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- ▶ Industrial Motherboards





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Embedded Computing 3.5" SBC / 5.25" SBC / EPIC

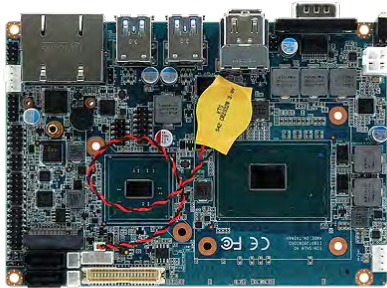
CH1-3.5" SBC / 5.25" SBC / EPIC

ECM-SKLH	6th Gen Intel® Core™ Processor i7/i5/i3 3.5" Micro Module with Intel® QM170 Chipset
ECM-QM87R/ ECM-QM87	4th Gen Intel® Core™ Processor i5/i3 3.5" Micro Module with Intel® QM87 Chipset
ECM-QM77	3rd Gen Intel® Core™ Processors i7/i5/i3 3.5 Micro Module with Intel® QM77 Chipset
ECM-BSW	Intel® Pentium®/Celeron® SoC Processor 3.5" Micro Module
ECM-BYT2	Intel® Celeron®/Atom™ SoC Processors J1900/E3845 3.5" Micro Module
ECM-BYT	Intel® Celeron®/Atom™ SoC Processors J1900/E3845 3.5" Micro Module
ECM-CDV	Intel® Atom™ Processor D2550 3.5" Micro Module with Intel® NM10 Express Chipset
ECM-KA	AMD G-Series SoC Processor GX-415GA 3.5" Micro Module
ECM-A50M	AMD G-series Processor T56N 3.5" Micro Module with AMD A50M Chipset
ECM-DX2	DM&P SoC Processor Vortex86DX2 3.5" Micro Module
ECM-LX800D	AMD Processor LX800 3.5" Micro Module with AMD CS5536 Chipset
EBM-SKLU	6th Gen Intel® Core™ SoC Processor i7/i5/i3 5.25" Mini Module
EBM-BSW	Intel® Pentium®/Celeron® SoC Processor 5.25" Mini Module
EBM-QM87U	4th Gen Intel® Core™ SoC Processor i7/i5/i3 5.25" Mini Module
EBM-BYT	Intel® Celeron®/Atom™ SoC Processor J1900/E3845 5.25" Mini Module
EBM-CDV	Intel® Atom™ Processor D2550 5.25" Mini Module with Intel® NM10 Express Chipset
EPI-QM87R/EPI-QM87	4th Gen Intel® Core™ Processor i5/i3 EPIC Module with Intel® QM87 Chipset
EPI-QM77	3rd Gen Intel® Core™ Processors i7/i5/i3 EPIC Module with Intel® QM77 Chipset
EPI-QM67	2nd Gen Intel® Core™ Processors i7/i5/i3 EPIC Module with Intel® QM67 Chipset



ECM-SKLH

6th Gen Intel® Core™ Processor i7/i5/i3
3.5" Micro Module with Intel® QM170 Chipset



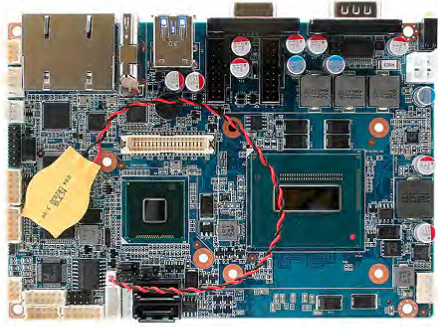
- > Onboard 6th Gen Intel® Core™ i7/i5/i3 BGA Processor
- > One 260-pin DDR4 SODIMM Socket, Supports Up to 16GB DDR4 2133 SDRAM (only support non-ECC)
- > Dual-channel 18/24-bit LVDS, HDMI, VGA
- > Triple Display (LVDS, 2x HDMI)
- > 2 SATA III, 1 Mini PCIe, 4 USB 3.0, 1 M.2 (2242) SSD, 2 USB 2.0, 2 COM, 8-bit GPIO
- > HD Audio, Dual Gigabit Ethernet
- > TPM 2.0/1.2 (Both optional)
- > iAMT 11

+ Spec

System	
Processor	6th Gen Intel® Core™ i7-6820EQ 4-Core 2.8GHz processor 6th Gen Intel® Core™ i5-6440EQ 4-Core 2.7GHz processor 6th Gen Intel® Core™ i3-6100E 2-Core 2.7GHz processor
System Chipset	Intel® QM170 Express Chipset
System Memory	1 x 260-Pin DDR4 2133MHz SO-DIMM up to 16 GB
I/O Chip	EC ITE IT8528E
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports mSATA 1 x M.2 (B-Key, 2242)
Storage	
Storage	1 x mSATA Supported from Mini PCIe 1 x M.2 (SATA)
I/O	
USB	2 x USB 2.0 4 x USB 3.0
SATA	2 x SATA III
Com Port	1 x RS-232/422/485 1 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x LPC 1 x SPI
Display	
Chipset	Intel® Skylake SoC integrated Graphics Supports triple display
Resolution	HDMI: Max. resolution 3840x2160 @ 24Hz LVDS: Max. resolution 1920x1080 @ 60Hz LVDS + Dual HDMI Dual-channel 18/ 24-bit LVDS
Audio	
Chipset	Realtek ALC233 supports 2.1-CH
Audio Interface	Audio Amp.:2W
Ethernet	
Chipset	1 x Intel® I210AT 1 x Intel® I219LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Certifications	



Certification Information	CE FCC Class B
Software Support	
OS Information	Win 10 Win 8.1 Win 7 Linux



ECM-QM87R

4th Gen Intel®Core™ Processor i5/i3 3.5"Micro Module with Intel® QM87 Chipset

- > Onboard 4th Gen Intel®Core™ i5/i3 BGA Processor
- > One 204-pin DDR3L SODIMM Up to 8GB DDR3 1333/ 1600 SDRAM
- > Dual-channel 18/ 24-bit LVDS, HDMI, VGA
- > Triple Display
- > 2 SATA III, 1 Mini PCIe Card (Support mSATA)
- > 6 USB 3.0, 2 USB 2.0, 2 COM, 8-bit DIO iAMT 9.0

+ Spec	
System	
Processor	4th Gen Intel® Core™ i5-4422E, 2-Core, 1.8GHz processor 4th Gen Intel® Core™ i3-4110E, 2-Core, 2.6GHz processor
System Chipset	Intel® QM87 Express Chipset
System Memory	1 x204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB or 1 x204-Pin DDR3 1600MHz SO-DIMM up to 8 GB
I/O Chip	EC ITE IT8518E
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x mSATA Supported from Mini PCIe
I/O	
USB	2 x USB 2.0 6 x USB 3.0
SATA	2 x SATA III
Com Port	1 x RS-232/422/485 1 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x LPC
Display	
Chipset	Intel® QM87 Chipset Integrated Supports triple display
Resolution	VGA:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 3840x2160@ 24Hz LVDS:Max. resolution 1920x1080@ 60Hz VGA + LVDS + HDMI Dual-channel 18/ 24-bit LVDS
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I210AT 1 x Intel® I217LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Certifications	

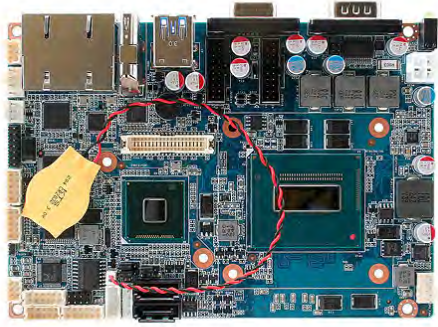


Certification Information	CE FCC Class B
Software Support	
OS Information	Win 8 Win 7 Linux

+ Ordering

ECM-QM87R-4422-A1R
3.5" W/i5 4422E/QM87R/6USB3.0/2COM/A1

ECM-QM87R-4110-A1R
3.5" W/i3 4110E/QM87R/6USB3.0/2COM/A1



ECM-QM87

4th Gen Intel®Core™ Processor i7/i5/i3 3.5" Micro Module with Intel® QM87 Chipset

- > Onboard 4th Gen Intel®Core™ i7/i5/i3 BGA Processor
- > One 204-pin DDR3L SODIMM Up to 8GB DDR3 1333/ 1600 SDRAM
- > Dual-channel 18/ 24-bit LVDS, HDMI, VGA
- > Triple Display
- > 2 SATA III, 1 Mini PCIe Card (Support mSATA)
- > 6 USB 3.0, 2 USB 2.0, 2 COM, 8-bit DIO
- > iAMT 9.0

+ Spec	
System	
Processor	4th Gen Intel® Core™ i7-4700EQ 4-Core 3.4GHz processor 4th Gen Intel® Core™ i5-4400E, 2-Core, 2.7GHz processor 4th Gen Intel® Core™ i3-4102E, 2-Core, 1.6GHz processor
System Chipset	Intel® QM87 Express Chipset
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB or 1 x 204-Pin DDR3 1600MHz SO-DIMM up to 8 GB
I/O Chip	EC ITE IT8518E
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x mSATA Supported from Mini PCIe
I/O	
USB	2 x USB 2.0 6 x USB 3.0
SATA	2 x SATA III
Com Port	1 x RS-232/422/485 1 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x LPC
Display	
Chipset	Intel® QM87 Chipset Integrated Supports triple display
Resolution	VGA:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 3840x2160@ 24Hz LVDS:Max. resolution 1920x1080@ 60Hz VGA + LVDS + HDMI Dual-channel 18/ 24-bit LVDS
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I210AT 1 x Intel® I217LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Certifications	



Certification Information	CE FCC Class B
Software Support	
OS Information	Win 8 Win 7 Linux

+ Ordering

ECM-QM87-4700-A1R
3.5" W/i7 4700EQ/QM87/6USB3.0/2COM/A1

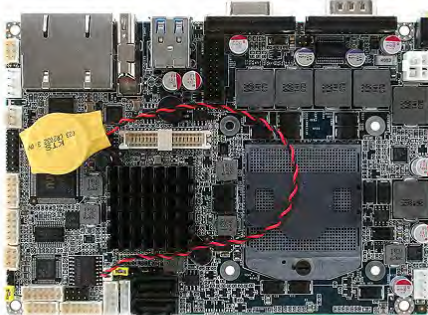
ECM-QM87-4400-A1R
3.5" W/i5 4400E/QM87/6USB3.0/2COM/A1

ECM-QM87-4102-A1R
3.5" W/i3 4102E/QM87R/6USB3.0/2COM/A1



ECM-QM77

3rd Gen Intel® Core™ Processors i7/i5/i3 3.5 Micro Module with Intel® QM77 Chipset



- > Supports 3rd Gen Intel®Core™ i7/i5/i3 rPGA 988B Processor
- > One 204-pin DDR3 SODIMM Up to 8GB DDR3 1333/ 1600 SDRAM
- > Dual-channel 18/24-bit LVDS, HDMI, VGA
- > 2 x Gigabit Ethernet Triple Display
- > 2 SATA III, 1 Mini PCIe, 4 USB 3.0, 2 USB 2.0, 2 COM, 8-bit DIO
- > iAMT 8.0

+ Spec

System	
Processor	3rd Gen Intel® Core™ i7-3610QE 4-Core 2.3GHz processor 3rd Gen Intel® Core™ i5-3610ME 2-Core 2.7GHz processor 3rd Gen Intel® Core™ i3-3120ME 2-Core 2.4GHz processor
System Chipset	Intel® QM77 Express Chipset
System Memory	1 x 204-Pin DDR3 1333MHz SO-DIMM up to 8 GB or 1 x 204-Pin DDR3 1600MHz SO-DIMM up to 8 GB
I/O Chip	Nuvoton NTC6776F
BIOS	AMI 64Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe
I/O	
USB	2 x USB 2.0 4 x USB 3.0
SATA	2 x SATA III
Com Port	1 x RS-232/422/485 1 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x LPC 1 x SPI
Display	
Chipset	Intel® QM77 Chipset Integrated Supports triple display
Resolution	VGA:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 1920x1200@ 60Hz LVDS:Max. resolution 1920x1200@ 60Hz VGA + LVDS + HDMI Dual-channel 18/ 24-bit LVDS
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82574L 1 x Intel® 82579LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V
ACPI	Single Power ATX Support S0, S1, S3, S4, S5 ACPI3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Certifications	



Certification Information	CE FCC Class A
Software Support	
OS Information	Win 7 Win XP Linux

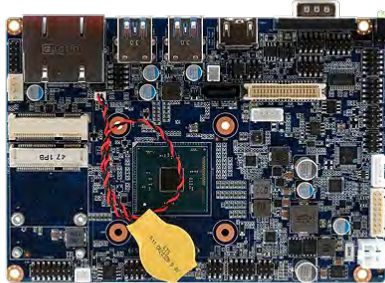
+ Ordering

ECM-QM77-A1R
3.5" QM77 Micro Module,w/CPU sock/Cooler



ECM-BSW

Intel® Pentium®/Celeron® SoC Processor 3.5" Micro Module



- > Onboard Intel® Pentium®/Celeron® SoC BGA Processor
- > One 204-pin DDR3L SODIMM Socket Supports Up to 8GB DDR3L 1600 SDRAM
- > Dual Display (HDMI, LVDS)
- > 1 SATA III, 4 USB 3.0, 2 USB 2.0 ,5 COM, 2 x Mini-PCle, 8-bit GPIO
- > Fanless
- > TPM 1.2 function (Optional)

Spec

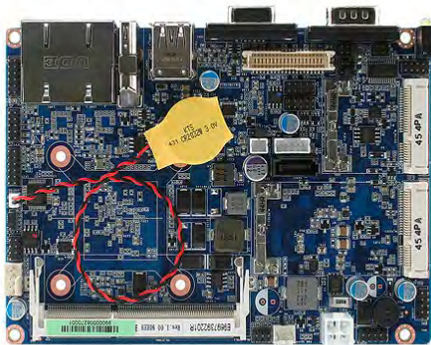
System	
Processor	Intel® Pentium®/Celeron® processor
System Memory	1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB
I/O Chip	Nuvoton NPCE388N
BIOS	Insyde 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	2 x Mini PCIe 1 x Full-size Mini PCIe with mSATA Supported 1 x Half-size Mini PCIe
Storage	
Storage	1 x mSATA Supported from Mini PCIe
Touch Screen	
Built-in Touch controller(optional)	EETIETP-CP-MER4485XRU With 5-pin 2.0mm Box Header (Can be Selected to Support 4/ 5Wire Touch Screen)
I/O	
USB	2 x USB 2.0, 4 x USB 3.0
SATA	1 x SATA III
Com Port	1 x RS-232/422/485, 4 x RS-232
DIO	8bit GPIO
MIO	1 x LPC, 1 x SPI
Display	
Chipset	Intel® Braswell SoC integrated Graphics Supports dual display
Resolution	HDMI: Max. resolution 1920x1080 @ 60Hz LVDS: Max. resolution 1920x1080 @ 60Hz LVDS + HDMI Dual-channel 18/ 24-bit LVDS VGA by pin header (Optional)
Audio	
Chipset	Realtek ALC233, supports 2.1-CH
Audio Interface	Audio Amp.:2W
Ethernet	
Chipset	2 x Realtek 8119I
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 158°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Certifications	



Certification Information	CE, FCC Class B
Software Support	
OS Information	Win 8, Win 7, Linux

+ Ordering

ECM-BSW-N3150-A1R
3.5" W/N3150/1SATA/5COM/A1



ECM-BYT2

Intel® Celeron®/Atom™ SoC Processors
J1900/E3845 3.5" Micro Module

- > Onboard Intel® Celeron®/Atom™ SoC J1900/E3845 BGA Processor
- > One 204-pin DDR3L SODIMM Socket Supports Up to 8GB DDR3L 1066/ 1333 SDRAM
- > Dual View, 2-CH LVDS, CRT, HDMI
- > 2 x Gigabit Ethernet
- > 1 SATA II, 1 USB 3.0, 7 USB 2.0, 2 COM, 8-bit GPIO
- > 2 Mini PCIe TPM 1.2 Function (Optional)

