 |
| RTC-1010RK | 04-2 |
| RTC-1020 | 04-3 |
| RTC-1030 | 04-3 |
| RTC-1200 | 04-4 |

Rugged Tablet Computers : Accessories

| | |
|---------------------|------|
| RDS-0710 | 04-5 |
| RDS-411 | 04-5 |
| RDS-241V | 04-5 |
| RDS-1020 | 04-5 |
| RTC-1010-HS-000 | 04-6 |
| RTC-1010-SB-000 | 04-6 |
| RTC-1010-VMP-000 | 04-6 |
| RTC-1010M | 04-6 |
| RTC-1010-DTDPAA-002 | 04-6 |
| RTC-1010-DTDPAA-001 | 04-6 |

| | |
|-------------------|------|
| RTC-1200HSP01-000 | 04-6 |
| RTC-1200BLT01-000 | 04-6 |
| RTC-1200BLT02-000 | 04-6 |
| RTC-1200BKT01-000 | 04-6 |
| RTC-1010BKT-000 | 04-6 |
| RTC-1010-SBG-000 | 04-6 |
| RBC-1200-000 | 04-6 |

RISC Boards

| | |
|-------------------|------|
| RTC-1200BAT01-000 | 04-6 |
| RICO-3288 | 04-7 |
| RICO-3288MINI | 04-7 |
| RICO-3399 | 04-7 |
| RICO-3568 | 04-8 |
| RICO-MX8P | 04-8 |
| RICO-MX8PLITE | 04-8 |

RISC Boxes

| | |
|--------------|-------|
| BOXER-RK88 | 04-9 |
| BOXER-RK99 | 04-9 |
| BOXER-RK3568 | 04-10 |
| BOXER-MX8P | 04-10 |

All in One Panel PC Solutions: ACP Series

| | |
|----------|-------|
| ACP-2106 | 04-11 |
| ACP-2076 | 04-11 |
| ACP-1108 | 04-11 |
| ACP-1106 | 04-12 |
| ACP-1104 | 04-12 |
| ACP-1078 | 04-12 |
| ACP-1076 | 04-13 |
| ACP-1075 | 04-13 |

| | |
|----------|-------|
| ACP-1074 | 04-13 |
|----------|-------|

OMNI Series : Modular Builder - Panel Kit

| | |
|-----------|-------|
| OMNI-215D | 04-14 |
| OMNI-221D | 04-14 |
| OMNI-224D | 04-14 |
| OMNI-227D | 04-15 |
| OMNI-310D | 04-15 |
| OMNI-312D | 04-15 |
| OMNI-315D | 04-16 |
| OMNI-317D | 04-16 |
| OMNI-319D | 04-16 |

OMNI Series : Modular Builder - BOX Kit

| | |
|----------------------|-------|
| OMNI-ADP CPU-BOX Kit | 04-17 |
| OMNI-ADN CPU-BOX Kit | 04-17 |

OMNI Series : Modular Touch Panel Solutions

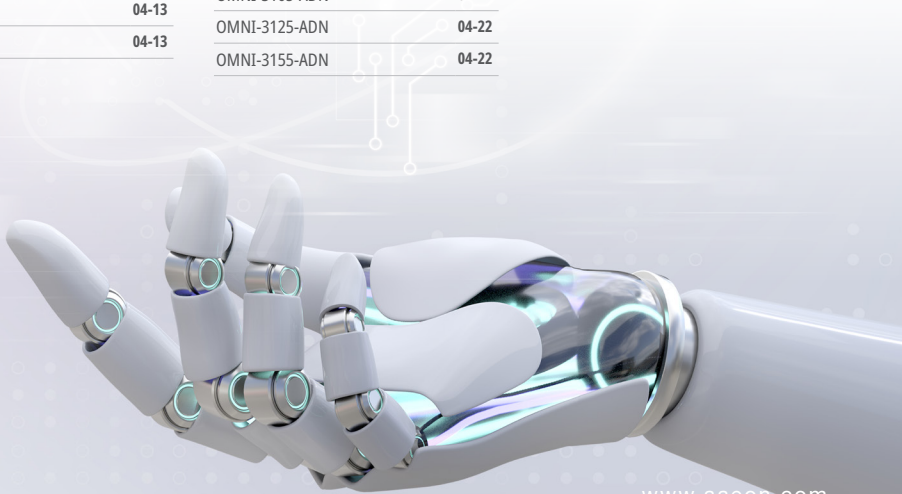
| | |
|---------------|-------|
| OMNI-2155-ADP | 04-18 |
| OMNI-2215-ADP | 04-18 |
| OMNI-2245-ADP | 04-18 |
| OMNI-2275-ADP | 04-19 |
| OMNI-3105-ADP | 04-19 |
| OMNI-3125-ADP | 04-19 |
| OMNI-3155-ADP | 04-20 |
| OMNI-3175-ADP | 04-20 |
| OMNI-3195-ADP | 04-20 |
| OMNI-2155-ADN | 04-21 |
| OMNI-2215-ADN | 04-21 |
| OMNI-3105-ADN | 04-21 |
| OMNI-3125-ADN | 04-22 |
| OMNI-3155-ADN | 04-22 |

OMNI Series : Modular Display Solutions - Panel Kit

| | |
|--------------|-------|
| OMNI-215M | 04-23 |
| OMNI-221M | 04-23 |
| OMNI-310M | 04-23 |
| OMNI-312M | 04-24 |
| OMNI-315M | 04-24 |
| OMNI-317M | 04-24 |
| OMNI-319M | 04-25 |
| OMNI-ADB-KIT | 04-25 |

AI Panel PC Solutions

| | |
|----------------|-------|
| NIKY-2155-NX | 04-26 |
| NIKY-2155-NANO | 04-26 |
| NIKY-2075-NANO | 04-26 |



A member of the ASUS Group: A strong high-tech conglomerate

ASUS Technology and Financing AAEON Design Flexibility and Domain Know-how



OEM/ODM Capability

The OEM/ODM service has been a key factor in AAEON's phenomenal growth over the past 10 years. AAEON offers design services for full custom requirements as well as modification services for its off-the-shelf products. Whatever you need, AAEON has the experience and expertise to help you create or modify products to perfectly fit your requirements.

AAEON.AI

Connecting You **AI**
with AI at the Edge



Introduction

To keep ahead of the ever-growing markets and demand for AI hardware solutions, AAEON is pleased to announce our new webpage, AAEON.ai. AAEON.ai offers developers and systems integrators a centralized resource for finding the latest AI edge computing technology from AAEON.

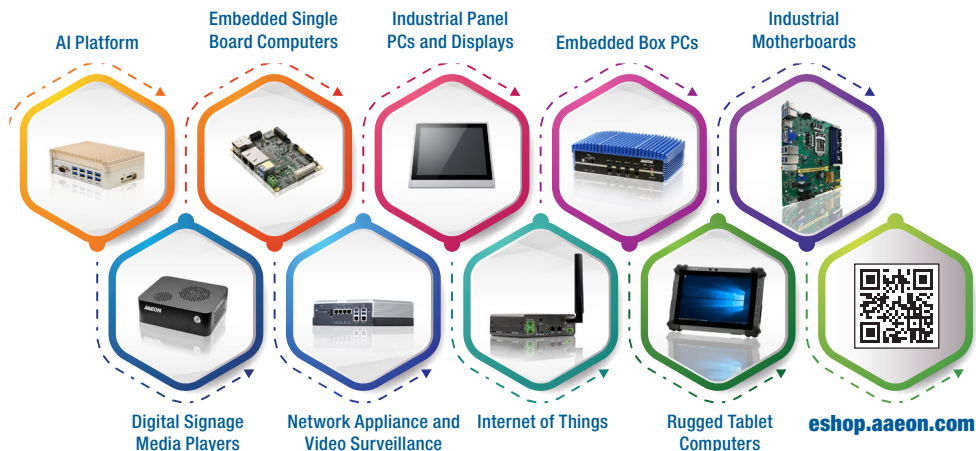
Market analysts have consistently pointed to expanded growth and deployment of Industry 4.0 technologies, especially AI edge computing, in various vertical markets. AAEON.ai collects all of AAEON's rugged, compact, industrial grade AI edge solutions in one convenient location. From boards and systems to AI accelerator modules, AI developers and systems integrators can easily find the platforms that meet their project, budget and performance needs. AAEON.ai will also feature solutions partners, allowing visitors to connect with local vendors and software providers, and building an AI ecosystem designed to make creating and deploying AI applications easier than ever. Visitors to AAEON.ai will also have a chance to learn about the latest news and browse a library of application stories and white papers of real-world applications using AAEON technology.






Visit AAEON.ai today and explore the latest in AI Edge technology from AAEON!

Shop Online for Prompt Global Service

AAEON eShop offers customers a convenient way to quickly place orders from a selection of our latest and most popular IPC, AI and Edge Computing platforms. Orders are processed and shipped within two working days on all in stock items, with 50% off worldwide shipping on all orders over US\$500. Customers can also order any accessories or configurations listed on the AAEON.com product page through eShop. Registering an account on eShop allows customers access to benefits including managing multiple shipping addresses, order tracking, price drop and in stock notifications and more! Visit AAEON eShop today at eshop.aaeon.com.



AAEON eShop Benefits

- 
Fast Processing
 eShop brings you the convenience of fast order processing. Orders are processed and shipped within two working days for all in-stock items.
- 
Easy Payment
 eShop supports payment options including credit card, PayPal™ and even wire transfer. (Advanced notification is needed when using wire transfer.)
- 
50% off Shipping
 Save more when you shop more with eShop! Receive 50% off global shipping on all eShop orders over US\$500.
- 
Official Warranty
 All products sold on eShop are backed by the same official warranty and industry leading support offered on every AAEON product.
- 
Flexible Service
 Purchase any product accessory or configuration listed on the AAEON.com product page, including processor, memory, storage and more. Contact AAEON eShop service representatives for more details. (eShop@aaeon.com)

AAEON's Embedded OS Solutions

AAEON provides Embedded OS Solutions to customers who are in need of OS customization. AAEON's Embedded OS Solutions are designed to shorten times to market and save our customers' time and R&D resources.

Windows® Embedded Products

 Windows 10 IoT

Windows 10 IoT Enterprise LTSC
1809/ 2021

 Windows 11 IoT

Windows 11 IoT Enterprise LTSC
2024

AAEON Embedded OS Solution

| Chipset | Windows® 10 IoT Enterprise | Windows® 11 IoT Enterprise |
|--|----------------------------|----------------------------|
| NXP i.MX8 plus WOA (Windows on ARM) | ✓ | — |
| NXP i.MX8 Mini WOA (Windows on ARM) | ✓ | — |
| Intel® Core™ Ultra Processors Series 2 Arrow lake | ✓ | ✓ |
| Intel® Core™ Ultra Processors Series 1 Meteor Lake | ✓ | ✓ |
| Intel® 13th and 14th Raptor Lake | ✓ | ✓ |
| Intel® 12th Alder Lake | ✓ | ✓ |
| Intel® 11th Tiger Lake | ✓ | ✓ |
| Intel® 10th Comet Lake | ✓ | ✓ |
| Intel® 8th and 9th Coffee Lake | ✓ | ✓ |
| Intel® 8th Whiskey Lake | ✓ | ✓ |
| Intel® 7th KabyLake (Q170/H110/C236) | ✓ | ✓ |
| Intel® 6th SkyLake (Q170/ H110/C236) | ✓ | — |
| Intel® ApolloLake (N4200/N3350/E3930/E3940/E3950) | ✓ | — |

AI Angel is a powerful tool designed to deliver a unified AI model toolkit for systems operating on various hardware devices. It seamlessly integrates inference frameworks such as OpenVINO, Hailo RT, and CUDA, providing a secure and efficient standardized interface for AI applications. AI Angel empowers users to effortlessly build AI models while fully leveraging the performance of CPUs, GPUs, NPUs and dedicated AI accelerator chips. Its core features include one-click environment setup, cross-hardware performance acceleration, and visual performance analysis. Through an intuitive user interface, users can quickly apply trained models to target devices without needing to delve into complex underlying configurations.

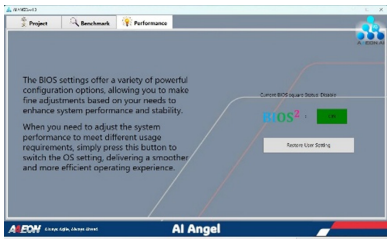
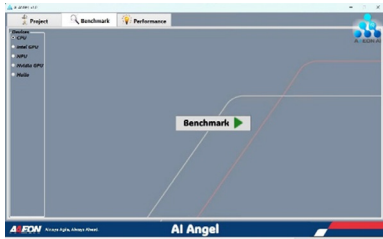
AI-Angel Advantages

- Modern and Flexible User Interface
- Simple One-Click Environment Setup
- Real-Time Hardware Usage Monitoring
- BIOS2 (BIOS + OS) Optimization Setting



Supports

| AI Accelerator | Windows 10 21H2 LTSC | Windows 11 24H2 LTSC |
|----------------|----------------------|----------------------|
| Hailo 8 | ✓ | ✓ |
| Intel NPU | — | ✓ |
| Intel GPU | ✓ | ✓ |
| Nvidia GPU | ✓ | ✓ |

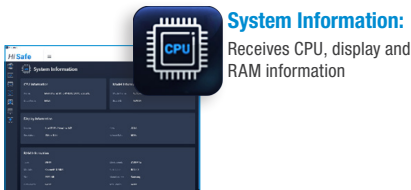
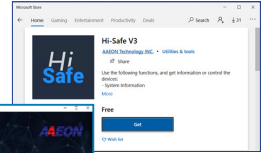


AAEON Hi-Safe

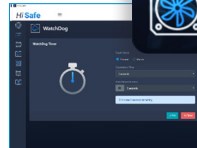
Hi-Safe is a powerful, free program which provides SDKs for systems and UIs running Microsoft® Windows® operating systems. Hi-Safe controls system hardware by utilizing the Windows Management Interface, providing a safe and standard interface for Windows machines. Hi-Safe allows end users to easily develop their own UI software to monitor vital system components such as the processor, RAM and display. It also provides interface and functionality for Hardware Monitor, Digital I/O, Watchdog timer, Smart Fan settings, SM Bus, and backlight controller for LVDS and eDP. With the SDK user interface, no coding is needed, and customers can create their own user interface by using the function codes provided by AAEON. Customers can download the Hi-Safe V3 application directly from the Microsoft Store.

Hi-Safe V3 Advantages

- **Modern and Flexible User Interface**
- **Easy and Friendly to Use**
- **Safe Operation Control for Windows**



System Information:
Receives CPU, display and RAM information



Smart Fan:
Supports multi-stage adjustment of temperature and speed controls



Hardware Monitor:
Receives super I/O, fan, temperature and voltage data



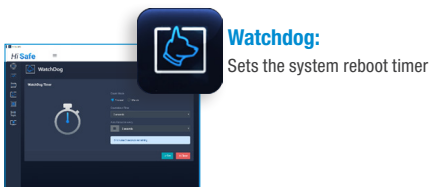
SM Bus:
Reads and writes to SMBus device and detects SMBus base address automatically



DIO:
Obtains DIO information: sets the pin direction and pin data



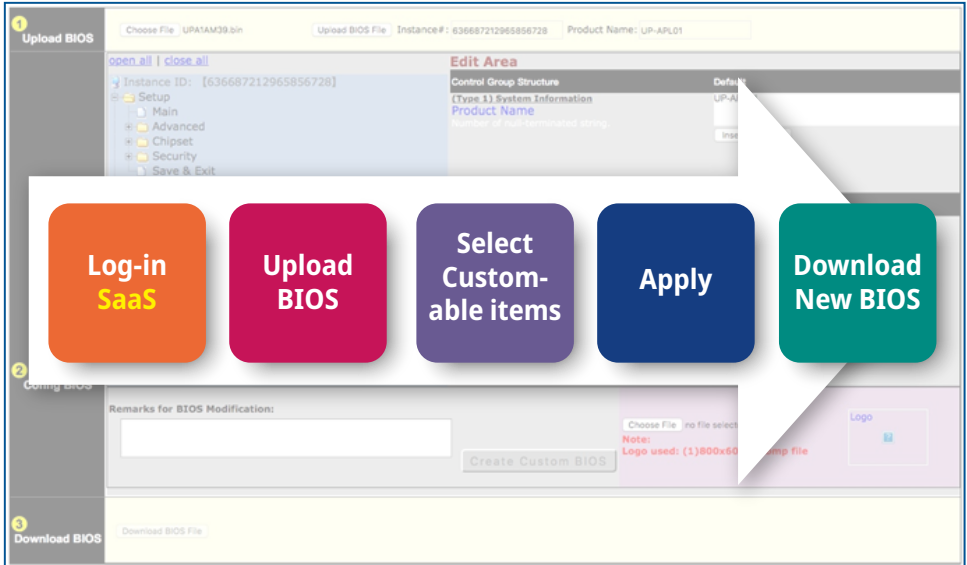
Backlight Controller:
Controls LVDS or eDP display



Watchdog:
Sets the system reboot timer

AAEON BIOX

BIOX is a BIOS customization SaaS solution for AAEON products. Most field applications and deployments require BIOS customization for platforms and systems to meet a customer's requirements. Often this requires constant communication with vendors, possibly delaying deployment or slowing down maintenance. With BIOX, the end user can customize the BIOS on their own, anytime, in five simple steps, without the need to contact a service rep.



BIOX Advantages

Modern and Flexible User Interface

- Logo
- Boot Order
- Setup Values
- SMBIOS Strings
- Password Management

Version Control Access

- Retrievable
- Re-customizable
- History Traceable



**AAEON Software
Support Portal:**

<https://aaeoncm.github.io/>

01



▶ **Board Level
Products**

OT



| Model | MEX-BTS |
|-----------------------------|---|
| System | |
| Form Factor | MXM System |
| CPU | 12th/13th/14th Generation Intel® Core™ & Intel® Core™ Series 2 Processors, up to 65W |
| Chipset | Intel® R680E Chipset Intel® Q670E Chipset Intel® H610E Chipset (Optional) |
| Memory Type | Dual Channel DDR5 SODIMM x 2, up to 5200, 64GB (ECC support for R680E SKU only) Note: DDR speed is dependent on CPU SKU |
| BIOS | UEFI |
| Wake On Lan | Yes (Onboard LAN only) |
| Watchdog Timer | 255 Levels |
| Security | TPM 2.0 |
| RTC Battery | Lithium Battery 3V/240mAh |
| Dimension | 11.6" x 7.3" x 1.9" (295mm x 186mm x 50mm) |
| OS Support | Windows® 10 (Versions 22H2 and later) Windows 11 Ubuntu 24.04 Kernel 6.11 |
| Power | |
| Power Requirement | +19V – +24V |
| Power Supply Type | AT/ATX |
| Connector | 4-pin Phoenix Connector |
| Power Consumption | Intel® Core™ 7 251E, DDR5 32GB x 2, 6.58A @24V, 157.92W (Typical) Intel® Core™ 7 251E, DDR5 32GB x 2, 12.16A @24V, 291.84 (Max) |
| Display | |
| Controller | CPU Graphic Controller Intel® UHD Graphics 770 (i5 SKU and above) Intel® UHD Graphics 730 (i3 SKU) |
| LVDS/eDP | — |
| Display Interface | HDMI 2.0 x 1, up to 3840 x 2160 @60Hz (from Main Board) DP++ 1.4 x 2 (from MXM Module ,optional) |
| Multiple Display | 1 Display from Main Board Up to 2 Simultaneous Displays from MXM Module |
| Audio | |
| CODEC | Realtek ALC897 |
| Audio Interface | Line-In/Line-Out/Mic |
| Speaker | — |
| External I/O | |
| Ethernet | Intel® Ethernet Controller I226-LM, 2.5GbE RJ-45 x 2, from FPC (optional) Intel® Ethernet Controller I226-V, 2.5GbE RJ-45 x 3 Intel® Ethernet Connection I219-LM, GbE RJ-45 x 1 |
| USB | USB 3.2 Gen 2 x 4 , USB 2.0 x 2 |
| Serial Port | — |
| Video | HDMI 2.0 x 1, up to 3840 x 2160 @60Hz (from Main Board) DP++1.4 x 2, up to 3840 x 2160 (from MXM Module ,optional) |
| Internal I/O | |
| USB | — |
| Serial Port | COM 1 – COM 4 (RS-232/422/485 x 2 + RS-232 x 2, RI as default, 5V/12V selected by BOM change) |
| Video | — |
| SATA | SATA 6Gb/s x 1 (Optional) |
| Audio | Audio Header x 1 |
| DIO/GPIO | GPIO-16 bits |
| SMBus/I2C | SMBus (Default) / I2C |
| Touch | — |
| Fan | 4-Pin Smart Fan (CPU) x 1, 3-Pin Fan (MXM Module) x 1, System Fan x 1 |
| SIM | Nano SIM x 1 |
| Front Panel | Power Button, Power LED |
| Others | — |
| Expansion | |
| Mini PCI-E/mSATA | — |
| M.2 | M.2 2280 M-Key x 2 (PCIe 4.0 [x4] x 1 + PCIe 3.0 [x4] x 1) M.2 3052 B-Key x 1 (PCIe 3.0 [x2] + USB 3.2 + USB 2.0) Full-size Mini Card x 1 (PCIe 3.0 [x1] + USB 2.0) |
| Others | MXM 3.1 Type A / Type B Module slot, TGP up to 120W |
| Environment & Certification | |
| Operating Temperature | 32°F ~ 122°F (0°C ~ 50°C) with 0.5m/sec airflow |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | 768,724 |
| EMC | CE/FCC Class A |
| Note | |



| Model | PICO-APL3-A10-FAI1 |
|-----------------------------|---|
| SYSTEM | |
| FORM FACTOR | PICO-ITX |
| CPU | Intel® Celeron® Processor: Pentium N4200 (4C/4T, 1.10GHz, up to 2.50GHz, TDP 6W) |
| CHIPSET | Integrated with Intel® SoC |
| MEMORY TYPE | Onboard DDR3L 4GB |
| BIOS | UEFI |
| WAKE ON LAN | Yes |
| WATCHDOG TIMER | 255 Levels |
| SECURITY | |
| RTC Battery | Lithium Battery 3V/240mAh |
| DIMENSION | 3.94" x 2.84" (100mm x 72mm) |
| Gross Weight | 0.18 lbs. (0.08 kg) |
| OS Support | Windows 10 (64 bit) |
| POWER | |
| POWER REQUIREMENT | +12V |
| POWER SUPPLY TYPE | AT/ATX |
| CONNECTOR | Lockable DC Jack Connector |
| POWER CONSUMPTION | Intel® N4200 processor, DDR3L 4GB, 1.1A@12V |
| DISPLAY | |
| CONTROLLER | Intel® HD Graphics 505 |
| LVDS/eDP | — |
| Display Interface | HDMI 1.4b x 1 (up to 3840 x 2160@30Hz) |
| Multiple Display | 1 Simultaneous Displays |
| AUDIO | |
| CODEC | — |
| AUDIO INTERFACE | — |
| Speaker | — |
| EXTERNAL I/O | |
| ETHERNET | Realtek 8111 Gigabit Ethernet 10/100/1000Base, RJ-45 x 1 |
| USB | USB 3.2 Gen 1 x 2 |
| SERIAL PORT | — |
| VIDEO | HDMI 1.4b x 1 (up to 3840 x 2160@30Hz) |
| INTERNAL I/O | |
| USB | USB 2.0 x 2 (Internal, co-use with FAN connector) |
| SERIAL PORT | COM1 (RS232) |
| VIDEO | eDP x 1 (up to 3840x2160@60Hz, Optional) |
| SATA | SATA 6Gb/s x 1 +5V SATA Power Connector x 1 eMMC 32GB |
| AUDIO | — |
| DIO/GPIO | 4-bit |
| SMBus/I2C | I2C/SMBus x 1 (I2C as default) |
| Touch | — |
| FAN | — |
| SIM | — |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset |
| Others | — |
| EXPANSION | |
| Mini PCI-E/mSATA | — |
| M.2 | M.2 E-Key 2230 x 1 (PCIe/USB) M.2 B-Key 2280 x 1 (SATA/USB) |
| Others | — |
| ENVIRONMENT & CERTIFICATION | |
| OPERATING TEMP | 32°F ~ 140°F (0°C ~ 60°C) |
| STORAGE TEMP | -40°F ~ 185°F (-40°C ~ 85°C) |
| OPERATING HUMIDITY | 0% ~ 90% relative humidity, non-condensing |
| MTBF (HOURS) | 110,000 |
| EMC | CE/FCC Class A |
| Note | |

Board Level Products

AI Edge Computing Solutions



| Model | GAR-A750E |
|-------------------------------------|--|
| System | |
| Graphics High Frequency | 2050MHz |
| Graphics Turbo Frequency | 2400MHz |
| Xe-Core | 28 |
| Render Slices | 7 |
| Ray Tracing Units | 28 |
| Intel® XMN Engines | 448 |
| Xe Vector Engines | 448 |
| Memory Size | 16GB GDDR6 |
| Graphics Memory Interface | 256 bit |
| Graphics Memory Bandwidth | 512 GB/s |
| Graphics Memory Speed | 16 Gbps |
| Bus Type | PCI Express 4.0 x16 |
| TBP | 225W |
| Display output | DP 2.0 x 4 up to UHBR 10 |
| Resolution | DP: 7680 x 4320@60Hz |
| H.264 Hardware Encode/Decode | Yes |
| H.265 (HEVC) Hardware Encode/Decode | Yes |
| AV1 Encode/Decode | Yes |
| VP9 Bitstream & Decoding | Yes |
| Features | |
| Ray Tracing | Yes |
| Variable Rate Shading (VSR) | Yes |
| DirectX Support | DirectX 12 Ultimate |
| Vulkan | 1.3 |
| OpenGL | Up to 4.6 |
| OpenCL | 3.0 |
| Adaptive Sync | Yes |
| AV1 Encode / Decode | Yes |
| VP9 Bistream & Decoding | Yes |
| Intel Deep Link Hyper Compute | Yes |
| Intel Deep Link Hyper Encode | Yes |
| Intel Deep Link Stream Assist | Yes |
| Mechanical | |
| Dimension | 236mm x 109mm x 42mm |
| Requirement | |
| Minimum recommended PSU | 550 Watt or greater (for single graphics card configuration) |
| PCIe power connector | Two available 8-pin or 6+2pin |
| OS | Windows 11, Windows 10, Ubuntu* 22.04. |
| Graphics slot | PCI Express 3.0, 4.0 or 5.0 compliant motherboard with one |
| Note | |



| Model | SRT-IMX8P | SRT-IMX8PL | PICO-AM62 |
|---------------------------------|---|--|---|
| System Form Factor | — | PICO-ITX, 2.5" SBC | PICO ITX , 2.5" SBC |
| Processor | ARM NXP i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor (NPU Optional) | ARM NXP i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor (Default w/NPU, optional w/o NPU) | ARM TI AM62x, up to Quad 64-bit Arm® Cortex®-A53 |
| Memory | Onboard LPDDR4 2GB (Optional 4GB) | Onboard LPDDR4 up to 4GB | Onboard DDR4 16 bit, up to 4 GB |
| Storage | eMMC 5.1 16GB (Optional 32GB) | eMMC 5.1 16/32GB (Optional 64/128 GB) Micro SD Card slot x1 | eMMC 5.1 16 GB (Optional 32/64/128 GB) Micro SD Card slot x1 |
| Real Time Clock | RTC x 1, with 3V CR2032H Lithium Battery | | |
| Security | TPM 2.0 | TPM 2.0 (optional) | |
| Indicators | Programmable LED control x 7 | Programmable LED control x 3 | |
| Cellular | Mini PCIe Connector x 1 (USB signal) | Full Size Mini Card x 1 (USB signal) | |
| Wireless Lan | Mini PCIe Connector x 1 (USB signal) | M.2 2230 E-key x 1 (USB, PCIe) | Half Size Mini Card x 1 (USB signal) |
| Operating System | Debian 11 (Default, GUI is optional) Android 13 Win 10 IoT Yocto | Debian 11 (Default, GUI is optional) Debian 12 (By request) Android 13 Yocto | Debian 12 (w/ GUI) |
| Support Protocol I/O Interfaces | — | Modbus, MQTT, OPCUA | — |
| Serial Port | RS-232/422/485 switchable x 2, Phoenix Connector | | RS-232/422/485 switchable x 4, 2 by Phoenix Connector, 2 by pin header |
| Ethernet | Gigabit Ethernet x 2, RJ-45 | Gigabit Ethernet x 2, RJ-45 support IEEE 1588, TSN, integrated RGMII | |
| Audio | — | Line in / Line Out / Mic x 1 (optional) | |
| USB | USB 3.0 Type-A x 2 | USB 3.0 Gen1 x 2 (rear I/O) USB 2.0 x 1 (pin header) | USB 2.0 Gen1 x 2 (rear I/O) -Host/device by image option, default: host x 1 -Host x 1 -USB2.0 (Pin Header) x 1 |
| ADC | — | | |
| DI/DO | — | | |
| CAN Bus | CAN-FD x 2 CH, Phoenix Connector | | CAN-FD x 2 CH, Phoenix Connector (optional) |
| Display | HDMI 2.0a x 1 | HDMI 2.0 x 1 LVDS x 1, dual channel, 18/24bit | HDMI 1.4b up to 1080p x 1 LVDS x 1, dual channel, 18/24bit |
| Power Connector | 2 Pin 3.81mm Pitch Phoenix Connector | | |
| Debug Port | Micro USB x 1 | | |
| Expansion Slot | SIM card slot x 1 Micro SD slot x 1 | M.2 2230 E-key x 1, support Wifi/BT module, etc Full Size Mini Card x 1, support 4G module, etc Power control available by software Nano SIM card slot x 1 (for PICO-IMX8PL-A12 only) | Half Size Mini Card (USB2.0) x 1, power control available by software Full Size Mini Card (USB2.0) x 1, power control available by software SPI x 4 (optional) I2C x 2 (optional) UART x 2 (optional) |
| Other Interface | Board to board connector to ODM board (PCIe Gen3 x 1, USB 3.0 x 1, I2C x 2, GPIO x 4) | GPIO x 8 (w/o TPM: include SPI x1, I2C x1, GPIO x2, w/TPM: I2C x1, GPIO x2) UART x 1 (optional w/o debug port) | GPIO x 1, I2C x 1, SPI x 1 (CSx2) |
| Power Supply | DC 9-36V (Optional: 12V) | | |
| Power Requirement | DC 9-36V | DC 9-36V (Optional: 12V) | |
| Power Consumption | 9.36W (Full Loading) | 14.8W (Full Loading) | 5.76W (Full Loading) |
| MTBF (Hours) | 479,374 | 1,699,754 Hours | 1,279,408 Hours |
| Environmental and Mechanical | — | | |
| Dimension | 3.66" x 5.43" (93 x 138mm) | 3.94" x 2.84" (100mm x 72mm) | |
| Weight | 0.7lb (350 g) | 0.18 lbs (0.08 kg) | |
| Mount Options | — | | |
| Operation Temperature | -4 °F ~ 158 °F (-20 °C ~ 70 °C) | -40 °F ~ 176 °F (-40 °C ~ 80 °C) (Option: 0°C ~ 60°C) | -40 °F ~ 185 °F (-40 °C ~ 85 °C) (Option: 0°C ~ 60°C) |
| Storage Temperature | -40 °F ~ 176 °F (-40 °C ~ 80 °C) | | |
| Operation Humidity | 10% ~ 95% relative humidity, non-condensing | 0% ~ 90% relative humidity, non-condensing | |
| Certification | CE/FCC Class A UL61010/IEC61000-6-2/IEC61000-6-4/IEC61131-2 | CE/FCC Class A | |
| Note | | | |

Board Level Products

Pico-ITX Boards



| Model | PICO-ARU4 | PICO-MTU4 |
|-----------------------------|--|--|
| System Form Factor | PICO-ITX | |
| CPU | Intel® Core™ Ultra 7 Processor 255U (2PC+10EC/14T, P-core 2.00 GHz, E-core 1.70 GHz, 15W) Intel® Core™ Ultra 5 Processor 225U (2PC+10EC/14T, P-core 1.50 GHz, E-core 1.30 GHz, 15W) | Intel® Core™ Ultra 7 Processor 165U (2PC+10EC/14T, P-core 1.70 GHz, E-core 1.20 GHz, 15W) Intel® Core™ Ultra 7 Processor 155U (2PC+10EC/14T, P-core 1.70 GHz, E-core 1.20 GHz, 15W) Intel® Core™ Ultra 5 Processor 135U (2PC+10EC/14T, P-core 1.60 GHz, E-core 1.10 GHz, 15W) Intel® Core™ Ultra 5 Processor 125U (2PC+10EC/14T, P-core 1.30 GHz, E-core 0.80 GHz, 15W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | Single-Channel LPDDR5 6400, up to 32GB | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 3.94" x 2.84" (100mm x 72mm) | |
| Gross Weight | 0.18 lb (0.08 kg) | |
| OS Support | Windows 10/11 (64bit) Linux Ubuntu 22.04.2 kernel 5.19.0 32 generic | |
| Power | | |
| Power Requirement | 12V only | |
| Power Supply Type | AT/ATX | |
| Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (Optional) | |
| Power Consumption | Intel® Core™ Ultra 7 Processor 255U, DDR5 32GB x 1, 2.85A @+12V (Typical) Intel® Core™ Ultra 7 Processor 255U, DDR5 32GB x 1, 6.96A @+12V (Max) | Intel® Core™ Ultra 7 Processor 165U, DDR5 32GB x 1, 2.94A@+12V (Typical) Intel® Core™ Ultra 7 Processor 165U, DDR5 32GB x 1, 5.13A@+12V (Max) |
| Display Controller | Intel® Graphics | |
| LVDS/eDP | eDP 1.4 x 1 | |
| Display Interface | HDMI 1.4 x 1, 3840 x 2160 @30Hz | |
| Multiple Display | Up to 2 Simultaneous Displays | |
| Audio | | |
| Codec | — | |
| Audio Interface | — | |
| Speaker | — | |
| External I/O | | |
| Ethernet | Intel® Ethernet Controller I226, 2.5GbE, RJ-45 x 1 Intel® Ethernet Connection I219, 1GbE RJ-45 x 1 | Intel® Ethernet Controller I226 2.5GbE, RJ-45 x 1 Intel® Ethernet Connection I219, 1GbE, RJ-45 x 1 |
| USB | USB 3.2 Gen 2 x 2 ports | |
| Serial Port | — | |
| Video | HDMI 1.4 x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 2 | |
| Serial Port | COM 1 ~ 2 (RS-232/422/485, supports 5V/12V/RI) | |
| Video | — | |
| SATA | SATA 6Gb/s x 1 +5V SATA Power Connector x 1 | |
| Audio | | |
| DIO/GPIO | GPIO 4-bit | |
| SMBus/I2C | I2C/SMBus (Default: SMBus) | |
| Fan | 4pins Smart Fan x1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | | |
| Mini PCIe/mSATA | | |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x4] / SATA, Default: PCIe [x4], select by BOM) M.2 2230 E-Key x 1 (PCIe 4.0 [x1] + USB 2.0) | |
| Others | — | |
| Environment & Certification | | |
| Operating Temp | -4°F ~ 158°F (-20°C ~ 70°C) | |
| Storage Temp | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 1,063,716 | |
| EMC | CE/FCC Class A | |
| Note | | |



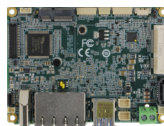
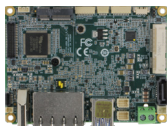
| Model | PICO-MTU4-SEMI | PICO-RAP4 |
|-----------------------------|--|--|
| System Form Factor | PICO-SEMI | PICO-ITX |
| CPU | Intel® Core™ Ultra 5 Processor 125U (2PC+10EC/14T, P core 1.30 GHz, E core 0.80 GHz, 15W) | 13th Generation Intel® Core™/U series Processors: Intel® Core™ i7-1360P (4P+8E/16T, 2.20 GHz, 28W) Intel® Core™ i7-1370PE (6P+8E/20T, 1.90 GHz, 28W) Intel® Core™ i7-1370PRE (6P+8E/20T, 1.90 GHz, 28W) Intel® Core™ i5-1340PE (4P+8E/16T, 1.80 GHz, 28W) Intel® Core™ i3-1320PE (4P+4E/12T, 1.70 GHz, 28W) Intel® Processor U300E (1P+4E/6T, 1.10 GHz, 15W) |
| Chipset | | Integrated with Intel® SoC |
| Memory Type | Single Channel LPDDR5 6400, up to 32GB | DDR5 5200, SODIMM x 1, Non-ECC (Max. 32GB) |
| BIOS | | UEFI |
| Wake on LAN | | Yes |
| Watchdog Timer | | 255 Levels |
| Security | | TPM2.0 |
| RTC Battery | | Lithium Battery 3V/240mAh |
| Dimension | 4.25" x 3.74" x 1.69" (108mm x 95mm x 43mm) | 3.94" x 2.84" (100mm x 72mm) |
| Gross Weight | 1.10 lb (0.60 kg) | 0.18 lb (0.08 kg) |
| OS Support | Windows 10/11 (64 bit) Linux Ubuntu 22.04.2 kernel 5.19.0 32 generic | Windows 10/11 (64 bit) Ubuntu 22.04.2 (eDP is verified on Ubuntu 23.10.1) |
| Power Requirement | +12V | 12V only |
| Power Supply Type | ATX | AT/ATX |
| Connector | Lockable DC Jack Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (Optional) |
| Power Consumption | Intel® Core™ Ultra 5 Processor 125U, LPDDR5 32GB (Micron 3UC47 D8DRX x2), 2.75A @ +12V (Typical) Intel® Core™ Ultra 5 Processor 125U, LPDDR5 32GB (Micron 3UC47 D8DRX x2), 4.95A @ +12V (Max) | Intel® Core™ i7-1370PE, DDR5 32GB, 4.51A@ +12V (TYPICAL) Intel® Core™ i7-1370PE, DDR5 32GB, 7.46A@ +12V (MAX) |
| Display Controller | Intel® Graphics | Intel® UHD Graphics |
| LVDS/eDP | — | LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz eDP 1.4 x 1, up to 3840 x 2160 (Optional) |
| Display Interface | | HDMI 1.4 x 1, 3840 x 2160 @30Hz |
| Multiple Display | 1 Display | Up to 2 Simultaneous Displays |
| Audio | | |
| Codec | — | Realtek ALC256 (Optional) |
| Audio Interface | — | Line-in/Line-out/Mic (Optional, Audio function not available for WITAS SKU) |
| Speaker | | — |
| External I/O | | |
| Ethernet | Intel® Ethernet Controller I226, 2.5GbE, RJ 45 x 1 Intel® Ethernet Connection I219, 1GbE, RJ 45 x 1 | Intel® Ethernet Controller I226, 2.5GbE RJ-45 x 1 Intel® Ethernet Connection I219, 1GbE RJ-45 x 1 |
| USB | | USB 3.2 Gen 2 x 2 |
| Serial Port | COM 1~2 (RS-232/422/485, support 5V/12V/Ri, Optional) | — |
| Video | | HDMI 1.4 x 1 |
| Internal I/O | | |
| USB | — | USB 2.0 x 2 |
| Serial Port | — | COM1~2 (RS232/422/485, supports 5V/12V/Ri) |
| Video | — | LVDS/eDP x 1 (Default: LVDS) Inverter x 1 (12V/2A) |
| SATA | — | SATA 6Gb/s x 1 +5V SATA Power Connector x 1 |
| Audio | — | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) |
| DIO/GPIO | GPIO 4-bit (Optional) | GPIO 8-bit |
| SMBus/I2C | — | SMBus/I2C x 1 (Default: SMBus) |
| Fan | — | 4-pin Smart Fan x 1 |
| Front Panel | | HDD LED, PWR LED, Power Button, Buzzer, Reset |
| Others | | — |
| Expansion | | |
| Mini PCIe/msATA | — | Half-size mSATA/mPCIe x 1 (default: mSATA, select with BIOS) |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x4]/SATA, Default: PCIe [x4], select by BOM) M.2 2230 E-Key x 1 (PCIe 4.0 [x1] + USB 2.0) | M.2 2280 M-Key x 1 (PCIe 4.0 [x4]) |
| Others | — | MIPI-CSI via 61-Pin FPC Connector |
| Environment & Certification | | |
| Operating Temp | 14°F ~ 122°F (-10°C ~ 50°C) with 0.7m/s air flow | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temp | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | 1,063,716 | 1,087,053 |
| EMC | | CE/FCC Class A |
| Note | | |

Note: All specifications are subject to change without notice.

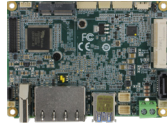
www.aaeon.com

Board Level Products

Pico-ITX Boards



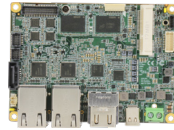
| Model | PICO-TWL4 Rev.B | PICO-ASL4 Rev.B |
|-----------------------------|--|--|
| System Form Factor | PICO-ITX | |
| CPU | Intel® Processor N150 (4C, 0.80GHz, 6W) Intel® Core™ 3 Processor N355 (8C, 1.90GHz, 15W) | Intel Atom® x7000E Series Atom® x7433RE(4C, 1.5GHz, 9W) Atom® x7835RE(8C, 1.3GHz, 12W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR5 4800, Single Channel SODIMM x 1, Max.16GB, Non-ECC | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM2.0 | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 3.94" x 2.84" (100mm x 72mm) | |
| Gross Weight | 0.18 lb (0.08 kg) | |
| OS Support | Windows 10/11 (64-bit) Ubuntu 22.04.2/Kernel 5.19 | |
| Power | | |
| Power Requirement | +12V (Optional: +9 ~ 36V, support by power adapter card) | |
| Power Supply Type | AT/ATX | |
| Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (Optional) | |
| Power Consumption | Intel® Core™ 3 Processor N355, DDR5 16GB x 1, 3.53A @+12V (Typical) Intel® Core™ 3 Processor N355, DDR5 16GB x 1, 5.25A @+12V (Max) | Intel® x7835RE, DDR5 16GB x1, 3.06A@ +12V (Typical) Intel® x7835RE, DDR5 16GB x1, 4.21A@ +12V (Max) |
| Display Controller | Intel® UHD Graphics for 12th Gen Intel® Processors | |
| LVDS/eDP | LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz eDP 1.4 x 1, 3840 x 2160 @60Hz (Optional) | |
| Display Interface | HDMI 1.4 x 1, 3840 x 2160 @30Hz | |
| Multiple Display | Up to 2 Simultaneous Displays | |
| Audio Codec | Realtek ALC256 (Optional) | |
| Audio Interface | Line-out (Optional, audio function not available for WITAS SKU) | |
| Speaker | | |
| External I/O | | |
| Ethernet | Intel® Ethernet Controller i226, 2.5GbE, RJ-45 x 1 Realtek RTL8111H-CG, 1GbE, RJ-45 x 1 | Intel® i226 2.5GbE, RJ-45 x 1 Realtek. RTL8111H-CG, 1GbE, RJ-45 x 1 |
| USB Serial Port | USB 3.2 Gen2[x1] x 2 ports | |
| Video | HDMI 1.4 x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 4 | |
| Serial Port | COM 1~2 (RS-232/422/485, supports 5V/12V/R) COM 3~4 (RS-232) | |
| Video | LVDS/eDP x 1 (Default: LVDS) Inverter x 1 (12V/2A) | |
| SATA | SATA 6.0Gbps x 1 +5V SATA Power Connector x 1 | |
| Audio | Line-out header x 1 (Optional, audio function not available for WITAS SKU) | |
| DIO/GPIO | GPIO 4-bit | |
| SMBus/I2C | SMBus/ I2C x 1 (Default: SMBus) | |
| Fan | 4-pin Smart Fan x 1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | | |
| Expansion | | |
| Mini PCIe/msATA | Full-size mSATA/mPCIe x 1 (default: mSATA, select with BIOS) | |
| M.2 | M.2 2230 E-Key x 1 | |
| Others | | |
| Environment & Certification | | |
| Operating Temp | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2 -40°F ~ 185°F (-40°C ~ 85°C), airflow 0.5m/s | WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temp | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 2,219,397 | |
| EMC | CE/FCC Class A | |
| Note | | |



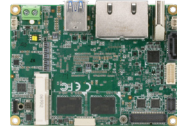
| Model | PICO-ADN4 Rev.B | PICO-ADN4 |
|-----------------------------|---|---|
| System Form Factor | PICO-ITX | |
| CPU | Intel Atom™ x7000E Series, Intel® Processor N-series, and Intel® Core™ i3 Processor N-series Processors: Intel® Processor N97 (4C/4T, 2.00 GHz, 12W) Intel® Core™ i3-N305 Processor (8C/8T, 1.80 GHz, 15W) Intel Atom™ x7425E Processor (4C/4T, 1.50 GHz, 12W) | Intel Atom™ x7000E Series, Intel® Processor N-series, and Intel® Core™ i3 Processor N-series Processors: Intel® Processor N50 (2C/2T, 1.00 GHz, 6W) Intel® Processor N97 (4C/4T, 2.00 GHz, 12W) Intel® Core™ i3-N305 (8C/8T, 1.80 GHz, 15W) Intel Atom™ x7425E (4C/4T, 1.50 GHz, 12W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR5 4800, Single Channel SODIMM x 1, Max.16GB, Non-ECC | Onboard LPDDR5, Single Channel (Max. 16GB) |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 3.94" x 2.84" (100mm x 72mm) | |
| Gross Weight | 0.18 lb (0.08 kg) | |
| OS Support | Windows 10/11 (64 bit) Ubuntu 22.04.2/Kernel 5.19 | |
| Power | | |
| Power Requirement | +12V (Optional: +9 ~ 36V, support by power adapter card) | +12V |
| Power Supply Type | AT/ATX | |
| Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (Optional) | 2-pin Phoenix Connector (Default) Lockable DC Jack Connector (Optional) |
| Power Consumption | Intel® x7835RE, DDR5 16GB x1, 3.06A@ +12V (TYPICAL) Intel® x7835RE, DDR5 16GB x1, 4.21A@ +12V (MAX) | Intel® Core™ i3-N305, LPDDR5 16GB x1, 2.97A@ +12V (TYPICAL) Intel® Core™ i3-N305, LPDDR5 16GB x1, 4.46A@ +12V (MAX) |
| Display Controller | Intel® UHD Graphics for 12th Gen Intel® Processors | Intel® UHD Graphics |
| LVDS/eDP | LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz eDP 1.4 x 1, 3840 x 2160 @60Hz (Optional) | LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz eDP 1.4 x 1, 7680 x 4320 (Optional) |
| Display Interface | HDMI 1.4 x 1, 3840 x 2160 @30Hz | HDMI 1.4 x 1, 3840 x 2160 @30Hz DDI (Via I/O, Optional) |
| Multiple Display | Up to 2 Simultaneous Displays | |
| Audio Codec | Realtek ALC256 (Optional) | |
| Audio Interface | Line-out (Optional, no audio function in WITAS 2) | Line-Out (Audio function not available for WITAS SKU) |
| Speaker | | |
| External I/O | | |
| Ethernet | Intel® Ethernet Controller I226 2.5GbE, RJ-45 x 1 Realtek RTL8111H-CG, 1GbE, RJ-45 x 1, | Intel® I226 2.5GbE, RJ-45 x 1 Realtek RTL8111H-CG, 1GbE, RJ-45 x 1 |
| USB Serial Port | USB 3.2 Gen 2 x 2 | |
| Video | HDMI 1.4 x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 4 | USB 2.0 x 2 |
| Serial Port | COM1~2 (RS232/422/485, supports 5V/12V/RI) COM3~4 (RS232) | COM 1~2 (RS-232/422/485, supports 5V/12V/RI) |
| Video | LVDS/eDP x 1(Default: LVDS) Inverter x 1 (12V/2A) | LVDS/eDP x 1 (Default: LVDS) Inverter x 1 (12V/2A) |
| SATA | SATA 6.0Gbps x 1 +5V SATA Power Connector x 1 | SATA 6Gb/s x 1 +5V SATA Power Connector x 1 |
| Audio | Line-out header x 1 (Optional, no audio function in WITAS 2) | Line-out header x 1 (Optional, audio function not available for WITAS SKU) |
| DIO/GPIO | GPIO 4-bit | |
| SMBus/I2C | SMBus/I2C x 1 (Default: SMBus) | |
| Fan | 4pins Smart Fan x1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | | |
| Expansion | | |
| Mini PCIe/mSATA | Full- Sized mSATA/mPCIe x 1 (default: mSATA, select with BIOS) | Full-Size mSATA/mPCIe x 1 (default: mSATA, select with BIOS) |
| M.2 | M.2 2230 E-Key x 1 | M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) |
| Others | — | BIO (Optional, need customized BIOS, USB2.0, SMBUS, DDI, LPC, PCIe [x1] x 1) |
| Environment & Certification | | |
| Operating Temp | -4°F ~ 158°F (-20°C ~ 70°C) | -4°F ~ 158°F (-20°C ~ 70°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temp | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 2,219,397 | 1,087,822 |
| EMC | CE/FCC Class A | |
| Note | | |

Board Level Products

Pico-ITX Boards



| Model | PICO-ADN4-SEMI Rev.B | PICO-V2K4 |
|-----------------------------|---|--|
| System Form Factor | PICO-SEMI | PICO-ITX |
| CPU | Intel® Processor N-series & Intel® Core™ Processor N-series Processors: Intel® Processor N97 (4C/4T, 2.00 GHz, 12W) Intel® Core™ i3-N305 Processor (8C/8T, 1.80 GHz, 15W) | AMD RYZEN™ V2000 embedded Processor Family V2718 (8C/16T, 1.70GHz, 25W) V2516 (6C/12T, 2.10GHz, 25W) |
| Chipset | Integrated with Intel® SoC | Integrated with AMD RYZEN™ V2000 embedded Processor |
| Memory Type | DDR5 4800, Single Channel SODIMM x 1, Max.16GB, Non-ECC | Onboard LPDDR4x 3733, Dual Channel, Non-ECC (Max.32GB) |
| BIOS | | UEFI |
| Wake on LAN | | Yes |
| Watchdog Timer | | 255 Levels |
| Security | | TPM 2.0 |
| RTC Battery | | Lithium Battery 3V/240mAh |
| Dimension | 5.51" x 3.94" x 1.69" (140mm x 100mm x 43mm) | 3.94" x 2.84" (100mm x 72mm) |
| Gross Weight | 1.55 lbs (0.70 kg) | 0.18 lb (0.08 kg) |
| OS Support | Windows 10/11 (64 bit) Ubuntu 22.04.2/Kernel 5.19 | Windows 10 /11 (64 bit) Linux Ubuntu 20.04.3/Kernel 5.18.0-4449-amd+ |
| Power | | |
| Power Requirement | +9~36V (Optional: 12V) | +12V |
| Power Supply Type | ATX | AT/ATX |
| Connector | Lockable DC Jack Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay) |
| Power Consumption | Intel® Core™ i3-N305, DDR5 16GB x 1, 2.43A @+12V (Typical) Intel® Core™ i3-N305, DDR5 16GB x 1, 3.63A @+12V (Max) | V2718, LPDDR4x 32GB, NVM64GB 4.24A @ +12V(TYPICAL) V2718, LPDDR4x 32GB, NVM64GB, 4.82A @ +12V(MAX) |
| Display Controller | Intel® UHD Graphics for 12th Gen Intel® Processors | AMD Radeon 6, 7 Graphics (Renoir) |
| LVDS/eDP | — | LVDS x 1 (18/24bit) 1024 x 768 @60Hz eDP1.3 x 1, 3840 x 2160 @60Hz (Optional) |
| Display Interface | HDMI 1.4 x 1, 3840 x 2160 @30Hz | Type C to DP x 1, 3480 x 2160 @60Hz HDMI 2.0 x 1, 3480 x 2160 @60Hz HDMI 1.4 x 1, 3480 x 2160 @30Hz |
| Multiple Display | 1 Display | Up to 4 Simultaneous Displays |
| Audio Codec | Realtek ALC256 (Optional) | Realtek ALC269 (Optional) |
| Audio Interface | Line-out (Optional) | Line-In / Line-Out / Mic (Optional, audio function not available for WITAS SKU) |
| Speaker | | |
| External I/O | | |
| Ethernet | Intel® Ethernet Controller I226 2.5GbE, RJ-45 x 1 Realtek RTL8111H-CG, 1GbE, RJ-45 x 1 | Intel® i225/i226 2.5GbE, RJ-45 x 1 Intel® i210 1GbE, RJ-45 x 1 |
| USB | USB 3.2 Gen 2 x 2 | USB3.2 Gen2 Type C x 1 USB3.2 Gen2 x 2 |
| Serial Port | COM 1~2 (RS-232/422/485, support 5V/12V/RI, Optional) | — |
| Video | HDMI 1.4 x 1 | DP x 1 (Via Type C) HDMI 2.0 x 1, HDMI 1.4 x 1 |
| Internal I/O | | |
| USB | — | USB2.0 x 4 |
| Serial Port | — | COM1~4 (RS232/422/485, support 5V/12V/RI) |
| Video | — | LVDS/eDP x 1(Default: LVDS) |
| SATA | — | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 Onboard NVME SSD (Optional, up to 128GB, PCIe(x2)) |
| Audio | Line-out Header x 1 (Optional) | Audio Header (Optional, audio function not available for WITAS SKU) |
| DIO/GPIO | GPIO 4-bit (Optional) | GPIO 8-bit |
| SMBus/I2C | I2C/SMBus x1 (Default: SMBus) | I2C/SMBus x 1 (Default: SMBus) |
| Fan | — | 4pins Smart Fan x 1 |
| Front Panel | | HDD LED, PWR LED, Power Button, Buzzer, Reset |
| Others | | |
| Expansion | | |
| Mini PCIe/mSATA | Full-Sized mSATA/mPCIe x 1 (default: mSATA, select with BIOS) | Full-Size mSATA/mPCIe x 1 (Default: mPCIe, select with HW BOM) |
| M.2 | M.2 2230 E-Key x 1 (PCIe [x1] + USB 2.0) | M.2 2280 M-Key x 1 (PCIe 4.0 [x4]/SATA, Default: PCIe [x4], select with BIOS) |
| Others | | |
| Environment & Certification | | |
| Operating Temp | Default: 32°F ~ 122°F (0°C ~ 50°C) with 0.7m/s air flow Optional: -40°F ~ 122°F (-40°C ~ 50°C) | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2 -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temp | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | 2,219,397 | 407,784 |
| EMC | | CE/FCC Class A |
| Note | | |



| Model | PICO-V2K4-SEMI | PICO-TGU4 |
|-----------------------------|--|--|
| System Form Factor | PICO-SEMI | PICO-ITX |
| CPU | AMD RYZEN™ V2000 embedded Processor Family V2718 (8C/16T, 1.70GHz, 25W) V2516 (6C/12T, 2.10GHz, 25W) | Intel® 11th Generation Core™ / Celeron Processors: i7-1185G7E (4C/8T, 1.80GHz, 15W) i5-1145G7E (4C/8T, 1.5GHz, 15W) i3-1115G4E (2C/4T, 2.20GHz, 15W) 6305E (2C/2T, 1.80GHz, 15W) |
| Chipset | Integrated with AMD RYZEN™ V2000 embedded Processor | Integrated with Intel® SoC |
| Memory Type | Onboard LPDDR4x 3733, Dual Channel, Non-ECC (Max.32GB) | Onboard LPDDR4x 3200, Dual Channel, In-Band ECC (select SKUs, Max.32GB) |
| BIOS | | UEFI |
| Wake on LAN | | Yes |
| Watchdog Timer | | 255 Levels |
| Security | TPM2.0 | TPM2.0 (Optional) |
| RTC Battery | | Lithium Battery 3V/240mAh |
| Dimension | 4.80" x 3.18" x 2.13" (122mm x 80.8mm x 54 mm) | 3.94" x 2.84" (100mm x 72mm) |
| Gross Weight | 0.84 lb (0.38 kg) | 0.18 lb (0.08 kg) |
| OS Support | Windows 10 (64 bit) Linux Ubuntu 20.04/Kernel 5.18.0-4449-amd+ | Windows 10 (64bit) Linux Ubuntu 20.10/Kernel 5.8.0-33-generic |
| Power Requirement | | +12V |
| Power Supply Type | ATX | AT/ATX |
| Connector | DC Jack Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay) |
| Power Consumption | V2718, LPDDR4x 32GB, NVMe64GB 4.24A @ +12V(TYPICAL) V2718, LPDDR4x 32GB, NVMe64GB, 4.82A @ +12V(MAX) | Intel® i7-1185G7E, LPDDR4x 32GB, 2.89A@ +12V (TYPICAL) |
| Display Controller | AMD Radeon 6, 7 Graphics (Renoir) | Intel® Iris® Xe (i5/i7 support) Intel® UHD Graphics (i3/Celeron support) |
| LVDS/eDP | — | eDP 1.3 x 1, 3840 x 2160@60Hz |
| Display Interface | Type C to DP x 1, 3480 x 2160 @60Hz HDMI 2.0 x 1, 3480 x 2160 @60Hz HDMI 1.4 x 1, 3480 x 2160 @30Hz | HDMI 2.0 x 1, 3840 x 2160 @60Hz |
| Multiple Display | Up to 3 Simultaneous Displays | Up to 2 Simultaneous Displays |
| Audio Codec | | Realtek ALC269 (Optional) |
| Audio Interface | Line-out (Optional) | Line-In / Line-Out / Mic (Optional, audio function not available for WITAS SKU) |
| Speaker | | — |
| External I/O | | |
| Ethernet | Intel® i225/i226 2.5GbE, RJ-45 x 1 Intel® i210 1GbE, RJ-45 x 1 | Intel® i225/226, 2.5GbE, RJ-45 x 1 Intel® i219, 1GbE, RJ-45 x 1 |
| USB | USB 3.2 Gen2 Type C x 1 USB 3.2 Gen2 x 2 USB 2.0 x 2 (Optional) | USB 3.2 Gen2 x 2 |
| Serial Port | COM1~2 (RS232/422/485, support 5V/12V/RI, Optional) | — |
| Video | DP x 1 (Via Type C) HDMI 2.0 x 1, HDMI 1.4 x 1 | HDMI 2.0 x 1 |
| Internal I/O | | |
| USB | — | USB 3.2 Gen1 x 2 USB 2.0 x 4 |
| Serial Port | — | COM1~2 (RS232/422/485, support 5V/12V/RI) |
| Video | — | eDP x 1 |
| SATA | Onboard NVME SSD (Optional, up to 128GB, PCIe[x2]) | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 |
| Audio | Line-out (Optional) | Audio Header (Optional, audio function not available for WITAS SKU) |
| DIO/GPIO | — | GPIO 8-bit |
| SMBus/I2C | — | I2C/SMBus x1 (Default: SMBus) |
| Fan | | 4pins Smart Fan x1 |
| Front Panel | | HDD LED, PWR LED, Power Button, Buzzer, Reset |
| Others | | — |
| Expansion | | |
| Mini PCIe/mSATA | Full-Size mSATA/mPCIe x 1 (Default: mPCIe, select with HW BOM) | Full-Size mSATA/mPCIe x 1 (Default: mPCIe, select with BIOS) |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x4]/SATA, Default: PCIe [x4], select with BIOS) | M.2 2280 M-Key x 1 (PCIe 4.0 [x4]/SATA, Default: PCIe [x4], select with HW BOM) |
| Others | | |
| Environment & Certification | | |
| Operating Temp | 32°F ~ 122°F (0°C ~ 50°C) with 0.2 m/s airflow | 32°F ~ 140°F (0°C ~ 60°C) WITAS1 -4°F ~ 158°F (-20°C ~ 70°C) |
| Storage Temp | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | 407,784 | 424,208 |
| EMC | | CE/FCC Class A |

Board Level Products

Pico-ITX Boards



| Model | PICO-TGU4-SEMI | PICO-WHU4 |
|-----------------------------|--|--|
| System Form Factor | PICO-SEMI | PICO-ITX |
| CPU | Intel® 11th Generation Core™ / Celeron Processors: i7-1185G7E (4C/8T, 1.80GHz, 15W) i5-1145G7E (4C/8T, 1.5GHz, 15W) i3-1115G4E (2C/4T, 2.20GHz, 15W) 6305E (2C/2T, 1.80GHz, 15W) | Intel® 8th Generation Core™ / Celeron Processors: i7-8665UE (4C/8T, 1.70GHz, 15W) i5-8365UE (4C/8T, 1.60GHz, 15W) i3-8145UE (2C/4T, 2.20GHz, 15W) 4305UE (2C/2T, 2.00GHz, 15W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | Onboard LPDDR4x 3200, Dual Channel, In-Band ECC (select SKUs, Max.32GB) | DDR4 2400, SODIMM x 1, Non-ECC (Max. 32GB) |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 4.80" x 3.18" x 1.98" (122mm x 80.8mm x 50.4 mm) | 3.94" x 2.84" (100mm x 72mm) |
| Gross Weight | 0.84 lb (0.38 kg) | 0.18 lb (0.08 kg) |
| OS Support | Windows 10 (64bit) Linux Ubuntu 20.10.2/Kernel 5.8.0-33-generic | Windows 10 (64 bit) Linux Ubuntu 18.04.3/Kernel 5.3.0-51-generic |
| Power Requirement | +12V | |
| Power Supply Type | ATX | AT/ATX |
| Connector | DC Jack Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay) |
| Power Consumption | Intel® i7-1185G7E, LPDDR4x 32GB, 2.89A@ +12V (TYPICAL) | Intel® i7-8665UE @ DDR4 16GB, 2.23A@ +12V(TYPICAL) |
| Display | Intel® Iris® Xe (i5/i7 support) Intel® UHD Graphics (i3/Celeron support) | |
| Controller | Intel® UHD Graphics 610/620 | |
| LVDS/eDP | — | |
| Display Interface | HDMI 2.0 x 1, 3840 x 2160 @60Hz | HDMI 1.4 x 2, up to 3840 x 2160 @30Hz |
| Multiple Display | Single display Up to 2 Simultaneous Displays | |
| Audio | — | |
| Codec | Realtek ALC269 (By request) | |
| Audio Interface | Line-out (By request) | |
| Speaker | — | |
| External I/O | — | |
| Ethernet | Intel® i225/226, 2.5GbE, RJ-45 x 1 Intel® i219, 1GbE, RJ-45 x 1 | Realtek 8111 1GbE, RJ45 x 2 |
| USB | USB 3.2 Gen2 x 2 | |
| Serial Port | COM1~2 (RS232/422/485, support 5V/12V/RI, Optional) | |
| Video | HDMI 2.0 x 1 HDMI 1.4 x 2 | |
| Internal I/O | — | |
| USB | USB 2.0 x 2 | |
| Serial Port | COM1~2 (RS232/422/485, support 5V/12V/RI) | |
| Video | — | |
| SATA | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 | |
| Audio | Line-out (By request) | |
| DIO/GPIO | GPIO 4-bit | |
| SMBus/I2C | I2C/SMBus x1 (Default: SMBus) | |
| Fan | 4pins Smart Fan x1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | — | |
| Mini PCIe/mSATA | Full-Size mSATA/mPCIe x 1 (Default: mPCIe, select with BIOS) | |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x4]/SATA, Default: PCIe [x4], select with HW BOM) | M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) |
| Others | — | |
| Environment & Certification | — | |
| Operating Temp | 32°F ~ 122°F (0°C ~ 50°C) | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2 -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temp | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 424,208 | 298,762 |
| EMC | CE/FCC Class A | |
| Note | — | |



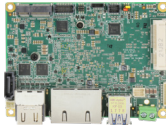
| Model | PICO-WHU4-SEMI | PICO-KBU4 |
|-----------------------------|--|--|
| System | | |
| Form Factor | PICO-SEMI | PICO-ITX |
| CPU | Intel® 8th Generation Core™ / Celeron Processors: i7-8665UE (4C/8T, 1.70GHz, 15W) i5-8365UE (4C/8T, 1.60GHz, 15W) i3-8145UE (2C/4T, 2.20GHz, 15W) 4305UE (2C/2T, 2.00GHz, 15W) | 7th Generation Intel® Core™/Celeron® Processors: Intel® Core™ i7-7600U (2C/4T, 2.80GHz, 15W) Intel® Core™ i5-7300U (2C/4T, 2.60GHz, 15W) Intel® Core™ i3-7100U (2C/4T, 2.40GHz, 15W) Intel® Celeron® Processor 3965U (2C/2T, 2.20GHz, 15W) |
| Chipset | | Integrated with Intel® SoC |
| Memory Type | DDR4 2400, SODIMM x 1, Non-ECC (Max. 32GB) | DDR4 2133, SODIMM x 1, Non-ECC (Max. 16GB) |
| BIOS | | UEFI |
| Wake on LAN | | Yes |
| Watchdog Timer | | 255 Levels |
| Security | | |
| RTC Battery | | Lithium Battery 3V/240mAh |
| Dimension | 5.9" x 3.94" x 2.36" (150mm x 100mm x 60mm) | 3.94" x 2.84" (100mm x 72mm) |
| Gross Weight | 1.41 lb (0.64 kg) | 0.18 lb (0.08 kg) |
| OS Support | Windows 10 (64 bit) Linux Ubuntu 18.04.3/Kernel 5.3.0-51-generic | Windows 10 (64 bit) Linux Ubuntu 16.04.3/Kernel 4.10.0 |
| Power | | |
| Power Requirement | | +12V |
| Power Supply Type | ATX | AT/ATX |
| Connector | DC Jack Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay) |
| Power Consumption | Intel® i7-8665UE, DDR4 16GB, 2.23A@ +12V(TYPICAL) | Intel® Core™ i7-7600U , DDR4 16GB, 1.53A@ +12V(TYPICAL) |
| Display | | |
| Controller | Intel® UHD Graphics 610/620 | Intel® HD Graphics 510/620 |
| LVDS/eDP | — | LVDS x 1 (18/24bit 2Ch) 1920 x 1200 @60Hz |
| Display Interface | HDMI 1.4 x 2, up to 3840 x 2160 @30Hz | HDMI 1.4 x 1, 3840 x 2160 @30Hz DDI (Via BIO, Optional) |
| Multiple Display | 2 Simultaneous Displays | Up to 3 Simultaneous Displays |
| Audio | | |
| Codec | — | Realtek ALC269 |
| Audio Interface | — | Line-Out (Audio function not available for WITAS SKU) |
| Speaker | | |
| External I/O | | |
| Ethernet | | Realtek 8111 1GbE, RJ45 x 2 |
| USB | USB 3.2 Gen2 x 2 USB 2.0 x 2 | USB 3.2 Gen1 x 2 |
| Serial Port | COM1~2 (RS232/422/485, support 5V/12V/RI, Optional) | — |
| Video | HDMI 1.4 x 2 | HDMI 1.4 x 1 |
| Internal I/O | | |
| USB | — | USB 2.0 x 2 |
| Serial Port | — | COM1 (RS232) COM2 (RS232/422/485, support 5V/12V/RI) |
| Video | — | LVDS x 1 |
| SATA | SATA 6.0 Gb/s x 1(Optional) +5V SATA Power Connector x 1 | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 |
| Audio | — | Line-out header x 1 (Audio function not available for WITAS SKU) |
| DIO/GPIO | — | GPIO 4-bit |
| SMBus/I2C | — | I2C/SMBus x1 (Default: SMBus) |
| Fan | | 4pins Smart Fan x1 |
| Front Panel | | HDD LED, PWR LED, Power Button, Buzzer, Reset |
| Others | | — |
| Expansion | | |
| Mini PCIe/msATA | Full-Size mSATA/mPCIe x 1 (Default: mPCIe, select with BIOS) | — |
| M.2 | M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) | M.2 2242 B-Key x 1 (PCIe 3.0 [x1]/SATA, Default: mSATA, select with BIOS) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) |
| Others | — | BIO x 1 (Optional, supports vPCIe [x1] x 2, line out, DDI, GPIO, LPC, SMBUS/I2C, USB.3.0/2.0) |
| Environment & Certification | | |
| Operating Temp | 32°F ~ 122°F (0°C ~ 50°C) with airflow 0.5m/s for 2.5" SSD SKU | 32°F ~ 140°F (0°C ~ 60°C) WITAS1 -4°F ~ 158°F (-20°C ~ 70°C) |
| Storage Temp | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | 298,762 | 163,000 |
| EMC | | CE/FCC Class A |
| Note | | |

Board Level Products

Pico-ITX Boards



| Model | PICO-KBU4-SEMI | PICO-EHL1 |
|-----------------------------|--|---|
| System Form Factor | PICO-SEMI | PICO-ITX |
| CPU | 7th Generation Intel® Core™/Celeron® Processors: Intel® Core™ i7-7600U (2C/4T, 2.80GHz, 15W) Intel® Core™ i5-7300U (2C/4T, 2.60GHz, 15W) Intel® Core™ i3-7100U (2C/4T, 2.40GHz, 15W) Intel® Celeron® Processor 3965U (2C/2T, 2.20GHz, 15W) | Intel® Atom® x6000E series, Pentium®, and Celeron® N and J series Processors: J6412 (4C/4T, 2.00GHz, 10W) N6210 (2C/2T, 1.20GHz, 6.5W) x6425E (4C/4T, 2.0GHz, 12W) x6211E (2C/2T, 1.3GHz, 6W) |
| Chipset | | Integrated with Intel® SoC |
| Memory Type | DDR4 2133, SODIMM x 1, Non-ECC (Max. 16GB) | DDR4 3200, SODIMM x 1, Non-ECC (Max.32GB) |
| BIOS | | UEFI |
| Wake on LAN | | Yes |
| Watchdog Timer | | 255 Levels |
| Security | — | TPM2.0 (Optional) |
| RTC Battery | | Lithium Battery 3V/240mAh |
| Dimension | 4.80" x 3.18" x 1.98" (122 mm x 80.8 mm x 50.4 mm) | 3.94" x 2.84" (100mm x 72mm) |
| Gross Weight | 0.88 lb (0.4 kg) | 0.18 lb (0.08 kg) |
| OS Support | Windows 10 (64 bit) Linux Ubuntu 16.04.3/Kernel 4.10.0 | Windows® 10 (64-bit) Ubuntu 20.04.5/Kernel 5.15 |
| Power Requirement | | +12V |
| Power Supply Type | ATX | AT/ATX |
| Connector | Lockable DC Jack Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay) |
| Power Consumption | Intel® i7-7600, DDR4 16GB, 1.53A@ +12V(TYPICAL) | Intel Atom® x6425E, DDR4 32GB, 2.67A@ +12V (TYPICAL) Intel Atom® x6425E, DDR4 32GB, 2.84A@ +12V (MAX) |
| Display Controller | Intel® HD Graphics 510/620 | Intel® UHD Graphics for 10th Gen Intel® Processors |
| LVDS/eDP | — | LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz eDP 1.3 x 1, 3840 x 2160 @60Hz (Optional) |
| Display Interface | | HDMI 1.4 x 1, 3840 x 2160 @30Hz |
| Multiple Display | 1 Simultaneous Display | Up to 2 Simultaneous Displays |
| Audio Codec | | Realtek ALC269 (Optional) |
| Audio Interface | Line-out (Optional) | Line-In / Line-Out / Mic (Optional, audio function not available for WITAS SKU) |
| Speaker | | — |
| External I/O | | |
| Ethernet | Realtek 8111 1GbE, RJ45 x 2 | Realtek 8111H-CG 1GbE, RJ45 x 1 |
| USB | USB 3.2 Gen1 x 2 | USB 3.2 Gen2 x 2 |
| Serial Port | COM1 (RS232, Optional) COM2 (RS232/422/485, support 5V/12V/Ri, Optional) | — |
| Video | | HDMI 1.4 x 1 |
| Internal I/O | | |
| USB | — | USB 2.0 x 2 |
| Serial Port | — | COM1~2 (RS232/422/485, support 5V/12V/Ri) |
| Video | — | LVDS/eDP x 1 (Default: LVDS) |
| SATA | — | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 |
| Audio | Line-out (Optional) | Audio Header x 1 (Optional, audio function not available for WITAS SKU) |
| DIO/GPIO | — | GPIO 4-bit |
| SMBus/I2C | — | I2C/SMBus x1 (Default: SMBus) |
| Fan | | 4pins Smart Fan x1 |
| Front Panel | | HDD LED, PWR LED, Power Button, Buzzer, Reset |
| Others | | — |
| Expansion | | |
| Mini PCIe/mSATA | — | Full-Size mSATA/mPCIe x 1 (Default: mSATA, select with BIOS) |
| M.2 | M.2 2242 B-key x 1 (PCIe 3.0 [x1]/SATA, Default: mSATA, select with BIOS) M.2 2230 E-key x 1 (PCIe 3.0 [x1] + USB 2.0) | M.2 2242 B-key x 1 (PCIe [x2] as default, USB 2.0 is optional) |
| Others | — | BIO x 1 (Optional, supports PCIe [x1] x 2, line out, DDI, GPIO, LPC, SMBUS, USB.3.0/2.0) |
| Environment & Certification | | |
| Operating Temp | 32°F ~ 122°F (0°C ~ 50°C) | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2 -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temp | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | 163,000 | 489,989 |
| EMC | | CE/FCC Class A |
| Note | | |



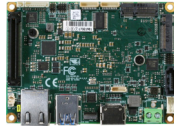
| Model | PICO-EHL4 | PICO-EHL4-SEMI |
|-----------------------------|--|--|
| System | PICO-ITX | |
| Form Factor | PICO-SEMI | |
| CPU | Intel® Atom® x6000E series, Pentium®, and Celeron® N and J series Processors: J6412 (4C/4T, 2.00GHz, 10W) N6210 (2C/2T, 1.20GHz, 6.5W) x6425E (4C/4T, 2.0GHz, 12W) x6211E (2C/2T, 1.3GHz, 6W) | Intel® Celeron® Processor J6412 (4C/4T, 2.00 GHz, 10W) Intel® Celeron® Processor N6210 (2C/2T, 1.20 GHz, 6.5W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | Onboard LPDDR4x 3200, Single Channel, Non-ECC (Max.16GB) | Onboard Single-Channel LPDDR4x 3200MHz (Max. 16GB, Non ECC) |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | Intel® PTT (Integrated TPM) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 3.94" x 2.84" (100mm x 72mm) | 4.80" x 3.18" x 1.75" (122mm x 80.8mm x 44.4mm) |
| Gross Weight | 0.18 lb (0.08 kg) | 0.88 lb. (0.40kg) |
| OS Support | Windows 10 (64 bit) Ubuntu 20.04.4/Kernel 5.13.0-30-generic | Windows 10 (64 bit) Ubuntu 20.04.3(10T)/Kernel 5.13 |
| Power | | |
| Power Requirement | +12V | 12V only |
| Power Supply Type | AT/ATX | ATX |
| Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay) | DC Jack Connector |
| Power Consumption | Intel® Atom™ x6425E, LPDDR4x onboard 16GB, 2.48A@ +12V(TYPICAL) Intel® Atom™ x6425E, LPDDR4x onboard 16GB, 2.62A@ +12V(MAX) | Intel® Pentium® J6426, LPDDR4x onboard 16GB, 1.43A@ +12V(TYPICAL) Intel® Pentium® J6426, LPDDR4x onboard 16GB, 1.78A@ +12V(MAX) |
| Display | Intel® UHD Graphics for 10th Gen Intel® Processors | |
| Controller | Intel® UHD Graphics for 10th Gen Intel® Processors | |
| LVDS/eDP | LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz eDP 1.3 x 1, 3840 x 2160 @60Hz (Optional) | — |
| Display Interface | HDMI 2.0 x 2, 3840 x 2160 @60Hz | HDMI 2.0 x 1, 3840 x 2160 @60Hz |
| Multiple Display | Up to 3 Simultaneous Displays | Up to 1 Display |
| Audio | — | |
| Codec | — | |
| Audio Interface | — | |
| Speaker | — | |
| External I/O | | |
| Ethernet | Realtek 8111 1GbE, RJ45 x 2 | RTL8111H-CG 1GbE, RJ45 x 2 |
| USB | USB 3.2 Gen2 x 2 | USB 3.2 Gen 2 x 2 |
| Serial Port | — | COM 1, COM 2 (RS-232/422/485, supports 5V/12V/RI, Optional) |
| Video | HDMI 2.0 x 2 | HDMI 2.0 x 1 |
| Internal I/O | | |
| USB | USB 2.0 x 2 | — |
| Serial Port | COM1~2 (RS232/422/485, support 5V/12V/RI) | — |
| Video | LVDS/eDP x 1(Default: LVDS) | — |
| SATA | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 eMMC5.1 32GB (Optional to 16/64/128GB) | 32GB eMMC 5.1 (Optional: 64GB/128GB) |
| Audio | — | |
| DIO/GPIO | GPIO 4-bit | — |
| SMBus/I2C | I2C/SMBus x1 (Default: SMBus) | — |
| Fan | 4pins Smart Fan x1 | — |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | | |
| Mini PCIe/mSATA | Full size mPCIe/mSATA x 1 (SATA as default, PCIe selected by BIOS) | |
| M.2 | M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) | M.2 2230 E-Key x 1 (PCIe [x1]/USB 2.0) |
| Others | CANBUS x 2 (Optional, N6210/J6412 not support, support up to 5Mbit/s) | |
| Environment & Certification | | |
| Operating Temp | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2 -40°F ~ 185°F (-40°C ~ 85°C) | 32°F ~ 122°F (0°C ~ 50°C) with 0.5m/s air flow |
| Storage Temp | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 489,989 | |
| EMC | CE/FCC Class A | |
| Note | | |

Board Level Products

Pico-ITX Boards



| Model | PICO-APL1 | PICO-APL2 |
|-----------------------------|--|---|
| System Form Factor | PICO-ITX | |
| CPU | Intel® Atom® / Celeron® / Pentium® Processors: N4200 (4C/4T, 1.10GHz, 6W) N3350 (2C/2T, 1.10GHz, 6W) E3950 (4C/4T, 1.60GHz, 12W) E3940 (4C/4T, 1.60GHz, 9.5W) E3930 (2C/2T, 1.306GHz, 6.5W) | Intel® Atom® / Celeron® / Pentium® Processors: N3350 (2C/2T, 1.10GHz, 6W) N4200 (4C/4T, 1.10GHz, 6W) E3950 (4C/4T, 1.60GHz, 12W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz) | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 3.94" x 2.84" (100mm x 72mm) | |
| Gross Weight | 0.18 lb (0.08 kg) | |
| OS Support | Windows 10 (64 bit) Linux Ubuntu 20.04.4/ Kernel 5.11.0-13-generic | Windows 10 (64 bit) Linux Ubuntu 20.04.4/ Kernel 5.11.0-30-generic |
| Power | | |
| Power Requirement | +12V | |
| Power Supply Type | AT/ATX | |
| Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay) | Line-Out (Audio function not available for WITAS SKU) |
| Power Consumption | Intel® E3940 Processor, DDR3L 8GB x 1, 1.11A@+12V(TYPICAL) | Intel® N4200, DDR3L 8GB x 1, 2.16A@ +12V(TYPICAL) Intel® N4200, DDR3L 8GB x 1, 2.28A@ +12V(MAX) |
| Display | Intel® HD Graphics 500/505 | |
| Controller | LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz (Optional) | |
| LVDS/eDP | LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz | |
| Display Interface | HDMI 1.4 x 1, 3840 x 2160 @30Hz DDI (Via BIO, Optional) | |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio | | |
| Codec | Realtek ALC897/892 | Realtek ALC897/888 |
| Audio Interface | Line-Out (Audio function not available for WITAS SKU) | |
| Speaker | — | |
| External I/O | | |
| Ethernet | Intel® i210 1GbE, RJ45 x 1 | |
| USB | USB 3.2 Gen1 x 2 | |
| Serial Port | — | |
| Video | HDMI 1.4 x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 1 | |
| Serial Port | COM1 (RS232) COM2 (RS232/422/485, support 5V/12V/R) | |
| Video | LVDS x 1 | |
| SATA | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 | |
| Audio | Line-out header x 1 (Audio function not available for WITAS SKU) | |
| DIO/GPIO | GPIO 4-bit | |
| SMBus/I2C | I2C/SMBus x1 (Default: SMBus) | |
| Fan | — | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | | |
| Mini PCIe/mSATA | Full-Size mSATA/mPCIe x 1 (Default: mSATA, select with HW BOM) Half-Sized mPCIe x 1 | |
| M.2 | — | |
| Others | BIO x 1 (Optional, supports PCIe [x1] x 2, line out, DDI, GPIO, LPC, SMBUS, USB 3.0/2.0) | |
| Environment & Certification | | |
| Operating Temp | 32°F ~ 140°F (0°C ~ 60°C) | |
| Storage Temp | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 170,000 | 525,137 |
| EMC | CE/FCC Class A | |
| Note | | |



| Model | PICO-APL3 | PICO-APL3-SEMI |
|-----------------------------|--|---|
| System | | |
| Form Factor | PICO-ITX | PICO-SEMI |
| CPU | Intel® Atom® / Celeron® / Pentium® Processors: N4200 (4C/4T, 1.10GHz, 6W) N3350 (2C/2T, 1.10GHz, 6W) E3950 (4C/4T, 1.60GHz, 12W) E3940 (4C/4T, 1.60GHz, 9.5W) E3930 (2C/2T, 1.306GHz, 6.5W) | Intel® Atom® / Celeron® / Pentium® Processors: N4200 (4C/4T, 1.10GHz, 6W) N3350 (2C/2T, 1.10GHz, 6W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | Onboard DDR3L 1866, Single Channel, Non-ECC (Max. 4GB) | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 3.94" x 2.84" (100mm x 72mm) | W/O heat sink: 4.80" x 3.18" x 1.18" (122mm x 80.8mm x 30mm) W/ heat sink: 4.80" x 3.18" x 1.75" (122mm x 80.8mm x 44.4mm) |
| Gross Weight | 0.18 lb (0.08 kg) | W/O heat sink: 0.38 lb (0.17 kg) W/ heat sink: 0.91 lb (0.41 kg) |
| OS Support | Windows 10 (64 bit) Linux Ubuntu 16.04.2/ Kernel 4.8.0-36 | |
| Power | | |
| Power Requirement | +12V | |
| Power Supply Type | ATX | |
| Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay) | DC Jack Connector |
| Power Consumption | Intel® E3950, DDR3L 4GB x 1, 2.20A, @ +12V(TYPICAL) Intel® E3950, DDR3L 4GB x 1, 2.37A, @ +12V(Max) | Intel® N4200, DDR3L 8GB x 1, 1.08A, eMMC 32GB@ +12V(TYPICAL) |
| Display | | |
| Controller | Intel® HD Graphics 500/505 | |
| LVDS/eDP | eDP x 1, 1920 x 1080 @60Hz (Optional) | — |
| Display Interface | HDMI 1.4 x 1, 3840 x 2160 @30Hz DDI (Via BIO, Optional) | HDMI 1.4 x 1, 3840 x 2160 @30Hz |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio | | |
| Codec | Realtek ALC256 | Realtek ALC269 (Optional) |
| Audio Interface | Line-In / Line-Out / Mic (Audio function not available for WITAS SKU) | Line-out (Optional) |
| Speaker | Amplifier Header | |
| External I/O | | |
| Ethernet | Realtek 8111 1GbE, RJ45 x 1 | |
| USB | USB 3.2 Gen1 x 2 | |
| Serial Port | — | COM1~2 (RS232, Optional) |
| Video | HDMI 1.4 x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 2 | |
| Serial Port | COM1~2 (RS232) | |
| Video | eDP x 1 (Optional) | |
| SATA | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 eMMC5.1 32GB (Optional to 16/64GB) | eMMC5.1 32GB (Optional to 16/64GB) |
| Audio | Audio Header(Audio function not available for WITAS SKU) | |
| DIO/GPIO | GPIO 4-bit | |
| SMBus/I2C | I2C/I2S x 1 (Default: I2C) | |
| Fan | — | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | | |
| Mini PCIe/msATA | — | |
| M.2 | M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) M.2 2280 B-Key x 1 (SATA + USB 2.0) | |
| Others | BIO x 1 (Optional, supports PCIe [x1] x 2, DDI, LPC, SMBUS, USB 3.0/2.0) | |
| Environment & Certification | | |
| Operating Temp | 32°F ~ 140°F (0°C ~ 60°C) | 32°F ~ 122°F (0°C ~ 50°C) with 0.5 m/s airflow |
| Storage Temp | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 110,000 | |
| EMC | CE/FCC Class A | |
| Note | | |

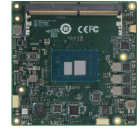
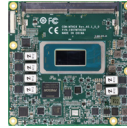
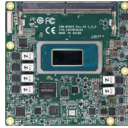
Board Level Products

Pico-ITX Boards



| Model | PICO-APL4 | PICO-BT01 |
|-----------------------------|--|---|
| System | PICO-ITX | |
| Form Factor | PICO-ITX | |
| CPU | Intel® Atom® / Celeron® / Pentium® Processors: N4200 (4C/4T, 1.10GHz, 6W) N3350 (2C/2T, 1.10GHz, 6W) E3950 (4C/4T, 1.60GHz, 12W) E3940 (4C/4T, 1.60GHz, 9.5W) E3930 (2C/2T, 1.306GHz, 6.5W) | Intel® Atom® / Celeron® Processors: J1900 (4C/4T, 2.00GHz, 10W) N2930 (4C/4T, 1.83GHz, 7.5W) N2807 (2C/2T, 1.58GHz, 4.3W) E3845 (4C/4T, 1.91GHz, 10W) E3825 (2C/2T, 1.33GHz, 6W) |
| Chipset | Integrated with Intel® SoC | Integrated with Intel® SoC |
| Memory Type | Onboard DDR3L 1866, Single Channel, Non-ECC (Max.4GB) | DDR3L 1333, SODIMM x 1, Non-ECC (Max. 8GB) |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | — | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 3.94" x 2.84" (100mm x 72mm) | |
| Gross Weight | 0.18 lb (0.08 kg) | |
| OS Support | Windows 10 (64 bit) Linux Ubuntu 16.04.2/ Kernel 4.8.0-36 | Windows 7/10 (64 bit) Linux Ubuntu 21.04.0/ Kernel 5.11.0-13-generic |
| Power | — | |
| Power Requirement | +12V | |
| Power Supply Type | AT/ATX | |
| Connector | Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay) | |
| Power Consumption | Intel® N4200, DDR3L 4GB, 1.43A@+12V(TYPICAL) | Intel® J1900, DDR3L 1333MHz 8GB x 1, 1.14A@+12V(TYPICAL) |
| Display | — | |
| Controller | Intel® HD Graphics 500/505 | Intel® HD Graphics for Intel Atom® Processor Z3700 Series |
| LVDS/eDP | eDP x 1, 1920x1080 @60Hz (Optional) | LVDS x 1 (18/24-bit 2CH) 1400 x 900 @60Hz |
| Display Interface | HDMI 1.4 x 1, 3840 x 2160 @30Hz DDI (Via BIOS, Optional) | VGA x 1, 2048 x 1152 @60Hz DP x 1, 2560 x 1400 @60Hz (Optional) |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio | — | |
| Codec | Realtek ALC897/892 | |
| Audio Interface | Line-Out (Audio function not available for WITAS SKU) | |
| Speaker | — | |
| External I/O | — | |
| Ethernet | Realtek 8111 1GbE, RJ45 x 2 | Intel® i210 1GbE, RJ45 x 1 |
| USB | USB 3.2 Gen1 x 2 | USB 3.2 Gen1 x 1, USB 2.0 x 1 |
| Serial Port | — | |
| Video | HDMI 1.4 x 1 | VGA x 1, DP x 1 (Optional) |
| Internal I/O | — | |
| USB | USB 2.0 x 2 (Internal, co-use with FAN connector) | |
| Serial Port | COM1 (RS232), COM2 (RS232/422/485, support 5V/12V/Ri) | |
| Video | eDP x 1 | LVDS x 1 |
| SATA | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 eMMC5.1 32GB (Optional to 16/64GB) | SATA 3.0 Gb/s x 1, +5V SATA Power Connector x 1 |
| Audio | Line-out header x 1 (Audio function not available for WITAS SKU) | |
| DIO/GPIO | GPIO 4-bit | |
| SMBus/I2C | I2C/SMBus x1 (Default: SMBus) | |
| Fan | — | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | — | |
| Mini PCIe/msATA | Full-Size mSATA/mPCIe x 1 (Default: mSATA, select with HW BOM) Half-Sized mPCIe x 1 | |
| M.2 | M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) M.2 2280 B-Key x 1 (SATA + USB 2.0) | — |
| Others | BIO x 1 (Optional, supports PCIe [x1], line out, GPIO, LPC, SMBUS/I2C, USB 3.0/2.0) | |
| Environment & Certification | — | |
| Operating Temp | 32°F ~ 140°F (0°C ~ 60°C) | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2 -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temp | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 191,895 | 80,000 |
| EMC | CE/FCC Class A | |
| Note | — | |

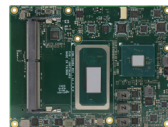
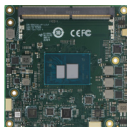
| Model | PER-P30D |
|--------------------------|---|
| System | System |
| Power Input | DC 9~36V |
| Power Output | DC 5V + DC 12V /max.120W (with HSK and 0.5m³/s air flow) |
| Output Voltage Tolerance | ±5% |
| Dimension | 1.18" x 2.84" (30mm x 72mm) |
| Gross Weight | 0.07 lb (0.03 kg) |
| Input Connector | 2-pin Phoenix Connector:180D (Default) Lockable DC Jack Connector (Optional) |
| Output Connector | 2-pin Phoenix Connector:90D (Default) |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) |



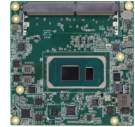
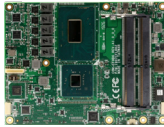
| Model | COM-ARHC6 | COM-MTHC6 | COM-ASLC6 |
|-----------------------------|--|--|---|
| System Form Factor | COM Express Compact Size, Type 6 | | |
| CPU | Intel® Core™ Ultra Processors: Intel® Core™ Ultra 9 Processor 285H (16C/16T, up to 5.4 GHz, 45W) Intel® Core™ Ultra 7 Processor 255H (16C/16T, up to 5.1 GHz, 28W) Intel® Core™ Ultra 5 Processor 225H (14C/14T, up to 4.9 GHz, 28W) | Intel® Core™ Ultra Processors: Intel® Core™ Ultra 9 Processor 185H (16C/22T, up to 5.1 GHz, 45W) Intel® Core™ Ultra 7 Processor 155H (16C/22T, up to 4.8 GHz, 28W) Intel® Core™ Ultra 5 Processor 125H (14C/18T, up to 4.5 GHz, 28W) | Intel Atom® X Series CPU Intel Atom® x7835RE (8C, up to 3.6 GHz, 12W) Intel Atom® x7433RE (4C, up to 3.4 GHz, 9W) Intel Atom® x7213RE (2C, up to 3.4 GHz, 9W) Intel Atom® x7211RE (2C, up to 3.2 GHz, 6W) |
| Chipset | Integrated with Intel® SoC | | |
| Memory | DDR5 6400MHz Dual Channel SODIMM x 2, non-ECC, up to 128GB | DDR5 5600MHz Dual Channel SODIMM x 2, non-ECC, up to 96GB | DDR5 4800MHz Single Channel , SODIMM x1, up to 16GB |
| Onboard Storage | NVMe, up to 256GB, via last PEG [x4] bus (Option) | | |
| BIOS | AMI UEFI | | |
| Wake on LAN | Yes | | |
| Watchdog Timer | 255 Levels | | |
| Dimension | 3.75" x 3.75" (95mm x 95mm) | | |
| Security | fTPM / dTPM (default) | | |
| Power | TPM 2.0 | | |
| Power Requirement | +9V-16V and +5VSB for ATX, +9V-16V for AT | | |
| Power Type | AT/ATX | | |
| Power Consumption (Typical) | Intel® Core™ Ultra 9 Processor 285H, 9.13A@+12V | Intel® Core™ Ultra 9 Processor 185H, 9.13A@+12V | Intel Atom® x7835RE, 1.94A@+12V |
| Display | Intel® Arc™ graphics | | |
| Graphics Controller | Intel® UHD Graphics | | |
| Video Output | 4 Simultaneous Displays: LVDS: up to 1920 x 1080 (default) / eDP: up to 3840 x 2160, switch by BOM DDI 1: DP/HDMI, up to 3840 x 2160 DDI 2: DP/HDMI, up to 3840 x 2160 DDI 3: DP/HDMI, up to 3840 x 2160 or VGA, up to 1920 x 1080 (DDI 3 co-lay with VGA) | 4 Simultaneous Displays: LVDS: up to 1920 x 1080 (default) / eDP: up to 3840 x 2160, switch by BOM DDI 1: DP, up to 3840 x 2160 DDI 2: DP, up to 3840 x 2160 DDI 3: DP, up to 3840 x 2160 , co-lay with VGA, auto switch VGA: up to 1920 x 1080, co-lay with DDI 3, auto switch | 3 Displays: 18/24-bit Single/Dual-Channel LVDS/eDP x 1, up to 1920 x 1080/ 3840 x 2160 DP x 2, up to 3840 x 2160 |
| I/O | Intel® Ethernet Controller I226-V or I226-IT 2.5GbE x 1 | | |
| Ethernet | High Definition Audio Interface | | |
| Audio | USB 2.0 x 8, USB 3.2 Gen 2 x 4 | | |
| USB Port | 2-Wire UART x 2 (Tx/Rx) | | |
| Serial Port | SATA 6.0Gbps x 2 | | |
| HDD Interface | PEG 4.0 [x8] + [x4] + [x4], last PEG [x4] option to be onboard NVMe SSD PCIe 4.0 [x1] x 4 + PCIe [x4] | PEG 4.0 [x8] + [x4] + [x4], last PEG [x4] option to be onboard NVMe SSD PCIe 4.0 [x1] x 4 + PCIe [x4] MIPI CSI x 2 | PCIe [x1] x 4 or [x2] x 2, LPC, WDT, HWM |
| Expansion | 8-bit | | |
| GPIO | I2C x 1, from EC (default) or CPU, switch by BIOS SMBus x 1, from CPU | | |
| SMBus/I2C | I2C x 1, SMBus x 1 | | |
| Environment | 32°F ~ 140°F (0°C ~ 60°C) | | |
| Operating Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | |
| Storage Temperature | 0% ~ 90% relative humidity, non-condensing | | |
| Operating Humidity | CE/FCC Class A | | |
| EMC | Windows® 11 (64-bit) Linux Ubuntu 24.04/Kernel 6.11 | Windows® 11 (64-bit) Linux Ubuntu 24.04/Kernel 6.8 | Windows® 11 (64-bit) Linux Ubuntu 22.04.02/Kernel 5.19 |
| OS Support | 0.25 lb. (0.12Kg) | | |
| Weight | | | |
| Note | | | |

