



Empowering a **SMART FUTURE**

Avalue IoT Ready

Healthcare
Retail
Transportation
Industry 4.0
Digital Signage
Communication
Surveillance
Automation
In-Vehicle
Gaming

3.5" Single Board Computer



3.5" Single Board Computer					
Model Number	ECM-CFS	ECM-KBLH	ECM-SKLH	ECM-SKLU	ECM-QM87R/QM87
Processor	8th Gen Intel® Core™ i7/i5/i3/Celeron® rPGA processor	7th Gen Intel® Core™ i7/i5/i3/Celeron® processor	6th Gen Intel® Core™ i7/i5/i3/Celeron® processor	6th Gen Intel® Core™ i7/i5/i3/Celeron® processor	4th Gen Intel® Core™ i7/i5/i3 processor
System Chipset	Intel® Q370/H310 Express Chipset	Intel® QM175 Express Chipset	Intel® QM170 Express Chipset	N/A	Intel® QM87 Express Chipset
System Memory	1 x 260-Pin DDR4 2400MHz SO-DIMM up to 16 GB	1 x 260-Pin DDR4 2400MHz SO-DIMM up to 16 GB	1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB	1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB	1 x 204-Pin DDR3L 1333/1600MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.	H/W Reset, 1sec. ~ 65535sec.	H/W Reset, 1sec. ~ 65535sec.	H/W Reset, 1sec. ~ 65535sec.	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
Expansion	1 x Mini PCIe Supports mSATA (Q370 support MPCle/ mSATA device, H310 support mSATA device only)	1 x Mini PCIe Supports mSATA 1 x M.2 (2242) B-Key	1 x Mini PCIe Supports mSATA 1 x M.2 (2242) B-Key	1 x Mini PCIe Supports mSATA 1 x M.2 (2242) B-Key	1 x Mini PCIe Supports mSATA
Storage	1 x mSATA Supported from Mini PCIe	1 x mSATA Supported from Mini PCIe, 1 x M.2 (M.2 support SATA or PCIe x1/USB)	1 x mSATA Supported from Mini PCIe, 1 x M.2 (M.2 support SATA or PCIe x1/USB)	1 x mSATA Supported from Mini PCIe 1 x M.2(M.2 support SATA or PCIe x1/USB)	1 x mSATA Supported from Mini PCIe
I/O	2 x USB 2.0, 4 x USB 3.1, 2 x SATA III, 2 x RS-232, 1 x 8bit GPIO, 1 x LPC, 1 x SPI	2 x USB 2.0, 4 x USB 3.0, 2 x SATA III, 1 x RS-232, 1 x RS-232/422/485, 1 x 8bit GPIO, 1 x LPC, 1 x SPI	2 x USB 2.0, 4 x USB 3.0, 2 x SATA III, 1 x RS-232, 1 x RS-232/422/485, 1 x 8bit GPIO, 1 x LPC, 1 x SPI	2 x USB 2.0, 4 x USB 3.0, 1 x SATA III, 5 x RS-232, 1 x RS-232/422/485, 1 x 8bit GPIO, 1 x LPC, 1 x SPI	2 x USB 2.0, 6 x USB 3.0, 2 x SATA III, 1 x RS-232, 1 x RS-232/422/485, 1 x 8bit GPIO, 1 x LPC
Display Chipset	Intel® Coffee Lake Processor integrated Graphics Supports triple display	Intel® Kaby lake SoC integrated Graphics Supports triple display	Intel® Skylake SoC integrated Graphics Supports triple display	Intel® Skylake U SoC integrated Graphics Supports triple display	Intel® QM87 Chipset Integrated Supports triple display
Resolution	Dual HDMI: Max. resolution 4096x2304 @ 30Hz LVDS: Max. resolution 1920x1080 @ 60Hz	Dual HDMI: Max. resolution 4096x2160 @ 24Hz LVDS: Max. resolution 1920x1080 @ 60Hz	Dual HDMI: Max. resolution 4096x2160 @ 24Hz LVDS: Max. resolution 1920x1080 @ 60Hz	Dual HDMI: Max. resolution 4096x2160 @ 24Hz LVDS: Max. resolution 1920x1080 @ 60Hz	VGA: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 3840x2160 @ 24Hz LVDS: Max. resolution 1920x1080 @ 60Hz
Audio Chipset	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out	Realtek ALC233 supports 2.1-CH Audio Amp.:2W	Realtek ALC233 supports 2.1-CH Audio Amp.:2W	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out
Ethernet Chipset	1 x Intel® I211AT 1 x Intel® I219LM	1 x Intel® I210AT 1 x Intel® I219LM	1 x Intel® I210AT 1 x Intel® I219LM	1 x Intel® I210AT 1 x Intel® I219LM	1 x Intel® I210AT 1 x Intel® I217LM
Power Requirement	+12V	+12V	+12V	+12V ~ +26V	+12V
Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
Operating Temperature	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 (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	5.7" x 4" (146mm x 101mm)				



3.5" Single Board Computer

ECM-APL	ECM-APL2	ECM-BSWA	ECM-BYT2	ECM-BYT	ECM-KA	ECM-A50M
Intel® Pentium®/Celeron®/Atom™ SoC Processor	Intel® Pentium®/Celeron®/Atom™ SoC Processor (with CPU Bottom Mounted)	Intel® Pentium®/Celeron® processor	Intel® Atom™/Celeron® processor	Intel® Atom™/Celeron® processor	AMD G-Series processor	AMD G-Series processor
N/A	N/A	N/A	N/A	N/A	N/A	AMD G-Series A50M Chipset
1x204-Pin DDR3L 1866MHz SO-DIMM, supports 4G/8G & Up to 8GB DDR3L 1866MTs SDRAM (Non-ECC)	1x204-Pin DDR3L 1866MHz SO-DIMM, supports 4G/8G & Up to 8GB DDR3L 1866MTs SDRAM (Non-ECC)	1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3L 1066/1333MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3L 1066/1333MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3 1600MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
H/W Reset, 1sec. ~ 65535sec. and 1sec./step	H/W Reset, 1sec. ~ 65535sec. and 1sec./step	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step	H/W Reset, 1sec. ~ 65535sec.	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
1 x Mini PCIe (for PCIe & USB2.0) 1 x M.2 (2242) B-Key	2 x Mini PCIe 1 x Full-size Mini PCIe with mSATA Supported 1 x Half-size Mini PCIe	2 x Mini PCIe, 1 x Full-size Mini PCIe with mSATA Supported, 1 x Half-size Mini PCIe	2 x Mini PCIe, 1 x Full-size Mini PCIe with mSATA Supported, 1 x Half-size Mini PCIe	1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports mSATA
1 x M.2 (M.2 support SATA or PCIe x1/USB)	1 x mSATA Supported from Mini PCIe	1 x mSATA Supported from Mini PCIe	1 x mSATA Supported from Mini PCIe	1 x CompactFlash Type I/II Socket 1 x mSATA Supported from Mini PCIe	1 x CompactFlash Type I/II Socket 1 x mSATA Supported from Mini PCIe	1 x CompactFlash Type I/II Socket
1 x USB 2.0, 4 x USB 3.0, 1 x SATA III, 5 x RS-232, 1 x RS-232/422/485, 1 x Micro SIM Card Slot, 1 x 8bit GPIO, 1 x LPC, 1 x SPI	2 x USB 2.0, 4 x USB 3.0, 1 x SATA III, 2 x RS-232/422/485, 1 x 8bit GPIO, 1 x LPC, 1 x SPI	2 x USB 2.0, 4 x USB 3.0, 1 x SATA III, 5 x RS-232, 1 x RS-232/422/485, 1 x 8bit GPIO, 1 x LPC, 1 x SPI	7 x USB 2.0, 1 x USB 3.0, 1 x SATA II, 1 x RS-232, 1 x RS-232/422/485, 1 x 8bit GPIO, 1 x LPC	5 x USB 2.0, 1 x USB 3.0, 1 x SATA II, 3 x RS-232, 1 x RS-232/422/485, 1 x 8bit GPIO, 1 x LPC, 1 x PS2/ KB & MS	6 x USB 2.0, 2 x USB 3.0, 2 x SATA III, 1 x RS-232, 1 x RS-232/422/485, 1 x 8bit GPIO, 1 x LPC, 1 x SPI, 1 x PS2/ KB & MS	7 x USB 2.0, 2 x SATA II, 1 x RS-232, 1 x RS-232/422/485, 1 x 16bit GPIO, 1 x LPC, 1 x SPI, 1 x PS2/ KB & MS
Intel® Apollo Lake SoC integrated Gen9 LP Graphics Supports triple display	Intel® Apollo Lake SoC integrated Gen9 LP Graphics Supports triple display	Intel® Braswell SoC integrated Graphics Supports triple display	Intel® Valleyview SoC integrated Graphics Supports dual display	Intel® Valleyview SoC integrated Graphics Supports dual display	AMD SoC Integrated Graphics Supports dual display	AMD Fusion Accelerated Processors Supports dual display
Dual HDMI: Max. resolution 3840x2160 @ 30Hz LVDS: Max. resolution 1920x1080 @ 60Hz	Dual HDMI: Max. resolution 3840x2160 @ 30Hz VGA:1920x1200@60Hz	HDMI: Max. resolution 1920x1080 @ 30Hz LVDS: Max. resolution 1920x1080 @ 60Hz	VGA: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz LVDS: Max. resolution 1920x1080 @ 60Hz	VGA: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz LVDS: Max. resolution 1920x1080 @ 60Hz	VGA: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 1920x1080 @ 60Hz LVDS: Max. resolution 1920x1080 @ 60Hz	For T56N: VGA: 2560 x 1600 @ 75Hz LVDS: 2048 x 1536 @ 75Hz For T40E: VGA: 1920 x 1200 @ 75Hz LVDS: 1920 x 1200 @ 75Hz
Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out
2 x Intel® I211AT (Intel I210IT for WT)	2 x Intel® I211AT (Intel I210IT for WT)	2 x Intel I211AT	2 x Realtek 8111E	2 x Intel® I211AT	2 x Realtek 8111E	2 x Realtek 8111E
+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V
AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
0°C ~ 60°C (32°F ~ 140°F) -40°C ~ 85°C (-40°F ~ 185°F) (Optional for Wide Temp.)	0°C ~ 60°C (32°F ~ 140°F) -40°C ~ 85°C (-40°F ~ 185°F) (Optional for Wide Temp.)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F) -40°C ~ 85°C (-40°F ~ 185°F) (Optional for Wide Temp.)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)

5.7" x 4" (146mm x 101mm)

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

EPIC Module

Advantages of Boards and Modules



Facilitation

- Off-the-shelf computer board
- Support the future bus architecture extension interfaces



Reliability

- Expertise of ruggedized design
- Serving medical, transportation, and harsh environment



Compliance

- Compliant to industry standards
- Compliant to safety regulations
- In-house testing and certification facilities



EPIC Module

Model Number	EPI-QM87R/EPI-QM87
Processor	4th Gen Intel® Core™ i7/i5/i3 processor
System Chipset	Intel® QM87 Express Chipset
System Memory	1 x 204-Pin DDR3L 1333/1600MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step
Expansion	1 x Mini PCIe Supports mSATA
Storage	1 x mSATA Supported from Mini PCIe
I/O	6 x USB 3.0, 2 x USB 2.0, 2 x SATA III, 2 x RS-232/422/485, 2 x RS-232, 1 x 8bit GPIO, 1 x LPC, 1 x SPI, 1 x PS2/ KB & MS, 1 x IrDA
Display Chipset	Intel® QM87 Chipset Integrated Supports triple display
Resolution	DVI-I: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 3840x2160 @ 24Hz LVDS: Max. resolution 1920x1080 @ 60Hz
Audio Chipset	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out
Ethernet Chipset	1 x Intel® I210AT 1 x Intel® I217LM
Power Requirement	+12V ~ +19V
Power Type	AT/ATX
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	4.5" x 6.5" (115mm x 165mm)

5.25" Single Board Computer



5.25" Single Board Computer				
Model Number	EBM-SKLU	EBM-QM87U	EBM-APL	EBM-BYT
Processor	6th Gen Intel® Core™ i7/i5/i3/Celeron® processor	4th Gen Intel® Core™ i7/i5/i3 processor	Intel® Pentium®/ Celeron®/ Atom™ SoC Processor	Intel® Atom™/ Celeron® processor
System Chipset	N/A	N/A	N/A	N/A
System Memory	2 x 260-Pin DDR4 2133MHz SO-DIMM up to 32 GB	2 x 204-pin DDR3L 1600MHz SO-DIMM Up to 8G Per DIMM, total 16GB	1 x 204-Pin DDR3L 1866MHz SO-DIMM, supports 4G/8G & Up to 8GB DDR3L 1866MTs SDRAM (Non-ECC)	1 x 204-pin DDR3L 1066/1333MHz SO-DIMM Up to 8GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec. and 1sec./step	H/W Reset, 1sec. ~ 65535sec. and 1sec./step	H/W Reset, 1sec. ~ 65535sec. and 1sec./step	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
Expansion	1 x Mini PCIe Supports SIM Card, 1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports SIM Card, 1 x Mini PCIe Supports mSATA	1 x Mini PCIe (for PCIe, USB2.0 & SIM Card), 1 x M.2 (2242) B-Key	1 x Mini PCIe Supports SIM Card 1 x Mini PCIe Supports mSATA
Storage	1 x mSATA Supported from Mini PCIe	1 x CompactFlash Type I/II Socket, 1 x mSATA Supported from Mini PCIe	1 x M.2 support SATA/PCIe/USB interface for SSD	1 x CompactFlash Type I/II Socket 1 x mSATA Supported from Mini PCIe
I/O	4 x USB 3.0, 4 x USB 2.0, 1 x SATA III, 4 x RS232 (Optional), 2 x RS-232/422/485, 1 x SIM Card Slot, 1 x LPC, 1 x SPI, 1 x 16bit GPIO	2 x USB 2.0, 2 x USB 3.0, 2 x SATA II, 2 x RS-232/422/485, 1 x SIM Card Slot, 1 x 16bit GPIO	4 x USB 3.0, 4 x USB 2.0, 1 x SATA III, 4 x RS-232(Optional), 2 x RS-232/422/485, 1 x SIM Card Slot, 1 x LPC, 1 x SPI, 1 x 16bit GPIO	1 x USB 3.0, 5 x USB 2.0, 1 x SATA II, 4 x RS-232 (Optional), 2 x RS-232/422/485, 1 x SIM Card Slot, 1 x LPC, 1 x SPI, 1 x 16bit GPIO, 1 x PS2/ KB & MS
Display Chipset	Intel® Skylake U SoC integrated Graphics Supports dual display	Intel® Lynx Point integrated Graphics Supports dual display	Intel® Apollo Lake SoC integrated Gen9 LP Graphics Supports dual display	Intel® Valleyview SoC integrated Graphics Supports dual display
Resolution	Dual HDMI: Max. resolution 4096x2160 @ 24Hz LVDS: Max. resolution 1920x1080 @ 60Hz	HDMI: Max. resolution 4000x2000 @ 25Hz LVDS: Max. resolution 1920x1080 @ 60Hz	HDMI: Max. resolution 3840x2160 @ 30Hz LVDS: Max. resolution 1920x1080 @ 60Hz	eDP: Max. resolution 2560x1600 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz
Audio Chipset	Realtek ALC233 supports 2.1-CH Line-Out, Amp.	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out, Speak-out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out, 5W Amp.	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out
Ethernet Chipset	1 x Intel® I210AT 1 x Intel® I219LM	1 x Intel® I210AT 1 x Intel® I218LM	2 x Intel® I211AT	2 x Intel® I210IT
Power Requirement	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V
Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	-40°C ~ 85°C (-40°F ~ 185°F) 0°C ~ 60°C (with Processor J1900)
Dimension (L x W)	8" x 5.75" (203mm x 146mm)			

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

COM Express Module



COM Express Module						
Model Number	ESM-KBLH	ESM-KBLA	ESM-KBLU	ESM-SKLH	ESM-SKLA	ESM-SKLU
Processor	7th Gen Intel® Core™ i7/i5/i3 processor	7th Generation Intel® Xeon® E3-1505M v6/ E3-1505L v6 processor	7th Gen Intel® Core™ i7/i5/i3/Celeron® processor	6th Gen Intel® Core™ i7/i5/i3 processor	6th Gen Intel® Xeon®/ Core™ i3 processor	6th Gen Intel® Core™ i7/i5/i3/ Celeron® processor
System Memory	2 x 260-pin DDR4 2400/2133MHz SO-DIMM up to 32GB	2 x 260-pin DDR4 2400/2133MHz SO-DIMM up to 32 GB	2 x 260-pin DDR4 2133MHz SO-DIMM up to 32GB	2 x 260-pin DDR4 SO-DIMM up to 32GB	2 x 260-pin SODIMM DDR4 SDRAM slot up to 32GB, CM236 Support ECC Function	2 x 260-pin SO-DIMM DDR4 2133 SDRAM slot up to 32 GB
Expansion	8 x PCIe1	8 x PCIe1	8 x PCIe1	8 x PCIe1	8 x PCIe1	8 x PCIe1
USB	8 x USB 2.0, 4 x USB 3.0	8 x USB 2.0, 4 x USB 3.0	8 x USB 2.0, 4 x USB 3.0	8 x USB 2.0, 4 x USB 3.0	8 x USB 2.0, 4 x USB 3.0	8 x USB 2.0, 4 x USB 3.0
SATA	4 x SATA III	4 x SATA III	3 x SATA III	4 x SATA III	4 x SATA III	4 x SATA III
COM Port	2 x UART	2 x UART	2 x UART	2 x UART	2 x UART	2 x UART
MIO	1 x SMBus, 1 x LPC, 1 x I²C	1 x SMBus, 1 x LPC, 1 x I²C	1 x SMBus, 1 x LPC, 1 x I²C, 1 x SPI	1 x SMBus, 1 x LPC, 1 x I²C	1 x SMBus, 1 x LPC, 1 x I²C	1 x SMBus, 1 x LPC, 1 x I²C, 1 x SPI
Display Chipset	Intel® Kabylake SoC integrated Graphics	Intel® Kabylake SoC integrated Graphics	Intel® Kabylake SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	Intel® Skylake Processor integrated Graphics
Display	VGA, LVDS, DDI	VGA, LVDS, DDI	VGA, LVDS, DDI	VGA, LVDS, DDI	VGA, LVDS, DDI	VGA, LVDS, DDI
Audio	Intel® High Definition Audio	Intel® High Definition Audio	Intel® High Definition Audio	Intel® High Definition Audio	Intel® High Definition Audio	Intel® High Definition Audio
Ethernet	1 x Intel® I219LM	1 x Intel® I219LM	1 x Intel® I219LM	1 x Intel® I219LM	1 x Intel® I219LM	1 x Intel® I219LM
Power Requirement	+9V ~ +19V	+9V ~ +19V	+9V ~ +19V	+9V ~ +19V	+9V ~ +19V	+9 (-5%)~ +19V (+5%), VSB: 5V(±5%)
Operating Temperature	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 (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	-20°C ~ 80°C (-4°F ~ 176°F)
Dimension (L x W)	5" x 3.7" (125mm x 95mm)	5" x 3.7" (125mm x 95mm)	3.7" x 3.7" (95mm x 95mm)	5" x 3.7" (125mm x 95mm)	5" x 3.7" (125mm x 95mm)	3.7" x 3.7" (95mm x 95mm)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B



COM Express Module

ESM-BDW	ESM-QM87/QM87R	ESM-APLM	ESM-APLC	ESM-BYT2	ESM-BYT
5th Gen Intel® Core™ i7/i5/i3 Processor	4th Gen Intel® Core™ i7/i5/i3 processor	Intel® Pentium®/ Celeron® SoC Processor	Intel® Pentium®/ Celeron® SoC Processor	Intel® Atom™/Celeron® processor	
2 x 204-pin DDR3L 1600MHz SO-DIMM up to 16 GB	2 x 204-pin DDR3 1333/1600MHz SO-DIMM or 204-pin DDR3L 1600MHz SO-DIMM up to 16 GB	1 x 204-pin DDR3L 1866 SO-DIMM up to 8 GB	1 x 204-pin DDR3L 1866 SO-DIMM up to 8 GB	2 x 204-pin DDR3L 1600MHz SO-DIMM or 204-pin DDR3L 1333MHz SO-DIMM up to 4 GB (Processor E3845 & J1900 only support 1333MHz)	2 x 204-pin DDR3L 1066MHz SO-DIMM (for Bay trail-I E3826/E3825/E3815) or 204-pin DDR3L 1333MHz SO-DIMM up to 8 GB (E3845 & J1900 only support 1333MHz)
4 x PCIe1	7 x PCIe1, 1 x PCIe16	1 x PCIe4	3 x PCIe1	3 x PCIe1	
8 x USB 2.0, 2 x USB 3.0	8 x USB 2.0, 1 x USB 3.0	6 x USB 2.0, 2 x USB 3.0	8 x USB 2.0, 4 x USB 3.0	7 x USB 2.0, 1 x USB 3.0	
4 x SATA III	2 x SATA II, 2 x SATA III	2 x SATA III	2 x SATA III	2 x SATA II	
2 x UART	N/A	N/A	1 x UART	2 x UART	1 x UART
1 x LPC, 1 x SMBus, 1 x I ² C	1 x SMBus, 1 x LPC	1 x LPC, 1 x SMBus	1 x LPC, 1 x SMBus, 1 x I ² C	1 x LPC, 1 x SMBus, 1 x I ² C	
Intel® GT2 Integrated Graphics	Intel® QM87 Chipset Integrated	Apollo lake SoC integrated Graphics	Apollo lake SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	
VGA, LVDS, DDI	DDI+VGA, DDI+LVDS, VGA+LVDS	LVDS/DDI	VGA/ LVDS/ HDMI/ DP	VGA, LVDS, DDI	VGA, LVDS, DDI
Intel® Broadwell SoC integrated	Intel® QM87 Chipset Integrated	Intel® High Definition Audio	Intel® High Definition Audio	Intel® Valleyview SoC integrated	
1 x Intel® I218LM	1 x Intel® I211AT	1 x Intel® WGI211AT	1 x Intel® WGI211AT	1 x Intel® I211AT	
+9V ~ +19V	+9V ~ +19V	+4.75V ~ +20V	+9V ~ +19V	+9V ~ +19V	
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 (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F) (Standard) -40°C ~ 85°C (-40°F ~ 185°F) (Extended)	
3.7" x 3.7" (95mm x 95mm)	5" x 3.7" (125mm x 95mm)	3.31" x 2.17" (84mm x 55mm)	3.7" x 3.7" (95mm x 95mm)	3.7" x 3.7" (95mm x 95mm)	5" x 3.7" (125mm x 95mm)
CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B