+ Spec

System	
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor Intel® Celeron® J1900 4-Core 2.0GHz processor
System Memory	1 x204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB or 1 x204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB Processor E3845 & J1900 only support 1333MHz
I/O Chip	EC ITE IT8528E
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step
H/W Status Monitor	Monitoring SYSTEM Temperature, Voltage and FAN Status with Auto Throttling Control
Expansion	
Expansion	2 x Mini PCIe 1 x Full-size Mini PCIe with mSATA Supported 1 x Half-size Mini PCIe
Storage	
Storage	1 x mSATA Supported from Mini PCIe
I/O	
USB	7 x USB 2.0 1 x USB 3.0
SATA	1 x SATA II
Com Port	1 x RS-232/422/485 1 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x LPC
Display	
Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display
Resolution	VGA:Max. resolution 2560x1080@ 60Hz HDMI:Max. resolution 1920x1200@ 60Hz LVDS:Max. resolution 1920x1080@ 60Hz CRT + LVDS, HDMI + LVDS, CRT + HDMI Dual-channel 18/ 24-bit LVDS
Audio	
Chipset	Realtek ALC892 Support 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Certifications	



Certification Information	CE FCC Class B
Software Support	
OS Information	Win 8 Win 7 Linux

+ Ordering

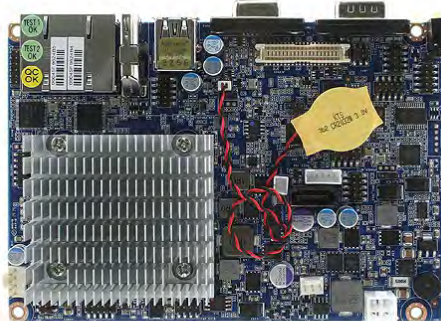
ECM-BYT2-E3845-A1R
ECM-BYT2 W/I E3845/1SATA/2COM/A1

ECM-BYT2-J1900-A1R
ECM-BYT2 W/D J1900/1SATA/2COM/A1



ECM-BYT

Intel® Celeron®/Atom™ SoC Processors J1900/E3845 3.5" Micro Module



- > Onboard Intel® Celeron®/Atom™ SoC J1900/E3845 BGA Processor
- > One 204-pin DDR3L SODIMM Socket Supports Up to 8GB DDR3L 1066/ 1333 SDRAM
- > Dual View, 2-CH LVDS, CRT, HDMI
- > 2 x Gigabit Ethernet
- > HD Audio/ Fanless Operation
- > 1 CF, 1 SATA II, 1 Mini-PCle, 1 USB 3.0, 5 USB 2.0, 4 COM, 8-bit GPIO

+ Spec

System	
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor Intel® Celeron® J1900 4-Core 2.0GHz processor
System Memory	1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB or 1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB Processor E3845 & J1900 only support 1333MHz
I/O Chip	EC ITE IT8528E
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step
H/W Status Monitor	Monitoring SYSTEM Temperature, Voltage and FAN Status with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x CompactFlash Type VII Socket
Touch Screen	
Built-in Touch controller(optional)	Chipset:PenMount 6000 Touch Screen Interface:With 5-pin 2.0mm Box Header (Can be Selected to Support 4/ 5Wire Touch Screen)
I/O	
USB	5 x USB 2.0 1 x USB 3.0
SATA	1 x SATA II
Com Port	1 x RS-232/422/485 3 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x LPC 1 x PS2/ KB & MS
Display	
Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display
Resolution	VGA:Max. resolution 2560x1080@ 60Hz HDMI:Max. resolution 1920x1200@ 60Hz LVDS:Max. resolution 1920x1080@ 60Hz CRT + LVDS, HDMI + LVDS, CRT + HDMI Dual-channel 18/ 24-bit LVDS
Audio	
Chipset	Realtek ALC892 Support 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F) -40°C ~ 85°C (-40°F ~ 185°F) (Optional for Wide Temperature Model)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)



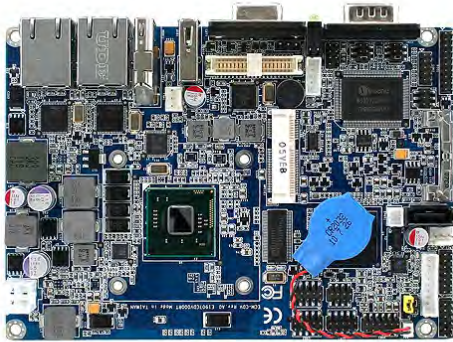
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win 8 Win 7 Linux

+ Ordering

ECM-BYT-E3845-A1R
ECM-BYT W/I E3845/1SATA/4COM/A1

ECM-BYT-J1900-A1R
ECM-BYT W/D J1900/1SATA/4COM/A1

ECM-BYT-E3845W-A1R (Wide temp.-40~+85C)
ECM-BYT W/I E3845/4COM/WT/A1



ECM-CDV

Intel® Atom™ Processor D2550 3.5" Micro Module with Intel® NM10 Express Chipset

- > Onboard Intel® Atom™ D2550 BGA Processor
- > One 204-pin DDR3 SODIMM Socket, Supports Up to 4GB DDR3 800/ 1066 SDRAM
- > HDMI, VGA, Dual-channel 18/ 24-bit LVDS
- > 5.1-CH Audio, Dual Intel® Gigabit Ethernet
- > 1 CF, 1 SATA, 2 COM, 7 USB, 16-bit GPIO
- > 1 x Mini-PCIe (mSATA Supported)
- > Optional Built-in Touch Screen Interface

+ Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor Intel® Atom™ N2600 2-Core 1.6GHz processor Intel® Atom™ N2800 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 800MHz SO-DIMM up to 4 GB or 1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
I/O Chip	Nuvoton W83627DHG-P
BIOS	AMI 16Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x CompactFlash Type III Socket
Touch Screen	
Built-in Touch controller(optional)	Chipset: PenMount 6000 Touch Screen Interface: With 9-pin 2.0mm Box Header (Can be Selected to Support 4/5/8-wire Touch Screen)
I/O	
USB	7 x USB 2.0
SATA	1 x SATA II
Com Port	1 x RS-232/422/485 1 x RS-232
DIO	1 x 16bit GPIO
MIO	1 x LPC 1 x SPI 1 x PS2/ KB & MS
Display	
Chipset	Intel® Cedarview Integrated Graphics Supports dual display
Resolution	VGA: Max. resolution 1920x1200@ 60Hz HDMI: Max. resolution 1920x1080@ 60Hz LVDS: Max. resolution 1366x768@ 60Hz CRT + LVDS, HDMI + LVDS, CRT + HDMI LCD/ Simultaneous Mode: D2550: 1920 x 1080 @ 60Hz (Through eDP); N2800/ N2600: 1366 x 768 @ 60Hz (Through eDP)
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-20°C ~ 80°C (-40°F ~ 176°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)



Weight	0.44lbs (0.2kg)
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 7 Win XP Linux

+ Ordering

ECM-CDV-D255-A1R
3.5" W/2550/NM10/2-ch 24bit LVDS

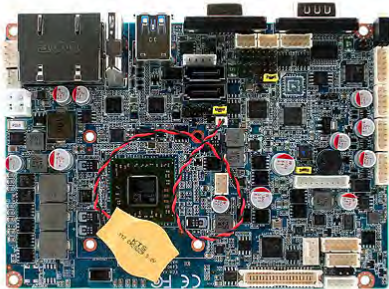
ECM-CDV-N26-A1R
3.5" W/2600/NM10/2-ch 24bit LVDS

ECM-CDV-N28-A1R
3.5" W/2800/NM10/2-ch 24bit LVDS



ECM-KA

AMD G-Series SoC Processor GX-415GA 3.5" Micro Module



- > Onboard AMD G-Series SoC GX-415GA BGA Processor
- > One 204-pin DDR3 SODIMM Socket Supports Up to 8GB DDR3 1600 SDRAM
- > Dual View (HDMI, LVDS, VGA)
- > Dual Gigabit Ethernet, HD Audio
- > 2 SATA III, 1 Mini PCIe, 1 CF
- > 2 USB 3.0, 6 USB 2.0, 2 COM, 8-bit GPIO

Spec

System	
Processor	AMD G-Series GX-415GA 4-Core 1.5GHz processor AMD G-Series GX-217GA 4-Core 1.6GHz processor AMD G-Series GX-210HA 4-Core 1.0GHz processor
System Memory	1 x 204-Pin DDR3 1600MHz SO-DIMM up to 8 GB
I/O Chip	EC ITE IT8518VG
BIOS	AMI 32Mbit SPI BIOS
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x CompactFlash Type III Socket
Touch Screen	
Built-in Touch controller(optional)	Chipset:PenMount 6000 Touch Screen Interface:With 9-pin 2.0mm Box Header (Can be Selected to Support 4/5/8-wire Touch Screen)
I/O	
USB	6 x USB 2.0 2 x USB 3.0
SATA	2 x SATA III
Com Port	1 x RS-232/422/485 1 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x LPC 1 x PS2/ KB & MS 1 x SPI
Display	
Chipset	AMD SoC Integrated Graphics Supports dual display
Resolution	VGA:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 1920x1080@ 60Hz LVDS:Max. resolution 1920x1080@ 60Hz CRT + LVDS, HDMI + LVDS, CRT + HDMI Dual-channel 18/ 24-bit LVDS (Through eDP)
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.4lbs (0.18kg)
Certifications	



Certification Information	CE FCC Class B
Software Support	
OS Information	Win 8 Win 7 Win XP Linux

+ Ordering

ECM-KA-415GA-A1R
3.5" W/415GA/2USB3.0/2COM/A1

ECM-KA-217GA-A1R
3.5" W/217GA /2USB3.0/2COM/A1

ECM-KA-210HA-A1R
3.5" W/210HA /2USB3.0/2COM/A1



ECM-A50M

AMD G-series Processor T56N 3.5" Micro Module with AMD A50M Chipset

- > Onboard AMD G-series T56N BGA Processor
- > One 204-pin DDR3 SODIMM Socket Supports Up to 4GB DDR3 1066 SDRAM
- > Dual View, 2-CH LVDS, CRT, HDMI
- > 5.1-CH Audio, Dual Gigabit Ethernet
- > 1 CF, 2 SATA, 2 COM, 7 USB, 16-bit GPIO

+ Spec

System	
Processor	AMD G-Series T56N 2-Core 1.6GHz processor AMD G-Series T40E 2-Core 1.0GHz processor AMD G-Series T16R 1-Core 615MHz processor
System Chipset	AMD A50M Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
I/O Chip	Winbond W83627DHG-PT
BIOS	AMI 32Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x CompactFlash Type III Socket
Touch Screen	
Built-in Touch controller(optional)	Chipset:PenMount 6000 Touch Screen Interface:With 9-pin 2.0mm Box Header (Can be Selected to Support 4/5/8-wire Touch Screen)
I/O	
USB	7 x USB 2.0
SATA	2 x SATA II
Com Port	1 x RS-232/422/485 1 x RS-232
DIO	1 x 16bit GPIO
MIO	1 x LPC 1 x SPI 1 x PS2/ KB & MS
Display	
Chipset	AMD Fusion Accelerated Processors Supports dual display
Resolution	VGA:Max. resolution 2560x1600@ 75Hz LVDS:Max. resolution 2048x1536@ 75Hz For T56N,VGA: 2560 x 1600@75Hz, LVDS:2048 x 1536@75Hz CRT + LVDS, HDMI + LVDS, CRT + HDMI Dual-channel 18/24-bit LVDS (Transfer Through DDI)
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V
ACPI	Single Power ATX Support S0, S1, S3, S4, S5 ACPI3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Certifications	



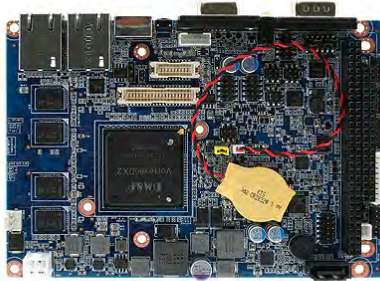
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 7 Win XP Linux

+ Ordering

ECM-A50M-56N-A1R
3.5" W/A50M/T56N/HDMI/2COM/A1

ECM-A50M-40E-A1R
3.5" W/A50M/T40E/HDMI/2COM/A1

ECM-A50M-16R-A1R
3.5" W/A50M/T16R/HDMI/2COM/A1



ECM-DX2

DM&P SoC Processor Vortex86DX2 3.5" Micro Module

- > Onboard DM&P SoC Vortex86DX2 BGA Processor
- > Vortex86DX2 Low Power Consumption, 4.5W @ 800MHz
- > Onboard DDR2 Memory Up to 1GB (32bit)
- > Dual view : VGA + LVDS, VGA + TTL
- > Single-channel 24-bit LVDS (Optional 18-bit)
- > 1 SATA II, 4 COM, 2 USB 2.0, 8-bit GPIO, Dual LAN
- > PC/104 Expansion (8/16-Bit ISA)
- > Fanless Operation & Supports Extended Temperature to -40 ~ 75°C

+ Spec

System	
Processor	DM&P Vortex86DX2 1-Core 800MHz processor
System Memory	Onboard DDR2 1GB(32bit)
BIOS	AMI 2MB SPI BIOS
Watchdog Timer	H/W Reset: 1sec.~512sec.
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PC/104 1 x Mini PCIe
Storage	
Storage	1 x CompactFlash Type III Socket
Touch Screen	
Built-in Touch controller(optional)	Chipset:PenMount 6000 Touch Screen Interface:With 5-pin 2.0mm Box Header (Can be Selected to Support 4/ 5Wire Touch Screen)
I/O	
USB	2 x USB 2.0
SATA	1 x SATA II
Com Port	2 x RS-232/422/485 2 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x PS2/ KB & MS
Display	
Chipset	Vortex86DX2 Integrated Graphics Supports dual display
Resolution	VGA:Max. resolution 1280x1024@ 60Hz LVDS:Max. resolution 1024x768@ 60Hz VGA + LVDS, VGA + TTL Single-channel 24-bit LVDS (Optional 18-bit)
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x DM&P Vortex86DX 1 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F) -40°C ~ 75°C (-40°F ~ 167°F) (for Wide Temperature Model)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information

Win XP
Win 2000
Linux

+ Ordering

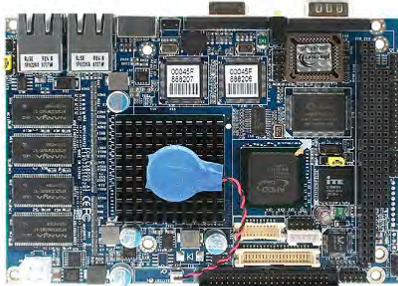
ECM-DX2-24-A1R
3.5"ECM-DX2 W/DDR2 1GB RAM/24bit LVDS/A1

ECM-DX2-24W-A1R (Wide temp.-40~+75C)
3.5"ECM-DX2 W/DDR2 1GB RAM/Wide Temp/A1



ECM-LX800D

AMD Processor LX800 3.5" Micro Module with AMD CS5536 Chipset



- > Onboard AMD LX800 BGA Processor
- > Onboard 256MB Memory (Optional up to 512MB)
- > LVDS, 2-CH Audio
- > Dual Realtek RTL8101L LAN
- > 1 CF, 1 PC/104, 2 COM, 2 USB , 8-bit GPIO
- > Fanless Operation
- > Wide Voltage: +12V ~ +24V

+ Spec

System	
Processor	AMD Geode LX800 1-Core 500MHz processor
System Chipset	AMD Geode LX800/CS5536
System Memory	Onboard DDR 256MB Optional 512MB
I/O Chip	Winbond W83627HG-AW
BIOS	Award 4Mbit Flash BIOS
Watchdog Timer	H/W Reset: 1sec.~255min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PC/104
Storage	
Storage	1 x CompactFlash Type III Socket
I/O	
USB	2 x USB 2.0
Com Port	1 x RS-232/422/485 1 x RS-232 1 x LPT
DIO	1 x 8bit GPIO
MIO	1 x PS2/ KB & MS 1 x EIDE
Display	
Chipset	AMD Geode LX800 Integrated Graphics Supports dual display
Resolution	VGA:Max. resolution 1920x1440@ 85Hz TFT:Max. resolution 1600x1200@ 60Hz CRT + LVDS, CRT + TTL Single-channel 18-bit LVDS optional 24-bit,Support 18/24-bit CRT+TFT panel
Audio	
Chipset	Realtek ALC203 supports 2-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Realtek 8101L
Ethernet Interface	10/100 Base-Tx Fast compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +24V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Certifications	
Certification Information	CE FCC Class A
Software Support	



