AAEON RACKMOUNT IPC SOLUTIONS Flexible, Expandable, Capable



Intro Applications Pick Your Own Selection guide

Available in Asia-Pacific region and emerging countries only

•



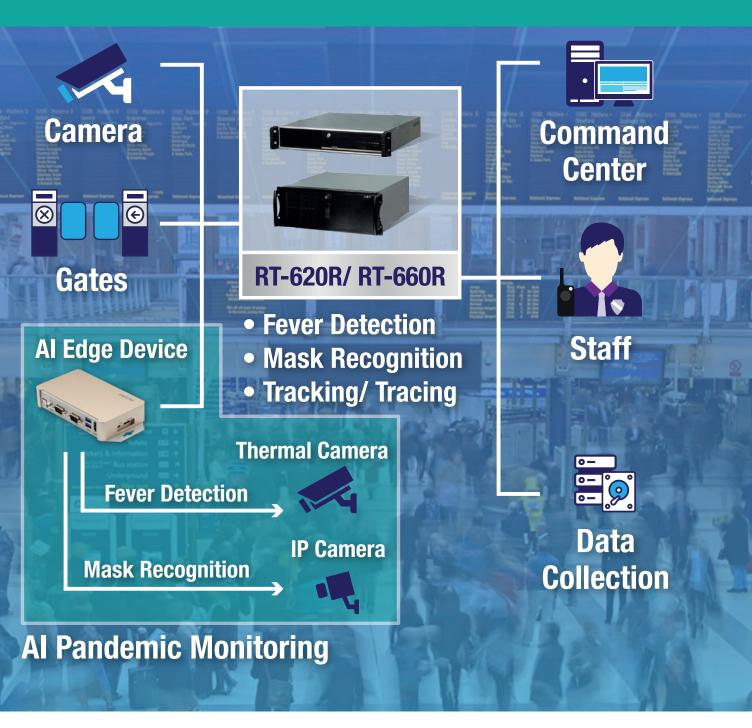
Rackmount IPC Platforms

AAEON is an industry leader in rackmount IPC solutions designed to power industrial workstations, machine vision controllers, and high-performance AI and edge computing systems. The RT-660R and RT-620R barebones rackmount systems leverage AAEON's experience and expertise to deliver greater power, flexibility and expandability for even the most demanding of applications. With support for up to 64 GB of RAM and the 8th and 9th Generation Intel® Core™ i9/i7/i5/i3 processors (formerly Coffee Lake, Coffee Lake Refresh), the RT-660R and RT-620R bring the performance you need to power your application, whether as a command center workstation or as the heart of an industrial AI edge server.



Expandability

With multiple expansion bays and PCIe slots, it's easy to add more functions to the RT-660R and RT-620R, tailoring it to your application's needs, or to power multiple applications on a single system. AAEON offers a range of expansion cards including frame grabbers, AI modules, and more; all able to be used with our IPC solutions, saving you time and hassle from searching for compatible components. You can easily turn the RT-660R and RT-620R systems into high-performance AI Edge platforms with the AI Core XM M.2 module or the AI Core XP8 PCIe [x4] card with up to eight Intel Movidius Myriad X VPUs.



Applications

The RT-660R and RT-620R combine several key features together to power demanding tasks such as command center workstations and industrial AI applications. These systems are already being deployed in real world applications including monitoring transit stations to assist in prevention the spread of the coronavirus pandemic. With AI modules, such as the AI Core XP8 with Intel® Movidius® Myriad™ X, the RT-660R and RT-620R can connect with thermal and IP cameras to identify passengers with high body temperatures, verify compliance with face mask requirements, track persons of interest through the station to help staff quickly locate passengers, and collect and connect data from ticket gates to help with source/ contact tracing. The expandability of these systems means it's quick and easy to add more functions to increase the number of applications they can handle.



Note: All specifications are subject to change without notice.



RT-660R 4U Barebones IPC System

The RT-660R 4U System provides ultimate expandability and power for high performance computing needs. AAEON's standard configuration includes a range of PCIe 3.0 expansion slots, including one PCIe [x16], two PCIe [x4], and two PCIe [x1] slots, as well as two PCI slots to support legacy devices. On board expansion also includes one M.2 2230 E-Key slot supporting PCIe [x1], USB2.0 and CNVi, and one M.2 2280 M-Key with PCIe [x4] and SATA III (6.0 Gbps) support. The RT-660R also features four 3.5" hard drive bays with RAID support to help keep data safe and secure.