Board Level Products

Computing On Module



| Model | COM-ADNC6 | COM-RAPC6 | COM-TGHB6 |
|-----------------------------|--|--|---|
| System Form Factor | COM Express Compact Size, Type 6 | | COM Express Basic Size, Type 6 |
| CPU | Intel Atom® X Series/N-series/Core™ i3-N305 CPU Intel® Core™ i3-N305 (8C, up to 3.8 GHz, 15W) Intel Atom™ x7425E (4C, up to 3.4 GHz, 12W) Intel Atom™ x7211E (2C, up to 3.2 GHz, 6W) Intel® Processor N97 (4C, up to 3.6 GHz, 12W) Intel® Processor N50 (2C, up to 3.4 GHz, 6W) | 13th Intel® Core™ Processor: Intel® Core™ i7-13800HRE Processor (14C/20T, 2.5GHz, 45W, In-Band ECC) Intel® Core™ i7-13800HE Processor (14C/20T, 2.5GHz, 45W) Intel® Core™ i5-13600HE Processor (12C/16T, 2.7GHz, 45W) Intel® Core™ i3-13300HE Processor (8C/12T, 2.1GHz, 45W) Intel® Core™ i7-1370PE Processor (14C/20T, 1.9GHz, 29W) Intel® Core™ i5-1340PE Processor (14C/16T, 1.8GHz, 28W) Intel® Core™ i3-1320PE Processor (8C/12T, 1.7GHz, 28W) Intel® Core™ i3-1315UE Processor (6C/8T, 1.2GHz, 15W) Intel® Core™ U300 Processor (5C/6T, 1.1GHz, 15W) | 11th Generation Intel® Core™ Processors: Intel® Core™ i7-11850HE (8C/16T, 2.1 GHz, 35W) Intel® Core™ i5-11500HE (6C/12T, 2.1 GHz, 35W) Intel® Core™ i3-11100HE (4C/8T, 1.9 GHz, 35W) Intel® Xeon® W Processors: Intel® Xeon® W-11865MRE (8C/16T, 2.1 GHz, 35W) Intel® Xeon® W-11865MLE (8C/16T, 1.5 GHz, 25W) |
| Chipset | Integrated with Intel® SoC | | Intel® QM580E Intel® RM590E |
| Memory | DDR5 4800MHz Single Channel , SODIMM x1, up to 16GB | DDR5 Dual channel , SODIMM Socket x 2, non-ECC, up to 64GB (U Processor up to 4800MT/s, P Processor up to 5200 MT/s) | DDR4 3200MHz Dual Channel , SODIMM x 2 , up to 64GB |
| Onboard Storage | — | | |
| BIOS | AMI BIOS (UEFI) | AMI UEFI | |
| Wake on LAN | Yes | | |
| Watchdog Timer | 255 Levels | | |
| Dimension | 3.74" x 3.74" (95mm x 95mm) | | 4.92" x 3.75" (125mm x 95mm) |
| Security | TPM 2.0 | | |
| Power | | | |
| Power Requirement | +12V and +5VSB for ATX, +12V for AT | | |
| Power Type | AT (default)/ATX, switch by BIOS | AT/ATX | |
| Power Consumption (Typical) | Intel® Core™ i3-N305, 1.57A @+12V | Intel® Core™ i7-13800HE, DDR5 32GB x 2, 8.30A@ +12V | Intel® Xeon® W-11865MRE, 5.26A @+12V |
| Display | | | |
| Graphics Controller | Intel® UHD Graphics | Intel® Iris® Xe Graphics Intel® UHD Graphics | Intel® UHD Graphics |
| Video Output | 3 Displays: 18/24-bit Single/Dual-Channel LVDS/eDP x 1, up to 1920 x 1080/ 3840 x 2160 DP x 2, up to 3840 x 2160 | 4 Simultaneous Displays: DDI x 3, up to 3840 x 2160 18/24-bit Single/Dual-Channel LVDS/eDP x 1, up to 1920 x 1080 / 3840 x 2160 @60Hz VGA x 1, up to 1920 x 1080 | 4 Simultaneous Displays: DDI x 3, up to 3840 x 2160 LVDS/eDP x 1, up to 1920 x 1080 VGA x 1, up to 1920 x 1080 |
| I/O | | | |
| Ethernet | Intel® Ethernet Controller I226-V or I226-IT 2.5GbE x 1 | Intel® Ethernet Controller I226, 2.5GbE x 1 | Intel® I226-LM 2.5GbE x 1 |
| Audio | High Definition Audio Interface | | |
| USB Port | USB 2.0 x 8, USB 3.2 Gen 2 x 2 | | USB 2.0 x 8, USB 3.2 Gen 2 x 4 |
| Serial Port | 2-Wire UART x 2 (Tx/Rx) | | |
| HDD Interface | SATA 6Gb/s x 2 | SATA 6.0Gb/s x 2 | SATA 6Gb/s x 4 |
| Expansion | PCIe [x1] x 4 or [x2] x 2, LPC, WDT, HWM | PCIe[x1] x 4 (Configurable by BIOS)+ PCIe[x4] x 1+PCIe[x8] x 1 (PCIe[x8] for H series CPU only) | PEG 4.0 [x16] x 1 PCIe 3.0 [x1] x 8 LPC x 1 |
| GPIO | 8-bit | | |
| SMBus/I2C | I2C x 1, SMBus x 1 | | |
| Environment | | | |
| Operating Temperature | -4°F ~ 158°F (-20°C ~ 70°C) -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU | 32°F ~ 140°F (0°C ~ 60°C) -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| EMC | CE/FCC Class A | | |
| OS Support | Windows® 10 (64-bit) Linux Ubuntu 22.04.02/Kernel 5.19 | Windows® 10 / 11 (64-bit) Linux Ubuntu 24.04/Kernel 6.8 | Windows® 10 (64-bit) Linux Ubuntu 20.04.4/Kernel 5.13 |
| Weight | 0.26 lb. (0.12Kg) | | 0.33 lb. (0.15Kg) |
| Note | | | |



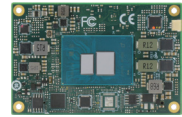
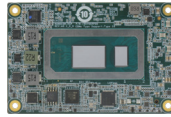
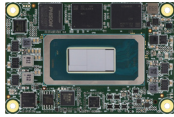
| Model | COM-CFHB6 | COM-TGUC6 | COM-TGUC6 Rev.C |
|-----------------------------|--|--|--|
| System Form Factor | COM Express Basic Size, Type 6 | | |
| CPU | <p>9th Generation Intel® Core™ Processors: Intel® Core™ i7-9850HL (6C/12T, 1.90 GHz, 25W) Intel® Core™ i7-9850HE (6C/12T, 2.70 GHz, 45W)</p> <p>8th Generation Intel® Core™ Processors: Intel® Core™ i7-8850H (6C/12T, 2.60 GHz, 45W) Intel® Core™ i5-8400H (4C/8T, 2.50 GHz, 45W) Intel® Core™ i3-8100H (4C/4T, 3.00 GHz, 45W)</p> <p>Intel® Xeon® E Processors: Intel® Xeon® E-2176M (6C/12T, 2.70 GHz, 45W) Intel® Xeon® E-2276ME Processor (6C/12T, 2.80 GHz, 45W)</p> | <p>11th Generation Intel® Core™ Processors: Intel® Core™ i7-1185G7E (4C/8T, 1.8 GHz, 15W) Intel® Core™ i7-1185G9E (4C/8T, 1.80 GHz, 15W, In-Band ECC)</p> <p>Intel® Core™ i5-1145G7E (4C/8T, 1.5 GHz, 15W) Intel® Core™ i5-1145G9E (4C/8T, 1.50 GHz, 15W, In-Band ECC)</p> <p>Intel® Core™ i3-1115G4E (2C/4T, 2.20 GHz, 15W) Intel® Core™ i3-1115G9E (2C/4T, 2.20 GHz, 15W, In-Band ECC)</p> <p>Intel® Celeron® Processor 6000 Series: Intel® Celeron® 6305E Processor (2C/2T 1.80 GHz, 15W)</p> | <p>11th Generation Intel® Core™ Processors: Intel® Core™ i7-1185G7E (4C/8T, 1.8 GHz, 15W) Intel® Core™ i3-1115G4E (2C/4T, 2.20 GHz, 15W) Intel® Core™ i7-1185G9E (4C/8T, 1.8 GHz, 15W)</p> |
| Chipset | Intel® QM370 CM246 | Integrated with Intel® SoC | |
| Memory | DDR4 2666MHz SODIMM x 3, up to 96GB (ECC by SKU) | DDR4 3200MHz Dual Channel SODIMM x 2, up to 64GB (In-Band ECC by SKU) | DDR4 3200MHz Dual channel , SODIMM x 2, up to 64GB |
| Onboard Storage | — | | |
| BIOS | AMI UEFI | | |
| Wake on LAN | Yes | | |
| Watchdog Timer | 255 Levels | | |
| Dimension | 4.92" x 3.75" (125mm x 95mm) | 3.74" x 3.74" (95mm x 95mm) | |
| Security | TPM 2.0 (Optional) | TPM 2.0 | |
| Power Requirement | +12V and +5VSB for ATX, +12V for AT | | |
| Power Type | AT/ATX | | |
| Power Consumption (Typical) | Intel® Xeon® E-2276ME, 4.65A @+12V | Intel® Core™ i7-1185G9E, 3.5A @+12V | Intel® Core™ i7-1185G7E, 3.22A @+12V |
| Display | Intel® Iris® Xe Graphics Intel® UHD Graphics | | |
| Graphics Controller | Intel® UHD Graphics 630 Intel® UHD Graphics P630 | Intel® Iris® Xe Graphics Intel® UHD Graphics | |
| Video Output | 3 Simultaneous Displays: 18/24-bit Single/Dual-Channel LVDS x 1, up to 1920 x 1080 DDI x 2, up to 3840 x 2160 VGA x 1, up to 1920 x 1080 | 4 Simultaneous Displays: DDI x 3, up to 3840 x 2160 18/24-bit Single/Dual-Channel LVDS/eDP x 1, up to 1920 x 1080/3840 x 2160 VGA x 1, up to 1920 x 1080 | 4 Simultaneous Displays: DDI x 3, up to 3840 x 2160 18/24-bit Single/Dual-Channel LVDS/eDP x 1, up to 1920 x 1080 / 3840 x 2160 VGA x 1, up to 1920 x 1080 |
| I/O | Intel® Ethernet Controller i225/i226-LM 2.5GbE x 1 | | |
| Ethernet | Intel® I219-LM GbE x 1 | Intel® Ethernet Controller i225/i226-LM 2.5GbE x 1 | Intel® Ethernet Controller I226, 2.5GbE x 1 |
| Audio | High Definition Audio Interface | | |
| USB Port | USB 2.0 x 8, USB 3.2 Gen 2 x 4 | | |
| Serial Port | 2-Wire UART x 2 (Tx/Rx) | | |
| HDD Interface | SATA 6Gb/s x 4 | SATA 6Gb/s x 2 | SATA 6Gb/s x 2 |
| Expansion | PEG 3.0 [x16] x 1 PCIe 3.0 [x1] x 8 LPC x 1 | PEG 4.0 [x4] x 1 PCIe 3.0 [x1] x 5 LPC x 1 | PEG 3.0 [x4] x 1 PCIe 3.0 [x1] x 5 LPC x 1 |
| GPIO | 8-bit | | |
| SMBus/I2C | I2C x 1, SMBus x 1 | | |
| Environment | | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) | 32°F ~ 140°F (0°C ~ 60°C) -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| EMC | CE/FCC Class A | | |
| OS Support | Windows® 10 (64-bit) Linux Ubuntu 18.04.3/Kernel 5.0 | Windows® 10 (64-bit) Linux Ubuntu 20.04.2/Kernel 5.8 | Windows® 10 (64-bit) |
| Weight | 0.44 lb. (0.20Kg) | | |
| Note | | | |

Board Level Products

Computing On Module



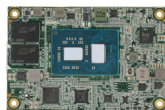
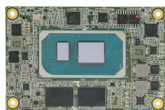
| Model | COM-WHUC6 | COM-ICDB7 | NanoCOM-ARH |
|-----------------------------|---|---|---|
| System Form Factor | COM Express Compact Size, Type 6 | COM Express R3.0, Basic Size, Type 7 | COM Express Mini Size, Type 10 |
| CPU | 8th Generation Intel® Core™ Processors: Intel® Core™ i7-8665UE (4C/8T, 1.70 GHz, 15W) Intel® Core™ i5-8365UE (4C/8T, 1.60 GHz, 15W) Intel® Core™ i3-8145UE (2C/4T, 2.20 GHz, 15W) Intel® Celeron® Processor 4000 Series: Intel® Celeron® Processor 4305UE (2C/2T, 2.00 GHz, 15W) | Intel® Xeon® D-1848TER (10C/20T, 2.00 GHz, 57W) Intel® Xeon® D-1746TER (10C/20T, 2.00 GHz, 67W) Intel® Xeon® D-1735TR (8C/16T, 2.20 GHz, 59W) Intel® Xeon® D-1712TR (4C/4T, 2.00 GHz, 40W) | Intel® Core™ Ultra Processors (Series 2): Intel® Core™ Ultra 7 Processor 255H (16C/16T, up to 5.1 GHz, 28W) Intel® Core™ Ultra 5 Processor 225H (14C/14T, up to 4.9 GHz, 28W) |
| Chipset | Integrated with Intel® SoC | | |
| Memory | DDR4 2400MHz SODIMM x 2, up to 64GB (non-ECC) | DDR4 2400MHz SODIMM x 4, Dual Channel, up to 128GB | onboard LPDDR5(X) 6400MHz, up to 32GB |
| Onboard Storage | eMMC, up to 64GB (Optional) | — | NVMe, up to 256GB |
| BIOS | AMI UEFI | | |
| Wake on LAN | Yes | | |
| Watchdog Timer | 255 Levels | | |
| Dimension | 3.74" x 3.74" (95mm x 95mm) | 4.92" x 3.75" (125mm x 95mm) | 3.31" x 2.17" (84mm x 55mm) |
| Security | dTPM | TPM 2.0 | fTPM / dTPM (Default) |
| Power | | | |
| Power Requirement | +12V and +5VSB for ATX, +12V for AT | +12V and +5VSB for ATX, +12V and +5V for AT | +9V-19V and +5VSB for ATX, +9-19V for AT |
| Power Type | AT/ATX | AT/ATX(default) | AT/ATX, switch by BIOS |
| Power Consumption (Typical) | Intel® Core™ i7-8665UE, 2.61A @+12V | Intel® Xeon® D-1746TER, 7.75A @+12V | Intel® Core™ Ultra 7 Processor 255H, 1.67A@+19V |
| Display | | | |
| Graphics Controller | Intel® UHD Graphics 620 Intel® UHD Graphics 610 | — | Intel® Arc™ Graphics |
| Video Output | 3 Simultaneous Displays: DDI x 1, up to 3840 x 2160 18/24-bit Single/Dual-Channel LVDS/eDP x 1, up to 1920 x 1080 VGA x 1, up to 2048 x 1152 | — | Dual Display: DDI x 1, up to 3840 x 2160 eDP x 1, up to 3840 x 2160 @60Hz |
| I/O | | | |
| Ethernet | Intel® I219-LM GbE x 1 | Intel® I210-IT GbE x 1 10GbE x 4, support x557(default) or SFP+ | Intel® Ethernet Controller I226, 2.5GbE x 1 |
| Audio | High Definition Audio Interface | | |
| USB Port | USB 2.0 x 8, USB 3.2 Gen 2 x 4 | | |
| Serial Port | 2-Wire UART x 2 (Tx/Rx) | | |
| HDD Interface | SATA 6Gb/s x 2 | | |
| Expansion | PCIe 3.0 [x1] x 4 PCIe 3.0 [x4] x 1 LPC x 1 | PEG 4.0 [x16] x 1 PCIe 3.0 [x2] x 8 LPC x 1 | PCIe 4.0 [x1] x 4 LPC x 1 |
| GPIO | 8-bit | | |
| SMBus/I2C | I2C x 1, SMBus x 1 | I2C x 1 (Windows® 10 Ready), SMBus x 1 | I2C x 1, from EC (default) or CPU, switch by BIOS SMBus x 1, from CPU |
| Environment | | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) | | -4°F ~ 158°F (-20°C ~ 70°C) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| EMC | CE/FCC Class A | | |
| OS Support | Windows® 10 (64-bit) Linux Ubuntu 18.04/Kernel 4.18 | Windows® 10 (64-bit) Linux Ubuntu 20.04/Kernel 5.4 | Windows® 11 (64-bit) Linux Ubuntu 24.04.1/Kernel 6.8 |
| Weight | 0.44 lb. (0.20Kg) | | 0.15 lb. (0.07Kg) |
| Note | | | |



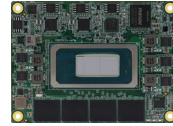
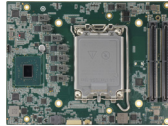
| Model | NanoCOM-MTU | NanoCOM-RAP | NanoCOM-ASL |
|-----------------------------|--|---|--|
| System Form Factor | COM Express Mini Size, Type 10 | | |
| CPU | Intel® Core™ Ultra Processors: Intel® Core™ Ultra 7 Processor 155H (16C/22T, up to 4.8 GHz, 28W) Intel® Core™ Ultra 5 Processor 125H (14C/18T, up to 4.5 GHz, 28W) | 13th Generation Intel® Core™ U-series Processors: Intel® Core™ i7-1365UE (10C/12T, 1.70 GHz, 15W) Intel® Core™ i5-1335UE (10C/12T, 1.30 GHz, 15W) Intel® Core™ i3-1315UE (6C/8T, 1.20 GHz, 15W) Intel® Processor U300E (5C/6T, 1.10 GHz, 15W) | Intel Atom® x7835RE (8C, 1.30 GHz, 12W) Intel Atom® x7433RE (4C, 1.50 GHz, 9W) |
| Chipset | Integrated with Intel® SoC | | |
| Memory | onboard LPDDR5(X) 6400MHz, up to 32GB | Onboard LPDDR5, up to 16GB | Onboard LPDDR5x 4800MHz, 4 Channel , up to 16GB |
| Onboard Storage | NVMe, up to 256GB | NVMe, up to 128GB (Optional) | eMMC, up to 64GB |
| BIOS | AMI UEFI | | |
| Wake on LAN | Yes | | |
| Watchdog Timer | 255 Levels | | |
| Dimension | 3.31" x 2.17" (84mm x 55mm) | | |
| Security | TPM / dTPM (Default) | TPM 2.0 | |
| Power | | | |
| Power Requirement | +9V-19V and +5VSB for ATX, +9-19V for AT | | +9V-15V and +5VSB for ATX, +9-15V for AT |
| Power Type | AT/ATX, switch by BIOS | | AT/ATX, switch by BIOS |
| Power Consumption (Typical) | Intel® Core™ Ultra 7 Processor 155H, 2.06A@+19V | Intel® Core™ i7-1365UE, LPDDR5 16GB, 2.82A@+12V | Intel Atom® x7433RE, 1.31A @+12V |
| Display | | | |
| Graphics Controller | Intel® Arc™ Graphics | Intel® UHD Graphics for 13th Gen Intel® Processors | Intel® UHD Graphics |
| Video Output | Dual Display: DDI x 1, up to 3840 x 2160 eDP x 1, up to 3840 x 2160 @60Hz | Dual Display: DDI x 1, up to 3840 x 2160 eDP x 1, up to 3840 x 2160 @60Hz | Dual Display: DDI x 1, up to 3840 x 2160 18/24-bit Single-Channel LVDS x 1, up to 1024 x 768 |
| I/O | | | |
| Ethernet | Intel® Ethernet Controller I226, 2.5GbE x 1 | Intel® I226-IT 2.5GbE x 1 | Intel® Ethernet Controller I226-IT 2.5GbE x 1 |
| Audio | High Definition Audio Interface | | |
| USB Port | USB 2.0 x 8, USB 3.2 Gen 2 x 2 | | |
| Serial Port | 2-Wire UART x 2 (Tx/Rx) | | |
| HDD Interface | SATA 6Gb/s x 2 | | |
| Expansion | PCIe 4.0 [x1] x 4 MIPI CSI x 2 LPC x 1 | PCIe 3.0 [x1] x 4 LPC x 1 | |
| GPIO | 8-bit | | |
| SMBus/I2C | I2C x 1, from EC (default) or CPU, switch by BIOS SMBus x 1, from CPU | I2C x 1, SMBus x 1 | |
| Environment | | | |
| Operating Temperature | -4°F ~ 158°F (-20°C ~ 70°C) | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU | -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| EMC | CE/FCC Class A | | |
| OS Support | Windows® 11 (64-bit) Linux Ubuntu 24.04.1/Kernel 6.8 | Windows® 10 (64-bit) Linux Ubuntu 22.04.2/Kernel 5.19 | Windows® 10 / 11 (64-bit) Linux Ubuntu 22.04.4/Kernel 6.5 |
| Weight | 0.15 lb. (0.07Kg) | | |
| Note | | | |

Board Level Products

Computing On Module



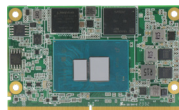
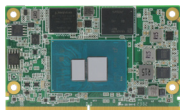
| Model | NanoCOM-ADN | NanoCOM-TGU | NanoCOM-EHL |
|-----------------------------|--|--|---|
| System Form Factor | COM Express Mini Size, Type 10 | | |
| CPU | Intel Atom [®] x7000E Series: Intel Atom [®] x7425E (4C, 1.50 GHz, 12W) Intel [®] Processor N-series: Intel [®] Core™ i3-N305 (8C, up to 3.8 GHz, 15W) Intel [®] Processor N97 (4C, 2.00 GHz, 12W) Intel [®] Processor N50 (2C, 1.00 GHz, 6W) | 11th Generation Intel [®] Core™ Processors: Intel [®] Core™ i7-1185G7E (4C/8T, 1.80 GHz, 15W) Intel [®] Core™ i5-1145G7E (4C/8T, 1.50 GHz, 15W) Intel [®] Core™ i3-1115G4E (2C/4T, 2.20 GHz, 15W) Intel [®] Core™ i7-1185G9E (4C/8T, 1.80 GHz, 15W) Intel [®] Core™ i5-1145G9E (4C/8T, 1.80 GHz, 15W) Intel [®] Core™ i3-1115G9E (2C/4T, 2.20 GHz, 15W) | Intel Atom [®] Processor X Series: Intel Atom [®] x6413E (4C/4T, 1.50 GHz, 9W) Intel Atom [®] x6425E (4C/4T, 2.20 GHz, 12W) Intel Atom [®] x6425RE (4C/4T, 1.90 GHz, 12W) Intel [®] Celeron [®] Processor J & N Series: Intel [®] Celeron [®] Processor J6412 (4C/4T, 2.00 GHz, 10W) Intel [®] Celeron [®] Processor N6211 (2C/2T, 1.20 GHz, 6.5W) Intel [®] Pentium [®] Processor J Series: Intel [®] Pentium [®] Processor J6426 (4C/4T, 2.00 GHz, 10W) |
| Chipset | Integrated with Intel [®] SoC | | |
| Memory | Onboard LPDDR5x up to 4800MHz, up to 16GB | Onboard LPDDR4 4267MHz, up to 16GB | Onboard LPDDR4 3733MHz, up to 16GB |
| Onboard Storage | eMMC, up to 64GB | NVMe, up to 256GB (Optional) | eMMC, up to 64GB (Optional) |
| BIOS | AMI UEFI | | |
| Wake on LAN | Yes | | |
| Watchdog Timer | 255 Levels | | |
| Dimension | 3.31" x 2.17" (84mm x 55mm) | | |
| Security | TPM 2.0 | fTPM | |
| Power | | | |
| Power Requirement | A10: +12V and +5VSB for ATX, +12V for AT A12: +9V-15V and +5VSB for ATX, +9-15V for AT | +12V and +5VSB for ATX, +12V for AT | |
| Power Type | AT/ATX, switch by BIOS | | |
| Power Consumption (Typical) | Intel [®] Core™ i3-N305, 2.32A @+12V | Intel [®] Core™ i7-1185G7E, 2.75A @+12V | Intel Atom [®] x6425E, 1.44A @+12V |
| Display | AT/ATX | | |
| Graphics Controller | Intel [®] UHD Graphics | Intel [®] UHD Graphics for 11th Gen Intel [®] Processors | Intel [®] UHD Graphics for 10th Gen Intel [®] Processors |
| Video Output | Dual Display: DDI x 1, up to 3840 x 2160 18/24-bit Single-Channel LVDS x 1, up to 1024 x 768 | Dual Display: DP x 1, up to 3840 x 2160 eDP x 1, up to 3840 x 2160 | Dual Display: DDI x 1, up to 3840 x 2160 18/24-bit Single-Channel LVDS x 1, up to 1920 x 1080 or eDPx 1, up to 3840 X 2160 |
| I/O | | | |
| Ethernet | Intel [®] Ethernet Controller I226-V 2.5GbE x 1 | Intel [®] I225-LM/IT 2.5GbE x 1 | Intel [®] I226-IT 2.5GbE x 1 |
| Audio | High Definition Audio Interface | | |
| USB Port | USB 2.0 x 8, USB 3.2 Gen 2 x 2 | | |
| Serial Port | 2-Wire UART x 2 (Tx/Rx) | | |
| HDD Interface | SATA 6Gb/s x 2 | | |
| Expansion | PCIe 3.0 [x1] x 4 LPC x 1 | | |
| GPIO | 8-bit | | |
| SMBus/I2C | I2C x 1, SMBus x 1 | | |
| Environment | | | |
| Operating Temperature | -4°F ~ 158°F (-20°C ~ 70°C) | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU | |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| EMC | CE/FCC Class A | | |
| OS Support | Windows [®] 10 / 11 (64-bit) Linux Ubuntu 22.04.4/Kernel 6.5 | Windows [®] 10 (64-bit) Linux Ubuntu 20.04.4/Kernel 5.13.0 | Windows [®] 10 (64-bit) Linux Ubuntu 20.04.3/Kernel 5.13.0 |
| Weight | 0.15 lb. (0.07Kg) | | |
| Note | | | |



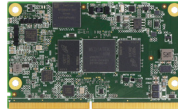
| Model | HPC-RPSC | HPC-ARHm |
|-----------------------------|--|--|
| System | | |
| Form Factor | COM HPC Client Size C | COM-HPC R1.2 Mini |
| CPU | 12th/13th/14th Gen Intel® Core™ Processor Intel® Core™ processors (Series 2) | Intel® Core™ Ultra Processors: Intel® Core™ Ultra 7 Processor 255H (16C/16T, 2.0GHz, 28W) Intel® Core™ Ultra 5 Processor 225H (14C/14T, 1.7GHz, 28W) Intel® Core™ Ultra 7 Processor 155H (16C/22T, 1.4 GHz, 28W) Intel® Core™ Ultra 5 Processor 125H (14C/18T, 1.2 GHz, 28W) |
| Chipset | Intel® R680E | SoC |
| Memory | DDR5 5600 MHz, Dual Channel SODIMM x 2, up to 64GB(ECC) | Onboard LPDDR5x, up to 64GB |
| Onboard Storage | — | Onboard NVMe, up to 256GB |
| BIOS | | AMI UEFI |
| Wake on LAN | | Yes |
| Watchdog Timer | | 255 Levels |
| Dimension | 6.30" x 4.72" (160mm x 120mm) | 3.74" x 2.76" (95mm x 70mm) |
| Security | TPM 2.0 | dTPM / fTPM |
| Power | | |
| Power Requirement | +12V and +5VS for ATX, +12V for AT | +12V for ATX / AT |
| Power Type | | AT/ATX |
| Power Consumption (Typical) | Intel® Core™ i9-13900E, 7.13A @+12V | Intel® Core™ Ultra 7 265H , 4.13 @+12V |
| Display | | |
| Graphics Controller | Intel® UHD Graphics 770 | Series 1 CPU SKU: Intel® Arc™ graphics Series 2 CPU SKU: Intel® Arc™ 140T/130T GPU |
| Video Output | 4 Simultaneous Displays: eDP x 1, up to 3840 x 2160 @60Hz DDI x 3, up to 3840 x 2160 @144Hz | DDI1: DP/HDMI, up to 3840x2160 DDI2: DP/HDMI, up to 3840x2160 eDP: up to 3840 x 2160 |
| I/O | | |
| Ethernet | Intel® Ethernet Controller I226-LM 2.5GbE x 2 | Intel® Ethernet Controller I226 2.5GbE x 2 |
| Audio | | High Definition Audio Interface |
| USB Port | USB 2.0 x 8 USB 3.2 Type-C x 2 (20Gbps x 2) USB 3.2 Type-A x 4 (10Gbps) | USB 3.2 (10Gbps) x 4 USB 2.0 x 8 |
| Serial Port | 4-Wire UART x 2 (Tx/Rx) | 4-Wire UART x 2 (Tx/Rx/RTS/CTS) |
| HDD Interface | SATA 6Gb/s x 2 | Option: SATA 6Gb/s x 2, via PCIe lane 6 and lane 7 *BIOS and BOM change required to enable SATA |
| Expansion | PEG 5.0 [x16] x 1 PCIe 4.0 [x4] x 3 PCIe 3.0 [x1] x 8 eSPI x 1 LPC x 1 M.2 2280 M-Key x 1 | PCIe 4.0 [x8] x 1 PCIe 3.0 [x1] x 4 PCIe 3.0 [x4] x 1 (lanes 6 and 7 co-lay with SATA) |
| GPIO | | 12-bit |
| SMBus/I2C | | I2C x 2, SMBus x 1 |
| Environment | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) | -4°F ~ 158°F (-20°C ~ 70°C) |
| Storage Temperature | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | | 0% ~ 90% relative humidity, non-condensing |
| EMC | | CE/FCC Class A |
| OS Support | Windows® 10 (64-bit) Linux Ubuntu 20.04.1/Kernel 5.15 | Windows 11 Ubuntu 24.04/Kernel 6.11 |
| Weight | 0.66 lb. (0.30Kg) | 0.17lb (0.08kg) |
| Note | | |

Board Level Products

Computing On Module



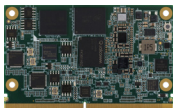
| Model | uCOM-ADN | uCOM-ASL | uCOM-IMX8P |
|-----------------------|--|---|---|
| System Form Factor | SMARC Module | | SMARC 2.1 Compliant |
| CPU | Intel® Core™ i3-N305 Processor (8C/8T, 1.8 GHz, 15W) Intel Atom® x7425E Processor (4C, up to 1.5 GHz, 12W) Intel® Processor N97 (4C, up to 2.0 GHz, 12W) | Intel Atom® x7835RE Processor (8C, up to 3.6 GHz, 12W) Intel Atom® x7433RE Processor (4C, up to 3.4 GHz, 9W) Intel Atom® x7213RE Processor (2C, up to 3.4 GHz, 9W) Intel Atom® x7211RE Processor (2C, up to 3.2 GHz, 6W) | NXP i.MX 8M Plus – Quad-Core Arm® Cortex®-A53 Processor, 1.6GHz (Default w/NPU, optional w/o NPU) |
| Chipset | Integrated with Intel® SoC | | — |
| Memory | Onboard LPDDR5x 4800MHz, up to 8GB | Onboard LPDDR5(x) 4800MHz, up to 16GB | Onboard LPDDR4 up to 4GB |
| Storage | eMMC, up to 64GB | | eMMC 5.1, 16/32GB (Optional: 64/128 GB) |
| BIOS | AMI UEFI | | — |
| MTBF (Hours) | 2,614,335 | | 3,780,780 |
| Wake On LAN | Yes | | — |
| Watchdog Timer | 255 Levels | | Yes |
| Real Time Clock | RTC x 1 | | — |
| Boot Select | Module eMMC Flash | Module eMMC Flash, SATA, USB | Carrier SD Card Module eMMC Flash |
| Security | TPM 2.0 | | TPM 2.0 (optional) |
| Display | — | | — |
| Graphics Controller | Intel® UHD Graphics | | 2D: Vivante GC520L 3D: Vivante GC7000UL |
| Video Output | Display: DP++ x 2, up to 3840 x 2160 eDP x 1, up to 3840 x 2160 | | HDMI 2.0a x 1 LVDS (2 CH, 4 Lane) x 1 MIPI-DSI 4 Lane x 1 (By request) |
| I/O Interfaces | — | | — |
| Ethernet | Intel® Ethernet Controller I226-V/IT 2.5GbE x 2 | | Gigabit Ethernet x 2 (TSN x 1) |
| USB | USB 2.0 x 6, USB 3.2 x 2 | | USB 3.0 Gen 1 + USB 2.0 x 2 (Host) USB 2.0 x 2 (Host) USB 2.0 x 1 (OTG) |
| Serial Port | 2-Wire UART x 2 (Tx/Rx) 4-Wire UART x 2 (Tx/Rx/RTS/CTS) | | UART x 4 (2-wire x 2, one for debug port, 4-wire x 2) |
| Audio | High Definition Audio Interface | | I2S x 1 |
| PCIe | PCIe Gen 3 [x1] x 3 (Max PCIe [x2] x 1) | | PCIe Gen 3.0 x 1 |
| CANBus | — | | CAN 2.0 FD x 2 (1.8V) |
| MIPI-CSI | MIPI CSI x 2 | | MIPI CSI 2 Lane x 1 MIPI CSI 4 Lane x 1 |
| GPIO | 7-bit (up to 14-bit by customization) | | 14 bits (one for PWM) |
| Other Interfaces | SATA 6Gb/s x 1 GP_I2C x 1 SMBus x 1 | | SPI x 2 (SPI x 1, QSPI x 1) I2C x 5 (Power Management x 1, Camera x 2, LCD Display x 1, General Purpose x 1) |
| Power | — | | — |
| Power Requirement | +5V for ATX / AT | | DC 3.3 V ~ 5.25 V |
| Power Consumption | Intel® Core™ i3-N305, 4.23A @+5V | Intel® Core™ x7835RE, 5.03A @+12V | 3.45 W (Full loading) |
| Environment | — | | — |
| Dimensions | 3.23" x 1.97" (82mm x 50mm) | | — |
| Weight | 0.14 lb. (0.06Kg) | | 0.03 lb. (0.013kg) |
| Operating Temperature | -4°F ~ 158°F (-20°C ~ 70°C) -40°F ~ 185°F (-40°C ~ 85°C) | | -40°F ~ 185°F (-40°C ~ 85°C) Optional: 32°F ~ 140°F (0°C ~ 60°C) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | — |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | — |
| Certification | CE/FCC Class A | | — |
| OS Support | Windows® 10 (64-bit) / Windows 11(enterprise) Linux Ubuntu 22.04.2/Kernel 5.19 | Windows® 10 (64-bit) / Windows 11(Enterprise) Linux Ubuntu 22.04.2/Kernel 5.19 | Debian 12 (default) Win 10 IoT (by request) Yocto (by request) |
| Support Protocol | — | | Modbus, MQTT, OPCUA (by request) |
| Note | — | | |



| Model | uCOM-IMX93 | uCOM-M700/M510 | uCOM-3588 |
|-----------------------|--|--|---|
| System Form Factor | SMARC 2.1 Compliant | | |
| CPU | NXP i.MX 93 – Dual-Core Arm® Cortex®-A55 + Arm Cortex®-M33 Processor, 0.5 TOPs Cortex-A55: 1.7 GHz, Cortex-M33: 250 MHz (Default w/NPU, optional w/o NPU) | MediaTek Genio 700 (MT8390): Dual-core Arm® Cortex®-A78, 2.2GHz Hexa-core Arm® Cortex®-A55, 2.0GHz Arm® Mali™-G57 MC3 GPU, 4 TOPs MediaTek Genio 510 (MT8370): Dual-core Arm® Cortex®-A78, 2.0GHz Quad-core Arm® Cortex®-A55, 2.0GHz Arm® Mali™-G57 MC2 GPU, 3.2 TOPs | Rockchip RK3588 Arm Quad Cortex-A76 2.4 GHz and Quad Cortex-A55 1.8 GHz Up to 6.0 TOPs. |
| Chipset | — | | |
| Memory | Onboard LPDDR4, up to 2GB | Onboard LPDDR4, up to 8GB | Onboard LPDDR4, up to 8 GB |
| Storage | eMMC 5.1, 16GB (Optional: 32GB/64GB/128GB) SDIO 3.0 x 1 (for SD Card) | eMMC 5.1, 16GB (Optional: 32GB/64GB/128GB) SDIO 3.0 x 1 (for SD Card) | eMMC 5.1, up to 128 GB SDIO 3.0 x 1 (for SD Card) |
| BIOS | — | | |
| MTBF (Hours) | 3,896,445 | 3,092,590 | TBD |
| Wake On LAN | — | | |
| Watchdog Timer | Yes | | |
| Real Time Clock | RTC x 1 | | |
| Boot Select | Carrier SD Card Module eMMC Flash Universal Update Utility (UUU) Serial Download Mode | Module eMMC Flash | |
| Security | TPM 2.0 (optional) | | — |
| Display | — | | |
| Graphics Controller | NXP integrated 2D Graphic Acceleration | Arm® Mali™-G57 MC2/MC3 GPU, supports OpenGL® ES 1.1/2.0/3.2 and Vulkan® 1.0/1.1 (MC3 for model 700, MC2 for model 510) | Arm Mali-G610 MP4 GPU, high-performance OpenGL ES 1.1, 2.0 and 3.2, OpenCL 2.2, Vulkan 1.2 |
| Video Output | HDMI x 1, 1920 x 1080, 1280 x 720 (optional w/ I2S) LVDS 4-Lane x 1 (18/24bit) MIPI-DSI 4-Lane x 1 (by request) | HDMI 2.0 x 1 DP 1.4 x 1 (4k x 2k @ 60Hz) eDP 1.2 (2-Lane) x 1 MIPI-DSI (4-Lane) x 1 (by request) *Supports up to dual display (4K x 1 + 2K x 1) | HDMI x 1 MIPI-DSI 4-Lane x 1 eDP 4-Lane x 1 |
| I/O Interfaces | — | | |
| Ethernet | Gigabit Ethernet x 2 (TSN x 1) | Gigabit Ethernet x 1 (TSN support) | Gigabit Ethernet x 2 |
| USB | USB 2.0 x 4 (Host) USB 2.0 x 1 (OTG) | USB 3.0 + 2.0 x 1 USB 2.0 x 5 | USB 3.0+2.0 x 2 (Host) USB 2.0 x 2 (Host x 1, OTG x 1) |
| Serial Port | UART x 4 (2-wire x 2, SER1 for A55 debug port, 4-wire x 2) | UART x 2 (4-wire, 1.8V) UART x 2 (2-wire, 1.8V, one for debug port) | UART x 4 (2-wire) |
| Audio | I2S x 1 (optional w/HDMI) x 1 | I2S x 1 | |
| PCIe | — | PCIe 2.0 x 1 | PCIe 3.0 x 4 |
| CANBus | CAN 2.0 FD x 2 (1.8V) | — | CAN x 2 |
| MIPI-CSI | MIPI CSI 2 Lane x 1 | MIPI CSI x 2 (4-Lane x 1 + 2-Lane x 1, by request) | MIPI-CSI x 2 |
| GPIO | 8 bits (one for PWM) | 12-bit | 13 bits |
| Other Interfaces | SPI x 2 (SPI1 colay with TPM) I2C x 4 | SPI x 1 I2C x 5 | SPI x 1 I2C x 3 |
| Power | — | | |
| Power Requirement | DC 3.3V ~ 5.25V | DC 3V ~ 5.25V, AT (Optional : ATX for Yocto) | DC 3~5.25 V, AT |
| Power Consumption | 13.8W (Full Loading) | 4.25W | TBD |
| Environment | — | | |
| Dimensions | 3.23" x 1.97" (82mm x 50mm) | | |
| Weight | 0.03 lb (0.016Kg) | 0.0374 lb (0.017kg) | TBD |
| Operating Temperature | -40°F ~ 185°F (-40°C ~ 85°C) Optional: 32°F ~ 140°F (0°C ~ 60°C) | | 32°F ~ 140°F (0°C ~ 60°C) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | -4°F ~ 158°F (-20°C ~ 70°C) |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | 0% ~ 90% relative humidity, non-condensing |
| Certification | CE/FCC Class A | | |
| OS Support | Yocto 5.0 (kernel 6.6.23) Ubuntu 22.04 (kernel 6.6.23-LTS-next, by request) Windows 11 IoT (by request) | Yocto 4.0 (Kernel 5.15) Ubuntu, Android 14, Debian 13 (by request) | Android |
| Support Protocol | By request | | |
| Note | — | | |

Board Level Products

Computing On Module

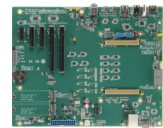
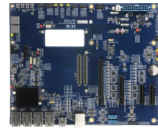


| Model | uCOM-Q6490 |
|-----------------------|--|
| System | |
| Form Factor | SMARC 2.1 compliance |
| CPU | |
| | Qualcomm® Kryo™ CPU 670 built on Arm v8 Cortex technology |
| | QC56490 Gold+ x 1; Gold x 3; Silver x 4 |
| | Cortex-A78 x1 up to 2.7GHz, Cortex-A78 x3 up to 2.4 GHz, Cortex-A55 x4, up to 1.9 GHz |
| Chipset | — |
| Memory | Onboard LPDDR5, up to 8 GB |
| Storage | SDIO 3.0 x 1 (for SD Card) |
| | UFS, 16/32/64 GB (optional) |
| BIOS | — |
| MTBF (Hours) | TBD |
| Wake On LAN | — |
| Watchdog Timer | Yes |
| Real Time Clock | Yes |
| Boot Select | Carrier SD Card |
| Security | TPM 2.0 (optional) |
| Display | — |
| Graphics Controller | Qualcomm® Adreno™ 643L, Up to 812 MHz, OpenGL® ES 3.2, DirectX® FL 12, OpenCL™ 2.0 FP, Vulkan® 1.1 |
| Video Output | DP 1.4 x 1 |
| | MIPI-DSI 4-Lane x 1 |
| I/O Interfaces | |
| Ethernet | Gigabit Ethernet x 2 (optional) |
| USB | USB 2.0 x 4 (OTG x 1) |
| Serial Port | UART x 2 (4-wire, 1.8V) |
| | UART x 2 (2-wire, 1.8V, one for debug port) |
| Audio | I2S x 2 |
| PCIe | PCIe 2.0 x1 |
| CANBus | — |
| MIPi-CSI | 4 Lane x 1 + 2 Lane x 1 |
| GPIO | 14 bits (one for PWM) |
| Other Interfaces | SPI x 2 |
| | I2C x 5 |
| Power | |
| Power Requirement | DC 5 V, AT/ATX |
| Power Consumption | TBD |
| Environment | |
| Dimensions | 82mm x 50 mm |
| Weight | 0.0625 lb (0.02kg) |
| Operating Temperature | -40°C ~ 85°C |
| Storage Temperature | -40°C ~ 80°C |
| Operating Humidity | 0% ~ 95% relative humidity, non-condensing |
| Certification | CE/FCC Class A |
| OS Support | Yocto 4.0 |
| Support Protocol | — |
| Note | — |

| Model | AQ7-ADN |
|-----------------------------|--|
| System | |
| Form Factor | Oseven Module |
| CPU | |
| | Intel Atom® X Series/N-series/Core™ i3-N305 CPU |
| | Intel® Core™ i3-N305 (8C, 1.8 GHz, 15W) |
| | Intel Atom® x7425E (4C, 1.5 GHz, 12W) |
| | Intel® Processor N200 (4C, 1.0 GHz, 6W) |
| | Intel® Processor N97 (4C, 2.0 GHz, 12W) |
| | Intel® Processor N50 (2C, 1.0 GHz, 6W) |
| Chipset | Integrated with Intel® SoC |
| Memory | LPDDR5x up to 4800MT/s, up to 8GB |
| Onboard Storage | eMMC up to 64GB |
| BIOS | AMI UEFI |
| Wake on LAN | Yes |
| Watchdog Timer | 255 Levels |
| Dimension | 2.76" x 2.76" (70mm x 70mm) |
| Security | TPM 2.0 (Optional) |
| Power | |
| Power Requirement | +5V +/- 50mV, +3Vrtc |
| Power Type | AT (default) / ATX, switch by BIOS |
| Power Consumption (Typical) | Intel® Core™ i3-N305, LPDDR5x 8GB x1, 4.5A@ +5V |
| Display | |
| Graphics Controller | Intel® UHD Graphics |
| Video Output | |
| | Dual Display: |
| | DP 1.4 x 1, up to 3840 x 2160 144Hz |
| | eDP x 1, up to 3840 x 2160 60Hz or LVDS x 1, Dual Channel 18/24 bit, up to 1920 x 1080 (Change by BOM) |
| I/O | |
| Ethernet | Realtek RTL8111H-CG 1GbE x 1 |
| Audio | High Definition Audio Interface |
| USB Port | USB 2.0 x 6, USB 3.2 Gen 2 x 2 |
| Serial Port | 4-Wire UART x 1 (Tx/Rx/CSR/RTS) |
| HDD Interface | SATA 6Gb/s x 1 |
| Expansion | PCIe [x1] x 4 |
| | 4-lane MIPi-CSI x 1 |
| GPIO | 8-bit (Change by BOM) |
| SMBus/I2C | I2C x 1, SMBus x 1 |
| Environment | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing |
| EMC | CE/FCC Class A |
| OS Support | Windows® 10 (64-bit) |
| | Linux Ubuntu 22.04.x/Kernel 5.19.0 |
| Weight | 0.26 lb. (0.12kg) |
| Note | — |

Board Level Products

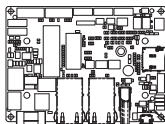
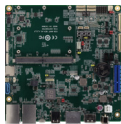
Computing On Module: Carrier Boards



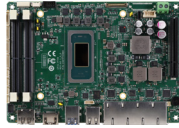
| Model | ECB-920A-A11 | ECB-927A | ECB-980A |
|-----------------------|---|---|---|
| System | | | |
| Form Factor | ATX Form Factor | COM Express Basic Size Type 7 Carrier Board in ATX Form Factor | COM HPC Client Size A/B/C |
| COM Express Connector | x 2 (Row A,B & Row C,D) | x 2 (Row AB and Row CD, Type 7 pin-out) | x 2 (J1 and J2) |
| I/O Chipset | — | | |
| Front Panel Control | 10-pin Header (5x2) | | 10-pin Header (2x5P) |
| Ethernet | 10/100/1000/2500 Base-TX, RJ45 x 1 (From CPU Module) | 10GbE Base-T x 4 (Intel® Ethernet Connection X557-AT4) GbE x 1 (from Module) | 2.5 GbE x 1 10 GbE x 1 |
| Expansion Interface | PCIe [x4] x 2 PCIe [x16] x 1 | PCIe [x4] x 2 PCIe [x8] x 1 PCIe [x16] x 1 (PEG port) | PCIe [x4] x 2 (Group 0, Lane 0 ~ 7) PCIe [x16] x 2 (one PCIe [x16] only supports PCIe [x4]) |
| Power Supply Type | ATX | Standard 24-pin ATX + 4-pin 12V | Standard 24-pin ATX + 8-pin 12V |
| CMOS Battery | RTC Battery Socket x 1 | CR2032 Holder x 1 | RTC battery socket x 1 |
| BIOS | — | | Yes |
| Dimension | 12" x 9.6" (304mm x 244mm) | | |
| Gross Weight | 1.32 lb. (0.6Kg) | 1.54 lb. (0.7Kg) | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) | | |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | -40°F ~ 176°F (-40°C ~ 80°C) |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| Display | | | |
| LCD | LVDS: 40-pin Dual-Channel LVDS Connector (20x2) eDP: 30-pin Board Wire Connector | N/A. via PCIe Graphic card | eDP x 1 |
| Display interface | Display Port x 3 (Dual x 1, Single x 1) D-SUB15 Connector x 1 | N/A. via PCIe Graphic card | Display Port x 2 HDMI x 1 |
| I/O | | | |
| Storage | SATA 6Gb/s x 4 | SATA x 2 | SATA x 2 M.2 2280 M-Key x 2 (PCIe Gen 4 [x4] for NVMe) |
| Serial Port | COM Port x 2 (2-Wire UART Tx/Rx) | 2-wire UART x 2 (TX/RX) | 4-wire UART x 2 |
| USB | USB 2.0 x 4 (Type-A), USB 3.2/2.0 x 4 (Type-A) | USB 3.2 x 4 | USB 3.2 x 2 (20Gbps, up to Gen 2 x 2 support) USB 3.2 x 1 (10Gbps, up to Gen 2 x 1 support) USB 3.2 x 2 (5Gbps, up to Gen 1 x 1 support) USB 2.0 x 8 |
| Audio | Audio Jack, supports Line-in, Line-out, Microphone | N/A | Audio Jack, supports Line-in, Line-out, Microphone |
| GPIO | 8-bit Programmable | 8-bit | 12 bit |
| Switch/Button | Power Button x 1 / Reset Button x 1 | | |
| Debug LED | 80 Port | 7-SEG LED X2 80 PORT POST CODE INDICATOR | 7-Segment Display LED x 2 (80 Port Post Code Indicator) |
| I2C | 1 | | x 1 |
| Expansion Interface | LPC, SMBus, eSPI, CAN Bus, 4 pin fan connector, Micro SD Card Slot x 1 | SMBus, LPC/eSPI slot | |
| Note | | | |

Note: All specifications are subject to change without notice.

Computing On Module: Carrier Boards



| Model | ECB-960T-A15 | ECB-960P | ECB-960P-SEMI |
|-----------------------|---|---|--|
| System | | | |
| Form Factor | Mini-ITX form Factor | 2.5" PICO-ITX | |
| COM Express Connector | --- | | |
| I/O Chipset | --- | | |
| Front Panel Control | --- | | |
| Ethernet | 10/100/1000/2500 Base-TX RJ45 x 2 | Gigabit Ethernet x 2, RJ-45 | |
| Expansion Interface | PCIe lane(x4) x 1 | --- | |
| Power Supply Type | AT / ATX Depends on module | | |
| CMOS Battery | RTC battery socket x 1 | RTC x 1, with 3V CR2032H Lithium Battery | |
| BIOS | --- | | |
| Dimension | 6.69" x 6.69" (170mm x 170mm) | 3.94" x 2.84"(100mm x 72mm) | 4.25" x 3.12" x 1.69" (108mm x 79.5mm x 43mm) |
| Gross Weight | 1.54 lb. (0.7Kg) | TBD | |
| Operating Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | 0% ~ 95% relative humidity, non-condensing | |
| Display | | | |
| LCD | LCD connectors x 2 for LVDS, eDP, DSI(4 lane), support by module features | --- | |
| Display interface | DDI2: HDMI or DP++ (Optional, by BOM) DDI1: DP++ | HDMI x 1 | |
| I/O | | | |
| Storage | SATA 6Gb/s x 1 (Optional, by BOM) | Optional by module | --- |
| Serial Port | RS-232 x 2 (Tx/Rx) + RS-232 x 2 (Tx/Rx/RTS/CTS) or 4-wire UART x 2 + 2-wire UART x 2 (Optional, by BOM) | RS232 x 2, RS485 x 1 | |
| USB | Type A connector x 6 (USB 2.0 x 4, USB 3.2/2.0 x 2) OTG x 1 (Client Mode Only) co-lay USB 2.0 x 1 | USB 3.0 Type-A x 2 USB 2.0 OTG x 1 | USB 3.0 Type-A x 2 |
| Audio | High Definition Audio (pin header) x 1 or I2S x 1 (Optional, by BOM) | --- | |
| GPIO | 7 bit (up to 14 bit, optional by BOM) | GPIO x 14 | |
| Switch/Button | Power Button x 1/Reset Button x 1/Sleep Button x 1 | --- | |
| Debug LED | 7-Segment Display LED x 1 (80 Port Post Code Indicator) for x86 | --- | |
| I2C | x 1 | I2C x 1 | |
| Expansion Interface | microSD card x 1 (Optional, by BOM) MIPI CSI x 2 (4 lane + 2 lane) CANBUS 2.0 A/B x 2 (Optional, by BOM) 3 pin Fan connector x 1 4 pin Fan connector x 1 SMBus x 1 SPI x 1 (Optional, by BOM) | M.2 2230 E-key x 1 Full Size Mini Card x 1 Micro SD card slot x 1 Micro SIM card slot x 1 Debug Port (Micro USB) x 1 (UART) MIPI-CSI 2L x 1, MIPI-CSI 4L x 1 CANBUS x 2 | M.2 2230 E-key x 1 Full Size Mini Card x 1 Micro SD card slot x 1 Micro SIM card slot x 1 USB 2.0 OTG x 1 (optional) SPI x 2 (optional) MIPI-CSI 2L x 1, MIPI-CSI 4L x 1 (optional) CANBUS x 2 (optional) |
| Note | | | |



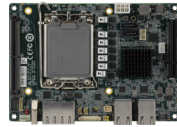
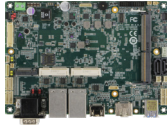
| Model | EPIC-PTH9 | EPIC-BTS7 |
|-----------------------------|--|--|
| System | 4" EPIC Board | |
| Form Factor | 4" EPIC Board | |
| CPU | Intel® Core™ Ultra Series 3 processors, TDP 25W (Config. Max. TDP 65W) Intel® Core™ Ultra X9 Processor 388H, 16C/16T, up to 5.1 GHz (25W) Intel® Core™ Ultra 9 Processor 386H, 16C/16T, up to 4.9 GHz (25W) Intel® Core™ Ultra X7 Processor 356H, 16C/16T, up to 4.9 GHz (25W) Intel® Core™ Ultra 7 Processor 356H, 16C/16T, up to 4.7 GHz (25W) | 14th Generation Intel® Core™ Processor (up to 35W/65W) 13th Generation Intel® Core™ Processor (up to 35W/65W) 12th Generation Intel® Core™ Processor (up to 35W/65W) Intel® Core™ processors (Series 2) (up to 35W/65W) |
| Chipset | Integrated with Intel® SoC | Intel® H610E Chipset |
| Memory Type | Dual-Channel DDR5 6400 SODIMM x 2, up to 128GB (iBECC support) | DDR5 4800/5200/5600, Dual-Channel SODIMM x 2, non-ECC, up to 64GB (DDR Speed dependent on CPU SKU) |
| BIOS | UEFI | |
| Wake On Lan | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 4.53" x 6.50" (115mm x 165mm) | |
| OS Support | Windows 11 (64-bit), Ubuntu 24.04 | Windows 10 (64bit) / Windows 11 (64bit), Ubuntu 22.04.2/kernel 5.19.0 |
| Power | | |
| Power Requirement | DC 9Vin - 24Vin | DC 19Vin ~ 24Vin DC 12Vin (Note: For stable performance, it is recommended to use a power supply unit rated at 24A @12V DC output to accommodate potential maximum peak power requirements.) |
| Power Supply Type | AT/ATX (Default: AT mode) | AT/ATX |
| Connector | 4-pin ATX Connector or 2-pin Phoenix Connector (Default) | 8-Pin Connector |
| Power Consumption | TBD | Intel Core Series2 251E, DDR5 32GB x2.10A@+12V (Typical) Intel Core Series2 251E, DDR5 32GB x 2.24A@+12V (Max) |
| Display | | |
| Controller | Integrated Intel® Arc™ GPU (4Xe/12Xe), dependent on CPU SKU | Intel® UHD Graphics 770 (5 SKU and above) Intel® UHD Graphics 730 (3 SKU) Intel® UHD Graphics 710 (Intel® Celeron® G6900TE SKU) |
| LVDS/eDP | Dual-Channel 18-bit/24-bit LVDS, up to 1920 x 1080 @60Hz, or eDP 1.4 x 1, up to 3840 x 2160 @60Hz (Optional) | Dual Channel 18/24bit LVDS x 1 |
| Display Interface | HDMI 2.1 x 1, up to 3840 x 2160@60Hz DP 2.1 x 1, up to 3840 x 2160 | DP 1.2 x 1, up to 3840 x 2160 @60Hz VGA x 1, up to 1920 x 1080 |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio | | |
| CODEC | Realtek ALC897 | — |
| Audio Interface | Line in / Line Out / Mic | — |
| Speaker | — | — |
| External I/O | | |
| Ethernet | Intel® Ethernet Controller I226, 2.5GbE RJ-45 x 3 (Optional: 2.5GbE RJ-45 x 1) Intel® Ethernet Connection I219, GbE RJ-45 x 1 | Intel® Ethernet Controller I226, 2.5GbE RJ-45 x 1 Intel® Ethernet Connection I219, GbE RJ-45 x 1 |
| USB | USB 3.2 Gen 2 x 2, USB 2.0 x 2 | USB 3.2 Gen 2 (Type-A) x 2, USB3.2 Gen 1 (Type-A) x 2 |
| Serial Port | — | |
| Video | HDMI 2.1 x 1, up to 3840 x 2160 @60Hz DP 2.1 x 1, up to 3840 x 2160 | DP 1.2 x 1 |
| Internal I/O | | |
| USB | USB 2.0 x 4 (Optional) | USB2.0 x 4 (Pin Header) |
| Serial Port | COM 1 & COM 2 (RS-232/422/485, supports 5V/12V/RI) COM 3 & COM 4 (RS-232 only, supports RI only) | RS-232/422/285 x 2 RS-232 x 2 (Pin Header) |
| Video | Dual-Channel 18-bit/24-bit LVDS, up to 1920 x 1080 @60Hz, or eDP 1.4 x 1, up to 3840 x 2160 @60Hz (Optional) | VGA x 1, LVDS x 1 |
| SATA | — | SATA 6Gb/s x 2 +5V SATA Power Connector x 2 |
| Audio | Line in / Line Out / Mic | — |
| DIO/GPIO | GPIO 8-bit | 8 bit |
| SMBus/I2C | SMBus / I2C (Default: SMBus) | SMBus/I2C (change by BOM) |
| Touch | — | — |
| Fan | 4-pin Smart Fan x 2 | 4 Pin Smart Fan |
| SIM | Nano SIM x 1 | — |
| Front Panel | Power Button, Reset Button, Power LED, SATA LED, Buzzer | |
| Others | — | |
| Expansion | | |
| Mini PCI-E/mSATA | — | Full-size mSATA/Mini Card (Default: Mini PCIe, SATA configuration subject to BOM change) |
| M.2 | M.2 3052 B-Key x 1 (PCIe 4.0 [x2]/USB 3.0 + USB 2.0) M.2 2280 M-Key x 1 (PCIe 4.0 [x4]) M.2 2230 E-Key x 1 (PCIe 4.0 [x1] + USB 2.0) PCIe 4.0 [x8] Slot x 1 (supported on H484 4Xe CPU SKUs only) | M.2 2280 M-Key x 1 (PCIe 3.0 [x4]) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) |
| Others | — | |
| Environment & Certification | | |
| Operating Temperature | 32°F – 140°F (0°C – 60°C) | 32°F – 140°F (0°C – 60°C) (Note: To achieve the best performance, keeping the EPIC-BTS7 operating with 0.5m/sec airflow when DDR5 SODIMM1 installed on bottom side is recommended) |
| Storage Temperature | -40°F – 185°F (-40°C – 85°C) | -40°F – 185°F (-40°C – 85°C) |
| Operating Humidity | 0% – 90% relative humidity, non-condensing | 0% – 90% relative humidity, non-condensing |
| MTBF (Hours) | TBD | 353,666 |
| EMC | CE/FCC Class A | |

Note: All specifications are subject to change without notice.

www.aaeon.com

Board Level Products

EPIC Boards



| Model | EPIC-ASL9 | EPIC-RPS9 |
|-----------------------------|---|--|
| System Form Factor | 4" EPIC Board | |
| CPU | Intel Atom® Processors x7000RE Series Processors: x7213RE (2C, 2.0 GHz, 9W) x7433RE (4C, 1.5 GHz, 9W) x7833RE (8C, 1.3 GHz, 12W) | 13th Generation Intel® Core™ Processor (up to 35W/65W) 12th Generation Intel® Core™ Processor (up to 35W/65W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR4 3200MHz Single-Channel SODIMM x 1, up to 16GB | Intel 600 Series Chipset (R680E/Q670E/H610E) DDR5 4800 Dual Channel SODIMM x 2, up to 64GB (ECC support only for R680E) |
| BIOS | UEFI | |
| Wake On Lan | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 4.53" x 6.50" (115mm x 165mm) | |
| OS Support | Windows® 10 (64-bit) Ubuntu 22.04.2 LTS/Kernel 5.19 | Windows 10 (64bit) Ubuntu 22.04.2/kernel 5.19.0-32-generic #33 |
| Power | | |
| Power Requirement | +9-24V or +12V | +12V (Note: To achieve stable performance, using the power supply unit rated 22A@12V DC output, to meet the potential maximum peak requirement is recommended) |
| Power Supply Type | AT/ATX | |
| Connector | 2-Pin Phoenix Connector | 6-Pin Connector |
| Power Consumption | Intel® Core™ i3-N305, DDR4 16GB, 1.87A+24V (Typical) Intel® Core™ i3-N305, DDR4 16GB, 2.66A +24V (Max) | Intel® Core™ i9-13900E, DDR5 32GB x2, 7.73A @+12V (Typical) Intel® Core™ i9-13900E, DDR5 32GB x2, 21.39A @+12V (Max) |
| Display | | |
| Controller | Intel® UHD Graphics | Intel® UHD Graphics 770 (i5 SKU and above) Intel® UHD Graphics 730 (i3 SKU) Intel® UHD Graphics 710 (Intel® Celeron® G6900TE SKU) |
| LVDS/eDP | 24/48-bit Dual-Channel LVDS x 1, up to 1920 x 1080 eDP 1.4 x 1, up to 1920 x 1080 (Optional) | eDP 1.4 x 1, up to 3840 x 2160 |
| Display Interface | HDMI 1.4 x 1, up to 3840 x 2160 @30Hz DP 1.2 x 1, up to 3840 x 2160 @144Hz or VGA x 1, up to 1920 x 1080 | HDMI 2.0 x 1, up to 3840 x 2160 @60Hz VGA x 1, up to 1920 x 1080 |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio | | |
| CODEC | Realtek ALC897 | |
| Audio Interface | Line-In/Line-Out/MIC | |
| Speaker | 5W Speaker (Optional) | |
| External I/O | | |
| Ethernet | RJ-45 for Intel® I226-V 2.5GbE x 2 (Standard: 2 Ports, Advanced: 4 Ports) | Intel® I226, 2.5GbE RJ-45 x 3, Intel® I219, GbE RJ-45 x 1 (R680E & Q670E sku) Intel® I226, 2.5GbE RJ-45 x 1 + Intel® I219, GbE RJ-45 x 1 (H610E sku only) |
| USB | USB 3.2 Gen 2 x 2 | |
| Serial Port | COM 1, COM 2 (RS-232/422/485, support 5V/12V/RI) | — |
| Video | HDMI 1.4 x 1 DP 1.2 x 1 | HDMI 2.0 x 1 up to 3840 x 2160 @60Hz |
| Internal I/O | | |
| USB | USB 2.0 x 4 | USB 2.0 x 2 |
| Serial Port | COM 3, COM 4, COM 5, COM 6 (RS-232, support RI only) | COM 1 (RS-232/422/485, supports RI only) COM 2 (RS-232/422/485, supports 12V/5V/RI) |
| Video | LVDS / eDP x 1 (Default : LVDS) Inverter x 1 (5V/12V@2A) | eDP 1.4 x 1, up to 3840 x 2160 VGA x 1, up to 1920 x 1080 |
| SATA | SATA 6.0Gbps x 1 (Default) (up to SATA x 2 shared with mSATA, BOM Optional) | SATA 6Gb/s x 2 +5V SATA Power Connector x 2 |
| Audio | Audio Header x 1 | |
| DIO/GPIO | GPIO 16-bits | GPIO 8-bits |
| SMBus/I2C | SMBus / I2C (Default : SMBus) | SMBus/I2C (change by BOM, i2C only for Windows 10) |
| Touch | — | |
| Fan | 4 Pin Smart Fan | |
| SIM | Nano SIM x 1 | |
| Front Panel | Power Button, Reset Button, Power LED, SATA LED, Buzzer | |
| Others | TCC x 1 (R680E sku only) | |
| Expansion | | |
| Mini PCI-E/mSATA | Full Sized mPCIe x 1 Full Sized mSATA x 1 | — |
| M.2 | M.2 2242 B-Key x 1 (PCIe 2.0 [x1] + USB 2.0) | M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1, R680E & Q670E support) M.2 3052 B-Key x 1 (PCIe 3.0 [x1] + USB 3.0) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) |
| Others | PCIe 4.0 [x8] Slot x 1 FPC Connector x 1 (PCIe 3.0 [x2] x 1) | |
| Environment & Certification | | |
| Operating Temperature | WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) | 32°F ~ 140°F (0°C ~ 60°C) (Note: To achieve the best performance, keeping the EPIC-RPS9 operating with 0.5m³/sec airflow when DDR5 SODIMM1 installed on bottom side is recommended) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 364,565 | 353,666 |
| EMC | CE/FCC Class A | |
| Note | | |



| Model | EPIC-RPS7 | EPIC-ADN9 |
|-----------------------------|--|---|
| System Form Factor | 4" EPIC Board | |
| CPU | 14th Generation Intel® Core™ Processor (up to 35W/65W) 13th Generation Intel® Core™ Processor (up to 35W/65W) 12th Generation Intel® Core™ Processor (up to 35W/65W) | Intel Atom® x7000E Series/Intel® Processor N Series/Intel® Core™ i3-N305 Processors: Intel® Core™ i3-N305 (8C/8T, up to 3.8 GHz, TDP 15W) Intel Atom™ x7425E (4C/4T, up to 3.4 GHz, TDP 12W) Intel® Processor N97 (4C/4T, up to 3.6 GHz, TDP 12W) Intel® Processor N50 (2C/2T, up to 3.4 GHz, TDP 6W) |
| Chipset | Intel® H610E Chipset | Integrated with Intel® SoC |
| Memory Type | DDR5 4800/5200, Dual-Channel SODIMM x 2, up to 64GB (DDR Speed dependent on CPU SKU) | DDR4 3200MHz Single-Channel SODIMM x 1, up to 16GB |
| BIOS | UEFI | |
| Wake On Lan | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimension | 4.53" x 6.50" (115mm x 165mm) | |
| OS Support | Windows 10 (64bit) Ubuntu 22.04.2/kernel 5.19.0 | Windows® 10 (64-bit) Ubuntu 22.04.2 LTS/Kernel 5.19 |
| Power | AT/ATX | |
| Power Requirement | DC 19Vin ~ 24Vin DC 12Vin (Note: For stable performance, it is recommended to use a power supply unit rated at 22A @12V DC output to accommodate potential maximum peak power requirements.) | +9-36V or +12V |
| Power Supply Type | AT/ATX | |
| Connector | 8-Pin Connector | 2-Pin Phoenix Connector |
| Power Consumption | Intel® Core™ i9-13900E, DDR5 32GB x2, 7.73A @+12V (Typical) Intel® Core™ i9-13900E, DDR5 32GB x2, 21.39A @+12V (Max) | Intel® Core™ i3-N305, DDR4 16GB, 1.87A+24V (Typical) Intel® Core™ i3-N305, DDR4 16GB, 2.66A +24V (Max) |
| Display | Intel® UHD Graphics 770 (i5 SKU and above) Intel® UHD Graphics 730 (i3 SKU) Intel® UHD Graphics 710 (Intel® Celeron® G6900TE SKU) | |
| Controller | Intel® UHD Graphics | |
| LVDS/eDP | Dual Channel 18/24bit LVDS x 1 | 24/48-bit Dual-Channel LVDS x 1, up to 1920 x 1080 eDP 1, 4 x 1, up to 1920 x 1080 (Optional) |
| Display Interface | DP 1.2 x 1, up to 3840 x 2160 @60Hz VGA x 1, up to 1920 x 1080 | HDMI 1.4 x 1, up to 3840 x 2160 @30Hz DP 1.2 x 1, up to 3840 x 2160 @144Hz or VGA x 1, up to 1920 x 1080 |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio | Realtek ALC897 | |
| CODEC | Line-In / Line-Out / MIC | |
| Audio Interface | 5W Speaker (Optional) | |
| Speaker | | |
| External I/O | | |
| Ethernet | Intel® Ethernet Controller I226, 2.5GbE RJ-45 x 1 Intel® Ethernet Connection I219, GbE RJ-45 x 1 | RJ-45 for Intel® I226-V 2.5GbE x 2 (Standard: 2 Ports, Advanced: 4 Ports) |
| USB | USB 3.2 Gen 2 (Type-A) x 2, USB3.2 Gen 1 (Type-A) x 2 | USB 3.2 Gen 2 x 2 |
| Serial Port | COM 1, COM 2 (RS-232/422/485, support 5V/12V/RI) | |
| Video | DP 1.2 x 1 | HDMI 1.4 x 1 DP 1.2 x 1 |
| Internal I/O | | |
| USB | USB2.0 x 4 (Pin Header) | USB 2.0 x 4 |
| Serial Port | RS-232/422/285 x 2, RS-232 x 2 (Pin Header) | COM 3, COM 4, COM 5, COM 6 (RS-232, support RI only) LVDS / eDP x 1 (Default : LVDS) Inverter x 1 (5V/12V@2A) |
| Video | VGA x 1, LVDS x 1 | SATA 6.0Gbps x 1 (Default) (up to SATA x 2 shared with mSATA, BOM Optional) |
| SATA | SATA 6Gb/s x 2 +5V SATA Power Connector x 2 | Audio Header x 1 GPIO 16-bits |
| Audio | SMBus / I2C (Default : SMBus) | |
| DIO/GPIO | 8 bit | |
| SMBus/I2C | SMBus/I2C (change by BOM, I2C only for Windows 10) | |
| Touch | | |
| Fan | 4 Pin Smart Fan | |
| SIM | Nano SIM x 1 | |
| Front Panel | Power Button, Reset Button, Power LED, SATA LED, Buzzer | |
| Others | | |
| Expansion | | |
| Mini PCI-E/mSATA | Full-size mSATA/Mini Card (Default: Mini PCIe, SATA configuration subject to BOM change) | Full Sized mPCIe x 1 Full Sized mSATA x 1 |
| M.2 | M.2 2280 M-Key x 1 (PCIe 3.0 [x4]) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) | M.2 2242 B-Key x 1 (PCIe 2.0 [x1] + USB 2.0) |
| Others | | |
| Environment & Certification | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) (Note: To achieve the best performance, keeping the EPIC-RPS7 operating with 0.5m/sq airflow when DDR5 SODIMM1 installed on bottom side is recommended) | -4°F ~ 158°F (-20°C ~ 70°C) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 364,565 | |
| EMC | CE/FCC Class A | |

Note: All specifications are subject to change without notice.

www.aaeon.com

Board Level Products

EPIC Boards



| Model | EPIC-TGH7 | EPIC-TGH7-PUC |
|-----------------------------|--|---|
| System | | |
| Form Factor | 4" EPIC Board | EPIC System |
| CPU | Onboard 11th Generation Intel® Core™/Xeon® Processors: Intel® Xeon® W-11865MRE (8C/16T, 2.60 GHz, 45W) Intel® Core™ i7-11850HE (8C/16T, 2.60 GHz, 45W) Intel® Core™ i5-11500HE (6C/12T, 2.60 GHz, 45W) Intel® Core™ i3-11100HE (4C/8T, 2.40 GHz, 45W) Intel® Celeron® 6600HE (2C/2T, 2.60 GHz, 35W) | 11th Generation Intel® Xeon/Core™ Processor : Intel® Core™ i7-11850HE (8C/16T, 2.60GHz, 45W) Intel® Xeon® W-11865MRE (8C/16T, 2.60GHz, 45W) |
| Chipset | Intel® 500 Series Mobile Chipset (RM590E/HM570E) | Intel® 500 Series Mobile Chipsets (RM590E/HM570E) |
| Memory Type | DDR4 3200, Dual Channel SODIMM x 2, Max 64GB (ECC supported by Intel® Xeon® SKU) | DDR4 3200, Dual-Channel SODIMM x 2, Max 64GB (ECC supported by Intel® Xeon® only) |
| BIOS | | UEFI |
| Wake On Lan | | Yes |
| Watchdog Timer | | 255 Levels |
| Security | | TPM 2.0 (Optional) |
| RTC Battery | | Lithium Battery 3V/240mAh |
| Dimension | 4.53" x 6.50" (115mm x 165mm) | 10.2" x 6.3" x 1.9" (260mm x 160mm x 50mm) |
| OS Support | Windows 10 (64bit) Ubuntu 20.04.3/Kernel 5.11.0-27-generic x86_64 or above | Windows 10 (64bit) Ubuntu20.04.5 / Kernel 5.15.0-46-generic x86_64 |
| Power | | |
| Power Requirement | +9V to +24V (Optional: +12V) | +9V to +24V |
| Power Supply Type | AT/ATX | |
| Connector | ATX 4-Pin connector + Phoenix 2-Pin Connector | DC Jack Connector |
| Power Consumption | Xeon® W-11865MRE, DDR4 32GB x 2, 8.32A@12V, 99.84W (TYPICAL) Xeon® W-11865MRE, DDR4 32GB x 2, 12.52A@12V, 150.24W (MAX) | Intel® Xeon® W-11865MRE, DDR4 32GB x 2, 8.32A @12V, 99.84W (Typical) Intel® Xeon® W-11865MRE, DDR4 32GB x 2, 12.52A @12V, 150.24W (Max) |
| Display | | |
| Controller | | Intel® UHD Graphics for 11th Gen Intel® Processors |
| LVDS/eDP | LVDS x 1, Dual Channel 24/48bit, up to 1920 x 1080 eDP 1.4 x 1, up to 1920 x 1080 (Optional) | — |
| Display Interface | VGA x 1, up to 1920 x 1080 DP++ 1.2 x 2, up to 3840 x 2160 @60Hz HDMI 2.0 x 1, up to 3840 x 2160 @60Hz | VGA x 1, up to 1920 x 1080 DP++ 1.2 x 2, up to 3840 x 2160 @60Hz HDMI 2.0 x 1, up to 3840 x 2160 @60Hz |
| Multiple Display | | Up to 4 Simultaneous Displays |
| Audio | | |
| CODEC | Realtek ALC269 (No audio function support for Wide temperature sku.) | — |
| Audio Interface | Line-In/Line-Out/Mic | — |
| Speaker | 2W Amp. | — |
| External I/O | | |
| Ethernet | Intel® I225/I226, 2.5GbE RJ-45 x 1 Intel® I219, 1GbE RJ-45 x 1 | Intel® I226, 2.5GbE RJ-45 x 2, Intel® I225, 2.5GbE RJ-45 x 1 Intel® I219, GbE RJ-45 x 1 (Wake on LAN support for Intel® I219 x 1 + Intel® I225 x 1) |
| USB | USB 3.2 Gen 2 x 4 | USB 3.2 Gen 2 x 4, USB 2.0 x 2 |
| Serial Port | — | COM 1 – COM 2 (RS-232/422/485, RI as default, 5V/12V selected by BOM change) |
| Video | DP 1.2 x 2 HDMI 2.0 x 1 | VGA x 1, up to 1920 x 1080 DP++ 1.2a x 2, up to 3840 x 2160 @60Hz HDMI 2.0b x 1, up to 3840 x 2160 @60Hz |
| Internal I/O | | |
| USB | USB 2.0 x 4 | — |
| Serial Port | COM 1, COM 2 (RS-232/422/485, supports 5V/12V/RI) COM 3, COM 4, COM 5, COM 6 (RS-232 only, supports RI only) | — |
| Video | LVDS or eDP x 1 (Default: LVDS) LVDS Inverter 5V/12V @2A VGA x 1 | — |
| SATA | SATA 6Gb/s x 2 +5V SATA Power Connector x 1 (Total up to 5V@2A) (Up to 5V@1A, shared with 2 x 2.5"SSD as limitation with 170X000592) | SATA 6Gb/s x 2 +5V SATA Power Connector x 1 (Total up to 5V @2A, up to 5V @1A, shared with 2.5"SSD x 2 as limitation with 170X000592) |
| Audio | Audio Header x 1 (No audio function support for wide temperature sku.) | — |
| DIO/GPIO | | GPIO-16 bits |
| SMBus/I2C | SMBus/I2C (Default : SMBus) | — |
| Touch | 4/5/8-wire Touch Controller x 1 | — |
| Fan | | 4 Pin Smart Fan |
| SIM | | Nano SIM x 1 |
| Front Panel | Power Button, Reset Button, Power LED, SATA LED, Buzzer | Power Button, Power LED |
| Others | | — |
| Expansion | | |
| Mini PCI-E/mSATA | | Half Size mSATA/mPCIe x 1 (Default: mPCIe, selected by BIOS) |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1) M.2 3052 B-Key x 1 (PCIe 3.0 [x2] + USB 3.2 + USB 2.0) | M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1) M.2 3052 B-Key x 1 (PCIe 3.0 [x2] + USB 3.2 + USB 2.0) |
| Others | PCIe 4.0 [x8] Slot x 1 (Supply maximum 25W to the PCIe peripheral) FPC Connector x 1 (PCIe3.0 [x4] x 1) | — |
| Environment & Certification | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ -185°F (-40°C ~ -85°C) on selected CPU SKU (Note: To achieve the best performance, installing SODIMM heatsink for EPIC-TGH7 DIMM1 and DIMM2 is recommended.) | 32°F ~ 122°F (0°C ~ 50°C) with 0.5m/sec air flow |
| Storage Temperature | -40°F ~ -185°F (-40°C ~ -85°C) | -40°F ~ 176°F (-40°C ~ 80°C) |
| Operating Humidity | | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | 274,169 | 250,817 |
| EMC | | CE/FCC Class A |



| Model | EPIC-BT07 |
|-----------------------------|--|
| System | |
| Form Factor | 4" EPIC Board |
| CPU | Onboard Intel Atom [®] /Celeron [®] Processors: Intel [®] Celeron [®] Processor J1900 (4C/4T, 2.00GHz, 10W) Intel [®] Celeron [®] Processor N2930 (4C/4T, 1.83GHz, 7.5W) Intel [®] Celeron [®] Processor N2807 (2C/2T, 1.58GHz, 4.3W) Intel Atom [™] Processor E3845 (4C/4T, 1.91 GHz, 10W) |
| Chipset | Integrated with Intel [®] SoC |
| Memory Type | DDR3L 1333, Single Channel SODIMM x 1, up to 8GB |
| BIOS | UEFI |
| Wake On Lan | Yes |
| Watchdog Timer | 255 Levels |
| Security | TPM 2.0 (Optional) |
| RTC Battery | Battery Lithium Battery 3V/240mAh |
| Dimension | 4.53" x 6.50" (115mm x 165mm) |
| OS Support | Windows 7/10 (64bit) Ubuntu 21.04 / kernel 5.11.0-13-generic #14 |
| Power | |
| Power Requirement | +9V to +24V (Optional : +12V) |
| Power Supply Type | AT/ATX |
| Connector | ATX 4-Pin connector or Phoenix 2-Pin Connector |
| Power Consumption | Intel [®] Celeron [™] Processor J1900, DDR3L 8GB, 0.99A@12V, 11.88W |
| Display | |
| Controller | Intel [®] HD Graphics for Intel Atom [®] Processor Z3700 Series |
| LVDS/eDP | LVDS x 1, Dual Channel 24/48bit, up to 1920 x 1080 |
| Display Interface | VGA x 1, up to 1920 x 1080 HDMI x 1, up to 1920 x 1080 |
| Multiple Display | Up to 2 Simultaneous Displays |
| Audio | |
| CODEC | Realtek ALC897 |
| Audio Interface | Line-In / Line-Out / Mic (Audio function not available for WITAS SKU) |
| Speaker | 2W Amp.(Audio function not available for WITAS SKU) |
| External I/O | |
| Ethernet | Intel [®] I210, 1GbE RJ-45 x 2 |
| USB | USB 3.2 Gen 1 x 1 USB 2.0 x 1 |
| Serial Port | COM 2, COM 3 (RS-232/422/485, supports 5V/12V/RI) |
| Video | HDMI x 1 |
| Internal I/O | |
| USB | USB 2.0 x 4 |
| Serial Port | COM 1, COM 4, COM 5, COM 6 (RS-232, supports RI only) |
| Video | LVDS x 1 LVDS Inverter 5V/12V@2A VGA x 1 |
| SATA | SATA 3Gb/s x 1 (Default) (up to SATA x 2 shared with mSATA, BOM Optional) |
| Audio | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) |
| DIO/GPIO | GPIO 16-bits |
| SMBus/I2C | SMBus/I2C (Default: SMBus) |
| Touch | 4/5/8-wire Touch Controller x 1 (Optional) |
| Fan | DC Fan x 1 |
| SIM | SIM x 1 |
| Front Panel | Power Button, Reset Button, Power LED, SATA LED, Buzzer |
| Others | Micro-SD x 1 (Optional, only E3800 series) PCI-104 x 1 (Optional, only E3800 series) LPT (SPP/EPP/ECP) x 1 (Optional, co-lay with GPIO, selected by BIOS) |
| Expansion | |
| Mini PCI-E/mSATA | Full Size mPCIe x 1 Full Size mSATA x 1 |
| M.2 | — |
| Others | — |
| Environment & Certification | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) 32°F ~ 185°F (-40°C ~ 85°C) W2 Support (E3845 SKU only) |
| Storage Temperature | 32°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | 358,806 |
| EMC | CE/FCC Class A |
| Note | |

Board Level Products

SubCompact Boards



| System | GENE-MTH6 | GENESYSM-MTH6 |
|-----------------------------|--|---|
| System | 3.5" SubCompact Board System | |
| Form Factor | 3.5" SubCompact Board System | |
| CPU | Intel® Core™ Ultra Processors: Intel® Core™ Ultra 7 Processor 155H (16C/22T, up to 4.8 GHz, 28W) Intel® Core™ Ultra 5 Processor 125H (14C/18T, up to 4.5 GHz, 28W) Intel® Core™ Ultra 7 Processor 155U (12C/14T, up to 4.8 GHz, 15W) Intel® Core™ Ultra 5 Processor 125U (12C/14T, up to 4.3 GHz, 15W) | Intel® Core™ Ultra Processors: Intel® Core™ Ultra 7 Processor 155H (16C/22T, up to 4.8 GHz, 28W) Intel® Core™ Ultra 5 Processor 125H (14C/18T, up to 4.5 GHz, 28W) Intel® Core™ Ultra 7 Processor 155U (12C/14T, up to 4.8 GHz, 15W) Intel® Core™ Ultra 5 Processor 125U (12C/14T, up to 4.3 GHz, 15W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR5 5600, Dual Channel SODIMM x 2 Max. 96GB, Non-ECC | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm), 0.88 lb. (0.4Kg) | |
| OS Support | Windows® 10 (64-bit) Windows® 11 (64-bit) Linux Ubuntu 22.04.3 (kernel 6.2.0-26-generic) | Windows 10 IoT LTSC (21H2) Windows 11 IoT LTSC(24H2) Linux Ubuntu 22.04.3 (kernel 6.2.0-26-generic) |
| Power | +9-36V (Optional: +12V), support ERP | |
| Power Requirement | AT/ATX, support 3pin ATX | |
| Power Supply Type | Phoenix 2-pin Connector (Colay 4 pin connector) | |
| Connector | DC Jack Connector | |
| Power Consumption | Intel® Core™ Ultra 7, DDR5 32GB x 2, 5.78A @+12V (Typical) Intel® Core™ Ultra 7, DDR5 32GB x 1, 8.42A @+12V (Max) | Intel® Core™ Ultra 7 Processor 155H, DDR5 32GB x 2, 5.78A @+12V (Typical) Intel® Core™ Ultra 7 Processor 155H, DDR5 32GB x 1, 8.42A @+12V (Max) |
| Display | Intel® Arc™ Graphics Intel® Graphics | |
| Controller | — | |
| LVDS/eDP | LVDS x 1, Dual-Channel 18/24-bit, up to 1920 x 1080 eDP 1.4b HBR3 x 1, up to 3840 x 2160 @60Hz | 7.48" x 5.28" x 1.69" (190mm x 134.1mm x 43mm) |
| Display Interface | HDMI 2.1 x 1, up to 8K x 4K@60Hz or 4K x 2K@120Hz DP 2.0 x 1, up to 7680 x 4320@60Hz 30bpp (support DP++) | HDMI 2.1 x 1, up to 8K x 4K@60Hz or 4K x 2K@120Hz DP 2.0 x 1, up to 7680 x 4320@60Hz 30bpp (support DP++) |
| Multiple Display | Up to 4 Simultaneous Displays | |
| Audio | Up to 2 Simultaneous Displays | |
| Codec | Realtek ALC897 | |
| Audio Interface | Line-in/Line-out/MIC (Audio function not available for WITAS SKU) | Line-in/Line-out/MIC |
| Speaker | — | |
| External I/O | — | |
| Ethernet | Intel® I219 1GbE, RJ-45 x 1 Intel® I226 2.5GbE, RJ-45 x 2, support PEX (Support Vpro only with ULTRA 7 165U/165H, ULTRA 5 135U/135H) | Intel® Ethernet Controller I226, 2.5GbE RJ-45 x 2 Intel® Ethernet Connection I219, 1GbE RJ-45 x 1 *Note: vPro only supported with Intel® Core™ Ultra 7 Processor 165U/165H, Intel® Core™ Ultra 5 Processor 135U/135H, LAN 2 & LAN 3 support PXE |
| USB | USB3.2 Gen 2 x 2 port | |
| Serial Port | COM 1, COM 2 (RS-232/422/485, supports 5V/12V/RL) | |
| Video | HDMI 2.1 x 1 DP 2.0++ x 1 | HDMI 2.1 x 1, DP 2.0++ x 1 |
| Internal I/O | — | |
| USB | USB 2.0 x 4 | |
| Serial Port | COM 1, COM 2 (RS-232/422/485, supports 5V/12V/RL) COM 3, COM 4 (RS-232) | |
| Video | LVDS x 1 Inverter x 1 (12V/2A) eDP x 1 | |
| SATA | SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) | |
| DIO/GPIO | GPIO 8-bit | |
| SMBus/I2C | SMBus/I2C x 1 (Default: SMBus) | |
| Touch | — | |
| Fan | 4-wire Smart Fan x 1 | |
| Sim | Nano SIM x 1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | — | |
| Mini PCIe/mSATA | — | |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x4]/SATA) Default: PCIe 4.0 [x4] (selected by BOM) M.2 3052 B-Key x 1 (PCIe 3.0 [x1] + USB 3.2/PCIe 3.0 [x2]) Default: PCIe 3.0 [x1] (selected by BOM) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0), supports Wi-Fi 6E CNVi (RAID 0, RAID 1 support on PCIe storage) | M.2 2280 M-Key x 3 (PCIe [x4], SATA) Select by BOM M.2 3052 B-Key x 1 (PCIe [x2]/[x1], USB 3.0, Default: PCIe 3.0 [x1] + USB 3.0 (selected by BOM) M.2 2230 E-Key x 1 (PCIe, USB 2.0), support Wi-Fi 6E CNVi (Storage using PCIe can support RAID 0, 1) M.2 2280 M-Key x 2 (PCIe [x4] via PER-SB2B (FPC2)) |
| Others | FPC2 x 1 (PCIe Gen4 [x4] x 2), Support RAID 0, RAID 1 | |
| Environment & Certification | — | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) | |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 753,493 | |
| EMC | CE/FCC Class A | |
| Note | — | |



| System | GENE-ARH6 | GENESYSM-ARH6 |
|-----------------------------|---|---|
| System | 3.5" SubCompact Board System | |
| Form Factor | 3.5" SubCompact Board System | |
| CPU | Intel® Core™ Ultra Processors (Series 2): Intel® Core™ Ultra 7 Processor 255H (16C/16T, up to 5.1 GHz, 28W) Intel® Core™ Ultra 5 Processor 225H (14C/14T, up to 4.9 GHz, 28W) Intel® Core™ Ultra 7 Processor 255U (12C/14T, up to 5.2 GHz, 15W) Intel® Core™ Ultra 5 Processor 225U (12C/14T, up to 4.8 GHz, 15W) | Intel® Core™ Ultra Processors (Series 2): Intel® Core™ Ultra 7 Processor 255H (16C/16T, up to 5.1 GHz, 28W) Intel® Core™ Ultra 5 Processor 225H (14C/14T, up to 4.9 GHz, 28W) Intel® Core™ Ultra 7 Processor 255U (12C/14T, up to 5.2 GHz, 15W) Intel® Core™ Ultra 5 Processor 225U (12C/14T, up to 4.8 GHz, 15W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR5 6400, Dual Channel SODIMM x 2 Max. 96GB, Non-ECC Note: Max capacity up to 2x 48GB DDR5 SODIMM up to 5600 MT/s | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm), 0.88 lb. (0.4Kg) | 7.48" x 5.28" x 1.69" (190mm x 134.1mm x 43mm) |
| OS Support | Windows® 10 (64-bit) Windows® 11 (64-bit) Linux Ubuntu 24.04.2 (Kernel 6.11.0-25-generic) | Windows 10 IoT LTSC (21H2) Windows 11 IoT LTSC(24H2) Linux Ubuntu 22.04.3 (kernel 6.2.0-26-generic) |
| Power | +9-36V (Optional: +12V), support ERP | |
| Power Requirement | +9-36V (Optional: +12V), support ERP | |
| Power Supply Type | ATX | |
| Connector | AT/ATX, support 3pin ATX Phoenix 2-pin Connector (Colay 4 pin connector) | DC Jack Connector |
| Power Consumption | Intel® Core™ Ultra 7, DDR5 48GB x 2, 5.44A @+12V (Typical) Intel® Core™ Ultra 7, DDR5 48GB x 1, 9.56A @+12V (Max) | |
| Display | Intel® Arc™ Graphics | |
| Controller | Intel® Arc™ Graphics | |
| LVDS/eDP | LVDS x 1, Dual-Channel 18/24-bit, up to 1920 x 1080 eDP 1.4b HBR3 x 1, up to 3840 x 2160 @60Hz | — |
| Display Interface | HDMI 2.1 x 1, up to 8K x 4K@60Hz or 4K x 2K@120Hz DP 2.0 x 1, up to 7680 x 4320@60Hz 30bpp (support DP++) | HDMI 2.1 x 1, up to 8K x 4K@60Hz or 4K x 2K@120Hz DP 2.0 x 1, up to 7680 x 4320@60Hz 30bpp (support DP++) |
| Multiple Display | Up to 4 Simultaneous Displays | |
| Audio | Realtek ALC897 | |
| Codec | Realtek ALC897 | |
| Audio Interface | Line-in/Line-out/MIC (Audio function not available for WITAS SKU) | Line-in/Line-out/MIC |
| Speaker | — | |
| External I/O | — | |
| Ethernet | Intel® Ethernet Connection I219 1GbE, RJ-45 x 1 Intel® Ethernet Controller I226 2.5GbE, RJ-45 x 2, support PEX (Intel vPro® support with Intel® Core™ Ultra 7 Processor 265H) | |
| USB | USB 3.2 Gen 2 x 2 | |
| Serial Port | — | |
| Video | HDMI 2.1 x 1, DP 2.0++ x 1 | |
| Internal I/O | — | |
| USB | USB 2.0 x 4 | |
| Serial Port | COM 1, COM 2 (RS-232/422/485, supports 5V/12V/R) / COM 3, COM 4 (RS-232) | |
| Video | LVDS x 1, Inverter x 1 (12V/2A), eDP x 1 | |
| SATA | SATA 6.0 Gb/s x 1 / +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) | |
| DIO/GPIO | GPIO 8-bit | |
| SMBus/I2C | SMBus/I2C x 1 (Default: SMBus) | |
| Touch | — | |
| Fan | 4 wire Smart Fan x 1 | |
| Sim | Nano SIM x 1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | — | |
| Mini PCIe/mSATA | — | |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x4]/SATA) Default: PCIe 4.0 [x4] (selected by BOM) M.2 3052 B-Key x 1 (PCIe 3.0 [x1] + USB 3.2/PCIe 3.0 [x2]) Default: PCIe 3.0 [x1] (selected by BOM) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0), supports Wi-Fi 6E CNVI (RAID 0, RAID 1 support on PCIe storage) | M.2 2280 M-Key x 3 (PCIe [x4], SATA) Select by BOM M.2 3052 B-Key x 1 (PCIe [x2]/[x1], USB 3.0, Default: PCIe 3.0 [x1] + USB 3.0 (selected by BOM) M.2 2230 E-Key x 1 (PCIe, USB 2.0), support Wi-Fi 6E CNVI (Storage using PCIe can support RAID 0, 1) M.2 2280 M-Key x 2 (PCIe [x4] via PER-SB2B (FPCC2)) |
| Others | FPCC x 1 (PCIe Gen4 [x4] x 2), Support RAID 0, RAID 1 | |
| Environment & Certification | — | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) | |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 753,493 | |
| EMC | CE/FCC Class A | |
| Note | — | |