OS Information

Win XP
Win 2000
Win CE

+ Ordering

ECM-LX800D-A2R
3.5" LX800 W/256MB RAM/18bit LVDS A2

ECM-LX800D-A2DR
3.5" LX800 W/512MB RAM/18bit LVDS A2

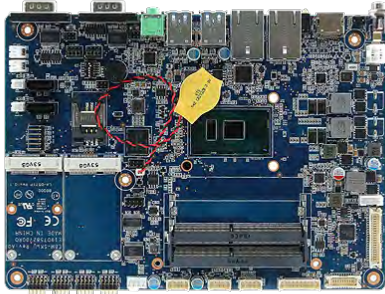
ECM-LX800D-A2TR
3.5" LX800 W/256MB RAM/18bit/Touch A2

ECM-LX800D-A2DTR
3.5" LX800 W/512MB RAM/18bit/Touch A2



EBM-SKLU

6th Gen Intel® Core™ SoC Processor i7/i5/i3 5.25" Mini Module



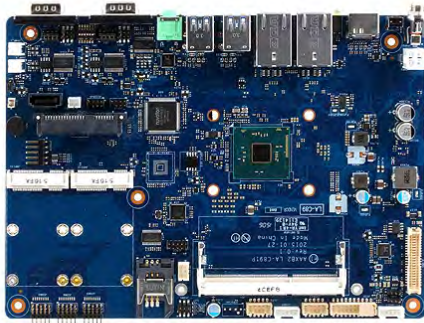
- > Onboard 6th Gen Intel® Core™ SoC i7/i5/i3 BGA Processor
- > 2 x 260pin DDR4 SO-DIMM up to 16G per DIMM, total 32GB (non ECC only)
- > Dual display (LVDS & HDMI)
- > 1 SATA III, 2 Mini PCIe, 4 USB 3.0, 4 USB 2.0, 6 COM, 16-bit GPIO
- > +12 ~ 26V Wide Power Range
- > TPM 2.0 & TPM 1.2 (Both optional)

+ Spec

System	
Processor	6th Gen Intel® Core™ i7-6600U, 2-Core, 2.6GHz processor 6th Gen Intel® Core™ i5-6300U, 2-Core, 2.4GHz processor 6th Gen Intel® Core™ i3-6100U, 2-Core, 2.3GHz processor
System Memory	2 x 260-Pin DDR4 2133MHz SO-DIMM up to 32 GB Up to 2 DIMMs & 16GB per DIMM, total 32GB
I/O Chip	EC ITE IT8528E
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Expansion	
Expansion	1 x Mini PCIe Supports SIM Card 1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x mSATA Supported from Mini PCIe
Touch Screen	
Built-in Touch controller(optional)	EETIETP-CP-MER4485XRU 1 x 5-pin 2.0mm Pin Header
I/O	
USB	4 x USB 3.0 4 x USB 2.0
SATA	1 x SATA II
Com Port	2 x RS-232/422/485 4 x RS-232
Other	1 x SIM Card Slot
DIO	1 x 16bit GPIO
MIO	1 x LPC 1 x SPI
Display	
Chipset	Intel® Skylake U SoC integrated Graphics Supports dual display
Resolution	HDMI: Max. resolution 3840x2160 @ 24Hz LVDS: Max. resolution 1920x1080 @ 60Hz HDMI + LVDS 1 x eDP via CH7511 Supports 24-bit Dual Channel LVDS 2x20 pin Hirose Connector for (Optional BOM for 1 x internal eDP or default 1 x CH7511B LVDS for 2 x 24-bit.)
Audio	
Chipset	Realtek ALC233 supports 2.1-CH
Audio Interface	Line-Out and Amp.
Ethernet	
Chipset	1 x Intel® I210AT 1 x Intel® I219LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing



Dimension (L x W)	8" x 5.75" (203mm x 146mm)
Weight	0.55lb (0.25kg)
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win 10 Win 8.1 Win 7 Linux



EBM-BSW

Intel® Pentium®/Celeron® SoC Processor 5.25”
Mini Module

- > Onboard Intel® Pentium®/Celeron® SoC BGA Processor
- > 1 x 204pin DDR3L SO-DIMM up to 8G
- > Dual display (LVDS & HDMI)
- > 1 x SATA III, 2 x mini-PCIe, 4 x USB3.0 , 3 xUSB2.0, 5 COMs ,16-bit GPIO
- > +12 ~ 26V Wide Power Range
- > TPM 1.2 (Optional)

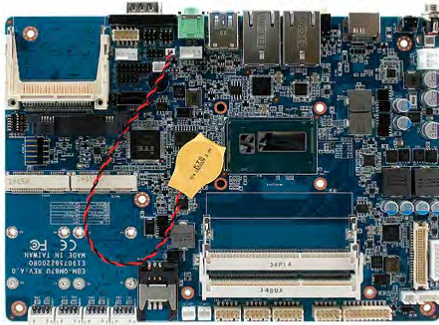
+ Spec

System	
Processor	Intel® Pentium®/Celeron® processor
System Memory	1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB
I/O Chip	Nuvoton NPCE388N
BIOS	Insyde 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports SIM Card 1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x eMMC (reserve32G)
Touch Screen	
Built-in Touch controller(optional)	EETI ETP-CP-MER4485XRU 1 x 5-pin 2.54mm Pin Header
I/O	
USB	4 x USB 3.0, 3 x USB 2.0
SATA	1 SATA III
Com Port	2 x RS-232/422/485, 3 x RS-232
Other	1 x SIM Card Slot
DIO	1 x 16-bit GPIO
MIO	1 x LPC, 1 x SPI, 1 x HDMI Output
Display	
Chipset	Intel® Braswell SoC integrated Graphics Supports dual display
Resolution	HDMI:Max. resolution 1920x1080 @ 60Hz LVDS:Max. resolution 1920x1080 @ 60Hz HDMI + LVDS 1 x eDP via RealTek RTD2136N Supports 18/24-bit LVDS
Audio	
Chipset	Realtek ALC233 supports 2.1-CH
Audio Interface	Line-Out and Amp.
Ethernet	
Chipset	2 x Realtek 8119
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-20°C ~ 60°C (-4°F ~ 140°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	8" x 5.75" (203mm x 146mm)
Weight	0.55lb (0.25kg)
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information

Win 8
Win 7
Linux



EBM-QM87U

4th Gen Intel® Core™ SoC Processor i7/i5/i3 5.25" Mini Module

- > Onboard 4th Gen Intel® Core™ SoC i7/i5/i3 BGA Processor
- > 2 x 204-pin DDR3L SO-DIMM Up to 4G Per DIMM
- > Dual Display (LVDS & HDMI)
- > 2 mPCIe Ports, One Supports mSATA and The Other Supports USB w/ SIM Card Slot
- > 2 x USB 3.0 Compatible with USB 2.0
- > +12 ~ 26V Wide Power Range

+ Spec

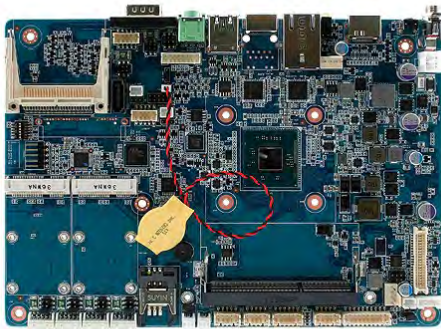
System	
Processor	4th Gen Intel® Core™ i7-4650U 2-Core 3.3GHz processor 4th Gen Intel® Core™ i5-4300U, 2-Core, 1.9GHz processor 4th Gen Intel® Core™ i3-4010U, 2-Core, 1.7GHz processor
System Memory	2 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB Up to 2 DIMMs & 8GB per DIMM, total 16GB
I/O Chip	EC ITE IT8528E
BIOS	AMI uEFI BIOS, 64/ 128Mbit SPI Flash ROM(iAMT 9.5 Supported)
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
H/W Status Monitor	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports SIM Card 1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x CompactFlash Type III Socket
Touch Screen	
Built-in Touch controller(optional)	EETIETP-CP-MER4485XRU 1 x 5-pin 2.0mm Pin Header
I/O	
USB	2 x USB 3.0 2 x USB 2.0
SATA	2 x SATA II
Com Port	1 x RS-232/422/485 1 x RS-232
Other	1 x SIM Card Slot
DIO	1 x 16bit GPIO
Display	
Chipset	Intel® Lynx Point Integrated Graphics Supports dual display
Resolution	HDMI:Max. resolution 4000x2000@ 25Hz LVDS:Max. resolution 1920x1200@ 60Hz HDMI + LVDS , HDMI: 4000 x 2000 @ 24Hz (Single Display) 1 x eDP via CH7511 Supports 24-bit Dual Channel LVDS
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In, Line-Out, Speak-out
Ethernet	
Chipset	1 x Intel® I210AT 1 x Intel® I218LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	8" x 5.75" (203mm x 146mm)
Weight	0.55lb (0.25kg)
Certifications	



Certification Information	CE FCC Class B
Software Support	
OS Information	Win 7 Win 8 Linux

+ Ordering

EBM-QM87U-4300-A1R
5.25" EBM-QM87U/i5-4300U/2LAN/2COM/TC/A1



EBM-BYT

Intel® Celeron®/Atom™ SoC Processor J1900/E3845 5.25" Mini Module

- > Onboard Intel® Celeron®/Atom™ SoC J1900/E3845 BGA Processor
- > One 204-pin DDR3L SODIMM Socket, Supports Up to 8GB DDR3L 1066/1333MHz SDRAM
- > Dual Display, Dual-channel 18/24-bit LVDS, HDMI
- > HD Audio, Dual Gigabit Ethernet
- > 1 SATA II, 2 Mini PCIe, 1 USB 3.0, 5 USB 2.0, 6 COM, 1 CF, 16-bit GPIO
- > Fanless Operation

Spec

System	
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor Intel® Celeron® J1900 4-Core 2.0GHz processor
System Memory	1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB Processor E3845 & J1900 only support 1333MHz
I/O Chip	EC ITE IT8528E
BIOS	AMI uEFI BIOS, 64/ 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
H/W Status Monitor	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports SIM Card 1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x CompactFlash Type III Socket
Touch Screen	
Built-in Touch controller(optional)	EETI ETP-CP-MER4485XRU USB, 5-wire Resistive
I/O	
USB	1 x USB 3.0 5 x USB 2.0
SATA	1 x SATA II
Com Port	2 x RS-232/422/485 4 x RS-232
Other	1 x SIM Card Slot
DIO	1 x 16bit GPIO
MIO	1 x LPC 1 x SPI 1 x PS2/ KB & MS
Display	
Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display
Resolution	DP:Max. resolution 2560x1600@ 60Hz HDMI:Max. resolution 1920x1200@ 60Hz HDMI + LVDS DP, eDP (2560 x 1600 @ 60Hz 24bpp)
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Intel® I210IT Bay Trail-M/D: 2 x Intel® I211AT Gigabit Ethernet Controller
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
Power Type	AT/ATX
Operating Temp	-40°C ~ 85°C (-40°F ~ 185°F) 0°C ~ 60°C (with Processor J1900)
Storage Temp	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing

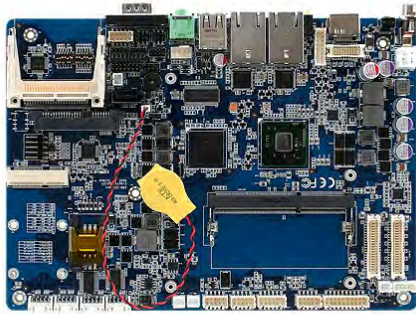


Dimension (L x W)	8" x 5.75" (203mm x 146mm)
Weight	0.55lb (0.25kg)
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win 7 Win 8 Linux

Ordering

EBM-BYT-E3845W-A1R
5.25" W/E3845/18/24bit/2LAN/6COM/1SATA

EBM-BYT-J1900-A1R
5.25" W/J1900/18/24bit/2LAN/6COM/1SATA



EBM-CDV

Intel® Atom™ Processor D2550 5.25" Mini Module with Intel® NM10 Express Chipset

- > Onboard Intel® Atom™ D2550 BGA Processor
- > One 204-pin SODIMM Supports Up to 4GB DDR3 1066MHz SDRAM
- > Dual View, 2-CH 18/ 24-bit LVDS, HDMI
- > 5.1-CH Audio, Dual Intel® 82574L Gigabit Ethernet
- > 1 SATA, 6 COM, 8 USB 2.0, 16-bit GPIO
- > 1 SIM Card Slot (3G Module Via Mini PCIe Slot)
- > 1 Mini PCIe Port (Support mSATA)

+ Spec

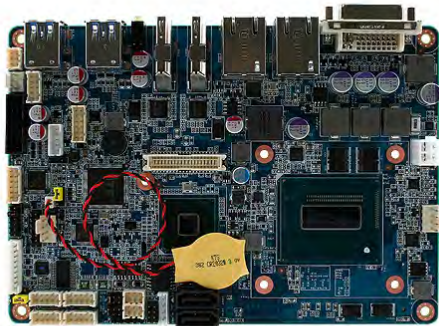
System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor Intel® Atom™ N2800 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
I/O Chip	EC ITE IT8518E
BIOS	AMI 16Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec.~255min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe
Storage	
Storage	1 x CompactFlash Type III Socket
Touch Screen	
Built-in Touch controller(optional)	EETIETP-CP-MER4485XRU Support 4/ 5-wire USB (4), With 5-pin 2.0mm Box Header (Can be Selected to Support 4/ 5-wire Touch Screen)
I/O	
USB	8 x USB 2.0
SATA	1 x SATA II
Com Port	2 x RS-232/422/485 4 x RS-232
Other	1 x SIM Card Slot (3G Module Via Mini PCIe Slot)
DIO	1 x 16bit GPIO
MIO	1 x LPC 1 x SPI
Display	
Chipset	Intel® Cedarview Integrated Graphics Supports dual display
Resolution	VGA:Max. resolution 1920x1200@ 60Hz LVDS:Max. resolution 1366x768@ 60Hz CRT + LVDS, HDMI + LVDS, CRT + HDMI LVDS:1400 x 900 @ 60Hz (CDV-D), Dual-channel 18/ 24-bit LVDS (with eDP)
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +26V
Power Type	AT Single +12~28V Power Input/ ATX, Optional +24V Input (Inverter Still +12V Out)
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	8" x 5.75" (203mm x 146mm)
Weight	0.55lb (0.25kg)
Certifications	



Certification Information	CE FCC Class B
Software Support	
OS Information	Win 7 Linux

+ Ordering

EBM-CDV-D255-A1TR
5.25" W/D255/18/24bit/2LAN/6COM/1SATA



EPI-QM87R

4th Gen Intel® Core™ Processor i5/i3 EPIC Module with Intel® QM87 Chipset

- > Onboard 4th Gen Intel® Core™ i5/i3 BGA Processor
- > One 204-pin DDR3L SODIMM Up to 8GB DDR3 1333/ 1600 SDRAM
- > Triple Independent Display
- > 18/24-bit Dual-channel LVDS, 1 DVI, 2 HDMI
- > Dual Gigabit Ethernet, HD Audio
- > 2 SATA III, 1 Mini PCIe, 6 USB 3.0, 2 USB 2.0, 4 COM, 8-bit GPIO
- > Supports mSATA, TPM 1.2 Function
- > iAMT 9.0

+ Spec

System	
Processor	4th Gen Intel® Core™ i5-4422E, 2-Core, 1.8GHz processor 4th Gen Intel® Core™ i3-4110E, 2-Core, 2.6GHz processor
System Chipset	Intel® QM87 Express Chipset
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB or 1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB
I/O Chip	EC ITE IT8518E
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step
H/W Status Monitor	Monitoring SYSTEM Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x mSATA Supported from Mini PCIe
Touch Screen	
Built-in Touch controller(optional)	Chipset: PenMount 6000 Touch Screen Interface: With 9-pin 2.0mm Box Header (Can be Selected to Support 4/5/8-wire Touch Screen)
I/O	
USB	2 x USB 2.0 6 x USB 3.0
SATA	2 x SATA III
Com Port	2 x RS-232/422/485 2 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x LPC 1 x PS2/ KB & MS 1 x SPI 1 x IrDA
Display	
Chipset	Intel® Valleyview SoC integrated Graphics Supports triple display
Resolution	DVI-I: Max. resolution 1920x1200@ 60Hz HDMI: Max. resolution 3840x2160@ 24Hz LVDS: Max. resolution 1920x1080@ 60Hz Dual HDMI + LVDS/HDMI + LVDS + DVI or Dual HDMI + CRT/HDMI + LVDS + CRT Dual-channel 18/ 24-bit LVDS, One DVI Port Co-lay with VGA
Audio	
Chipset	Realtek ALC892 Supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I210AT 1 x Intel® I217LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +19V
ACPI	Single Power ATX Supports S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX

