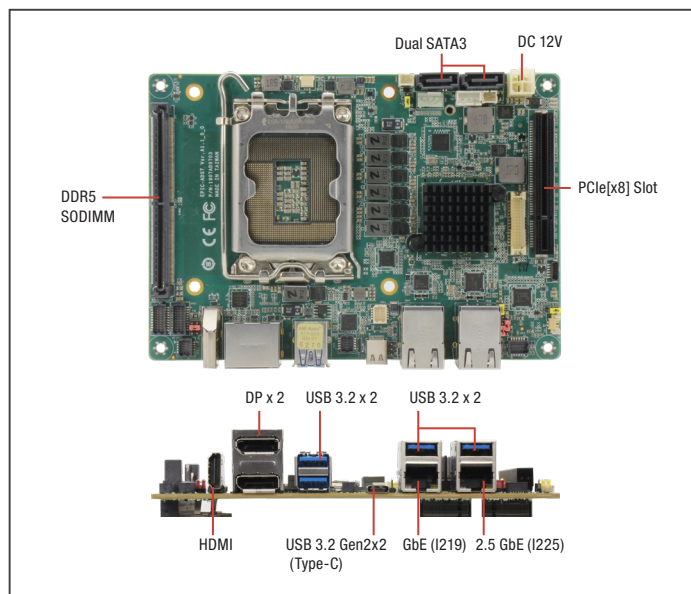


EPIC-ADS7

EPIC Board with 12th Generation Intel® Core™ S series Processor (Socket Type)



Specifications

System	
Form Factor	4" EPIC Board
CPU	12th Generation Intel® Core™/Celeron® Processors (up to 35W/65W): Intel® Core™ i7-12700E (8PC+4EC/20T, 1.6 GHz-2.1 GHz, 65W) Intel® Core™ i7-12700TE (8PC+4EC/20T, 1.4 GHz, 35W) Intel® Core™ i5-12500E (6C/12T, 2.9 GHz, 65W) Intel® Core™ i5-12500TE (6C/12T, 1.9 GHz, 35W) Intel® Core™ i3-12100E (4C/8T, 3.2 GHz, 60W) Intel® Core™ i3-12100TE (4C/8T, 2.1 GHz, 35W) Intel® Celeron® Processor G6900TE (2C/2T, 2.4 GHz, 35W)
Chipset	Intel® 600 Series Chipset (R680E/Q670E/H610E)
Memory Type	DDR5 4800, Dual Channel SODIMM x 2, Max 32GB (up to 16GB per SODIMM, ECC support for Intel® R680E & Q670E chipsets)
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 20.04.1/Kernel 5.11.0-27-generic x86_64 or above
Power	
Power Requirement	+12V
Power Supply Type	AT/ATX
Connector	ATX 4-Pin connector
Power Consumption	Intel® Core™ i7-12700E, DDR5 16GB x 2, 11.15A @12V, 133.8W (Typical) Intel® Core™ i7-12700E, DDR5 16GB x 2, 18.15A @12V, 217.8W (Max)
Display	
Controller	Intel® UHD Graphics 770 (i5 SKU and above) Intel® UHD Graphics 730 (i3 SKU) Intel® UHD Graphics 710 (Celeron® G6900TE SKU)
LVDS/eDP	LVDS x 1, Dual Channel 24/48-bit, up to 1920 x 1080 eDP 1.4 x 1, up to 1920 x 1080 (optional)
Display Interface	HDMI 2.0 x 1, up to 3840 x 2160 @60Hz DP 1.4 x 2, up to 3840 x 2160 @60Hz
Multiple Display	Up to 4 Simultaneous Displays
Audio	
CODEC	Realtek ALC269
Audio Interface	Line In/Line Out/Mic
Speaker	—
External I/O	
Ethernet	Intel® I225-LM, 2.5GbE RJ-45 x 1 Intel® I219-LM, 1GbE RJ-45 x 1
USB	USB 3.2 Gen 2/Gen 1 x 4 (Gen 2 Support for Intel® R680E & Q670E chipsets) USB Type-C x 1 (USB 3.2 Gen2x2, 20Gbps)
Serial Port	—
Video	HDMI 2.0 x 1, up to 3840 x 2160 @60Hz DP 1.4 x 2, up to 3840 x 2160 @60Hz

Features

- 12th Generation Intel® Core™ Processors (Socket Type)
- DDR5 4800, SODIMM x 2, up to 32GB
- DP 1.4a x 2, HDMI 2.0b x 1, LVDS/eDP (Optional) x 1
- SATA 6Gb/s x 2
- 2.5GbE RJ-45 x 1, GbE RJ-45 x 1
- USB Type-C x 1, USB 3.2 Gen2x2 (20Gbps), USB 3.2 Gen 2 x 4, USB 2.0 x 4
- M.2 3052 B-Key x 1, M.2 2280 M-Key x 1, M.2 2230 E-Key x 1
- PCIe Gen 5 [x8] x 1, FPC x 1 (PCIe [x2])
- COM Port x 4, GPIO x 8
- DC 12V in