RT-620R 2U Barebones IPC System

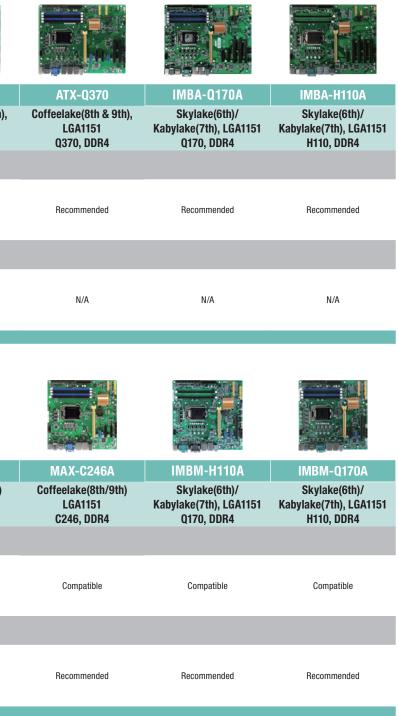
The RT-620R provides the same power and functionality as the RT-660R, in a more compact form factor. The RT-620R offers the same combination of PCIe 3.0 slots as the RT-660R, as well as M.2 2230 E-key (PCIe [x1]/USB2.0/CNVi) and M.2 2280 M-key (PCIe [x4]/SATA III) slots. The RT-620R supports up to four hard drives total, with RAID support for flexible storage security.

Pick Your Own

AAEON offers the RT-660R and RT-620R in prebuilt configurations to provide the best value for performance. However, these systems support a wide range of motherboards and configurations, offering flexibility to match the board and chassis you want. Whether it's support for 6th Generation or 7th Generation Intel Core Processors (Formerly Sky Lake and Kaby Lake), or different expansion layouts, AAEON can help you build the system you need. Check out the support guide to learn more.

ATX		
Model	ATX-H310A	ATX-C246
	Coffeelake(8th & 9th), LGA1151 H310, DDR4	Coffeelake(8th & 9th), LGA1151 C246, DDR4
RT-660R 4U Rackmount Chassis		
	Recommended	Recommended
RT-620R 2U Rackmount Chassis		
	N/A	N/A
Micro-ATX		
Micro-ATX Model	MAX-H310A	MAX-Q370A
	Coffeelake(8th/9th) LGA1151	Coffeelake(8th/9th) LGA1151
	Coffeelake(8th/9th)	Coffeelake(8th/9th)
Model RT-660R	Coffeelake(8th/9th) LGA1151	Coffeelake(8th/9th) LGA1151
Model RT-660R	Coffeelake(8th/9th) LGA1151 H310, DDR4	Coffeelake(8th/9th) LGA1151 Q370, DDR4
Model RT-660R 4U Rackmount Chassis	Coffeelake(8th/9th) LGA1151 H310, DDR4	Coffeelake(8th/9th) LGA1151 Q370, DDR4
Model RT-660R 4U Rackmount Chassis	Coffeelake(8th/9th) LGA1151 H310, DDR4 Compatible	Coffeelake(8th/9th) LGA1151 Q370, DDR4 Compatible





