

AVALUE IOT

Empowering a **SMART FUTURE**

Avalue IoT Ready

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

3.5" Single Board Computer



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



3.5" Single Board Computer

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

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

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

EPIC Module



Advantages of Boards and Modules



Facilitation

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



Reliability

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



Compliance

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



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

5.25" Single Board Computer



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

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

COM Express Module



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



COM Express Module

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

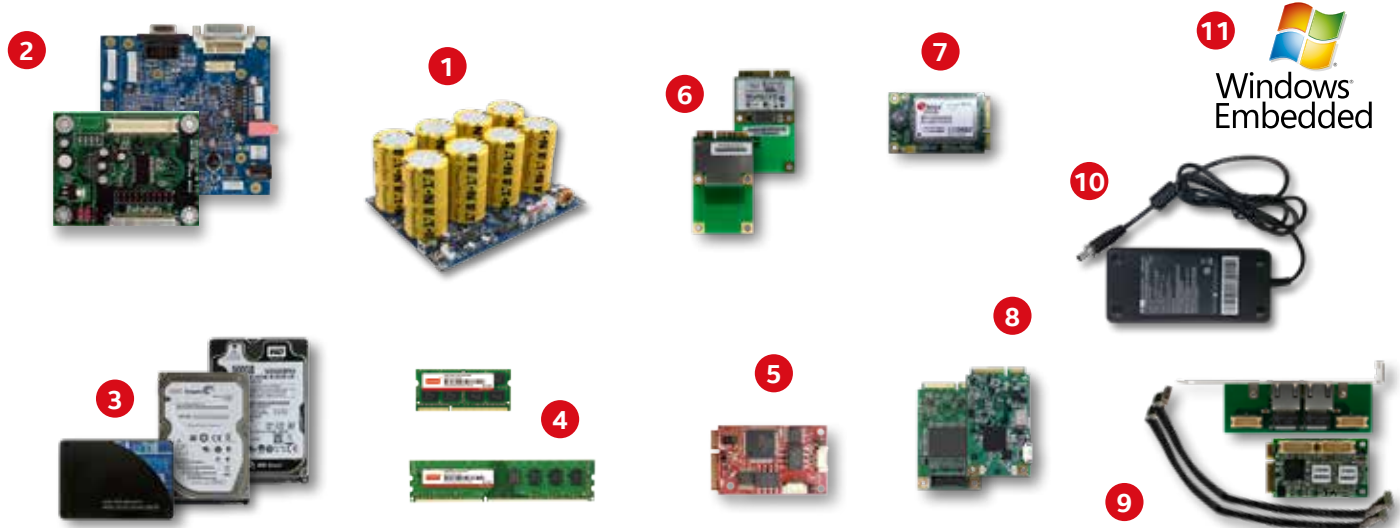
The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

SOM Carrier Board




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

Peripherals & Accessories

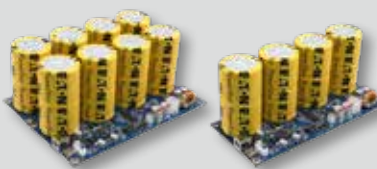


| Peripherals & Accessories | | |
|---------------------------|-------------------------------|--|
| | Embedded Peripherals | Description |
| 1 | Power Board | EPM-1718 60W DC to DC Marine Power Module |
| | | EPM-1715 Super Cap Power Module |
| 2 | Display Board | EPM-1525 VGA/DVI to TTL/LVDS Scalar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



EPM-1718
60W DC to DC Marine Power Module

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



EPM-1715
Supercap Power Module

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

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

Qseven Module



Qseven Solution

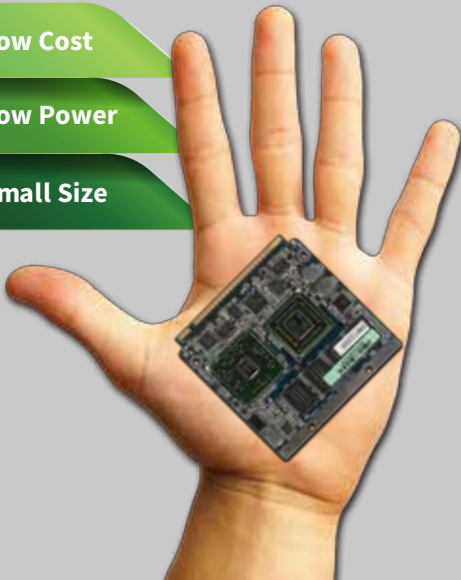
Small Form Factor for Ultra Mobile Applications

