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Digital Factory and Robot



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Digital Factory



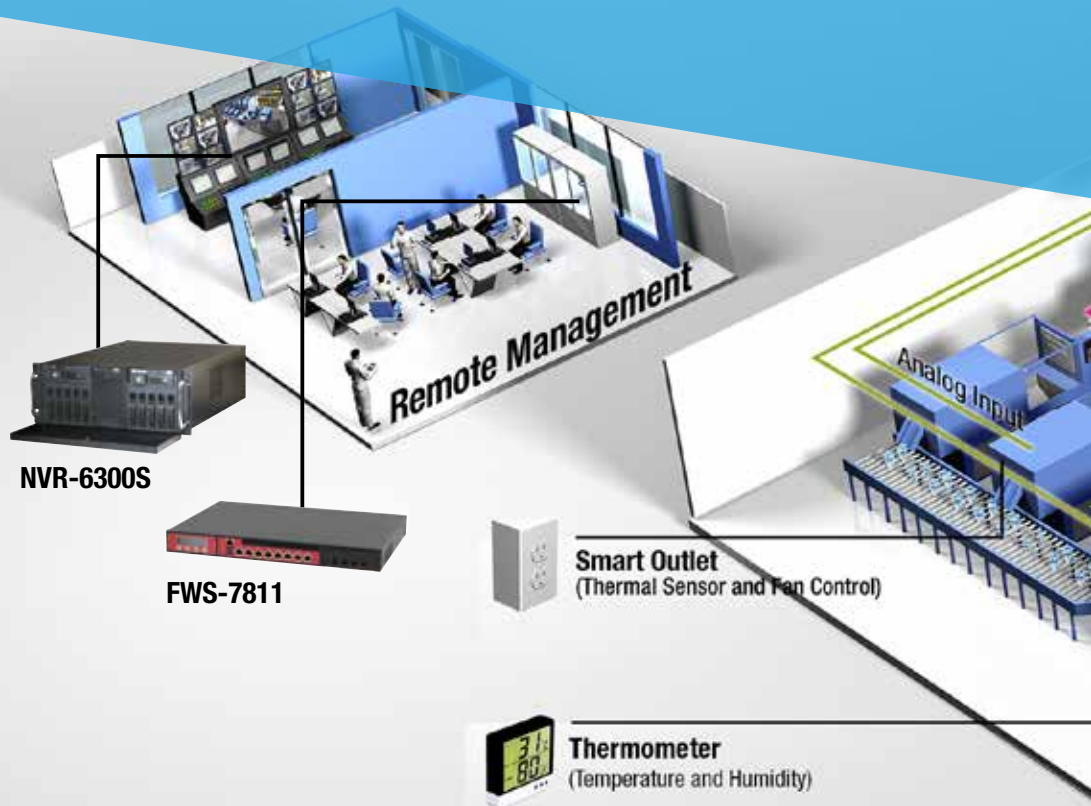
Introduction

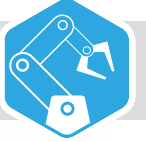
“Environmentally dirty”, “structurally disorganized”, “gruelingly laborious” may be how some people describe a traditional factory that exists before Intelligent Technology matures into the prominent force that is driving today’s technological landscape. Its introduction can not only transform how a factory operates, but also redefines the way it is being perceived.

AAEON’s all-rounded intelligent solutions are set to bring the concept of Industry 4.0, namely machine automation, decentralization, and Internet of Things, to systems and equipment from the factory’s assembly lines and machines, to warehouses and back-end control centers, expediting work processes and enhancing efficiency without sacrificing environmental friendliness and security. Also, the future is assured with AAEON’s longevity support as well as easily upgradeable and interchangeable hardware.

Product List

- NVR-6300S
- FWS-7811
- AIOT-QA







Environment Monitoring



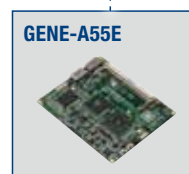
Environment Monitoring

From operational efficiencies to physical ergonomics, temperature, humidity, and security, among others, can make or break any work processes in a mission-critical facility. That is why they are to be closely monitored, instantaneously reported, and systematically stored when abnormalities are detected, processes most reliant on intelligent and cloud-based hardware.

AAEON's AIOT-QA, a low-power consuming, intelligent gateway specifically designed for applications demanding cloud computing, can be deployed for this purpose. Devices such as temperature/ humidity sensors, IP cameras, rugged tablets, door locks, etc. can be set to link up with the gateway to setup an information network with the device's respective data feeds, which can in turn be sent to the back end control centers for processing and cloud servers for storage, facilities in other locations, or instantaneous feedback to local users requesting the information.

Product List

- AIOT-QA
- BOXER-6614
- BOXER-6851
- OMNI-2155
- GENE-A55E





Manufacture Process Control



Manufacture Process Control

Keeping an eye and having a grip on a work process is as important as the process itself, as timely interventions would ensure the smooth running of the process that the entire facility is depended upon. Work processes can also be made faster and more efficient when it is properly maintained.