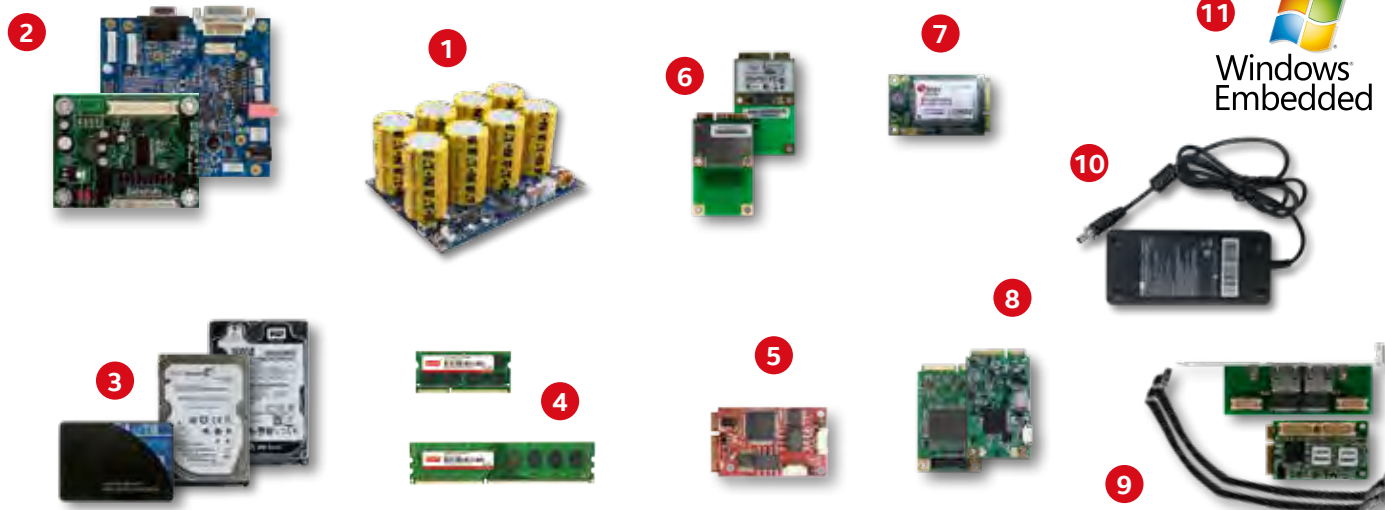
The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

SOM Carrier Board



SOM Carrier Board			
Model Number	EEV-EX15	EEV-EX14	EEV-EX62
USB	8 x USB 2.0, 2 x USB 3.0 (2 USB External)	8 x USB 2.0, 4 x USB 3.0 (4 USB External)	COM Express Type6 to Type 2 Adapter, with on board PCIe-to-PATA Converter & PCIe-to-PCI Bridge
SATA	2 x SATA III (On Board)	4 x SATA II (On Board)	
COM Port	N/A	1 x RS-232/422/485, 1 x RS-232, 1 x LPT (1xRS232/422/485 external, 1xRS232 on board)	
Video	1 x Display Port, 1 x HDMI, 1 x LVDS (1 x LVDS on board)	1 x Display Port, 1 x VGA, 1 x HDMI, 1 x LVDS (1 x LVDS on board)	
Other	1 x LAN	1 x PS2/ KB & MS, 1 x SDIO, 2 x LAN	
DIO	1 x 8bit GPIO	1 x 8bit GPIO	
MIO	N/A	1 x IrDA	
Expansion	1 x PCIe4 1 x IET 1 x SDIO/DIO (optional, depend on module board)	1 x PCIe16, 1 x PCIe4, 1 x PCIe1, 1 x Express Card, 1 x Mini PCIe	
Audio	Mic-In and Line-Out	Mic-In, Line-In and Line-Out	
Power Requirement	ATX	AT/ATX	
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	
Dimension (L x W)	6.7" x 6.7" (170mm x 170mm)	9.6" x 9.6" (243.84mm x 243.84mm)	5" x 3.7" (125mm x 95mm)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B

Peripherals & Accessories



Peripherals & Accessories

	Embedded Peripherals	Description
1	Power Board	EPM-1718 60W DC to DC Marine Power Module EPM-1715 Super Cap Power Module
2	Display Board	EPM-1525 VGA/DVI to TTL/LVDS Scalar Module EPM-1530 18/24 bit LVDS Receiver Module
	Accessories	Description
3	Industrial Flash Storage	Flash Disk: HDD/SSD Flash Card: CF/CFast Flash Module: mSATA/SATA DOM
4	Industrial DRAM Module	- Type: DDR2~DDR4 - Capacity: 1GB~16GB - Wide temperature
5	CANBus Module	- Form Factor: mPCIe - Dual Channel CAN 2.0B - Wide temperature: -40° to 85°C
6	Wi-Fi Module	- Form Factor: mPCIe/ M.2 - Bluetooth supported
7	3G/4G Module	3G/ 4G Wireless Ublox Mini PCIe module (3G Plus GPS)
8	Capture Card	Mini SDI/HDV capture card w/H.264 High Profile encoding
9	Mini LAN Port	2-port 10/100/1000 Ethernet board
10	Power Adapter	AC DC Adapter 60W/84W/120W
11	Microsoft Windows Embedded OS	Avalue provides Embedded Software to customers who integrated Avalue's hardware products. Windows Embedded Standard 7/8 Window 10 IoT Enterprise

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.



EPM-1718

60W DC to DC Marine Power Module

- 60W Marine Power Board w/IEC 60945 Certified
- Wide DC Input Range: +9~36Vdc; DC Output: +12Vdc
- Supports Over voltage/current protection
- Input to Output Isolation: 1500Vdc
- Operating Temperature Range: -40°C ~ 85°C
- Efficiency up to 92.8%
- Dimension: 100mm x 80mm



EPM-1715

Supercap Power Module

- 400F Super-Cap 4-Cell 12V AT Power Module, 6-cell and 8-cell model with Super-Cap pack board combined
- Recharging for 400,000 ~ 500,000 Times
- Max. Output Power 80W
- Operation Temp: 0°C ~ 65°C

Qseven Module

Qseven Solution

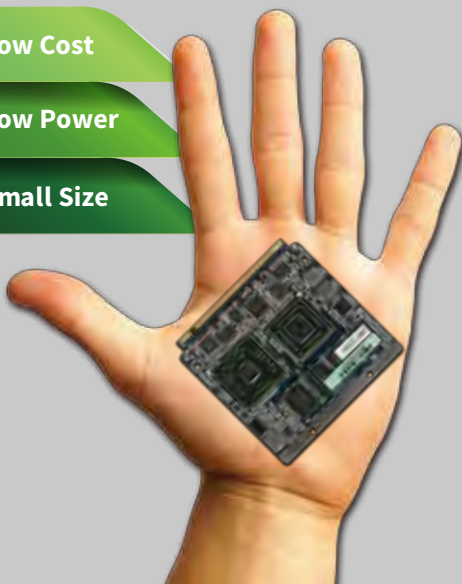
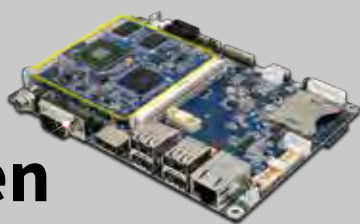
Small Form Factor for Ultra Mobile Applications

- Freely available industry standard
- Defined for low cost
- High performance interfaces
- Fast serial interfaces
- Compact size
- Perfect for new low power chipsets
- & processors

Low Cost

Low Power

Small Size



Qseven Carrier Board

Model Number	EEV-Q702	REV-Q703 (A/B)
USB	4 x USB 2.0, 1 x USB 3.0 (4 x USB on board, 1 x USB 3.0 external)	4 x USB 2.0, 2 x USB 3.0 (2 x USB on board, 2 x USB 3.0/ 1 x USB external)
SATA	2 x SATA II (On Board)	2 x SATA (On board)
COM Port	1 x UART (1 x UART External)	1 x RS-232
Video	1 x HDMI, 1 x Display Port, 1 x LVDS (1 x eDP, 1 x LVDS on board)	1 x HDMI, 1 x LVDS, 1 x DP, 1 x eDP (1 x LVDS & 1 x eDP on board)
Other	1 x SDIO, 1 x LAN, 1 x SPI, 1 x LPC	External I/O Connector 1 x Ethernet, 1 x SD socket, 3 x Audio phone jack Internal I/O connector 1 x GPIO, 1 x PCIe x1, 1 x mPCIe, 1 x SPI, 1 x CAN, 1 x LPC, 1 x JFP (Miscellaneous Setting Connector), 1 x PWM CPU Fan Header 1 x PWR Header
DIO	1 x 16bit GPIO	1 x 16 bit GPIO
MIO	1 x SD socket	1 x SD socket for version A 1 x Micro SD socket for version B
Expansion	1 x PCIe x1, 1 x Mini PCIe Supports SIM Card	1 x Mini PCIe Supports SIM Card
Audio Chipset	Realtek ALC892	ALC892/ WM8962
Audio Interface	Mic-In, Line-In, Line-Out	Mic-In, Line-In, Line-Out
Power Requirement	ATX	DC +12V
Operating Temperature	-40°C ~ 85°C (-40°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)
Certification	CE, FCC Class B	CE, FCC Class B



Qseven Module

Model Number	EQM-APL	EQM-BYT	EQM-BYT2	RQM-IMX6
Processor	Intel® Pentium®/ Celeron® processor	Intel® Atom™/ Celeron® processor	Intel® Atom™ Processor (E3825/ E3845)	NXP i.MX 6 Solo/ Quad
System Memory	Onboard DDR3L 4GB, up to 8GB E3900 series support ECC (Factory option)	Onboard DDR3L 2GB up to 4 GB (Processor E3845 only support 1333MHz)	2GB DDR3 (E3825) 4GB DDR3 (E3845)	1GB RAM (Solo) 1GB RAM (Quad) 1GB RAM (Quad Plus)
Expansion	3 x PCIe1	3 x PCIe1	3 x PCIe1	3 x PCIe1
USB	6 x USB 2.0, 2 x USB 3.0	5 x USB 2.0, 1 x USB 3.0	5 x USB 2.0, 1 x USB 3.0	4 x USB 2.0, 1 x USB OTG
SATA	2 x SATA III	2 x SATA II	2 x SATA II	1 x SATA II (Quad only)
UART	1 x UART	1 x UART	1 x UART	1 x UART
MIO	1 x SMBus, 1 x LPC, 1 x I ² C, 1 x SPI	1 x LPC, 1 x SMBus, 1 x I ² C	1 x LPC, 1 x SMBus, 1 x I ² C	3 x I ² C
Display Chipset	Apollo lake SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	NXP
Display	(HDMI or DP) + (eDP or LVDS)	DDI (HDMI or DP) + LVDS	DDI (HDMI or DP) + LVDS	1 x HDMI/ LVDS
Audio	Intel® Apollo lake SoC integrated	Intel® Valleyview SoC integrated	Intel® Valleyview SoC integrated	Supports I ² C interface
Ethernet Chipset	1 x Intel® I210 (N4200/N3350) Industrial 1 x Intel® I211 (N4200/N3350) commercial 1 x Intel® I210 (E3900 series) Industrial	1 x Intel® I211 (commercial)	1 x Intel® I210 for Industrial 1 x Intel® I211 for commercial	1 x KSZ9031
Power Requirement	+5V	+5V	+5V	+5V
Others	N/A	N/A	N/A	Support Mipi CSI Camera
Operating Temperature	0°C ~ 70°C (32°F ~ 140°F) (Standard) -20°C ~ -70°C (-4°F ~ 158°F)	0°C ~ 60°C (32°F ~ 140°F) (Standard)	0°C ~ 60°C (32°F ~ 140°F) (Standard) -40°C ~ 85°C (-40°F ~ 185°F) (Extended)	0°C ~ 60°C (32°F ~ 140°F) (Standard) -40°C ~ 85°C (-40°F ~ 185°F) (Extended)
Dimension (L x W)	2.8" x 2.8" (70mm x 70mm)	2.8" x 2.8" (70mm x 70mm)	2.8" x 2.8" (70mm x 70mm)	2.8" x 2.8" (70mm x 70mm)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
Software Support	Win 10 Linux Android	Win 10 Win 7 Win 8 Linux	Ubuntu 12.04 Win 7/ 8.1/ 10	Android 6.0 Yocto 2.1

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

ATX / Micro ATX / Pico ITX Motherboards



ATX					
Model Number	EAX-C246P	EAX-Q170KP (C236KP)	EAX-Q170P	EAX-H110KP	EAX-H81P
Processor	Intel® LGA1151 Socket Supports 8th Gen. Intel® Xeon®(Workstation)/Core™, Pentium®/Celeron® Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6/7th Gen. Core™, Pentium®/Celeron® Processors (Max. TDP at 95W) *C236KP support Intel® Xeon® (Workstation)	Intel® LGA1151 Socket Supports 6th Gen. Core™, Pentium®/Celeron® Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6/7th Gen. Core™, Pentium®/Celeron® Processors (Max. TDP at 95W)	Intel® LGA1150 Socket Supports 4th Gen. Core™ Refresh, Pentium®/Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® C246 Chipset	Intel® Q170 Chipset (Co-lay C236 Chipset)	Intel® Q170 Chipset	Intel® H110 Chipset	Intel® H81 Chipset
System Memory	4 x 288-pin DDR4 2400/2666MHz DIMM supports up to 64GB (ECC memory supported by CPU)	4 x 288-pin DDR4 2400MHz DIMM supports up to 64GB *C236: (ECC memory supported by CPU)	4 x 288-pin DDR4 2400MHz DIMM supports up to 64GB	2 x 288-pin DDR4 2400MHz DIMM supports up to 32GB	2 x 240-pin DDR3 1333/1600MHz DIMM socket, supports up to 16GB Max
Expansion	1 x PCI, 2 x PCI-e x 16, 1 x PCI-e x 4, 3 x PCI-e x 1, 1 x M.2 M-Key, 1 x M.2 A-Key	4 x PCI, 1 x PCI-e x 16 1 x PCI-e x 4, 1 x PCI-e x 1 1 x M.2 Key-A, 1 x SIM card slot, 1 x Full/Half Size Mini-PCIe	4 x PCI, 1 x PCI-e x 16 1 x PCI-e x 4, 1 x PCI-e x 1 1 x M.2 Key-A, 1 x SIM card slot, 1 x Full/Half Size Mini-PCIe	4 x PCI, 1 x PCI-e x 16, 2 x PCI-e x 4	4 x PCI, 1 x PCI-e x 16, 1 x PCI-e x2, 1 x PCI-e x1
Display	Intel® 8th Gen. CPU Integrated VGA + HDMI + DP	Intel® 6/7th Gen. CPU Integrated VGA + HDMI + DP	Intel® 6th Gen. CPU Integrated VGA + HDMI + DP	Intel® 6/7th Gen. CPU Integrated VGA + HDMI + DP	Intel® 4th Gen. CPU Integrated VGA + HDMI + DP
Resolution	VGA: 2048 x 1536 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz DP: 4096 x 2304 @ 60Hz	VGA: 2048 x 1536 @ 50Hz HDMI: 4096 x 2160 @ 24Hz, 2560 x 1600 @ 60Hz DP: 4096 x 2304 @ 60Hz	VGA: 2048 x 1536 @ 50Hz HDMI: 4096 x 2160 @ 24Hz, 2560 x 1600 @ 60Hz DP: 4096 x 2304 @ 60Hz	VGA: 2048 x 1536 @ 50 Hz HDMI: 4096 x 2160 @ 24 Hz, 2560 x 1600 @ 60 Hz DP: 4096 x 2304 @ 60Hz	VGA: 2048 x 1536 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz DP: 3840x2160@60Hz
Audio	Realtek ALC892 Mic-in, Line-in, Line-out 1 x 6W Audio Amplifier	Realtek ALC892 Mic-in, Line-in, Line-out 2 x 6W Audio Amplifier	Realtek ALC892 Mic-in, Line-in, Line-out 2 x 6W Audio Amplifier	Realtek ALC892 Line-in, Mic-in, Line-out 1 x 2W Amplifier	Realtek ALC892 Line-in, Mic-in, Line-out 1 x 3W Amplifier
Ethernet	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT	2 x Intel® I211AT
USB/SATA/COM/LAN	13/6/10/2	12/6/6/2	12/6/6/2	10/4/10/2	13/4/10/2
Power Requirement	+12V/+5V/5VSB/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5VSB/+3.3V/-12V	+12V/+5V/5VSB/+3.3V/-12V
Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
Operating Temp.	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 (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	12" x 9.6" (304.8mm x 243.84mm)	12" x 9.6" (304.8mm x 243.84mm)	12" x 9.6" (304.8mm x 243.84mm)	12" x 9.6" (304.8mm x 243.84mm)	12" x 9.6" (304.8mm x 243.84mm)
Weight	1.32lbs (0.6kg)	1.32lbs (0.6kg)	1.32lbs (0.6kg)	1.32lbs (0.6kg)	1.32lbs (0.6kg)



Micro ATX			
Model Number	ERX-H110KP	ERX-C236KP	ERX-H110
Processor	Intel® LGA1151 Socket Supports 6/7th Gen. Core™ /Pentium®/Celeron® Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6/7th Gen. Intel® Xeon®(Workstation)/Core™, Pentium®/Celeron® Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6th Gen. Core™,Pentium®/Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® H110 Chipset	Intel® C236 Chipset	Intel® H110 Chipset
System Memory	2 x 288-pin DDR4 2400MHz DIMM supports up to 32GB	4 x 288-pin DDR4 2400MHz DIMM supports up to 64GB (ECC memory supported by CPU)	2 x 288-pin DDR4 2400MHz DIMM supports up to 32GB
Expansion	1 x PCI-e x 16, 3 x PCI-e x 1, 1 x M.2 Key-A, 1 x SIM card slot, 1 x Full/Half Size Mini-PCIe	1 x PCI-e x 16, 1 x PCI-e x 4, 2 x PCI, 1 x SIM card slot, 1 x Full Size Mini-PCIe	1 x PCI-e x 16, 2 x PCI-e x 1, 1 x M.2 Key-M
Display	Intel® 6/7th Gen. CPU Integrated HDMI + VGA, HDMI + DP, VGA + DP	Intel® 6/7th Gen. CPU Integrated HDMI + HDMI, HDMI + VGA, VGA + HDMI	Intel® 6th Gen. CPU Integrated HDMI + DVI-D
Resolution	VGA: 2048 x 1536 @ 50Hz HDMI: 4096 x 2160 @ 24Hz, 2560 x 1600 @ 60Hz DP: 4096 x 2304 @ 60Hz	VGA: 2048 x 1536 @ 50Hz HDMI 1.4: 4096 x 2160 @ 24Hz, 2560 x 1600 @ 60Hz	HDMI 1.4: 4096 x 2160 @ 24Hz, 2560 x 1600 @ 60Hz DVI-D: 1920 x 1080 @ 60Hz
Audio	Realtek ALC892 Mic-in, Line-in, Line-out 2 x 6W Audio Amplifier	Realtek ALC662 Line-in, Mic-in, Line-out 2 x 3W Amplifier	Realtek ALC662 Mic-in, Line-in, Line-out
Ethernet	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 3 x Intel® I211AT	1 x RTL8111GS
USB/SATA/COM/LAN	8/4/6/2	13/6/10/4	10/4/1/1
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5VSB/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	AT/ATX	AT/ATX	AT/ATX
Operating Temp.	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	9.6" x 9.6" (243.84mm x 243.84mm)	9.6" x 9.6" (243.84mm x 243.84mm)	9.6" x 7.5" (243.84mm x 190mm)
Weight	1.35lbs (0.6kg)	1.35lbs (0.6kg)	1.35lbs (0.5kg)

Pico ITX	
EPX-APLP	
Intel® Celeron® N3350/ Pentium® N4200 Processor	
N/A	
1 x 204-pin DDR3L 1600 & 1333MHz SO-DIMM supports up to 8 GB	
1 x PCI-e x1 1 x M.2 Key-B, 1 x M.2 Key-A, 1 x SIM card slot	
Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDM/DPI + DP, HDMI + LVDS	
HDMI 1.4b: 3840 x 2160 @ 30Hz, 2560 x 1600 @ 30Hz LVDS: 1920 x 1800 @ 60Hz 2 x DP 1.2a: 4096 x 2160 @ 60Hz (1 x HDMI/DP, 1 x DP)	
Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier	
2 x Intel® I211AT	
6/1/6/2	
+12V	
ATX	
0°C ~ 60°C (32°F ~ 140°F)	
3.93" x 2.83" (100mm x 72mm)	
0.88lbs (0.4Kg)	

