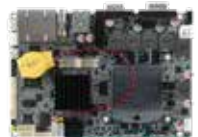




Empowering a **SMART FUTURE**

Avalue IoT Ready

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



	3.5" SBC					
Model Number	ECM-CFS	ECM-KBLH	ECM-SKLH	ECM-SKLU	ECM-QM87R/QM87	ECM-QM77
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	3rd Gen Intel® Core™ i7/i5/i3 processor
System Chipset	Intel® Q370 Express Chipset	Intel® QM175 Express Chipset	Intel® QM170 Express Chipset	N/A	Intel® QM87 Express Chipset	Intel® QM77 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	1 x 204-Pin DDR3 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	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
Expansion	1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports mSATA 1 x M.2 (B-Key, 2242)	1 x Mini PCIe Supports mSATA 1 x M.2 (B-Key, 2242)	1 x Mini PCIe Supports mSATA 1 x M.2 (B-Key, 224 2 with Micro SIM card connector for 3G/4G)	1 x Mini PCIe Supports mSATA	1 x Mini PCIe
Storage	1 x mSATA Supported from Mini PCIe	1 x mSATA Supported from Mini PCIe, 1 x M.2 (SATA)	1 x mSATA Supported from Mini PCIe, 1 x M.2 (SATA)	1 x mSATA Supported from Mini PCIe 1 x M.2 (M.2 support SATA/PClex1/USB interface for SSD)	1 x mSATA Supported from Mini PCIe	N/A
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	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
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	Intel® QM77 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	VGA: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz 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	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	1 x Intel® 82574L 1 x Intel® 82579LM
Power Requirement	+12V	+12V	+12V	+12V ~ +26V	+12V	+12V
Power Type	AT/ATX	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)	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	5.7" x 4" (146mm x 101mm)					



3.5" SBC

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 (B-Key, 2242 with Micro SIM card connector for 3G/4G)	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/PCIe1/USB interface for SSD)	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 mSATA Supported from Mini PCIe
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 T40N 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. Model)	0°C ~ 60°C (32°F ~ 140°F) -40°C ~ 85°C (-40°F ~ 185°F) (Optional for Wide Temp. Model)	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. Model)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)

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



EPIC Module / 5.25" SBC

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

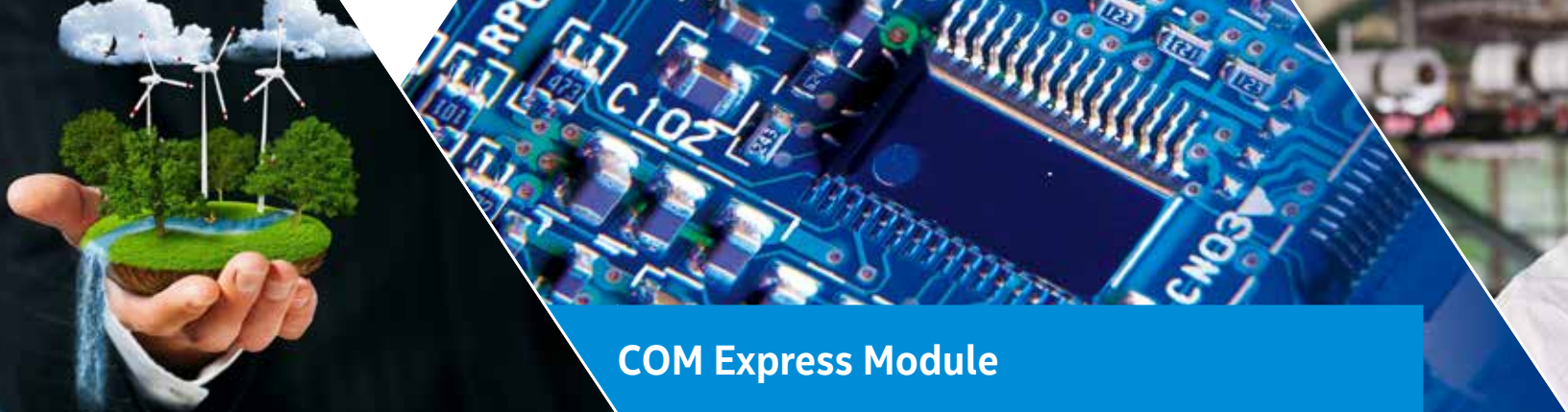


	EPIC	
Model Number	EPI-QM87R/EPI-QM87	EPI-QM77
Processor	4th Gen Intel® Core™ i7/i5/i3 processor	3rd Gen Intel® Core™ i7/i5/i3 processor
System Chipset	Intel® QM87 Express Chipset	Intel® QM77 Express Chipset
System Memory	1 x 204-Pin DDR3L 1333/1600MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3L 1333/1600MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step	H/W Reset, 1sec. ~ 65535min. and 1sec. or 1min./step
Expansion	1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports mSATA
Storage	1 x mSATA Supported from Mini PCIe	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	4 x USB 3.0, 2 x USB 2.0, 2 x SATA III, 1 x RS-232/422/485, 1 x RS-232, 1 x 16bit GPIO, 1 x LPC, 1 x SPI, 1 x PS2/ KB & MS, 1 x IrDA
Display Chipset	Intel® QM87 Chipset Integrated Supports triple display	Intel® QM77 Chipset Integrated Supports triple display
Resolution	DVI-I: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 3840x2160 @ 24Hz LVDS: Max. resolution 1920x1080 @ 60Hz	DVI-I: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz
Audio Chipset	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® I210AT 1 x Intel® I217LM	1 x Intel® 82574L 1 x Intel® 82579LM
Power Requirement	+12V ~ +19V	+12V ~ +19V
Power Type	AT/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)	4.5" x 6.5" (115mm x 165mm)	





EPIC	5.25" SBC			
EPI-QM67	EBM-SKLU	EBM-QM87U	EBM-APL	EBM-BYT
2nd Gen Intel® Core™ i7/i5/i3 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
Intel® Q67 Chipset	N/A	N/A	N/A	N/A
1 x 204-Pin DDR3 1066/1333MHz SO-DIMM up to 8 GB	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
H/W Reset, 1sec. ~ 65535min. and 1sec. or 1min./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	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
1 x Mini PCIe Supports mSATA	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 (B-Key, 2242)	1 x Mini PCIe Supports SIM Card 1 x Mini PCIe Supports mSATA
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 M.2 (2242) support SATA/PCIex1/USB interface for SSD	1 x CompactFlash Type I/II Socket 1 x mSATA Supported from Mini PCIe
10 x USB 2.0, 2 x SATA III, 1 x RS-232/422/485, 1 x RS-232, 1 x 8bit GPIO, 1 x LPC, 1 x SPI, 1 x PS2/ KB & MS, 1 x IrDA	4 x USB 3.0, 4 x USB 2.0, 1 x SATA III, 4 x RS-232, 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
Intel® QM67 Chipset Integrated Supports dual display	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
DVI-I: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz	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
Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out	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
1 x Intel® 82574L 1 x Intel® 82579LM	1 x Intel® I210AT 1 x Intel® I219LM	1 x Intel® I210AT 1 x Intel® I218LM	2 x Intel® I211AT	2 x Intel® I210IT
+12V ~ +19V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V
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)	-40°C ~ 85°C (-40°F ~ 185°F) 0°C ~ 60°C (with Processor J1900)
8" x 5.75" (203mm x 146mm)				



COM Express Module



	COM Express							
Model Number	ESM-KBLH	ESM-KBLA	ESM-KBLU	ESM-SKLH	ESM-SKLA	ESM-SKLU	ESM-QM87/ ESM-QM87R	ESM-BDW
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	4th Gen Intel® Core™ i7/i5/i3 processor	5th Gen Intel® Core™ i7/i5/i3 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	2 x 204-pin DDR3 1333/1600MHz SO-DIMM or 204-pin DDR3L 1600MHz SO-DIMM up to 16 GB	2 x 204-pin DDR3L 1600MHz SO-DIMM up to 16 GB
Expansion	8 x PCIe1	8 x PCIe1	8 x PCIe1	8 x PCIe1	8 x PCIe1	8 x PCIe1	7 x PCIe1, 1 x PCIe16	4 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	8 x USB 2.0, 1 x USB 3.0	8 x USB 2.0, 2 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	2 x SATA II, 2 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	N/A	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	1 x SMBus, 1 x LPC	1 x LPC, 1 x SMBus, 1 x I²C
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	Intel® QM87 Chipset Integrated	Intel® GT2 Integrated Graphics
Display	(VGA + DP) + HDMI + DDI, LVDS + (VGA + DP) + DDI, LVDS + (VGA + DP) + HDMI, LVDS + HDMI + DDI	(VGA + DP) + HDMI + DDI, LVDS + (VGA + DP) + DDI, LVDS + (VGA + DP) + HDMI, LVDS + HDMI + DDI	LVDS(eDP) + VGA(HDMI) + DDI(HDMI or DP)	(VGA + DP) + HDMI + DDI, LVDS + (VGA + DP) + DDI, LVDS + (VGA + DP) + HDMI, LVDS + HDMI + DDI	(VGA + DP) + HDMI + DDI, LVDS + (VGA + DP) + DDI, LVDS + (VGA + DP) + HDMI, LVDS + HDMI + DDI	(VGA + DP) + HDMI + DDI, LVDS + (VGA + DP) + DDI, LVDS + (VGA + DP) + HDMI, LVDS + HDMI + DDI	DDI+VGA, DDI+LVDS, VGA+LVDS	VGA+LVDS
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	Intel® QM87 Chipset Integrated	Intel® Broadwell SoC integrated
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	1 x Intel® I211AT	1 x Intel® I218LM
Power Requirement	+9V ~ +19V	+9V ~ +19V	+9V ~ +19V	+9V ~ +19V	+9V ~ +19V	+9 (-5%)~ +19V (+5%), VSB: 5V(±5%)	+9V ~ +19V	+9V ~ +19V
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 (-40°F ~ 176°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°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)	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	CE, FCC Class B	CE, FCC Class B



COM Express			
ESM-APLC	ESM-BYT2	ESM-BYT	ESM-A50M
Intel® Pentium®/Celeron® SoC Processor	Intel® Atom™/Celeron® processor		AMD G-Series processor
1 x 204-pin DDR3L 1866 SO-DIMM up to 16 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)	2 x 204-pin DDR3 1066/1333MHz SO-DIMM up to 8 GB
3 x PCIe1	3 x PCIe1		7 x PCIe1
8 x USB 2.0, 4 x USB 3.0	7 x USB 2.0, 1 x USB 3.0		8 x USB 2.0
2 x SATA III	2 x SATA II		4 x SATA II
1 x UART	2 x UART	1 x UART	N/A
1 x LPC, 1 x SMBus, 1 x I ² C	1 x LPC, 1 x SMBus, 1 x I ² C		1 x LPC, 1 x SMBus, 1 x I ² C
Apollo lake SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics		AMD Fusion Accelerated Processors
VGA/ LVDS/ HDMI/ DP	VGA+LVDS	N/A	VGA+LVDS, HDMI+LVDS, VGA+HDMI
Intel® High Definition Audio	Intel® Valleyview SoC integrated		AMD Fusion Accelerated Processors
1 x Intel® WGI211AT	1 x Intel® I211AT		1 x Intel® 82577LM
+9V ~ +19V	+9V ~ +19V		+8V ~ +18V
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)		0°C ~ 60°C (32°F ~ 140°F)
3.7" x 3.7" (95mm x 95mm)	3.7" x 3.7" (95mm x 95mm)	5" x 3.7" (125mm 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

	SOM Carrier Board		
Model Number	EEV-EX13	EEV-EX14	EEV-EX62
USB	8 x USB 2.0 (4 USB External)	8 x USB 2.0, 4 x USB 3.0 (4 USB External)	(4 USB External)
SATA	4 x SATA II (On Board)	4 x SATA II (On Board)	On board
COM Port	2 x RS-232, 1 x LPT (1 x COM external, 1 x COM on Board)	1 x RS-232/422/485, 1 x RS-232, 1 x LPT (1xRS232/422/485 external, 1xRS232 on board)	COM Express Type6 to Type 2 Adapter
Video	1 x VGA, 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 PS2/ KB & MS, 1 x LAN	1 x PS2/ KB & MS, 1 x SDIO, 2 x LAN	
DIO	1 x 8bit GPIO	1 x 8bit GPIO	
MIO	1 x IrDA, 1 x Compact-Flash Type I/II Socket	1 x IrDA	
Expansion	1 x PCI, 2 x PCIe1, 1 x PCIe16, 1 x Express Card	1 x PCIe16, 1 x PCIe4, 1 x PCIe1, 1 x Express Card, 1 x Mini PCIe	
Audio	Mic-In, Line-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)	9.6" x 9.6" (243.84mm x 243.84mm)	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



Qseven Module

Qseven Solution

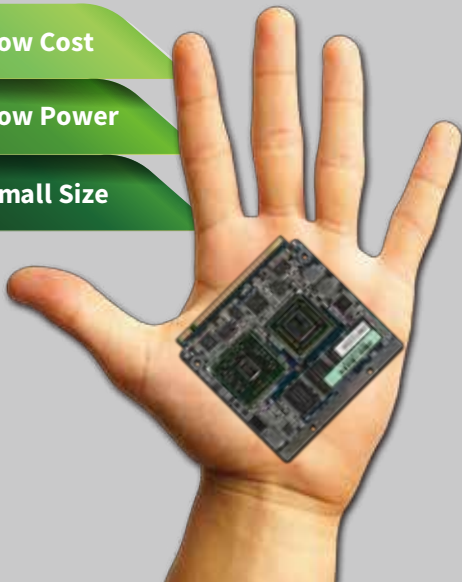
Small Form Factor for
Ultra Mobile Applications