Board Level Products

SubCompact Boards



| System | GENE-TWL5 | GENE-ASL5 |
|-----------------------------|---|--|
| System | | |
| Form Factor | 3.5" SubCompact Board | |
| CPU | Intel® Processor N150 (4C/4T, up to 3.6 GHz, 6W) Intel® Core™ 3 Processor N355 (8C/6T, up to 3.90GHz, 15W) | Intel Atom® Processors x7000E Series for the Edge: Intel Atom® x7213RE (2C, 2.0 GHz, 9W) Intel Atom® x7433RE (4C, 1.5 GHz, 9W) Intel Atom® x7835RE (8C, 1.3 GHz, 12W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR5 4800, Single Channel SODIMM x 1, Max.16GB, Non-ECC | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 | |
| RTC Battery | Lithium Battery 3V/240mAH | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm), 1.1 lb. (0.5Kg) | |
| OS Support | Windows 10 (64-bit) Windows 11 (64-bit) Ubuntu 24.04.2/ kernel 6.11.0-17-generic | Windows 10 (64bit), Windows 11 (64bit), Ubuntu 22.04 / Kernel 5.15.0-25-generic |
| Power | +9V~36V (Optional: +12V), support ERP | |
| Power Requirement | AT/ATX, support 3pin ATX | |
| Power Supply Type | Phoenix 2-pin Connector (Colay 4 pin connector) | |
| Connector | Phoenix 2-pin Connector (Colay 4 pin connector) | |
| Power Consumption | Intel® Core™ 3 Processor N355, DDR5 16GB x 1, 3.43A @+12V (Typical) Intel® Core™ 3 Processor N355, DDR5 16GB x 1, 5.13A @+12V (Max) | Intel Atom® x7835RE, DDR5 16GB x 1, 3.23A @+12V (Typical) Intel Atom® x7835RE, DDR5 16GB x 1, 4.76A @+12V (Max) |
| Display | Intel® UHD Graphics | |
| Controller | LVDS x 1, Dual-Channel 18/24-bit, up to 1920 x 1080 eDP HBR3 x 1, up to 1920 x 1200 (Optional) | |
| LVDS/eDP | HDMI 1.4 x 1, up to 3840 x 2160 @30Hz VGA x 1, up to 1920 x 1080 | |
| Display Interface | Up to 3 Simultaneous Displays | |
| Multiple Display | | |
| Audio | Realtek ALC897 | |
| Codec | Line-in / Line-Out / Mic, (Audio function not available for WITAS SKU) | |
| Audio Interface | | |
| Speaker | | |
| External I/O | | |
| Ethernet | Intel® Ethernet Controller I226, 2.5GbE x 2 | |
| USB | USB 3.2 Gen 2 x 2 | |
| Serial Port | | |
| Video | HDMI 1.4 x 1, VGA x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 4 | |
| Serial Port | COM 1, COM 2 (RS-232/422/485, supports 5V/12V/R) COM 3, COM 4 (RS-232) | |
| Video | LVDS x 1 eDP x 1 Inverter x 1 (12V/2A) | |
| SATA | SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) | |
| DIO/GPIO | GPIO 8-bit | |
| SMBus/I2C | SMBus / I2C x 1 (Default: SMBus) | |
| Touch | 4/5/8 wire Touch Controller x 1 | |
| Fan | 4-pin Smart Fan x 1 | 4pins Smart Fan x 1 |
| Sim | Nano SIM x 1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | | |
| Expansion | | |
| Mini PCIe/mSATA | Full-size mSATA / mPCIe x 1 (Default: mPCIe, select by BIOS) | |
| M.2 | M.2 3052 B-Key x 1 (PCIe 3.0 [x1] + USB 3.2 Gen 2/PCIe 3.0 [x2] + USB 2.0, default: PCIe [x1] + USB 3.2 Gen 2, selected by BIOS) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0, support CNV) | |
| Others | | |
| Environment & Certification | | |
| Operating Temp. | -4°F ~ 158°F (-20°C ~ 70°C) | WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 1,284,701 | |
| EMC | CE/FCC Class A | |
| Note | | |



| System | GENE-ADN5 | GENE-ADN6 |
|-----------------------------|---|--|
| System Form Factor | 3.5" SubCompact Board | |
| CPU | Intel® Processor N-series: Intel® Core™ i3-N305 (8C/8T, 3.8 GHz, 15W) Intel® Processor N97 (4C/4T, 3.6 GHz, 12W) | Intel Atom™ x7000E Series, Intel® Processor N Series, Intel® Core™ i3-N305 Processors: Intel® Core™ i3-N305 (8C/8T, up to 3.8 GHz, 15W) Intel Atom™ x7425E (4C/4T, up to 3.4 GHz, 12W) Intel® Processor N97 (4C/4T, up to 3.6 GHz, 12W) Intel® Processor N50 (2C/2T, up to 3.4 GHz, 6W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR5 4800, Single Channel SODIMM x 1, Max.16GB, Non-ECC | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAH | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm), 1.1 lb. (0.5Kg) | 5.75" x 4" (146mm x 101.7mm), 0.94 lbs (0.43 kg) |
| OS Support | Windows 10 (64bit), Windows 11 (64bit), Ubuntu 22.04 / Kernel 5.15.0-25-generic | Windows 10 (64bit) Ubuntu 22.04 / Kernel 5.15.0-25-generic |
| Power | | |
| Power Requirement | +9V~36V (Optional: +12V), support ERP | |
| Power Supply Type | AT/ATX, support 3pin ATX | |
| Connector | Phoenix 2-pin Connector (Clay 4 pin connector) | Phoenix 2-pin Connector |
| Power Consumption | Intel Atom™ Core™ i3-N305, DDR5 16GB x 1, 4.05A @+12V (Typical) Intel Atom™ Core™ i3-N305, DDR5 16GB x 1, 5.05A@+12V (Max) | Intel® Core™ i3-N305, 16GB x 1, 3.80A@ +12V (TYPICAL) Intel® Core™ i3-N305, 16GB x 1, 5.48A@ +12V (MAX) |
| Display Controller | Intel® UHD Graphics | |
| LVDS/eDP | LVDS x 1, Dual-Channel 18/24-bit, up to 1920 x 1080 eDP HBR3 x 1, up to 1920 x 1200 (Optional) | LVDS x 1, Dual Channel 18/24bit, up to 1920 x1080 |
| Display Interface | HDMI 1.4 x 1, up to 3840 x 2160 @30Hz VGA x 1, up to 1920 x 1080 | HDMI 1.4 x 1, up to 3840 x2160 @30Hz VGA x 1, up to 1920 x1080 |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio Codec | Realtek ALC897 | |
| Audio Interface | Line-In / Line-Out / Mic, (Audio function not available for WITAS SKU) | Line-In / Line-Out / Mic (Audio function not available for WITAS SKU) |
| Speaker | --- | |
| External I/O | | |
| Ethernet | Intel® Ethernet Controller I226, 2.5GbE x 2 | Intel® i226 2.5G, RJ-45 x 3 |
| USB | USB 3.2 Gen 2 x 2 | USB3.2 Gen 2 x 2 |
| Serial Port | --- | |
| Video | HDMI 1.4 x 1, VGA x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 4 | USB2.0 x 4 |
| Serial Port | COM 1, COM 2 (RS-232/422/485, supports 5V/12V/RI) COM 3, COM 4 (RS-232) | |
| Video | LVDS x 1 eDP x 1 Inverter x 1 (12V/2A) | LVDS x 1, Inverter x 1 (12V/2A) |
| SATA | SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 (Audio function not available for WITAS SKU) | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) |
| DIO/GPIO | GPIO 8-bit | |
| SMBus/I2C | SMBus / I2C x 1 (Default: SMBus) | |
| Touch | --- | |
| Fan | 4pins Smart Fan x 1 | |
| Sim | Nano SIM x 1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | --- | |
| Expansion | | |
| Mini PCIe/mSATA | Full-size mSATA / mPCIe x 1 (Default: mPCIe, select by BIOS) | Full-size mSATA / mPCIe x 1 (Default: mSATA, select by BIOS) |
| M.2 | M.2 3052 B-Key x 1 (PCIe 3.0 [x1] + USB 3.2 Gen 2/PCIe 3.0 [x2] + USB 2.0, default: PCIe [x1] + USB 3.2 Gen 2, selected by BIOS) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0, support CNV) | M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB2.0) M.2 3052 B-Key x 1 (USB3.2 Gen2 + USB2.0) |
| Others | --- | |
| Environment & Certification | | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) or -4°F ~ 158°F (-20°C ~ 70°C) | -4°F ~ 158°F (-20°C ~ 70°C) WITAS2: -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 1,284,701 | 813,668 |
| EMC | CE/FCC Class A | |
| Note | | |

Board Level Products

SubCompact Boards



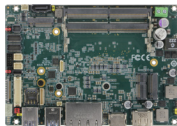
| System | GENESYSM-ADN6 | GENE-TWL6 |
|-----------------------------------|---|--|
| System | 3.5" SubCompact Board System | |
| Form Factor | 3.5" SubCompact Board System | 3.5" SubCompact Board |
| CPU | Intel® Processor N Series, Intel® Core™ i3-N305 Processors: Intel® Core™ i3-N305 (8C/8T, up to 3.8 GHz, 15W) Intel® Processor N97 (4C/4T, up to 3.6 GHz, 12W) | Intel® Processor N150 (4C/4T, up to 3.6 GHz, 6W) Intel® Core™ 3 Processor N355 (8C/8T, up to 3.90 GHz, 15W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR5 4800, Single Channel SODIMM x 1, Max.16GB, Non-ECC | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | Lithium Battery 3V/240mAh |
| Dimensions | 7.00" x 5.28" x 1.69" (178mm x 134.1mm x 43mm) | 5.75" x 4" (146mm x 101.7mm), 0.94 lbs (0.43 kg) |
| OS Support | Windows 10 (64bit) Ubuntu 22.04 / Kernel 5.15.0-25-generic | Windows 10 (64-bit), Windows 11 (64-bit) Ubuntu 24.04.2 / Kernel 6.11.0-26-generic |
| Power | | |
| Power Requirement | +9-36V | +9V~36V (Optional: +12V), Support ERP |
| Power Supply Type | ATX | AT/ATX |
| Connector | DC Jack Connector | Phoenix 2-pin Connector |
| Power Consumption | Intel® Core™ i3-N305, DDR5 16GB x 1, 3.4A @+12V(Typical) Intel® Core™ i3-N305, DDR5 16GB x 1, 5.24A @+12V(Max) | Intel® Core™ 3 Processor N355, DDR5 16GB x1, 4.15A@ +12V (TYPICAL) Intel® Core™ 3 Processor N355, DDR5 16GB x1, 5.06A@ +12V (MAX) |
| Display | | |
| Controller | Intel® UHD Graphics | |
| LVDS/eDP | — | LVDS x 1, Dual Channel 18/24-bit, up to 1920 x1080 (Optional: eDP 1.4b HBR3, up to 3840 x 2160) |
| Display Interface | HDMI 1.4 x 1, up to 3840 x 2160 @30Hz VGA x 1, up to 1920 x1080 | HDMI 1.4 x 1, up to 3840 x 2160 @30Hz VGA x 1, up to 1920 x 1080 |
| Multiple Display | Up to 2 Simultaneous Displays | |
| Audio | | |
| Codec | Realtek ALC897 | |
| Audio Interface | Line-In/Line-Out/MIC | Line-In / Line-Out / Mic (Audio function not available for WITAS SKU) |
| Speaker | — | |
| External I/O | | |
| Ethernet | Intel® Ethernet Controller I226, 2.5GbE RJ-45 x 3 | |
| USB | USB3.2 Gen 2 x 2 ports USB2.0 x 4 | USB 3.2 Gen 2 x 2 |
| Serial Port | COM1, COM2 (RS232/422/485, supports 5V/12V/R) | — |
| COM3, COM4 (RS-232 x 2, optional) | | |
| Video | HDMI 1.4 x 1, VGA x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 4 | |
| Serial Port | COM 1, COM 2 (RS-232/422/485, supports 5V/12V/R) | |
| COM 3, COM 4 (RS-232) | | |
| Video | LVDS x 1, Inverter x 1 (12V/2A) | |
| SATA | SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1 | SATA 6Gb/s x 1 +5V SATA Power Connector x 1 |
| Audio | Audio Header x 1 | |
| DIO/GPIO | GPIO 8-bit | |
| SMBus/I2C | SMBus / I2C x 1 (Default: SMBus) | |
| Touch | — | |
| Fan | 4-pin Smart Fan x 1 | |
| Sim | Nano SIM x 1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | | |
| Mini PCIe/mSATA | Full-size mSATA / mPCIe x 1 (Default: mSATA, select by BIOS) | |
| M.2 | M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) M.2 3052 B-Key x 1 (USB 3.2 Gen 2 + USB 2.0) | |
| Others | — | |
| Environment & Certification | | |
| Operating Temp. | 14°F ~ 140°F (-10°C ~ 60°C) 0.7m/s air flow | -4°F ~ 158°F (-20°C ~ 70°C) |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 337,963 | |
| EMC | CE/FCC Class A | |
| Note | | |



| System | GENE-ASL6 | GENESYSM-ASL6 |
|-----------------------------|---|---|
| System | 3.5" SubCompact Board System | |
| Form Factor | 3.5" SubCompact Board System | |
| CPU | Intel Atom [®] Processors x7000RE Series Processors: x7213RE (2C, 2.0 GHz, 9W) x7433RE (4C, 1.5 GHz, 9W) x7835RE (8C, 1.3 GHz, 12W) | Intel Atom [®] x7000RE Series Processors: Intel Atom [®] x7433RE (4C, 1.5 GHz, 9W) Intel Atom [®] x7835RE (8C, 1.3 GHz, 12W) |
| Chipset | Integrated with Intel [®] SoC | |
| Memory Type | DDR5 4800, Single Channel SODIMM x 1, Max.16GB, Non-ECC | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAH | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm), 0.94 lbs (0.43 kg) | 7.00" x 5.28" x 1.69" (178mm x 134.1mm x 43mm) |
| OS Support | Windows 10 (64bit) Ubuntu 22.04 / Kernel 5.15.0-25-generic | Windows 10 (64bit) Windows 11 (64bit) Ubuntu 22.04 / Kernel 5.15.0-25-generic |
| Power | | |
| Power Requirement | +12V (Optional: +9V~36V) | +9-36V |
| Power Supply Type | AT/ATX | ATX |
| Connector | Phoenix 2-pin Connector | DC Jack Connector |
| Power Consumption | Intel [®] Atom x7835RE, DDR5 16GB x1, 3.20A@ +12V (TYPICAL) Intel [®] Atom x7835RE, DDR5 16GB x1, 4.80A@ +12V (MAX) | Intel [®] Core™ i3-N305, DDR5 16GB x 1, 3.2A @+12V(Typical) Intel [®] Core™ i3-N305, DDR5 16GB x 1, 4.8A @+12V(Max) |
| Display | Intel [®] UHD Graphics | |
| Controller | Intel [®] UHD Graphics | |
| LVDS/eDP | LVDS x 1, Dual Channel 18/24bit, up to 1920 x1080 | — |
| Display Interface | HDMI 1.4 x 1, up to 3840 x2160 @30Hz VGA x 1, up to 1920 x1080 | HDMI 1.4 x 1, up to 3840 x 2160 @30Hz VGA x 1, up to 1920 x1080 |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio | | |
| Codec | Realtek ALC897 | |
| Audio Interface | Line-In/Line-Out/MIC | |
| Speaker | — | |
| External I/O | | |
| Ethernet | Intel [®] i226 2.5G, RJ-45 x 3 | Intel [®] i226 2.5G, RJ-45 x 3 |
| USB | USB3.2 Gen 2 x 2 | USB3.2 Gen 2 x 2 ports USB2.0 x 4 |
| Serial Port | — | COM1, COM2 (RS232/422/485, supports 5V/12V/RI) COM3, COM4 (RS-232 x 2, optional) |
| Video | HDMI 1.4 x 1, VGA x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 4 | — |
| Serial Port | COM1, COM2 (RS232/422/485, supports 5V/12V/RI) COM3, COM4 (RS232) | — |
| Video | LVDS x 1 Inverter x 1 (12V/2A) | — |
| SATA | SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 | |
| DIO/GPIO | GPIO 8-bit | |
| SMBus/I2C | SMBus / I2C x 1 (Default: SMBus) | SMBus/I2C x1 (Default: SMBus) |
| Touch | — | |
| Fan | 4pins Smart Fan x 1 | — |
| Sim | Nano SIM x 1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | | |
| Mini PCIe/mSATA | Full-size mSATA / mPCIe x 1 (Default: mSATA, select by BIOS) | |
| M.2 | M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB2.0) M.2 3052 B-Key x 1 (USB3.2 Gen2 + USB2.0) | |
| Others | — | |
| Environment & Certification | | |
| Operating Temp. | WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) | -4°F ~ 158°F (-20°C ~ 70°C) 0.7m/s air flow |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 802,587 | 337,963 |
| EMC | CE/FCC Class A | |
| Note | | |

Board Level Products

SubCompact Boards



| System | GENE-RAP6 | GENESYSM-RAP6 |
|-----------------------------|--|---|
| System | 3.5" SubCompact Board System | |
| Form Factor | 3.5" SubCompact Board System | |
| CPU | 13th Generation Intel® Core™/U-series Processors: Intel® Core™ i7-1360P (4P+8E/16T, 2.20 GHz, 28W) Intel® Core™ i7-1370PPE (6PC+8EC/20T, 1.90 GHz, 28W) Intel® Core™ i7-1370PPE (6PC+8EC/20T, 1.90 GHz, 28W) Intel® Core™ i5-1340PE (4PC+8EC/16T, 1.80 GHz, 28W) Intel® Core™ i5-1335UE (2PC+8EC/12T, 1.30 GHz, 15W) Intel® Core™ i3-1320PE (4PC+4EC/12T, 1.70 GHz, 28W) Intel® Processor U300E (1PC+4EC/6T, 1.10 GHz, 15W) | 13th Generation Intel® Core™/U-series Processors: Intel® Core™ i7-1370PPE (6PC+8EC/20T, 1.90 GHz, 28W) Intel® Core™ i5-1340PE (4PC+8EC/16T, 1.80 GHz, 28W) Intel® Core™ i3-1320PE (4PC+4EC/12T, 1.70 GHz, 28W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR5 4800, Dual Channel SODIMM x 2, Max. 64GB, Non-ECC | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAH | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm), 0.94 lbs (0.43 kg) | 7.00" x 5.28" x 1.69" (178mm x 134.1mm x 43mm) |
| OS Support | Windows 10/11 (64bit) Ubuntu 22.04.2/5, 19.0-32-generic | |
| Power | | |
| Power Requirement | +9V~36V (Optional: +12V) | +9-36V |
| Power Supply Type | AT/ATX | ATX |
| Connector | Phoenix 2-pin Connector | DC Jack Connector |
| Power Consumption | Intel® Core™ i7-1370PPE, DDR5 32GB x 2, 5.33A@ +12V (TYPICAL) Intel® Core™ i7-1370PPE, DDR5 32GB x 2, 8.55A@ +12V (MAX) | |
| Display | | |
| Controller | Intel® Iris® Xe Graphics Intel® UHD Graphics | |
| LVDS/eDP | LVDS x 1, Dual Channel 18/24bit, up to 1920 x 1080 eDP 1.4 x 1, up to 3840 x 2160 (Optional) | — |
| Display Interface | HDMI 2.1 x 1, up to 8K x 4K@60Hz or 4K x 2K@120Hz DP 1.4 x 1, up to 7680 x 4320@60Hz 30bpp (support DP++) | HDMI 2.1 x 1, up to 8K x 4K@60Hz or 4K x 2K@120Hz DP 1.4 x 1, up to 7680 x 4320@60Hz 30bpp (support DP++) Type-C x 1 (USB 3.2 Gen 2, DP 1.4, PD 5V/3A) |
| Multiple Display | Up to 4 Simultaneous Displays | Up to 3 Simultaneous Displays |
| Audio | | |
| Codec | Realtek ALC897 | |
| Audio Interface | Line-in/Line-Out/Mic (Audio function not available for WITAS SKU) | Line-in/Line-out/MIC |
| Speaker | — | |
| External I/O | | |
| Ethernet | Intel® I219 1GbE, RJ-45 x 1 Intel® I226 2.5GbE, RJ-45 x 1 | |
| USB | USB 3.2 Gen 2 x 3 USB Type-C x 1 (USB 3.2 Gen 2, DP 1.4, PD 5V/3A) | USB 3.2 Gen 2 x 3 USB Type-C x 1 (USB 3.2 Gen 2, DP 1.4, PD 5V/3A) USB2.0 x 2 |
| Serial Port | — | COM1, COM2 (RS232/422/485, supports 5V/12V/RI) |
| Video | HDMI 2.1 x 1, DP 1.4 x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 4 | — |
| Serial Port | COM 1, COM 2 (RS-232/422/485, supports 5V/12V/RI) COM 3, COM 4 (RS-232/422/485) | — |
| Video | LVDS x 1 eDP x 1 Inverter x 1 (12V/2A) | — |
| SATA | SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) | Audio Header x 1 |
| DIO/GPIO | GPIO 8-bit | |
| SMBus/I2C | SMBus/I2C x 1 (Default: SMBus) | |
| Touch | — | |
| Fan | 4pins Smart Fan x 1 | 4pins Smart Fan x1 |
| Sim | Nano SIM x 1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | | |
| Mini PCIe/mSATA | — | |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1) M.2 3052/3042/2242 B-Key x 1 (PCIe 3.0 [x2]/SATA + USB3.2), Default: SATA (selected by BOM) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB2.0) | M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1) M.2 3052/3042/2242 B-Key x 1 (PCIe 3.0 [x2]/SATA + USB3.2), Default: SATA(selected by BOM) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB2.0) |
| Others | FPC x 1 (PCIe 4.0 [x4] x1), Only support Graphic or NVME | |
| Environment & Certification | | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) WITAS2: -40°F ~ 185°F (-40°C ~ 85°C) | 32°F ~ 122°F (0°C ~ 50°C) 0.5 m/s air flow |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity non-condensing | |
| MTBF (Hours) | 338,172 | |
| EMC | CE/FCC Class A | |
| Note | | |



| System | GENE-ADP6 | GENESYSM-ADP6 |
|-----------------------------|--|---|
| System | | |
| Form Factor | 3.5" SubCompact Board | 3.5" SubCompact Board System |
| CPU | 12th Generation Intel® Core™/Celeron® Processors: Intel® Core™ i7-1270PE (4PC+8EC/16T, 1.80 GHz, 28W) Intel® Core™ i7-1265JX (2PC+8EC/12T, 1.70 GHz, 15W) Intel® Core™ i5-1250PE (4PC+8EC/16T, 1.70 GHz, 28W) Intel® Core™ i3-1220PE (4PC+4EC/12T, 1.50 GHz, 28W) Intel® Celeron® Processor 7305E (1PC+4EC/5T, 1.00 GHz, 15W) | Intel® 12th Generation Core™/Celeron CPU Intel® Core™ i7-1270PE (4PC+8EC/16T, 1.80 GHz, 28W) Intel® Core™ i5-1250PE (4PC+8EC/16T, 1.70 GHz, 28W) Intel® Core™ i3-1220PE (4PC+4EC/12T, 1.50 GHz, 28W) |
| Chipset | | Integrated with Intel® SoC |
| Memory Type | DDR5 4800, Dual Channel SODIMM x 2, Max.64GB, Non-ECC | DDR5 4800 Mhz, Dual Channel SODIMM x 2, up to 64GB |
| BIOS | | UEFI |
| Wake on LAN | | Yes |
| Watchdog Timer | | 255 Levels |
| Security | TPM 2.0 (Optional) | TPM 2.0 (NPCT750AABYX) |
| RTC Battery | | Lithium Battery 3V/240mAH |
| Dimensions | 5.75" x 4" (146mm x 101.7mm), 0.94 lbs (0.43 kg) | 7.00" x 5.28" x 1.69" (178mm x 134.1mm x 43mm) |
| OS Support | Windows 10/11 (64bit) Ubuntu 22.04/Kernel 5.15.0-25-generic | Windows 10/11 (64bit) Linux Ubuntu 20.04/Kernel 5.15 |
| Power | | |
| Power Requirement | +9V-36V (Optional: +12V) | +9-36V |
| Power Supply Type | AT/ATX | ATX |
| Connector | Phoenix 2-pin Connector | DC Jack Connector |
| Power Consumption | Intel® Core™ i7-1270PE, DDR5 32GB x 2, 5.72A @+12V (Typical) Intel® Core™ i7-1270PE, DDR5 32GB x 2, 7.95A @+12V (Max) | Intel® Core™ i7-1270 PE, DDR5 32GB x 2, 5.72A@ +12V(TYPICAL) Intel® Core™ i7-1270 PE, DDR5 32GB x 2, 7.95A@ +12V(MAX) |
| Display | | |
| Controller | | Intel® Iris® Xe Graphics Intel® UHD Graphics |
| LVDS/eDP | LVDS x 1, Dual Channel 18/24bit, up to 1920 x 1080 eDP 1.4 x 1, up to 3840 x 2160 (Optional) | — |
| Display Interface | HDMI 2.1 x 1, up to 8K x 4K@60Hz or 4K x 2K@120Hz DP 1.4 x 1, up to 7680 x 4320@60Hz 30bpps (support DP++) | HDMI 2.1 x 1, up to 8K x 4K@60Hz or 4K2K 120Hz DP 1.4 x 1, up to 7680 x 4320@60Hz 30bpps (support DP++) Type-C x 1 (USB 3.2 Gen 2, DP 1.4, PD 5V/3A) |
| Multiple Display | Up to 4 Simultaneous Displays | Up to 3 Simultaneous Displays |
| Audio | | |
| Codec | | Realtek ALC897 |
| Audio Interface | Line-In/Line-Out/ Mic (Audio function not available for WITAS SKU) | Line-in/Line-out/MIC |
| Speaker | | — |
| External I/O | | |
| Ethernet | Intel® i219 1GbE, RJ-45 x 1 Intel® i226 2.5GbE, RJ-45 x 1 | Intel® i219, 10/100/1000Base Intel® i226, 10/100/2500Base |
| USB | USB 3.2 Gen 2 x 3 USB Type-C x 1 (USB 3.2 Gen 2, DP 1.4, PD 5V/3A) | USB3 2 Gen 2 x 3 USB Type-C x 1 (USB 3.2 Gen 2, DP 1.4, PD 5V/3A) USB2.0 x 2 |
| Serial Port | — | COM1, COM2 (RS232/422/485, supports 5V/12V/Rl) |
| Video | HDMI 2.1 x 1, DP 1.4 x 1 | HDMI 2.1 x 1 DP 1.4 x 1 |
| Internal I/O | | |
| USB | USB 2.0 x 4 | — |
| Serial Port | COM 1, COM 2 (RS-232/422/485, supports 5V/12V/Rl) COM 3, COM 4 (RS-232/422/485) | — |
| Video | LVDS x 1 eDP x 1 Inverter x 1 (12V/2A) | — |
| SATA | | SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1 |
| Audio | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) | Audio Header x 1 |
| DIO/GPIO | | GPIO 8-bit |
| SMBus/I2C | SMBus/I2C x 1 (Default: SMBus) | SMBus/I2C x 1 (Default: SMBus) |
| Touch | | — |
| Fan | | 4pins Smart Fan x 1 |
| Sim | | Nano SIM x 1 |
| Front Panel | | HDD LED, PWR LED, Power Button, Buzzer, Reset |
| Others | | — |
| Expansion | | |
| Mini PCIe/mSATA | | |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1) M.2 3052/3042/2242 B-Key x 1 (PCIe 3.0 [x2]/SATA + USB 3.2), Default: SATA (selected by BOM) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) FPC x 1 (PCIe 4.0 [x4] x 1), Only support Graphic or NVME | M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1) M.2 3052/3042/2242 B-Key x 1 (PCIe 3.0 [x2]/SATA + USB 3.2), Default: SATA (selected by BOM) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) |
| Others | | |
| Environment & Certification | | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ -185°F (-40°C ~ -85°C) on selected CPU SKU | 32°F ~ 122°F (0°C ~ 50°C) 0.5 m/s air flow |
| Storage Temp. | | -40°F ~ -185°F (-40°C ~ -85°C) |
| Operating Humidity | | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | | 344,735 |
| EMC | | CE/FCC Class A |
| Note | | |

Board Level Products

SubCompact Boards



| System | GENE-TGU6 | GENESYSM-TGU6 |
|-----------------------------|---|--|
| System | 3.5" SubCompact Board System | |
| Form Factor | 3.5" SubCompact Board System | |
| CPU | Intel [®] 11th Generation Intel [®] Core™/Celeron [®] Processors: Intel [®] Core™ i7-1185G7E (4C/8T, 1.80 GHz, 15W) Intel [®] Core™ i5-1145G7E (4C/8T, 1.5 GHz, 15W) Intel [®] Core™ i3-1115G4E (2C/4T, 2.20 GHz, 15W) Intel [®] Celeron [®] 6305E (2C/2T, 1.80 GHz, 15W) Intel [®] Core™ i7-1185G7E (4C/8T, 1.80 GHz, 15W) | Intel [®] 11th Generation Core™/Celeron CPU i7-1185G7E (4C/8T, 1.80GHz, up to 4.40GHz, TDP-up 28W) i5-1145G7E (4C/8T, 1.50GHz, up to 4.10GHz, TDP-up 28W) i3-1115G4E (2C/4T, 2.20GHz, up to 3.90GHz, TDP-up 28W) Celeron [®] 6305E (2C/2T, 1.80GHz, TDP 15W) |
| Chipset | Integrated with Intel [®] SoC | |
| Memory Type | DDR4 3200, Dual Channel SODIMM x 2, Max.64GB, Non-ECC | DDR4 up to 3200MHz, Dual Channel SODIMM x 2, up to 64GB,Support iBECC(select SKUs) |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm) | 7.00" x 5.28" x 1.97" (178.0mm x 134.1mm x 50.0mm) |
| OS Support | Windows 10 (64bit), Linux Ubuntu 20.04.2/Kernel 5.8 | Windows 10 (64bit), Linux Ubuntu 20.04.3(OT)/Kernel 5.13 |
| Power | | |
| Power Requirement | +9V~36V (Optional: +12V) | +9-36V (Optional: +12V) |
| Power Supply Type | AT/ATX | ATX |
| Connector | Phoenix 2-pin Connector | DC Jack Connector |
| Power Consumption | Intel [®] Core™ i7-1185G7E, DDR4 3200MHz 32GB x 2, 4.96A @+12V (Typical) Intel [®] Core™ i7-1185G7E, DDR4 3200MHz 32GB x 2, 7.32A @+12V (Max) | Intel [®] i7-1185G7E, DDR4 3200MHz 32GB x 2, 4.96A@ +12V(TYPICAL) Intel [®] i7-1185G7E, DDR4 3200MHz 32GB x 2, 7.32A@ +12V(MAX) |
| Display | Intel [®] Iris [®] Xe Graphics, Intel [®] UHD Graphics | |
| Controller | | |
| LVDS/eDP | LVDS x 1, Dual Channel 18/24bit, up to 1920 x 1080 eDP 1.4 x 1, up to 3840 x 2160 (Optional) | — |
| Display Interface | HDMI 2.0 x 1, up to 4K x 2K@60Hz DP 1.4 x 2, up to 4K x 2K@60Hz DP 1.4 x 1 (via USB Type-C), up to 4K x 2K@60Hz | HDMI 2.0b x 1 DP1.4 x 2 Type-C DP1.4 x 1 |
| Multiple Display | Up to 4 Simultaneous Displays | |
| Audio | | |
| Codec | Realtek ALC897 | Realtek ALC897/892 |
| Audio Interface | Line-In / Line-Out / Mic (Audio function not available for WITAS SKU) | Line-in/Line-out/MIC (Optional) |
| Speaker | — | |
| External I/O | | |
| Ethernet | Intel [®] i219 1GbE, RJ-45 x1 Intel [®] i225/i226 2.5GbE, RJ-45 x 1 | Intel [®] i219, 10/100/1000Base, RJ-45 x 1 Intel [®] i225/i226, 10/100/2500Base, RJ-45 x 1 |
| USB | USB 3.2 Gen 2 x 4 USB Type-C x 1 (USB 3.2 Gen 2, DP 1.4, PD 5V/3A) | USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 Type C x 1 (PD 5V/3A) USB 2.0 x 2 |
| Serial Port | — | COM1 (RS232/422/485) COM2 (RS232/422/485, supports 5V/12V/RI) |
| Video | HDMI 2.0 x 1, DP 1.4 x 2, Type-C DP 1.4 x 1 | HDMI 2.0b x 1, DP1.4 x 2, Type-C DP1.4 x 1 |
| Internal I/O | | |
| USB | USB 2.0 x 2 | |
| Serial Port | COM 1, COM 3, COM 4 (RS-232/422/485) COM 2 (RS-232/422/485, supports 5V/12V/RI) | |
| Video | LVDS/eDP x 1 (Default: LVDS) Inverter x 1 (12V/2A) | |
| SATA | SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) | Audio Header x 1 |
| DIO/GPIO | GPIO 8-bit | |
| SMBus/I2C | SMBus/I2C x 1 (Default: SMBus) | |
| Touch | 4/5/8-wire Touch Controller x 1 (Optional) | |
| Fan | 4pins Smart Fan x 1 | |
| Sim | Nano SIM x 1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | | |
| Mini PCIe/mSATA | Full-size mSATA / mPCIe x 1 (Default: mSATA, select by BIOS) | Full-Sized mSATA/mPCIe x 1 (default: mSATA, select with BIOS) |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1) M.2 2230 E-Key x 1 (PCIe 3.0 [x1], USB 2.0) | M-Key 2280 x 1 (PCIex4) E-Key 2230 x 1 (PCIe, USB 2.0) |
| Others | — | |
| Environment & Certification | | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU | 32°F ~ 122°F (0°C ~ 50°C) |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 329,884 | |
| EMC | CE/FCC Class A | |



| System | GENE-WHU6 | GENESYS-WHU6 |
|-----------------------------|---|--|
| System | 3.5" SubCompact Board System | |
| Form Factor | 3.5" SubCompact Board System | |
| CPU | Intel® 8th Generation Core™ / Celeron® Processors: i7-8665UE (4C/8T, 1.70GHz, 15W) i5-8365UE (4C/8T, 1.60GHz, 15W) i3-8145UE (2C/4T, 2.20GHz, 15W) 4305UE (2C/2T, 2.00GHz, 15W) | Intel® 8th Generation Core™ i7/i5/i3/Celeron SoC i7-8665UE (4C/8T, 1.7GHz, up to 4.4GHz, TDP 15W) i5-8365UE (4C/8T, 1.6GHz, up to 4.1GHz, TDP 15W) i3-8145UE (2C/4T, 2.2GHz, up to 3.9GHz, TDP 15W) Celeron® 4305UE (2C/2T, 2GHz, TDP 15W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR4 2400, Dual Channel SODIMM x 2, Max.64GB, Non-ECC | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm) | 7.00" x 5.28" x 1.69" (178mm x 134.1mm x 43mm) |
| OS Support | Windows 10 (64bit) Linux Ubuntu 21.04.0/Kernel 5.10 | |
| Power | | |
| Power Requirement | +9V~36V (Optional: +12V) | +9-36V (Optional: +12V) |
| Power Supply Type | AT/ATX | ATX |
| Connector | Phoenix 2-pin Connector | DC Jack Connector |
| Power Consumption | Intel® i7-8665UE, DDR4 2400MHz 16GB x2, 4.83A@ +12V (TYPICAL) Intel® i7-8665UE, DDR4 2400MHz 16GB x2, 7.3A@ +12V (MAX) | Intel® i7-8665UE, DDR4 2400 MHz 16GB, 2.8A@ +12V(Typical) |
| Display | Intel® UHD Graphics 610/620 | |
| Controller | Intel® UHD Graphics 610/620 | |
| LVDS/eDP | LVDS x 1, Dual Channel 18/24bit, up to 1920 x 1080 eDP 1.4 x 1, , up to 1920 X 1200 (Optional) | — |
| Display Interface | HDMI 2.0 x 1, up to 3840 x 2160 VGA x 1, up to 2560 x 1440 | HDMI2.0a x 1 VGA x 1 |
| Multiple Display | Up to 3 Simultaneous Displays | Up to 2 Simultaneous Displays |
| Audio | | |
| Codec | Realtek ALC897 | Realtek ALC897/892 |
| Audio Interface | Line-In / Line-Out / Mic (Audio function not available for WITAS SKU) | Line-in/Line-out/MIC(Optional) |
| Speaker | — | |
| External I/O | | |
| Ethernet | Intel® i210 1GbE, RJ45 x1 Intel® i219, 1GbE, RJ45 x1 | Intel® i210/i211 & i219, 10/100/1000Base, RJ-45 x2 |
| USB | USB 3.2 Gen2 x 4 | |
| Serial Port | — | |
| Video | HDMI 2.0 x 1, VGA x 1 | |
| Internal I/O | | |
| USB | USB 2.0 x 2 | |
| Serial Port | COM1(RS232/422/485, support RI) (Optional) COM2 (RS232/422/485, support 5V/12V/RI) (Optional) | |
| Video | LVDS / eDP x 1 (Default: LVDS) | — |
| SATA | SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) | Audio Header x 1 (optional) |
| DIO/GPIO | GPIO 8-bit | — |
| SMBus/I2C | SMBus / I2C x 1 (Default: I2C) | I2C/ SMBus x 1 (Default: I2C) |
| Touch | 4/5/8 wire Touch Controller x 1 (Optional) | — |
| Fan | DC Fan x 1 (Option: Smart Fan x 1) | DC Fan x 1 (optional: Smart Fan) |
| Sim | Nano SIM x 1 | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | PWR LED, Power Button |
| Others | — | |
| Expansion | | |
| Mini PCIe/mSATA | Full-size mSATA / mPCIe x 1 (Default: mSATA, select by BIOS) | |
| M.2 | M.2 2280 B-Key x1 (PCIe 3.0 [x2], SATA, USB2.0), Default: selected by BIOS) M.2 2230 E-Key x 1 (PCIe 3.0 [x1], USB2.0) | M.2 2280 B-Key x1 (PCIe x 2, SATA, USB2.0, selected by BIOS) M.2 2230 E-Key x 1 (PCIe, USB2.0) |
| Others | — | |
| Environment & Certification | | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU | 32°F ~ 122°F (0°C ~ 50°C) |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 354,194 | |
| EMC | CE/FCC Class A | |
| Note | | |

Board Level Products

SubCompact Boards



| System | GENE-KBU6 | GENE-SKU6 |
|-----------------------------|---|--|
| System | 3.5" SubCompact Board | |
| Form Factor | 3.5" SubCompact Board | |
| CPU | Intel® 7th Generation Core™ / Celeron Processor: Intel® i7-7600U (2C/4T, 2.80GHz, up to 3.90GHz, TDP-up 25W) Intel® i5-7300U (2C/4T, 2.60GHz, up to 3.50GHz, TDP-up 25W) Intel® i3-7100U (2C/4T, 2.40GHz, TDP-up 25W) Intel® Celeron 3965U (2C/2T, 2.20GHz, TDP-up 15W) | Intel® 6th Generation Core™ / Celeron Processor: Intel® i7-6600U (2C/4T, 2.6GHz, up to 3.4GHz, TDP-up 25W) Intel® i5-6300U (2C/4T, 2.4GHz, up to 3.0GHz, TDP-up 25W) Intel® i3-6100U (2C/4T, 2.3GHz, TDP-up 25W) Intel® Celeron 3955U (2C/2T, 2.20GHz, TDP-up 15W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR4 up to 2133MHz, SODIMM x 1, up to 16GB, Non-ECC | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm) | |
| OS Support | Windows 10 (64bit) Linux Ubuntu 21.04.0/Kernel 5.10 | |
| Power | | |
| Power Requirement | +9-36V (Optional: +12V) | |
| Power Supply Type | AT/ATX | |
| Connector | Phoenix 2-pin Connector | |
| Power Consumption | Intel® i7-7600U, DDR4 2666MHz 32GB, 3.26A@ +12V(TYPICAL) Intel® i7-7600U, DDR4 2666MHz 32GB, 4.22A@ +12V(MAX) | Intel® i7-6600U, DDR4 2666MHz 32GB, 3.42A@ +12V(TYPICAL) Intel® i7-6600U, DDR4 2666MHz 32GB, 4.24A@ +12V(MAX) |
| Display | | |
| Controller | Intel® HD Graphics 610/620 | Intel® HD Graphics 510/520 |
| LVDS/eDP | LVDS Dual Channel 18/24bit x 1, up to 1920 x 1080 | |
| Display Interface | Default: DP1.2 x 1 (up to 3840 x 2160) + DVI-D x 1 Optional: DVI-I x 1 (with VGA signal) | Default: DP1.2 x 1 (up to 3840 x 2160) + DVI-D x 1 Optional: DVI-I x 1 (with VGA signal) |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio | | |
| Codec | Realtek ALC897/892 | |
| Audio Interface | Line-In / Line-Out / Mic (Audio function not available for WITAS SKU) | |
| Speaker | — | |
| External I/O | | |
| Ethernet | Intel® i210/i211, 10/100/1000Base-TX, RJ-45 x 2 | |
| USB | USB 3.2 Gen 1 x 4 | |
| Serial Port | — | |
| Video | DP1.2 x 1, DVI-D x 1 | DP1.2 x 1, DVI-D x 1 |
| Internal I/O | | |
| USB | USB 2.0 x 2 | |
| Serial Port | COM1(RS232), COM2, COM3, COM4(RS232/422/485, support 5V/12V/RI) | |
| Video | LVDS x 1 | |
| SATA | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 (Audio function not available for WITAS SKU) | |
| DIO/GPIO | 8-bit | |
| SMBus/I2C | SMBus x 1 | |
| Touch | 4/5/8-wire Touch Controller x 1 (optional) | |
| Fan | DC Fan x 1 (optional: Smart Fan) | DC Fan x 1 (optional: Smart Fan) Micro SIM x 1 (Optional) |
| Sim | Micro SIM x 1 (Optional) | |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | — | |
| Expansion | | |
| Mini PCIe/mSATA | Full-size mPCIe x 1 Half size mSATA/mPCIe x 1(Default mSATA, select by BIOS) | |
| M.2 | — | |
| Others | BIO x 1 | |
| Environment & Certification | | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) | 32°F ~ 140°F (0°C ~ 60°C), WITAS1 -4°F ~ 158°F (-20°C ~ 70°C) |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 375,577 | |
| EMC | CE/FCC Class A | |
| Note | | |



| System | GENE-EHL5 | GENE-EHL7 |
|-----------------------------|---|---|
| System Form Factor | 3.5" SubCompact Board | |
| CPU | Intel Atom® x6000E series, Pentium®, and Celeron® N and J series Processors: Intel Atom® x6425RE (4C/4T, 1.90 GHz, 12W) Intel Atom® x6425E (4C/4T, 2.00 GHz, 12W) Intel Atom® x6211E (2C/2T, 1.30 GHz, 6W) Intel® Pentium® Processor J6426 (4C/4T, 2.00 GHz, 10W) Intel® Celeron® Processor J6412 (4C/4T, 2.00 GHz, 10W) Intel® Celeron® Processor N6210 (2C/2T, 1.20 GHz, 6.5W) | Intel Atom® x6000E series, Pentium®, and Celeron® N and J series Processors: x6413E (4C/4T, 1.50GHz, 9W) J6412 (4C/4T, 2.00GHz, 10W) N6210 (2C/2T, 1.20GHz, 6.5W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | Single-Channel DDR4 3200MHz SODIMM x 1, Max. 32GB, Non-ECC | *iBEC supported by selected CPU SKU |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm), 1.10 lbs (0.50 kg) | 5.75" x 4" (146mm x 101.7mm), 0.83 lbs (0.38 kg) |
| OS Support | Windows 10 (64bit), Windows® 11 (64-bit) Linux Ubuntu 20.04.3(iOT)/Kernel 5.13 | Windows 10 (64bit) Linux Ubuntu 20.04.5 / 5.15.0-46-generic |
| Power | | |
| Power Requirement | +9V~36V (Optional: +12V) | +12V |
| Power Supply Type | AT/ATX | |
| Connector | Phoenix 2-pin Connector | |
| Power Consumption | Intel Atom® x6425E, DDR4 32GB, 3.26A @+12V (Typical) Intel Atom® x6425E, DDR4 32GB, 3.42A @+12V (Max) | Intel Atom® x6413E, DDR4 32GB, 2.17A @+12V (Typical) Intel Atom® x6413E, DDR4 32GB, 2.72A @+12V (Max) |
| Display Controller | Intel® UHD Graphics for 10th Gen Intel® Processors | |
| LVDS/eDP | LVDS x 1, Dual Channel 18/24bit, up to 1920 x 1080 eDP 1.3 x 1, up to 1920 x 1200 (Optional) | Dual-Channel 18/24-bit LVDS x 1, up to 1920 x 1080 eDP 1.3 x 1, up to 1920 x 1200 (Optional) |
| Display Interface | HDMI 2.0 x 1, up to 3840 x 2160@60Hz DP 1.4 x 1, up to 3840 x 2160@120Hz (support DP++) VGA x 1, up to 2560 x 1440 (Optional) | HDMI 1.4 x 1, up to 3840 x 2160 @ 30Hz DP 1.4 x 1, up to 3840 x 2160 @ 120Hz |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio Codec | Realtek ALC256 | Realtek ALC897 |
| Audio Interface | Line-In / Line-Out / Mic (Audio function not available for WITAS SKU) | Line-In / Line-Out / Mic |
| Speaker | 2W Speaker (Audio function not available for WITAS SKU) | — |
| External I/O | | |
| Ethernet | Intel® i210 1GbE, RJ45 x 2 | Realtek RTL8111H 1GbE, RJ-45 x 2 |
| USB | USB 3.2 Gen 2 x 2 | USB 3.2 Gen2 x 2 |
| Serial Port | — | |
| Video | HDMI 2.0 x 1, DP 1.4 x 1 (Optional:VGA x 1) | HDMI 1.4 x 1, DP 1.4 x 1 |
| Internal I/O | | |
| Serial | USB2.0 x 4 | USB 2.0 x 4 |
| Serial Port | COM 1, COM 4 (RS-232/422/485) COM 2, COM 3 (RS-232/422/485, supports 5V/12V/RI) | COM1 (RS232/422/485, supports 5V/12V/RI) COM2 (RS232) |
| Video | LVDS / eDP x 1 (Default: LVDS), Inverter x 1 (12V/2A) | |
| SATA | SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 (Optional, Audio function not available for WITAS SKU) Speaker Header x 2 (Optional, Audio function not available for WITAS SKU) | Audio Header x 1 |
| DIO/GPIO | GPIO 16-bits (8 In / 8 Out) | GPIO 8-bits |
| SMBus/I2C | SMBus/I2C x 1 (Default: SMBus) | SMBus / I2C x 1 (Default: SMBus) |
| Touch | 4/5/8 wire Touch Controller x 1 (Optional) | — |
| Fan | 4pins Smart Fan x 1 | |
| Sim | Nano SIM x 1 | — |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | eMMC5.1 32GB CANBUS x 2, TX/RX (Celeron J6412 and Celeron N6210 don't support CANBUS) | — |
| Expansion | | |
| Mini PCIe/mSATA | Full-size mPCIe x 1 | |
| M.2 | M.2 2230 E-Key x 1 (PCIe 3.0 [x1], USB 2.0) M.2 2242 B-Key x 1 (PCIe 3.0 [x2]/SATA, Default: PCIe [x2]) M.2 2280 B-Key x 1 (PCIe 3.0 [x1], USB 2.0, PCIe 3.0 [x2] select by BIOS) M.2 3052 B-Key x 1 (USB 3.2 Gen 2, USB2.0) | M.2 2230 E-Key x 1 (PCIe 3.0 [x1], USB2.0) M.2 2280 M-Key x 1 (PCIe 3.0 [x2] / SATA), SATA select by BOM |
| Others | — | |
| Environment & Certification | | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU | 32°F ~ 140°F (0°C ~ 60°C) |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 335,427 | 484,355 |
| EMC | CE/FCC Class A | CE/FCC Class A |

Note: All specifications are subject to change without notice.

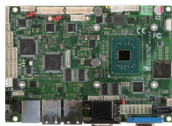
www.aaeon.com

Board Level Products

SubCompact Boards



| System | GENE-APL5 | GENE-APL6 |
|-----------------------------|---|--|
| System Form Factor | 3.5" SubCompact Board | |
| CPU | Intel® Atom™/Celeron™/Pentium® Processor: Pentium N4200 (4C/4T, 1.10GHz, up to 2.50GHz, 6W) Celeron N3350 (2C/2T, 1.10GHz, up to 2.40GHz, 6W) Atom E3950 (4C/4T, 1.66GHz, up to 2.00GHz, 9.5W) Atom E3940 (4C/4T, 1.60GHz, up to 1.80GHz, 9.5W) Atom E3930 (2C/2T, 1.30GHz, up to 1.80GHz, 6.5W) | |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz) | |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 2.0 (Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm) | |
| OS Support | Windows 10 (64bit) Linux Ubuntu 21.04.0/Kernel 5.10 | |
| Power | | |
| Power Requirement | +12V (Optional: +9-19V) | +9-36V (Optional: +12V) |
| Power Supply Type | AT/ATX | |
| Connector | Phoenix 2-pin Connector | |
| Power Consumption | Intel® E3950, DDR3L 1866MHz 8GB, 2.03A @+12V(TYPICAL) Intel® E3950, DDR3L 1866MHz 8GB, 2.45A @+12V(MAX) | Intel® E3950, DDR3L 1866MHz 8G, 2.36A @+12V(TYPICAL) Intel® E3950, DDR3L 1866MHz 8G, 2.41A @+12V(MAX) |
| Display | Intel® HD Graphics 500/505 | |
| Controller | LVDS1 Dual Channel 18/24bit x 1, up to 1920 x 1080 LVDS2 Dual Channel 18/24bit x 1 (Optional: HDMI1.4b, up to 3840 x 2160) | |
| LVDS/eDP | VGA x 1, up to 1920 x 1200 Up to 3 Simultaneous Displays | |
| Display Interface | — | |
| Multiple Display | — | |
| Audio | Realtek ALC897/892 | |
| Codec | Line-In / Line-Out / Mic (Audio function not available for WITAS SKU) | |
| Audio Interface | — | |
| Speaker | — | |
| External I/O | Intel® i210/i211, 10/100/1000Base, RJ-45 x 2 | |
| Ethernet | USB3.2 Gen 1 x 2 | |
| USB | COM1 (RS232, supports RI) | COM1 (RS232) |
| Serial Port | VGA x 1 | |
| Video | — | |
| Internal I/O | — | |
| USB | USB2.0 x 4 | USB 2.0 x 2 |
| Serial Port | COM2, COM3 (RS232/422/485, supports 5V/12V/RI), COM4 (RS232, supports RI) | COM2, COM3 (RS232/422/485, support 5V/12V/RI) COM4 (RS232) |
| Video | LVDS1 x 1 LVDS2/HDMI x 1 (Default: LVDS2) | |
| SATA | SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1 Audio Header x 1 (Audio function not available for WITAS SKU) | |
| Audio | 8-bit | |
| DIO/GPIO | I2C/SMBus x 1 (Default: I2C) | |
| SMBus/I2C | I2C x1, SMBus x 1 | 4/5/8-wire Touch Controller x 1 (optional) |
| Touch | DC Fan x 1 (optional: Smart Fan) | |
| Fan | Micro SIM x 1 (Optional) | |
| Sim | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Front Panel | — | |
| Others | Parallel Port(SPP/EPP/ECP) x 1 (optional, select by BIOS) | eMMC 16G/32G/64G (optional) Parallel Port(SPP/EPP/ECP) x 1 (optional, select by BIOS) |
| Expansion | — | |
| Mini PCIe/mSATA | mSATA x 1 (Full-Size) Mini Card x 1 (Half-Size) | Full-size mPCIe x 1 Half-size mSATA x 1 |
| M.2 | — | |
| Others | — | |
| Environment & Certification | — | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C), WITAS2 -40°F ~ 185°F (-40°C ~ 85°C) | |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 365,976 | 374,567 |
| EMC | CE/FCC Class A | |
| Note | — | |



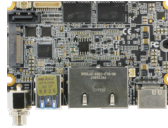
| System | GENE-APL7 | GENE-BT05 |
|-----------------------------|---|--|
| System | 3.5" SubCompact Board | |
| Form Factor | 3.5" SubCompact Board | |
| CPU | Intel® Atom™/Celeron™/Pentium™ Processor: Pentium N4200 (4C/4T,1.10GHz,up to 2.50GHz, 6W) Celeron N3350 (2C/2T,1.10GHz,up to 2.40GHz, 6W) Atom E3950 (4C/4T,1.66GHz,up to 2.00GHz, 9.5W) Atom E3940 (4C/4T,1.60GHz,up to 1.80GHz, 9.5W) Atom E3930 (2C/2T,1.30GHz,up to 1.80GHz, 6.5W) | Intel® Atom™/Celeron™ Processor: Celeron® J1900 (4C/4T, 2.00GHz, up to 2.42GHz, 10W) Celeron® N2930 (4C/4T, 1.83GHz, up to 2.16GHz, 7.5W) Celeron® N2807 (2C/2T, 1.58GHz, up to 2.16GHz, 4.3W) Atom® E3845 (4C/4T, 1.91 GHz, 10W) Atom® E3825 (2C/2T, 1.33 GHz, 6W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz) | DDR3L up to 1333MHz, SODIMM x 1, up to 8GB,Non-ECC |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | TPM 1.2(Optional) | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimensions | 5.75" x 4" (146mm x 101.7mm) | |
| OS Support | Windows 10 (64bit) Linux Ubuntu 21.04.0/Kernel 5.10 | Windows 7/10 (64bit) Linux Ubuntu 20.04.3/Kernel 5.11 |
| Power | | |
| Power Requirement | 12V Only | +12V Only |
| Power Supply Type | AT/ATX | |
| Connector | Phoenix 2-pin Connector | |
| Power Consumption | Intel® E3950,DDR3L 1866MHz 8GB,4.15A @+12V(TYPICAL) Intel® E3950,DDR3L 1866MHz 8GB,4.29A @+12V(MAX) | Intel® J1900, DDR3L 1600MHz 8GB,1.73A @ +12V(TYPICAL) Intel® J1900, DDR3L 1600MHz 8GB,1.88A @ +12V(MAX) |
| Display | | |
| Controller | Intel® HD Graphics 500/505 | Intel® HD Graphics for Intel Atom™ Processor Z3700 Series |
| LVDS/eDP | LVDS1 Dual Channel 18/24bit x 1 (Optional: eDP1.3, up to 3840 x 2160) LVDS2 Dual Channel 18/24bit x 1, up to 1920 x 1080 | LVDS Dual Channel 18/24bit x 1, up to 1920 x 1080 |
| Display Interface | VGA x 1, up to 1920 x 1200 | HDMI 1.4a x 1, up to 3840 x 2160 VGA x 1, up to 1920 x 1200 |
| Multiple Display | Up to 3 Simultaneous Displays | |
| Audio | Realtek ALC897/892 | |
| Codec | Realtek ALC897/892 | |
| Audio Interface | Line-in/Line-out/MIC | Line-In / Line-Out / Mic (Audio function not available for WITAS SKU) |
| Speaker | 2W Amplifier(Optional) | — |
| External I/O | | |
| Ethernet | Realtek RTL8119-CG, 10/100/1000Base, RJ-45 x 2 | Intel® i210/i211, 10/100/1000Base, RJ-45 x 2 |
| USB | USB 3.2 Gen1 x 2 | USB 3.2 Gen 1 x 1,USB 2.0 x 1 |
| Serial Port | COM1 (RS232) COM2 (RS232/422/485, support 5V/12V/R) | COM1 (RS232) |
| Video | VGA x 1 | VGA x 1,HDMI 1.4a x 1 |
| Internal I/O | | |
| USB | USB2.0 x 8 | USB2.0 x 2 |
| Serial Port | COM3~COM6 (RS232, COM3~COM5 support 5V/12V/R) Optional: COM3~COM12 | COM2, COM3 (RS232/422/485, supports 5V/12V/R),COM4 (RS232) |
| Video | LVDS1/eDP (Default: LVDS1) LVDS2 | LVDS x 1 |
| SATA | SATA 6.0 Gb/s +5V SATA Power Connector x 1 | |
| Audio | Audio Header x 1 Speaker Header x 2 (optional) | Audio Header x 1 (Audio function not available for WITAS SKU) |
| DIO/GPIO | 8-bit | |
| SMBus/I2C | I2C/SMBus x1 (Default: SMBus) | |
| Touch | 4/5/8-wire Touch Controller x 1 (optional) | |
| Fan | DC Fan x 1 (optional: Smart Fan) | |
| Sim | Micro SIM x 1 (Optional) | SIM X1 |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset | |
| Others | CFast™ (option with mSATA by BOM, occupies one Mini Card location) | |
| Expansion | | |
| Mini PCIe/mSATA | Full-size mPCIe x 1 Full-Size mSATA/mPCIe x 1 (Default mSATA, BOM Option: mPCIe) | Full-Size mPCIe/ USB2.0 x 1 Half-Size mSATA/ mPCIe x 1 (BOM optional) |
| M.2 | — | |
| Others | — | |
| Environment & Certification | | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) | 32°F ~ 140°F (0°C ~ 60°C) or WITAS 2 (E3825) |
| Storage Temp. | -40°F ~ 185°F (-40°C ~ 85°C) | -40°F ~ 176°F (-40°C ~ 80°C) |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 409,108 | 344,859 |
| EMC | CE/FCC Class A | |
| Note | | |

Board Level Products

SubCompact Boards



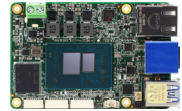
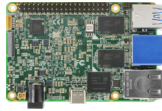
| System | GENE-BT06 |
|-----------------------------|---|
| System | |
| Form Factor | 3.5" SubCompact Board |
| CPU | Intel® Atom®/ Celeron® Processor: Celeron® J1900 (4C/4T, 2.00GHz, up to 2.42GHz, 10W) Celeron® N2930 (4C/4T, 1.83GHz, up to 2.16GHz, 7.5W) Celeron® N2807 (2C/2T, 1.58GHz, up to 2.16GHz, 4.3W) Atom® E3845 (4C/4T, 1.91 GHz, 10W) Atom® E3825 (2C/2T, 1.33 GHz, 6W) |
| Chipset | Integrated with Intel® SoC |
| Memory Type | On Board DDR3L 1066/1333MHz, up to 4GB, Non-ECC |
| BIOS | UEFI |
| Wake on LAN | Yes |
| Watchdog Timer | 255 Levels |
| Security | TPM 2.0 (BOM optional) |
| RTC Battery | Lithium Battery 3V/240mAh |
| Dimensions | 5.75" x 4" (146mm x 101.7mm) |
| OS Support | Windows 7/10 (64bit) Linux Ubuntu 20.04.0/Kernel 5.11 |
| Power | |
| Power Requirement | +9~24V |
| Power Supply Type | AT/ATX |
| Connector | Phoenix 2-pin Connector |
| Power Consumption | Intel® E3845, DDR3L on board RAM 4GB, 2.10A @ +12V(TYPICAL) Intel® E3845, DDR3L on board RAM 4GB, 2.26A @ +12V(MAX) |
| Display | |
| Controller | Intel® HD Graphics for Intel Atom® Processor Z3700 Series |
| LVDS/eDP | LVDS Dual Channel 18/24bit x 1, up to 1920 x 1080 |
| Display Interface | HDMI 1.4a, up to 3840 x 2160 (Optional: DP1.1a) VGA x 1, up to 1920 x 1200 |
| Multiple Display | Up to 3 Simultaneous Displays |
| Audio | |
| Codec | Realtek ALC897/892 |
| Audio Interface | Line-In / Line-Out / Mic (Audio function not available for WiTAS SKU) |
| Speaker | 2W Amplifier (Optional, audio function not available for WiTAS SKU) |
| External I/O | |
| Ethernet | Intel® i210, 10/100/1000Base, RJ-45 x 2 |
| USB | USB 3.2 Gen1 x 1, USB2.0 x 1 |
| Serial Port | COM1 (RS232) |
| Video | VGA x 1, HDMI 1.4a x 1 (Optional) |
| Internal I/O | |
| USB | USB2.0 x 2 |
| Serial Port | COM2, COM3 (RS232/422/485, supports 5V/12V/Ri), COM4 (RS232) |
| Video | LVDS x1 |
| SATA | SATA II x 1, +5V SATA Power Connector x 1 |
| Audio | Audio Header x 1 (Audio function not available for WiTAS SKU) |
| DIO/GPIO | 8-bit |
| SMBus/I2C | SMBus x 1 |
| Touch | 4/5/8 wire Touch Controller x 1 (Optional) |
| Fan | DC Fan x 1 (optional: Smart Fan) |
| Sim | SIM x 1 |
| Front Panel | HDD LED, PWR LED, Power Button, Buzzer, Reset |
| Others | — |
| Expansion | |
| Mini PCIe/mSATA | Full-size mPCIe/USB2.0 x 1 Half-size mSATA/mPCIe x 1 (BOM optional) |
| M.2 | — |
| Others | — |
| Environment & Certification | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) or WiTAS 2 -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Temp. | -40°F ~ 176°F (-40°C ~ 80°C) |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | 403,079 |
| EMC | CE/FCC Class A |
| Note | |



| Model | de next-RAP8 | de next-TGU8 | de next-V2K8 |
|-----------------------------|---|--|--|
| System | | | |
| Form Factor | 86mm x 55mm, Single board computer | | |
| CPU | 13th Generation Intel® Core™ Processors: Intel® Core™ i7-1365UE (10C/12T, 1.70 GHz, up to 15W) Intel® Core™ i5-1335UE (10C/12T, 1.30 GHz, up to 15W) Intel® Core™ i3-1315UE (6C/8T, 1.20 GHz, up to 15W) | Onboard 11th Gen. Intel® Core™ Processor i7-1185G7E (4C/8T, 1.80GHz, 15W) i5-1145G7E (4C/8T, 1.50GHz, 15W) i3-1115G4E (2C/4T, 2.20GHz, 15W) | AMD Ryzen™ Embedded V2000 Series Processor AMD Ryzen™ Embedded V2718 with Radeon™ Graphics (8C/16T, 1.7GHz, 25W) AMD Ryzen™ Embedded V2516 with Radeon™ Graphics (6C/16T, 2.1GHz, 25W) |
| Chipset | Integrated with Intel® SoC | | Integrated with AMD SoC |
| Memory Type | Onboard LPDDR5x, up to 16GB | Onboard LPDDR4x 3733, up to 16GB | Onboard LPDDR4x 3200 , up to 16GB |
| BIOS | UEFI | | |
| Wake on LAN | Yes | | |
| Watchdog Timer | 255 Levels | | |
| Security | fTPM | | |
| RTC Battery | Lithium Battery 3V/240mAh | | |
| Dimensions | 3.38" x 2.17" (86mm x 55mm) | | |
| OS Support | Windows 10 (64-bit) Ubuntu 22.04.3 (Kernel 6.2) | Windows 10 (64bit) Ubuntu 20.04.4 (Kernel 5.13) | Windows 10 (64bit) Ubuntu 22.04 (kernel 5.15) |
| Power | | | |
| Power Requirement | +12V | | |
| Power Supply Type | AT/ATX | | |
| Connector | DC Jack Connector (Optional : Phoenix 2-Pin Connector) | | |
| Power Consumption | Intel® Core™ i7-1365UE, LPDDR4x 16GB, 3.18A @12V, 38.16W (Typical) Intel® Core™ i7-1365UE, LPDDR4x 16GB, 3.36A @12V, 39.16W (Max) | i7-1185G7E, LPDDR4x 16GB, 4.58A@12V, 55W (TYPICAL) i7-1185G7E, LPDDR4x 16GB, 7A@12V, 84W (MAX) | V2718 , LPDDR4 16GB, 3.07A @12V, 36.84W (TYPICAL) V2718 , LPDDR4 16GB, 3.92A @12V, 47.04W (MAX) |
| Display | | | |
| Controller | Intel® Iris® Xe | Intel® UHD Graphics for 11th Gen Intel® Processors/AMD V-Series V2000 with Radeon™ Graphics | |
| LVDS/eDP | eDP 1.4 x 1, up to 3840 x 2160 | | |
| Display Interface | HDMI 1.4 x 1 , up to 3840 x 2160@30Hz | | |
| Multiple Display | 2 Simultaneous Displays | | |
| Audio | | | |
| Codec | --- | | |
| Audio Interface | --- | | |
| Speaker | --- | | |
| External I/O | | | |
| Ethernet | Intel® Ethernet Connection I219-LM, GbE RJ-45 x 1 Intel® Ethernet Controller I226-LM, 2.5GbE x 1 | Intel® i225, 2.5GbE RJ-45 x 1 Intel® i219, 1GbE RJ-45 x 1 | Realtek RTL8111, 1GbE RJ-45 x 1 Intel® i226, 2.5GbE RJ-45 x 1 |
| USB | Rear I/O : USB3.2 Gen2 Type A x 2 | | |
| Serial Port | --- | | |
| Video | HDMI 1.4b x 1 | | |
| Internal I/O | | | |
| USB | USB 2.0 x 4 (Pin Header) | USB 2.0 x 4 Note : USB2.0 x 2 shared with adapter card PER-T642 / PER-T643 | USB 2.0 x 4 Note : USB2.0 x 2 shared with adapter card PER-T642 / PER-T643. (de next-V2K8-A11 only) |
| Serial Port | RS-232/422/285 x 2 (Pin Header) | COM1 , COM2 (RS232/422/485, support 5V/RI) | |
| Video | eDP x 1 | eDP 1.4 x 1 | |
| SATA | SATA 6Gb/s x 1 +5V SATA Power Connector x 1 | SATA 6.0 Gbps x 1 with +5V SATA Power Connector x 1 | |
| Audio | --- | | |
| DIO/GPIO | 8-Bit | GPIO 8 bits | |
| SMBus/I2C | Optional | | |
| Touch | --- | | |
| Fan | 4 Pin Smart Fan (with Cooler version only) | 4 Pin Smart Fan | |
| Sim | --- | | |
| Front Panel | PowerLED, Power Button, Buzzer, Reset Button | Power Button, Reset Button, Power LED, SATA LED, Buzzer | |
| Others | --- | | |
| Expansion | | | |
| Mini PCIe/mSATA | --- | | |
| M.2 | M.2 2280 M-Key x 1 (PCIe [x2]) PCIe Gen 3 [x4] via FPC x 1 | M.2 2280 M-key x 1 (PCIe[x2] x 1 or PCIe[x1] x 2, selected by BIOS) | |
| Others | FPC Connector x 1 (PCIe 3.0 [x4] x 1) | | |
| Environment & Certification | | | |
| Operating Temp. | 32°F ~ 140°F (0°C ~ 60°C) | 32°F ~ 140°F (0°C ~ 60°C), -40°F ~ 185°F (-40°C ~ 85°C) by sku support | 32°F ~ 140°F (0°C ~ 60°C) |
| Storage Temp. | -40°F ~ 176°F (-40°C ~ 80°C) | -40°F ~ 185°F (-40°C ~ 85°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| MTBF (Hours) | 1,679,950 | 609,263 | |
| EMC | CE/FCC Class A | | |
| Note | | | |



| Model | de next-TGU8-EZBOX | de next-RAP8-EZBOX |
|-----------------------------|--|---|
| System | de next system | |
| Form Factor | de next system | |
| CPU | Onboard 11th Gen Intel® Core™ Processors Intel® Core™ i7-1185G7E (4C/8T, 1.80 GHz, 15W), with Cooler Version Only Intel® Core™ i5-1145G7E (4C/8T, 1.50 GHz, 15W), with Cooler Version Only Intel® Core™ i3-1115G4E (2C/4T, 2.20 GHz, 15W), with Cooler Version & Heatsink Version | 13th Generation Intel® Core™ Processors Intel® Core™ i7-1365UE (10C/12T, 1.70 GHz, up to 15W) |
| Chipset | Integrated with Intel® SoC | |
| Memory Type | Onboard LPDDR4x 3733, up to 16GB | Onboard LPDDR5x, up to 16GB |
| BIOS | UEFI | |
| Wake on LAN | Yes | |
| Watchdog Timer | 255 Levels | |
| Security | fTPM | |
| RTC Battery | Lithium Battery 3V/240mAh | |
| Dimensions | 3.75" x 2.73" x 1.78" (95.5mm x 69.5mm x 45.4mm), with Cooler Version 3.75" x 2.73" x 1.67" (95.5mm x 69.5mm x 42.5mm), with Heatsink Version | |
| OS Support | Windows 10 (64bit) Ubuntu 20.04.4 (Kernel 5.13) | Windows 10 (64-bit) Ubuntu 22.04.3 (Kernel 6.2) |
| Power | +12V | |
| Power Requirement | AT/ATX | |
| Power Supply Type | DC Jack Connector | |
| Connector | DC Jack Connector | |
| Power Consumption | Intel® Core™ i7-1185G7E, LPDDR4x 16GB, 4.58A@12V, 55W (Typical) Intel® Core™ i7-1185G7E, LPDDR4x 16GB, 7A@12V, 84W (Max) | TBD |
| Display | Intel® Iris® Xe Graphic Engine | |
| Controller | Intel® UHD Graphics for 11th Gen Intel® Processors | Intel® Iris® Xe Graphic Engine |
| LVDS/eDP | — | |
| Display Interface | HDMI 1.4b x 1, up to 3840 x 2160 @30Hz | HDMI 1.4b x 1 |
| Multiple Display | Single Display | |
| Audio | — | |
| Codec | — | |
| Audio Interface | — | |
| Speaker | — | |
| External I/O | — | |
| Ethernet | Intel® Ethernet Controller I225/I226, 2.5GbE RJ-45 x 1 Intel® Ethernet Connection I219, 1GbE RJ-45 x 1 | Intel® Ethernet Connection I219-LM, GbE RJ-45 x 1 Intel® Ethernet Controller I226-LM, 2.5GbE x 1 |
| USB | Rear I/O: USB 3.2 Gen 2 (Type-A) x 2 | |
| Serial Port | — | |
| Video | HDMI 1.4b x 1 | |
| Internal I/O | — | |
| USB | — | |
| Serial Port | — | |
| Video | — | |
| SATA | — | |
| Audio | — | |
| DIO/GPIO | — | |
| SMBus/I2C | — | |
| Touch | — | |
| Fan | 4 Pin Smart Fan (with Cooler version only) | |
| Sim | — | |
| Front Panel | — | |
| Others | — | |
| Expansion | — | |
| Mini PCIe/msATA | — | |
| M.2 | M.2 2280 M-Key x 1 (PCIe 4.0 [x2] x 1) | M.2 2280 M-Key (PCIe [x2]) x 1 |
| Others | — | |
| Environment & Certification | — | |
| Operating Temp. | 14°F ~ 122°F (-10°C ~ 50°C) with 0.7m/sec air flow | 32°F ~ 140°F (0°C ~ 50°C) in 0.5 airflow/sec |
| Storage Temp. | -40°F ~ 176°F (-40°C ~ 80°C) | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | |
| MTBF (Hours) | 609,263 | — |
| EMC | CE/FCC Class A | |
| Note | — | |



| Model | UP 4000 | UP 7000 | UP 710S |
|-----------------------------|--|--|--|
| System | | | |
| Processor | Intel® Celeron® Processor N3350 Intel® Pentium® Processor N4200 Intel Atom™ x7-E3950 | Intel® Processor N200 Intel® Processor N97 Intel® Processor N100 Intel® Processor N50 Intel Atom™ x7433RE Intel Atom™ x7835RE | Intel® Processor N200 Intel® Processor N97 Intel® Processor N100 Intel® Processor N50 |
| Graphics | Intel® HD Graphics | Intel® UHD Graphics | Intel® UHD Graphics for 12th Gen Intel® Processors |
| Memory | Up to 8GB onboard LPDDR4 | Dual-Channel LPDDR5, up to 8GB | Up to 8GB LPDDR5 |
| Storage | Up to 64GB onboard eMMC | Up to 64GB eMMC | Up to 128GB eMMC |
| I/O | HDMI 1.4b x 1 DP 1.4a x 1 (via USB Type-C) 41-pin FPC connector for high speed expend x 1 6-pin Audio wafer x 1 (Mic-in+Line-out) | HDMI 1.4b/USB 3.2 Gen 2 STACK Connector x 1 (Type-A) 4-pin Front Panel x 1 2-pin Fan Wafer x 1 (12V) 2-pin RTC Battery Wafer x 1 | HDMI 1.4b 3.3V I2C x 2 + PWM x 2 via 8-Pin Wafer 3.3V SPI x 2 via 10-Pin Wafer GPIO x 8 via 10-Pin wafer RS-232/422/485 x 1 via 10-Pin Wafer |
| Camera | | — | |
| USB | USB 2.0 x 2 (from 10-pin header x 1) USB 3.2 Gen 1 (Type-A) x 3 USB 3.2 Gen 1 OTG (USB Type-C) x 1 | USB 3.2 Gen 2 (Type-A) x 3 10-pin USB 2.0 x 2/UART x 1 | 10-pin USB 2.0 x 2/UART x 1 USB 3.2 Gen 2 Type A x 3 |
| Expansion | 40-pin GPIO x 1 Via carrier board: M.2 2230 E-Key x 1 M.2 2280 M-Key x 1 M.2 3052/3042 B-Key x 1 | 40-pin GPIO x 1 | M.2 2230 E-Key x 1 |
| Display Interface | HDMI 1.4b x 1 DP 1.4a x 1 (via USB Type-C) | | HDMI 1.4b x 1 |
| Ethernet | 1GbE RJ-45 x 1 (Realtek RTL8111H CG) | | GbE, RJ-45 x 1 |
| Security | Onboard TPM 2.0 | | |
| RTC | Yes | | |
| OS Support | Microsoft Windows 10 and Windows IoT Linux Ubuntu 22.04 Linux Yocto 4.0 | Windows 10/11 (64-bit) Linux: Ubuntu 22.04 LTS/Kernel 5.15, Yocto 4.0 | Microsoft Windows 10/11 Ubuntu 22.04 LTS Yocto 5.1 |
| Power Requirement | | | |
| Power | 12V DC-in | | 12V DC-in, 5A |
| Power Supply Type | AT/ATX (AT as default) | AT (default) /ATX | AT/ATX |
| Power Consumption (Typical) | 19W~25W | | 30~36W |
| Mechanical | | | |
| Dimension | 3.34" x 2.20" (85mm x 56mm) | | |
| Net Weight | 4.63 lbs (2.10kg) | | 0.33 lb. (0.15kg) |
| Gross Weight | 6.39 lbs (2.90kg) | | 0.44 lb. (0.20kg) |
| Environment | | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C), 0.5m/s airflow | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow, WITAS1 -4°F ~ 158°F (-20°C ~ 70°C) with active cooler | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow |
| Operation Humidity | 10% ~ 80% relative humidity, non-condensing | 0% ~ 90% relative humidity, non-condensing | |
| MTBF | 538,629 Hours | | 685,218 Hours |
| Certification | CE/FCC Class A, RoHS Compliant, REACH | | |
| Note | | | |



| Model | UP TWL | UP TWLS | UP Squared |
|-----------------------------|---|--|---|
| System | | | |
| Processor | Intel® Core™ 3 Processor N355 Intel® Processor N250 Intel® Processor N150 (formerly Twin Lake) | | Intel® Celeron® Processor N3350 Intel® Pentium® Processor N4200 Intel Atom® x7-E3950 Intel Atom® x5-E3940 |
| Graphics | Intel® UHD Graphics | Intel® UHD Graphics for 12th Gen Intel® Processors | Intel® HD Graphics |
| Memory | Dual-Channel LPDDR5, up to 8GB | Up to 8GB LPDDR5 | Up to 8GB onboard LPDDR4 |
| Storage | Up to 64GB eMMC | Up to 128GB eMMC | Up to 128GB onboard eMMC |
| I/O | HDMI 1.4b/USB 3.2 Gen 2 STACK Connector x 1 (Type-A) 4-pin Front Panel x 1 2-pin Fan Wafer x 1 (12V) 2-pin RTC Battery Wafer x 1 | HDMI 1.4b 3.3V I2C x 2 + PWM x 2 via 8-Pin Wafer 3.3V SPI x 2 via 10-Pin Wafer GPIO x 8 via 10-Pin wafer RS-232/422/485 x 1 via 10-Pin Wafer | HDMI 1.4b x 1 DP 1.2 x 1 |
| Camera | — | | MIPI-CSI via 21 Pin FPC connector x 1 MIPI-CSI via 31 Pin FPC connector x 1 |
| USB | USB 3.2 Gen 2 (Type-A) x 3 10-pin USB 2.0 x 2/UART x 1 | 10-pin USB 2.0 x 2/UART x 1 USB 3.2 Gen 2 Type A x 3 | USB 2.0 x 2 (via 10 Pin Header x 1) USB 3.2 Gen 1 x 3 (Type-A) USB 3.2 Gen 1 OTG x 1 (Micro B) |
| Expansion | 40-pin GPIO x 1 | M.2 2230 E-Key x 1 | 40-pin GPIO x 1 Full-sized mPCIe x 1 (PCIe & SATA [x1] , USB2.0 [x1]) M.2 2230 E-Key x 1 (PCIe [x1], USB2.0 [x1]) SATA 6.0Gb/s x 1 60 Pin EXHAT x 1 |
| Display Interface | HDMI 1.4b x 1 | | HDMI 1.4b x 1 DP 1.2 x 1 eDP 1.3 x 1 |
| Ethernet | 1GbE RJ-45 x 1 (Realtek RTL8111H CG) | GbE, RJ-45 x 1 | GbE x 2 (Realtek 8111H CG) |
| Security | Onboard TPM 2.0 | | fTPM |
| RTC | Yes | | |
| OS Support | Windows® 10 Enterprise LTSC 2021 Linux: Ubuntu 22.04 LTS/Kernel 5.15, Yocto 4.0 | Microsoft Windows 10/11 Ubuntu 22.04 LTS Yocto 5.1 | Windows® 10 IoT Enterprise LTSC 2021 Windows IoT Core Linux Ubuntu 20.04 LTS Linux Yocto 3.1 |
| Power Requirement | | | |
| Power | 12V DC-in, 5A | | 5V DC-in |
| Power Supply Type | AT (default) /ATX | AT/ATX | AT/ATX (AT as default) |
| Power Consumption (Typical) | 30~36W | | 15.05W |
| Mechanical | | | |
| Dimension | 3.34" x 2.20" (85mm x 56mm) | | 3.37" x 3.54" (85.6 mm x 90 mm) |
| Net Weight | 0.33 lb. (0.15Kg) | | 0.463 lbs (0.21kg) |
| Gross Weight | 0.44 lb. (0.20Kg) | | 0.639 lbs (0.29kg) |
| Environment | | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow, WiTAS1 -4°F ~ 158°F (-20°C ~ 70°C) with active cooler | | 32°F ~ 140°F (0°C ~ 60°) / 0.5 airflow |
| Operation Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| MTBF | 685,218 Hours | | 173,446 Hours |
| Certification | CE/FCC Class A, RoHS Compliant, REACH | | CE/FCC Class A, RoHS complaint, REACH |
| Note | | | |



| Model | UP Squared V2 | UP Squared i12 | UP Squared 7100 |
|-----------------------------|--|---|---|
| System | | | |
| Processor | Intel® Celeron® N6210 Processor SoC Intel® Celeron® J6412 Processor SoC Intel® Pentium® J6426 Processor SoC | 12th Gen Intel® Core™ Processor SoC Intel® Core i7-1270PE Intel® Core i7-1260P Intel® Core i5-1250PE Intel® Core i5-1240P Intel® Core i3-1220PE Intel® Celeron® 7305E 13th Gen Intel® Core™ Processor SoC Intel® Core™ i7-1370PE Intel® Core™ i7-1360P Intel® Core™ i5-1340PE Intel® Core™ i3-1320PE | Intel® Processor N97 Intel® Processor N100 Intel Atom® x7433RE Intel Atom® x7835RE Intel Atom® x7425E |
| Graphics | Intel® UHD Graphics | | Intel® UHD Graphics for 12th Gen Intel® Processors |
| Memory | Up to 16GB LPDDR4 | Up to 16GB Onboard LPDDR5 | Up to 16GB LPDDR5 |
| Storage | Up to 64GB eMMC | Up to 128GB Onboard SSD M.2 2280 M-Key NVMe x 1 (PCIe Gen 4.0 [x4]) SATA 6Gb/s x 1 | Up to 128GB eMMC |
| I/O | HDMI 1.4b x 1 DP 1.2 x 1 eDP 1.3 x 1 Audio 6 pin wafer (Line out + MIC in) x 1 RS-232/422 6 pin header x 1 | HDMI 1.4b/DP 1.2 STACK Connector x 1 DP 1.4a x 1 (via USB Type-C) 6-pin Audio Wafer x 1 (Line out + MIC in) 6-pin Front Panel x 1 2-pin Fan Wafer x 1 (12V) 2-pin RTC Battery Wafer x 1 | HDMI 2.0b x 1 DP 1.2 x 1 eDP 1.3 x 1 Audio wafer (Line out + MIC in) x 1 RS-232/422/485 via wafer x 2 |
| Camera | — | MIPI CSI camera via 61pin wafer w/carrier board HDMI-in via 61pin wafer w/carrier board | — |
| USB | USB 2.0 x 2 (from 10 pin wafer x 1) USB 3.2 Gen 2 Type A x 3 | 10-pin USB 2.0 x 2/UART x 1 USB 3.2 Gen 2 (Type-A) x 2 USB 3.2 Gen 2 (Type-C for DP 1.4) x 1 | USB 2.0 x 2 (from 10 pin wafer x 1) USB 3.2 Gen 2 Type A x 3 |
| Expansion | 40 pin GPIO x 1 M.2 2230 E-Key x 1 (PCIe x2, USB2.0 x1) M.2 2280 M-key x 1 (PCIe x2) SATA3 x 1 | 40-pin GPIO x 1 M.2 2230 E-Key x 1 (CNVI & PCIe Gen 3.0 [x1]) M.2 2280 M-Key NVMe x 1 (PCIe Gen 4.0 [x4]) SATA 6Gb/s x 1 | 40 pin GPIO x 1 M.2 2230 E-Key x 1 (PCIe x1, USB2.0 x1) M.2 2280 M-key x 1 (PCIe x2) |
| Display Interface | HDMI 1.4b x 1 DP 1.2 x 1 eDP 1.3 x 1 | HDMI 1.4b/DP 1.2 STACK Connector x 1 DP 1.4a x 1 (via USB Type-C) | HDMI 2.0b x 1 DP 1.2 x 1 eDP 1.3 x 1 |
| Ethernet | Gb Ethernet (full speed) RJ-45 x 2 | 1GbE RJ45 x 2 (Dual Stacked) (Realtek 8111H CG) | Gb Ethernet (full speed) RJ-45 x 2 |
| Security | Onboard TPM 2.0 | | |
| RTC | Yes | | |
| OS Support | Microsoft Windows 10 (full) Windows IOT Core Ubuntu 20.04 LTS Yocto 3.1 | Windows®10 IoT Enterprise LTSC 2021, Ubuntu 22.04, Yocto 4.0 | Microsoft Windows 10/11 Ubuntu 22.04 LTS Yocto 5.1 |
| Power Requirement | | | |
| Power | 12V DC-in, 5A | | 12V DC-in |
| Power Supply Type | AT/ATX | AT/ATX (AT as default) | AT/ ATX (ATX as default) |
| Power Consumption (Typical) | 30~38W | 26W~39W | 15W~37W |
| Mechanical | | | |
| Dimension | 3.37" x 3.54" (85.6 mm x 90 mm) | | |
| Net Weight | 0.41 lbs (0.19kg) | 0.59 lbs (0.27kg) | 0.41 lbs (0.19kg) |
| Gross Weight | 0.66 lbs (0.3kg) | 0.84 lbs (0.38kg) | 0.66 lbs (0.3kg) |
| Environment | | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°) / 0.5 airflow | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow, WITAS1 -4°F ~ 158°F (-20°C ~ 70°C) with active cooler |
| Operation Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| MTBF | 465,586 | 522,716 Hours | 1,224,238 |
| Certification | CE/FCC Class A, RoHS Compliant, REACH | | |
| Note | | | |

Board Level Products

UP Boards



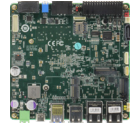
| Model | UP Squared TWL | UP Squared Pro 7000 | UP Squared Pro TWL |
|-----------------------------|---|--|--|
| System | | | |
| Processor | Intel® Core™3 Processor N355 Intel™ Processor N250 Intel™ Processor N150 (formerly Twin Lake) | Intel® Core™ i3-N305 Intel Atom™ x7425E Intel Atom™ x7433RE Intel Atom™ x7835RE Intel™ Processor N97 Intel™ Processor N50 | Intel® Core3 N355 Intel™ Processor N150 |
| Graphics | Intel® UHD Graphics for 12th Gen Intel® Processors | | Intel® Graphics up to 32EU w/ INT8 extension |
| Memory | Up to 16GB LPDDR5 | | Up to 16GB onboard LPDDR5 |
| Storage | Up to 128GB eMMC | | Up to 64GB onboard eMMC |
| I/O | HDMI 2.0b x 1 DP 1.2 x 1 eDP 1.3 x 1 Audio wafer (Line out + MIC in) x 1 RS-232/422/485 via wafer x 2 | | HDMI 2.0b x 1 DP 1.2 x 1 DP 1.4a via USB Type C Audio Jack x 1 (Mic-in+Line-out) RS-232/422/485 via 10 Pin header x 2 |
| Camera | — | | MIPI-CSI via 61-Pin FPC Connector x 1 |
| USB | USB 2.0 x 2 (from 10 pin wafer x 1) USB 3.2 Gen 2 Type A x 3 | | USB 2.0 x 2 (via 10 Pin Header x 1) USB 3.2 Gen 2 (Type-A) x 2 USB 3.2 Gen 2 (Type-C) x 1 |
| Expansion | 40 pin GPIO x 1 M.2 2230 E-Key x 1 (PCIe [x1], USB 2.0) M.2 2280 M-Key x 1 (PCIe [x2]) | | 40 Pin GPIO x 1 M.2 2230 E-Key x 1 (CNVI, PCIe Gen 3 [x1], USB 2.0) M.2 2280 M-Key x 1 (PCIe Gen 3 [x2]) M.2 3052 B-Key x 1 (USB 3.2 Gen 2 only) with Nano SIM slot (USB 3.0) SATA 6Gb/s x 1 |
| Display Interface | HDMI 2.0b x 1 DP 1.2 x 1 eDP 1.3 x 1 | | HDMI 2.0b x 1 DP 1.2 x 1 DP 1.4a via USB Type C |
| Ethernet | Gb Ethernet (full speed) RJ-45 x 2 | | 2.5GbE x 2 (Intel® I226-IT) |
| Security | | Onboard TPM 2.0 | |
| RTC | | Yes | |
| OS Support | Microsoft Windows 10/11 Ubuntu 22.04 LTS Yocto 5.1 | Windows 10 IoT Enterprise Ubuntu 22.04 LTS Yocto 4.0 | Windows 11 LTSC Ubuntu 22.04/kernel 6.11+, ubuntu 24.04/kernel 6.11+, Yocto 5+ Yocto 5+ |
| Power Requirement | | 12V DC-in | |
| Power | | 12V DC-in | |
| Power Supply Type | AT/ ATX (ATX as default) | AT/ATX (ATX as default) | |
| Power Consumption (Typical) | 15W~37W | 26W~35W | |
| Mechanical | | | |
| Dimension | 3.37" x 3.54" (85.6 mm x 90 mm) | 4" x 4" (101.6mm x 101.6mm) | |
| Net Weight | 0.41 lbs (0.19kg) | 0.44 lbs (0.20kg) | |
| Gross Weight | 0.66 lbs (0.3kg) | 0.77 lbs (0.35kg) | |
| Environment | | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow, WiTAS1 -4°F ~ 158°F (-20°C ~ 70°C) with active cooler | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow, WiTAS1 -4°F ~ 158°F (-20°C ~ 70°C) | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow, WiTAS1 -4°F ~ 158°F (-20°C ~ 70°C) with active cooler (project base) |
| Operation Humidity | | 0% ~ 90% relative humidity, non-condensing | |
| MTBF | 1,224,238 | 422,053 Hours | 857,310 |
| Certification | | CE/FCC Class A, RoHS Compliant, REACH | |
| Note | | | |



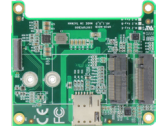
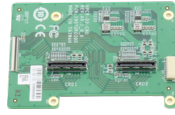
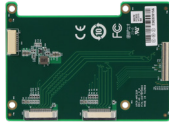
| Model | UP Squared Pro 710H | UP Xtreme i11 | UP Xtreme i12 |
|-----------------------------|---|--|--|
| System | | | |
| Processor | Intel® Core™ i3-N305 (8C, 1.80 GHz, 15W) Intel® Processor N97 (4C, 2.00 GHz, 12W) Onboard Hailo-8™ edge AI processor | 11th Gen Intel® Core™ Processor SoC Intel® Core™ i7-1185G7E Intel® Core™ i7-1185G7E Intel® Core™ i5-1145 G7E Intel® Core™ i5-1145G7E Intel® Core™ i3-1115G7E Intel® Celeron® 6305E | 12th Gen Intel® Core™ Processor SoC Intel® Core™ i7-1270PE Intel® Core™ i7-1260P Intel® Core™ i5-1250PE Intel® Core™ i5-1240P Intel® Core™ i3-1220PE Intel® Celeron® Processor 7305E 13th Gen Intel® Core™ Processor SoC Intel® Core™ i7-1370PE Intel® Core™ i7-1360P Intel® Core™ i5-1340PE Intel® Core™ i3-1320PE |
| Graphics | Intel® UHD Graphics for 12th Gen Intel® Processors | Intel® Iris® Xe graphics | |
| Memory | Up to 16GB onboard LPDDR5 | DDR4 SODIMM Slot x 2, up to 64GB | Up to 32GB onboard LPDDR5 |
| Storage | Up to 128GB onboard eMMC | M.2 2280 M-Key x 1 for NVMe (PCIe [x2]) SATA 6Gb/s x 1 | M.2 2280 M-Key x 2 (PCIe Gen 4.0 [x4]), SATA 6Gb/s x 1 |
| I/O | HDMI 2.0b x 1 DP 1.4 x 1 RS-232/422/485 from 10 pin header x 2 | HDMI 2.0 x 1 DP 1.4 x 1 eDP x 1 Audio Jack x 1 (Mic-in+Line-out) RS-232/422 10-pin header x 2 | HDMI 2.0b x 1 DP 1.4a x 1 DP 1.4a x 1 (via USB Type-C) eDP 1.4b x 1 Audio Jack x 1 (Mic-in+Line-out) RS-232/422/485 10-pin header x 2 |
| Camera | MIPI-CSI via 61-Pin FPC Connector x 1 | — | MIPI CSI camera via 61pin wafer w/carrier board (optional for 13th Gen) HDMI-in via 61pin wafer w/carrier board (optional for 13th Gen) |
| USB | USB 2.0 x 2 (from 10 pin header x 1) USB 3.2 Gen 2 (Type-A) x 2 | USB 2.0 x 2 (from wafer x 1) USB 2.0 (Type-A) x 1 USB 3.2 Gen 2 (Type-A) x 3 USB 4.0 (Type-C) x 1 | USB 2.0 x 2 (from 10 pin header x 1) USB 2.0 (Type-A) x 1 USB 3.2 Gen 2 (Type-A) x 3 USB 4.0 (Type-C) x 1 |
| Expansion | 40-pin GPIO x 1 M.2 2230 E-Key x 1 (CNVI, PCIe Gen 3 [x1], USB 2.0) M.2 2280 M-Key x 1 (PCIe Gen 3 [x2], colay with M.2 3052 B-Key x 1) M.2 3052 B-Key x 1 (USB 3.2 Gen 2 only) (Optional) | 40-pin GPIO x 1 M.2 2230 E-Key x 1 M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 SATA 6Gb/s x 1 PCIe [x4] Slot | 40-pin GPIO x 1 M.2 2230 E-Key x 1 M.2 2280 M-Key x 2 (PCIe Gen 4.0 [x4]) SATA 6Gb/s x 1 M.2 3052 B-Key x 1 Nano SIM Slot x 1 |
| Display Interface | HDMI 2.0b x 1 DP 1.4 x 1 | HDMI 2.0 x 1 DP 1.4 x 1 eDP x 1 | HDMI 2.0b x 1, DP 1.4a x 1, DP 1.4a x 1 (via USB Type-C), eDP 1.4b x 1 |
| Ethernet | 2.5GbE x 2 (Intel® Ethernet Controller I226-IT) | Intel® I225-IT x 1 Intel® I219 (vPRO) x 1 | Intel® I226-IT x 1 (TSN), Intel® I219 x 1 (vPRO) |
| Security | Onboard TPM 2.0 | — | Onboard TPM 2.0 |
| RTC | | Yes | |
| OS Support | Windows 10 IoT Enterprise Ubuntu 22.04 LTS Yocto 4.0 | Microsoft Windows 10 and Windows IoT Linux Ubuntu 22.04 Linux Yocto 3.1 | Windows® 10 Enterprise 2021 LTSC, Ubuntu 22.04, Yocto 4.0 |
| Power Requirement | | | |
| Power | 12V-36V DC-in Phoenix connector (Optional: Lockable plug) | 12V (Lockable plug) | 12-36V DC-in (Lockable plug) |
| Power Supply Type | AT/ATX | | AT/ATX (ATX as default) |
| Power Consumption (Typical) | 50W~55W | Balance: 32.4W Max current: 66W | Intel® Core™ i7-1270PE, LPDDR5 4800MHz 16GB, 5.86A@+ 12V (Typical) Intel® Core™ i7-1270PE, LPDDR5 4800MHz 16GB, 8.05A@+ 12V (Max) |
| Mechanical | | | |
| Dimension | 4" x 4" (101.6mm x 101.6mm) | | 4.74" x 4.82" (120.35mm x 122.5mm) |
| Net Weight | 0.44 lbs (0.20kg) | 0.57 lbs (0.26kg) | 0.88lb (0.4kg) |
| Gross Weight | 0.77 lbs (0.35kg) | 1.15 lbs (0.52kg) | 1.32lb (0.6kg) |
| Environment | | | |
| Operating Temperature | | 32°F ~ 140°F (0°C ~ 60°C), 0.5m/s airflow | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow, WITAS1 -4°F ~ 140 °F (-20°C ~ 60°C) |
| Operation Humidity | | 0% ~ 90% relative humidity, non-condensing | |
| MTBF | 422,053 Hours | 372,419 Hours | 362,068 Hours |
| Certification | | CE/FCC Class A, RoHS Compliant, REACH | |
| Note | | | |

