

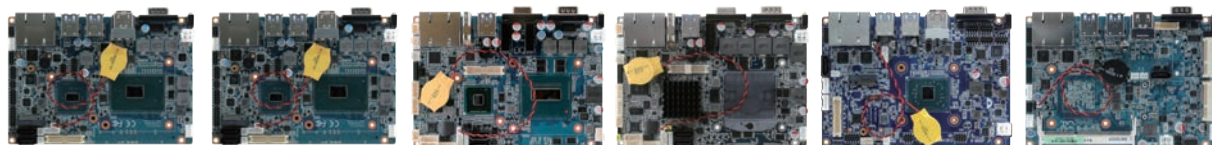


Evolving to a **Smart** Avalue IOT Ready **City**

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



3.5" Single Board Computer



3.5" SBC

Model Number	ECM-KBLH	ECM-SKLH	ECM-QM87R/QM87	ECM-QM77	ECM-APL	ECM-APL2
Processor	7th 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	Intel® Pentium®/Celeron®/Atom™ SoC Processor	Intel® Pentium®/Celeron®/Atom™ SoC Processor (with CPU Bottom Mounted)
System Chipset	Intel® QM175 Express Chipset	Intel® QM170 Express Chipset	Intel® QM87 Express Chipset	Intel® QM77 Express Chipset	N/A	N/A
System Memory	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 204-Pin DDR3L 1333/1600MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3 1333/1600MHz SO-DIMM up to 8 GB	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)
Watchdog Timer	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	H/W Reset, 1sec. ~ 65535sec. and 1sec./step	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
Expansion	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 Mini PCIe	1 x Mini PCIe (for PCIe & USB2.0) 1 x M.2 (B-Key, 2242)	2 x Mini PCIe 1 x Full-size Mini PCIe with mSATA Supported 1 x Half-size Mini PCIe
Storage	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	N/A	1 x M.2	1 x mSATA Supported from Mini PCIe
I/O	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, 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	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, 1x LPC, 1 x SPI
Display Chipset	Intel® Kaby lake SoC integrated Graphics Supports triple display	Intel® Skylake SoC integrated Graphics Supports triple display	Intel® QM87 Chipset Integrated Supports triple display	Intel® QM77 Chipset Integrated Supports triple display	Intel® Apollo Lake SoC integrated Gen9 LP Graphics Supports triple display	Intel® Apollo Lake SoC integrated Gen9 LP Graphics Supports triple display
Resolution	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	Dual HDMI: Max. resolution 3840x2160 @ 30Hz LVDS: Max. resolution 1920x1080 @ 60Hz	Dual HDMI: Max. resolution 3840x2160 @ 30Hz VGA: 1920x1080@60Hz
Audio Chipset	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	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out
Ethernet Chipset	1 x Intel® I210AT 1 x Intel® I219LM	1 x Intel® I210AT 1 x Intel® I219LM	1 x Intel® I210AT 1 x Intel® I217LM	1 x Intel® 82574L 1 x Intel® 82579LM	2 x Intel® I211AT (Intel I210IT for WT)	2 x Intel® I211AT (Intel I210IT for WT)
Power Requirement	+12V	+12V	+12V	+12V	+12V ~ +26V	+12V ~ +26V
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) -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)
Dimension (L x W)	5.7" x 4" (146mm x 101mm)					



3.5" SBC					
Model Number	ECM-BSW	ECM-BYT2	ECM-BYT	ECM-KA	ECM-A50M
Processor	Intel® Pentium®/ Celeron® processor	Intel® Atom™/ Celeron® processor	Intel® Atom™/ Celeron® processor	AMD G-Series processor	AMD G-Series processor
System Chipset	N/A	N/A	N/A	N/A	AMD G-Series A50M Chipset
System Memory	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
Watchdog Timer	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
Expansion	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
Storage	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
I/O	2 x USB 2.0, 4 x USB 3.0, 1 x SATA III, 4 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, 3 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
Display Chipset	Intel® Braswell SoC integrated Graphics Supports dual 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
Resolution	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
Audio Chipset	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	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out
Ethernet Chipset	2 x Realtek 8119I	2 x Realtek 8111E	2 x Intel® I211AT	2 x Realtek 8111E	2 x Realtek 8111E
Power Requirement	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V
Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F), -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)
Dimension (L x W)	5.7" x 4" (146mm x 101mm)				

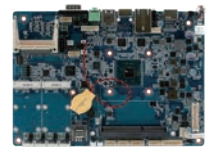
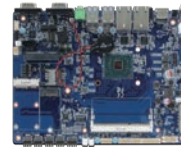
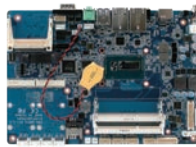
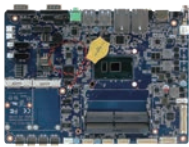


5.25" Single Board Computer

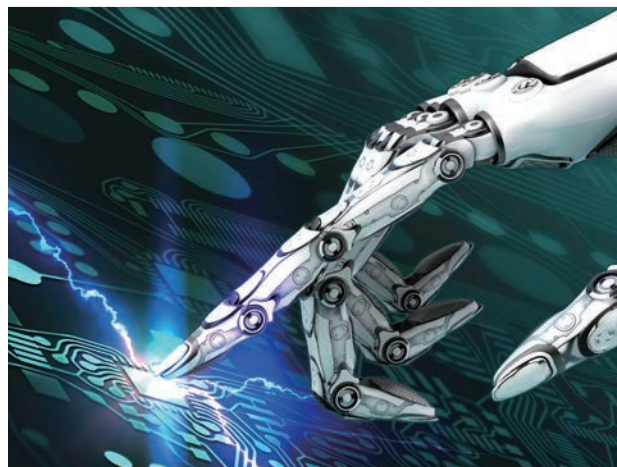
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Embedded Computing - 5.25" SBC

Avalue Catalog 2017 Ver. 1.0



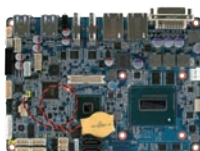
5.25" SBC					
Model Number	EBM-SKLU	EBM-BSW	EBM-QM87U	EBM-APL	EBM-BYT
Processor	6th Gen Intel® Core™ i7/i5/i3/ Celeron® processor	Intel® Pentium®/ Celeron® processor	4th Gen Intel® Core™ i7/i5/i3 processor	Intel® Pentium®/ Celeron®/ Atom™ SoC Processor	Intel® Atom™/ Celeron® processor
System Chipset	N/A	N/A	N/A	Apollo SoC integrated	N/A
System Memory	2 x 260-Pin DDR4 2133MHz SO-DIMM up to 32 GB	1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB	2 x 204-pin DDR3L 1600MHz SO-DIMM Up to 8G Per DIMM, total 16GB	1 x 204-Pin DDR3L 1866MHz SO-DIMM, supports 4G/8G & Up to 8GB DDR3L 1866MTs SDRAM (Non-ECC)	1 x 204-pin DDR3L 1066/1333MHz SO-DIMM Up to 8GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec. and 1sec./step	H/W Reset, 1sec. ~ 65535sec. and 1sec./step	H/W Reset, 1sec. ~ 65535sec. and 1sec./step	H/W Reset, 1sec. ~ 65535sec. and 1sec./step	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
Expansion	1 x Mini PCIe Supports SIM Card, 1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports SIM Card mSATA, 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
Storage	1 x mSATA Supported from Mini PCIe	eMMC(reserve 32G)	1 x CompactFlash Type I/II Socket, 1 x mSATA Supported from Mini PCIe	1 x M.2	1 x CompactFlash Type I/II Socket 1 x mSATA Supported from Mini PCIe
I/O	4 x USB 3.0, 4 x USB 2.0, 1 x SATA III, 4 x RS-232, 2 x RS-232/422/485, 1 x SIM Card Slot, 1 x LPC, 1 x SPI, 1 x 16bit GPIO	4 x USB 3.0, 3 x USB 2.0, 1 x SATA III, 3 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, 1 x RS-232, 1 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, 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, 2 x RS-232/422/485, 1 x SIM Card Slot, 1 x LPC, 1 x SPI, 1 x 16bit GPIO, 1 x PS2/ KB & MS
Display Chipset	Intel® Skylake U SoC integrated Graphics Supports dual display	Intel® Braswell SoC integrated Graphics Supports dual display	Intel® Lynx Point integrated Graphics Supports dual display	Intel® Apollo Lake SoC integrated Gen9 LP Graphics Supports dual display	Intel® Valleyview SoC integrated Graphics Supports dual display
Resolution	Dual HDMI: Max. resolution 4096x2160 @ 24Hz LVDS: Max. resolution 1920x1080 @ 60Hz	HDMI: Max. resolution 1920x1080 @ 60Hz 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	DP: Max. resolution 2560x1600 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz
Audio Chipset	Realtek ALC233 supports 2.1-CH Line-Out, Amp.	Realtek ALC233 supports 2.1-CH Line-Out, Amp.	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out, Speak-out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out, 5W Amp.	Realtek ALC892 supports 5.1-CH Mic-In, Line-In, Line-Out
Ethernet Chipset	1 x Intel® I210AT 1 x Intel® I219LM	2 x Realtek 8119	1 x Intel® I210AT 1 x Intel® I218LM	2 x Intel® I211AT	2 x Intel® I210IT
Power Requirement	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V
Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	-40°C ~ 85°C (-40°F ~ 185°F) 0°C ~ 60°C (with Processor J1900)
Dimension (L x W)	8" x 5.75" (203mm x 146mm)				



EPIC Module

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Embedded Computing - EPIC



EPIC			
Model Number	EPI-QM87R/EPIC-QM87	EPI-QM77	EPI-QM67
Processor	4th Gen Intel® Core™ i7/i5/i3 processor	3rd Gen Intel® Core™ i7/i5/i3 processor	2nd Gen Intel® Core™ i7/i5/i3 processor
System Chipset	Intel® QM87 Express Chipset	Intel® QM77 Express Chipset	Intel® Q67 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	1 x 204-Pin DDR3 1066/1333MHz 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	H/W Reset, 1sec. ~ 65535min. and 1sec. or 1min./step
Expansion	1 x Mini PCIe Supports mSATA	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	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	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
Display Chipset	Intel® Valleyview SoC integrated Graphics Supports triple display	Intel® QM77 Chipset Integrated Supports triple display	Intel® QM67 Chipset Integrated Supports dual 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	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	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	1 x Intel® 82574L 1 x Intel® 82579LM
Power Requirement	+12V ~ +19V	+12V ~ +19V	+12V ~ +19V
Power Type	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)
Dimension (L x W)		4.5" x 6.5" (115mm x 165mm)	

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



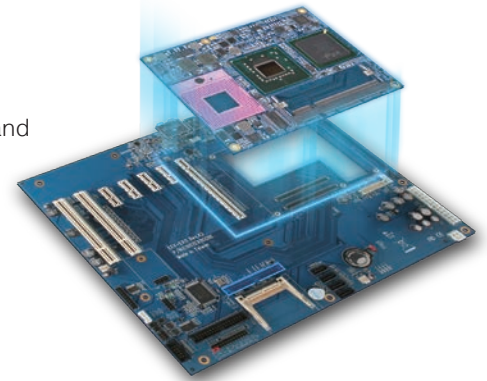
Compliance

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

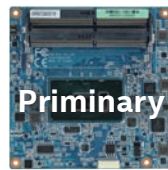
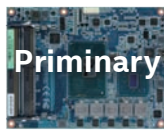


COM Express Module

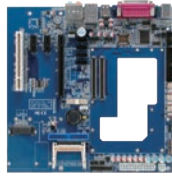
The COM Express concept was originally introduced by several IPC companies in 2004, and later standardized by the PICMG Consortium in 2005.



- The COM Express is a highly integrated and compact Computer On Module form factor.
- It integrates Processor and Chipset core features while all I/O and bus signals mapped two low profile, high density connectors.
- It can be used in a design process much like an integrated circuit component

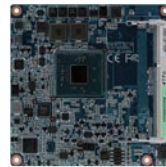


COM Express					
Model Number	ESM-KBLH	ESM-KBLU	ESM-SKLA	ESM-SKLH	ESM-SKLU
Processor	7th Gen Intel® Core™ i7/i5/i3 processor	7th Gen Intel® Core™ i7/i5/i3/Celeron® processor	6th Gen Intel® Xeon®/Core™ i3 processor	6th Gen Intel® Core™ i7/i5/i3 processor	6th Gen Intel® Core™ i7/i5/i3/Celeron® processor
System Memory	2 x 260-Pin DDR4 2400MHz SO-DIMM up to 32GB	2 x 260-Pin DDR4 1600MHz SO-DIMM up to 32GB	2 x 260-pin SODIMM DDR4 SDRAM slot up to 32GB, CM236 Support ECC Function	2 x 260-Pin DDR4 SO-DIMM up to 32GB	2 x 260-pin SO-DIMM DDR4 2133 SDRAM slot up to 32 GB
Expansion	8 x PCIe1	8 x PCIe1	8 x PCIe1	8 x PCIe1	8 x PCIe1
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
SATA	4 x SATA III	3 x SATA III	4 x SATA III	4 x SATA III	4 x SATA III
COM Port	2 x UART	2 x UART	2 x UART	2 x UART	2 x UART
MIO	1 x SMBus, 1 x LPC, 1 x I ² C	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 SMBus, 1 x LPC, 1 x I ² C	1 x SMBus, 1 x LPC, 1 x I ² C, 1 x SPI
Display Chipset	Intel® Kabylake SoC integrated Graphics	Intel® Kabylake SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	Intel® Skylake Processor integrated Graphics
Display	(VGA+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	LVDS(eDP) + VGA(HDMI) + DDI(HDMI or DP)
Audio	Intel® High Definition Audio	Intel® High Definition Audio	Intel® High Definition Audio	Intel® High Definition Audio	Intel® High Definition Audio
Ethernet	1 x Intel® I219LM	1 x Intel® I219LM	1 x Intel® I219LM	1 x Intel® I219LM	1 x Intel® I219LM
Power Requirement	+9V ~ +19V	+9V ~ +19V	+9V ~ +19V	+9V ~ +19V	+9 (-5%)~ +19V (+5%), VSB: 5V(±5%)
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)	-20°C ~ 80°C (-40°F ~ 176°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)
Dimension (L x W)	5" x 3.7" (125mm x 95mm)	3.7" x 3.7" (95mm x 95mm)	5" x 3.7" (125mm x 95mm)	5" x 3.7" (125mm x 95mm)	3.7" x 3.7" (95mm x 95mm)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B



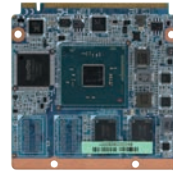
SOM Carrier Board

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 CompactFlash Type I/II Socket	1 x IrDA	
Expansion	1 x PCI, 2 x PClex1, 1 x PClex16, 1 x Express Card	1 x PClex16, 1 x PClex4, 1 x PClex1, 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)	
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B



COM Express

Model Number	ESM-QM87/ ESM-QM87R	ESM-BDW	ESM-APLC	ESM-BYT2	ESM-BYT	ESM-A50M
Processor	4th Gen Intel® Core™ i7/i5/i3 processor	5th Gen Intel® Core™ i7/i5/i3 Processor	Intel® Pentium®/ Celeron®/Atom™ SoC Processor	Intel® Atom™/Celeron® processor		AMD G-Series processor
System Memory	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	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
Expansion	7 x PClex1, 1 x PClex16	4 x PClex1	3 x PClex1	3 x PClex1		7 x PClex1
USB	8 x USB 2.0, 1 x USB 3.0	8 x USB 2.0, 2 x USB 3.0	8 x USB 2.0, 4 x USB 3.0	7 x USB 2.0, 1 x USB 3.0		8 x USB 2.0
SATA	2 x SATA II, 2 x SATA III	4 x SATA III	2 x SATA III	2 x SATA II		4 x SATA II
COM Port	N/A	2 x UART	1 x UART	2 x UART	1 x UART	N/A
MIO	1 x SMBus, 1 x LPC	1 x LPC, 1 x SMBus, 1 x I²C	1 x LPC, 1 x SMBus, 1 x I²C	1 x LPC, 1 x SMBus, 1 x I²C		1 x LPC, 1 x SMBus, 1 x I²C
Display Chipset	Intel® QM87 Chipset Integrated	Intel® GT2 Integrated Graphics	Apollo lake SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics		AMD Fusion Accelerated Processors
Display	DDI+VGA, DDI+LVDS, VGA+LVDS	VGA+LVDS	VGA/ LVDS/ HDMI/ DP	VGA+LVDS	N/A	VGA+LVDS, HDMI+LVDS, VGA+HDMI
Audio	Intel® QM87 Chipset Integrated	Intel® Broadwell SoC integrated	Intel® High Definition Audio	Intel® Valleyview SoC integrated		AMD Fusion Accelerated Processors
Ethernet	1 x Intel® I211AT	1 x Intel® I218LM	1 x Intel® WGI211AT	1 x Intel® I211AT		1 x Intel® 82577LM
Power Requirement	+9V ~ +19V	+9V ~ +19V	+9V ~ +19V	+9V ~ +19V		+8V ~ +18V
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)(Standard) -40°C ~ 85°C (-40°F ~ 185°F)(Extended)		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)	3.7" x 3.7" (95mm x 95mm)	5" x 3.7" (125mm x 95mm)	5" x 3.7" (125mm 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