- 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-Q701	EEV-Q702	REV-Q703 (A/B)
USB	6 x USB 2.0 (4 USB External, 2 USB on board)	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 II (On Board)	2 x SATA (On board)
COM Port	1 x RS-232, (1 x RS232 External)	1 x UART (1 x UART External)	1 x RS-232
Video	1 x HDMI, 1 x LVDS (1 x LVDS on board)	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 LAN, 1 x SPI, 1 x LPC	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 16 bit GPIO	1 x 16bit GPIO	1 x 16 bit GPIO
MIO	1 x IrDA, 1 x PS2/ KB & MS, 1 x SD socket	1 x SD socket	1 x SD socket for version A 1 x Micro SD socket for version B
Expansion	1 x Mini PCIe Supports SIM Card	1 x PCIe x1, 1 x Mini PCIe Supports SIM Card	1 x Mini PCIe Supports SIM Card
Audio Chipset	Realtek ALC892	Realtek ALC892	ALC892/ WM8962
Audio Interface	Mic-In, Line-In, Line-Out	Mic-In, Line-In, Line-Out	Mic-In, Line-In, Line-Out
Power Requirement	ATX	ATX	DC +12V
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)	-40°C ~ 85°C (-40°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)
Dimension (L x W)	5.7" x 4" (146mm x 101mm)	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	CE, FCC Class B



	Qseven Module				
Model Number	EQM-APL	EQM-A50M	EQM-BYT	EQM-BYT2	RQM-IMX6
Processor	Intel® Pentium®/ Celeron®/ Atom™ processor	AMD G-Series 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 DDR3 2GB up to 4 GB	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	4 x PCIe1	3 x PCIe1	3 x PCIe1	3 x PCIe1
USB	6 x USB 2.0, 2 x USB 3.0	8 x USB 2.0	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	2 x SATA II	1 x SATA II (Quad only)
UART	1 x UART	N/A	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 SMBus, 1 x LPC, 1 x I ² C	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	AMD Radeon 6250	Intel® Valleyview SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	NXP
Display	(HDMI or DP) + (eDP or LVDS)	HDMI + LVDS, DDI + LVDS	DDI (HDMI or DP) + LVDS	DDI (HDMI or DP) + LVDS	1 x HDMI/ LVDS
Audio	Intel® Apollo lake SoC integrated	AMD G-series A50M 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 Realtek 8111E	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	+5V
Others	N/A	N/A	N/A	N/A	Support Mipi CSI Camera
Operating Temperature	-20°C ~ -70°C (-40°F ~ 158°F) (Standard) -40°C ~ 85°C (-40°F ~ 185°F) (Extended)	0°C ~ 60°C (32°F ~ 140°F) (Standard)	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)	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	CE, FCC Class B
Software Support	Win 10 Linux Android	Win XP Win 7 Linux	Win 10 Win 7 Win 8 Linux	Ubuntu 12.04 Win 7/ 8.1 /10	Android 6.0 Yocto 2.1

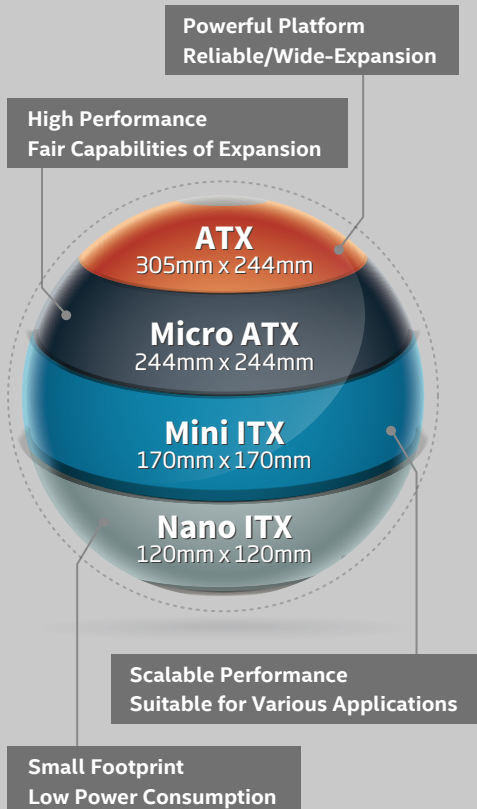


ATX / Micro ATX / Pico ITX Motherboards

Industrial Motherboard

With rich experience in industrial motherboard manufacturing and design, Avalue is the Expert at providing proper solutions for specific applications, such as POS/KIOSK, surveillance, gaming, medical, industrial automation, and so on.

Avalue provides full range of industrial motherboard, Mini ITX, Nano ITX, ATX, Micro ATX form factor, barebone, chassis and applied computing platform.



	ATX	
Model Number	EAX-Q170KP (C236KP)	EAX-Q170P
Processor	Intel® LGA1151 Socket Supports 6/7th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
System Chipset	Intel® Q170 Express Chipset (Co-lay C236 Chipset)	Intel® Q170 Express Chipset (Co-lay C236 Chipset)
System Memory	4 x 288-pin DDR4 2400MHz DIMM supports up to 64GB	4 x 288-pin DDR4 2400MHz DIMM supports up to 64GB
Expansion	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 2230 KeyA Slot supports WiFi module 1 x SIM card slot 1 x Full/Half Size Mini-PCIe Supports mSATA (Switch Through Jumper)	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 2230 KeyA Slot supports WiFi module 1 x SIM card slot 1 x Full/Half Size Mini-PCIe Supports mSATA (Switch Through Jumper)
Display	Intel® 6/7th Generation CPU Integrated VGA + HDMI + DVI	Intel® 6th Generation CPU Integrated VGA + HDMI + DVI
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: 4096 x 2160 @ 24Hz, 2560 x 1600 @ 60Hz DP: 4096 x 2304 @ 60Hz
Audio	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
Ethernet	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT
USB/SATA/COM/LAN	12/6/6/2	12/6/6/2
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	AT/ATX	AT/ATX
Operating Temp.	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)
Weight	1.32lbs (0.6kg)	1.32lbs (0.6kg)



ATX	Micro ATX			Pico ITX
EAX-Q87R (C226)	ERX-H110KP	ERX-C236KP	ERX-H110	EPX-APLP
Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors	Intel® LGA1151 Socket Supports 6/7th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6/7th Generation Core™ / Intel® Xeon® Processor E3-1200 v5/6 Family (Workstation) / Intel® Pentium® / Celeron® Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)	Intel® Celeron® Processor N3350 (2M Cache, up to 2.4 GHz)
Intel® Q87 Express Chipset (Co-lay C226 Chipset)	Intel® H110 Express Chipset	Intel® C236 Chipset	Intel® H110 Express Chipset	N/A
4 x 240-Pin DDR3 1333/1600 MHz DIMM supports up to 32 GB	2 x 288-pin DDR4 2400MHz DIMM supports up to 32GB	4 x 288-pin DDR4 2400MHz DIMM supports up to 64GB	2 x 288-pin DDR4 2400MHz DIMM supports up to 32GB	1 x 204-pin DDR3L 1600 & 1333MHz SO-DIMM supports up to 8 GB
4 x PCI (Support 5V) 1 x PCI-e x 16 1 x PCI-e x 4 1 x PCI-e x 1	1 x PCI-e x 16 3 x PCI-e x 1 1 x M.2 Slot supports WiFi module 1 x SIM card slot 1 x Full/Half Size Mini-PCIe supports mSATA	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 supports SATA/PCI-ex1 2.0 signal	1 x PCI-e x 16 2 x PCI-e x 1 1 x M.2 Type M Slot supports PCI-e x 2 only	1 x PCI-e x 1 1 x M.2 Type B Slot supports 2 x PCI-e x 1 (default) or 1 x PCI-e x 2 (By OEM BIOS ME SET), USB 3.0, SATA Signal) with 1 x SIM card slot, support WWAN+GNSS or SSD. 1 x M.2 Type A Slot supports WiFi module, 1 x PCI-e x 1 (USB 2.0 Signal) 1 x SIM card slot
Intel® 4th Generation CPU integrated DP + VGA + DVI	Intel® 6/7th Generation CPU Integrated HDMI + VGA, HDMI + DP, VGA + DP	Intel® 6/7th Generation CPU integrated HDMI + HDMI, HDMI + VGA, VGA + HDMI	Intel® 6th Generation CPU Integrated HDMI + DVI-D	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDM/DPI + DP, HDMI + LVDS
VGA: 1920 x 1200 @ 60Hz DVI: 1920 x 1200 @ 60Hz DP: 3840 x 2160 @ 24Hz	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	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 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 ALC662 HD Audio Decoding Controller Line-in, Mic-in, Line-out 2 x 3W Amplifier	Realtek ALC662 Mic-in, Line-in, Line-out	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier
1 x Intel® I217LM 1 x Intel® I210AT	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 3 x Intel® I211AT	1 x RTL8111GS	2 x Intel I211AT
13/6/6/2	8/4/6/2	13/6/10/4	10/4/1/1	6/1/6/2
+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
AT/ATX	AT/ATX	AT/ATX	AT/ATX	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)
12" x 9.6" (304.8mm x 243.84mm)	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)	3.93" x 2.83" (100mm x 72mm)
1.32lbs (0.6kg)	1.35lbs (0.6kg)	1.35lbs (0.6kg)	1.35lbs (0.5kg)	0.88lbs (0.4Kg)

Mini ITX Motherboards



Mini ITX						
Model Number	EMX-Q170KP	EMX-Q170P	EMX-H110KP	EMX-H110P	EMX-Q87R	EMX-APLP
Processor	Intel® LGA1151 Socket Supports 6/7th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6/7th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)	Intel® Pentium® Processor N4200 (2M Cache, up to 2.5 GHz)
System Chipset	Intel® Q170 Express Chipset		Intel® H110 Express Chipset		Intel® Q87 Express Chipset	N/A
System Memory	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 204-pin DDR3 1333/1600 MHz SO-DIMM supports up to 16 GB	2 x 204-pin DDR3L 1333 & 1600MHz SO-DIMM supports up to 16GB
Expansion	1 x PCI-e x 16 1 x Full Size Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x Half Size Mini PCI-e		1 x PCI-e x 16 1 x Full Size Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x Half Size Mini PCI-e		1 x PCI-e x 16 1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x CFast	1 x PCI-e 1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x Mini PCI-e 1 x SD card slot supports SD/ SDHC Card 1 x SIM card slot
Display	Intel® 6/7th Generation CPU integrated Triple Display		Intel® 6/7th Generation CPU integrated VGA + LVDS, VGA + HDMI, VGA + DP, HDMI + LVDS, HDMI + DP, LVDS + DP		Intel® 4th Generation CPU integrated Triple Display	Intel® Atom™/ Pentium® SoC Integrated Graphics HDMI + LVDS, HDMI/DPI + DP, HDMI + LVDS
Resolution	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)		VGA: 1920 x 1200 @ 60Hz HDMI: 4096 x 2160 @ 24Hz LVDS: 1920 x 1080 @ 60Hz DP: 3840 x 2160 @ 60Hz	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 ALC892 Mic-in, Line-out, Line-in 6W Audio Amplifier		Realtek ALC892 Mic-in, Line-out, Line-in 6W Audio Amplifier		Realtek ALC892 supports 5.1-CH Mic-in, Line-out, Line-in 2 x 2W Audio Amplifier	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier
Ethernet	1 x Intel® I219LM 1 x Intel® I211AT		1 x Intel® I219LM 1 x Intel® I211AT		1 x Intel® I217LM 1 x Intel® I211AT	2 x Intel I211AT
USB/SATA/COM/LAN	12/6/6/2		8/4/6/2		12/4/4/2	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
Power Type	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)
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)
Weight	0.88lbs (0.4kg)		0.88lbs (0.4kg)		1.03lbs (0.47kg)	0.88lbs (0.4kg)



Mini ITX

EMX-SKLUP	EMX-SKLGP	EMX-BSWP	EMX-BYT2	EMX-BSWB
Onboard 6th Gen Intel® Core™ i7/i5/i3 & Celeron® BGA Processor	6th Gen Intel® Core™ i7-6600U, 2-Core, 2.6GHz processor 6th Gen Intel® Core™ i5-6300U, 2-Core, 2.4GHz processor 6th Gen Intel® Core™ i3-6100U, 2-Core, 2.3GHz processor 6th Gen Intel® Core™ 3955U, 2-Core, 2.0GHz processor	Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz)	Onboard 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
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 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 Type B Slot supports 2 x PCI-e x 1 (default) or 1 x PCI-e x 2 (By OEM BIOS ME SET), USB 2.0, SATA Signal) with 1 x SIM card slot, support WWAN+GNSS or SSD. 1 x M.2 Type A Slot supports WiFi module, , 1 x PCI-e x 1 (USB 2.0 Signal) 1 x SD card slot (Optional)	1 x Mini PCI-e 1 x M.2 Type A 2230	1 x PCI-e 1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x Mini PCI-e 1 x SD card slot supports SD/ SDHC Card 1 x SIM card slot	1 x PCI-e 1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x Mini PCI-e 1 x SD card slot supports SD/ SDHC Card 1 x SIM card slot	1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 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 + 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 (Chrontel CH7511B eDP to 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 (Chrontel. CH7511B eDP to LVDS Converter) 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: 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
1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 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	6/2/6/2	7/2/1/1
+12V~24V	+12V~24V	+12V	+12V	+12V
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)
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)