Board Level Products

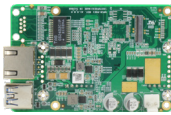
UP Boards



| Model | UP Xtreme i14 | UP Xtreme ARL | UP Xtreme 7100 |
|-----------------------------|--|---|---|
| System | Intel® Arc™ graphics | | |
| Processor | Intel® Core™ Ultra 5 processor 125U (12M Cache, up to 4.30 GHz) Intel® Core™ Ultra 5 processor 125H (18M Cache, up to 4.50 GHz) Intel® Core™ Ultra 7 processor 155H (24M Cache, up to 4.80 GHz) Intel® Core™ Ultra 7 processor 165H (24M Cache, up to 5.00 GHz) | Intel® Core™ Ultra 5 processor 225H (18M Cache, up to 4.90 GHz) Intel® Core™ Ultra 7 processor 255H (24M Cache, up to 5.10 GHz) Intel® Core™ Ultra 7 processor 265H (24M Cache, up to 5.30 GHz) | Intel® Processor N97 Intel® Core™ i3-N305 |
| Graphics | Intel® Arc™ graphics | | |
| Memory | Up to 64GB onboard LPDDR5 (Dual-Channel) | | |
| Storage | M.2 2280 M-Key x 2 SATA 6Gb/s x 1 | | |
| I/O | HDMI 2.1 x 2 DP 2.1 x 1 DP 1.4 via USB Type-C x 1 Audio Jack x 1 (Mic-in+Line-out) RS-232/422/485 10-pin header x 2 | HDMI 2.1 x 2 DP 2.1 x 1 Audio Jack x 1 (Mic-in+Line-out) RS-232/422/485 10-pin header x 2 | RS-232/422/485 x 1 (Terminal Block) (Default RS232) 30pin board-to-board Connector x 1 UART x 1 (via 10 Pin Header x 1) |
| Camera | MIPI-CSI via 61-Pin FPC Connector x 1 | | |
| USB | USB 2.0 x 2 (from 10 pin header x 1) USB 2.0 (Type-A) x 1 USB 3.2 Gen 2 (Type-A) x 2 USB 3.2 Gen 2 (Type-C) x 1 | USB 2.0 x 2 (from 10 pin header x 1) USB 2.0 (Type-A) x 1 USB 3.2 Gen 2 (Type-A) x 2 | USB 2.0 (Type A) x 2 USB 3.2 Gen 2 (Type A) x 2 USB 3.2 Gen 2 (Type C) x 1 (Supports DP alt mode) |
| Expansion | 40-pin GPIO x 1 M.2 2230 E-Key x 1 (PCIe Gen 3 [x1], USB 2.0) M.2 2280 M-Key x 2 (PCIe Gen 4 [x4]) M.2 3052 B-Key x 1 (PCIe Gen 3 [x1], USB 3.2 Gen 2 [x1]) with Nano SIM slot (USB 3.0) SATA 6Gb/s x 1 | | |
| Display Interface | HDMI 2.1 x 2 DP 2.1 x 1 DP 1.4 via USB Type-C x 1 | HDMI 2.1 x 2 DP 2.1 x 1 | DP 1.4a x 1 (via USB Type-C) eDP 1.3 x 1 |
| Ethernet | 2.5GbE x 1 (via Intel® Ethernet Controller I226-IT), GbE x 1 (Intel® Ethernet Connection I219) | | |
| Security | Onboard TPM 2.0 | | |
| RTC | Yes | | |
| OS Support | Windows 10/11 (64bit) Ubuntu 22.04/Kernel 6.5 up | Win 11 LTSC/ 10 LTSC Linux: Ubuntu 24.04 LTS, Yocto 5+ | Ubuntu 22.04 LTS (kernel 5.15 and kernel 5.19) |
| Power Requirement | 9-36V DC-in (Lockable plug) | | |
| Power Supply Type | AT/ATX (ATX as default) | | |
| Power Consumption (Typical) | 67-80W | 57.6W ~ 86.4W | 52W-55W |
| Mechanical | 4.74" x 4.82" (120.35mm x 122.5mm) | | |
| Dimension | | | |
| Net Weight | 1.11.lb (0.5kg) | | |
| Gross Weight | 1.76 lb (0.8kg) | | |
| Environment | | | |
| Operating Temperature | With Cooler: 32°F ~ 140°F (0°C ~ 60°C), 0.5m/s airflow | 32°F - 140°F (0°C - 60°C) | With Heatsink: -4°F ~ 158°F (0°C ~ 60°C)/0.5m/s airflow |
| Operation Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| MTBF | 1,014,016 | 1,263,279 | 421,998 |
| Certification | CE/FCC Class A, RoHS Compliant, REACH | | |
| Note | | | |



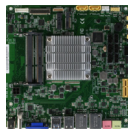
| Model | MIPICSI Camera RPI Converter Kit | MIPICSI Camera RVP Converter Kit | UP 4000 M.2 Plus |
|-----------------------|--|--|--|
| System | | | |
| I/O | Power: 5V/2A In from Wafer MIPI-CSI In: 4-Lane + Clock from Camera Module Connector x 2 MIPI-CSI Out: 61-pin FPC Connector x 1 | Power: 5V/2A In from Wafer MIPI-CSI In: 4-Lane + Clock from Camera Module Connector x 2 MIPI-CSI Out: 61-pin FPC Connector x 1 | UP-APL03CB-A10-0001: M.2 3052/3042 B Key x1 (USB3.0) M.2 2230 E Key x1 (PCIe x1) (w/o Bluetooth) Push-push Nano SIM card x1 41pin FPC connector x1 UP-APL03CB-A10-0002: M.2 2280 M Key x1 (PCIe x1) 41pin FPC connector x1 UP-APL03CB-A10-0003: M.2 2230 E Key x1 (PCIe x1, USB 2.0 x1) 41pin FPC connector x1 |
| Dimension | 3.3" x 2.4" (85mm x 61mm) | 3.3" x 2.4" (85mm x 61mm) | UP-APL03CB-A10-0001: 2" x 2.36" (51mm x 60mm) UP-APL03CB-A10-0002: 2" x 3.5" (51mm x 89mm) UP-APL03CB-A10-0003: 2" x 2.36" (51mm x 60mm) |
| Net Weight | 0.1 lb. (0.04Kg) | 0.1 lb. (0.04Kg) | UP-APL03CB-A10-0001: 16g UP-APL03CB-A10-0002: 19g UP-APL03CB-A10-0003: 15g |
| Gross Weight | 0.13 lb. (0.06Kg) | 0.13 lb. (0.06Kg) | UP-APL03CB-A10-0001: 55g UP-APL03CB-A10-0002: 58g UP-APL03CB-A10-0003: 54g |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C), 0.5m/s airflow | 32°F ~ 140°F (0°C ~ 60°C), 0.5m/s airflow | 32°F ~ 140°F (0°C ~ 60°C), 0.5m/s airflow |
| Operation Humidity | 10% ~ 90% relative humidity, non-condensing | 10% ~ 90% relative humidity, non-condensing | 10% ~ 80% relative humidity, non-condensing |
| Certification | — | — | CE/FCC Class A, RoHS Compliant |



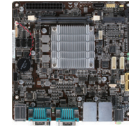
| Model | UP POE V2 Expansion Board | HDMI In Carrier Board | CAN Bus Carrier Board |
|-----------------------|---|---|--|
| System | | | |
| I/O | UP-POEV2-30W-A10-0001: RJ-45 Input x 1 (10/100/1000M Gigabit Ethernet) USB 3.2 Gen 1 x 1 41-Pin FPC Connector x 1 UP-POEV2-30W-A10-0002: RJ-45 Input x 1 (10/100M) 10-Pin Wafer x 1 | FPC 61-pin MIPI CSI x 1 (Lontium.LT6911UXC) 2-pin Power Wafer x 2 HDMI 2.0 x 1 Color Format: -CSC disabled: RGB565/666/888, YUV422 8/10-bit, Legacy YUV420 8-bit -CSC enabled: RGB565/666/888, YUV422 8-bit Video Resolutions: -3840x2160p@30fps -1920x1200@30fps -1920x1080@30fps -1680x1050@30fps -1440x900@30fps -1366x768p@30fps -1280x1024p@30fps -1280x960p@30fps -1280x800p@30fps -1280x768p@30fps -1280x720p@30fps -1280x600p@30fps -1152x864p@30fps -1024x768p@30fps -800x600p@30fps/720x576i@60fps *Once change resolution or frequency please reboot or unplug and plug in HDMI In carrier board | UP Board Connector x 1 6 pin terminal block x 1 6 pin LED Wafer x 1 Termination Resistor DIP Switch x 1 Reset Button x 1 |
| Dimension | 3.37" x 2.22" (85mm x 56mm) | 1.9" x 0.9" (49mm x 23mm) | 2.56" x 2.20" (65 mm x 56 mm) |
| Net Weight | 0.1 lb. (0.04Kg) | 0.44 lb. (0.2Kg) | 0.066 lb. (0.03Kg) |
| Gross Weight | 0.13 lb. (0.06Kg) | 0.88 lb. (0.4Kg) | 0.13 lb. (0.06Kg) |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C), 0.5m/s airflow | 32°F ~ 140°F (0°C ~ 60°C), 0.5m/s airflow | 32°F ~ 140°F (0°C ~ 60°) |
| Operation Humidity | 10% ~ 80% relative humidity, non-condensing | 10% ~ 80% relative humidity, non-condensing | 0% ~ 90% relative humidity, non-condensing |
| Certification | CE/FCC Class A, RoHS Compliant, REACH | — | CE/FCC Class A |

Board Level Products

Industrial Motherboards



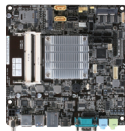
| Model | EMB-APL1 | EMB-APL3 |
|--------------------------|---|---|
| System | | |
| Processor | N4200, (4C @ 2.50GHz CPU [Burst Mode], 750MHz GFX [Turbo], ~6W TDP) N3350, (2C @ 2.40GHz CPU [Burst Mode], 650MHz GFX [Turbo], ~6W TDP) | N4200, (4C @ 2.50GHz CPU [Burst Mode], 750MHz GFX [Turbo], ~6W TDP) N3350, (2C @ 2.40GHz CPU [Burst Mode], 650MHz GFX [Turbo], ~6W TDP) |
| Chipset | Integrated into SoC | |
| Memory | DDR3L 1866, Single Channel SODIMM x 2, Non-ECC (Max.8GB, up to 1600MHz) | |
| I/O Chipset | NCT6116D | |
| Ethernet | Realtek PCIe Gb LAN 8111H x 2 | Realtek® PCIe Gb LAN 8111H x 2 |
| Audio | Realtek® ALC897 | |
| TPM | Nuvoton NPCT652ABCYX TPM2.0 (default: No) | Nuvoton NPCT652 TPM2.0 (default: No) |
| Expansion Slots | PCIe2.0 [x1] x 1 M.2 M key (22 x 42mm) x 1, for SATA M.2 E Key (22 x 30mm) x 1, for PCIe | |
| BIOS | 128Mbit Flash ROM x 1, AMI BIOS | |
| H/W Monitor | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis | |
| WatchDog Timer | 1~255 steps by software program | |
| Smart Fan Control | Chassis Fan (Fanless) | |
| Wake On LAN/ PXE | Yes (WOL/PXE) Yes (WOL/PXE) | |
| Power State | S3, S4, S5 | |
| Graphics | Intel® HD Graphics | |
| Graphics Chipset | Three Independent Display | |
| Graphics Multi Display | Up to 1920 x 1200 @60Hz | |
| VGA | — | |
| DVI | — | |
| HDMI | Up to 3840 x 2160 @ 30Hz | Up to 3840 x 2160 @30 Hz(HDMI 1.4b) |
| Display Port | — | Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz (Colay with VGA) |
| LVDS | Up to 1920 x 1200 @60Hz, dual-channel 18/24 bit (via PS8625) (colay with eDP) | |
| eDP | Up to 4096 x 2160 @60Hz | |
| Backlight Control | Voltage/PWM | |
| Environment & Power & ME | | |
| Battery | Lithium Battery | |
| Power Requirement | 12V~24V wide-range voltage input back panel DC jack x 1; 4-pin ATX Power connector x 1 Power consumption: 84W | 12V DC jack (screw type) 4-pin internal power connector Power consumption: 84W |
| Operation Temperature | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) | |
| Storage Temperature | — | |
| Certificate | CE & FCC Class A | |
| Form Factor | Mini-ITX: 6.7" x 6.7" (170mm x 170mm) | |
| Weight | 1.1 lb (0.5 Kg) | |
| MTBF (Hours) | 263,080 | |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 1 (5 Gbps) x 2, USB 2.0 x 2 | USB 3.2 Gen 1 (5 Gbps) x 4 |
| Display I/O | HDMI x 1, VGA x 1 | VGA/DP x 1, HDMI x 1 |
| Audio I/O | Mic-in, Line-out | Line-out x 1 |
| LAN I/O | RJ-45 x 2 | LAN (RJ-45) port x 2 |
| Serial Port | — | |
| PS/2 Port | — | |
| Others | DC power jack x 1 | |
| Internal I/O Connectors | | |
| Storage | SATA 6.0Gb/s x 2(1 colay with M.2 M-key), M.2 M-key (22 x 42mm) x 1 | |
| USB | USB 2.0 headers support additional 3 USB ports (2*5-pin, p=2.00mm) x 2 | USB 2.0 headers support additional 6 USB ports (2*5-pin, p=2.00mm) x 3 |
| Display I/O | 40-pin LVDS/eDP connector x 1 (default LVDS) | 40-pin LVDS/eDP connector x 1(default LVDS) |
| Audio I/O | — | |
| Serial Port | RS-232/422/485 x 1, RS-232 x 5 | |
| PS/2 Port | — | |
| Parallel Port | — | |
| DIO | 8-bit x 1 (In/Out programmable) | |
| FAN | 4-pin Chassis Fan x 1 | |
| Power | | |
| Others | Front panel header x 1, Clear CMOS jumper x 1, AT/ATX mode select jumper (optional) x 1, SATA power connector x 1, M.2 E key (22 x 30mm) for PCIe x 1 | Front panel header x 1, Clear CMOS jumper x 1, AT/ATX mode select jumper (optional) x 1, SATA power connector x 1, d M.2 E key (22 x 30mm) for PCIe x 1 |
| OS | | |
| OS Support | Windows® 10 64bit Ubuntu 16.04.02/Kernel 4.8.0 | |
| Note | | |



| Model | EMB-BT1 | EMB-BT2 |
|--------------------------|---|--|
| System | | |
| Processor | Intel® Celeron® J1900 Processor (4C @ 2.00 GHz CPU, 688/854 MHz GFX, 10W TDP), Intel® Celeron® N2807 Processor (2C @ 1.58 GHz CPU, 313/750 MHz GFX, 4.3W TDP), Intel® Atom® E3845 Processor (4C @ 1.91 GHz CPU, 542/792 MHz GFX, 10W TDP) | Intel® Celeron® J1900 Processor (4C @ 2.00 GHz CPU, 688/854 MHz GFX, 10W TDP) |
| Chipset | | |
| Memory | DDR3L 1333 MHz SODIMM x 2 up to 8 GB (for J1900 / E3845), DDR3L 1333 MHz SODIMM x 1 up to 4 GB (for N2807), Non-ECC, un-buffered memory, Dual-channel memory architecture flat type | DDR3L 1333 MHz SODIMM x 1 up to 8 GB, Non-ECC, un-buffered memory |
| I/O Chipset | | Fintech 81866D |
| Ethernet | Realtek® PCIe Gb LAN 8111H x 2 | Realtek PCIe Gb LAN 8111H x 2 |
| Audio | | Realtek® ALC897 |
| TPM | | Infineon SLB9635 TT 1.2 (default : No) |
| Expansion Slots | Full-size Mini-Card (mSATA default) (PCIe+USB optional) + SIM Card (default: No) x 1, Half-size Mini-Card (PCIe+USB) x 1, PCIe [x1] x 1 | Full-size Mini-Card (mSATA default PCIe+USB optional) x 1, PCIe [x1] x 1 |
| BIOS | | 64 M bit Flash ROM, AMI BIOS |
| H/W Monitor | | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis |
| WatchDog Timer | | 1~255 steps by software program |
| Smart Fan Control | | Chassis Fan (fanless) |
| Wake On LAN/ PXE | | Yes (WOL/PXE) |
| Power State | | S3, S4, S5 |
| Graphics | | |
| Graphics Chipset | | Intel® HD Graphics |
| Graphics Multi Display | VGA+LVDS, VGA+HDMI, LVDS+HDMI | VGA+LVDS, Dual LVDS |
| VGA | | Up to 1920 x 1200 @60 Hz |
| DVI | | --- |
| HDMI | Up to 1920 x 1200 @60 Hz | --- |
| Display Port | | --- |
| LVDS | Up to 1920 x 1080 @60Hz, dual-channel 18/24-bit (via CH7511) | Dual LVDS, Up to 1920 x 1080 @60Hz, dual-channel 18/24-bit (via CH7511) |
| eDP | | --- |
| Backlight Control | | Voltage/PWM |
| Environment & Power & ME | | |
| Battery | | Lithium Battery |
| Power Requirement | 12VDC | ATX |
| Operation Temperature | | 32°F ~ 140°F(0 ~ 60°C), (Operational humidity: 60°C @ 90% RH Non-Condensing) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | --- |
| Certificate | | CE & FCC |
| Form Factor | Mini-ITX 6.7" x 6.7" (170mm x 170mm) | Mini-ITX: 6.7" x 6.7" (170mm x 170mm) |
| Weight | | 1.1 lb (0.5 Kg) |
| MTBF (Hours) | 111,131 | 290,990 |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 1 (5 Gbps)/2.0 x 1, USB 2.0 x 2 | USB 2.0 x 6 |
| Display I/O | VGA x 1, HDMI x 1 | VGA x 1 |
| Audio I/O | Line-out x 1 | Mic-in x 1, Line-out x 1 |
| LAN I/O | | LAN (RJ-45) port x 2 |
| Serial Port | COM (RS-232) (optional) x 1 | COM (RS-232/422/485) x 1, COM (RS-232) x 2 |
| PS/2 Port | --- | PS/2 Keyboard Mouse combo x 1 |
| Others | DC port (12V) Screw type x 1 | --- |
| Internal I/O Connectors | | |
| Storage | SATA3 (6.0Gb/s) x 2, SATA2 (3.0Gb/s) x 2 (1 colay with mSATA), SATA power connector x 1, Full Size Mini-Card slot (mSATA) x 1 | SATA2 (3.0Gb/s) x 2 (1 colay with mSATA), Full Size Mini-Card slot (mSATA) x 1 |
| USB | USB 2.0 (2 x 5-pin, 2.54mm) x 2 ports support additional 4 USB, USB 2.0 (1x 5-pin, 2.0mm) x 1 port supports additional 1 USB | USB 2.0 (2 x 5-pin, 2.54mm) x 2 ports support additional 4 USB |
| Display I/O | LVDS connector x 1, LVDS 3V /5V jumper x 1, LCD DC / PWM mode jumper x 1, LCD backlight connector (inverter) x 1, LCD backlight 12V /5V jumper x 1 | LVDS connector x 2, LVDS 3V /5V jumper x 2, LCD DC / PWM mode jumper x 2, LCD backlight connector (inverter) x 2, LCD backlight 12V /5V jumper x 2, LCD push button for backlight control (2PIN) x 2 |
| Audio I/O | AAFP x 1 | AAFP x 1, Speaker x 1 |
| Serial Port | Box header for COM (RS-232) x 4, Box header for COM (RS-232/422/485) x 1 | Box header for COM (RS-232) x 3 |
| PS/2 Port | PS/2 Keyboard Mouse 6 PIN Connector x 1 | --- |
| Parallel Port | SPP/EPP Mode | --- |
| DIO | | DIO (4in/4out) x 1 |
| FAN | | Chassis Fan connector x 1 |
| Power | 12V AUX Power Connector x 1, AT/ATX mode select jumper (default : No) x 1 | 24PIN ATX power connector x 1, AT/ATX mode select jumper (default : No) x 1 |
| Others | Half-size Mini-Card (PCIe + USB) x 1, PCIe [x1] x 1, SIM Card Socket(default : No) x 1, LPT Pin header x 1, Front Panel connector x 1, CMOS jumper x 1 | Front Panel connector x 1, CMOS jumper x 1 |
| OS | | |
| OS Support | | Windows® 10 64-bit, Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Linux Fedora |
| Note | | |

Board Level Products

Industrial Motherboards



| Model | EMB-BT4 | MIX-EHLD1 |
|--------------------------|--|--|
| System | | |
| Processor | Intel® Celeron® J1900 Processor (4C @ 2.00 GHz CPU, 688/854 MHz GFX, 10W TDP) | Intel Atom® x6000E Series/Intel® Pentium®/Celeron® N & J Series Processors (12W) |
| Chipset | | |
| Memory | DDR3L 1333 MHz SODIMM x 2 up to 8 GB (for J1900), Non-ECC, un-buffered memory, Dual-channel memory architecture flat type | Dual-Channel DDR4 3200 SODIMM x 2, up to 32GB, Non-ECC |
| I/O Chipset | Fintech 81866D | Nuvoton NCT6126D |
| Ethernet | Realtek PCIe Gb LAN 8111Hx 1 | Realtek RTL8111H, GbE x 2 |
| Audio | Realtek® ALC897 | |
| TPM | Infineon SLB9635 TT 1.2 (default : No) | TPM 2.0 |
| Expansion Slots | Full-size Mini-Card (mSATA default) (PCIe+USB optional) + SIM Card (default: No) x 1, Half-size Mini-Card (PCIe+USB) x 1 | M.2 3042/3052 B-Key x 1 Full/Half-size mPCIe x 1 SIM Socket x 1 (default: B-key) |
| BIOS | 64 M bit Flash ROM, AMI BIOS | 256Mbit Flash ROM, AMI BIOS |
| H/W Monitor | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on Chassis |
| WatchDog Timer | | 1~255 steps by software program |
| Smart Fan Control | Chassis Fan (fanless) | Chassis Fan |
| Wake On LAN/ PXE | | Yes (WOL/PXE) |
| Power State | | S3, S4, S5 |
| Graphics | | |
| Graphics Chipset | Intel® HD Graphics | Intel® UHD Graphics |
| Graphics Multi Display | VGA+LVDS, VGA+HDMI, LVDS+HDMI | 3 Independent Display(1xVGA+1x HDMI + 1x LVDS/eDP) |
| VGA | | Up to 1920 x 1200 @60 Hz |
| DVI | | |
| HDMI | Up to 1920 x 1200 @60 Hz | Up to 4096 x 2160 @ 60Hz |
| Display Port | | |
| LVDS | Up to 1920 x 1080 @60Hz, dual-channel 18/24-bit (via CH7511) | Up to 1920 x 1080 @60Hz, Dual Channel 18/24 bit (via CH7513) co-layout eDP (default LVDS) |
| eDP | | Up to 3840 x 2160 @ 30Hz |
| Backlight Control | Voltage/PWM | Voltage/PWM, use HW control |
| Environment & Power & ME | | |
| Battery | | Lithium Battery |
| Power Requirement | 12VDC | DC 12V Power consumption 60W |
| Operation Temperature | | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) |
| Storage Temperature | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Certificate | CE & FCC | CE & FCC Class A |
| Form Factor | | Mini-ITX: 6.7" x 6.7" (170mm x 170mm) |
| Weight | | 1.1 lb (0.5 Kg) |
| MTBF (Hours) | 295,750 | 399,940 |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 1/2.0 x 1, USB 2.0 x 2 | USB 3.2 Gen 1 x 2 USB 2.0 x 4 (upper 2 ports by BOM Optional) |
| Display I/O | HDMI x 1 | HDMI x 1, VGA x 1 |
| Audio I/O | Line in x 1, Line-out x 1 | Mic-in x 1, Line out x 1 |
| LAN I/O | LAN (RJ-45) port x 1 | 1GbE x 2 |
| Serial Port | COM (RS-232) x 1 | RS232 by BOM Optional |
| PS/2 Port | | |
| Others | DC port (12V) Screw type x 1 | DC Jack x 1 |
| Internal I/O Connectors | | |
| Storage | SATA3 (6.0Gb/s) x 2, SATA2 (3.0Gb/s) x 2 (1 colay with mSATA), SATA power connector x 1, Full Size Mini-Card slot (mSATA) x 1 | M.2 2280 M-Key x 1 (PCIe [x2]) SATA 6Gb/s x 1 SATA Power Connector x 1 (5V/12V @1A) |
| USB | USB 2.0 (2 x 5-pin, 2.54mm) x 2 ports support additional 4 USB, USB 2.0 (1x 5-pin, 2.0mm) x 1 port supports additional 1 USB | USB 2.0 x 2 |
| Display I/O | VGA pin header x 1, LVDS connector x 1, LVDS 3V /5V jumper x 1, LCD DC / PWM mode jumper x 1, LCD backlight connector (inverter) x 1, LCD backlight 12V /5V jumper x 1 | 40-pin LVDS / eDP connector x 1 |
| Audio I/O | AAFP x 1 | AAFP follow ASUS pin out x 1 |
| Serial Port | Box header for COM (RS-232) x 4, Box header for COM (RS-232/422/485) x 1 | Box header x 5 for COM (COM1: RS-232/422/485 supports 5V/12V/RI; COM2~6: RS-232) |
| PS/2 Port | PS/2 Keyboard Mouse 6 PIN Connector x 1 | |
| Parallel Port | SPP/EPP Mode | |
| DIO | DIO (4in/4out) x 1 | Digital I/O box header x 1 |
| FAN | Chassis Fan connector x 1 | 4-pin Chassis Fan connector x 1 |
| Power | 12V AUX Power Connector x 1, AT/ATX mode select jumper (default : No) x 1 | |
| Others | Half-size Mini-Card (PCIe + USB) x 1, SIM Card Socket(default : No) x 1, LPT PIN header x 1, Front Panel connector x 1, CMOS jumper x 1 | Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, Clear CMOS jumper x 1, AT/ATX mode select jumper x 1 |
| OS | | |
| OS Support | Windows® 10 64-bit, Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Linux Fedora | Windows® 10 64-bit, Linux Ubuntu 64 bit (20.04.2/Kernel 5.4) |
| Note | | |



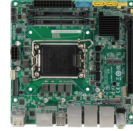
| Model | MIX-TLUD1 | MIX-H310A1 |
|--------------------------|--|---|
| System | | |
| Processor | Intel® 11th Gen (Tiger Lake-U) Core™ Processors, up to 28W TDPs - i7-1185G7E, QC, Max Speed up to 4.4GHz - i5-1145G7E, QC, Max Speed up to 4.1GHz - i3-1115G4E, DC, Max Speed up to 3.9GHz - Celeron 6305E, DC, 1.8GHz | 8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs |
| Chipset | — | Intel® H310 Express Chipset |
| Memory | DDR4 2666/3200 MHz SODIMM x 2, Up to 64GB | DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture |
| I/O Chipset | IT5121E | NCT6793D |
| Ethernet | Intel® PCIe Gb LAN I219LM x 1 Intel® PCIe Gb LAN I226LM x 1 | Intel® PCIe Gb LAN I219V x 1, Intel® PCIe Gb LAN I210AT x 3 |
| Audio | Realtek® ALC897 | Realtek® ALC897 with Amp. |
| TPM | Nuvoton NPCT750 TPM2.0 onboard | Firmware TPM |
| Expansion Slots | PCIe 3.0 [x4] x 1, mini-card x 1 (PCIe/SATA; BOM Optional) | PCIe3.0 [x16] x 1, M.2 M-key(22x80mm) at bottom side x 1 for SATA, M.2 E-key(22x30mm) |
| BIOS | 256Mbit Flash ROM, AMI BIOS | 128Mbit Flash ROM, AMI BIOS |
| H/W Monitor | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis | |
| WatchDog Timer | 1~255 steps by software program | |
| Smart Fan Control | CPU Fan/ Chassis Fan | |
| Wake On LAN/ PXE | Yes (WOL/PXE) | |
| Power State | S3, S4, S5 | |
| Graphics | | |
| Graphics Chipset | Intel® Xe (Gen 12) Graphics | Intel® UHD Graphics |
| Graphics Multi Display | Quad Display | HDMI+VGA |
| VGA | — | Up to 1920 x 1200 @ 60 Hz |
| DVI | — | — |
| HDMI | HDMI 2.0 | Up to 4096 x 2160 @30Hz(HDMI 1.4) |
| Display Port | DP1.4 | — |
| LVDS | Up to 1920 x 1200 @60Hz, Dual Channel 18/24 bit (via CH7511B) | — |
| eDP | eDP1.4b | — |
| Backlight Control | Voltage/PWM (Max. current: 1A) | — |
| Environment & Power & ME | | |
| Battery | Lithium Battery | |
| Power Requirement | 12(+/-5%) DC | ATX |
| Operation Temperature | 32°F ~ 122°F(0 ~ 50°C) (Operational humidity: 50°C @ 90% RH Non-Condensing) | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | — |
| Certificate | CE & FCC Class A | CE & FCC |
| Form Factor | Mini-ITX: 6.7" x 6.7" (170mm x 170mm) | |
| Weight | 1.1 lb (0.5 Kg) | |
| MTBF (Hours) | 288,900 | |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen2 x 2, USB2.0 x 4 | USB 3.2 Gen 1 (5 Gbps) x 4, USB 2.0 x 2 |
| Display I/O | HDMI x 2, DP++ x 2 | VGA x 1, HDMI x 1 |
| Audio I/O | Mic-in x 1, Line out x 1 | Mic-in x 1, Line-out x 1 |
| LAN I/O | 1GbE x 1, 2.5GbE x 1 | LAN (RJ-45) port x 4 |
| Serial Port | — | — |
| PS/2 Port | — | — |
| Others | — | — |
| Internal I/O Connectors | | |
| Storage | M.2 M key (2280) for (NVMe;PCIe4) storage x 1 SATA 6.0Gb/s x 1 | SATA3.0 (6.0Gb/s) x 2, M.2 M-key (22 x 80mm) at bottom side x 1 (SATA only) |
| USB | USB 3.0 Box header x 1 (support additional USB3.2 Gen1 x 2ports) | USB 2.0 (2 x 5-pin, 2.00mm) x 1 ports support additional 2 USB. |
| Display I/O | 40-pin LVDS connector x 1, 40-pin eDP connector x 1 | — |
| Audio I/O | AAFP follow ASUS pin out x 1 | AAFP x 1, Speaker x 1 |
| Serial Port | Box header x 2 for COM (COM1/2: RS-232) | Box header for COM (RS-232/422/485) x 1, Box header for COM (RS-232) x 1 |
| PS/2 Port | — | — |
| Parallel Port | — | — |
| DIO | Digital I/O box header x 1 | Digital I/O box head x 1 |
| FAN | 4-pin CPU Fan connector x 1 4-pin Chassis Fan connector x 1 | 4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1 |
| Power | — | — |
| Others | Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, Clear CMOS jumper x 1, AT/ATX mode select jumper x 1; SIM socket x 1 | Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1 |
| OS | — | — |
| OS Support | Windows® 10 64-bit, 20.04.2/Kernel 5.8 | Windows® 10 64-bit, ,Linux Ubuntu 18.04 LTS |
| Note | | |

Board Level Products

Industrial Motherboards



| Model | MIX-H310A2 | MIX-H310D1 |
|--------------------------|---|--|
| System | | |
| Processor | 8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs | |
| Chipset | Intel® H310 Express Chipset | |
| Memory | DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture | DDR4 2666 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture |
| I/O Chipset | NCT6793D | |
| Ethernet | Intel® PCIe Gb LAN 219V x 1, Intel® PCIe Gb LAN i210AT x 1 | Realtek® PCIe Gb LAN RTL8111H |
| Audio | Realtek® ALC897 with Amp. | Realtek® ALC897 |
| TPM | Firmware TPM | |
| Expansion Slots | PCIe3.0 [x16] x 1 | PCIe3.0 [x4] x 1 M.2 E-key(22 x 30 mm) x 1 for Wireless-wifi module (PCIe+USB) |
| BIOS | 256Mbit Flash ROM, AMI BIOS | |
| H/W Monitor | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/SV/12V, Fan Monitor on CPU/Chassis | |
| WatchDog Timer | 1~255 steps by software program | |
| Smart Fan Control | CPU Fan/ Chassis Fan | |
| Wake On LAN/ PXE | Yes (WOL/PXE) | |
| Power State | S3, S4, S5 | |
| Graphics | Intel® UHD Graphics | |
| Graphics Chipset | Intel® UHD Graphics | |
| Graphics Multi Display | HDMI+VGA, HDMI+DP, HDMI+LVDS, VGA+DP, VGA+LVDS, DP+LVDS | HDMI1+HDMI2, HDMI1+DP2, DP1+HDMI2, HDMI1+LVDS, HDMI2+LVDS, HDMI1+eDP, HDMI2+eDP, DP1+DP2, DP1+LVDS, DP2+LVDS, DP1+eDP, DP2+eDP |
| VGA | Up to 1920 x 1200 @ 60 Hz | — |
| DVI | — | — |
| HDMI | Up to 3840 x 2160 @30 Hz(HDMI 1.4b) | Up to 4096 x 2304@24Hz (HDMI 1.4b) |
| Display Port | Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz | Up to 4096 x 2304@60Hz |
| LVDS | LVDS Up to 1920 x 1200 @60 Hz, Dual Channel 18/24 bit (1 x inverter) | Up to 1920 x 1200 @ 60 Hz, dual-channel 18/24 bit (via CH 7511) |
| eDP | — | UP to 4096 x 2304 @ 60Hz |
| Backlight Control | — | Voltage/PWM |
| Environment & Power & ME | Lithium Battery | |
| Battery | 12V DC Power consumption: [Typical: 120W] | |
| Power Requirement | ATX | — |
| Operation Temperature | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) | |
| Storage Temperature | — | |
| Certificate | CE & FCC | |
| Form Factor | Mini-ITX: 6.7" x 6.7" (170mm x 170mm) | |
| Weight | 1.1 lb (0.5 Kg) | |
| MTBF (Hours) | 333,520 | 246,210 |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 1 (5 Gbps) x 4 | |
| Display I/O | VGA x 1, HDMI x 1, DP x 1 | HDMI x 2, DP x 1 + HDMI x 1 (Optional), DP x 2 (Optional) |
| Audio I/O | LVDS x 1 | Mic-in x 1, Line-out x 1 |
| LAN I/O | — | LAN (RJ-45) port x 2 |
| Serial Port | 1x COM(RS485/422/232) | — |
| PS/2 Port | — | — |
| Others | — | DC Jack |
| Internal I/O Connectors | | |
| Storage | SATA3.0 (6.0Gb/s) x 2, M.2 M-key (22 x 80mm) x 1 | SATA3.0 (6.0Gb/s) x 2 M.2 M-key (SATA) (22 x 42mm) x 1 |
| USB | USB 2.0 (2 x 5-pin, 2.00mm) x 1 port support additional 2 USB. | USB 2.0 (2 x 5-pin, 2.00mm) x 3 ports support additional 5 USB. |
| Display I/O | LVDS x 1 | — |
| Audio I/O | AAFP x 1, Speaker x 1 | AAFP x 1, Speaker header x 1 |
| Serial Port | Box header for COM (RS-232) x 1 | Box header for COM (RS-232/422/485) x 1 Box header for COM (RS-232) x 1 |
| PS/2 Port | — | — |
| Parallel Port | — | — |
| DIO | Digital I/O box header x 1 | |
| FAN | 4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1 | |
| Power | | |
| Others | Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1 | |
| OS | | |
| OS Support | Windows® 10 64-bit Linux Ubuntu 18.04 LTS | |
| Note | | |



| Model | MIX-H310D2 | MIX-H610A1 |
|--------------------------|---|--|
| System | | |
| Processor | 8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs | 12th/13th/14th Generation Intel® Core™ LGA1700 Socket Processor, Max. 65W |
| Chipset | Intel® H310 Express Chipset | Intel® H610E Chipset |
| Memory | DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 64GB, Non-ECC, Unbuffered Memory, Dual channel memory architecture | Dual-Channel DDR4 3200MHz SODIMM x 2, Max 64GB |
| I/O Chipset | NCT6793D | NCT6126D |
| Ethernet | Intel® GbE LAN i219V x 1, Intel® GbE LAN i210AT x 1 | Intel® Ethernet Connection I219-V x 1 Realtek RTL8111H x 3 |
| Audio | Realtek® ALC897 | Realtek® ALC897 with Amp. |
| TPM | NPCT750 TPM2.0 (default: No) | TPM2.0 IC on board |
| Expansion Slots | PCIe3.0 [x16] x 1 M.2 E-key(22 x 30 mm) x1 for Wireless-wifi module (PCIe+USB: CNVi) | PCIe Gen 4 [x16] x 1, M.2 2230 E-Key x 1 (PCIe [x1]/CNVi/USB) |
| BIOS | | 256Mbit Flash ROM, AMI BIOS |
| H/W Monitor | | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/SV/12V, Fan Monitor on CPU/Chassis |
| WatchDog Timer | | 1~255 steps by software program |
| Smart Fan Control | | CPU Fan/ Chassis Fan |
| Wake On LAN/ PXE | | Yes (WOL/PXE) |
| Power State | | S3, S4, S5 |
| Graphics | | Intel® UHD Graphics |
| Graphics Chipset | | Intel® UHD Graphics |
| Graphics Multi Display | HDMI+HDMI, HDMI+eDP, HDMI+VGA, VGA+eDP | HDMI x 2 + DP x 1, HDMI x 1 + DP x 2, HDMI x 1 + DP x 1 + LVDS x 1, HDMI x 1 + DP x 1 + eDP x 1 |
| VGA | Up to 1920 x 1200 @ 60 Hz (Optional) | — |
| DVI | — | — |
| HDMI | Up to 3840 x 2160 @30 Hz(HDMI 1.4) | HDMI 2.0, up to 3840 x 2160 @60Hz |
| Display Port | — | DP 1.2, up to 3840 x 2160 @60Hz |
| LVDS | — | 18/24-bit Dual-Channel LVDS, up to 1920 x 1080 @60Hz (co-lay eDP, default LVDS) |
| eDP | UP to 4096 x 2304 @ 60Hz | eDP, Up to 1920 x 1080 @60Hz |
| Backlight Control | Support eDP | — |
| Environment & Power & ME | | |
| Battery | | Lithium Battery |
| Power Requirement | 12V DC | ATX, [330 Watt or greater power supply] Voltage/Current(A) requirement:+3.3V/0.05A,+5V/6.07A,+12V/17.3A |
| Operation Temperature | | 32°F ~ 140°F(0 ~ 60°C), (Operational humidity: 60°C @ 90% RH Non-Condensing) |
| Storage Temperature | — | -40°F ~ 185°F (-40°C ~ 85°C) |
| Certificate | | CE & FCC |
| Form Factor | | Mini-ITX: 6.7" x 6.7" (170 mm x 170 mm) |
| Weight | | 1.1 lb (0.5 kg) |
| MTBF (Hours) | 373,720 | 357,180 |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 1 x 4, USB 2.0 x 4 | USB 3.2 Gen 2 x 2, USB 2.0 x 4 |
| Display I/O | HDMI x 2, VGA x 1 (Optional) | HDMI 2.0 x 2, DP 1.2 x 2 |
| Audio I/O | | Mic-in x 1, Line-out x 1 |
| LAN I/O | LAN (RJ-45) port x 2 | RJ-45 LAN x 4 |
| Serial Port | | — |
| PS/2 Port | | — |
| Others | 12V DC Jack (max:192W) | — |
| Internal I/O Connectors | | |
| Storage | SATA3.0 (6.0Gb/s) x 2 M.2 M-key (22 x 42/80mm; PCIe) x 1 | SATA 6Gb/s x 2, M.2 2280 M-Key x 1 |
| USB | USB 2.0 (2 x 5-pin, 2.00mm) x 1 port support additional 1 USB | USB 3.2 Pin Header x 1 (USB 3.2 Gen 1 x 2) |
| Display I/O | eDP x 1 | 40-pin LVDS/eDP connector x 1 with Inverter |
| Audio I/O | AAFP x 1 | AAFP x 1, Speaker x 1 |
| Serial Port | Box header for COM (RS-232) x 1; RS-232/422/485 x 1 | Box Header for COM (RS-232/422/485) x 1, Box Header for COM (RS-232) x 1 |
| PS/2 Port | | — |
| Parallel Port | | — |
| DIO | Digital I/O box header x 1 | 8-bit Programmable connector x 1 |
| FAN | | 4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1 |
| Power | — | 1x24-pin EATX Power connector, 1x8-pin EATX 12V Power connector |
| Others | Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1, ATX/AT mode select x 1, ME disable x 1, eDP Tcon IC voltage select x 1, eDP panel backlight voltage select x 1, COM RI select jumper x 1, SATA PWR x 1 | Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1 |
| OS | | |
| OS Support | Windows® 10 64-bit, Linux Ubuntu 18.04.2 | Windows® 10 64-bit, Windows® 11 64bit |
| Note | | |

Board Level Products

Industrial Motherboards



| Model | MIX-H610A2 | MIX-Q370A1 |
|--------------------------|--|--|
| System | | |
| Processor | 12th/13th/14th Generation Intel® Core™ LGA1700 Socket Processors | 8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs |
| Chipset | Intel® H610E Chipset | Intel® Q370 Express Chipset |
| Memory | Dual Channel DDR4 3200MHz U-DIMM x 2 (Max. 32GB) | DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 32GB, Non-ECC, Unbuffered Memory, dual-channel memory architecture |
| I/O Chipset | NCT5525D | NCT6793D |
| Ethernet | Realtek® RTL8111H x 1 | Intel® PCIe Gb LAN 219LM x 1, Intel® PCIe Gb LAN i210AT x 3 |
| Audio | Realtek® ALC897 | Realtek® ALC897 with Amp. |
| TPM | fTPM | Firmware TPM |
| Expansion Slots | M.2 2230 E-Key x 1 (PCIe [x1], USB 2.0) PCIe Gen 5 [x16] x 1 | PCIe3.0 [x16] x 1 M.2 E-key (22 x 30mm; Support CNVi) |
| BIOS | | 256Mbit Flash ROM, AMI BIOS |
| H/W Monitor | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V Fan Monitor on Chassis | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis |
| WatchDog Timer | | 1~255 steps by software program |
| Smart Fan Control | CPU Fan/Chassis Fan | CPU Fan/ Chassis Fan |
| Wake On LAN/ PXE | | Yes (WOL/PXE) |
| Power State | | S3, S4, S5 |
| Graphics | | Intel® UHD Graphics |
| Graphics Chipset | | Intel® UHD Graphics |
| Graphics Multi Display | Triple Independent Display | HDMI+VGA |
| VGA | — | Up to 1920 x 1200 @ 60 Hz |
| DVI | — | — |
| HDMI | HDMI 1.4, Up to 4096 x 2160 @30Hz/2560 x 1600 @60Hz, with Digital Audio | Up to 4096 x 2160 @30Hz (HDMI 1.4) |
| Display Port | DP 1.4a, up to 4096 x 2160 @60Hz | — |
| LVDS | Dual-Channel 18/24 bit, up to 1920 x 1080 @60Hz | — |
| eDP | Up to 4096 x 2340 @60Hz | — |
| Backlight Control | PWM | — |
| Environment & Power & ME | | |
| Battery | | Lithium Battery |
| Power Requirement | ATX Voltage/Current(A) requirement:+3.3V/1.45A,+5V/7.63A,+12V/18.08A;+5VS B/0.24A | ATX |
| Operation Temperature | | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) |
| Storage Temperature | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Certificate | CE & FCC (Class A) | CE & FCC |
| Form Factor | | Mini-ITX: 6.7" x 6.7" (170mm x 170mm) |
| Weight | 1.1 lb (0.5Kg) | 1.1 lb (0.5 kg) |
| MTBF (Hours) | 422,390 | — |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 2 x 2 + USB 2.0 x 2 | USB 3.2 Gen 2 (10 Gbps) x 4, USB 2.0 x 2 |
| Display I/O | HDMI 1.4 x 1, DP 1.4 x 1 | VGA x 1, HDMI x 1 |
| Audio I/O | Line-out x 1, MIC-in x 1 | Mic-in x 1, Line-out x 1 |
| LAN I/O | RJ-45 LAN Port x1 | LAN (RJ-45) port x 4 |
| Serial Port | — | — |
| PS/2 Port | — | — |
| Others | — | — |
| Internal I/O Connectors | | |
| Storage | SATA 6Gb/s x 2 M.2 2280 M-Key x 1 (PCIe [x4]/NVMe) | SATA3.0 (6.0Gb/s) x 2, M.2 M-key (22 x 80mm) at bottom side x 1(SATA only) |
| USB | USB 2.0 x 2 via Pin Header x 1 USB 3.2 Gen 1 x 2 via Box Header x 1 | USB 2.0 (2 x 5-pin, 2.00mm) x 1 ports support additional 2 USB |
| Display I/O | 40-pin LVDS/eDP Connector x 1 (Default: LVDS) | — |
| Audio I/O | HD Audio x 1 via Pin Header | AAFP x 1, Speaker x 1 |
| Serial Port | — | Box header for COM (RS-232/422/485) x 1 Box header for COM (RS-232) x 1 |
| PS/2 Port | — | — |
| Parallel Port | — | — |
| DIO | 8-bit programmable (4-in/4-out) x 1 | Digital I/O box header x 1 |
| FAN | 4-pin Chassis Fan connector x 1 4-pin CPU Fan connector x 1 | 4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1 |
| Power | ATX | — |
| Others | Clear CMOS jumper x 1, Front Panel connector x 1, ATX/AT mode select x 1, ME disable x 1, eDP/LVDS Tcon IC voltage select x 1, Backlight Voltage Select x 1 | Front Panel connector x 1 Chassis Intrusion x 1 Buzzer onboard x 1 CMOS jumper x 1 |
| OS | | |
| OS Support | Windows® 10 64-bit, Windows® 11 64-bit | Windows® 10 64-bit, Linux Ubuntu 18.04. 64-bit |
| Note | | |



| Model | MIX-Q370D1 | MIX-Q370D2 |
|--------------------------|--|--|
| System | | |
| Processor | 8th/9th Generation Intel® Core™ i7/ i5/ i3, Pentium® LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs | 8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs |
| Chipset | Intel® Q370 Express Chipset | |
| Memory | SODIMM x 2, Max. 32GB, DDR4 2666/2400 MHz, Non-ECC, Un-buffered Memory, Dual channel | DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 64GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture |
| I/O Chipset | NCT6793D | |
| Ethernet | Intel® PHY i219LM Giga LAN (support Intel® AMT 12.0) x 1 Intel® i210AT Giga LAN x 1 | Intel® GbE LAN i219V x 1, Intel® GbE LAN i210AT x 1 |
| Audio | Realtek® ALC897 | |
| TPM | Nuvoton TPM version 2.0 | |
| Expansion Slots | PCIe 3.0 [x4] x 1 M.2 M key (22 x 80 mm) x 1 at Bottom side, SATA & PCIe [x4] M.2 E key (22 x 30 mm) x 1 for Wireless-wifi module (PCIe+USB) | PCIe3.0 [x16] x 1 M.2 E-key(22 x 30 mm) x1 for Wireless-wifi module (PCIe+USB; CNVI) |
| BIOS | 256Mbit Flash ROM, AMI BIOS | |
| H/W Monitor | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on Chassis | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis |
| WatchDog Timer | 1~255 steps by software program | |
| Smart Fan Control | CPU Fan/Chassis Fan | |
| Wake On LAN/ PXE | Yes (WOL/PXE) | |
| Power State | S3, S4, S5 | |
| Graphics | Intel® UHD Graphics | |
| Graphics Chipset | Intel® UHD Graphics | |
| Graphics Multi Display | Three Independent Display | HDMI+VGA+eDP, HDMI+HDMI+VGA, HDMI+HDMI+eDP |
| VGA | — | Up to 1920 x 1200 @ 60 Hz |
| DVI | — | — |
| HDMI | — | Up to 3840 x 2160 @30 Hz(HDMI 1.4b) |
| Display Port | Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio, DP++ supported | — |
| LVDS | LVDS Up to 1920 x 1200 @ 60 Hz, dual-channel 18/24 bit (via Chronitel 7511) | — |
| eDP | — | eDP UP to 4096 x 2304 @ 60Hz |
| Backlight Control | Voltage/PWM | Support eDP |
| Environment & Power & ME | | |
| Battery | Lithium Battery | |
| Power Requirement | 12V DC Power consumption: [Typical:120W] | 12V DC |
| Operation Temperature | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) | |
| Storage Temperature | -40°F ~ -185°F (-40°C ~ -85°C) | |
| Certificate | CE & FCC (Class A) | |
| Form Factor | Mini-ITX: 6.7" x 6.7" (170 mm x 170 mm) | |
| Weight | 1.1 lb (0.5 Kg) | |
| MTBF (Hours) | 256,310 | 319,160 |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 2 (10 Gbps) x 4 | USB 3.2 Gen2 x 6, USB2.0 x 4 |
| Display I/O | DP x 2 | VGA x 1, HDMI x 2 |
| Audio I/O | Mic-in x 1, Line out x 1 | Mic-in x 1, Line-out x 1 |
| LAN I/O | LAN (RJ45) port x 2 | LAN (RJ-45) port x 2 |
| Serial Port | — | |
| PS/2 Port | — | |
| Others | 12V DC Jack (max:192W) | |
| Internal I/O Connectors | | |
| Storage | SATA 6.0Gb/s x4 M.2 M key (22 x 80 mm) x1 (Support Intel® NVMe M.2 SSD) | SATA3.0 (6.0Gb/s) x 2 M.2 M-key (22 x 42/80mm; NVMe/SATA) x 1 |
| USB | 3 x USB 2.0 pin header, support additional 6 USB ports | USB 2.0 (2 x 5-pin, 2.00mm) x 1 port support additional 2 USB |
| Display I/O | 40-pin LVDS connector x 1 40-pin eDP connector x 1 LCD backlight connector (inverter) x 1 | eDP x 1 |
| Audio I/O | Speaker for 2W/4Ω x 1 AAFP follow ASUS pin out x 1 | AAFP x 1 |
| Serial Port | Box header x 1 for COM (COM1: RS-232/422/485 supports 5V/12V/R!) | Box header for COM (RS-232) x 1; RS-232/422/485 x 1 |
| PS/2 Port | — | |
| Parallel Port | — | |
| DIO | 8-bit x 1 (In/Out programmable) | Digital I/O box header x 1 |
| FAN | 4-pin Chassis Fan connector x 1, 4-pin CPU Fan connector x 1 | |
| Power | 12V DC Power jack x 1 | 12V ATX Power Connector x 1 |
| Others | Front panel header x 1 Clear CMOS jumper x 1 AT/ATX select jumper x 1 Chassis Intrusion x 1 4-pin SATA power x 1 | Front Panel connector x 1, Chassis Intrusion x 1 Buzzer onboard x 1, CMOS jumper x 1 SATA Power connector x 1, SPI ROM programming header x 1 ATX/AT mode jumper x 1, eDP backlight power jumper x 1 eDP T-con IC power jumper x 1 |
| OS | | |
| OS Support | Windows® 10 64 bit, Ubuntu 16.04 LTS | Windows® 10 64-bit, Linux Ubuntu 18.04.2 |

Board Level Products

Industrial Motherboards



| Model | MIX-Q670A1 | MIX-Q670D1 |
|--------------------------|---|---|
| System | | |
| Processor | 12th/13th/14th Gen Intel® Core™ Processors | 12th/13th/14th Gen Intel® Core™ Processors (Raptor Lake-S/Alder Lake-S) |
| Chipset | Intel® Q670E Chipset | Intel® Q670E |
| Memory | Dual-Channel DDR5 4800MHz SODIMM x 2, Max. 64GB | Dual-Channel DDR5 4800MHz SODIMM x 2 (Non-ECC, Max. 64GB) |
| I/O Chipset | Intel® UHD Graphics | NCT6126D |
| Ethernet | | Intel® Ethernet Connection I219-LM x 1 Intel® Ethernet Controller I210-AT x 1 |
| Audio | Realtek® ALC897 with Amp | Realtek® ALC897 with Amp. |
| TPM | | Onboard TPM 2.0 IC |
| Expansion Slots | PCIe Gen 5 [x16] x 1 A10/A13-AN: M.2 3042/3052 B-Key x 1 A11-EK: M.2 2230 E-Key x 1 | M.2 3042/3052 B-Key x 1 (PCIe [x1], USB 3.2 Gen 1/USB 2.0) M.2 2230 E-Key x 1 (PCIe [x1], Optional: dual PCIe [x1], USB 2.0) |
| BIOS | | 256Mbit Flash ROM, AMI BIOS |
| H/W Monitor | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V, Fan Monitor on CPU/Chassis |
| WatchDog Timer | | 1~255 steps by software program |
| Smart Fan Control | CPU Fan/Chassis Fan | CPU Fan/ System Fan |
| Wake On LAN/ PXE | | Yes (WOL/PXE) |
| Power State | | S3, S4, S5 |
| Graphics | | Intel® UHD Graphics |
| Graphics Chipset | | Intel® UHD Graphics |
| Graphics Multi Display | HDMI x 2 + DP x 2, HDMI x 2 + DP x 1 + LVDS x 1, HDMI x 2 + DP x 1 + eDP x 1, HDMI x 1 + DP x 2 + LVDS x 1, HDMI x 1 + DP x 2 + eDP x 1 | |
| VGA | | — |
| DVI | | — |
| HDMI | Up to 3840 x 2160 @60Hz (HDMI 2.0) | HDMI 2.0, Up to 3840 x 2160 @60Hz |
| Display Port | Up to 3840 x 2160 @60Hz | DP 1.2, Up to 3840 x 2160@60Hz |
| LVDS | Up to 1920 x 1080 @60Hz, Dual-Channel 18/24 bit | Dual-Channel 18/24 bit LVDS via CH7513, up to 1920 x 1080 @60Hz, colay eDP |
| eDP | Up to 1920 x 1080 @60Hz (via CH7513), co-layout LVDS | Up to 1920 x 1080 @60Hz |
| Backlight Control | | PWM |
| Environment & Power & ME | | |
| Battery | | Lithium Battery |
| Power Requirement | ATX Voltage/Current(A) requirement:+3.3V/0.06A,+5V/11.65A,+12V/17.68A,+5V SB/0.14A | DC 12V Power consumption: Peak 330W; Typical 150W |
| Operation Temperature | | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60% @ 90% RH Non-Condensing) |
| Storage Temperature | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Certificate | | CE & FCC |
| Form Factor | | Mini-ITX: 6.7" x 6.7" (170mm x 170mm) |
| Weight | 1.1 lb (0.5Kg) | 1.1 lb (0.5 Kg) |
| MTBF (Hours) | 366,590 | 368,780 |
| Rear Panel I/O Ports | | |
| USB | A10: USB 3.2 Gen 2 x 8 + USB 2.0 x 4 A11-EK: USB 3.2 Gen 2 x 8 + USB 2.0 x 2 A13-AN: USB 3.2 Gen 2 x 4 (available by request) | USB 3.2 Gen 2 x 4 |
| Display I/O | | HDMI x 2, DP x 2 |
| Audio I/O | Mic-in x 1, Line-out x 1 | Line-out x 1 |
| LAN I/O | LAN Port x 2 (RJ-45) | RJ-45 LAN Port x 2 |
| Serial Port | | — |
| PS/2 Port | | — |
| Others | | — |
| Internal I/O Connectors | | |
| Storage | SATA 6.0Gb/s x 2 (6.0Gb/s), M.2 2280 M-Key | SATA 6.0Gb/s x 2 with SATA Power Connector x 2 (1A) M.2 2280 M-Key (PCIe [x4]/NVMe) x 1 |
| USB | A10/A11-EK: USB 3.2 Gen 1 x 2 ports A13-AN: USB 3.2 Gen 1 x 2 ports + USB 2.0 x 8 ports (available by request) | USB 2.0 x 4 via 2x5P Header x 2 |
| Display I/O | | 40-pin LVDS/eDP connector x 1 with Inverter |
| Audio I/O | AAFP x 1, Speaker x 1 | HD Audio x 1 (via AAFP Header), Internal Speaker x 1 (2W/40hmsΩ) |
| Serial Port | | Box Header for COM x 1 (RS-232/422/485) Box Header for COM x 1 (RS-232) |
| PS/2 Port | | — |
| Parallel Port | | — |
| DIO | | Digital I/O Box Header x 1 |
| FAN | 4-pin CPU Fan Connector x 1, 4-pin Chassis Fan Connector x 1 | 4-pin CPU Fan connector x 1, 4-pin System Fan connector x 1 |
| Power | | — |
| Others | | Front Panel Connector x 1, Chassis Intrusion x 1, Onboard Buzzer x 1, CMOS Jumper x 1 |
| OS | | |
| OS Support | | Windows® 10 64-bit, Windows® 11 64-bit |
| Note | | |



| Model | MIX-ALND1 | MIX-ASLD1 |
|--------------------------|--|--|
| System | | |
| Processor | Intel® Processor N-series: Intel® Processor N97, Intel® Processor N50 *For additional compatible CPUs, please contact regional sales | Intel® Processor N97, 4C, TDP: 12W |
| Chipset | SoC | — |
| Memory | Single-Channel DDR5 4800MHz SODIMM x 1 (Non-ECC, Max. 16GB) | DDR5 4800MHz SODIMM x 1, Max 16GB (Non-ECC, Un-buffered memory) |
| I/O Chipset | NCT6126D | Nuvoton NCT6126D |
| Ethernet | Realtek 8111H x 2 | PoE x 1 (Intel® Ethernet Controller I210-AT) 1GbE LAN x 7 (LAN Controller: Intel® Ethernet Controller I350-AM4 x 1 + Intel® Ethernet Controller I210-AT x 3) |
| Audio | Realtek® ALC897 with Amp. | — |
| TPM | fTPM (TPM chip by BOM optional) | Onboard TPM 2.0 (Infineon SLB9672) |
| Expansion Slots | M.2 3042/3052 B-Key x 1 (PCIe [x1], SATA, USB 3.2 Gen 1/USB 2.0) with SIM socket M.2 2230 E-Key x 1 (PCIe [x1], USB 2.0) | M.2 3042/3052 B-Key x 1 (PCIe 3.0 x1, USB 3.2) for 5G/LTE M.2 2230 E-Key x 1 (PCIe 3.0 x1, USB 2.0, CNVi) for WiFi/Bluetooth Nano SIM Card x 1 (B-Key, push type) |
| BIOS | 256Mbit Flash ROM, AMI BIOS | 256Mbit Flash ROM, AMI BIOS, UEFI |
| H/W Monitor | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V, Fan Monitor on CPU/Chassis | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on Chassis |
| WatchDog Timer | | 1~255 steps by software program |
| Smart Fan Control | CPU Fan/Chassis Fan | Chassis Fan |
| Wake On LAN/ PXE | Yes (WOL/PXE) | Yes (WOL with i210 ports/PXE) |
| Power State | | S3, S4, S5 |
| Graphics | | |
| Graphics Chipset | Intel® UHD Graphics | Integrated Graphics |
| Graphics Multi Display | HDMI x 2 + DP x 1, HDMI x 2 + LVDS x 1, HDMI x 2 + eDP x 1, HDMI x 1 + DP x 1 + LVDS x 1, HDMI x 1 + DP x 1 + eDP x 1 | — |
| VGA | | — |
| DVI | | — |
| HDMI | HDMI 2.0, Up to 4096 x 2160 @60Hz | — |
| Display Port | DP 1.4, Up to 4096 x 2160 @60Hz | Up to 3840 x 2160 @60/30Hz (internal) |
| LVDS | 18/24-bit Dual-Channel LVDS via CH7513, up to 1920 x 1080 @60Hz, coloy eDP | — |
| eDP | Up to 1920 x 1080 @60Hz | — |
| Backlight Control | PWM | — |
| Environment & Power & ME | | |
| Battery | | Lithium Battery |
| Power Requirement | DC 12V Power consumption: [Peak: 100W; Typical: 60W] | DC 12V Power consumption: 80W |
| Operation Temperature | 32°F ~ 140°F (0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) | 32°F ~ 140°F (0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) |
| Storage Temperature | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Certificate | CE & FCC class A | CE & FCC (Class A) |
| Form Factor | | Mini-ITX: 6.7" x 6.7" (170mm x 170mm) |
| Weight | | 1.1 lb (0.5Kg) |
| MTBF (Hours) | 998,294 | — |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 2 x 2; USB 2.0 x 2 | USB 3.2 Gen 1 x 1 (Vertical) |
| Display I/O | HDMI x 2, DP x 1 | — |
| Audio I/O | Line-out x 1 | — |
| LAN I/O | RJ-45 LAN Port x 2 | PoE x 1 (Type 1 IEEE 802.3AT, 30W x 1, for 1G PoE/PSE), RJ-45 LAN x 7 (1G) |
| Serial Port | | — |
| PS/2 Port | | — |
| Others | | Nano SIM Slot x 1, Software Reset Button x 1, Console Port x 1, DC Jack x 1 |
| Internal I/O Connectors | | |
| Storage | SATA 6.0Gb/s x 1 with SATA Power Connector (1A) M.2 2280 M-Key x 1 (PCIe [x1]/NVMe/SATA) | SATA 6Gb/s x 1 M.2 2280 M-Key slot x 1 (Auto Detect, PCIe [x1] & SATA Mode) |
| USB | USB 2.0 x 4 via 2x5P Headers x 2 | USB 2.0 x 2 (2.54mm pitch, 2x5-pin Header) support for 4 USB 2.0 ports |
| Display I/O | 40-pin LVDS/eDP Connector x 1 with Inverter | — |
| Audio I/O | HD Audio x 1 (via AAFP Header), Internal Speaker x 1 (2W/4Ω) | — |
| Serial Port | COM Box Header x 2 (RS-232/422/485), COM Box Header x 4 (RS-232) | — |
| PS/2 Port | | — |
| Parallel Port | | — |
| DIO | Digital I/O Box Header x 1 | 8-bit Digital I/O interface x 1 (In/Out programmable) |
| FAN | 4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1 | Chassis Fan connectors (4-pin) x 1 |
| Power | | |
| Others | Front Panel Connector x 1, Chassis Intrusion x 1, Onboard Buzzer x 1, CMOS Jumper x 1 | Chassis Intrusion x 1, AT/ATX Mode Select Jumper x 1 Front Panel Header x 1, Clear CMOS Jumper x 1 Buzzer Onboard x 1, 1x3-pin ME Lock Header OoB Chip Onboard x 1 (by BOM optional) DP Connector x 1 (Vertical) (by BOM optional) 1x5-pin I2C Header (Reserve), 1x5-pin SMBus Header |
| OS | | |
| OS Support | Windows® 10 64-bit, Windows® 11 64-bit | Windows® 10 64-bit, Windows® 11 64-bit, Linux Ubuntu 22.04 |

Board Level Products

Industrial Motherboards



| Model | MIX-MTLD1 | MIX-H810WV1 |
|---------------------------------|--|--|
| System | | |
| Processor | Intel® Core™ Ultra processors (H-series & U-series support) TDP: 15W (U-series)/28W (H-series) | Intel® Core™ Ultra 200S Series Processors, 65W, LGA1851 socket; up to 24C (8+16) 24T |
| Chipset | — | Intel® H810 Chipset |
| Memory | Dual Channel DDR5 5600MHz SODIMM x 2, Max 96GB | SODIMM/CSODIMM x 2, Dual Channel DDR5 up to 6400 MHz, Max 96GB |
| I/O Chipset | | Nuvoton NCT6126D |
| Ethernet | Intel® Ethernet Controller I210-AT x 1 Intel® Ethernet Controller I226-V x 1 | Intel® Ethernet Controller I226-V, 2.5GbE x 2 Intel® Ethernet Controller I210-AT, 1GbE x 1 |
| Audio | Realtek® | ALC897 |
| TPM | Onboard TPM 2.0 | Infineon SLB9672 TPM2.0 onboard (BOM option; default: no) |
| Expansion Slots | M.2 2230 E-Key x 1 (one pair PCIe [x1], USB 2.0, CNVI) M.2 3042/52 B-Key x 1 (PCIe [x1], USB 3.2 Gen 1) with Nano SIM socket (Default 3052 by BOM) PCIe Gen 5 [x8], H-series only; Open edge | PCIe Gen 5 [x4] x 1 (close edge) M.2 3042/52 B-Key x 1 (PCIe [x1] with SIM socket or SATA x 1 optional by BOM) |
| BIOS | 256Mbit Flash ROM, AMI BIOS | 256Mbit Flash ROM |
| H/W Monitor | Temperature Monitor on CPU, Voltage Monitor on Vcore/5V/3.3V/12V | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V, Fan Monitor on Chassis |
| WatchDog Timer | 1~255 steps by software program | |
| Smart Fan Control | CPU Fan | CPU Fan/Chassis Fan |
| Wake On LAN/ PXE | Yes (WOL/PXE) | |
| Power State | S4, S5 | S3, S4, S5 |
| Graphics | | |
| Graphics Chipset | Intel® Arc™ Graphics | Intel® Graphics |
| Graphics Multi Display | Quad Display | Triple Independent Display |
| VGA | — | — |
| DVI | — | — |
| HDMI | HDMI 2.0, up to 4096 x 2160 @60Hz, with Digital Audio | Up to 4096 x 2160 @60Hz with Digital Audio |
| Display Port | — | Up to 4096 x 2160 @60Hz |
| LVDS | Dual-Channel 18/24 bit, up to 1920 x 1080 @60Hz (Co-layout eDP header; default: LVDS) | Up to 1920 x 1080 @60Hz, Dual Channel 18/24 bit co-layout eDP (default LVDS) |
| eDP | Up to 4096 x 2160 @60Hz (4ch; Co-layout LVDS by BOM optional) | Up to 1920 x 1080 @60Hz (co-layout LVDS) |
| Backlight Control | — | Voltage/PWM |
| Environment & Power & ME | | |
| Battery | | Lithium battery |
| Power Requirement | DC 12V±5% Power consumption: Peak 150W | 19V ~ 24V (±5%) |
| Operation Temperature | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) | 32°F ~ 140°F (0°C ~ 60°C) (Operational humidity: 60°C @90% RH Non-Condensing) |
| Storage Temperature Certificate | — | -40°F ~ 185°F (-40°C ~ 85°C) |
| Form Factor | — | CE & FCC (Class A) |
| Weight | 1.1 lb (0.5Kg) | 1.1 lb (0.5 Kg) |
| MTBF (Hours) | — | — |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 2 (Type-A) x 1, USB 2.0 x 3, USB 3.2 Gen 1 (Type-C) x 1 (5Gbps) | USB 3.2 Gen 2 x 2, USB 2.0 x 4 |
| Display I/O | HDMI 2.0 x 4 | HDMI 2.0 x 2, DP 1.4 x 1 |
| Audio I/O | Line-out x 1, MIC-in x 1 | Line-out x 1 + Mic-in x 1 |
| LAN I/O | RJ-45 LAN Port x 2 | RJ-45 LAN x 3 |
| Serial Port | — | — |
| PS/2 Port | — | — |
| Others | Power DIN x 1 | 19V ~ 24V Phoenix Connector |
| Internal I/O Connectors | | |
| Storage | SATA 6Gb/s x 2 with SATA power Connector x 1 (2A), RAID 0,1 support M.2 2280 M-Key x 1 (PCIe Gen 4 [x4], NVMe) | SATA 6Gb/s x 2 with SATA Power Connector x 2 (1A) M.2 2280 M-Key x 1 (PCIe [x4]/NVMe Gen 3) |
| USB | USB 3.2 Gen 1 x 1 (2x10-pin, 2.0mm Header) additional 2 USB port interface USB 2.0 x 1 (2x5-pin, 2.00mm Header) additional 2 USB port interface | USB 3.2 Gen 1 x 1 (via 2 x 10-pin header) USB 2.0 x 1 (via 2 x 5-pin header) |
| Display I/O | LVDS/eDP Header x 1 | 40-pin LVDS/eDP Connector x 1 with Inverter (Default LVDS) |
| Audio I/O | Pin header (1x4-pin) Support 2W/4ohm x 1 | HD Audio using AAFP x 1, Speaker header x 1 |
| Serial Port | Box Header x 1 for RS-232/422/485, Box Header x 3 for RS-232 | RS-232/422/485 x 2 (supports 5V/12V/R! option) + RS-232 x 2 |
| PS/2 Port | — | — |
| Parallel Port | — | — |
| DIO | — | 8-bit programmable (4-in/4-out) x 1 |
| FAN | 4-pin CPU Fan connector x 1 | 4-pin Chassis Fan connector x 1, 4-pin CPU Fan connector x 1 |
| Power | — | Phoenix Connector x 1 |
| Others | Clear CMOS Jumper x 1, Front Panel Connector x 1, Buzzer Header x 1 ATX/AT Mode Select x 1, 1x3-pin ME Lock Header ME Disable x 1, eDP/LVDS Tcon IC Voltage Select x 1 eDP/LVDS Panel Backlight Voltage Select x 1 SATA PWR Connector x 1, LVDS Inverter Connector x 1 NCSI Header x 1 for OOB Module: MOD-RMB (via Intel® Ethernet Controller I210-AT) | Clear CMOS Jumper x 1, Front Panel Connector x 1 Chassis Intrusion x 1, Buzzer Onboard x 1, ATX/AT Mode Select x 1 ME Disable x 1, eDP/LVDS Tcon IC Voltage Select x 1 eDP/LVDS Panel Backlight Voltage Select x 1 SATA Power x 2, LVDS Inverter x 1 (5V/3.3V), SIM Socket x 1 |
| OS | | |
| OS Support | Windows® 10 64-bit, Windows® 11 64-bit, Ubuntu 24.04, Kernel 6.8 | Windows 10/11 64 bit; Linux Ubuntu 22.04 |



| Model | MIX-Q870A1 | MAX-H810A |
|--------------------------|--|--|
| System | | |
| Processor | Intel® Core™ Ultra 200S Series Processors, 65W, LGA1851 Socket | Intel® Core™ Ultra (Series 2) LGA 1851 Socket Processors |
| Chipset | Intel® Q870 Chipset | Intel® H810 Chipset |
| Memory | CSODIMM/SODIMM x 2, Max 96GB, Dual-Channel DDR5, up to 6400MHz | DDR5 6400MT/s x 2, Dual-Channel CU/U-DIMM , up to 128GB |
| I/O Chipset | Nuvoton NCT5525D | SIO: Fintek F81966 |
| Ethernet | Intel® Ethernet Connection I219-LM, 1GbE LAN x 1 Intel® Ethernet Controller I226-LM, 2.5GbE LAN x 1 | Intel® Ethernet Controller I226-V, 2.5GbE x 2 |
| Audio | Realtek® ALC897 (with audio AMP) | Realtek® ALC897 with AMP (3W) |
| TPM | TPM 2.0 | Intel® PTT (fTPM) |
| Expansion Slots | PCIe Gen 5 [x16] x 1 (Jumper for Bifurcation selection ([x16] x 1 or [x8] + [x8] or [x8] + [x4] + [x4])) M.2 2230 E-Key x 1 (PCIe [x1]/NVMe) | PCIe Gen 5 [x16] x 1 PCIe Gen 4 [x4] x 1 PCIe Gen 4 [x1] x 1 M.2 2230 E-Key (PCIe Gen 4 [x1]/USB 2.0) x 1, CNVi supported |
| BIOS | 256Mbit Flash ROM, AMI BIOS | UEFI |
| H/W Monitor | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V Fan Monitor on Chassis | TBD |
| WatchDog Timer | 1~255 steps by software program | 255 Levels |
| Smart Fan Control | CPU Fan/Chassis Fan | CPU Fan/System Fan |
| Wake On LAN/ PXE | Yes (WOL/PXE) | Yes (WOL) |
| Power State | S3, S4, S5 | S3, S5 |
| Graphics | | |
| Graphics Chipset | Intel® UHD Graphics | Intel® Graphics |
| Graphics Multi Display | Quad Independent Display | Supports 3 Displays |
| VGA | | |
| DVI | | |
| HDMI | HDMI 2.0: Up to 4096 x 2160 @60Hz/2560 x 1600 @60Hz, with Digital Audio | HDMI 2.1 TMDS x 2 (Max Resolution: 4096 x 2160@60Hz) |
| Display Port | DP 1.4: Up to 4096 x 2160 @120 Hz (HBR2) | DP 1.4a x 1 (Max Resolution: 4096 x 2160@60Hz) |
| LVDS | Up to 1920 x 1080 @60Hz, Dual-Channel 18/24 bit, co-layout eDP (default LVDS) | 24-bit Dual-Channel LVDS x 1 (Max. Resolution: 1920 x 1200 @60Hz, co-layout eDP) |
| eDP | Up to 1920 x 1080 @60Hz | Co-lay LVDS |
| Backlight Control | PWM | Yes |
| Environment & Power & ME | | |
| Battery | | Lithium battery |
| Power Requirement | ATX | ATX Power Supply, Internal 24+8-pin ATX Header |
| Operation Temperature | 32°F ~ 140°F (0 ~ 60°C) (Operational humidity: 60°C @90% RH Non-Condensing) | -4°F ~ 140°F (-20°C ~ 60°C) (Operational humidity: 10~90% Relative Humidity, Non-condensing) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | -4°F ~ 185°F (-20°C ~ 85°C) |
| Certificate | CE & FCC (Class A) | CE & FCC Class A, LVD |
| Form Factor | 6.7" x 6.7" (170mm x 170mm) | Micro-ATX: 9.6" x 9.6" (244 mm x 244 mm) |
| Weight | 1.1 lb (0.5Kg) | TBD |
| MTBF (Hours) | — | TBD |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 2 x 8 | USB 3.2 Gen 2x1 (10Gbps) x 2 USB 3.2 Gen 1x1 (5Gbps) x 2 USB 2.0 x 2 |
| Display I/O | HDMI 2.0 x 2, DP 1.4 x 2 | HDMI 2.1 TMDS x 2, DP 1.4a x 1 |
| Audio I/O | Line Out x 1, Mic x 1 | Mic-in x 1, Line-out x 1, Line-in x 1 |
| LAN I/O | RJ-45 x 2 | RJ-45 LAN x 2 |
| Serial Port | — | DB-9 for RS-232/422/485 x 1 |
| PS/2 Port | — | — |
| Others | — | — |
| Internal I/O Connectors | | |
| Storage | SATA 6Gb/s x 2 M.2-1A 2280 M-key x 1 (PCIe [x4]/NVMe) M.2 2242 M-Key x 1 (SATA) | SATA 6Gb/s x 2, RAID 0/1 supported M.2 2242/80 M-Key x 1 (SATA) |
| USB | USB 3.0 pin header x 1 (supports additional USB 3.2 Gen 1 x 2) | USB 2.0 x 6 via pin-header x 3 |
| Display I/O | 40-pin LVDS/eDP connector x 1 with Inverter (Default LVDS) | LVDS/eDP Connector x 1 |
| Audio I/O | AAFP follows ASUS pin out x 1 | Speaker header x 1, Front Panel x 1 |
| Serial Port | — | Internal Header for DB-9 x 5 for RS-232 |
| PS/2 Port | — | PS/2 x 1 |
| Parallel Port | — | — |
| DIO | 8-bit programmable (4-in/4-out) x 1 | 8-bit Header x 1 |
| FAN | 4-pin Chassis Fan Connector x 1 4-pin CPU Fan Connector x 1 | CPU Fan Header x 1 System Fan Header x 2 |
| Power | ATX | 24+8-pin ATX Header |
| Others | Clear CMOS Jumper x 1, Front Panel Connector x 1, Chassis Intrusion x 1 Buzzer Onboard x 1, ATX/AT Mode Select x 1, ME Disable x 1 eDP/LVDS Tcon IC Voltage Select x 1, Backlight Voltage Select x 1 Additional MCIO Connector (75pin) for BMC Card | Chassis Intrusion x 1, AT/ATX Mode Selection x 1 |
| OS | | |
| OS Support | Windows 11 64-bit; Linux Ubuntu 24.04 (TBD) | Windows® 11 (64bit)/Linux |

Board Level Products

Industrial Motherboards



| Model | MAX-Q870A | MAX-Q670A |
|--------------------------|--|--|
| System | | |
| Processor | Intel® Core™ Ultra 200S Series LGA 1851 Socket Processors, up to 125W | 12th/13th/14th Generation Intel® Core™ LGA1700 Socket Processors (formerly Alder Lake/Raptor Lake), TDP Max 125W |
| Chipset | Intel® Q870 Chipset | Intel® Q670 Express Chipset |
| Memory | DDR5 6400MT/s x 4, Dual Channel CU/U-DIMM , up to 256GB | DDR5 4000MHz DIMM x 4, up to 192GB Non-ECC, Un-buffered Memory, Dual-Channel Memory Architecture |
| I/O Chipset | SIO: Fintek F81966 | NCT6126D |
| Ethernet | Intel® Ethernet Controller I226-LM, 2.5GbE x 1 Intel® Ethernet Controller I226-V, 2.5GbE x 1 Realtek® RTL8156, 2.5GbE x 1 | RJ-45 GbE LAN x 1 (Intel® PHY I219-LM, supports Intel® AMT 12.0) RJ-45 GbE LAN x 1 (Intel® I210-AT) RJ-45 2.5GbE LAN x 2 (Intel® I226-LM, Optional) |
| Audio | Realtek® ALC897 with AMP (3W) | Realtek ALC897 6-Channel High Definition Audio CODEC |
| TPM | Intel® PTT (fTPM) | TPM 2.0 onboard |
| Expansion Slots | PCIe Gen 5 [x16] x 1, PCIe Gen 4 [x4] x 2, PCIe Gen 4 [x1] x 1 M.2 E-Key 2230 x 1 (PCIe Gen 4 [x1]/USB 2.0), CNVI supported M.2 3042/3052 B-Key x 1 (USB 3.2/USB 2.0), 4G/5G supported | PCIe Gen 5 [x16] x 1 (8 Lanes/8 Lanes when dual-use PCIe [x16] slot) PCIe Gen 3 [x4] x 1 (2 Lanes, Open Slot), PCIe Gen 5 [x16] x 1 (8 Lanes) PCIe Gen 4 [x4] x 1 (4 Lanes), M.2 2230 E-Key x 1 (PCIe 3.0 [x1]/USB 2.0) M.2 3042/3052/2242 B-Key x 1 (PCIe 3.0 [x1]/USB 3.2 Gen 1) + Micro SIM Slot x 1 |
| BIOS | UEFI | 256 Mbit Flash ROM, AMI BIOS |
| H/W Monitor | TBD | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/1V, Fan Monitor on CPU/Chassis |
| WatchDog Timer | 255 Levels | 1-255 steps by software program |
| Smart Fan Control | CPU Fan/System Fan | CPU Fan x 1/Chassis Fan x 2 (3rd Chassis Fan is DC Fan) |
| Wake On LAN/ PXE | Yes (WOL) | Yes (WOL/PXE) |
| Power State | S3, S5 | S3, S4, S5 |
| Graphics | | |
| Graphics Chipset | Intel® Graphics | Intel® Graphics Media Accelerator |
| Graphics Multi Display | Supports 4 Displays | HDMI + VGA + DP + LVDS/eDP |
| VGA | — | Up to 1920 x 1200 @60Hz (via IT6516B) |
| DVI | — | — |
| HDMI | HDMI 2.1 TMDS x 2 (Max Resolution: 4096 x 2160@60Hz) | HDMI 2.0 x 1, up to 4096 x 2160 @60/30 Hz, with Digital Audio |
| Display Port | DP1.4a x 1 (Max Resolution: 4096 x 2160@60Hz) | DP 1.4 x 1, up to 4096 x 2160 @24 Hz or 3840 x 2160 @60 Hz, with Digital Audio |
| LVDS | 24-bit Dual-Channel LVDS x 1 (Max. Resolution: 1920 x 1200 @60Hz, co-lay-out eDP) | 18/24-bit Dual-Channel LVDS x 1, up to 1920 x 1080 @60 Hz |
| eDP | Co-lay LVDS | eDP x 1, up to 3840 x 2160 @30 Hz |
| Backlight Control | | Yes |
| Environment & Power & ME | | |
| Battery | | Lithium battery |
| Power Requirement | ATX Power Supply, Internal 24+8-pin ATX Header | 24-pin ATX connector x 1, 8-pin 12V ATX Power Connector x 1 [Voltage/Current(A) requirement+3.3V/1.4A;+5V/1.055A;+12V/13.89A;+5VSB/0.24A] |
| Operation Temperature | -4°F ~ 140°F (-20°C ~ 60°C) (Operational humidity: 10~90% Relative Humidity, Non-condensing) | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) |
| Storage Temperature | -4°F ~ 185°F (-20°C ~ 85°C) | -40°F ~ 185°F (-40°C ~ 85°C) |
| Certificate | CE & FCC Class A, LVD | CE & FCC Class A |
| Form Factor | | Micro-ATX Form Factor, 9.6" x 9.6" (244mm x 244mm) |
| Weight | TBD | 1.76 lb (0.8Kg) |
| MTBF (Hours) | TBD | 267,950 |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 (Gen 2) x 6 | USB 3.2 Gen 2 x 4 (10Gbps), USB Type-C x 1 (Optional, 20Gbps, 5V, 3A) (All ports are bootable, can be deactivated per BIOS function; USB Power switchable feature) |
| Display I/O | HDMI 2.1 TMDS x 2, DP 1.4a x 1 | HDMI 2.0 x 1, VGA x 1, DP 1.4 x 1 |
| Audio I/O | Mic-in x 1, Line-out x 1, Line-in x 1 | Audio Jack x 3: Line-in, Mic-in, Line-out |
| LAN I/O | RJ-45 LAN Port x 3 | RJ-45 LAN x 2 (Optional: RJ-45 x 4) |
| Serial Port | DB-9 for RS-232/422/485 x 1 | DB-9 x 1 (Supports RS-232/422/485, 5V/12V/RI) |
| PS/2 Port | | — |
| Others | | — |
| Internal I/O Connectors | | |
| Storage | SATA 6Gb/s x 2, RAID 0, 1, 5 supported M.2 2242/2280 M-Key x 1 (SATA/PCIe Gen 4 [x4]), NVMe supported M.2 2242/2260/2280/22110 M-Key x 1 (PCIe Gen 4 [x4]), NVMe supported | SATA 6.0Gb/s x 8, supports RAID 0, 1, 5, 10 M.2 2242/2280 M-Key x 2 (PCIe Gen 4.0, 4 Lanes, supports RAID 0, 1, 5) |
| USB | USB 2.0 x 6 via Pin Header x 3, USB 3.2 (Gen 1x1) x 2 via Box Header x 1 | USB 3.2 x 1 (2x5P 2.54mm Pitch Box Header, supports USB 3.2 Gen 1 x 2) USB 2.0 Header x 1 (2x5P 2.54mm Pitch Box Header, supports USB 2.0 x 2) USB 3.2 Gen 1 x 1 (Type-A, vertical) (All Headers support USB Power switchable feature) |
| Display I/O | LVDS/eDP connector x 1 | — |
| Audio I/O | Speaker header x 1, Front Panel x 1 | Speaker header x 1 (Line-out), AAFP x 1 |
| Serial Port | Internal Header for DB-9 x 5 for RS-232, Internal Header for 4 x RS-232 (Optional) | RS-232 x 5 (via 1x9P Header) |
| PS/2 Port | | — |
| Parallel Port | | — |
| DIO | 8-bit Header x 1 | 8-bit Digital I/O Interface x 1 |
| FAN | CPU Fan Header x 1 System Fan Header x 2 | 4-pin CPU Fan Connector x 1 (PWM Mode), 4-pin Chassis Fan connector x 2 (PWM Mode), 3-pin Chassis Fan connector x 1 (DC Mode) |
| Power | 24+8-pin ATX Header | — |
| Others | Nano SIM Card Slot x 1, Chassis Intrusion x 1, AT/ATX Mode Selection x 1 | Chassis Intrusion x 1, AT/ATX Mode Select Jumper x 1, Front Panel Header x 1 Clear CMOS Jumper x 1, Onboard Buzzer x 1, 3-pin ME Lock Header x 1 LED Header for Ethernet x 2 (Optional: LED Header x 4 when RJ-45 x 4) |
| OS | | |
| OS Support | Windows® 11 (64bit), Linux | Windows® 10 64-bit, Windows® 11 64-bit |



| Model | MAX-Q470A | MAX-Q370A |
|--------------------------|--|--|
| System | | |
| Processor | Intel® 10th Generation (Comet Lake-S) Core™ i9 /i7 /i5 /i3, Pentium 14nm LGA 1200 socket Processor, Max. 10 Core 80W | 8th/9th Generation Intel® (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9 /i7 /i5 /i3, Pentium™ 14nm LGA 1151 socket processor, max. TDP 8 Core 95W |
| Chipset | Intel® Q470E Express Chipset | Intel® Q370 Express Chipset |
| Memory | DIMM x 4, DDR4 (2933/2666/2400 MHz, max. 128GB) non-ECC, un-buffered memory Dual channel memory architecture | DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB) Non-ECC, un-buffered memory Dual-channel memory architecture |
| I/O Chipset | IT5121E + F81216HD | NCT6793D+ F81216HD |
| Ethernet | Intel® PHY i219LM Giga LAN (supports Intel® AMT 12.0) x 1 Intel® i210AT Giga LAN x 1, RJ45 x 2 | Intel® PHY i219LM Gb LAN (supports Intel® AMT 12.0) x 1 Intel® i210AT Gb LAN x 1 RJ45 x 2 |
| Audio | Realtek® ALC897 6-Channel High Definition Audio CODEC | |
| TPM | Nuvoton NPCT750AADYX TPM2.0 onboard (optional: default: onboard) | |
| Expansion Slots | PCIe 3.0[x16] Slot (16 lanes) (8 lanes when dual use PCIe[x16]) x 1, PCIe 3.0[x16] (8 lanes) x 1, PCIe 3.0[x4] Slot x 1, PCIe 3.0[x4] Slot (2 lanes) x 1, M.2 2230 E-key (PCIe/CNVl) x 1, M.2 3042/3052/2242 8-key (PCIe/USB/SATA) x 1, Micro SIM card Slot x 1 | PCIe 3.0[x16] Slot x 1, PCIe 3.0[x4] Slot (open edge) x 2 PCIe 3.0[x1] Slot (open edge) x 1, M.2 2230 E-key (PCIe/USB) x 1 M.2 2280 M-key (PCIex4/SATA3) x 1 |
| BIOS | 256Mbit Flash ROM, AMI BIOS | |
| H/W Monitor | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis |
| WatchDog Timer | 1~255 steps by software program | |
| Smart Fan Control | CPU Fan/ Chassis Fan x 2 | |
| Wake On LAN/ PXE | Yes (WOL/PXE) | |
| Power State | S3, S4, S5 | |
| Graphics | | |
| Graphics Chipset | Intel® Graphics Media Accelerator | Intel® UHD Graphics |
| Graphics Multi Display | HDMI+HDMI+VGA, HDMI+HDMI+LVDS, HDMI+VGA+LVDS, HDMI+HDMI+HDMI | HDMI+VGA+DP, HDMI+HDMI+VGA, HDMI+HDMI+DP |
| VGA | Up to 1920 x 1200 @60Hz (via IT6516B) | |
| DVI | | |
| HDMI | Up to 4096 x 2160 @ 60 / 30 Hz, with Digital Audio | Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio |
| Display Port | — | Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio |
| LVDS | Up to 1920 x 1200 @ 60 Hz, Dual Channel 18/24 bit | — |
| eDP | — | — |
| Backlight Control | Yes | — |
| Environment & Power & ME | | |
| Battery | Lithium battery | |
| Power Requirement | 24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1 | |
| Operation Temperature | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) | |
| Storage Temperature | — | |
| Certificate | CE & FCC Class A | |
| Form Factor | Micro-ATX Form Factor, 9.6" x 9.6" (244 mm x 244 mm) | |
| Weight | 1.76 lb (0.8 Kg) | |
| MTBF (Hours) | 259,360 | 264,820 |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 2 ports (10 Gbps) x 2, USB 3.2 Gen 1 ports (5 Gbps) x 4 | USB 3.2 Gen 2 ports (10 Gbps) x 6, USB 3.2 Gen 1 ports (5 Gbps) x 4 |
| Display I/O | VGA x 1, HDMI x 3 (2.0 x 1, 1.4 x 2) | DP x 1, VGA x 1, HDMI x 2 |
| Audio I/O | Audio Jack x 3: Line-in, Mic-in, Line-out | |
| LAN I/O | LAN (RJ45) ports x 2 | |
| Serial Port | DB-9 COM (supports RS-232/422/485, 5V/12V/RI) x 1 | — |
| PS/2 Port | — | PS/2 combo Port (Keyboard & Mouse) x 1 |
| Others | BIOS recovery button | |
| Internal I/O Connectors | | |
| Storage | SATA 6.0Gb/s (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280/2242 M-key (PCIex4) x 1 | SATA3 (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PCIex4/SATA3) x 1 |
| USB | USB3.2 Gen1 box header support additional 2 USB ports (2x5PIN, p=2.54mm) x 1, USB3.2 Gen1 Type A (vertical) connector x 1, USB 2.0 header support additional 2 USB ports (2x5PIN, p=2.54mm) x 1 | USB 2.0 headers support additional 3 USB ports (2x5PIN, p=2.54mm) |
| Display I/O | 40-pin LVDS connector x 1 | — |
| Audio I/O | speaker header (Line-out) x 1, AAFP x 1 | — |
| Serial Port | RS-232 headers x 3 | RS-232 Box headers x 5 RS-232/422/485 Box header (COM1, Pin9 supports 5V/12V/RI optional) x 1 |
| PS/2 Port | — | — |
| Parallel Port | — | — |
| DIO | 8-bit Digital I/O interface (In/Out programmable) x 1 | |
| FAN | CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 2 | CPU Fan connector (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2 |
| Power | 24-pin EATX Power header x 1, 8-pin EATX 12V Power connector x 1 | — |
| Others | Chassis Intrusion x 1, AT/ATX mode select jumper x 1, Front panel header x 1, Clear CMOS jumper x 1, 3-pin ME lock header x 1, Buzzer on board x 1 | Chassis intrusion x 1, AT/ATX mode select jumper x 1, Buzzer on-board x1 Front panel header x 1, Clear CMOS jumper x 1, 3-pin ME lock header x1 |
| OS | | |
| OS Support | Windows® 10 64bit, Windows® 11 64bit, Linux Ubuntu 64bit (20.04.0/Kernel 5.4) | Windows® 10 64bit, Windows® 11 64bit, Linux Ubuntu 64bit (18.04.1/Kernel4.8.0) |

Note: All specifications are subject to change without notice.