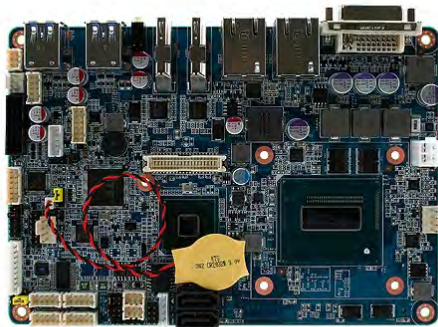


Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	4.5" x 6.5" (115mm x 165mm)
Weight	0.4lbs (0.18kg)
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 7 Win 8 Linux

+ Ordering

EPI-QM87R-4422-A1R
EPIC-QM87RW/i5 4422E/6USB3.0/4COM/A1

EPI-QM87R-4110-A1R
EPIC-QM87R W/i3 4110E/6USB3.0/4COM/A1



EPI-QM87

4th Gen Intel® Core™ Processor i7/i5/i3 EPIC Module with Intel® QM87 Chipset

- > Onboard 4th Gen Intel® Core™ i7/i5/i3 BGA Processor
- > One 204-pin DDR3L SODIMM Up to 8GB DDR3 1333/ 1600 SDRAM
- > Triple Independent Display
- > 18/24-bit Dual-channel LVDS, 1 DVI, 2 HDMI
- > Dual Gigabit Ethernet, HD Audio
- > 2 SATA III, 1 Mini PCIe, 6 USB 3.0, 2 USB 2.0, 4 COM, 8-bit GPIO
- > Supports mSATA, TPM 1.2 Function
- > iAMT 9.0

+ Spec

System	
Processor	4th Gen Intel® Core™ i7-4700EQ 4-Core 3.4GHz processor 4th Gen Intel® Core™ i5-4400E, 2-Core, 2.7GHz processor 4th Gen Intel® Core™ i3-4102E, 2-Core, 1.6GHz processor
System Chipset	Intel® QM87 Express Chipset
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB or 1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB
I/O Chip	EC ITE IT8518E
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step
H/W Status Monitor	Monitoring SYSTEM Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x mSATA Supported from Mini PCIe
Touch Screen	
Built-in Touch controller(optional)	Chipset: PenMount 6000 Touch Screen Interface: With 9-pin 2.0mm Box Header (Can be Selected to Support 4/5/8-wire Touch Screen)
I/O	
USB	2 x USB 2.0 6 x USB 3.0
SATA	2 x SATA III
Com Port	2 x RS-232/422/485 2 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x LPC 1 x PS2/ KB & MS 1 x SPI 1 x IrDA
Display	
Chipset	Intel® Valleyview SoC integrated Graphics Supports triple display
Resolution	DVI-I: Max. resolution 1920x1200@ 60Hz HDMI: Max. resolution 3840x2160@ 24Hz LVDS: Max. resolution 1920x1080@ 60Hz Dual HDMI + LVDS/HDMI + LVDS + DVI or Dual HDMI + CRT/HDMI + LVDS + CRT Dual-channel 18/ 24-bit LVDS, One DVI Port Co-lay with VGA
Audio	
Chipset	Realtek ALC892 Supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I210AT 1 x Intel® I217LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +19V
ACPI	Single Power ATX Supports S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX



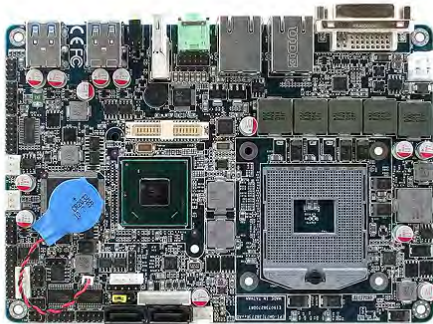
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	4.5" x 6.5" (115mm x 165mm)
Weight	0.4lbs (0.18kg)
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 8 Win 7 Linux

Ordering

EPI-QM87-4700-A1R
EPIC-QM87W/i7 4700EQ/6USB3.0/4COM/A1

EPI-QM87R-4422-A1R
EPIC-QM87W/i5 4400E/6USB3.0/4COM/A1

EPI-QM87R-4110-A1R
EPIC-QM87W/i5 4102E/6USB3.0/4COM/A1



EPI-QM77

3rd Gen Intel® Core™ Processors i7/i5/i3 EPIC Module with Intel® QM77 Chipset

- > Supports 3rd Gen Intel®Core™ i7/i5/i3 rPGA 988B Processor
- > One 204-pin DDR3 SODIMM Up to 8GB DDR3 1333/ 1600 SDRAM
- > Triple Display, 2-CH LVDS, 1 DVH, 1 HDMI
- > Dual Intel® Gigabit Ethernet
- > 2 SATA III, 2 COM, 16-bit GPIO, 2 USB 2.0,4 USB 3.0
- > Supports mSATA
- > Backward Compatibility (EPI-QM77 can adopt Intel® 2nd Generation Core™ i7/i5/i3 CPU)
- > Supports iAMT 8.0 and TPM Function

+ Spec

System	
Processor	3rd Gen Intel® Core™ i7-3610QE 4-Core 2.3GHz processor 3rd Gen Intel® Core™ i5-3610ME 2-Core 2.7GHz processor 3rd Gen Intel® Core™ i3-3120ME 2-Core 2.4GHz processor
System Chipset	Intel® QM77 Express Chipset
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB or 1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB
I/O Chip	Nuvoton NTC6776F
BIOS	AMI 64Mbit SPI BIOS
Watchdog Timer	H/W Reset, 1sec. ~ 65535min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x mSATA Supported from Mini PCIe
Touch Screen	
Built-in Touch controller(optional)	Chipset:PenMount 6000 Touch Screen Interface:With 9-pin 2.0mm Box Header (Can be Selected to Support 4/5/8-wire Touch Screen)
I/O	
USB	2 x USB 2.0 4 x USB 3.0
SATA	2 x SATA III
Com Port	1 x RS-232/422/485 1 x RS-232
DIO	1 x 16bit GPIO
MIO	1 x LPC 1 x PS2/ KB & MS 1 x SPI 1 x IrDA
Display	
Chipset	Intel® QM77 Chipset Integrated Supports triple display
Resolution	DVI:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 1920x1200@ 60Hz DVI + LVDS + HDMI or CRT + LVDS + HDMI LVDS:18 or 24 bits/ pixel; Pixel Resolution Clock 25 - 112MHz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82574L 1 x Intel® 82579LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +19V
ACPI	Single Power ATX Supports S0, S3, S4, S5 ACPI 1.0b and 2.0 Compliant
Power Type	AT/ATX



Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	4.5" x 6.5" (115mm x 165mm)
Weight	0.4lbs (0.18kg)
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 8 Win 7 Win XP Linux

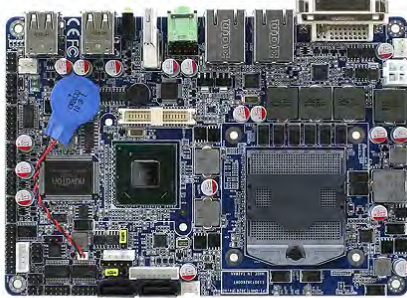
 **Ordering**

EPI-QM77-A1R
EPIC-QM77w/CPU Socket,2SATAIII/2COM/6USB



EPI-QM67

2nd Gen Intel® Core™ Processors i7/i5/i3 EPIC Module with Intel® QM67 Chipset



- > Supports 2nd Gen Intel®Core™ i7/i5/i3 rPGA 988B Processor
- > One 204-pin DDR3 SODIMM Up to 8GB DDR3 1066/ 1333 SDRAM
- > Dual View, Dual-channel LVDS, DVI, HDMI
- > Dual Intel® Gigabit Ethernet
- > 2 SATA III, 2 COM, 10 USB, 16-bit GPIO
- > Supports iAMT 7.0
- > Supports mSATA

+ Spec

System	
Processor	2nd Gen Intel® Core™ i7-2710QE 4-Core 2.1GHz processor 2nd Gen Intel® Core™ i5-2510E 2-Core 2.5GHz processor 2nd Gen Intel® Core™ i3-2330E 2-Core 2.2GHz processor
System Chipset	Intel® Q67 Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 8 GB or 1 x 204-Pin DDR3 1333MHz SO-DIMM up to 8 GB
I/O Chip	Nuvoton NTC6776F
BIOS	AMI 8Mbit SPI BIOS
Watchdog Timer	H/W Reset, 1sec. ~ 65535min. and 1sec. or 1min./step
Expansion	
Expansion	1 x Mini PCIe Supports mSATA
Storage	
Storage	1 x mSATA Supported from Mini PCIe
Touch Screen	
Built-in Touch controller(optional)	Chipset:PenMount 6000 Touch Screen Interface:With 9-pin 2.0mm Box Header (Can be Selected to Support 4/5/8-wire Touch Screen)
I/O	
USB	10 x USB 2.0
SATA	2 x SATA III
Com Port	1 x RS-232/422/485 1 x RS-232
DIO	1 x 8bit GPIO
MIO	1 x LPC 1 x PS2/ KB & MS 1 x SPI 1 x IrDA
Display	
Chipset	Intel® QM67 Chipset Integrated Supports dual display
Resolution	DVI:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 1920x1200@ 60Hz DVI + LVDS, DVI + HDMI, HDMI + LVDS LVDS:18 or 24 bits/pixel; Pixel Clock 25-112MHz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82574L 1 x Intel® 82579LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V ~ +19V
ACPI	Single Power ATX Supports S0, S3, S4, S5 ACPI 1.0b and 2.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)



Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	4.5" x 6.5" (115mm x 165mm)
Weight	0.4lbs (0.18kg)
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 7 Win XP Linux

+ Ordering

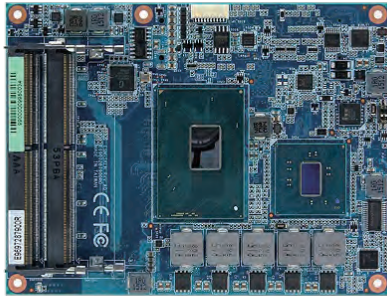
EPI-QM67-A1R
EPIC-QM67 w/CPU Socket,2SATA,2COM,10USB

2

Computer on Module COM Express / Qseven

CH2-COM Express / Qseven

ESM-SKLA	6th Gen Intel® Xeon® E3-1500 series /Core™ Processor i3 series Type6 COMe Basic Module with Intel® CM236 Chipset
ESM-SKLN	6th Gen Intel® Xeon® E3-1500 series /Core™ Processor i3 series Type6 COMe Basic Module with Intel® CM236 Chipset
ESM-SKLN	6th Gen Intel® Xeon® E3-1500 series /Core™ Processor i3 series Type6 COMe Basic Module with Intel® CM236 Chipset
ESM-QM87/ESM-QM87R	4th Gen Intel® Core™ Processor i7/i5/i3 Type6 COMe Basic Module with Intel® QM87 Chipset
ESM-BDW	5th Gen Intel® Core™ SoC Processor i7/i5/i3 Type6 COMe Compact Module
ESM-BYT2	Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Type6 COMe Compact Module
ESM-BYT	Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Type6 COMe Basic Module
ESM-CDV	Intel® Atom™ Processor D2550 Type2 COMe Basic Module with Intel® NM10 Chipset
ESM-A50M	AMD G-Series Processors T56N Type6 COMe Basic Module with AMD A50M Chipset
EEV-EX14	Micro ATX Type6 COM Express Carrier Board
EEV-EX13	Micro ATX COM Express Type2 Carrier Board
EEV-EX62	COMe Type 6 to Type 2 Adapter
EQM-BSW	Intel® Pentium® and Celeron® N3000 Series SoC Processors Qseven Module
EQM-BYT	Intel® Atom™ SoC processor E3845 Qseven Module
EQM-CDV	Intel® Atom™ Processor N2800 Qseven Module
EQM-A50M	AMD G-Series Processors T40E Qseven Module
EEV-Q701	3.5" Qseven Carrier Board
EEV-Q702	Mini ITX Qseven Carrier Board



ESM-SKLA

6th Gen Intel® Xeon® E3-1500 series /Core™ Processor i3 series Type6 COMe Basic Module with Intel® CM236 Chipset

- > Onboard 6th Gen Intel® Xeon® E3-1500 series / Core™ i3 series
- > Processor
- > Two 260-pin SODIMM DDR4 SDRAM slot up to 32GB, CM236 Support ECC Function
- > Dual-channel 18/24-bit LVDS, VGA, DP/HDMI/DVI, eDP Option
- > Intel® I219LM Gigabit Ethernet
- > 8 PCIe x1, 1 PCIe x16, 4 SATA, 8 USB 2.0, 4 USB 3.0
- > HD Audio Interface
- > Type 6 Pin-out
- > TPM 2.0

+ Spec

System	
Processor	Intel® Xeon® E3-1505M v5 4-Core 2.8GHz processor 6th Gen Intel® Core™ i3-6100E 2-Core 2.7GHz processor
System Chipset	Intel® CM236 Express Chipset
System Memory	2 x 260-Pin DDR4 2133MHz SO-DIMM up to 32 GB
I/O Chip	EC ITE IT8528E
BIOS	AMI uEFI BIOS, 64/ 128Mbit SPI Flash ROM
Expansion	
Expansion	8 x PCIe1
I/O	
USB	8 x USB 2.0 4 x USB 3.0
SATA	4 x SATA III
Com Port	2 x UART
DIO	1 x 8bit GPIO
MIO	1 x SMBus 1 x LPC 1 x I2C
Display	
Chipset	Intel® Skylake SoC integrated Graphics
Resolution	VGA: Max. resolution 1920x1080 @ 60Hz LVDS: Max. resolution 1920x1080 @ 60Hz HDMI: Max. resolution 4096x2304 @ 24Hz (HDMI Max resolution only one display output)
LVDS	CH7511B(eDP to LVDS)
Multiple Display	(VGA + DP) + HDMI + DDI LVDS + (VGA + DP) + DDI LVDS + (VGA + DP) + HDMI LVDS + HDMI + DDI
DDI	HDMI DVI DisplayPort
Audio	
Chipset	Intel® CM236 integrated
Audio Interface	Intel® High Definition Audio
Ethernet	
Chipset	1 x Intel® I219LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+9V ~ +19V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)(Standard)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5" x 3.7" (125mm x 95mm)
Weight	0.44lbs(0.2kg)
Certifications	
Certification Information	CE FCC Class B
Software Support	



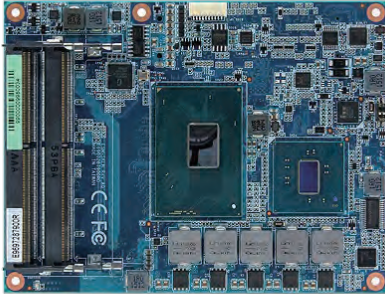
OS Information

Win 7 / Win 8.1 / Win 10 / Linux

+ Ordering

EEV-EX14-A2R
mATX Ev. Board for COMe Type 6 A1.1

ESM-SKLA-05M-A1R
Intel® Xeon® E3-1505M v5 Type6 COMe Compact Module



ESM-SKLH

6th Gen Intel Core™ Processor i7/i5/i3
Type6 COMe Basic Module with Intel®
QM170/CM236 Chipset

- > Onboard 6th Gen Intel® Core™ Processor i7/i5/i3 Processor
- > Two 260-pin SODIMM DDR4 SDRAM slot up to 32GB, CM236 Support ECC Function
- > Dual-channel 18/24-bit LVDS, VGA, DP/HDMI/DVI, eDP Option
- > Intel® I219LM Gigabit Ethernet
- > 8 PCIe x1, 1 PCIe x16, 4 SATA, 8 USB 2.0, 4 USB 3.0
- > HD Audio Interface
- > Type 6 Pin-out
- > TPM 2.0 (optional)