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Mini ITX Motherboards



Mini ITX							
Model Number	EMX-C246P	EMX-Q170KP	EMX-Q170P	EMX-H110KP	EMX-H110P	EMX-KBLU2P	EMX-APLP
Processor	Intel® LGA1151 Socket Supports 8th Gen. Core™ i7/ i5/ i3/Pentium®/ Celeron® Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6/7th Gen. Core™ i7/ i5/ i3/Pentium®/ Celeron® Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6th Gen. Core™ i7/ i5/ i3/Pentium®/ Celeron® Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6/7th Gen. Core™ i7/ i5/ i3/Pentium®/ Celeron® Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6th Gen. Core™ i7/ i5/ i3/Pentium®/ Celeron® Processors (Max. TDP at 95W)	Onboard 6th/7th Gen. Intel® Core™ SoC i7/i5/i3 & Celeron® BGA Processor	Intel® Pentium® Processor N4200 (2M Cache, up to 2.5 GHz)
System Chipset	Intel® C246 Chipset	Intel® Q170 Chipset		Intel® H110 Chipset		N/A	N/A
System Memory	2 x 288-pin DDR4 2400/2666MHz SO-DIMM supports up to 32GB (ECC memory supported by CPU)	2 x 260-pin DDR4 2400MHz SO-DIMM supports up to 32GB		2 x 260-pin DDR4 2400MHz SO-DIMM supports up to 32GB		2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB	2 x 204-pin DDR3L 1333/1600MHz SO-DIMM supports up to 16GB
Expansion	1 x PCI-e x 16 1 x M.2 M-Key 1 x M.2 E-Key	1 x PCI-e x 16 1 x Full Size Mini PCI-e 1 x Half Size Mini PCI-e		1 x PCI-e x 16 1 x Full Size Mini PCI-e 1 x Half Size Mini PCI-e		1 x PCI-e x 1 1 x M.2 B-Key 1 x M.2 A-Key	1 x PCI-e 2 x Mini PCI-e 1 x SD card slot 1 x SIM card slot
Display	Intel® 8th Gen. CPU integrated VGA + HDMI + LVDS	Intel® 6/7th Gen. CPU integrated VGA + LVDS, VGA + HDMI, VGA + DP, HDMI + LVDS, HDMI + DP, LVDS + DP		Intel® 6/7th Gen. CPU integrated VGA + LVDS, VGA + HDMI, VGA + DP, HDMI + LVDS, HDMI + DP, LVDS + DP		Intel® 6th/ 7th Gen. CPU integrated DP++, HDMI/DP, LVDS	Intel® Atom™/ Pentium® SoC Integrated Graphics HDMI + LVDS, HDM/DPI + DP, HDMI + LVDS
Resolution	VGA: 2048 x 1536 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)- By BOM option	VGA: 2048 x 1536 @ 50Hz HDMI: 4096 x 2160 @ 24Hz, 2560 x 1600 @ 60Hz DP: 4096 x 2304 @ 60Hz Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)		VGA: 2048 x 1536 @ 50Hz HDMI: 4096 x 2160 @ 24Hz, 2560 x 1600 @ 60Hz DP: 4096 x 2304 @ 60Hz Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)		1 x HDMI 1.4b: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz 2 x DP: DisplayPort 1.2a : 4096x2160 @ 60Hz (1 x HDMI/DP, 1 x DP++) 2CH 18/24bits LVDS 1920 x 1080	HDMI 1.4b: 3840 x 2160 @ 30Hz, 2560 x 1600 @ 30Hz; LVDS: 1920 x 1800 @ 60Hz; 2 x DP 1.2a: 4096x2160 @ 60Hz (1 x HDMI/DP, 1 x DP)
Audio	Realtek ALC662 6W Audio Amplifier	Realtek ALC892 Mic-in, Line-out, Line-in 6W Audio Amplifier		Realtek ALC892 Mic-in, Line-out, Line-in 6W Audio Amplifier		Realtek ALC892 Mic-in, Line-out, Line-in 2 x 6W Audio Amplifier	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier
Ethernet	1 x Intel® I219LM 3 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT		1 x Intel® I219LM 1 x Intel® I211AT		1 x Intel® I219LM 1 x Intel® I210IT	2 x Intel I211AT
USB/SATA/COM/LAN	13/4/6/4	12/6/6/2		8/4/6/2		8/2/6/2	9/2/6/2
Power Requirement	+12V/+5V/5VSB/ +3.3V/-12V	+12V/+5V/5VSB/+3.3V/-12V		+12V/+5V/5VSB/+3.3V/-12V		+12V~24V	+12V
Power Type	AT/ATX	AT/ATX		AT/ATX		AT/ATX	AT/ATX
Operating Temp.	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)		0°C ~ 60°C (32°F ~ 140°F)		-20 ~ 70°C (-4~158°F)	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)		6.69" x 6.69" (170mm x 170mm)		6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)
Weight	0.88lbs (0.4kg)	0.88lbs (0.4kg)		0.88lbs (0.4kg)		0.88lbs (0.4kg)	0.88lbs (0.4kg)



Mini ITX

EMX-SKLUP	EMX-SKLG	EMX-BSWP	EMX-BYT3	EMX-BYT2	EMX-BSWB
Onboard 6th Gen. Intel® Core™ & Celeron® BGA Processor	Onboard 6th Gen. Intel® Core™ & Celeron® BGA Processor	Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz)	Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz)	Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz)	Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz)
N/A	N/A	N/A	N/A	N/A	N/A
2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB	2 x 260-pin DDR4 2133 MHz SO-DIMM supports up to 32GB	2 x 204-pin DDR3L 1600MHz SO-DIMM supports up to 8GB	2 x 204-pin DDR3L 1333 MHz SO-DIMM supports up to 8GB	2 x 204-pin DDR3L 1333MHz SO-DIMM supports up to 8GB	2 x 204-pin DDR3L 1600MHz SO-DIMM supports up to 8GB
1 x PCI-e x 1 1 x M.2 B-Key, 1 x M.2 A-Key, 1 x SD card slot (Optional)	1 x Mini PCI-e 1 x M.2 A-Key	1 x PCI-e 2 x Mini PCI-e, 1 x SD card slot, 1 x SIM card slot	2 x Mini PCI-e, 1 x SIM card slot	1 x PCI-e 2 x Mini PCI-e, 1 x SD card slot, 1 x SIM card slot	2 x Mini PCI-e
Intel® 6th Generation CPU integrated Triple Display	Intel® Skylake U SoC integrated Graphics	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDMI + VGA, VGA + LVDS	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDMI + VGA, VGA + LVDS	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDMI + VGA, VGA + LVDS	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS + VGA
HDMI 1.4b: 3840 x 2160 @ 30Hz, 2560 x 1600@30Hz 2 x DP 1.2a: 4096 x 2160 @ 60Hz (1 x HDMI/DP, 1 x DP++), Dual channel 18/24-bits LVDS, Co-lay eDP 1.3: 4096x2160 BOM optional	HDMI: 1.4b: 3840 x 2160 @ 30 Hz, 2560 x 1600@ 30 Hz VGA: 2048 x 1536 @ 50Hz Co-lay eDP 1.3: 4096x2160 BOM optional	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz LVDS: 1920 x 1080 @ 60Hz	VGA: 2560 x 1600 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1920 x 1080 @ 60Hz	VGA: 2560 x 1600 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS 1920 x 1080 @ 60Hz	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz LVDS: 1920 x 1200 @ 60Hz
Realtek ALC892 supports 5.1-CH Mic-in, Line-out 2 x 6W Audio Amplifier	Realtek ALC892 supports 2-CH Mic-in, Line-out 2 x 6W Audio Amplifier	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier
1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT	2 x Intel® I211AT	2 x Intel® I211AT	2 x Intel® I211AT	1 x RTL8111F
8/2/6/2	12/2/6/2	8/2/6/2	6/2/8/2	6/2/6/2	7/2/1/1
+12V~24V	+12V~24V	+12V	+12V~24V	+12V	+12V
AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
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 (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)
6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)
0.88lbs (0.4kg)	0.88lbs (0.4kg)	0.88lbs (0.4kg)	0.88lbs (0.4kg)	0.88lbs (0.4kg)	0.88lbs (0.4kg)

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

ARM Embedded Solutions

Avalue RISC Platform: A Choice Beyond X86 Platform

Knowing arising demands in market, Avalue teams up to develop new RISC products with our experience and expertise in embedded computing. RISC series feature "3 Savings":



Space-Saving

Avalue's RISC platform is based on small size, 2.5" and SODIMM size



Energy-Saving

Each product is designed with low TDP and estimated power consumption is less than 1W (w/conditions)



Cost-Saving

By deducting redundant functions, execution process and hardware, total cost could be effectively controlled



RISC System

Model Number	AIB-IMX6
Processor	NXP i.MX6 Multimedia Processor
System Memory	1 X Onboard DDR3 1GB
Storage	1 x On board 4GB eMMC
External I/O Connector	1 x USB2.0 Type A(Double deck), 1 x HDMI, 1 x 10/100/1000 LAN RJ45, Optional Powered LAN support (IEEE 802.3at), 1 x Micro SD socket
Power Requirement	12 ~ 26V DC input, 2.5mm DC Jack, typical 19V input With brownout detection or Powered LAN (optional)
Operating Temperature	-20°C ~ 70°C (-4°F ~ 158°F)
Storage Temperature	-40°C ~ 70°C (-40°F ~ 158°F)
Dimension (L x W x H)	153mm x 107.8mm x 30mm
Weight	1.5kg
Certification	CE, FCC Class B
Software Support	Android 4.4 or 6.0 Ubuntu 12.04 Yocto 2.1

RISC Panel PC

Model Number	BFC-07R1
Resolution	1024 x 800
Pixel Pitch	0.117 (H) x 0.117 (V)
Luminance	400 cd/m ²
Touch Type	Projective Capacitive
Touch Light Transmission	85 %
Touch Controller	USB touch (SIS)
Processor	NXP i.MX6 Quad
System Memory	1 x Onboard DDR3 1GB
Storage	1 x On board 4GB eMMC
External I/O Connector	1 x USB2.0 Type A(Double deck), 1 x HDMI, 1 x 10/100/1000 LAN RJ45, Optional Powered LAN support (IEEE 802.3at), 1 x Micro SD socket 1 x RS232, OR OPTIONAL Debug port 1 x speaker 1 x MIC
Power Requirement	12 ~ 26V DC input, 2.5mm DC Jack, typical 19V input With brownout detection or Powered LAN (optional)
Operating Temperature	-20°C ~ 55°C (-4°F ~ 131°F)
Storage Temperature	-30°C ~ 70°C (-22°F ~ 158°F)
Dimension (L x W x H)	184.3mm x 124.3mm x 30.5mm
Weight	1.5kg
Certification	CE, FCC Class B
Software Support	Android 6.0



SMARC				RISC Single Board	
Model Number	SMA-IMX6	REV-SA01	REV-SA02	RSC-IMX61	ACP-IMX6POS
Processor	NXP iMX 6 Solo NXP iMX 6 Dual Lite NXP iMX 6 Dual NXP iMX 6 Quad Core	N/A	N/A	NXP iMX 6 Dual Lite NXP iMX 6 Quad Core	NXP iMX 6 Dual Lite NXP iMX 6 Quad Core
System Memory	1GB~2GB DDR3	N/A	N/A	DDR3 1G	1GB DDR3 (Dual Lite) 2GB DDR3 (Quad Core)
Storage	eMMC 4GB	N/A	N/A	eMMC 4GB	eMMC 4GB
External I/O Connector	2 x USB 2.0 Port (One OTG) 2 x RX/TX (Ser1/3) 2 x UART (Ser0/2) 3 x PCIe1 1 x MLB150 12 x GPIOs, 1 x SDIO, 1 x SATA eMMC, 2 x SPI, 3 x I ² C, 1 x SPDIF, 1 x WDT, 2 x CAN, 1 x JTAG	1 x HDMI, 1 x VGA, 2 x RJ45, 1 x DB9, 1 x Mini-USB, 2 x USB Type A	1 x LAN, 2 x RCA, 1 x Micro SD socket, 1 x Mini USB (OTG), 1 x USB Type A 2.0 double deck, 1 x HDMI, 1 x VGA, 1 x Display port, 2 x RS232, 1 x RST Switch, 1 x Power Switch, 1 x Power LED, 1 x DIP SW	1 x USB2.0 Type A x2 (Double deck) 1 x HDMI with screw lock 1 x 10/100/1000 LAN Optional Powered LAN support (IEEE 802.3at), 1 x Micro SD socket, 1 x Jack for I/R extender cable, co-design (Optional) with on board I/R sensor (Optional)	1 x USB2.0 Type A x2 (Double deck) 1 x 10/100/1000 LAN Optional 2nd 1 x 10/100/1000 LAN (RJ45x1), 1 x HDMI Connector (Vertical Type) 1 x Mini USB Connector 1 x RJ11 Connector for Cash Drawer 2 x DB9 Male Connector 1 x DC 12V Power Input by Power DC Jack 1 x Micro SD socket Optional 1 x NXP G Sensor
Internal I/O Connector	N/A	1 x LVDS, 1 x Backlight, 1 x SD Socket, 1 x USB Connector, 2 x CAN BUS, 1 x Speaker- out/ Mic-in, 1 x RS-232, 1 x GPIO, 1 x SATA, 1 x RTC Battery, 1 x 2 Cell Li Battery Connector	1 x Camera, 2 x Speaker, 1 x D-MIC, 1 x Mini PCIe (SATA), 1 x Mini PCIe (USB), 1 x Sim Card, 1 x GPIO, 1 x I ² C, 1 x USB2.0, 1 x PCIe-1, 1 x LVDS, 1 x Battery charger connect, 1 x Inverter, 2 x RS485, 2 x CAN	1 x USB2.0, 1 x USB OTG 1 x 2x5 GPIO, 1 x LVDS 24bitx2, 1 x Backlight control 1 x Line-out, speaker-out & Mic-in, 1 x Mini-PCIe (half size), 1 x I ² C, 1 x SATA (i.MX6 Quad only) 1 x Battery connector for RTC 1 x debug port, 1 x RS232	1 x VGA 3 x USB pin header 1 x 5-wire Resistive Touch Interface 1 x Dual Channel 24-bit LVDS 1 x Stereo Speaker-out 1 x Mini PCIe 1 x SIM Socket 1 x Front Panel Connector with Power Button & Indicate LED for Power & WIFI
Power Requirement	3V to 5.25V - Operates Directly from Single Level Lithium Ion Cells, or Fixed 3.3V or 5V Power Supplies	+9V ~ 36V DC-in (REV-SA01-02-A1R) +9V ~ 24V DC-in (REV-SA01-03-A1R)	DC +12V	12 ~ 26V DC input, 2.5mm DC Jack, typical 19V input With brownout detection or Powered LAN	DC 12 ~ 24V Power Input
Operating Temperature	Optional Commercial Temperature: 0°C ~ 60°C (32°F ~ 140°F) Industrial Temperature: -40°C ~ 85°C (-40°F ~ 185°F)	0°C ~ 60°C (32°F ~ 140°F)	-40°C ~ 85°C (-40°F ~ 185°F)	-20°C ~ 85°C (-4°F ~ 185°F)	0°C ~ 60°C (32°F ~ 140°F)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)	-20°C ~ 80°C (-40°F ~ 176°F)	-40°C ~ 85°C (-40°F ~ 185°F)	-40°C ~ 85°C	-40°C ~ 85°C (-40°F ~ 185°F)
Dimension (L x W)	82mm x 50mm	146mm x 101mm	170mm x 170mm	146mm x 102mm	175mm x 110mm
Weight	0.06kg	0.13kg	0.024kg	0.15kg	0.16kg
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
Software Support	Android 4.4 Ubuntu 12.04 Yocto 1.7	N/A	N/A	Android 4.4 / 6.0 Ubuntu 12.04 Yocto 2.1	Android 4.4 Ubuntu 12.04 Yocto 1.7

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Fanless Modular System

Sophisticated Design IET Modules

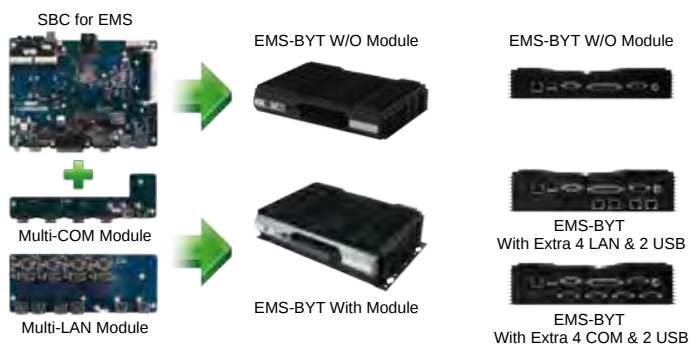


Fanless Modular System		
Model Number	EMS-SKLU	EMS-BYT
Board	EBM-SKLUS	EBM-BYTS
Processor	i7-6600U/ i5-6300U/ i3-6100U	J1900/ E3845
System Memory	1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Expansion	1 x Avalue 80-Pin IET Module Interface 1 x Mini PCIe, 1 x M.2 (B-Key, 2242, 3042)	1 x Avalue 80-Pin IET Interface 2 x Mini PCIe
Storage	1 x 2.5" Drive Bay, 1 x M.2 (SATA)	1 x 2.5" Drive Bay 1 x mSATA
USB	4 x USB 3.0	1 x USB 3.0, 2 x USB 2.0
COM Port	2 x RS-232/422/485 (Jumper)	2 x RS-232/422/485 (BIOS)
Other	2 x SIM Card Slot, 1 x SMBus, 2 x PS2/ KB & MS, 2 x Antenna mounting w/ cover	1 x SIM Card Slot, 1 x SMBus 2 x PS2/ KB & MS, 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO	1 x 12bit GPIO
Display Chipset	Intel® HD Graphics 520	Intel® HD Graphics for Intel Atom® Processor Z3700 Series
Display Resolution	DP: Max. resolution 4096 x 2304 @ 60Hz	VGA:Max. resolution 2560 x 1080 @ 60Hz
Audio Chipset	Realtek ALC892 supports 2.1-CH	Realtek ALC892 supports 2.1-CH
Audio Interface	Mic-In, Line-In, Line-Out	Mic-In, Line-In, Line-Out
Ethernet Chipset	1 x Intel® I211AT, 1 x Intel® I219LM	1 x Intel® I211AT
Ethernet Interface	2 x RJ45	1 x RJ45
Power Connector	3-Pin Terminal Block	Lockable DC Jack
Power Requirement	Typical +12 ~ +24Vdc (+9V ~ +32Vdv)	+12V ~ +26V TVS component for surge protection Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)
Adapter	Optional AC-DC Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter
Construction	Aluminum + Metal	Aluminum + Metal + Plastic
Dimension (L x W x H)	Standard: 9.45" x 5.96" x 1.77" (240mm x 151.5mm x 45mm) w/ IET module: 9.45" x 5.96" x 2.36" (240mm x 151.5mm x 60mm) Marine: 9.45" x 5.96" x 2.95" (240mm x 151.5mm x 75mm)	Standard : 9.45" x 6.69" x 1.77" (240mm x 170mm x 45mm) w/ IET module: 9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Operating Temperature	(w/SSD), ambient w/ air flow -20°C ~ 60°C (-4°F ~ 140°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)	(w/SSD, mSATA), ambient w/ air flow -15°C ~ 60°C (5°F ~ 140°F) (w/HDD), ambient w/ air flow 0°C ~ 45°C (32°F ~ 113°F) For Valleyview I SoC (w/SSD, mSATA), ambient w/ air flow -40°C ~ 75°C (-40°F ~ 167°F)
Certification Information	CE, FCC Class A	CE, FCC Class B

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.



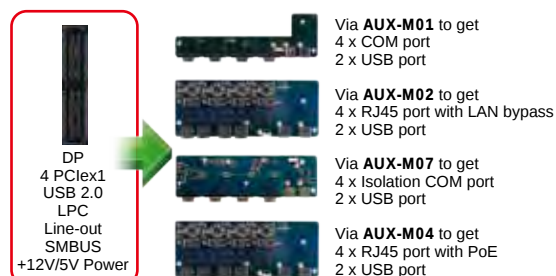
Modularization via IET Module



- Time-Saving Development for New Functions
- Flexible Design to Meet Versatile Requirements
- IET Expansion Module Supporting Multi-COM Isolation, Multi-LAN Bypass and Multi-LAN PoE Module

IET Module Pin Definition

EMS-BYT is an expandable rugged system that can quickly build innovative platform to meet customer's needs.



IET Module Options

AUX-M01



4COM Module
Expand
+ 4 x COM, 2 x USB

AUX-M02



4LAN bypass Module
Expand
+ 4 x LAN, 2 x USB

AUX-M03



8COM Isolation Module
Expand
+ 8 x COM, 2 x USB

AUX-M04



4LAN PoE 802.3af Module
Expand
+ 4 x LAN, 2 x USB

EBM-CDVS DB-A



DVI-D Module
Expand
+ DVI-D + 2 x USB

EBM-BYTS DB-A



HDMI Module
Expand
+ HDMI, 2 x USB,
2 x COM, 2 x LAN

EBM-BYTS DB-E



USB Module
Expand
+ 4 x USB 3.0, 3 x USB 2.0

EBM-BYTV DB-B



Mini PCIe Module
Expand
+ 2 x Mini PCIe
w/ 2 SIM + DVI-D

Fanless Rugged System / Fanless Compact System



Fanless Rugged System			
Model Number	EPS-CFS	EPS-KBLHE	EPS-QM87E
Board	ECM-CFS	ECM-KBLH	EPI-QM87
Processor	i7-8700T, i5-8500T, i3-8100T, G5400T, G4900T	i7-7820EQ i5-7440EQ i3-7100E	i7-4700EQ i5-4422E i3-4110E
System Chipset	Intel® CNL PCH-H Q370	Intel® QM175 Express Chipset	Intel® QM87 Express Chipset
System Memory	1 x 260-Pin DDR4 2400/2666MHz SO-DIMM up to 16 GB	1 x 260-Pin DDR4 2400MHz SO-DIMM up to 16 GB	1 x 204-Pin DDR3L 1333MHz SO-DIMM or 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB
Expansion	2 x Mini PCIe	1 x Mini PCIe Supports mSATA 1 x M.2 (B-Key, 2242)	1 x Mini PCIe
Storage	2 x 2.5" Drive Bay 1 x mSATA	1 x M.2 (SATA) 2 x 2.5" Drive Bay	1 x 2.5" Drive Bay 1 x mSATA
USB	2 x USB 2.0, 4 x USB 3.1	2 x USB 2.0, 4 x USB 3.0	2 x USB 2.0, 4 x USB 3.0
COM Port	2 x RS-232	1 x RS-232 1 x RS-232/422/485	2 x RS-232, 2 x RS-232/422/485 (Factory Optional)
Display Chipset	Intel® UHD Graphics 630/610	Intel® HD Graphics 630	Intel® HD Graphics 4600
Display Resolution	HDMI: Max. resolution 4096x2304 @ 30Hz	HDMI: Max. resolution 4096x2160 @ 24Hz	DVI-I: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 3840x2160 @ 24Hz
Audio Chipset	Realtek ALC892	Realtek ALC233 supports supports 2.1-CH	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In and Line-Out	Mic-In and Line-Out	Mic-In and Line-Out
Ethernet Chipset	1 x Intel® I211AT 1 x Intel® I219LM	1 x Intel® I210AT 1 x Intel® I219LM	1 x Intel® I210AT 1 x Intel® I217LM
Ethernet Interface	2 x RJ45	2 x RJ45	2 x RJ45
Power Connector	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack
Power Requirement	+12V	+12V	+12V ~ +19V
ACPI	Single Power ATX Support S0, S1, S3, S4, S5; ACPI 5.0 Compliant	Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant	Single Power ATX Support S0, S3, S4, S5; ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)
Dimension (L x W x H)	(212mm x 240mm x 85mm)	9.45" x 9.02" x 2.60" (240mm x 229mm x 66mm)	9.84" x 8.66" x 2.36" (250mm x 220mm x 60mm)
Operating Temperature	With extended temperature peripherals w/ air flow: -10°C ~ 50°C (14°F ~ 122°F)	With extended temperature peripherals w/ air flow: -10°C ~ 50°C (14°F ~ 122°F)	(w/SSD, mSATA), ambient w/ air flow; i7 -10°C ~ 50°C (14°F ~ 122°F) (w/SSD, mSATA), ambient w/ air flow; i5/i3 -10°C ~ 60°C (14°F ~ 140°F)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class A