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

Low Cost

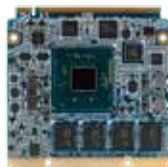
Low Power

Small Size



Qseven Carrier Board

| Model Number | EEV-Q702 | REV-Q703 (A/B) |
|------------------------------|---|---|
| USB | 4 x USB 2.0, 1 x USB 3.0 (4 x USB on board, 1 x USB 3.0 external) | 4 x USB 2.0, 2 x USB 3.0 (2 x USB on board, 2 x USB 3.0/ 1 x USB external) |
| SATA | 2 x SATA II (On Board) | 2 x SATA (On board) |
| COM Port | 1 x UART (1 x UART External) | 1 x RS-232 |
| Video | 1 x HDMI, 1 x Display Port, 1 x LVDS (1 x eDP, 1 x LVDS on board) | 1 x HDMI, 1 x LVDS, 1 x DP, 1 x eDP (1 x LVDS & 1 x eDP on board) |
| Other | 1 x SDIO, 1 x LAN, 1 x SPI, 1 x LPC | External I/O Connector 1 x Ethernet, 1 x SD socket, 3 x Audio phone jack Internal I/O connector 1 x GPIO, 1 x PCIe x1, 1 x mPCIe, 1 x SPI, 1 x CAN, 1 x LPC, 1 x JFP (Miscellaneous Setting Connector), 1 x PWM CPU Fan Header 1 x PWR Header |
| DIO | 1 x 16bit GPIO | 1 x 16 bit GPIO |
| MIO | 1 x SD socket | 1 x SD socket for version A 1 x Micro SD socket for version B |
| Expansion | 1 x PCIe1, 1 x Mini PCIe Supports SIM Card | 1 x Mini PCIe Supports SIM Card |
| Audio Chipset | Realtek ALC892 | ALC892/ WM8962 |
| Audio Interface | Mic-In, Line-In, Line-Out | Mic-In, Line-In, Line-Out |
| Power Requirement | ATX | DC +12V |
| Operating Temperature | -40°C ~ 85°C (-40°F ~ 185°F) | -40°C ~ 85°C (-40°F ~ 185°F) |
| Dimension (L x W) | 6.69" x 6.69" (170mm x 170mm) | 6.69" x 6.69" (170mm x 170mm) |
| Certification | CE, FCC Class B | CE, FCC Class B |



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

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

ATX / Micro ATX / Pico ITX Motherboards



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

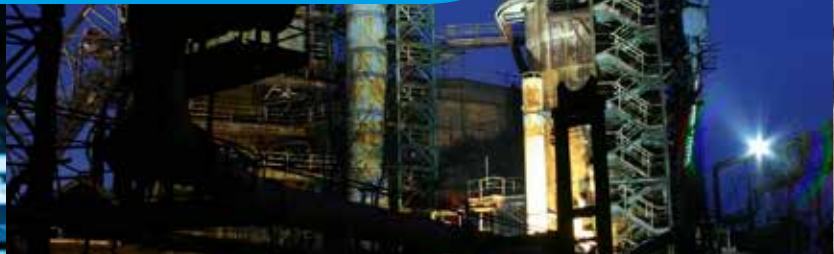


| Micro ATX | | | |
|--------------------------|---|---|--|
| Model Number | ERX-H110KP | ERX-C236KP | ERX-H110 |
| Processor | Intel® LGA1151 Socket Supports 6/7th Gen. Core™ /Pentium®/Celeron® Processors (Max. TDP at 95W) | Intel® LGA1151 Socket Supports 6/7th Gen. Intel® Xeon®(Workstation)/Core™,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

| Pico ITX | |
|--------------------------|--|
| | EPX-APLP |
| Processor | Intel® Celeron® N3350/ Pentium® N4200 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 Key-B, 1 x M.2 Key-A, 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) |