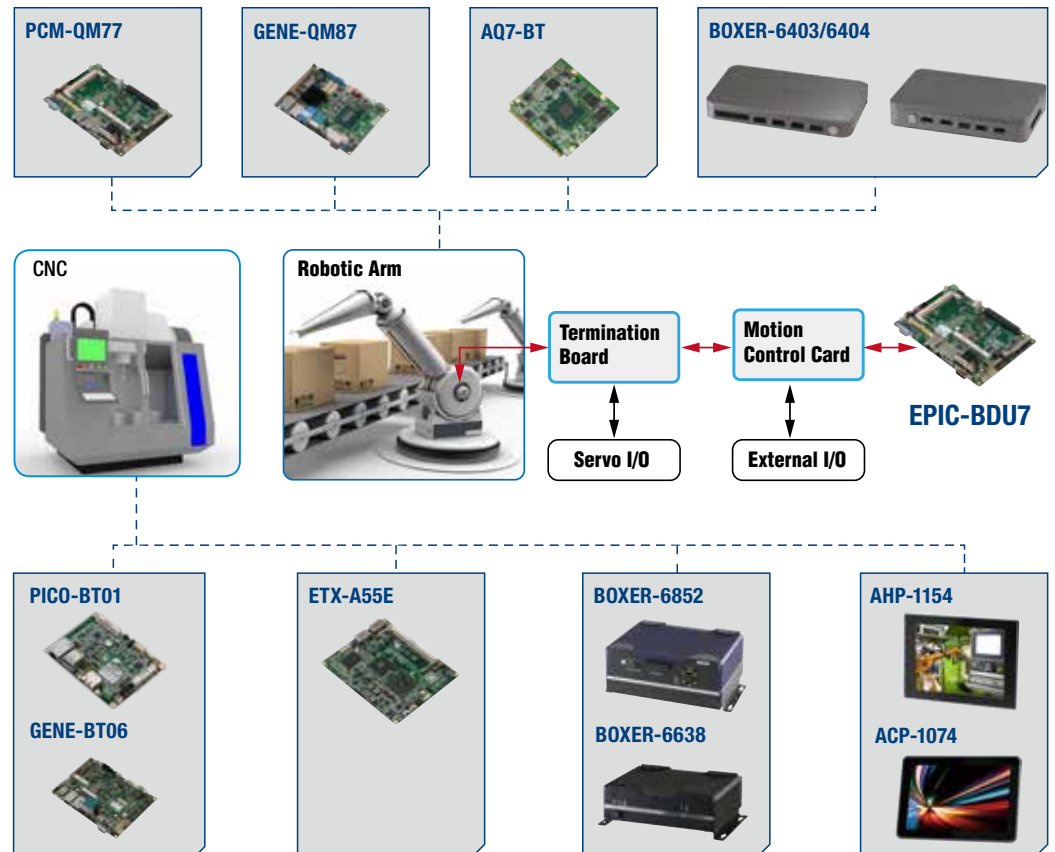
This form of control and maintenance can be achieved in the form of AAEON-powered automated systems, which include robotic arms, embedded box, and panel PCs. The BOXER-6403/6404 embedded box PCs are designed to be a compact powerhouse that provides substantial computing power in a box the size of a 5" phablet, making it the perfect candidate for powering robotic arms. Not only the status of the work process as well as other technical information can be displayed a nearby panel PC, for instance the AHP-1123, this data can also communicate with the facility's information network allowing real-time control and monitoring.

Product List

- PICO-BT01
- GENE-BT06
- ETX-A55E
- BOXER-6638
- BOXER-6852
- AHP-1154
- ACP-1074

Robotic Arm

- AQ7-BT
- GENE-QM87
- PCM-QM77
- BOXER-6403
- BOXER-6404





Warehousing



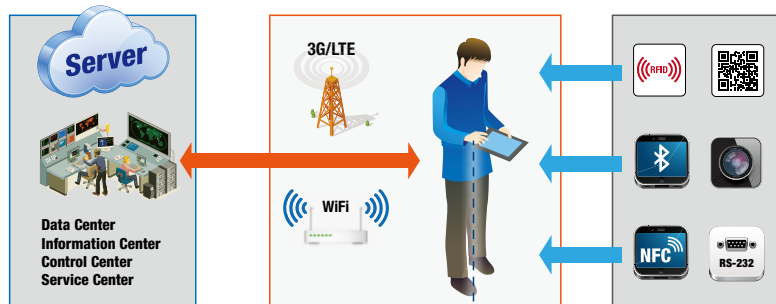
Warehousing

While rugged mobile devices can help facilitate certain warehousing tasks such as stocking taking, management of a warehouse can only be complete with the accompaniment of a versatile array of automated systems and equipment for assistance on tasks that are too “big” for mobile devices to handle.

One such task is the actual storing, arranging, and retrieval of inventory. AAEON's intelligent solutions deployed for this purpose can be in form of computing motherboards such as the EPIC-BDU7, one of the company's first products with Intel®'s 5th Generation Core™ processor. Small enough to be installed in robotic arms and warehouse-based lifts, it offers low power consumption for long hours of operation as well as network connectivity for communications with the facility's network so that information on the equipment's status, and the amount of goods moved, etc. can be known to the operator.