ERS-BYT
ECM-BYT + AUX-032
J1900
N/A
1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
1 x Mini PCIe
1 x CompactFlash Type I/II Socket 1 x mSATA, 1 x 2.5" Drive Bay
3 x USB 2.0, 1 x USB 3.0
3 x RS-232, 1 x RS-232/422/485 (BIOS)
Intel® HD Graphics for Intel® Atom® Processor Z3700 Series
VGA: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz
Realtek ALC892 supports 5.1-CH
Mic-In, Line-In and Line-Out
2 x Intel® I211AT
2 x RJ45
Lockable DC Jack
+12V ~ +26V
Single Power ATX Support S0, S3, S4, S5; ACPI 3.0 Compliant
AT/ATX (ATX is default setting)
10.67" x 5.91" x 2.17" (271mm x 150mm x 55mm)
(w/SSD, mSATA, CF), ambient w/ air flow -10°C ~ 60°C (14°F ~ 140°F); (w/HDD), ambient w/ air flow 0°C ~ 45°C (32°F ~ 113°F); For Valleyview I SoC (w/SSD, mSATA), ambient w/ air flow -40°C ~ 75°C (-40°F ~ 167°F)
CE, FCC Class A

Expandable Fanless System

Model Number	EPS-QM87	EPS-BYT-PCI
Board	EAP-CE02 + ESM-QM87	EBM-BYTS
Processor	i7-4700EQ i5-4422E i3-4110E	Intel® Celeron® J1900 4-Core 2.0GHz processor
System Memory	2 x 204-Pin DDR3L 1333/1600MHz SO-DIMM up to 16 GB	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Expansion	2 x PCI (Factory Option w/1 x PCIe16 + 1 x PCI) 2 x Full Size Mini PCIe	1 x Mini PCIe 2 x PCI
Storage	2 x 2.5" Drive Bay	1 x 2.5" Drive Bay 1 x mSATA
USB	4 x USB 2.0 4 x USB 3.0	4 x USB 2.0
COM Port	4 x RS-232 4 x RS-232/422/485 (BIOS)	6 x RS-232/422/485 Can be set as RS-232/422/485 by BIOS
Other	1 x LPT Port 1 x Power on/off (Control-By-Wire)	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 16 bit GPIO	1 x12 bit GPIO
Display Chipset	Intel® HD Graphics 4600 (i7-4700EQ, i5-4422E, i3-4110E)	Intel® Valleyview SoC integrated Graphics
Display Resolution	VGA: Max. Resolution 1920 x 1200 @ 60Hz HDMI: Max. Resolution 3840 x 2160 @ 24Hz DP: Max. Resolution 1920 x 1200 @ 60Hz	VGA: Max. resolution 2560 x 1080 @ 60Hz
Audio Chipset	Realtek ALC892	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out	Mic-In, Line-In and Line-Out
Ethernet Chipset	1 x Intel® 217LM 1 x Intel® 82574L	1 x Intel® I211AT
Ethernet Interface	2 x RJ-45	1 x RJ-45
Power Requirement	Power Input: Typical 12/24 Vdc (+12~ 26V) Factory Option +18Vdc~+75Vdc DC/DC Wide Range Power Module	+12V ~ +26V TVS component for surge protection Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 1.0b and 2.0 Compliant	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)
Dimension (L x W x H)	9.84" x 10.63" x 4.45" (250mm x 270mm x 113mm)	8.66" x 8.46" x 5.79" (220mm x 215mm x 147mm)
Operating Temperature	(w/SSD), ambient w/ air flow; i7 -10°C ~ 50°C (14°F ~ 122°F) (w/SSD), ambient w/ air flow; i5/i3 -10°C ~ 60°C (14°F ~ 140°F)	(w/SSD, mSATA), ambient w/ air flow -15°C ~ 60°C (5°F ~ 140°F)
Certification Information	CE, FCC Class A	CE, FCC Class B

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

In-Vehicle and Transportation Computer

Make your fleet work for you

Keeping your fleet well-managed may be a challenge, but it is a necessity for growth and sustainability. Using dedicated fleet management offers a host of benefits that protects your business against market fluctuations and unseen costs.



Reduced Costs

Optimize vehicle performance with preventive maintenance schedules



Vehicles tracking & Safety

Benchmark and influence safe driving behavior by monitoring events like speeding and harsh braking.



Enhance Customer Satisfaction

With real-time information about the vehicle route and performance, you can improve service levels and comply with industry regulations.



In-Vehicle and Transportation Computer

Model Number	VMS-CFS
Board	EBM-CFSV
Processor	I7-8700T I5-8500T I3-8100T G5400T G4900T
System Memory	Intel® CNL PCH-H Q370
Expansion	1 x Avalue 80-Pin IET Interface 1 x Full Size Mini PCIe w/ SIM Slot 1 x M.2 Key-E 2230 2 x M.2 Key-B 2242/3042/2280 w/ SIM Slot 1 x CANBus Module Interface (UART)
Storage	2 x 2.5" Drive Bay (Front Access) 2 x M.2 Key-B SSD (2242/2280)
USB	6 x USB 3.1
COM Port	1 x RS232, 2 x RS-232/422/485
Other	3 x SIM Card Slot (External Accessible) 5 x Antenna Mounting with Dust Cover
DIO	1 x 8-Bit GPIO
Display Chipset	Intel® UHD Graphics 630/610
Display Resolution	DP 1.2: 4096x2160 @ 60Hz w/HDR HDMI 1.4: 4096x2160 @ 30Hz LVDS: 1920x1200 @ 60Hz, supports 2 channels 18/24-bit
Audio Chipset	Realtek ALC892 HD codec
Audio Interface	2 x Mic-In, 2 x Line-Out
Ethernet Chipset	1 x Intel I211-AT GbE Controller, 1 x Intel I219-LM GbE PHY
Ethernet Interface	2 x RJ45
Power Requirement	Typical 12/24 Vdc (+9~ 36Vdc)
ACPI	Single Power ATX Support S0, S1, S3, S4, S5, ACPI 5.0 Compliant
Power Mode	Vehicle/ PC (Vehicle is default setting)
Dimension (L x W x H)	210mm x 240mm x 110mm
Operating Temperature	With extended temperature peripherals w/ air flow: -25°C~ 70°C (14°F ~ 122°F)
Certification Information	CE, FCC Class A, e13 Mark, ISO7637-2, IP50 Rating



In-Vehicle and Transportation Computer

VMS-APL	VMS-BYT	EMS-SKLU-Marine
EBM-APLV	EBM-BYTV	EBM-SKLUS
N4200 N3350 x7-E3950 x5-E3940 x5-E3930	E3845	i7-6600U i5-6300U i3-6100U Celeron 3955U
1 x 204-Pin DDR3L 1866MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB	1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB
1 x Avalue 80-Pin IET Interface 1 x Full Size Mini PCIe (PCIe + USB w/ SIM Slot) 1 x Full Size Mini PCIe (PCIe + USB w/ SIM Slot) 1 x CANBus module Interface (UART)	1 x Avalue 80-Pin IET Interface 1 x Bluetooth Interface 1 x CAN module Interface 2 x Mini PCIe	1 x Avalue 80-Pin IET Interface 1 x Mini PCIe 1 x M.2 (B-Key, 2242, 2280)
1 x 2.5" Drive Bay (SATA III) 1 x M.2 (SATA III, 2242) 1 x SD (3.0)	1 x 2.5" Drive Bay 1 x CFast™ or mSATA	1 x 2.5" Drive Bay, 1 x M.2 (SATA)
4 x USB 3.0	2 x USB 2.0, 1 x USB 3.0	4 x USB 3.0, 2 x USB 2.0
2 x RS-232/422/485 (Jumper)	2 x RS-232/422/485 (BIOS)	2 x RS-232/422/485 (Jumper) 4 x RS-232/422/485 (BIOS)
2 x SIM Card Slot (External Accessible) 5 x Antenna Mounting with Dust Cover	1 x DC-Out (12V/4A), 5 x Knockouts for Antenna Mounting	2 x SIM Card Slot, 1 x SMBus, 2 x PS2/ KB & MS 2 x Antenna mounting w/ cover
1 x 8-Bit GPIO	1 x 8-bit GPIO	1 x 12-bit GPIO
Intel® HD Graphics 505/500	Intel® HD Graphics for Intel® Atom® Processor Z3700 Series	Intel® HD Graphics 520/ 510
DP: Max. Resolution 4096x2160 @ 60Hz LVDS: Max. Resolution 1920x1200 @ 60Hz	VGA: Max. resolution 2560x1080 @ 60Hz LVDS: Max. resolution 1600x1200 @ 60Hz	DP: Max. resolution 4096x2304 @ 60Hz
Realtek ALC892 supports 2.1-CH	Realtek ALC892 supports 5.1-CH	Realtek ALC892 supports 2.1-CH
2 x Mic-In, 2 x Line-Out	2 x Mic-In and 2 x Line-Out	Mic-In, Line-In and Line-Out
2 x Intel® I211AT	2 x Intel® I211AT	2 x Intel® I211AT
2 x RJ45	2 x RJ45	2 x RJ45
+9V ~ +36V	+9V ~ +36V	Typical 12/24Vdc (+9V ~ +36V) TVS component for surge protection
Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant	Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant	Single power ATX Supports S0, S3, S4, S5; ACPI 5.0 Compliant
AT/ATX (ATX is default setting)	AT/ATX (Industrial PC Power Mode)	AT/ATX (ATX is the default setting)
9.45" x 7.3" x 2.44" (239mm x 186mm x 62mm)	9.45" x 7.3" x 2.36" (240mm x 186mm x 60mm)	9.45" x 5.96" x 1.77" (240 x 151.5 x 45mm)
With extended temperature peripherals N4200/N3350: -20°C ~ 70°C (-4°F ~ 158°F) with air flow ; E3950/E3940/E3930: -40°C ~ 70°C (-40°F ~ 158°F) with air flow	(w/SSD, mSATA, CFast), ambient w/ air flow -40°C ~ 75°C (-40°F ~ 167°F)	(w/SSD), ambient w/ air flow -20°C ~ 60°C (-4°F ~ 140°F)
CE, FCC Class B, e13 Mark, ISO7637-2, IP50 Rating	CE, FCC Class A, e13 Mark	CE, FCC Class A

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Fanless VM System / Fanless Compact System



Fanless VM System

Model Number	HPC-BYT	ERS-BYTE-10COM
Board	ESM-BYT2 + EAP-CE04 + HPC DB-A	EBM-BYTS + AUX-M03
Processor	E3845	J1900
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Expansion	2 x Mini PCIe	2 x Mini PCIe
Storage	1 x CFast™, 1 x 2.5" Drive Bay (7mm HDD Restricted)	1 x 2.5" Drive Bay, 1 x mSATA
USB	3 x USB 2.0, 1 x USB 3.0	4 x USB 2.0, 1 x USB 3.0
COM Port	6 x RS-232/422/485 (Can be set as RS-232/422/485 by BIOS)	4 x RS-232, 6 x RS-232/422/485 (BIOS) COM3 ~ COM10 Supports 2.5KV Isolation Protection
Other	3 x Knockouts for Antenna Mounting	1 x SIM Card Slot, 1 x SMBus, 1 x LPT Port, 1 x LVDS, 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	N/A	1 x 12bit GPIO
Display Chipset	Intel® HD Graphics for Intel® Atom® Processor Z3700 Series	Intel® HD Graphics for Intel® Atom® Processor Z3700 Series
Display Resolution	DP: Max. resolution 2560x1080 @ 60Hz DP: Max. resolution 2560x1080 @ 60Hz	VGA: Max. resolution 2560x1080 @ 60Hz LVDS: Max. resolution 1920x1080 @ 60Hz
Audio Chipset	Realtek ALC892	Realtek ALC892
Audio Interface	Line-In and Line-Out	Mic-In, Line-In and Line-Out
Ethernet Chipset	2 x Intel® I211AT	1 x Intel® I211AT
Ethernet Interface	2 x RJ45	1 x RJ45
Power Requirement	+12V ~ +48V	+12V ~ +26V TVS component for surge protection Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant	Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)
Dimension (L x W x H)	5.5" x 3.3" x 6.4" (140.7mm x 85mm x 163mm)	9.09" x 12.36" x 3.15" (231mm x 160mm x 80mm)
Operating Temperature	(w/SSD, mSATA, CF), ambient w/ air flow -40°C ~ 70°C (-40°F ~ 158°F)	(w/SSD, mSATA), ambient w/ air flow -15°C ~ 60°C (5°F ~ 140°F)
Certification Information	CE Heavy Industrial, FCC Heavy Industrial, UL	CE, FCC Class B

Fanless Compact System

Model Number	EPC-WHL (Preliminary)
Board	ECM-WHL
Processor	8th Generation Intel® Core™ i7/ i5/ i3 Processor
System Memory	2 x SODIMM Socket Max. Up to 32GB DDR4 2400
Expansion	1 x M.2 Key-E includes CNVio Signal (2230) for Wi-Fi Cards (BO) 1 x M.2 Key-B with SIM Slot (2242/3042) for LTE and I/O Cards
Storage	1 x 2.5" Drive Bay (7mm) 1 x M.2 Key-B (2242)
USB	4 x USB 3.1
COM Port	N/A
Other	2 x Antenna Mounting with Dust Protection Cove
Display Chipset	Intel® UHD Graphics 620
Resolution	2 x HDMI 1.4: 4096 x 2160@24Hz 1 x LVDS: 1920 x 1200@60Hz
Audio Chipset	Realtek ALC892
Audio Interface	1 x Line-Out 1 x Mic-In
Ethernet Chipset	1 x Intel® I211AT 1 x Intel® I219LM
Ethernet Interface	2 x RJ45
Power Connector	Lockable DC Jack
Power Requirement	+12V
ACPI	Single Power ATX Support S0, S3
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter
Construction	Aluminum + Metal
Dimension (L x W x H)	6.97" x 4.84" x 1.77" (177mm x 123mm x 45mm)
Operating Temperature	With extended temp. peripherals w/ air flow: -10°C ~ 50°C (14°F ~ 122°F)
Certification	CE, FCC Class B



Fanless Compact System

EPC-SKLU	EPC-APL	EPC-BYT2	EPC-BYT	EPC-KA
ECM-SKLU	ECM-APL2	ECM-BYT2	ECM-BYT + AUX-032	ECM-KA + AUX-032
i7-6600U, i5-6300U i3-6100U, Celeron 3955U	N4200 N3350	J1900	J1900	AMD G-Series GX-415GA
1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB	1 x 204-Pin DDR3L 1866MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB	1 x 240-Pin DDR3 1600MHz DIMM up to 8 GB
1 x Full Size Mini PCIe (mSATA) 1 x M.2 (B-KEY, 2242, w/SIM Slot)	1 x Full size Mini PCIe Supports mSATA 1 x Half size Mini PCIe Supports Wi-Fi Module	2 x Mini PCIe	1 x Mini PCIe	1 x Mini PCIe
1 x 2.5" Drive Bay (7mm) 1 x M.2 (B-KEY, 2242) 1 x mSATA	1 x mSATA, 1 x 2.5" Drive Bay	1 x mSATA, 1 x 2.5" Drive Bay (7mm HDD Restricted)	1 x CompactFlash Type I/II Socket, 1 x mSATA, 2.5" Drive Bay (7mm HDD Restricted)	1 x CompactFlash Type I/II Socket, 1 x mSATA, 2.5" Drive Bay (7mm HDD Restricted)
2 x USB 2.0, 4 x USB 3.0	4 x USB 3.0	3 x USB 2.0, 1 x USB 3.0	5 x USB 2.0, 1 x USB 3.0	3 x USB 2.0, 2 x USB 3.0
1 x RS-232 1 x RS-232/422/485 (Cable&BIOS)	1 x RS-232/422/485 (Jumper)	1 x RS-232/422/485	3 x RS-232, 1 x RS-232/422/485	2 x RS-232
2 x Antenna Mounting with Dust Protection Cover	2 x Knockouts for Antenna Mounting	2 x Knockouts for Antenna Mounting	1 x Knockouts for Antenna Mounting	1 x Knockouts for Antenna Mounting
Intel® HD Graphics 520/ 510	Intel® HD Graphics 505/500	Intel® HD Graphics for Intel® Atom® Processor Z3700 Series	Intel® HD Graphics for Intel® Atom® Processor Z3700 Series	AMD SoC Integrated Graphics
2 x HDMI: Max. Resolution 4096x2160 @ 24Hz	VGA: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 3840x2160 @ 30Hz	VGA: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz	VGA: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz	VGA: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 1920x1080 @ 60Hz
Realtek ALC892	Realtek ALC892 supports 5.1-CH	Realtek ALC892 supports 5.1-CH	Realtek ALC892 supports 5.1-CH	Realtek ALC892 supports 5.1-CH
N/A	Mic-in, Line-in, Line-out (Optional)	N/A	Mic-In, Line-In and Line-Out	Mic-In, Line-In and Line-Out
1 x Intel® I211AT 1 x Intel® I219LM	2 x Intel® I211AT	2 x Realtek 8111E	2 x Intel® I211AT	2 x Realtek 8111E
2 x RJ45	2 x RJ45	2 x RJ45	2 x RJ45	2 x RJ45
Lockable DC Jack	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack
+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V
Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant	Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant	Single Power ATX Support S0, S3, S4, S5; ACPI 3.0 Compliant	Single Power ATX Support S0, S3, S4, S5; ACPI 3.0 Compliant	Single Power ATX Support S0, S3, S5; ACPI 3.0 Compliant
AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)
Input: 100 ~ 240Vdc/50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter	Input: 100 ~ 240Vdc/50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter	Input: 100 ~ 240Vdc/50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter	Input: 100 ~ 240Vdc/50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter	Input: 100 ~ 240Vdc/50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter
Aluminum + Metal	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal
7" x 4.8" x 2.0" (177mm x 123mm x 50mm)	6.97" x 4.84" x 1.77" (177mm x 123mm x 45mm)	6.88" x 4.33" x 1.57" (175mm x 110mm x 40mm)	7" x 5.6" x 2.0" (178mm x 142mm x 50mm)	7" x 5.6" x 2.0" (178mm x 142mm x 50mm)
With extended temp. peripherals w/ air flow: -10°C ~ 50°C (14°F ~ 122°F)	With extended temp. peripherals w/ air flow: -10°C ~ 50°C (14°F ~ 122°F)	-10 ~ +45°C (w/mSATA & SSD), Ambient w/Air Flow 0 ~ 40°C (32 ~ 104°F)	(w/SSD, mSATA, CF), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F)	(w/SSD, mSATA, CF), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F)
CE, FCC Class B	CE, FCC Class B	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

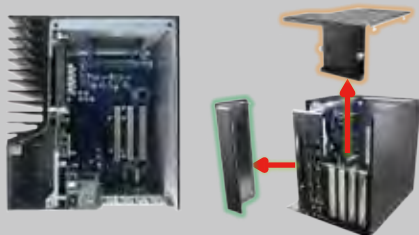
Expandable Fanless System



The 6th generation Intel® Core™ processor family

Fanless & Easy Maintenance

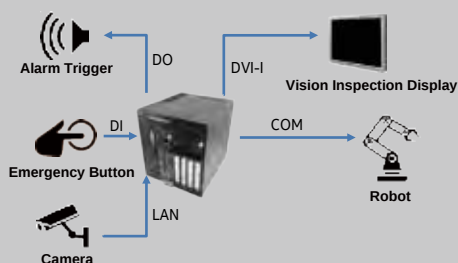
- No Cable No Trouble
- Easy To Install Any Device



Expansion - Avalue IET Module



Basic Application



Expandable Fanless System

Model Number	SLP-SKL	SLP-SKLB	SLP-SKG	SLP-SKI
Processor	Intel® Core™ i7-6700TE Processor (4-Core, 2.4GHz) Intel® Core™ i5-6500TE Processor (4-Core, 2.3GHz) Intel® Core™ i3-6100TE Processor (2-Core, 2.7GHz)		Intel® Celeron® Processor 3955U (2-Core, 2.0GHz)	
System Chipset	Intel® Q170 Chipset		N/A	
System Memory	2 x 260-Pin DDR4 2133MHz SO-DIMM up to 32 GB (Default: 1 x 4GB DDR4)		2 x 260-Pin DDR4 2133MHz SO-DIMM up to 32 GB (Default: 1 x 4GB DDR4)	
Expansion	1 x PCI-ex16 3 x PCI	1 x PCI-e x 8 2 x PCI-e x 4 1 x PCI	3 Slot : 2 x PCI, 1 x PCIe-1 2 Slot : 1 x PCI, 1 x PCIe-1 1 Slot : 1 x PCIe-4 1 x Key A M.2 2230	1 x Key A M.2 2230
Storage	1 x Mini PCI-e Supports mSATA 2 x 2.5" Drive Bay support RAID 0, 1 1 x CFast™		1 x 2.5" Drive Bay	
USB	6 x USB 3.0		4 x USB 3.0	4 x USB 3.0 2 x USB 2.0
COM Port	2 x RS-232 2 x RS-232/422/485		4 x RS232	4 x RS232
Other	1 x Power on/off switch with LED 1 x Reset button 1 x HDD LED, 1 x CFast LED 1 x Internal USB 2.0 (Type-A) 1 x PS/2 Keyboard 1 x PS/2 Mouse 1 x 16CH isolated DIO		1 x Power on/off switch with LED 1 x Reset button 1 x HDD LED, 1 1 x Internal USB 2.0 (Type-A) 1 x PS/2 Keyboard / Mouse	1 x Power on/off switch with LED 1 x Reset button 1 x HDD LED, 1 1 x Internal USB 2.0 (Type-A) 1 x PS/2 Keyboard / Mouse 1 x 16CH isolated DIO
Display	DP + DVI-I		HDMI + VGA	
Audio	Mic-In, Line-In and Line-Out		Mic-In and Line-Out	
Ethernet	1 x Intel® I219LM, 1 x Intel® I210AT		1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 3 x Intel® I211AT
Power Connector	Phoenix Connector		Phoenix Connector Mini Din connector	
Power Requirement	Built-in 9-36 VDC wide-range DC input		+12-24 VDC input	
Power Mode	ATX		ATX / AT	
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 180W Adapter (24V @ 7.5A)		Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 180W Adapter (24V @ 7.5A)	
Operating Temperature	(w/industrial SSD, CFast), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)		-5°C ~ 45°C (23°F ~ 113°F) w/HDD, ambient w/ air flow -5°C ~ 55°C (23°F ~ 131°F) w/Industrial SSD/RAM, ambient w/ air flow	
Storage Temperature	40°C ~ 75°C (-40°F ~ 167°F)		40°C ~ 75°C (-40°F ~ 167°F)	
Construction	Aluminum + Metal		Aluminum + Metal	
Mounting Kit	Wall Mount VESA (Optional)		N/A	
Dimension (L x W x H)	200 x 225 x 218 mm		221.8 x 135 x 232.85 mm	217.8 x 220 x 92 mm
Weight	4.5 kg		3.6 kg	3.2 kg