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

Mini ITX Motherboards



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



Mini ITX

| EMX-SKLUP | EMX-SKLG | EMX-BSWP | EMX-BY3 | EMX-BY2 | EMX-BSWB |
|--|--|--|--|--|---|
| Onboard 6th Gen. Intel® Core™ & Celeron® BGA Processor | Onboard 6th Gen. Intel® Core™ & Celeron® BGA Processor | Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz) | Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz) | Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz) | Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz) |
| N/A | N/A | N/A | N/A | N/A | N/A |
| 2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB | 2 x 260-pin DDR4 2133 MHz SO-DIMM supports up to 32GB | 2 x 204-pin DDR3L 1600MHz SO-DIMM supports up to 8GB | 2 x 204-pin DDR3L 1333 MHz SO-DIMM supports up to 8GB | 2 x 204-pin DDR3L 1333MHz SO-DIMM supports up to 8GB | 2 x 204-pin DDR3L 1600MHz SO-DIMM supports up to 8GB |
| 1 x PCI-e x 1 1 x M.2 B-Key, 1 x M.2 A-Key, 1 x SD card slot (Optional) | 1 x Mini PCI-e 1 x M.2 A-Key | 1 x PCI-e 2 x Mini PCI-e, 1 x SD card slot, 1 x SIM card slot | 2 x Mini PCI-e, 1 x SIM card slot | 1 x PCI-e 2 x Mini PCI-e, 1 x SD card slot, 1 x SIM card slot | 2 x Mini PCI-e |
| Intel® 6th Generation CPU integrated Triple Display | Intel® Skylake U SoC integrated Graphics | Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDMI + VGA, VGA + LVDS | Intel® Atom™/ Celeron® SoC integrated Graphics HDMI + LVDS, HDMI + VGA, VGA + LVDS | Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS, HDMI + VGA, VGA + LVDS | Intel® Atom™/ Celeron® SoC Integrated Graphics HDMI + LVDS + VGA |
| HDMI 1.4b: 3840 x 2160 @ 30Hz, 2560 x 1600@30Hz 2 x DP 1.2a: 4096 x 2160 @ 60Hz (1 x HDMI/DP, 1 x DP++), Dual channel 18/24-bits LVDS, Co-lay eDP 1.3: 4096x2160 BOM optional | HDMI: 1.4b: 3840 x 2160 @ 30 Hz, 2560 x 1600@ 30 Hz VGA: 2048 x 1536 @ 50Hz Co-lay eDP 1.3: 4096x2160 BOM optional | VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz LVDS: 1920 x 1080 @ 60Hz | VGA: 2560 x 1600 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1920 x 1080 @ 60Hz | VGA: 2560 x 1600 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS 1920 x 1080 @ 60Hz | VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz LVDS: 1920 x 1200 @ 60Hz |
| Realtek ALC892 supports 5.1-CH Mic-in, Line-out 2 x 6W Audio Amplifier | Realtek ALC892 supports 2-CH Mic-in, Line-out 2 x 6W Audio Amplifier | Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier | Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier | Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier | Realtek ALC662 supports 2-CH Mic-in, Line-out 2 x 3W Audio Amplifier |
| 1 x Intel® I219LM 1 x Intel® I211AT | 1 x Intel® I219LM 1 x Intel® I211AT | 2 x Intel® I211AT | 2 x Intel® I211AT | 2 x Intel® I211AT | 1 x RTL8111F |
| 8/2/6/2 | 12/2/6/2 | 8/2/6/2 | 6/2/8/2 | 6/2/6/2 | 7/2/1/1 |
| +12V~24V | +12V~24V | +12V | +12V~24V | +12V | +12V |
| AT/ATX | AT/ATX | AT/ATX | AT/ATX | AT/ATX | AT/ATX |
| 0°C ~ 60°C (32°F ~ 140°F) | 0°C ~ 60°C (32°F ~ 140°F) | 0°C ~ 60°C (32°F ~ 140°F) | 0°C ~ 60°C (32°F ~ 140°F) | 0°C ~ 60°C (32°F ~ 140°F) | 0°C ~ 60°C (32°F ~ 140°F) |
| 6.69" x 6.69" (170mm x 170mm) | 6.69" x 6.69" (170mm x 170mm) | 6.69" x 6.69" (170mm x 170mm) | 6.69" x 6.69" (170mm x 170mm) | 6.69" x 6.69" (170mm x 170mm) | 6.69" x 6.69" (170mm x 170mm) |
| 0.88lbs (0.4kg) | 0.88lbs (0.4kg) | 0.88lbs (0.4kg) | 0.88lbs (0.4kg) | 0.88lbs (0.4kg) | 0.88lbs (0.4kg) |