Product List

- EPIC-BDU7
- RTC-700C
- BOXER-6914



Selection Guide



Model	BOXER-6914	BOXER-6851	BOXER-6852	
Applications	Machine Control, Data Processing, Fleet Management, Data Management	Intelligent Transportation, Automation, In-Vehicle Multimedia System	Automation, Digital Signage	
CPU	Intel® Atom™ D2550 (1M Cache, 1.86 GHz)	Intel® Atom™ E3845 Quad Core 1.91 GHz Processor	Intel® Core™ i5-4402E (2.7 GHz)	
Chipset	Intel® NM10	Intel® SoC	Intel® QM87 PCH	
System Memory	DDR3 800/1066 SODIMM x 2, up to 4 GB	DDR3L 1333 SODIMM x 1, up to 8GB	204-pin DDR3L 1066/1333 SODIMM x 1, up to 8 GB	
Display Interface	VGA	DB-15 x 1 for VGA	DB-15 for VGA x 1	
	DVI	DVI-D x 1	DVI-D x 1	
	HDMI	—	HDMI x 1	
	Others	—	—	
Storage Devices	CF/ CFast™	CFast™ slot x 1 (w/ Cover protection)	CFast™ slot x 1	
	HDD/SSD	2.5" HDD Drive Bay x 1	2.5" SATA HDD/SSD Bay x 1	2.5" SATA HDD Drive bay x 1
Network Device	LAN	Gigabit Ethernet	Gigabit Ethernet	
	Wireless	Optional by MiniCard wireless module	Optional by MiniCard wireless module	Optional by MiniCard wireless module
Front I/O	USB Host	USB Type A x 2 for USB 2.0	USB 2.0 x 2	USB type A for USB 2.0 x 2
	LAN	—	—	—
	Serial Port	—	DB9 x 2 for COM 5/6 (RS-232)	DB-9 for RS-232 x 2
	DIO	—	—	—
	Audio	—	—	—
	KB/MS	—	—	—
	Others	Power on/off x 1, CFast™ slot x 1, SIM slot x 1, Line-out x 1, 2-pin terminal block x 1 for remote power	CFast™ slot x 1 (with Sim Card Socket), Power on/off x 1 LED x 6 for System/HDD/LAN1 TX/LAN1 RX/LAN2 TX/LAN 2 RX	Power Switch x 1, CFast™ x 1, SMA Antenna holes x 2, SIM Socket
	USB Host	USB Type A x 2 for USB 2.0, USB Type A x 2 for USB 3.0	USB 2.0 x 3, USB 3.0 x 1	USB type A for USB 3.0 x 2, USB type A for USB 2.0 x 2
	LAN	RJ-45 x 2 for Gigabit Ethernet (Intel®)	Intel® Gigabit Ethernet, RJ-45 x 2	RJ-45 x 2
Rear I/O	Serial Port	DB-9 x 2 for RS-232/422/485, DB-9 x 12 for RS-232, DB-9 x 2 for RS-232 (optional extra 2)	DB9 x 4 for COM 1: RS-232 (Ring / +5V / +12V), (Jumper select), COM 2 RS-232(Ring / +5V / +12V), (Jumper select), COM 3, 4 RS-232/ RS-422/ RS-485 with auto Flow & Isolation 2500Vdc (232/422/485 by Jumper select)	DB-9 for RS-232 x 2, DB-9 for RS-232/422/485 x 2
	DIO	—	—	—
	Audio	—	Line-in x 1/Line-out x 1	—
	KB/MS	—	—	—
	Others	Power input x 1, Antenna hole x 2, DB-15 x 1 for VGA, DVI-I x 1	VGA x 1, DVI-D x 1	3-pin terminal block x 1, DB-15 for VGA x 1, DVI-D x 1, HDMI x1
	PCI-E [x1]	—	PCIe x 1	2
Expansion	PCI	—	PCI x 1	—
	MiniCard	Full-size Mini-PCIe x 2	Full size x 1, Half size x 1	2 (USB & PCIe interface)
	Mini PCI	—	—	—
	Others	SIM Card Socket x 1	SIM Card Socket x 1	—
Indicator	Front	HDD LED x 1, System LED x 1	LED x 6 for System/HDD/LAN1 TX/LAN1 RX/LAN2 TX/LAN 2 RX	System LED x 1, HDD LED x 1, LAN1 Tx LED x 1, LAN1 Rx LED x 1, LAN2 Tx LED x 1, LAN2 Rx LED x 1
	Rear	—	—	—
Power Requirement	DC-in 3-pin terminal block (9~30V) or DC-in 12V with Lockable DC Jack	DC 9 ~ 30V with 3-pin terminal block	DC 9~30V with 3-pin terminal block, AT or ATX	
Power Consumption	N2930 0.75A@12V (9W), without USB Loading	—	—	
System Cooling	Passive	Passive	Passive	
Mounting	Wallmount/VESA/DIN Rail	—	Wallmount	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) W/T CFast™ (with AirFlow) -4°F ~ 140°F (-20°C ~ 60°C) W/T HDD (with AirFlow) with industrial grade device (according to IEC68-2-14)	Ambient with AirFlow: -4°F ~ 140°F (-20°C ~ 60°C) Fan Speed 0.5 m/sec with industrial grade device (According to IEC68-2-14)	32°F ~ 122°F (-20°C ~ 55°C) - w/o airflow (HDD/CFD) 32°F ~ 131°F (-20°C ~ 60°C) - w/ 0.5 m/sec airflow (HDD/CFD)	
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)	-4°F ~ 158°F (-20°C ~ 70°C) With industrial grade device (According to IEC68-2-1, IEC68-2-2, IEC68-2-3)	-13°F ~ 176°F (-20°C ~ 70°C) w/ industrial grade device (According to IEC68-2-1, IEC68-2-2, IEC68-2-3)	
Anti-Vibration	5Grms/ 5 ~ 500Hz/ Operation - CFast™, 1Grms/ 5 ~ 500Hz/ Operation - HDD	5Grms/ 5 ~ 500Hz/ Operation - CFast™, 1Grms/ 5 ~ 500Hz/ Operation - HDD	5Grms/ 5 ~ 500Hz/ Operation - CFast™, 1Grms/ 5 ~ 500Hz/ Operation - HDD	
Anti-Shock	50G Peak Acceleration (11ms duration) - CFast™ 20G Peak Acceleration (11ms duration) - HDD	50G Peak Acceleration (11ms duration) - CFast™ 20G Peak Acceleration (11ms duration) - HDD	50G Peak Acceleration (11ms duration) - CFast™ 20G Peak Acceleration (11ms duration) - HDD	
MTBF	64,000	—	—	
Certification	EMC	CE/FCC class A	CE/FCC Class A	CE /FCC class A
	Safety	—	—	—
	Others	—	—	—
Dimension (W x H x D)	8.35" x 2.53" x 4.21" (212.15mm x 64.2mm x 107mm)	—	—	
Gross Weight	6.6 lb (2.8 Kg)	—	—	
Net Weight	4.4 lb (2 Kg)	—	—	
Note	Windows® 8.1 (32/64-bit), Windows® 7 (32/64-bit), WES7/WES8, Linux Ubuntu 14.04/ Kernel 3.13.0	Windows® 7, Windows® 8.1, WES7, WES8, Linux Ubuntu 12.04 / Kernel 3.2.0	Windows® 8 32/64-bits, Windows® 7 32/64-bits, Windows® Embedded Standard 7 32/64-bits, Windows® Embedded Standard 8 32/64-bits and Linux Fedora kernel 2.6.3 up	