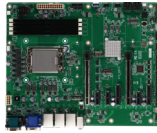
www.aaeon.com

Board Level Products

Industrial Motherboards



| Model | MAX-C246A | MAX-H310A |
|--------------------------|--|--|
| System | | |
| Processor | 8th/9th Generation Intel® (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium™ 14nm, Celeron™, Xeon™ E-2200/2100, LGA 1151 socket Processor, max. TDP 8 Core 95W | 8th/9th Generation Intel® (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium 14nm LGA 1151 socket Processor |
| Chipset | Intel® C246 Express Chipset | Intel® H310 Express Chipset |
| Memory | DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB) ECC, un-buffered memory Dual-channel memory architecture | DIMM x 2, DDR4 (2666/2400/2133 MHz, max. 64GB) non-ECC, un-buffered memory Dual-channel memory architecture |
| I/O Chipset | | NCT6793D+ F81216HD |
| Ethernet | Intel® PHY i219LM Gb LAN (supports Intel® AMT 12.0) x 1 Intel® i210AT Gb LAN x 1 RJ45 x 2 | Intel® PHY i219V Gb LAN x 1 Intel® i210AT Gb LAN x 1 RJ45 x 2 |
| Audio | | Realtek® ALC897 6-Channel High Definition Audio CODEC |
| TPM | | Nuvoton NPCT750 TPM2.0 onboard |
| Expansion Slots | PCIe 3.0[x16] Slot x 1 PCIe 3.0[x4] Slot x 2(open edge) PCIe 3.0[x1] Slot x 1(open edge) M.2 2230 E-key x 1(PCIe/USB) M.2 2280 M-key x 1(PCIex4/SATA3) | PCIe 3.0[x16] Slot x 1 PCIe 2.0[x1] Slot (open edge) x 3 M.2 2280 M-key (BOM option: PCIe or SATA; default: SATA) x 1 |
| BIOS | 256Mbit Flash ROM, AMI BIOS | 128Mbit Flash ROM, AMI BIOS |
| H/W Monitor | | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis |
| WatchDog Timer | | 1~255 steps by software program |
| Smart Fan Control | CPU Fan/ Chassis Fan x 2 | CPU Fan x 1 Chassis Fan x 2 |
| Wake On LAN/ PXE | | Yes (WOL/PXE) |
| Power State | | S3, S4, S5 |
| Graphics | | Intel® UHD Graphics |
| Graphics Chipset | | Intel® UHD Graphics |
| Graphics Multi Display | HDMI+VGA+DP, HDMI+HDMI+VGA, HDMI+HDMI+DP | VGA+DP; VGA+HDMI; DP+HDMI |
| VGA | | Up to 1920 x 1200 @60Hz (via IT6516B) |
| DVI | | — |
| HDMI | | Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio |
| Display Port | | Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio |
| LVDS | | — |
| eDP | | — |
| Backlight Control | | — |
| Environment & Power & ME | | |
| Battery | | Lithium battery |
| Power Requirement | | 24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1 |
| Operation Temperature | | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) |
| Storage Temperature | | — |
| Certificate | | CE & FCC Class A |
| Form Factor | | Micro-ATX Form Factor, 9.6"x9.6" (244mmx244mm) |
| Weight | | 1.76 lb (0.8 Kg) |
| MTBF (Hours) | 264,820 | 261,090 |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 2 ports (10 Gbps) x 6, USB 3.2 Gen 1 ports (5 Gbps) x 4 | USB 3.2 Gen 1 ports (5 Gbps) x 4, USB 2.0 ports x 4 |
| Display I/O | DP x 1, VGA x 1, HDMI x 2 | DP x 1, VGA x 1, HDMI x 1 |
| Audio I/O | | Audio Jack x 3: Line-in, Mic-in, Line-out |
| LAN I/O | | LAN (RJ45) ports x 2 |
| Serial Port | | — |
| PS/2 Port | PS/2 combo port (Keyboard & Mouse) x 1 | PS/2 stack Port (Keyboard & Mouse) x 1 |
| Others | | — |
| Internal I/O Connectors | | |
| Storage | SATA3 (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PCIex4/SATA3) x 1 | SATA 6.0Gb/s (6.0Gb/s) ports x 3; BOM option: can support additional 2 SATA M.2 2280 M-key (BOM option: PCIe1 or SATA; default: SATA) x 1 |
| USB | USB 2.0 headers support additional 3 USB ports (2x5PIN, p=2.54mm) | USB 2.0 header support additional 2 USB ports (2x5PIN, p=2.54mm) x 1 |
| Display I/O | | — |
| Audio I/O | Speaker for 2W@4Ω x 1 | AAFP x 1 |
| Serial Port | RS-232 Box headers x 5 RS-232/422/485 Box header (COM1, Pin9 supports 5V/12V/RI optional) x 1 | RS-232Box headers x 5 RS-232/422/485Box header (COM1, Pin9 supports 5V/12V/RI optional) x 1 |
| PS/2 Port | | — |
| Parallel Port | | — |
| DIO | | 8-bit Digital I/O interface (In/Out programmable) x 1 |
| FAN | | CPU Fan connector (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2 |
| Power | | — |
| Others | Chassis Intrusion x 1, AT/ATX mode select jumper x 1 Front panel header x 1, Clear CMOS jumper x 1 3-pin ME lock header x 1, Buzzer on-board x 1 | Chassis intrusion x 1, AT/ATX mode select jumper x 1 Front panel header x 1, Clear CMOS jumper x 1, LPC box header x 1 3-pin ME lock header x 1, Buzzer on-board x 1 |
| OS | | |
| OS Support | Windows® 10 64bit, Windows® 11 64bit, Linux Ubuntu 64-bit (18.04.1/Kernel4.8.0) | Windows® 10 64bit, Windows® 11 64bit, Linux Ubuntu 64bit (18.04.1/Kernel4.8.0) |



| Model | ATX-Q870A | ATX-Q670A |
|--------------------------|---|---|
| System | | |
| Processor | Intel® Core™ Ultra Processors (Series 2), LGA1851 Socket, up to 125W | 12th/13th/14th Generation Intel® Core™ LGA1700 Socket Processors (formerly Alder Lake/Raptor Lake), TDP Max 125W |
| Chipset | Intel® Q870 Chipset | Intel® Q670E Chipset |
| Memory | DDR5 6400MT/s x 4, Dual Channel CU/U-DIMM, up to 256GB | DDR5 4000MHz DIMM x 4, up to 192GB Non-ECC, Unbuffered Memory, Dual-Channel Memory Architecture |
| I/O Chipset | Fintek F81966D-1 | NCT6126D |
| Ethernet | Intel® Ethernet Controller I226-LM, 2.5GbE x 1 Intel® Ethernet Controller I226-V, 2.5GbE x 2 | Intel® PHY I219-LM Giga LAN x 1 (supports Intel® AMT 12.0), Intel® I210-AT Giga LAN x 1, Intel® I226-LM Giga LAN x 1 (Optional), RJ-45 x 2 (Optional: RJ-45 x 3, LAN 3 with USB 3.2 Gen 2 x 1) |
| Audio | Realtek® ALC897 Audio Codec | Realtek ALC897 6-Channel High Definition Audio CODEC |
| TPM | Intel® PTT (fTPM) | TPM 2.0 onboard |
| Expansion Slots | PCIe Gen 5 [x16] x 2 (PCIe Gen 5 [x16] x 1 or PCIe Gen 5 [x8] x 2) PCIe Gen 4 [x4] x 2, PCIe Gen 3 [x1] x 3 M.2 2230 E-Key x 1 (USB 2.0/PCIe Gen 3 [x1]), CNVio supported M.2 3042/3052 B-Key x 1 (PCIe Gen 3 [x1]/USB 3.1/USB 2.0), 4G/5G supported | PCIe Gen 5 [x16] x 1 (16 Lanes), PCIe Gen 3 [x1] x 1 (1 Lane, Open Slot) PCIe Gen 4 [x4] x 1 (4 Lanes, Open Slot), PCIe Gen 4 [x16] x 1 (4 Lanes) PCI Slot x 3, M.2 3042/3052 B-Key x 1 (PCIe 3.0 [x1]/USB 3.2 Gen 1) Mini PCIe Slot x 1 (PCIe 3.0/USB 2.0) Micro SIM Card Slot x 1 (M.2 B-Key or Mini PCIe Slot) |
| BIOS | UEFI | 256Mbit Flash ROM, AMI BIOS |
| H/W Monitor | — | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis |
| WatchDog Timer | 255 Levels | 1~255 steps by software program |
| Smart Fan Control | CPU Fan/System Fan | CPU Fan x 1/Chassis Fan x 3 |
| Wake On LAN/ PXE | Yes (WOL) | Yes (WOL/PXE) |
| Power State | S3, S5 | S3, S4, S5 |
| Graphics | | |
| Graphics Chipset | Intel® Graphics | Intel® Graphics Media Accelerator |
| Graphics Multi Display | Supports 4 Displays | HDMI+HDMI+DP+DP, HDMI+HDMI+DP+VGA, HDMI+VGA+DP+DP |
| VGA | VGA x1 (Max Resolution: 1920 x 1080 @60Hz) | Up to 1920 x 1200 @60Hz via IT6516B) |
| DVI | — | — |
| HDMI | HDMI 2.1 TMDS x 2 (Max Resolution: 3840 x 2160@60Hz) | HDMI 2.0, up to 4096 x 2160 @60/30Hz, with Digital Audio |
| Display Port | DP 1.4a x 1 (Max Resolution: 4096 x 2160@60Hz) | DP 1.4, up to 4096 x 2160 @24Hz or 3840 x 2160 @60 Hz, with Digital Audio |
| LVDs | — | — |
| eDP | — | — |
| Backlight Control | — | — |
| Environment & Power & ME | | |
| Battery | | Lithium Battery |
| Power Requirement | ATX Power Supply, Internal 24+8-pin ATX Header | 24-pin ATX Connector x 1, 8-pin ATX 12V Power Connector x 1 |
| Operation Temperature | -4°F ~ 140°F (-20°C ~ 60°C) (Operational humidity: 10~90% Relative Humidity, Non-condensing) | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) |
| Storage Temperature | -4°F ~ 185°F (-20°C ~ 85°C) | -40°F ~ 185°F (-40°C ~ 85°C) |
| Certificate | CE & FCC Class A, LVD | CE & FCC Class A |
| Form Factor | | ATX Form Factor, 12" x 9.6" (305mm x 244mm) |
| Weight | TBD | 1.76 lb (0.8 Kg) |
| MTBF (Hours) | TBD | 281,760 |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 2 x 6 | USB 3.2 Gen 2 x 2 (10Gbps, Optional: x 3 units if with LAN 3 I226-LM) USB 3.2 Gen 1 x 2 (5Gbps), USB Type C x 1 (5Gbps, 5V, 1.5A, Optional) (All ports are bootable, can be deactivated per BIOS function; USB Power switchable feature) |
| Display I/O | DP1.4a x 1, HDMI 2.1 TMDS x 2, VGA x 1 | HDMI 2.0 x 2, DP 1.4 x 2 |
| Audio I/O | Mic-in x 1, Line-out x 1, Line-in x 1 | Audio Jack x 3, Line-in, Mic-in, Line-out |
| LAN I/O | RJ-45 LAN x 3 | RJ-45 LAN x 2 (Optional: RJ-45 x 3) |
| Serial Port | DB-9 for RS-232/422/485 x 1 | DB-9 COM x 1 (supports RS-232/422/485, 5V/12V/RI) |
| PS/2 Port | — | — |
| Others | — | — |
| Internal I/O Connectors | | |
| Storage | M.2 2242/2260/2280/22110 M-Key x 1 (PCIe Gen 5 [x4]), NVMe supported M.2 2280 M-Key x 1 (PCIe Gen 4 [x4]), NVMe supported SATA 6Gb/s x 4, RAID 0, 1, 5, 10 support | SATA 6.0Gb/s x 8, supports RAID 0/1/5/10 M.2 2280 M-Key x 1 (PCIe Gen 4.0, 4 Lanes) M.2 2242/80 M-Key x 1 (PCIe Gen 3.0 1 Lane) |
| USB | USB 3.2 (Gen 1x1) x 2 via Box Header x 1; USB 2.0 x 6 via Pin Header x 3 USB 3.2 (Gen 1x1) x 1 (Type-A, Vertical); USB 2.0 x 1 (Type-A, Vertical) | USB 3.0 Box Header x 1 (2x5P, p=2.54mm), supports USB 3.2 Gen 1 x 2 (USB Power switchable feature); USB 2.0 Header x 1 (2x5P, p=2.54mm) supports USB 2.0 x 2 (USB Power switchable feature); USB 2.0 x 1 (Vertical Type-A) |
| Display I/O | — | VGA Header x 1 |
| Audio I/O | Speaker header x 1, Front panel x 1 | Speaker Header (Line-out), AAFP x 1 |
| Serial Port | RS-232 x 5 | RS-232 Header x 5 |
| PS/2 Port | PS/2 x 1 | — |
| Parallel Port | — | — |
| DIO | 8-bit Header x 1 | 8-bit Digital I/O Interface x 1 (In/Out Programmable) |
| FAN | CPU Fan Header (Smart Fan) x 1, 3-pin Connector for System Fan x 2 (PWM Mode) | 4-pin CPU Fan Connector x 1 (PWM Mode) 4-pin Chassis Fan Connector x 3 (PWM Mode) |
| Power | 24+8-pin ATX Header | — |
| Others | Chassis Intrusion x 1, AT/ATX Mode Select Jumper x 1, Clear CMOS Jumper x 1, Buzzer Onboard x 1, Nano SIM Card Slot x 1 | Chassis Intrusion x 1, AT/ATX Mode Select Jumper x 1, Front Panel Header x 1, Clear CMOS Jumper x 1, Buzzer Onboard x 1, 3-pin ME Lock Header x 1 |
| OS | — | — |
| OS Support | Windows® 11 (64-bit), Linux | Windows® 10 64-bit, Windows® 11 64-bit |

Board Level Products

Industrial Motherboards



| Model | ATX-Q370A | ATX-C246A |
|--------------------------|---|--|
| System | | |
| Processor | Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium 14nm LGA 1151 socket Processor, max. TDP 8 Core 95W | Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium 14nm, Celeron™, Xeon E-2200/2100, LGA 1151 socket Processor, max. TDP 8 Core 95W |
| Chipset | Intel® Q370 Express Chipset | Intel® C246 Express Chipset |
| Memory | DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB) Non-ECC, un-buffered memory Dual channel memory architecture | DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB) ECC, un-buffered memory Dual channel memory architecture |
| I/O Chipset | | NCT6793D + F81216HD |
| Ethernet | Intel® PHY i219LM Giga LAN x 1 (supports Intel® AMT 12.0) Intel® i210AT Giga LAN x 1 (BOM option: i210AT x 2) RJ45 x 2 (BOM option: RJ45 x 3) | Intel® PHY i219LM Giga LAN x 1 (supports Intel® AMT 12.0) Intel® i210AT Giga LAN x 1 (BOM option: i210AT x 2) RJ45 x 2 (BOM option: RJ45 x 3) |
| Audio | | Realtek® ALC897 6-Channel High Definition Audio CODEC |
| TPM | | Nuvoton NPCT750 TPM2.0 onboard |
| Expansion Slots | PCIe 3.0[x16] Slot x 1, PCIe 3.0[x4] Slot (open edge) x 2, PCIe 3.0[x1] Slot (open edge) x 2, PCI x 2, M.2 2230 E-key (PCIex1/USB2.0/CNVi) x 1, M.2 2280 M-key (PCIex4/SATA3) x 1 | |
| BIOS | | 256Mbit Flash ROM x 1, AMI BIOS |
| H/W Monitor | | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis |
| WatchDog Timer | | 1~255 steps by software program |
| Smart Fan Control | | CPU Fan/ Chassis Fan x 2 |
| Wake On LAN/ PXE | | Yes (WOL/PXE) |
| Power State | | S3, S4, S5 |
| Graphics | | Intel® Graphics Media Accelerator |
| Graphics Chipset | | Intel® Graphics Media Accelerator |
| Graphics Multi Display | | HDMI+VGA+DP (BOM option: USB 3.2 Gen 2-10Gbps Type-C connector (Alternate Mode: USB+DP) x 1) |
| VGA | | Up to 1920 x 1200 @60Hz (via IT6516B) |
| DVI | | — |
| HDMI | | Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio |
| Display Port | | Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio |
| LVDS | | — |
| eDP | | — |
| Backlight Control | | — |
| Environment & Power & ME | | |
| Battery | | Lithium battery |
| Power Requirement | | 24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1 |
| Operation Temperature | | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) |
| Storage Temperature | | — |
| Certificate | | CE & FCC Class A |
| Form Factor | | ATX Form Factor, 12" x9.6" (305mm x 244mm) |
| Weight | | 1.76 lb (0.8 Kg) |
| MTBF (Hours) | | 281,410 |
| Rear Panel I/O Ports | | |
| USB | | USB 3.2 Gen 2 ports (10 Gbps) x 4, USB 3.2 Gen 1 ports (5 Gbps) x 2, USB 2.0 ports x 4 |
| Display I/O | | HDMI x 1, VGA x 1, DP x 1, USB Type-C x 1 (optional) |
| Audio I/O | | Audio Jack x 3: Line-in, Mic-in, Line-out |
| LAN I/O | | LAN (RJ45) ports x 2 (BOM option: RJ45 x 3) |
| Serial Port | | — |
| PS/2 Port | | — |
| Others | | — |
| Internal I/O Connectors | | |
| Storage | | SATA 6.0Gb/s (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PCIex4/SATA3) x 1 |
| USB | | USB 2.0 headers x 1 support additional 2 USB ports (2x5Pin, p=2.54mm) |
| Display I/O | | — |
| Audio I/O | | — |
| Serial Port | | 5 x RS-232 headers 1 x RS-232/422/485 (COM1, supports 5V/12V/Ri optional) |
| PS/2 Port | | — |
| Parallel Port | | — |
| DIO | | 8-bit Digital I/O interface (In/Out programmable) x 1 |
| FAN | | CPU Fan connector(s) (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2 |
| Power | | — |
| Others | Chassis Intrusion x 1 AT/ATX mode select jumper x 1 Front panel header x 1 Clear CMOS jumper x 1 3-pin ME lock header x 1 Buzzer on-board x 1 | Chassis Intrusion x 1 AT/ATX mode select jumper x 1 Front panel header x 1 Clear CMOS jumper x 1 3-pin ME lock header x 1 Buzzer on-board x 1 |
| OS | | |
| OS Support | Windows® 10 64bit, Windows® 11 64bit, Linux Ubuntu 64bit (18.04.1/Kernel4.8.0) | Windows® 10 64bit, Windows® 11 64bit, Linux Ubuntu 64bit (18.04.1/Kernel4.8.0) |
| Note | | |



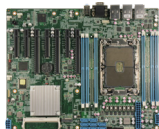
| Model | ATX-H310A | MIX-PTLWV1 |
|--------------------------|--|--|
| System | | |
| Processor | Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium 14nm LGA 1151 socket Processor, Max. 6 Core 95W | Intel® Core™ Ultra Series 3 Processors, PTL-H404/PTL-H484 processors, TDP 15–25W |
| Chipset | Intel® H310 Express Chipset | — |
| Memory | DIMM x 2, DDR4 (2666/2400/2133 MHz, max. 64GB) non-ECC, un-buffered memory Dual channel memory architecture | DDR5 C/SODIMM x 2, 1DPC, Max. 128GB H404: 6400 MHz / H484: 7200 MHz |
| I/O Chipset | NCT6793D+ F81216HD | Nuvoton NCT6126D |
| Ethernet | Intel® PHY i219V Giga LAN x 1 Intel® i210AT Giga LAN x 1 RJ45 x 2 | Intel® Ethernet Controller I226-LM, 2.5GbE x 1 Intel® Ethernet Controller I226-V, 2.5GbE x 1 Intel® Ethernet Controller E610-XAT2, 10GbE x 2 (SKU 4L) |
| Audio | Realtek® ALC897 6-Channel High Definition Audio CODEC | Realtek® ALC897 |
| TPM | Nuvoton NPCT750 TPM2.0 onboard (optional, default: on-board) | Infineon SLB9672 TPM2.0 onboard |
| Expansion Slots | PCIe 3.0[x16] Slot x 1, PCIe 2.0[x4] Slot (open edge) x 2 (#1: 1Lane #2: Default: 2Lanes, only support 1Lane when Mini PCIe slot is installed.), PCI x 3, M.2 2280/2242 M-key (PCIex1/SATA3) x 1, Mini PCIe + Micro SIM card Slot (optional, default: N/A) | PCIe Gen 5 [x8] x 1 (open edge) (BOM optional on H484) M.2 2230 E-Key x 1 (PCIe 4.0 [x1]/USB 2.0(CNV)) M.2 3042/3052 B-Key x 1 (PCIe [x1]/USB 3.2 Gen 1) with Nano SIM Socket (Default 3052 by BOM optional) |
| BIOS | 128Mbit Flash ROM x 1, AMI BIOS | 256Mbit Flash ROM, AMI BIOS |
| H/W Monitor | Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on Chassis |
| WatchDog Timer | — | 1–255 steps by software program |
| Smart Fan Control | CPU Fan/ Chassis Fan x 2 | CPU Fan, SYS Fan |
| Wake On LAN/ PXE | — | Yes (WOL/PXE) |
| Power State | S3, S4, S5 | S4, S5 |
| Graphics | | |
| Graphics Chipset | Intel® Graphics Media Accelerator | Intel® Xe LPG Graphics |
| Graphics Multi Display | HDMI+VGA, HDMI+DP, VGA+DP | Quad Display |
| VGA | Up to 1920 x 1200 @60Hz (via IT6516B) | — |
| DVI | — | — |
| HDMI | Up to 4096 x 2160 @ 30 Hz | — |
| Display Port | Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio | DP1.4, up to 4096 x 2160 @60Hz |
| LVDS | — | Up to 1920 x 1080 @60Hz, Dual Channel 18/24 bit, co-layout eDP (default LVDS) |
| eDP | — | eDP1.4, up to 4096 x 2160 @120Hz, 4ch, co-layout LVDS by BOM optional |
| Backlight Control | — | — |
| Environment & Power & ME | | |
| Battery | — | Lithium battery |
| Power Requirement | 24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1 | 12V ~ 24V DC-in (±5%) |
| Operation Temperature | 32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing) | 32°F ~ 140°F (0°C ~ 60°C) (Operational humidity: 60°C @90% RH Non-Condensing) |
| Storage Temperature | — | -40°F ~ 185°F (-40°C ~ 85°C) |
| Certificate | CE & FCC Class A | CE & FCC (Class A) |
| Form Factor | ATX Form Factor, 12" x 9.6" (305mm x 244mm) | Mini-ITX: 6.7" x 6.7" (170mm x 170mm) |
| Weight | 1.76 lb (0.8 Kg) | TBD |
| MTBF (Hours) | 285,600 | — |
| Rear Panel I/O Ports | | |
| USB | USB 3.2 Gen 1 ports x 2, USB 2.0 ports x 4 | USB 3.2 Gen 1 x 4 ports (5Gbps) |
| Display I/O | HDMI x 1, VGA x 1, DP x 1 | DP 1.4 x 4 |
| Audio I/O | Audio Jack x 3: Line-in, Mic-in, Line-out | Line-out x 1 |
| LAN I/O | LAN (RJ45) ports x 2 | SKU 4L: RJ-45 LAN x 4 (10GbE x 2 + 2.5GbE x 2), SKU 2L: RJ-45 LAN x 2 (2.5GbE x 2), |
| Serial Port | DB-9 COM x 1 (supports RS-232/422/485, 5V/12V/RI) | — |
| PS/2 Port | — | — |
| Others | — | 2x2-Pin Connector x 1 |
| Internal I/O Connectors | | |
| Storage | SATA 6.0Gb/s (6.0Gb/s) ports x 3 M.2 2280/2242 M-key (PCIex1/SATA3) x 1 | M.2-1A 2280 M-Key x 1 (PCIe [x4]; Gen 4, NVMe) |
| USB | USB 3.2 Gen 1 headers support additional 2 USB ports (2x5PIN, p=2.54mm) x 1, USB 2.0 Type A (vertical) x 1 | USB 3.2 Gen 1 x 1 (via 2 x 10-pin, 2.0mm header), supports additional 2 USB ports interface |
| Display I/O | — | 40-pin LVDS/eDP Connector x 1 |
| Audio I/O | AAFP x 1 | 1x4-Pin header x 1, supports 2W/4ohm |
| Serial Port | RS-232 headers x 5 | RS-232/422/485 Box Header x 1(5V/12V/RI optional), RS-232 Box Header x 5 |
| PS/2 Port | — | — |
| Parallel Port | — | — |
| DIO | 8-bit Digital I/O interface (In/Out programmable) x 1 | 8-bit programmable (4-in/4-out) x 1 |
| FAN | CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 2 | Chassis Fan connectors (4-pin) x 1, CPU Fan connectors (4-pin) x 1 |
| Power | — | — |
| Others | Chassis Intrusion x 1, AT/ATX mode select jumper x 1, Front panel header x 1, Clear CMOS jumper x 1, 3-pin ME lock header x 1, Buzzer on-board x 1 | Clear CMOS Jumper x 1, Front Panel Header x 1, ATX/AT Mode Select x 1, ME Disable x 1, eDP/LVDS Tcon IC Voltage Select x 1, LVDS Inverter x 1 eDP/LVDS Panel Backlight Voltage Select x 1 (3.3V/5V/12V) |
| OS | — | — |
| OS Support | Windows® 10 64bit, Windows® 11 64bit, Linux Ubuntu 64 bit (18.04.3/Kernel5) | Windows® 11 64-bit, Linux Ubuntu 24.04 / Kernel 6.8 |

Note: All specifications are subject to change without notice.

www.aaeon.com

Board Level Products

Server & Workstation



| Model | ARES-WHIO | ARES-EAGO |
|-----------------------|--|--|
| System | | |
| Form Factor | ATX Sever Board Whitely Platform | EATX Sever Board Eagle Stream Platform |
| Processor | Single Intel® Xeon® Processor Ice Lake-SP processor, supports up to 270W | Dual 4th/5th Generation Intel® Xeon® Scalable CPU Support, TDP Max. 350W |
| System Memory | DDR4 2666MHz R-DIMM Slot x 6, supports up to 192GB (32GB per DIMM) | DDR5 4800 MHz R-DIMM Slot x 12 |
| Chipset | Intel® C621A | Intel® C741 Chipset |
| Ethernet | Intel® i210 Gigabit Ethernet x 2 | Intel® i226LM LAN controller x 1, Intel® X550-AT2 x 1 |
| COM | RS-232 x 1 | Pin header x 1 |
| BIOS | | AMI BIOS |
| Serial ATA | SATA III port x 8 | SATA III port x 2, miniSAS x 1 (up to 4x SATA) |
| Audio and VGA | 1 | VGA x 1, Audio In Out (Optional) |
| Expansion Interface | PCIe 1: 1 x PCIe x16 (Gen4 x16) slot PCIe 2: 1 x PCIe x8 (Gen3 x4) slot PCIe 3: 1 x PCIe x16 (Gen4 x16) slot PCIe 4: 1 x PCIe x8 (Gen4 x4) slot PCIe 5: 1 x PCIe x16 (Gen4 x16) slot PCIe 6: 1 x PCIe x8 (Gen3 x4) slot PCIe 7: 1 x PCIe x8 (Gen4 x8) slot | PCIe 1: PCIe Gen 5 [x16] x 1 PCIe 2: PCIe Gen 5 [x16] x 1 PCIe 3: PCIe Gen 5 [x16] x 1 PCIe 4: PCIe Gen 5 [x16] x 1 PCIe 5: PCIe Gen 5 [x16] x 1 PCIe 6: PCIe Gen 5 [x16] x 1 |
| Watchdog Timer | | 1 ~ 255 steps by software programming |
| RTC | | Internal RTC |
| System Fan | | 4-pin fan headers x 5 (up to 5 fans) |
| Front I/O Panel | N/A | — |
| Rear I/O Panel | USB 3.0 x 6, 1Gb RJ45 LAN x 2, AUDIO in and out x 1, VGA x 1 | USB 3.2 Gen 1 x 4 2.5GbE LAN x 1 10GbE LAN x 2 VGA x 1 COM x 1 |
| Color | N/A | — |
| Power Supply | | ATX |
| Dimension | 12.0" x 9.6" (305mm x 244 mm) | 12" x 13" (305mm x 330mm) |
| Power Consumption | 269W (Based on Intel® Xeon® Platinum 8352S) | TBD |
| MTBF (Hours) | 292,321 | TBD |
| Display | | |
| Chipset | SM750 | AST2510 |
| Graphic Engine | N/A | — |
| Resolution | 1920x1080 (WIN Server 2019); 800x600 (CentOS 7.3) | TBD |
| Connector | | VGA |
| I/O | | |
| Serial Port | | COM x 1 Pin |
| K/B and Mouse | N/A | — |
| USB | USB 3.0 x 6 | USB 3.2 Gen. 1 x 4 |
| Environment | | |
| Operating Temperature | | 32°F ~ 140°F (0°C ~ 60°C) |
| Storage Temperature | | -4°F ~ 140°F (-20°C ~ 60°C) |
| Operating Humidity | | 10%~80% relative humidity, non-condensing |
| Storage Humidity | | 10%~80% @40°C, non-condensing |
| Vibration | 0.5 g rms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz / non operation | 1.5 g rms/ 5 ~ 500Hz / non operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation | 20 G peak acceleration (11 m sec. duration), non operation |
| Note | | |



| Model | ZEUS-PURO | ZEUS-WHIO |
|-----------------------|---|--|
| System | | |
| Form Factor | 4U Rackmount | Server System |
| Processor | Intel® Xeon® Skylake-SP and Cascade Lake-SP Processors | Single Intel® Xeon® Processor Ice Lake-SP processor, supports up to 205W |
| System Memory | DDR4 2133/2400/2666 R-DIMM, Up to 512 GB | DDR4 2666MHz R-DIMM Slot x 6, supports up to 192GB (32GB per DIMM) |
| Chipset | Intel® C621 | Intel® C621A |
| Ethernet | Intel® i211 Gigabit Ethernet x 2 | Intel® i210 Gigabit Ethernet x 2 |
| BIOS | | AMI BIOS |
| Serial ATA | SATA II port x 6 | SATA III port x 8 |
| Storage | 2.5" HDD x 6 or 3.5" HDD x 6, M.2 x 1 | 2.5" HDD x 8 or 3.5" HDD x 8, M.2 2280 M key socket x 1 |
| Expansion Interface | NIM slot x 4 (Project Base NIM Slot x 8) Option front PCIe [x16] slots x 2 Option rear side PCIe [x4] x 4 (or PCIe [x8] x 2) + PCIe [x8] x 2 (Or PCIe [x16] x 1) M.2 Slot x 1 Mini PCIe x 1 | PCIe 1: 1 x PCIe x16 (Gen4 x16) slot PCIe 2: 1 x PCIe x8 (Gen3 x4) slot PCIe 3: 1 x PCIe x16 (Gen4 x16) slot PCIe 4: 1 x PCIe x8 (Gen4 x4) slot PCIe 5: 1 x PCIe x16 (Gen4 x16) slot PCIe 6: 1 x PCIe x8 (Gen3 x4) slot PCIe 7: 1 x PCIe x8 (Gen4 x8) slot |
| Watchdog Timer | | 1~255 steps by software programmable |
| RTC | | Internal RTC |
| System Fan | 5 | Middle Fan x 3 (Default), Rear Fan x 2 (Optional) |
| Front I/O Panel | Power LED x 1, Status LED x 1, HDD Active LED x 1 | Power LED x 1, HDD Active LED x 1 |
| Rear I/O Panel | AC Power Input x 1, Power Switch x 1, VGA port (Optional), Rear Expansion Slot (Option) | AC Power Input x 1, Power Switch button x 1, USB 3.1 Gen 1 x 6 (Type-A), 1Gb RJ45 LAN x 2, AUDIO in and out x 1, VGA x 1, Rear Expansion Slots x 7 |
| Color | | Black |
| Power Supply | 800 ~1600W Redundant PSU | 800 mini redundant PSU; 1600W CRPS PSU, optional |
| Dimension | (480mm x 600mm x 176mm) | 23.5" x 17" x 6.88" (597.2mm x 430mm x 174.8mm) |
| Power Consumption | TBD | — |
| MTBF (Hours) | TBD | — |
| Display | | |
| Chipset | AST2500 | SM750 |
| Graphic Engine | From IPMI or Mini PCIe Option | — |
| Resolution | — | 1920x1080 (WIN Server 2019); 800x600 (CentOS 7.3) |
| Connector | VGA Option | VGA |
| I/O | | |
| Serial Port | RJ-45 Console x 1 | COM x 1 |
| K/B and Mouse | N/A | — |
| USB | USB 3.0 x 2 | USB 3.1 Gen 1 x 6 (Type-A) |
| Environmental | | |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | 10% ~ 80% relative humidity, non-condensing | 10% ~ 90% relative humidity, non-condensing |
| Storage Humidity | | 10% ~ 80% @40°C: non-condensing |
| Vibration | 0.5 g rms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz / non operation | 0.5 g rms/ 5 ~ 500Hz / operation (3.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz / non operation |
| Shock | | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation |
| Note | | |

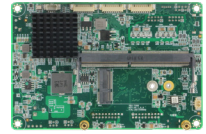
02

▶ System Level Products



System Level Products

AI@Edge Solutions



| Model | BOXER-8221AI | BOXER-8223AI | BOXER-8224AI |
|------------------------|--|---|---|
| System | | | |
| AI Accelerator | | NVIDIA® Jetson Nano™ | |
| CPU | Quad Core ARM® Cortex®-A57 MPCore Processor | Quad Core ARM® Cortex®-A57 MPCore Processor | ARM® Cortex® -A57 Quad-Core Processor |
| System Memory | | 4GB LPDDR4 | |
| Storage Device | 32GB Micro-SD (A version) or 16GB eMMC (B version) | 16GB eMMC + Micro SD Card Slot 2.5" SATA Drive Bay x 1 | 16GB eMMC 5.1 x 1 MicroSD slot x 1 |
| Display Interface | HDMI 2.0 | HDMI 2.0 (Type-A) x 1 (Output) HDMI 1.4 (Type-A) x 1 (Input) | Mini HDMI x 1 for HDMI 2.0 |
| Ethernet | 10/100/1000Base-TX x 1 | PoE/PSE LAN x 2 (IEEE 802.3at) | Wafer connector x 2 for Giga LAN |
| I/O | USB 3.2 Gen 1 x 4 LAN x 1 RS-232 x 2 HDMI x 1 MicroSD x 1 DC Power Input x 1 Recovery Button x 1 Micro-USB for Flash OS x 1 | USB 3.2 Gen 1 (Type-A) x 4 GbE LAN with LED Indicator PoE/PSE LAN x 2 (IEEE 802.3at) DB-9 x 1 for RS-232/485 DB-15 x 1 Female for 13-Channel DIO O.S Flash Port x 1 Recovery Port x 1 Antenna Opening x 2 HDMI 2.0 (Type-A) x 1 (Output) HDMI 1.4 (Type-A) x 1 (Input via MIPI CSI) Power Bottom x 1 | USB 3.2 Gen 1 x 4 (via 2x19-Pin Wafer) Mini HDMI x 1 for HDMI 2.0 RS-232/485 x 2 (via 1x9-Pin Wafer) UART x 1 and I2C x 2 (via 1x9-Pin Wafer) 5V Output (via 1x2-Pin Wafer) GPIO x 6 (via 1x9-Pin Wafer) MIPI Connector x 2 for MIPI Camera LAN LED x 2 (via 2x6-Pin Wafer) Micro USB for Flash OS x 1 Recovery Button x 1 Reset Button x 1 and Power Button x 1 (via Pin Header) |
| Expansion | M.2 E-Key 2230 x 1 (for WiFi) | Mini Card x 1 w/ SIM Slot M.2 2230 E-Key x 1 (for Wi-Fi) | M.2 2230 E Key x 1 for Wifi/BT Mini Card x 1 (LTE) Micro SD x 1 SIM card slot x 1 |
| Indicator | | Power LED x 1 | — |
| OS Support | Linux (AAEON ACLinux 4.9) Linux (NVIDIA Jetpack 4.5) | NVIDIA Jetpack™ 4.5 or above | Linux (NVIDIA Jetpack™ 4.6 and above) |
| Power Supply | | | |
| Power Requirement | 12Vdc w/ 2-pin terminal block | DC 12V~24V with 2-pin terminal block ATX mode | Wafer connector x 1 for 12V ~ 24V DC |
| Mechanical | | | |
| Mounting | Wallmount | Wallmount (default) | — |
| Dimensions (W x D x H) | 3.39" x 2.87" x 1.3" (88mm x 75mm x 39mm) | 7.09" x 5.35" x 2.41" (180.0mm x 136.0mm x 61.1mm) | 4.72" x 3.1" x 0.76" (120mm x 80mm x 19.7mm), SOM + Carrier Board Only |
| Gross Weight | 1.10 lb (0.5 kg) | 4.63 lb (2.1kg) | 0.45lb (0.2kg) |
| Net Weight | 0.66 lb (0.3 kg) | 2.87 lb (1.3kg) | 0.23lb (0.1kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~ 122°F (-20°C ~ 50°C, according to IEC60068-2 with 0.5 m/s AirFlow) | 14°F ~ 158°F (-10°C ~ 70°C), with 0.5m/s airflow | -4°F ~ 140°F (-20°C ~ 60°C with 0.5 m/s airflow) |
| Storage Temperature | -49°F ~ 176°F (-45°C ~ 80°C) | -40°F ~ 176°F (-40°C ~ 80°C) | -49°F ~ 176°F (-45°C ~ 80°C) |
| Storage Humidity | 95% @ 40°C, non-condensing | | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | 3 Grms/ 5 ~ 500Hz/ operation – MicroSD or eMMC | Random, 3 Grms, 5~500Hz | 3.5Grm / 5~500Hz / X/Y/Z axis, random (by M.2 storage) |
| Anti-Shock | — | 50G peak acceleration (11 msec. duration, eMMC) | — |
| Certification | CE/FCC class A | CE/FCC class A, UKCA | CE/FCC class A |
| Note | | | |



| Model | BOXER-8240AI | BOXER-8251AI | BOXER-8253AI |
|------------------------|--|--|--|
| System | | | |
| AI Accelerator | NVIDIA® Jetson AGX Xavier™ | | NVIDIA® Jetson Xavier™ NX |
| CPU | 8-core ARM v8.2 64bit CPU, 8MB L2 + 4MB L3 | | 6 Core ARM® Carmel™ v8.2 64bit CPU 6MB L2 + 4MB L3 |
| System Memory | 32GB 256-Bit LPDDR4x 137GB/s | | 8GB LPDDR4x |
| Storage Device | 32GB eMMC 5.1 Micro SD card slot 2.5" SATA drive bay M.2 Key M 2280 | 16GB eMMC + MicroSD | eMMC 16GB MicroSD slot x 1 Full-size mSATA (sharing slot with Full-size minicard module) 2.5" SATA drive bay x 1 |
| Display Interface | | HDMI 2.0 x 1 | HDMI Type A for HDMI 2.0 x 1 |
| Ethernet | 10/100/1000 Base-TX with IEEE 802.3af PoE LAN x 4 | 10/100/1000Base-TX x 1 | RJ-45 x 2 For GbE PoE/PSE (802.3at) RJ-45 x 1 For GbE LAN |
| I/O | PoE x 4 (IEEE 802.3af, total 60W) USB Type A x 1 for USB 3.2 Gen 1 USB Type C x 2 for USB 3.2 Gen 1 USB Type A x 1 for USB 2.0 RS-232/422/485 x1 CANBUS x 1 HDMI 2.0 x 1 DP 1.4 x 1 Mic-in x 1 Line-out x 1 MicroSD slot x 1 Micro USB x 1 for OS Flash Recovery button x 1 Power button x 1 40-pin header compliance with NVIDIA Dev Kit 40 pins (4 pins CANBUS occupied) | USB 3.2 Gen 1 x 4 LAN x 1 RS-232/422/485 x 2 HDMI x 1 MicroSD x 1 DC Power Input x 1 Recovery Button x 1 Micro-USB for Flash OS x 1 | USB Type A x 4 for USB 3.2 Gen 1 USB Micro A/B x 1 for OS Flash RJ-45 x 2 for PoE/PSE (802.3at) (Total 60W) RJ-45 x 1 for GbE LAN DB-9 x 1 for RS-232/485 & CANbus DB15 x 1 for Digital I/O 13-Channel (programmable) Recovery Button x 1 MicroSD card slot x 1 Antenna opening x 4 HDMI Type A for HDMI 2.0 output x 1 HDMI Type A for HDMI 1.4 input x 1 Power Button x 1 |
| Expansion | USB 2.0 header x 1 (Optional, circuit reserved) M.2 Key E 2230 x 1 for WiFi/Bluetooth (PCIe[x1] + USB) M.2 Key M 2280 x 1 (PCIe[x4]) SATA x 1 RS-232/422/485 pin header x 1 | M.2 E-Key 2230 x 1(for WiFi) | Full-size minicard slot x1 (PCIe/USB/mSATA, default PCIe) M.2 E-Key 2230 x 1 (for WiFi) SIM socket x 1 SATA III (6.0 Gbps) port x 1 for 2.5" drive |
| Indicator | | Power LED x 1 | |
| OS Support | Linux (NVIDIA Jetpack 4.5 and above) | Linux (AAEON ACLinux 4.9) Linux (NVIDIA Jetpack 4.5) Ubuntu18.04 | Linux (AAEON ACLinux4.9) Linux (NVIDA Jetpack 4.5) |
| Power Supply | | | |
| Power Requirement | DC 12V~24V 2-pin terminal | 12Vdc w/ 2-pin terminal block | 12~24V DC with 2-pin terminal block |
| Mechanical | | | |
| Mounting | | Wallmount | |
| Dimensions (W x D x H) | 8.26" x 6.46" x 2.32" (210mm x 164.2mm x 59mm) | Standard: 3.46" x 2.95" x 1.53" (88mm x 75mm x 39mm) High heatsink Dimension: 3.54" x 3.30" x 2.04"(90mm x 84mm x 52mm) | 7.09 " x 5.35 " x 2.41" (180.0 mm x 136 .0 mm x 61.1 mm) |
| Gross Weight | 6 lbs (2.72kg) | Standard: 1.10 lb (0.5 kg) High heatsink: 1.76lb(0.8kg) | 4.63 lbs. (2.1 kg) |
| Net Weight | 4.23 lbs (1.92kg) | Standard: 0.66 lb (0.3 kg) High heatsink: 1.3lb(0.6kg) | 2.87 lbs. (1.3 kg) |
| Environmental | | | |
| Operating Temperature | 14°F ~ 131°F (-10°C ~ 55°C, according to IEC60068-2 with 0.5 m/s AirFlow) | -4°F ~ 140°F (-20°C ~ 60°C) (varies depending on selected power model) | 5°F ~ 131°F (-15°C ~ 55°C with 0.5 m/s airflow) |
| Storage Temperature | | -40°F ~ 158°F (-40°C ~ 70°C) | -40°F ~ 176°F (-40°C ~ 80°C) |
| Storage Humidity | | 95% @ 40°C, non-condensing | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | Random, 3 Grms, 5 ~ 500Hz | 3 Grms/ 5 ~ 500Hz/ operation – MicroSD or eMMC | 3.5Grms / 5~500Hz / operation-eMMC, MicroSD or mSATA |
| Anti-Shock | | — | 50G peak acceleration (11 msec. duration,eMMC,microSD,or mSATA) |
| Certification | | CE/FCC class A | |
| Note | | | |

System Level Products

AI@Edge Solutions



| Model | BOXER-8256AI | BOXER-8621AI | BOXER-8622AI |
|------------------------|--|---|--|
| System | NVIDIA® Jetson Orin Nano™ | | |
| AI Accelerator | NVIDIA® Jetson Xavier™ NX | NVIDIA® Jetson Orin Nano™ with Super Mode | |
| CPU | 6-core NVIDIA Carmel Arm™v8.2 64-bit CPU | 6-core Arm® Cortex®-A78AE ARMv8.2 64-bit CPU | 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU |
| System Memory | 8GB LPDDR4x | 4GB/8GB LPDDR5 | |
| Storage Device | 16GB eMMC x 1 MicroSD Slot x 1 M.2 M-Key 2280 x 1 (PCIe[x4]) 2.5" SATA x 1 | M.2 3052 B-Key x 1 for M.2 2242 B+M Key SSD (Default Storage) M.2 2230 E-Key x 1 (Optional) | M.2 2280 M-Key x 1 |
| Display Interface | HDMI 2.0 x 2 | | HDMI 1.4 (Type-A) x 1 |
| Ethernet | RJ-45 x 1 for GbE LAN | | |
| I/O | USB Type A x 3 for USB 3.2 Gen 1 DB9 for RS-232/422/485 (By switch) and CANBUS x1 HDMI x 2 for Video Display 2.0 HDMI x 4 for Video Input 1.4 (Limitation have stated in User manual) Mic-in x 1, Line-Out x 1 Micro USB for OS Flash x 1 Power ON/OFF switch x 1 Recovery button x 1 SMA Antenna hole x 2 | USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 (Type-A) x 2 DB-9 for RS-232 (Rx/Tx/CTS/RTS)/485 x 1 and CANBUS FD x 1 DB-15 for RS-232 (Rx/Tx)/422/485 x 1 and DIO x 8 Micro USB x 1 for OS Flash Recovery Button x 1 Antenna x 2 | USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 (Type-A) x 2 Micro USB x 1 for OS Flash DB-9 x 1 for CANBUS DB-9 x 1 for RS-232/422/485 DB-15 x 1 for 13-bit DIO Power ON/OFF switch x 1 Recovery button x 1 Antenna Hole x 6 |
| Expansion | M.2 B-Key 3042/3052 x 1 (PCIe[x2] + USB 3.0) M.2 E-key x 1 (PCIe[x1] + USB 2.0) | M.2 3042/3052 B Key x 1 (4G/5G/M.2 2242 B+M Key storage) M.2 2230 E Key x 1 (Wifi/BT/Storage) SIM Slot x 1 | M.2 2230 E-Key x 1 (Wi-Fi/Bluetooth) M.2 3042/3052 B-Key x 1 (4G/5G) M.2 2280 M-Key x 1 |
| Indicator | Power LED x 1 | | |
| OS Support | Linux (NVIDIA Jetpack 4.6.2 or above) | Linux (NVIDIA Jetpack™ 6.x and up) | |
| Power Supply | | | |
| Power Requirement | DC-in 12-24V with 2-pin terminal block | 12V~24V DC in with 2 pins terminal block x 1 | DC-in 12-24V with 2-pin terminal block |
| Mechanical | | | |
| Mounting | Wallmount | | |
| Dimensions (W x D x H) | 7.09" x 5.35" x 2.64" (180 mm x 136 mm x 67 mm) | 4.13" x 3.54" x 2.05" (105mm x 90mm x 52mm), w/o bracket | 5.98" x 3.78" x 2.42" (152mm x 96 mm x 61.5mm) |
| Gross Weight | 4.23 lb (1.92 kg) | 2.4 lb (1.1kg) | 3.97lb (1.8kg) |
| Net Weight | 2.87 lb (1.3 kg) | 1.58 lb (0.7kg) | 2.65lb (1.2kg) |
| Environmental | | | |
| Operating Temperature | -5°F ~ 140°F (-15°C ~ 60°C with 0.5 m/s airflow) | -5°F ~ 140°F (-15°C ~ 60°C), according to IEC60068-2 with 0.5 m/s AirFlow | -5°F ~ 149°F (-15°C ~ 65°C with 0.5 m/s airflow) |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | -40°F ~ 185°F (-40°C ~ 85°C) | -40°F ~ 176°F (-40°C ~ 85°C) |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | 5% ~ 95% @ 40C, non-condensing | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | 3.5 Grms/ 5 ~ 500Hz/ operation – eMMC | 3.5Grm / 5~500Hz / Operation | 3.5Grm / 5~500Hz |
| Anti-Shock | 50G, IEC 60068-2-27, half sine, 11 ms duration – eMMC | 50G peak acceleration | |
| Certification | CE/FCC class A | | |
| Note | | | |



| Model | BOXER-8623AI | BOXER-8640AI | BOXER-8641AI |
|------------------------|---|--|--|
| System | | | |
| AI Accelerator | NVIDIA® Jetson Orin Nano™ | NVIDIA® Jetson AGX Orin™ | |
| CPU | 6-core Arm® Cortex™-A78AE ARMv8.2 64-bit CPU | AGX Orin 32GB: 8-core Arm® Cortex™-A78AE CPU AGX Orin 64GB: 12-core Arm® Cortex™-A78AE CPU | |
| System Memory | 4GB LPDDR5 8GB LPDDR5 | 32GB LPDDR5 64GB LPDDR5 | |
| Storage Device | M.2 2280 M Key x 1 | 64GB eMMC 5.1 Micro SD Card Slot x 1 2.5" SATA Drive Bay x 1 M.2 2280 M-Key x 1 | 64GB eMMC 5.1 x 1 MicroSD slot x 1 SATA drive bay x 1 |
| Display Interface | HDMI 1.4 (Type-A) x 1 | HDMI 2.0 x 1 | HDMI Type A for HDMI 2.0 x 1 |
| Ethernet | RJ-45 x 1 for GbE LAN RJ-45 x 4 for GbE PoE/PSE 802.3af/at (Max.60W) | RJ-45 for GbE PoE/PSE 802.3af x 4 (Max. 60W) | RJ-45 for GbE LAN x 2 |
| I/O | USB 3.2 Gen 2 (Type-A) x 4 DB-9 x 1 for RS-232 (Rx/Tx/CTS/RTS) x 1 and CANBUS FD x 1 DB-15 x 1 for RS-232(Rx/Tx)/422/485 x 1 and DIO x 8 Micro USB x 1 for OS Flash Power Button x 1 Recovery Button x 1 Antenna Hole x 6 | USB 3.2 Gen 2 (Type-A) x 2 USB 3.2 Gen 2 (Type-C) x 2 RS-232/422/485 x 1 CANBus x 1 Mic-in x 1 Line-out x 1 MicroSD Slot x 1 Micro USB x 1 for OS Flash Recovery Button x 1 Power Button x 1 40-pin Header compliant with NVIDIA Jetson Orin Nano Developer Kit (without CANBus) | USB Type A for USB 3.2 Gen 2 x 2 USB Type C for USB 3.2 Gen 2 x 1 USB Type A for USB 2.0 x 1 Micro USB x 1 for OS Flash Mic in and Line out x1 Reset Button x 1 Recovery Button x 1 MicroSD card slot x 1 Antenna opening x 4 Power Button x 1 DB-9 x 2 for RS-232/422/485 DB-9 x 1 for DIO x 8 |
| Expansion | M.2 2280 M-Key x 1 (NVMe) M.2 3042/3052 B-Key x 1 M.2 2230 E-Key x 1 SIM Slot x 1 | USB 2.0 Header x 1 (Optional, Circuit Reserved) M.2 2230 E-Key x 1 (Wifi/BT) M.2 2280 M-Key x 1 (NVMe) 2.5" SATA Drive Bay x 1 RS-232/422/485 Pin Header x 1 | M.2 E-Key 2230 (for Wifi/BT) x 1 M.2 B-Key 3052 x 1 M.2 M-Key 2280 (NVMe) x 1 2.5" SATA drive bay SIM Slot x 1 |
| Indicator | | Power LED x 1 | |
| OS Support | Linux (NVIDIA Jetpack™ 6.2.0 and up) | Linux (NVIDIA Jetpack™ 6.x and up) | |
| Power Supply | | | |
| Power Requirement | 12V ~ 24V DC in with 2-pin Terminal Block x 1 | DC 12V ~ 24V 2-pin terminal | 12V DC with lockable DC Jack |
| Mechanical | | Wallmount | |
| Mounting | | | |
| Dimensions (W x D x H) | 7.09" x 5.35" x 2.95" (180mm x 136mm x 75mm) | 8.26" x 6.46" x 2.91" (210mm x 164.2mm x 74mm) | 7.09 " x 5.35 " x 3.11" (180.0 mm x 136 .0 mm x 79.1 mm) |
| Gross Weight | 7.7 lb (3.5kg) | 8.3 lb (3.76kg) | 7.8lb (3.55kg) |
| Net Weight | 5.5 lb (2.5kg) | 6.4 lb (2.9kg) | 5.5lb (2.5kg) |
| Environmental | | | |
| Operating Temperature | 5°F ~ 149°F (-15°C ~ 65°C), according to IEC60068-2 with 0.5 m/s AirFlow | -4°F ~ 131°F (-20°C ~ 55°C, according to IEC60068-2 with 0.5 m/s AirFlow) | -4°F ~ 131°F (-20°C ~ 55°C with 0.5 m/s airflow) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | -40°F ~ 158°F (-40°C ~ 70°C) |
| Storage Humidity | 5% ~ 95% @ 40°C, non-condensing | 95% @ 40°C, non-condensing | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | 3.5Grm / 5~500Hz / Operation | Random, 3.5 Grms, 5 ~ 500Hz | 3.5Grm / 5~500Hz / operation-eMMC, MicroSD or SSD |
| Anti-Shock | 50G peak acceleration | 50G Peak Acceleration | 50G peak acceleration (11 msec. duration, eMMC, microSD, or SSD) |
| Certification | | CE / FCC class A | |
| | | | CE / FCC Class B |
| Note | | | |



| Model | BOXER-8641AI-PLUS | BOXER-8642AI | BOXER-8645AI |
|------------------------|--|---|---|
| System | | | |
| AI Accelerator | NVIDIA® Jetson AGX Orin™ | | |
| CPU | AGX Orin 32GB: 8-core Arm® Cortex®-A78AE CPU AGX Orin 64GB: 12-core Arm® Cortex®-A78AE CPU | | AGX Orin 32GB: 8-core Arm® Cortex®-A78AE CPU AGX Orin 64GB: 12-core Arm® Cortex®-A78AE CPU |
| System Memory | 32GB LPDDR5 64GB LPDDR5 | | 32GB LPDDR5 64GB LPDDR5 |
| Storage Device | 64GB eMMC 5.1 x 1 MicroSD slot x 1 2.5" SATA drive bay x 1 | 64GB eMMC 5.1 x 1 2.5" SATA SSD drive bay x 1 | 64GB eMMC 5.1 x 1 M.2 2280 M-Key x 1 (NVMe) 2.5" SATA x 2 |
| Display Interface | HDMI Type A for HDMI 2.0 x 1 | | HDMI 2.0 x 1 (Type-A) |
| Ethernet | RJ-45 for Giga LAN x 1 RJ-45 for 10G LAN x 1 | RJ-45 x 2 for GbE LAN | |
| I/O | USB 3.2 Gen 2 (Type-A) x 2 (from SoM) USB 3.2 Gen 2 (Type-A) x 2 (from Hub) DB-9 x 2 for RS-232/422/485(Rx/Tx/RTS/CTS) DB-9 x 1 for DIO x 8 Micro USB x 1 for OS Flash Mic in and Line out x 1 MicroSD Card Slot x 1 Antenna Opening x 6 Reset Button x 1 Recovery Button x 1 Power Button x 1 OOB Connector x 1 TPM 2.0 x 1 | USB 3.2 Gen 2 (Type-A) x 8 (Independent 10Gbps) DB-9 x 2 for RS-232/422/485(Rx/Tx) & CANBus FD Mic-in x 1 Line-Out x 1 Power Button x 1 Recovery Button x 1 Micro USB x 1 for OS Flash SMA Antenna Hole x 2 | GMSL2 with FAKRA x 8 USB 3.2 Gen 2 x 4 (Type-A) Micro USB x 1 for OS Flash Line-Out x 1 DB-9 x 1 for Isolated CANBus x 2 DB-9 x 2 for RS-232 (Rx/Tx/CTS/RTS)/RS-485 x 2 DB-9 x 1 for DIO x 8 Switch x 2 for Ignition Delay On/Off 3-pin Terminal Block x 1 for Power Input Power Button x 1 Recovery Button x 1 Antenna Hole x 7 TPM Support GNSS Support 9-Axis Sensor Support |
| Expansion | M.2 2230 E-Key x 1 M.2 3052 B-Key x 1 M.2 2280 M-Key x 1 2.5" SATA Drive Bay x 1 SIM Slot x 1 | M.2 2230 E-Key x 1 (Wi-Fi/BT) 2.5" SATA SSD Bay x 1 | M.2 2230 E-Key x 1 (Wifi/BT) M.2 3052 B-Key x 1 (LTE) M.2 2280 M-Key x 1 (NVMe) 2.5" SATA x 2 SIM Slot x 2 MicroSD Slot x 1 |
| Indicator | Power LED x 1 | | |
| OS Support | Linux (NVIDIA Jetpack 6.0 and above) | Linux (NVIDIA Jetpack™ 5.1.2 and above) | Linux (NVIDIA JetPack™ 5.0 and above) |
| Power Supply | | | |
| Power Requirement | 12~19VDC 2-pin Terminal Block | 12V ~ 24V DC-in with 2-pin Terminal Block x 1 | 3-pin Terminal Block x 1 for 9V ~ 36V ACC Ignition Delay On/Off |
| Mechanical | | | |
| Mounting | Wallmount | | |
| Dimensions (W x D x H) | 7.09" x 5.35" x 3.11" (180mm x 136mm x 79.1mm) | 7.09" x 5.35" x 3.07" (180.0 mm x 136.0 mm x 78 mm) | 11.26" x 7.95" x 3.54" (286mm x 202mm x 90mm) |
| Gross Weight | 7.8 lb (3.55kg) | 7.8lb (3.55kg) | 13 lb (5.9kg) |
| Net Weight | 5.5 lb (2.5kg) | 5.5lb (2.5kg) | 11 lb (5kg) |
| Environmental | | | |
| Operating Temperature | -13°F ~ 131°F (-25°C ~ 55°C) with 0.7 m/s airflow | -13°F ~ 131°F (-25°C ~ 55°C), according to IEC60068-2 with 0.7 m/s AirFlow (w/Industrial wide Temp. SSD) | -13°F ~ 149°F (-25°C ~ 65°C with 0.5 m/s airflow) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | 5 ~ 95% @ 40°C, non-condensing, non-operation | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | 3.5 Grms, 5~500Hz with SSD | 3.5 Grms/ 5 ~ 500Hz/ operating | MIL-STD-810G, 514.6C Procedure 1, Category 4 Trucker/Semitrailer on US highway (Figure 514.6C-1-Category 4-Common carrier) |
| Anti-Shock | 50G peak acceleration | | MIL-STD-810G, Method 516.6, Procedure I, flight vehicle equipment |
| Certification | CE / FCC class B | CE/FCC class A | E-Mark, CE/FCC class A |
| Note | | | |



| Model | BOXER-8646AI | BOXER-8649AI | BOXER-8651AI |
|------------------------|--|--|---|
| System | NVIDIA® Jetson AGX Orin™ | | |
| AI Accelerator | NVIDIA® Jetson Orin™ NX | | |
| CPU | 8-core ARM v8.2 64bit CPU, 2MB L2 + 4MB L3 | AGX Orin 32GB: 8-core Arm® Cortex®-A78AE CPU AGX Orin 64GB: 12-core Arm® Cortex®-A78AE CPU | 6-core Arm® Cortex®-A78AE ARMv8.2 64-bit CPU |
| System Memory | 32GB LPDDR5 | 32GB LPDDR5 64GB LPDDR5 | 8GB/16GB LPDDR5 |
| Storage Device | 64GB eMMC 5.1 x 1 M.2 2280 NVMe M Key x 1 | M.2 2280 M-Key x 1 for NVMe M.2 2230 E-Key x 1 for WiFi/BT/NVMe | M.2 3052 B-Key x 1 for M.2 2242 B+M Key SSD (Default Storage) M.2 2230 E-Key x 1 (Optional) |
| Display Interface | HDMI Type A x 1 for HDMI 2.0 | Mini HDMI 2.0 output (Inside waterproof cover) | HDMI 2.1 (Type-A) x 1 |
| Ethernet | RJ-45 x 12 for GbE PoE/PSE (802.3af/at, MAX.:120W) RJ-45 x 1 for 10G LAN RJ-45 x 1 for Giga LAN | M12 X code 8Pin x 1 for 10Gbps LAN M12 X code 8Pin x 1 for Giga LAN | RJ-45 x 1 for GbE LAN |
| I/O | USB Type A for USB 3.2 Gen 1 x 2 USB Type A for USB 2.0 x 2 Micro USB x 1 for OS Flash Mic-in x 1 Line-out x 1 DB-9 x 1 for CANbus FD x 2 DB-9 x 2 for RS-232/422/485 DB-9 x 1 for DIO x 8 3-pin terminal block x 1 for power input Power button x 1 Recovery button x 1 Antenna hole x 6 | Mini FAKRA B type x 1 for GMSL2 x 4, 2 sets M12 A code 8pin x 1 for USB 2.0 x 2 M12 A code 12Pin x 1 for RS232 (Rx/Tx/CTS/RTS)/RS485 x 1 & CANBus FD x 2 M12 A code 12Pin x 1 for RS232 (Rx/Tx/CTS/RTS)/RS485 x 1, DIO x 3 External IP67 SMA antenna x 7 Micro USB for image flash x 1 (Inside waterproof cover) Recovery button x 1 (Inside waterproof cover) | USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 (Type-A) x 2 DB-9 for RS-232 (Rx/Tx/CTS/RTS)/485 x 1 and CANBus FD x 1 DB-15 for RS-232 (Rx/Tx)/422/485 x 1 and DIO x 8 Micro USB x 1 for OS Flash Recovery Button x 1 Antenna x 2 |
| Expansion | M.2 2230 E Key x 1 (Wifi/BT) M.2 3052 B Key x 1 (LTE) M.2 2280 NVMe M Key x 1 SIM Slot x 1 | M.2 2280 M-Key x 1 for NVMe M.2 3042/3052 B-Key x 1 for 4G/5G (USB 3.0 + PCIe) M.2 2230 E-Key x 1 for WiFi/BT/NVMe SIM Slot x 2 | M.2 3042/3052 B Key x 1 (4G/5G/M.2 2242 B+M Key storage) M.2 2230 E Key x 1 (Wifi/BT/Storage) SIM Slot x 1 |
| Indicator | Power LED x 1 | Power LED x 1 System LED x 1 | Power LED x 1 |
| OS Support | Linux (NVIDIA Jetpack 6.x and up) | NVIDIA Jetpack 7.x and up | Linux (NVIDIA Jetpack™ 5.0 up) |
| Power Supply | | | |
| Power Requirement | 3-pin terminal block x 1 for 19V~24V | 9V to 48V DC input and ignition power control via M12 A-code OVP, UVP, OCP, Short protection, Reverse protection, Surge protection | 12V~24V DC in with 2 pins terminal block x 1 |
| Mechanical | | | |
| Mounting | Wallmount | TBD | Wallmount |
| Dimensions (W x D x H) | 10.42" x 7.24" x 3.67" (264.76 mm x 184.00 mm x 93.30 mm) | 7.48" x 5.35" x 4.30" (190mm x 136mm x 109.3mm) | 4.13" x 3.54" x 2.05" (105mm x 90mm x 52mm), w/o bracket |
| Gross Weight | 12.13lb (5.5kg) | TBD | 2.4 lb (1.1kg) |
| Net Weight | 9.92lb (4.5kg) | TBD | 1.58 lb (0.7kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~ 122°F (-20°C ~ 50°C with 0.5 m/s airflow) | -13°F ~ 140°F (-25°C ~ 60°C), according to IEC 60068-2 with 0.7 m/s airflow | -5°F ~ 131°F (-15°C ~ 55°C), according to IEC60068-2 with 0.5 m/s AirFlow |
| Storage Temperature | -40°F ~ 158°F (-40°C ~ 70°C) | 104°F ~ 185°F (40°C ~ 85°C), non-operation | -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | 5% ~ 95% @ 40°C, non-condensing, non-operation | 5% ~ 95% @ 40C, non-condensing |
| Anti-Vibration | 3.5Grm / 5~500Hz | MIL-STD-810H | 3.5Grm / 5~500Hz / Operation |
| Anti-Shock | 50G peak acceleration | MIL-STD-810H | 50G peak acceleration |
| Certification | | CE/FCC class A | |

Note

System Level Products

AI@Edge Solutions



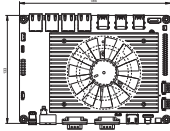
| Model | BOXER-8651AI-PLUS | BOXER-8652AI | BOXER-8652AI-PLUS |
|------------------------|--|--|--|
| System | | | |
| AI Accelerator | NVIDIA® Jetson Orin™ NX | | |
| CPU | Orin NX 8GB: 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU Orin NX 16GB: 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU | 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU | Orin NX 8GB: 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU Orin NX 16GB: 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU |
| System Memory | Orin NX 8GB: 8GB LPDDR5 Orin NX 16GB: 16GB LPDDR5 | 8GB/16GB LPDDR5 | Orin NX 8GB: 8GB LPDDR5 Orin NX 16GB: 16GB LPDDR5 |
| Storage Device | M.2 3052 B-Key x 1 for M.2 2242 B+M Key SSD (Default Storage) M.2 2230 E-Key x 1 (Optional) | M.2 2280 M-Key x 1 | M.2 2280 M Key (128GB built-in Gen 3 SSD) M.2 3042/3052 B Key x 1 M.2 2230 E key x 1 |
| Display Interface | HDMI 1.2 (Type-A) x 1, up to 1920 x 1080 | | HDMI 2.0 (Type-A) x 1 |
| Ethernet | RJ-45 x 1 for GbE LAN | RJ-45 x 2 for 10/100/1000 Base-T | RJ-45 x 2 for 10/100/1000 Base-T (including i210 OOB x 1) |
| I/O | USB 3.2 Gen 2 (Type-A) x 4 DB-9 for RS-232 (Rx/Tx/CTS/RTS) & CANBus FD x 1 10-pin terminal block for DIO x 8 Micro USB x 1 for OS Flash Recovery Button x 1 Antenna x 6 | USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 (Type-A) x 2 Micro USB x 1 for OS Flash DB-9 x 1 for CANbus DB-9 x 1 for RS-232/422/485 DB-15 x 1 for 13-bit DIO Power ON/OFF switch x 1 Recovery button x 1 Antenna Hole x 6 | USB 3.2 Gen 2 (Type-A) x 4 Micro USB x 1 for OS Flash DB-9 x 1 for CANbus DB-9 x 1 for RS-232/422/485 DB-9 x 1 for 8-bit DIO Power ON/OFF switch x 1 Recovery button x 1 Antenna Hole x 6 |
| Expansion | M.2 3042/3052 B Key x 1 (4G/5G/M.2 2242 B+M-Key storage) M.2 2230 E Key x 1 (Wi-Fi/BT) SIM Slot x 1 | M.2 2230 E-Key x 1 (Wi-Fi/Bluetooth) M.2 3042/3052 B-Key x 1 (4G/5G) M.2 2280 M-Key x 1 | M.2 3042/3052 B Key x 1 (LTE/5G/M.2 2242 B+M Key storage) M.2 2230 E Key x 1 (Wifi/BT) M.2 2280 M Key x 1 (NVMe 128GB built-in) NANO SIM x 1 TPM x 1 (onboard) Box Header x 1 for OOB |
| Indicator | Power LED x 1 | | |
| OS Support | Linux (NVIDIA Jetpack™ 6.2 and above) | Linux (NVIDIA Jetpack™ 5.0 and up) | Linux (NVIDA Jetpack 6.2.1 and above) |
| Power Supply | | | |
| Power Requirement | 12VDC ~ 24VDC via 2-pin Terminal Block | DC-in 12-24V with 2-pin terminal block | 2 pin phoenix type x 1 for DC 12V~24V DC in |
| Mechanical | | | |
| Mounting | Wallmount | | |
| Dimensions (W x D x H) | 4.92" x 3.54" x 2.2" (125mm x 90mm x 56mm) | 5.98" x 3.78" x 2.42" (152mm x 96 mm x 61.5mm) | 7.48" x 5.35" x 2.95" (190mm x 136mm x 75mm) |
| Gross Weight | 3.13 lb (1.42kg) | 3.97lb (1.8kg) | TBD |
| Net Weight | 1.85 lb (0.84kg) | 2.65lb (1.2kg) | TBD |
| Environmental | | | |
| Operating Temperature | -13°F ~ 131°F (-25°C ~ 55°C with 0.7m/s airflow) | -5°F ~ 140°F (-15°C ~ 60°C with 0.5 m/s airflow) | -13°F ~ 149°F (-25°C ~ 65°C), according to IEC 60068-2 with 0.7 m/s airflow |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | 104°F ~ 185°F (40°C ~ 85°C), non-operation |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | | 5% ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | 3.5 Grms, 5~500Hz with SSD | 3.5Grm / 5~500Hz | 3.5G / 5~500Hz / operating |
| Anti-Shock | 50G peak acceleration | | |
| Certification | CE/FCC class A | | |
| Note | | | |



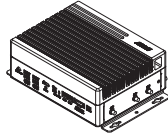
| Model | BOXER-8653AI | BOXER-8653AI-PLUS | BOXER-8654AI-KIT |
|------------------------|---|--|---|
| System | NVIDIA® Jetson Orin™ NX | | |
| AI Accelerator | | | |
| CPU | 6-core Arm® Cortex®-A78AE ARMv8.2 64-bit CPU 8-core Arm® Cortex®-A78AE ARMv8.2 64-bit CPU | Orin NX 8GB: 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU Orin NX 16GB: 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU | Orin NX 16GB: 8-core Arm® Cortex®-A78AE ARMv8.2 64-bit CPU Orin NX 8GB: 6-core Arm® Cortex®-A78AE ARMv8.2 64-bit CPU |
| System Memory | 8GB/16GB LPDDR5 | Orin NX 8GB: 8GB LPDDR5 Orin NX 16GB: 16GB LPDDR5 | 16GB LPDDR5 8GB LPDDR5 |
| Storage Device | M.2 2280 M Key x 1 | M.2 2280 M Key (128GB built-in) M.2 3042/3052 B Key x 1 M.2 2230 E key | M.2 M-Key 2280 x 1 (NVMe) |
| Display Interface | HDMI 2.0 (Type-A) x 1 | HDMI 1.2a (Type-A) x 1 | HDMI Type A for HDMI 1.4 x 1 |
| Ethernet | RJ-45 x 1 for GbE LAN RJ-45 x 4 for GbE PoE/PSE 802.3af/at (Max.60W) | RJ-45 x 1 for GbE LAN RJ-45 x 4 for GbE LAN PoE/PSE (IEEE 802.3af/at, total 60W) | RJ-45 x 4 for GbE LAN (optional: power module for PoE (25.5W each port)) |
| I/O | USB 3.2 Gen 2 (Type-A) x 4 DB-9 x 1 for RS-232 (Rx/Tx/CTS/RTS)/RS485 x 1 and CANBus FD x 1 DB-15 x 1 for RS-232(Rx/Tx)/422/485 x 1 and DIO x 8 Micro USB x 1 for OS Flash Power Button x 1 Recovery Button x 1 Antenna Hole x 6 | USB 3.2 Gen 2 (Type-A) x 4 DB-9 x 1 for RS-232 (Rx/Tx/CTS/RTS) & CANBus FD x 1 DB-15 for RS422/485/232 (Rx/Tx) x 1 & DIO x 8 Micro USB x 1 for OS Flash Recovery Button x 1 Antenna x 6 | MIPi Connector x 2 (4 lanes for each MIPi connector, Default IMX219) DB-9 x 1 for RS-232(RX/TX/GND)/422/485 DB-9 x 1 for CANBus USB Type A x 6 for USB 3.2 Gen 2 Micro USB for image flash x 1 2-pin Phoenix Type x 1 for Power Input Power Button with LED Indicator x 1 40-pin Header compliant with NVIDIA Jetson Orin Nano Developer Kit Pin Header x 1 for RS/232/422/485 by jump select UART to 40-pin Box Header x 1 for OOB SATA Connector x 1 SATA power Connector x 1 |
| Expansion | M.2 2280 M-Key x 1 (NVMe) M.2 3042/3052 B-Key x 1 M.2 2230 E-Key x 1 SIM Slot x 1 | M.2 3042/3052 B Key x 1 (LTE/5G/M.2 2242 B+M Key storage) M.2 2230 E Key x 1 (Wifi/BT) M.2 2280 M Key x 1 (NVMe 128GB built-in) NANO SIM x 1 TPM x 1 (onboard) Box Header x 1 for OOB** | M.2 2230 E-Key x 1 M.2 2242/3042/3052 B-Key x 1 (SIM onboard) M.2 2280 M-Key x 1 |
| Indicator | Power LED x 1 | | |
| OS Support | Linux (NVIDIA Jetpack™ 5.0 and up) | Linux (NVIDA Jetpack 6.2 and above) | Linux (NVIDIA Jetpack™ 6.0 and above) |
| Power Supply | | | |
| Power Requirement | 12V ~ 24V DC in with 2-pin Terminal Block x 1 | 12~24VDC 2-pin Terminal Block | 12V ~ 24V DC in with 2-pin Terminal Block x 1 |
| Mechanical | | | |
| Mounting | Wallmount | Wallmount kit | — |
| Dimensions (W x D x H) | 7.09" x 5.35" x 2.95" (180mm x 136mm x 75mm) | 7.48" x 5.35" x 2.95" (190mm x 136mm x 75mm) | 6.53" x 5.24" (166mm x 133mm) |
| Gross Weight | 7.7 lb (3.5kg) | 7.41 lb (3.36kg) | 0.79 lbs (0.36 kg) |
| Net Weight | 5.5 lb (2.5kg) | 5.51 lb (2.5kg) | 0.42 lbs (0.19 kg) |
| Environmental | | | |
| Operating Temperature | 5°F ~ 140°F (-15°C ~ 60°C), according to IEC60068-2 with 0.5 m/s AirFlow | -13°F ~ 149°F (-25°C ~ 65°C with 0.7m/s airflow) | -13°F ~ 158°F (-25°C ~ 70°C) w/ Fan Kit, according to IEC60068-2 with 0.5 m/s AirFlow |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | |
| Storage Humidity | 5% ~ 95% @ 40°C, non-condensing | 5 ~ 95% @ 40°C, non-condensing | |
| Anti-Vibration | 3.5Grms / 5~500Hz / Operation | 3.5 Grms, 5~500Hz with SSD | — |
| Anti-Shock | 50G peak acceleration | 50G peak acceleration with SSD | — |
| Certification | CE/FCC class A | | |
| Note | | | |

System Level Products

AI@Edge Solutions



| Model | BOXER-8654AI-KIT-PLUS | BOXER-8655AI | BOXER-8658AI |
|------------------------|--|--|---|
| System | | | |
| AI Accelerator | NVIDIA® Jetson Orin™ NX | | |
| CPU | Orin NX 16GB: 8-core Arm® Cortex®-A78AE ARMv8.2 64-bit CPU Orin NX 8GB: 6-core Arm® Cortex®-A78AE ARMv8.2 64-bit CPU | Orin NX 8GB : 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3 Orin NX 16GB : 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3 | Orin NX 8GB: 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU Orin NX 16GB: 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU |
| System Memory | 8GB/16GB LPDDR5 | Orin NX 8GB : 8GB LPDDR5 Orin NX 16GB : 16GB LPDDR5 | 8GB LPDDR5 16GB LPDDR5 |
| Storage Device | M.2 M-Key 2280 x 1 (NVMe) | M.2 2280 M-Key x 1 (NVMe) 2.5" SATA Driver Bay x 1 | 2.5" SATA Driver Bay x 1 M.2 2280 NVMe M Key x 1 |
| Display Interface | HDMI Type A for HDMI 1.4 x 1 | HDMI 1.2 x 1 | HDMI 2.0 type A x 1 |
| Ethernet | RJ-45 x 4 for GbE LAN (optional: power module for PoE (25.6W each port)) | RJ-45 for GbE LAN x 5 | RJ-45 x 2 for Giga LAN RJ-45 x 8 for GbE PoE/PSE (802.3at/at, MAX.:120W) *4 PoE ports sharing one MAC address and one Giga bandwidth. Supports total 120W PoE when input voltage is at or over 24V. Supports total 80W PoE when input voltage is between 12~24V. Supports total 30W PoE when input voltage is below 12V. |
| I/O | *MIPI Connector x 2 (4 lanes for each MIPI connector, Default IMX219) DB-9 x 1 for RS-232(RX/TX/GND)/422/485 DB-9 x 1 for CANBus USB Type A x 6 for USB 3.2 Gen 2 Micro USB for image flash x 1 Power Button with LED Indicator x 1 2-pin Phoenix Type x 1 for Power Input Recovery Button x 1 40-pin Header compliant with NVIDIA Jetson Orin Nano Developer Kit Pin Header x 1 for RS/232/422/485 by jump select UART to 40-pin Box Header x 1 for OOB SATA Connector x 1 SATA power Connector x 1" | GMSL2 x 8 with Fakra connectors DB-9 x 1 for CANBUS FD DB-15 for RS232 (Rx/Tx)/RS422/RS485 x 1, programmable DIO x 8 External SMA antenna x 7 Power button x 1 Recovery button x 1 Micro USB x 1 for OS Flash Mic in and Line out x1 Reset button x1 USB Type A for USB 3.2 Gen 2 x 4 | USB 3.2 Gen 2 type A x 4 DB-9 x 1 for CANBUS FD x 1 DB-15 x 1 for RS232/422/485 x 1 and DIO x 8 Line out x 1 Micro USB x 1 for OS Flash Power button x 1 Recovery button x 1 Switch x 2 for ACC Ignition Delay On/Off Antenna x 7 TPM Support GNSS Support 9-Axis Sensor Support |
| Expansion | M.2 2230 E-Key x 1 M.2 2242/3042/3052 B-Key x 1 (SIM onboard) M.2 2280 M-Key x 1 | M.2 2230 E-Key x 1 (Wifi/BT) M.2 3042/3052 B-Key x 1 (LTE/5G) (USB 2.0, USB3.0) M.2 2280 M-Key x 1 (NVMe) 2.5" SATA x 1 | M.2 2230 E Key x 1 (Wifi/BT) M.2 3052 B Key x 1 (LTE) M.2 2280 NVMe M Key x 1 2.5" SATA x 1 SIM Slot x 2 |
| Indicator | Power LED x 1 | Power LED | Power LED x 1 |
| OS Support | Linux (NVIDIA JetPack 6.x and above) | Linux (NVIDIA JetPack™ 6.x and up) | Linux (NVIDIA JetPack™ 6.0 and above) |
| Power Supply | | | |
| Power Requirement | DC-in 12-24V with 2-pin terminal block | 3-pin Terminal Block x 1 for 9V~36V ACC Ignition Delay On/Off | 3-pin Terminal Block x 1 for 9V ~ 36V ACC Ignition Delay On/Off |
| Mechanical | | | |
| Mounting | — | | Wallmount |
| Dimensions (W x D x H) | 6.53" x 5.24" (166mm x 133mm) | 9.68" x 6.46" x 3.49" (246.0 mm x 164.2 mm x 88.8 mm) | 8.27" x 6.46" x 2.99" (210 x 164.2 x 76 mm) (Without Bracket) 9.69" x 6.46" x 3.27" (246 x 164.2 x 83 mm) (With Bracket) |
| Gross Weight | TBD | 7.9 lbs (3.6Kg) | 8.6 lbs (3.9kg) |
| Net Weight | TBD | 6.2 lbs (2.8Kg) | 6.7 lbs (3kg) |
| Environmental | | | |
| Operating Temperature | -25°C ~ 70°C, according to IEC60068-2 with 0.7 m/s Airflow | 5°F ~ 158°F (-15°C ~ 70°C with 0.7 m/s airflow) | 5°F ~ 140°F (-15°C ~ 60°C with 0.7 m/s airflow, with Industrial wide Temp. SSD) |
| Storage Temperature | -40°C ~ 85°C, non operation | -40°F ~ 185°F (-40°C ~ 85°C) | -40°F ~ 185°F (-40°C ~ 85°C) |
| Storage Humidity | 5%~ 95% @ 40°C, non-condensing | 5 ~ 95% @ 40°C, non-condensing | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | — | MIL-STD-810G, 514.6C Procedure 1, Category 4 Trucker/Semitrailer on US highway (Figure 514.6C-1-Category 4-Common carrier) | MIL-STD-810G, 514.6C Procedure 1, Category 4 Trucker/Semitrailer on US highway (Figure 514.6C-1-Category 4-Common carrier) |
| Anti-Shock | — | MIL-STD-810G, Method 516.6, Procedure 1, flight vehicle equipment | |
| Certification | CE/FCC class A | E-Mark, CE/FCC class A | CE/FCC class A, E-Mark Compliance |
| Note | | | |



| Model | BOXER-8658AI-PLUS | BOXER-8740AI |
|------------------------|--|--|
| System | | |
| AI Accelerator | NVIDIA® Jetson Orin™ NX | NVIDIA® Jetson T5000™ (2560-core NVIDIA Blackwell architecture GPU with fifth-gen Tensor Cores) |
| CPU | Orin NX 16GB: 8-core Arm® Cortex®-A78AE ARMv8.2 64-bit CPU Orin NX 8GB: 6-core Arm® Cortex®-A78AE ARMv8.2 64-bit CPU | 14-core Arm® Neoverse®-V3AE 64-bit |
| System Memory | 8GB/16GB LPDDR5 | 128GB 256-bit LPDDR5X |
| Storage Device | 2.5" SATA Driver Bay x 1 M.2 2280 NVMe M Key x 1 | M.2 2280 M-Key x 1 for NVMe |
| Display Interface | HDMI 2.0 type A x 1 | HDMI x 1 for HDMI 2.0 |
| Ethernet | RJ-45 x 2 for GbE LAN RJ-45 x 8 for GbE PoE/PSE (802.3af/at, Max: 120W) *4 PoE ports share one MAC address and one Gigabit uplink (bandwidth) Supports total 120W PoE power with ≥ 24 VDC input voltage. Supports total 80W PoE power with 12-24 VDC input voltage. Supports total 30W PoE power with < 12 VDC input voltage. | QSFP28 x 1 for 25GbE x 4 RJ-45 x 1 for 5GbE |
| I/O | USB 3.2 Gen 2 type A x 4 DB-9 x 1 for CANBUS FD x 1 DB-15 x 1 for RS232/422/485 x 1 DIO x 8 Line Out x 1 Micro USB x 1 for OS Flash Power Button x 1 Recovery button x 1 Switch x 2 for ACC Ignition Delay On/Off Antenna x 7 TPM Support GNSS Support 22 pins for OOB module | USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 x 2 Micro USB x 1 for OS Flash Recovery Button x 1 Reset Button x 1 Power Button x 1 |
| Expansion | M.2 2230 E Key x 1 (Wifi/BT) M.2 3052 B Key x 1 (LTE) M.2 2280 NVMe M Key x 1 2.5" SATA x 1 SIM Slot x 2 | M.2 2280 M-Key x 1 for NVMe M.2 3052 B-Key x 1 for 4G/LTE M.2 2230 E-Key x 1 for WiFi 7 Nano SIM slot x 1 |
| Indicator | Power LED x 1 | Power LED x 1 System LED x 1 |
| OS Support | Linux (NVIDIA Jetpack 6.x and above) | NVIDIA Jetpack™ 7.0 and above |
| Power Supply | | |
| Power Requirement | 3-pin Terminal Block x 1 for 9V ~ 36V ACC Ignition Delay On/Off | 2 pin phoenix type x 1 for DC 12V~24V DC in |
| Mechanical | | |
| Mounting | Wallmount | TBD |
| Dimensions (W x D x H) | 8.27" x 6.46" x 2.99" (210 x 164.2 x 76 mm) (Without Bracket) 9.69" x 6.46" x 3.27" (246 x 164.2 x 83 mm) (With Bracket) | 7.09" x 5.67" x 2.37" (180mm x 144mm x 60.2mm) |
| Gross Weight | TBD | TBD |
| Net Weight | TBD | TBD |
| Environmental | | |
| Operating Temperature | -13°F ~ 140°F (-25°C ~ 60°C with 0.7 m/s airflow, with Industrial wide Temp. SSD) | 0°C ~ 40°C |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | TBD |
| Storage Humidity | 5%~ 95% @ 40°C, non-condensing | TBD |
| Anti-Vibration | MIL-STD-810H, 514.8C Procedure 6, Category 4 (by 2.5" SATA SSD) | TBD |
| Anti-Shock | MIL-STD-810H, 516.8 Procedure 1, Functional Shock – Sawtooth 40G 11ms (by 2.5" SATA SSD) | TBD |
| Certification | CE/FCC class A | CE/FCC class B |
| Note | | |



| Model | BOXER-8741AI | BOXER-8742AI |
|------------------------|---|--|
| System | | |
| AI Accelerator | NVIDIA® Jetson T5000™ (2560-core NVIDIA Blackwell architecture GPU with fifth-gen Tensor Cores) | NVIDIA® Jetson T4000™ (1536-core NVIDIA Blackwell architecture GPU with 64 fifth-gen Tensor Cores) |
| CPU | 14-core Arm® Neoverse®-V3AE 64-bit CPU | 12-core Arm® Neoverse®-V3AE 64-bit CPU |
| System Memory | 128GB 256-bit LPDDR5X | 64 GB 256-bit LPDDR5X |
| Storage Device | M.2 2280 M-Key x 1 | M.2 2280 M-Key x 1 for NVMe |
| Display Interface | HDMI 1.4a x 1 | HDMI 2.0 x 1 |
| Ethernet | QSFP28 x 1 for 4 x 25GbE (4 x Independent MAC, aggregate up to 100Gbps) RJ-45 x 4 for 5GbE | RJ-45 x 2 for 10GbE LAN RJ-45 x 4 for 5GbE LAN with PoE 802.3af/at, Max: 60W |
| I/O | DB-9 x 1 for CAN FD x 2 DB-9 x 1 for RS-232/485 x 1 DB-9 x 1 for GPIO 8-bit USB 3.2 Gen 2 (Type-A) x 4 Micro USB x 1 for OS Flash Reset Button x 1 | USB 3.2 Gen 2 (Type-A) x 4 DB-15 x 1 for RS-232/422/485 & DIO x 8 DB-9 x 1 for RS-232 & CAN FD x 2 Mini USB x 1 for OS Flash Recovery Button x 1 Reset Button x 1 Power Button x 1 External SMA Antenna x 6 SIM Slot x 2 |
| Expansion | M.2 2280 M-Key x 1 for NVMe M.2 3052 B-Key x 1 for 4G/5G/LTE M.2 2230 E-Key x 1 for WiFi/BT | M.2 2280 M-Key x 1 for NVMe M.2 3042/3052 B-Key x 1 for 4G/5G (USB 3.0 + PCIe) M.2 2230 E-Key x 1 for WiFi/BT/NVMe |
| Indicator | System LED x 1 | Power LED x 1 |
| OS Support | NVIDIA JetPack™ 7.0 and above | NVIDIA JetPack™ 7.0 and up |
| Power Supply | | |
| Power Requirement | 2-pin Terminal Block x 1 for 12~24Vdc Power Input (pitch 5mm) | 2-pin 12V-24V DC Input Phoenix Connector |
| Mechanical | | |
| Mounting | Wallmount | TBD |
| Dimensions (W x D x H) | 9.4" x 6.4" x 3.1" (240mm x 164.8mm x 80.1mm) | 8.26" x 6.46" x 2.91" (210mm x 164.2mm x 74mm) |
| Gross Weight | TBD | TBD |
| Net Weight | TBD | TBD |
| Environmental | | |
| Operating Temperature | -13°F~140°F (-25°C~60°C) according to IEC68-2-14 with 0.7 m/s AirFlow | 13°F - 140°F (-25°C ~ 60°C), according to IEC60068-2 with 0.7 m/s Airflow |
| Storage Temperature | -40°F~185°F (-40°C~85°C) | -40°F - 185°F (-40°C ~ 85°C), non operation |
| Storage Humidity | 5 ~ 95% @ 40C, non-condensing | 5%~ 95% @ 40°C, non-condensing |
| Anti-Vibration | MIL-STD-810H | 3.5G / 5~500Hz / operating |
| Anti-Shock | MIL-STD-810H | 50G peak acceleration (11 msec.) |
| Certification | | CE/FCC class A |
| Note | | |



| Model | MAXER-2100 | MAXER-5100 | MAXER-5000 |
|------------------------|--|--|--|
| System | | | |
| CPU | A2: Please select required CPU before shipping A3: Intel® Core™ i9-13900 | 12th/13th/14th Generation Intel® Core™ LGA1700 Socket Processors | 14-core Arm® Neoverse®-V3AE 64-bit |
| GPU | A2: PCIe Gen 4 [x16] x 1 for GPU card. A3: NVIDIA RTX™ 6000 Ada | NVIDIA RTX™ 2000 Ada GPU x 2 (Selected SKUs) | NVIDIA® Blackwell architecture GPU with 2560 CUDA® cores and 5th Gen Tensor Cores |
| Chipset | Intel Q670 | Intel® Q670 Chipset | NVIDIA® Jetson T5000™ AI Accelerator SoC |
| System Memory | DDR5 4000MHz DIMM x 4, Up to 128GB Non-ECC, Un-buffered Memory, Dual-Channel Memory Architecture | DDR5 4800MHz U-DIMM x 4, Up to 128GB | 128GB 256-bit LPDDR5X |
| Display Interface | HDMI 2.0 x 1, DP 1.4 x 1, VGA x1 | VGA x 1 HDMI 2.0 x 2 DP 1.4 x 1 | HDMI x 1 for HDMI 2.0 |
| Storage Device | 2.5" SATA-III Drive Bay x 2 (Swappable, RAID 0/1) M.2 2280 M key for NVMe SSD x 1 | 2.5" SSD x 1 3.5" HDD x 1 | M.2 2280 M-Key x 1 for NVMe |
| Ethernet | RJ-45 GbE LAN x 1 (supports Intel® AMT 12.0) RJ-45 GbE LAN x 1 RJ-45 2.5GbE LAN x 2 | RJ-45, 1GbE x 1 RJ-45, 2.5GbE x 1 | QSFP28 x 1 for 25GbE x 4 RJ-45 x 1 for 5GbE |
| USB | USB 3.2 Gen2 x 4 (10Gbps) | USB 2.0 x 2 USB 3.2 x 6 | USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 x 2 Micro USB x 1 for OS Flash |
| Serial Port | DB-9 x 1 for RS-232/422/485 | DB-9 for COM Port (RS-232/422/485 & RI/5V/12V) | — |
| Audio | Audio (Mic-in/Line-out/Line-in) | Audio Jack x 5 (Line-in, Mic-in x 2, Line-out x 2) | — |
| Expansion | M.2 3042/3052 B-Key x 1 + MicroSIM Slot M.2 2230 E-Key x 1 | PCIe Gen 4 [x16] x 1 PCIe Gen 4 [x8] x 1 PCIe Gen 3 [x1] x 1 PCIe Gen 3 [x4] x 1 M.2 2230 E-Key x 1 M.2 2280/2242 M-Key x 1 (PCIe Gen 4 [x4], SATA 6Gb/s) | M.2 2280 M-Key x 1 for NVMe M.2 3052 B-Key x 1 for 4G/LTE M.2 2230 E-Key x 1 for WIFI 7 NANO SIM slot x 1 |
| TPM | TPM 2.0 Onboard | TPM 2.0 Onboard | — |
| Indicator | System LED x 1, HDD Activity x 1 | — | Power LED x 1 System LED x 1 |
| OS support | Windows® 10 IoT Enterprise 64-bit Windows® 11 PRO 64-bit Ubuntu 22.04.3 and above | Windows® 10/11 64bit | NVIDIA JetPack™ 7.0 and above |
| Drive Bay | 2.5" SATA-III Drive Bay x 2 (Swappable, RAID 0/1) | 2.5" SATA 6Gb/s Drive Bay x 1 3.5" SATA 6Gb/s Drive Bay x 1 | — |
| Front Control | Power On/Off, System Reset | — | Recovery Button x 1 Reset Button x 1 Power Button x 1 |
| Power Supply | | | |
| Power Requirement | Build in 1000W power supply | Build in ATX 450W AC/DC Power supply | 2 Pin Phoenix Type x 1 for DC 12V~24V DC in |
| Mechanical | | | |
| Mounting | Rack Mount | Wallmount | Desktop stand |
| Dimensions (W x H x D) | 17" x 3.46" x 17.6" (431.8mm x 88mm x 448mm) | 12" x 3.7" x 10.9" (305mm x 95mm x 276mm) | 6.69" x 6.57" x 3.07" (170mm x 167mm x 78mm) |
| Gross Weight | 31.52 lb (14.3kg) | 12 lb (5.6kg) | TBD |
| Net Weight | 24.25 lb (11kg) | 11 lb (5kg) | TBD |
| Environmental | | | |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C), according to IEC68-2 with 0.5 m/s AirFlow | 32°F ~ 113°F (0°C ~ 45°C), according to IEC68-2 with 0.5 m/s AirFlow | 0°C ~ 40°C |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | -40°F ~ 185°F (-25°C ~ 85°C) | TBD |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | | TBD |
| Certification | CE/FCC class A | | |
| Note | | | |