Embedded Computing System



Embedded Computing System			
Model Number	ECS-BYTC	ECS-SKLUC	ECS-APCO
Processor	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)	Intel® Celeron® Processor 3855U (2M Cache, 1.60 GHz) Intel® Celeron® Processor 3955U (2M Cache, 2.00 GHz)	Intel® Celeron® N3350 Processor
System Memory	1 x 204-pin DDR3L 1333MHz SO-DIMM up to 8 GB	1 x 260-pin DDR4 2133MHz SO-DIMM supports up to 16GB	2 x 204-pin DDR3L 1600/1333MHz SO-DIMM, supports up to 8 GB
Expansion	1 x Full-Sized Mini PCI-e supports mSATA 1 x Half-Sized Mini PCI-e	1 x full size Mini PCI-e support mSATA 1 x full size Mini PCI-e support Wi-Fi module and SIM Card	1 x M.2 Type B 3042/2242/2260 supports SSD 1 x M.2 Type A 2230 supports WiFi module
Storage	1 x full size Mini PCI-e support mSATA 1 x full size Mini PCI-e support Wi-Fi module and SIM Card 1 x 2.5" SATA HDD/SSD	1 x full size Mini PCI-e support mSATA 1 x full size Mini PCI-e support Wi-Fi module and SIM Card 1 x 2.5" SATA HDD/SSD	1 x 2.5" HDD/SSD Internal Bracket 1 x M.2 Key B 3042/2242/2260 supports SSD
USB	1 x USB 3.0, 5 x USB 2.0	4 x USB 2.0, 2 x USB 3.0	2 x USB 3.0, 4 x USB 2.0
COM Port	5 x RS-232 1 x RS-232/RS-485	5 x COM (RS-232) 1 x COM (RS-232/RS-485)	1 x RS-232
Other	1 x Power on/off Switch 1 x Power LED 1 x HDD LED 1 x SMA Connector (Optional)	1 x Power-on/off Switch 1 x Power LED 1 x HDD LED 1 x Line-out	1 x Power on/off Button w/ LED 1 x Storage LED 2 x SMA Connector (Optional)
Display	VGA + HDMI	VGA HDMI	Intel® Celeron® SoC Integrated Graphics DP++ + HDMI
Audio	Realtek ALC662 HD Audio Decoding Controllerr Realtek ALC105 Support 2 x Stereo Class-D 3W Audio Amplifier Line-Out	Realtek ALC662 HD Audio Decoding Controller Realtek ALC105 Support 2 x Stereo Class-D 3W Audio Amplifier Line-Out	Realtek ALC662 supports 2-CH Mic-In and Line-Out
Ethernet	Realtek ALC662 Realtek ALC105	2 x Intel I211AT GbE controller	2 x Intel I211AT
Power Connector	DC Jack (lockable)	DC Jack (lockable)	DC Jack (lockable)
Power Requirement	+12V	+12V	+12V
Power Mode	ATX	Single power ATX Support S0, S3, S4, S5	ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F) (w/HDD), ambient w/ air flow 0°C ~ 45°C (32°F ~ 113°F) (w/SSD, mSATA), ambi- ent w/ air flow	0°C ~ 40°C (32°F ~ 104°F) (w/HDD), ambient w/ air flow 0°C ~ 45°C (32°F ~ 123°F) (w/SSD, mSATA), ambi- ent w/ air flow	0°C ~ 50°C (32°F ~ 104°F) (w/SSD), ambient w/ air flow. 0°C ~ 40°C (32°F ~ 113°F) (w/HDD, M.2 and OEM chassis), ambient w/ air flow
Storage Temperature	-20°C ~ 75°C (-22°F ~ 167°F)	-20°C ~ 75°C (-22°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Construction	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal
Mounting Kit	VESA/ Din rail (optional)	VESA / Din rail (optional)	VESA/ Din rail/ Wall Mount (Optional)
Dimension (L x W x H)	180 x 126 x 68 mm	180mm x 126mm x 75.5mm	145.5 x 160 x 63 mm
Weight	1.2 kg	1.4 kg	1.5 kg

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Mini ITX System



Mini ITX Fanless System

Model Number	BMX-T521-BSW	BMX-T521-BYT	BMX-T522-SK
Processor	Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz)	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)	Intel® 6th Gen Core™ SoC i7/i5/i3 & Celeron® BGA Processor
System Chipset	N/A	N/A	N/A
System Memory	2 x 204-pin DDR3L 1600MHz SO-DIMM up to 8 GB (Default: 1 x 2GB DDR3L)	2 x 204-pin DDR3L 1333MHz SO-DIMM up to 8 GB (Default: 1 x 2GB DDR3L)	2 x 260-pin DDR4 2133MHz SO-DIMM up to 32GB (Default: 1 x 4GB DDR4)
Expansion	1 x Full Size Mini PCI-e support mSATA Only 1 x Full Size Mini PCI-e support WiFi & 3G/4G module	1 x Full Size Mini PCI-e support mSATA Only 1 x Full Size Mini PCI-e support WiFi & 3G/4G module	1 x M.2 Key B 3042/2242/2260/2280 w/ SIM card slot 1 x M.2 Key A 2230 Supports WiFi Module
Storage	1 x SD card slot support SD/ SDHC Card 2 x 2.5" Drive Bay	1 x SD card slot support SD/ SDHC Card 2 x 2.5" Drive Bay	1 x SD card slot support SD/ SDHC Card 2 x 2.5" Internal HDD Bracket
USB	4 x USB 2.0, 4 x USB 3.0	2 x USB 2.0, 4 x USB 3.0	4 x USB 3.0, 4 x USB 2.0
COM Port	5 x RS232 (pin9 with power) 1 x RS232/422/485	5 x RS232 (pin9 with power) 1 x RS232/422/485	4 x RS-232 (pin9 with power) 2 x RS-232/422/485
Other	1 x PS/2 Keyboard or Mouse	1 x SIM Card Slot 2 x SMA Connector (Optional)	1 x SIM Card Slot 2 x SMA Connector (Optional)
Display	Intel® Atom™/ Celeron® SoC Integrated Graphics VGA + HDMI	Intel® Atom™/ Celeron® SoC Integrated Graphics VGA + HDMI	Intel® 6th Gen Core™ SoC i7/i5/i3 & Celeron® BGA Processor DP + DP, DP + HDMI
Display Resolution	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz	VGA: 2560 x 1600 @ 60 Hz HDMI: 1920 x 1200 @ 60Hz	HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz DP: 4096x2160 @ 60Hz
Audio	Realtek ALC662 supports 2-CH Mic-In and Line-Out	Realtek ALC662 supports 2-CH Mic-In and Line-Out	Realtek ALC892 Audio Codec Mic-In and Line-Out
Ethernet	2 x Intel® I211AT	2 x Intel® I211AT	1 x Intel® i211AT 1 x Intel® i219LM
Power Connector	DC Jack (lockable)	DC Jack (lockable)	DC Jack (lockable)
Power Requirement	+12V	+12V	+12V~24V
Power Mode	ATX	ATX	ATX
Adapter/Power Supply	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)
Operating Temperature	(w/SSD, mSATA), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)	(w/SSD, mSATA), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F) (w/HDD), ambient w/ air flow 0°C ~ 55°C (32°F ~ 131°F) (w/ Wide-temp SSD & M.2 only), ambient w/ air flow
Storage Temperature	-40°C ~ 75°C (-40°F ~ 167°F)	-40°C ~ 75°C (-40°F ~ 167°F)	-40°C ~ 75°C (-40°F ~ 167°F)
Construction	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal
Mounting Kit	VESA/ Din rail/ Wall Mount (Optional)	VESA/ Din rail/ Wall Mount (Optional)	VESA/ Din rail/ Wall Mount (Optional)
Dimension (L x W x H)	180 x 182 x 76 mm	180 x 182 x 76 mm	180 x 182 x 76 mm



Mini ITX Barebone System

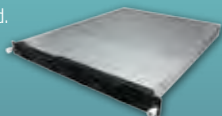
Model Number	BMX-P521-H110	BMX-P521-Q170	BMX-T524-Q170	BMX-T524-H110
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 85W)	Intel® LGA1151 Socket Supports 6th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 85W)	Intel® LGA1151 Socket Supports 6th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 85W)	Intel® LGA1151 Socket Supports 6th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 85W)
System Chipset	Intel® H110 Chipset	Intel® Q170 Chipset	Intel® Q170 Chipset	Intel® H110 Chipset
System Memory	2 x 260-pin DDR4 2133MHz SO-DIMM Supports up to 32GB	2 x 260-pin DDR4 2133MHz SO-DIMM Supports up to 32GB	2 x 260-pin DDR4 2133MHz SO-DIMM Supports up to 32GB	2 x 260-pin DDR4 2133MHz SO-DIMM Supports up to 32GB
Expansion	1 x PCI-e x 16, 1 x Full Size Mini PCI-e Supports mSATA (by auto switch IC), 1 x Half Size Mini PCI-e 1 x Low Profile Expansion Slot	1 x PCI-e x 16, 1 x Full Size Mini PCI-e Supports mSATA (by auto switch IC), 1 x Half Size Mini PCI-e 1 x Low Profile Expansion Slot	1 x Full Size Mini PCI-e Supports mSATA (by auto switch IC) 1 x Half Size Mini PCI-e	1 x Full Size Mini PCI-e Supports mSATA (by auto switch IC) 1 x Half Size Mini PCI-e
Storage	1 x 2.5" or 1 x 3.5" (up to 24.5mm) HDD/SSD Bracket 1 x 3.5" (up to 20.0mm) HDD Bracket 1 x 5.25" External Drive Bay	1 x 2.5" or 1 x 3.5" (up to 24.5mm) HDD/SSD Bracket 1 x 3.5" (up to 20.0mm) HDD Bracket 1 x 5.25" External Drive Bay	2 x 2.5" or 1 x 3.5" HDD Bracket	2 x 2.5" or 1 x 3.5" HDD Bracket
USB	4 x USB 2.0, 4 x USB 3.0	6 x USB 2.0, 4 x USB 3.0	4 x USB 2.0, 4 x USB 3.0	4 x USB 2.0, 4 x USB 3.0
COM Port	5 x RS-232, 1 x RS-232/422/485	5 x RS-232, 1 x RS-232/422/485	4 x RS232 (pin9 with power) 1 x RS232/422/485	4 x RS232 (pin9 with power) 1 x RS232/422/485
Other	1 x SMA Connector (Optional) 1 x PS/2 Keyboard & Mouse Combo Jack	1 x SMA Connector (Optional) 1 x PS/2 Keyboard & Mouse Combo Jack	2 x SMA Connector (Optional) 1 x PS/2 Keyboard & Mouse Combo Jack	2 x SMA Connector (Optional) 1 x PS/2 Keyboard & Mouse Combo Jack
Display	VGA + HDMI, HDMI + DP, VGA + DP	VGA, HDMI, DP	VGA + HDMI + DP	VGA + HDMI, HDMI + DP, VGA + DP
Display Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 60 Hz DP: 4096 x 2304 @ 60Hz	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 60 Hz DP: 4096 x 2304 @ 60Hz	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 60 Hz DP: 4096 x 2304 @ 60Hz	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 60 Hz DP: 4096 x 2304 @ 60Hz
Audio	Realtek ALC892 HD Audio Decoding Controller with 6W Amplifier Front: Mic-In, Line-In, Line-Out Rear: Mic-In, Line-Out	Realtek ALC892 HD Audio Decoding Controller with 6W Amplifier Front: Mic-In, Line-In, Line-Out Rear: Mic-In, Line-Out	Realtek ALC892 HD Audio Decoding Controller with 6W Amplifier	Realtek ALC892 HD Audio Decoding Controller with 6W Amplifier
Ethernet	1 x Intel® I219-LM 1 x Intel® I211-AT	1 x Intel® I219-LM 1 x Intel® I211-AT	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT
Power Connector	AC Jack (IEC 320 C14)	AC Jack (IEC 320 C14)	Power Din Jack	Power Din Jack
Power Requirement	100 ~ 240 VAC	100 ~ 240 VAC	DC in 18~28V via power converter	DC in 18~28V via power converter
Power Mode	ATX	ATX	ATX	ATX
Adapter/Power Supply	Standard TFX 300W Power Supply	Standard TFX 300W Power Supply	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 120W Adapter (19V @ 6.3A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 120W Adapter (19V @ 6.3A)
Operating Temperature	(w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)	(w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)	(w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)	(w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	-20°C ~ 70°C (-4°F ~ 158°F)	-20°C ~ 70°C (-4°F ~ 158°F)	-40°C ~ 75°C (-40°F ~ 167°F)	-40°C ~ 75°C (-40°F ~ 167°F)
Construction	Metal	Metal	Aluminum + Metal	Aluminum + Metal
Mounting Kit	N/A	N/A	VESA/ Din rail/ Wall Mount (Optional)	VESA/ Din rail/ Wall Mount (Optional)
Dimension (L x W x H)	265 x 100 x 310 mm	265 x 100 x 310 mm	205 x 205 x 75 mm	205 x 205 x 75 mm

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Micro ATX Barebone System Rackmount System and Mini Sever

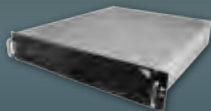


- Supporting up to ATX motherboard.
- Designing for Digital Signage, Slim workstation Application.
- Space saving.



1U Chassis

- Supporting micro-ATX or ATX motherboard.
- Industrial control, Automation, Networking Security, Telecom, Application Server
- Flexible for additional slot expansion.



2U Chassis

+ Industrial System Overview



4U Chassis

- Supporting micro-ATX or ATX motherboard.
- Work Station, DVR/Surveillance, Application Server Application.
- Highly Expandable Function for different application.



Mini-Server

- Supporting mini-ITX motherboard.
- Digital Signage, Thin Client, Car PC, Gaming Application
- Space saving with flexible chassis design.
- Optional Smart Power & Eco UPS



Rackmount System and Mini Sever

Model Number	BAX-R1U4S-C23K	BAX-R2U8S-C23K
Processor	Intel® 6/7th Generation Core™/ Intel® Xeon® E3-1200 v5 Family Processors	Intel® 6/7th Generation Core™/ Intel® Xeon® E3-1200 v5 Family Processors (Max. TDP at 95W)
System Memory	4 x 288-pin DDR4 2133MHz DIMM up to 64GB (ECC memory supported by CPU)	4 x 288-pin DDR4 2133MHz DIMM up to 64GB (ECC memory supported by CPU)
Storage	4 x 2.5" or 3.5" hot-swap HDD trays 1 x Internal 2.5" Drive Bay	8 x 2.5" or 3.5" hot-swap HDD trays 1 x 2.5" Internal Drive Bay
Expansion	Full Height PCI-e Slot x 1 (via riser card and bracket)	7 x Low profile expansion slots
Display	Intel® 7th Generation CPU integrated HDMI + VGA + DP	Intel® 7th Generation CPU integrated HDMI + VGA + DP
Audio	Realtek ALC892 Mic-In, Line-In and Line-Out 2 x 6W Amplifier	Realtek ALC892 Mic-In, Line-In and Line-Out 2 x 6W Amplifier
Ethernet	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT
USB	4 x USB 3.0 2 x USB 2.0	4 x USB 3.0 2 x USB 2.0
COM Port	1 x RS-232	1 x RS-232
Others	1 x PS/2 Keyboard or Mouse	1 x PS/2 Keyboard or Mouse
Power Type	ATX	ATX
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Power Supply	315W 1U Flex 100-240Vac	500W 1U Single 100-240Vac
Dimensions (L x W x H) w/o Front Panel	533.4 x 482.6 x 44.4 mm	571.5 x 482.6 x 88.9 mm



Rackmount System and Mini Sever

BAX-R1U0-H11K	BAX-R1U0-Q17K	BAX-R2U0-Q17K	BAX-R4U0-Q17K	BMX-P54S-Q17K
Intel® 6/7th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors	Intel® 6/7th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors	Intel® 6/7th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)	Intel® 6/7th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)	Intel® 6/7th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors
2 x 288-pin DDR4 2133MHz DIMM up to 32 GB	4 x 288-pin DDR4 2133MHz DIMM up to 64 GB	4 x 288-pin DDR4 2133MHz DIMM up to 64 GB	4 x 288-pin DDR4 2133MHz DIMM up to 64 GB	2 x 260-pin DDR4 2133MHz SO-DIMM up to 32 GB
2 x 3.5" Drive Bay or 1 x 2.5" + 1 x 3.5" Drive Bay	2 x 3.5" Drive Bay or 1 x 2.5" + 1 x 3.5" Drive Bay	6 x 3.5" Drive Bay or 2 x 5.25" + 4 x 3.5" Drive Bay	3 x 3.5" Internal Drive Bay 2 x 3.5" + 3 x 5.25" External Drive Bay	4 x 2.5" or 3.5" hot-swap HDD trays 1 x 2.5" Internal Drive Bay
Full Height PCI-e Slot x 1 (via riser card and bracket)	Full Height PCI-e Slot x 1 (via riser card and bracket)	7 x Low profile expansion slots	7 x Full Height expansion slots	1 x Low profile expansion slot
Intel® 7th Generation CPU integrated HDMI + VGA, HDMI + DP, VGA + DP	Intel® 7th Generation CPU integrated VGA + HDMI + DP	Intel® 7th Generation CPU integrated VGA + HDMI + DP	Intel® 7th Generation CPU integrated VGA + HDMI + DP	Intel® 7th Generation CPU integrated VGA + HDMI + DP
Realtek ALC892 Mic-In, Line-In and Line-Out 2 x 6W Amplifier	Realtek ALC892 Mic-In, Line-In and Line-Out 2 x 6W Amplifier	Realtek ALC892 Mic-In, Line-In and Line-Out 2 x 6W Amplifier	Realtek ALC892 Mic-In, Line-In and Line-Out 2 x 6W Amplifier	Realtek ALC892 Mic-In, Line-In and Line-Out 2 x 6W Amplifier
1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT
4 x USB 3.0 2 x USB 2.0	4 x USB 3.0 2 x USB 2.0	4 x USB 3.0 2 x USB 2.0	4 x USB 3.0 2 x USB 2.0	4 x USB 3.0 2 x USB 2.0
1 x RS-232	1 x RS-232	1 x RS-232	1 x RS-232	1 x RS-232
1 x PS/2 Keyboard or Mouse	1 x PS/2 Keyboard or Mouse	1 x PS/2 Keyboard or Mouse	1 x PS/2 Keyboard or Mouse	1 x PS/2 Keyboard or Mouse
ATX	ATX	ATX	ATX	ATX
0°C ~ 35°C (32°F ~ 95°F)	0°C ~ 35°C (32°F ~ 95°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
315W 1U Flex 100-240Vac	315W 1U Flex 100-240Vac	500W PS2 100-240Vac	500W PS2 100-240Vac	265W 1U Flex 100-240Vac
381 x 482.6 x 44.4 mm	381 x 482.6 x 44.4 mm	504 x 482.6 x 88.9 mm	508 x 482.6 x 178 mm	275 x 210 x 230 mm

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Outdoor / Rugged Panel PC - SPC Series



SPC Series

Full IP65 Rating Stainless Steel
Touch Panel PC Perfect Fit For
Harsh Washdown Environments

Super Scratch-proof Panel

SPC series offer a high level of hard glass compliant with SAA panels. It is resistant to scratches from nails, coins, keys and other sharp metal tools.

Stainless: Vandal-proof; Oil-proof

- Rust-proof; Resistance to corrosion
- Stainless
- Vandal-proof/Resistance of high temp.