Selection Guide



Model	AEC-6638	BOXER-6614	BOXER-6404	BOXER-6403	
Applications	Machine Control, Data Processing, Fleet Management, Data Management	Machine Control, Data Processing, Fleet Management, Data Management	Automation, Digital Signage	Automation, Digital Signage, Infotainment	
CPU	Intel® 4th Gen. Core™ i5-4400E 2.7 GHz Processor (37W) Intel® 4th Gen. Core™ i3-4100E 2.4 GHz Processor (37W)	Intel® Celeron® Quad Core 1.83 GHz Chipset Processor N2930	Intel® Celeron® N2807	Intel® Celeron® N2807 (2.16 GHz), Intel® Celeron® N2930 (2.16 GHz) Intel® Celeron® J1900 (2.42 GHz), Intel® Atom™ E3825 (1.33 GHz)	
Chipset	Intel® QM87	Intel® SoC	—	—	
System Memory	DDR3L 1333/1600 SODIMM x 1, up to 8 GB	DDR3L 1333 SODIMM x 1, up to 8 GB	DDR3L-1333 SODIMM x 1, up to 4 GB (Default 2GB)	DDR3L1333 SODIMM x 1, up to 4 GB/8 GB (4 GB for N2807/E3825, 8 GB for J1900/N2930)	
Display Interface	VGA	DB-15 x 1 for VGA	—	—	
	DVI	DVI-D x 1	—	—	
	HDMI	HDMI x 1	HDMI x 1	HDMI 1.4a x 2 (Only HDMI1 supports Audio)	HDMI x 1
	Others	—	—	CFast™ Slot x 1	mSATA
Storage Devices	CF/ CFast™	CFast™ x 1 or mSATA x 1 (By Jumper Setting)	CFast™ slot x 1 (w/Cover protection)	—	
	HDD/SSD	2.5" SATA 3 HDD drive bay x 1	2.5" HDD Bay x 1	—	
Network Device	LAN	Gigabit Ethernet	Intel® Gigabit Ethernet x 2	Gigabit Ethernet (Intel®)	
	Wireless	—	Optional by MiniCard wireless module	Optional by MiniCard wireless module	
Front I/O	USB Host	USB Type A x 2 for USB 3.0	USB Type A x 2 for USB 2.0	—	
	LAN	—	—	—	
	Serial Port	—	—	—	—
	DIO	—	—	—	Digital Input x 4, Digital Output x 2
	Audio	Line-out x 1	Line-out x 1	—	—
	KB/MS	—	—	—	—
	Others	Antenna Hole x 2, Power Switch x 1	Power on/off x 1, CFast™ slot x 1, Antenna hole x 2	—	Power On/Off button x 1
Rear I/O	USB Host	USB Type A x 2 for USB 3.0	USB Type A x 1 for USB 3.0, USB Type A x 1 for USB 2.0	—	
	LAN	RJ-45 x 2	RJ-45 x 2 for Gigabit Ethernet	RJ-45 x 4	
	Serial Port	DB-9 x 1 for RS-232/422/485 (Ring/ +5V/ +12V), RS-485 with auto flow DB-9 x 2 for RS-232 x 2	DB-9 x 2 for RS-232, DB-9 x 2 for RS-232/422/485 with autofflow	DB-9 x 1 for RS-232	RJ-45 x 2 for RS-232/422/485
	DIO	—	—	—	—
	Audio	—	—	—	—
	KB/MS	—	—	12V DC-IN	—
	Others	3-pin terminal block x 1 for Power Input	Power input x 1, DB-15 x 1 for VGA	SMA Antenna hole x 1	DC-jack w/lock for power input, HDMI x 1
Expansion	PCI-E [x1]	—	—	—	
	PCI	—	—	—	
	MiniCard	Mini-Card/ mSATA x 1 (either MiniCard or mSATA)	Full-size Mini-PCIe x 1, Half-size Mini-PCIe x 1 (Only for Factory-install)	—	—
	Mini PCI	—	—	MiniCard x 1 (USB Interface)	Full-size MiniCard x 1 (60M optional mSATA), Half-size MiniCard x 1 (mSATA)
	Others	—	SIM Card Socket x 1	—	SIM Card Socket x 1
Indicator	Front	Power LED x 1, HDD LED x 1	HDD LED x 1, System LED x 1	—	
	Rear	—	—	System LED x 1 on power button	
Power Requirement	DC 9 ~ 30V with 3-pin terminal block	DC-in 3-pin terminal block (9~30V) or DC-in 12V with Lockable DC Jack	DC 12V input with lockable DC Jack	DC-in 12V with DC jack lockable	
Power Consumption	Core i5-4400E 1.8A@19V (34.2W) without USB Loading	N2930 0.75A@12V (9W), without USB Loading	—	—	
System Cooling	Passive	Passive	Passive	Passive	
Mounting	Wallmount	Wallmount/VESA/DIN Rail	VESA/ Din-Rail with mounting kits (optional)	Wallmount/VESA/DIN Rail	
Operating Temperature	Intel® Core™ i5/i3 37W BGA CPU: (1) 5°F ~ 122°F (-15°C ~ 50°C) W/T CFast™ (with AirFlow) (2) 5°F ~ 131°F (-15°C ~ 55°C) W/T HDD (with AirFlow) with industrial grade device (according to IEC68-2-14)	-4°F ~ 131°F (-20°C ~ 55°C) W/T CFast™ (with AirFlow) -4°F ~ 140°F (-20°C ~ 60°C) W/T HDD (with AirFlow) with industrial grade device (according to IEC68-2-14)	32°F ~ 122°F (0°C ~ 50°C) w/o airflow 32°F ~ 141°F (0°C ~ 55°C) w/ 0.5 m/s airflow	-4°F ~ 104°F (-20°C ~ 40°C), with wide-temp mSATA & RAM, w/o airflow -4°F ~ 131°F (-20°C ~ 55°C), with wide-temp mSATA & RAM, ambient w/ airflow	
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)	-4°F ~ 158°F (-20°C ~ 70°C)	-22°F ~ 176°F (-30°C ~ 80°C)	-22°F ~ 158°F (-30°C ~ 70°C)	
Anti-Vibration	5Grms/ 5 ~ 500Hz/ Operation - CFast™ 16Grms/ 5 ~ 500Hz/ Operation - HDD	5Grms/ 5 ~ 500Hz/ Operation - CFast™ 16Grms/ 5 ~ 500Hz/ Operation - HDD	5Grms/ 5 ~ 500Hz/ Operation - CFast™	3 g rms/ 5 ~ 500Hz/ operation - mSATA	
Anti-Shock	50 G peak acceleration (11 msec. duration) - CFast™ 20 G peak acceleration (11 msec. duration) - HDD	50 G peak acceleration (11 msec. duration) - CFast™ 20 G peak acceleration (11 msec. duration) - HDD	50G Peak Acceleration (11ms duration) - CFast™	20 G peak acceleration (11 msec. duration) -mSATA	
MTBF	78,000	64,000	—	—	
Certification Safety	EMC	CE /FCC Class A	CE /FCC class A	CE /FCC class A	
	Others	—	—	—	
	Others	—	—	—	
Dimension (W x H x D)	8.35" x 6.14" x 2.53" (212.2mm x 156mm x 64.3mm)	8.35" x 2.53" x 4.21" (212.15mm x 64.2mm x 107mm)	6.36" x 4.2" x 1.18" (166mm x 106.6 mm x 30 mm)	—	
Gross Weight	7.94 lb (3.6 kg)	6.6 lb (2.8 Kg)	—	—	
Net Weight	6.0 lb (2.7kg)	4.4 lb (2 Kg)	4.4 lb (2 Kg)	—	
Note	Windows® 8.1 (32/64-bit), Windows® 7 (32/64-bit), WES7/ WES8, Linux Ubuntu 14.04/ Kernel 3.13.0	Windows® 8.1 (32/64-bit), Windows® 7 (32/64-bit), WES7/ WES8, Linux Ubuntu 14.04/ Kernel 3.13.0	Windows® 8 32/64-bit, Windows® 7 32/64-bit, Windows® Embedded Standard 7 32/64-bit, Windows® Embedded Standard 8 32/64-bit and Linux Fedora kernel 2.6.3 up	Windows® 7, Windows® 8/8.1, Linux Fedora	