Qseven Module

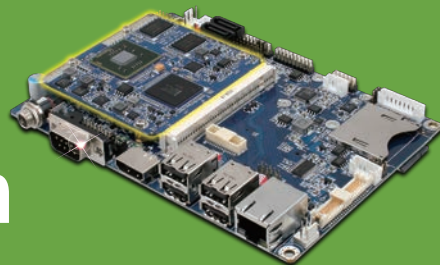
Model Number	EQM-APL	EQM-BSW	EQM-A50M
Processor	Intel® Pentium®/Celeron®/Atom™ processor	Intel® Pentium®/Celeron® processor	AMD G-Series Processor
System Memory	Onboard DDR3L 4GB, up to 8GB	Onboard DDR3L 2GB, up to 4GB	Onboard DDR3 2GB up to 4 GB
Expansion	3 x PCIe1	3 x PCIe1	4 x PCIe1
USB	6 x USB 2.0, 2 x USB 3.0	5 x USB 2.0, 1 x USB 3.0	8 x USB 2.0
SATA	2 x SATA III	2 x SATA II	2 x SATA II
UART	1 x UART	1 x UART	N/A
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 SMBus, 1 x LPC, 1 x I ² C
Display Chipset	Apollo lake SoC integrated Graphics	Intel® Braswell SoC integrated Graphics	AMD Radeon 6250
Display	HDMI+DDI	HDMI+LVDS	HDMI+LVDS, DDI+LVDS
Audio	Intel® Apollo lake SoC integrated	Intel® Braswell SoC integrated	AMD G-series A50M integrated
Ethernet Chipset	1 x Intel® I210IT	1 x Realtek 8119I	1 x Realtek 8111E
Power Requirement	+5V	+5V	+5V
Operating Temperature	-20°C ~ 80°C (-40°F ~ 176°F) (Standard) -40°C ~ 85°C (-40°F ~ 185°F) (Extended)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F) (Standard)
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)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B



Qseven Module

Model Number	EQM-BYT	EQM-BYT2	RQM-IMX6
Processor	Intel® Atom™/Celeron® processor	Intel® Atom™ Processor (E3825/ E3845)	Freescale i.MX 6 Solo/ Quad
System Memory	Onboard DDR3L 2GB up to 4 GB (Processor E3845 only support 1333MHz)	2GB DDR3 (E3825) 4GB DDR3 (E3845)	1GB RAM(Solo) 2GB RAM(Quad)
Expansion	3 x PCIe1	3 x PCIe1	3 x PCIe1
USB	5 x USB 2.0, 1 x USB 3.0	3 x USB 2.0, 1 x USB 3.0	4 x USB 3.0 , 1 x USB OTG
SATA	2 x SATA II	2 x SATA II	1 x SATA II (Quad only)
UART	1 x UART	1 x UART	1 x UART
MIO	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
Display Chipset	Intel® Valleyview SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	Freescale
Display	HDMI+DDI	HDMI+DDI	1 x DP/ HDMI/ LVDS
Audio	Intel® Valleyview SoC integrated	Intel® Valleyview SoC integrated	Supports I ² C interface
Ethernet Chipset	1 x Intel® I211AT	1 x Intel® I211AT	1 x KSZ9031
Power Requirement	+5V	+5V	+5V
Operating Temperature	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 ~ 75°C (-40°F ~ 167°F) (Extended)	0°C ~ 60°C (32°F ~ 140°F) (Standard) -40°C ~ 75°C (-40°F ~ 167°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)
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B

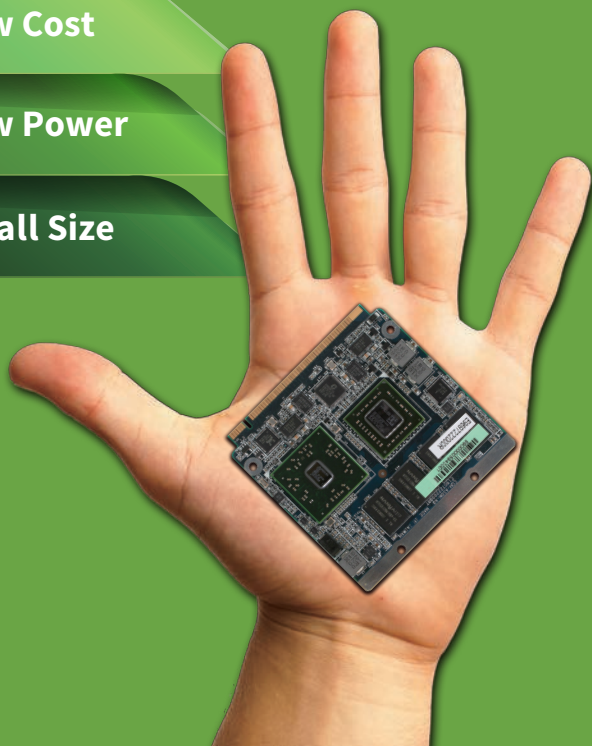
Qseven Solution



Low Cost

Low Power

Small Size



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



Qseven Carrier Board			
Model Number	EEV-Q701	EEV-Q702	REV-Q703
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, 1 x USB 3.0 (2 x USB on board, 1 x USB 3.0 / 1 x USB external)
SATA	2 x SATA II (On Board)	2 x SATA II (On Board)	2 x SATA II (On Board)
COM Port	1 x RS-232, 1 x RS-422/485 (1 x RS232 External)	1 x UART (1 x UART External)	(1 x UART External)
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 and 1 x LVDS on board)	1 x HDMI, 1 x LVDS, 1 x DP (1 x LVDS 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	N/A
MIO	1 x IrDA, 1 x PS2/ KB & MS, 1 x SD socket	1 x SD socket	N/A
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 and Line-Out	Mic-In, Line-In and Line-Out	Mic-In, Line-In and Line-Out
Power Requirement	ATX	ATX	ATX
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

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

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 Motherboards



ATX					
Model Number	EAX-Q170KP	EAX-Q170P(C236P)	EAX-Q87R(C226)	EAX-Q77	EAX-Q67
Processor	Intel® LGA1151 Socket Supports 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	Intel® LGA1155 Socket Supports 2nd/3rd Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors	Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors
System Chipset	Intel® Q170 Express Chipset (Co-lay C226 Chipset)	Intel® Q170 Express Chipset (Co-lay C226 Chipset)	Intel® Q87 Express Chipset (Co-lay C226 Chipset)	Intel® Q77 Express Chipset	Intel® Q67 Express Chipset
System Memory	4 x 288-pin DDR4 2133MHz DIMM supports up to 64GB	4 x 288-pin DDR4 2133MHz DIMM supports up to 64GB	4 x 240-Pin DDR3 1333/1600 MHz DIMM supports up to 32 GB	4 x 240-pin DDR3 1333/1600 MHz DIMM supports up to 32 GB	4 x 240-Pin DDR3 1066/1333 MHz DIMM supports up to 32 GB
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)	4 x PCI (Support 5V) 1 x PCI-e x 16 1 x PCI-e x 4 1 x PCI-e x 1	4 x PCI 1 x PCI-e x 16 1 x PCI-e x 4 1 x PCI-e x 1 1 x Mini PCI-e	4 x PCI 1 x PCI-e x 16 1 x PCI-e x 4 1 x PCI-e x 1
Display	Intel® 6th Generation CPU Integrated VGA + HDMI + DVI	Intel® 6th Generation CPU Integrated VGA + HDMI + DVI	Intel® 4th Generation CPU integrated DP + VGA + DVI	Intel® 2nd/3rd Generation CPU integrated HDMI + VGA, HDMI + DVI, VGA + DVI	Intel® 2nd/3rd Generation CPU integrated HDMI + VGA
Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz DP: 4096 x 2304 @ 60Hz	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz DP: 4096 x 2304 @ 60Hz	VGA: 1920 x 1200 @ 60Hz DVI: 1920 x 1200 @ 60Hz DP: 3840 x 2160 @ 24Hz	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz DVI: 1920 x 1200 @ 60Hz	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1080 @ 60Hz
Audio	Realtek ALC892 supports 5.1-CH Mic-in, Line-in, Line-out 2 x 6W Audio Amplifier	Realtek ALC892 supports 5.1-CH Mic-in, Line-in, Line-out 2 x 6W Audio Amplifier	Realtek ALC892 supports 5.1-CH Mic-in, Line-in, Line-out 2 x 6W Audio Amplifier	Realtek ALC269Q supports 5.1-CH Mic-in, Line-in, Line-out 2 x 2W Audio Amplifier	Realtek ALC892 supports 5.1-CH Mic-in, Line-in, Line-out
Ethernet	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I217LM 1 x Intel® I210AT	1 x Intel® 82579LM 1 x Intel® 82574L	1 x Intel® 82579LM 1 x Intel® 82583V
USB/SATA/COM/LAN	12/6/6/2	12/6/6/2	13/6/6/2	13/6/6/2	12/6/6/2
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
Operating Temp.	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	12" x 9.6" (304.8mm x 243.84mm)	12" x 9.6" (304.8mm x 243.84mm)	12" x 9.6" (304.8mm x 243.84mm)	12" x 9.6" (304.8mm x 243.84mm)	12" x 9.6" (304.8mm x 243.84mm)
Weight	1.32lbs (0.6kg)	1.32lbs (0.6kg)	1.32lbs (0.6kg)	1.32lbs (0.6kg)	1.32lbs (0.6kg)



Micro ATX Motherboards



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Industrial Motherboard – Micro ATX

Avallue Catalog 2017 Ver. 1.0

Micro ATX					
Model Number	ERX-H110KP	ERX-H110P	ERX-H110	ERX-Q77	ERX-Q67
Processor	Intel® LGA1151 Socket Supports 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 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)	Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors	Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors
System Chipset	Intel® H110 Express Chipset	Intel® H110 Express Chipset	Intel® H110 Express Chipset	Intel® Q77 Express Chipset	Intel® Q67 Express Chipset
System Memory	2 x 288-pin DDR4 2133MHz DIMM supports up to 32GB	2 x 288-pin DDR4 2133MHz DIMM supports up to 32GB	2 x 288-pin DDR4 2133MHz DIMM supports up to 32GB	4 x 240-Pin DDR3 1333/1600 MHz DIMM supports up to 32 GB	4 x 240-pin DDR3 1066/1333 MHz DIMM supports up to 32 GB
Expansion	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 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 2 x PCI-e x 1 1 x M.2 Type M Slot supports PCI-e x 2 only	3 x PCI 1 x PCI-e x 16	1 x PCI 1 x PCI-e x 16 1 x PCI-e x 4 1 x PCI-e x 1
Display	Intel® 6th Generation CPU Integrated HDMI + VGA, HDMI + DP, VGA + DP	Intel® 6th Generation CPU Integrated HDMI + VGA, HDMI + DP, VGA + DP	Intel® 6th Generation CPU Integrated HDMI + DVI-D	Intel® 2nd/3rd Generation CPU integrated HDMI + VGA, HDMI + LVDS, VGA + LVDS	Intel® 2nd/3rd Generation CPU integrated HDMI + VGA, HDMI + DP, VGA + DP
Resolution	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz DP: 4096 x 2304 @ 60Hz	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz DP: 4096 x 2304 @ 60Hz	HDMI: 3840 x 2160 @ 30Hz DVI-D: 1920 x 1080 @ 60Hz	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1920 x 1200 @ 60Hz	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1080 @ 60Hz DP: 1920 x 1080 @ 60Hz
Audio	Realtek ALC892 supports 5.1-CH Mic-in, Line-in, Line-out 2 x 6W Audio Amplifier	Realtek ALC892 supports 5.1-CH Mic-in, Line-in, Line-out 2 x 6W Audio Amplifier	Realtek ALC662 supports 5.1-CH Mic-in, Line-in, Line-out	Realtek ALC892 supports 5.1-CH Mic-in, Line-out, Line-in 2 x 2W Audio Amplifier	Realtek ALC892 supports 5.1-CH Mic-in, Line-in, Line-out, 1 x S/PDIF
Ethernet	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT	1 x RTL8111GS	1 x Intel® 82579LM 1 x Intel® 82574L	1 x Intel® 82579LM 1 x Intel® 82583V
USB/SATA/COM/LAN	8/4/6/2	8/4/6/2	10/4/1/1	10/6/6/2	12/6/6/2
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
Operating Temp.	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	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)	9.6" x 9.6" (243.84mm x 243.84mm)	9.6" x 9.6" (243.84mm x 243.84mm)
Weight	1.35lbs (0.6kg)	1.35lbs (0.6kg)	1.35lbs (0.5kg)	1.35lbs (0.6kg)	1.35lbs (0.6kg)



Mini ITX Motherboards

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Industrial Motherboard - Mini ITX



Mini ITX						
Model Number	EMX-Q170KP	EMX-Q170P	EMX-H110KP	EMX-H110P	EMX-Q87R	EMX-SKLUP
Processor	Intel® LGA1151 Socket Supports 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 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)	Onboard 6th Gen Intel® Core™ SoC i7/i5/i3 & Celeron® BGA Processor
System Chipset	Intel® Q170 Express Chipset		Intel® H110 Express Chipset		Intel® Q87 Express Chipset	N/A
System Memory	2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB		2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB		2 x 204-pin DDR3 1333/1600 MHz SO-DIMM supports up to 16 GB	2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB
Expansion	1 x PCI-e x 16 1 x Full Size Mini PCI-e Supports mSATA (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 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)
Display	Intel® 6th Generation CPU integrated Triple Display		Intel® 6th Generation CPU integrated VGA + LVDS, VGA + HDMI, VGA + DP, HDMI + LVDS, HDMI + DP, LVDS + DP		Intel® 4th Generation CPU integrated Triple Display	Intel® 6th Generation CPU integrated Triple Display
Resolution	VGA: 2560 x 1600 @ 60Hz, HDMI: 3840 x 2160 @ 30Hz DP: 4096 x 2304 @ 60Hz Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)		VGA: 2560 x 1600 @ 60Hz, HDMI: 3840 x 2160 @ 30Hz 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 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
Audio	Realtek ALC892 supports 5.1-CH Mic-in, Line-out, Line-in 6W Audio Amplifier		Realtek ALC892 supports 5.1-CH 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 ALC892 supports 5.1-CH Mic-in, Line-out, Line-in 2 x 6W 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	1 x Intel® I219LM 1 x Intel® I211AT
USB/SATA/COM/LAN	12/6/6/2		8/4/6/2		12/4/4/2	8/2/6/2
Power Requirement	+12V/+5V/5VSB/+3.3V/-12V		+12V/+5V/5VSB/+3.3V/-12V		+12V/+5V/5Vsb/+3.3V/-12V	+12V~24V
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					
Model Number	EMX-APLP	EMX-BSWP	EMX-BYT2	EMX-BSWB	EMX-QM77
Processor	Intel® Apollolake® 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)	Intel® rPGA988 Socket Supports Intel® 3rd Generation Core™ i7/i5/i3 Processors
System Chipset	N/A	N/A	N/A	N/A	Intel® QM77 Express Chipset
System Memory	2 x 204-pin DDR3L 1333 & 1600MHz SO-DIMM supports up to 16GB	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	2 x 204-Pin DDR3 1333/1600MHz SO-DIMM supports up to 16 GB
Expansion	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 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	1 x PCI-e x 16 1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x CFast
Display	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDM/DPI + DP, HDMI + LVDS	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDMI + VGA, VGA + LVDS	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDMI + VGA, VGA + LVDS	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS + VGA	Intel® 2nd/ 3rd Generation CPU integrated VGA + LVDS, VGA + HDMI, VGA + DVI, HDMI + LVDS, HDMI + DVI, LVDS + DVI
Resolution	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)	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	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1920 x 1200 @ 60Hz DVI: 1920 x 1200 @ 60Hz
Audio	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier	Realtek ALC892 supports 5.1-CH Mic-in, Line-in, Line-out
Ethernet	2 x Intel I211AT	2 x Intel I211AT	2 x Intel I211AT	1 x RTL8111F	1 x Intel® 82579LM 1 x Intel® 82583V
USB/SATA/COM/LAN	9/2/6/2	8/2/6/2	6/2/6/2	7/2/1/1	12/5/3/2
Power Requirement	+12V	+12V	+12V	+12V	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
Operating Temp.	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)	6.69" x 6.69" (170mm x 170mm)
Weight	0.88lbs (0.4kg)	0.88lbs (0.4kg)	0.88lbs (0.4kg)	0.88lbs (0.4kg)	1.03lbs (0.47kg)

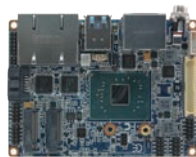
The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.