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 6.0

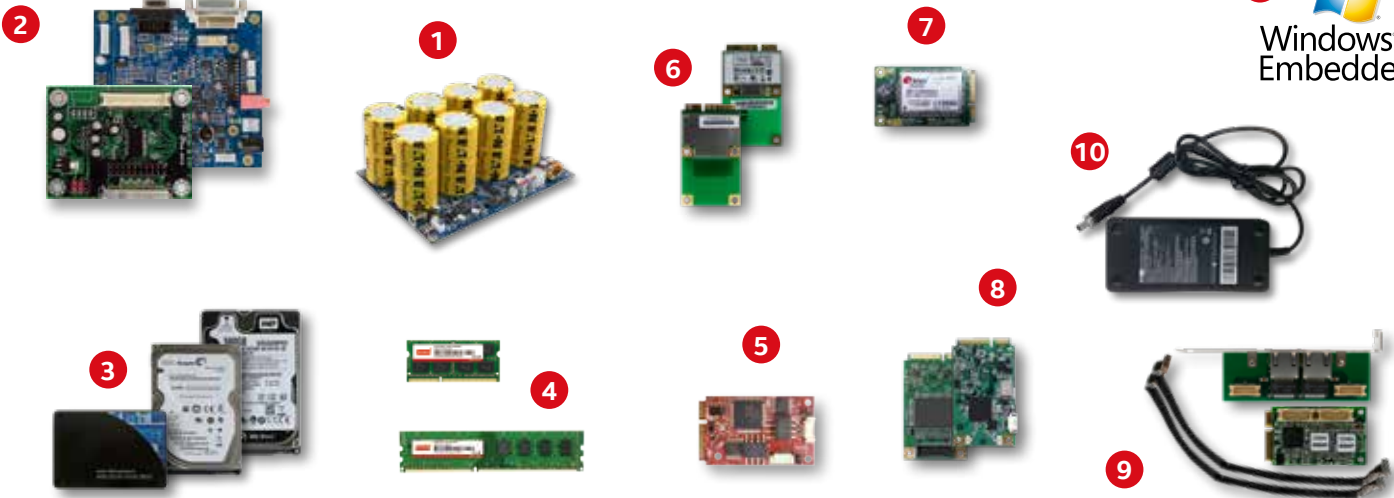
	RISC Panel PC
Model Number	BFC-07R1
Resolution	1024 x 800
Pixel Pitch	0.117 (H) x 0.117 (V)
Luminance	400 cd/m ²
Touch Type	Projective Capacitive
Touch Light Transmission	85 %
Touch Controller	USB touch (SIS)
Processor	NXP i.MX6 Quad
System Memory	1 x Onboard DDR3 1GB
Storage	1 x On board 4GB eMMC
External 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 i.MX 6 Solo NXP i.MX 6 Dual Lite NXP i.MX 6 Dual NXP i.MX 6 Quad Core	N/A	N/A	NXP i.MX 6 Dual Lite NXP i.MX 6 Quad Core	NXP i.MX 6 Dual Lite NXP i.MX 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 PClex1 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 1.7	Android 4.4 Ubuntu 12.04 Yocto 1.7



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



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



OPS Module



SOPM-QM87



SOPM-HM65

Open Pluggable Module – Making Signage Smarter & Easier



OPS Module

Model Number	SOPM-QM87	SOPM-HM65
Board	EPIC board	EPIC board
Processor	Onboard Intel® 4th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processor (Max TDP 37W)	Intel® rPGA988 Socket(Socket G2) 2nd/3rd Generation Core™ i7/i5/i3, Pentium® and Celeron® Processor (Max TDP 35W)
System Chipset	Intel® QM87 Express Chipset	Intel® HM65 Express Chipset
System Memory	2 x 204-Pin DDR3L 1333/1600 MHz SO-DIMM supports up to 16 GB	1 x 204-Pin DDR3L 1333/1600 MHz SO-DIMM supports up to 8 GB
Expansion	1 x Half Size Mini PCI-e Support mSATA (Switch Through BIOS)	1 x Half Size Mini PCI-e socket
Storage	1 x 2.5" Drive Bay (7mm)	1 x 2.5" Drive Bay (7mm)
USB	2 x USB 3.0	2 x USB 2.0
Other	1 x Reset 1 x Power Button 1 x HDD LED 2 x SMA connector	1 x Reset 1 x Power Button 1 x HDD LED 2 x SMA connector
Display	Intel® 4th Generation CPU integrated HDMI + DP	Intel® 2nd/3rd Generation CPU integrated HDMI + DP
Audio	Mic-In and Line-Out	Mic-In and Line-Out
Ethernet	1 x Intel® I217LM	1x Realtek RTL8111E
Power Connector	80-pin right angle blind mate plug connector	80-pin right angle blind mate plug connector
Power Requirement	+12 ~ 19V (from monitor)	+12 ~ 19V (from monitor)
Power Mode	ATX	ATX
Operating Temp	(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 Temp	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing	0% ~ 90% Relative Humidity, Non-condensing
Construction	Metal	Metal
Dimension (L x W x H)	200 x 119 x 30mm	200 x 119 x 30mm



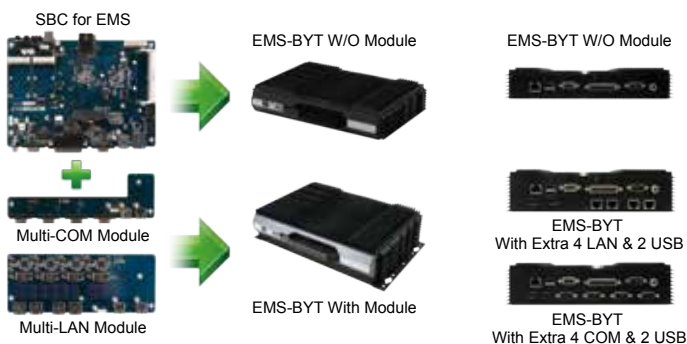
Sophisticated Design IET Modules



	Rugged 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	2 x Intel® I211AT	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)	9.45" x 5.96" x 1.77" (240 x 151.5 x 45mm)	9.45" x 6.69" x 1.77" (240mm x 170mm x 45mm)
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



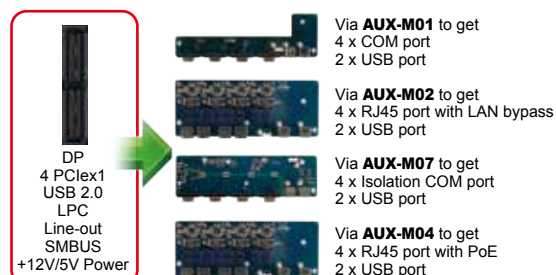
Modularization via IET Module



- 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 Rugged System					
Model Number	EPS-KBLHE	EPS-QM87	EPS-QM87E	EPS-QM77E	ERS-BYT
Board	ECM-KBLH	EAP-CE02 + ESM-QM87	EPI-QM87	EPI-QM77	ECM-BYT + AUX-032
Processor	i7-7820EQ i5-7440EQ i3-7100E	i7-4700EQ i5-4422E i3-4110E	i7-4700EQ i5-4422E i3-4110E	i7-3610QE i5-3610ME i3-3120ME	J1900
System Chipset	Intel® QM175 Express Chipset	Intel® QM87 Express Chipset	Intel® QM87 Express Chipset	Intel® QM77 Express Chipset	N/A
System Memory	1 x 260-Pin DDR4 2400MHz SO-DIMM up to 16 GB	2 x 204-Pin DDR3L 1333/1600MHz 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	1 x 204-Pin DDR3L 1333MHz SO-DIMM or 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Expansion	1 x Mini PCIe Supports mSATA 1 x M.2 (B-Key, 2242)	2 x PCI 2 x Mini PCIe	1 x Mini PCIe	1 x Mini PCIe	1 x Mini PCIe
Storage	1 x M.2 (SATA) 2 x 2.5" Drive Bay	2 x 2.5" Drive Bay	1 x 2.5" Drive Bay 1 x mSATA	2 x 2.5" Drive Bay 1 x mSATA	1 x CompactFlash Type I/II Socket 1 x mSATA, 1 x 2.5" Drive Bay
USB	2 x USB 2.0, 4 x USB 3.0	4 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	3 x USB 2.0, 1 x USB 3.0
COM Port	1 x RS-232 1 x RS-232/422/485	4 x RS-232, 4 x RS-232/422/485 Can be set as RS-232/422/485 by BIOS	2 x RS-232, 2 x RS-232/422/485 (Factory Optional)	1 x RS-232, 1 x RS-232/422/485 (Factory Optional)	3 x RS-232, 1 x RS-232/422/485 (BIOS)
Display Chipset	Intel® HD Graphics 630	Intel® HD Graphics 4600	Intel® HD Graphics 4600	Intel® HD Graphics 4000	Intel® HD Graphics for Intel® Atom® Processor Z3700 Series
Display Resolution	HDMI: Max. resolution 4096x2160 @ 24Hz	DP/ VGA:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 3840x2160@ 24Hz	DVI-I: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 3840x2160 @ 24Hz	DVI-I: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz	VGA: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz
Audio Chipset	Realtek ALC233 supports supports 2.1-CH	Realtek ALC892 supports 5.1-CH	Realtek ALC892 supports 5.1-CH	Realtek ALC892 supports 5.1-CH	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In and Line-Out	Mic-In, Line-In and Line-Out	Mic-In and Line-Out	Mic-In, Line-In and Line-Out	Mic-In, Line-In and Line-Out
Ethernet Chipset	1 x Intel® I210AT 1 x Intel® I219LM	1 x Intel® 217LM 1 x Intel® 82574L	1 x Intel® I210AT 1 x Intel® I217LM	1 x Intel® 82574L 1 x Intel® 82579LM	2 x Intel® I211AT
Ethernet Interface	2 x RJ45	2 x RJ-45	2 x RJ45	2 x RJ45	2 x RJ45
Power Connector	Lockable DC Jack	Phoenix Connector & Lockable DC Jack	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack
Power Requirement	+12V	+12V ~ +26V Optional +18Vdc~+75Vdc DC/ DC Wide Range Power Module	+12V ~ +19V	+12V ~ +19V	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant	Single Power ATX Support S0, S3, S4, S5 ACPI 1.0b and 2.0 Compliant	Single Power ATX Support S0, S3, S4, S5; ACPI 3.0 Compliant	Single Power ATX Support S0, S3, S4, S5; ACPI 1.0b and 2.0 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)	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)
Dimension (L x W x H)	9.45" x 9.02" x 2.60" (240mm x 229mm x 66mm)	9.84" x 10.63" x 4.45" (250mm x 270mm x 113mm)	9.84" x 8.66" x 2.36" (250mm x 220mm x 60mm)	9.84" x 8.66" x 2.36" (250mm x 220mm x 60mm)	10.67" x 5.91" x 2.17" (271mm x 150mm x 55mm)
Operating Temperature	With extended temperature peripherals w/ air flow: -10°C ~ 50°C (14°F ~ 122°F)	(w/SSD), ambient w/ air flow; i7 -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)	(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)	(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)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A



Fanless Compact System					
Model Number	EPC-SKLU	EPC-APL	EPC-BYT2	EPC-BYT	EPC-KA
Board	ECM-SKLU	ECM-APL2	ECM-BYT2	ECM-BYT + AUX-032	ECM-KA + AUX-032
Processor	i7-6600U i5-6300U i3-6100U Celeron 3955U	N4200 N3350	J1900	J1900	AMD G-Series GX-415GA
System Memory	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
Expansion	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
Storage	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)
USB	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
COM Port	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
Other	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
Display Chipset	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
Resolution	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
Audio Chipset	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
Audio Interface		Mic-in, Line-in, Line-out (Optional)	N/A	Mic-In, Line-In and Line-Out	Mic-In, Line-In and Line-Out
Ethernet Chipset	1 x Intel® I211AT 1 x Intel® I219LM	2 x Intel® I211AT	2 x Realtek 8111E	2 x Intel® I211AT	2 x Realtek 8111E
Ethernet Interface	2 x RJ45	2 x RJ45	2 x RJ45	2 x RJ45	2 x RJ45
Power Connector	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack
Power Requirement	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V
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	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
Power Mode	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)
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	Input: 100 ~ 240Vdc/50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter
Construction	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal
Dimension (L x W x H)	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)
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)	-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)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A



	Fanless Compact System	
Model Number	EPC-BTCR	EPC-BTCRP
Board	CCQ20 MB	
Processor	Intel® Atom™ Z3735F 1.33GHz SoC	
I/O Chipset	ENE IO3737LU	
System Memory	2GB DDR3L Memory on board	
Expansion	1 x Micro SD card slot	
Storage	32GB eMMC on board	
USB	2 x USB 2.0 (Type A)	
COM Port	N/A	1 x RS232, 1 x RS422, 2 x RS485
Other	1 x Audio jack for Line out 1 x PWR Switch w/LED (default: on) 1 x antenna opening (SMA type)	
DIO	N/A	8 x DI, 8 x DO (phoenix connector)
Display Chipset	Intel® Atom™ Z3735F SoC build in Intel Gen7 HD Graphic	
Resolution	HDMI up to 1080p@60FPS	
Audio Chipset	Realtek ALC5645-CGT	
Audio Interface	1 x 3.5mm audio jack	
Ethernet Chipset	Microchip LAN9512 10/100 Ethernet	
Ethernet Interface	1 x RJ45	2 x RJ45
Power Connector	1 x DC-in jack	
Power Requirement	12 ~ 24VDC	
Power Type	AT	
Adapter	40W /19V @ 2.1A	
System Fan	Fanless	
Construction	Aluminum housing	
Dimension (L x W x H)	168.5 x 105.2 x 17.5 mm	168.5 x 105.2 x 35 mm
Weight	535g	765g
Operating Temperature	0°C ~ 55°C (32°F ~ 131°F)	
Storage Temperature	-20°C ~ 80°C (-4°F ~ 176°F)	
Operating Humidity	10% ~ 95% @40°C Relative Humidity, Non-Condensing	
Vibration Test	Random, 5Grms 5-500Hz, 1Oct/min, 1hr/axis, (IEC 60068-2-64 compliance)	
Shock Test	Half sine, 50G, 11ms, (IEC 60068-2-27 compliance)	
Certification	CE, FCC Class B	