Selection Guide



Model	OMNI-2155	AHP-1154	ACP-1074	
Application	HMI, Automation, Infotainment	System Monitor Factory Automation Data Processing	Factory Automation, Infotainment, HMI	
Display	Size/ Type	15.6" TFT LCD	7" TFT LCD	
	Max. Resolution	1366 x 768	1024 x 768	
	Max. Colors	16.7 M	16.7M	
	Luminance (cd/m²) (TYP)	300	450	
	Viewing Angle	170 (H), 160 (V)	160°(H)/140°(V)	150°(H)/145°(V)
	Back Light MTBF (Hours)	50,000	100,000	20,000
CPU	Intel® Celeron® J1900	Intel® Celeron® J1900/ N2807	Intel® Celeron® J1900 and N2807	
Memory	204-pin DDR3L 1333 SODIMM x 1, up to 8 GB (2 GB Pre-installed)	204-pin DDR3L 1333 SODIMM x 1, up to 8 GB, (2 GB Pre-installed)	240-pin DDR3L 1333MHz SODIMM x 1, Max. 8GB (J1900) 204-pin DDR3L 1333MHz SODIMM x 1, Max. 4GB (N2807)	
LCD/CRT Controller	Intel® Integrated Graphics	Intel® Integrated Graphics	Intel® Integrated Graphics	
Storage Disk Drive	CFast™ slot x 1 2.5" SATA HDD bay x 1	CFast™ slot x 1 2.5" Hard Disk Drive bay x 1	Half-size mSATA x 1 (Suggest AAEON Factory Installed)	
I/O Port	Network (LAN)	10/100/1000Base-TX, RJ-45 x 2	10/100/1000Base-TX, RJ-45 x 2	
	Serial Port	DB9 x 1 for RS-232/422/485	RS-485/422/232 x 2, RS-232 x 2	RS-232/422/485 x 2 (BIOS selection) (RJ-48 connector)
	Parallel Port	—	—	—
	Keyboard/ Mouse	—	—	—
	USB Connector	—	USB 3.0 x 1, USB 2.0 x 3	USB 3.0 x 1, USB 2.0 x 3
Audio	—	—	HDMI x 1	
	—	—	DIO x 6 (DI x 4, DO x 2)	
Others	DB15 for VGA x 1, 9~30V wide range DC-in x 1	3-pin terminal block x 1 for 9~30 V DC power input Power button x 1, DB-15 x 1 for VGA	DC input x 1, Power button x 1	
Top I/O	USB Connector	USB 2.0 x 3, USB 3.0 x 1	—	
	Others	HDMI x 1, CFast™ slot x 1, SMA Antenna hole x 2	—	
Touch Screen	Projected capacitive	5-wire resistive	Projected Capacitive	
Expansion Slot	Full-size MiniCard x 2, SIM x slot x 2 PCI-E[x4] connector (AAEON pin define), SD Card x 1	MiniCard x 2 (Full-size x 1, Half-size x 1)	MiniCard (Full Size) x 1	
Power Supply	Wide Range 10~30V DC input	9~30 VDC input, with AC Power Adapter	Lockable power adapter with DC12V	
Operating Temperature	-4°F ~ 122°F (-20°C ~ 50°C) w/ 0.5 m/s airflow	-4°F ~ 122°F (-20°C ~ 55°C) (CF & HDD) w/o airflow -4°F ~ 140°F (-20°C ~ 60°C) (CF & HDD) w/ 0.5 m/s airflow	14°F ~ 113°F (-10°C ~ 45°C) w/ 0.5 m/s airflow	
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)	-4°F ~ 158°F (-20°C ~ 70°C)	14°F ~ 140°F (-10°C ~ 60°C)	
Front Panel Protection	IP65	IP65 Aluminum Front Bezel	IP65	
Certification	CE/FCC class A	CE/FCC Class A	CE/FCC Class A	
Dimension (W x H x D)	16.54" x 10.39" x 2.36" (420mm x 264 mm x 60 mm)	—	7.96" x 5.28" x 1.46" (202.19mm x 134.18 mm x 37.2mm)	
Gross Weight	—	—	5.5 lb (2.5 kg)	
Net Weight	6.6 lb (3 kg)	—	—	
Mounting	VESA/ Panel Mount	Panel/ Desktop/ VESA100 / VESA 75	VESA 75	
Note	—	—	—	