RT-660R Series

RT-620R Series







Model	RT-660R-C246	RT-660R-Q370	RT-660R-Q170	
System				
CPU	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	Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium 14nm LGA 1151 socket Processor	Intel® 7th/ 6th Generation(Kaby Lake-S/ Skylake-S) Core™ i7/i5/i Pentium®/ Celeron® 14nm LGA1151 Socket Processor	
Chipset	Intel® C246 Express Chipset	Intel® Q370 Express Chipset	Intel® Q170	
System Memory	DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 64GB) ECC, un-buffered memory, Dual-channel memory architecture	DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 64GB) Non-ECC, un-buffered memory, Dual channel memory architecture	288-pin DIMM x 4, max. 64GB, DDR4 2400/2133/1867, Dual chann	
I/O Chipset	NCT6793D + F81216HD	NCT6793D+ F81216HD	NCT6791D + F81216HD	
Display Interface	HDMI x 1, VGA x 1, DP x 1	HDMI x 1, VGA x 1, DP x 1	HDMI x 2, VGA x 1	
Storage	SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PClex4/SATA3) x 1	SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PClex4/SATA3) x 1	Supports RAID 0/1/5/10 SKU1: SATA 6.0Gb/s x 3, M.2 M key (SATA) x 1 SKU2: SATA 6.0Gb/s 4, M.2 M key (PClex4) x 1	
Storage Devices	5.25" x 3 + 3.5" x 1 External Drive Cage, w/ Anti-Vibration kits 1 x 4-bay Internal 3.5" HDD Cage, w/Anti-Vibration kits	5.25" x 3 + 3.5" x 1 External Drive Cage, w/ Anti-Vibration kits 1 x 4-bay Internal 3.5" HDD Cage, w/Anti-Vibration kits	5.25" x 3 + 3.5" x 1 External Drive Cage, w/ Anti-Vibration kits 1 x 4-bay Internal 3.5" HDD Cage, w/Anti-Vibration kits	
Audio	Realtek® ALC887 6-Channel High Definition Audio CODEC	Realtek® ALC887 6-Channel High Definition Audio CODEC	Realtek® ALC887 (Colay with ALC886)	
Ethernet	Intel® PHY i219LM Gb LAN (supports Intel® AMT 12.0) x 1, Intel® i211AT Gb LAN x 1, RJ45 x 2 $$	Intel® PHY i219LM Gb LAN (supports Intel® AMT 12.0) x 1, Intel® i211AT Gb LAN x 1, RJ45 x 2	Intel® PHY i219LM Gb LAN (supports Intel® AMT 12.0) x 1, Intel® i211AT Gb LAN x 1, RJ45 x 2 $$	
ТРМ	Nuvoton NPCT750ABBYX TPM2.0 onboard (optional)	Nuvoton NPCT750ABBYX TPM2.0 onboard (optional)	Nuvoton NPCT6xx TPM2.0 (Optional)	
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/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis	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	1~255 steps by software program	1~255 steps by software program	
Smart Fan control	CPU Fan connector(s) (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2	CPU Fan connector(s) (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2	CPU Fan connector(s) (4-pin) x 1 Chassis Fan connector(s) (4-pin) x	
Wake On LAN/ PXE	Yes (WOL / PXE)	Yes (WOL / PXE)	Yes (WOL / PXE)	
Power State	\$3, \$4, \$5	S3, S4, S5	S3, S4, S5	
System Fan	Front: 1 x 120mm (T=25mm), PWM mode. Rear: 2 x 80mm (T=25mm)(Option), PWM mode.	Front: 1 x 120mm (T=25mm), PWM mode. Rear: 2 x 80mm (T=25mm)(Option) PWM mode.	Front: 1 x 120mm (T=25mm), PWM mode. Rear: 2 x 80mm (T=25mm)(Option) PWM mode.	
I/0				
Front Panel	Power On/Off, System Reset, 2 x USB2.0	Power On/Off, System Reset, 2 x USB2.0	Power On/Off, System Reset, 2 x USB2.0	