Full IP65/ IP69K Design for Water-proof

- Full IP65
- Water-draining design
- IP67 Connector
- Membrane Buttons

Wide Volt./ Over Current Protection

- Flexibility
- Safety
- Over Current/ Surge Protection

SPC-1533/ 2133



(Front)



(Rear)

SPC Series

Model Number	SPC-1533	SPC-2133
LCD Size	15", 4:3	21.5"
Display Type	XGA	WSXGA
Resolution	1024 x 768	1920 x 1080
Pixel Pitch	0.297mm (H) x 0.297mm (V)	248.25um (H) x 248.25um (V)
Luminance	250 cd/m ²	250 cd/m ²
Contrast Ratio	700	3000
Viewing Angle	70 (U), 70 (D), 80 (L), 80 (R)	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	16 ms	18 ms
Backlight	LED	LED
Touch Type	Projective Capacitive	Projective Capacitive
Touch Light Transmission	87 %	89 %
Touch Controller	Onboard USB touch (EETI)	Onboard USB touch (EETI)
SBC	EBM-APL	
Processor	Onboard Intel® Apollo Lake Mobile Processor	
System Chipset	Intel® Apollo Lake SoC integrated	
I/O Chipset	EC ITE IT8528E	
System Memory	1 x 204-pin DDR3L 1866MT/s SO-DIMM up to 8 GB	
Expansion	1 x Mini PCIe	
Storage	1 x 2.5" Drive Bay	
USB	2 x USB 2.0	3 x USB 3.0
COM Port	1 x RS-232/422/485	
Other	1 x SATA II, 1 x WiFi	
Display Chipset	Intel® Apollo Lake SoC integrated Graphics Supports Dual Display	
Audio	Realtek ALC892	
Audio Interface	2 x 5W Speaker Output	
Ethernet	2 x Intel® I211AT	
Power Connector	4 Pin M8 Type, +12V ~ +26V	
Power Type	AT/ATX (ATX is default setting)	
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (24V @ 2.5A Adapter) AC-DC Adapter	
Construction (Front, Rear)	Front & Rear Silver Stainless, Black	Silver Aluminum, Black
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)	-10°C ~ 60°C (14°F ~ 140°F)
Certification	CE, FCC Class B	
OS Information	Win10, Linux	
IP Rating	Full IP-65, IP-69K	
Dimension	371 x 308 x 63.6mm	595 x 403 x 57.5mm
Weight	6.42kg	9kg



SPC-1209



(Front)

(Rear)



SPC-1509/ 1709/ 22W9



(Front)

(Rear)



SPC Series

Model Number	SPC-1209	SPC-1509	SPC-1709	SPC-22W9
LCD Size	12.1", 4:3	15", 4:3	17", 4:3	22"
Display Type	XGA	XGA	SXGA	WSXGA
Resolution	1024 x 768	1024 x 768	1280 x 1024	1680 x 1050
Pixel Pitch	0.240mm (H) x 0.240mm (V)	0.297mm (H) x 0.297mm (V)	0.264mm (H) x 0.264mm (V)	0.282mm (H) x 0.282mm (V)
Luminance	600 cd/m ²	400 cd/m ²	350 cd/m ²	250 cd/m ²
Contrast Ratio	700	700	800	1000
Viewing Angle	70 (U), 70 (D), 80 (L), 80 (R)	70 (U), 70 (D), 80 (L), 80 (R)	80 (U), 80 (D), 85 (L), 85 (R)	80 (U), 80 (D), 85 (L), 85 (R)
Response Time	16 ms	16 ms	30 ms	5 ms
Backlight	LED	LED	LED	LED
Touch Type	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive
Touch Light Transmission	80 %	80 %	80 %	80 %
Touch Controller	Onboard USB touch (EETI)	Onboard USB touch (EETI)	Onboard USB touch (EETI)	Onboard USB touch (EETI)
SBC	EBM-BYT			
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor/ Intel® Celeron® J1900 2.0GHz processor			
System Chipset	Intel® Valleyview SoC			
I/O Chipset	EC ITE IT8528E			
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB			
Expansion	1 x Mini PCIe Support mSATA 1 x Mini PCIe Supports SIM Card			
Storage	1 x CompactFlash Type I/II Socket 1 x 2.5" Drive Bay			
USB	2 x USB 2.0	2 x USB 2.0	3 x USB 2.0	3 x USB 2.0
COM Port	1 x RS-232			
Other	1 x SATA II, 1 x WiFi			
Display Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display			
Audio	Realtek ALC892			
Audio Interface	2 x 5W Speaker Output			
Ethernet	1 x Intel® I210IT			
Power Connector	Waterproof DC Jack, +12V ~ +26V			
Power Type	AT/ATX (ATX is default setting)			
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (24V @ 2.5A Adapter) AC-DC Adapter			
Construction (Front, Rear)	Front & Rear Silver Stainless, Black			
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)			
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)			
Certification	CE, FCC Class A			
OS Information	Win10, Linux			
IP Rating	Full IP-65, IP-69K			
Dimension	311 x 272 x 58mm	371 x 308 x 63.6mm	405 x 353 x 66.6mm	546 x 378 x 69mm
Weight	4.23kg	6.42kg	7.5kg	9kg

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Modularized / Rugged Panel PC - ARC Series



A Model



(Front)

B Model



(Rear)



ARC Series

Model Number	ARC-1033	ARC-1233	ARC-1533	ARC-1733
LCD Size	10.4", 4:3	12.1", 4:3	15", 4:3	17", 4:3
Display Type	XGA	XGA	XGA	SXGA
Resolution	1024x768	1024 x 768	1024 x 768	1280 x 1024
Pixel Pitch	0.0685mm (H) x 0.2055mm (V)	0.1905mm (H) x 0.1905mm (V)	0.297mm (H) x 0.297mm (V)	0.264mm (H) x 0.264mm (V)
Luminance	500 cd/m ²	600 cd/m ²	400 cd/m ²	350 cd/m ²
Contrast Ratio	1200	700	700	800
Viewing Angle	88 (U), 88 (D), 88 (L), 88 (R)	70 (U), 70 (D), 80 (L), 80 (R)	70 (U), 70 (D), 80 (L), 80 (R)	80 (U), 80 (D), 85 (L), 85 (R)
Response Time	25 ms	16 ms	16 ms	30 ms
Backlight	LED			
Touch Type	A Model: 5-Wire Resistive Touch B Model: Projective Capacitive Multi-Touch (Full Flat design)			
Touch Light Transmission	5-Wire Resistive Touch: 80% Projective Capacitive Multi-Touch: 89%			
Touch Controller	A Model: Onboard USB touch (PenMount); B Model: EETI External USB controller			
SBC	ARC-APL			
Processor	Onboard Intel® Apollo Lake-I/M processor			
I/O Chipset	EC ITE IT8528E			
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB			
Expansion	1 x Mini PCIe Supports mSATA, 1 x Optional 80-pin Expansion			
Storage	1 x 2.5" Drive Bay (7mm HDD Restricted)			
USB	4 x USB 3.0			
COM Port	1 x RS-232/422/485 (Factory Optional), 1 x RS-232			
Other	1 x WiFi (Option), 3 x Knockouts for Antenna Mounting			
Display Chipset	Intel® Apollo Lake SoC Processor Integrated Gen9 LP graphics Supports optional dual display			
Display Resolution	HDMI: Max. resolution 3840 x 2160 @ 30Hz (optional by IET module)			
Audio	Realtek ALC892			
Audio Interface	2 x 2W Speaker out			
Ethernet	2 x Intel® I210IT (Apollo Lake I), 2 x Intel® I211AT (Apollo Lake M)			
Power Connector	Lockable DC Jack, +9V ~ +36V			
Power Type	AT/ATX (ATX is default setting)			
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz, Output: 60W Adapter (12V @ 5A Adapter)			
Construction (Front, Rear)	Aluminum Die Casting			
Operating Temperature	(N3350/N4200 CPU) -10°C ~ 50°C (14°F ~ 122°F) (E3900 CPU) -20°C ~ 60°C (-4°F ~ 140°F)			
Storage Temperature	(N3350/N4200 CPU) -20°C ~ 60°C (-4°F ~ 140°F) (E3900 CPU) -30°C ~ 70°C (-22°F ~ 158°F)			
Certification	CE, FCC Class B			
OS Information	Win 10, Linux			
Dimension	259.6 x 195.8 x 46mm	284 x 223 x 46mm	350 x 274 x 53.1mm	382 x 320 x 58.8mm
Weight	1.67kg	2.4kg	3.7kg	4.56kg



Available Expansion Boards



ARC Series

Model Number	ARC-1232	ARC-1532	ARC-1732	ARC-1209	ARC-1509
LCD Size	12.1", 4:3	15", 4:3	17"	12.1", 4:3	15", 4:3
Display Type	XGA	XGA	SXGA	XGA	XGA
Resolution	1024 x 768	1024 x 768	1280 x 1024	1024 x 768	1024 x 768
Pixel Pitch	0.1905mm (H) x 0.1905mm (V)	0.297mm (H) x 0.297mm (V)	0.264 x 0.264	0.1905mm (H) x 0.1905mm (V)	0.297mm (H) x 0.297mm (V)
Luminance	600 cd/m ²	400 cd/m ²	350 cd/m ²	600 cd/m ²	400 cd/m ²
Contrast Ratio	700	700	800	700	700
Viewing Angle	80 (U), 80 (D), 80 (L), 80 (R)	70 (U), 70 (D), 80 (L), 80 (R)	89 (U), 89 (D), 89 (L), 89 (R)	80 (U), 80 (D), 80 (L), 80 (R)	70 (U), 70 (D), 80 (L), 80 (R)
Response Time	16 ms	16 ms	30 ms	16 ms	16 ms
Backlight	LED	LED	LED	LED	LED
Touch Type	A Model: 5-Wire Resistive Touch B Model: Projective Capacitive Multi-Touch (Full Flat design)				
Touch Light Transmission	5-Wire Resistive Touch: 80%, Projective Capacitive Multi-Touch: 89%				
Touch Controller	A Model: Onboard USB touch (PenMount); B Model: EETI External USB controller				
SBC	ARC-SKLU			ARC-BYT	
Processor	6th Gen Intel® Core™ i5-6300U, 2-Core, 2.4GHz processor			A Model: Intel® Atom™ E3845 4-Core 1.91GHz processor B Model: Intel® Celeron® J1900 2.0GHz processor	
I/O Chipset	EC ITE IT8528E			EC ITE IT8528E	
System Memory	1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB			1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB	
Expansion	1 x Mini PCIe Supports mSATA, 1 x Optional 80-pin Expansion			1 x Mini PCIe Supports mSATA, 1 x Optional 80-pin Expansion	
Storage	1 x 2.5" Drive Bay (7mm HDD Restricted)			1 x 2.5" Drive Bay (7mm HDD Restricted)	
USB	4 x USB 3.0			1 x USB 3.0, 3 x USB 2.0	
COM Port	1 x RS-232/422/485, 1 x RS-232			1 x RS-232/422/485, 1 x RS-232	
Other	3 x Knockouts for Antenna Mounting			3 x Knockouts for Antenna Mounting	
Display Chipset	Intel® HD Graphics 520			Intel® Valleyview SoC Integrated Graphics	
Display Resolution	HDMI: Max. resolution 4096 x 2160 @ 24Hz (optional by IET module)			HDMI: Max. resolution 1920 x 1200 @ 60Hz (optional by IET module)	
Audio	Realtek ALC892			Realtek ALC892	
Audio Interface	2 x 2W speaker out			2 x 2W speaker out	
Ethernet	1 x Intel® I210AT, 1 x Intel® I219LM			2 x Intel® I210IT	
Power Connector	Lockable DC Jack, +12V ~ +26V			Lockable DC Jack, +12V ~ +26V	
Power Type	AT/ATX (ATX is default setting)			AT/ATX (ATX is default setting)	
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)			Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)	
Construction (Front, Rear)	Aluminum Die Casting			Aluminum Die Casting	
Operating Temperature	-10°C ~ 50°C (14°F ~ 122°F)			(J1900 CPU) -10°C ~ 50°C (14°F ~ 122°F) (E3845 CPU) -20°C ~ 60°C (-4°F ~ 140°F)	
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)			(J1900 CPU) -20°C ~ 60°C (-4°F ~ 140°F) (E3845 CPU) -30°C ~ 70°C (-22°F ~ 158°F)	
Certification	CE, FCC Class B			CE, FCC Class B	
OS Information	Win 7, Win 8.1, Win 10, Linux			Win 7, Win 8, Win 10, Linux	
Dimension	284 x 223 x 46mm	350 x 274 x 49.8mm	382 x 320 x 58.8mm	284 x 223 x 46mm	350 x 274 x 49.8mm
Weight	2.4kg	3.7kg	4.56kg	2.4kg	3.7kg

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Modularized / Rugged Panel PC - ARC Series



ARC Wide Series

Model Number	ARC-10W33	ARC-15W33	ARC-21W33	ARC-15W32	ARC-21W32
LCD Size	10.1", 16:10	15.6", 16:9	21.5"	15.6", 16:9	21.5"
Display Type	WXGA	WXGA	Full HD	WXGA	Full HD
Resolution	1280 x 800	1366 x 768	1920 x 1080	1366 x 768	1920 x 1080
Pixel Pitch	0.1695 x 0.1695 mm	0.252mm (H) x 0.252mm (V)	0.248 x 0.248	0.252mm (H) x 0.252mm (V)	0.248 x 0.248
Luminance	350 cd/m ²	300 cd/m ²	250 cd/m ²	300 cd/m ²	250 cd/m ²
Contrast Ratio	800	500	3000	500	3000
Viewing Angle	85 (U), 85 (D), 85 (L), 85 (R)	80 (U), 80 (D), 80 (L), 80 (R)	89 (U), 89 (D), 89 (L), 89 (R)	80 (U), 80 (D), 80 (L), 80 (R)	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	25 ms	8 ms	18 ms	8 ms	18ms
Backlight	LED	LED	LED	LED	LED
Touch Type	Projective Capacitive	Projective Capacitive	Projective Capacitive	Projective Capacitive	Projective Capacitive
Touch Light Transmission	88%	88%	89%	88%	89%
Touch Controller	USB touch (EETI)	USB touch (EETI)	USB interface, EETI	USB touch (EETI)	USB interface, EETI
SBC	ARC-APL			ARC-SKLU	
Processor	Intel® Celeron® Processor N3350 2M Cache, up to 2.4 GHz			6th Gen Intel® Core™ i5-6300U, 2-Core, 2.4GHz processor	
I/O Chipset	EC ITE IT8528E			EC ITE IT8528E	
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB			1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB	
Expansion	1 x Mini PCIe Supports mSATA, 1 x Optional 80-pin Expansion			1 x Mini PCIe Supports mSATA, 1 x Optional 80-pin Expansion	
Storage	1 x 2.5" Drive Bay (7mm HDD Restricted)			1 x 2.5" Drive Bay (7mm HDD Restricted)	
USB	4 x USB 3.0			4 x USB 3.0	
COM Port	1 x RS-232/422/485, 1 x RS-232			1 x RS-232/422/485, 1 x RS-232	
Other	1 x WiFi (Option), 3 x Knockouts for Antenna Mounting			1 x WiFi (Option), 3 x Knockouts for Antenna Mounting	
Display Chipset	Intel® HD Graphics 500			Intel® HD Graphics 520	
Display Resolution	HDMI: Max. resolution 3840 x 2160 @ 30Hz (Optional by IET module)			HDMI: Max. resolution 4096 x 2160 @ 24Hz (Optional by IET module)	
Audio	Realtek ALC892			Realtek ALC892	
Audio Interface	2 x 2W Speaker Out			2 x 2W Speaker Out	
Ethernet	2 x Intel® I211AT			1 x Intel® I210AT 1 x Intel® I219LM	
Power Connector	Lockable DC Jack, +9V ~ +36V			Lockable DC Jack, +12V ~ +26V	
Power Type	AT/ATX (ATX is default setting)			AT/ATX (ATX is default setting)	
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)			Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)	
Construction (Front, Rear)	Metal with cover lens, Black Diet Casting		Aluminum Die Casting	Metal with cover lens, Black Diet Casting	Aluminum Die Casting
Operating Temperature	(N3350/N4200 CPU) -10°C ~ 50°C (14°F ~ 122°F) (E3900 CPU) -20°C ~ 60°C (-4°F ~ 140°F)		-10°C ~ 50°C (14°F ~ 122°F)	-10°C ~ 50°C (14°F ~ 122°F)	
Storage Temperature	(N3350/N4200 CPU) -20°C ~ 60°C (-4°F ~ 140°F) (E3900 CPU) -30°C ~ 70°C (-22°F ~ 158°F)		-20°C ~ 60°C (-4°F ~ 140°F)	-20°C ~ 60°C (-4°F ~ 140°F)	
Certification	CE, FCC Class B			CE, FCC Class B	
OS Information	Win 10, Linux			Win 7, Win 8.1, Win 10, Linux	
Dimension	253.3 x 176.4 x 46mm	385.3 x 240.3 x 49.8mm	537.9 x 329.4 x 55.9mm	385.3 x 240.3 x 49.8mm	537.9 x 329.4 x 55.9mm
Weight	2kg	4kg	7.3kg	4kg	7.3kg

High Performance Expandable Panel PC - FPC Series



FPC Series				
Model Number	FPC-08W29	FPC-1536	FPC-1736	FPC-21W36
LCD Size	8"	15"	17"	21.5"
Display Type	WSVGA	XGA	XGA	FHD
Resolution	1024 x 600	1024 x 768	1280 x 1024	1920 x 1080
Pixel Pitch	0.1725 mm (W) x 0.1656 mm (H)	0.297 x 0.297	0.264 x 0.264	0.248 x 0.248
Luminance	500 cd/m ²	400 cd/m ²	350 cd/m ²	250 cd/m ²
Contrast Ratio	700	700	800	3000
Viewing Angle	70 (U), 75 (D), 75 (L), 75 (R)	70 (U), 70 (D), 80 (L), 80 (R)	80 (U), 80 (D), 85 (L), 85 (R)	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	20 ms	16 ms	30ms	18ms
Backlight	LED	LED		
Touch Type	5-Wire Resistive	Projective Capacitive Multi-Touch		
Touch Light Transmission	80 %	88%		
Touch Controller	Onboard USB touch (PenMount)	USB interface, EETI		
SBC	ECM-BYT	EMX-C246		
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor	8th /8th refresh Generation Core™ Pentium® / Celeron /i7/ i5/ i3 Processors		
System Chipset	Intel® Valleyview SoC	Intel® C246 Chipset		
I/O Chipset	Nuvoton W83627DHG-P	Nuvoton® NCT6106D		
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB	2 x 260-pin DDR4 2400/2666MHz SO-DIMM socket, supports up to 32GB Max		
Expansion	1 x Mini PCIe Supports mSATA	1 x Full size PCI-e x 16 1 x M.2 Key M Slot support PCI-e x 4 SSD 1 x M.2 2230 Key E Slot support WiFi module 1 x M.2 3042 Key B slot support WWAN+GNSS with SIM card slot		
Storage	1 x CompactFlash Type I/II Socket (CF-SATA optional)	2 x 2.5" Drive Bay (7mm HDD Restricted) (Support RAID 0,1)		
I/O	3 x USB 2.0, 1 x USB 3.0 1 x RS-232/422/485, 1 x RS-232	3 x USB 3.1 at I/O, USB Type C without DP Signal 1 x RS-232/422/485, 1 x RS-232		
Display Chipset	Intel® Valleyview SoC Integrated Graphics Supports dual display	N/A		
Display Resolution	VGA: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz	3 x HDMI 1.4b: 3840 x 2160 @ 30 Hz, 2560 x 1600@ 30 Hz		
Audio	Realtek ALC892 Support 5.1-CH Mic-In and Line-Out	Realtek ALC892 HD codec 2 x 2W Speaker Out, Line out, Mic in		
Ethernet	2 x Intel® I211AT	2 x Intel® I210IT, 1 x Intel® I219LM		
Power Type	AT/ATX (ATX is default setting) Lockable DC Jack, +12V ~ +26V (12V @ 5A Adapter)	AT/ATX (ATX is default setting) Lock DC Jack, 2 pin Pheonix connector		
Construction (Front, Rear)	Metal, Aluminum + Metal	Aluminum Die Casting + Metal		
Dimension	225 x 129 x 43.4 mm	350.5 x 274.5 x 87.5 mm	382 x 320.4 x 87.5 mm	537.9.1 x 329.4 x 87.5 mm
Weight	1.27 Kg	4.5 kg	6.5 kg	8 kg
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	-10 ~ +50°C CPU TDP <= 35W (fanless design), CPU TDP >= 65W (with cooler fan)		
Storage Temperature	-10°C ~ 50°C (14°F ~ 122°F)	-20°C ~ 60°C (-4°F ~ 140°F)		
Certification	CE, FCC Class B	CE, FCC Class B		
OS Information	Win 8, Win 7, Linux	Linux, Windows 10		

Light Industrial Panel PC - APC Series



APC Series			
Model Number	APC-1733	APC-18W9	APC-2132
LCD Size	17.3"	18.5"	21.5"
Display Type	Full HD	WXGA	Full HD
Resolution	1920 x 1080	1366 x 768	1920 x 1080
Pixel Pitch	0.1989mm (H) x 0.1989mm (V)	0.300mm (H) x 0.300mm (V)	248.25um (H) x 248.25um (V)
Luminance	300 cd/m ²	300 cd/m ²	250 cd/m ²
Contrast Ratio	650	1000	5000
Viewing Angle	70 (U), 70 (D), 60 (L), 60 (R)	80 (U), 80 (D), 85 (L), 85 (R)	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	6 ms	5 ms	18 ms
Backlight	LED	LED	LED
Touch Type	Projective Capacitive	Projective Capacitive	Projective Capacitive
Touch Light Transmission	80% +/- 3%	91 %	89 %
Touch Controller	USB touch (EETI)	USB touch (EETI)	USB touch (EETI)
SBC	EMX-APLP	EBM-BYT	ARC-SKLU
Processor	Intel® Apollo Lake N4200 Processor	Intel® Celeron® J1900 4-Core 2.0GHz	Intel® Core™ i7/ i5/ i3 / Celeron Processor
System Chipset	Intel® Pentium® SoC integrated Graphics	Intel® Valleyview SoC	Intel® Skylake U SoC integrated
I/O Chipset	EC ITE IT8528	EC ITE IT8528E	EC ITE IT8518E
System Memory	2 x 204-pin DDR3L 1600 & 1333 MHz SO-DIMM supports up to 16GB	1 x 204-Pin DDR3L 1066/1333MHz SO-DIMM up to 8 GB	1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB
Expansion	1 x Mini PCIe Supports mSATA	1 x Mini PCIe 1 x Mini PCIe Supports mSATA	1 x Mini PCIe dule
Storage	1 x mSATA	1 x CompactFlash Type I/II Socket 1 x 2.5" Drive Bay	1 x 2.5" Drive Bay 1 x mSATA (by mini PCIe)
USB	4 x USB 3.0	1 x USB 2.0, 1 x USB 3.0	4 x USB 3.0, 2 x USB 2.0 (by IET module)
COM Port	N/A	1 x RS-232/422/485	1 x RS-232/422/485, 1 x RS-232
Display Chipset	Intel® Pentium® SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics Supports dual display	Intel® Skylake SoC integrated Graphics Supports dual display
Audio	Realtek ALC662 supports 2-CH	Realtek ALC892 Support 5.1-CH	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out	Line-Out	1 x Line out, 1 x Mic in (by IET module)
Ethernet	2 x Intel® I211AT Gigabit Ethernet	2 x Intel® I211AT	1 x Intel® I211AT, 1 x Intel® I219LM
Power Connector	DC Jack, +12V ~ +24V	Lockable DC Jack, +12V ~ +26V	Lockable DC Jack, +12V ~ +26V
Power Type	AT / ATX	AT / ATX	AT / ATX
Adapter	AC/DC Adapter 100~240V 50~60Hz, 12V/5A	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)	Input:100 ~ 240Vac/ 50 ~ 60Hz Output:72W Adapter (19V @ 3.78A Adapter)
Construction (Front, Rear)	White Plastic	Black Coverlens, Black	Plastic-black
Dimension	505 x 336 x 54.5mm	443 x 290 x 59mm	539.6 x 342.6 x 45.5 mm
Weight	4.7Kgs	4.54Kgs	6.3 Kgs
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	-20°C ~ 65°C (-4°F ~ 149°F)	-10°C ~ 50°C (14°F ~ 122°F)	-10°C ~ 60°C (14°F ~ 140°F)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
OS Information	Win 10	Win 7, Win 8, Linux	Win 7, Win 8.1, Win 10, Linux

Light Industrial Panel PC - PPC Series



(Front)