	Fanless VM System
Model Number	VMS-APL
Board	EBM-APLV
Processor	N4200 N3350 x7-E3950 x5-E3940 x5-E3930
System Memory	1 x 204-Pin DDR3L 1866MHz SO-DIMM up to 8 GB
Expansion	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)
Storage	1 x 2.5" Drive Bay (SATA III) 1 x M.2 (SATA III, 2242) 1 x SD (3.0)
USB	4 x USB 3.0
COM Port	2 x RS-232/422/485 (Jumper)
Other	2 x SIM Card Slot (External Accessible) 5 x Antenna Mounting with Dust Cover
DIO	1 x 8-Bit GPIO
Display Chipset	Intel® HD Graphics 505/500
Display Resolution	DP: Max. Resolution 4096x2160 @ 60Hz LVDS: Max. Resolution 1920x1200 @ 60Hz
Audio Chipset	Realtek ALC892 supports 2.1-CH
Audio Interface	2 x Mic-In, 2 x Line-Out
Ethernet Chipset	2 x Intel® I211AT
Ethernet Interface	2 x RJ45
Power Requirement	+9V ~ +36V
ACPI	Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Dimension (L x W x H)	9.45" x 7.3" x 2.44" (239mm x 186mm x 62mm)
Operating Temperature	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
Certification Information	CE, FCC Class B, e13 Mark, ISO7637-2, IP50 Rating



Fanless VM System

VMS-BYT	HPC-BYT	EMS-SKLU-Marine	ERS-BYTE-10COM
EBM-BYTV	ESM-BYT2 + EAP-CE04 + HPC DB-A	EBM-SKLUS	EBM-BYTS + AUX-M03
E3845	E3845	i7-6600U i5-6300U i3-6100U Celeron 3955U	J1900
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 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
1 x Avalue 80-Pin IET Interface 1 x Bluetooth Interface 1 x CAN module Interface 2 x Mini PCIe	2 x Mini PCIe	1 x Avalue 80-Pin IET Interface 1 x Mini PCIe 1 x M.2 (B-Key, 2242, 2280)	2 x Mini PCIe
1 x 2.5" Drive Bay 1 x CFast™ or mSATA	1 x CFast™, 1 x 2.5" Drive Bay (7mm HDD Restricted)	1 x 2.5" Drive Bay, 1 x M.2 (SATA)	1 x 2.5" Drive Bay, 1 x mSATA
2 x USB 2.0, 1 x USB 3.0	3 x USB 2.0, 1 x USB 3.0	4 x USB 3.0, 2 x USB 2.0	4 x USB 2.0, 1 x USB 3.0
2 x RS-232/422/485 (BIOS)	6 x RS-232/422/485 (Can be set as RS-232/422/485 by BIOS)	2 x RS-232/422/485 (Jumper) 4 x RS-232/422/485 (BIOS)	4 x RS-232, 6 x RS-232/422/485 (BIOS) COM3 ~ COM10 Supports 2.5KV Isolation Protection
1 x DC-Out (12V/4A), 5 x Knockouts for Antenna Mounting	3 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 SIM Card Slot, 1 x SMBus, 1 x LPT Port, 1 x LVDS, 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
1 x 8bit GPIO	N/A	1 x 12bit GPIO	1 x 12bit GPIO
Intel® HD Graphics for Intel® Atom® Processor Z3700 Series	Intel® HD Graphics for Intel® Atom® Processor Z3700 Series	Intel® HD Graphics 520/ 510	Intel® HD Graphics for Intel® Atom® Processor Z3700 Series
VGA: Max. resolution 2560x1080 @ 60Hz LVDS: Max. resolution 1600x1200 @ 60Hz	DP: Max. resolution 2560x1080 @ 60Hz DP: Max. resolution 2560x1080 @ 60Hz	DP: Max. resolution 4096x2304 @ 60Hz	VGA: Max. resolution 2560x1080 @ 60Hz LVDS: Max. resolution 1920x1080 @ 60Hz
Realtek ALC892 supports 5.1-CH	Realtek ALC892	Realtek ALC892 supports 2.1-CH	Realtek ALC892
2 x Mic-In and 2 x Line-Out	Line-In and Line-Out	Mic-In, Line-In and Line-Out	Mic-In, Line-In and Line-Out
2 x Intel® I211AT	2 x Intel® I211AT	2 x Intel® I211AT	1 x Intel® I211AT
2 x RJ45	2 x RJ45	2 x RJ45	1 x RJ45
+9V ~ +36V	+12V ~ +48V	Typical 12/24Vdc (+9V ~ +36V) TVS component for surge protection	+12V ~ +26V TVS component for surge protection Reverse current/voltage 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	Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant
AT/ATX (Industrial PC Power Mode)	AT/ATX (ATX is default setting)	AT/ATX (ATX is the default setting)	AT/ATX (ATX is default setting)
9.45" x 7.3" x 2.36" (240mm x 186mm x 60mm)	5.5" x 3.3" x 6.4" (140.7mm x 85mm x 163mm)	9.45" x 5.96" x 1.77" (240 x 151.5 x 45mm)	9.09" x 12.36" x 3.15" (231mm x 160mm x 80mm)
(w/SSD, mSATA, CFast), ambient w/ air flow -40°C ~ 75°C (-40°F ~ 167°F)	(w/SSD, mSATA, CF), ambient w/ air flow -40°C ~ 70°C (-40°F ~ 158°F)	(w/SSD), ambient w/ air flow -20°C ~ 60°C (-4°F ~ 140°F)	(w/SSD, mSATA), ambient w/ air flow -15°C ~ 60°C (5°F ~ 140°F)
CE, FCC Class A, e13 Mark	CE Heavy Industrial, FCC Heavy Industrial, UL	CE, FCC Class A	CE, FCC Class B



Expandable Fanless System

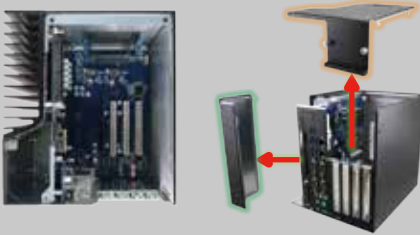


IET
Expansion

The 6th generation Intel® Core™ processor family

Fanless & Easy Maintenance

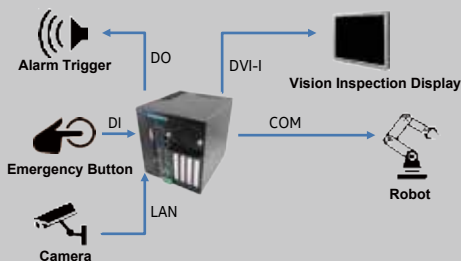
- No Cable No Trouble
- Easy To Install Any Device



Expansion - Avalue IET Module



Basic Application



Expandable Fanless System			
Model Number	SLP-SKL	SLP-SKLB	SLP-SKG
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)		Onboard 6th Gen Intel® Core™ SoC i7/i5/i3 & Celeron® BGA Processor (Skylake-U Series)
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 2133 MHz SO-DIMM socket, up to 32GB Max (non ECC only)
Expansion	1 x Mini PCI-e Supports mSATA 1 x PCI-ex16 3 x PCI 1 x Mini PCI-e	1 x Mini PCI-e Supports mSATA 1 x PCI-e x 8 2 x PCI-e x 4 1 x PCI 1 x Mini PCI-e	1 x Mini PCI-e (support mSATA/PCI x1/USB 2.0 Signal/SIM) 1 x M.2 Type A 2230 supports WiFi module
Storage	1 x Mini PCI-e Supports mSATA 2 x 2.5" Drive Bay support RAID 0,1 1 x CFast™		1 x Mini PCI-e (support mSATA/PCI x1/USB 2.0 Signal/SIM) 1 x M.2 Type A 2230 supports WiFi module
USB	6 x USB 3.0		4 x External USB3.0 *Motherboard side 1 x Internal USB2.0 (Type A) *Backplane side
COM Port	2 x RS-232 2 x RS-232/422/485		4 x COM(RS232 or RS-232/RS422/485 by header)
Other	1 x Power on/off switch with Power 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 Line-out, 1 x Mic-in 1 x Power Input Connector (Phoenix Connector Type) 1 x DC-in (Screw Type) 1 x Power on SW (Phoenix Connector) 1 x Power-on Switch 1 x HDD LED, 1 x PWR LED
Display	Intel® 6th Generation CPU Integrated DP + DVI-I		Intel® Processor Graphics 1 x HDMI, 1 x VGA, 1 x 2CH LVDS by DB35 Connector
Audio	Mic-In, Line-In and Line-Out		1 x Line-out, 1 x Mic-in
Ethernet	1 x Intel® I219LM, 1 x Intel® I210AT		1 x Intel® I219LM Gigabit Ethernet PHY 1 x Intel® I211AT PCI-e Gigabit Ethernet
Power Connector	Phoenix Connector		Phoenix Connector
Power Requirement	Built-in 9-36 VDC wide-range DC input		+12~24V
Power Mode	ATX		AT/ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 180W Adapter (24V @ 7.5A)		TBC
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 ~ 40°C (23°F ~ 104°F) w/HDD/SSD, ambient w/ air flow Extended temperature option: -5°C ~ 50°C (23°F ~ 122°F) w/Industrial SSD, 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)		Wall Mount / VESA (Optional)
Dimension (L x W x H)	200 x 225 x 218 mm		220 x 135 x 217.8 mm
Weight	4.5 kg		TBC



Embedded Computing System				
Model Number	ECS-BYTC	ECS-SKLUC	ECS-APCO	SEPC-BYT
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	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)
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	1 x 204-Pin DDR3L 1333MHz SO-DIMM 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	1 x Mini PCI-e supports mSATA 1 x Mini PCI-e
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	1 x Mini PCI-e supports mSATA 1 x 2.5" Drive Bay Onboard 32GB eMMC
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	2 x USB 2.0, 1 x USB 3.0
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	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)	1 x SD card slot, 1 x SIM card slot 1 x Power on/off switch 1 x Power LED, 1 x HDD LED 1 x SMA connector
Display	VGA + HDMI	VGA HDMI	Intel® Celeron® SoC Integrated Graphics DP++ + HDMI	Intel® Atom™/ Celeron® SoC Integrated Graphics VGA + 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 Controllerr Realtek ALC105 Support 2 x Stereo Class-D 3W Audio Amplifier Line-Out	Realtek ALC662 supports 2-CH Mic-In and 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	1 x Realtek RTL8111G
Power Connector	DC Jack (lockable)	DC Jack (lockable)	DC Jack (lockable)	DC Jack
Power Requirement	+12V	+12V	+12V	+12V
Power Mode	ATX	Single power ATX Support S0, S3, S4, S5	ATX	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)	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), ambient 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), ambient 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	(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)
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)	-20°C ~ 75°C (-4°F ~ 167°F)
Construction	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal
Mounting Kit	VESA/ Din rail (optional)	VESA/ Din rail (optional)	VESA/ Din rail/ Wall Mount (Optional)	VESA/ 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	180 x 125 x 58 mm
Weight	1.2 kg	1.4 kg	1.5 kg	1.2 kg



Mini ITX Fanless System				
Model Number	BMX-T521-BSW	BMX-T521-BYT	BMX-T522-APL	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® Celeron® Apollo Lake® Proces- sor	Intel® 6th Gen Core™ SoC i7/i5/i3 & Celeron® BGA Processor
System Chipset	N/A	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 204-pin DDR3L 1600MHz SO-DIMM up to 8 GB (Default: 1 x 4GB 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 full size Mini PCI-e socket sup- ports mSATA 1 x M.2 Key A 2230 Supports WiFi 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" 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 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	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)	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® Atom™/ Celeron® SoC Integrated Graphics DP/HDMI + DP++	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	DP++: 4096 x 2304 @ 30Hz DP/HDMI: 3840 x 2160 @ 30Hz	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 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	2 x Intel® I211AT	1 x Intel® i211AT 1 x Intel® i219LM
Power Connector	DC Jack (lockable)	DC Jack (lockable)	DC Jack (lockable)	DC Jack (lockable)
Power Requirement	+12V	+12V	+12V	+12V~24V
Power Mode	ATX	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) Optional	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)	(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)	-40°C ~ 75°C (-40°F ~ 167°F)
Construction	Aluminum + Metal	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)	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	180 x 182 x 76 mm



Mini ITX Barebone System					
Model Number	BMX-P520-H81	BMX-P521-H110	BMX-P521-Q170	BMX-T524-Q170	BMX-T524-H110
Processor	Intel® 4th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 84W)	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® H81 Express Chipset	Intel® H110 Chipset	Intel® Q170 Chipset	Intel® Q170 Chipset	Intel® H110 Chipset
System Memory	2 x 240-pin DDR3 1333/1600MHz DIMM up to 16 GB	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 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 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 PCI-e x 16 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	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	6 x USB 2.0, 2 x USB 3.0	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	1 x RS-232	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 S/PDIF-out Header 1 x PS/2 Keyboard/Mouse	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, DVI-D	VGA + HDMI, HDMI + DP, VGA + DP	VGA, HDMI, DP	VGA + HDMI + DP	VGA + HDMI, HDMI + DP, VGA + DP
Display Resolution	VGA:1920 x 1200 @ 60Hz HDMI:4096 x 2160 @ 24Hz DVI-D:1920 x 1200 @ 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	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 supports 7.1-CH Mic-In, Line-In, Line-Out, Rear R/L & S/PDIF-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 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 Realtek 8111E	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)	AC Jack (IEC 320 C14)	Power Din Jack	Power Din Jack
Power Requirement	100 ~ 240 VAC	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	ATX
Adapter/Power Supply	Standard TFX 300W 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)	(w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	-20°C ~ 75°C (-4°F ~ 167°F)	-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	Metal	Aluminum + Metal	Aluminum + Metal
Mounting Kit	N/A	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	265 x 100 x 310 mm	205 x 205 x 75 mm	205 x 205 x 75 mm