+ Spec

System	
Processor	6th Gen Intel® Core™ i7-6820EQ 4-Core 2.8GHz processor 6th Gen Intel® Core™ i5-6440EQ 4-Core 2.7GHz processor 6th Gen Intel® Core™ i3-6100E 2-Core 2.7GHz processor
System Chipset	Intel QM170 /CM236
System Memory	2 x 260-Pin DDR4 SO-DIMM up to 32 GB
I/O Chip	EC ITE IT8528E
BIOS	AMI uEFI BIOS, 64/ 128Mbit SPI Flash ROM
Expansion	
Expansion	8 x PCIe x1
I/O	
USB	8 x USB 2.0 4 x USB 3.0
SATA	4 x SATA III
Com Port	2 x UART
DIO	1 x 8bit GPIO
MIO	1 x SMBus 1 x LPC 1 x I2C
Display	
Resolution	VGA: Max. resolution 1920x1080 @ 60Hz LVDS: Max. resolution 1920x1080 @ 60Hz HDMI: Max. resolution 4096x2034 @ 60Hz(only one display output)
LVDS	CH7511B(eDP to LVDS)
Multiple Display	VGA+LVDS+DDI VGA+DDI+DDI
DDI	HDMI DVI DisplayPort
Interface	Intel® Valleyview SoC integrated Graphics
Audio	
Audio Interface	Intel® High Definition Audio
Audio Amplifier	Intel® QM170 integrated
Ethernet	
Chipset	1 x Intel® I219LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+9V ~ +19V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5" x 3.7" (125mm x 95mm)
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information

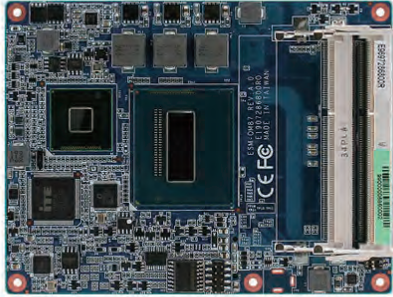
Win 10
Win 8.1
Win 7
Linux

+ Ordering

EEV-EX14-A2R
mATX Ev. Board for COMe Type 6 A1.1

ESM-SKLH-6820-A1R
Intel® Core™ i7-6820EQ Type6 COMe Compact Module

ESM-SKLA-1205-A1R
Intel® Xeon® E3-1505M v5 Type6 COMe Compact Module



ESM-QM87R

4th Gen Intel Core™ Processor i7/i5/i3 Type6
COMe Basic Module with Intel® QM87 Chipset

- > Onboard 4th Gen Intel Core™ i7/i5/i3 BGA Processor
- > Intel® QM87 Express Chipset
- > Two 204-pin SODIMM Up to 16GB DDR3L 1333/1600 SDRAM
- > Dual-channel 18/24-bit LVDS, VGA, DP/HDMI/DVI, eDP Option
- > Intel® High Definition Audio
- > Intel® I217LM Gigabit Ethernet
- > 7 PCIe1, 1 PCIe16, 4 SATA, 8 USB 2.0, 4 USB 3.0
- > 8-bit GPIO, SMBus, LPC
- > +9 ~ +19V Wide Range Power Input
- > Type 6 Pin-out

+ Spec

System	
Processor	4th Gen Intel®Core™ i7-4700EQ 4-Core 3.4GHz processor 4th Gen Intel®Core™ i5-4422E, 2-Core, 1.8GHz processor 4th Gen Intel®Core™ i3-4110E, 2-Core, 2.6GHz processor
System Chipset	Intel® QM87 Express Chipset
System Memory	2 x 204-Pin DDR3 1333/1600MHz SO-DIMM up to 16 GB or 204-Pin DDR3L 1600MHz SO-DIMM up to 16 GB
I/O Chip	EC ITE IT8518E
BIOS	AMI 64Mbit SPI BIOS
TPM	TPM 2.0
Expansion	
Expansion	7 x PCIe1 1 x PCIe16
I/O	
USB	8 x USB 2.0 1 x USB 3.0
SATA	2 x SATA II 2 x SATA III
DIO	1 x 8bit GPIO
MIO	1 x SMBus 1 x LPC
Display	
Chipset	Intel® QM87 Chipset Integrated
Resolution	HDMI:Max. resolution 4000x2000@ 60Hz LVDS:Max. resolution 1920x1080@ 60Hz
LVDS	CH7511B(eDP to LVDS)
Multiple Display	DDI+VGA DDI+LVDS LVDS+VGA
DDI	HDMI DVI DisplayPort
Audio	
Chipset	Intel®QM87 integrated
Audio Interface	Intel®High Definition Audio
Ethernet	
Chipset	1 x Intel®I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+9V ~ +19V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5" x 3.7" (125mm x 95mm)
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information

Win 8
Win 7
Linux
Windows Server Standard

+ Ordering

EEV-EX14-A2R
mATX Ev. Board for COMe Type 6 A1.1

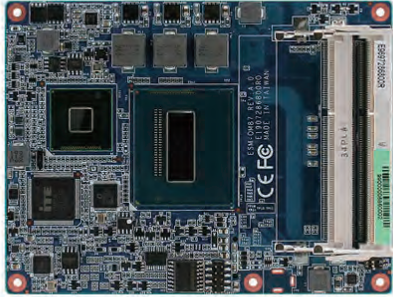
ESM-QM87-4700-A1R
SOM-COMe W/QM87/i3-4102E LVDS/VGA

ESM-QM87-4400-A1R
Intel® QM87 COM Express Module Type 6 on board -i5-4400E CPU

ESM-QM87-4102-A1R
Intel® QM87 COM Express Module Type 6 on board7-i3-4102E CPU

ESM-QM87R-4110-A1R
Intel® QM87 COM Express Module Type 6 on board7-i3-4102E CPU

EEV-EX62-A1R
COMe Type 6 to Type 2 Adapter



ESM-QM87

4th Gen Intel Core™ Processor i7/i5/i3 Type6
COMe Basic Module with Intel® QM87 Chipset

- > Onboard 4th Gen Intel Core™ i7/i5/i3 BGA Processor
- > Intel® QM87 Express Chipset
- > Two 204-pin SODIMM Up to 16GB DDR3L 1333/1600 SDRAM
- > Dual-channel 18/24-bit LVDS, VGA, DP/HDMI/DVI, eDP Option
- > Intel® High Definition Audio
- > Intel® I217LM Gigabit Ethernet
- > 7 PCIe1, 1 PCIe16, 4 SATA, 8 USB 2.0, 4 USB 3.0
- > 8-bit GPIO, SMBus, LPC
- > +9 ~ +19V Wide Range Power Input
- > Type 6 Pin-out

+ Spec

System	
Processor	4th Gen Intel®Core™ i7-4700EQ 4-Core 3.4GHz processor 4th Gen Intel®Core™ i5-4422E, 2-Core, 1.8GHz processor 4th Gen Intel®Core™ i3-4110E, 2-Core, 2.6GHz processor
System Chipset	Intel® QM87 Express Chipset
System Memory	2 x 204-Pin DDR3 1333/1600MHz SO-DIMM up to 16 GB or 204-Pin DDR3L 1600MHz SO-DIMM up to 16 GB
I/O Chip	EC ITE IT8518E
BIOS	AMI 64Mbit SPI BIOS
TPM	TPM 2.0
Expansion	
Expansion	7 x PCIe1 1 x PCIe16
I/O	
USB	8 x USB 2.0 1 x USB 3.0
SATA	2 x SATA II 2 x SATA III
DIO	1 x 8bit GPIO
MIO	1 x SMBus 1 x LPC
Display	
Chipset	Intel® QM87 Chipset Integrated
Resolution	HDMI:Max. resolution 4000x2000@ 60Hz LVDS:Max. resolution 1920x1080@ 60Hz
LVDS	CH7511B(eDP to LVDS)
Multiple Display	DDI+VGA DDI+LVDS LVDS+VGA
DDI	HDMI DVI DisplayPort
Audio	
Chipset	Intel® QM87 integrated
Audio Interface	Intel® High Definition Audio
Ethernet	
Chipset	1 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+9V ~ +19V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5" x 3.7" (125mm x 95mm)
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information

Win 8
Win 7
Linux
Windows Server Standard

+ Ordering

EEV-EX14-A2R
mATX Ev. Board for COMe Type 6 A1.1

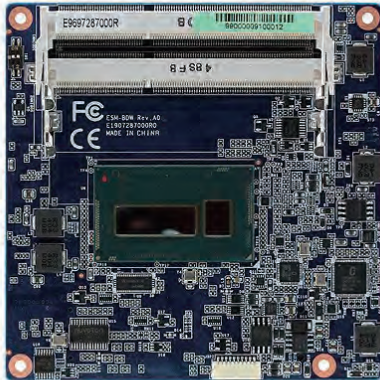
ESM-QM87-4700-A1R
SOM-COMe W/QM87/i3-4102E LVDS/VGA

ESM-QM87-4400-A1R
Intel® QM87 COM Express Module Type 6 on board -i5-4400E CPU

ESM-QM87-4102-A1R
Intel® QM87 COM Express Module Type 6 on board7-i3-4102E CPU

ESM-QM87R-4110-A1R
Intel® QM87 COM Express Module Type 6 on board7-i3-4102E CPU

EEV-EX62-A1R
COMe Type 6 to Type 2 Adapter



ESM-BDW

5th Gen Intel® Core™ SoC Processor i7/i5/i3 Type6 COME Compact Module

- > Onboard 5th Gen Intel® Core™ SoC i7/i5/i3 BGA Processor
- > 2 x 204pin DDR3L SO-DIMM up to 16GB
- > Support Dual Channel LVDS, Display Port, HDMI, VGA, eDP(option)
- > 4 SATA (6.0GB/s), 8 USB 2.0,2 USB 3.0, 8-bit GPIO
- > Intel 1218LM Gigabit Ethernet
- > HD Audio Interface
- > Type 6 Pin-out

+ Spec

System	
Processor	Onboard 5th Gen Intel® Core™ i7-5650U 2-Core 2.2GHz processor Onboard 5th Gen Intel® Core™ i5-5350U 2-Core 1.8GHz processor Onboard 5th Gen Intel® Core™ i3-5010U 2-Core 2.1GHz processor
System Memory	2 x 204-Pin DDR3L 1600MHz SO-DIMM up to 16 GB Up to 2 DIMMs & 8GB per DIMM, total 16GB
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Expansion	
Expansion	4 x PCIe x1
I/O	
USB	8 x USB 2.0 2 x USB 3.0
SATA	4 x SATA III
Com Port	2 x UART
DIO	1 x 8bit GPIO
MIO	1 x SMBus 1 x LPC 1 x I2C
Display	
Chipset	Intel®GT2 Integrated Graphics
Resolution	HDMI:Max. resolution 4000x2000@ 25Hz LVDS:Max. resolution 1920x1200@ 60Hz VGA:Max. resolution 1920x1200@ 60Hz DP:Max. resolution 3840x2160@ 60Hz
LVDS	CH7511B(eDP to LVDS) CH7517(DP to VGA)
Multiple Display	VGA+LVDS
DDI	HDMI DVI DisplayPort
Audio	
Audio Interface	Intel®High Definition Audio
Ethernet	
Chipset	1 x Intel®I218LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+9V ~ +19V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F) (Standard)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	3.7" x 3.7" (95mm x 95mm)
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information

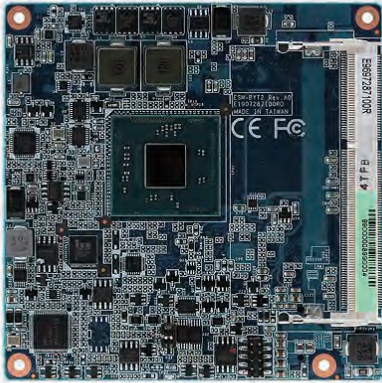
Win 8
Win 7

+ Ordering

EEV-EX14-A2R
mATX Ev. Board for COMe Type 6 A1.1

ESM-BDW-A1R
Intel® Core™ SoC Processor i7/i5/i3 Type6 COMe Compact Module

SSD
Intel® SSD 535 Series (56GB, 120GB, 180GB, 240GB)



ESM-BYT2

Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Type6 COME Compact Module

- > Onboard Intel® Celeron®/Atom™ SoC J1900/E3845 BGA Processor
- > One 204-pin DDR3L SODIMM Up to 4GB DDR3L 1066/1333 SDRAM
- > Support Dual-channel 18/24-bit LVDS, Display Port, HDMI, DVI, VGA, eDP (Option)
- > Intel® I211AT Gigabit Ethernet
- > 2 SATA II, 7 USB 2.0, 1 USB 3.0, 8-bit GPIO
- > HD Audio Interface
- > +9 ~ +19V Wide Range Power Input
- > Type 6 Pin-out
- > Extended Temperature: -40 ~ +85°C

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor Intel® Atom™ E3845 4-Core 1.91GHz processor Intel® Atom™ E3825 2-Core 1.33GHz processor
System Memory	2 x 204-Pin DDR3L 1066MHz SO-DIMM up to 4 GB or 204-Pin DDR3L 1333MHz SO-DIMM up to 4 GB Processor E3845 & J1900 only support 1333MHz
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Expansion	
Expansion	3 x PCIe x1
I/O	
USB	7 x USB 2.0 1 x USB 3.0
SATA	2 x SATA II
Com Port	2 x UART
DIO	1 x 8bit GPIO
MIO	1 x SMBus 1 x LPC 1 x I2C
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	VGA: Max. resolution 2560x1080@ 60Hz LVDS: Max. resolution 1920x1080@ 60Hz DP: Max. resolution 2560x1080@ 60Hz
LVDS	CH7511B (eDP to LVDS)
Multiple Display	VGA+LVDS
DDI	HDMI DVI DisplayPort
Audio	
Chipset	Intel® Valleyview SoC integrated
Audio Interface	Intel® High Definition Audio
Ethernet	
Chipset	1 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+9V ~ +19V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F) (Standard) -40°C ~ 85°C (-40°F ~ 185°F) (Extended)
Storage Temp	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	3.7" x 3.7" (95mm x 95mm)
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information

Win 8
Win 7
Linux
Android

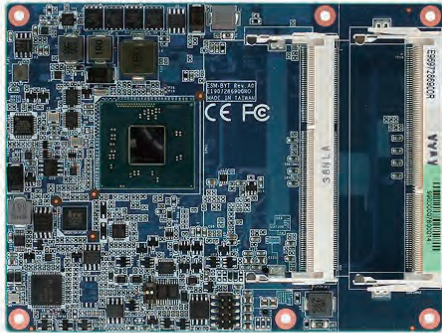
+ Ordering

EEV-EX14-A2R
mATX Ev. Board for COMe Type 6 A1.1

ESM-BYT2-E3845-A1R
Intel® Atom™ SoC Processor E3845 Type6 COMe Compact Module

ESM-BYT2-E3825-A1R
Intel® Atom™ SoC Processor E3825 Type6 COMe Compact Module

ESM-BYT2-J1900-A1R
Intel® Celeron® SoC Processor J1900 Type6 COMe Compact Module



ESM-BYT

Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Type6 COMe Basic Module

- > Onboard Intel® Celeron®/Atom™ SoC J1900/E3845 BGA Processor
- > Two 204-pin DDR3L SODIMM Up to 8GB DDR3L 1066/1333 SDRAM
- > Support Dual-channel 18/24-bit LVDS, Display Port, HDMI, DVI, VGA, eDP (Option)
- > Intel® I211AT Gigabit Ethernet
- > 2 SATA II, 7 USB 2.0, 1 USB 3.0, 8-bit GPIO
- > HD Audio Interface
- > +9 ~ +19V Wide Range Power Input
- > Type 6 Pin-out
- > Extended Temperature: -40 ~ +85°C

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor Intel® Atom™ E3845 4-Core 1.91GHz processor Intel® Atom™ E3825 2-Core 1.33GHz processor
System Memory	2 x 204-Pin DDR3L 1066MHz SO-DIMM (for Bay trail-I E3826/E3825/E3815) up to 8 GB or 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB Processor E3845 & J1900 only support 1333MHz
I/O Chip	EC ITE IT8518E
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Expansion	
Expansion	3 x PCIe1
I/O	
USB	7 x USB 2.0 1 x USB 3.0
SATA	2 x SATA II
Com Port	1 x UART
DIO	1 x 8bit GPIO
MIO	1 x SMBus 1 x LPC 1 x I2C
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	VGA: Max. resolution 2560x1080@ 60Hz LVDS: Max. resolution 1920x1080@ 60Hz DP: Max. resolution 2560x1600@ 60Hz
LVDS	CH7511B (eDP to LVDS)
DDI	HDMI DVI DisplayPort
Audio	
Chipset	Intel® Valleyview SoC integrated
Audio Interface	Intel® High Definition Audio
Ethernet	
Chipset	1 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+9V ~ +19V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F) (Standard) -40°C ~ 85°C (-40°F ~ 185°F) (Extended)
Storage Temp	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5" x 3.7" (125mm x 95mm)
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information