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

ARM Embedded Solutions

Avalue RISC Platform: A Choice Beyond X86 Platform

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



Space-Saving

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



Energy-Saving

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



Cost-Saving

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



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

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



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

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

Fanless Modular System

Sophisticated Design IET Modules



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

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



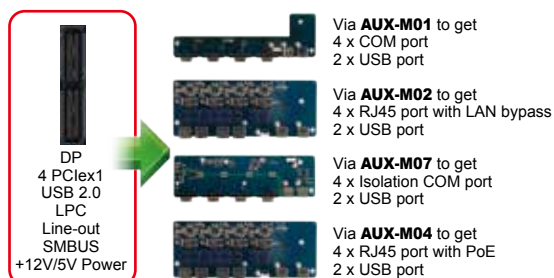
Modularization via IET Module



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


IET Module Pin Definition

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



IET Module Options

AUX-M01



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

EBM-CDVS DB-A




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

AUX-M02




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

EBM-BYTS DB-A




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

AUX-M03



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

EBM-BYTS DB-E




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

AUX-M04



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

EBM-BYTV DB-B



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

Fanless Rugged System / Fanless Compact System



Fanless Rugged System

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



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

Expandable Fanless System

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

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

In-Vehicle and Transportation Computer



Make your fleet work for you

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



Reduced Costs

Optimize vehicle performance with preventive maintenance schedules



Vehicles tracking & Safety

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



Enhance Customer Satisfaction

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



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



In-Vehicle and Transportatin Computer

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

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

Fanless VM System / Fanless Compact System



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

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



Fanless Compact System

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

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

Expandable Fanless System



The 6th generation Intel® Core™ processor family

Fanless & Easy Maintenance

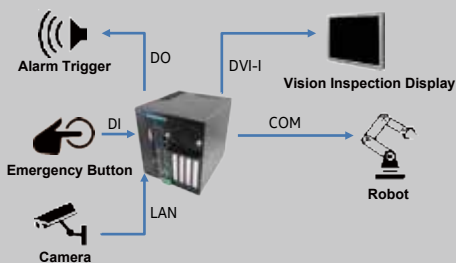
- No Cable No Trouble
- Easy To Install Any Device



Expansion - Avalue IET Module



Basic Application



Expandable Fanless System

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

Embedded Computing System



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

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

Mini ITX System



Mini ITX Fanless System

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



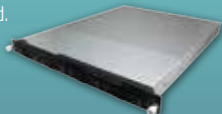
| Mini ITX Barebone System | | | | |
|------------------------------|--|--|--|--|
| Model Number | BMX-P521-H110 | BMX-P521-Q170 | BMX-T524-Q170 | BMX-T524-H110 |
| Processor | Intel® LGA1151 Socket Supports 6th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 85W) | Intel®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

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

Micro ATX Barebone System Rackmount System and Mini Sever



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



1U Chassis

- Supporting micro-ATX or ATX motherboard.
- Industrial control, Automation, Networking Security, Telecom, Application Server



2U Chassis

- Flexible for additional slot expansion.