Pico ITX/ Nano ITX Motherboards

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Industrial Motherboard - Pico ITX/ Nano ITX



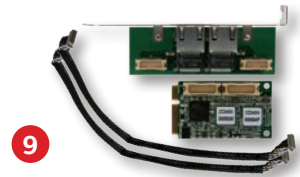
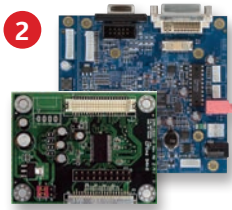
Pico ITX	
Model Number	EPX-APLP
Processor	Intel® Apollolake® Processor
System Chipset	N/A
System Memory	1 x 204-pin DDR3L 1600 & 1333MHz SO-DIMM supports up to 8 GB
Expansion	1 x PCI-e x1 1 x M.2 Type B Slot supports 2 x PCI-e x 1 (default) or 1 x PCI-e x 2 (By OEM BIOS ME SET), USB 3.0, SATA Signal) 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
Display	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDM/DPI + DP, HDMI + LVDS
Resolution	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)
Audio	Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier
Ethernet	2 x Intel I211AT
USB/SATA/COM/LAN	6/1/6/2
Power Requirement	+12V
Power Type	ATX
Operating Temp.	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	3.93" x 2.83" (100mm x 72mm)
Weight	0.88lbs (0.4Kg)

Nano ITX		
Model Number	SENX-BYT	ENX-CDD
Processor	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)	Intel® Atom™ D2550 Processor (1M Cache, 1.86GHz)
System Chipset	N/A	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM supports up to 8 GB	1 x 204-Pin DDR3 1066/1333MHz SO-DIMM supports up to 4 GB
Expansion	1 x Half size Mini PCI-e supports mSATA 1 x Full size Mini PCI-e 1 x SIM Card Slot Onboard 32GB eMMC	1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x 14-pin Header for Customized Add-on Card 1 x SIM Card slot
Display	Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + VGA, HDMI + LVDS, VGA + LVDS	Integrated Intel® Graphics Media Accelerator LVDS + VGA, VGA + HDMI, HDMI + LVDS
Resolution	VGA: 2560 x 1600 @ 60Hz HDMI: 1920 x 1080 @ 60Hz LVDS: 1920 x 1200 @ 60Hz	VGA: 1920 x 1200 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1440 x 900 @ 60Hz
Audio	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
Ethernet	1 x RTL8111G	1 x Realtek 8111E
USB/SATA/COM/LAN	3/1/1/1	4/1/1/1
Power Requirement	+12V	+12V
Power Type	ATX	ATX
Operating Temp.	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)
Dimension (L x W)	4.72" x 4.72" (120mm x 120mm)	4.72" x 4.72" (120mm x 120mm)
Weight	0.88lbs (0.4kg)	0.88lbs (0.4kg)

Avalue Catalog 2017 Ver. 1.0

Peripherals & Accessories

Avalue provides compatible accessories and peripherals for customers to make one-stop shopping possible. It's not necessary to find other vendors for external devices if customers need extra functions. Avalue list cables, modules, daughter boards, storages and even services, just for your convenience.



Peripherals & Accessories

	Embedded Peripherals	Description
1	Power Board	EPM-1718 60W DC to DC Marine Power Module EPM-1714 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 Stardard 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: 70mm x 60mm



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: -10°C ~ 65°C

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



ARM Embedded Solutions



RISC Single Board			
Model Number	RSC-IMX61	ACP-IMX6POS	RSC-IMX51
Processor	Freescale i.MX 6 Dual Lite Freescale i.MX 6 Quad Core	Freescale i.MX 6 Dual Lite Freescale i.MX 6 Quad Core	Freescale i.MX515 ARM Cortex-A8 800MHz CPU
System Memory	DDR3 1G	1GB DDR3 (Dual Lite) 2GB DDR3 (Quad Core)	512MB DDR2
Storage	eMMC 4GB	eMMC 4GB	eMMC 4GB
I/O	<p>External I/O Connector</p> <ul style="list-style-type: none"> 1 x USB2.0 Type A x2 (Double deck) 1 x HDMI with screw lock 1 x 10/100/1000 LAN (RJ45x1), Optional POE 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) <p>Internal I/O connector</p> <ul style="list-style-type: none"> 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) socket, 1 x I²C, 1 x SATA (i.MX6 Quad only) 1 x Battery connector for RTC 1 x debug port 1 x RS232 	<p>External I/O Connector</p> <ul style="list-style-type: none"> 1 x USB Type A Double Deck 2 x RJ45 Connector with Indicate LED 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 <p>Internal I/O connector</p> <ul style="list-style-type: none"> 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 	<p>External I/O Connector</p> <ul style="list-style-type: none"> 1 x 10/ 100Mbps LAN, 1 x RS-232, 1 x Dip Switch, 1 x Reset, 1 x Power Jack lock, 1 x Optional HDMI 1 x SD socket <p>Internal I/O connector</p> <ul style="list-style-type: none"> 2 x RS-232/485, 4 x USB 2.0, 1 x DIO, 1 x I²C, 1 x TTL/LVDS, 1 x inverter, 4W touch, 1 x Speaker, 1 x Lin in MIC, 1 x GPIO
Power Requirement	12 ~ 26V DC input , 2.5mm DC Jack,typical 19V input With brownout detection or POE power in	DC 12 ~ 24V Power Input	+12V DC Input
Operating Temperature	-20°C ~ 85°C	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)
Storage Temperature	-40°C ~ 85°C	-40°C ~ 85°C (-40°F ~ 185°F)	-20°C ~ 80°C (-4°F ~ 175°F)
Dimension (L x W)	146mm x 102mm	175mm x 110mm	120mm x 80mm
Weight	0.15kg	0.16kg	0.16kg
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B



RISC System	
Model Number	AIB-IMX6
Processor	Freescale 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 POE 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 POE power in(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



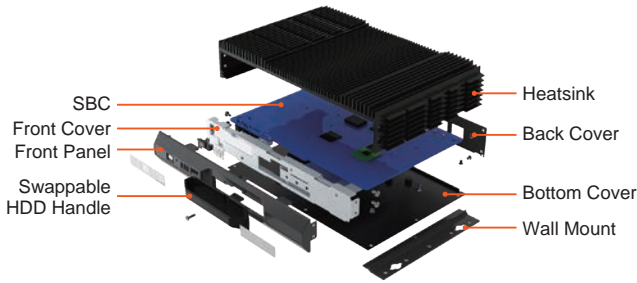
SMARC			
Model Number	SMA-IMX6	REV-SA01	REV-SA02
Processor	Freescale i.MX 6 Solo 800M Hz Freescale i.MX 6 Quad Core 1.0G Hz	N/A	N/A
System Memory	1GB DDR3 (solo) 1GB DDR3 (Quad Core) Optional 2GB	N/A	N/A
Storage	eMMC 4GB	N/A	N/A
External I/O Connector	2 x USB 2.0 Port (One OTG) 2 x RX/TX (Ser1/3) 2 x UART (Ser0/2) 3 x PCIe1 1 x MLB150 12 x GPIOs, 1 x SDIO, 1 x SATA eMMC, 2 x SPI, 3 x I ² C, 1 x SPDIF, 1 x WDT, 2 x CAN, 1 x JTAG	External I/O Connector 1 x HDMI, 1 x VGA, 2 x RJ45, 1 x DB9, 1 x Mini-USB, 2 x USB Type A Internal I/O connector 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	External I/O Connector 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 Display port, 1 x VGA, 2 x RS232, 1 x RST Switch, 1 x Power Switch, 1 x Power LED , 1 x DIP SW Internal I/O 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
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
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)
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)
Dimension (L x W)	82mm x 50mm	146mm x 101mm	170mm x 170mm
Weight	0.06kg	0.13kg	0.024kg
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B

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

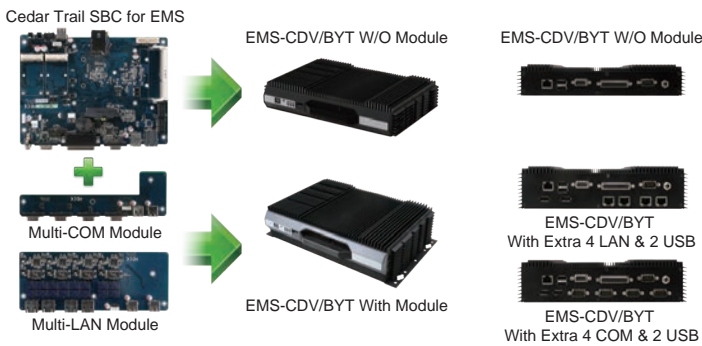


Expandable / Rugged System

Modularization



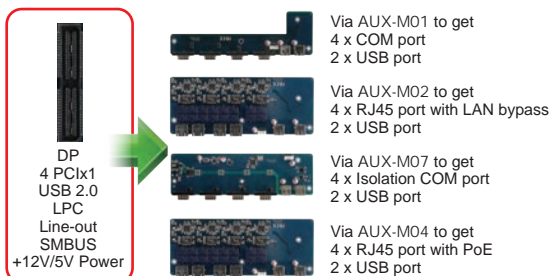
Modularization via IET Module



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

IET Module Pin Definition

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

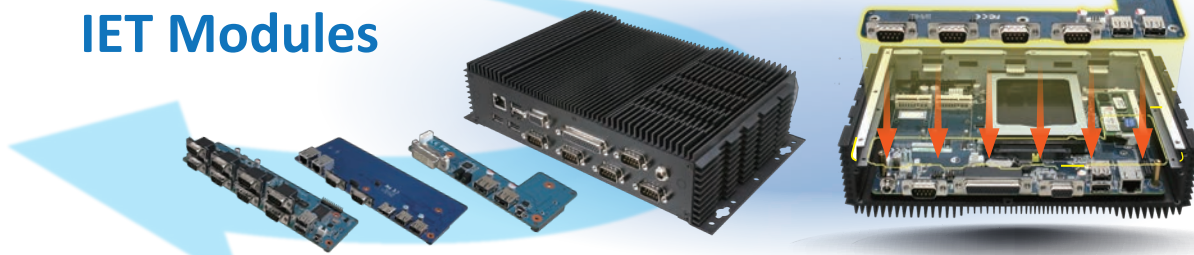


Rugged System

Model Number	EMS-SKLU
Board	EBM-SKLUS
Processor	6th Gen Intel® Core™ i7/i5/i3/ Celeron® processor
System Memory	1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB
Expansion	1 x Avalue 80-Pin IET Module Interface 1 x Mini PCIe 1 x M.2 (B-Key, 2242, 3042)
Storage	1 x 2.5" Drive Bay, 1 x M.2 (SATA)
USB	4 x USB 3.0
COM Port	2 x RS-232/422/485 (Jumper)
Other	2 x SIM Card Slot, 1 x SMBus, 2 x PS2/ KB & MS, 2 x Antenna mounting w/ cover
DIO	1 x 12bit GPIO
Display Chipset	Intel® Skylake SoC integrated Graphics
Display Resolution	DP: Max. resolution 4096 x 2304 @ 60Hz
Audio Chipset	Realtek ALC892 supports 2.1-CH
Audio Interface	Mic-In, Line-In, Line-Out
Ethernet Chipset	2 x Intel® I211AT
Ethernet Interface	2 x RJ45
Power Connector	3-Pin Terminal Block
Power Requirement	Typical +12 ~ +24Vdc (+9V ~ +32Vdv)
ACPI	Single Power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Optional AC-DC Adapter
Construction	Aluminum + Metal
Dimension (L x W x H)	9.45" x 5.96" x 1.77" (240 x 151.5 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)
Certification Information	CE, FCC Class A



Sophisticated Design IET Modules



AUX-M01

4COM Module
(4 x COM, 2 x USB)

+ EMS-SKLU EMS-BYT

Up to 6 x COM, 6 x USB



EBM-CDVS DB-A

DVI-D Module
(DVI-D + 2 x USB)

+ EMS-SKLU EMS-BYT

Up to 1 x DP, 1 x DVI-D,
6 x USB



AUX-M02

4LAN bypass Module
(4 x LAN, 2 x USB)

+ EMS-SKLU EMS-BYT

Up to 6 x LAN, 6 x USB



EBM-BYTS DB-A

HDMI Module
(HDMI, 2 x USB, 2 x COM,
2 x LAN)

+ EMS-SKLU EMS-BYT

Up to 1 x DP, 1 x HDMI,
4 x COM, 4 x LAN, 6 x USB



AUX-M03

8COM Isolation Module
(8 x COM, 2 x USB)

+ EMS-SKLU EMS-BYT

Up to 10 x COM, 6 x USB



EBM-BYTS DB-E

USB Module
(4 x USB 3.0, 3 x USB 2.0)

+ EMS-SKLU EMS-BYT

Up to 6 x COM, 6 x USB



AUX-M04

4LAN PoE 802.3af Module
(4 x LAN, 2 x USB)

+ EMS-SKLU EMS-BYT

Up to 6 x LAN, 6 x USB



EBM-BYTV DB-B

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

+ EMS-SKLU EMS-BYT

Up to 3 x mPCIe,
4 x SIM Slot





Fanless Compact System

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Embedded Fanless System - Fanless Compact System



Fanless Compact System					
Model Number	EPC-APL	EPC-BYT2	EPC-BSW	EPC-BYT	EPC-KA
Board	ECM-APL2	ECM-BYT2	ECM-BSW + AUX-032	ECM-BYT + AUX-032	ECM-KA + AUX-032
Processor	Intel® Pentium®/ Celeron® SoC Processor	Intel® Atom™/ Celeron® processor	Intel® Pentium®/ Celeron® SoC Processor	Intel® Atom™/ Celeron® processor	AMD G-Series processor
System Memory	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 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 Supports mSATA 1 x Half size Mini PCIe Supports Wi-Fi Module	2 x Mini PCIe	2 x Mini PCIe	1 x Mini PCIe	1 x Mini PCIe
Storage	1 x mSATA, 1 x 2.5" Drive Bay	1 x mSATA, 1 x 2.5" Drive Bay (7mm HDD Restricted)	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	4 x USB 3.0	3 x USB 2.0, 1 x USB 3.0	2 x USB 2.0, 4 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-232/422/485 (Jumper)	1 x RS-232/422/485	1 x RS-232/422/485, 4 x RS-232	3 x RS-232, 1 x RS-232/422/485	2 x RS-232
Other	2 x Knockouts for Antenna Mounting	2 x Knockouts for Antenna Mounting	1 x Knockouts for Antenna Mounting	1 x Knockouts for Antenna Mounting	1 x Knockouts for Antenna Mounting
Display Chipset	Intel® Apollo Lake SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	Intel® Braswell SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics	AMD SoC Integrated Graphics
Resolution	VGA: Max. resolution 1920x1200 @ 60Hz HDMI: Max. resolution 3840x2160 @ 30Hz	VGA: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz	HDMI: Max. resolution 1920x1080 @ 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 supports 5.1-CH	Realtek ALC892 supports 5.1-CH	Realtek ALC233 supports 2.1-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	Mic-In, Line-In and Line-Out
Ethernet Chipset	2 x Intel® I211AT	2 x Realtek 8111E	2 x Realtek 8119I	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 3.0 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)	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)	7" x 5.6" x 2.0" (178mm x 142mm x 50mm)
Operating Temperature	-10°C ~ 60°C (14°F ~ 140°F)	-10 ~ +45°C (w/mSATA & SSD), Ambient w/Air Flow 0 ~ 40°C (32 ~ 104°F) (w/ HDD), Ambient w/Air Flow	(w/SSD, mSATA, CF), 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, CF), 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, CF), 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)
Certification	CE, FCC Class B	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A