System Level Products

RISC Gateway Solutions



| Model | SRG-IMX8P | SRG-IMX8PL |
|-------------------------------------|---|---|
| System | | |
| Processor | ARM NXP i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor | ARM NXP i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor (Default w/ NPU, optional w/o NPU) |
| Memory | Onboard LPDDR4 2GB (Optional 4GB) | Onboard LPDDR4 up to 4GB (8GB by request) |
| Storage | eMMC 5.1 16GB (Optional 32GB) | eMMC 5.1 16/32GB (Optional 64/128 GB) Micro SD Card slot x 1 |
| Real Time Clock | RTC x 1, with 3V CR2032H Lithium battery | |
| Security | TPM 2.0 | TPM 2.0 (optional) |
| Indicators | Programmable LED control x 7 | Programmable LED control x 3 |
| Cellular | Mini PCIe Connector x 1 (USB signal) | Full Size Mini Card x 1 (USB signal) |
| Wireless Lan | Mini PCIe Connector x 1 (USB signal) | M.2 2230 E-key x 1 (USB, PCIe) |
| Operating System | Debian 11 (Default, GUI is optional) Android 13 Win 10 IoT Yocto | Debian 11 (Default, GUI is optional) Debian 12 (By request) Android 13 Yocto 4.0 |
| Support Protocol | Modbus / MQTT Library (by request) | Modbus, MQTT, OPCUA |
| I/O Interfaces | | |
| Serial Port | RS-232/422/485 switchable x 2, Phoenix Connector | |
| Ethernet | Gigabit Ethernet x 2, RJ-45 | Gigabit Ethernet x 2, RJ-45 support IEEE 1588, TSN, integrated RGMII |
| Audio | — | Line Out x 1 (optional) |
| USB | USB 3.0, Type-A x 2 | USB 3.0 Type-A x 2 |
| ADC | — | — |
| DI/DO | — | — |
| CAN Bus | CAN-FD x 2 CH, Phoenix Connector | |
| Display | HDMI 2.0a x 1 | HDMI 2.0 x 1 |
| Power Connector | 2 Pin 3.81mm Pitch Phoenix Connector | |
| Debug Port | Micro USB x 1 | |
| Expansion Slot | SIM card slot x 1 Micro SD slot x 1 | M.2 2230 E-key x 1, support Wifi/BT module Full Size Mini Card x 1, support 4G module, etc) Power control available by software Nano SIM card slot x 1 (for SRG-IMX8PL-A12 only) |
| Other Interface | | |
| Power Supply | | |
| Power Requirement | DC 9-36V | DC 9-36V (Optional: 12V) |
| Power Consumption | 9.36W (Full Loading) | 14.8W (Full Loading) |
| MTBF (Hours) | 479,374 | 1,699,754 Hours |
| Environmental and Mechanical | | |
| Dimension | 5.54" x 3.86" x 1.89" (140.76 x 98.2 x 48 mm) | 4.25" x 3.12" x 1.69" (108mm x 79.5mm x 43mm) |
| Weight | 2.6lb (1.18kg) | 1.01 lbs (0.46kg) |
| Mount Options | Wall Mount, Din Rail (Optional) | |
| Operation Temperature | -4 °F ~ 158 °F (-20 °C ~ 70 °C) | -40 °F ~ 176 °F (-40 °C ~ 80 °C), IEC60068-2 with 0.7 m/s AirFlow, with wide temperature Memory/Storage |
| Storage Temperature | -40 °F ~ 176 °F (-40 °C ~ 80 °C) | |
| Operation Humidity | 10% ~ 95% relative humidity, non-condensing | 0% ~ 90% relative humidity, non-condensing |
| Certification | CE/FCC Class A UL61010/IEC61000-6-2/IEC61000-6-4/IEC61131-2 | CE/FCC Class A |
| Note | | |



| Model | SRG-AM62 | SRG-CM4 |
|------------------------------|--|--|
| System | | |
| Processor | ARM TI AM62x, up to Quad 64-bit Arm® Cortex®-A53 | Broadcom BCM2711 Quad-Core Cortex-A72 SoC @1.5 GHz |
| Memory | Onboard DDR4 16 bit, up to 4 GB | On board LPDDR4, up to 8 GB |
| Storage | eMMC 5.1 16 GB (Optional 32/64/128 GB) Micro SD Card slot x1 | eMMC 5.1, 8/16/32 GB (Optional) Micro SD Card x 1 (Optional w/o eMMC) |
| Real Time Clock | | RTC x 1, with 3V CR2032H Lithium battery |
| Security | TPM 2.0 (optional) | TPM 2.0 (Optional) |
| Indicators | | Programmable LED control x 3 |
| Cellular | Full Size Mini Card x 1 (USB signal) | |
| Wireless Lan | Half Size Mini Card x 1 (USB signal) | |
| Operating System | Debian 12 (w/ GUI) | Raspberry Pi Desktop Debian 11 |
| Support Protocol | | |
| I/O Interfaces | | |
| Serial Port | RS-232/422/485 switchable x 2, Phoenix Connector | RS-232/422/485 switchable x 2 RS-485 with isolation x 1 (Optional) |
| Ethernet | Gigabit Ethernet x 2, RJ-45 support IEEE 1588, TSN, integrated RGMII | Gigabit Ethernet x 2, RJ45 |
| Audio | Line Out x 1 (by request) | |
| USB | USB 2.0 Gen1 x 2 -Host/device by image option, default: host x 1 -Host x 1 | USB 2.0 x 2 USB 2.0 OTG x 1 |
| ADC | | |
| DI/DO | | DI x 2 / DO x 2 with Isolation (optional) |
| CAN Bus | CAN-FD x 2 CH, Phoenix Connector | CAN 2.0 A/B x 2 |
| Display | HDMI 1.4b up to 1080p x 1 | HDMI 1.4, up to 4K30 (For SD card storage, up to 1080P) |
| Power Connector | 2 Pin 3.81mm Pitch Phoenix Connector | 2 pin 3.81mm pitch phoenix connector |
| Debug Port | Micro USB x 1 | UART x 1 (Internal Wafer Box) |
| Expansion Slot | Half Size Mini Card (USB2.0) x 1, support Wifi/BT module, etc Full Size Mini Card (USB2.0) x 1, support 4G module, etc Power control available by software | Full-sized mini card x 1 (USB signal) |
| Other Interface | | Software button x 1 Power button x 1 Reset button x 1 |
| Power Supply | | |
| Power Requirement | DC 9-36V (Optional: 12V) | DC 9 ~36 V |
| Power Consumption | 5.76W (Full Loading) | 12.6 W |
| MTBF (Hours) | 1,279,408 Hours | 1,311,814 Hours |
| Environmental and Mechanical | | |
| Dimension | 4.25" x 3.13" x 1.29" (108mm x 79.5mm x 33mm) | 4.11 " x 4.13" x 1.89" (104.4 x 105 x 41mm) |
| Weight | 0.72 lbs (0.33 kg) | 1.08 lb (0.49 kg) |
| Mount Options | | Wall Mount, Din Rail (Optional) |
| Operation Temperature | -40 °F ~ 185 °F (-40 °C ~ 85 °C) (Option: 0°C ~ 60°C) | -4°F ~ 158°F (-20 °C ~ 70°C) |
| Storage Temperature | -40 °F ~ 185 °F (-40 °C ~ 85 °C) | -40°F ~ 176°F (-40°C ~ 80°C) |
| Operation Humidity | 0% ~ 90% relative humidity, non-condensing | 10% ~ 95% relative humidity, non-condensing |
| Certification | | CE/FCC Class A |
| Note | | |
| Note | | |

Compact Fanless BOX PC Solutions



| Model | BOXER-6614 | BOXER-6616 | BOXER-6617-ADN |
|------------------------|---|---|--|
| System | | | |
| CPU | Intel® Celeron® N2930, 1.83 GHz Intel® Celeron® N2807, 1.58GHz | Intel® Pentium® N4200, 2.5 GHz Intel® Celeron® N3350, 2.4 GHz | Intel® Processor N50 Intel® Processor N97 Intel® Core™ i3-N305 Intel Atom™ x7211E |
| Chipset | Intel® System on Chip | | Intel® SoC |
| System Memory | DDR3L 1333 SODIMM slot x 1, up to 8 GB (N2930) or 4 GB (N2807) | DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz) | DDR5 4800MHz SODIMM x 1, up to 32GB |
| Display Interface | VGA, HDMI | HDMI (max. 2048 x 1152) VGA (max. 2048 x 1152) | HDMI x 2 |
| Storage Device | CFast™, HDD/SSD | mSATA, HDD/SSD | M.2 2280 M-Key x 1 (PCIe [x2]) 2.5" SATA HDD/SSD x 1 |
| Ethernet | Intel® I210/I211, 10/100/1000 Base-TX x 2 | Intel® I211, 10/100/1000 Base-TX x 2 | RJ-45 x 2 for 2.5GbE LAN (Intel® I226) |
| I/O | RS-232/422/485 x 2 RS-232 x 2 USB 2.0 x 3 USB 3.2 Gen 1 x 1 VGA x 1 HDMI x 1 Line-out x 1 LAN x 2 CFast slot x 1 Antenna holes x 2 Power switch Power input | RS-232/422/485 x 2 RS-232 x 4 USB 3.2 Gen 1 x 4 VGA x 1 HDMI x 1 LAN x 2 Remote On/Off x 1 Reset Button x 1 AT/ATX DIP Switch Mic-In x 1 Line-Out x 1 Antenna holes x 1 Power button Power input | HDMI x 2 RJ-45 x 2 for 2.5GbE LAN (Intel® I226) USB 3.2 Gen 2 x 2 (Type-A) USB 2.0 x 4 (Type-A) DB-9 x 6 for RS-232/422/485 Mic-in/Line-out D-Sub connector for DIO 8 bit 3-Pin Terminal Block for DC In x 1 Reset Button x 1 Power Button with LED x 1 |
| Expansion | Full-size Mini-Card x 1 (PCI-E + USB, w/ SIM slot) Half-size Mini-Card x 1 (PCI-E + USB) | Full-size Mini-Card x 1 (PCI-E + USB, w/ SIM slot) Half-size Mini-Card x 1 (A1.PCI-E + USB, A2. mSATA + USB) | M.2 2280 M-Key x 1 (PCIe [x2]) M.2 2230 E-Key x 1 (for Wi-Fi) M.2 3052 B-Key x 1 (for 5G/LTE) SIM Slot x 1 |
| Indicator | Power LED HDD active LED | Power LED HDD active LED | Sys LED Storage active LED |
| OS support | Windows® 10, Windows® 8.1 (32/64-bit), Windows® 7 (32/64-bit), WES7/WES8, Linux Ubuntu 14.04/ Kernel 3.13.0 | Windows® 10 IoT Ent LTSC 2019 64 bit Ubuntu 16.04 above | Windows® 10 IoT Enterprise Windows® 11 IoT Enterprise Windows® 11 PRO Linux Ubuntu 22.04 |
| Power Supply | | | |
| Power Requirement | 9 - 30V with 3-pin terminal block, 12V with lockable DC jack | 9-24V with 3-pin terminal block | DC-in 9-36V x 1 for 3-Pin Terminal Block |
| Mechanical | | | |
| Mounting | Wallmount DIN Rail (Mounting kit is optional) | Wallmount DIN Rail (Mounting kit is optional) | Wallmount (default), DIN Rail (mounting clip optional) |
| Dimensions (W x H x D) | 8.35" x 4.21" x 2.53" (212.15mm x 107mm x 64.2mm) | 7.76" x 2.17" x 4.33" (197mm x 55mm x 110mm) | 6.42" x 4.54" x 2.59" (214mm x 115.5mm x 65.8mm) without brackets |
| Gross Weight | | 6.6 lb (2.8 Kg) | 6.17 lb (2.8Kg) |
| Net Weight | | 4.4 lb (2 Kg) | 4.4 lb (2Kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~ 131°F (-20°C ~ 55°C) with wide temperature CFast™ card -4°F ~ 140°F (-20°C ~ 60°C) with wide temperature HDD (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices) | -4°F ~ 158°F (-20°C ~ 70°C) with W.T. SSD/HDD/ mSATA (according to IEC682-14 with 0.5 m/s AirFlow; with industrial devices) | -4°F ~ 158°F (-20°C ~ 70°C), according to IEC68-2 with 0.5 m/s AirFlow (w/ Industrial wide Temp. SSD/RAM) |
| Storage Temperature | | -4°F ~ 158°F (-20°C ~ 70°C) | -40°F ~ 176°F (-40°C ~ 80°C) |
| Storage Humidity | | 95% @ 40°C, non-condensing | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | 5 Grms/ 5 ~ 500Hz/ operation –CFast™ card 1 Grms/ 5~ 500Hz/ operation – HDD | 3 Grms/ 5 ~ 500Hz/ operation – mSATA/SSD 1 Grms/ 5~ 500Hz/ operation – HDD | 3 Grms/ 5 ~ 500Hz/ operation (with SSD) |
| Anti-Shock | | — | 50G, IEC 68-2-27, half sine, 11 ms duration (with SSD) |
| Certification | CE/FCC class A, UL | | CE/FCC class A |
| Note | | | |

System Level Products

Compact Fanless BOX PC Solutions

02

Compact Fanless BOX PC Solutions



| Model | BOXER-6617-ASL | BOXER-6619-TWL | BOXER-6641 |
|------------------------|--|--|--|
| System | | | |
| CPU | Intel® Processor N50 Intel® Processor N97 Intel® Core™ i3-N305 Intel Atom™ x7211E Intel Atom™ x7835RE Intel Atom™ x7433RE Intel Atom™ x7211RE | Intel® Core™ Processor N-series & Intel® Processor N-series (formerly Twin Lake): -Intel® Core™ 3 Processor N355 (8C/8T), TDP 15W -Intel® Processor N150 (4C/4T), TDP 6W | Intel® Xeon® E-2124G (for A2 & A6 model only) Intel® i9-9900T Intel® i7-9700T Intel® i7-8700T Intel® i5-8500T Intel® i3-8100T Pentium® G5400T Celeron® G4900T |
| Chipset | Intel® SoC | | Intel® C246/H310 |
| System Memory | DDR5 4800MHz SODIMM x 1, up to 32GB | DDR5 SODIMM slot x 1, up to 32GB | DDR4-2666 SODIMM slot x 2, Up to 64GB, ECC or Non-ECC Support |
| Display Interface | HDMI x 2 | VGA x 1 (Support up to FHD) HDMI x 2 (Support up to 4K @60Hz) | HDMI x 2 |
| Storage Device | M.2 2280 M-Key x 1 (PCIe [x2]) 2.5" SATA HDD/SSD x 1 | Internal 2.5" SATA Drive Bay x 1 | 2.5" SATA HDD/SSD Bay x 1 (x 2 for A5 & A6 model, A6 supports RAID 0/1) |
| Ethernet | RJ-45 x 2 for 2.5GbE LAN (Intel® i226) | RJ-45 x 4 (IEEE 802.3af/at PoE support, providing a total power budget of 80W across all ports); Intel® Ethernet Controller I226-LM, 2.5GbE x 3 Intel® Ethernet Controller I210-IT, 1GbE x 1 (optional OOB support) Note: When the input voltage is ≤10V, the system supports PoE with a maximum combined output of 20W (≈5W per port). | Intel® i211 x 3, i219 x 1 |
| I/O | HDMI x 2 RJ-45 x 2 for 2.5GbE LAN (Intel® i226) USB 3.2 Gen 2 x 2 (Type-A) USB 2.0 x 4 (Type-A) DB-9 x 6 for RS-232/422/485 Mic-in/Line-out D-Sub connector for DIO 8 bit 3-Pin Terminal Block for DC In x 1 Reset Button x 1 Power Button with LED x 1 | USB 3.2 Gen 1 (Type-A) x 2 USB 2.0 x 2 (additional USB 2.0 x 2 via Wafer, optional) DB-9 x 6 for RS-232/422/485 DB-15 Male x 1 for DIO 8-bit Mic-in / Line-out x 1 Antenna Opening x 6 Power Button with Power LED x 1 Remote Power On/Off x 1 Reset Button x 1 | HDMI x 2 RJ-45 x 4 for GbE LAN (i211 x 3, i219 x 1) USB 3.2 Gen 1 x 4, USB2.0 x 4 (A1 & A5 model) USB 3.2 Gen 1 x 8 (A2 & A6 model) DB-9 x 6 for RS-232/422/485 Audio x 1 (MIC-in, Line-out) 3 pin 10-35V Power Input x 1 Power Button x 1 Remote Power switch x 1 Reset Button x 1 HDD LED x 1 SYS LED x 1 |
| Expansion | M.2 2280 M-Key x 1 (PCIe [x2]) M.2 2230 E-Key x 1 (for Wi-Fi) M.2 3052 B-Key x 1 (for 5G/LTE) SIM Slot x 1 | M.2 2230 E-Key x 1 (PCIe [x1], USB 2.0) M.2 3052 B-Key x 1 (USB 3.2) Nano SIM Slot x 1 NC SI Header x 1 for OOB function (Power Button/Reset/SV/UART) | Full-size Mini PCIe x 1 Full-size Mini PCIe x 1 (PCIe/mSATA switch by BIOS, Default: mSATA) SIM slot x 1 |
| Indicator | Sys LED Storage active LED | — | HDD LED x 1 SYS LED x 1 |
| OS support | Windows® 10 IoT Enterprise Windows® 11 IoT Enterprise Windows® 11 PRO Linux Ubuntu 22.04 | Windows 11 IoT Linux Ubuntu 24.04 (Kernel 6.8 or later) | Windows® 10 64-bit Linux Ubuntu 20.04 |
| Power Supply | | | |
| Power Requirement | DC-in 9-36V x 1 for 3-Pin Terminal Block | DC 9 V-36 V via 4-pin Terminal Block (ATX mode) Power protection features: OCP (Overcurrent), OVP (Overvoltage), UVP (Undervoltage), SCP (Short-circuit), RVP (Reverse voltage) | 3-pin DC Input 10-35V |
| Mechanical | | | |
| Mounting | Wallmount (default), DIN Rail (mounting clip optional) | Wallmount (default) DIN Rail (optional) | Wallmount |
| Dimensions (W x H x D) | 8.42" x 4.54" x 2.59" (214mm x 115.5mm x 65.8mm) without brackets | 8.4" x 4.5" x 2.5" (214mm x 116mm x 65mm) w/ o Bracket 9.9" x 4.5" x 2.8" (253mm x 116mm x 72mm) w/ Bracket | 10.4" x 3.19" x 6.15" (264.2mm x 80.92mm x 156.2mm) |
| Gross Weight | 6.17 lb (2.8Kg) | 6.2 lb (2.8 kg) | 10.4 lb (4.7 Kg) |
| Net Weight | 4.4 lb (2Kg) | 4.4 lb (2 kg) | 8.2 lb (3.7 Kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~ 158°F (-20°C ~ 70°C), according to IEC68-2 with 0.5 m/s AirFlow (w/ Industrial wide Temp. SSD/RAM) | -4°F ~ 140°F (-20°C ~ 60°C) with 0.7 m/s airflow (with wide temp. memory/storage) | -4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow -with TDP ≤ 35W CPU -4°F ~ 113°F (-20°C ~ 45°C) with 0.5 m/s airflow -with TDP >35W CPU |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | | |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | 5 ~ 95% @ 40°C, non-condensing | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | 3 Grms/ 5 ~ 500Hz/ operation (with SSD) | With SSD: Random, 3Grms, 5~500Hz | 2 Grms/ 5 ~ 500Hz/ operation - SSD/mSATA 1 Grms/ 5 ~ 500Hz/ operation - HDD |
| Anti-Shock | 50G, IEC 68-2-27, half sine, 11 ms duration (with SSD) | With SSD: 50G @ wallmount, half-sine, 11ms | — |
| Certification | CE/FCC class A | | |
| Note | | | |

Note: All specifications are subject to change without notice.

www.aeon.com

02-16

System Level Products

Compact Fanless BOX PC Solutions



| Model | BOXER-6641-PRO | BOXER-6642-CML | BOXER-6643-TGU |
|------------------------|---|--|--|
| System | | | |
| CPU | Intel® i7-9700TE Intel® i7-8700T Intel® i5-8500T Intel® i3-8100T Pentium® G5400T Celeron® G4900T | Intel® Core™ i9-10900TE Intel® Core™ i7-10700TE Intel® Core™ i5-10500TE Intel® Core™ i3-10100TE Intel® Celeron® G5900TE | Intel® Core™ i7-1185G7E Intel® Core™ i5-1145G7E Intel® Core™ i3-1115G4E |
| Chipset | Intel® C246/H310 | Intel® Q470E | Intel® SoC |
| System Memory | DDR4-2666 SODIMM slot x 2, Up to 64GB, ECC or Non-ECC Support | DDR4 SODIMM x 2, up to 64GB | DDR4 3200MHz SODIMM x 2, max 64GB |
| Display Interface | HDMI x 2 | HDMI 1.4 x 1 | HDMI 2.0 x 2 |
| Storage Device | 2.5" SATA HDD/SSD Bay x 2 | M.2 2280 slot x 1 (PCIex4), 2.5" SATA SSD/HDD bay x 1 | M.2 2280 M Key NVMe Slot x1 (PCIex4) 2.5" SATA Drive Bay x 1 |
| Ethernet | Intel® i211 x 3, i219 x 1 | Intel® i211-AT x 1, i219-LM x 1 | RJ-45 x 2 for 1G/2.5GbE LAN (i219x1, i225x1) |
| I/O | HDMI x 2 RJ-45 x 4 for GbE LAN (i211 x 3, i219 x 1) USB 3.2 Gen 1 x 4, USB2.0 x 4 (A1 model) USB 3.2 Gen 1 x 8 (A2 model) DB-9 x 6 for RS-232/422/485 10 pin Terminal Block for 8-bit DIO Audio x 1 (MIC-in, Line-out) 3 pin 10~35V Power Input x 1 Power Button x 1 Remote Power switch x 1 Reset Button x 1 | HDMI x 1 RJ-45 x 2 for GbE LAN (i211-AT x 1, i219-LM x 1) USB 3.2 Gen 2 x 4 USB 2.0 x 2 DB-9 x 4 for RS-232/422/485 DB15 x 1 for 8 channel DIO Line out x 1 3 pin 10~35V Power Input x 1 Power Button with LED x 1 | HDMI 2.0 x 2 RJ-45 x 2 for 1G/2.5GbE LAN (i219 x 1, i225 x 1) USB Type-A x3 for USB3.2 Gen2 USB Type-A x1 for USB 2.0 DB-9 x 2 for RS-232/422/485 DB15 x 1 Male for Digital I/O 8-channel Line out x 1 3 pin 9~36V Power Input x 1 Power Button with LED x 1 |
| Expansion | Full-size Mini PCIe x 1 Full-size Mini Card x 1 (PCIe/mSATA switch by BIOS, Default: mSATA) SIM slot x 1 | M.2 2230 E Key x 1 M.2 2280 M Key x 1 Full-Size Mini Card x1 (mSATA/PCIe switch by BIOS, default PCIe) SIM x 1 | M.2 3052 B Key x 1 (for 5G module) Full-Size M.2 MiniCard x1 (PCIe + USB / SATA, Default PCIe + USB) SIM Slot x 1 |
| Indicator | HDD LED x 1 SYS LED x 1 | Power LED | Power / System LED |
| OS support | Windows® 10 64-bit Linux Ubuntu 20.04.2 | Windows® 10 IoT Enterprise 64-bit Linux Ubuntu 20.04.2 | Windows® 10 IoT 64-bit Windows® 11 Pro 64-bit Linux Ubuntu 20.04.2 |
| Power Supply | | | |
| Power Requirement | 3-pin DC Input 10~35V | 10-35V DC-in with 3-pin terminal block | DC-in 9-36V x1 for 3-pin Terminal Block |
| Mechanical | | | |
| Mounting | Wallmount kit | | Wallmount |
| Dimensions (W x H x D) | 10.4" x 3.19" x 6.15" (264.2mm x 80.92mm x 156.2mm) | 11.58" x 5.98" x 2.11" (292.4mm x 152mm x 53.5mm) | 9.84" x 5.62" x 2.03" (250 x 143 x 51.5) with bracket 7.87" x 5.62" x 1.75" (200 x 143 x 44.5) w/o bracket |
| Gross Weight | 10.4 lb (4.7 Kg) | 8.4lb (3.8Kg) | 4.4 lb (2.0 Kg) |
| Net Weight | 8.2 lb (3.7 Kg) | 6.2lb (2.8Kg) | 3.3 lb (1.5 Kg) |
| Environmental | | | |
| Operating Temperature | -40°F ~ 158°F (-40°C ~ 70°C), according to IEC68-2-14 with 0.5 m/s AirFlow | 32°F ~ 113°F (0°C ~ 45°C) (35W CPU), according to IEC68-2-14 with 0.5 m/s AirFlow | -4°F ~ 140°F (-20°C ~ 60°C), according to IEC68-2 with 0.5 m/s AirFlow (w/ Industrial wide Temp. SSD/RAM) |
| Storage Temperature | -40°C ~ 80°C | | -40°F ~ 176°F (-40°C ~ 80°C) |
| Storage Humidity | | 5 ~ 95% @ 40°C, non-condensing | |
| Anti-Vibration | | 2 Grms/ 5 ~ 500Hz/operation (with SSD) | 3 Grms/ 5 ~ 500Hz/ operation (with SSD) |
| Anti-Shock | — | 50G peak acceleration (11msec) (with SSD) | 50G, IEC 68-2-27, half sine, 11 ms duration (with SSD) |
| Certification | | | CE/FCC class A |
| Note | | | |

System Level Products

Compact Fanless BOX PC Solutions

02

Compact Fanless BOX PC Solutions



| Model | BOXER-6645-ADS | BOXER-6645U-RPL | BOXER-6646-ADP |
|------------------------|--|--|--|
| System | | | |
| CPU | 14th Generation Intel® Core™ Processors: -Intel® Core™ i9 processor 14900, Intel® Core™ i9 processor 14900T -Intel® Core™ i7 processor 14700, Intel® Core™ i7 processor 14700T -Intel® Core™ i5 processor 14500, Intel® Core™ i5 processor 14500T -Intel® Core™ i3 processor 14100, Intel® Core™ i3 processor 14100T 13th Generation Intel® Core™ Processors: -Intel® Core™ i9-13900TE, Intel® Core™ i9-13900E, -Intel® Core™ i7-13700TE, Intel® Core™ i7-13700E, -Intel® Core™ i5-13500TE, Intel® Core™ i5-13500E, -Intel® Core™ i3-13100TE, Intel® Core™ i3-13100E 12th Generation Intel® Core™/Celeron™ Processors: -Intel® Core™ i9-12900E, Intel® Core™ i7-12700E, -Intel® Core™ i7-12700E, Intel® Core™ i5-12500E, -Intel® Core™ i5-12500E, Intel® Core™ i3-12100TE, -Intel® Core™ i3-12100E, Intel® Celeron™ Processor G6900TE, -Intel® Celeron™ Processor G6900E | 12/13/14th Generation Intel® Core™ LGA 1700 Socket-Type Processor, Max TDP 65W 13th Generation Intel® Core™ Processors: Intel® Core™ i9-13900E/i13900E Intel® Core™ i7-13700E/i13700E Intel® Core™ i5-13500E/i13500E Intel® Core™ i3-13100E/i13100E 14th Generation Intel® Core™ Processors: Intel® Core™ i9 processor 14900/14900T Intel® Core™ i7 processor 14700/14700T Intel® Core™ i5 processor 14500/14500T Intel® Core™ i3 processor 14100/14100T | 13th Generation Intel® Core™ Processors: Intel® Core™ i7-1370PE Intel® Core™ i5-1350PE Intel® Core™ i3-1320PE 12th Generation Intel® Core™ Processors: Intel® Core™ i7-1270PE Intel® Core™ i5-1250PE Intel® Core™ i3-1220PE |
| Chipset | Intel® H610E/O670E | Intel® H610E Chipset | Intel® System on Chip |
| System Memory | DDR5 4800MHz SODIMM x 2, up to 64GB | DDR5 SODIMM x 2, up to 64GB | DDR5 SODIMM slot x 2, max. 64GB |
| Display Interface | HDMI 1.4b (Type-A) x 2 DP 1.4a x 2 *A2 model supports four simultaneous display outputs *A1 model supports three simultaneous display outputs | HDMI x 2, 4K x 2K @30Hz | HDMI x2, Display Port x 2 |
| Storage Device | 2.5" SATA 6Gb/s Drive Bay x 2 (A2 SKU supports RAID 0, 1) M.2 2280 M-Key x 1 (NVMe, extra heatsink required, refer to optional accessories) (A2 Model) | 2.5" SATA Drive Bay x 2 M.2 2280 M-Key x 1 (PCIe Gen 3 [x4]) for NVMe | Removable 2.5" SATA Drive Bay x 1 M.2 2280 M Key NVMe Slot x 1 |
| Ethernet | Intel® i210-AT, 10/100/1000 Base-TX x 2 Intel® i219-LM, 10/100/1000 Base-TX x 1 Intel® i226-LM, 2.5GbE Base-TX x 1 | Intel® Ethernet Connection i219-LM, GbE RJ-45 x 1 Intel® Ethernet Controller i226-LM, 2.5GbE RJ-45 x 1 | RJ-45 x 2 for 2.5GbE LAN i225-LM x 2 RJ-45 x 1 for GbE LAN i219-LM x 1 |
| I/O | USB 3.2 Gen 2 (5Gbps) x 4 (A1 Model) USB 3.2 Gen 2 (10Gbps) x 8 (A2 Model) USB 2.0 x 4 (A1 Model) Audio x 1 (MIC-in, Line-out) DB-9 x 6 for RS-232/422/485 SMA Antenna Hole x 6 DIO x 8 | USB 3.2 Gen 2 x 4, USB 2.0 x 2 DB-9 x 2 for RS-232/422/485 Audio x 1 (Mic-in/Line-out) Power Button with power LED x 1 Remote Power On/Off x 1 | USB Type-A x 3 for USB3.2 Gen2 (10Gbps) USB Type-A x 3 for USB 2.0 DB-9 x 4 for RS-232/422/485 Line out SMA Antenna Holes x 6 10-pin D-Sub connector for DIO 8 bit x 1 Power Button with LED indicator x 1 Remote Power on/off 2pin connector x 1 |
| Expansion | M.2 2230 E-Key x 1 for WiFi module, M.2 3052 B-Key 1 for 4G/5G module | M.2 2280 M-Key x 1 (NVMe) *Note: Additional heatsink required, please refer to optional accessories. M.2 2230 E-Key x 1 (for Wi-Fi/Bluetooth) Full Size MiniPCIe x 1 (optional for mSATA) Onboard TPM 2.0 | M.2 E key 2230 x 1 M.2 B Key 3052 x 1 (for 5G/LTE module) |
| Indicator | System LED x 1, HDD LED x 1 | System / Storage | System Power LED x 1 |
| OS support | Windows® 10 IoT Enterprise 64-bit, Windows® 11 PRO 64-bit Linux Ubuntu 20.04 (Kernel 15.5 or above) | Windows® 10 IoT Enterprise 64-bit Windows® 11 PRO 64-bit Linux Ubuntu 22.04 | Windows® 10 IoT Ent LTSC, Windows® 11 PRO, Ubuntu 22.04 |
| Power Supply | | | |
| Power Requirement | 3-pin DC Input 12–24V | 3-pin DC Input 10–35V | DC-in 10–35V in 3pin Terminal block connector |
| Mechanical Mounting | | Wallmount | |
| Dimensions (W x H x D) | 10.39" x 3.8" x 7.33" (264mm x 80.92mm x 186.2mm) | 7.09" x 3.04" x 8.66" (180mm x 77.2mm x 220mm) 8.43" x 3.31" x 8.66" (214mm x 84.2mm x 220mm) with brackets | 8.66" x 6.06" x 2.42" (220 mm x 154 mm x 61.6 mm) |
| Gross Weight | 11.7 lb (5.3 Kg) | 8.59 lb (3.9 Kg) | 6.6 lb (3.0 Kg) |
| Net Weight | 9.5 lb (4.3 Kg) | 6.39 lb (2.9 Kg) | 4.9 lb (2.2 Kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~ 122°F (-20°C ~ 50°C), IEC68-2 with 0.5 m/s AirFlow, with wide temperature memory/storage (TDP 65W CPU) -4°F ~ 140°F (-20°C ~ 60°C), IEC68-2 with 0.5 m/s AirFlow, with wide temperature memory (Max. 32GB)/Storage (TDP 35W CPU) | -13°F ~ 131°F (-25°C ~ 55°C), IEC60068-2 with 0.7 m/s AirFlow, with wide temperature memory/storage (TDP 65W CPU) -13°F ~ 158°F (-25°C ~ 70°C), IEC60068-2 with 0.7 m/s AirFlow, with wide temperature memory/storage (TDP 35W CPU) | -4°F ~ 140°F (-20°C ~ 60°C), IEC68-2 with 0.5 m/s AirFlow, with wide temperature Memory/Storage |
| Storage Temperature | -40 °F ~ 176°F (-40°C ~ 80°C) | | -40°F ~ 176°F (-40°C ~ 80°C) |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | 3 Grms/ 5 ~ 500Hz/operation ~ SSD 1 Grms/ 5 ~ 500Hz/operation ~ HDD | IEC60068-2-64, 3 Grms/ 5 ~ 500Hz/operation (with SSD) | SSD: Random, 3Grms, 5~500Hz |
| Anti-Shock | 50G, IEC68-2-27, half sine, 11ms duration (with SSD) | 50G, IEC60068-2-27, half sine, 11ms duration (with SSD) | SSD: 50G @ wallmount, Half-sine, 11ms |
| Certification | | CE/FCC class A | |
| Note | | | |

Note: All specifications are subject to change without notice.

www.aaeon.com

02-18

System Level Products

Compact Fanless BOX PC Solutions



| Model | BOXER-6647-MTH | BOXER-6648-ARS | BOXER-6649-RAP |
|------------------------|---|--|---|
| System | | | |
| CPU | Intel® Core™ Ultra 5 processor 125H Intel® Core™ Ultra 7 processor 155H | Intel® Core™ Ultra 9 Processor 285/285T Intel® Core™ Ultra 7 Processor 265/265T Intel® Core™ Ultra 5 Processor 225/225T | 13th Generation Intel® Core™ i7/i5/i3 Processors (28W); Intel® Core™ i3-1320PE Intel® Core™ i5-1340PE Intel® Core™ i7-1370PE |
| Chipset | Intel® SoC | A1 SKU: Intel® H810 Chipset A2 SKU: Intel® Q870 Chipset | Intel® SoC |
| System Memory | DDR5 5600 MT/s SODIMM x2, up to 64GB *Note: One DIMM slot can be user-populated via rear chassis access. Second DIMM slot is not user-accessible, but module preinstallation is available upon request. | DDR5 SODIMM Slot x 2, up to 64GB | DDR5 SODIMM slot x 2, up to 96GB |
| Display Interface | HDMI x 2 (Support 4K @60Hz) | HDMI 2.0 x 2 | HDMI x 2 |
| Storage Device | M.2 2280 M-Key x 1 (NVMe PCIe SSD, quick access tray design) 2.5" SATA HDD/SSD x 1 (quick access tray design) | Internal 2.5" SATA Drive Bay x 2 (RAID 0, 1 supported on A2 SKU) M.2 2280 M-Key x 1 (PCIe Gen 4 [x4]) for NVMe | Internal 2.5" SATA Drive Bay x 1 M.2 2280 M-Key x 1 (PCIe Gen 4 [x4]) for NVMe |
| Ethernet | RJ-45 x 2 for 2.5GbE LAN (Intel® Ethernet Controller I226) RJ-45 x 1 for GbE LAN (Intel® Ethernet Connection I219) | Intel® Ethernet Controller I226-LM, 2.5GbE LAN x 2 / Intel® Ethernet Connection I219-LM, 1GbE LAN x 1 (Intel® Active Management Technology on 2.5GbE LAN on A2 Model SKU only) | Intel® Ethernet Controller I226-LM, 2.5GbE, RJ-45 x 5 (IEEE 802.3 at PoE PSE x 4) Note: PoE Power Budget: 20W (≥12V DC Input) 60W (≥19V DC Input) |
| I/O | HDMI x 2 USB 3.2 Gen 2 (Type-A) x 4 USB 2.0 (Type-A) x 2 DB-9 Male x 2 for RS-232/422/485 3.5mm Jack x 1 for Mic-in/Line-out DB-15 male x1 for 8-bit DIO Remote Power x 1 Power Button with LED x 1 Antenna holes x 6 | A1 SKU: USB 3.2 Gen 1 (5Gbps) Type-A x 4, USB 2.0 x 4 A2 SKU: USB 3.2 Gen 2 (10Gbps) Type-A x 6, USB 2.0 x 2 DB-9 x 6 for RS-232/422/485 Mic-in / Line-out 10-pin Terminal Block for 8-bit DIO Power Button with LED Indicator x 1 2-pin Remote Power On/Off Connector x 1 | USB 3.2 Gen 2 (Type-A) x 2 (10Gbps) USB 2.0 x 4 DB-9 for RS-232/422/485 x 2 Audio Jack x 1 for Mic-in/Line-out DB-15 for DIO 8-bit Power Button with LED Indicator x 1 |
| Expansion | M.2 2280 M-Key x 1 (PCIe [x4] for NVMe Storage) M.2 2230 E-Key x 1 (for Wi-Fi) M.2 3052 B-Key x 1 (for 5G/LTE) SIM Slot x 1 | M.2 2230 E-Key x 1 (PCIe) M.2 2280 M-Key x 1 (PCIe Gen 4 [x4]) | M.2 2230 E-Key x 1 (PCIe) M.2 3052 B-Key x 1 (USB 3.2/USB 2.0) SIM Slot x 1 |
| Indicator | Sys LED Storage active LED | System Power / Storage LED | System Power |
| OS support | Windows® 11 Pro, Windows® 11 IoT Enterprise, Linux Ubuntu 24.04.01 and above | Windows® 11 Pro Windows® 11 IoT Enterprise LTSC 2024 Ubuntu 24.04 or later | Windows® 10 IoT Enterprise LTSC 2021 Windows® 11 PRO Windows® 11 IoT Enterprise LTSC 2024 Ubuntu 24.04 above |
| Power Supply | | | |
| Power Requirement | DC-in 9~36V in 3-pin Terminal block connector | DC-in 10V ~ 35V via 4-pin Terminal Block Connector | 9V ~ 36V DC input via 3-pin Terminal Block Connector with protection circuit |
| Mechanical | | | |
| Mounting | Wallmount | | Wallmount, DIN Rail (optional) |
| Dimensions (W x H x D) | 8.66" x 6.06" x 2.42" (220mm x 154mm x 62.1mm) w/o bracket 10.7" x 6.1" x 3.0" (272mm x 154mm x 76.1mm) with bracket | 10.39" x 3.2" x 6.1" (264mm x 81mm x 156mm) | 9.5" x 6.6" x 2.2" (242mm x 167mm x 56mm) w/o brackets |
| Gross Weight | 6.6 lb (3.2 Kg) | 9.9 lb (4.5kg) | 7.1 lb (3.2 Kg) |
| Net Weight | 4.9 lb (2.4 Kg) | 7.7 lb (3.5kg) | 5.3 lb (2.4 Kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~140°F (-20°C ~ 60°C), IEC60068-2 with 0.7 m/s AirFlow, with wide temperature Memory/Storage | -13°F ~ 122°F (-25°C ~ 50°C) with 65W TDP CPU, IEC60068-2 with 0.7 m/s AirFlow, with wide temp. memory/storage | -13°F ~140°F (-25°C ~ 60°C), IEC60068-2 with 0.7 m/s AirFlow, with wide temp. memory/storage |
| Storage Temperature | | -40°F ~ 176°F (-40°C ~ 80°C) | |
| Storage Humidity | | 5 ~ 95% @ 40°C, non-condensing | |
| Anti-Vibration | 2 Grms/ 5 ~ 500Hz/ operation (with SSD) | | SSD: Random, 3Grms, 5~500Hz |
| Anti-Shock | 30G, IEC60068-2-27, half sine, 11 ms duration (with SSD) | SSD: 50G @ Wallmount, Half-sine, 11ms | SSD: 50G @ wallmount, Half-sine, 11ms |
| Certification | | | CE/FCC class A |
| Note | | | |

System Level Products

Ultra Slim Fanless BOX PC Solutions

02

Ultra Slim Fanless BOX PC Solutions



| Model | BOXER-6404U | BOXER-6404 | BOXER-6404WT |
|------------------------|---|---|--|
| System | | | |
| CPU | Intel® Celeron® J1900, 2.0 GHz Intel® Celeron® N2807, 1.58 GHz | Intel® Celeron® J1900, 2.0 GHz Intel® Celeron® N2807, 1.58 GHz | |
| Chipset | Intel® System on Chip | | |
| System Memory | DDR3L 1333 SODIMM slot x 1, up to 8 GB (J1900) or 4 GB (N2807) | | |
| Display Interface | VGA | HDMI (max. 1920 x 1080) | HDMI |
| Storage Device | mSATA, HDD/SSD | | CFast™ |
| Ethernet | Intel® I211-AT x 2 | | |
| | | Intel® I210AT, 10/100/1000Base-TX x 4 | |
| I/O | RS-232 x 1 USB 2.0 x 1 USB 3.2 Gen 1 x 1 VGA x 1 LAN x 2 Digital I/O x 8 bit Antenna holes x 3 Power switch Power input | RS-232 x 1 USB 2.0 x 2 USB 3.2 Gen 1 x 1 HDMI x 2 LAN x 4 CFast slot x 1 Antenna holes x 1 Power button Power input | RS-232 x 1 USB 2.0 x 2 USB 3.2 Gen 1 x 1 HDMI x 2 LAN x 4 CFast™ slot x 1 Antenna holes x 1 Power button Power input |
| Expansion | Full-size Mini-Card x 1 Half Mini-Card x 1 (for mSATA) SIM card slot x 1 | Full-size Mini-Card (USB interface only) x 1 | |
| Indicator | Power LED HDD active LED | Power LED on power button | |
| OS support | Windows® 10, Windows® 8.1, Windows® 7, Windows® Embedded 8, Windows® Embedded 7, Linux Fedora | | |
| Power Supply | | | |
| Power Requirement | 12 - 24V with 3-pin terminal block | 12V - 24V with lockable DC jack | |
| Mechanical | | | |
| Mounting | Wallmount VESA (Mounting kit is optional) DIN rail (Mounting kit is optional) | VESA (Mounting kit is optional) DIN rail (Mounting kit is optional) | |
| Dimensions (W x H x D) | 6.53" x 4.20" x 1.63" (166 mm x 106.6 mm x 41.5 mm) | 6.53" x 4.20" x 1.18" (166 mm x 106.6 mm x 30 mm) | 6.53" x 4.20" x 1.59" (166mm x 106.6mm x 40.5mm) |
| Gross Weight | 3.6 lb (1.6 kg) | 2.9 lb (1.3 kg) | 3.59 lb (1.63 kg) |
| Net Weight | 1.76 lb (0.8 kg) | 1.9 lb (0.86 kg) | 2.6 lb (1.17 kg) |
| Environmental | | | |
| Operating Temperature | -13°F ~ 140°F (-25°C ~ 60°C) with wide temperature HDD/MSATA (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices) | -22°F ~ 149°F (-30°C ~ 65°C) with wide temperature CFast™ card (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices) | -22°F ~ 167°F (-30°C ~ 75°C) with wide temperature CFast™ card (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices) |
| Storage Temperature | -22°F ~ 176°F (-30°C ~ 80°C) | | |
| Storage Humidity | 95% @ 40°C, non-condensing | | |
| Anti-Vibration | 5 Grms/ 5 ~ 500Hz/ operation –mSATA | 5 Grms/ 5 ~ 500Hz/ operation –CFast™ card | |
| Anti-Shock | — | | |
| Certification | CE/FCC class A | | |
| Note | | | |

Note: All specifications are subject to change without notice.

www.aaeon.com

02-20

System Level Products

Ultra Slim Fanless BOX PC Solutions



| Model | BOXER-6404M | BOXER-6405 | BOXER-6405M |
|------------------------|--|--|---|
| System | | | |
| CPU | Intel® Celeron® J1900, 2.0 GHz Intel® Celeron® N2807, 1.58 GHz | Intel® Celeron®/Pentium® processor | |
| Chipset | Intel® System on Chip | | |
| System Memory | DDR3L 1333 SODIMM slot x 1, up to 8 GB (J1900) or 4 GB (N2807) | DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz) | |
| Display Interface | HDMI | HDMI (max. 1920 x 1080) | HDMI type A x 1 for HDMI v1.4b VGA x 1 |
| Storage Device | CFAST™, HDD/SSD | mSATA | HDD/SSD, (mSATA BOM option) |
| Ethernet | Intel® I210AT, 10/100/1000Base-TX x 4 | Intel® I211-AT x 2 | |
| I/O | RS-232 x 1 USB 2.0 x 2 USB 3.2 Gen 1 x 1 HDMI x 2 LAN x 4 CFAST slot x 1 Antenna hole x 1 Power button Power input | Power Button x 1 USB Type A x 4 for USB 3.2 Gen 1 HDMI type A x 1 for HDMI v1.4b RJ-45 x 2 for GbE LAN with LED indicator (i211-AT x 2) Power input x 1 3-pin terminal block in default (+, -, GND) Co-layout 3-pin terminal block & lockable DC-in jack.) Co-layout internal DC Mic-in x 1, Line-out x 1 RS-232/422/485 x 3 with automatic flow control (switch by BIOS) VGA x 1 Remote On/Off Antenna opening x 2 DC-in 3-pin terminal block(9~24V) x 1 | Power Button x 1 USB Type A x 4 for USB 3.2 Gen 1 HDMI type A x 1 for HDMI v1.4b RJ-45 x 2 for GbE LAN with LED indicator (i211-AT x 2) Power input x 1 3-pin terminal block in default (+, -, GND) Co-layout 3-pin terminal block & lockable DC-in jack.) Co-layout internal DC Mic-in x 1, Line-out x 1 RS-232/422/485 x 4 with automatic flow control (switch by BIOS) VGA x 1 Remote On/Off Antenna opening x 2 |
| Expansion | Full-size Mini-Card (USB interface only) x 1 | Full-size Mini PCIe slot x 1 (PCIe/USB/SIM slot), one screw Half-size Minicard slot x 1 (mSATA only) | Full-size Mini PCIe slot x 1 (PCIe/USB/SIM slot), one screw Half-size Minicard slot x 1 (optional for mSATA,PCIe/mSATA) |
| Indicator | Power LED on power button | Power LED x1, HDD active LED x1 | |
| OS support | Windows® 10, Windows® 8.1, Windows® 7, Windows® Embedded 8, Windows® Embedded 7, Linux Fedora | Windows® 10, Windows® 10 IoT, Linux | |
| Power Supply | | | |
| Power Requirement | 12V ~ 24V with lockable DC jack | 9-24V with 3-pin terminal block | 3-pin Phoenix DC Input 9~24V without power protection |
| Mechanical | | | |
| Mounting | VESA (Mounting kit is optional) DIN rail (Mounting kit is optional) | Wallmount | |
| Dimensions (W x H x D) | 6.53" x 4.20" x 2.05" (166mm x 106.6mm x 52mm) | 6.54" x 4.2" x 1.45" (166mm x 106.6mm x 37mm) | 6.54" x 4.2" x 1.65" (166mm x 106.6mm x 42mm) |
| Gross Weight | 3.81 lb (1.73 kg) | | 3.6 lb (1.6kg) |
| Net Weight | 2.8 lb (1.27 kg) | 1.76 lb (0.8 kg) | 1.7 lb (0.8 kg) |
| Environmental | | | |
| Operating Temperature | -22°F ~ 167°F (-30°C ~ 75°C) with wide temperature CFAST™ card (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices) | -4°F ~ 140°F (-20°C ~ 60°C) with W.T. mSATA (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices) | |
| Storage Temperature | -22°F ~ 176°F (-30°C ~ 80°C) | -22°F ~ 140°F (-30°C ~ 60°C) | |
| Storage Humidity | | 95% @ 40°C, non-condensing | |
| Anti-Vibration | 5 Grms/ 5 ~ 500Hz/ operation -CFAST™ card or SSD 1 Grms/ 5 ~ 500Hz/ operation -HDD | 3 Grms/ 5 ~ 500Hz/ operation - mSATA 1 Grms/ 5 ~ 500Hz/ operation - HDD | |
| Anti-Shock | | — | |
| Certification | | CE/FCC class A | |
| Note | | | |

System Level Products Ultra Slim Fanless BOX PC Solutions

02

Ultra Slim Fanless BOX PC Solutions



| Model | BOXER-6406-ADN | BOXER-6406-ASL | BOXER-6406U-ADN |
|------------------------|---|---|---|
| System | Intel® SoC | | |
| CPU | Intel® Processor N200 Intel® Processor N50 Intel Atom™ x7211E | Intel Atom™ x7433RE Intel Atom™ x7213RE Intel Atom™ x7211RE | Intel® Processor N200 Intel® Processor N50 Intel Atom™ x7211E |
| Chipset | Intel® SoC | | |
| System Memory | DDR5 4800Mhz SODIMM x 1, up to 32GB | | DDR5 4800MHz SODIMM x 1, up to 32GB |
| Display Interface | HDMI x 2 | | |
| Storage Device | M.2 2280 M-Key x 1 (PCIe Gen 3 x 2) 2.5" SATA HDD/SSD x 1 | | M.2 2280 M-Key x 1 (PCIe Gen 3 [x2]) 2.5" SATA HDD/SSD x 1 |
| Ethernet | RJ-45 x 2 for 2.5GbE LAN (Intel® I226-LM) | | RJ-45 x 2 for 2.5GbE LAN (Intel® Ethernet Controller I226-LM) |
| I/O | HDMI x 2 RJ-45 x 2 for 2.5GbE LAN (Intel® I226-LM) USB 3.2 Gen 2 x 2 (Type-A) USB 2.0 x 2 (Type-A) DB-9 x 3 for RS-232/422/485 DB-15 x 1 Male for Digital I/O 8-Channel 3-pin Terminal Block for DC In x 1 Power Button with LED x 1 | | HDMI x 2 RJ-45 x 2 for 2.5GbE LAN (Intel® Ethernet Controller I226-LM) USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 (Type-A) x 2 DB-9 x 2 for RS-232/422/485 DB-15 x 1 Male for 8-Channel Digital I/O 12V DC Jack Input Power Button with LED x 1 Antenna Opening x 4 |
| Expansion | M.2 2280 M-Key x 1 (PCIe [x2]) M.2 2230 E-Key x 1 Full-Size Mini Card x 1 (PCIe + USB) SIM Slot x 1 | | M.2 2280 M-Key x 1 (PCIe [x2]) M.2 2230 E-Key x 1 Full-Size Mini Card x 1 (PCIe + USB) SIM Slot x 1 |
| Indicator | — | | Power Button with LED |
| OS support | Windows® 10 IoT Enterprise Windows® 11 IoT Enterprise Windows® 11 Pro Linux Ubuntu 22.04 | | Windows® 10 IoT Enterprise Windows® 11 IoT Enterprise Windows® 11 Pro Ubuntu 22.04 |
| Power Supply | 9 ~ 36V DC-In x 1 for 3-pin Terminal Block | | |
| Power Requirement | 9 ~ 36V DC-In x 1 for 3-pin Terminal Block | | Lockable DC Jack x 1 for 12V DC-in |
| Mechanical Mounting | Wallmount | | |
| Dimensions (W x H x D) | 7.32" x 4.12" x 1.93" (186mm x 104.6mm x 49.1mm) without bracket 8.74" x 4.12" x 2.21" (222mm x 104.6mm x 56.1mm) with bracket | | 6.46" x 4.11" x 1.85" (164mm x 104.5mm x 47mm) without bracket 8.74" x 4.11" x 2.13" (222mm x 104.5mm x 54mm) with bracket |
| Gross Weight | 4.32 lb (1.96 Kg) | | 3.8 lb (1.73Kg) |
| Net Weight | 2.56 lb (1.16 Kg) | | 2 lb (0.93Kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~ 140°F (-20°C ~ 60°C), according to IEC68-2 with 0.5 m/s AirFlow (w/ Industrial wide Temp. SSD/RAM) | -4°F ~ 140°F (-20°C ~ 60°C), according to IEC68-2 with 0.7 m/s AirFlow (w/ Industrial wide Temp. SSD/RAM) | |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | | |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | | |
| Anti-Vibration | 3 Grms/ 5 ~ 500Hz/ operation (with SSD) | | With SSD: Random, 3 Grms, 5~500Hz |
| Anti-Shock | 50G, IEC 68-2-27, half sine, 11 ms duration (with SSD) | | With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration |
| Certification | CE/FCC class A | | |
| Note | | | |

System Level Products

Ultra Slim Fanless BOX PC Solutions

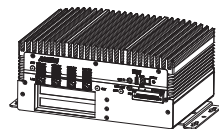


| Model | BOXER-6406U-ASL | BOXER-6407-TWL | BOXER-6451-ADP |
|------------------------|---|--|---|
| System | | | |
| CPU | Intel Atom [®] x7433RE Intel Atom [®] x7213RE Intel Atom [®] x7211RE | Intel [®] Processor N series: Intel [®] Processor N250 (4C/4T, 6W) Intel [®] Processor N150 (4C/4T, 6W) | Intel [®] Core™ i7-1265UE Intel [®] Core™ i5-1245UE Intel [®] Core™ i3-1215UE Intel [®] Celeron [®] Processor 7305E |
| Chipset | Intel [®] SoC | | |
| System Memory | DDR5 4800MHz SODIMM x 1, up to 32GB | DDR5 4800MHz SO-DIMM x1, max. up to 32GB | DDR4 SODIMM x 1, up to 32GB |
| Display Interface | HDMI x 2 | HDMI x 1 (Support up to 4K@60Hz) VGA x1 | HDMI 1.4b x 2 (Type-A) |
| Storage Device | M.2 2280 M-Key x 1 (PCIe Gen 3 [x2]) 2.5" SATA HDD/SSD x 1 | M.2 2280 M Key x1 (PCIe Gen3 x2) | 2.5" SATA Drive Bay x 1 M.2 2280 M-Key x 1 (PCIe [x4]) |
| Ethernet | RJ-45 x 2 for 2.5GbE LAN (Intel [®] Ethernet Controller I226-LM) | RJ-45 x 2 for GbE LAN (Intel [®] I210-AT) | RJ-45 x 1 for 2.5GbE (Intel [®] I226-LM) RJ-45 x 1 for GbE (Intel [®] I219-LM) |
| I/O | HDMI x 2 RJ-45 x 2 for 2.5GbE LAN (Intel [®] Ethernet Controller I226-LM) USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 (Type-A) x 2 DB-9 x 2 for RS-232/422/485 DB-15 x 1 Male for 8-Channel Digital I/O 12V DC Jack Input Power Button with LED x 1 Antenna Opening x 4 | USB3.2 Gen2 x1 USB2.0 x 3 DB-9 x 2 for RS-232/422/485 Power button with power LED x 1 Antenna opening x 4 | USB 3.2 Gen 2 x 3 (Type-A) USB 2.0 x 1 (Type-A) DB-9 x 4 for RS-232/422/485 HDMI 1.4b x 2 (Type-A) Power Button x 1 DC Jack 12V Input Antenna Opening x 6 |
| Expansion | M.2 2280 M-Key x 1 (PCIe [x2]) M.2 2230 E-Key x 1 Full-Size Mini Card x 1 (PCIe + USB) SIM Slot x 1 | M.2 E-Key 2230 x1 (PCIex1) M.2 B-Key 3052 x 1 (USB3 + PCIe) SIM Slot x 1 TPM2.0 (Onboard) | M.2 2230 E-Key x 1 (Wi-Fi/BT) M.2 3052 B-key w/ SIM x 1 (LTE/5G) M.2 2280 M-Key x 1 (NVMe) |
| Indicator | Power Button with LED | Power button with LED | Power Button with LED |
| OS support | Windows [®] 10 IoT Enterprise Windows [®] 11 IoT Enterprise Windows [®] 11 Pro Ubuntu 22.04 | Windows [®] 11 PRO/IoT Linux Ubuntu 24.04 and above | Windows [®] 10 IoT Ent LTSC Windows [®] 11 PRO Ubuntu 22.04 |
| Power Supply | | | |
| Power Requirement | Lockable DC Jack x 1 for 12V DC-in | DC-in 12V with lockable DC jack | DC-in 12V x 1 for Lockable DC Jack |
| Mechanical | | | |
| Mounting | Wallmount | | |
| Dimensions (W x H x D) | 6.46" x 4.11" x 1.85" (164mm x 104.5mm x 47mm) without bracket 8.74" x 4.11" x 2.13" (222mm x 104.5mm x 54mm) with bracket | 6.02" x 3.98" x 1.18" (153mm x 101mm x 30mm) w/o brackets | 7.68" x 4.37" x 2.5" (195mm x 111mm x 63.5mm) w/o bracket |
| Gross Weight | 3.8 lb (1.73Kg) | 2.95 lb (1.34 kg) | 4.4 lb (2Kg) |
| Net Weight | 2 lb (0.93Kg) | 1.21 lb (0.55 kg) | 3.3 lb (1.5Kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~ 140°F (-20°C ~ 60°C), according to IEC68-2 with 0.7 m/s AirFlow (w/ Industrial wide Temp. SSD/RAM) | -4°F ~ 140°F (-20°C ~ 60°C), IEC60068-2 with 0.7 m/s AirFlow, with wide temp. memory/storage | -4°F ~ 140°F (-20°C ~ 60°C), IEC68-2 with 0.5 m/s AirFlow with Wide Temperature Memory/Storage |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | | |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | | |
| Anti-Vibration | With SSD: Random, 3 Grms, 5~500Hz | Random, 3 Grms, 5~500Hz, with SSD | SSD: Random, 3Grms, 5~500Hz |
| Anti-Shock | With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration | | |
| Certification | CE/FCC class A | | |
| Note | | | |



| Model | BOXER-6751-ADP | BOXER-6711-ADN | BOXER-6710 |
|------------------------|---|---|---|
| System | | | |
| CPU | Intel® Core™ i7-1265UE Intel® Core™ i5-1245UE Intel® Core™ i3-1215UE | Intel Atom® x7211E Intel® Processor N200 Intel® Processor N50 | Intel® Pentium® processor N4200 Intel® Celeron® processor N3350 |
| Chipset | Intel® SoC | | Intel® System on Chip |
| System Memory | DDR4 SODIMM x 1, up to 32GB | DDR5 4800 MT/s SO-DIMM slot x 1, up to 32GB | DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz) |
| Display Interface | HDMI 1.4b (Type-A) x 2 | HDMI 1.4 x 2 | HDMI, VGA |
| Storage Device | 2.5" SATA III Drive Bay x 1 M.2 2280 M-Key x 1 (PCIe [x4]) | M.2 2280 M-Key x 1 (PCIe [x2]) 2.5" SATA HDD/SSD x 1 | HDD/SSD, optional mSATA |
| Ethernet | RJ-45 x 1 for Intel® I226-LM, 2.5GbE RJ-45 x 1 for Intel® I219-LM, GbE | RJ-45 x 2 for 2.5GbE LAN (Intel® Ethernet Controller I226) | Intel® i211-AT x 2 |
| I/O | USB 3.2 Gen 2 (Type-A) x 3 USB 2.0 (Type-A) x 3 DB-9 x 2 for RS-232/422/485 DB-15 x 1 for DIO 8-bit HDMI 1.4b (Type-A) x 2 Audio x 1 for Line-Out Power Button x 1 3-pin Terminal Block for DC-in x 1 Antenna Opening x 4 | HDMI 1.4 x 2 RJ-45 x 2 for 2.5GbE LAN (Intel® Ethernet Controller I226) USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 (Type-A) x 2 DB-9 x 3 for RS-232/422/485 DB-15 x 1 for 8-bit DIO 3-pin Terminal Block for DC in x 1 Power Button with LED x 1 | VGA x 1 HDMI x 1 RJ-45 x 2 for GbE LAN USB Type A x 4 for USB 3.2 Gen 1 Mic-in x 1 Line-out x 1 RS-232/422/485 x 3 with automatic flow control Power On/Off Button x 1 DC-in 3-pin terminal block (9~24V) x 1 |
| Expansion | M.2 2230 E-Key x 1 (Wi-Fi/BT) M.2 3052 B-Key w/ SIM x 1 (LTE/5G) M.2 2280 M-Key x 1 (NVMe) | M.2 2280 M-Key x 1 (PCIe [x2]) M.2 2230 E-Key x 1 Full Size Mini Card x1 (PCIe + USB) SIM Slot x 1 | Full-size Minicard x 1 w/ SIM Slot Half-size Minicard x 1 (optional for mSATA) |
| Indicator | Power Button with LED | — | Power LED on power button |
| OS Support | Windows® 10 IoT Ent LTSC Windows® 11 PRO Ubuntu 22.04 | Windows® 10 IoT Enterprise Windows® 11 Pro Linux Ubuntu 22.04 | Windows® 10 (64-bit) Windows® 10 IoT (64-bit) Linux Ubuntu 16.04.4 |
| Power Supply | | | |
| Power Requirement | DC 9 - 36V with 3-pin terminal block | | 9 - 24V with 3-pin terminal block |
| Mechanical | | | |
| Mounting | DIN Rail Mount Wallmount (Mounting kit is optional) | DIN Rail Mount | |
| Dimensions (W x H x D) | 2.93" x 7.32" x 5.0" (74.3mm x 186mm x 127mm) | 1.89" x 7.48" x 4.88" (48mm x 190mm x 124mm) | 1.73" x 6.54" x 4.17" (44mm x 166mm x 106mm) |
| Gross Weight | 5.3 lb (2.41 Kg) | 3.50 lb (1.59 Kg) | 3.08lb (1.4kg) |
| Net Weight | 3.9 lb (1.77 Kg) | 2.40 lb (1.09 Kg) | 1.32lb (0.6kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~ -140°F (-20°C ~ 60°C), IEC68-2 with 0.5 m/s AirFlow | -4°F ~ 140°F (-20°C ~ 60°C), according to IEC68-2 with 0.5 m/s AirFlow (w/ Industrial wide Temp. SSD/RAM) | -4°F ~ 140°F (-20°C ~ 60°C) with W.T. SSD/HDD/mSATA (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices) |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | | -49°F ~ 176°F (-45°C ~ 80°C) |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | | 95% @ 40°C, non-condensing |
| Anti-Vibration | With SSD: Random, 3 Grms, 5~500Hz | 3 Grms/ 5 ~ 500Hz/ operation (with SSD) | 3 Grms/ 5 ~ 500Hz/ operation – mSATA/SSD 1 Grms/ 5~ 500Hz/ operation – HDD |
| Certification | CE/FCC class A | | |
| Note | | | |

Expandable Fanless BOX PC Solutions



| Model | BOXER-6801-RAP | BOXER-6839-CFL | BOXER-6839-RPL |
|------------------------|---|---|--|
| System | | | |
| CPU | 13th Gen Intel® Core™ Processors, Max. 28W: Intel® Core™ i7-1370PE Processor Intel® Core™ i5-1340PE Processor Intel® Core™ i3-1320PE Processor | Intel® Xeon® E-2124G Intel® i9-9900T Intel® i7-9700TE Intel® i7-8700T Intel® i5-8500T Intel® i3-8100T Pentium® G5400T Celeron® G4900T | 12/13/14th Generation Intel® Core™ LGA 1700 Socket-Type Processors, Max TDP 65W |
| Chipset | Intel® SoC | C246 | Intel® Q670E Chipset |
| System Memory | DDR5 SODIMM x 2, up to 96GB | DDR4-2666 SO-DIMM slot x 2 Up to 64GB, ECC or Non-ECC Support | DDR5 4800, SODIMM x 2, up to 64GB |
| Display Interface | | HDMI x 2 | HDMI Type A x 2 Display Port x 2 |
| Storage Device | 2.5" SATA Drive Bay x 1 M.2 2280 M-Key x 1 (PCIe Gen 4 [x4]) | 2.5" SATA HDD/SSD Bay x 2 | 2.5" SATA Drive Bay x 2 M.2 2280 M-Key x 1 (PCIe Gen 4 [x4]) for NVMe*Note: extra heatsink is required, refer to optional accessories. |
| Ethernet | 2.5GbE x 5 (Intel® Ethernet Controller I226-LM) | RJ-45 x 4 for GbE LAN (i211-AT x 3, i219-LM x 1) | RJ-45 for 2.5GbE LAN x 1 RJ-45 for GbE LAN x 3 |
| I/O | 2.5GbE x 4 (IEEE 802.3af/at PoE support, providing a total power budget of 60W across all ports) Note: When the input voltage is ≤12V, the system supports PoE with a maximum combined output of <20W. USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 (Type-A) x 2 DB-9 x 2 for RS-232/422/485 DB-15 x 1 for DIO 8-bit Front-access SIM Slot x 1 3.5mm Jack x 1 for Line-out/Mic-in Antenna Opening x 6 Reset Button x 1 Power Button x 1 | HDMI x 2 RJ-45 x 4 for GbE LAN (i211 x 3, i219 x 1) USB 3.2 Gen 1 x 8 DB-9 x 6 for RS-232/422/485 Audio x 1 (MIC-in, Line-out) DB-15 for DIO 8 bit x 1 3 pin 10-35V Power Input x 1 Power Button x 1 Remote Power switch x 1 Reset Button x 1 | USB 3.2 Gen 2 (Type-A) x 8 DB-9 for RS-232/422/485 x 6 Mic-in / Line-out x 1 10-pin Terminal Block for 8-bit DIO x 1 Remote Power on/off x 1 2-pin Remote Power Switch x 1 Power Button with LED Indicator x 1 |
| Expansion | M.2 2280 M-Key x 1 M.2 2230 E-Key x 1 (PCIe) M.2 3052 B-Key x 1 (USB) with SIM slot PCIe [x1] Slot x 1 (Max size: 150mm x 110mm x 20mm) PCI Slot x 1 (Max size: 150mm x 110mm x 20mm) | Full-size Mini card x 1 (PCIe) Full-size Mini card x 1 (PCIe/mSATA switch by BIOS, Default: mSATA) SIM slot x 1 PCIe slot x 1 Riser card type 1: PCIe[x4] slot x 1 & PCIe[x1] x 1 (A1) Riser card type 2: PCIe[x4] slot x 1 & PCI x 1 (A2) Riser card type 3: PCI x 2 (A3) Max. size of expansion card 150 x 105 x 40 mm | M.2 2230 E-Key x 1 (Wi-Fi) M.2 3052 B-Key x 1 with Nano SIM (LTE/5G) M.2 2280 M-Key x 1 (NVMe) Model A1: PCIe [x4] x 1 + PCIe [x1] x 1 (Total Power Consumption: 25W) Model A2: PCIe [x4] x 1 + PCI x 1 (Total Power Consumption: 25W) Maximum Expansion Card Size: 150mm x 105mm x 40mm (applicable to both slots) |
| Indicator | — | HDD LED x 1 System LED x 1 | TBD |
| OS Support | Windows® 10 IoT 2021 LTSC Windows® 11 IoT LTSC Ubuntu 24.04 above | Windows® 10 64-bit, Linux Ubuntu 20.04 | Windows 10 IoT LTSC 2021 Windows 11 IoT LTSC 2024 Ubuntu 24.04 and later |
| Power Supply | | | |
| Power Requirement | 9V–36V DC Input via 3-pin Terminal Block, with built-in protection circuit | 3-pin Phoenix DC Input 10–35V | 12V – 24V DC-in via 3-pin Terminal Block Connector with protection circuit |
| Mechanical | | | |
| Mounting | Wallmount (Optional: DIN Rail Mount) | | Wallmount |
| Dimensions (W x H x D) | 10.3" x 7" x 4.8" (264mm x 179mm x 124mm) w/o Brackets | 264mm x 156mm x 125mm | 10.3" x 7.3" x 4.8" (264mm x 186mm x 122mm) w/o Brackets |
| Gross Weight | 13.89 lb (6.3 Kg) | 13.2 lb (6.0 kg) | TBD |
| Net Weight | 10.80 lb (4.9 Kg) | 9.9 lb (4.5 kg) | TBD |
| Environmental | | | |
| Operating Temperature | -4°F ~140°F (-20°C ~ 60°C) with 0.7 m/s airflow (with wide temp. memory/storage) | -4°F ~131°F (-20°C ~ 55°C) with 0.5 m/s airflow (with TDP ≤ 35W CPU) -4°F ~113°F (-20°C ~45°C) with 0.5 m/s airflow (with TDP > 35W CPU) | -4°F ~ 131°F (-20°C ~ 55°C) with 0.7 m/s airflow (with wide temp. memory/storage) |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | -49°F ~ 176°F (-45°C ~ 80°C) | -40°F ~ 176°F (-40°C ~ 80°C) |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing | 5~95% @ 40°C, non-condensing | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | With SSD: Random, 3Grms, 5~500Hz | 5 Grms/ 5 ~ 500Hz/ operation -SSD | With SSD: Random, 3Grms, 5~500Hz |
| Anti-Shock | With SSD: 50G @ wallmount, Half-sine, 11ms | SSD: 50G @ wallmount, Half-sine, 11ms | With SSD: 50G @ wallmount, half-sine, 11ms |
| Certification | | CE/FCC class A | |
| Note | | | |

System Level Products

Expandable Fanless BOX PC Solutions

02

Expandable Fanless BOX PC Solutions



| Model | BOXER-6842M |
|------------------------|--|
| System | |
| CPU | Intel® Xeon® E-2124G; Intel® Core™ i9-9900T; Intel® Core™ i7-8700T; Intel® Core™ i5-9500TE; Intel® Core™ i5-8500T; Intel® Core™ i3-8100T; Intel® Pentium® G5400T; Intel® Celeron® G4900T Note: Support max. TPD 71W Processor |
| Chipset | C246, No H310 downward support |
| System Memory | DDR4 SO-DIMM socket x4 (double deck) Support max. 2666MHz up to 128GB Support un-buffered and ECC / non-ECC type SODIMM |
| Display Interface | HDMI x 2 Support Dual Independent Display, 4K Ultra HD displays |
| Storage Device | 2.5" SATA Drive Bay x2 (4 SATA Port w/ RAID Function) mSATA x 1 (optional) M.2 2280 NVMe SSD slot x 1 |
| Ethernet | RJ-45 x 3 for GbE (Intel i211AT x 2, i219LM x 1) |
| I/O | HDMI x 2 Audio (Mic-in, Line-out) USB 3.2 Gen1 x 6 DB-9 x4 for RS-232/422/485 with automatic flow control 3 pin DC Power input x 1 (+, -, GND) Power ON/OFF switch x 1 2 pin Remote power on/off connector Reset switch |
| Expansion | A2/A3/A4/A5 Full-size Minicard x 1 (PCIE + USB with 1 SIM Slot) Half-size Minicard x 1 (PCIE + USB, optional for mSATA) M.2 M key (2280) x 1 (PCIe4) - Max. Power Consumption of GPU card 250W - Max. Size of GPU card 280mm x150mm x 40mm A2 PCIE [x4] x 1 + PCIE [x16] x 1 A3 PCIE [x4] x1 + PCIE [x8] (in x16 slot) x 2 A4 PCIE [x4] x1 + PCIE [x8] (in x16 slot) x2 Support dual Graphics Cards with two power inputs A5 Built in Nvidia A2 x1 PCIE [x4] x 1 + PCIE [x8] x 1 (in x16 slot) Note: A3 is fanless system. A2 & A4 & A5 is fan system with PWM function. |
| Indicator | System Power LED x 1 (Green), Storage Active LED x 1 (Red) |
| OS Support | Windows® 10 Enterprise 64 bit, Ubuntu 18.04.4 |
| Power Supply | |
| Power Requirement | A2/A3/A4 DC In 12~24V with 3-pin terminal block No Graphics Card: CPU 35W->120W Adapter x 1, CPU 71W->240W Adapter x 1 With 250W Graphics Card x1: 480W Adapter x 1 A4 DC In 12~24V with 3-pin terminal block With 250W Graphics Card x2: 330W Adapter x 1 + 480W Adapter x 1 A5 DC In 12~24V with 3-pin terminal block With A2 x 1: 240W Power Adapter x 1 With A2 x 2: 330W Power Adapter x 1 |
| Mechanical | |
| Mounting | Wallmount |
| Dimensions (W x H x D) | A2/A3/A5: 6.17" x 8.92" x 12.8" (156.7mm x 226.5mm x 325mm) A4: 7.77" x 8.92" x 12.8" (197.3mm x 226.5mm x 325mm) |
| Gross Weight | A2/A3: 18.52 lb (8.4 Kg); A4: 20.72 lb (9.4 Kg); A5: 20.5 lb (9.3 Kg) |
| Net Weight | A2/A3: 15.65 lb (7.1 Kg); A4: 17.86 lb (8.1 Kg); A5: 17.64 (8 Kg) |
| Environmental | |
| Operating Temperature | Without Graphics Cards: -4°F ~ 149°F (-20°C ~ 65°C) with 0.5m/s airflow With 250W Graphics Card: 32°F ~ 113°F (0°C ~ 45°C) with 0.5m/s airflow A5: 32°F ~ 113°F (0°C ~ 40°C) with 0.5m/s airflow |
| Storage Temperature | -49°F ~ 176°F (-45°C ~ 80°C) |
| Storage Humidity | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | HDD: Random, 1Grm, 5~500Hz |
| Anti-Shock | — |
| Certification | CE / FCC class A |
| Note | |

Note: All specifications are subject to change without notice.

www.aaeon.com

02-26



| Model | BOXER-6843-ADS | BOXER-6845-BTL |
|------------------------|--|--|
| System | | |
| CPU | 12th Generation Intel® Core™, TDP Max. 65W Intel® Core™ i9-12900TE/i9-12900E Intel® Core™ i7-12700TE/i7-12700E Intel® Core™ i5-12500TE/i5-12500E Intel® Core™ i3-12100TE/i3-12100E 13th Generation Intel® Core™, TDP Max. 65W Intel® Core™ i9-13900TE/i9-13900E Intel® Core™ i7-13700E Intel® Core™ i5-13500E Intel® Core™ i3-13100TE 14th Generation Intel® Core™, TDP Max. 65W Intel® Core™ i9-14900/i9-14900T Intel® Core™ i7-14700/i7-14700T Intel® Core™ i5-14500 Intel® Core™ i3-14100/i3-14100T | Intel® Core™ processors Series 2 (formerly Bartlett Lake), TDP Max. 65W: Intel® Core™ 7 Processor 251E, Intel® Core™ 7 Processor 251TE, Intel® Core™ 5 Processor 221E, Intel® Core™ 5 Processor 221TE, Intel® Core™ 5 Processor 211E, Intel® Core™ 5 Processor 211TE, Intel® Core™ 3 Processor 201TE |
| Chipset | Q670E | Intel® W680 Chipset |
| System Memory | DDR5 4800MHz U-DIMM x 4, up to 128GB | DDR5 SODIMM Slot x 2, up to 64GB (Un-buffered ECC / Non-ECC) |
| Display Interface | HDMI x 2 (Type-A) Display Port x 2 | HDMI x 2 (Lockable) |
| Storage Device | 2.5" SATA Drive Bay x 2 (external, swappable) M.2 2280 M-Key x 2 (PCIe Gen 4 [x4]) 3.5" SATA Drive Bay (internal, non-swappable, optional) | 2.5" SATA Drive Bay x 2 M.2 2280 M-Key x 2 (NVMe) |
| Ethernet | 2.5GbE x 3 (Intel® I226-IT) GbE x 1 with LED Indicator (Intel® I219-LM) | Lockable RJ-45 x 3 for GbE LAN |
| I/O | HDMI x 2, Display Port x 2 RJ-45 x 4 3.2 Gen 2 x 8 (Type-A) DB-9 Male x 8 for RS-232/422/485 (Autoflow, Programmable) DB-15 Male x 1 for 8-bit DIO Audio (Mic-in/Line-out) DC 19 ~ 36V 3-pin Terminal Block Connector Power Button with LED x 1 Remote Power On/Off x 1 Reset Button x 1 | USB 3.2 (10Gbps) x 2 USB 2.0 x 2 DB-9 for RS-232/422/485 x 2 Mic-in x 1 Line-out x 1 DB-15 for DIO 8-bit x 1 Remote Power Switch x 1 Power Button with LED Indicator x 1 Reset Button x 1 Antenna Opening x 10 |
| Expansion | M.2 2230 E-Key x 1 M.2 3052 B-Key w/SIM x 1 M.2 2280 M-Key/B-M-Key x 2 Full-Size Mini Card x 1 (PCIe + USB) A1: PCIe [x4] x 1 + PCIe [x16] x 1 A2: PCIe [x4] x 1 + PCIe [x8] (in x16 slot) x 2 Max. Power Consumption of GPU card 300W Max. Size of GPU card 305mm x 120mm x 50mm | M.2 2230 E-Key x 1 (Wi-Fi) M.2 3052 B-Key x 1 w/ Front Access Nano SIM Slot (LTE/5G) M.2 3052 B-Key x 1 (PCIe [x1] + USB 3) Front Access Nano SIM Slot x 1 with cover OOB function (by request) Riser Card Expansion: A1 SKU: PCIe [x16] + PCIe [x4] Total share 150W by power cable Max. GPU card power consumption: 150W Max. GPU card length: 221mm A2 SKU: PCIe [x8] + PCI x 2 |
| Indicator | — | System Power |
| OS Support | Windows® 10 IoT Enterprise LTSC 2021 Windows® 11 Pro Linux Ubuntu 22.04 | Windows® 10 IoT 2021 LTSC Windows® 11 IoT LTSC Linux Ubuntu 24.04 |
| Power Supply | | |
| Power Requirement | DC 19~36V 3-pin Terminal Block | 12V-24V 4-pin DC Terminal Block Connector with protection circuit |
| Mechanical | | |
| Mounting | | Wallmount |
| Dimensions (W x H x D) | 7.35" x 8.92" x 14.76" (186.8 x 226.5 x 375 mm)(Without brackets) 7.35" x 9.19" x 16.50" (186.8 x 233.5 x 419 mm)(With brackets) | 5.9" x 10.6" x 8.8" (150mm x 270mm x 225mm) without brackets |
| Gross Weight | 20.9 lb (9.5Kg) | 18.1 lb (8.2 Kg) |
| Net Weight | 18.1 lb (8.2 Kg) | 14.3 lb (6.5 Kg) |
| Environmental | | |
| Operating Temperature | -4°F ~ 113°F (-20°C ~ 45°C), according to IEC68-2 with 0.5 m/s AirFlow (w/ Industrial wide temp. SSD/RAM) | -4°F ~ 113°F (-20°C ~ 45°C) with 0.7 m/s airflow(with industrial wide temp. SSD/RAM, without add-on card) |
| Storage Temperature | | -40°F ~ 176°F (-40°C ~ 80°C) |
| Storage Humidity | | 5 ~ 95% @ 40°C, non-condensing |
| Anti-Vibration | | 3 Grms/ 5 ~ 500Hz/ operation (with SSD) |
| Anti-Shock | | 50G @ wallmount, half sine, 11 ms duration (with SSD) |
| Certification | 50G, IEC 68-2-27, half sine, 11 ms duration (with SSD) | CE/FCC Class A |
| Note | | |



| Model | VPC-3350S | VPC-5600S | VPC-5640S |
|-------------------------|---|--|---|
| System | Multi-PoE & Fanless Appliance | | |
| Form Factor | Multi-PoE & Fanless Appliance | | |
| Processor | Intel® Pentium®/ Celeron®/ Atom® Processor (Default: Intel Atom™ x5-E3940 Processor) | 7th Generation Intel® Core™ i3/i5/i7 Processors Default: Intel® Core™ i3-7100U Project Base: Intel® Core™ i5-7300U, Intel® Core™ i7-7600U | Default: 12th Generation Intel® Core™ i7-1265UE Processor Project Based: Intel® Core™ i5-1245UE Intel® Core™ i3-1215UE |
| Chipset | — | | |
| Main Memory | DDR3L 1866, Single-Channel SODIMM x 1, Non-ECC (Max. 8GB, up to 1600MHz) | DDR4 2133MHz SODIMM x 2, up to 32GB | DDR5 SODIMM x 2, up to 64GB |
| Display | HDMI x 1, DP x 1 | | HDMI x 2 |
| Ethernet | Intel® Ethernet Controller I211 (co-lay I210) | PoE x 4, LAN x 2, RTL8111E 10/100/1000 Base-T | 2.5GbE x 1 (Intel® I226-LM) |
| Smart PoE | 4 ports, sharing 60W of power budget for every four PoE ports | 4 ports, sharing 60W of power budget for every four PoE ports. | 2.5GbE x 4 (Intel® Ethernet Controller I226-LM) (IEEE 802.3 at/af, sharing total 60W of power budget for all four PoE ports) *Note: The system only supports total 20W PoE when input voltage is at or below 10V |
| RAID support | — | RAID 0, RAID 1 | — |
| Expansion Slot | Full-size Mini Card Slot x 2 (USB 2.0 + PCIe, up to 4 slots, in-vehicle platform) SATA x 1 Built-in CANBus (in-vehicle platform) | Mini-Card x 3 (USB 2.0 x 2 + PCIe + USB 2.0 x 1) Built-in CAN 2.0B x 1 | M.2 2230 E-Key x 1 (PCIe [x1] + USB 2.0, for WiFi/Bluetooth Module) M.2 3052 B-Key w/ Dual-SIM x 2 (USB 3.0 + USB 2.0, for LTE/5G Module) M.2 2280 M-Key x 1 (PCIe [x4]), support NVME PCIe [x4] SSD) |
| GPS, G-Sensor | Built-in GPS & G-Sensor (In-vehicle platform) | Onboard (GPS/GLONASS), G Sensor | YS: Built-in GPS, NEO-M9V & G-Sensor |
| Front I/O Panel | Power Button x 1 Reset Button x 1 Power/HDD, LED x 2 USB 3.2 Gen 1 x 2 GbE port (RJ-45) x 1 PoE LAN x 4 (IEEE 802.3 at/af) HDMI x 1 CanBus connector x 1 (In-vehicle platform) RS-232 x 3 (In-vehicle platform) | Power Button x 1 3G/4G/WiFi LED x 3 USB 3.2 Gen 1 x 4 RJ-45 x 2 for GbE PoE LAN x 4 (IEEE 802.3 at/af) DP x 1 Reset Button x 1 | USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 (Type-A) x 2 2.5GbE LAN x 1 2.5GbE PoE LAN x 4 (IEEE802.3 at/af) Jack x 1 for Line-out & MIC-in Reset Button x 1 Power Button x 1 |
| Rear I/O Panel | DC Power Input x 1 8-bit DIO x 1, 4-ch Digital Input, 4-ch Digital Output RS-232/422/485 x 2 DP x 1 Audio Line-out x 1, Mic-In x 1 Micro SIM Slot x 2 | DC-in Power x 1 Remote Power x 1 8-bit DIO x 1, 4-CH Digital Input (Wet/dry contact with Isolation Protection 3,000VDC), 4-CH Digital Output (Compatible 5 V/ TTL, 31mA Max. per Channel) 12V/1A DC Output x 1 RS-232/422/485 x 2 HDMI x 1 CanBus x 1, Audio Line-out x 1, Mic-In x 1 SIM Slot x 2 | DB-9 Male x 2 for RS-232/422/485 DB-9 Male x 1 for Isolated CANBus FD x 2 DB-15 Male x 1 for DIO 8 bit HDMI 1.4b x 2 3-pin Terminal Block x 1 DIP Switch x 1 SIM Slot x 4 |
| Storage | — | | |
| HDD Tray | 2.5" HDD/SSD Bay x 1 | 2.5" SATA SSD x 2 | 2.5" HDD/SSD Bay x 1 |
| CF/CFast/mSATA Slot | — | mSATA Slot x 1 (Optional, If mSATA x 1 used, then only one SATA available) | — |
| Environmental | — | | |
| Operating Temperature | -4°F ~ 158°F (-20°C ~ 70°C) | | -40°F ~ 158°F (-40°C ~ 70°C), IEC68-2 with 0.5 m/s AirFlow |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | | -40°F ~ 176°F (-40°C ~ 80°C) |
| Storage Humidity | 10%~80% @40°C, non-condensing | | 5 ~ 95% @ 40°C, non-condensing |
| Vibration/Shock | MIL-STD-810G | | MIL-STD-810H |
| Certification | CE & FCC Class A | CE & FCC Class A, EMARK | CE/FCC Class A, UKCA, E-Mark |
| Power Requirement | — | | |
| Power Supply | DC 12V-24V, DC 9V-36V with power ignition (in-vehicle platform) | DC 10-36V, with ignition pin | IS: DC-in 9~36V x 1 for 3-pin Terminal Block YS: DC-in 9~36V x 1 for 3-pin Terminal Block with power ignition |
| Mechanical | — | | |
| Removable HDD Tray | — | Hot swappable 2.5" SSD x 2 (Project base) via extension module | — |
| Internal System HDD Bay | — | 2.5" HDD x 2 | 2.5" HDD/SSD Bay x 1 |
| Dimension | 6.3" x 5.28" x 2.44" (160mm x 134mm x 62mm) 6.3" x 5.28" x 2.95" (160mm x 134mm x 75mm), In-vehicle platform. | 6.85" x 7.87" x 2.52" (174mm x 200mm x 64mm) | 9.45" x 6.58" x 2.99" (240mm x 167.1mm x 76mm) Without brackets 11.69" x 6.58" x 3.27" (297mm x 167.1mm x 83mm) With brackets |
| Gross Weight | 3.96 lb. (1.8 Kg) | 5.7 lb. (2.6Kg) | 7.93 lb (3.6 Kg) |
| Note | — | | |

System Level Products

UP Systems



| Model | UP 4000 Edge | UP 7000 Edge | UP 710S Edge |
|-----------------------------|--|---|---|
| System | | | |
| CPU | Intel® Celeron® Processor N3350 Intel® Pentium® Processor N4200 Intel Atom™ x7-E3950 | Intel® Processor N200 Intel® Processor N97 Intel® Processor N100 Intel® Processor N50 (formerly Alder Lake-N) | Intel® Processor N200 Intel® Processor N97 Intel® Processor N100 Intel® Processor N50 Intel Atom™ x7425E (formerly Alder Lake-N) |
| Memory | Up to 8GB onboard LPDDR4 | Up to 8GB LPDDR5 | |
| Graphics | Intel® HD Graphics | Intel® UHD Graphics for 12th Gen Intel® Processors | |
| Storage | Up to 64GB onboard eMMC | Up to 64GB eMMC | |
| Ethernet | 1GbE RJ-45 x 1 (Realtek RTL8111-CG) | 1GbE RJ-45 x 1 (Realtek RTL8111H CG) | 1GbE RJ-45 x 1 |
| WiFi/BT | | | Optional with M.2 2230 E-key x 1 |
| Expansion Slot | — | HDMI 1.4b/USB 3.2 Gen 2 STACK Connector x 1 (Type-A) Power Button x 1 | M.2 2230 E-Key x 1 (PCIe x1, USB2.0 x1) |
| Security | | Onboard TPM 2.0 | |
| OS Support | Windows 10/11 (64-bit) Linux Ubuntu 22.04 Linux Yocto 4.0 | Windows 10/11 (64-bit) Linux: Ubuntu 22.04 LTS/Kernel 5.15, Yocto 4.0 | Microsoft Windows 10/11 Ubuntu 22.04 LTS Yocto 5.1 |
| I/O Placements | | | |
| USB | USB 3.2 Gen 1 (Type-A) x 3 USB 3.0 OTG (via USB Type-C) x 1 | USB 3.2 Gen 2 (Type-A) x 3 | |
| Display Port | HDMI 1.4b x 1 DP x 1 (via USB Type-C) | HDMI 1.4b x 1 | |
| Ethernet | RJ45 x1 | 1GbE RJ-45 x 1 (Realtek RTL8111H CG) | 1GbE RJ-45 x 1 |
| COM | | | RS-232/422/485 x 1 |
| Audio | Audio wafer x 1 (Mic-in+Line-out) | | |
| GPIO | | | GPIO x 8 (Optional: PWM x 1, I2C x 1, SPI x 1; by project base, please contact AAEON sales) |
| Power Supply | | | |
| Power requirement | 12V DC-in | | 12V DC-in, 5A |
| Power supply type | AT/ATX (AT as default) | AT/ATX (ATX as default) | AT/ATX |
| Power Consumption (Typical) | 19W~25W | | 30W~36W |
| Mechanical | | | |
| Mounting | VESA Mount (optional) / Wallmount (optional) / DIN Rail (optional) | VESA Mount (optional)/Wallmount (optional) / DIN Rail (optional) | DIN Rail, VESA |
| Dimensions (WxHxD) | 3.62" x 2.52" x 1.78" (92mm x 64mm x 45.2mm) | 3.62" x 3.03" x 1.51" (92mm x 77mm x 38.5mm) | 3.62" x 3.03" x 1.51" (92mm x 77mm x 38.5mm) |
| Net Weight | 0.64lb (0.29kg) | 0.68 lbs (0.31kg) | 0.67 lb. (0.30Kg) |
| Gross Weight | 1.21lb (0.55kg) | 1.04 lbs (0.47kg) | 0.78 lb. (0.35kg) |
| Environment | | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) with air flow 0.5m/s | 32°F ~ 131°F (0°C ~ 55°C) with 0.5m/s air flow | 23°F ~ 140°F (-5°C ~ 60°C) with 0.5m/s air flow |
| Operating Humidity | | 10% ~ 80% relative humidity, non-condensing | |
| Storage Temperature | | -4°F ~ 158°F (-20°C ~ 70°C) | |
| MTBF | 538,629 hrs @ 30°C | 685,218 Hours | 685,218 |
| Certification | | CE/FCC Class A, RoHS Compliant, REACH | |
| Note | | | |



| Model | UP TWL Edge | UP TWLS Edge | UPS-GWS01 |
|-----------------------------|---|--|---|
| System | | | |
| CPU | Intel® Core™ 3 Processor N355 Intel® Processor N250 Intel® Processor N150 (formerly Twin Lake) | | Intel® Celeron® Processor N3350 Intel® Pentium® Processor N4200 Intel Atom® x7-E3950 |
| Memory | Up to 8GB LPDDR5 | | Up to 8GB onboard LPDDR4 |
| Graphics | Intel® UHD Graphics for 12th Gen Intel® Processors | | Intel® HD Graphics |
| Storage | Up to 64GB eMMC | | Up to 128GB onboard eMMC |
| Ethernet | 1GbE RJ-45 x 1 (Realtek RTL8111H CG) | 1GbE RJ-45 x 1 | GbE x 2 (Realtek 8111H CG) |
| WiFi/BT | Optional with M.2 2230 E-key x 1 | | |
| Expansion Slot | HDMI 1.4b/USB 3.2 Gen 2 STACK Connector x 1 (Type-A) Power Button x 1 | M.2 2230 E-Key x 1 (PCIe x1, USB2.0 x1) | 40-pin GPIO x 1 Full-sized mPCIe x 1 (PCIe & SATA [x1] , USB2.0 [x1]) M.2 2230 E-Key x 1 (PCIe [x1], USB2.0 [x1]) SATA III x 1 |
| Security | Onboard TPM 2.0 | | fTPM |
| OS Support | Windows® 11 LTSC Ubuntu: 24.04 LTS Yocto: 5.1 | | Windows® 10 IoT Enterprise LTSC 2021 Windows IoT Core Linux Ubuntu 20.04 LTS Linux Yocto 3.1 |
| I/O Placements | | | |
| USB | USB 3.2 Gen 2 (Type-A) x 3 | | USB 2.0 x 2 (via 10 Pin Header x 1) USB 3.2 Gen 1 x 3 (Type-A) USB 3.2 Gen 1 OTG x 1 (Micro B) |
| Display Port | HDMI 1.4b x 1 | | HDMI 1.4b x 1 DP 1.2 x 1 |
| Ethernet | 1GbE RJ-45 x 1 (Realtek RTL8111H CG) | 1GbE RJ-45 x 1 | Realtek® 8111G x 2 |
| COM | — | | |
| Audio | — | | |
| GPIO | GPIO x 8 (Optional: PWM x 1, I2C x 1, SPI x 1; by project base, please contact AAEON sales) | | — |
| Power Supply | | | |
| Power requirement | 12V DC-in, 5A | | 5V DC-in |
| Power supply type | AT/ATX (ATX as default) | AT/ATX | AT/ATX (AT as default) |
| Power Consumption (Typical) | 30W~36W | | 15.05W |
| Mechanical | | | |
| Mounting | VESA Mount (optional) | DIN Rail, VESA | VESA Mounting |
| Dimensions (WxHxD) | 3.62" x 2.52" x 1.78" (92mm x 64mm x 45.2mm) | 3.62" x 3.03" x 1.51" (92mm x 77mm x 38.5mm) | 3.74" x 3.58" x 1.46" (95mm x 91mm x 37mm) |
| Net Weight | 0.68 lbs (0.31kg) | 0.67 lb. (0.30Kg) | 0.99lb (450g) |
| Gross Weight | 1.04 lbs (0.47kg) | 0.78 lb. (0.35Kg) | 1.32lb (600g) |
| Environment | | | |
| Operating Temperature | -4°F ~ 140°F (-20°C ~ 60°C) with 0.7m/s air flow | | 32°F ~ 113°F (0°C ~ 45°C) |
| Operating Humidity | 10% ~ 80% relative humidity, non-condensing | | 0% ~ 90% relative humidity non-condensing |
| Storage Temperature | -4°F ~ 158°F (-20°C ~ 70°C) | | |
| MTBF | 685,218 | 685,218 | 179,902 |
| Certification | CE/FCC Class A, RoHS Compliant, REACH | | CE, FCC Class A, UL |
| Note | | | |