ATX / Micro ATX Barebone System



ATX / Micro ATX Barebone System			
Model Number	BRX-P501-H110	BAX-P501-Q170	BAX-P501-C236
Processor	Intel® 6th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 91W)	Intel® 6th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)	Intel® 6th Generation Xeon®, Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® H110 Chipset	Intel® Q170 Chipset	Intel® C236 Chipset
System Memory	2 x 288-pin DDR4 2133MHz U-DIMM Socket, Supports up to 32GB	4 x 288-pin DDR4 2133MHz U-DIMM socket, supports up to 64GB	4 x 288-pin DDR4 2133MHz U-DIMM socket, supports up to 64GB (ECC support by CPU)
Expansion	4 x Low profile expansion slots	7 x Full Height Expansion Slot	7 x Full Height Expansion Slot
Storage	1 x 2.5" & 2 x 3.5" HDD Bracket 1 x 5.25" ODD Bracket (or optional for 1 x 3.5" HDD)	2 x 5.25" Drive Bays 1 x 3.5" Drive Bays	2 x 5.25" Drive Bays 1 x 3.5" Drive Bays
USB	4 x USB 2.0 4 x USB 3.0	2 x USB 2.0 6 x USB 3.0	2 x USB 2.0 6 x USB 3.0
COM Port	6 x COM	6 x RS-232	6 x RS-232
Other	1 x PS/2 KB & Mouse Combo Jack	1 x PS/2 KB & Mouse Combo Jack	1 x PS/2 KB & Mouse Combo Jack
Display	Intel® 6th Generation CPU integrated VGA + HDMI, HDMI + DP, VGA + DP	Intel® 6th Generation CPU integrated VGA/HDMI/DP	Intel® 6th Generation CPU integrated VGA/HDMI/DP
Display Resolution	VGA:2560 x 160 @ 60Hz HDMI:3840 x 2160 @ 30 Hz, 2560 x 1600 @ 60 Hz DP: 4096 x 2304 @ 60Hz	VGA:2560 x 160 @ 60Hz HDMI:3840 x 2160 @ 30 Hz, 2560 x 1600 @ 60 Hz DP: 4096 x 2304 @ 60Hz	VGA:2560 x 160 @ 60Hz HDMI:3840 x 2160 @ 30 Hz, 2560 x 1600 @ 60 Hz DP: 4096 x 2304 @ 60Hz
Audio	Realtek ALC892 Mic-In, Line-In and Line-Out	Realtek ALC892 Mic-In, Line-In and Line-Out	Realtek ALC892 Mic-In, Line-In and Line-Out
Ethernet	1 x Intel® I219-LM 1 x Intel® I211-AT	1 x Intel® I219-LM 1 x Intel® I211-AT	1 x Intel® I219-LM 1 x Intel® I211-AT
Power Connector	AC Jack (IEC 320 C14)	AC Jack (IEC 320 C14)	AC Jack (IEC 320 C14)
Power Requirement	100 ~ 240 VAC	100 ~ 240 VAC	100 ~ 240 VAC
Power Mode	ATX	ATX	ATX
Adapter/Power Supply	Standard TFX 300W Power Supply	Standard PS2 ATX 350W Power Supply	Standard PS2 ATX 350W Power Supply
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)
Storage Temperature	-20°C ~ 70°C (-4°F ~ 158°F)	-20°C ~ 70°C (-4°F ~ 158°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Construction	Metal	Metal	Metal
Mounting Kit	N/A	Wall Mount Bracket	Wall Mount Bracket
Dimension (L x W x H)	310 x 265 x 100 mm	450 x 196 x 330 mm	450 x 196 x 330 mm



Rackmount System and Mini Sever			
Model Number	BAX-R1U0-H110	BAX-R1U4S-C23K	BAX-R2U8S-C236
Processor	Intel® 6th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)	Intel® 6/7th Generation Core™ / Intel® Xeon® Processor E3-1200 v5 Family (Workstation) Processors (Max. TDP at 95W)	Intel® 6th Generation Core™ / Intel® Xeon® Processor E3-1200 v5 Family (Workstation) Processors (Max. TDP at 95W)
System Memory	2 x 288-pin DDR4 2133MHz DIMM up to 16 GB	4 x 288-pin DDR4 2133MHz DIMM up to 32 GB	4 x 288-pin DDR4 2133MHz DIMM up to 32 GB
Storage	2 x 3.5" Drive Bay or 1 x 2.5" + 1 x 3.5" Drive Bay	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 Slot x 1 (via riser card and bracket)	Full Height PCI Slot x 1 (via riser card and bracket)	7 x Low profile expansion slots
Display	Intel® 6th Generation CPU integrated HDMI + VGA, HDMI + DP, VGA + DP	Intel® 6/7th Generation CPU integrated HDMI + VGA, HDMI + DP, VGA + DP	Intel® 6th Generation CPU integrated HDMI + VGA, HDMI + DP, 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	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	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	4 x USB 3.0 2 x USB 2.0
COM Port	1 x RS-232	1 x RS-232	1 x RS-232
Others	1 x PS/2 Keyboard or Mouse	1 x PS/2 Keyboard 1 x PS/2 Mouse	1 x PS/2 Keyboard 1 x PS/2 Mouse
Power Type	ATX	ATX	ATX
Operating Temperature	0°C ~ 35°C (32°F ~ 95°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Power Supply	315W 1U Flex 100-240Vac	315W 1U Flex 100-240Vac	500W 1U Single 100-240Vac
Dimensions (L x W x H) w/o Front Panel	381 x 482.6 x 44.4 mm	533.4 x 482.6 x 44.4 mm	571.5 x 482.6 x 88.9 mm



Rackmount System and Mini Sever				
Model Number	BAX-R1U0-Q17K	BAX-R2U0-Q170	BAX-R4U0-Q170	BMX-P54S-Q170
Processor	Intel® 6/7th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)	Intel® 6th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)	Intel® 6th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)	Intel® 6th Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Memory	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
Storage	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
Expansion	Full Height PCI 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
Display	Intel® 6th Generation CPU integrated VGA + HDMI + DP	Intel® 6th Generation CPU integrated VGA + HDMI + DP	Intel® 6th Generation CPU integrated VGA + HDMI + DP	Intel® 6th Generation CPU integrated VGA + HDMI + DP
Audio	Realtek ALC892 supports 5.1-CH Mic-In, Line-In and Line-Out 2 x 6W Amplifier	Realtek ALC892 supports 5.1-CH Mic-In, Line-In and Line-Out 2 x 6W Amplifier	Realtek ALC892 supports 5.1-CH Mic-In, Line-In and Line-Out 2 x 6W Amplifier	Realtek ALC892 supports 5.1-CH 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	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	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	1 x RS-232	1 x RS-232
Others	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
Power Type	ATX	ATX	ATX	ATX
Operating Temperature	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)
Power Supply	315W 1U Flex 100-240Vac	500W PS2 100-240Vac	500W PS2 100-240Vac	265W 1U Flex 100-240Vac
Dimensions (L x W x H) w/o Front Panel	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



Rugged Touch Panel PC - LPC Series



Panel Technology

- SAA (Super Anti-Abrasion) Panel Glass on Top Technology
- LED Backlight with PWM
- Sunlight Readable
- Privacy Filter upon Request

Outstanding EE Design

- Low Power Consumption
- Scalable System Performance
- Wide Temperature: -10~60°C
- Single 12V Power Input
- Onboard CPU/RAM

Mechanical Design Features

- Panel Size from 8~17"
- IP-65 Front Panel
- Fanless Operation
- VESA/Versatile Installations
- Panel Mount/Open Frame

Options and Customization

- Optional Extra 3 COMs
- WiFi, 3G, GPS Modules
- Whole System IP-65
- Various Panel Sizes



LPC Series		
Model Number	LPC-1232	LPC-1532
LCD Size	12.1", 4:3	15", 4:3
Display Type	XGA	XGA
Resolution	1024x768	1024x768
Pixel pitch	0.240mm(H) x 0.240mm(V)	0.297mm(H) x 0.297mm(V)
Luminance	600 cd/m ²	400 cd/m ²
Contrast ratio	700	700
Viewing angle	70 (U), 70 (D), 80 (L), 80 (R)	70 (U), 70 (D), 80 (L), 80 (R)
Response time	16 ms	16 ms
Backlight	LED	LED
Touch Type	5-Wire Resistive	5-Wire Resistive
Touch Light Transmission	80 %	80 %
Touch Controller	Onboard USB touch (EETI)	Onboard USB touch (EETI)
Processor	6th Gen Intel® Core™ i5-6300U, 2-Core, 2.4GHz processor	
System Memory	2 x 260-Pin DDR4 2133MHz SO-DIMM up to 32 GB	
Expansion	1 x Mini PCIe Support mSATA 1 x Mini PCIe Supports SIM Card	
Storage	1 x 2.5" Drive Bay	
I/O	4 x USB 3.0, 1 x SATA III 2 x RS-232/422/485 (Factory Optional), 1 x HDMI Output, 1 x Knockouts for Antenna Mounting	
Display	Intel® Skylake SoC integrated Graphics Supports dual display	
Audio	Realtek ALC233, Line-Out 2 x 1W speaker out for LPC-1532	
Ethernet	1 x Intel® I210AT, 1 x Intel® I219LM	
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)	Silver Aluminum, Black	
Dimension	283 x 222 x 45mm	350 x 273.9 x 53.1mm
Weight	2.84kg	4.2kg
Operating Temperature	-10°C ~ 50°C (14°F ~ 122°F)	-10°C ~ 50°C (14°F ~ 122°F)
Storage Temperature	-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 7, Win 8.1, Win 10, Linux	Win 7, Win 8.1, Win 10, Linux



	LPC Series				
Model Number	LPC-0809	LPC-1009	LPC-1209	LPC-1509	LPC-1709
LCD Size	8", 4:3	10.4", 4:3	12.1", 4:3	15", 4:3	17", 4:3
Display Type	SVGA	XGA	XGA	XGA	SXGA
Resolution	800 x 600	1024 x 768	1024 x 768	1024 x 768	1280 x 1024
Pixel Pitch	0.0675mm(H) x 0.2025mm(V)	0.0685mm(H) x 0.2055mm(V)	0.240mm(H) x 0.240mm(V)	0.297mm(H) x 0.297mm(V)	0.264mm(H) x 0.264mm(V)
Luminance	500 cd/m ²	500 cd/m ²	600 cd/m ²	400 cd/m ²	350 cd/m ²
Contrast Ratio	500	1200	700	700	800
Viewing Angle	50(U), 70(D), 70(L), 70(R)	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	25 ms	16 ms	16 ms	30 ms
Backlight	LED	LED	LED	LED	LED
Touch Type	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive
Touch Light Transmission	80 %	80 %	80 %	80 %	80 %
Touch Controller	USB touch (EETI)	Onboard USB touch (EETI)	Onboard USB touch (EETI)	Onboard USB touch (EETI)	Onboard USB touch (EETI)
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor		Intel® Atom™ E3845 4-Core 1.91GHz processor		
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	1 x Mini PCIe Support mSATA		1 x Mini PCIe Support mSATA 1 x Mini PCIe Supports SIM Card		
Storage	1 x CompactFlash Type I/II Socket		1 x CompactFlash Type I/II Socket 1 x 2.5" Drive Bay		
I/O	1 x USB 3.0, 3 x USB 2.0, 1 x RS-232, 1 x RS-232/422/485, 1 x HDMI, 1 x Knockouts for Antenna Mounting		1 x USB 3.0, 1 x USB 2.0, 1 x SATA II 1 x RS-232/422/485 (BIOS) 1 x HDMI, 1 x Knockouts for Antenna Mounting		
Display	Intel® Valleyview SoC integrated Graphics Supports dual display		Intel® Valleyview SoC integrated Graphics Supports dual display		
Audio	Realtek ALC892, Line-Out		Realtek ALC892, Line-Out 2 x 1W speaker out for LPC-1509/1709		
Ethernet	2 x Intel® I211AT		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)	Silver Aluminum, Black		Silver Aluminum, Black		
Dimension	202.5 x 159.5 x 46.5mm	259 x 196 x 41mm	283 x 222 x 45mm	350 x 273.9 x 53.1mm	382 x 320.4 x 58.8mm
Weight	1.5kg	2.11kg	2.84kg	4.2kg	5kg
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	-20°C ~ 60°C (-4°F ~ 140°F)	-20°C ~ 60°C (-4°F ~ 140°F)	-20°C ~ 60°C (-4°F ~ 140°F)	-20°C ~ 60°C (-4°F ~ 140°F)
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)	-30°C ~ 70°C (-22°F ~ 158°F)	-30°C ~ 70°C (-22°F ~ 158°F)	-30°C ~ 70°C (-22°F ~ 158°F)	-30°C ~ 70°C (-22°F ~ 158°F)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
OS Information	Win 7, Win 8.1, Win 10, Linux				