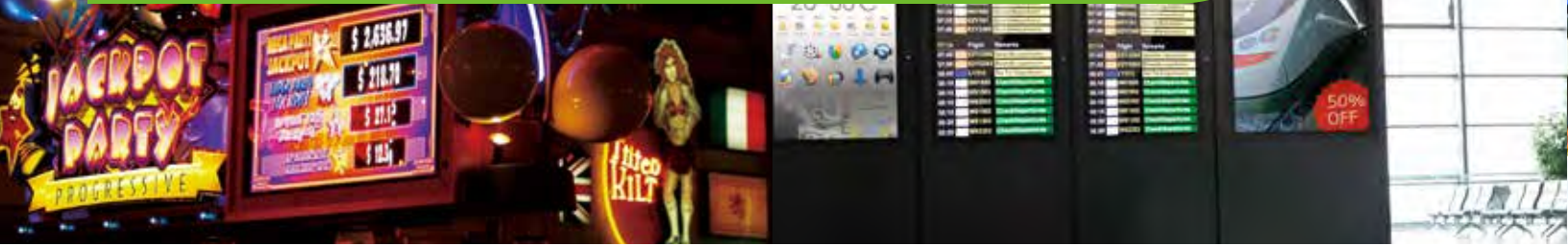
(Rear)

PPC Series

Model Number	PPC-1529	PPC-1729	PPC-2129
LCD Size	15", 4:3	17", 4:3	21.5"
Display Type	XGA	SXGA	Full HD
Resolution	1024 x 768	1280 x 1024	1920 x 1080
Pixel Pitch	0.297mm (H) x 0.297mm (V)	0.264mm (H) x 0.264mm (V)	0.248mm (H) x 0.248mm (V)
Luminance	250 cd/m ²	350 cd/m ²	250 cd/m ²
Contrast Ratio	700	800	1000
Viewing Angle	70 (U), 70 (D), 80 (L), 80 (R)	80 (U), 80 (D), 85 (L), 85 (R)	80 (U), 80 (D), 85 (L), 85 (R)
Response Time	16 ms	30 ms	5 ms
Backlight	LED	LED	LED
Touch Type	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive
Touch Light Transmission	80 %	80 %	80 %
Touch Controller	Onboard USB touch (EETI)		
SBC	EBM-BYT		
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor		
System Chipset	Intel® Valleyview SoC		
I/O Chipset	EC ITE IT8528E		
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB		
Expansion	1 x Mini PCIe Supports mSATA		
Storage	1 x CompactFlash Type I/II Socket, 1 x 2.5" Drive Bay		
USB	1 x USB 3.0, 3 x USB 2.0		
COM Port	1 x RS-232/422/485		
Display Chipset	Intel® Valleyview SoC Integrated Graphics Supports dual display		
Display Resolution	DP: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz		
Audio	Realtek ALC892 Support 5.1-CH		
Audio Interface	Line-Out, 2 x 2W Speaker Output		
Ethernet	2 x Intel® I210IT		
Power Connector	Lockable DC Jack, +12V ~ +26V		
Power Type	AT/ATX (ATX is default setting)		
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)		
Construction (Front, Rear)	White Plastic, Gray Plastic		
Dimension	351 x 319 x 54mm	391.5 x 364.5 x 59mm	542 x 382 x 63mm
Weight	4.9kg	5.9kg	7.2kg
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)		
Storage Temperature	-10°C ~ 50°C (14°F ~ 122°F)		
Certification	CE, FCC Class B		
OS Information	Win 7, Win 10, Linux		

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Bar Type Monitor Solution - BTM Series



Bar Type Monitor Solution			
Model Number	BTM-286	BTM-370	BTM-420
Display Size	28.6" bar type TFT LCD	37" bar type TFT LCD	42" bar type TFT LCD
display area	698.4mm(H)x196.4mm(V)	904.32mm(H) x 254.34mm(V)	1039.68mm(H) x 259.92mm(V)
Resolution	1920(H)x540(V)	1920(H)x540(V)	1920(H)x480(V)
Brightness	1000 nits	1000 nits	500 nits
pixel pitch	0.363mm(H)x0.363mm(V)	0.47mm(H)x0.47mm(V)	0.5415mm(H)x0.5415mm(V)
Display Mode	VA, Normally Black	Normally Black	AMVA3, Normally Black
Contrast Ratio	1000	4000	3500
Support Color	16.7M (true 8bits)	1073.7M(10 bits. 8bits+FRC)	8bit, 16.7M
Response time	25msec	6.5msec	8msec
Surface	Anti-Glare, 3H	Anti-Glare, 3H	Anti-Glare, 3H
View Angle (H/V)	89 (U),89 (D),89 (L),89 (R)	89 (U),89 (D),89 (L),89 (R)	89 (U),89 (D),89 (L),89 (R)
Open Cell type	Mask	Mask	Mask
Input Source	VGA HDMI USB Type A for Service	VGA HDMI DVI USB Type A for Service	VGA HDMI DVI USB Type A for Service
Operating Temperature	-10°C ~ 60°C	0°C ~ 50°C	0°C ~ 60°C
Storage Temperature	-20°C ~ 70°C	-20°C ~ 60°C	-20°C ~ 60°C
Dimension	736.6 x 234.4 x 49.8mm	927.7 x 281.1 x 55.76mm	1135 x 31.5 x 63mm
Net Weight	9kg	8Kg	5.1kg
Wall Mount	100mm x 100mm, 4*M4	2-100mm x 100mm, 8*M6	2-100mm x 100mm, 8>M6
ower Input	DC 12V 5A Input	DC 24V 4A Input	100V AC
Area	32", 1/2	42", 1/2	48", 2/5



Self-Service Touch Panel PC - SID Series



SID Series

Model Number	SID-10W9	SID-15W9	SID-21W9
LCD Size	10.1"	15.6"	21.5"
Display Type	WXGA	Full HD	Full HD
Resolution	1280 x 800	1920 x 1080	1920 x 1080
Pixel Pitch	0.1695 x 0.1695 mm	0.17925 x 0.17925 mm	0.24795 x 0.24795 mm
Luminance	350 cd/m ²	220 cd/m ²	250 cd/m ²
Contrast Ratio	800	800	3000
Viewing Angle	85 (U), 85 (D), 85 (L), 85 (R)	89 (U), 89 (D), 89 (L), 89 (R)	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	30 ms	14ms	30ms
Backlight	LED	LED	LED
Touch Type	Projective Capacitive Multi touch (10f)	Projective Capacitive Multi touch (10f)	Projective Capacitive Multi touch (10f)
Touch Light Transmission	86%	86%	86%
SBC	BCX12	BCX11	BCX11
Processor	Intel® Atom™ Z3735F 1.33GHz processor		
I/O Chipset	ENE IO3737LU		
System Memory	2GB DDR3L Memory on board		
Storage	32GB eMMC on board		
USB	2 x USB 2.0 (Type A)		
COM Port	N/A	1 x RS-232	1 x RS-232
Display Chipset	Intel® Gen7 HD Graphic		
Display Resolution	LCD Panel up to 1280 x 800 HDMI up to 1080p		
Audio	Realtek ALC5645-CGT		
Audio Interface	1 x 3.5mm audio jack		
Ethernet	Micro chip LAN9512		
Ethernet Interface	10/100 Fast Ethernet		
Wi-Fi	Built-in 802.11 b/g/n		
Bluetooth	Built-in Bluetooth 4.0		
Power Connector	DC-in jack, 12 ~ 24V DC		
Power Type	AT		
Adapter	Input: 100 ~ 240 Vac/ 50 ~ 60Hz; Output: 65W Adapter (19V @ 3.42A Adapter)		
Construction (Front, Rear)	Metal		
Dimension	255.2 x 169.4 x 33.3mm	391 x 249 x 37mm	505 x 303.3 x 41.7mm
Weight	1.2KG	2.65KG	6KG
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)		
Storage Temperature	-10°C ~ 60°C (14°F ~ 140°F)		
Certification	CE, FCC Class B		CE, FCC Class A
OS Information	Win 10, Linux Ubuntu 16.04, Android 5.1		

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Self-Service Touch Panel PC - VNS/ CCD Series



(Front)

(Rear)



Venus Series		
Model Number	VNS-10W01	VNS-15W01
LCD Size	10.1"	15.6"
Display Type	WXGA	Full HD
Resolution	1280 x 800	1920 x 1280
Pixel Pitch	0.1695 (H) x 0.1695 (V) mm	0.17925 (H) x 0.17925 (V) mm
Luminance	350 cd/m ²	220 cd/m ²
Contrast Ratio	800	500
Viewing Angle	85 (U), 85 (D), 85 (L), 85 (R)	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	30ms	8ms
Backlight	LED	LED
Touch Type	Projective Capacitive	Projective Capacitive
Touch Light Transmission	86%	86%
Touch Controller	I ² C interface	USB interface
SBC	DNA 50	DNA 30
Processor	Intel® Atom™ x5-Z8350: 2M Cache, up to 1.92 GHz	
System Chipset	Intel® Atom™	
System Memory	2GB DDR3L RAM	
Storage	32GB eMMC	
USB	2 x USB 2.0 Type A	
COM Port	1 x RJ45 for RS232 or RS422 or RS485	
Other	Touch Button for Power / Brightness / Volume, 1x 4-Pin 3.5mm Audio Jack, RFID, Cam 2.0 MP, LED indicating Bar	Touch Button for Power / Brightness / Volume, 1x 4-Pin 3.5mm Audio Jack, RFID, Cam 2.0 MP, LED indicating Bar, Reading Light x2, Smart card reader
Display Chipset	Intel® HD Graphics 400	
Display Resolution	LVDS: Max. resolution 1280 x 800	eDP: Max. resolution 1920 x 1080
Audio	Realtek ALC 5645	
Audio Interface	Mic-In and Line-Out, 2 x 2W Speaker Output	
Ethernet	Realtek RTL8111H-CG	
Power Connector	DC Jack+12~24V DC in / Powered LAN	
Power Type	AT	
Adapter	Input: 100 ~ 240 Vac / 50~ 60Hz; Output: 60W Adapter (12V / 5A Adapter)	
Construction (Front, Rear)	White Plastic	
Dimension	270 x 193 x 28 mm	410 x 269 x 38 mm
Weight	1.1 kg	2.5 kg
Certification	CE, FCC Class B	CE, FCC Class B

CCD Series		
Model Number	CCD-07W01	CCD-10W01
LCD Size	7"	10.1"
Display Type	WXGA	WXGA
Resolution	1024 x 600	1280 x 800
Pixel Pitch	0.1178 x 0.1178 mm	0.1695 x 0.1695 mm
Luminance	300 cd/m ²	350 cd/m ²
Contrast Ratio	500	800
Viewing Angle	80 (U), 80 (D), 80 (L), 80 (R)	85 (U), 85 (D), 85 (L), 85 (R)
Response Time	20ms	30 ms
Backlight	LED	LED
Touch Type	Projective Capacitive Multi touch (10f)	Projective Capacitive Multi touch (10f)
Touch Light Transmission	75%	86%
SBC	CCQ5I	CCQ5J
Processor	Intel® Atom™ Z3735F 1.33GHz SoC	
I/O Chipset	ENE IO3737LU	
System Memory	2GB DDR3L Memory on board	
Storage	32GB eMMC on board	
USB	2 x USB 2.0 (Type A)	
COM Port	N/A	
Other	Camera, Speaker, Microphone	
Display Chipset	Intel® Gen7 HD Graphic	
Display Resolution	Panel up to 1024 x 600 HDMI up to 1080p	
Audio	Realtek ALC5645-CGT	
Audio Interface	1 x 3.5mm audio jack	
Ethernet	Microchip LAN9512 10/100 Ethernet	
Ethernet Interface	10/100 Fast Ethernet	
Wi-Fi	Built-in 802.11 b/g/n	
Bluetooth	Built-in Bluetooth 4.0	
Power Connector	DC-in jack, 12 ~ 24V DC	
Power Type	AT	
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz; Output: 40W Adapter (19V @ 2.1A Adapter)	
Construction (Front, Rear)	Plastic	
Dimension	191 x 124 x 33mm	261 x 181 x 34mm
Weight	580g	800g
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	
Storage Temperature	-10°C ~ 60°C (14°F ~ 140°F)	
Certification	CE, FCC Class B	
OS Information	Win 10, Linux Unbutu 16.4, Android 5.1	

Healthcare Computing - Medi-View Series



Medi-View Series

Model Number	Medi-View-156	Medi-View-185
LCD Size	15.6"	18.5"
Display Type	HD	HD
Resolution	1366 x 768	1366 x 768
Pixel Pitch	0.3 (H) x 0.3 (V) mm	0.3 (H) x 0.3 (V) mm
Luminance	220 cd/m ²	300 cd/m ²
Contrast Ratio	400 ~ 500	700 ~ 1000
Viewing Angle	Horizontal 40 ~45; Vertical 10 ~15 (upper) 30 ~ 35 (lower)	Horizontal 150 ~170; Vertical 140 ~160
Response Time	TRT 8 - 16ms	TR 2.5 ~2.5ms; TF 3.5~5.5ms
Backlight	LED	LED
Touch Type	Projective Capacitive	Projective Capacitive
Touch Light Transmission	88% +/- 3%	88% +/- 3%
Touch Controller	Control Board EETI	Control Board EETI
Processor	Intel® Atom™ Processor Z3735F	
System Memory	2GB DDR3L RAM	
Storage	32GB eMMC	
USB	3 x USB 2.0, 1 x Micro USB Client (Andriod)	
Other	2 x Stero Phone Jack 1 x Digital Mic 1 x Powered LAN (optional) Option RFID/SCR module Option Wifi module Option Multimedia Handset	2 x Stero Phone Jack 1 x Digital Mic Option RFID/SCR module Option Wifi module Option Multimedia Handset
Audio	Realtek ALC5645	
Audio Interface	Mic-in and Line-out, 2 x 3W Speaker	
Ethernet	1 x Microchip LAN9512	
Power Connector	DC Jack, 12V ~ 24V Input	
Power Type	ATX	
Adapter	Input:100~ 240 Vac/ 50 ~ 60Hz; Output 90W Adapter (19V/4.73A)	
Construction (Front, Rear)	White Plastic	
Finishing	Anti-microbial	
Dimension	392.45 x 255.45 x 63.42 mm	463.95 x 289.95 x 68.83 mm
Weight	2.82 kgs	3.75 kgs
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	
Storage Temperature	-10°C ~ 60°C (14°F ~ 140°F)	
Certification	CE CLASS A, FCC Part 15, CLASS A UL/IEC/EN60601-1 ANSI/AAMI ES60601-1 CAN/ CSA-C22.2 No. 60601-1	CE CLASS A FCC Part 15, CLASS A UL/IEC/EN60601-1
OS Information	Win 8.1, Win 10, Android 4.4, Ubuntu 14.04	Win 8.1, Win 10, Android 4.4, Ubuntu 14.04

Healthcare Computing - HID Series



HID Series

Multi-touch Medical Panel PC
IP65 and Slim Fanless design

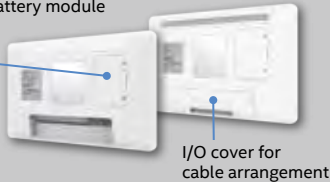
Excellent System Performance

- 21.5" Full Flat PCAP Multi-Touch supports up to 10 points
- Intel® 6th Gen Core-i/ Celeron® processor
- UL60601-1 4th edition/ CE/ FCC Class B
- IP65 Rating
- Anti-Microbial Finishing
- Super slim design

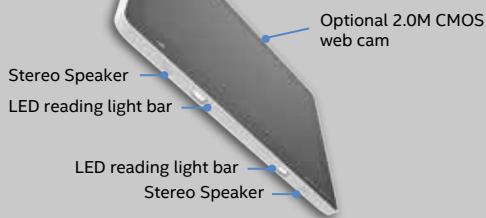
Easy Maintenance

- Fanless Operation Design
- Optional SCR/MSR/Wifi/BT module
- Optional internal backup battery module

Service windows for
2.5 storage replacement



Designed for easy usage

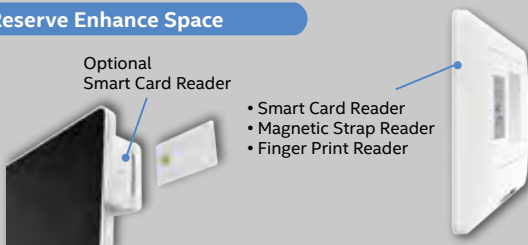


Front bezel touch keypad



- Reading light control
- Panel backlight Increase/ Decrease
- Volume Up/ Down
- Power button
- Touch On/Off
- NFC/RFID module

Reserve Enhance Space



- Smart Card Reader
- Magnetic Strap Reader
- Finger Print Reader



HID Series

Model Number	HID-2334	HID-2734
LCD Size	23.8"	27"
Display Type	FHD	FHD
Resolution	1920 x 1080	1920 x 1080
Pixel Pitch	0.274 x 0.274	0.311 x 0.311
Luminance	250 cd/m2	300 cd/m2
Contrast Ratio	3000	3000
Viewing Angle	89 (U), 89 (D), 89 (L), 89 (R)	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	16 ms	12 ms
Backlight	LED	LED
Touch Type	Projective Capacitive	Projective Capacitive
Touch Light Transmission	86%	86%
Touch Controller	USB interface, EETI	USB interface, EETI
SBC	ARC-KBLU	
Processor	7th Generation Intel® Kaby Lake Core™ i7/i5/i3/ Celeron® Processor	
I/O Chipset	EC ITE IT8518E	
System Memory	1 x 260pin SODIMM socket up to 16GB DDR4 2133 SDRAM	
Expansion	1 x M.2 (Key E, 2230) with PCIe x1, CNVI and USB2.0 for Wireless 1 x M.2 (Key M, 2280) with PCIe x4	
Storage	1 x 2.5" SATA3 SSD	
USB	4 x USB 3.0, 2 x USB 2.0 (by pin header) 1 x Isolation 5-kV USB1.1 (by IET module)	
COM Port	1 x RS-232/422/485, 1 x RS-232 1 x Isolation 5-kV RS-232/422/485 (by IET Module)	
Other	Dual LED Reading Light Bar, I/O Cover Optional 8 hours back battery	
Display Chipset	Intel® HD Graphics 620	
Audio	Realtek ALC892	
Audio Interface	2 x 2W	
Ethernet	1 x Intel® I211AT, 1 x Intel® I219LM 1 x Isolation 5-kV Intel® I210AT (by IET Module)	
Power Connector	Lockable DC Jack	
Power Type	AT / ATX	
Adapter	Medical grade Input: 100~240 Vac/50~60Hz; Output: 90W Adapter (19V/4.74A Adapter)	
Construction (Front, Rear)	Plastic, Plastic	
Dimension	380 x 587 x 45.5mm	421 x 660 x 45.5mm
Weight	8 kg	10 kg
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)	
Certification	CE, FCC Class B, UL60601-1 4th edition	
OS Information	Win 10/ Linux	



HID Series					
Model Number	HID-2132		HID-2232	HID-2332	HID-2432
LCD Size	21.5"		21.5"	23.8"	24"
Display Type	Full HD		FHD	Full HD	WUXGA
Resolution	1920 x 1080		1920 x 1080	1920 x 1080	1920 x 1200
Pixel Pitch	0.248 x 0.248		0.248 x 0.248	0.274 x 0.274	0.270 x 0.270
Luminance	250 cd/m²		250 cd/m²	250 cd/m²	300 cd/m²
Contrast Ratio	3000		3000	3000	1000
Viewing Angle	89 (U), 89 (D), 89 (L), 89 (R)		89 (U), 89 (D), 89 (L), 89 (R)	89 (U), 89 (D), 89 (L), 89 (R)	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	18 ms		18 ms	N/A	14 ms
Backlight	LED		LED	LED	LED
Touch Type	Projective Capacitive		Projective Capacitive	Projective Capacitive	Projective Capacitive
Touch Light Transmission	89%		89%	89%	89%
Touch Controller	USB interface, EETI		USB interface, EETI	USB touch (EETI)	USB interface, EETI
SBC	ARC-SKLU		ARC-SKLU	ARC-SKLU	ARC-SKLU
Processor	6th Gen Intel® Core™ i7/5/3/Celeron processor		6th Gen Intel® Core™ i5-6300U, 2-Core, 2.4GHz processor		
I/O Chipset	EC ITE IT8528E				
System Memory	1 x 260pin SODIMM socket up to 16GB DDR4 2133 SDRAM				
Expansion	1 x Full Size (support half size, Auto switch for mSATA, USB, PCIe signal)				
Storage	1 x 2.5" SATA3 SSD				
USB	4 x USB 3.0, 4 x USB 2.0 by pin header 1 x USB 2.0 (Isolated 5KV)		4 x USB 3.0, 4 x USB 2.0 by pin header 2 x USB 2.0 (Isolated 5KV)		
COM Port	1 x RS-232/422/485, 1 x RS-232 1 x RS-232 (Isolated 5KV)		1 x RS-232/422/485, 1 x RS-232 1 x RS-232 (Isolated 5KV), 1x RS-232/422/485 (Isolated 5KV) on IET module		
Other	Dual LED Reading Light Bar, I/O Cover		HDMI Video out on IET module, DICOM pre-set		
Display Chipset	Intel® HD Graphics 520		Intel® HD Graphics 520		
Audio	Realtek ALC892		Realtek ALC892		
Audio Interface	2 x 0.5W		Line Out, Mic in, 2 x 0.5W		
Ethernet	1 x Intel® I219LM, 1 x Intel® I211AT 1 x Intel® I210AT (Isolated 5KV) on IET module		1 x Intel® I219LM, 1 x Intel® I211AT 2 x Intel® I210AT (Isolated 5KV) on IET module		
Power Connector	Lockable DC Jack		4 pin DC Jack		
Power Type	AT / ATX		AT / ATX		
Adapter	AC/ DC medical power adapter Output: 90W Adapter (19V/4.74A Adapter)		AC/ DC medical power adapter +24Vdc, 3.75A max. (90W) Output Voltage		
Construction (Front, Rear)	Plastic, Plastic		Plastic, Plastic	Plastic, Plastic	Plastic, Plastic
Dimension	539.6 x 342.6 x 45.2 mm		521.0 x 326.0 x 56.5 mm	587.0 x 367.5 x 59.0 mm	573.8 x 387.8 x 62.5 mm
Weight	6.2 kg		7.5 kg	8.5 kg	10 kg
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)		0 ~ 35° C (32 ~ 95° F)		
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)		-20°C ~ 60°C (-4°F ~ 140°F)		
Certification	CE, FCC Class B, UL60601-1 4th edition		DIN 6868157/ CE, FCC Class B, UL60601-1 4th edition		
OS Information	Win 7/10/ Linux		Win 7/10/ Linux		