Rear Panel I/O	USB 3.1 Gen2 ports (10 Gbps) x 4, USB 3.1 Gen1 ports (5 Gbps) x 2, USB 2.0 ports x 4, HDMI x 1, VGA x 1, DP x 1, Audio Jack x 3: Line-in, Mic-in, Line-out LAN (RJ45) ports x 2	USB 3.1 Gen2 ports (10 Gbps) x 4, USB 3.1 Gen1 ports (5 Gbps) x 2, USB 2.0 ports x 4, HDMI x 1, VGA x 1, DP x 1, Audio Jack x 3: Line-in, Mic-in, Line-out LAN (RJ45) ports x 2	USB 3.0 x 10, HDMI x 1, VGA x 1, DP x 1, Audio Jack x 3: Line-in, Mic-in, Line-out LAN (RJ45) ports x 2, DB-9 COM x 1 (supports RS- 232/422/485, 5V/12V/RI), Stack Port (Keyboard & Mouse) x 1	
Internal I/O Connectors Expansion	Storage: SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10, M.2 2280 M-key (PClex4/ SATA3) x 1 USB: USB 2.0 headers x 1 support additional 2 USB ports (2x5PIN, p=2.54mm) Audio I/0: 1 x speaker header (Line-out) Serial Port: 5 x RS-232 headers, 1 x RS-232/422/485 (COM1, supports 5V/12V/RI optional) DIO: 8-bit Digital I/0 interface (In/Out programmable) x 1 Others: Chassis Intrusion x 1, AT/ATX mode select jumper x 1, Front panel header x 1, Clear CMOS jumper x 1 PCle 3.0[x16] Slot x 1, PCle 3.0[x4] Slot (open edge) x 2, PCle 3.0[x1] Slot (open edge) x 2, PCl x 2, M.2 2230 E-key (PClex1/USB2.0/CNVi) x 1, M.2 2280 M-key (PClex4/SATA3) x 1	Storage: SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10, M.2 2280 M-key (PClex4/ SATA3) x 1 USB: USB 2.0 headers x 1 support additional 2 USB ports (2x5PIN, p=2.54mm) Audio I/O: 1 x speaker header (Line-out) Serial Port: 5 x RS-232 headers, 1 x RS-232/422/485 (COM1, supports 5V/12V/RI optional) DIO: 8-bit Digital I/O interface (In/Out programmable) x 1 Others: Chassis Intrusion x 1, AT/ATX mode select jumper x 1, Front panel header x 1, Clear CMOS jumper x 1 PCle 3.0[x16] Slot x 1, PCle 3.0[x4] Slot (open edge) x 2, PCle 3.0[x1] Slot (open edge) x 2, PCl x 2, M.2 2230 E-key (PClex1/USB2.0/CNVi) x 1, M.2 2280 M-key (PClex4/SATA3) x 1	Storage: Supports RAID 0/1/5/10 SATA 6.0Gb/s x 3, M.2 M key (SATA) x 1 USB: USB 2.0 x 3 Audio I/O: 1 x speaker header (Line-out) Serial Port:5 x RS-232 headers DIO: 8-bit Digital I/O interface (In/Out programmable) x 1 Others: Chassis Intrusion x 1, AT/ATX mode select jumper x 1, Front panel header x 1, Clear CMOS jumper x 1 PCIe [x16] x 1, PCIe [x4] (open edge) x 2, PCI x 3, M.2 E key (22 x 30mm) x 1, M.2 M key (22 x 80mm, for SATA) x 1	
	Power			
Battery		-	-	
Power Requirement	ATX power supply Input:90~264V Output:500W.	ATX power supply Input: 90–264V Output: 500W.	ATX power supply Input:90~264V Output:500W.	
Mechanical				
Color	Silver	Silver	Silver	
Dimensions (W X H X D)	445 x 430 x 176 (mm), 17.5" x 16.9" x 6.9"	445 x 430 x 176 (mm), 17.5" x 16.9" x 6.9"	445 x 430 x 176 (mm), 17.5" x 16.9" x 6.9"	
Gross Weight	TBC	TBC	TBC	
Net Weight	TBC	TBC	TBC	
Environmental				
EIIVIIUIIIIEIItai				
	32°F ~ 113°F (0°C ~ 45°C)	32°F ~ 113°F (0°C ~ 45°C)	32°F ~ 113°F (0°C ~ 45°C)	
	32°F ~ 113°F (0°C ~ 45°C) -49°F ~ 176°F (-45°C ~ 80°C)	32°F ~ 113°F (0°C ~ 45°C) -49°F ~ 176°F (-45°C ~ 80°C)	32°F ~ 113°F (0°C ~ 45°C) -49°F ~ 176°F (-45°C ~ 80°C)	