Rackmount System and Mini Sever

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

+ Industrial System Overview



4U Chassis

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



Mini-Server

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



Rackmount System and Mini Sever

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

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

Outdoor / Rugged Panel PC - SPC Series



SPC Series

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

Super Scratch-proof Panel

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

Stainless: Vandal-proof; Oil-proof

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

Full IP65/ IP69K Design for Water-proof

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

Wide Volt./ Over Current Protection

- Flexibility
- Safety
- Over Current/ Surge Protection

SPC-1533/ 2133



(Front)



(Rear)

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



SPC-1209



(Front)

(Rear)



SPC-1509/ 1709/ 22W9



(Front)

(Rear)



SPC Series

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

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

Modularized / Rugged Panel PC - ARC Series



A Model

B Model



(Front)

(Rear)

ARC Series

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



Available Expansion Boards



Standard

• Standard w/o Expansion



DB-A

• Extra 4 x USB 3.0 Ports



DB-B

• 1 x HDMI + 5.1CH Audio (Line-in, Line-out, Mic-in)



DB-C

• 1 x HDMI + 1x MPCLE w SIM (Push-Push)

DB-D



2 Isolation RS-232

DB-E



12-bit GPIO + 2-bit CAN Bus

DB-F



CAN Bus for OBDII

DB-G



3 x RS-232

DB-H



2 x RS-232 + USB 2.0

DB-K



2 x RS-232 + LAN

ARC Series

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

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

Modularized / Rugged Panel PC - ARC Series



ARC Wide Series

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

High Performance Expandable Panel PC - FPC Series



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

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

Light Industrial Panel PC - APC Series



APC Series

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

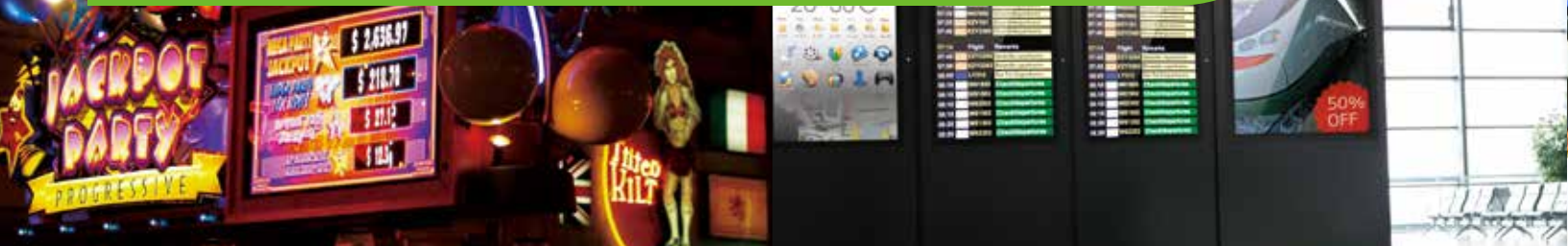
Light Industrial Panel PC - PPC Series



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

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

Bar Type Monitor Solution - BTM Series



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



Self-Service Touch Panel PC - SID Series



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

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

Self-Service Touch Panel PC - VNS/ CCD Series



(Front)

(Rear)



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

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

Healthcare Computing - Medi-View Series



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

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

Healthcare Computing - HID Series



HID Series

Multi-touch Medical Panel PC
IP65 and Slim Fanless design

Excellent System Performance

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

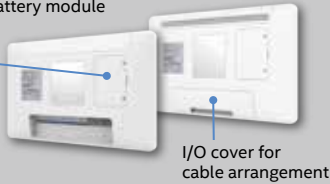


Optional Headset +
1D barcode scanner

Easy Maintenance

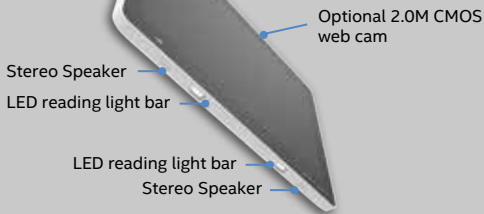
- Fanless Operation Design
- Optional SCR/MSR/Wifi/BT module
- Optional internal backup battery module