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	7th Gen Intel® Core™ i7/i5/i3/ Celeron® processor	4th Gen Intel® Core™ i7/i5/i3 processor	4th Gen Intel® Core™ i7/i5/i3 processor	3th Gen Intel® Core™ i7/i5/i3 processor	Intel® Atom™/ Celeron® processor
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 1333MHz 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® QM175 Chipset Integrated	Intel® QM87 Chipset Integrated Supports triple display	Intel® QM87 Chipset Integrated Supports triple display	Intel® QM77 Chipset Integrated Supports dual display	Intel® Valleyview SoC integrated Graphics
Display Resolution	HDMI: Max. resolution 4096x2160 @ 24Hz	VGA:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 3840x2160@ 24Hz DP:Max. resolution 1920x1200@ 60Hz	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	-10°C ~ 60°C (14°F ~ 140°F)	-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), 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 VM System

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Embedded Fanless System - Fanless VM System



Fanless VM System				
Model Number	HPC-BYT	VMS-BYT	EMS-SKLU-Marine	ERS-BYTE-10COM
Board	ESM-BYT2 + EAP-CE04 + HPC DB-A	EBM-BYTV	EBM-SKLUS	EBM-BYTS + AUX-M03
Processor	Intel® Atom™ processor	Intel® Atom™ processor	6th Gen Intel® Core™ i7/i5/i3/ Celeron® processor	Intel® Atom™/Celeron® 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	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	2 x Mini PCIe	1 x Avalue 80-Pin IET Interface 1 x Bluetooth Interface 1 x CAN module Interface 2 x Mini PCIe	1 x Avalue 80-Pin IET Interface 1 x Mini PCIe 1 x M.2 (B-Key, 2242, 2280)	2 x Mini PCIe
Storage	1 x CFast™, 1 x 2.5" Drive Bay (7mm HDD Restricted)	1 x 2.5" Drive Bay 1 x CFast™ or mSATA	1 x 2.5" Drive Bay, 1 x M.2 (SATA)	1 x 2.5" Drive Bay, 1 x mSATA
USB	3 x USB 2.0, 1 x USB 3.0	2 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
COM Port	6 x RS-232/422/485 (Can be set as RS-232/422/485 by BIOS)	2 x RS-232/422/485 (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
Other	3 x Knockouts for Antenna Mounting	1 x DC-Out (12V/4A), 5 x Knockouts for Antenna Mounting	2 x SIM Card Slot, 1 x SMBus, 2 x PS2/ KB & MS 2 x Antenna mounting w/ cover	1 x SIM Card Slot, 1 x SMBus, 1 x LPT Port, 1 x LVDS, 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	N/A	1 x 8bit GPIO	1 x 12bit GPIO	1 x 12bit GPIO
Display Chipset	Intel® Valleyview SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics Supports dual display	Intel® Skylake SoC integrated Graphics	Intel® Valleyview SoC integrated Graphics
Display Resolution	DP: Max. resolution 2560x1080 @ 60Hz DP: Max. resolution 2560x1080 @ 60Hz	VGA: Max. resolution 2560x1080 @ 60Hz LVDS: Max. resolution 1600x1200 @ 60Hz	DP: Max. resolution 4096x2304 @ 60Hz	VGA: Max. resolution 2560x1080 @ 60Hz LVDS: Max. resolution 1920x1080 @ 60Hz
Audio Chipset	Realtek ALC892	Realtek ALC892 supports 5.1-CH	Realtek ALC892 supports 2.1-CH	Realtek ALC892
Audio Interface	Line-In and Line-Out	2 x Mic-In and 2 x Line-Out	Mic-In, Line-In and Line-Out	Mic-In, Line-In and Line-Out
Ethernet Chipset	2 x Intel® I211AT	2 x Intel® I211AT	2 x Intel® I211AT	1 x Intel® I211AT
Ethernet Interface	2 x RJ45	2 x RJ45	2 x RJ45	1 x RJ45
Power Connector	Phoenix Connector	Phoenix Connector	3-Pin Terminal Block	Lockable DC Jack
Power Requirement	+12V ~ +48V	+9V ~ +36V	Typical 12/24Vdc (+9V ~ +36V) TVS component for surge protection	+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	Single power ATX Supports 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 (Industrial PC Power Mode)	AT/ATX (ATX is the default setting)	AT/ATX (ATX is default setting)
Adapter	Optional AC-DC Adapter		Optional	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter), AC-DC Adapter
Construction	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal
Dimension (L x W x H)	5.5" x 3.3" x 6.4" (140.7mm x 85mm x 163mm)	9.45" x 7.3" x 2.36" (240mm x 186mm x 60mm)	9.45" x 5.96" x 1.77" (240 x 151.5 x 45mm)	9.09" x 12.36" x 3.15" (231mm x 160mm x 80mm)
Operating Temperature	(w/SSD, mSATA, CF), ambient w/ air flow -40°C ~ 70°C (-40°F ~ 158°F) (w/HDD), ambient w/ air flow 0°C ~ 45°C (32°F ~ 113°F)	(w/SSD, mSATA, CFast), ambient w/ air flow -40°C ~ 75°C (-40°F ~ 167°F)	(w/SSD), ambient w/ air flow -20°C ~ 60°C (-4°F ~ 140°F) (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)
Certification Information	CE Heavy Industrial, FCC Heavy Industrial, UL	CE, FCC Class A, e13 Mark	CE, FCC Class A	CE, FCC Class B

Avalue Catalog 2017 Ver. 1.0



Transportation Signage:
Anti-vibration Wide Voltage
RDS-B3 series
Rugged High Performance Signage Player



Outdoor Interactive Signage:
IP65, Waterproof, SAW Touch
RDS-42W series
Fanless AIO System



Back Office
Digital Signage Content Server

RDS-CS30

High Performance Level 2U Content
Management Server



Advertising Signage:
IP65, Waterproof, SAW Touch
OPM-QM87
Open Pluggable Module Intel OPS Compliant Display

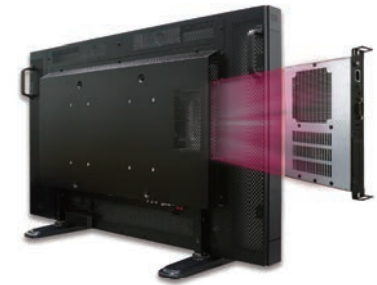


Store Information Signage:
Open Frame, High Brightness LCD
RDS-28W9
Spanpixel Panel PC

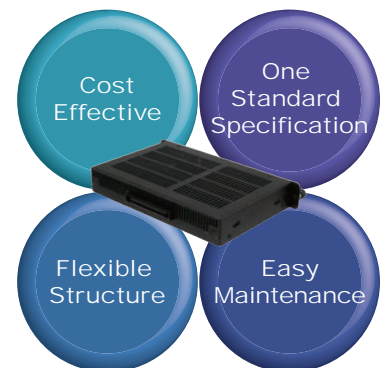
OPS Module



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



Open Pluggable Module
- Making Signage Smarter & Easier



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

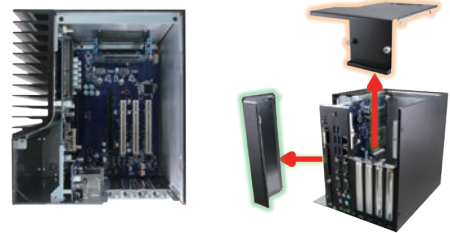
Expandable Fanless System



The 6th generation Intel® Core™ processor family

Fanless & Easy Maintenance

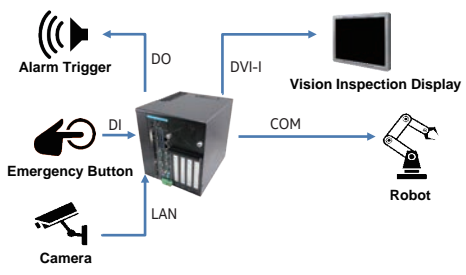
- No Cable No Trouble
- Easy To Install Any Device



Expansion - Avalue IET Module



Basic Application



Expandable Fanless System		
Model Number	SLP-SKL	SLP-SKLB
Processor	Intel® Core™ i7-6700TE Processor (4-Core, 2.4GHz) Intel® Core™ i5-6500TE Processor (4-Core, 2.3GHz) Intel® Core™ i3-6100TE Processor (2-Core, 2.7GHz)	Intel® 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)
System Chipset	Intel® Q170 Express Chipset	Intel® Q170 Express Chipset
System Memory	2 x 260-Pin DDR4 21333MHz SO-DIMM up to 32 GB	2 x 260-Pin DDR4 21333MHz SO-DIMM up to 32 GB
Expansion	1 x Mini PCI-e Supports mSATA 1 x PCI-ex16 3 x PCI	1 x Mini PCI-e Supports mSATA 1 x PCI-e x 8 2 x PCI-e x 4
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 Supports mSATA 2 x 2.5" Drive Bay support RAID 0,1 1 x CFast™
USB	6 x USB 3.0	6 x USB 3.0
COM Port	2 x RS-232 2 x RS-232/422/485	2 x RS-232 2 x RS-232/422/485
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 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
Display	Intel® 6th Generation CPU Integrated DP + DVI-I	Intel® 6th Generation CPU Integrated DP + DVI-I
Audio	Realtek ALC892 supports 5.1-CH Mic-In, Line-In and Line-Out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In and Line-Out
Ethernet	1 x Intel® I219LM, 1 x Intel® I210AT	1 x Intel® I219LM, 1 x Intel® I210AT
Power Connector	Phoenix Connector	Phoenix Connector
Power Requirement	Built-in 9-36 VDC wide-range DC input	Built-in 9-36 VDC wide-range DC input
Power Mode	ATX	ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 180W Adapter (24V @ 7.5A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 180W Adapter (24V @ 7.5A)
Operating Temperature	(w/industrial SSD, CFast), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)	(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)
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	200 x 225 x 218 mm
Weight	4.5 kg	4.5 kg



Embedded Computing System



Embedded Computing System

Model Number	EPC-BTCR	EPC-CHTR	ECS-BSW	ECS-APL	SEPC-BYT
Processor	Intel® Atom™ Processor Z3735F (2M Cache, up to 1.83 GHz)	Intel® Atom™ x5-Z8300 Processor (2M Cache, up to 1.84 GHz)	Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz)	Intel® Celeron® Apollo Lake® Processor	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)
System Memory	Onboard 2GB DDR3L Memory	Onboard 4 GB DDR3L Memory	1 x 204-pin DDR3L 1600MHz SO-DIMM, up to 8 GB (Default: 1 x 4GB DDR3L)	1 x 204-pin DDR3L 1600MHz SO-DIMM, up to 8 GB (Default: 1 x 4GB DDR3L)	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Expansion	N/A	N/A	1 x Full-Sized Mini PCI-e supports mSATA 1 x Half-Sized Mini PCI-e	1 x M.2 Key B 2242 supports SATA/PCI-ex1/USB interface & with Micro SIM card connector for SSD/3G/4G	1 x Mini PCI-e supports mSATA 1 x Mini PCI-e
Storage	1 x MicroSDXC™ Card slot Onboard 32GB eMMC	1 x MicroSDXC™ Card slot Onboard 32GB eMMC (Optional 64GB)	1 x Full-Sized Mini PCI-e supports mSATA 1 x 2.5" HDD/SSD Bracket	1 x 2.5" Drive Bay 1 x M.2 Key B 2242 supports SATA/SSD	1 x Mini PCI-e supports mSATA 1 x 2.5" Drive Bay Onboard 32GB eMMC
USB	3 x USB 2.0 1 x micro USB Client (Android only)	3 x USB 2.0 1 x USB 3.0	4 x USB 3.0 2 x USB 2.0	4 x USB 3.0 1 x USB 2.0	2 x USB 2.0 1 x USB 3.0
COM Port	1 x RS-232	N/A	5 x RS-232	6 x RS-232	1 x RS-232
Other	1 x Power on/off switch 1 x Power LED 1 x SMA connector (Optional) Wi-Fi Module support 1T/1R (Optional)	1 x Power on/off switch 1 x Power LED 1 x SMA connector (Optional) Wi-Fi Module support 1T/1R (Optional)	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 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	Intel® Atom™ SoC Integrated Graphics HDMI	Intel® Atom™ SoC Integrated Graphics HDMI	Intel® Atom™ Celeron® SoC Integrated Graphics VGA + HDMI	Intel® Celeron® SoC Integrated Graphics 2 x HDMI	Intel® Atom™/ Celeron® SoC Integrated Graphics VGA + HDMI
Audio	Realtek ALC5645 Line-Out	Line-out	Realtek ALC233 support 2.1-CH Mic-In and Line-Out	Realtek ALC892 Mic-In and Line-Out	Realtek ALC662 supports 2-CH Mic-In and Line-Out
Ethernet	1 x 10/100 Ethernet	1 x Gigabyte Ethernet	2 x Realtek RTL8119	2 x Intel I211AT	1 x Realtek RTL8111G
Power Connector	DC Jack	DC Jack	DC Jack (lockable)	DC Jack (lockable)	DC Jack
Power Requirement	+19V	+12V	+12V ~ +26V	+12V ~ +26V	+12V
Power Mode	AT	ATX	ATX	ATX	ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 65W Adapter (19V @ 3.4A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 36W Adapter (12V @ 3A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)
Operating Temperature	(w/ eMMC) ambient w/air flow 0°C ~ 40°C (32°F ~ 140°F)	(w/ eMMC) ambient w/air flow 0°C ~ 40°C (32°F ~ 140°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, M.2), ambient w/ air flow 0°C ~ 45°C (32°F ~ 113°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)
Storage Temperature	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°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	Aluminum + Metal
Mounting Kit	VESA/ Din rail/ Kensington lock (Optional)	VESA/ Din rail/ Kensington lock (Optional)	VESA/ Din rail/ Wall Mount (Optional)	VESA/ Din rail/ Wall Mount (Optional)	VESA/ Wall Mount (Optional)
Dimension (L x W x H)	147x 160 x 35 mm	147x 160 x 35 mm	180 x 126 x 68mm	180 x 126 x 68 mm	180 x 125 x 58 mm
Weight	0.5 kg	0.5 kg	1.5 kg	1.5 kg	1.2 kg

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

Industrial System

Extending expertise on industrial motherboards and industrial PC manufacturing, Avalue combines scalable motherboards and various chassis to provide customers numbers of MB-based systems.

Two key factors to develop Avalue's MB system is expansion and thermal design; for higher rugged/ harsh applications, better expansion and thermal design are required.