System Level Products

UP Systems



| Model | UP Squared V2 Edge | UP Squared i12 Edge | UP Squared 7100 Edge |
|-----------------------------|---|--|---|
| System | | | |
| CPU | Intel® Celeron® N6210 Processor SoC Intel® Celeron® J6412 Processor SoC Intel® Pentium® J6426 Processor SoC | 12th Gen Intel® Core™ Processor SoC Intel® Core™ i7-1270PE Intel® Core™ i7-1260P Intel® Core™ i5-1250PE Intel® Core™ i5-1240P Intel® Core™ i3-1220PE Intel® Celeron® Processor 7305E 13th Gen Intel® Core™ Processor SoC Intel® Core™ i7-1370PE Intel® Core™ i7-1360P Intel® Core™ i5-1340PE Intel® Core™ i3-1320PE | Intel® Processor N97 Intel® Processor N100 Intel Atom® x7425E |
| Memory | Up to 16GB LPDDR4 | Up to 16GB Onboard LPDDR5 (Single-Channel) | Up to 16GB LPDDR5 |
| Graphics | | Intel® UHD Graphics | Intel® UHD Graphics for 12th Gen Intel® Processors |
| Storage | Up to 64GB eMMC | M.2 2280 M-Key NVMe x 1 (PCIe Gen 4.0 [x4]) SATA 6Gb/s x 1 | Up to 128GB eMMC |
| Ethernet | Gb Ethernet (full speed) RJ-45 x 2 | 1GbE RJ-45 x 2 (Realtek RTL8111H-CG) | Gb Ethernet (full speed) RJ-45 x 2 |
| WiFi/BT | Optional with M.2 2230 E-key x 1 | Optional: M.2 2230 E-Key | Optional with M.2 2230 E-key x 1 |
| Expansion Slot | M.2 2230 E-Key x 1 (PCIe Gen 3.0 [x2], USB 2.0 [x1]) M.2 2280 M-key x 1 (PCIe Gen 3.0 [x2]) SATA 6Gb/s x 1 | M.2 2230 E-Key x 1 (CNVi & PCIe Gen 3.0 [x1]) M.2 2280 M-Key NVMe x 1 (PCIe Gen 4.0 [x4]) SATA 6Gb/s x 1 | M.2 2230 E-Key x 1 (PCIe x1, USB2.0 x1) M.2 2280 M-key x 1 (PCIe x2) |
| Security | | Onboard TPM 2.0 | |
| OS Support | Microsoft Windows 10 (full) Windows IoT Core Ubuntu 20.04 LTS Yocto 3.1 | Windows® 10 IoT Enterprise Ubuntu 22.04 LTS Yocto 4 | Microsoft Windows 10/11 Ubuntu 22.04 LTS Yocto 5.1 |
| I/O Placements | | | |
| USB | USB 2.0 x 2 (via 10 Pin Header x 1) USB 3.2 Gen 2 x 3 (Type-A) | USB 3.2 Gen 2 (Type A) x 2 USB 3.2 Gen2 (Type C) x 1 | USB 2.0 x 2 (via 10 Pin Header x 1) USB 3.2 Gen 2 x 3 (Type-A) |
| Display Port | HDMI 1.4b x 1 DP 1.2 x 1 | HDMI 1.4b/DP 1.2 STACK Connector x 1 DP 1.4a x 1 (via USB Type-C) | HDMI 2.0b x 1 DP 1.2 x 1 |
| Ethernet | Gb Ethernet (full speed) RJ-45 x 2 | 1GbE RJ45 x 2 (Dual Stacked) (Realtek 8111H CG) | Gb Ethernet (full speed) RJ-45 x 2 |
| COM | RS-232/422 x 1 | — | RS-232/422/485 x 2 |
| Audio | Line out x 1 Mic in x 1 | Audio Jack (Line out + MIC in) x 1 | Line out x 1 Mic in x 1 |
| GPIO | | — | |
| Power Supply | | | |
| Power requirement | 12V DC-in, 5A | 12V DC-in | 12V DC-in, 5A |
| Power supply type | AT/ATX (AT as default) | AT (default) /ATX | AT/ATX |
| Power Consumption (Typical) | 30~38W | Intel® Core™ i7-1270PE, LPDDR5 4800MHz 16GB, 5.86A@+ 12V (Typical) Intel® Core™ i7-1270PE, LPDDR5 4800MHz 16GB, 8.05A@+ 12V (Max) | 15W~37W |
| Mechanical | | | |
| Mounting | VESA Mounting | VESA Mount/Wallmount(Optional) | VESA Mounting |
| Dimensions (WxHxD) | 3.74" x 3.74" x 2.16" (95 x 95 x 55 mm) | 5.12" x 3.7" x 2.68" (130mm x 94mm x 68mm) | 3.74" x 3.74" x 2.16" (95 x 95 x 55 mm) |
| Net Weight | 0.99lb (450g) | 1.87 lbs (0.85kg) | 0.99lb (450g) |
| Gross Weight | 1.32lb (600g) | 2.36 lbs (1.07kg) | 1.32lb (600g) |
| Environment | | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°) / 0.5 airflow | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow | 32°F ~ 140°F (0°C ~ 60°) / 0.5 airflow |
| Operating Humidity | | 0% ~ 90% relative humidity, non-condensing | |
| Storage Temperature | | -4°F ~ 158°F (-20°C ~ 70°C) | |
| MTBF | 465,586 | 522,716 | 1,224,238 |
| Certification | | CE/FCC Class A, RoHS Compliant, REACH | |
| Note | | | |



| Model | UP Squared TWL Edge | UP Squared Pro 7000 Edge | UP Squared Pro 710H Edge |
|-----------------------------|---|---|---|
| System | | | |
| CPU | Intel® Core™ 3 Processor N355 Intel® Processor N250 Intel® Processor N150 (formerly Twin Lake) | Intel® Core™ i3-N305 Intel® Atom™ x7425E Intel® Processor N97 Intel® Processor N50 | Intel® Core™ i3-N305 (8C, 1.80 GHz, 15W) Intel® Processor N97 (4C, 2.00 GHz, 12W) Onboard Hailo-8™ edge AI processor |
| Memory | Up to 16GB LPDDR5 | Up to 16GB onboard LPDDR5 | |
| Graphics | Intel® UHD Graphics for 12th Gen Intel® Processors | Intel® UHD Graphics for 12th Gen Intel® Processors VPU: Hailo-8™ M.2 2280 B+M key AI module via m.2 2280 (Optional by SKU from ordering information) | Intel® UHD Graphics for 12th Gen Intel® Processors |
| Storage | Up to 128GB eMMC | Up to 64GB onboard eMMC | Up to 128GB onboard eMMC |
| Ethernet | Gb Ethernet (full speed) RJ-45 x 2 | 2.5GbE x 2 (Intel® I226-IT) | |
| WiFi/BT | Optional with M.2 2230 E-key x 1 | | |
| Expansion Slot | M.2 2230 E-Key x 1 (PCIe x1, USB2.0 x1) M.2 2280 M-key x 1 (PCIe x2) | M.2 2230 E-Key x 1 (CNVI, PCIe Gen 3 [x1], USB 2.0) M.2 2280 M-Key x 1 (PCIe Gen 3 [x2], USB 2.0) M.2 3052 B-Key x 1 (USB 3.2 Gen 2) with Nano SIM slot (USB 3.0) SATA 6Gb/s x 1 | M.2 2230 E-Key x 1 (CNVI, PCIe Gen 3 [x1], USB 2.0) M.2 2280 M-Key x 1 (PCIe Gen 3 [x2]), Optional: M.2 3052 B-Key with Nano SIM slot (USB 3.0) |
| Security | Onboard TPM 2.0 | | |
| OS Support | Windows® 11 LTSC Ubuntu: 24.04 LTS Yocto: 5.1 | Windows® 10 IoT Enterprise Ubuntu 22.04 LTS Yocto 4.0 | Windows® 10 IoT Enterprise Ubuntu 22.04 LTS |
| I/O Placements | | | |
| USB | USB 2.0 x 2 (via 10 Pin Header x 1) USB 3.2 Gen 2 x 3 (Type-A) | USB 3.2 Gen 2 x 2 (Type-A) USB 3.2 Gen 2 x 1 (Type-C) | USB 3.2 Gen 2 x 2 (Type-A) |
| Display Port | HDMI 2.0b x 1 DP 1.2 x 1 | HDMI 2.0b x 1 DP 1.2 x 1 DP 1.4a via USB Type C | HDMI 2.0b x 1 DP 1.2 x 1 |
| Ethernet | Gb Ethernet (full speed) RJ-45 x 2 | 2.5GbE x 2 (Intel® I226-IT) | |
| COM | RS-232/422/485 x 2 | | |
| Audio | Line out x 1 Mic in x 1 | Audio Jack x 1 (Mic-in+Line-out) | — |
| GPIO | — | 40 Pin GPIO x 1 | 40-pin GPIO x 1 |
| Power Supply | | | |
| Power requirement | 12V DC-in, 5A | 12V DC-in (Lockable plug) | 12V-36V DC-in Phoenix connector (Optional: Lockable plug) |
| Power supply type | AT/ATX | AT/ATX (ATX as default) | AT/ATX (AT as default) |
| Power Consumption (Typical) | 15W~37W | 26W~35W | 50W~55W |
| Mechanical | | | |
| Mounting | VESA Mounting | — | VESA Mount/Wallmount/DIN RAIL (Optional) |
| Dimensions (WxHxD) | 3.74" x 3.74" x 2.16" (95 x 95 x 55 mm) | 5.27" x 4.13" x 2.56" (134mm x 105mm x 65mm) | 5.28" x 4.13" x 2.36" (134mm x 105mm x 60mm) |
| Net Weight | 0.99lb (450g) | 2 lbs (0.95kg) | 1.8 lbs (0.69kg) |
| Gross Weight | 1.32lb (600g) | 2.8 lbs (1.3kg) | 2.2 lbs (0.97kg) |
| Environment | | | |
| Operating Temperature | -4°F ~ 140°F (-20°C ~ 60°) / 0.7 airflow | 32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| Storage Temperature | -4°F ~ 158°F (-20°C ~ 70°C) | | |
| MTBF | 1,224,238 | 422,053 Hours | |
| Certification | CE/FCC Class A, RoHS Compliant, REACH | | |
| Note | | | |

System Level Products

UP Systems



| Model | UP Squared Pro TWL Edge | UP Xtreme i11 Edge | UP Xtreme i12 Edge |
|-----------------------------|--|--|---|
| System | | | |
| CPU | Intel® Core™ 3 Processor N355 Intel® Processor N250 Intel® Processor N150 (formerly Twin Lake) | 11th Gen Intel® Core™/Celeron® Processor SoC Intel® Core™ i7-1185G7E Intel® Core™ i7-1185G7E Intel® Core™ i5-1145G7E Intel® Core™ i5-1145G7E Intel® Core™ i3-1115G7E Intel® Celeron® 6305E | 12th Gen Intel® Core™ Processor SoC Intel® Core™ i7-1270PE, Intel® Core™ i7-1260P, Intel® Core™ i5-1250PE, Intel® Core™ i5-1240P, Intel® Core™ i3-1220PE, Intel® Celeron® 7305E 13th Gen Intel® Core™ Processor SoC Intel® Core™ i7-1370PE, Intel® Core™ i7-1360P, Intel® Core™ i5-1340PE, Intel® Core™ i3-1320PE |
| Memory | Up to 16GB onboard LPDDR5 | DDR4 SODIMM Slot x 2 (up to 64GB) | Up to 32GB onboard LPDDR5 |
| Graphics | Intel® UHD Graphics for 12th Gen Intel® Processors | Intel UHD Intel® Iris® Xe graphics: i5/i7 sku with 128bit (dual channel) memory VPU: Hailo-8™ M.2 2280 B+M key AI module via m.2 2280 (Optional by SKU from ordering information) | Intel® Iris® Xe graphics VPU: Hailo-8™ M.2 2280 B+M key AI module via m.2 2280 (Optional by SKU from ordering information) |
| Storage | Up to 64GB onboard eMMC | M.2 2280 M-Key x 1 for NVMe (PCIe x [2]) SATA 6Gb/s x 1 | M.2 2280 M-Key x 2 (PCIe Gen 4.0 [x4]) (an additional thermal kit is required when SSD is installed) SATA 6Gb/s x 1 |
| Ethernet | 2.5GbE x 2 (Intel® I226-IT) | Intel® I225-IT x 1 Intel® I219 x 1 (Intel vPro™) | Intel® I226-IT x 1 (TSN), Intel® I219 x 1 (vPRO) |
| WiFi/BT | Optional with M.2 2230 E-key x 1 | Optional via M.2 2230 E-Key x 1 | Optional with M.2 2230 E-key x 1 |
| Expansion Slot | M.2 2230 E-Key x 1 (CNVI, PCIe Gen 3 [x1]) M.2 2280 M-Key x 1 (PCIe Gen 3 [x2], USB 2.0) M.2 3052 B-Key x 1 (USB 3.2 Gen 2) with Nano SIM slot (USB 3.0) SATA 6Gb/s x 1 | 40-pin GPIO x 1 M.2 2230 E-Key x 1 M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 SATA 6Gb/s x 1 PCIe [x4] Slot | 40-pin GPIO x 1 M.2 2230 E-Key x 1 M.2 2280 M-Key x 2 (PCIe Gen 4.0 [x4]) SATA 6Gb/s x 1 M.2 3052 B-Key x 1 (an additional thermal kit is required when 5G module is installed) Nano SIM Slot x 1 |
| Security | | Onboard TPM 2.0 | |
| OS Support | Windows® 11 LTSC Ubuntu: 24.04 LTS Yocto: 5.1 | Microsoft Windows 10 and Windows IoT Linux Ubuntu 22.04 Linux Yocto 3.1 | Windows® 10 Enterprise 2021 LTSC, Ubuntu 22.04, Yocto 4.0 |
| I/O Placements | | | |
| USB | USB 3.2 Gen 2 x 2 (Type-A) USB 3.2 Gen 2 x 1 (Type-C) | USB 2.0 (Type-A) x 1 USB 3.2 Gen 2 (Type-A) x 3 USB 4.0 (Type-C) x 1 | USB 2.0 (Type-A) x 1, USB 3.2 Gen 2 (Type-A) x 3, USB 4.0 (Type-C) x 1 |
| Display Port | HDMI 2.0b x 1 DP 1.2 x 1 DP 1.4a via USB Type C | HDMI 2.0 x 1 DP 1.4 x 1 (via USB Type-C) eDP x 1 | HDMI 2.0b x 1 DP 1.4a x 1 DP 1.4a x 1 (via USB Type-C) eDP1.4b x 1 |
| Ethernet | 2.5GbE x 2 (Intel® I226-IT) | | RJ45 x 2 |
| COM | RS-232/422/485 x 2 | RS232/422/485 x 2 | RS-232/422/485 x 2 |
| Audio | | Audio Jack x 1 (Mic-in+Line-out) | |
| GPIO | 40 Pin GPIO x 1 | | 16-pin terminal block connector x1 |
| Power Supply | | | |
| Power requirement | | 12V DC-in (Lockable plug) | 12-36V DC-in (Lockable plug) |
| Power supply type | | AT/ATX (ATX as default) | |
| Power Consumption (Typical) | 26W ~35W | Balance: 32.4W, Max current: 66W | Intel® Core™ i7-1270PE, LPDDR5 4800MHz 16GB, 5.86A@+ 12V (Typical) Intel® Core™ i7-1270PE, LPDDR5 4800MHz 16GB, 8.05A@+ 12V (Max) |
| Mechanical | | | |
| Mounting | — | VESA Mount/Wallmount (optional) | VESA Mount/Wallmount(optional) |
| Dimensions (WxHxD) | 5.27" x 4.13" x 2.56" (134mm x 105mm x 65mm) | 5.98" x 4.88" x 2.62" (152mm x 123.9mm x 66.5mm) | 5.98" x 4.87" x 2.81" (152mm x 123.8mm x 71.5mm) |
| Net Weight | 2 lbs (0.95kg) | 2.76 lbs (1.25kg) | 2.95 lbs (1.34kg) |
| Gross Weight | 2.8 lbs (1.3kg) | 3.68 lbs (1.67kg) | 3.88 lbs (1.76kg) |
| Environment | | | |
| Operating Temperature | -4°F ~ 140°F (-20°C ~ 60°C) / 0.7 airflow | 32°F ~ 140°F (0°C ~ 60°C) Fanless Sku memory and Storage requirement: DRAM Module : 0°C ~ 85°C, 2.5" SSD: -45°C ~ 85°C | With Cooler: 32°F ~ 140°F (0°C ~ 60°C), 0.5m/s airflow |
| Operating Humidity | | 0% ~ 90% relative humidity, non-condensing | |
| Storage Temperature | -4°F ~ 158°F (-20°C ~ 70°C) | | -40°F ~ 176°F (-40°C ~ 80°C) |
| MTBF | 422,053 Hours | 372,419 Hours | 366,810 Hours |
| Certification | | CE/FCC Class A, RoHS Compliant, REACH | |
| Note | | | |



| Model | UP Xtreme i14 Edge | UP Xtreme ARL Edge | UP Xtreme PTL Edge |
|-----------------------------|--|---|---|
| System | | | |
| CPU | Intel® Core™ Ultra 5 processor 125U (12M Cache, up to 4.30 GHz) Intel® Core™ Ultra 5 processor 125H (18M Cache, up to 4.50 GHz) Intel® Core™ Ultra 7 processor 155H (24M Cache, up to 4.80 GHz) Intel® Core™ Ultra 7 processor 165H (24M Cache, up to 5.00 GHz) | Intel® Core™ Ultra 5 processor 225H (18M Cache, up to 4.90 GHz) Intel® Core™ Ultra 7 processor 255H (24M Cache, up to 5.10 GHz) Intel® Core™ Ultra 7 processor 265H (24M Cache, up to 5.30 GHz) | Intel® Core™ Ultra X7 Processor 358H (up to 4.8 GHz) Intel® Core™ Ultra 5 Processor 338H (up to 4.7 GHz) |
| Memory | Up to 64GB onboard LPDDR5 (Dual-Channel) | | |
| Graphics | Intel® Arc™ graphics | | Intel® Arc™ B390 GPU |
| Storage | M.2 2280 M-Key x 2 SATA 6Gb/s x 1 | | M.2 2280 M-Key x 2 |
| Ethernet | 2.5GbE x 1 (via Intel® Ethernet Controller I226-IT) GbE x 1 (Intel® Ethernet Connection I219) | | 2.5GbE x 2 (via Intel® Ethernet Controller I226-IT) |
| WiFi/BT | M.2 2230 E-Key x 1 | | |
| Expansion Slot | 40-pin GPIO x 1 M.2 2230 E-Key x 1 (PCIe Gen 3 [x1], USB 2.0) M.2 2280 M-Key x 2 (PCIe Gen 4 [x4]) M.2 3052 B-Key x 1 (PCIe Gen 3 [x1], USB 3.2 Gen 2 [x1]) with Nano SIM slot (USB 3.0) SATA 6Gb/s x 1 | | 40-pin GPIO x 1 M.2 2230 E-Key x 1 (PCIe Gen 3 [x1], USB 2.0) M.2 2280 M-Key x 2 (PCIe Gen 4 [x4]) |
| Security | Onboard TPM 2.0 | | |
| OS Support | Windows 10/11 (64bit) Ubuntu 22.04/Kernel 6.5 up | Windows® 11 LTSC Ubuntu: 24.04 LTS Yocto: 5.1 | Windows 11 IoT Enterprise Ubuntu 24.04 LTS |
| I/O Placements | | | |
| USB | USB 2.0 x 2 (from 10 pin header x 1) USB 2.0 (Type-A) x 1 USB 3.2 Gen 2 (Type-A) x 2 USB 3.2 Gen 2 (Type-C) x 1 | USB 2.0 x 2 (from 10 pin header x 1) USB 2.0 (Type-A) x 1 USB 3.2 Gen 2 (Type-A) x 2 | USB 3.2 Gen 2 (Type-A) x 2 USB 4.0 (Type-C) x 2 |
| Display Port | HDMI 2.1 x 2 DP 2.1 x 1 DP 1.4 via USB Type-C x 1 | HDMI 2.1 x 2 DP 2.1 x 1 | HDMI 2.1 x 2 DP 2.1 x 2 via USB4.0 Type-C |
| Ethernet | 2.5GbE x 1 (via Intel® Ethernet Controller I226-IT), GbE x 1 (Intel® Ethernet Connection I219) | | 2.5GbE x 2 (via Intel® Ethernet Controller I226-IT) |
| COM | RS-232/422/485 10-pin header x 2 | | RS-232/422/485 x 2 |
| Audio | Audio Jack x 1 (Mic-in+Line-out) | | |
| GPIO | 16-pin terminal block connector x1 | | 40-pin GPIO x 1 |
| Power Supply | | | |
| Power requirement | 9-36V DC-in (Lockable plug) | | 19-36V DC-in |
| Power supply type | AT/ATX (ATX as default) | | |
| Power Consumption (Typical) | 67-80W | 57.6W ~ 86.4W | TBD |
| Mechanical | | | |
| Mounting | VESA Mount/Wallmount(optional) | | |
| Dimensions (WxHxD) | 5.98" x 4.87" x 2.81" (152mm x 123.8mm x 71.5mm) | | 8.6" x 5.1" x 2" (218mm x 129mm x 49.5mm) |
| Net Weight | 2.95 lbs (1.34kg) | | TBD |
| Gross Weight | 3.88 lbs (1.76kg) | | TBD |
| Environment | | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C), 0.5m/s airflow | -4°F ~ 140°F (-20°C ~ 60°C), 0.7m/s airflow | 32°F ~ 140°F (0°C ~ 60°C), 0.7m/s airflow |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | | |
| MTBF | 1,014,016 | | TBD |
| Certification | CE/FCC Class A, RoHS Compliant, REACH | | |
| Note | | | |

System Level Products

UP Systems



| Model | UP Xtreme 7100 Edge | Intelli i14 Edge | Intelli TWL01 Edge |
|-----------------------------|--|---|---|
| System | | | |
| CPU | Intel® Core™ i3-N305 Intel® Processor N97 | Intel® Core™ Processors (14th Gen), up to 65W LGA 1700 socket Default: Intel® Core™ i9-14900T | Intel® Core™ 3 Processor N355 Intel® Processor N250 Intel® Processor N150 Intel® Processor N97 |
| Memory | Up to 16GB LPDDR5 | DDR5 SODIMM x 2, up to 96GB, 4800 MT/s, ECC supported | Up to 16GB LPDDR5 |
| Graphics | Intel® UHD Graphics for 12th Gen Intel® Processors | NVIDIA RTX™ A2000/NVIDIA® RTX™ A4500 MXM Module Support MXM 3.1 Type A/ B/ B+, Max 115W, PCIe Gen4x16 Only support validated MXM GPU module | Intel® UHD Graphics for 12th Gen Intel® Processors |
| Storage | Up to 64GB eMMC | via M.2 2280 M-Key x 2 (NVMe) | 64GB eMMC (optional: up to 128GB) |
| Ethernet | 2.5GbE x 2 (Intel® I226-IT) | 2.5GbE x 1 (Intel® Ethernet Controller I226-IT) 1GbE x 1 (Intel® Ethernet Connection I219-LM) | Gb Ethernet RJ-45 x 2 |
| WiFi/BT | Optional with M.2 2230 E-key x 1 | via M.2 2230 E-Key | Optional with M.2 2230 E-key x 1 |
| Expansion Slot | M.2 3052 B-Key x 1 with Nano SIM slot (USB 3.0) M.2 2230 E-Key x 1 (USB 2.0/PCIe) M.2 2280 M-Key x 1 (PCIe Gen 3 [x2]) 24V 8-in/8-out Digital I/O x 1 via Terminal Block (Output current: 500mA per channel) 6 pin 2-channel CAN 2.0B x 1 via Terminal Block (10 ~ 1000 kbps) DIP Switch for CANBus function x 1 CAN LED indicator x 2 SATA III x 1 | M.2 2230 E-Key x 1 (PCIe Gen 3 [x4]) M.2 2280 M-Key x 2 (PCIe Gen 3 [x4]) | M.2 2230 E-Key x 1 (PCIe x1, USB2.0 x1) M.2 2280 M-key x 1 (PCIe x2) |
| Security | Onboard TPM 2.0 | TPM 2.0 | TPM 2.0 (fTPM, Onboard TPM IC optional by BOM) |
| OS Support | Ubuntu 22.04 LTS (Kernel 5.15 and kernel 5.19) | Windows 10/ 11 IoT Enterprise; Linux 64-bit | Windows® 11 LTSC Ubuntu: 24.04 LTS Yocto: 5.1 |
| I/O Placements | | | |
| USB | USB 2.0 (Type-A) x 2 USB 3.2 (Type-A) x 2 USB 3.2 Gen 2 (Type-C) x 1 (Supports DP alt mode) | USB 3.2 Gen 1 (Type A) x 5 USB 3.2 Gen 2 (Type C) x 1 | USB 3.2 Gen 2 x 4 (Type-A) |
| Display Port | DP 1.4a x 1 (via USB Type-C) | Display Port x 2 from MXM GPU Display Port (USB Type C) x1 from MXM GPU (A4500 SKU Max: 7680x4320 @ 60Hz) | HDMI 2.0b x 2 |
| Ethernet | RJ45 x 2 | 2.5GbE x 1 (Intel® Ethernet Controller I226-IT) 1GbE x 1 (Intel® Ethernet Connection I219-LM) | Gb Ethernet RJ-45 x 2 |
| COM | RS-232/422/485 x 1 (Terminal Block) (Default RS232) | — | RS-232/422/485 x 1 |
| Audio | — | — | Line out x 1 Mic in x 1 |
| GPIO | 6 pin GPIO x 1 via Terminal block | — | — |
| Power Supply | | | |
| Power requirement | 9-36V | 12V DC-In | 9V~36V DC-in, 5A |
| Power supply type | AT/ATX (AT as default) | AT(default)/ATX | AT/ATX |
| Power Consumption (Typical) | 52W~55W | 300W | 15W~37W |
| Mechanical | | | |
| Mounting | 75mm x 75mm VESA mount, optional Wallmount kit | — | DIN Rail, Wallmount, VESA mount |
| Dimensions (WxHxD) | 5.98" x 4.8" x 1.7" (152mm x 124mm x 40mm) | 8.07" x 7.48" x 2.76" (205mm x 190mm x 70mm) | 5.98" x 4.9" x 1.54" (152mm x 124mm x 39mm) |
| Net Weight | 2.21lb (1.0Kg) | 6.57 lbs (2.99 kg) | TBD |
| Gross Weight | 3.31lb (1.5Kg) | 6.72 lbs (3.05 kg) | TBD |
| Environment | | | |
| Operating Temperature | 32°F ~ 131°F (0°C ~ 55°C)/0.5m/s airflow | 32°F ~122°F (0°C ~ 50°)/0.5m/s airflow | 32°F ~ 122°F (0°C ~ 50°C)/0.5 airflow |
| Operating Humidity | — | 0% ~ 90% relative humidity, non-condensing | — |
| Storage Temperature | -4°F ~ 158°F (-20°C ~ 70°C) | -4°F to 158°F (-20°C to 70°C) | -4°F ~ 158°F (-20°C ~ 70°C) |
| MTBF | 421,998 | 1,373,882 | TBD |
| Certification | | | CE/FCC Class A, RoHS Compliant, REACH |
| Note | | | |



| Model | UP Xtreme i11 Edge Compute Enabling Kit |
|-----------------------------|--|
| System | |
| CPU | 11th Gen Intel® Core™ Processor SoC Core i7-1185GRE Core i5-1145GRE |
| Memory | 8GB 3200MHz SODIMM modules x 2 |
| Graphics | Intel® Iris™ Xe graphics |
| Storage | 128GB 2.5" SSD x 1 |
| Ethernet | Intel® i225IT (TSN) x 1, Intel® i219 (vPRO) x 1 |
| WiFi/BT | Optional |
| Expansion Slot | Realtek ALC888s x 1 (Mic /Line out) |
| Security | USB 3.2 Gen2 x 3 USB 2.0 x 1 (Type A) USB 4.0 via USB type C |
| OS Support | M.2 2230 E-Key x 1 M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 with SIM |
| I/O Placements | |
| USB | 12V DC-in (Lockable plug)/ Phoenix connector |
| Display Port | USB3.2 Gen2 x 3 USB2.0 x 1 (Type A) USB4.0 via USB type C |
| Ethernet | HDM 2.0 x 1 /DP 1.4 x 1 eDP x 1, 4K at 60hz panel |
| COM | Intel® i225IT x 1, Intel® i219 (vPRO) x 1 |
| Audio | RS232/422/485 x 2 |
| GPIO | |
| Power Supply | 12V (AT & ATX) |
| Power requirement | 4.88" x 5.98" x 2.62" (124mm x 152mm x 66.5mm) |
| Power supply type | 5.07 lb (2.3kg) |
| Power Consumption (Typical) | 32°F ~ 140°F (0°C ~ 60°C) |
| Mechanical | 0% ~ 90% relative humidity, non-condensing |
| Mounting | CE,FCC Class A |
| Dimensions (WxHxD) | Preinstalled Software Ubuntu 20.04 LTS and 5.11 Kernel Intel® Distribution of OpenVINO™ toolkit 2021 R1 Intel® Media SDK Intel® Distribution for Python* MRAA and UPM I/O and sensor libraries for C++, Python*, Java*, and JavaScript* Docker-CE k3s Kubernetes ONNX AWS Greengrass SQLite 3 Node.js cmake gcc Openssl Openssh-server/client git vim tmux |
| Net Weight | 2.21lb (1.0Kg) |
| Gross Weight | 3.31lb (1.5Kg) |
| Environment | |
| Operating Temperature | 32°F ~ 131°F (0°C ~ 55°C)/0.5m/s airflow |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing |
| Storage Temperature | -4°F ~ 158°F (-20°C ~ 70°C) |
| MTBF | 421,998 |
| Certification | CE/FCC Class A, RoHS Compliant, REACH |
| Note | |



| Model | | ACS-1U01-BT4 |
|-----------------------|-----------|---|
| System | | |
| CPU | | Intel® Atom® J1900 Processor (4C @ 2.00 GHz CPU, 688/854 MHz GFX, 10W TDP), Intel® Atom™ N2807 Processor (2C @ 1.58 GHz CPU, 313/750 MHz GFX, 4.3W TDP) |
| Chipset | | — |
| System Memory | | 204-pin SODIMM x 2 up to 8 GB (for J1900) 204-pin SODIMM x 1 up to 4 GB (for N2807) DDR3L 1333 MHz , Non-ECC, un-buffered memory, Dual-channel memory architecture |
| I/O Chipset | | Fintech 81866D |
| Display Interface | Chipset | Intel® Graphics Media Accelerator |
| | DP | VGA x 1, Up to 1920 x 1200 @60 Hz ; HDMI x 1, Up to 1920 x 1200 @60 Hz |
| Storage Devices | | 2.5" HDD, Full-Size Mini-Card (optional) |
| Network | LAN | Realtek® PCIe Gb LAN 8111G x 1 |
| I/O | | |
| Front I/O | USB | USB 2.0 port x 4 |
| | Audio | — |
| | Display | VGA x 1 |
| | Others | On/Off Button x 1, Power LED + HD LED x 1, (COM port optional if not use VGA port) |
| Rear I/O | USB | USB 3.2 Gen 1/2.0 port x 1, USB 2.0 port x 2 |
| | Audio | Line-out (green) x 1, Line-in (blue) x 1 |
| | Display | HDMI x 1 |
| | LAN | RJ-45 connector x 1 |
| | Power | DC Power x 1 |
| Expansion | Others | RS-232 connector x 1 |
| | Mini PCIe | Full-size Mini-Card (PCIe +USB or mSATA) + SIM Card (mSATA default) x 1, Half-size Mini-Card (PCIe +USB) x 1 |
| | Storage | Full-size Mini-Card slot (mSATA default) x 1, SATA3 (6.0Gb/s) x 1, SATA2 (3.0Gb/s) x 1, SATA power connector x 1 |
| | Others | RS-232 9-pin int. box header x 1, RS-232/422/485 9-pin box header x 1, 5-pin USB 2.0 header(p=2.00mm) x 2 |
| Indicator | Front | Power LED x 1, HDD Active LED x 1 |
| | Rear | — |
| Power | | |
| Battery | | Lithium battery |
| Power Requirement | | DC: 12V |
| Mechanical | | |
| Dimension (WxHxD) | | 8" x 8" x 1.75" (203.20mm x 203.20mm x 44.45mm) |
| VESA Mounting | | Wallmount |
| Anti-Vibration | | 0.5 Grms/ 5~ 500Hz/ operation – HDD |
| Anti-Shock | | 10 G peak acceleration (11 msec. duration) |
| Environmental | | |
| Operating temperature | | 32°F ~ 122°F (0°C ~ 50°C) |
| Certificate | | CE & FCC Class A |
| Operating System | | |
| MS Windows | | Windows® 7 32/64-bit, Windows® 8.1 32/64-bit |
| Linux | | Fedora |
| Note | | |



| Model | | ACS-1U01-H110B |
|-----------------------|-----------|---|
| System | | |
| CPU Board | | EMB-H110B-A10-HH |
| CPU | | Intel® Skylake 14nm LGA 1151 socket Processor, Max. 65W TDPs (follow thin mini-ITX) |
| Chipset | | Intel® H110 |
| System Memory | | 2 x SODIMM, Max. 32GB, DDR4 2133/1867 MHz, Non-ECC, Un-buffered |
| I/O Chipset | | NCT6791D |
| Display Interface | | Intel® HD Graphics DP(BOM Change, default HDMI): Up to 1920 x 1200 @60Hz, with Digital Audio HDMI: Up to 4096 x 2304 @24Hz / 2560 x 1600 @60Hz, with Digital Audio LVDS: Up to 1920 x 1200 @60Hz, Dual Channel 18/24-bit colay eDP: Up to 4096 x 2304 @60Hz |
| Storage Devices | | 2.5" HDD x 1, Full-Size Mini-Card(mSATA default, PCIe + USB optional) x 1 |
| LAN | | Realtek® PCIe Gb LAN 8111G x 2 |
| I/O | | |
| Front I/O Ports | | USB 2.0 port x 4 Power S/W x 1 COM port x 1 HDD LED x 1 POWER LED x 1 |
| Rear I/O Ports | | USB 3.2 Gen 1 port x 4 Mic-In (pink) x 1 Line-Out (green) x 1 HDMI x 2 (BOM Changeable to DP) RJ-45 Connector x 2 DC Power jack x 1 |
| Expansion | Mini PCIe | Half-Size Mini-Card slot (PCIe + USB) x 1, Full-Size Mini-Card (Default mSATA, PCIe + USB optional) x 1 |
| | Storage | Full-size Mini-Card slot (mSATA default) x 1, SATA3(6.0Gb/s) x 1, SATA power connector x 1 |
| | Others | RS-232 9-pin int. box header x 1, RS/232/422/485 9-pin box header x 1, 5-pin USB 2.0 header(p=2.00mm) x 2 |
| Power | | |
| Battery | | Lithium battery |
| Power Requirement | | DC: 12V |
| Mechanical | | |
| Dimension (WxHxD) | | 8" x 8" x 1.75" (203.20mm x 203.20mm x 44.45mm) |
| VESA Mounting | | Wallmount |
| Anti-Vibration | | 0.5 Grms/ 5~ 500Hz/ operation – HDD |
| Anti-Shock | | 10 G peak acceleration (11 msec. duration) |
| Environmental | | |
| Operating temperature | | 32°F ~ 122°F (0°C ~ 50°C) |
| Certificate | | CE & FCC Class A |
| Operating System | | |
| MS Windows | | Windows® 7 32 / 64-bit, Windows® 8.1 32 / 64-bit, Windows® 10 32 / 64-bit |
| Linux | | Ubuntu 16.04.02/Kernal 4.8.0 |
| Note | | |

| Model | | ACS-1U01 |
|-----------------------|--|---|
| System | | |
| M/B | | Mini-ITX |
| Dimension (W x D x H) | | 8" x 8" x 1.75" (203.20mm x 203.20mm x 44.45mm) |
| Color | | Black |
| Processor Support | | TDP < 65W |
| Drive Bay | | 2.5" internal HDD bracket x 1 |
| Front I/O | | USB 2.0 Port x 4 COM/VGA Port |
| Button | | Power Switch x 1 |
| LED | | Power LED x 1 HDD LED x 1 |
| Other | | Antenna Hole x 4 |
| Environmental | | |
| Operating temperature | | 32°F~122°F (0°C~50°C) |
| Note | | |

Note: All specifications are subject to change without notice.

03

▶ Network Platform Solutions

A server room with rows of server racks and a door at the end of the aisle. The racks are filled with equipment and have various lights and displays. The floor is tiled, and the walls are light-colored. A green exit sign is visible above the door.

03

Network Appliances

Desktop Network Appliances



| Model | FWS-2365 | FWS-2360 | FWS-2280 |
|-------------------------------|---|---|--|
| System Form Factor | Desktop Network Appliance | | |
| Processor | Intel Atom® Processor C Series (4 – 16 cores) | Dual/Quad Core Intel Atom® Processor C Series Processors | Intel® Celeron® Processor J Series/Intel® Pentium® Processor N Series/Intel Atom® Processor X Series |
| Chipset | SoC | | |
| System Memory | DDR4 SODIMM ECC x 2, up to 64GB | DDR4 SODIMM ECC DIMM (Dual core 1 slot Quad core 2 Slot) Up to 32GB | 260-pin DDR4 SO-DIMM x 1, 3200MT/s |
| Network | | | |
| Ethernet | Intel® I210-AT, Gigabit Ethernet x 6 (2 ports co-layer SFP) 10G SFP+ x 4 (4 cores only support 2 port) | 1GbE x 4 (Marvell® Alaska® 88E1543) 1GbE x 2 (Intel® Ethernet Controller I210-AT) (optional Intel® Ethernet Controller I210-IS SFP x 2) | Intel® Ethernet Controller I210-AT GbE x 4 Intel® Ethernet Controller I210 SFP x 1 |
| Bypass | Supports 1 pairs on LAN 3-4 | Supports up to 2 pair bypass function | — |
| Display | — | | |
| Graphic Controller | — | | |
| Connector | — | | |
| Storage | | | |
| HDD | SATA III port x 2, 2.5" HDD/SSD up to 2 | 2.5" HDD Bay x 1 | — |
| CF/CFast/MSATA | On board 16GB eMMC, up to 128GB optional mSATA slot x 1 (co-layer with M.2 slot) | SATA 6.0 Gb/s port x 1 (Onboard eMMC up to 16GB optional) | mSATA slot x 1 SATA III port x 1 |
| Internal/ Expansion Interface | — | | |
| PCIe Slot | — | | |
| Mini-PCIe Slot | Mini-card slot x 1 (Half-size, PCIe) Mini-card slot x 1 (Full-size, PCIe + USB2.0) with SIM slot M.2 B key 3052 x 1 (USB3.0) with SIM slot | Mini-Card socket (full-size) x 2 (1 with SIM socket) | Mini Card Socket (PCIe + USB 2.0, full size) with SIM x1 Mini Card Socket (PCIe, half size) x1 M.2 B key 3052 (USB 3.0, full size) with SIM x1 (Optional) |
| Keyboard and Mouse | Reserved pin-header | | |
| USB | USB 3.0 x 2 (1 Port only support USB2.0 signal) | Dual Core: USB 3.2 Gen 1 x 1 + USB2.0 x 1 | USB 2.0 Type A x 2 |
| Miscellaneous | | | |
| RTC | Internal RTC | | |
| Watchdog Timer | 1~255 steps by software programmable | | |
| Software Button | GPIO programmable push button x 1 | — | GPIO Programmable push button x 1 |
| TPM | TPM v2.0 9665 | (TPM v1.2 9660/TPM2.0 9665 Optional) | (TPM SLB9670 VQ0.0 FW7.85 Optional) |
| GPIO | 4 bits input/ 4 bits output | (4 bits input, 4bits output optional) | |
| Fan | System fan x 1 | | Smart fan x 1 |
| MTBF (Hours) | TBD | 149683 Hours | TBD |
| Color | Black | | |
| Environmental and Dimension | | | |
| Power Requirement | 12V DC Power in connector 4 Cores: 40W Power Adapter 8 Cores and above: 60W Power Adapter | 12V DC Power in connector | 2 x 12V DC Power Input Connector Lockable, 40W power adapter |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | |
| Operating Humidity | 10%~80% relative humidity, non-condensing | | |
| Storage Humidity | 10%~80% @40°C; non-condensing | | |
| Vibration | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation | | 0.5 Grms/ 5 ~ 500Hz / operation (mSATA) 1.5 Grms/ 5 ~ 500Hz / non-operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation | | |
| Dimension I/O | 260mm x 178mm x 44mm | 8.66" x 4.13" x 1.73" (220mm x 105mm x 44mm) | 8.27" x 4.09" x 1.73" (210mm x 105mm x 44mm) |
| Front Panel | Power LED x 1 Status LED x 1 Storage Active LED x 1 Bypass LED x 1 Ethernet LED x 20 Antenna Hole x 2 Accessible SIM slot x 2 | Power LED x 1, Status LED x 1, Storage Active LED x 1, Bypass LED x 2, LAN LED x 12, (Antenna Hole x 2 Optional) | LEDs (Power, Status, Storage) x 3 Micro-SIM x 1 Antenna Hole x 2 |
| Rear Panel | USB 3.0 Port x 2 RJ-45 Port x 6 SFP+ Port x 2 RJ-45 Console x 1 12V DC Power Input x 1 Software Reset Button x 1 Power Button x 1 Antenna Hole x 4 | USB 3.2 Gen 1 Port x 2, RJ-45 Port x 6 (Optional RJ-45 x 4 + SFP x 2) RJ-45 Console x 1, 12V DC Power Input x 1, Software Reset Button x 1, Power Button x 1, (Antenna Hole x 2 Optional) | DC Power Input Connector Lockable x 2 Power Button x 1 USB2.0 x 2 1GbE RJ-45 x 4, 1GbE SFP x 1 RJ-45 console x 1 Reset Button x 1 Antenna Hole x 3 |
| Note | | | |



| Model | FWS-2276 | FWS-2275 | FWS-2273 |
|-------------------------------|--|--|---|
| System Form Factor | Desktop Network Appliance | | |
| Processor | Intel® Celeron® Processor N3350 SoC | | |
| Chipset | Intel® Celeron® N3350 Processor | | |
| System Memory | Onboard LPDDR4, 2GB, Optional DDR3L 1866MHz Single-Channel SODIMM x 1 (Max 8GB, up to 1600MHz) | Onboard LPDDR4, 2GB | DDR3L 1866, Single Channel SODIMM x 1 (Max.8GB, up to 1600MHz) |
| Network | | | |
| Ethernet | Intel® Ethernet Controller I210, GbE x 4 | Intel® Ethernet Controller I210, GbE x 3 (co-lay with Mini PCIe) | Intel® Ethernet Controller I210, GbE x 4 Intel® Ethernet Controller I210, SFP x 2 |
| Bypass | 1 pair bypass function | — | Supports up to 2 pair bypass function |
| Display | Intel® HD graphics integrated | | |
| Graphic Controller | Intel® HD Graphics 505 Intergrated | | |
| Connector | — | (HDMI Connector x1 Optional) | HDMI x 1 |
| Storage | | | |
| HDD | 2.5" HDD Bay x 1 | — | 2.5" HDD Bay x 1 |
| CF/CFast/MSATA | Onboard 8GB eMMC, SATA 6.0 Gb/s port x 1 | Onboard eMMC 16GB (Optional up to 32GB) SATA III Port x 1 for SATA DOM Micro SD card Reader x1 | CompactFlash™ socket x 1 (Co-lay for BOM Optional CFast™ socket x 1) SATA 6.0 Gb/s port x 1 |
| Internal/ Expansion Interface | | | |
| PCIe Slot | — | | |
| Mini-PCIe Slot | — | Mini-Card Full Size Slot with SIM Socket x 1 (USB 2.0; PCIe co-lay with LAN 3) | Mini-Card socket (full-size) with SIM socket x 2 |
| Keyboard and Mouse | — | | |
| USB | USB 3.2 Gen 1 x 2 | | |
| Miscellaneous | | | |
| RTC | Internal RTC | | |
| Watchdog Timer | 1~255 steps by software programmable | | |
| Software Button | — | GPIO Programmable push button x 1 | — |
| TPM | (TPM v1.2 9660/TPM2.0 9665 Optional) | (TPM2.0 9665 Optional) | (TPM v1.2 9660/TPM2.0 9665 Optional) |
| GPIO | 4 bits input, 4bits output optional | 4 bits input, 4bits output | Reserved internal pin-header 8-bit Digital I/O interface (4-in /4-out) |
| Fan | 1 | — | Fanless, reserved pin-header for System fan |
| MTBF (Hours) | 166,000 | 550,521 Hours | 109,725 |
| Color | Black | | |
| Environmental and Dimension | | | |
| Power Requirement | 12V DC Power | 9~24 V DC Power | 12V DC Power in connector |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 122°F (0°C ~ 50°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | |
| Operating Humidity | 10%~80% relative humidity, non-condensing | | |
| Storage Humidity | 10%~80% @40°C; non-condensing | | |
| Vibration | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non-operation | 0.5 Grms/ 5 ~ 500Hz / operation 1.5 Grms/ 5 ~ 500Hz / non-operation | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non-operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation | | |
| Dimension | 6.5" x 3.62" x 1.57" (165mm x 92mm x 40mm) | 4.53" x 4.53" x 1.73" (115mm x 115mm x 44mm) | 8.66" x 4.13" x 1.73" (220mm x 105mm x 44mm) |
| I/O | | | |
| Front Panel | Power LED x 1 Status LED x 1 HDD Active LED x 1 Bypass LED x 1 LAN LEDs x 8 | USB 3.2 Gen 1 Ports x 2 LED's (3 x TOP Row, 2 x Bottom Row) x 6 Power Button with LED integrated x 1 Micro-USB Console Port x 1 RS-232/422/485 x 1 GPIO 8 bits, 4-bits input, 4-bits output Reset button x 1 | Power LED x 1 Status LED x 1 Storage Active LED x 1 Bypass LED x 2 LAN LED x 12 |
| Rear Panel | USB 3.2 Gen 1 Port x 2 RJ-45 Port x 4 RJ-45 Console x 1 12V DC Power Input x 1 Software Programmable Button x 1 Antenna Hole x 2 Optional | 1GbE RJ45 Ports x 3 Power Input connector, lockable x 1 Left I/O: SIM Slot x 1 + Micro-SD Slot with Cover x 1 WiFi Antenna Connector x 1 LTE Antenna Connector Right I/O: WiFi Antenna Connector x 1 LTE Antenna Connector | USB 3.2 Gen 1 Port x 2 RJ-45 Port x 4 SFP x 2 RJ-45 Console x 1 12V DC Power Input x 1 Software Reset Button x 1 Power Button x 1 HDMI x 1 Antenna Hole x 2 |
| Note | | | |

Network Appliances

Desktop Network Appliances



| Model | FWS-2272 | FWS-2271 | FWS-2277 |
|-------------------------------|--|--|--|
| System | | | |
| Form Factor | Desktop Network Appliance | Desktop 6-port Network Appliance | Desktop Network Appliance |
| Processor | Intel® Celeron® N3350 Processor | Onboard Intel® Celeron® processor N3350 | Intel® Celeron® Processor N3350 SoC |
| Chipset | Intel® Celeron® N3350 Processor | Integrated | SoC |
| System Memory | Onboard LPDDR4, 1GB, Optional DDR3L 1866MHz Single-Channel SODIMM x 1 (Max 8GB, up to 1600MHz) | DDR3L 1866, Single Channel SODIMM x 1 (Max.8GB, up to 1600MHz) | Onboard LPDDR4, 4GB |
| Network | | | |
| Ethernet | Intel® Ethernet Controller I210, GbE x 4 | Intel® Ethernet Controller I210, GbE x 6 | Intel® Ethernet Controller I210, GbE x 2 |
| Bypass | — | Supports up to 2 pair bypass function | — |
| Display | | | |
| Graphic Controller | Intel® HD Graphics 505 Intergrated | | Intel® UHD Graphics |
| Connector | — | | HDMI x 1 |
| Storage | | | |
| HDD | — | 2.5" HDD Bay x 1 | — |
| CF/CFast/MSATA | Onboard 8GB eMMC SATA 6.0 Gb/s port x 1, for SATA DOM | CFast™ socket x 1 (Co-lay for BOM Optional CompactFlash™ socket x 1) | eMMC 16G |
| Internal/ Expansion Interface | | | |
| PCIe Slot | — | | |
| Mini-PCIe Slot | Mini-Card socket (full-size) with SIM socket x 1 | Mini-Card socket (full-size) with SIM socket x 2 | Mini-Card Full Size Slot x 1 |
| Keyboard and Mouse | Reserved pin-header | | |
| USB | USB 3.2 Gen 1 x 2 | USB 3.2 Gen 1 Type A on I/O side x 2 | USB 3.2 Gen 1 x 2 |
| Miscellaneous | | | |
| RTC | Internal RTC | | |
| Watchdog Timer | 1~255 steps by software programmable | | |
| Software Button | GPIO Programmable push button x 1 | | |
| TPM | (TPM v1.2 9660/TPM2.0 9665 Optional) | Optional TPM v1.2 9660/TPM2.0 9665 | Optional Infineon.SLB9665TT2.0(FW5.63) |
| GPIO | Reserved internal pin-header 8-bit | | Digital I/O interface (4-in /4-out) (4 bits input, 4bits output optional) |
| Fan | Fanless | System fan x 1 | Fan-less |
| MTBF (Hours) | 162,469 | 118,725 | TBD |
| Color | Silver | White | Black |
| Environmental and Dimension | | | |
| Power Requirement | 12V DC Power in connector | 12V DC In/ 40W power adapter x 1 | 12V DC Power Input Connector non-lock, 24W power adapter |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | | |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | |
| Operating Humidity | 10%~80% relative humidity, non-condensing | | |
| Storage Humidity | 10%~80% @40°C; non-condensing | 10%~80% @40°C; non-condensing | 10%~80% @40°C; non-condensing |
| Vibration | 0.5 Grms/ 5 ~ 500Hz / operation (SATA DOM) 1.5 Grms/ 5 ~ 500Hz / non-operation | 0.5 Grms/ 5 ~ 500Hz/ operation (2.5" Hard Disk Drive) 1.5 Grms/ 5 ~ 500Hz / non-operation | 0.5 Grms/ 5 ~ 500Hz / operation (mSATA) 1.5 Grms/ 5 ~ 500Hz / non-operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation | | |
| Dimension I/O | 6.1" x 3.62" x 1.26" (155mm x 92mm x 32mm) | 7.87" x 4.13" x 1.73" (200mm x 105mm x 44 mm) | 4.53" x4.53" x 1.26"(115mm x115mm x 32mm) |
| Front Panel | Power LED x 1 Status LED x 1 Storage Active LED x 1 LAN LED x 8 | Bypass LED x 2 Power LED x 1 Status LED x 1 HDD Active LED x 1 LAN LED x 12 | USB 3.2 Gen 1 x 2 Power Button x 1 Reset Button x 1 |
| Rear Panel | USB 3.2 Gen 1 Port x 2 RJ-45 Port x 4 RJ-45 Console x 1 12V DC Power Input x 1 Software Reset Button x 1 Power Button x 1 Antenna Hole x 2 | USB 3.2 Gen 1 Port x 2 RJ-45 Port x 6 (BOM Optional RJ-45 Port x 4) RJ-45 Console x 1 12V DC Power Input x 1 Software Programmable button x1 HDMI x 1 Power Button x 1 | DC Power Input Connector non-lock x 1 1GbE RJ45 Ports x 2 HDMI x 1 |
| Note | | | |



| Model | FWS-2290 | FWS-2291 | FWS-2292 |
|-------------------------------|---|--|---|
| System Form Factor | Desktop Network Appliance | | |
| Processor | Intel® Processor N-series, 2~8 cores | Intel® Processor N-series SoC 2~8 cores | |
| Chipset | SoC | | |
| System Memory | Onboard LPDDR5, up to 16GB | DDR5 SODIMM x 1, up to 16GB (32GB for Intel Atom® x7000RE/C Series CPU SKUs) | |
| Network | | | |
| Ethernet | Intel® Ethernet Controller I226-V, 2.5GbE x 4 | Intel® Ethernet Controller I226-V, 2.5GbE x 4 Intel® Ethernet Controller I210-IS, SFP x 2 (co-layer with Intel® Ethernet Controller I210-AT Copper x 2) | Intel® Ethernet Controller I226-V, 2.5GbE x 6 |
| Bypass | 1 Pair | 2 pair | |
| Display | | | |
| Graphic Controller | Intel® UHD Graphics | — | |
| Connector | HDMI x 1 (Optional) | | |
| Storage | | | |
| HDD | 2.5" HDD Bay x 1 | 2.5" HDD Bay x 1 M.2 2242 M-Key x 1 | |
| CF/FAST/MSATA | On board 32G eMMC, up to 128G SATA III port x 1 M.2 M Key SATA slot x 1 for M.2 SSD | Onboard 32G eMMC, up to 128G | |
| Internal/ Expansion Interface | | | |
| PCIe Slot | — | | |
| Mini-PCIe Slot | M.2 B Key x 1 (3052 for 5G, Co-layer Mini-Card slot-2 with Push-pin SIM for 4G LTE) M.2 E Key x 1 (2230, Co-layer Mini-Card-1 slot for Wi-Fi) | M.2 3052 B-Key (5G, Colay Mini Card with Push pin SIM for 4G LTE/Wi-Fi) M.2 2230 E-Key (Colay Mini Card slot for Wi-Fi) | M.2 3052 B-Key (5G, Colay Mini Card with Push pin SIM for 4G LTE/Wi-Fi) M.2 2230 E-Key (Colay Mini Card slot for Wi-Fi) |
| Keyboard and Mouse | | | |
| USB | USB 3.2 Gen 1 x1 USB 2.0 x 1 | USB 3.2 Gen 1 (Type-A) x 2, 4.5W per port, max. 5W total | |
| Miscellaneous | | | |
| RTC | Internal RTC | | |
| Watchdog Timer | 1~255 steps by software programmable | | |
| Software Button | GPIO Programmable push button x 1 | | |
| TPM | TPM 2.0 (NPCT760AABYX FW7.2.3.1 optional) | TPM 2.0 (optional) | |
| GPIO | 4-bit Input, 4-bit Output (optional) | Reserve internal Pin Header (8-bit Digital I/O Interface, 4-in/4-out) | |
| Fan | Fan x 1 | | Fanless/Fan (Default: Fan) |
| MTBF (Hours) | 952,764 | TBD | TBD |
| Color | Black | | |
| Environmental and Dimension | | | |
| Power Requirement | 12V Lockable DC Power Input Connector x 1 (40W Power Adapter) | Dual 12V DC Lockable Power Input Connector, 40/60W Power Adapter (Redundant) Reserve 2.54 pin header for power button | Dual 12V DC Lockable Power Input Connector, 40/60W Power Adapter Reserve 2.54 pin header for power button |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | | |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | -4°F ~ 158°F (-20°C ~ 70°C) |
| Operating Humidity | 10%~80% relative humidity, non-condensing | | |
| Storage Humidity | 10%~80% @40°C; non-condensing | | |
| Vibration | 0.5 Grms/5 ~ 500Hz / operation (mSATA) 1.5 Grms/5 ~ 500Hz / non-operation | 0.5G / 5 ~ 500Hz / operation 1.5G / 5 ~ 500Hz / non-operation | |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation | | |
| Dimension I/O | 6.5" x 3.62" x 1.57" (165mm x 92mm x 40mm) | 4.7" x 4.1" x 1.7" (220mm x 105mm x 44mm) | |
| Front Panel | Power LED x 1 Status LED x 1 Bypass LED x 1 Storage Active LED x 1 Ethernet LED x 8 Accessible SIM slot x 1 Antenna Hole x 2 (Right panel) Antenna Hole x 2 (Left panel) | Power LED x 2 Status LED x 1 Bypass LED x 2 Storage Active LED x 1 Ethernet LED x 12 Antenna Hole x 2 Antenna Hole x 1 (Right Panel) Antenna Hole x 1 (Left Panel) Accessible SIM Slot x 1 | Power LED x 2 Status LED x 1 Bypass LED x 2 Storage Active LED x 1 Ethernet LED x 12 Antenna Hole x 2 (Right Panel x 1, Left Panel x 1) Accessible SIM Slot x 1 |
| Rear Panel | Lockable DC Power Input Connector x 1 Power Button x 1 USB 3.2 Gen x 1 USB 2.0 x 1 RJ-45 x 4 RJ-45 Console x 1 Reset Button x 1 Antenna Hole x 2 | Lockable DC Power Input Connector x 2 Power Button x 1 USB 3.2 Gen 1 x 2 RJ-45 x 4 Fiber x 2 RJ45 Console x 1 Antenna Hole x 2 Software Programmable Switch x 1 | Lockable DC Power Input Connector x 2 Power Button x 1 USB 3.2 Gen 1 x 2 RJ-45 x 6 RJ-45 Console x 1 Antenna Hole x 2 Software Programmable Switch x 1 |
| Note | | | |

Desktop Network Appliances



| Model | FWS-2370 |
|--------------------------------------|--|
| System | |
| Form Factor | Desktop Network Appliance |
| Processor | Intel Atom™ Processor C Series/Intel Atom® Processor P Series Default: Intel Atom™ Processor C5315 |
| Chipset | SoC |
| System Memory | DDR4 SODIMM socket x 2, up to ECC/Non-ECC 64GB |
| Network | |
| Ethernet | Intel® Ethernet Controller I226-V 2.5GbE x 4 Marvell™ Alaska® 88E1543 GbE x 4 10G SFP+ x 4 |
| Bypass | 2 pair |
| Display | |
| Graphic Controller | — |
| Connector | — |
| Storage | |
| HDD | SATA 6Gb/s x 2 (co-lay M.2 2242 M-Key x 1) |
| CF/CFast/MSATA | Default eMMC 32GB, support up to 128GB |
| Internal/ Expansion Interface | |
| PCIe Slot | — |
| Mini-PCIe Slot | M.2 2230 E-Key x 1 (PCIe) for Wi-Fi co-lay half-size Mini Card Slot x 1 (PCIe) M.2 3052 B-Key x 1 (USB 3.0) for 5G/LTE co-lay full-size Mini Card Slot with push-pin SIM Slot x 1 (PCIe + USB 2.0) M.2 3052 B-Key x 1 (USB 3.0 + USB 2.0) for 5G/LTE co-lay full-size Mini Card Slot with push-pin SIM Slot x 1 (USB 3.0 + USB 2.0) |
| Keyboard and Mouse | |
| USB | USB 3.0 x 2 (shared with PCIe Slot for PoE, default USB 2.0 x 2) |
| Miscellaneous | |
| RTC | Internal RTC |
| Watchdog Timer | 1~255 steps by software programmable |
| Software Button | GPIO Programmable push button x 1 |
| TPM | TPM 2.0 |
| GPIO | Reserve Internal Pin Header 8-bit Digital I/O Interface (4-in/4-out) |
| Fan | Smart Fan x 1 (Default), Internal Smart Fan Pin Header x 1 (Reserve) |
| MTBF (Hours) | TBD |
| Color | Black |
| Environmental and Dimension | |
| Power Requirement | Dual in 12V 60W Adapter (w/o POE) Dual in 12V 90W Adapter (w/ POE) |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) |
| Operating Humidity | 10%~80% relative humidity, non-condensing |
| Storage Humidity | 10%~80% @40°C; non-condensing |
| Vibration | 0.5 Grms/ 5 ~ 500Hz / operation (mSATA) 1.5 Grms/ 5 ~ 500Hz / non-operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation |
| Dimension | 10.2" x 7" x 1.7" (260mm x 178mm x 44mm) |
| I/O | |
| Front Panel | Optional type c console x 1 Micro SIM socket x 2 Main board LAN LED x 24 Optional module LAN LED via cable x 4 Bypass LED x 2 Storage LED x 1 Status LED x 1 Power LED x 2 Antenna hole x 3 |
| Rear Panel | DC Power Input Connector Lockable x 2 RJ45 console x 1 USB 3.0 Port x 2 Power LED x 2 10G SFP+ x 4 1G Marvell RJ45 Port x 4 2.5G RJ45 Port x 4 SW reset button x 1 Power button x 1 Antenna hole x 4 Optional 2.5G LAN module x 2 (optional with POE af/at) |
| Note | |

Network Appliances Rackmount Network Appliances

03

Rackmount Network Appliances



| Model | FWS-8600 | FWS-7541 | FWS-7840 |
|-------------------------------|--|---|---|
| System Form Factor | 2U Rackmount Network Platform | 1U Rackmount Platform Network Appliance | 1U Rackmount Network Platform |
| Processor | Dual 2nd Gen Intel® Xeon™ Scalable Processors, up to 56 cores, 112 threads | Intel® Xeon® D-1700 & D-1800 Processors | 10th Generation Intel® Core™/ Xeon® processor |
| Chipset | Intel® C621 Chipset | SoC | Intel® W480E |
| System Memory | DDR4 2133/2400/2666 R-DIMM x 16 (8 DIMM per CPU), Up to 512 GB | DDR4 SODIMM x 2 (ECC) | 2 x DDR4 2666MHz U-DIMM ECC DIMM slots up to 64G |
| Network | | | |
| Ethernet | Intel® i210 Gigabit Ethernet x 2 | 1GbE RJ-45 x 12 (Intel® i350-AM4 x 3) + up to 10Gb SFP+ x 4 (see note 1) | 8 x 1Gb RJ45 Port or 6 x 1Gb RJ45 + 2 x 1Gb SFP with 2 x i350AM4 LAN chips 2 x 10Gb SFP+ with XL710 AM2 LAN chip (Option) |
| Bypass | Depend on NIM module | 2 pair LAN Bypass 3.1 | 2 pair |
| NIM Slot | NIM x 4 (Project based up to 8 slots) | NIM Slot x 1 (Optional) | NIM slot x 2 |
| Display | | | |
| Graphic Controller | Optional support via Mini-PCIe module or IPMI | — | Intel® UHD Graphics |
| Connector | Optional VGA port via module | VGA from IPMI x 1 (Optional by BOM SKU) | (HDMI x1 Optional) |
| Storage | | | |
| HDDs | SATA III Port x 6 External Hotswappable 3.5" HDD Bay x 4 Internal 3.5" HDD Bay x 1, option with 2.5" HDD Bay x 2 | 2.5" HDD x 2 (default) or 3.5" HDD x 1 (if no NIM module present) | SATA III port x 2, 2.5" HDD/SSD up to 2 |
| CF/CFast/mSATA | M.2 2260 M-key x 1 mSATA slot x 1 (share same slot with Mini-Card) | — | 1 x Mini card socket (Option mSATA) |
| Internal/ Expansion Interface | | | |
| PCIe slot | Optional PCIe [x16] slots x 2, via riser card | — | Optional PCIe [x8] slot x 1, via riser card |
| Mini-Card slot | Mini Card slot (full-size) x 1 (PCIe/SATA, USB2.0) | M.2 3052 B-Key x 1 for 4G/5G (USB 3.0 + PCIe) with SIM M.2 2230 E-Key x 1 (PCIe) | Mini Card x 1 |
| IPMI | Optional IPMI via AAEON Module (Project based) | Project base | — |
| Keyboard and Mouse | | — | |
| USB | USB 3.2 Gen1 x 2 (Optional 2*10 pin USB 3.2 Gen1 x 2 Box Header 2.0mm) | | USB 3.2 Gen 1 x 2 |
| Miscellaneous | | | |
| RTC | | Internal RTC | |
| Watchdog Timer | | 1~255 steps by software programmable | |
| Software Button | | GPIO Programmable push button x 1 | |
| TPM | (Optional TPM2.0 9665 on board) | TPM 2.0 SPI | TPM v2.0 9665 |
| GPIO | (4 bits input, 4 bits output optional) | N/A, DIO pin header x 1 (4-in/4-out), optional by BOM SKU | 4 bits input/4 bits output |
| FAN | 5 x Hotswappable FAN | System fan x 1 | System fan x 2 |
| MTBF (Hours) | 192,691 Hours | TBD | TBD |
| Color | | Black | |
| Environmental and Dimension | | | |
| Power Requirement | 550 ~ 600W Redundant Power | 220W Power | 220W ATX PSU or 250W ATX PSU |
| Operating Temperature | | 32°F ~ 104°F (0°C ~ 40°C) | |
| Storage Temperature | | -4°F ~ 140°F (-20°C ~ 60°C) | |
| Operating Humidity | | 10% ~ 80% relative humidity, non-condensing | |
| Storage Humidity | 10% ~ 80% @40°C; non-condensing | 0%~80% @40°C; non-condensing | 10% ~ 80% @ 40°C, non-condensing |
| Vibration | 0.5 Grms/ 5 ~ 500Hz/ operation (3.5" Hard Disk Drive x 5) 1.5 Grms/ 5 ~ 500Hz/ non operation | 0.5 g rms/ 5 ~ 500Hz/ operation (2.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz/ non operation | 0.5 Grms/ 5 ~ 500Hz/ operation (3.5" H.D.D.) 1.5 Grms/ 5 ~ 500Hz/ no operation |
| Shock | | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation | |
| Dimension | 17.48" x 22.83" x3.46" (444mm x 580mm x 88mm) | 16.93" x 7.87" x 1.73" (430mm x 200mm x 44mm) | 430mm x 305mm x 44mm |
| I/O Interfaces | | | |
| Front Panel | Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 Ports x 2 RJ-45 Console x 1 Parallel LCM display and 4 keypad x 1 Software Programmable Button x1 RJ-45 LAN x 2 IPMI x 1 (Project based) | 1GbE RJ-45 x 12 (Intel® i350-AM4 x 3) + up to 10GbE SFP+ x 4 (SKU optional) Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 x 2 RJ-45 Console x 1 LCM display with Keypad x 1 Software Programmable Button x 1 | Power LED x 1 Status LED x 1 Storage Active LED x 1 Bypass LED x 2 Ethernet LED x 16 USB 3.2 Type A port x 2 Parallel LCM display and 4 keypad x 1 Software Programmable Switch x 1 1 GbE RJ-45 x 8 or 1 GbE RJ45 x 6 + SFP x 2 10 GbE SFP+ x 2LAN port (Option by module) NIM Slot x 2 |
| Rear Panel | AC Power Input x 2, Power Switch x 1, VGA port (Optional), Rear Expansion Slot x 2 (PCIe [x16] Optional) | AC Power Input x 1 Power Switch x 1 | AC Power Input x 1, Power Switch x 1, (Rear Expansion Slot x 1 Optional) |
| Note | | | |

Note: All specifications are subject to change without notice.

www.aaeon.com

03-6

Rackmount Network Appliances



| Model | FWS-7830 | FWS-7831 | FWS-7360 |
|-------------------------------|--|--|--|
| System Form Factor | 1U Rackmount Network Platform | | |
| Processor | 8th Generation Intel® Core™/ Xeon® processor | Intel® Xeon® processor E-2100 family for Intel® C246 Chipset Intel® Core™/ Celeron® processor for Intel® H310 Chipset | Intel® C3758 processor SoC, optional support up to 16 core |
| Chipset | Intel® C246 | Intel® C246/H310 | SoC |
| System Memory | DDR4 2133/2400/2666 UDIMM Up to 128GB 288-pin DIMM x 4 | 260-pin DDR4 1600/1866/2133 SODIMM/ECC x 2 upto 64GB | DDR4 Slot x 4, Support ECC UDIMM/RDIMM upto 256GB |
| Network | | | |
| Ethernet | Intel® I350 AM2 Gigabit Ethernet x 2 | Intel® i210 Gigabit Ethernet x 8 or Intel® i210 Gigabit Ethernet x 6 + SFP Ethernet ports x2 (C246) Intel® i210 Gigabit Ethernet x 6 (H310) | Intel® X553 RJ45 x 2, Intel® i210 GbE x 3, SFP+ x 2 from CPU |
| Bypass | Depend on NIM module | 2 pair | Onboard 2 pair bypass, others depend on NIM module |
| NIM Slot | NIM Slot x 3 | Need to configure riser card | 1 |
| Display | | | |
| Graphic Controller | Intel® HD graphics integrated | Intel® UHD Graphics 630 | — |
| Connector | VGA cable (Optional) | (HDMI x1 Optional) | — |
| Storage | | | |
| HDDs | Internal 2.5" SATA HDD x 2 or 3.5" SATA HDD x 1 (Optional) | Internal 2.5" HDD bay x 2 or (3.5" HDD bay x 1 can't use with NIM Optional) | 2.5" HDD Bay x 2 |
| CF/CFast/mSATA | Default mSATA Slot (Optional CFast™ Socket) | mSATA | Default SATA III port x 2 (MSATA Slot X 2 Optional) |
| Internal/ Expansion Interface | | | |
| PCIe slot | Optional PCIe [x8] slot x 1, via riser card | — | PCIe [x8] slot x 1, cannot use w/ NIM |
| Mini-Card slot | Mini Card x 1 | Mini-Card x 1 (PCIe[x1] + mSATA) | Default Mini-Card socket (full-size) x1 (Mini-Card socket (full-size) with SIM socket x 1 Optional) |
| iPMI | | | |
| Keyboard and Mouse | Pin-header | — | — |
| USB | USB 3.2 Gen 1 x 2, Box Header (2.0mm) | — | USB 3.2 Gen 1 x 2 |
| Miscellaneous | | | |
| RTC | Internal RTC | | |
| Watchdog Timer | 1~255 steps by software programmable, 1 sec per step | 1~255 steps by software programmable | |
| Software Button | GPIO Programmable Button x 1 | | |
| TPM | Optional TPM v2.0 | (TPM2.0 9665/TPM v1.2 9660 optional) | Optional TPM v1.2 / TPM v2.0 |
| GPIO | 8bits, BIOS default 4 bits input, 4bits output. | 4 bits input, 4 bits output | 4 bits input, 4bits output |
| FAN | 2 | — | System fan x 1 |
| MTBF (Hours) | TBD | 362,825 Hours | 142,412 |
| Color | Black | | |
| Environmental and Dimension | | | |
| Power Requirement | 220W ATX PSU or 250W ATX PSU | 220W ATX PSU | 150W Flex ATX PSU |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | |
| Operating Humidity | 10%~80% relative humidity, non-condensing | | |
| Storage Humidity | 10% ~ 80% @ 40°C, non-condensing | | |
| Vibration | 0.5 Grms/ 5 ~ 500Hz/ operation (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation | |
| Shock | 10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation | TBD | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation |
| Dimension | 16.93" x 18.7" x 1.73"(430mm x 475mm x 44mm) | 16.93" x 7.87" x 1.73"(430mm x 200mm x 44mm) | 16.93" x 12.01" x 1.73" (430mm x 305mm x 44mm) |
| I/O Interfaces | | | |
| Front Panel | Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 Ports x 2 RJ-45 Console x 1 Parallel LCM display and 4 keypad x 1 Software Programmable Switch x 1 | Power LED x 1, Status LED x 1, HDD Active LED x 1, USB 3.2 Gen 1 Ports x 2 - RJ-45 Console x 1 | SFP+ with LED x 2 RJ45 Ethernet Port with LED x 5 USB 3.2 Gen 1 x 2 RJ45 Console x 1 Software Programmable Button x 1 Parallel LCM Display and 4 Keypad x 1 LED for Power/HDD/ Status/ Bypass x 5 NIM Slot x 1 Bypass LED x 2 Power LED x1 HDD LED x1 Status LED x1 |
| Rear Panel | AC Power Input x 1 Power Switch x 1 VGA port (Optional) | AC Power Input x 1, Power Switch x 1, (Rear Expansion Slot x 1 Optional) | Power Switch x 1 AC Power Input x 1 Rear Expansion Slot x 1 |
| Note | | | |

Network Appliances Rackmount Network Appliances

03

Rackmount Network Appliances



| Model | FWS-7851 | FWS-7850 | FWS-7370 |
|-------------------------------|---|--|--|
| System | 1U Rackmount Network Appliance | | |
| Form Factor | Rackmount Network Appliance | | |
| Processor | 12th/13th/14th/15th Generation Intel® Core™ Processors | | |
| Chipset | Intel® W680 Chipset (Project Base: Intel® Q670, H610) | Intel® W680 | SoC |
| System Memory | DDR5 SODIMM slots x 2 | DDR5 U-DIMM x 4, up to 128GB (ECC) | DDR4 S0-DIMM up to 64GB ECC/Non ECC |
| Network | Rackmount Network Appliance | | |
| Ethernet | Intel® I226-V 2.5GbE RJ-45 x 10 (Including 2 pair Bypass) + Intel® I210-IS GbE SFP x 2, optional: 10GbE SFP+ x 2 (PCIe[x4] via PER-T639 Note: Intel® H610 Chipset SKU limited to 2.5GbE RJ-45 x 8) | 10GbE SFP+ x 2 (Intel® X710-BM2 x 1) | Intel® Ethernet Controller I226-V, 2.5GbE RJ-45 x 4 1GbE by Marvell® Alaska® 88E1543, 1GbE RJ-45 x 4 10GbE SFP+ x 4 |
| Bypass | 2 pair LAN Bypass 3.1 (LAN 3-4, LAN 5-6) | Dependent | 2 pair |
| NIM Slot | 1 | 3 | NIM x 1 (Optional) |
| Display | — | | |
| Graphic Controller | — | | |
| Connector | HDMI port x 1 | | |
| Storage | — | | |
| HDDs | 2.5" HDD x 2 (default) or 3.5" HDD x 1 (if no NIM module present) | 2.5" HDD Bay x 2 | 2.5" HDD Bay x 2 (1 SATA co-lay with M.2 2242 M-Key) |
| CF/Fast/mSATA | — | | |
| Internal/ Expansion Interface | eMMC for optional, up to 128GB | | |
| PCIe slot | — | | |
| Mini-Card slot | M.2 2242 M-Key (PCIe [x4]) x 1 | M.2 2280 M-Key x 1 (PCIe [x4]) | PCIe [x4] Slot x 1 (PCIe [x1] x 2 signal) M.2 3042/52 B-Key x 1 (5G) |
| IPMI | — | | |
| Keyboard and Mouse | — | | |
| USB | USB 3.2 Gen 1 x 2 | | USB 2.0 (Type-A) x 2 |
| Miscellaneous | — | | |
| RTC | Internal RTC | | |
| Watchdog Timer | 1~255 steps by software programmable | | |
| Software Button | 1 | — | GPIO Programmable push button x 1 |
| TPM | TPM 2.0 SPI | | |
| GPIO | Reserved internal pin header 8-bit Digital I/O interface (4-in /4-out) | Reserve internal pin header 8-bit Digital I/O interface (4-in /4-out) | DIO Pin Header x 1 (4-in/4-out) optional |
| FAN | System fan x 2 | Smart Fan x 3, optional System fan x 1 | System fan x 2 |
| MTBF (Hours) | TBD | TBD | 30,480 |
| Color | Black | | |
| Environmental and Dimension | — | | |
| Power Requirement | 220W Power | 1U 300W Redundant PSU x 1 | AC/DC open frame 200W PSU |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | | 32°F ~ 122°F (0°C ~ 40°C) with 0.2m/s air flow |
| Storage Temperature | -4°F~ 140°F (-20°C ~ 60°C) | | -4°F ~ 158°F (-20°C ~ 70°C) |
| Operating Humidity | 10%~80% relative humidity, non-condensing | | 10%~90% relative humidity, non-condensing |
| Storage Humidity | 0%~80% @40°C, non-condensing | | — |
| Vibration | 0.5 g rms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz / non operation | | 0.5G / 5 ~ 500Hz / operation 1.5G / 5 ~ 500Hz / non-operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation | | |
| Dimension | 16.93" x 7.87" x 1.73" (430mm x 200mm x 44mm) | 16.93" x 15.75" x 1.73" (430mm x 400mm x 44mm) | 16.9" x 7.8" x 1.7" (430mm x 200mm x 44mm) |
| I/O Interfaces | — | | |
| Front Panel | Intel® I226-V 2.5GbE RJ-45 x 10 (Including 2 pair Bypass) + Intel® I210-IS GbE SFP x 2, optional: 10GbE SFP+ x 2 (PCIe[x4] via PER-T639 Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 x 2 HDMI x 1 RJ-45 Console x 1 LCM display with keypad x 1 Software Programmable Button x 1 NIM Slot x 1 | 10GbE SFP+ x 2 Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 x 2 HDMI x 1 RJ-45 Console x 1 LCM display with keypad x 1 Software Programmable Button x 1 NIM Slot x 3 | Power LED x 1 Status LED x 1 Bypass LED x 2 Storage Active LED x 1 SW programmable button x 1 USB 2.0 type-A Port x 2 RJ-45 Console Port x 1 |
| Rear Panel | AC Power Input x 1 Power witch x1 | AC Power Input x 1 Power Switch x1 Rear expansion slot x 1 (PCIe [x8]): Optional | AC Power Input Connector x 1 Power Button x 1 |
| Note | — | | |

Note: All specifications are subject to change without notice.

www.aeon.com

03-8

Rackmount Network Appliances



| Model | NIM-S13B | NIM-S13D | NIM-S13E |
|--------------------|--|-------------------------|----------|
| Main Specification | | | |
| Form Factor | 1G Fiber Module | | |
| Main Chipset | Intel® 82580EB (i350-AM4; Optional by request) Ethernet Controller x 2 | | |
| Bypass | — | — | 2 |
| Host Interface | PCI-Express [x4] | | |
| LAN Port | SFP 1GbE Connector x 8 | SFP 1GbE Connector x 4 | |
| Indicator | LED x 8 for Active/Link | LED x 4 for Active/Link | |
| Qualification | CE/FCC Class A | | |
| Operation Temp. | 32°F ~ 104°F (0°C ~ 40°C) | | |
| Dimension | 5.71" x 3.03" (145mm x 77mm) | | |



| Model | NIM-C13B | NIM-C13D | NIM-S26B |
|--------------------|--|--|--|
| Main Specification | | | |
| Form Factor | 1G LAN Module | 1G Copper Module | 40G Fiber Module |
| Main Chipset | Intel® 82580EB (i350-AM4; Optional by request) Ethernet Controller x 2 | Intel® 82580EB (i350-AM4; Optional by request) Ethernet Controller x 1 | Intel® Fortville XL710 Ethernet Controller x 1 |
| Bypass | — | 2 | — |
| Host Interface | PCI-Express [x8] (x4 + x4) | PCI-Express [x4] | PCI-Express [x8] |
| LAN Port | 1GbE Connector x 8 | 1GbE Connector x 4 | QSFP 40GbE Connector x 2 |
| Indicator | LED x 8 for Active/Link | LED x 4 for Active/Link | LED x 2 for Active/Link |
| Qualification | CE/FCC Class A | | |
| Operation Temp. | 32°F ~ 104°F (0°C ~ 40°C) | | |
| Dimension | 5.71" x 3.03" (145mm x 77mm) | | |



Launching in Q3

| Model | NIM-S26C | NIM-S26D | NIM-C15A |
|--------------------|--------------------------------------|--|---------------------------------------|
| Main Specification | | | |
| Form Factor | 10G Fiber Module | | 2.5G Copper Module |
| Main Chipset | Intel® XL710 Ethernet Controller x 1 | Intel® XL710-BM1 Ethernet Controller x 1 | Intel i226V by 2x ASM 1806 colay 2806 |
| Bypass | — | — | 2 |
| Host Interface | PCI-Express [x8] | | PCI-Express Gen2/3 [x2] |
| LAN Port | SFP+ 10 GbE Connector x 4 | SFP+ 10 GbE Connector x 4 SR | 2.5G GbE RJ45 x 8 |
| Indicator | LED x 4 for Active/Link | | LED x 8 for Active/Link |
| Qualification | CE/FCC Class A | | |
| Operation Temp. | 32°F ~ 104°F (0°C ~ 40°C) | | |
| Dimension | 5.71" x 3.03" (145mm x 77mm) | | |



| Model | ICS-6270 | ICS-6280 |
|--|---|---|
| System | | |
| Form Factor | | DIN Rail/ Desktop |
| Processor | Intel® Celeron® Processor N3350 SoC | Intel Atom® x6000E Series Processor, 2~4 cores |
| System Memory | DDR3L 1866, Single Channel SODIMM x 1 (Max.8GB, up to 1600MHz) | 260-pin DDR4 3200MT/s SODIMM with IB ECC support x 1 |
| Chipset | — | SoC |
| Ethernet | Intel® i210AT, Gigabit Ethernet x 6 | Intel® i210AT Gigabit Ethernet x 4 |
| Bypass | Supports up to 2 Pair | Supports upto 2 Pair LAN Bypass (Optional) |
| BIOS | | AMI SPI Flash BIOS |
| Serial ATA | SATA 6.0 Gb/s port x 1, for 2.5" HDD/SSD | SATA 6.0 Gb/s port x 1 for 2.5"SSD support |
| CFast/mSATA | CFast™ socket x 1 | mSATA (Full size) socket colay SATA 6Gb/s port x 1 |
| Expansion Interface | Supports Mini-Card slot x 1 with SIM socket | Supports Mini-card slot x 1 with Micro SIM socket |
| USB | USB 3.2 Gen 1 x 2 | USB 3.2 Gen 1 x 2 |
| Serial Port | Supports up to RS-232/422/485 COM Port x 2 | Supports up to RS-232/422/485 COM Port x 2 |
| Watchdog Timer | 1~255 steps by software programmable | 1~255 steps by software programmable |
| RTC | | Internal RTC |
| System Fan | | Fanless |
| Color | Dark Grey | Black |
| Power Supply | 2 Pin Terminal Block | Dual 2-Pin Phoenix terminal block |
| Dimension | 4.96" x 2.93" x 5.74" (126 x 74.5 x 146mm) | 5.12" x 4.96" x 2.83" (130mm x 126mm x 72mm) |
| Power Requirement | +9 ~ 36V, 2-pin terminal block | Redundant 9~48Vdc power input |
| MTBF (Hours) | 101,292 | TBD |
| Display | | |
| Chipset | Intel® HD Graphics 500 | Intel® HD Graphics |
| Interface | VGA port x 1 | HDMI port x 1, VGA port x 1 |
| I/O | | |
| Front I/O Panel | RJ-45 GbE x 6 RS-232/422/485 COM Port x 2 VGA port x 1 USB 3.2 Gen 1 x 2 Software programmable button x 1 Power LED x 1 HDD LED x 1 Status LED x 1 Bypass LED x 2 | RJ-45 GbE x 4 RS-232/422/485 COM Ports x 2 HDMI portx1 VGA port x 1 USB 3.2 Gen 1 x 2 Micro SIM slot x 1 Software programmable button x 1 Power LED x 1 HDD LED x 1 Status LED x 1 |
| Rear I/O Panel | | DIN Rail/ Wallmount Lock |
| Top Panel | 2-Pin Terminal Block +9~36VDC x 1 | 2-Pin Terminal Block +9~48VDC x 2 |
| Environmental Parameters and Dimension | | |
| Operating Temperature | -40°F ~ 156°F (-40°C ~ 75°C) | -40°F ~ 167°F (-40°C ~ 75°C) |
| Storage Temperature | | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | | 10% ~ 80% relative humidity, non-condensing |
| Storage Humidity | | 10% ~ 80% @40°C; non-condensing |
| Vibration | 0.5 Grms/ 5 ~ 500Hz / operation (SSD) 1.5 Grms/ 5 ~ 500Hz / non operation | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" SSD) 1.5 Grms/ 5 ~ 500Hz / non operation |
| Shock | | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation |
| Note | | |

04

An aerial view of a busy port at night. The scene is illuminated by warm yellow lights from the port's infrastructure, including numerous yellow gantry cranes and stacks of colorful shipping containers. Several large cargo ships are docked at the pier, with their lights reflecting on the dark water. The sky is a deep blue, and the overall atmosphere is one of industrial activity.