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

HDBaseT Solution

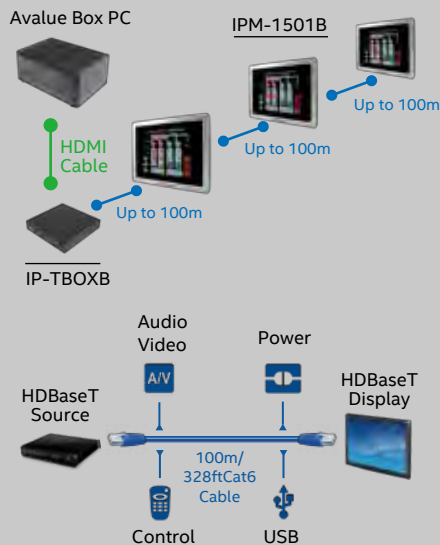
The Ultimate Cable that Carries All Your Industrial Computing

- Video, USB, and Power over standard Cat6 cable
- Powers up remote displays
- Up to 100m IPC-to-monitor
- Plug-and-play installation

HDBaseT™ Supports

Daisy Chain Architecture

Perfectly Suits
Digital Signage Installations



HD Video, Audio, Power and
Controls on 100m LAN Cable



HDBaseT Extender

Model Number	IPM-TBOXB
HDBaseT Port	1 x RJ45 for HDBaseT-Out
USB	1 x USB 2.0 (TypeA)
Other	1 x HDMI Input
HDBaseT Port	1 x RJ45
Power Connector	+12V ~ +26V / Support Power over HDBaseT (PoH)
Power Requirement	+12~26V
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)
Dimension	130 x 130 x 25mm w/o Wall Mount Bracket
Weight	0.5 kg
Mounting Kit	Wall Mount
Operating Temperature	0°C ~ 50°C (32°F ~ 122°F)
Storage Temperature	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	5 ~ 90% Relative Humidity, Non-condensing
Vibration Test	IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis

HDBaseT Monitor

Model Number	IPM-1501B
LCD Size	15"
Display Type	XGA
Resolution	1024 x 768
Pixel Pitch (H x V)	0.252mm x 0.252mm
Luminance	400 cd/m2
Contrast Ratio	700
Viewing Angle	70 (U), 70 (D), 80 (L), 80 (R)
Response Time	11ms
Backlight	LED
Touch Type	5-wire Resistive
Touch Light Transmission	80%
Touch Controller	USB touch (PenMount)
HDBaseT Port	1 x RJ45 for HDBaseT-In 1 x RJ45 for HDBaseT-Out
USB	2 x USB
Other	1 x Headphone Jack
Audio Interface	Speaker Out
Power Connector	DC Jack (lockable)
Power Requirement	+12V ~ +26V / Support Power over HDBaseT (PoH) Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)
Adapter	
Construction (Front, Rear)	Front Aluminum, Rear Metal
Dimension	350 x 274 x 53.5 mm
Weight	4 kg
Mounting Kit	VESA 75 x 75, 100 x 100 / Din rail (Optional)
Operating Temperature	0°C ~ 50°C (32°F ~ 122°F)
Storage Temperature	-30°C ~ 70°C (-22°F ~ 158°F)
Operating Humidity	5~90% Relative Humidity, Non-condensing
IP Rating	IP65 Compliant Front Panel
Vibration Test	1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
Shock Test	50Grms, IEC 60068-2-27, Half Sine, 11ms

Semi-Rugged Tablet / Mini POS Terminal



Semi-Rugged Tablet

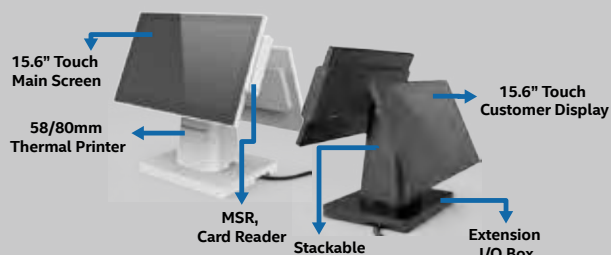
Model Number	RiTab-10T1
Processor	Intel® Atom™ Z3735F 1.33GHz Processor
System Memory	Onboard 2GB DDR3L
Storage	Onboard 32GB eMMC, Optional 64GB
Operating System	Win 10 / Android 4.4
LCD Size/Resolution	10.1", WXGA/1280x800
Luminance	350 cd/m ²
Touch Screen	10 Points Projective Capacitive
Wireless LAN	802.11 b/g/n
Bluetooth	Bluetooth 4.0 Dual Mode
Camera	5MP Rear Camera with Auto Focus
NFC	ISO/IEC 14443 A/B, 15693/18092
Barcode Scanner	Full: 2D Barcode Scanner (Support 1D, PDF417 and 2D Bar Codes); Basic: N/A
Smart Card Reader	Full: Half-Slot, Reads ISO 7816-1,2,3&4, T=0 & T=1; 5V Smart Card; Basic: N/A
MSR	Full: 3 Track Reader, Triple DES and AES Encryption, DUKPT Key Management; Basic: N/A
Downside I/O Connectors	1 x Audio Jack, 1 x USB 2.0 Type A, 1 x Micro SD, 1 x DC Jack, 1 x Micro HDMI Output, 1 x Micro SIM Card Slot
Control Button	1 x Power Button, 1 x G Sensor Lock Button, 2 x Barcode Scanner Trigger
LED Indicator	1 x Power/Battery
Power Requirement	DC Jack +19V
Battery	Hot-Swappable 27.75W Li-Polymer Battery (3S1P) Internal 3.7W Li-Polymer Battery (2S1P)
Battery Operating Time	8 hours
Construction	Rubber + Plastic
Dimensions	281.9mm x 201mm x 20.8mm
Weight	1kg
Operating Temperature	0°C ~ 40°C (32°F~104°F)
Storage Temperature	-10°C ~ 60°C (14°F~140°F)
IP Rating	IP54 (Without MSR & SCR)
Certifications	CE, FCC Class B, VCCI

Mini POS Terminal

Model Number	RiPac-10P1
Processor	Intel® Atom™ Z3735F 1.33GHz Processor
System Memory	2GB DDR3L SDRAM
Storage	32G (Default)/64G (Optional) eMMC
Operating System	Windows 10, Android 4.4 / 5.1
LCD Panel	10.1" LCD, 5" LCD (customer facing)
Resolution	1280 x 800 (10.1"), 1280 x 720 (5")
Touch Screen	Projected Capacitive Touch
Wireless LAN	Built-in IEEE 802.11 b/g/n
Bluetooth	Built-in Bluetooth 4.0 + Class 1
Serial Port	2 x RS-232 in DB9, Powered with 5/12V
USB Port	4 x USB2.0
LAN Port	1 x RJ45
Cash Drawer	1 x RJ11
NFC	ISO/IEC 14443 A/B, 15693/18092
Thermal Printer	Printing Method: Thermal Dot Line Printing Resolution: (W) 8 Dots/mm, (H) 8 Dots/mm Maximum Print Speed: 200mm/s Maximum Print Width: 72mm Maximum Paper Width: 80mm Type of Paper Cutting: Full Cut & Partial Cut
Power Type	19.5V/6.15A 120W
Dimensions	299 (L) x 316.2 (W) x 148.9 (H)mm
Weight	3kg±10%
Operating Temperature	5°C ~ 40°C
Storage Temperature	-10°C ~ 60°C
Operating Humidity	0~95% non-condensing
Certifications	CE/FCC

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

POS Terminal



Sleek & Stylish Design

Slim & Fanless Design



Innovative Technologies

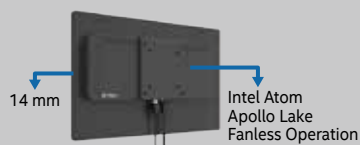


Versatile Applications



Multiple OS Supported

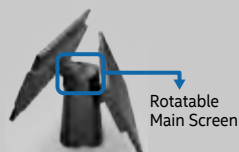
Quick Rail



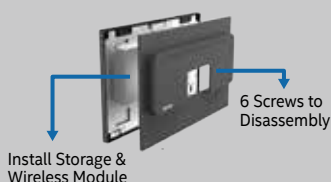
Adjustable View Angle



Easy Upgrade & Maintenance



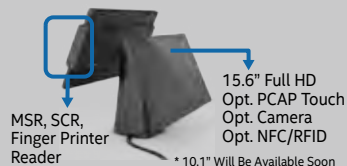
Built-in RFID/NFC



Accessories/Custom Display

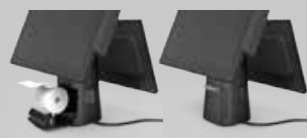


Integrated Thermal Printer



OS Support

Windows 10 for Retail
Android 6.x or up
Linux ubuntu



58/80mm, Auto Cut,
Max Speed 200 mm/sec

New POS Terminal

Model Number	RiVar-1501
LCD Size	15.6"
Display Type	FHD
Resolution	1920 x 1080
Pixel Pitch	0.179 x 0.179
Luminance	300cd/m2
Contrast Ratio	700
Viewing Angle	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	14ms
Backlight	LED
Touch Type	Projective Capacitive
Touch Light Transmission	86%
Touch Controller	USB interface, EETI
SBC	Intel® Celeron® Apollo Lake Platform
Processor	Intel® Celeron® Processor N3350
I/O Chipset	EC ITE IT8528E
System Memory	1 x 204-pin DDR3L SODIMM Socket Up to 8GB DDR3L 1600MTs SDRAM
Expansion	1 x M.2 B Key slot for mSATA module 1 x M.2 E Key slot for .24/5G WiFi module
Storage	1 x mSATA by M.2 B key slot optional 1 x SD Card slot
USB	2 x USB 3.0 on bottom side of Panel 4 x USB 3.0
COM Port	2 x COM ports supported All Pin 9 supported 5V/12V 1A max output
Other	RJ-11 for Cash Drawer optional for Web-cam/ NFC/ MSR
Thermal Printer	SEIKO thermal printer CAPD347D-E
2nd LCD Panel	15.6" (option 1) or 10.1" (option 2) both with PCAP touch option
Display Chipset	Intel® HD Graphics 500
Audio	Realtek ALC892
Audio Interface	2 x 2W
Ethernet	1 x Intel® I211AT
Power Connector	Lockable DC Jack
Power Type	AT/ATX
Adapter	24V DC in 60W and 120W
Construction (Front, Rear)	Plastic, Die Casting
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
IP Rating	IP65 for front Panel, IP41 for Rear
Certification	CE/FCC/VCCI : Class B
OS Information	Windows 10, Android 6.x. and above, Linux
Dimension	253 x 390 x 431mm
Weight	7kg

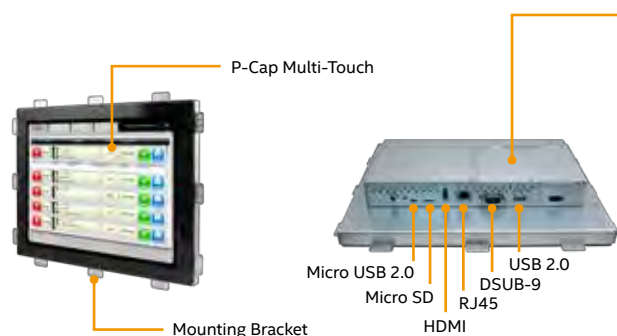


POS Terminal

Model Number	Rity102	Rity122	Rity152	Rity103	Rity153
LCD Size	10.1"	12.1", 4:3	15", 4:3	10.1"	15", 4:3
Display Type	WXGA	XGA	XGA	WXGA	XGA
Resolution	1024 x 600	1024 x 768	1024 x 768	1024 x 600	1024 x 768
Pixel Pitch	262K color by 6 bit RGB signal	16.2M	16.2M	262K color by 6 bit RGB signal	16.2M
Luminance	350 cd/m ²	600 cd/m ²	400 cd/m ²	350 cd/m ²	400 cd/m ²
Contrast Ratio	500	700	700	500	700
Viewing Angle	70(H) x 70(V)	80(H) X 70(V)	80(H) X 70(V)	70(H) x 70(V)	80(H) X 70(V)
Response Time	16 ms	8 ms	8 ms	16 ms	8 ms
Backlight	LED	LED	LED	LED	LED
Touch Type	5-Wire Resistive/ Projective Capacitive Touch				
Touch Light Transmission	RES 75 % / PCT 90%				
Touch Controller	Onboard USB touch (PenMount)/ USB touch (EETI)				
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor			Intel® Celeron® N3350 1.1GHz Processor	
System Chipset	Intel® Valleyview SoC			Intel® Apollo SoC integrated	
System Memory	1 x 204-Pin DDR3L 1066MHz SO-DIMMup to 8 GB			1 x 204-Pin DDR3L 1866MHz SO-DIMM up to 8 GB	
Expansion	1 x Mini PCIe Supports mSATA			1 x Mini PCIe Supports mSATA	
Storage	1 x optional SATA Slim SSD 1 x mSATA	1 x 2.5" Drive Bay, 1 x mSATA		1 x optional SATA Slim SSD, 1 x mSATA	1 x 2.5" Drive Bay, 1 x mSATA
I/O	1 x USB 2.0, 3 x USB 3.0 2 x RS-232/422/485, 1 x RS-232	3 x USB 2.0, 3 x USB 3.0 2 x RS-232/422/485, 1 x RS-232		3 x USB 2.0, 3 x USB 3.0, 1 x RS-232, 2 x RS-232/422/485, 1 x HDMI Output	
Display Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display			Intel® HD Graphics 500 Supports dual display	
Audio	Intel® Valleyview SoC integrated supports 2-CH			Intel® Apollo Lake SoC integrated supports 2-CH	
Audio Interface	2 x 2W Speaker Output	Line-Out 2 x 2W Speaker Output		2 x 2W Speaker Output	Line-Out 2 x 2W Speaker Output
Ethernet	2 x Realtek 8111E			2 x Realtek 8111E	
Power Connector	Mini-DIN 4P for DC in w/ lock type, +19V ~ +24V			Mini-DIN 4P for DC in w/ lock type, +19V ~ +24V	
Power Type	AT/ATX (ATX is default setting)			AT/ATX (ATX is default setting)	
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)			Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)	
Construction (Front, Rear)	Black Coverlens, Black			Black Coverlens, Black	
Operating Temperature	0°C ~ 35°C (32°F ~ 95°F)			0°C ~ 35°C (32°F ~ 95°F)	
Storage Temperature	-10°C ~ 60°C (14°F ~ 140°F)			-10°C ~ 60°C (14°F ~ 140°F)	
Dimension (L x W x H)	260 X 178 X 42mm	322 X 250 X 47mm	362.1 X 290.08 X 51mm	272 X 178 X 42mm	362.1 X 290.08 X 51mm
Weight	4.9kg	5kg/with Stand	6kg/with Stand	4.9kg	6kg/with Stand
Certifications	CE, FCC Class B, VCCI			CE, FCC Class B, VCCI	
OS Information	Win 8, Win 7, POS Ready, Linux, Android			Win 10, Linux	

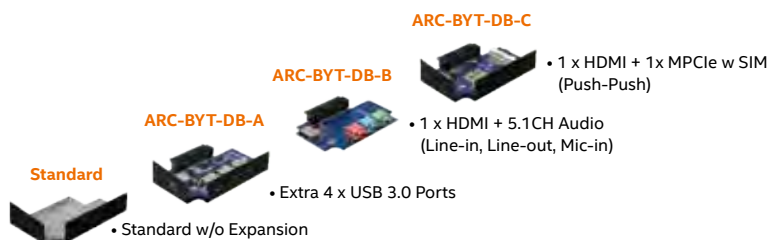
The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Open Frame Tablet - OFT Series



Selectable IO Modules Providing Expandability

The plug-and-play Intelligent Expansion Technology (IET) gives one single model multiple possibilities, remarkably decreases the cost of solution change.



OFT Series (4:3)			OFT Series (16:9, Rockchip)	
Model Number	OFT-1202	OFT-1502	OFT-07WR1	OFT-10WR1
LCD Size	12.1"	15.1"	7"	10.1"
Resolution	1024 x 768	1024 x 768	1280 x 800	1280 x 800
Luminance	600	250	300	350
Viewing Angle	160° (H), 140° (V)	160° (H), 140° (V)	160° (H/V)	170° (H/V)
Touch Type	PCAP	PCAP	PCAP	PCAP
Processor	Intel® Atom™ x5-Z8350 1.44 GHz Quad Core CPU		Rockchip RK3288	
System Memory	2G DDR3L RAM		2GB DDR3L RAM	
Wireless	802.11 b/g/n Wireless LAN and Bluetooth 4.0		802.11 b/g/n Wireless LAN and Bluetooth 4.0	
Storage	32G eMMC		16G eMMC	
External I/O Connector	1 x DC Jack 1 x Gigabit Ethernet 1 x USB 2.0 type A connector 1 x Micro USB Client (Android only) 1 x RS-232 type DB9 connector 1 x HDMI 1.4a connector 1 x Micro SD socket		1 x Giga Ethernet 2 x USB 2.0 type A connectors 1 x micro USB Client (Android only) 1 x HDMI 1.4a connector 1 x Head phone jack 1 x Micro SD slot 1 x DC jack 1 x Reset	
Internal I/O Connector	1 x USB interface 1 x RS-232 or RS-485 1 x mini PCIe socket 1 x SIM card slot 1 x Audio interface 2 x Speaker connectors 1 x Power button interface 1 x Backlight/volume control interface 1 x I²C interface 1 x Avalue IET interface for extension		1 x LVDS interface, 1 x MIPi interface 1 x USB Touch interface, 1 x I²C Touch interface 2 x USB interface, 1 x USB OTG 2 x RS232 (TX/RX), 1 x RS485 1 x GPIO's (16) interface 1 x Speaker interface (1.2W stereo) 1 x A-MIC interface, 1 x D-MIC interface 1 x Touch Button connector, 1 x I²C interface (optional) 1 x Debug connector, 1 x Battery Charger connector 1 x DC input 4pin header 1 x M.2 E-Key socket, 1 x RTC Battery	
Power Requirement	DC 12 ~ 24V		DC 12 ~ 24V	
Power Type	DC Jack		DC Jack, DC input 4pin header, optional Powered LAN 802.3AT	
Operating Temperature	0°C ~ 40°C		0°C ~ 40°C	
Storage Temperature	-10°C ~ 60°C		-20°C ~ 60°C	
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing		0% ~ 90% Relative Humidity, Non-condensing	
Software Support	Window 10 IOT (64 Bit)		Android 7.1 / 8.1 Linux Debian 9	
Dimension	315 x 247 x 54 mm	371 x 295 x 55 mm	116 x 184 x 25 mm	252 x 166 x 38 mm
Certification	CE, FCC Class B		CE, FCC Class A	CE, FCC Class A



Fanless /Slim /Fully Flat

- Slim type design for any attractive decoration
- Fully flat touch screen can be cleaned and operated easily
- Efficient integration into any embedded applications
- Projected capacitive touchscreen, with multi touch



OFT Series (16:9, Intel)

Model Number	OFT-10W02	OFT-07W01	OFT-10W01	OFT-15W01	OFT-21W01
LCD Size	10.1"	7"	10.1"	15.6"	21.5"
Resolution	1280 x 800	1280 x 800	1280 x 800	1920 x 1080	1920 x 1080
Luminance	350	300	350	220	250
Viewing Angle	170° (H/V)	160° (H/V)	170° (H/V)	178° (H/V)	178° (H/V)
Touch Type	PCAP	PCAP	PCAP	PCAP	PCAP
Processor	Intel® Atom™ x5-Z8300/ Z8350 Processor 1.44GHz Quad Core CPU	Intel® Atom™ Processor Z3735F 1.33GHz Quad Core CPU			
System Memory	2G DDR3L RAM	2GB DDR3L RAM			
Wireless	802.11 b/g/n WiFi	802.11 b/g/n WiFi			
Storage	32GB eMMC	32GB or 8GB eMMC			
External I/O Connector	1 x 10/100 Ethernet port 2 x USB 2.0 type A connector 1 x HDMI 1.4a connector 1 x Head Phone Jack 1 x DC Jack				
Internal I/O Connector	1 x USB interface 1 x RS-232(Tx/Rx) or RS-485 2 x Speaker connectors (1.2W stereo) 1 x A-Mic connector 1 x Power button interface 1 x Backlight/volume control interface 1 x 16bit GPIO interface 1 x I²C interface 1 x Micro SD socket 1 x Micro USB Client (Android only)				
Power Requirement	DC 12 ~ 24V	DC 12 ~ 24V			
Power Type	1 x DC-in Jack, 1 x DC-in header Optional Powered LAN 802.3AT	1 x DC-in Jack, 1 x DC-in header	1 x DC-in Jack, 1 x DC-in header Optional Powered LAN 802.3AT	1 x DC-in Jack, 1 x DC-in header	1 x DC-in Jack, 1 x DC-in header
Operating Temperature	0°C ~ 40°C	0°C ~ 40°C			
Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C			
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing	0% ~ 90% Relative Humidity, Non-condensing			
Software Support	Windows 10	Windows 10/ Android 4.4/ Android 5.1/ Ubuntu 16.04			
Dimension	252 x 166 x 38 mm	116 x 184 x 25 mm	252 x 166 x 38 mm	387 x 235 x 38 mm	500 x 292 x 47 mm

The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Tailored to Your Needs



www.avalue.com.tw



www.avalue-solutions.com

Headquarters

Avalue Technology Inc.

7F, 228, Lian-cheng Road,
Zhonghe Dist., New Taipei City 235, Taiwan
Tel: +886-2-8226-2345
Fax: +886-2-8226-2777
E-mail: sales@avalue.com.tw
Web: www.avalue.com.tw

Avalue China

Avalue Technology Inc.

F3, Building 57, No.461 Hong Cao Road,
Shanghai, China
Tel: +86-21-5169-3609
Fax: +86-21-5445-3266
E-mail: sales.china@avalue.com.cn

Avalue USA

Avalue Technology Inc.

9 Timber Lane Marlboro, NJ 07746
Tel: +732-414-6500
Fax: +732-414-6501
E-mail: sales@avalue-usa.com

Avalue USA

BCM Advanced Research

11 Chrysler, Irvine, CA 92618 USA
Tel: +1-949-470-1888
Fax: +1-949-470-0971
E-mail: BCMSales@bcmcom.com
Web: www.bcmcom.com

Avalue Japan

Avalue Technology Inc.

3F Ishiyama-Bldg, 1-6-1 Taito,
Taito-ku, Tokyo 110-0016 Japan
Tel: +81-3-5807-2321
Fax: +81-3-5807-2322
E-mail: sales.japan@avalue.co.jp

Avalue Netherlands

Avalue European Service Centre (AESC)

De Trompet 2108, 1967 DC Heemskerk,
The Netherlands
Tel: +31-251-7002-87
E-mail: eu_rma_service@avalue.com.tw



All specifications are subjects to change without notification.
All brand names and registered trademarks referred to in this catalog are the property
of their respective companies.
Copyright © Avalue Technology Inc. 2018-2019

2019 Vol.1.0