Multi-function Touch Panel PC - FPC Series



	FPC Series		
Model Number	FPC-08W29	FPC-1532	FPC-1732
LCD Size	8"	15" 4:3	17" 4:3
Display Type	WSVGA	XGA	XGA
Resolution	1024 x 600	1024 x 768	1280 x 1024
Pixel Pitch	0.1725 mm (W) x 0.1656 mm (H)	0.297 mm (H) x 0.297 mm	0.264mm (H) x 0.264mm
Luminance	500 cd/m ²	400 cd/m ²	350 cd/m ²
Contrast Ratio	700	700	800
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)
Response Time	20 ms	16 ms	30 ms
Backlight	LED	LED	
Touch Type	5-Wire Resistive	Projective Capacitive Multi-Touch (Optional 5-Wire Resistive)	
Touch Light Transmission	80 %	5-Wire Resistive Touch: 80% Projective Capacitive Multi-Touch: 89%	
Touch Controller	Onboard USB touch (PenMount)	EETI External USB Controller	
SBC	ECM-BYT	EMX-SKLUP	
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor	6th Gen Intel® Core™ i7/ i5/ i3/ Celeron® processor	
System Chipset	Intel® Valleyview SoC	N/A	
I/O Chipset	Nuvoton W83627DHG-P	EC ITE IT8528E	
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB	2 x 260-pin DDR4 2133 MHz SO-DIMM supports up to 32GB	
Expansion	1 x Mini PCIe Supports mSATA	1 x Full Size PCI-e x1 slot, 1 x SIM card slot 1 x M.2 Type B 3042/2242/2260/2280, 1 x M.2 Type A 1 x SD card slot Supports SD/ SDHC Card	
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	4 x USB 3.0, 4 x USB2.0 2x RS-232/422/485 , 2 x RS-232 16-bit GPIO, Intel RAID function support	
Display Chipset	Intel® Valleyview SoC Integrated Graphics Supports dual display	Intel® Skylake SoC Integrated Graphics Supports optional dual display	
Display Resolution	VGA: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz	DP: 4096 x 2160 @ 60Hz (1 x HDMI/DP, 1 x DP++) HDMI: 3840 x 2160 @ 30Hz	
Audio	Realtek ALC892 Support 5.1-CH Mic-In and Line-Out	Realtek ALC892 2 x 2W Speaker Out, Line out, Mic in	
Ethernet	2 x Intel® I211AT	1 x Intel® I219LM Gigabit PHY, 1 x Intel® I211AT	
Power Type	AT/ATX (ATX is default setting) Lockable DC Jack, +12V ~ +26V (12V @ 5A Adapter)	AT/ATX (ATX is default setting) Lockable DC Jack, +12V~24V (Optional Phoenix connector)	
Construction (Front, Rear)	Metal, Aluminum + Metal	Aluminum, Black	
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
Weight	1.27 Kg	4.5 kg	6.5 kg
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	-10°C ~ 50°C (14°F ~ 122°F)	
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	Win 7, Win 8.1, Win 10, Linux	



ALL-in-One Panel PC - CPC Series



Standard Bounble
Tilt VESA Stand



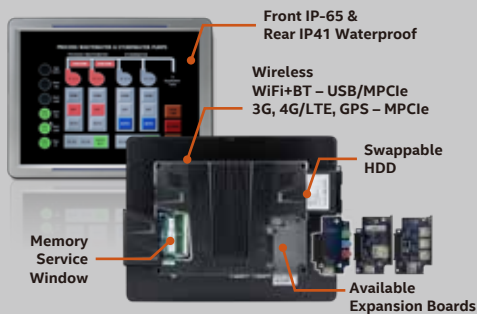
Option
L VESA Stand

	CPC Series			
Model Number	CPC-1001	CPC-2101	CPC-2102	CPC-2103
LCD Size	10.1"	21.5", 16:9	21.5", 16:9	21.5", 16:9
Resolution, Display Type	1280 x 800, Full HD	1920 x 1080, Full HD	1920 x 1080, Full HD	1920 x 1080, Full HD
Pixel Pitch	0.1695 (H) x 0.1695 (V)	0.24795 (H) x 0.24795 (V)	0.24795 (H) x 0.24795 (V)	0.24795 (H) x 0.24795 (V)
Luminance	400 cd/m ²	250 cd/m ²	250 cd/m ²	250 cd/m ²
Contrast Ratio	800	3000	3000	3000
Viewing Angle	(H) 170, (V) 170	(H) 178, (V) 178	(H) 178, (V) 178	(H) 178, (V) 178
Response Time	Projected Capacitive	Projected Capacitive	Projected Capacitive	Projected Capacitive
Backlight	LED	LED	LED	LED
Touch Controller	USB Touch	USB Touch	USB Touch	USB Touch
Processor	Intel® Celeron® Processor N3350 (2M Cache, up to 2.4 GHz)	Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz)	Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz)	Intel® 6th Gen Core™ SoC i7/i5/i3 & Celeron® BGA Processor
System Memory	4GB DDR4 SO-DIMM	2 x 204-pin DDR3L 1600 MHz SO-DIMM supports up to 8GB Max (Default: 1 x 2GB DDR3L)	2 x 204-pin DDR3L 1600 MHz SO-DIMM supports up to 8GB Max (Default: 1 x 2GB DDR3L)	2 x 260-pin DDR4 2133 MHz SO-DIMM supports up to 32GB (Default: 1 x 4GB DDR4)
Storage	1 x M.2 Type B 042/2242/2260/2280, 1 x M.2 Type A 1 x SD card slot Supports SD/ SDHC Card 1 x SIM card slot, 1 x 2.5" Storage	1 x Mini PCI-e for 802.11B/G/N WiFi Module, 1 x 2.5" Storage, 1 x Mini PCI-e supports mSATA	1 x Mini PCI-e for 802.11B/G/N WiFi Module, 1 x 2.5" Storage, 1 x Mini PCI-e supports mSATA	1 x M.2 Type B 3042/2242/2260/2280 1 x M.2 Type A 2230 1 x SD card slot, 1 x PCI-e x 1
USB	2 x USB 2.0, 4 x USB 3.0	2 x USB 2.0, 4 x USB 3.0	2 x USB 3.0, 2 x USB 2.0 1 x USB 2.0 (Optional)	4 x USB 3.0, 2 x USB 2.0
COM Port	2 x RS232, 1 x RS232/422/485	1 x RS232/422/485, 3 x RS232 (Optional)	1 x RS232 (Optional)	3 x RS232 (Optional)
Other	1 x HDMI, 1 x VGA	1 x HDMI, 1 x VGA	1 x HDMI, 1 x VGA	1 x DP++, 1 x HDMI/DP
Display Chipset	Intel® Atom™/ Celeron® SoC integrated Graphics	Intel® Atom™/ Celeron® SoC integrated Graphics	Intel® Atom™/ Celeron® SoC integrated Graphics	Intel® HD Graphics 520
Display Resolution	DP: 4096 x 2160 @ 60Hz (1 x HDMI/DP, 1 x DP++) HDMI: 3840 x 2160 @ 30Hz	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz LVDS: 1920 x 1080 @ 60Hz	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz LVDS: 1920 x 1080 @ 60Hz	HDMI: 3840 x 2160 @ 30 Hz DP: 4096x2160 @ 60Hz LVDS: 1920 x 1080 @ 60Hz
Audio	Realtek ALC892	Realtek ALC662	Realtek ALC662	Realtek ALC892
Audio Interface	Mic-In, Line-Out, 2 x 3W Speaker Output	Mic-In, Line-Out and S/PDIF	Mic-in, Line-out	Mic-in, Line-out, 1 S/PDIF
Ethernet	1 x Intel® I211AT PCI-e 1 x Intel® I219LM	2 x Intel® i211AT	1 x RealTek RTL8111F	1 x Intel® I219LM, 1 x Intel® I211AT
Power Connector	DC Jack, +12V	DC Jack, +12V	DC Jack, +12V	DC Jack, +12V
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 84W Adapter (12V @ 7A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 84W Adapter (12V @ 7A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 84W Adapter (12V @ 7A)
Construction (Front, Rear)	Black Coverlens, White	Black Coverlens, White	Black Coverlens, White	Black Coverlens, White
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)	0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	-10°C ~ 50°C (14°F ~ 122°F)	-10°C ~ 50°C (14°F ~ 122°F)	-10°C ~ 50°C (14°F ~ 122°F)	-10°C ~ 50°C (14°F ~ 122°F)
Dimension	255 x 178 x 36 mm	528 x 345 x 62 mm	528 x 345 x 62 mm	528 x 345 x 62 mm
Weight	2 kg	9.48 kg	9.48 kg	9.48 kg
Certification	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A
OS Information	Win10, Linux	Win7, Win8, Win10	Win7, Win8, Win10	Win10, Linux

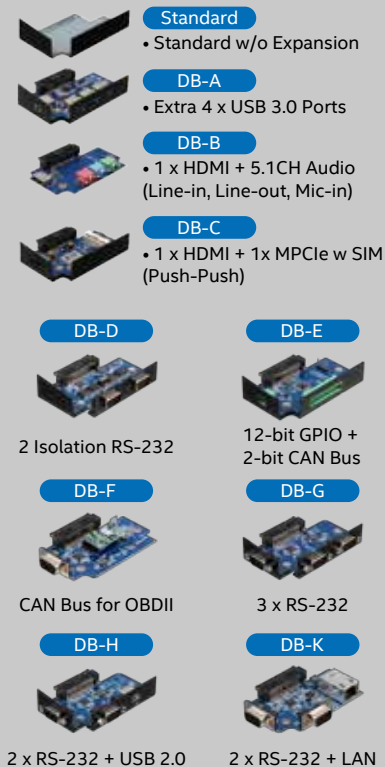


Modularized / Rugged Panel PC - ARC Series

ARC Series Intelligent Expansion Technology



Available Expansion Boards



	ARC Wide Series		
Model Number	ARC-10W33	ARC-15W33	ARC-15W32
LCD Size	10.1", 16:10	15.6", 16:9	
Display Type	WXGA	WXGA	
Resolution	1280 x 800	1366 x 768	
Pixel Pitch	0.1695 x 0.1695 mm	0.252mm (H) x 0.252mm (V)	
Luminance	350 cd/m²	300 cd/m²	
Contrast Ratio	800	500	
Viewing Angle	85 (U), 85 (D), 85 (L), 85 (R)	80 (U), 80 (D), 80 (L), 80 (R)	
Response Time	25 ms	8 ms	
Backlight	LED		
Touch Type	Projective Capacitive Multi-Touch		
Touch Light Transmission	88%		
Touch Controller	USB touch (EETI)		
SBC	ARC-APL		ARC-SKLU
Processor	Onboard Intel® Apollo Lake-I/M processor		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		
Storage	1 x 2.5" Drive Bay (7mm HDD Restricted)		
USB	4 x USB 3.0		
COM Port	1 x RS-232/422/485, 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		Intel® Skylake SoC Integrated Graphics Supports optional dual display
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		
Audio Interface	2 x 2W Speaker Out		
Ethernet	2 x Intel® I211AT		1 x Intel® I210AT, 1 x Intel® I219LM
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)	Metal with cover lens, Black Diet 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)
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)
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	385.3 x 240.3 x 49.8mm
Weight	2kg	4kg	4kg



A Model



B Model



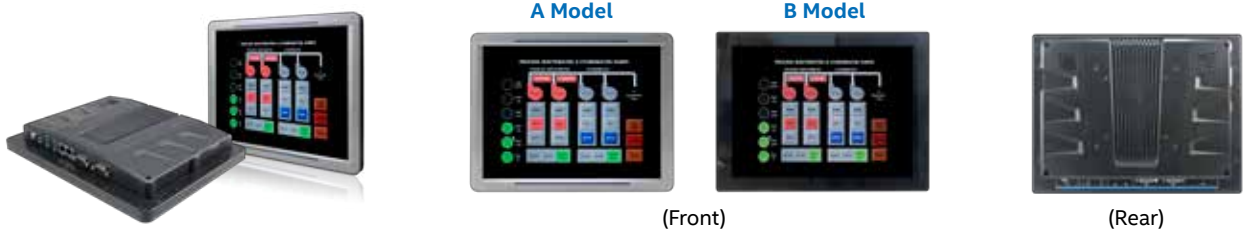
(Front)

(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			2 x 2W Speaker out
Ethernet	2 x Intel® I210IT			2 x Intel® I211AT
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)	Silver Aluminum, Black			
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



Modularized / Rugged Panel PC - ARC Series



	ARC Series			
Model Number	ARC-1232	ARC-1532	ARC-1209	ARC-1509
LCD Size	12.1", 4:3	15", 4:3	12.1", 4:3	15", 4:3
Display Type	XGA	XGA	XGA	XGA
Resolution	1024 x 768	1024 x 768	1024 x 768	1024 x 768
Pixel Pitch	0.1905mm (H) x 0.1905mm (V)	0.297mm (H) x 0.297mm (V)	0.1905mm (H) x 0.1905mm (V)	0.297mm (H) x 0.297mm (V)
Luminance	600 cd/m ²	400 cd/m ²	600 cd/m ²	400 cd/m ²
Contrast Ratio	700	700	700	700
Viewing Angle	80 (U), 80 (D), 80 (L), 80 (R)	70 (U), 70 (D), 80 (L), 80 (R)	80 (U), 80 (D), 80 (L), 80 (R)	70 (U), 70 (D), 80 (L), 80 (R)
Response Time	16 ms	16 ms	16 ms	16 ms
Backlight	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® Skylake SoC Integrated Graphics Supports optional dual display		Intel® Valleyview SoC Integrated Graphics Supports optional dual display	
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 0.6W speaker out		2 x 0.6W 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)	Silver Aluminum, Black		Silver Aluminum, Black	
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	284 x 223 x 46mm	350 x 274 x 49.8mm
Weight	2.4kg	3.7kg	2.4kg	3.7kg