Mini ITX Fanless System



Mini ITX Fanless System

Model Number	BMX-T521-BSW	BMX-T521-BYT	BMX-T520-QM77	BMX-T522-APL	BMX-T523-Q170
Processor	Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz)	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)	Intel® Core™ i7-3610QE 4-Core 2.3GHz Intel® Core™ i5-3610ME 2-Core 2.7GHz Intel® Core™ i3-3120ME 2-Core 2.4GHz	Intel® Celeron® Apollo Lake® Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 85W)
System Chipset	N/A	N/A	Intel® QM77 Express Chipset	N/A	Intel® Q170 Chipset
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 DDR3 1333/1600MHz SO-DIMM up to 16 GB	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 Supports up to 32GB
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 Mini PCI-e 1 x PCI-ex16	1 x full size Mini PCI-e socket supports mSATA 1 x M.2 Key A 2230 Supports WiFi Module	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
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 3.5" or 2 x 2.5" Drive Bay 1 x CFast™	1 x SD card slot support SD/SDHC Card 2 x 2.5" Drive Bay	2 x 2.5"HDD/SSD Drive Bay
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 2.0, 4 x USB 3.0	6 x USB 2.0, 4 x USB 3.0
COM Port	5 x RS232 (pin9 with power) 1 x RS232/422/485	5 x RS232 (pin9 with power) 1 x RS232/422/485	3 x RS-232	5 x RS232 (pin9 with power) 1 x RS232/422/485	5 x RS232 (pin9 with power) 1 x RS232/422/485
Other	1 x PS/2 Keyboard or Mouse	1 x SIM Card Slot 2 x SMA Connector (Optional)	1 x PS/2 Keyboard 1 x PS/2 Mouse 2 x SMA Connector (Optional)	1 x SIM Card Slot 2 x SMA Connector (Optional)	2 x SMA Connector (Optional) 1 x PS/2 Keyboard & Mouse Combo Jack
Display	Intel® Atom™/ Celeron® SoC Integrated Graphics VGA + HDMI	Intel® Atom™/ Celeron® SoC Integrated Graphics VGA + HDMI	Intel® 2nd/3rd Generation CPU Integrated Graphics VGA + HDMI + DVI-D	Intel® Atom™/ Celeron® SoC Integrated Graphics DP/HDMI + DP++	Intel® 6th Generation CPU Integrated VGA + HDMI + DP
Display Resolution	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz	VGA: 2560 x 1600 @ 60 Hz HDMI: 1920 x 1200 @ 60Hz	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz DVI: 1920 x 1200 @ 60Hz	DP++: 4096 x 2304 @ 30Hz DP/HDMI: 3840 x 2160 @ 30Hz	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 60 Hz DP: 4096 x 2304 @ 60Hz
Audio	Realtek ALC662 supports 2-CH Mic-In and Line-Out	Realtek ALC662 supports 2-CH Mic-In and Line-Out	Realtek ALC892 supports 5.1-CH Mic-In, Line-In and Line-Out	Realtek ALC662 supports 2-CH Mic-In and Line-Out	Realtek ALC892 HD Audio Decoding Controller with 6W Amplifier
Ethernet	2 x Intel® I211AT	2 x Intel® I211AT	1 x Intel® 82583V 1 x Intel® 82579LM	2 x Intel® I211AT	1 x Intel® I219LM 1 x Intel® I211AT
Power Connector	DC Jack (lockable)	DC Jack (lockable)	Phoenix Connector DC Jack (lockable)	DC Jack (lockable)	Power Din Jack
Power Requirement	+12V	+12V	+12V	+12V	DC in 18~28V via power converter
Power Mode	ATX	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) Optional	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 120W Adapter (19V @ 6.3A)
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), ambient w/ air flow; i7 -10°C ~ 50°C (14°F ~ 122°F) (w/SSD), ambient w/ air flow; i5/i3/Celeron -10°C ~ 60°C (14°F ~ 140°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/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
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)	-40°C ~ 75°C (-40°F ~ 167°F)
Construction	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal
Mounting Kit	VESA/ Din rail/ Wall Mount (Optional)	VESA/ Din rail/ Wall Mount (Optional)	Wall Mount kit (Standard)	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	353 x 230 x 99 mm	180 x 182 x 76 mm	215 x 246 x 111.8 mm



Mini ITX Fanless 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	Intel® 4th Generation CPU integrated VGA, HDMI, DVI-D	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	Intel® 6th Generation CPU integrated 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

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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

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Rackmount System and Mini Sever

Model Number	BAX-R1U0-H110	BAX-R1U4S-C226	BAX-R2U8S-C226
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i5/ i3/ Xeon®, Pentium® and Celeron® Processors	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i5/ i3/ Xeon®, Pentium® and Celeron® Processors
System Memory	2 x 288-pin DDR4 2133MHz DIMM up to 32 GB	4 x 240-Pin DDR3 1333/1600 MHz DIMM up to 32 GB	4 x 240-Pin DDR3 1333/1600 MHz 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)	4 x Low profile expansion slots
Display	Intel® 6th Generation CPU integrated HDMI + VGA, HDMI + DP, VGA + DP	Intel® 4th Generation CPU Integrated DP + VGA + DVI	Intel® 4th Generation CPU Integrated DP + VGA + DVI
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
Ethernet	1 x Intel® I219LM 1 x Intel® I211AT	1 x Intel® I217LM 1 x Intel® I210AT	1 x Intel® I217LM 1 x Intel® I210AT
USB	4 x USB 3.0 2 x USB 2.0	2 x USB 2.0 4 x USB 3.0	2 x USB 2.0 4 x USB 3.0
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-Q170	BAX-R2U0-Q170	BAX-R4U0-Q170	BMX-P54S-Q170
Processor	Intel® LGA1151 Socket Supports 6th 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 6th 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 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)	4 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	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
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

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

Rugged Touch Panel PC - LPC Series



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		
OS Information	Win 7, Win 8.1, Win 10, Linux		Win 7, Win 8.1, Win 10, Linux		



LPC Series

Model Number	LPC-1231	LPC-1531	LPC-1232	LPC-1532
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	1024x768	1024x768
Pixel pitch	0.240mm(H) x 0.240mm(V)	0.297mm(H) x 0.297mm(V)	0.240mm(H) x 0.240mm(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	70 (U), 70 (D), 80 (L), 80 (R)	70 (U), 70 (D), 80 (L), 80 (R)	70 (U), 70 (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	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)
Processor	Intel® Pentium®/Celeron® processor		6th Gen Intel® Core™ i5-6300U, 2-Core, 2.4GHz processor	
System Memory	1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB		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		1 x Mini PCIe Support mSATA 1 x Mini PCIe Supports SIM Card	
Storage	1 x 2.5" Drive Bay 1 x Onboard eMMC (32G reserved)		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, 1 x Knockouts for Antenna Mounting		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® Braswell SoC integrated Graphics Supports dual display		Intel® Skylake SoC integrated Graphics Supports dual display	
Audio	Realtek ALC233, Line-Out 2 x 1W speaker out for LPC-1531		Realtek ALC233, Line-Out 2 x 1W speaker out for LPC-1532	
Ethernet	2 x Realtek RTL8119		1 x Intel® I210AT, 1 x Intel® I219LM	
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	283 x 222 x 45mm	350 x 273.9 x 53.1mm	283 x 222 x 45mm	350 x 273.9 x 53.1mm
Weight	2.84kg	4.2kg	2.84kg	4.2kg
Operating 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)
Storage Temperature	-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)
Certification	CE, FCC Class B		CE, FCC Class B	
OS Information	Win 7, Win 8, Linux		Win 7, Win 8.1, Win 10, Linux	



Multi-function Touch Panel PC - FPC Series

Scalable System

Key-Parts Selection

Options & Customization



FPC Series

Model Number	FPC-08W29	FPC-17L08	FPC-21W08
LCD Size	8"	17", 4:3	21.5"
Display Type	WSVGA	SXGA	Full HD
Resolution	1024 x 600	1280 x 1024	1920 x 1080
Pixel Pitch	0.1725 mm (W) x 0.1656 mm (H)	0.264mm (H) x 0.264mm (V)	0.248mm (H) x 0.248mm (V)
Luminance	500 cd/m ²	350 cd/m ²	250 cd/m ²
Contrast Ratio	700	800	1000
Viewing Angle	70 (U), 75 (D), 75 (L), 75 (R)	80 (U), 80 (D), 85 (L), 85 (R)	80 (U), 80 (D), 85 (L), 85 (R)
Response Time	20 ms	30 ms	5 ms
Backlight	LED	LED	LED
Touch Type	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive
Touch Light Transmission	80 %	80 %	80 %
Touch Controller	Onboard USB touch (PenMount)	USB touch (EETI)	USB touch (EETI)
SBC	ECM-BYT	EMX-Q87	EMX-Q87
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor	4th Gen Intel® Core™ i3-4330TE 2-Core 2.4GHz 4th Gen Intel® Core™ i5-4570TE 2-Core 2.7GHz	4th Gen Intel® Core™ i3-4330TE 2-Core 2.4GHz 4th Gen Intel® Core™ i5-4570TE 2-Core 2.7GHz
System Chipset	Intel® Valleyview SoC	Intel® Q87 Chipset	Intel® Q87 Chipset
I/O Chipset	Nuvoton W83627DHG-P	Nuvoton NTC6106D	Nuvoton NTC6106D
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB	2 x 204-Pin DDR3 1333/1600MHz SO-DIMM up to 16 GB	2 x 204-Pin DDR3 1333/1600MHz SO-DIMM up to 16 GB
Expansion	1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports mSATA
Storage	1 x CompactFlash Type I/II Socket (CF-SATA optional)	1 x 2.5" Drive Bay	1 x 2.5" Drive Bay
I/O	3 x USB 2.0, 1 x USB 3.0 1 x RS-232/422/485, 1 x RS-232	1 x USB 2.0, 4 x USB 3.0 1 x RS-232/422/485, 2 x RS-232, 1 x WiFi	1 x USB 2.0, 4 x USB 3.0 1 x RS-232/422/485, 2 x RS-232, 1 x WiFi
Display Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display	Intel® Q87 Chipset Integrated Supports triple display	Intel® Q87 Chipset Integrated Supports triple display
Display Resolution	VGA: Max. resolution 2560x1080 @ 60Hz HDMI: Max. resolution 1920x1200 @ 60Hz	DP: Max. resolution 1920x1200 VGA: Max. resolution 2048x1536 HDMI: Max. resolution 1920x1200	DP: Max. resolution 1920x1200 VGA: Max. resolution 2048x1536 HDMI: Max. resolution 1920x1200
Audio	Realtek ALC892 Support 5.1-CH Mic-In and Line-Out	Realtek ALC892 Support 5.1-CH Mic-In, Line-In and Line-Out 2 x 2W Speaker Output	Realtek ALC892 Support 5.1-CH Mic-In, Line-In and Line-Out 2 x 2W Speaker Output
Ethernet	2 x Intel® I211AT	1 x Intel® I211AT, 1 x Intel® I217LM	1 x Intel® I211AT, 1 x Intel® I217LM
Power Type	AT/ATX (ATX is default setting) Lockable DC Jack, +12V ~ +26V (12V @ 5A Adapter)	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)
Construction (Front, Rear)	Metal, Aluminum + Metal	Black, Black	Black, Black
Dimension	225 x 129 x 43.4mm	387.5 X 346 X 76.6mm	526 X 346.5 X 80.4mm
Weight	1.27Kgs	6.14Kgs	7.32Kgs
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	-10°C ~ 50°C (14°F ~ 122°F)	-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	CE, FCC Class B
OS Information	Win 8, Win 7, Linux	Win 7, Win 8	Win 7, Win 8



ALL-in-One Panel PC - CPC Series



Standard Bundle
Tilt VESA Stand



Option
L VESA Stand

All-in-One Panel PC

Model Number	CPC-2101	CPC-2102	CPC-2103	CPC-2104
LCD Size	21.5", 16:9	21.5", 16:9	21.5", 16:9	21.5", 16:9
Resolution, Display Type	1920 x 1080, Full HD	1920 x 1080, Full HD	1920 x 1080, Full HD	1920 x 1080, Full HD
Pixel Pitch	0.24795 (H) x 0.24795 (V)	0.24795 (H) x 0.24795 (V)	0.24795 (H) x 0.24795 (V)	0.24795 (H) x 0.24795 (V)
Luminance	250 cd/m ²	250 cd/m ²	250 cd/m ²	250 cd/m ²
Contrast Ratio	3000	3000	3000	3000
Viewing Angle	(H) 178, (V) 178	(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 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	Intel® Celeron® Apollo Lake® Processor
System Memory	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 2GB DDR4)	2 x 204-pin DDR3L 1600/1333 MHz SO-DIMM supports up to 16GB (Default: 1 x 2GB DDR3L)
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	1 x full size Mini PCI-e supports mSATA (w/ 1 x SIM card slot) 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 3.0, 2 x USB 2.0 1 x USB 2.0 (Optional)	4 x USB 3.0, 2 x USB 2.0	4 x USB 3.0, 2 x USB 2.0
COM Port	1 x RS232/422/485, 3 x RS232 (Optional)	1 x RS232 (Optional)	3 x RS232 (Optional)	3 x RS232 (Optional)
Other	1 x HDMI, 1 x VGA	1 x HDMI, 1 x VGA	1 x DP++, 1 x HDMI/DP	1 x DP++, 1 x HDMI/DP
Display Chipset	Intel® Atom™/ Celeron® SoC integrated Graphics	Intel® Atom™/ Celeron® SoC integrated Graphics	Intel® HD Graphics 520	Intel® Atom™/ Celeron® SoC integrated Graphics
Display Resolution	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	HDMI: 3840 x 2160 @ 30 Hz DP: 4096x2160 @ 60Hz LVDS: 1920 x 1080 @ 60Hz
Audio	Realtek ALC662	Realtek ALC662	Realtek ALC892	Realtek ALC662
Audio Interface	Mic-In, Line-Out and S/PDIF	Mic-in, Line-out	Mic-in, Line-out, 1 S/PDIF	Mic-in, Line-out, 1 S/PDIF
Ethernet	2 x Intel® i211AT	1 x RealTek RTL8111F	1 x Intel® I219LM, 1 x Intel® I211AT	2 x Intel I211AT
Power Connector	DC Jack, +12V	DC Jack, +12V	DC Jack, +12V	DC Jack, +12V
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)
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	528 x 345 x 62 mm	528 x 345 x 62 mm	528 x 345 x 62 mm	528 x 345 x 62 mm
Weight	9.48 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	Win7, Win8, Win10	Win7, Win8, Win10	Win10, Linux	Win10, Linux

Multi-touch Solution - APC/BFC Series

In order to provide our clients with dynamic touch solutions, Avalue is now introducing new multi-touch solutions in two product lines including APC and BFC. Integrated with Windows 7, our multi-touch solution is driver-free and gives better touch consistency. With its improved interactivity, our multi-touch panel PC will help clients reduce costs and greatly increase customer satisfaction.



APC Series	
Model Number	APC-18W9
LCD Size	18.5"
Display Type	WXGA
Resolution	1366 x 768
Pixel Pitch	0.300mm (H) x 0.300mm (V)
Luminance	300 cd/m ²
Contrast Ratio	1000
Viewing Angle	80 (U), 80 (D), 85 (L), 85 (R)
Response Time	5 ms
Backlight	LED
Touch Type	Projective Capacitive
Touch Light Transmission	91 %
Touch Controller	USB touch (EETI)
SBC	EBM-BYT
Processor	Intel® Celeron® J1900 4-Core 2.0GHz
System Chipset	Intel® Valleyview SoC
I/O Chipset	EC ITE IT8528E
System Memory	1 x 204-Pin DDR3L 1066/1333MHz SO-DIMM up to 8 GB
Expansion	1 x Mini PCIe 1 x Mini PCIe Supports mSATA
Storage	1 x CompactFlash Type I/II Socket 1 x 2.5" Drive Bay
USB	1 x USB 2.0, 1 x USB 3.0
COM Port	1 x RS-232/422/485
Other	n/a
Display Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display
Display Resolution	HDMI: Max. resolution 1920x1200 @ 60Hz
Audio	Realtek ALC892 Support 5.1-CH
Audio Interface	Line-Out
Ethernet	2 x Intel® I211AT
Power Connector	Lockable DC Jack, +12V ~ +26V
Power Type	AT/ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)
Construction (Front, Rear)	Black Coverlens, Black
Dimension	443 x 290 x 59mm
Weight	4.54Kgs
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	-10°C ~ 50°C (14°F ~ 122°F)
Certification	CE, FCC Class B
OS Information	Win 7, Win 8, Linux

BFC Series		
Model Number	BFC-1033	BFC-1533
LCD Size	10.1"	15", 4:3
Display Type	WSVGA	XGA
Resolution	1024 x 600	1024 x 768
Pixel Pitch	0.2175 (H) x 0.2088 (V)	0.297mm (H) x 0.297mm (V)
Luminance	350 cd/m ²	400 cd/m ²
Contrast Ratio	500	700
Viewing Angle	70 (U), 70 (D), 70 (L), 70 (R)	60 (U), 80 (D), 80 (L), 80 (R)
Response Time	16 ms	8 ms
Backlight	LED	LED
Touch Type	Projective Capacitive	Projective Capacitive
Touch Light Transmission	86 %	88 %
Touch Controller	USB touch (EETI)	USB touch (EETI)
SBC	ECM-APL	EBM-APL
Processor	Intel® Pentium®/Celeron®/Atom™	Intel® Pentium®/Celeron®/Atom™
System Chipset	Intel® Apollo SoC integrated	Intel® Apollo SoC integrated
I/O Chipset	EC ITE IT8528E	EC ITE IT8528E
System Memory	1 x 204-Pin DDR3L 1866MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3L 1866MHz SO-DIMM up to 8 GB
Expansion	1 x Mini PCIe, 1 x M.2 (B-Key, 2242)	1 x Mini PCIe, 1 x M.2 (B-Key, 2242)
Storage	1 x mSATA, 1 x 2.5" Drive Bay	1 x M.2 (SATA), 1 x 2.5" Drive Bay
USB	4 x USB 3.0, 1 x USB 2.0	4 x USB 3.0
COM Port	1 x RS-232, 1 x RS-232/422/485	2 x RS-232/422/485
Other	1 x SATA III, 2 x HDMI Output	
Display Chipset	Integrated Gen9 LP Graphics	Integrated Gen9 LP Graphics
Display Resolution	Dual HDMI: Max. resolution 3840x2160 @ 30Hz	HDMI: Max. resolution 3840x2160 @ 30Hz
Audio	Realtek ALC892 Support 5.1-CH	Realtek ALC892 Support 5.1-CH
Audio Interface	Mic-In and Line-Out	Line-Out
Ethernet	2 x Intel® I211AT, 2 x 2W Speaker Output	2 x Intel® I211AT
Power Connector	Lockable DC Jack, +12V ~ +26V	Lockable DC Jack, +12V ~ +26V
Power Type	AT/ATX	AT/ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)
Construction (Front, Rear)	Metal + Plastic, Black	Silver Aluminum, Black
Dimension	252.2 x 154.7 x 48.85mm	350 x 274 x 53.5mm
Weight	1.6kg	4.2kg
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	Win 8.1, Win 10, Linux	Win 10, Linux