Model	RT-620R-C246	
System		
CPU	8th/9th Generation Intel® (Coffee Lake-S) Core™ i9/ i7/ i5 /i3, Pentium™ 14nm, Celeron™, Xeon™ E-2200/2100, LGA 1151 socket Processor, Max. 95W(E-2278GE, 8C16T)	8th/9th Gene Pentium™ 14
Chipset	Intel® C246 Express Chipset	Intel® H310
System Memory	DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 64GB), ECC, un-buffered memory, Dual-channel memory architecture	2 x DIMM, DI Non-ECC, un
I/O Chipset	NCT6793D+ F81216HD	NCT6793D+
Display Interface	HDMI x 2, DP x 1	HDMI x 1, VG
Storage	SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PClex4/SATA3) x 1	SATA III (6.00 M.2 2280 M-
Storage Devices	Exposed: 2 x 5.25" + 2 x 3.5" Internal: 2 x 2.5"	Exposed: 2 x Internal: 2 x
Audio Ethernet	Realtek® ALC887 6-Channel High Definition Audio CODEC Intel® PHY i219LM Gb LAN (supports Intel® AMT 12.0) x 1, Intel® i211AT Gb LAN x 1, RJ45 x 2	Realtek® AL
ТРМ	Nuvoton NPCT750AAAYX TPM2.0	N/A
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis	Temperature Vcore/5V/3.3
Watchdog Timer	1~255 steps by software program	1~255 steps
Smart Fan control	CPU Fan connector(s) (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2	CPU Fan con
Wake On LAN/ PXE	Yes (WOL / PXE)	Yes (WOL / P
Power State	S3, S4, S5	S3, S4, S5
System Fan	Front: 1 x 80mm (T=32mm), PWM mode. Rear: 2 x 40mm (T=28mm)(Option), PWM mode.	Front: 1 x 80 Rear: 2 x 40r
I/0		
Front Panel	Power On/Off, System Reset, 2 x USB 2.0	Power On/Of
Rear Panel I/O	USB 3.2 Gen 2 ports (10 Gbps) x 6, USB 3.2 Gen 1 ports (5 Gbps) x 4, DP x 1, HDMI x 2, Audio Jack x 3: Line-in, Mic-in, Line-out, PS/2 combo port (Keyboard & Mouse) x 1, LAN (RJ45) ports x 2	USB 3.2 Gen HDMI x 1, Au (Keyboard &
Internal I/O Connectors	Storage: SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10, M.2 2280 M-key (PClex4/ SATA3) x 1 USB: USB 2.0 headers support additional 3 USB ports (2x5PIN, p=2.54mm) x 2 Audio 1/0: Speaker for 2W@4 Ω x 1 Serial Port: RS-232 Boxer headers x 5, RS-232/422/485 Boxer header (COM1, Pin9 supports 5V/12V/RI optional) x 1 Di0: 8-bit Digital 1/0 interface (In/Out programmable) x 1 FAN: CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4- pin) x 2 Others: Chassis Intrusion x 1, AT/ATX mode select jumper x 1, Front panel header x 1, Clear CMOS jumper x 1 PCle 3.0[x16] Slot x 1, PCle 3.0[x4] Slot (open edge) x 2, PCle 3.0[x1]	Storage: SAT M.2 2280 M- USB: USB 2.0 p=2.54mm) : Audio I/O: sp Serial Port: R header (COM DIO: 8-bit Dig FAN: CPU Fai x 2 Others: Chas panel header
Expansion	Slot (open edge) x 1, M.2 2230 E-key (PCle+USB) x 1, M.2 2280 M-key (PClex4/SATA3) x 1	PCle 3.0[x16 M-key (SATA
	Power	
Battery	_	
Power Requirement	ATX power supply Input: 90~264V Output: 500W.	ATX power si Input:90~26 Output:300W
Mechanical		
Color	Silver	Silver
. ,	457.2 x 430 x 88 (mm) , 18" x 16.9" x 3.5"	457.2 x 430
Gross Weight	TBC	TBC
Net Weight	TBC	TBC
Environmental		
	32°F ~ 113°F (0°C ~ 45°C)	32°F ~ 113°I
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)	-49°F ~ 176
Storage Humidity	0%~90%RH, non-condensing	0%~90%RH