Service windows for
2.5 storage replacement



I/O cover for
cable arrangement

Designed for easy usage



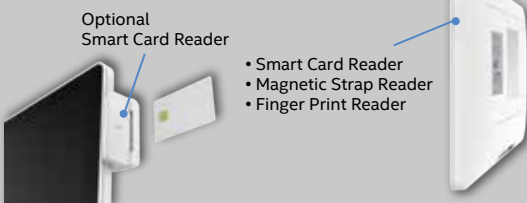
Optional 2.0M CMOS
web cam

Front bezel touch keypad



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

Reserve Enhance Space



Optional
Smart Card Reader

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



HID Series

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



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

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

HDBaseT Solution



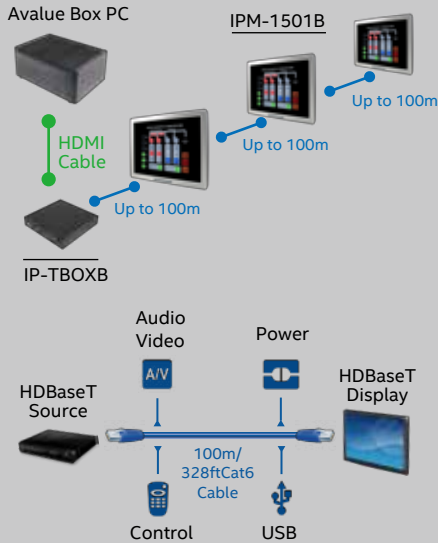
The Ultimate Cable that Carries All Your Industrial Computing

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

HDBaseT™ Supports

Daisy Chain Architecture

Perfectly Suits Digital Signage Installations



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



HDBaseT Extender

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

HDBaseT Monitor

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

Semi-Rugged Tablet / Mini POS Terminal



Semi-Rugged Tablet

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

Mini POS Terminal

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

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

POS Terminal



Sleek & Stylish Design

Slim & Fanless Design



Innovative Technologies



Versatile Applications



Multiple OS Supported

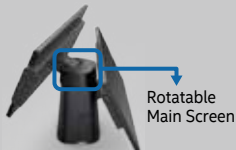
Quick Rail



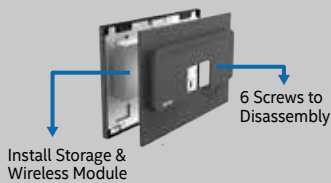
Adjustable View Angle



Easy Upgrade & Maintenance



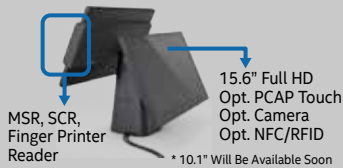
Built-in RFID/NFC



Accessories/Customer Display



Integrated Thermal Printer



OS Support

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



New POS Terminal

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



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

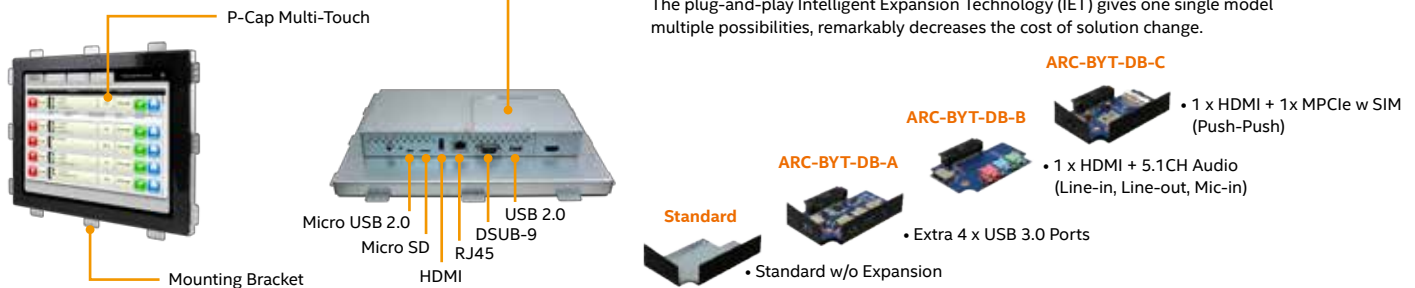
The product described may contain design defects or errors known as errata which may cause the product to deviate from published specifications.