Win 8
Win 7
Linux
Android

+ Ordering

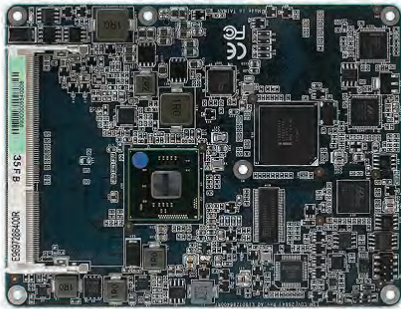
EEV-EX14-A2R
mATX Ev. Board for COMe Type 6 A1.1

ESM-BYT-E3845-A1R
SOM-COMe W/E3845 BGA A1

ESM-BYT-E3825-A1R
SOM-COMe W/E3825 BGA A1

ESM-BYT-J1900-A1R
SOM-COMe W/J1900 BGA A1

EEV-EX62-A1R
COMe Type 6 to Type 2 Adapter



ESM-CDV

Intel® Atom™ Processor D2550 Type2 COMe Basic Module with Intel® NM10 Chipset

- > Onboard Intel® Atom™ D2550 BGA Processor
- > Intel® NM10 Chipset
- > One 204pin SODIMM Up to 4GB DDR3 800/1066 SDRAM
- > Dual Channel 18/24-bit LVDS
- > Intel® High Definition Audio
- > Intel® 82574L Gigabit Ethernet
- > 4 PClex1, 2PCI, LPC, SMBUS
- > 2 SATA, 1 PATA, 8 USB, 8-bit GPIO
- > Type 2 Pin-out

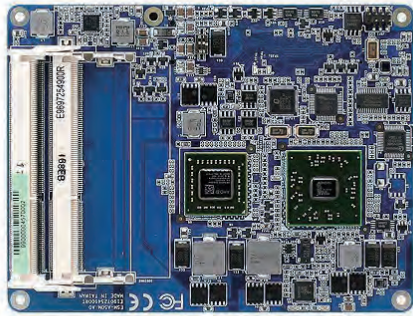
+ Spec

System	
Processor	Intel®Atom™ D2550 2-Core 1.86GHz processor Intel®Atom™ N2600 2-Core 1.6GHz processor Intel®Atom™ N2800 2-Core 1.86GHz processor
System Chipset	Intel®NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 800/1066MHz SO-DIMMup to 4 GB
BIOS	AMI 16Mbit SPI BIOS
Expansion	
Expansion	4 x PClex1 2 x PCI
I/O	
USB	8 x USB 2.0
SATA	2 x SATA II
Other	1 x IDE
DIO	1 x 8bit GPIO
MIO	1 x LPC 1 x SMBus 1 x I2C
Display	
Chipset	Intel®Cedarview Integrated Graphics
Resolution	VGA:Max. resolution 1920x1200@ 60Hz LVDS:Max. resolution 1920x1080@ 60Hz
LVDS	Dual Channel 24-bit LVDS
Audio	
Chipset	Intel®NM10 integrated
Audio Interface	Intel®High Definition Audio
Ethernet	
Chipset	1 x Intel®82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+9V ~ +19V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)(Standard)(Extended)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5" x 3.7" (125mm x 95mm)
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win XP Win 7 Linux

+ Ordering

EEV-EX13-B1R
Type 2 MicroATX Ev. Board for COM Express Rev 2.0

ESM-CDV-D25-A1R
Intel® ATOM D2550 COM Express Module Type 2



ESM-A50M

AMD G-Series Processors T56N Type6 COMe Basic Module with AMD A50M Chipset

- > Onboard AMD G-Series T56N BGA Processor
- > AMD A50M Chipset
- > Two 204pin SODIMM Up to 8GB DDR3 1066/1333 SDRAM
- > Dual View, Dual Channel 18/24-bit LVDS
- > Realtek 8111E Gigabit Ethernet
- > 4 SATA, 8 USB 2.0, 8-bit GPIO
- > Type 6 Pin-out
- > Support TPM

+ Spec

System	
Processor	AMD G-Series T56N 2-Core 1.6GHz processor / AMD G-Series T40E 2-Core 1.0GHz processor
System Chipset	AMD G-Series A50M Chipset
System Memory	2 x 204-Pin DDR3 1066/1333MHz SO-DIMM up to 8 GB
BIOS	AMI 32Mbit SPI BIOS
TPM	TPM 1.2
Expansion	
Expansion	7 x PCIe x1
I/O	
USB	8 x USB 2.0
SATA	4 x SATA II
Other	1 x EIDE
DIO	1 x 8bit GPIO
MIO	1 x LPC, 1 x SMBus, 1 x I2C
Display	
Chipset	AMD Fusion Accelerated Processors
Resolution	VGA:Max. resolution 1920x1200@ 60Hz / LVDS:Max. resolution 1920x1200@ 60Hz
LVDS	Dual Channel 18/24-bit LVDS
Multiple Display	VGA+LVDS / HDMI+LVDS / VGA+HDMI
Audio	
Chipset	AMD Fusion Accelerated Processors
Audio Interface	AMD High Definition Audio
Ethernet	
Chipset	1 x Intel®82577LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+8V ~ +18V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F) (Standard) (Extended)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5" x 3.7" (125mm x 95mm)
Certifications	
Certification Information	CE, FCC Class B
Software Support	
OS Information	Win XP, Win 7, Linux

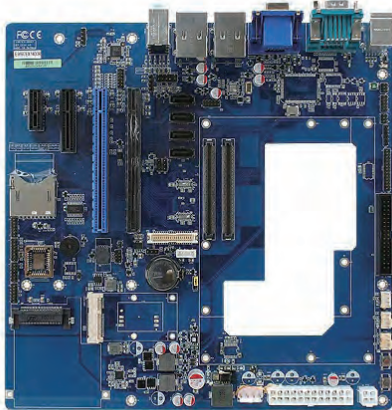
+ Ordering

EEV-EX14-A1R
Type 2 MicroATX Ev. Board for COM Express Rev 1.0

ESM-A50M-40E-A1R
AMD T40E 1.0GHz A50M COM Express Module Type 6

ESM-A50M-56N-A1R
AMD T56N 1.6GHz A50M COM Express Module Type 6

EEV-EX62-A1R
COMe Type 6 to Type 2 Adapter



EEV-EX14

Micro ATX Type6 COM Express Carrier Board

- > Micro ATX Form Factor
- > Accept Avalue and others COM Express Type 6 Compatible CPU Modules
- > VGA/LVDS/HDMI/DisplayPort
- > Audio Interface
- > 1 PCIe16, 1 PCIe4, 1 PCIe1 Slot
- > 4 SATA, 2 COM, 8 USB (Up to 4 USB 3.0), 8-bit GPIO
- > Mini-PCIe Card with SIM Card Slot, Express Card/54
- > Type 6 Pin-out

+ Spec

I/O	
USB	8 x USB 2.0, 4 x USB 3.0, 4 x USB External
SATA	4 x SATA II On board
Com Port	1 x RS-232/422/485 1 x RS-232 1 x LPT 1 x RS232/422/485 external, 1xRS232 on board
Other	1 x PS2/ KB & MS, 1 x SDIO, 2 x LAN
DIO	1 x 8bit GPIO
MIO	1 x IrDA
Video	1 x Display Port 1 x VGA 1 x HDMI 1 x LVDS 1 x LVDS on board
Expansion	1 x PCIe16 1 x PCIe4 1 x PCIe1 1 x Express Card 1 x Mini PCIe
Audio	
Audio Interface	Mic-In, Line-In and Line-Out
Mechanical & Environmental	
Power Requirement	ATX
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-20°C ~ 80°C (-40°F ~ 176°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	9.6" x 9.6" (243.84mm x 243.84mm)
Certifications	
Certification Information	CE, FCC Class B

+ Ordering

EEV-EX14-A1R (Type6 Rev 2.0)
Micro ATX COM Express Type6 Carrier Board Rev 2.0

ESM-QM77B
Intel® Core™ i7/i5/i3 Processors COMe Basic Type6 Module with Intel® QM77 Chipset

ESM-QM77
Intel® Core™ i7/i5/i3 Processors COMe Basic Type6 Module with Intel® QM77 Chipset

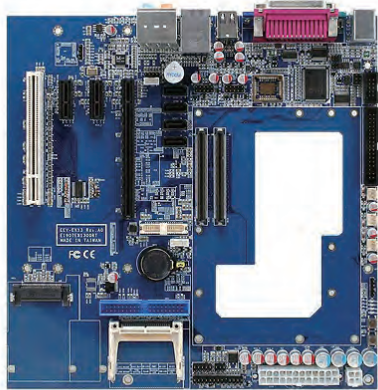
ESM-A50M
AMD G-series Processor COMe Basic Type6 Module with AMD G-Series A50M Chipset

EEV-EX14-A2R (Type6 Rev 2.1)
Micro ATX COM Express Type6 Carrier Board Rev 2.1

ESM-QM87
Intel® Core™ i7/i5/i3 Processor COMe Basic Type6 Module with Intel® QM87 Chipset

ESM-QM87R
Intel® Core™ i7/i5/i3 Processor COMe Basic Type6 Module with Intel® QM87 Chipset

ESM-BYT
Intel® Celeron®/Atom™ SoC Processors COMe Basic Type6 Module



EEV-EX13

Micro ATX COM Express Type2 Carrier Board

- > Micro ATX Form Factor
- > VGA/LVDS/Audio Interface
- > 1 CF, 1PCI, 2 PCIe1, 1 PCIe16
- > 4 SATA, 2 COM, 8 USB, 8 bit GPIO, Express Card/54mm
- > Type 2 Pin out

+ Spec

I/O	
USB	8 xUSB 2.0 4 USB External
SATA	4 xSATA II On Board
Com Port	2 xRS-232 1 xLPT 1 x COM external, 1 x COM on Board
Other	1 xPS2/ KB & MS 1 xLAN
DIO	1 x8bit GPIO
MIO	1 xIrDA 1 xCompactFlash Type I/II Socket
Video	1 xVGA 1 xLVDS 1 xLVDS on Board
Expansion	1 xPCI 2 xPCIe1 1 xPCIe16 1 xExpress Card
Audio	
Audio Interface	Mic-In, Line-In and Line-Out
Mechanical & Environmental	
Power Requirement	ATX
Power Type	ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	9.6" x 9.6" (243.84mm x 243.84mm)
Certifications	
Certification Information	CE FCC Class B

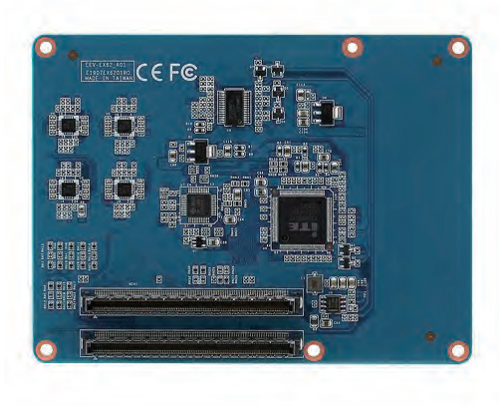
+ Ordering

EEV-EX13-A1R (Type2 Rev 1.0)
Type 2 MicroATX Ev. Board for COM Express Rev 1.0

ESM-QM57
Intel® Core™ i7-620LE/ 620UE / Celeron P4505 COMe Type2 Module with Intel® QM57 Chipset

EEV-EX13-B1R (Type2 Rev 2.0)
Type 2 MicroATX Ev. Board for COM Express Rev 2.0

ESM-CDV
Intel® Atom™ Processor COMe Basic Type2 Module with Intel® NM10 Express Chipset



EEV-EX62

COM Express Type 6 to Type 2 Adapter

- > COM Express Basic Form Factor
- > Allows COM Express Type 6 Modules to be Backwards Compatible with Type 2 Carrier Boards
- > An Onboard PCIe-to-PATA Converter
- > PCIe-to-PCI Bridge

+ Spec

Mechanical & Environmental

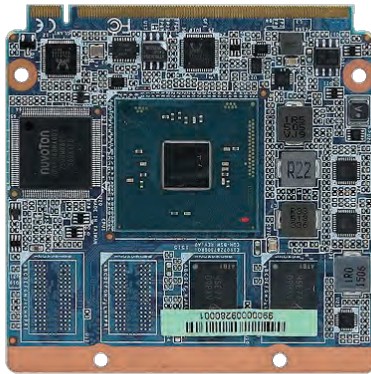
Dimension (L x W) 5" x 3.7" (125mm x 95mm)

Certifications

Certification Information CE
FCC Class B

+ Ordering

EEV-EX62-A1R
COMe Type 6 to Type 2 Adapter



EQM-BSW

Intel® Pentium® and Celeron® N3000 Series SoC Processors Qseven Module

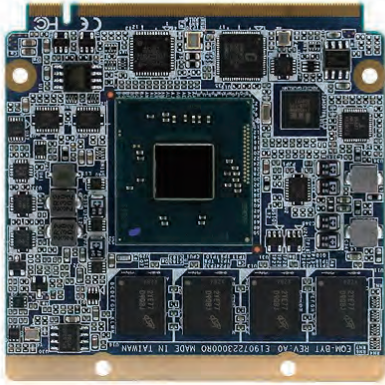
- > Dual, quad-core Intel® Pentium® or Celeron® Processor N3000 Series SoC
- > Onboard DDR3L 2GB, up to 4GB
- > RealTek RTL8119I Giga Ethernet
- > 5 USB 2.0, 1 USB 3.0, 3 PCIe1
- > Dual Channel 24-bit LVDS + HDMI
- > 2 SATA, Onboard eMMC up to 32GB (Optional)
- > Fanless Operation
- > Standard Temperature: 0 ~ 60°C

+ Spec

System	
Processor	Dual or quad-core Intel® Pentium®, Celeron® N3000 SoC Processor Intel® Pentium® N3700 1.6GHz SoC Processor Intel® Celeron® N3150 1.6GHz SoC Processor Intel® Celeron® N3050 1.6GHz SoC Processor Intel® Celeron® N3000 1.04GHz SoC Processor
System Memory	Onboard DDR3L 2GB, up to 4GB
BIOS	Insyde UEFI64M SPI BIOS
Watchdog Timer	Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature, Voltage with Auto Throttling Control
Other	Onboard eMMC up to 32GB (Optional)
I/O	
USB	5 x USB 2.0 (One is option to USB convert CAN) and 1 x USB 3.0 to baseboard
SATA	2 x SATA Ports to Baseboard
Com Port	SDIO Supported
Other	LPC, SMBus, I2C, UART (TX, RX), CAN Bus (optional)
MIO	3 PCIe1 Supported
External I/O Connector	Qseven Spec 2.0 Connector for Expansions
Display	
Chipset	Intel® Celeron® SoC Integrated
Resolution	HDMI Mode: 1920 x 1200 @ 60Hz LVDS Mode: 1920 x 1080 @ 60Hz
LVDS	Dual-channel 24-bit LVDS (CH7511)
Multiple Display	HDMI + LVDS to Baseboard
Audio	
Chipset	Intel® Celeron® SoC Integrated
Audio Interface	Intel® High Definition Audio
Ethernet	
Chipset	RealTek RTL8119I Giga Ethernet
Ethernet Interface	10/100/1000 Base-Tx Gigabit Ethernet Compatible
Mechanical & Environmental	
Power Requirement	+5V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	Qseven Power Spec
Operating Temp	Standard: 0 ~ 60°C
Storage Temp	-20 ~ 75°C
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	2.8" x 2.8" (70mm x 70mm)
Weight	TBD

+ Ordering

EQM-BSW
Intel® Celeron® SoC Processors N3700 Family Qseven Module



EQM-BYT

Intel® Atom™ SoC processor E3845 Qseven Module

- > Onboard Intel® Atom™ SoC E3845 BGA processor
- > Onboard DDR3L 1066/1333, Up to 4GB
- > Intel® I211AT Gigabit Ethernet
- > 5 USB 2.0, 1 USB 3.0, 3 PCIe1
- > Dual Channel 24-bit LVDS + HDMI
- > 2 SATA (1 is Option If has SSD), 1 SSD (Option)
- > Fanless Operation
- > Standard Temperature: 0 ~ 60°C
- > Extended Temperature: -40°C ~ +85°C