Healthcare Computing - Venus/ Medi-View Series



(Front)

(Rear)



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 (Android)	
Other	2 x Stereo Phone Jack 1 x Digital Mic 1 x Power LAN (optional) Option RFID/SCR module Option Wi i module Option Multimedia Handset	2 x Stereo 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 63.42mm	463.95 x289.95 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

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	USB 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*2, 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	
Power Type	AT	
Adapter	Input: 100 ~ 240 Vac / 50~ 60Hz; Output: 65W Adapter (19V / 3.43A Adapter)	
Construction (Front, Rear)	White plastic	
Dimension	270 x 193 x 28 mm	410 x 269 x 38 mm
Weight	TBD	TBD
Certification	CE, FCC Class B	CE, FCC Class B

Healthcare Computing - APC/ HID 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	EBM-APL	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) AC-DC 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

HID Series

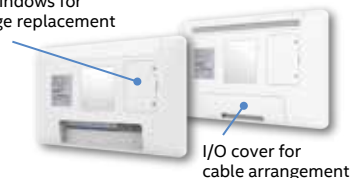
Multi-touch Medical Panel PC
IP65 and Slim Fanless design



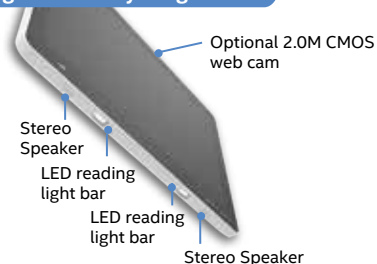
Easy Maintenance

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

Service windows for
2.5 storage replacement



Designed for easy usage



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

Optional Headset +
1D barcode scanner



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-2132	HID-2332	HID-2432
LCD Size	21.5"	23.8"	24"
Display Type	Full HD	Full HD	WUXGA
Resolution	1920 x 1080	1920 x 1080	1920 x 1200
Pixel Pitch	248.25um (H) x 248.25um (V)	274.5um (H) x 274.5um (V)	0.270mm (W) x 0.270mm (H)
Luminance	250 cd/m²	250 cd/m² (typical)	300 cd/m²
Contrast Ratio	5000	3000	1000
Viewing Angle	89 (U), 89 (D), 89 (L), 89 (R)	178/178 °	178/178 °
Response Time	18 ms	N/A	N/A
Backlight	LED	LED	LED
Touch Type	Projective Capacitive	Projective Capacitive	Projective Capacitive
Touch Light Transmission	89%	89%	89%
Touch Controller	USB touch (EETI)	USB touch (EETI)	USB touch (EETI)
SBC	ARC-SKLU	ARC-SKLU	ARC-SKLU
Processor	Intel® Core™ i7/ i5/ i3/ Celeron® Processor	6th Gen Intel® Core™ i5-6300U, 2-Core, 2.4GHz processor	6th Gen Intel® Core™ i5-6300U, 2-Core, 2.4GHz processor
System Chipset	Intel® Skylake U SoC integrated	Intel® Skylake U SoC integrated	Integrated in Intel® Skylake ULT Processor
I/O Chipset	EC ITE IT8518E		
System Memory	1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16GB		
Expansion	1 x Mini PCIe Supports mSATA	1 x Mini PCIe 1 x Mini PCIe Supports mSATA	
Storage	1 x 2.5" Drive Bay	1 x 2.5" Drive Bay	
USB	4 x USB 3.0, 1 x Isolation USB 1.1	4 x USB 3.0, 2 x USB 1.1 (Isolated 5KV)	
COM Port	1 x RS232/422/485, 1 x RS232, 1 x Isolation RS-232/422/485	1 x RS-232/422/485, 1 x RS-232, 1 x RS-232 (Isolated 5KV), 1x RS-232/422/485 (Isolated 5KV)	
Display Chipset	Intel® Skylake SoC integrated Graphics Supports dual display		
Audio	Realtek ALC892 supports 5.1-CH		
Audio Interface	Line-Out, 2 x 0.5W Speaker Output	Audio out, Mic in, 2 x 0.5W Speaker Output	
Ethernet	1 x Intel® I211AT, 1 x Intel® I219LM, 1 x Isolation Intel® I210AT	1 x Intel® I219LM, 1 x Intel® I211AT 2 x Intel® I210AT (Isolated 5KV)	
Power Connector	Lockable DC Jack, +12V ~ +26V	4-pin DC in (mini DIN), +12V ~ +26V	
Power Type	AT / ATX		
Adapter	Input: 100 ~ 240 Vac / 50~ 60Hz; Output: 90W Medical Adapter (19 V @ 4.74A Adapter)		
Construction (Front, Rear)	White Plastic		
Dimension	539.6 x 342.6 x 45.5 mm	587.0 x 367.5 x 59.0 mm	573.8 x 387.8 x 62.5 mm
Weight	6.3kg	7kg	10kg
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 35°C (32°F ~ 95°F)	0°C ~ 35°C (32°F ~ 95°F)
Storage Temperature	-20°C ~ 65°C (-4°F ~ 149°F)	-20°C ~ 65°C (-4°F ~ 149°F)	-20°C ~ 65°C (-4°F ~ 149°F)
Certification	CE, FCC Class B, UL 60601-1 4th edition	EN60601-1, CE, FCC Class B	EN60601-1, CE, FCC Class B
OS Information	Windows 7, 8, 8.1, 10, Linux	Windows 7, 8, 8.1, 10, Linux	Windows 7, 8, 8.1, 10, Linux



Modularized / 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/ 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			
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



Self-Service Touch Panel PC - SID/CCD Series



	SID Series			CCD Series	
Model Number	SID-10W9	SID-15W9	SID-21W9	CCD-07W01	CCD-10W01
LCD Size	10.1"	15.6"	21.5"	7"	10.1"
Display Type	WXGA	Full HD	Full HD	WXGA	WXGA
Resolution	1280 x 800	1920 x 1080	1920 x 1080	1024 x 600	1280 x 800
Pixel Pitch	0.1695 x 0.1695 mm	0.17925 x 0.17925 mm	0.24795 x 0.24795 mm	0.1178 x 0.1178 mm	0.1695 x 0.1695 mm
Luminance	350 cd/m ²	220 cd/m ²	250 cd/m ²	300 cd/m ²	350 cd/m ²
Contrast Ratio	800	800	3000	500	800
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)	80 (U), 80 (D), 80 (L), 80 (R)	85 (U), 85 (D), 85 (L), 85 (R)
Response Time	30 ms	14ms	30ms	20ms	30 ms
Backlight	LED	LED	LED	LED	LED
Touch Type	Projective Capacitive Multi touch (10f)	Projective Capacitive Multi touch (10f)	Projective Capacitive Multi touch (10f)	Projective Capacitive Multi touch (10f)	Projective Capacitive Multi touch (10f)
Touch Light Transmission	86%	86%	86%	75%	86%
SBC	BCX12	BCX11	BCX11	CCQ5I	CCQ5J
Processor	Intel® Atom™ Z3735F 1.33GHz processor			Intel® Atom™ Z3735F 1.33GHz SoC	
I/O Chipset	ENE IO3737LU			ENE IO3737LU	
System Memory	2GB DDR3L Memory on board			2GB DDR3L Memory on board	
Storage	32GB eMMC on board			32GB eMMC on board	
USB	2 x USB 2.0 (Type A)			2 x USB 2.0 (Type A)	
COM Port	N/A	1 x RS-232	1 x RS-232	N/A	
Other	N/A			Camera, Speaker, Microphone	
Display Chipset	Intel® Gen7 HD Graphic			Intel® Gen7 HD Graphic	
Display Resolution	LCD Panel up to 1280 x 800 HDMI up to 1080p			PanL up to 1024 x 600 HDMI up to 1080p	
Audio	Realtek ALC5645-CGT			Realtek ALC5645-CGT	
Audio Interface	1 x 3.5mm audio jack			1 x 3.5mm audio jack	
Ethernet	Microchip LAN9512 10/100 Ethernet			Microchip LAN9512 10/100 Ethernet	
Ethernet Interface	10/100 Fast Ethernet			10/100 Fast Ethernet	
Wi-Fi	Built-in 802.11 b/g/n			Built-in 802.11 b/g/n	
Bluetooth	Built-in Bluetooth 4.0			Built-in Bluetooth 4.0	
Power Connector	DC-in jack, 12 ~ 24VDC			DC-in jack, 12 ~ 24VDC	
Power Type	AT			AT	
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz; Output: 65W Adapter (19V @ 3.42A Adapter)			Input: 100 ~ 240Vac/ 50 ~ 60Hz; Output: 40W Adapter (19V @ 2.1A Adapter)	
Construction (Front, Rear)	Metal			Plastic	
Dimension	255.2 x 169.4 x 33.3mm	391 x 249 x 37mm	505 x 303.3 x 41.7mm	191 x 124 x 33mm	261 x 181 x 34mm
Weight	1.2KG	2.65KG	6KG	580g	800g
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)			0°C ~ 40°C (32°F ~ 104°F)	
Storage Temperature	-10°C ~ 60°C (14°F ~ 140°F)			-10°C ~ 60°C (14°F ~ 140°F)	
Certification	CE, FCC Class B		CE, FCC Class A	CE, FCC Class B	
OS Information	Win 10, Win 8.1, Linux Unbutu 16.4, Android 4.4			Win 10, Linux Unbutu 16.4, Android 5.1	



Self-Service Touch Panel PC - PPC Series



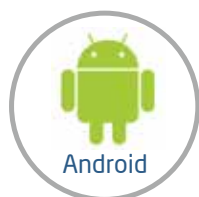
	PPC Series				
Model Number	PPC-1533	PPC-2133	PPC-1529	PPC-1729	PPC-2129
LCD Size	15", 4:3	21.5"	15", 4:3	17", 4:3	21.5"
Display Type	XGA	Full HD	XGA	SXGA	Full HD
Resolution	1024 x 768	1920 x 1080	1024 x 768	1280 x 1024	1920 x 1080
Pixel Pitch	0.297mm (H) x 0.297mm (V)	0.248mm (H) x 0.248mm (V)	0.297mm (H) x 0.297mm (V)	0.264mm (H) x 0.264mm (V)	0.248mm (H) x 0.248mm (V)
Luminance	250 cd/m ²	250 cd/m ²	250 cd/m ²	350 cd/m ²	250 cd/m ²
Contrast Ratio	700	1000	700	800	1000
Viewing Angle	70 (U), 70 (D), 80 (L), 80 (R)	80 (U), 80 (D), 85 (L), 85 (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	5 ms	16 ms	30 ms	5 ms
Backlight	LED	LED	LED	LED	LED
Touch Type	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive
Touch Light Transmission	80 %	80 %	80 %	80 %	80 %
Touch Controller	Onboard USB touch (EETI)		Onboard USB touch (EETI)		
SBC	EBM-APL		EBM-BYT		
Processor	Onboard Intel® Apollo Lake Mobile Processor		Intel® Celeron® J1900 4-Core 2.0GHz processor		
System Chipset	Intel® Apollo Lake SoC integrated		Intel® Valleyview SoC		
I/O Chipset	EC ITE IT8528E		EC ITE IT8528E		
System Memory	1 x 204-pin DDR3L 1866MT/s SO-DIMM up to 8 GB		1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB		
Expansion	1 x Mini PCIe		1 x Mini PCIe Supports mSATA		
Storage	1 x 2.5" Drive Bay		1 x CompactFlash Type I/II Socket, 1 x 2.5" Drive Bay		
USB	4 x USB 3.0		1 x USB 3.0, 3 x USB 2.0		
COM Port	2 x RS-232/422/485		1 x RS-232/422/485		
Display Chipset	Intel® Apollo Lake SoC Integrated Graphics Supports dual display		Intel® Valleyview SoC Integrated Graphics Supports dual display		
Display Resolution	HDMI: Max. resolution 3840x2160 @ 30Hz LVDS: Max. resolution 1920x1080 @ 60Hz DP: Max. resolution 4096x2160 @ 60Hz		DP: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz		
Audio	Realtek ALC892		Realtek ALC892 Support 5.1-CH		
Audio Interface	Line-Out, 2 x 2W Speaker Output		Line-Out, 2 x 2W Speaker Output		
Ethernet	2 x Intel® I211AT		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)	White Plastic, Gray Plastic		White Plastic, Gray Plastic		
Dimension	391.5 x 364.5 x 59mm	542 x 382 x 63mm	351 x 319 x 54mm	391.5 x 364.5 x 59mm	542 x 382 x 63mm
Weight	5.9kg	7.2kg	4.9kg	5.9kg	7.2kg
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)		0°C ~ 40°C (32°F ~ 104°F)		
Storage Temperature	-10°C ~ 50°C (14°F ~ 122°F)		-10°C ~ 50°C (14°F ~ 122°F)		
Certification	CE, FCC Class B		CE, FCC Class B		
OS Information	Win10, Linux		Win10, Linux		



POS / Retail Touch Panel PC - Rity Series



	Rity Series					
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/m²		600 cd/m²	400 cd/m²	350 cd/m²	400 cd/m²
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-DIMM up 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	