Open Frame Tablet - OFT Series



Selectable IO Modules Providing Expandability

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



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



Fanless /Slim /Fully Flat

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



| OFT Series (16:9, Intel) | | | | | |
|--------------------------|--|----------------------------------|---|-------------------------------------|-------------------------------------|
| Model Number | OFT-10W02 | OFT-07W01 | OFT-10W01 | OFT-15W01 | OFT-21W01 |
| LCD Size | 10.1" | 7" | 10.1" | 15.6" | 21.5" |
| Resolution | 1280 x 800 | 1280 x 800 | 1280 x 800 | 1920 x 1080 | 1920 x 1080 |
| Luminance | 350 | 300 | 350 | 220 | 250 |
| Viewing Angle | 170° (H/V) | 160° (H/V) | 170° (H/V) | 178° (H/V) | 178° (H/V) |
| Touch Type | PCAP | PCAP | PCAP | PCAP | PCAP |
| Processor | Intel® Atom™ x5-Z8300/ Z8350 Processor 1.44GHz Quad Core CPU | | Intel® Atom™ Processor Z3735F 1.33GHz Quad Core CPU | | |
| System Memory | 2GB DDR3L RAM | | 2GB DDR3L RAM | | |
| Wireless | 802.11 b/g/n WiFi | | 802.11 b/g/n WiFi | | |
| Storage | 32GB eMMC | | 32GB or 8GB eMMC | | |
| External I/O Connector | 1 x 10/100 Ethernet port 2 x USB 2.0 type A connector 1 x HDMI 1.4a connector 1 x Head Phone Jack 1 x DC Jack | | | | |
| Internal I/O Connector | 1 x USB interface 1 x RS-232(Tx/Rx) or RS-485 2 x Speaker connectors (1.2W stereo) 1 x A-Mic connector 1 x Power button interface 1 x Backlight/volume control interface 1 x 16bit GPIO interface 1 x I²C interface 1 x Micro SD socket 1 x Micro USB Client (Android only) | | | | |
| Power Requirement | DC 12 ~ 24V | | DC 12 ~ 24V | | |
| Power Type | 1 x DC-in Jack, 1 x DC-in header Optional Powered LAN 802.3AT | 1 x DC-in Jack, 1 x DC-in header | 1 x DC-in Jack, 1 x DC-in header Optional Powered LAN 802.3AT | 1 x DC-in Jack, 1 x DC-in header | 1 x DC-in Jack, 1 x DC-in header |
| Operating Temperature | 0°C ~ 40°C | | 0°C ~ 40°C | | |
| Storage Temperature | -20°C ~ 60°C | | -20°C ~ 60°C | | |
| Operating Humidity | 0% ~ 90% Relative Humidity, Non-condensing | | 0% ~ 90% Relative Humidity, Non-condensing | | |
| Software Support | Windows 10 | | Windows 10/ Android 4.4/ Android 5.1/ Ubuntu 16.04 | | |
| Dimension | 252 x 166 x 38 mm | 116 x 184 x 25 mm | 252 x 166 x 38 mm | 387 x 235 x 38 mm | 500 x 292 x 47 mm |

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

Tailored to Your Needs



www.avaluetw.com



www.avaluesolutions.com

Headquarters

Avalue Technology Inc.

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

Avalue China

Avalue Technology Inc.

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

Avalue USA

Avalue Technology Inc.

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

Avalue USA

BCM Advanced Research

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

Avalue Japan

Avalue Technology Inc.

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

Avalue Netherlands

Avalue European Service Centre (AESC)

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



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