Selection Guide



Model		NVR-6300S	Model		FWS-7811
Application		Networking Video Recorder Surveillance Management	Application		Unified Threat Management (UTM) Virtual Private Network (VPN) Content Management (CM) Load Balancing Intrusion Detection System (IDS) Intrusion Prevention System (IPS) Firewall
Form Factor		4U Rackmount	Form Factor		1U 8 LAN Rackmount
Processor		Intel® 4th Gen. Core™ i3/i5/i7 Processor	Processor		LGA1150 for Intel® 4th Gen Core™/ Xeon
Chipset		Intel® Q87	Chipset		Intel® C226
System Memory		240-pin DDR3 1333 DIMM, up to 32 GB	System Memory		240-pin ECC/non-ECC DDR3/3L 1333/1600 x 4, up to 32 GB
Ethernet		Gigabit Ethernet	Ethernet		Intel® I211AT Gigabit Ethernet
Drive Bay		3.5" SATA HDD tray x 12 + 2.5" hot-swappable SATA HDD tray x 1	Bypass		Up to 6 pairs bypass with NIM
Display		HDMI x 1, DP x 1, VGA x 1	Drive Bay		Onboard SATA 3 x 2 (optional extra 3 SATA ports)
Front I/O Panel		Power on/off x 1 Reset Button x 1 Power LED x 1 HDD Active LED x 11 USB 3.0 x 2 USB 2.0 x 1 Slim optical disk drive x 1	Cooling Fan		2
Rear I/O Panel		USB 3.0 x 2 USB 2.0 x 2 RJ-45 Ports x 2 (PoE) HDMI x 1, DP x 1, VGA x 1 Audio Jack x 1 PS/2 keyboard/Mouse x 1	Front I/O Panel		Power LED x 1 Status LED x 1 HDD Active LED x 1 LAN LED x 16 USB 3.0 x 2 LAN x 8 RJ-45 Console x 1 LCM Display x 1 Reset Button x 1 NIM Slot x 1 Bypass LED (Optional up to 2)
Operating Temperature		32°F ~ 104°F (0°C ~ 40°C)	Rear I/O Panel		PCI-E [x8] slot x 1 for NIM PCI-E [x8] slot x 2 for add-on card (optional) Redundant Power Alarm Reset Button x 1
Storage Temperature		-4°F ~ 140°F (-20°C ~ 60°C)	Color		Black
Storage Humidity		10%~80% @40°C; non-condensing	Power Requirement		Redundant 275W
Anti-Vibration		0.5Grms/ 5~500 Hz/ Operation (2.5" Hard Disk Drive) 1.5Grms/ 5~500 Hz/ No Operation	Storage Humidity		10~80%@40°C, non-condensing
Anti-Shock		10G Peak Acceleration (11ms duration), Operation 20G Peak Acceleration (11mc duration), No Operation	Anti-Vibration		0.5Grms/5 ~500 Hz/Operation
Certification		CE/FCC Class A	Anti-Shock		10G Peak Acceleration (11ms duration)
Dimension		19.02" x 25" x 7.01" (483mm x 635mm x 178mm)	Certification		CE/FCC
Gross Weight		33 lb (15 Kg)	Dimension (W x H x D)		16.9" x 1.7" x 18.7" (430mm x 44mm x 475mm)
Swappable HDD Tray		3.5" x 12, 2.5" x 1	Gross Weight		—
Internal System Bay		3.5" x 1 or 2.5" x 1	LAN Module		PER-C35L, 10 G Fiber x 2 PER-C36L, 1 G Fiber x 4 PER-C37L, 1 G Copper x 8 w/2 pairs bypass PER-C38L, 1 G Copper x 8 w/4 pairs bypass
Note		—	Swappable HDD Tray		—
			Note		—

Selection Guide



Model		AIOT-QA	
Applications		Gateway: Automation	
SBC		AIOT-X1000	
CPU		Intel® Quark® series Processor SoC	
Chipset		Intel® Quark® series Processor SoC	
System Memory		Onboard DDR3 800, ECC, un-buffered 1 GB memory	
Display Interface	VGA	—	
	DVI	—	
	HDMI	—	
	Others	—	
Storage Devices Device	CF/CFast™	—	
	2.5 HDD/SSD	Micro SD Slot x 1	
Network	LAN	10/100 Base-TX x 2	
	Wireless	Optional by MiniCard wireless module	
I/O port	USB Client	USB Client x 1	
	Power	DC-in 9~24V	
	DIO	16-bit Digital I/O interface	
	ADC	Support 8-pins with 12-bit resolution, Analog input range: 0 V to 2.5 V (0 - 20mA)	
	USB Host	USB Type A x 2 for USB 2.0	
	LAN	10/100 Base-TX x 2	
	Serial Port	DB-9 x 1 for RS-232 /422/485 Optional x 1	
	Antenna	Antenna hole x 4	
	Expansion	PCI-E [x1]	—
		PCI	—
Mini-Card		Full-size Mini-PCIe x 1 Half-size Mini-PCIe x 1	
Mini-PCI		—	
Others		—	
Indicator	System LED	1	
	SD Storage LED	1	
Power Requirement		DC-in 9~24V	
Power Consumption		—	
System Cooling		Passive	
Mounting		Din-Rail Mount	
Operating Temperature		-4°F ~ 158°F (-20°C ~ 70°C)	
Storage Temperature		-40°F ~ 158°F (-40°C ~ 70°C)	
Anti-Vibration		—	
Anti-Shock		—	
MTBF (Hours)		—	
Certification	EMC	CE/FCC class A	
	Safety	—	
	Others	—	
Dimension (W x H x D)		6.61" x 1.77" x 4.53" (168mm x 45mm x 115mm)	
Gross Weight		—	
Net Weight		—	
Note		Yocto Linux selected SoC SKU for Wind River Linux	