► **Rugged Mobile and
Panel PC Solutions**

04

Rugged Mobile and Panel PC Solutions

Rugged Tablet Computers



| Model | RTC-710RK | RTC-710AP |
|------------------------------|---|---|
| System Architecture | 7" WXGA (1280x800) 700-nit TFT LCD With Projected Capacitive Multi-Touch Screen | |
| Processor | Rockchip RK3399K Processor (Quad-Core A53 1.6GHz & Dual-Core A72 2.0GHz) | Intel® Celeron® Processor N3350 1.10 GHz, dual core, up to 2.4 GHz Intel® Pentium® Processor N4200 1.10 GHz, quad core, up to 2.5 GHz |
| Operating System | Android™ 11 (No NFC function) | Windows® 10 IOT Enterprise SAC |
| Memory | Onboard LPDDR4 2GB (Default) / 4GB | Onboard LPDDR4, 4GB (Default)/8GB |
| Storage | eMMC 16GB (Default) / 32GB / 64GB | eMMC 64GB (Default)/128GB |
| I/O Port | SIM card slot x 1 USB 3.2 Gen 1 Type-C x 1 Audio jack x 1 (3.5mm) DC-in jack x 1 Micro-SD card slot x 1 USB 2.0 Type-A x 1 UART Port x 1 (Via I/O Module) 10/100/1000 Base-T RJ45 x 1 (Via I/O Module) | SIM Card Slot x 1 USB 3.2 Gen 1 (Type-C) x 1 Audio Jack x 1 (3.5mm) DC-in Jack x 1 MicroSD Card Slot x 1 USB 2.0 (Type-A) x 1 RS-232 COM Port x 1 (via I/O Module)(Cannot co-use with HF RFID) 10/100/1000 Base-T RJ-45 x 1 (via I/O Module) |
| Communication | Wi-Fi 802.11 b/g/n, Bluetooth v4.2 (EDR + BLE) | Wi-Fi 802.11 b/g/n, Bluetooth v5.1 |
| Navigation | GPS + GLONASS (Default), BeiDou (Optional), External Antenna (Optional) | Up to 3 GNSS, GPS + Galileo (Default), GLONASS, BeiDou (Optional) |
| WWAN(optional) | LTE via M.2 slot (Optional) Hot-swappable Battery can not be used when LTE module is installed. | |
| Camera | 8MP front camera 8MP rear camera with flash | 2MP Front Camera, 8MP Rear Camera with flash |
| Sensor | G-sensor, E-compass, Gyro-sensor, Light-sensor | |
| Expansion Slot | M.2 slot x 1 Docking connector: USB 3.2 Gen 1 x 1 | M.2 slot x 1, Docking connector: USB 3.2 Gen 1 x 1 |
| Barcode Scanner (Optional) | 2D Barcode scanner, OPTICON MDI-4100-USB via I/O module (Optional) | |
| HF RFID (Optional) | — | ISO 15693 (R/W), ISO 18092 (R/W), ISO 14443-A (R/W), ISO 14443-B (Only Read UID), dependent on card type |
| Audio | Speaker x 1 | |
| Physical Key | F1 (Audio On/Off), F2 (Screenprint), F3 (Barcode Scanner Trigger), Volume Up, Volume Down | F1 (Ctrl+Alt+Del as Soft Reboot), F2 (Screenprint), F3 (Barcode Scanner Trigger), Volume Up, Volume Down |
| Mechanical | Dark Gray | |
| Color | Dark Gray | |
| Dimension (W x H x D) | 8.65" x 5.46" x 0.94" (219.8 x 138.8 x 23.9 mm) | 8.65" x 5.46" x 0.94" (219.8mm x 138.8mm x 23.9mm) |
| Gross Weight | 1.54 lb (0.7 Kg) based on configurations | |
| Environmental | MIL-STD-810G Method 514.6 | |
| Operating Temperature | -4°F ~ 140°F (-20°C ~ 60°C) for high-brightness version | -4°F ~ 122°F (-20°C ~ 50°C) for high-brightness version |
| Storage Temperature | -22°F ~ 158°F (-30°C ~ 70°C) | |
| Humidity | MIL-STD-810G Method 507.5 | |
| Environmental Sealing | IP65 | |
| Vibration | MIL-STD-810G Method 514.6 | |
| Drop | MIL-STD-810G Method 516.6 Procedure IV Height of Drop: 150 cm 5 ft | MIL-STD-810G Method 516.6 Procedure IV Height of Drop: 150 cm (5 ft) |
| Shock | MIL-STD-810G | |
| ESD | Air charge: +/- 8KV, Contact charge: +/- 4KV | |
| Certifications and Standards | UL62368-1, CE EMC, CE RED WiFi 2.4G+5G; CB; FCC EMC, FCC RF WiFi 2.4G; UKCA / UL; TELEC WiFi / LTE | CE EMC, CE RED WiFi 2.4G+5G / LTE; LVD; FCC EMC, FCC RF WiFi 2.4G; UKCA; TELEC WiFi / LTE |
| Power Supply | AC 100V ~ 240 V, 50Hz ~ 60Hz, Output: 12V/ 3.34A/ 40W | |
| AC / DC Adapter | AC 100V ~ 240 V, 50Hz ~ 60Hz, Output: 12V/3.34A/40W | |
| Battery Life | Li-ion Battery 8-hour battery life based on test configurations | |
| Master Battery | 7.2V, 4540mAh, 32.7W | |
| Slave Battery | Hot-swappable battery: 7.4V, 1530mAh, 11.3W (Optional) | |
| Display | 7" TFT-LCD / 16:10, with LED backlight | |
| LCD | 1280 x 800 | |
| Resolution | — | |
| Maximum Color | — | |
| Dot Size | 0.03925(H) X 0.11775(V) mm | 0.03925mm (H) x 0.11775mm (V) |
| Brightness | 700 / 300 nits | 700 nits |
| Viewing Angle | Horizontal: 178° (Typ.), Vertical: 178° (Typ.) | |
| Touch Screen | 7" Projected Capacitive Multi-Touch Screen (700 nits with 10 points) | |
| Touch Type | 7" Projected Capacitive Multi-Touch Screen (700 nits with 10 points) | |
| Light Transmission | Min. 85% | |
| Note | | |



| Model | RTC-1010 | RTC-1010RK |
|------------------------------|--|---|
| System Architecture | | |
| Processor | Intel® Celeron® Processor N3350 1.10 GHz, dual core, up to 2.4 GHz Intel® Pentium® Processor N4200 1.10 GHz, quad core, up to 2.5 GHz | Rockchip RK3399 Processor (Quad-Core Arm® Cortex™-A53, 1.6 GHz & Dual-Core Arm® Cortex™-A72, 2.0 GHz) |
| Operating System | Windows® 10 IOT Enterprise SAC | Android™ 11 |
| Memory | Onboard DDR3L 4GB (Default)/8GB | Onboard LPDDR4 Memory, 2GB/4GB (Default) |
| Storage | eMMC 64GB (Up to 256GB, Optional) | eMMC 64GB (Default)/128GB |
| Display | 10.1" WXGA (1280 x 800) 800 nit/300 nit TFT LCD with Projected Capacitive Multi-Touch Screen | 10.1" WXGA (1280 x 800) 800-nit/300-nit TFT LCD with Projected Capacitive Multi-Touch Screen |
| I/O Port | Micro HDMI Port x 1 SIM Card Slot x 1 MicroSD Card Slot x 1 Audio Jack x 1 (3.5mm) USB 3.2 Gen 1 x 2 (USB Type-C x 1), USB 2.0 x 2 DC-in Jack x 1 RS-232/422/485 COM Port x 1 10/100/1000 Base-T RJ-45 x 1 Smart Card Reader x 1 (Optional, Without IP protection) | Micro HDMI Port x 1 SIM Card Slot x 1 MicroSD Card Slot x 1 Audio Jack x 1 (3.5mm) USB 3.2 Gen 1 x 2 (USB Type-C x 1), USB 2.0 x 2 DC-in Jack x 1 RS-232/422/485 COM Port x 1 10/100/1000 Base-T RJ-45 x 1 |
| Communication | Wi-Fi 802.11 a/b/g/n/ac, Bluetooth v5.1 (EDR + BLE), Intel AC9260 | Wi-Fi 802.11 a/b/g/n/ac, Bluetooth v5.2 (EDR + BLE) |
| Navigation | Up to 3 GNSS, GPS + Galileo (Default), GLONASS, BeiDou (Optional) | GPS + GLONASS (Default), BeiDou (Optional) |
| WWAN(Optional) | LTE via Mini Card slot (Optional) | LTE via M.2 slot, B Key 3042 (Optional) |
| Camera | 2MP Front Camera 8MP Rear Camera with flash | 8MP Front Camera 8MP Rear Camera with flash |
| Sensor | | G-sensor, E-compass, Gyro-sensor, Light-sensor |
| Expansion Slot | Inside M.2 slot x 1 (For WiFi module) Mini-card slot x 1 (For LTE module) Docking connector: USB 2.0 x 1 | M.2 3042 B-Key (LTE) Docking connector: USB 2.0 x 1 |
| Barcode Scanner (Optional) | | 2D Barcode scanner, OPTICON MDI-4100-USB (Optional) |
| HF RFID (Optional) | ISO 15693 (R/W), ISO 18092 (R/W), ISO 14443-A (R/W), ISO 14443-B (Only Read UID), Depend on card type | ISO 15693 (R/W), ISO 18092 (R/W), ISO 14443-A (R/W) ISO 14443-B (Only Read UID), Depend on card type |
| Audio | | Speaker x 1 |
| Physical Key | F0 or Windows (Windows Start Key), F1 (BCR Trigger Button (When BCR is enabled)), F2 (Screenprint), F3 (Ctrl+Alt+Del as Soft Reboot), Volume Up (Speaker Volume Up), Volume Down (Speaker Volume Down) | F0, F1 (BCR Trigger Button (When BCR is enabled)), F2 (Screenprint), F3 (Audio On/Off), Volume Up (Speaker Volume Up), Volume Down (Speaker Volume Down) |
| Mechanical | | |
| Color | | Black & Dark Grey |
| Dimension (W x H x D) | 10.71" x 7.48" x 0.80" (272.0mm x 190.0mm x 20.4mm) | 272.0mm x 190.0mm x 20.4mm (10.71" x 7.48" x 0.80") |
| Gross Weight | 2.2 lb. (1.0Kg) based on configurations | 2.2 lb (1.0 Kg) based on configurations |
| Environmental | | |
| Operating Temperature | | -4°F ~ 122°F (-20°C ~ 50°C) |
| Storage Temperature | -67°F ~ 158°F (-55°C ~ 70°C) | -22°F ~ 158°F (-30°C ~ 70°C) |
| Humidity | | 0% ~ 90% relative humidity, non-condensing |
| Environmental Sealing | | IP65 |
| Vibration | MIL-STD-810G-514.6 Procedure I Cat.24, Fig 514.6E-1 & 514.6E-2 (Unit is non-operating) ASTM 4169-99 Truck Assurance Level II, Schedule E (Unit is non-operating) | MIL-STD-810H: 2019, 514.8 Procedure I, Table 514.8C-1 Category 4 common carrier 5-500Hz X, Y, Z axes, 1-hour duration for each axis |
| Drop | MIL-STD-810G-516.6, Procedure IV Drop height: 122 cm Number of Drop: 26 times, for all surfaces, edges and corners Condition: Based on 2" plywood over concrete | MIL-STD-810H: 2019, 516.8 Procedure IV Drop height: 122cm Number of Drop: 26 times, for all surfaces, edges and corners Condition: Based on 2" plywood over concrete |
| Shock | — | MIL-STD-810H: 2019, 516.8 Procedure V |
| ESD | | Air charge: +/- 8KV, Contact charge: +/- 4KV |
| Certifications and Standards | CE EMC, CE RED WiFi 2.4G+5G /LTE, LVD, FCC EMC, FCC RF WiFi 2.4G+5G, IC / UKCA / UL, TELEC WiFi | CE EMC, CE RED WiFi 2.4G+5G /LTE, LVD, FCC EMC, FCC RF WiFi 2.4G+5G, UKCA, TELEC WiFi |
| Power Supply | | |
| AC / DC Adapter | | AC 100V ~ 240V, 50Hz ~ 60Hz, Output: 12V/3A/36W |
| Battery Life | | Li-ion Battery 8-hour battery life based on test configurations |
| Master Battery | | Hot-swappable battery: 14.4V, 2270mAh, 32.7W |
| Slave Battery | | 7.4V, 1530mAh, 11.3W |
| Display | | |
| LCD | | 10.1" TFT-LCD Display |
| Resolution | | 1280 x 800 |
| Maximum Color | | 16.7M |
| Dot Size | | 0.1692mm (H) x 0.1692mm (V) |
| Brightness | | 300 nits (800 nits, Optional) |
| Viewing Angle | | Horizontal: 170°, Vertical: 170° (Typical) |
| Touch Screen | | |
| Touch Type | | Projected Capacitive Multi-Touch Screen (PCT) |
| Light Transmission | | Min. 85% |
| Note | | |

Rugged Mobile and Panel PC Solutions

Rugged Tablet Computers



| Model | RTC-1020 | RTC-1030 |
|------------------------------|---|---|
| System Architecture | | |
| Processor | 11th Gen Intel® Core™/Celeron® Processor SoC Intel™ Core™ i5-1145G7E Intel™ Core™ i3-1115G4E Intel™ Celeron™ 6305E | Intel® Processor N50, 3.4GHz Intel Atom™ Processor x7425E, 3.4GHz |
| Operating System | Windows® 10 IOT Enterprise SAC (Optional) / Windows® 11 IOT Enterprise GAC | Windows® 11 Iot Enterprise GAC (Default) |
| Memory | Onboard LPDDR4X, 8GB (Default)/16GB/32GB | Onboard LPDDR5, 8GB (Default) / 16GB |
| Storage | M.2 SSD, Up to 1TB (Default: 64GB) | M.2 SSD, 128GB (Default) / 256GB / 512GB / 1TB |
| Display | 10.1" FHD (1920 x 1200) 450 nit/800 nit TFT LCD with Projected Capacitive Multi Touch Screen | 10.1" WUXGA (1920x1200) 800-nit / 450-nit TFT LCD With Projected Capacitive Multi-Touch Screen |
| I/O Port | Micro-HDMI port x 1, SIM card slot x 1, Micro-SD card slot x 1, Audio jack x 1 (3.5mm), USB 3.2 Gen 2 x 2 (Type-C x 1, Type-A x 1), USB 2.0 x 2, DC-in Jack x 1, RS-232/422/485 COM Port x 1, 10/100/1000 Base-T RJ45 x 1 | USB Type-C display port x 1, SIM card slot x 1, Micro-SD card slot x 1 Audio jack x 1 (3.5mm), DC-in Jack x 1 USB 3.2 Gen 1 x 2 (USB Type-C x 1 with Display function), USB 2.0 x 2 USB Type-C charger (Optional, With USB Type-C function) RS-232/422/485 COM Port x 1, 10/100/1000 Base-T RJ45 x 1 |
| Communication | Wi-Fi 802.11 a/b/g/n/ac, Bluetooth v5.1 (EDR + BLE), Intel AC9260 | Wi-Fi 802.11 a/b/g/n/ac/ax, Bluetooth v5.3 (EDR + BLE) |
| Navigation | Up to 3 GNSS, GPS + Galileo (Default), GLONASS, BeiDou (Optional) | |
| WWAN(Optional) | LTE via M.2 slot (Optional) | |
| Camera | 5MP front camera, 8MP rear camera with flash | 5MP front camera, 13MP rear camera with flash |
| Sensor | G-sensor, E-compass, Gyro-sensor, Light-sensor | |
| Expansion Slot | M.2 M-Key for SSD (PCIe [x4]/ SATA 6Gb/s) M.2 E-Key for WiFi/BT (PCIe [x1]/USB 2.0) M.2 B-Key for LTE (USB 2.0) Docking Connector: USB 3.2 Gen 2 x 1 | M.2 slot x 3 (One for SSD, One for WiFi module, One for LTE module) Docking connector x 1: USB 3.2 Gen 1 x 1 |
| Barcode Scanner (Optional) | 2D Barcode scanner, OPTICON MDI-4100-USB (Optional) | |
| HF RFID (Optional) | ISO 15693 (R/W), ISO 18092 (R/W), ISO 14443-A (R/W), ISO 14443-B (Only Read UID), Depend on card type | |
| Audio | Speaker x 1 | |
| Physical Key | F0 or Windows (Windows Start Key), F1 (BCR Trigger Button (When BCR is enabled)), F2 (Screenprint), F3 (Ctrl+Alt+Del), Volume Up (Speaker Volume Up), Volume Down (Speaker Volume Down) | F0 or Windows (Windows Start Key), F1 (BCR Trigger Button (When BCR is enabled)), F2 (Screenprint), F3 (Ctrl+Alt+Del), Volume Up (Speaker Volume Up), Volume Down (Speaker Volume Down) |
| Mechanical | Black | |
| Color | Black | |
| Dimension (W x H x D) | 10.71" x 7.48" x 0.94" (272.0mm x 190.0mm x 24.35mm) | 272.0 x 190.0 x 24.0 mm (10.71" x 7.48" x 0.94") |
| Gross Weight | 3.3 lb. (1.5Kg) based on configurations | |
| Environmental | | |
| Operating Temperature | -4°F ~ 122°F (-20°C ~ 50°C) Charging Temperature 50°F ~ 113°F (10°C ~ 45°C) | -20°C ~ 50°C (-4°F ~ 122°F) |
| Storage Temperature | -22°F ~ 158°F (-30°C ~ 70°C) | |
| Humidity | 0% ~ 90% relative humidity, non-condensing | |
| Environmental Sealing | IP65 | |
| Vibration | MIL-STD-810H: 2019, 514.8 Procedure I, Table 514.8C-I Category 4 common carrier | MIL-STD-810H: 2019, Table 514.8C-I Category 4 - Common carrier |
| Drop | MIL-STD-810H: 2019, 516.8 Procedure I Drop height: 122cm Number of Drop: 26 times, for all surfaces, edges and corners Condition: Based on 2" plywood over concrete | MIL-STD-810H: 2019, Figure 514.8E-1 Category 24 - General minimum integrity exposure Drop height: 122 cm Number of Drop: 26 times, for all surfaces, edges and corners Condition: Based on 2" plywood over concrete |
| Shock | MIL-STD-810H: 2019, 516.8 Procedure I | |
| ESD | Air charge: +/- 8KV, Contact charge: +/- 4KV | |
| Certifications and Standards | CE EMC, CE RED WiFi 2.4G+5G / LTE; LVD; FCC EMC, FCC RF WiFi 2.4G+5G; UKCA; TELEC WiFi | CE EMC / CE RED WiFi 2.4G/5G / CE RED LTE, FCC EMC / FCC RF WiFi 2.4G/5G LVD / UKCA, TELEC WiFi / LTE, MIL-STD-461G: CE101 / CE102 / CS118 / RE101 / RE102 |
| Power Supply | | |
| AC / DC Adapter | DC Jack: AC 100 ~ 240 V, 50 ~ 60 Hz, Output: 19V/ 3.42A/ 65W | |
| Battery Life | Li-ion Battery 6-hour battery life based on test configurations | |
| Master Battery | Li-ion Battery 8-hour battery life based on test configurations | |
| Slave Battery | Hot-swappable battery: 14.4V, 2270mAh, 32.7W 14.8V, 3450mAh, 51.1W (Optional) | |
| Display | Hot-swappable battery: 14.4V, 2270mAh, 32.7W 14.8V, 3450mAh, 51.1W (Optional) | |
| LCD | 10.1" TFT-LCD Display | |
| Resolution | 1920 x 1200 | |
| Maximum Color | 16.7M | |
| Dot Size | — | |
| Brightness | 0.1129 (H) x 0.1129 (V) mm | |
| Viewing Angle | 450 nits (800 nits, Optional) | |
| Touch Screen | Horizontal: 170° (Typical), Vertical: 170° (Typical) | |
| Touch Type | Projected Capacitive Multi-Touch Screen (PCT) | |
| Light Transmission | Min. 85% | |
| Note | | |



| Model | RTC-1200 |
|------------------------------|--|
| System Architecture | |
| Processor | Intel® Core™ i 7100U / 7300U Dual Core up to 3.9GHz Intel® Celeron™ 3965U Dual Core 2.2GHz Processor |
| Operating System | Windows® 10 IoT Enterprise 64bit (Default) |
| Memory | DDR4 SO-DIMM Socket x 1, up to 16GB |
| Storage | M.2 (NGFF) SSD, 64GB (Default) / 128GB / 256GB |
| Display | 11.6" FHD (1920x1080) 500-nit / 850-nit TFT-LCD With Projected Capacitive Multi-Touch Screen |
| I/O Port | HDMI port x 1, SIM card slot x 1, Micro-SD card slot x 1 Audio jack x 1 (3.5mm), USB 3.2 Gen 1 x 2 (USB Type-C x 1), USB 2.0 x 2, DC-in Jack x 1, RS-232/422/485 COM Port x 1 10/100/1000 Base-T RJ45 x 1 |
| Communication | Wi-Fi 802.11 b/g/n, Bluetooth v5.1 |
| Navigation | GPS, GLONASS |
| WWAN(optional) | LTE via mini-card slot (Optional) |
| Camera | 2MP front camera, 8MP auto-focus rear camera with flash |
| Sensor | G-sensor, E-compass, Gyro-sensor, Light-sensor |
| Expansion Slot | Mini-card slot x 1 (For LTE module) Docking connector x 1 GNSS antenna Pass-through connector x 1 WWAN antenna Pass-through connector x 1 |
| Barcode Scanner (Optional) | 2D Barcode scanner, OPTICON MDI-4100-USB (Optional) |
| HF RFID (Optional) | ISO 15693 (R/W), ISO 18092 (R/W), ISO 14443-A (R/W), ISO 14443-B (Only Read UID), Depend on card type |
| Audio | Speaker x 1 |
| Physical Key | F0 or Windows (Windows Start Key), F1 (Ctrl+Atl+Del & BCR Trigger Butten (When BCR is enabled)), F2 (Touch Mode Switch), F3 (Screenprint), Volume Up (Speaker Volume Up), Volume Down (Speaker Volume Down) |
| Mechanical | |
| Color | Gray & Black |
| Dimension (W x H x D) | 12.36" x 7.87" x 0.96" (310.4 mm x 200.0 mm x 24.5 mm) |
| Gross Weight | 3.3 lbs (1.5 Kg) |
| Environmental | |
| Operating Temperature | -4°F ~ 140°F (-20°C ~ 60°C) Charging Temperature 50°F ~ 113°F (10°C ~ 45°C) |
| Storage Temperature | -22°F ~ 158°F (-30°C ~ 70°C) |
| Humidity | 5% ~ 90% relative humidity, non-condensing |
| Environmental Sealing | IP65 |
| Vibration | MIL-STD-810G-514.6 Procedure I Cat.24, Fig 514.6E-1 & 514.6E-2 MIL-STD-810G Method 516.6 Procedure IV |
| Drop | -Height of Drop: 122cm (48 inch; 4ft) -Number of Drop: 26 times, for all surfaces, edges and corners Condition: Based on 2" plywood over concrete |
| Shock | |
| ESD | Air charge: +/- 8KV, Contact charge: +/- 4KV |
| Certifications and Standards | CE/LVD: EN60950-1, CE EMC, CE RED WiFi 2.4G+5G / LTE; LVD / CB; FCC EMC, FCC RF WiFi 2.4G; IC / UKCA / UL |
| Power Supply | |
| AC / DC Adapter | AC 100 ~ 240 V, 50 ~ 60 Hz, Output: 19W/ 3.42A/ 65W |
| Battery Life | Li-ion Battery 6-hour battery life based on test configurations |
| Master Battery | Hot-swappable battery: 14.4V, 2270mAh, 32.7W |
| Slave Battery | Hot-swappable battery: 14.4V, 2270mAh, 32.7W |
| Display | |
| LCD | 11.6" TFT-LCD Display |
| Resolution | 1920 x 1080 |
| Maximum Color | 16.7M |
| Dot Size | 0.117 (H) x 0.117 (V) mm |
| Brightness | 500 nits (850 nits, Optional) |
| Viewing Angle | Horizontal: 178°, Vertical: 178° (Typical) |
| Touch Screen | |
| Touch Type | Projected Capacitive Multi-Touch Screen (PCT) Gloves / Finger mode Switchable by F2 |
| Light Transmission | Min. 85% (ASTM D1003; Wavelength = 550 nm) |
| Note | |



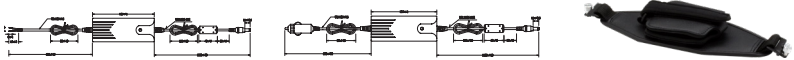
| Model | RDS-0710 | RDS-411 |
|------------------------|---|---|
| System | | |
| I/O | Front-facing I/Os: USB 2.0 x 2 Downward-facing I/Os: USB 3.2 Gen 1 x 2 RS-232 x 1 RJ45 GbE x 1 | Front-facing I/Os: USB 2.0 x 2 with protection cover Downward-facing I/Os: USB 2.0 x 2 RS-232 x 1 (Two: Optional) RJ45 GbE x 1 |
| DC Input | | Phoenix connector: DINKLE ECH381H-03P Wide Voltage Input: DC 9V to 36V Mating connector: DINKLE EC381V-03P |
| LED Indicator | | Orange: DC in w/o Tablet Blue: DC in w/ Tablet |
| Others | Anti-theft lock with key & VESA mount support (75x75) | Anti-theft lock with key & VESA mount support |
| Mechanical | | |
| Color | | Black |
| Construction | Metal | PC |
| Dimensions (W x H x D) | 8.07" x 4.96" x 2.96" (205mm x 126mm x 75mm) | 10.08" x 7.28" x 2.96" (256mm x 185mm x 75mm) |
| Gross Weight | 1.8 lb (0.82Kg) | 6.17 lb (2.8 Kg) |
| Environmental | | |
| Operating Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | 32°F ~ 122°F (0°C ~ 50°C) |
| Storage Temperature | -22°F ~ 158°F (-30°C ~ 70°C) | 14°F ~ 140°F (-10°C ~ 60°C) |
| ESD | | Air charge: +/- 8KV Contact charge: +/- 4KV |
| EMC/ Safety | | CE / FCC Class A |
| Power Supply | | |
| AC/DC Adapter | | AC 100V ~ 240V, 50Hz ~ 60Hz, Output: 12V/3.34A/40W DC connector: DINKLE EC381V-03P |
| DC/DC Adapter | | — |



| Model | RDS-241V | RDS-1020 |
|------------------------|--|--|
| System | | |
| I/O | Front-facing I/Os: USB 2.0 x 2 with protection cover Downward-facing I/Os: USB 3.2 Gen 1 x 2 RS-232 x 2 RJ45 GbE x 1 M12 DC-in x 1 | Front-facing I/Os: USB 2.0 x 2 Downward-facing I/Os: USB 3.2 Gen 1 x 2 RS-232 x 1 RJ45 GbE x 1 |
| DC Input | M12 5P Female (DC 9V to 36V) | Phoenix connector: DINKLE ECH381H-03P Wide Voltage Input: DC 9V to 36V Mating connector: DINKLE EC381V-03P |
| LED Indicator | | Orange: DC in w/o Tablet Blue: DC in w/ Tablet |
| Others | Anti-theft lock with key & VESA mount support | Anti-theft lock with key & VESA mount support (75x75) |
| Mechanical | | |
| Color | | Black |
| Construction | PC | Metal |
| Dimensions (W x H x D) | 10.28" x 6.50" x 2.96" (261mm x 165mm x 75mm) | 3.18" x 10.12" x 2.96" (125mm x 257mm x 75mm) |
| Gross Weight | 6.44 lb (2.92 Kg) | 2.2 lb. (1Kg) |
| Environmental | | |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 122°F (0°C ~ 50°C) |
| Storage Temperature | 14°F ~ 122°F (-10°C ~ 50°C) | 14°F ~ 140°F (-10°C ~ 60°C) |
| ESD | | Air charge: +/- 8KV Contact charge: +/- 4KV |
| EMC/ Safety | CE/FCC Class A | CE / FCC Class B |
| Power Supply | | |
| AC/DC Adapter | AC 100V ~ 240V, 47Hz ~ 63Hz Output: 19V/4.74A/90W | AC 100 ~ 240 V, Output: 19V/ 6.32A/ 120W DC connector: 3P phoenix.3.81mm |
| DC/DC Adapter | | — |



| Model | RTC-1010-HS-000 | RTC-1010-SB-000 | RTC-1010-VMP-000 |
|------------------------|--|---|---|
| Description | Hand Strap for RTC-1010, RTC-1010M, RTC-1010RK, RTC-1020 | Shoulder Belt for RTC-1010, RTC-1010M, RTC-1010RK, RTC-1020 | VESA Mount Plate for RTC-1010M |
| Mechanical | | | |
| Color | Black | | |
| Dimensions (W x H x D) | 9.13" x 3.62" x 1.18" (232mm x 92mm x 30mm) | 41.34" x 2.56" x 0.20" (1050mm x 65mm x 5mm) | 10.85" x 7.55" x 0.98" (275.6mm x 191.7mm x 25mm) |



| Model | RTC-1010-DTDP A-002 | RTC-1010-DTDP A-001 | RTC-1200HSP01-000 |
|------------------------|---|--|--|
| Description | DC-To-DC Power Adapter, Flying Wires for RTC-1010, RTC-1010M, RTC-1010RK | DC-To-DC Power Adapter, Cigarette Plug for RTC-1010, RTC-1010M, RTC-1010RK | Hand Strap for RTC-1200 |
| Mechanical | | | |
| Color | Black | | |
| Dimensions (W x H x D) | Adapter case: 1.57" x 4.13" x 1.04" (40mm x 105mm x 26.5mm) Plug side length: 47.24" ± 1.18" (1200mm ± 30mm) Flying Wires side length: 23.62" ± 1.18" (600mm ± 30mm) Total length: 75" ± 2.36" (1905mm ± 60mm) | 1.57" x 4.13" x 1.04" (40mm x 105mm x 26.5mm) Plug side length: 47.24" ± 1.18" (1200mm ± 30mm) Cigarette Plug side length: 23.6" ± 1.9" (600mm ± 50mm) Total length: 75" ± 1.9" (1905mm ± 50mm) | 10.24" x 3.62" x 1.18" (260mm x 92mm x 30mm) |



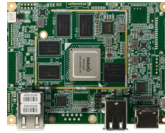
| Model | RTC-1200BLT01-000 | RTC-1200BLT02-000 | RTC-1200BKT01-000 |
|------------------------|----------------------------|-------------------|---------------------------------|
| Description | Shoulder Belt for RTC-1200 | | VESA Mount Bracket for RTC-1200 |
| Mechanical | | | |
| Color | Black | | |
| Dimensions (W x H x D) | 1050 x 65 x 5 mm | 450 x 350 x 50 mm | 180 x 203.3 x 45.4 mm |



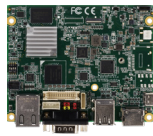
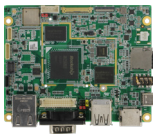
| Model | RTC-1010BKT-000 | RTC-1010-SBG-000 |
|------------------------|---|--|
| Description | Bracket for RTC-1010, RTC-1010M, RTC-1010RK | Shoulder Bag for RTC-1010, RTC-1020, RTC-1200, RTC-1010RK |
| Mechanical | | |
| Color | Black | Black |
| Dimensions (W x H x D) | 103.1 x 228.4 x 49 mm | Bag: 330 x 245 x 50 mm Shoulder strap: Length: 710 mm (Min) ~ 1310 mm (Max) |



| Model | RBC-1200-000 | RTC-1200BAT01-000 |
|------------------------|---|--|
| Description | 4-bay Battery Charger for RTC-1010, RTC-1010M, RTC-1010RK, RTC-1020, RTC-1200 | Battery Pack for RTC-1010, RTC-1010M, RTC-1200, RTC-1010RK, RTC-1020 |
| Mechanical | | |
| Color | Black | |
| Dimensions (W x H x D) | 5.5" x 2.6" x 4.7" (140.5mm x 68.4mm x 121.87mm) | 2.8" x 4.3" x 0.5" (71.5mm x 110mm x 13.3mm) |
| Power Supply | | |
| AC/DC Adapter | AC power input: 100-240V, 50Hz-60Hz, 65W, DC power output: 19V/3.42A | 14.4V, 2270mAh, 32.7W |



| Model | RICO-3288 | RICO-3288MINI | RICO-3399 |
|-----------------------------|---|---|--|
| System Form Factor | Pico-ITX (100mm x 72mm) | | |
| CPU | Rockchip RK3288 ARM Cortex™-A17 Quad-core 1.6 GHz | | Rockchip RK3399 Cortex™-A72 Dual-core 1.8GHz and Cortex™-A53 Quad-core 1.4GHz |
| GPU | Mali-T764 | | Mali-T864 |
| Graphics | Video Decode: MPEG-1, MPEG-2, MPEG-4, H.263, H.264, AVS, VC-1, VP8, MVC Video Encode: H.264 (BP@level4.0, MP@level4.0, HP@level4.0), MVC and VP8 | | Video Decode: MPEG-1, MPEG-2, MPEG-4, H.263, H.264, H.265, VC-1, VP8, VP9, MVC Video Encode: H.264 UP to HP@level4.1, MVC and VP8 |
| Memory Capacity | Onboard DDR3L 2GB/4GB (Optional) | Onboard DDR3L 2GB | Onboard LPDDR3 2GB/4GB (Optional) |
| Storage/SSD | 16GB eMMC and Micro-SD card | 16GB eMMC | 16GB eMMC and Micro-SD card |
| Operating System | Android 9.0 / Debian 10 | Android 9.0 / Debian 9.0 | Android 8.1 / Debian 10 |
| Kernel | Kernel 4.4 | | |
| Watchdog Timer | Integrated | | |
| Power Requirement | +12V DC input | | |
| Power Consumption (Typical) | 0.6A@12V, full load, Quad-core CPU | | 0.6A@12V, full load, Hexa-core CPU |
| Dimension | 3.94" x 2.84" (100mm x 72mm) | | |
| Gross Weight | 0.44 lb (0.2 Kg) | 0.22 lb (0.1 Kg) | 0.44 lb (0.2 Kg) |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C)(-20°C ~ 60°C; Optional) | | 32°F ~ 140°F (0°C ~ 60°C) |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| MTBF (Hours) | 80,000 | | |
| Certification | CE/FCC | | |
| Display | | | |
| HDMI | HDMI (1.4) up to 4K x 2K @60Hz | | HDMI (2.0) up to 4K x 2K @60Hz |
| eDP | Up to 2560 x 1440 @60Hz | — | Up to 4K x 2K @60Hz |
| LVDS | Support 18/24-bit up to 1920 x 1080 @60Hz | — | — |
| MIPI | Up to 2560 x 1440 @60Hz | — | — |
| RF Function | | | |
| WiFi | 802.11 a/b/g/n/ac | — | 802.11 a/b/g/n/ac |
| BT | Bluetooth V5.4 + EDR | — | Bluetooth V4.2 + EDR |
| I/O | | | |
| Ethernet | GbE x 1 | | |
| USB Port | Micro-USB OTG x 1 USB 2.0 Type A x 2 USB2.0 Pin header x 1 (Integrated) | Micro-USB OTG x 1 USB 2.0 Type A x 2 | USB 3.2 Gen 1 Type C OTG x 1 USB 3.2 Gen 1 (Bottom)/USB 2.0 (Top) dual port x 1 USB 2.0 Pin Header x 1 (Integrated) |
| Serial Port | RS-232/422/485 x 1 RS-232 Pin header x 1 Debug port pin header x 1 | — | RS-232/422/485 x 1 RS-232 Pin header x 1 Debug port pin header x 1 |
| Audio | 2.5W (by 4Ω) Speaker/ Microphone/ Earphone | — | 2.5W (by 4Ω) Speaker/ Microphone/ Earphone |
| GPIO | 8-bit (4-in, 4-out) | | |
| Expansion Slot | Full-size mini-PCIe slot x 1 (For 3G/4G card) | — | Full-size mini-PCIe slot x 1 (For 3G/4G card) |
| SIM Slot | Nano-SIM | — | Nano-SIM |
| SD Socket | Support Micro-SD card | — | Support Micro-SD card |
| Camera | — | | |
| Note | | | |



| Model | RICO-3568 | RICO-MX8P | RICO-MX8PLITE |
|-----------------------------|--|--|---|
| System Form Factor | Pico-ITX Plus (100mm x 80mm) | | |
| CPU | Rockchip RK3568 Quad-Core Arm™ Cortex®-A55 Processor NPU: 0.8 TOPS | NXP i.MX 8M Plus Quad-Core ARM® Cortex®-A53 Processor, 1.6GHz ARM® Cortex®-M7, 800MHz Processor for Low-Power Processing NPU: 2.3 TOPS (Optional) | NXP i.MX 8M Plus Quad Cortex™-A53 1.6GHz Cortex™-M7 800MHz processor for low-power processing |
| GPU | Arm™ Mali™-G52 GPU | GC7000 UltraLite: 3D GPU (2 shaders) OpenGL ES 3.1, Vulkan, OpenCL 1.2 GC520L: 2D GPU | GC7000UltraLite: 3D GPU (2 shaders) OpenGL ES 3.1, Vulkan, OpenCL 1.2 GC520L: 2D GPU |
| Graphics | Video Encode: 1080P @60fps H.264/H.265 Video Decode: 4K@60fps H.264/H.265/AV1 4KP60 AVS2/VP9 1080P MPEG1/VP8 | Video Processing Unit (VPU): 720p60 H.265, VP9 decoder 720p60 H.264, VP8 decoder 720p60 H.265, H.264 encoder | |
| Memory Capacity | Onboard LPDDR4 2GB/4GB/8GB (Optional) | | |
| Storage/SSD | 16GB eMMC and Micro-SD card Full-size mini-PCIe slot x 1 (mSATA / USB) | 16GB eMMC and Micro-SD card | 16GB (Default) / 32GB / 64GB eMMC |
| Operating System | Android™ 12 Debian™ 10 | Debian 11 | Debian 11 (Default) / Android 13 |
| Kernel | Kernel 4.19.219 (Android 12) | Kernel 5.10 (Debian 11) | Kernel 5.15 (Android 13) |
| Watchdog Timer | Integrated | | |
| Power Requirement | +12V DC input AT: Default, ATX: Optional | +12V DC Input | |
| Power Consumption (Typical) | 0.96A @12V, full load, Quad-core CPU | 0.93A@12V, full load, Quad-Core CPU | |
| Dimension | 3.94" x 3.15" (100mm x 80mm) | | |
| Gross Weight | 0.44 lb (0.2 Kg) | | |
| Operating Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | 32°F ~ 140°F (0°C ~ 60°C) | |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | | |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing | | |
| MTBF (Hours) | 100,000 | | |
| Certification | CE/FCC | | |
| Display | HDMI 2.0 (Type-A) | | |
| HDMI | HDMI 2.0, up to 4K x 2K @60Hz | HDMI 2.0 (Type-A) | |
| eDP | eDP 1.3, up to 2560 x 1600 @60Hz | — | |
| LVDS | 18/24-bit LVDS A1.0: Up to 1280 x 800 @60Hz B1.0: Up to 1920 x 1080 @60Hz JP2, 3.3V/5V: LVDS Power Selection JP3, 5V/12V: Backlight Power Selection LCD Backlight connector | 4-Lane/8-Lane LVDS Interface JP2, 5V/12V: Backlight Power Selection JP3, 3.3V/5V: LVDS Power Selection LCD Backlight Connector | 4-lane or 8-lane LVDS interface JP3, 3.3V/5V: LVDS Power Selection LCD Backlight JP2, 5V/12V |
| MIPI | For A1.0 only Up to 2048 x 1536 @60Hz for Dual-MIPI Mode | 4-Lane MIPI DSI Interface | — |
| RF Function | Supported via M.2 2230 E-Key (Optional, PCIe 3.0 [x1] I/F) | | |
| WiFi | Onboard 802.11 a/b/g/n/ac ANT1 for Antenna | Supported via M.2 2230 E-Key (Optional, PCIe 3.0 [x1] I/F) | |
| BT | Bluetooth V5.4 + EDR | Supported via M.2 2230 E-Key (Optional, PCIe 3.0 [x1] I/F) | |
| I/O | Supported via M.2 2230 E-Key (Optional, PCIe 3.0 [x1] I/F) | | |
| Ethernet | GbE x 2 RJ-45 x 2 (Onboard x 1 + T650 Daughter Board RJ-45 Port or T650 Wide-Voltage Board RJ-45 Port) | Onboard RJ45 GbE Port x 1 RJ45 GbE Port x 1 (via Daughter Board, T650 or T668) | Onboard RJ45 GbE Port x 1 |
| USB Port | USB 3.2 Gen 1 OTG (Type-C) x 1 USB 3.2 Gen 1 x 1 USB 2.0 x 2 (Type-A x 1, Pin Header with Integrated USB, I2C, 5V x 1) | USB 3.2 Gen 1 x 2 (Type-C OTG x 1, Type-A x 1) USB 2.0 x 1 (Type-A) | USB 3.2 Gen 1 x 2 (Type-C OTG x 1, Type-A x 1) USB 2.0 x 1 (Type-A) |
| Serial Port | RS-232/422/485 x 1 JP1, 5V/12V: RS-232/422/485 Voltage Output Selection RS-232 / Debug port 7-pin wafer x 1 CN3: UART (Tx/Rx only), I2C, USB, Others | RS-232/422/485 x 1 JP1, 5V/12V: RS-232/422/485 Voltage Output Selection COM Port Setting via S/W RS-232 Pin Header x 1 Debug Port x 1 UART x 2 (Tx/Rx Only) | RS-232/422/485 x 1 JP1, 5V/12V: RS-232/422/485 Voltage Output Selection COM Port Setting via S/W Debug Port x 1 UART x 2 (Tx/Rx Only) |
| Audio | Microphone/ Earphone (3.5mm) | Audio Combo Jack x 1 (3.5mm) | — |
| GPIO | GPIO x 8, 2x6 Wafer x 1 | GPIO x 8, 2x7P Wafer x 1 | |
| Expansion Slot | Full-size mini-PCIe slot x 1 (mSATA / USB) Connect to Daughter board: 40-pin FPC connector x 1 | Full Size Mini-PCIe Slot x 1 (For LTE, USB I/F) 40-Pin FPC Connector x 1 (Connect to Daughter Board) | — |
| SIM Slot | Push-Push Nano-SIM Slot with Tray | | |
| SD Socket | Push-Push Micro-SD Card Slot x 1 | | |
| Camera | 4-Lane MIPI CSI Interface | | |
| Note | | | |

Rugged Mobile and Panel PC Solutions

RISC Boxes



| Model | BOXER-RK88 | BOXER-RK99 |
|-----------------------|---|---|
| System | | |
| CPU | Rockchip RK3288 ARM Cortex™-A17 Quad-core 1.6GHz | Rockchip RK3399 ARM Cortex™-A72 Dual-core 1.8GHz and Cortex™-A53 Quad-core 1.4GHz |
| GPU | Mali-T764 | Mali-T864 |
| Chipset | | |
| Graphics | Video Decode: MPEG-1, MPEG-2, MPEG-4, H.263, H.264, AVS, VC-1, VP8, MVC Video Encode: H.264 (BP@level4.0, MP@level4.0, HP@level4.0), MVC and VP8 | Video Decode: MPEG-1, MPEG-2, MPEG-4, H.263, H.264, H.265, VC-1, VP8, VP9, MVC Video Encode: H.264 UP to HP@level4.1, MVC and VP8 |
| System Memory | DDR3L 2GB/4GB (Optional) | LPDDR3 2GB/4GB (Optional) |
| Display Interface | HDMI (1.4) | HDMI (2.0) up to 4K x 2K @ 60Hz |
| Storage/SSD | | 16GB eMMC and Micro-SD card |
| I/O | Micro-SD Card Slot x 1 HDMI (1.4) Port x 1 Antenna Connector for WiFi 802.11 b/g/n, BT V4.2 Antenna Connector for LTE (Optional) GbE: RJ45 x 1 USB 2.0: Micro-USB OTG x 1, Type A x 2 RS-232/422/485 x 1, RS-232 x 1 (Optional) | Micro-SD Card Slot x 1 HDMI (2.0) Port x 1 Antenna Connector for WiFi 802.11 b/g/n, BT V4.2 Antenna Connector for LTE (Optional) GbE: RJ45 x 1 USB 3.2 Gen 1: Type C OTG x 1, Type A x 1 USB 2.0: Type A x 1 RS-232/422/485 x 1, RS-232 x 1 (Optional) |
| Expansion | | mPCIe Slot x 1 for LTE module |
| Indicator | | Power LED x 1 |
| OS Support | Android 9.0 / Debian 10 | Android 8.1 / Debian 10 |
| Power Supply | | |
| Power Requirement | | +12V DC input |
| Mechanical | | |
| Mounting | | VESA mount, 75mm x 75mm |
| Dimension (W x D x H) | | 4.07" x 3.78" x 1.97" (103.4 mm x 96 mm x 50 mm) |
| Gross Weight | | 1.1 lb (0.5 Kg) |
| Net Weight | | 0.66 lb (0.3 Kg) |
| Environmental | | |
| Operating Temperature | | 32°F ~ 140°F (0°C ~ 60°C) |
| Storage Temperature | | -40°F ~ 176°F (-40°C ~ 80°C) |
| Storage Humidity | | 0% ~ 90% relative humidity, non-condensing |
| Anti-Vibration | | |
| Certification | | CE/FCC/IC |
| Note | | |



| Model | BOXER-RK3568 | BOXER-MX8P |
|-----------------------|--|--|
| System | | |
| CPU | Rockchip RK3568 ARM Cortex™-A55 Quad-core | NXP i.MX 8M Plus Quad Cortex™-A53 1.6GHz Cortex™-M7 800MHz processor for low-power processing |
| GPU | Mali-G52 | GC7000UltraLite: 3D GPU (2 shaders) OpenGL ES 3.1, Vulkan, OpenCL 1.2 GC520L: 2D GPU |
| Chipset | NPU: 0.8 TOPS | NPU: 2.3 TOPS |
| Graphics | Video Encode: 1080P@60fps H.264/H.265 Video Decode: 4K@60fps H.264/H.265/AV1 4KP60 AVS2/VP9 1080P MPEG1/VP8 | Video Processing Unit (VPU): • 1080p60 H.265, VP9 decoder • 1080p60 H.264, VP8 decoder • 1080p60 H.265, H.264 encoder |
| System Memory | LPDDR4 2GB/4GB/8GB (Optional) | |
| Display Interface | HDMI (2.0) | |
| Storage/SSD | 16GB eMMC and Micro-SD card | |
| I/O | Micro-SD Card Slot x 1 HDMI (2.0) Port x 1 Antenna Connector for WiFi 802.11 b/g/n, BT V5.0 Antenna Connector for LTE (Optional) GbE: RJ45 x 1 USB 3.2 Gen 1: Type C OTG x 1, Type A x 1 USB 2.0: Type A x 1 RS-232/422/485 x 1, RS-232 x 1 (Optional) SIM Card Slot x 1 | |
| Expansion | mPCIe Slot x 1 (mSATA / USB) for LTE module | mPCIe Slot x 1 (USB) for LTE module |
| Indicator | Power LED x 1 | |
| OS Support | Android 12, Debian 10 (Optional) | Debian 11, Android 13 (Optional) |
| Power Supply | | |
| Power Requirement | +12V DC input | |
| Mechanical | | |
| Mounting | VESA mount, 75mm x 75mm | |
| Dimension (W x D x H) | 4.2" x 3.37" x 1.97" (106.5 mm x 85.6 mm x 50 mm) | |
| Gross Weight | 1.1 lb (0.5 Kg) | |
| Net Weight | 0.66 lb (0.3 Kg) | |
| Environmental | | |
| Operating Temperature | 32°F ~ 140°F (0°C ~ 60°C) | |
| Storage Temperature | -40°F ~ 176°F (-40°C ~ 80°C) | |
| Storage Humidity | 0% ~ 90% relative humidity, non-condensing | |
| Anti-Vibration | — | |
| Certification | CE/FCC | |
| Note | | |



| Model | ACP-2106 | ACP-2076 | ACP-1108 |
|-------------------------|--|--|---|
| System | | | |
| Processor | Intel® Processor N50 Intel® Processor N97 *Turbo Mode is disabled by default. If enabling it, please ensure the system in a well-ventilated area. | | Rockchip™ RK3568 Quad-Core Arm® Cortex®-A55 Processor |
| System Memory | DDR5 4800MHz SODIMM x 1, up to 32GB | | LPDDR4 2GB/4GB (Optional) |
| LCD/CRT controller | CPU Integrated | | — |
| Ethernet | Intel® Ethernet Controller I226 GbE x 2 | | 10/100/1000 Base TX x 2 |
| I/O Port | USB 3.2 x 2 USB 2.0 x 2 via Cables DB-9 x 2 for RS-232/422/485 (Set By BIOS) DB-9 x 2 for RS-232 (Optional) HDMI 1.4b x 1 2.5GbE x 2 12V DC Jack, 9~36V (Optional) 8-bit GPIO x 1 Power on/off Switch with LED Light x 1 | | LAN x 2 COM x 2 USB 3.2 Gen 1 (Type-C OTG) x 1 (For System Recovery) USB 3.2 Gen 1 x 1 USB 2.0 x 3 HDMI x 1 Audio x 1 |
| Storage Disk Drive | Full size mPCIe (PCIe [x1]/SATA) | | 16GB eMMC and Micro-SD card |
| Expansion Slot | M.2 3052 B-Key x 1 with Nano SIM M.2 2230 E-Key x 1 | | Full-size mini-PCIe slot x 1 (PCIe 3.0 [x1] or mSATA) |
| OS support | Windows® 10 IoT Enterprise LTSC 2021 Windows® 10/11 | | Android™ 12 / Debian |
| Mechanical | | Aluminum Front Bezel + Metal Chassis | |
| Construction | | | |
| Mounting | Panel Mount/VESA Mount (VESA 100) | | VESA / Panel Mount |
| Dimension | 10.5" x 7.26" x 1.69" (266.9mm x 184.5mm x 43mm) | 7.74" x 5.31" x 1.69" (196.5mm x 135mm x 43mm) | 10.5" x 7.2" x 1.5" (266.9mm x 184.5mm x 40mm) |
| Carton Dimension | 13.3" x 10.2" x 5.9" (339mm x 260mm x 152mm) | 11.0" x 8.7" x 6.1" (280mm x 220mm x 154mm) | 13.3" x 10.2" x 5.9" (339mm x 260mm x 152mm) |
| Gross Weight | 3.3 lb. (1.5Kg) | 2.1 lb. (0.95Kg) | 3.5 lb. (1.6Kg) |
| Environmental | | | |
| Operating Temperature | 23°F ~ 122°F (-5°C ~ 50°C) with 0.5 m/s airflow | | |
| Storage Temperature | -4°F ~ 158°F (-20°C ~ 70°C) | | |
| Storage Humidity | 90% @40°C; non-condensing | | |
| Vibration | 1Grm s/5~500Hz/ operation - with mSATA | | |
| Shock | 15 G peak acceleration (11 m sec. duration) with mSATA | | 15 Grms / 5~ 500Hz / operation 15 G peak acceleration (11 msec. duration) |
| EMC | CE/FCC Class A Compatible | | |
| Power Supply | | | |
| DC Input | DC 12V | | DC 12~24V |
| LCD | | | |
| Display Type | 10.1" TFT-LCD, LED | 7" TFT LCD, LED | 10.1" WXGA (1280 x 800) Color TFT LCD Display |
| Max Resolution | 1280 x 800 | 1024 x 600 | 1280 x 800 |
| Max. Colors | 262k | 16.7M | 262K colors (6 bit for R,G,B) |
| Luminance | 300 cd/m ² | 320 cd/m ² | 300 nits |
| Viewing Angle | 170° (H), 170° (V) | 145° (H) ; 150° (V) | 170° (H) ; 170° (V) |
| Back Light | | LED | |
| Back Light MTBF (Hours) | 25,000 | 20,000 | 25,000 |
| Touchscreen | | | |
| Type | Projected Capacitive Multi-Touch | | |
| Light Transmission | 90% | | |
| Note | | | |

Rugged Mobile and Panel PC Solutions

All in One Panel PC Solutions: ACP Series

04

All in One Panel PC Solutions: ACP Series



| Model | ACP-1106 | ACP-1104 | ACP-1078 |
|-------------------------|---|---|---|
| System | | | |
| Processor | Intel® Pentium® N4200 processor, 1.1 GHz (Quad-Core), Burst frequency 2.5GHz Intel® Celeron® N3350 processor, 1.1 GHz (Dual-Core), Burst frequency 2.4GHz | Intel® Celeron® J1900 processor, 2 GHz Intel® N2807 processor, 1.58 GHz | Rockchip™ RK3568 Quad-Core Arm® Cortex®-A55 Processor |
| System Memory | DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz) | 204-pin DDR3L 1333MHz SODIMM x 1, default 2 GB, up to 8 GB (J1900) 204-pin DDR3L 1333MHz SODIMM x 1, default 2 GB, up to 4 GB (N2807) | LPDDR4 2GB/4GB (Optional) |
| LCD/CRT controller | Integrated in processor | | |
| Ethernet | 10/100/1000 Base-TX, RJ-45 x 2 | | 10/100/1000 Base TX x2 |
| I/O Port | DB9 Type RS-232 x 1 USB 3.2 Gen 1 x 2 HDMI x 1 RJ-45 10/100/1000 LAN x 2 2 Pin terminal block for power input Power Button x 1 Type A USB 2.0 x 1 Expansion I/O Slot | RS-232/422/485 x 2 (RJ-45 connector) USB 2.0 type A x 3 USB 3.2 Gen 1 type A x 1 HDMI x 1 D/I/O (4 DI, 2 DO) BIOS selection Power button x 1 Lockable power connector x 1 | LAN x 2 COM x 2 USB 3.2 Gen 1 (Type C OTG) x 1 (For System Recovery) USB 3.2 Gen 1 x 1 USB 2.0 x 3 HDMI x 1 Audio x 1 |
| Storage Disk Drive | Full Size mSATA x 1 | Half size mSATA x 1 (Installation by AAEON recommended) | 16GB eMMC and Micro-SD card |
| Expansion Slot | Half size mini card x 1 (Internal) | Full size Mini-Card x 1 | Full-size mini-PCIe slot x 1 (PCIe 3.0 [x1] or mSATA) |
| OS support | Windows® 10 | Windows® 7, Windows® 8.1, Windows® 10 | Android™ 12 / Debian |
| Mechanical | | | |
| Construction | Aluminum Front Bezel + Metal Chassis | Aluminum Design | Aluminum Front Bezel + Metal Chassis |
| Mounting | VESA 75, Panel Mount | VESA 75/ Panel mount/ Stand | VESA / Panel Mount |
| Dimension | 10.47" x 7.24 x 1.89" (266 x 184 x 48mm) | 10.47" x 7.22" x 1.18" (266 x 183.5 x 30mm) | 7.7" x 5.3" x 1.5" (196.5mm x 135mm x 40mm) |
| Carton Dimension | 13.38" x 7.64 x 9.96" (340 x 194 x 253mm) | 13.58" x 7.87" x 9.65" (345 x 200 x 245mm) | 11.0" x 8.7" x 6.1" (280mm x 220mm x 154mm) |
| Gross Weight | 6.38 lb (2.9 kg) | 5.5 lb (2.5 kg) | 2.2 lb. (1.0Kg) |
| Environmental | | | |
| Operating Temperature | 23°F ~ 122°F (-5°C ~ 50°C) with 0.5 m/s airflow | 32°F ~ 113°F (0°C ~ 45°C) without airflow 32°F ~ 122°F (0°C ~ 50°C) with airflow | 23°F ~ 131°F (-5°C ~ 50°C) with 0.5 m/s airflow |
| Storage Temperature | -4°F ~ 158°F | -20°C ~ 70°C | -4°F ~ 140°F (-20°C ~ 60°C) |
| Storage Humidity | 90% @40°C; non-condensing | 5%~90% @40°C, non-condensing | 90% @40°C; non-condensing |
| Vibration | 1 Grms/ 5~ 500Hz/ operation – with HDD | 1 Grms/ 5~500Hz/ operation | |
| Shock | 15 G peak acceleration (11 msec. duration) – with HDD | 15 G peak acceleration (11 msec. duration) | |
| EMC | CE/FCC Class A | | CE/FCC Class A Compatible |
| Power Supply | | | |
| DC Input | DC 9~30V | DC 12V with lockable power adapter | DC 12~24V |
| LCD | | | |
| Display Type | 10.1" TFT-LCD, LED | | 7" WSVGA (1024 x 600) Color TFT LCD Display |
| Max Resolution | 1280 x 800 | | 1024 x 600 |
| Max. Colors | 262k | | 16.7M |
| Luminance | 300 cd/m ² | | 320 nits |
| Viewing Angle | 170° (H), 170° (V) | | 145° (H) ; 150° (V) |
| Back Light | LED | | |
| Back Light MTBF (Hours) | — | | |
| Touchscreen | 20,000 | | |
| Type | P-CAP Touchscreen | Projected Capacitive Multi-Touch | |
| Light Transmission | 90% | — | 90% |
| Note | | | |

Note: All specifications are subject to change without notice.

www.aaeon.com

04-12



| Model | ACP-1076 | ACP-1075 | ACP-1074 |
|-------------------------|---|---|--|
| System | | | |
| Processor | Intel® Pentium® N4200 processor, 1.1 GHz (Quad-Core), Burst frequency 2.5GHz Intel® Celeron® N3350 processor, 1.1 GHz (Dual-Core), Burst frequency 2.4GHz | Intel® Pentium® Processor N4200 Intel® Celeron® Processor N3350 | Intel® N2807 processor, 1.58 GHz Intel® Celeron® J1900 processor, 2 GHz |
| System Memory | DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz) | Onboard LPDDR3L 4GB (2GB Optional) | 204-Pin DDR3L SODIMM x 1, default 2GB, up to 8 GB (J1900) 204-Pin DDR3L SODIMM x 1, default 2GB, up to 4 GB (N2807) |
| LCD/CRT controller | Integrated in processor | — | Integrated in processor |
| Ethernet | 10/100/1000 Base-TX, RJ-45 x 2 | GbE x 1 | 10/100/1000 Base-TX, RJ-45 x 2 |
| I/O Port | DB9 Type RS-232 x 1 USB 3.2 Gen 1 x 2 HDMI x 1 RJ-45 10/100/1000 LAN x 2 2 Pin terminal block for power input Power Button x 1 Type A USB 2.0 x 1 Expansion I/O Slot | LAN x 1 COM x 2 USB 3.2 Gen 1 (Type-A) x 2 USB 2.0 x 1 HDMI x 1 | RJ-45 type RS-232/422/485 x 2 USB 2.0 x 3 USB 3.2 Gen 1 x 1 HDMI x 1 D/D (4DI, 2DO) BIOS Selection Lockable power input connector Power switch x 1 |
| Storage Disk Drive | Full size mSATA x 1 | Onboard 64GB eMMC (Optional: 16GB/32GB) | Half size mSATA storage x 1 (Installation by AEON recommended) |
| Expansion Slot | Half size mini card x 1 (Internal) | M.2 2280 B-Key x 1, M.2 2230 E-Key x 1 | Full size Mini-Card x 1 |
| OS support | Windows® 10 | Windows® 10 (64-bit) | Windows® 7, Windows® 8.1, Windows® 10, Linux kernel 2.6.3 or higher |
| Mechanical | | | |
| Construction | Aluminum Front Bezel + Metal Chassis | SECC | Aluminum Design |
| Mounting | VESA 75, Panel Mount | — | VESA 75/ Panel mount/ Stand |
| Dimension | 7.72" x 5.28" x 1.89" (196 x 134 x 48 mm) | 7.18" x 4.73" x 2.09" (182.3mm x 120.1mm x 53.04mm) | 7.71" x 5.27" x 1.18" (196mm x 134mm x 30mm) |
| Carton Dimension | 10.87" x 9.41" x 6.69" (276 x 239 x 170 mm) | 14.17" x 9.65" x 4.65" (360mm x 245mm x 118mm) | 13.58" x 7.87" x 9.64" (345mm x 200mm x 245mm) |
| Gross Weight | 4.62 lb (2.1 Kg) | 1.9 lb. (0.88Kg) | 4.8 lb (2.2 kg) |
| Environmental | | | |
| Operating Temperature | 23°F ~ 122°F (-5°C ~ 50°C) with 0.5 m/s airflow | 32°F ~ 131°F (0°C ~ 55°C) with 0.5 m/s airflow | 32°F ~ 122°F (0°C ~ 50°C) without airflow 23°F ~ 131°F (-5°C ~ 55°C) with airflow |
| Storage Temperature | -4°F ~ 158°F (-20°C ~ 70°C) | 32°F ~ 149°F (0°C ~ 65°C) | -4°F ~ 158°F (-20°C ~ 70°C) |
| Storage Humidity | 90% @40°C; non-condensing | | 5%~90% @40°C, non-condensing |
| Vibration | 1 Grms/ 5~ 500Hz/ operation – with HDD | 1 Grms/ 5~ 500Hz/ operation –with HDD | 1 Grms/ 5~ 500Hz/ operation – with HDD |
| Shock | 15 G peak acceleration (11 msec. duration) – with HDD | 15 G peak acceleration (11 msec. duration) – with HDD | 15G peak acceleration (11 msec. duration) – with HDD |
| EMC | | CE/FCC class A | |
| Power Supply | | | |
| DC Input | DC 9~30V | DC 12V | DC12V, with lockable power adapter |
| LCD | | | |
| Display Type | 7" TFT-LCD, LED | 7" WSVGA Color TFT LCD Display | 7" TFT-LCD, LED |
| Max. Resolution | | 1024 x 600 | |
| Max. Colors | | 16.7M | |
| Luminance | 320 cd/m ² | 320 nits | 320 cd/m ² |
| Viewing Angle | 150° (H), 145° (V) | 145° (H) ; 150° (V) | 150° (H), 145° (V) |
| Back Light | | LED | |
| Back Light MTBF (Hours) | | 20,000 | |
| Touchscreen | | | |
| Type | P-CAP Touchscreen | Projected Capacitive Multi-Touch | Projected capacitive multi-touch (2-point) |
| Light Transmission | 90% | >=86% | 90% |
| Note | | | |

Rugged Mobile and Panel PC Solutions

OMNI Series : Modular Builder - Panel Kit

04

OMNI Series : Modular Builder - Panel Kit



| Model | OMNI-215D | OMNI-221D | OMNI-224D |
|-------------------------|---|---|---|
| Mechanical Construction | Aluminum Front Bezel | | Aluminum Front Bezel + Metal Chassis |
| Mounting | Panel Mount | | VESA / Panel Mount |
| Dimension | 16.54" x 10.39" x 1.14" (420mm x 264mm x 29mm) | 21.61" x 14.65" x 0.87" (549mm x 372mm x 22mm) | 22.8" x 13.8" x 0.8" (578.60mm x 350.60mm x 20.00mm) |
| Carton Dimension | 20.47" x 17.13" x 7.09" (520mm x 435mm x 180mm) | 26.38" x 7.87" x 20.67" (670mm x 200mm x 525mm) | 28.15" x 20.08" x 8.58" (715mm x 510mm x 218mm) |
| Gross Weight | 11 lb (5 kg) | | TBD |
| Environmental | | | |
| Operating Temperature | -4°F ~ 131°F (-20°C ~ 55°C) with 0.7 m/s airflow | | -40F~122oF (-20°C~50°C) with airflow |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | -4F~140oF (-20°C~60°C) |
| Storage Humidity | 90% @40°C; non-condensing | | |
| Vibration | 1 Grms/ 5~ 500Hz/ operation – with HDD | | 1Grms / 5~ 500Hz / operation |
| Shock | 15G peak acceleration (11 msec. duration) – with HDD | | 15 G peak acceleration (11 msec. duration) |
| EMC | CE/FCC Class A | | CE/FCC Class A Compatible |
| Power Supply | | | |
| DC input | — | | DC 9~30V |
| LCD | | | |
| Display Type | 15.6" TFT-LCD, LED | 21.5" TFT-LCD, LED | 23.8" TFT-LCD, LED |
| Max Resolution | Regular 1366 (H) x 768 (V) Full HD 1920 (H) x 1080 (V) | | 1920 x 1080 |
| Max. Colors | Regular :16.7M (8 bit/color) Full HD: 16.2M | | 16.7M colors |
| Luminance | Regular : 400 cd/m ² Full HD : 450 cd/m ² | 250 cd/m ² | 450 cd/m ² |
| Viewing Angle | Regular : 170° (H) ; 130° (V) Full HD: 178° (H) ; 178° (V) | 178° (H), 178° (V) | 178° (H) ; 178° (V) |
| Back Light | LED | | |
| Back Light MTBF (hours) | 50,000 | | 50,000 |
| Touch Screen | | | |
| Type | P-CAP/ Full-flap resistive | | Projective Touch (Max. 10 Point) |
| Light Transmission | 90% | | 86% |
| Others | 1. Connect with OMNI CPU Box Kit 2. Connect with LVDS/USB Type Touch | | 1. Connect with OMNI-Box Kit 2. Connect with LVDS/USB Type Touch |
| Note | | | |

OMNI Series : Modular Builder - Panel Kit



| Model | OMNI-227D | OMNI-310D | OMNI-312D |
|-------------------------|---|---|---|
| Mechanical | | | |
| Construction | Aluminum Front Bezel + Metal Chassis | | Aluminum Front Bezel |
| Mounting | VESA / Panel Mount | | Panel Mount |
| Dimension | 25.3" x 15.8" x 0.8" (641.60 mm x 402.50 mm x 20.00 mm) | 11.02" x 9.41" x 1.1" (280mm x 239mm x 28mm) | 12.95" x 11.34" x 0.98" (329mm x 288mm x 25mm) |
| Carton Dimension | 30.70" x 22.24" x 8.58" (780mm x 565mm x 218mm) | 16.34" x 7.05" x 15.39" (415mm x 179mm x 391mm) | 20.87" x 17.52" x 7.87" (530mm x 445mm x 200mm) |
| Gross Weight | TBD | 3.08 lb (1.4 kg) | 4.4 lb (2 kg) |
| Environmental | | | |
| Operating Temperature | 32oF~113oF (0°C~45°C) with airflow | | -4°F ~ 131°F (-20°C ~ 55°C) with 0.7 m/s airflow |
| Storage Temperature | -4oF~140oF(-20°C~60°C) | | -4°F~140°F (-20°C~60°C) |
| Storage Humidity | | 90% @40°C; non-condensing | |
| Vibration | 1Grms / 5~ 500Hz / operation | | 1 Grms/ 5~ 500Hz/ operation – with HDD |
| Shock | 15 G peak acceleration (11 msec. duration) | | 15G peak acceleration (11 msec. duration) – with HDD |
| EMC | CE/FCC Class A Compatible | | CE/FCC Class A |
| Power Supply | | | |
| DC input | DC 9~30V | | — |
| LCD | | | |
| Display Type | 27" TFT-LCD, LED | 10.4" TFT-LCD, LED | 12.1" TFT-LCD, LED |
| Max Resolution | 1920 x 1080 | Support BT/SKU: 800 x 600 Support ADP/ADN: 1024 x 768 | 1024 x 768 |
| Max. Colors | 16.7M colors | Support BT/SKU: 16.2M Support ADP/ADN: 16.7M | 16.2M colors |
| Luminance | 300 cd/m ² | Support BT/SKU: 230 cd/m ² Support ADP/ADN: 500 cd/m ² | 500 cd/m ² |
| Viewing Angle | 178° (H) ; 178° (V) | Support BT/SKU: 120° (H) x 100° (V) Support ADP/ADN: 176° (H) x 176° (V) | 160° (H), 160° (V) |
| Back Light | | LED | |
| Back Light MTBF (hours) | 30,000 | | 50,000 |
| Touch Screen | | | |
| Type | Projective Touch (Max. 10 Point) | | P-CAP/ Full-flap resistive |
| Light Transmission | 86% | | 90% |
| Others | 1. Connect with OMNI-Box Kit 2. Connect with LVDS/USB Type Touch | 1. Connect with OMNI CPU Box Kit 2. Connect with LVDS/ USB Type Touch | 1. Connect with OMNI CPU Box Kit 2. Connect with LVDS/USB Type Touch |
| Note | | | |

Rugged Mobile and Panel PC Solutions

OMNI Series : Modular Builder - Panel Kit

04

OMNI Series : Modular Builder - Panel Kit



| Model | OMNI-315D | OMNI-317D | OMNI-319D |
|-------------------------|---|--|---|
| Mechanical | | | |
| Construction | Aluminum Front Bezel | | |
| Mounting | Panel Mount | | |
| Dimension | 14.53" x 12.36" x 1.06" (369mm x 314mm x 27mm) | 16.14" x 14.57" x 1.1" (410mm x 370mm x 28mm) | 18.13" x 16.12" x 1.1" (460.4mm x 409.4mm x 28mm) |
| Carton Dimension | 20.08" x 9.84" x 18.11" (510mm x 250mm x 460mm) | 20.47" x 10.32" x 19.29" (522mm x 262mm x 490mm) | 26.02" x 8.11" x 19.53" (661mm x 206mm x 496mm) |
| Gross Weight | 11.66 lb (5.3 kg) | 8.8 lb(4 kg) | 11 lb (5 kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~ 131°F (-20°C ~ 55°C) with 0.7 m/s airflow | | |
| Storage Temperature | -4°F~140°F (-20°C~60°C) | | |
| Storage Humidity | 90% @40°C; non-condensing | | |
| Vibration | 1 Grms/ 5~ 500Hz/ operation – with HDD | | |
| Shock | 15G peak acceleration (11 msec. duration) – with HDD | | |
| EMC | CE/FCC Class A | | |
| Power Supply | | | |
| DC input | — | | |
| LCD | | | |
| Display Type | 15" TFT-LCD, LED | 17" TFT-LCD, LED | 19" TFT-LCD, LED |
| Max Resolution | 1024 x 768 | | 1280 x 1024 |
| Max. Colors | 16.2M (8bit/color) | | 16.7M colors |
| Luminance | 300 cd/m ² | | 350 cd/m ² |
| Viewing Angle | 176° (H), 176° (V) | | 170° (H), 160° (V) |
| Back Light | | LED | |
| Back Light MTBF (hours) | 70,000 | | 50,000 |
| Touch Screen | | | |
| Type | P-CAP/ Full-flap resistive | | |
| Light Transmission | 90% | | |
| Others | 1. Connect with OMNI CPU Box Kit 2. Connect with LVDS/USB Type Touch | | |
| Note | | | |

OMNI Series : Modular Builder - BOX Kit



| Model | OMNI-ADP CPU-BOX Kit | OMNI-ADN CPU-BOX Kit |
|-----------------------|---|--|
| System | | |
| Processor | Intel® Core™ i7-1265UE Intel® Core™ i5-1245UE Intel® Core™ i3-1215UE Intel® Celeron® Processor 7305E | Intel® Processor N50 Intel® Processor N97 |
| System Memory | DDR5 4800MHz, Dual Channel SODIMM x 2, up to 64GB | DDR5 4800 MHz, up to 16GB SODIMM x 1 |
| LCD CRT Controller | — | CPU Integrated |
| Ethernet | Intel® Ethernet Connection I219 Series, 10/100/1000Base Intel® Ethernet Controller I226 Series, 10/100/1000/2500Base | Intel® Ethernet Controller I226, GbE x 3 |
| IO Port | RJ-45 LAN x 2 USB 3.2 Gen 2 (Type-A) x 3 USB 3.2 Gen 2 (Type-C) x 1 HDMI 2.0b x 1 DB-9 x 2 (RS-232/422/485) | USB 3.2 x 2 USB 2.0 x 2 via Cables DB-9 RS-232/422/485 x 2 (set By BIOS) HDMI 1.4b x 1 RJ-45 x 3 DC 9V ~ 30V 3-pin Terminal Block Connector Power On/Off Switch x 1 with LED Light |
| Storage Disk Drive | 2.5" SATA 6Gb/s x 1 M.2 2280 M-Key (PCIe [x4]) (NVMe) | 2.5" SATA Drive Bay x 1 (SATA 6Gb/s) Full-size mPCIe (PCIe [x1]/SATA) |
| Expansion Slot | M.2 3052 B-Key x 1 (BOM Optional: PCIe [x2], Default: USB 3.2 Gen 2 + SATA) M.2 2230 E-Key x 1 (PCIe, USB 2.0) | M.2 3052 B-Key x 1 with Nano SIM M.2 2230 E-Key x 1 |
| OS Support | Windows 10/Windows 11 | Windows® 10 IoT Enterprise LTSC 2021 Windows® 10/11 |
| Construction | Aluminum design | Aluminum Front Bezel + Metal Chassis |
| Mounting | VESA | Panel Mount/VESA Mount (VESA 100) |
| Dimension | | 7.8" x 1.7" x 7" (200mm x 45mm x 180mm) |
| Gross Weight | | 2.5 lb. (1.15Kg) |
| Operating Temperature | -4°F ~ 122°F (-20°C ~ 50°C) with 0.7 m/s airflow | -4°F~122°F (-20°C~50°C) with airflow |
| Storage Temperature | | -4°F ~ 140°F (-20°C ~ 60°C |
| Storage Humidity | | 90% @40°C; non-condensing |
| Anti Vibration | 1Grms / 5~ 500Hz / operation | 1Grm s/5~500Hz/ operation - with mSATA |
| Anti-Shock | 15 G peak acceleration (11 msec. duration) | 15 G peak acceleration (11 m sec. duration) with mSATA |
| Certification | CE/FCC Class A | CE/FCC Class A Compatible |
| DC Input | DC 9~30V, Suggest Minimum 120W Power Adapter | DC 9~30V |
| Display Type | OMNI Series Panel Kit from 10.4" to 27" | OMNI Series Panel Kit from 10.4" to 21.5" |
| Others | All size: PCAP multitouch (Support Gloves) 10" ~ 21.5": Flat 5-Wire Resistive | 12.1" and 15": Flat 5-Wire Resistive Touch All Size: PCAP Multitouch |
| Note | | |

Rugged Mobile and Panel PC Solutions

OMNI Series : Modular Touch Panel Solutions



| Model | OMNI-2155-ADP | OMNI-2215-ADP | OMNI-2245-ADP |
|-------------------------|--|--|---|
| System | | | |
| Processor | 12th Generation Intel® Core™/Celeron® Processors: Intel™ Core™ i7-1265UE Intel™ Core™ i5-1245UE Intel™ Core™ i3-1215UE Intel™ Celeron® Processor 7305E | 12th Generation Intel® Core™/Celeron® Processors | |
| System Memory | DDR5 4800 MHz, Dual Channel SODIMM x 2, up to 64GB | | |
| LCD/CRT Controller | — | | |
| Ethernet | Intel® Ethernet Connection I219, 10/100/1000Base Intel® Ethernet Controller I226, 10/100/1000/2500Base | | |
| I/O Port | RJ-45 LAN x 2 USB 3.2 Gen 2 (Type-A) x 3 USB 3.2 Gen 2 (Type-C) x 1 HDMI 2.0b x 1 DB-9 x 2 (RS-232/422/485) | | |
| Storage Disk Drive | 2.5" HDD Bay for SATA 6Gb/s x 1 M.2 2280 M-Key x 1 (PCIe [x4] for NVMe Storage) | | |
| Expansion Slot | M.2 3052 B-Key x 1 (Default: USB 3.2 Gen 2 + SATA, PCIe [x2] optional by BOM) M.2 2230 E-Key x 1 (PCIe, USB 2.0) | | |
| OS support | Windows® 10 IoT Enterprise LTSC 2021 Windows® 10/11 | | |
| Mechanical Construction | Aluminum Front Bezel + Metal Chassis | | |
| Mounting | VESA / Panel Mount | | |
| Dimension | 16.5" x 10.41" x 2.9" (420.2mm x 264.5mm x 73.8mm) | 21.63" x 14.66" x 2.64" (549.4mm x 372.4mm x 67mm) | 22.78" x 13.80" x 2.95" (578.60mm x 350.60mm x 74.90mm) |
| Carton Dimension | 20.86" x 17.51" x 7.87" (530 mm x 445 mm x 200mm) | 26.38" x 20.67" x 7.87" (670mm x 525mm x 200mm) | 28.15" x 20.08" x 8.58" (715mm x 510mm x 218mm) |
| Gross Weight | 11.46 lb (5.2kg) | 14.9 lb. (6.8Kg) | 22.8 lb (10.36kg) |
| Environmental | | | |
| Operating Temperature | -4°F ~ 122°F (-20°C ~ 50°C) with 0.5 m/s Airflow | | |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | |
| Storage Humidity | 90% @40°C; non-condensing | | |
| Vibration | 1Grms / 5- 500Hz / operation | | |
| Shock | 15 G peak acceleration (11 msec. duration) | | |
| EMC | CE/FCC Class A Compatible | | |
| Power Supply | | | |
| DC input | DC 9-30V | | |
| LCD | | | |
| Display Type | 15.6" TFT-LCD, LED | 21.5" TFT-LCD, LED | 23.8" TFT-LCD, LED |
| Max Resolution | Regular 1366 (H) x 768 (V) Full HD 1920 (H) x 1080 (V) | | 1920 x 1080 |
| Max. Colors | Regular :16.7M (8 bit/color) Full HD: 16.2M | | 16.7M colors |
| Luminance | Regular : 400 cd/m² Full HD : 450 cd/m² | 250 cd/m² | 450 cd/m² |
| Viewing Angle | Regular : 170° (H) ; 130° (V) Full HD: 178° (H) ; 178° (V) | | 178° (H) ; 178° (V) |
| Back Light | LED | | |
| Back Light MTBF (Hours) | 50,000 | | 50,000 Hrs |
| Touchscreen | | | |
| Type | P-CAP/ 5-wire resistive | | Projective Touch (Max. 10 Point) |
| Light Transmission | P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%) | | P-CAP (≥85%), 5-wire Resistive (80% ± 3%) >= 86% |
| Note | | | |

OMNI Series : Modular Touch Panel Solutions



| Model | OMNI-2275-ADP | OMNI-3105-ADP | OMNI-3125-ADP |
|-------------------------|---|---|---|
| System Processor | 12th Generation Intel® Core™/Celeron® Processors | | |
| System Memory | DDR5 4800MHz, Dual Channel SODIMM x 2, up to 64GB | DDR5 4800MHz, Dual Channel SODIMM x 2 | |
| LCD/CRT Controller | — | | |
| Ethernet | Intel® Ethernet Connection I219, 10/100/1000Base Intel® Ethernet Controller I226, 10/100/1000/2500Base | Intel® Ethernet Connection I219, 10/100/1000Base Intel® Ethernet Controller I226, 10/100/1000/2500Base | |
| I/O Port | RJ-45 LAN x 2 USB 3.2 Gen 2 (Type-A) x 3 USB 3.2 Gen 2 (Type-C) x 1 HDMI 2.0b x 1 DB-9 x 2 (RS-232/422/485) | RJ-45 LAN x 2 USB 3.2 Gen 2 (Type-A) x 3 USB 3.2 Gen 2 (Type-C) x 1 HDMI 2.0b x 1 DB-9 x 2 (RS-232/422/485) | |
| Storage Disk Drive | 2.5" HDD Bay for SATA 6Gb/s x 1 M.2 2280 M-Key x 1 (PCIe [x4] NVMe Storage) | 2.5" HDD Bay for SATA 6Gb/s x 1 M.2 2280 M-Key x 1 (PCIe [x4] NVMe Storage) | |
| Expansion Slot | M.2 3052 B-Key x 1 (Default: USB 3.2 Gen 2 + SATA, PCIe [x2] optional by BOM) M.2 2230 E-Key x 1 (PCIe, USB 2.0) | M.2 3052 B-Key x 1 (BOM Optional: PCIe [x2], default: USB 3.2 Gen 2 + SATA) M.2 2230 E-Key x 1 (PCIe, USB 2.0) | |
| OS support | Windows® 10 IoT Enterprise LTSC 2021 Windows® 10/11 | Windows® 10 IoT Enterprise LTSC 2021 Windows® 10/11 | |
| Mechanical Construction | Aluminum Front Bezel + Metal Chassis | | |
| Mounting | VESA / Panel Mount | | |
| Dimension | 25.26" x 15.85" x 2.94" (641.60mm x 402.50mm x 74.70mm) | 11" x 9.4" x 2.8" (280mm x 239.3mm x 72.8mm) | 12.9" x 11.3" x 2.7" (328.5mm x 288mm x 69.7mm) |
| Carton Dimension | 30.70" x 22.24" x 8.58" (780mm x 565mm x 218mm) | 16.3" x 15.4" x 7" (415mm x 392mm x 180mm) | 20.9" x 17.5" x 7.9" (530mm x 445mm x 200mm) |
| Gross Weight | 27.1 lb (12.30kg) | 6.2 lb. (2.84Kg) | 7.6 lb. (3.48Kg) |
| Environmental | — | | |
| Operating Temperature | 32°F ~ 113°F (0°C ~ 45°C) with airflow | -4°F ~ 122°F (-20°C ~ 50°C) with airflow | |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | |
| Storage Humidity | 90% @40°C; non-condensing | | |
| Vibration | 1Grms / 5~ 500Hz / operation | | |
| Shock | 15 G peak acceleration (11 msec. duration) | | |
| EMC | CE/FCC Class A Compatible | | |
| Power Supply | — | | |
| DC input | DC 9~30V | | |
| LCD | — | | |
| Display Type | 27" TFT-LCD, LED | 10.4" TFT-LCD, LED | 12.1" TFT-LCD, LED |
| Max Resolution | 1920 x 1080 | 1024 (H) x 768 (V) | |
| Max. Colors | 16.7M colors | 262K/16.7M | 16.2M colors |
| Luminance | 300 cd/m ² | 500 cd/m ² | |
| Viewing Angle | 178° (H) ; 178° (V) | 176° (H) x 176° (V) | 160° (H) ; 160° (V) |
| Back Light | LED | | |
| Back Light MTBF (Hours) | 30,000 Hrs | 50,000 | |
| Touchscreen | — | | |
| Type | Projective Touch (Max. 10 Point) | P-CAP/ 5-wire resistive | |
| Light Transmission | >= 86% | P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%) | |
| Note | | | |

Rugged Mobile and Panel PC Solutions

OMNI Series : Modular Touch Panel Solutions



| Model | OMNI-3155-ADP | OMNI-3175-ADP | OMNI-3195-ADP |
|-------------------------|---|--|--|
| System | | | |
| Processor | 12th Generation Intel® Core™/Celeron® Processors | | |
| System Memory | DDR5 4800 MHZ, Dual Channel SODIMM x 2 | | |
| LCD/CRT Controller | — | | |
| Ethernet | Intel® Ethernet Connection I219, 10/100/1000Base Intel® Ethernet Controller I226, 10/100/1000/2500Base | | |
| I/O Port | RJ-45 LAN x 2 USB 3.2 Gen 2 (Type-A) x 3 USB 3.2 Gen 2 (Type-C) x 1 HDMI 2.0b x 1 DB-9 x 2 (RS-232/422/485) | | |
| Storage Disk Drive | 2.5" HDD Bay for SATA 6Gb/s x 1 M.2 2280 M-Key x 1 (PCIe [x4] NVMe Storage) | | |
| Expansion Slot | M.2 3052 B-Key x 1 (BOM Optional: PCIe [x2], default: USB 3.2 Gen 2 + SATA) M.2 2230 E-Key x 1 (PCIe, USB 2.0) | | |
| OS support | Windows® 10 IoT Enterprise LTSC 2021 Windows® 10/11 | | |
| Mechanical | | | |
| Construction | Aluminum Front Bezel + Metal Chassis | | |
| Mounting | VESA / Panel Mount | | |
| Dimension | 14.52" x 12.35" x 2.83" (368.9mm x 313.7mm x 72mm) | 16.14" x 14.56" x 2.87" (409.9mm x 369.9mm x 73mm) | 18.15" x 16.14" x 2.87" (460.8mm x 410mm x 72.8mm) |
| Carton Dimension | 20.1" x 18.1" x 9.8" (510mm x 460mm x 250mm) | | 26.02" x 19.53" x 8.11" (661mm x 496mm x 206mm) |
| Gross Weight | 8.5 lb. (3.9Kg) | 12.4 lb. (5.63Kg) | 13.9 lb. (6.34Kg) |
| Environmental | | | |
| Operating Temperature | -4°F~122°F (-20°C~50°C) with airflow | | |
| Storage Temperature | -4°F~140°F(-20°C~60°C) | | |
| Storage Humidity | 90% @40°C; non-condensing | | |
| Vibration | 1Grms / 5~ 500Hz / operation | | |
| Shock | 15 G peak acceleration (11 msec. duration) | | |
| EMC | CE/FCC Class A Compatible | | |
| Power Supply | | | |
| DC input | DC 9~30V | | |
| LCD | | | |
| Display Type | 15" TFT-LCD, LED | 17" TFT-LCD, LED | 19" TFT-LCD, LED |
| Max Resolution | 1024(H) x 768 (V) | | 1280(H) x 1024(V) |
| Max. Colors | 16.2M (8 bit/color) | 16.7M colors (RGB 6-bits + Hi-FRC data) | 16.7M colors |
| Luminance | 300 cd/m ² | | 350 cd/m ² |
| Viewing Angle | 176° (H), 176° (V) | | 170° (H), 160° (V) |
| Back Light | LED | | |
| Back Light MTBF (Hours) | 70,000 | | 50,000 |
| Touchscreen | | | |
| Type | P-CAP/ 5-wire resistive | | |
| Light Transmission | P-CAP (90% ± 2%), 5-wire Resistive (80% ± 2%) | P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%) | |
| Note | | | |

OMNI Series : Modular Touch Panel Solutions



| Model | OMNI-2155-ADN | OMNI-2215-ADN | OMNI-3105-ADN |
|-------------------------|--|---|--|
| System | | | |
| Processor | | Intel® Processor N50 Intel® Processor N97 | |
| System Memory | | DDR5 4800 MHz, up to 16GB SODIMM x 1 | |
| LCD/CRT Controller | | CPU Integrated | |
| Ethernet | | Intel® Ethernet Controller I226, 2.5GbE LAN x 3 | |
| I/O Port | | USB 3.2 Gen 2 (Type-A) x 2 USB 2.0 x 2 via Cables DB-9 x 2 (RS-232/422/485, set by BIOS) HDMI 1.4b x 1 2.5GbE RJ-45 x 3 9V ~ 30V 3-pin DC Terminal Block Connector Power on/off Switch with LED Light x 1 | |
| Storage Disk Drive | | 2.5" SATA Drive Bay x 1 (SATA 6Gb/s) Full-size mPCIe (PCIe [x1]/SATA) | |
| Expansion Slot | | M.2 3052 B-Key x 1 with Nano SIM M.2 2230 E-Key x 1 | |
| OS support | | Windows® 10 IoT Enterprise LTSC 2021 Windows® 10/11 | |
| Mechanical | | | |
| Construction | | Aluminum Front Bezel + Metal Chassis | |
| Mounting | | Panel Mount/VESA Mount (VESA 100) | |
| Dimension | 16.5" x 10.4" x 2.9" (420mm x 264mm x 73mm) | 21.6" x 14.7" x 2.6" (549mm x 372mm x 67mm) | 11" x 9.4" x 2.9" (280.01 mm x 239mm x 72.8mm) |
| Carton Dimension | 20.9" x 17.5" x 7.9" (530mm x 445mm x 200mm) | 26.4" x 7.9" x 20.7" (670mm x 200mm x 525mm) | 16.3" x 7.1" x 15.4" (415mm x 180mm x 392mm) |
| Gross Weight | 11.7 lb. (5.3Kg) | 15.2 lb. (6.9Kg) | 6.4 lb. (2.9Kg) |
| Environmental | | | |
| Operating Temperature | | -4°F ~ 122°F (-20°C ~ 50°C) with 0.7m/s airflow | |
| Storage Temperature | | -4°F~140°F (-20°C~60°C) | |
| Storage Humidity | | 90% @40°C; non-condensing | |
| Vibration | | 1Grms /5~500Hz/ operation - with mSATA | |
| Shock | | 15G peak acceleration (11 m sec. duration) with mSATA | |
| EMC | | CE/FCC Class A | |
| Power Supply | | | |
| DC input | | DC 9~30V | |
| LCD | | | |
| Display Type | 15.6" TFT-LCD, LED | 21.5" TFT-LCD, LED | 10.4" TFT LCD, LED |
| Max Resolution | Regular 1366 (H) x 768 (V) Full HD 1920 (H) x 1080 (V) | 1920 (H) x 1080 (V) | 1024 (H) x 768 (V) |
| Max. Colors | Regular :16.7M (8 bit/color) Full HD: 16.2M | | 16.7M |
| Luminance | Regular: 400 cd/m ² Full HD: 450 cd/m ² | 250 cd/m ² | 500 cd/m ² |
| Viewing Angle | Regular: 170° (H); 130° (V) Full HD: 178° (H); 178° (V) | 178° (H) ; 178° (V) | 176° (H) x 176° (V) |
| Back Light | | LED | |
| Back Light MTBF (Hours) | | 50,000 | |
| Touchscreen | | | |
| Type | | Projected Capacitive Multi-Touch | |
| Light Transmission | | 90% | |
| Note | | | |

Rugged Mobile and Panel PC Solutions

OMNI Series : Modular Touch Panel Solutions



| Model | OMNI-3125-ADN | OMNI-3155-ADN |
|-------------------------|--|---|
| System | | |
| Processor | Intel® Processor N50 Intel® Processor N97 | |
| System Memory | DDR5 4800 MHz, up to 16GB SODIMM x 1 | |
| LCD/CRT Controller | CPU Integrated | |
| Ethernet | Intel® Ethernet Controller I226, 2.5GbE LAN x 3 | |
| I/O Port | USB 3.2 Gen 2 (Type-A) x 3 USB 2.0 x 2 DB-9 x 2 (RS-232/422/485, set by BIOS) HDMI 1.4b x 1 2.5GbE RJ-45 x 3 9V ~ 30V 3-pin DC Terminal Block Connector Power on/off Switch with LED Light x 1 | |
| Storage Disk Drive | 2.5" SATA Drive Bay x 1 (SATA 6Gb/s) Full-size mPCIe (PCIe [x1]/SATA) | |
| Expansion Slot | M.2 3052 B-Key x 1 with Nano SIM M.2 2230 E-Key x 1 | |
| OS support | Windows® 10 IoT Enterprise LTSC 2021 Windows® 10/11 | |
| Mechanical | | |
| Construction | Aluminum Front Bezel + Metal Chassis | |
| Mounting | Panel Mount/VESA Mount (VESA 100) | |
| Dimension | 12.9" x 11.3" x 2.7" (328.5mm x 288mm x 69.7mm) | 14.5" x 12.4" x 2.8" (368.9mm x 313.7mm x 72mm) |
| Carton Dimension | 20.9" x 17.5" x 7.9" (530mm x 445mm x 200mm) | 20.1" x 9.8" 18.1" (510mm x 250mm x 460mm) |
| Gross Weight | 10.7 lb. (4.84Kg) | 8.9lb (4.05Kg) |
| Environmental | | |
| Operating Temperature | -4°F ~ 122°F (-20°C ~ 50°C) with 0.7m/s airflow | |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | |
| Storage Humidity | 90% @40°C, non-condensing | |
| Vibration | 1Grms /5~500Hz/ operation - with mSATA | |
| Shock | 15G peak acceleration (11 m sec. duration) with mSATA | |
| EMC | CE/FCC Class A | |
| Power Supply | | |
| DC input | DC 9~30V | |
| LCD | | |
| Display Type | 12.1" TFT LCD, LED | 15" TFT-LCD, LED |
| Max Resolution | | 1024 (H) x 768 (V) |
| Max. Colors | 16.2M | 16.2M (8 bit/color) |
| Luminance | 500 cd/m ² | 300 cd/m ² |
| Viewing Angle | 160° (H) ; 160° (V) | 176° (H) x 176° (V) |
| Back Light | | LED |
| Back Light MTBF (Hours) | 50,000 | 70,000 |
| Touchscreen | | |
| Type | P-CAP/ 5-wire resistive | Projected Capacitive Multi-Touch |
| Light Transmission | P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%) | 90% |
| Note | | |

Note: All specifications are subject to change without notice.

OMNI Series : Modular Display Solutions - Panel Kit



| Model | OMNI-215M | OMNI-221M | OMNI-310M |
|---------------------------|---|--|---|
| System | | | |
| Input Signal | VGA/HDMI | | |
| On Screen Display Control | 5 keys OSD keypad (Up, Down, Menu, Auto, Power) | | |
| I/O Port | DB-15 VGA x 1 HDMI x 1 USB x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1(Terminal Block 3pin) | | |
| Os Support | Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04 | | |
| Mechanical Construction | IP65 aluminum front bezel & SGCC chassis | | |
| Mounting | Panel Mount / VESA 100x100 / Stand | | |
| Dimension | 16.5" x 10.4" x 2.4" (420.2mm x 264.5mm x 60.2mm) | 21.6" x 14.6" x 2.1" (549mm x 372mm x 53mm) | 11.0" x 9.4" x 2.33" (280mm x 239.3mm x 59.1mm) |
| Carton Dimension | 20.9" x 17.5" x 7.9" (530mm x 445mm x 200mm) | 26.4" x 20.7" x 7.9" (670mm x 525mm x 200mm) | 16.3" x 15.4" x 7.04" (415mm x 391mm x 179mm) |
| Gross Weight | 14.1 lbs (6.4 kg) | 18.5 lbs (8.4 kg) | 7.9 lbs (3.6 kg) |
| Net Weight | 11.2 lbs (5.1 kg) | 15.4 lbs (7.0 kg) | 1.1 lbs (2.4 kg) |
| Environmental | | | |
| Operating Temperature | 14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow | | |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | |
| Storage Humidity | 10%~90% @104°F (40°C); non-condensing | | |
| Vibration | 1 Grms / 5~500Hz/random Operation | | |
| Shock | — | | |
| EMC | CE/FCC, Class A | | |
| Power Supply | | | |
| Dc Input | DC 12~30V Power Input with 3 Pin Terminal Block | | |
| LCD | | | |
| Display Type | 15.6" TFT-LCD | 21.5" TFT-LCD | 10.4" TFT-LCD |
| Max. Resolution | 1366 x 768 | 1920 x 1080 | 800 x 600 |
| Max. Colors | 16.7M | | 16.2M |
| Luminance | 400 cd/m ² | 250 cd/m ² | 230 cd/m ² |
| Viewing Angle | 170° (H), 160° (V) | 178° (H), 178° (V) | 160° (H), 130° (V) |
| Back Light | LED | | |
| Back Light MTBF (Hours) | 50,000 | | 30,000 |
| Touchscreen | | | |
| Type | Projective Capacitive Multi Touch or 5 Wire Resistive Touch Screen (By Model) | | |
| Light Transmission | P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%) | | |
| Life Time | — | | |
| Note | | | |

Rugged Mobile and Panel PC Solutions

OMNI Series : Modular Display Solutions - Panel Kit



| Model | OMNI-312M | OMNI-315M | OMNI-317M |
|---------------------------|---|--|---|
| System | | | |
| Input Signal | VGA / HDMI | | |
| On Screen Display Control | 5 keys OSD keypad (Up, Down, Menu, Auto, Power) | | |
| I/O Port | DB-15 VGA x 1 HDMI x 1 USB x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1(Terminal Block 3pin) | | |
| Os Support | Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04 | | |
| Mechanical Construction | IP65 aluminum front bezel & SGCC chassis | | |
| Mounting | Panel Mount / VESA 100 x 100 / Stand | | |
| Dimension | 12.9" x 11.3" x 2.2" (328.5mm x 288.1mm x 55.9mm) | 14.5" x 12.4" x 2.3" (369mm x 314mm x 58mm) | 16.1" x 14.6" x 2.3" (410mm x 370mm x 59.1mm) |
| Carton Dimension | 20.9" x 17.5" x 7.9" (530mm x 445mm x 200mm) | 20.1" x 18.1" x 9.8" (510mm x 460mm x 250mm) | 20.6" x 19.3" x 10.3" (522mm x 490mm x 262mm) |
| Gross Weight | 10.4 lbs (4.7 kg) | 14 lbs (6.35 kg) | 14.8 lbs (6.7 kg) |
| Net Weight | 7.7 lbs (3.5 kg) | 11.2 lbs (5.1 kg) | 11.7 lbs (5.3 kg) |
| Environmental | | | |
| Operating Temperature | 14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow | | |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | |
| Storage Humidity | 10%~90% @104°F (40°C); non-condensing | | |
| Vibration | 1 Grms / 5~500Hz/random Operation | | |
| Shock | — | | |
| EMC | CE/FCC, Class A | | |
| Power Supply | | | |
| Dc Input | DC 12~30V Power Input with 3 Pin Terminal Block | | |
| LCD | | | |
| Display Type | 12.1" TFT-LCD | 15" TFT-LCD | 17" TFT-LCD |
| Max. Resolution | 1024 x 768 | | 1280 x 1024 |
| Max. Colors | 16.2M | | 16.7M |
| Luminance | 500 cd/m ² | 300 cd/m ² | 350 cd/m ² |
| Viewing Angle | 160° (H), 160° (V) | 176° (H), 176° (V) | 160° (H), 140° (V) |
| Back Light | LED | | |
| Back Light MTBF (Hours) | 50,000 | 70,000 | 50,000 |
| Touchscreen | | | |
| Type | Projective Capacitive Multi Touch or 5 Wire Resistive Touch Screen (By Model) | | |
| Light Transmission | P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%) | | |
| Life Time | — | | |
| Note | | | |



| Model | OMNI-319M |
|---------------------------|--|
| System | |
| Input Signal | VGA / HDMI |
| On Screen Display Control | 5 keys OSD keypad (Up, Down, Menu, Auto, Power) |
| I/O Port | DB-15 VGA x 1 HDMI x 1 USB x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1 (Terminal Block 3pin) |
| Os Support | Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04 |
| Mechanical | |
| Construction | IP65 aluminum front bezel & SGCC chassis |
| Mounting | Panel Mount / VESA 100 x 100 / Stand |
| Dimension | 18.1" x 16.1" x 2.3" (460.8mm x 410mm x 59.1mm) |
| Carton Dimension | 26.0" x 19.5" x 8.1 (661mm x 496mm x 206mm) |
| Gross Weight | 18.1 lbs (8.2 kg) |
| Net Weight | 15.2 lbs (6.9 kg) |
| Environmental | |
| Operating Temperature | 14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) |
| Storage Humidity | 10%~90% @104°F (40°C); non-condensing |
| Vibration | 1 Grms / 5~500Hz/random Operation |
| Shock | — |
| EMC | CE/FCC, Class A |
| Power Supply | |
| Dc Input | DC 12~30V Power Input with 3 Pin Terminal Block |
| LCD | |
| Display Type | 19" TFT-LCD |
| Max. Resolution | 1280 x 1024 |
| Max. Colors | 16.7M |
| Luminance | 350 cd/m ² |
| Viewing Angle | 170° (H), 160° (V) |
| Back Light | LED |
| Back Light MTBF (Hours) | 50,000 |
| Touchscreen | |
| Type | Projective Capacitive Multi Touch or 5 Wire Resistive Touch Screen (By Model) |
| Light Transmission | P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%) |
| Life Time | — |
| Note | |

| Model | OMNI-ADB-KIT |
|---------------------------|---|
| System | |
| Input Signal | VGA / HDMI |
| On Screen Display Control | 5 keys OSD keypad (Up, Down, Menu, Auto, Power) |
| I/O Port | DB-15 x 1 for VGA HDMI x 1 USB Type A x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1 (Default Terminal Block 3pin) |
| OS Support | Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04 |
| Mechanical | |
| Construction | Metal chassis |
| Mounting | Must be assembled with OMNI-Series Modules-Panels |
| Dimension | 5.1" x 6.4" x 1.2" (128.6mm x 161.5mm x 30.7mm) |
| Carton Dimension | 12.3" x 10.1" x 7.6" (312mm x 257mm x 194mm) |
| Gross Weight | 5.5 lb (2.5 kg) |
| Net Weight | 2.6 lb (1.2 kg) |
| Environmental | |
| Operating Temperature | 14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) |
| Storage Humidity | 10%~90% @104°F (40°C); non-condensing |
| Vibration | 1 Grms / 5~500Hz/random Operation |
| Shock | — |
| EMC | CE/FCC, Class A |
| Power Supply | |
| Dc Input | DC 12~30V Power Input with 3 Pin Terminal Block |
| LCD | |
| Display Type | |
| Max. Resolution | |
| Max. Colors | |
| Luminance | Depends on your OMNI Panel Modules |
| Viewing Angle | |
| Back Light | |
| Back Light MTBF (Hours) | |
| Touchscreen | |
| Type | |
| Light Transmission | Depends on your OMNI Panel Modules |
| Life Time | |
| Note | |



| Model | NIKY-2155-NX | | NIKY-2155-NANO | NIKY-2075-NANO |
|-------------------------|--|-----|--|----------------------------------|
| System | | | | |
| Processor | NVIDIA® Jetson Orin™ NX 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU | | NVIDIA® Jetson Orin™ Nano 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU | |
| System Memory | 8GB LPDDR5 | | 8GB LPDDR5 / 4GB LRDDR5 | |
| LCD/CRT controller | — | | | |
| Ethernet | GbE LAN x 2 | | | |
| I/O Port | USB 3.2 Gen 2 (Type-A) x 4 GbE LAN x 2 Micro USB x 1 for OS Flash DB-9 x 1 for CANBus DB-9 x 1 for RS-232/422/485 DB-15 x 1 for 8-bit DIO Power ON/OFF Switch x 1 Recovery Button x 1 Antenna Hole x 6 | | | |
| Storage Disk Drive | M.2 2280 M-Key x 1 for Storage (Default: 128GB) | | | |
| Expansion Slot | M.2 2230 E-Key x 1 M.2 3042/3052 B-Key x 1 | | | |
| OS support | Ubuntu 22.04 | | | |
| Mechanical | | | | |
| Construction | Aluminum Front Bezel + Metal Chassis | | | |
| Mounting | VESA 100 / Panel Mount | | | |
| Dimension | 15.2" x 9.3" x 2.6" (385.6mm x 235.0mm x 66.6mm) | TBD | | TBD |
| Carton Dimension | 20.3" x 15.2" x 7.8" (515mm x 385mm x 198mm) | TBD | | TBD |
| Gross Weight | 9.39 lb. (4.26Kg) | TBD | | TBD |
| Environmental | | | | |
| Operating Temperature | 23°F ~ 131°F (-5°C ~ 55°C) with 0.7 m/s airflow | | | |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | | | |
| Storage Humidity | 90% @ 40°C, non-condensing | | | |
| Vibration | 1Grms / 5~ 500Hz / operation | | | |
| Shock | 15 G peak acceleration (11 msec. duration) | | | |
| EMC | CE/FCC Class A | | | |
| Power Supply | | | | |
| DC Input | DC 12~24V | | | |
| LCD | | | | |
| Display Type | 15.6" TFT-LCD, LED | | | 7" TFT LCD, LED |
| Max. Resolution | 1920 (H) x 1080 (V) | | | 1024 x 600 |
| Max. Colors | | | 16.7M | |
| Luminance | 350 cd/m ² | | | 320 cd/m ² |
| Viewing Angle | 160° (H) / 160° (V) | | | 145° (H) ; 150° (V) |
| Back Light | LED | | | |
| Back Light MTBF (Hours) | 35,000 | | | 20,000 Hrs |
| Touchscreen | | | | |
| Type | P-CAP | | | Projected Capacitive Multi-Touch |
| Light Transmission | ≥ 85% | | | 90% |
| Note | | | | |



Always Agile, Always Ahead.

MKT-2202604

AAEON Technology Inc.

LITERATURE ORDERING

6F., No. 28, Baogao Rd., Xindian Dist., New Taipei City 231029, Taiwan R.O.C.
Tel: +886-2-8919-1234 Fax: +886-2-8919-1056 E-mail: sales@aaeon.com.tw

Contact your local office for literature requests.

USA

USA

California Office

324 W. Blueridge Ave, Orange, CA 92865
Toll Free: +1-877-TO-AAEON (1-877-862-2366)
TEL: +1-714-996-1800
FAX: +1-714-996-1811
E-mail: sales@aaeon.com
Tech Support: tech@aaeon.com

New Jersey Office

11 Crown Plaza, Hazlet, NJ 07730-2441
TEL: +1-732-203-9300
FAX: +1-732-203-9311
E-mail: sales@aaeon.com
Tech Support: tech@aaeon.com

EUR

Netherlands

AAEON EUROPE

Beatrix de Rijkweg 8, 5657 EG Eindhoven
TEL: +31(0)499-745200
FAX: +31(0)499-462010
E-mail: sales@aaeon.eu

Germany

AAEON Technology GmbH

Monzastrasse 4e, 63225 Langen
TEL: +49(0)61033 74 79 00
FAX: +49(0)61033 74 79 49
E-mail: sales@aaeon.eu

France

AAEON France Office

Gare de Lyon, 37/39 Avenue Ledru-Rollin,
CS 11237, 75012 Paris Cedex 12
TEL: +33 (0) 156 95 16 40
E-mail: sales@aaeon.eu

Italy

AAEON Italy Office

Viale Masini 12/14, 40126 Bologna
TEL: +39 051 0923582
E-mail: sales@aaeon.eu

ASIA

China

AAEON Technology (Su Zhou) Inc.

Room 12, 2F, Building B, No. 5 Xing Han Street,
Suzhou Industrial Park, Jiang Su Province
TEL: +86-512-6762-5700
FAX: +86-512-6761-7337
E-mail: sales@aaeon.com.cn

Shanghai Branch Office

20F, Unit D, GEM Building, No.487 Tianlin Road,
Xuhui District, Shanghai
TEL: +86-21-3367-5511
FAX: +86-21-3367-4238
E-mail: sales@aaeon.com.cn

Beijing Branch Office

Room 710, Tower D, Jiahua Building, No.9,
Shangdi Third Street, Haidian District, Beijing
TEL: +86-10-8278-0904
FAX: +86-10-8278-0214
E-mail: sales@aaeon.com.cn

Wuhan Branch Office

Room 06, 17/ F, Building C, Phase I, Modern International
Design City, Optics Valley Avenue, East Lake
New Technology Development Zone, Wuhan
TEL: +86-027-87003780
E-mail: sales@aaeon.com.cn

China

Chengdu Branch Office

Room 1801/1810, China (Sichuan)
ASEAN Free Trade Cooperation Center,
No. 1165 Shuangxing Avenue,
Shuangliu District, Chengdu
TEL: +86-028-85120523
E-mail: sales@aaeon.com.cn

Shenzhen Branch Office

SF-503, Guoxin Investment Building,
Gaovin South Seventh Road,
Nanshan District, Shenzhen
TEL: +86-755-8304-7277
FAX: +86-755-8304-7272
E-mail: sales@aaeon.com.cn

Hangzhou Branch Office

A411 Haichuang Building, No. 1338 Wenyi
West Road, Yuhang District, Hangzhou
TEL: +86-0571-8609-7652
E-mail: sales@aaeon.com.cn

Singapore

AAEON Technology Singapore PTE LTD.

57 Genting Lane, #07-00, Singapore 349564
TEL: +65-6749-8749
FAX: +65-6746-1595
E-mail: sales@aaeon.com.sg