BFC Series				
Model Number	BFC-10W9	BFC-1509	BFC-15W9	BFC-1709
LCD Size	10.1"	15", 4:3	15.6"	17", 4:3
Display Type	WSVGA	XGA	WXGA	SXGA
Resolution	1024 x 600	1024 x 768	1366 x 768	1280 x 1024
Pixel Pitch	0.2175 (H) x 0.2088 (V)	0.297mm (H) x 0.297mm (V)	0.252mm (H) x 0.252mm (V)	0.264mm (H) x 0.264mm (V)
Luminance	200 cd/m ²	400 cd/m ²	300 cd/m ²	350 cd/m ²
Contrast Ratio	350	700	500	800
Viewing Angle	70 (U), 70 (D), 70 (L), 70 (R)	70 (U), 70 (D), 80 (L), 80 (R)	80 (U), 80 (D), 80 (L), 80 (R)	80 (U), 80 (D), 85 (L), 85 (R)
Response Time	16 ms	8 ms	8 ms	30 ms
Backlight	LED	LED	LED	LED
Touch Type	Projective Capacitive	Projective Capacitive	Projective Capacitive	Projective Capacitive
Touch Light Transmission	86 %	88 %	88 %	88 %
Touch Controller	USB touch (EETI)	USB touch (EETI)	USB touch (EETI)	USB touch (EETI)
SBC	ECM-BYT	EBM-BYT	EBM-BYT	EBM-BYT
Processor	Intel® Celeron® J1900 4-Core 2.0GHz	Intel® Celeron® J1900 4-Core 2.0GHz	Intel® Celeron® J1900 4-Core 2.0GHz	Intel® Celeron® J1900 4-Core 2.0GHz
System Chipset	Intel® Valleyview SoC	Intel® Valleyview SoC	Intel® Valleyview SoC	Intel® Valleyview SoC
I/O Chipset	EC ITE IT8528E	EC ITE IT8528E	EC ITE IT8528E	EC ITE IT8528E
System Memory	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 DDR3L 1333MHz SO-DIMM up to 8 GB	1 x 204-Pin DDR3L 1066/1333MHz SO-DIMM up to 8 GB
Expansion	1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports mSATA	1 x Mini PCIe Supports mSATA
Storage	1 x CompactFlash Type I/II Socket 1 x 2.5" Drive Bay	1 x CompactFlash Type I/II Socket 1 x 2.5" Drive Bay	1 x CompactFlash Type I/II Socket 1 x 2.5" Drive Bay	1 x CompactFlash Type I/II Socket 1 x 2.5" Drive Bay
USB	3 x USB 2.0, 1 x USB 3.0	1 x USB 2.0, 1 x USB 3.0	1 x USB 2.0, 1 x USB 3.0	1 x USB 2.0, 1 x USB 3.0
COM Port	1 x RS-232, 1 x RS-232/422/485	1 x RS-232/422/485	1 x RS-232/422/485	1 x RS-232/422/485
Other	HDMI output	HDMI output	HDMI output	HDMI output
Display Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display	Intel® Valleyview SoC integrated Graphics Supports dual display	Intel® Valleyview SoC integrated Graphics Supports dual display	Intel® Valleyview SoC integrated Graphics Supports dual display
Display Resolution	HDMI: Max. resolution 1920x1200 @ 60Hz	HDMI: Max. resolution 1920x1200 @ 60Hz	HDMI: Max. resolution 1920x1200 @ 60Hz	HDMI: Max. resolution 1920x1200 @ 60Hz
Audio	Realtek ALC892 Support 5.1-CH	Realtek ALC892 Support 5.1-CH	Realtek ALC892 Support 5.1-CH	Realtek ALC892 Support 5.1-CH
Audio Interface	Mic-In and Line-Out	Line-Out	Line-Out	Line-Out
Ethernet	2 x Intel® I211AT	2 x Intel® I211AT	2 x Intel® I211AT	2 x Intel® I211AT
Power Connector	Lockable DC Jack, +12V ~ +26V	Lockable DC Jack, +12V ~ +26V	Lockable DC Jack, +12V ~ +26V	Lockable DC Jack, +12V ~ +26V
Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)
Construction (Front, Rear)	Metal+Plastic Black	Silver Aluminum, Black	Silver Aluminum, Black	Silver Aluminum, Black
Dimension	252.2 x 154.7 x 48.85mm	350 x 274 x 53.5mm	385.3 x 240.3 x 55.5mm	384.5 x 317 x 59.5mm
Weight	1.6kg	4.2kg	4.2kg	5.2kg
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)
Certification	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	Win 7, Win 8, Linux	Win 7, Win 8, Linux	Win 7, Win 8, Linux

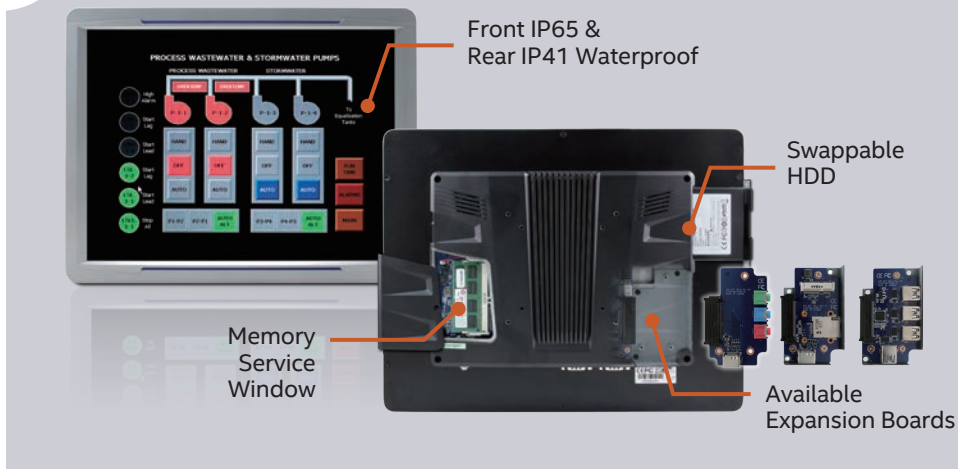


Modularized / Rugged Panel PC - ARC Series



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	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 (PenMount)	Onboard USB touch (PenMount)	Onboard USB touch (PenMount)	Onboard USB touch (PenMount)
SBC	ARC-APL			
Processor	Onboard Intel® Apollo Lake-I/M processor			
System Chipset	N/A			
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			
Audio	Realtek ALC892			
Audio Interface	2 x 1W Speaker Out			
Ethernet	2 x Intel® I210IT			
Power Connector	Lockable DC Jack, +12V ~ +26V			
Power Type	AT/ATX (ATX is default setting)			
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)			
Construction (Front, Rear)	Silver Aluminum, Black			
Operating Temperature	-20°C ~ 60°C (-4°F ~ 140°F)			
Storage Temperature	-30°C ~ 70°C (-22°F ~ 158°F)			
Certification	CE, FCC Class B			
OS Information	Win 10, Linux			
Dimension	TBD	284 x 223 x 46mm	350 x 274 x 49.8mm	350 x 273.9 x 53.1mm
Weight	TBD	2.4kg	3.7kg	TBD



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)	0.240mm (H) x 0.240mm (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	70 (U), 70 (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	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive
Touch Light Transmission	80 %	80 %	80 %	80 %
Touch Controller	Onboard USB touch (PenMount)	Onboard USB touch (PenMount)	Onboard USB touch (PenMount)	Onboard USB touch (PenMount)
SBC	ARC-SKLU		ARC-BYT	
Processor	6th Gen Intel® Core™ i5-6300U, 2-Core, 2.4GHz processor		Intel® Atom™ E3845 4-Core 1.91GHz processor	
System Chipset	N/A		N/A	
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 (Factory Optional), 1 x RS-232		1 x RS-232/422/485 (Factory Optional), 1 x RS-232	
Other	1 x WiFi (Option), 3 x Knockouts for Antenna Mounting		1 x WiFi (Option), 3 x Knockouts for Antenna Mounting	
Display Chipset	Intel® 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		HDMI: Max. resolution 1920 x 1200 @ 60Hz	
Audio	Realtek ALC892		Realtek ALC892	
Audio Interface	2 x 1W Speaker Out		2 x 1W 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)		-30°C ~ 60°C (-22°F ~ 140°F)	
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)		-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, 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



SPC Series

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

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Modularized / Rugged Panel PC - SPC Series

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 Series			
Model Number	SPC-1533	SPC-1733	SPC-2133
LCD Size	15", 4:3	17", 4:3	22"
Display Type	XGA	SXGA	WSXGA
Resolution	1024 x 768	1280 x 1024	1680 x 1050
Pixel Pitch	0.297mm (H) x 0.297mm (V)	0.264mm (H) x 0.264mm (V)	0.282mm (H) x 0.282mm (V)
Luminance	400 cd/m ²	350 cd/m ²	250 cd/m ²
Contrast Ratio	700	800	1000
Viewing Angle	70 (U), 70 (D), 80 (L), 80 (R)	80 (U), 80 (D), 85 (L), 85 (R)	80 (U), 80 (D), 85 (L), 85 (R)
Response Time	16 ms	30 ms	5 ms
Backlight	LED	LED	LED
Touch Type	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive
Touch Light Transmission	80 %	80 %	80 %
Touch Controller	Onboard USB touch (EETI)	Onboard USB touch (EETI)	Onboard USB touch (EETI)
SBC	EBM-BYT		
Processor	Intel® Celeron® J1900 2.0GHz/ Atom™ E3845 4-Core 1.91GHz 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	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		
Display Resolution			
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		
Dimension	371 x 308 x 63.6mm	405 x 353 x 66.6mm	546 x 378 x 69mm
Weight	6.42kg	7.5kg	9kg



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	EBM-BYT	EBM-BYT	EBM-BYT
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor/ Intel® Celeron® J1900 2.0GHz processor	Intel® Atom™ E3845 4-Core 1.91GHz processor/ Intel® Celeron® J1900 2.0GHz processor	Intel® Atom™ E3845 4-Core 1.91GHz processor/ Intel® Celeron® J1900 2.0GHz processor	Intel® Atom™ E3845 4-Core 1.91GHz processor/ Intel® Celeron® J1900 2.0GHz processor
System Chipset	Intel® Valleyview SoC	Intel® Valleyview SoC	Intel® Valleyview SoC	Intel® Valleyview SoC
I/O Chipset	EC ITE IT8528E	EC ITE IT8528E	EC ITE IT8528E	EC ITE IT8528E
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	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 Supports SIM Card	1 x Mini PCIe Support mSATA 1 x Mini PCIe Supports SIM Card	1 x Mini PCIe Support mSATA 1 x Mini PCIe Supports SIM Card	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	1 x CompactFlash Type I/II Socket 1 x 2.5" Drive Bay	1 x CompactFlash Type I/II Socket 1 x 2.5" Drive Bay	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	1 x RS-232	1 x RS-232	1 x RS-232
Other	1 x SATA II, 1 x WiFi	1 x SATA II, 1 x WiFi	1 x SATA II, 1 x WiFi, 1 x RJ45	1 x SATA II, 1 x WiFi, 1 x RJ45
Display Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display	Intel® Valleyview SoC integrated Graphics Supports dual display	Intel® Valleyview SoC integrated Graphics Supports dual display	Intel® Valleyview SoC integrated Graphics Supports dual display
Audio	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
Audio Interface	2 x 5W Speaker Output	2 x 5W Speaker Output	2 x 5W Speaker Output	2 x 5W Speaker Output
Ethernet	1 x Intel® I210IT	1 x Intel® I210IT	1 x Intel® I210IT	1 x Intel® I210IT
Power Connector	Waterproof DC Jack, +12V ~ +26V	Waterproof DC Jack, +12V ~ +26V	Waterproof DC Jack, +12V ~ +26V	Waterproof DC Jack, +12V ~ +26V
Power Type	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 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (24V @ 2.5A Adapter) AC-DC Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (24V @ 2.5A Adapter) AC-DC Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (24V @ 2.5A Adapter) AC-DC Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (24V @ 2.5A Adapter) AC-DC Adapter
Construction (Front, Rear)	Front & Rear Silver Stainless, Black	Front & Rear Silver Stainless, Black	Front & Rear Silver Stainless, Black	Front & Rear Silver Stainless, Black
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	-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)
Certification	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A
OS Information	Win10, Linux	Win10, Linux	Win10, Linux	Win10, Linux
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



Healthcare Computing - HID/ AID Series

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Healthcare Computing - HID/ AID Series



HID-2132

21.5" Multi-touch Medical Panel PC
IP65 and Slim Fanless design

Excellent System Performance

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

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

Rich I/O Ports

- 4 x USB3.0/ 1 x RS-232/422/485/ 1 x RS232/ 2 x GLAN
- Isolated USB/ COM/ LAN ports

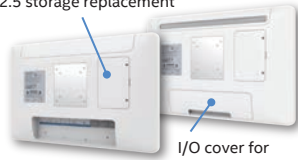


Equipotential port Isolation Ports: COM/ GLAN/ USB

Easy Maintenance

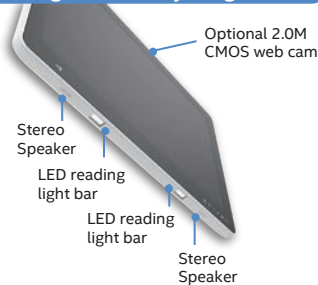
- Fan-less Operation Design
- Optional SCR/MSR/Wifi/BT module
- Optional internal backup battery module

Service windows for 2.5 storage replacement



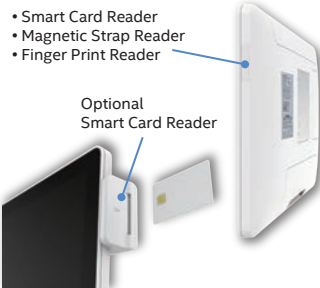
I/O cover for cable arrangement

Designed for easy usage



Reserve Enhance Space

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



Optional Smart Card Reader

HID Series

Model Number	HID-2132
LCD Size	21.5"
Display Type	Full HD
Resolution	1920 x 1080
Pixel Pitch	248.25um (H) x248.25um (V)
Luminance	250 cd/m ²
Contrast Ratio	5000
Viewing Angle	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	18 ms
Backlight	LED
Touch Type	Projective Capacitive
Touch Light Transmission	89%
Touch Controller	USB touch (EETI)
SBC	ARC-SKLU
Processor	Intel® Core™ i7/ i5/ i3/ Celeron® Processor
System Chipset	Intel® Skylake U SoC integrated
I/O Chipset	EC ITE IT8518E
System Memory	1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16GB
Expansion	1 x Mini PCIe
Storage	1 x 2.5" Drive Bay, 1 x mSATA
USB	4 x USB 3.0, 1 x Isolation USB 1.1
COM Port	1 x RS232/422/485, 1 x RS232, 1 x Isolation RS-232/422/485
Other	1 x Equipotential port, Infineon TPM2.0, 2 x LED Reading light bar
Display Chipset	Intel® Skylake SoC integrated Graphics Supports dual display
Display Resolution	LVDS: Max. resolution 1920x1080 @ 60Hz
Audio	Realtek ALC892 supports 5.1-CH
Audio Interface	Line-Out, 2 x 0.5W Speaker Output
Ethernet	1 x Intel® I211AT, 1 x Intel® I219LM, 1 x Isolation Intel® I210AT
Power Connector	Lockable DC Jack, +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
Finishing	Anti-microbial
Dimension	539.6 x 342.6 x 45.5 mm
Weight	6.3kg
Certification	CE, FCC Class B, UL 60601-1 4th edition