Rity Series				
Model Number	RITY8R1	RITY10R1	RITY12R	RITY15R
LCD Size	8" (16:9)	10.1" (16:9)	12.1" (4:3)	15" (4:3)
Display Type	WSVGA	WXGA	XGA	XGA
Resolution	1024 x 600	1366 x 768	1024 x 768	1024 x 768
Pixel Pitch	262K color by 6 bit RGB signal	262K color by 6 bit RGB signal	16.2M	16.2M
Luminance	500 cd/m ²	200 cd/m ²	600 cd/m ²	400 cd/m ²
Contrast Ratio	700	1300	700	700
Viewing Angle	75 (H) x 65 (V)	85 (H) x 85 (V)	80 (H) x 70 (V)	80 (H) x 70 (V)
Response Time	8 ms	8 ms	8 ms	8 ms
Backlight	LED	LED	LED	LED
Touch Type	5-Wire Resistive/ PCAP	5-Wire Resistive/ PCAP	5-Wire Resistive/ PCAP	5-Wire Resistive/ PCAP
Touch Light Transmission	RES 75%/ PCAP 90%	RES 75%/ PCAP 90%	RES 75%/ PCAP 90%	RES 75%/ PCAP 90%
Touch Controller	EETI/ PenMount	EETI/ PenMount	EETI/ PenMount	EETI/ PenMount
Processor	NXP i.MX6 Cortex-A9 Dual lite/ Quad 1GHz CPU			
System Memory	1GB RAM (Dual Lite), up to 2GB RAM (Quad)			
Storage	4GB eMMC, up to 8GB			
I/O	External I/O Connector 2x USB2.0, 1x Micro USB OTG, 2x RS232, 1x Gb Ethernet, 1x Micro SD slot, 1x HDMI, 1x RJ11, 1xDC Jack Internal I/O Connector 3x USB header, 1x mPCIe, 1x SIM card slot, 2x Speaker header(4ohm/ 0.5W)			
Display Chipset	Dual Lite(LVDS+HDMI), Quad(VGA+HDMI/ LVDS+HDMI/ VGA+LVDS) 1x Dual Channel 24-bit LVDS/ 1x VGA			
Audio	Wolfson WM8962			
Ethernet	LAN1: From i.MX6 MAC, PHY is Micrel KSZ9031RNX/ LAN2: Intel 82574L by PCIe Interface (Optional)			
Power Connector	12~24V DC Input			
Power Type	2.5mm DC Jack			
Adapter	60W Adapter (Optional)			
Construction (Front, Rear)	Black Coverlens, Black			
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)			
Storage Temperature	-10°C ~ 60°C (14°F ~ 140°F)			
Dimension (L x W x H)	231.7 x 149.5 x 42mm	260 x 178 x 42mm	322 x 250 x 47mm	362.1 X 290.08 X 51mm
Weight	1.48kg	1.8kg	2.35kg	6kg/with Stand
Certifications	CE , FCC Class A			
OS Information	Android 4.4.2/ Ubuntu 12.04/ Yocto 1.5.1			



Semi-Rugged Tablet

Desktop Cradle

LED Indicator

• 4 x USB, 1 x 10/100 LAN



Hand Strap

PU Hand Strap : Softer Material for User Comfortability and as Cushion when Dropped



Mushroom Handler

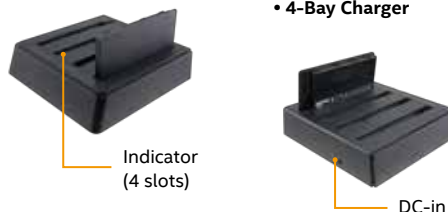
Flexibility and Stability for Easy-Holding and Viewing



- For Easy Viewing & Sharing
- Quick Stand

Charging Station

• 4-Bay Charger



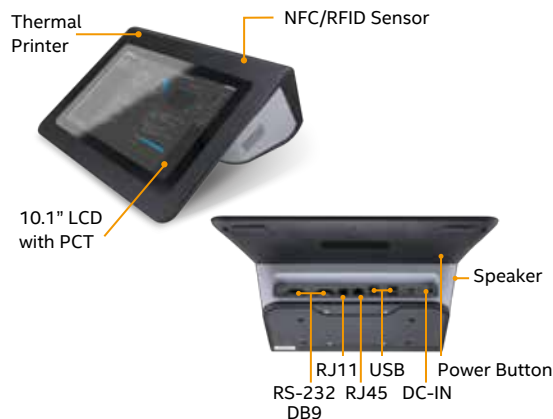
Semi-Rugged Tablet

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/m²
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

Stylish Design



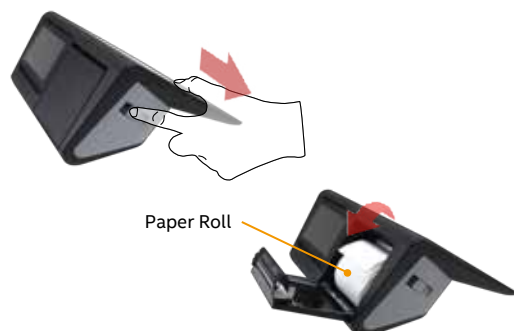
Customer Display

- 5" 2nd Display for Customer Use
- Adjustable for Best View Angle



Integrated Printer

- Support 58/80mm with Auto Cut Thermal Printer
- Pain-free Paper Roll Change
- Accessible Printer Module for Easy Replacement

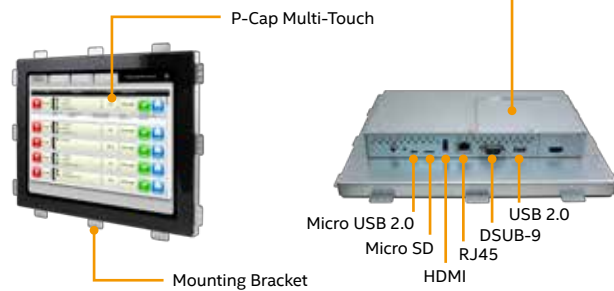


Mini POS Terminal	
Model Number	RiPac-10P1
Processor	Intel® Atom™ Z3735F 1.33GHz Processor
System Memory	2GB DDR3L SDRAM
Storage	32G (Default)/64G (Optional) eMMC
Operating System	Windows 10, Android 4.4 / 5.1
LCD Panel	10.1" LCD, 5" LCD (customer facing)
Resolution	1280 x 800 (10.1"), 1280 x 720 (5")
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



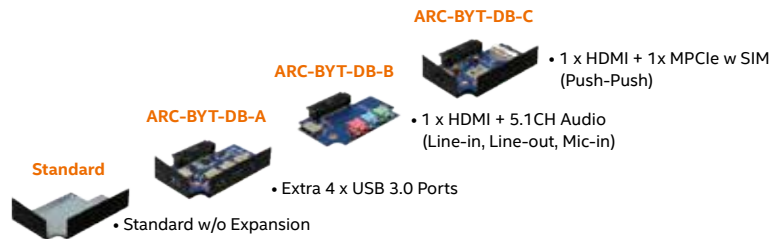
Open Frame Tablet - OFT Series

OFT-XX02 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 , Rock Chip)	
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		Rock chip RK3288	
System Memory	2G DDR3L RAM		2GB DDR3L RAM	
Wireless	802.11 b/g/n WiFi		802.11 b/g/n/ac WiFi	
Storage	8G or 32G eMMC		8GB eMMC	
External I/O Connector	1 x Gigabit Ethernet 1 x USB 2.0 type A connector 1 x Micro USB Client (reserved) 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	
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		2 x USB interface 1 x RS232(TX/RX) 1 x RS232(TX/RX) or RS485 1 x 10 bit GPIO interface 2 x Speaker interface (1.2W stereo) 1 x A-MIC interface 1 x Touch Button connector 1 x I²C interface(optional) 1 x Debug connector 1 x Battery connector 1 x DC input 4pin header	
Power Requirement	DC 12 ~ 24V		DC 12 ~ 24V	
Power Type	DC Jack		DC Jack, DC input 4pin header, optional Power Over Ethernet 802.3AT	
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		Android 7.1 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 B	



OFT-XX0X Series



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	OFT-23W01
LCD Size	10.1"	7"	10.1"	15.6"	21.5"	23.6"
Resolution	1280 x 800	1280 x 800	1280 x 800	1920 x 1080	1920 x 1080	1920 x 1080
Luminance	350	300	350	220	250	250
Viewing Angle	170° (H/V)	160° (H/V)	170° (H/V)	178° (H/V)	178° (H/V)	178° (H/V)
Touch Type	PCAP	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	Intel® Atom™ Processor Z3735F 1.33GHz Quad Core CPU			
System Memory	2G DDR3L RAM	2GB DDR3L RAM	2GB DDR3L RAM			
Wireless	802.11 b/g/n WiFi	802.11 b/g/n WiFi	802.11 b/g/n WiFi			
Storage	32GB or 8GB eMMC	32GB or 8GB 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 Micro USB Client (Android only) 1 x HDMI 1.4a connector 1 x Head Phone Jack 1 x Micro SD socket		1 x 10/100 Ethernet port 2 x USB 2.0 type A connector 1 x Micro USB Client (Android only) 1 x HDMI 1.4a connector 1 x Head Phone Jack 1 x Micro SD socket			
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 I ² C interface (optional)		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 I ² C interface (optional)			
Power Requirement	DC 12 ~ 24V	DC 12 ~ 24V	DC 12 ~ 24V			19V DC input
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	1 x DC-in Jack, 1 x DC-in header
Operating Temperature	0°C ~ 40°C	0°C ~ 40°C	0°C ~ 40°C			
Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C			
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing	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	545 x 319 x 47 mm



HDBaseT Solution

Display Over Ethernet (DoE) Solution

Tx Module – EMS-BYT-DOE

Rx Module – IPM-15W0, IPM-1001 and IPM-1201

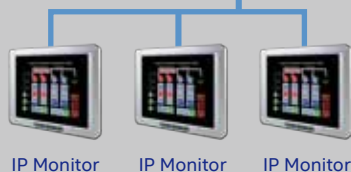


- Food Industry
- Factory Automation
- Kitchen
- Outdoor Multi-Media Display

EMS-BYT-DOE



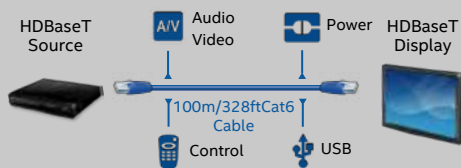
Up to 100m Connectivity



IP Monitor IP Monitor IP Monitor

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
Processor	VS2310TX
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)
Processor	VS2310RX/TX
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)
Adapter	Input: 100 ~ 240Vac / 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)
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



DoE Touch Monitor - IPM Series



DoE Extender	
Model Number	IP-TBOX
Processor	video and network SoC controller
USB	1 x USB 2.0 (TypeA)
Other	1 x HDMI Input
DoE Port	1 x RJ45
Power Connector	DC Jack (lockable)
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

DoE Solution				
Model Number	IPM-21	IPM-1201	IPM-1202	IPM-1003
LCD Size	21.5"	12.1"		10.4"
Display Type	XGA	XGA		XGA
Resolution	1024 x 768	1024 x 768		1024 x 768
Pixel Pitch (H x V)	0.0685mm x 0.2055mm	0.240mm x 0.240mm		0.0685mm x 0.2055mm
Luminance	500 cd/m²	600 cd/m²		500 cd/m²
Contrast Ratio	1000	700		1000
Viewing Angle	88 (U), 88 (D), 88 (L), 88 (R)	80 (U), 80 (D), 70 (L), 70 (R)		88 (U), 88 (D), 88 (L), 88 (R)
Response Time	25 ms	16 ms		25 ms
Backlight	LED	LED		LED
Touch Type	PCAP Multi touch	5-wire Resistive		5-wire Resistive
Touch Light Transmission	80 %			
Touch Controller	USB touch (PenMount)			
Processor	ASPEED AST1510			
DoE Port	1 x RJ45	1 x RJ45	1 x waterproof RJ45	1 x RJ45
USB	3 x USB 2.0	2 x USB 2.0	2 x waterproof USB 2.0	2 x USB 2.0
Other	1 x HDMI Input, 1 x HDMI Output, 1 x Headphone Jack	1 x HDMI Input, 1 x HDMI Output, 1 x Headphone Jack	N/A	1 x HDMI Input, 1 x HDMI Output, 1 x Headphone Jack
Audio Interface	2 x 2W Speaker Out			
Power Connector	DC Jack (lockable)	DC Jack (lockable)	Waterproof DC Jack	DC Jack (lockable)
Power Type	+12V ~ +26V	+12V ~ +26V / Support Powered LAN, compliant with the IEEE 802.3at/af standards		
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)			
Construction (Front, Rear)	Black Metal, Black Metal	Silver Aluminum, Black Metal		
Dimension	505 x 303.3 x 41.7mm	284 x 223 x 40 mm	284 x 223 x 56 mm	265 x 201 x 40 mm
Weight	5 kg	2.21 kg	2.4 kg	1.95 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	-20°C ~ 60°C (-4°F ~ 140°F)	-30°C ~ 70°C (-22°F ~ 158°F)		
Operating Humidity	5 ~ 90% Relative Humidity, Non-condensing			
IP Rating	IP65 Compliant Front Panel	IP65 Compliant Front Panel, IP41 Rear Box	Full IP65	IP65 Compliant Front Panel, IP41 Rear Box
Vibration Test	1.5 Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis	5 Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis		
Shock Test	10 Grms, IEC 60068-2-29, Half Sine, 11ms	20 Grms, IEC 60068-2-27, Half Sine, 11ms		

Tailored to Your Needs



(visit our website)



(get eCatalog)

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 Europe

Avalue Technology A/S

Moelledalen 22C, 3140 Aalsgaarde, Denmark
Tel: +45-7025-0310
Tel: +45-7027-2310
E-mail: sales.europe@avalue.com.tw