RT-620R-H310 RT-620R-Q370 8th/9th Generation Intel® (Coffee Lake-S) Core™ i9/ i7/ i5 /i3, neration Intel® (Coffee Lake-S) Core™ i7/ i5 /i3, 14nm LGA 1151 socket Processor. Pentium™ 14nm LGA 1151 socket Processor, Max. 95W 0 Express Chipset Intel® Q370 Express Chipset DDR4 (2666/2400/2133 MHz, max. 32GB) DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 64GB) in-buffered memory, Dual-channel memory architecture non-ECC, un-buffered memory, Dual-channel memory architecture + F81216HD NCT6793D+ F81216HD /GA x 1, DP x 1 HDMLx 2, DP x 1 0Gb/s) ports x 3, support RAID 0/1/5/10 SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PClex4/SATA3) x 1 /I-key (SATA) x 1 x 5.25" + 2 x 3.5" Exposed: 2 x 5.25" + 2 x 3.5" (2.5" Internal: 2 x 2.5" LC887 6-Channel High Definition Audio CODEC Realtek® ALC887 6-Channel High Definition Audio CODEC Intel® PHY i219LM Gb LAN (supports Intel® AMT 12.0) x 1, Intel® i219V Gb LAN x 1 Intel® i211AT Gb LAN x 1, RJ45 x 2 i211AT Gb LAN x 1, RJ45 x 2 Nuvoton NPCT750AAAYX TPM2.0 onboard Temperature Monitor on CPU/System, Voltage Monitor on e Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis .3V/12V, Fan Monitor on CPU/Chassis s by software program 1~255 steps by software program nnector(s) (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2 CPU Fan connector(s) (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2 Yes (WOL / PXE) PXE) S3, S4, S5 0mm (T=32mm), PWM mode, Front: 1 x 80mm (T=32mm), PWM mode, Omm (T=28mm)(Option), PWM mode. Rear: 2 x 40mm (T=28mm)(Option), PWM mode. Power On/Off, System Reset, 2 x USB 2.0 Off, System Reset, 2 x USB 2.0 n 1 ports (5 Gbps) x 4, USB 2.0 ports x 4, DP x 1, VGA x 1, USB 3.2 Gen 2 ports (10 Gbps) x 6, USB 3.2 Gen 1 ports (5 Gbps) x 4 Udio Jack x 3: Line-in, Mic-in, Line-out, PS/2 combo Port Mouse) x 1, LAN (RJ45) ports x 2 PS/2 combo Port (Keyboard & Mouse) x 1, LAN (RJ45) ports x 2 ATA III (6.0Gb/s) ports x 3, support RAID 0/1/5/10 Storage: SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10, M.2 I-key (SATA) x 1 2280 M-key (PClex4/ SATA3) x 1 .0 header support additional 2 USB ports (2x5PIN, USB: USB 2.0 headers support additional 3 USB ports (2x5PIN,) x 1 p=2.54mm) x 2 peaker header (Line-out) x 1 Audio I/O: Speaker for $2W@4\Omega \times 1$ RS-232 Boxer headers x 5, RS-232/422/485 Boxer Serial Port: RS-232 Boxer headers x 5, RS-232/422/485 Boxer M1, Pin9 supports 5V/12V/RI optional) x 1 header (COM1, Pin9 supports 5V/12V/RI optional) x 1 Digital I/O interface (In/Out programmable) x 1 an connector(s) (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) pin) x 2 assis Intrusion x 1, AT/ATX mode select jumper x 1, Front Others: Chassis Intrusion x 1, AT/ATX mode select jumper x 1, Front panel header x 1, Clear CMOS jumper x 1 er x 1, Clear CMOS jumper x 1 PCle 3.0[x16] Slot x 1, PCle 3.0[x4] Slot (open edge) x 2, PCle 3.0[x1] 6] Slot x 1, PCle 2.0[x1] Slot (open edge) x 3, M.2 2280 Slot (open edge) x 1, M.2 2230 E-key (PCle+USB) x 1, M.2 2280 M-key (PClex4/SATA3) x 1 A) x 1 ATX power supply supply 64V Input: 90~264V Output: 500W. Silver) x 88 (mm) , 18" x 16.9" x 3.5" 457.2 x 430 x 88 (mm) , 18" x 16.9" x 3.5" TBC TBC °F (0°C ~ 45°C) 32°F ~ 113°F (0°C ~ 45°C) 6°F (-45°C ~ 80°C) -49°F ~ 176°F (-45°C ~ 80°C)

H, non-condensing

0%~90%RH, non-condensing



Focus • Agility • Competitiveness

AAEON Technology Inc.

5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien Dist, New Taipei City, 231, Taiwan, R.O.C. Tel: +886-2-8919-1234 Fax: +886-2-8919-1056 E-mail: sales@aaeon.com.tw

LITERATURE ORDERING

Contact your local office for literature requests.

www.aaeon.com