AID Series

Model Number	AID-173SHR	AID-173SHW	AID-173M
LCD Size	17.3"	17.3"	17.3"
Display Type	Full HD	Full HD	Full HD
Resolution	1920 x 1080	1920 x 1080	1920 x 1080
Pixel Pitch	0.1989 (H) x 0.1989 (V) mm	0.1989 (H) x 0.1989 (V) mm	0.1989 (H) x 0.1989 (V) mm
Luminance	300 cd/m ²	300 cd/m ²	300 cd/m ²
Contrast Ratio	500~650	500~650	500~650
Viewing Angle	Horizontal 60-70; Vertical 50-60 Deg.	Horizontal 60-70; Vertical 50-60 Deg.	Horizontal 60-70; Vertical 50-60 Deg.
Response Time	TR 2-8 ms; TF 6-12 ms	TR 2-8 ms; TF 6-12 ms	TR 2-8 ms; TF 6-12 ms
Backlight	LED	LED	LED
Touch Type	5-Wire Resistive	5-Wire Resistive & Projective Capacitive	5-Wire Resistive
Touch Light Transmission	80% +/- 3%	80% +/- 3%	80% +/- 3%
Touch Controller	Onboard USB touch (EETI)	Onboard USB touch (EETI)	Onboard USB touch (EETI)
SBC	AID-173SHR	AID-173SHW	AID-173M
Processor	Intel® Core™ i7/ i5/ i3 Processor, Celeron® Series	Intel® Core™ i7/ i5/ i3 Processor	N/A
System Chipset	Intel® QM67 Express Chipset	Intel® QM87 Express Chipset	N/A
System Memory	2 x 204-Pin SO-DIMM up to 4 GB	1 x 204-Pin SO-DIMM up to 8 GB	N/A
Expansion	3 x Mini PCIe	1 x Mini PCIe, 1 x Mini PCIe Supports mSATA	2 x Mini PCIe
Storage	1 x 2.5" Drive Bay	1 x 2.5" Drive Bay	N/A
USB	4 x USB 2.0	1 x USB 3.0, 3 x USB 2.0	3 x USB 2.0, 1 x USB Type B
COM Port	1 x RS-232, 1 x RS-232/422/485	1 x RS-232, 1 x RS-232/422/485	1 x RS-232, 1 x RS-232/422/485
Other	1 x HDMI Output, 1 x Display Output 1 x MSR/ SCR/ RFID/ Barcode Scanner 1 x Earphone, 1 x Mic	1 x HDMI Output, 1 x Display Output 1 x MSR/ SCR/ RFID/ Barcode Scanner 1 x Earphone, 1 x Mic	1 x HDMI Output, 1 x Earphone 1 x Mic, 2 x Mini Card
Display Chipset	Intel® QM67 Chipset Integrated Supports dual display	Intel® QM87 Chipset Integrated Supports triple display	N/A
Display Resolution	DP: Max. resolution 2560x1600 HDMI: Max. resolution 1920x1080	VGA: Max. resolution 2048x1536 LVDS: Max. resolution 1920x1200	HDMI: Max. resolution 1920x1080
Audio	Realtek ALC892	Realtek ALC892	N/A
Audio Interface	Mic-In and Line-Out 2 x 2W Speaker Output	Mic-In and Line-Out 2 x 2W Speaker Output	2 x 2W Speaker Output
Ethernet	1 x Intel® 82579LM	1 x Intel® WGI1218LM	N/A
Power Connector	DC Jack, +12V ~ +19V	DC Jack, +12V ~ +19V	DC Jack, +12V ~ +19V
Power Type	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240 Vac / 50~ 60Hz; Output: 65W Adapter (19V / 3.43A Adapter)	Input: 100 ~ 240 Vac / 50~ 60Hz; Output: 65W Adapter (19V / 3.43A Adapter)	Input: 100 ~ 240 Vac / 50~ 60Hz; Output: 65W Adapter (19V / 3.43A Adapter)
Construction (Front, Rear)	White Plastic	White Plastic	White Plastic
Finishing	Anti-microbial	Anti-microbial	Anti-microbial
Dimension	505 x 336 x 54.5mm	505 x 336 x 54.5mm	505 x 336 x 54.5mm
Weight	4.7kg	4.7kg	4.5kg
Certification	CE, FCC Class B, UL60601-1	CE, FCC Class B	CE, FCC Class B



Self-Service Touch Panel PC - PPC Series



MSR

(Magnetic Stripe Reader)

- User Identification
- Information Acquiring
- Cash Flow

Programmable Function Keys

- User Friendly
- Programmable Front Panel Keys
- Drivers Installed
- Evaluation Kit

RFID

(Radio Frequency Identification; Internal & External Type)

- Supply Chain Management
- Health Care
- Bio-identification
- Tracking

PPC Series

Model Number	PPC-1533	PPC-1733	PPC-2133	PPC-1529	PPC-1729	PPC-2129
LCD Size	15", 4:3	17", 4:3	21.5"	15", 4:3	17", 4:3	21.5"
Display Type	SXGA	SXGA	Full HD	XGA	SXGA	Full HD
Resolution	1280x1024	1280 x 1024	1920 x 1080	1024 x 768	1280 x 1024	1920 x 1080
Pixel Pitch	0.264mm(H)x0.264mm(V)	0.264mm(H)x0.264mm(V)	0.248mm(H)x0.248mm(V)	0.297mm(H)x0.297mm(V)	0.264mm(H)x0.264mm(V)	0.248mm(H)x0.248mm(V)
Luminance	350 cd/m ²	350 cd/m ²	250 cd/m ²	250 cd/m ²	350 cd/m ²	250 cd/m ²
Contrast Ratio	800	800	1000	700	800	1000
Viewing Angle	80 (U), 80 (D), 85 (L), 85 (R)	80 (U), 80 (D), 85 (L), 85 (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	30 ms	30 ms	5 ms	16 ms	30 ms	5 ms
Backlight	LED	LED	LED	LED	LED	LED
Touch Type	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive
Touch Light Transmission	80 %	80 %	80 %	80 %	80 %	80 %
Touch Controller	EBM-APL			EBM-BYT		
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 1866MTs 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 1920x1200 @ 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	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	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)	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)	-10°C ~ 50°C (14°F ~ 122°F)	-10°C ~ 50°C (14°F ~ 122°F)
Certification	CE, FCC Class B	CE, FCC Class A	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
OS Information	Win10, Linux	Win10, Linux	Win10, Linux	Win10, Linux	Win10, Linux	Win10, Linux



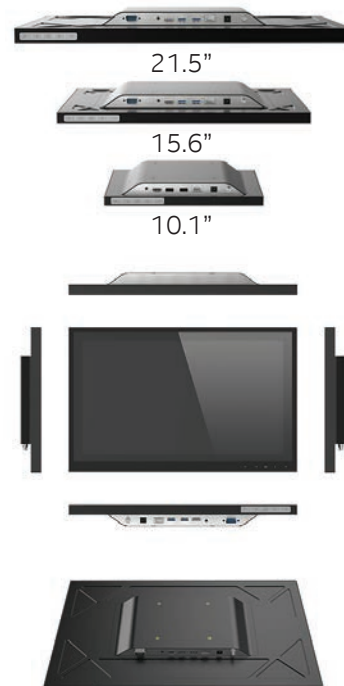
Self-Service Touch Panel PC - SID Series



SID Series			
Model Number	SID-10W9	SID-15W9	SID-21W9
LCD Size	10.1", 16:10	15.6" 16:9	21.5" 16:9
Display Type	WXGA	HD	Full HD
Resolution	1280 x 800	1366 x 768	1920 x 1080
Pixel Pitch	0.1695 x 0.1695 mm	0.252 x 0.252 mm	0.24795 x 0.24795 mm
Luminance	350 cd/m ²	220 cd/m ²	250 cd/m ²
Contrast Ratio	800	500	2000
Viewing Angle	85 (U), 85 (D), 85 (L), 85 (R)	20 (U), 45 (D), 45 (L), 45 (R)	89 (U), 89 (D), 89 (L), 89 (R)
Response Time	30 ms	7 ms	35 ms
Backlight	LED	LED	LED
Touch Type	Projective Capacitive	Projective Capacitive	Projective Capacitive
Touch Light Transmission	86 %	86 %	86 %
Touch Controller	USB touch	USB touch	USB touch
SBC	BCX12	BCX11	BCX11
Processor	Intel® Atom™ Z3735F 1.33GHz processor	Intel® Atom™ Z3735F 1.33GHz processor	Intel® Atom™ Z3735F 1.33GHz processor
I/O Chipset	ENE IO3737LU	ENE IO3737LU	ENE IO3737LU
System Memory	Onboard DDR3L 2GB	Onboard DDR3L 2GB	Onboard DDR3L 2GB
Expansion	1 x Line-Out	1 x Line-Out	1 x Line-Out
Storage	1 x Onboard 32GB eMMC	1 x Onboard 32GB eMMC	1 x Onboard 32GB eMMC
USB	2 x USB 2.0	2 x USB 2.0	2 x USB 2.0
COM Port	N/A	1 x RS-485	1 x RS-485
Other	1 x HDMI Output 1 x Onboard WiFi 802.11 b/g/n	1 x HDMI Output 1 x Onboard WiFi 802.11 b/g/n	1 x HDMI Output 1 x Onboard WiFi 802.11 b/g/n
Display Chipset	Intel® Gen7 HD Graphic	Intel® Gen7 HD Graphic	Intel® Gen7 HD Graphic
Display Resolution	HDMI: Max. resolution 1920x1080 @ 60Hz	HDMI: Max. resolution 1920x1080 @ 60Hz	HDMI: Max. resolution 1920x1080 @ 60Hz
Audio	Realtek ALC5645-CGT	Realtek ALC5645-CGT	Realtek ALC5645-CGT
Audio Interface	Line-Out, 2 x 1W (Optional)	Line-Out, 2 x 1W (Optional)	Line-Out, 2 x 1W (Optional)
Ethernet	1 x Microchip LAN9512	1 x Microchip LAN9512	1 x Microchip LAN9512
Power Connector	DC Jack, +12 ~ 24V	DC Jack, +12 ~ 24V	DC Jack, +12 ~ 24V
Power Type	ATX	ATX	ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz; Output: 65W Adapter (19V @ 3.42A Adapter)	Input: 100 ~ 240Vac/ 50 ~ 60Hz; Output: 65W Adapter (19V @ 3.42A Adapter)	Input: 100 ~ 240Vac/ 50 ~ 60Hz; Output: 65W Adapter (19V @ 3.42A Adapter)
Construction (Front, Rear)	Metal	Metal	Metal
Dimension	255.2 x 169.4 x 33.3mm	391 x 249 x 37mm	505 x 303.3 x 41.7mm
Weight	1.5kg	4kg	6kg
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	-10°C ~ 60°C (14°F ~ 140°F)	-10°C ~ 60°C (14°F ~ 140°F)	-10°C ~ 60°C (14°F ~ 140°F)
Certification	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A
OS Information	Win 8, Android, Linux	Win 8, Android, Linux	Win 8, Android, Linux

Semi-Industrial

- Fanless Operation
- Front IP65
- Shock & Vibration
- Longevity Support
- HW/SW/FW Customization
- Dedicated FAE Support
- Super Cost-effective



* Preliminary ID Design Concept



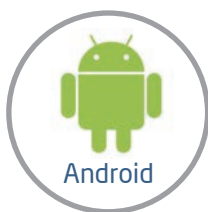
POS / Retail Touch Panel PC - Rity Series



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	262K color by 6 bit RGB signal	
Luminance	350 cd/m ²	600 cd/m ²	400 cd/m ²	350 cd/m ²	400 cd/m ²
Contrast Ratio	500	700	700	500	700
Viewing Angle	70(H) x 70(V)	80(H) X 70(V)	80(H) X 70(V)	70(H) x 70(V)	80(H) X 70(V)
Response Time	16 ms	8 ms	8 ms	16 ms	8 ms
Backlight	LED	LED	LED	LED	LED
Touch Type	5-Wire Resistive /PCT				
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® Pentium®/Celeron®/Atom™ 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 (BIOS), 1 x RS-232	3 x USB 2.0, 3 x USB 3.0 2 x RS-232/422/485 (BIOS), 1 x RS-232		3 x USB 2.0, 3 x USB 3.0, 1 x RS-232, 2 x RS-232/422/485 (BIOS), 1 x HDMI Output	
Display Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display			Intel® Apollo Lake SoC Processor integrated Gen9 LP graphics 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	



- 1 Optional secondary Display via HDMI or VGA
- 2 MSR Card Reader (optional) for processing ID cards or credit cards
- 3 5-wire Resistive Touch (Optional Multi-touch P-Cap)
- 4 Front IP65 & Back IP41 Panel
- 5 1 x RJ-11 at rear I/O for Cash Drawer control, 4 x USB 2.0, optional 2 x USB on Left Side
- 6 Stand (optional) is designed for this POS system to fit an environment with limited space



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	Freescale 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			



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Mini POS Terminal

Semi-Rugged Tablet / Mini POS Terminal

Semi-Rugged Tablet	
Model Number	RiTab-10T1
Processor	Intel® Atom™ Z3735F 1.33GHz Processor
System Memory	Onboard 2GB DDR3L
Storage	Onboard 32GB eMMC, Optional 64GB
Operating System	Win 10 / Android 4.4
LCD Size/Resolution	10.1", WXGA/1280x800
Luminance	350 cd/m ²
Touch Screen	10 Points Projective Capacitive
Wireless LAN	802.11 b/g/n
Bluetooth	Bluetooth 4.0 Dual Mode
WWAN	Optional 3G (WCDMA/HSDPA/HSUPA/HSPA+)
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

Desktop Cradle

Release Button with Indicator

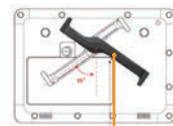
- 4 x USB, 1 x 10/100 LAN
- Lock System



- 1 x DC-in
- 1 x RJ45
- 2 x USB 2.0

Hand Strap

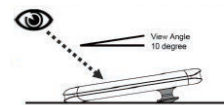
PU Hand Strap : Softer Material for User Comfortability and as Cushion when Dropped



Position Adjustable for Battery Changing

Mushroom Handler

Flexibility and Stability for Easy-Holding and Viewing



- For Easy Viewing & Sharing
- Quick Stand

Charging Station

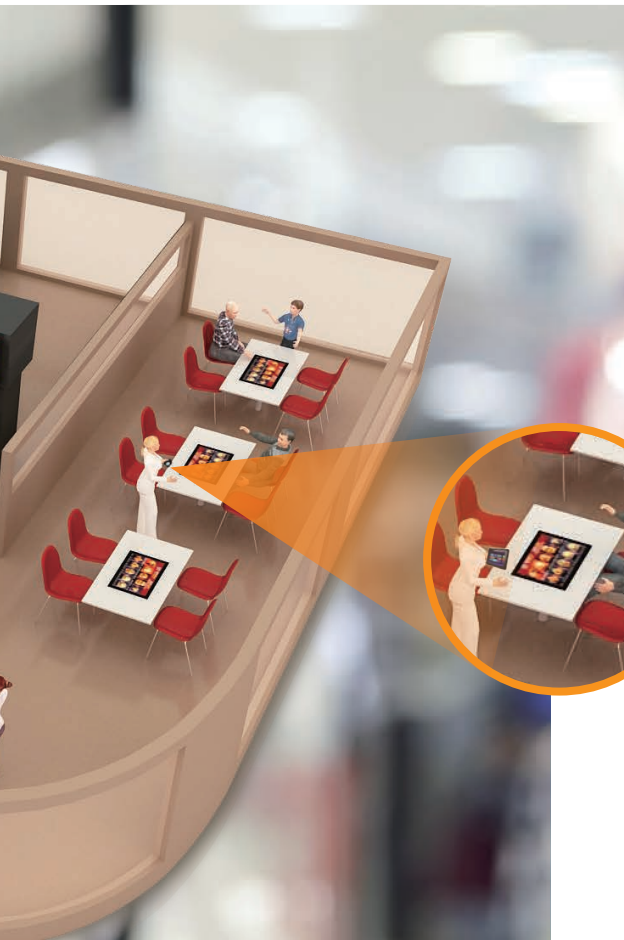
- 4-Bay Charger



Indicator (4 slots)