Model		RTC-700C
Application		Warehouse Management, Transportation, Law Enforcement, Factory Automation, Utility, Defense & Government, Construction, ePOS (portable)
CPU		Intel® Atom™ Z2760 1.8 GHz Dual Core CPU
Display	Size/ Type	7" TFT-LCD/ 16:10
	Max. Resolution	1280 x 800
	Max. Colors	262K
	Dot Size (mm)	0.117(W) x 0.117(H)
	Luminance (nits) (Typ.)	350 (After touch; default) 680 (After touch, sunlight readable; optional)
Viewing Angle		Horizontal: 178° (Typ.)/ Vertical: 178° (Typ.)
Display Touch	Touch Type	Projected capacitive, multi-touch screen; Gorilla glass
	Light Transmission	≥ 87%
AOT		—
G-sensor (Screen Rotation)		G-sensor, E-Compass, Gyro-sensor, ALS sensor, MEMS sensor, Vibration sensor, Magnetometer
Memory		2 GB LPDDR 2
Graphics Controller		—
Storage Disk Drive		64 GB eMMC 4.4.1 (Default), Extra 32 GB miniDOM (optional)
OS		Windows® Embedded 8.1 Industry Pro (optional) Windows® Embedded 8.1 Industry Pro Retail (optional)
I/O Port	Network (LAN)	—
	Wireless	WiFi (802.11 a/b/g/n) + Bluetooth v4.0 (Default), 13.56MHz NFC/RFID (Default), 3G (Optional)
	Serial Port	—
	Keyboard/Mouse	—
	USB	Mini USB x 1
	Video	Mini HDMI x 1
Audio		3.5-mm stereo headphone jack x 1
Speaker/ MIC		Yes
Expansion Slot		MicroSD x 1 (Support SDHC), SIM x 1
GPS		GPS, Glonass
Camera		Front: 2MP, 720p Rear: 8MP, 1080p HD, auto-focus with flash
Scanner		2D Scanner, support 1D
Power	Power Supply	DC jack x 1, +12V DC input
	Battery Capacity	27Whr
	Battery Life	8 Hours
Docking Connector		—
Operating Temperature		-9.4°F~131°F (-23°C ~ 55°C)
Operating Humidity		5 - 90 % @ 50°C, non-condensing
Front Panel Protection		IP65
Drop	MIL-STD-810G Method 516.6 Procedure IV	Yes
	MIL-STD-810G Method 514.6 Procedure I, Cat. 24, Fig. 514.6E-1 & E-2	Yes
	ASTM 4169-99 Truck Assurance Level II, Schedule E	Yes
Certification	EMC	CE/FCC-Class B/ UL/ LVD
	Safety	UL60950-1/ EN60950-1
Dimension (W x H x D)		5.38" x 8.58" x 0.83" (136.6mm x 218mm x 21mm)
Gross Weight		1.2 lb (0.57Kg)
Color		Black
Standard Accessory		AC adapter, Power cable, User manual
Optional Accessory		USB OTG cable, HDMI converted cable, Vehicle DC/DC adaptor, Vehicle dock (non-chargeable), Carry bag w/ shoulder belt, Stand
Note		



Selection Guide



Model	PCM-QM77	EPIC-BDU7	GENE-QM87	GENE-A55E
Application	Gaming & Entertainment, Medical Equipment, Security & Defense	Industrial Control Box, Industrial Automation Transportation, Test & Measurement, Security & Defense	Gaming & Entertainment, Industrial Automation, Digital Signage	Portable POS, Building/ Factory Automation, Compact Information System, Panel PC, Gaming Machine, Transportation, Medical Machine & KIOSK
Form Factor	5.25" Compact Board	EPIC	3.5" SubCompact Board	3.5" SubCompact Board
CPU	Intel® Core™ i3/i5/i7/Celeron® (Socket G2-based)	Intel® 5th Gen. Core™ i3/i5/i7 ULT Processor SoC	Onboard 4th Gen. Intel® Core™ i5-4402E Processor	AMD G-Series T16R
CPU Frequency	Up to 2.5 GHz	Up to 1.7 GHz	Up to 2.7 GHz	615 MHz
Chipset	Intel® QM77/HM76	Intel® 5th Gen. Core™ i3/i5/i7 ULT Processor SoC	Intel® PCH QM87	AMD A55E
Memory Type	DDR3/L 1333/1600, SODIMM x 2	DDR3L 1333/1600, SODIMM x 1	DDR3L 1333/1600, SODIMM x 1	204-pin DDR3L 1066MHz SODIMM x 1
Max. Memory Capacity	16 GB	Up to 8 GB	8 GB	4 GB
BIOS	UEFI	UEFI	SPI type	SPI type
Wake On LAN	Yes	Yes	Yes	Yes
Watchdog Timer	255 Levels	255 Levels	255 Levels	255 Levels
Ethernet	Intel® 82579LM Gigabit PHY x 1 & Intel® 82583V	10/100/1000Base-TX x 2	Intel® I211, Intel® I217, 10/100/1000Base-TX x 2	Realtek RTL-8111E, 10/100/1000Base-TX x 2
VGA/ LCD Controller	Intel® Core™ i3/i5/i7 integrated	Intel® 5th Gen. Core™ i3/i5/i7 ULT Processor SoC	4th Gen. Intel® Core™ i5 integrated	AMD Radeon HD 6250
Video Output	CRT, DVI and LVDS 18/24-bit	3 independent displays, CRT or DP + LVDS 1 or DP + LVDS 2 or eDP	CRT+LVDS, CRT+HDMI, LVDS+DVI, LVDS+HDMI, DVI+HDMI, CRT+DVI LVDS+LVDS	CRT, 18/24 bit dual LVDS, TTL LCD
Audio	Realtek ALC892, 2.1CH	High Definition Audio Interface	High Definition Audio Interface + 2W AMP	Line-in, Line-out, Mic-in
USB Port	USB 2.0 x 4, USB 3.0 x 4	USB 2.0 x 4, USB 3.0 x 2	USB 2.0 x 6, USB 3.0 x 2	USB 2.0 x 4
Serial Port	RS-232 x 8, RS-232/422/485 x 2	RS-232 x 4, RS-232/422/485 x 2 (COM2,3)	RS-232 x 3, RS-232/422/485 x 1	RS-232 x 2, RS-232/422/485 x 2
Parallel Port	SPP/EPP/ECP x 1	SPP/EPP/ECP x 1	—	—
HDD Interface	SATA 2 x 2	SATA 2 x 2	SATA 3 x 2	SATA 2 x 1
FDD Interface	—	—	—	—
SSD	CFast™, mSATA	mSATA/ MiniCard x 1	CFast™, mSATA (shared with MiniCard by BOM)	CompactFlash™
Expansion Slot	PCI-Express [x16], MiniCard or mSATA, PCI, Mini-PCI, Digital I/O (8 in/8 out) Touch panel support (Optional) iAMT 8.0 support, TPM module support (Optional)	MiniCard x 1, SIM x 1, Touch Panel feature x 1 (Optional), 16-bit DIO 8 in/8 out (co-lay with LPT), TPM (Optional), PCI-104 (optional & share PCIe)	MiniCard x 1	MiniCard x 1, PC/104
Power Requirement	ATX/DC12V	DC12V or 9-24V	+12V	+5V
Power Consumption (Typical)	Intel® Core™ i7-3610QE, 2.3 GHz 1600 8G, 3.29A@+12.24V, 2.98A@+4.95V	—	Intel® Core™ i5-4400E(2.70 GHz), DDR3L 1600 8 GB, 2.81A@+12V	AMD T16R, with DDR3L 1066 4 GB, 2.2A @+5V
Power Supply Type	ATX	AT/ ATX	AT/ATX	AT/ ATX
Dimension	8" x 5.75" (203mm x 146mm)	4.53" x 6.50" (115mm x 165mm)	5.75" x 4" (146mm x 101.6mm)	5.75" x 4" (146mm x 101.6mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)	32°F ~ 140°F (0°C ~ 60°C)	32°F ~ 140°F (0°C ~ 60°C)	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)	-40°F ~ 176°F (-40°C ~ 80°C)	-40°F ~ 176°F (-40°C ~ 80°C)	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	84,000	—	105,000	—
Certification	CE/FCC	CE/FCC	CE/FCC	CE/FCC
Note	PCI-Express [x16], mSATA or Mini-PCle	—	3 independent displays	Wind River Linux with McAfee for Moon Island Support, Yocto linux