Internal I/O	
USB	USB 2.0 x 4
Serial Port	COM 1, COM 3, COM 4 (RS-232/422/485, supports RI only) COM 2 (RS-232/422/485, supports 5V/12V, RI)
Video	LVDS (Default) or eDP x 1 LVDS Inverter 5V/12V @2A
SATA	SATA 6Gb/s x 2 +5V SATA Power Connector x 2
Audio	Realtek ALC269
DIO/GPIO	GPIO 8-bit
SMBus/I2C	SMBus/I2C (Default: SMBus)
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 (Intel® R680E SKU only)
Expansion	
Mini PCI-E/mSATA	—
M.2	M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1, support by SKU) M.2 3052 B-Key x 1 (PCIe 3.0 [x2] + USB 3.0 or PCIe [x2] + USB 2.0 by SKU) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) *Please check HSIO function list for more details
Others	PCIe 5.0 [x8] Slot x 1 (Supply maximum 25W to the PCIe peripheral) Board-to-Board FPC Connector x 1 (PCIe 3.0 [x2] x 1)
ENVIRONMENT & CERTIFICATION	
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
MTBF (Hours)	308,264
EMC	CE/FCC Class A

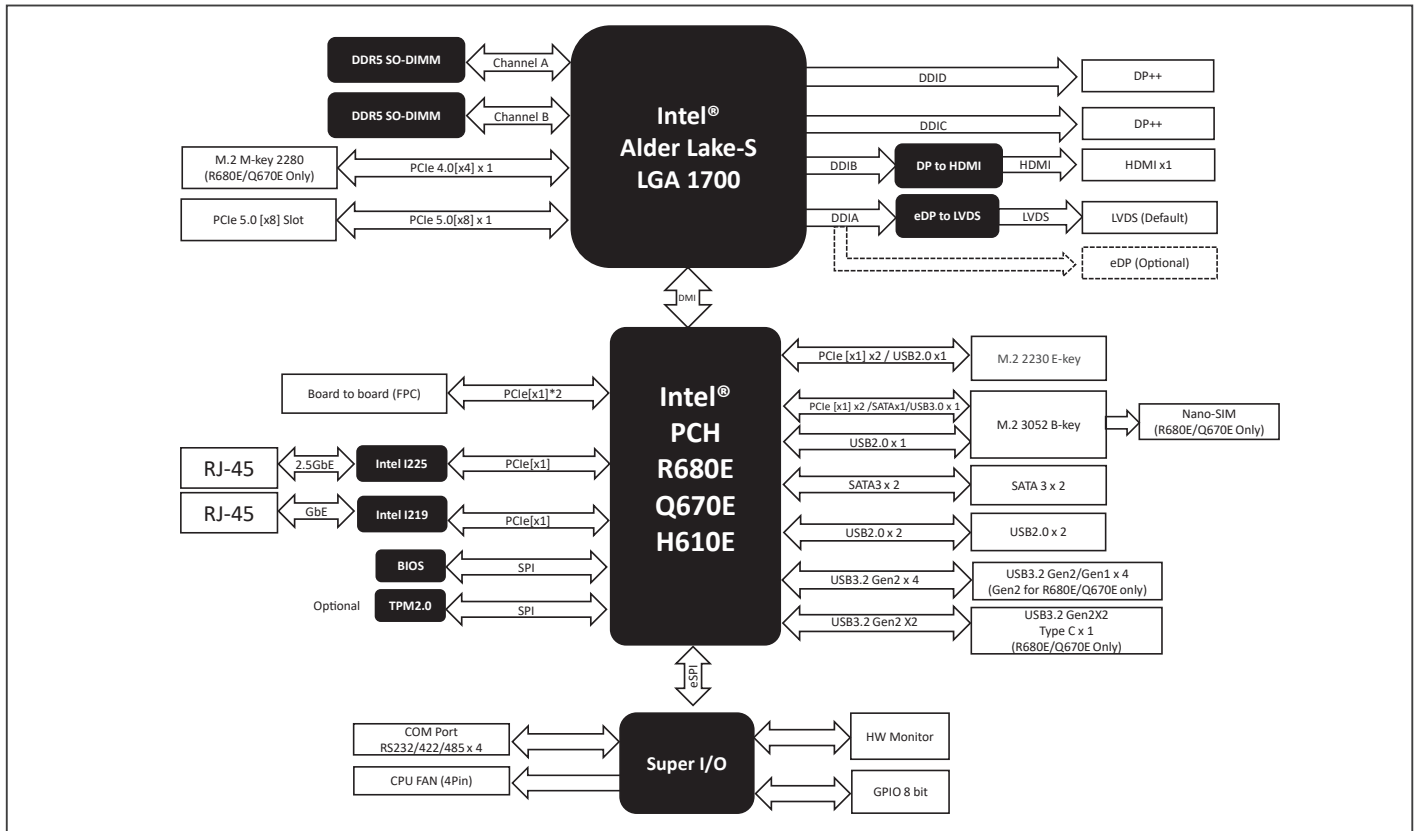
Packing List

- EPIC-ADS7 x 1
- CPU Cooler Back plate x 2
- Screw kit x 1

Optional Accessories

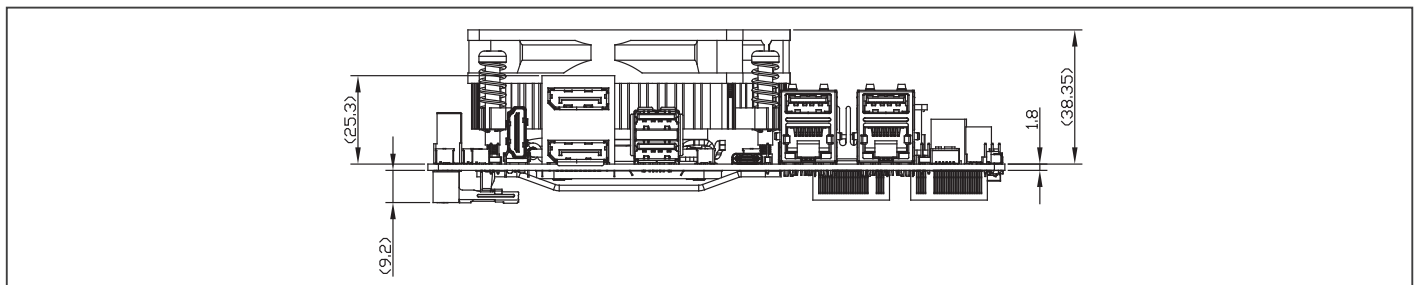
Part Number	Description	QTY
170X000593	SATA Cable 15 cm	1
1702150155	SATA Power Cable , 15cm	1
170X000594	ATX 4pin to DC Jack Power Cable , 28 cm	1
170220020B	External ATX 3 Pin Power Cable , 20 cm	1
170X000346	Dual USB2.0 Cable, 20 cm	1
170X000508	Dual COM Port Cable , 25 cm	1
170X000156	Audio Cable , 25 cm	1
1709100108	Front Panel Cable . 10 cm	1
1255X00063	AC/DC Adapter:150W/12V/12.5A.DC JACK W/Lock , Delta DPS-150AB-15 J	1
EPIC-ADS7-FAN01	CPU Cooler for EPIC-ADS7	1