DC-in



Semi-Rugged Tablet Solution



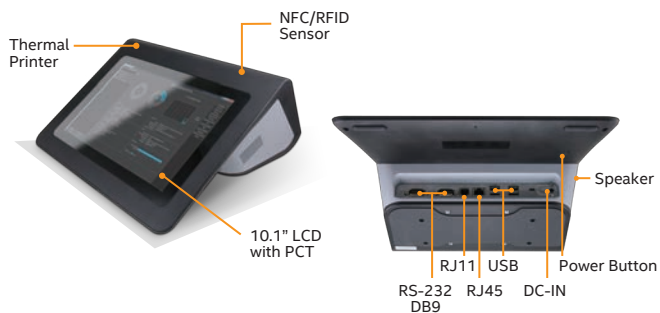
Semi-Rugged Tablet



Mini POS Terminal

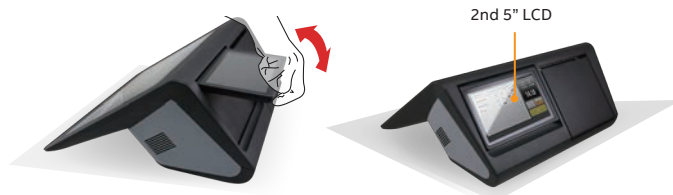
Mini POS Terminal	
Model Number	RiPac-10P1
Processor	Intel® Atom™ Z3735F 1.33GHz Processor
System Memory	2GB DDR3L SDRAM
Storage	32G (Default)/64G (Optional) eMMC
Operating System	Windows 10, Linux, Android
LCD Panel	10.1" LCD, 5" LCD (customer facing)
Resolution	1280 x 800 (10.1"), 1280 x 720 (5")
Touch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

Stylish Design



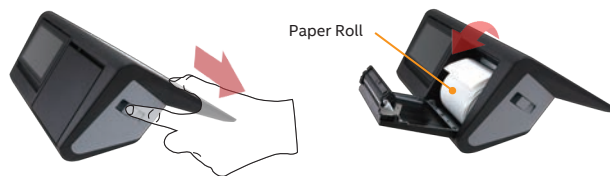
Customer Display

- 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



Open Frame Tablet

High Performance Bezel-Free Tablet For Easy Installation

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Open Frame Tablet - OFT 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

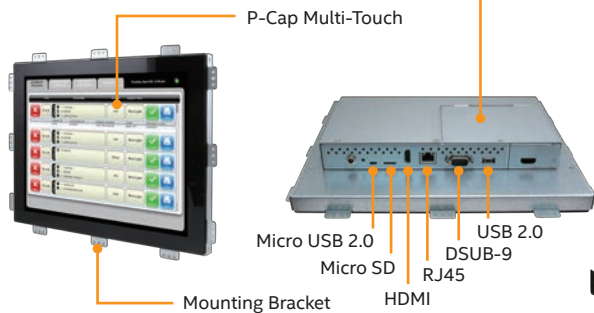


OFT Series					
Model Number	OFT-10W02	OFT-07W01	OFT-10W01	OFT-15W01	OFT-21W01
LCD Size	10.1"	7"	10.1"	15.6"	21.5"
Resolution	1280 x 800	1280 x 800	1280 x 800	1920 x 1080	1920 x 1080
Luminance	350	300	350	220	250
Viewing Angle	170° (H/V)	160° (H/V)	170° (H/V)	178° (H/V)	178° (H/V)
Touch Type	PCAP	PCAP	PCAP	PCAP	PCAP
Processor	Intel® Atom™ x5-Z8350 1.44 GHz 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		
Other	802.11 b/g/n WiFi	802.11 b/g/n/ WiFi	802.11 b/g/n WiFi		
Storage	8G or 32G eMMC	8GB or 32GB eMMC	8GB or 32GB eMMC		
External I/O Connector	2 x USB 2.0 1 x micro USB Client (Android only) 1 x 10/100 Ethernet 1 x HDMI 1 x Head phone jack 1 x Micro SD slot 1 x DC jack	2 x USB 2.0 1 x micro USB Client (Android only) 1 x 10/100 Ethernet 1 x HDMI 1 x Head phone jack 1 x Micro SD slot 1 x DC jack	2 x USB 2.0 1 x micro USB Client(Android only) 1 x 10/100 Ethernet 1 x HDMI 1 x Head phone jack 1 x Micro SD slot 1 x DC jack		
Internal I/O Connector	1 x RS232(TX/RX) or RS485 1 x 16 bit GPIO interface 1 x USB interface 1 x eDP & Dual channel 24bit LVDS 1 x backlight control & power 2 x speaker interface (1.2W stereo) 1 x A-MIC interface 1 x Touch Button connector 1 x DC input 4pin header 1 x I ² C interface(optional)	1 x RS232(TX/RX) or RS485 1 x 16 bit GPIO interface 2 x USB interface 2 x speaker interface (1.2W stereo) 1 x A-MIC interface 1 x Touch Button connector 1 x DC input 4pin header 1 x I ² C interface(optional)	1 x RS232(TX/RX) or RS485 1 x 16 bit GPIO interface 1 x USB interface 1 x eDP & Dual channel 24bit LVDS 1 x backlight control & power 2 x speaker interface (1.2W stereo) 1 x A-MIC interface 1 x Touch Button connector 1 x DC input 4pin header 1 x I ² C interface(optional)		
Power Requirement	19V DC input, Optional 12V or 24V	DC 12 ~ 24V	DC 12 ~ 24V		
Power Type	DC Jack, DC input 4pin header, optional Power Over Ethernet 802.3AT	DC Jack, DC input 4pin header	DC Jack, DC input 4pin header, optional Power Over Ethernet 802.3AT	DC Jack, DC input 4pin header	DC Jack, DC input 4pin 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 8.1/ Windows 10/ Android 4.4/ Android 5.1/ Ubuntu 14.04	Windows 8.1/ Windows 10/ Android 4.4/ Android 5.1/ Ubuntu 14.04		
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

Avalue Catalog 2017 Ver. 1.0

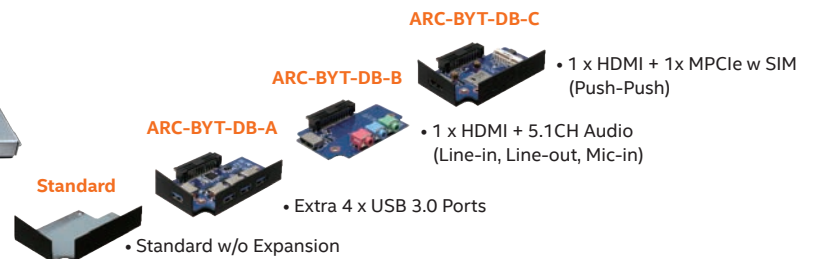


OFT-XX02 Series

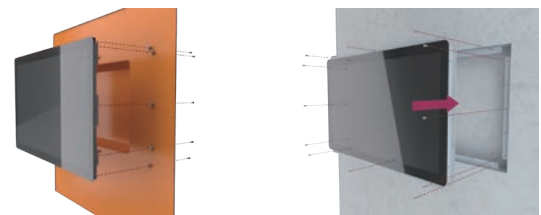


Selectable IO Modules Providing Expandability

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



Easy Mounting Solutions



Flush Mounting

Wall Mounting



OFT Series		
Model Number	OFT-1202	OFT-1502
LCD Size	12.1"	15.1"
Resolution	1024 x 768	1024 x 768
Luminance	600	250
Viewing Angle	Horizontal +/- 80° Vertical +/- 70°	Horizontal +/- 80° Vertical +/- 70°
Touch Type	PCAP	PCAP
Processor	Intel® Atom™ x5-Z8350 1.44 GHz Quad Core CPU	Intel® Atom™ x5-Z8350 1.44 GHz Quad Core CPU
System Memory	2G DDR3L RAM	2G DDR3L RAM
Other	802.11 b/g/n WiFi	802.11 b/g/n WiFi
Storage	8G or 32G eMMC	8G or 32G eMMC
External I/O Connector	1 x DSUB-9 x1 1 x USB 2.0 Type A 1 x Micro USB2.0 client (reserved) 1 x HDMI Avalue IET module: ARC-BYT DB-A (4 x USB3.0 module) or ARC-BYT DB-B (3 x Audio Jack+HDMI) or ARC-BYT DB-C (HDMI+Mini PCIe+3G SIM)	1 x DSUB-9 x1 1 x USB 2.0 Type A 1 x Micro USB2.0 client (reserved) 1 x HDMI Avalue IET module: ARC-BYT DB-A (4 x USB3.0 module) or ARC-BYT DB-B (3 x Audio Jack+HDMI) or ARC-BYT DB-C (HDMI+Mini PCIe+3G SIM)
Internal I/O Connector	1 x RS232 or RS485 1 x RS232 1 x Touch Button interface 1 x eDP & Dual channel 24bit LVDS 1 x backlight control & power 1 x I²C interface for PCAP	1 x RS232 or RS485 1 x RS232 1 x Touch Button interface 1 x eDP & Dual channel 24bit LVDS 1 x backlight control & power 1 x I²C interface for PCAP
Power Requirement	DC 12 ~ 24V	DC 12 ~ 24V
Power Type	DC Jack	DC Jack
Operating Temperature	0°C ~ 40°C	0°C ~ 40°C
Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing	0% ~ 90% Relative Humidity, Non-condensing
Software Support	Windows 10	Windows 10
Dimension	315 x 247 x 54 mm	371 x 295 x 55 mm



HDBaseT Solution

50

HDBaset Solution

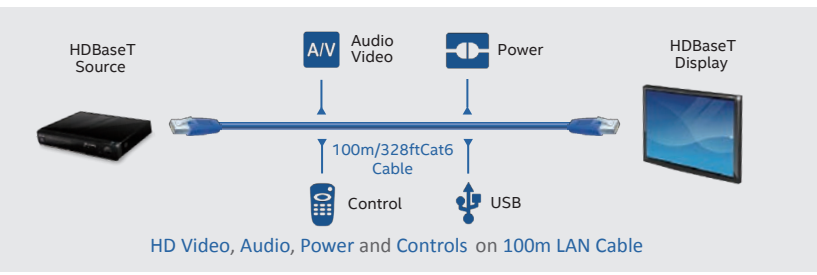
HDBaseT™ Supports Daisy Chain Architecture

Perfectly Suits Digital Signage Installations



HDBaseT Extender	
Model Number	IPM-TBoxB
Processor	video and network SoC controller
USB	1 x USB 2.0 (TypeA)
Other	1 x HDMI Input
LAN Port	1 x RJ45 port for HDBaseT
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

HDBaseT Monitor	
Model Number	IPM-1501B
LCD Size	15"
Display Type	XGA
Resolution	1024 x 768
Pixel Pitch	0.252mm (H) x 0.252mm (V)
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	video and network SoC controller
USB	2 x USB
Other	1 x Headphone Jack
Audio Interface	Speaker Out
Power Connector	DC Jack (lockable)
Power Requirement	+12~26V
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



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

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



DoE Touch Monitor - IPM Series



DoE Solution

Model Number	IPM-21	IPM-15W0	IPM-1201	IPM-1202	IPM-1003
LCD Size	21.5"	15.6"	12.1"	12.1"	10.4"
Display Type	XGA	WXGA	XGA	XGA	XGA
Resolution	1024 x 768	1366 x 768	1024 x 768	1024 x 768	1024 x 768
Pixel Pitch	0.0685mm(H) x 0.2055mm (V)	0.252mm (H) x 0.252mm (V)	0.240mm (H) x 0.240mm (V)	0.240mm (H) x 0.240mm (V)	0.0685mm (H) x 0.2055mm (V)
Luminance	500 cd/m ²	300 cd/m ²	600 cd/m ²	600 cd/m ²	500 cd/m ²
Contrast Ratio	1000	500	700	700	1000
Viewing Angle	88 (U), 88 (D), 88 (L), 88 (R)	80 (U), 80 (D), 85 (L), 85 (R)	80 (U), 80 (D), 70 (L), 70 (R)	80 (U), 80 (D), 70 (L), 70 (R)	88 (U), 88 (D), 88 (L), 88 (R)
Response Time	25 ms	8ms	16 ms	16 ms	25 ms
Backlight	LED	LED	LED	LED	LED
Touch Type	PCAP Multi touch	Projective Capacitive	5-wire Resistive	5-wire Resistive	5-wire Resistive
Touch Light Transmission	80 %	88%	80 %	80 %	80 %
Touch Controller	USB touch (PenMount)	USB touch (EETI)	USB touch (PenMount)	USB touch (PenMount)	USB touch (PenMount)
Processor	Video and Network SoC Controller	Aspeed AST1510 SoC	Aspeed AST1510 SoC	Aspeed AST1510 SoC	Video and Network SoC Controller
System Memory	Onboard 1GB DDR2 Memory	on board 1GB DDR2 memory	on board 1GB DDR2 memory	on board 1GB DDR2 memory	Onboard 1GB DDR2 Memory
USB	3 x USB 2.0	2 x waterproof USB 2.0 connector (optional)	2 x USB 2.0	2 x waterproof USB 2.0 connector	2 x USB 2.0
Other	1 x HDMI Input, 1 x HDMI Output, 1 x Headphone Jack	1 x waterproof HDMI Out (optional)	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
Resolution	HDMI Out: 1920 x 1080 @ 60Hz	N/A	HDMI Out: 1920 x 1200 @ 60Hz	N/A	HDMI Out: 1920 x 1200 @ 60Hz
Audio Interface	2 x 2W Speaker Out	2 x 2W Speaker Output	2 x 2W Speaker Output	2 x 2W Speaker Output	2 x 2W Speaker Out
Ethernet	1 x Realtek 8211	1 x Realtek 8211	1 x Realtek 8211	1 x Realtek 8211	1 x Realtek 8211
LAN Port	1 x RJ-45 support IEEE 802.3at	1 x Waterproof RJ-45 connector, support IEEE 802.at	1 x RJ-45 support IEEE 802.at	1 x Waterproof RJ-45 connector, support IEEE 802.at	1 x RJ-45 support IEEE 802.3at
Power Connector	DC Jack (lockable)	Waterproof DC in connector (optional)	DC Jack (lockable)	Waterproof DC in connector	DC Jack (lockable)
Power Type	+12V ~ +26V	+12 ~ +26V	+12V ~ +26V	+12V ~ +26V	+12V ~ +26V
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)	N/A	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)
Construction (Front, Rear)	Black Metal, Black Metal	Silver Stainless steel	Silver Aluminum, Black Metal	Silver Aluminum, Black Metal	Silver Aluminum, Black Metal
Dimension	505 x 303.3 x 41.7mm	209 x 460 x 43.1 mm	284 x 223 x 40 mm	284 x 223 x 56 mm	265 x 201 x 40 mm
Weight	5 kg	6 kg	2.21 kg	2.4 kg	1.95 kg
Mounting Kit	VESA 75 x 75, 100 x 100 / Din rail (Optional)	VESA 100 x 100	VESA 75 x 75, 100 x 100 / Din rail (Optional)	VESA 75 x 75, 100 x 100 / Din rail (Optional)	VESA 75 x 75, 100 x 100 / Din rail (Optional)
Operating Temperature	0°C ~ 50°C (32°F ~ 122°F)	0°C ~ 50°C (32°F ~ 122°F)	0°C ~ 50°C (32°F ~ 122°F)	0°C ~ 50°C (32°F ~ 122°F)	0°C ~ 50°C (32°F ~ 122°F)
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)	-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)
Operating Humidity	5 ~ 90% Relative Humidity, Non-condensing	10% to 95% @ 40°C, Non-condensing	5 ~ 90% Relative Humidity, Non-condensing	5 ~ 90% Relative Humidity, Non-condensing	5 ~ 90% Relative Humidity, Non-condensing
IP Rating	IP65 Compliant Front Panel	Full IP66	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	1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis	5 Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis	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	50Grms, IEC 60068-2-27, Half Sine, 11ms	20 Grms, IEC 60068-2-27, Half Sine, 11ms	20 Grms, IEC 60068-2-27, Half Sine, 11ms	20 Grms, IEC 60068-2-27, Half Sine, 11ms

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