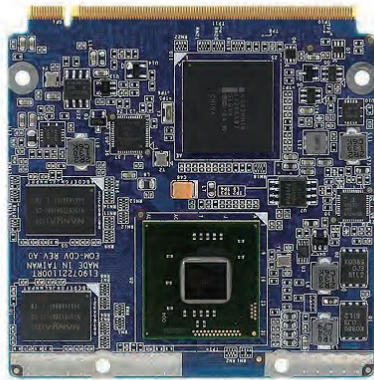
+ Spec

System	
Processor	Intel®Atom™ E3845 4-Core 1.91GHz processor Intel®Atom™ E3825 2-Core 1.33GHz processor Intel®Atom™ E3815 1-Core 1.46GHz processor
System Memory	Onboard DDR3L 2GBUp to 4 GB Processor E3845 only support 1333MHz
BIOS	AMI 64Mbit SPI BIOS
Expansion	
Expansion	3 x PCIe1
I/O	
USB	5 x USB 2.0 1 x USB 3.0
SATA	2 x SATA II
Com Port	1 x UART
MIO	1 x LPC 1 x SMBus 1 x I2C
Display	
Chipset	Intel®Valleyview SoC integrated Graphics
Resolution	HDMI:Max. resolution 1920x1200@ 60Hz LVDS:Max. resolution 1920x1080@ 60Hz
LVDS	CH7511B(eDP to LVDS)
Multiple Display	HDMI+DDI
Audio	
Chipset	Intel®Valleyview SoC integrated
Audio Interface	Intel®High Definition Audio
Ethernet	
Chipset	1 x Intel®I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+5V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI3.0 Compliant
Power Type	AT
Operating Temp	0°C ~ 60°C (32°F ~ 140°F) (Standard) -40°C ~ 85°C (-40°F ~ 185°F) (Extended)
Storage Temp	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	2.8" x 2.8" (70mm x 70mm)
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win 7 / Win 8 / Linux / Android

+ Ordering

EQM-BYT-E25-A1R
Intel ATOM E3825 Q7/2G DDR3L

EQM-BYT-E15-A1R
Intel ATOM E3815 Q7/2G DDR3L



EQM-CDV

Intel® Atom™ Processor N2800 Qseven Module

- > Onboard Intel® Atom™ N2800 BGA processor
- > Intel® NM10 Express Chipset
- > Onboard 1GB DDR3, up to 2GB DDR3 1066
- > Intel® Gigabit Ethernet
- > HDMI + LVDS to Baseboard
- > Single-channel 18-bit LVDS to carrier Board
- > 2 SATA, 8 USB 2.0, LPC, 3 PClex1

+ Spec

System	
Processor	Intel®Atom™ N2600 2-Core 1.6GHz processor Intel®Atom™ N2800 2-Core 1.86GHz processor
System Chipset	Intel®NM10 Express Chipset
System Memory	Onboard DDR3 1GB up to 2 GB
BIOS	AMI 16Mbit SPI BIOS
Expansion	
Expansion	3 x PClex1
I/O	
USB	8 x USB 2.0
SATA	2 x SATA II
MIO	1 x LPC, 1 x SMBus
Display	
Chipset	Intel®Cedarview Integrated Graphics
Resolution	HDMI:Max. resolution 1920x1200@ 60Hz LVDS:Max. resolution 1366x768@ 60Hz
Multiple Display	HDMI+LVDS
Audio	
Chipset	Intel®Valleyview SoC integrated
Audio Interface	Intel®High Definition Audio
Ethernet	
Chipset	1 x Intel®82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+5V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)(Standard) -40°C ~ 85°C (-40°F ~ 185°F)(Extended)
Storage Temp	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	2.8" x 2.8" (70mm x 70mm)
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win XP Win 7 Linux

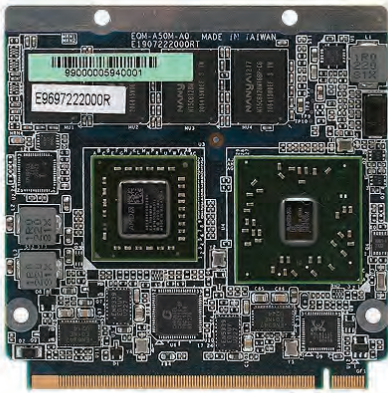
+ Ordering

EQM-CDV-N26-A1DR
Intel® ATOM N2600 Q7 Module with Onboard 2G DDR3

EQM-CDV-N26-B1DR
Intel® ATOM N2600 Q7 Module with Onboard 2G DDR3 rev B1, Add I2C, SD Feature

EQM-CDV-N26W-B1DR
Intel® ATOM N2600 Q7 Module with Onboard 2G DDR3 rev B1, Wide Temp (-40 to 85)

EQM-CDV-N26G-B1DR
Intel® ATOM N2600 Q7 Module with Onboard 2G DDR3, 4G SSD, rev B1, Add I2C, SD Feature



EQM-A50M

AMD G-Series Processors T40E Qseven Module

- > Onboard AMD G-Series T40E BGA Processor
- > AMD A50M Chipset
- > Onboard 2GB DDR3, up to 4GB DDR3 800/1066
- > Dual-channel 18/24-bit LVDS, HDMI or DP
- > Realtek 8111E Gigabit Ethernet
- > 2 SATA, 8 USB 2.0, LPC, 4 PClex1

+ Spec

System	
Processor	AMD G-Series T40E 2-Core 1.0GHz processor AMD G-Series T16R 1-Core 615MHz processor
System Chipset	AMD G-Series A50M Chipset
System Memory	Onboard DDR3 2GB up to 4 GB
BIOS	AMI 32Mbit SPI BIOS
Expansion	
Expansion	4 x PClex1
I/O	
USB	8 x USB 2.0
SATA	2 x SATA II
Other	1 x SDIO
MIO	1 x LPC 1 x SMBus 1 x I2C
Display	
Chipset	AMD Radeon 6250 Supports dual display
Resolution	HDMI:Max. resolution 1920x1200@ 60Hz DP:Max. resolution 1920x1200@ 60Hz VGA:Max. resolution 1920x1200@ 60Hz
LVDS	CH7511B(eDP to LVDS)
Multiple Display	HDMI+LVDS DDI+LVDS
DDI	HDMI DVI DisplayPort
Audio	
Chipset	AMD G-series A50M integrated
Audio Interface	AMD High Definition Audio
Ethernet	
Chipset	1 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Power Requirement	+5V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT
Operating Temp	0°C ~ 60°C (32°F ~ 140°F) (Standard) (Extended)
Storage Temp	-20°C ~ 80°C (-40°F ~ 176°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	2.8" x 2.8" (70mm x 70mm)
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information

Win XP
Win 7
Linux

+ Ordering

EQM-A50M-16R-A1DR
AMD G-Series T16R Q7 Module with Onboard 2G DDR3

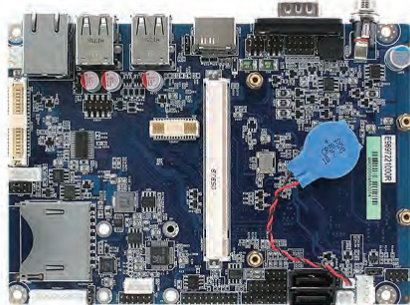
EQM-A50M-40EG-A1DR
AMD G-Series T40E Q7 Module with Onboard 2G DDR3, 4G SSD



EEV-Q701

3.5" Qseven Carrier Board

- > 3.5" SBC Form Factor
- > HDMI, LVDS, SDVO
- > 1 Mini PCIe with SIM Card Socket
- > 2 SATA, 2 COM, 6 USB, 16-bit GPIO
- > SD Socket



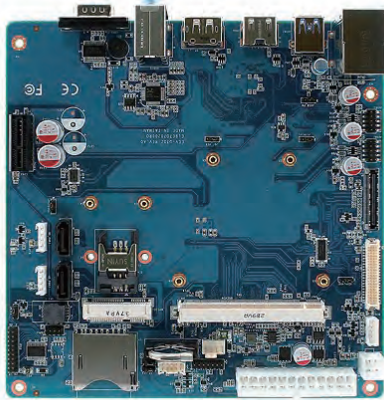
+ Spec

I/O	
USB	6 xUSB 2.0 4 USB External, 2 USB on board
SATA	2 xSATA II On Board
Com Port	1 xRS-232 1 xRS-422/485 1 xRS232 External
MIO	1 xIrDA 1 xPS2/ KB & MS
Video	1 xHDMI 1 xLVDS 1 xLVDS on board
Expansion	1 xMini PCIe Supports SIM Card
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Mechanical & Environmental	
Power Requirement	ATX
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-20°C ~ 80°C (-40°F ~ 176°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Certifications	
Certification Information	CE FCC Class B

+ Ordering

EEV-Q701-A1R
3.5" Evaluation Carrier Board for Q7 Rev 1.2

EQM-CDV
Intel® Atom™ Processor Qseven Module with Intel® NM10 Express Chipset



EEV-Q702

Mini ITX Qseven Carrier Board

- > Mini ITX From Factor
- > Accept Avalue and Others Qseven Compatible CPU Modules
- > HDMI, LVDS, SDVO, DP, eDP
- > 1 Mini PCIe with SIM Card Socket
- > SD Socket

+ Spec

I/O	
USB	4 xUSB 2.0 1 xUSB 3.0 4*USB on board, 1x USB 3.0 external
SATA	2 xSATA II On Board
Com Port	1 xUART 1 x UART External
Other	1 xSDIO 1 xLAN
DIO	1 x16bit GPIO
Video	1 xHDMI 1 xDisplay Port 1 xLVDS 1 x eDP and 1 x LVDS on board
Expansion	1 xPClex1 1 xMini PCIe Supports SIM Card
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Mechanical & Environmental	
Power Requirement	ATX
Power Type	AT/ATX
Operating Temp	-40°C ~ 85°C (-40°F ~ 185°F)
Storage Temp	-55°C ~ 90°C (-67°F ~ 194°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Certifications	
Certification Information	CE FCC Class B

+ Ordering

EEV-Q702-A1R
Mini ITX Evaluation Carrier Board for Q7 Rev 2.0

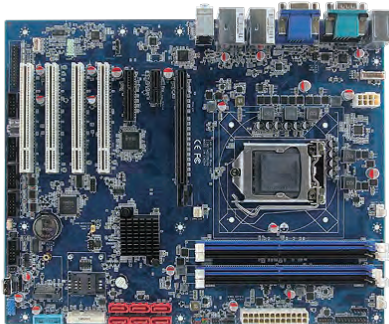
EQM-A50M
AMD G-series Processor Qseven Module with AMD G-Series A50M Chipset

EQM-BYT
Intel® Celeron®/Atom™ SoC Processors Qseven Module

3 Industrial Motherboard ATX / Micro ATX / Mini ITX / Nano ITX

CH3-ATX / Micro ATX / Mini ITX / Nano ITX +

EAX-Q170P	Intel® 6th Generation Core™ Processor ATX Motherboard
EAX-Q87R	Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard
EAX-C226	Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard
EAX-Q77	Intel® 2nd/3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard
EAX-Q67	Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard
SEAX-H81	Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors
ERX-H110P	Intel® 6th Generation Core™ Processor Micro ATX Motherboard With Intel® H110 Express Chipset
ERX-Q77	Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard
ERX-Q67	Intel® 2nd/3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard
ERX-B75	Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard
ERX-H61	Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard
EMX-Q170P	Intel® 6th Generation Core™ Processor Mini ITX Motherboard with Intel® Q170 Express Chipset
EMX-H110P	Intel® 6th Generation Core™ Processor Mini ITX Motherboard with Intel® H110 Express Chipset
EMX-Q87R	Intel® 4th Generation Core™ Refresh i7/i5/i3 Mini ITX Motherboard with Intel® Q87 Express Chipset
EMX-QM77	Intel® 3rd Generation Core™ i7/ i5/ i3 Mini ITX Motherboard with Intel® QM77 Express Chipset
EMX-QM67	Intel® Core™ i7/ i5/ i3 Mini-ITX Motherboard with Intel® QM67 Express Chipset
EMX-H61	Intel® 2nd/ 3rd Generation Core™ Pentium®/ Celeron® Mini ITX Motherboard with Intel® H61 Express Chipset
SEMX-H81	Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors Mini ITX Motherboard
EMX-BSWP	Intel® Celeron® Processor N3160 Thin Mini ITX Motherboard
EMX-BYT2	Intel® Atom™ Celeron® J1900 Processor Thin Mini ITX Motherboard
EMX-CDV	Intel® Atom™ D2550 Processor Mini ITX Motherboard with Intel® ICH10-R Express Chipset
MX1900J-A	Intel® Atom™ Celeron® J1900 Processor Mini ITX Motherboard
EMX-CDD	Intel® Atom™ D2550 Processor Thin Mini ITX Motherboard with Intel® NM10 Express Chipset
EMX-CDT	Intel® Atom™ D2550 Processor Mini ITX Motherboard with Intel® NM10 Express Chipset
SENX-BYT	Intel® Celeron® Processor J1900 Nano ITX Motherboard
ENX-CDD	Intel® Atom™ D2550 Processor Nano ITX Motherboard with Intel® NM10 Chipset



EAX-Q170P

Intel® 6th Generation Core™ Processor ATX
Motherboard With Intel® Q170 Express Chipset

- > Intel® 6th Generation Core™ Processor (Max. TDP at 95W)
- > Intel® Q170 Express Chipset
- > 4 x 288-pin DDR4 2133MHz DIMM socket, supports up to 64GB
- > VGA, HDMI, DP
- > 5 x SATA III, 1 x SATA III or 1 x mSATA III by auto switch IC
- > 1 x M.2 2230 KeyA Slot support WiFi module
- > 1 x PCIe x 16, 1 x PCIe x 4, 1 x PCIe x 1, 1 x Mini PCIe, 4 x PCI
- > 6 x USB3.0, 6 x USB2.0, 5 x RS232, 1 x RS232/422/485
- > Onboard Infineon SLB9665 support TPM 2.0
- > ATX/AT Power

+ Spec

System	
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
System Chipset	Intel® Q170 Express Chipset
System Memory	4 x 288-pin DDR4 2133MHz DIMM supports up to 64GB
I/O Chip	Nuvoton® NCT6106D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	HW Reset, 1sec. – 65535sec./min. 1sec. or 1min. step
H/W Status Monitor	CPU temperature monitoring, Voltages monitoring, CPU fan speed control
TPM	Onboard Infineon SLB9665 supports TPM 2.0
Board	ATX Board
Expansion	
Expansion	4 x PCI 1 x PCIe x 16 1 x PCIe x 4 1 x PCIe x 1 1 x M.2 2230 KeyA Slot supports WiFi module 1 x SIM card slot 1 x Full/Half Size Mini-PCIe Supports mSATA (Switch Through Jumper)
I/O	
USB	4 x USB 3.0 2 x USB 2.0
SATA	5 x SATA III 1 x SATA III & 1 x mSATA III switch by BIOS selection
Com Port	5 x RS232 1 x RS232/422/485
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard or 1 x PS/2 Mouse
Display	
Chipset	Intel® 6th Generation CPU integrated VGA + HDMI + DVI
Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz DP: 4096 x 2304 @ 60Hz
Multiple Display	Triple Display
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Line-in, Mic-in, Line-out
Audio Amplifier	2 x 6W Amplifier
Ethernet	
Chipset	1 x Intel® I219LM Gigabit Ethernet PHY 1 x Intel® I211AT PCIe Gigabit Ethernet
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5VSB/+3.3V/-12V
ACPI	Single power ATX Support S0, S3, S4, S5
Power Type	AT/ATX
Operating Temp	0~60°C (32~140°F)
Storage Temp	-40 ~ 75°C
Operating Humidity	0%~90% relative humidity, non-condensing
Dimension (L x W)	12" x 9.6" (304.8mm x 243.84mm)

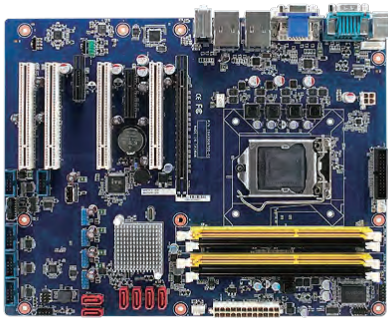


Weight

1.32lbs (0.6 kg)

+ Ordering

EAX-Q170P-A1R
Intel® 6th Generation Core™ Processor ATX Motherboard With Intel® Q170 Express Chipset



EAX-Q87R

Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard With Intel® Q87 Express Chipset