Selection Guide



Model	GENE-BT06	PICO-BT01	ETX-A55E	AQ7-BT
Application	Building/ Factory Automation, Kiosk, Medical Equipment, Test & Measurement	Building/ Factory Automation, Panel PC, Kiosk, Medical Equipment, Test & Measurement	Test & Measurement, Gaming & Entertainment, Industrial Automation, Military, Security & Defense	Handheld Device, Test and Measure, Industrial automation
Form Factor	3.5" SubCompact Board	Pico-ITX	ETX	Qseven Rev.2.0
CPU	Onboard Intel® Atom™ Processor SoC	Intel® Atom™ E3845 Dual Core™ 1.91 GHz Intel® Celeron® J1900 Quad Core™ 2.0 GHz Intel® Celeron® N2807 Dual Core™ 1.58 GHz	Onboard AMD® G-series APU	Intel® Atom™ Processor SoC
CPU Frequency	Up to 2.0 GHz	Up to 2.0 GHz	T16R: Single Core 615 MHz T40N: Dual Core 1 GHz	Up to 2.0 GHz
Chipset	Intel® Atom™ Processor SoC	Intel® Atom™ E3845, Celeron® J1900/ N2807	AMD G-series CPU/A55E	Intel® Atom™ E3800 series Processor SoC
Memory Type	Onboard DDR3L 1066/1333	204-pin DDR3L SODIMM x 1, DDR3L 1066/1333, up to 8 GB	DDR3L 1066/1333, SODIMM x 1	Onboard DDR3L
Max. Memory Capacity	4 GB	Up to 8 GB for Quad core	Up to 4 GB	2 GB
BIOS	SPI type	AMI/SPI	UEFI	AMI BIOS
Wake On LAN	Yes	Yes	Yes	Yes
Watchdog Timer	255 Levels	255 Levels	255 Levels	255 Levels
Ethernet	Intel® I211, 10/100/1000Base-TX x 2	Intel® I211, 10/100/1000Base-TX x 1	Realtek RTL8105E, 10/100 Base-TX	Intel® I211AT, Gigabit Ethernet
VGA/ LCD Controller	Intel® Atom™ series Processor SoC	Intel® Atom™ and Celeron® Processor SoC	AMD G-series T16R/T40N integrated	Intel® Atom™ Processor SoC
Video Output	CRT+LVDS, HDMI+LVDS , CRT+HDMI	LVDS (18/24-bit), VGA up to 2560 x 1600, DP (Optional, co-lay w/VGA)	CRT, LVDS LCD	24-bit LVDS LCD, DP x 1
Audio	High Definition Audio Interface	Line-out x 1	High Definition Audio Interface	High Definition Audio Interface
USB Port	USB 2.0 x 3 , USB 3.0 x 1	USB 2.0 x 1, USB 3.0 x 1, Pin header x 1	USB 2.0 x 4	USB 2.0 x 6, USB 3.0 x 1
Serial Port	RS-232 x 2 , RS-232/422/485 x 2	RS-232 x 1, RS-232/422/485 x 1	1	1 (Tx/Rx)
Parallel Port	SPP/EPP/ECP x 1	—	1	—
HDD Interface	SATA 2 x 1	SATA 2 x 1	SATA x 2, PATA x 2 (2 devices)	SATA x 2
FDD Interface	—	—	—	—
SSD	—	mSATA/MiniCard (Full-size) x 1	—	Up to 64 GB SSD
Expansion Slot	mSATA x 1 (Half-size), MiniCard x 1 (Full-size), LPC	MiniCard (Half-size) x 1, BIO (Board I/O) by model	32-bit PCI x 4, SM Bus x 1, I2C x 1, 8/16-bit ISA	PCI-E [x1] x 3, LPC Bus x 1 (shared with GPIO), SM Bus x 2
Power Requirement	Wide DC support 9~24V	+12V DC	+5V	+5V
Power Consumption (Typical)	Intel® Atom™ E3845, onboard DDR3L 1600 4 GB, 0.64A@+12V	—	AMD T16R + A55E = 4.5W + 4.7W = 9.2W AMD T40N + A55E = 9W + 4.7W = 13.7W	2.1A@5V
Power Supply Type	AT/ATX	AT/ATX, DC12V	AT/ ATX	AT/ ATX
Dimension	5.75" x 4" (146mm x 101.6mm)	3.93" x 3.03" (100mm x 72mm)	4.5" x 3.74" (114mm x 95mm)	2.75" x 2.75" (70mm x 70mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) or WiTAS 2 (TBD)	32°F ~ 140°F (0°C ~ 60°C)	32 °F ~ 140 °F (0 °C ~ 60 °C)	32 °F ~ 140 °F (0 °C ~ 60 °C) -40 °F ~ 185 °F (-40 °C ~ 80 °C) by E3825
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)	-40°F ~ 176°F (-40°C ~ 80°C)	-40°F ~ 158°F (-20°C ~ 70°C)	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	—	89,000	—	—
Certification	CE/FCC	CE,FCC	CE/FCC	CE/FCC
Note	Solder Design for system assembly and thermal, Touch (optional), SIM (optional), non-ECC	Dual display: CRT + LVDS or DP + LVDS, SoC on solder side	—	—