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Memory	Display	Storage	LAN	USB	COM Port	Expansion	TPM	Power	Operating Temperature	Others
EPIC-ADS7-A11-0002	LGA1700 Socket Type (with Q670E)	DDR5 SODIMM x 2	LVDS x 1, DP x 2, HDMI x 1	SATA 6.0 Gbps x 2	2.5GbE x 1, GbE x 1	USB3.2 Type C x 1 USB3.2 Gen 2 x 4 USB2.0 x 4	RS232/422/485 x 2 RS232 x 2	M.2 3052 B-key x 1 (PCIe[x2]+USB3), M.2 2280 M-key x 1, M.2 2230 E-key x 1	Optional	+12V in (4 Pin ATX Connector)	0°C ~ 60°C	GPIO 8 bits NanoSIM x 1
EPIC-ADS7-A11-0003	LGA1700 Socket Type (with H610E)	DDR5 SODIMM x 2 (Non-ECC)	LVDS x 1, DP x 2, HDMI x 1	SATA 6.0 Gbps x 2	2.5GbE x 1, GbE x 1	USB3.2 Gen 1 x 4 USB2.0 x 4	RS232/422/485 x 2 RS232 x 2	M.2 3052 B-key x 1 (USB2.0 x 2 only), M.2 2230 E-key x 1	Optional	+12V in (4 Pin ATX Connector)	0°C ~ 60°C	GPIO 8 bits

HSIO Function Table Matrix

PCH SKU	DDR	SATAIII	USB3.2 Gen2x2 (Type C)	USB3.2 (Type-A)	M.2 3052 B-key	M.2 2280 M-key	M.2 2230 E-key	Ethernet (RJ45)	TCC
R680E SKU (Optional)	DDR5 SODIMM x 2 (ECC Support)	Yes (2 Ports)	Yes	Yes (4 ports, up to USB3.2 Gen2)	Yes (with Nano SIM) (PCIe[x1]+USB3.0)	Yes	Yes	I225LM x 1 (2.5GbE) I219LM x 1 (GbE)	Yes
Q670E SKU	DDR5 SODIMM x 2 (ECC Support)	Yes (2 Ports)	Yes	Yes (4 ports, up to USB3.2 Gen2)	Yes (with Nano SIM) (PCIe[x1]+USB3.0)	Yes	Yes	I225LM x 1 (2.5GbE) I219LM x 1 (GbE)	No
H610E SKU	DDR5 SODIMM x 2 (Non-ECC Support)	Yes (2 Ports)	No	Yes (4 ports, up to USB3.2 Gen1)	Yes (w/o Nano SIM) (PCIe[x2])	No	Yes	I225LM x 1 (2.5GbE) I219LM x 1 (GbE)	No

Note: All specifications are subject to change without notice.