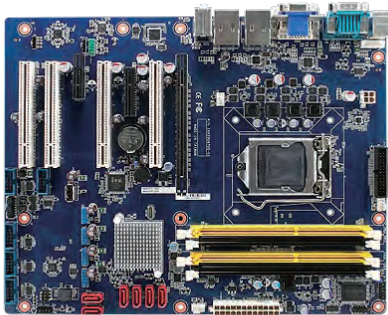
- > Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors
- > Intel® Q87 Express Chipset (Co-lay C226 Chipset)
- > 4 x 240-pin DDR3 1333/1600 MHz DIMM supports up to 32GB
- > VGA, DP, DVI
- > Realtek ALC892 Supports 5.1-CH HD Audio Codec
- > 1 x Intel® I217LM PC-e Gigabit Ethernet PHY
- > 1 x Intel® I210AT PC-e Gigabit Ethernet
- > TI TPA3005D2 Stereo Class-D 6W x 2 Audio Amplifier
- > 1 x PC-e x 16, 4 x PCI (Support 5V), 1 x PC-e x 4, 1 x PC-e x 1

+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® Q87 Express Chipset (Co-lay C226 Chipset)
System Memory	4 x 240-Pin DDR3 1333/1600 MHz DIMM supports up to 32 GB
I/O Chip	Nuvoton NCT6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. Step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	4 x PCI (Support 5V) 1 x PC-e x 16 1 x PC-e x 4 1 x PC-e x 1
I/O	
USB	9 x USB 2.0 4 x USB 3.0
SATA	6 x SATA III
Com Port	5 x RS-232 1 x RS-232/422/485
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 4th Generation CPU integrated VGA + DVI + DP
Resolution	VGA: 1920 x 1200 @ 60Hz DVI: 1920 x 1200 @ 60Hz DP: 3840 x 2160 @ 24Hz
Audio	
Chipset	1 x Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Audio Amplifier	TI TPA3005D2 Stereo Class-D 6W x 2 Audio Amplifier
Ethernet	
Chipset	1 x Intel® I210AT 1 x Intel® I217LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	12" x 9.6" (304.8 mm x 243.84 mm)
Weight	1.32lbs (0.6 kg)
Power Requirement	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V

+ Ordering

EAX-Q87-A1R
Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard With Intel® Q87 Express Chipset



EAX-C226

Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard With Intel® Q87 Express Chipset

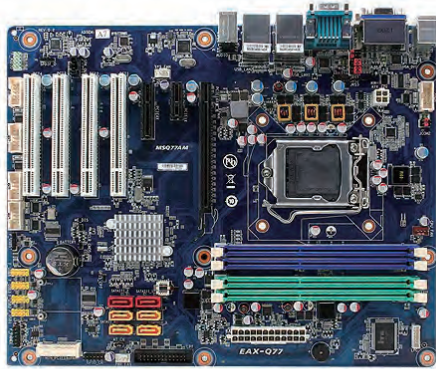
- > Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium™ and Celeron™ Processors
- > Intel® C226 Express Chipset (Co-lay Q87 Chipset)
- > 4 x 240-pin DDR3 1333/1600 MHz DIMM supports up to 32 GB
- > 1 x VGA, 1 x DP, 1 x DVI, 5 x RS-232, 1 x RS-232/422/485, 1 x 8-bit GPIO, 6 x SATA III, 4 x USB 3.0, 9 x USB 2.0
- > Realtek ALC892 Supports 5.1-CH HD Audio Codec
- > 1 x Intel® I217LM PCIe Gigabit Ethernet PHY
- > 1 x Intel® I210AT PCIe Gigabit Ethernet
- > 1 x PCIe x 16, 4 x PCI (Support 5V), 1 x PCIe x 4, 1 x PCIe x 1

+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® C226 Express Chipset (Co-lay Q87 Chipset)
System Memory	4 x 240-Pin DDR3 1333/1600 MHz DIMM up to 32 GB
I/O Chip	Nuvoton NCT6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. Step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PCIe x 16 4 x PCI (Support 5V) 1 x PCIe x 4 1 x PCIe x 1
I/O	
USB	9 x USB 2.0 4 x USB 3.0
SATA	6 x SATA III
Com Port	5 x RS-232 1 x RS-232/422/485
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 4th Generation CPU integrated VGA + DVI + DP
Resolution	VGA: Max. resolution 1920 x 1200 @ 60Hz DVI: Max. resolution 1920 x 1200 @ 60Hz DP: Max. resolution 3840 x 2160 @ 24Hz
Audio	
Chipset	1 x Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Audio Amplifier	TI TPA3005D2 Stereo Class-D 6W x 2 Audio Amplifier
Ethernet	
Chipset	1 x Intel® I210AT 1 x Intel® I217LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	12" x 9.6" (304.8 mm x 243.84 mm)
Weight	1.32lbs (0.6 kg)
Power Requirement	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V

+ Ordering

EAX-C266-A1R
Intel® LGA1150 Socket Supports Intel® Xeon® Processors ATX Motherboard With Intel® C226 Express Chipset



EAX-Q77

Intel® 2nd /3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard With Intel® Q77 Express Chipset

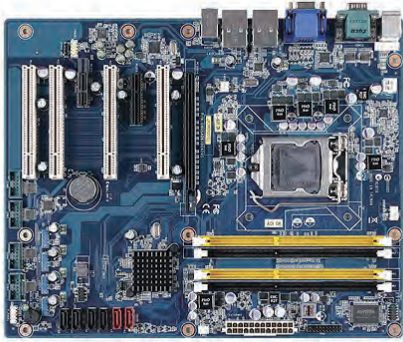
- > Intel® LGA1155 Socket Supports 2nd/3rd Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors
- > Intel® Q77 Express Chipset
- > 4 x 240-pin DDR3 1333/1600 MHz DIMM supports up to 32 GB
- > VGA, DVI, HDMI
- > Realtek ALC269 Supports 5.1-CH HD Audio Codec + 2W Audio Amplifier
- > 1 x Intel® 82579LM PCIe Gigabit Ethernet PHY
- > 1 x Intel® 82574L PCIe Gigabit Ethernet
- > 4 x PCI, 1 x PCIe x 16, 1 x PCIe x 4, 1 x PCIe x 1, 1 x Mini PCIe
- > 4 x SATA II, 2 x SATA III
- > 9 x USB 2.0, 4 x USB 3.0

+ Spec

System	
Processor	Intel® LGA1155 Socket Supports 2nd/3rd Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors
System Chipset	Intel® Q77 Express Chipset
System Memory	4 x 240-pin DDR3 1333/1600 MHz DIMM supports up to 32 GB
I/O Chip	ITE 8728F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. Step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	4 x PCI 1 x PCIe x 16 1 x PCIe x 4 1 x PCIe x 1 1 x Mini PCIe
I/O	
USB	9 x USB 2.0, 4 x USB 3.0
SATA	4 x SATA II, 2 x SATA III
Com Port	1 x RS-232/422/485 5 x RS-232
Other	1 x S/PDIF-out Header 1 x LPT
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 2nd/3rd Generation CPU integrated HDMI + VGA, HDMI + DVI, VGA + DVI
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz DVI: 1920 x 1200 @ 60Hz
Audio	
Chipset	Realtek ALC269Q supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Audio Amplifier	Stereo Class-D 2W x 2 Audio Amplifier
Ethernet	
Chipset	1 x Intel® 82574L 1 x Intel® 82579LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	12" x 9.6" (304.8 mm x 243.84 mm)
Weight	1.32lbs (0.6 kg)
Power Requirement	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V

+ Ordering

EAX-Q77-A1R
Intel® 2nd/3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard With Intel® Q77 Express Chipset



EAX-Q67

Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard With Intel® Q67 Express Chipset

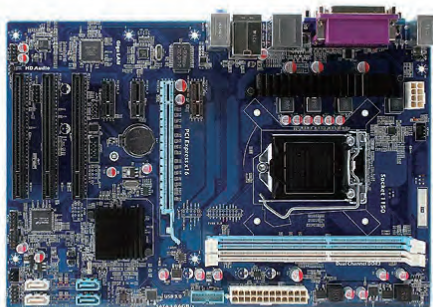
- > Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors
- > Intel® Q67 Express Chipset
- > 4 x 240-Pin DDR3 1066/1333 MHz DIMM supports up to 32 GB
- > VGA, HDMI
- > Realtek ALC892 Supports 5.1-CH HD Audio Codec
- > 1 x Intel® 82583V PC-e Gigabit Ethernet
- > 1 x Intel® 82579LM PC-e Gigabit Ethernet
- > 4 x PCI, 1 x PC-e x 16, 1 x PC-e x 4, 1 x PC-e x 1
- > 4 x SATA II, 2 x SATA III
- > 12 x USB 2.0
- > 6 x RS-232, 1 x 8-bit GPIO

+ Spec

System	
Processor	Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors
System Chipset	Intel® Q67 Express Chipset
System Memory	4 x 240-Pin DDR3 1066/1333 MHz DIMM supports up to 32 GB
I/O Chip	Nuvoton NCT6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 255sec./min. 1sec. or 1min. Step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	4 x PCI 1 x PC-e x 16 1 x PC-e x 4 1 x PC-e x 1
I/O	
USB	12 x USB 2.0
SATA	4 x SATA II 2 x SATA III
Com Port	6 x RS-232
Other	1 x S/PDIF-out Header
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 2nd/3rd Generation CPU integrated HDMI + VGA
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1080 @ 60Hz
Audio	
Chipset	1 x Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Ethernet	
Chipset	1 x Intel® 82579LM 1 x Intel® 82583V
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	12" x 9.6" (304.8 mm x 243.84 mm)
Weight	1.32lbs (0.6 kg)
Power Requirement	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V

+ Ordering

EAX-Q67-A3R
Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard With Intel® Q67 Express Chipset



SEAX-H81

Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard With Intel® H81 Express Chipset

- > Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 84W)
- > Intel® H81 Express Chipset
- > 2 x 240-pin DIMM Sockets support up to 16GB Dual Channel, DDR3 1066/1333 MHz
- > VGA , HDMI
- > Realtek RTL8111E PCIe Gigabit Ethernet
- > Realtek ALC662 5.1-CH HD Audio Codec
- > 1 x PCIe x 16, 3 x PCIe x 1, 3 x PCI
- > 2 x SATA III, 2 x SATA II
- > 8 x USB 2.0, 2 x USB 3.0
- > 2 x PS/2, 1 x SPDIF, 1 x LPT, 1 x 8-bit GPIO

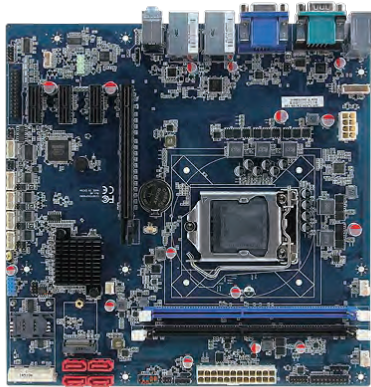
+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 84W)
System Chipset	Intel® H81 Express Chipset
System Memory	2 x 240-pin DDR3 1066/1333 MHz DIMM supports up to 16 GB
I/O Chip	Nuvoton NCT6779
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. Step
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Expansion	
Expansion	3 x PCI 1 x PCIe x 16 3 x PCIe x 1
I/O	
USB	8 x USB 2.0 2 x USB 3.0
SATA	2 x SATA III 2 x SATA II
Com Port	2 x RS-232
Other	1 x S/PDIF 1 x LPT
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 4th Generation CPU integrated VGA + HDMI
Resolution	VGA: 1920 x 1200 @ 60Hz HDMI: 4096 x 2160 @ 24Hz
Audio	
Chipset	1 Realtek ALC662 supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Ethernet	
Chipset	1 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	11.61" x 7.87" (295 mm x 200 mm)
Weight	1.1lbs (0.5 kg)
Power Requirement	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V

+ Ordering

SEAX-H81-A1R

Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard With Intel® H81 Express Chipset



ERX-H110P

Intel® 6th Generation Core™ Processor Micro ATX Motherboard With Intel® H110 Express Chipset

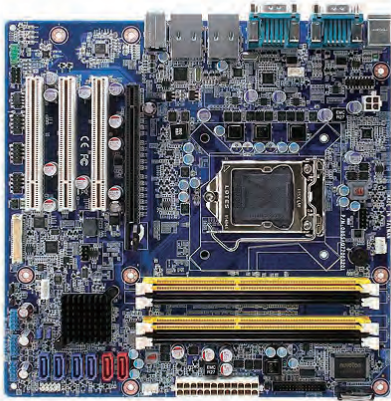
- > Intel® 6th Generation Core™ Process (Max. TDP at 95W)
- > Intel® H110 Express Chipset
- > 2 x 288-pin DDR4 2133MHz DIMM supports up to 32GB
- > VGA, HDMI, DP
- > 1 x M.2 2230 KeyA Slot support WiFi module, 1 x SIM card slot
- > 1 x PCIe x 16, 3 x PCIe x 1
- > 2 x USB 2.0 by pin header, 2 x USB2.0, 4 x USB 3.0 at I/O, 5 x RS232, 1 x RS232/422/485
- > Onboard Infineon SLB9665 support TPM 2.0
- > AT/ATX Power

+ Spec

System	
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
System Chipset	Intel® H110 Express Chipset
System Memory	2 x 288-pin DDR4 2133MHz DIMM supports up to 32GB
I/O Chip	Nuvoton® NCT6106D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. – 65535sec./min.1sec. or 1min. step
H/W Status Monitor	CPU temperature monitoring Voltages monitoring CPU fan speed control
TPM	Onboard Infineon SLB9665 support TPM 2.0
Board	Micro ATX Board
Expansion	
Expansion	1 x PCIe x 16 3 x PCIe x 1 1 x M.2 Slot supports WiFi module 1 x SIM card slot 1 x Full/Half Size Mini-PCIe supports mSATA
I/O	
USB	4 x USB 2.0 4 x USB 3.0
SATA	4 x SATA III, 1 x SATA III & 1 x mSATA III switch by BIOS selection
Com Port	1 x RS232 1 x RS232/422/485
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard or 1 x PS/2 Mouse
Display	
Chipset	Intel® 6th Generation CPU integrated HDMI + VGA, HDMI + DP, VGA + DP
Resolution	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz DP: 4096 x 2304 @ 60Hz
Multiple Display	Dual Display
Audio	
Chipset	Realtek ALC892 HD Audio Decoding Controller
Audio Interface	Line-in, Mic-in, Line-out
Audio Amplifier	2 x 6W Amplifier
Ethernet	
Chipset	1 x Intel® I219LM Gigabit Ethernet PHY, 1 x Intel® I211AT PCIe Gigabit Ethernet
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5VSB/+3.3V/-12V
ACPI	Single power ATX Support S0, S3, S4, S5
Power Type	AT/ATX
Operating Temp	0~60°C (32~140°F)
Storage Temp	-40 ~ 75°C
Operating Humidity	0%~90% relative humidity, non-condensing
Dimension (L x W)	9.6" x 9.6" (243.84mm x 243.84mm)
Weight	0.60 kg

+ Ordering

ERX-H110P-A1R
Intel® 6th Generation Core™ Processor Micro ATX Motherboard With Intel® H110 Express Chipset



ERX-Q77

Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard With Intel® Q77 Express Chipset

- > Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors
- > Intel® Q77 Express Chipset
- > 4 x 240-pin DDR3 1333/1600 MHz DIMM supports up to 32 GB
- > VGA, HDMI, Dual-channel 18/24-bit LVDS
- > Realtek ALC892 Supports 5.1-CH HD Audio Codec
- > TI TPA2012D2RTJT Stereo Class-D 2W x 2 Audio Amplifier
- > 1 x Intel® 82579LM PCI-e Gigabit Ethernet PHY
- > 1 x Intel® 82574L PCI-e Gigabit Ethernet
- > 1 x PCI-e x 16, 3 x PCI
- > 2 x SATA III, 4 x SATA II
- > 4 x USB 3.0, 6 x USB 2.0, 3 x RS-232, 2 x RS-232/422/485, 1 x RS-422/485

+ Spec

System	
Processor	Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors
System Chipset	Intel® Q77 Express Chipset
System Memory	4 x 240-Pin DDR3 1333/1600 MHz DIMM supports up to 32 GB
I/O Chip	Nuvoton NTC6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset: 1sec.~255min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
Expansion	
Expansion	3 x PCI 1 x PCI-e x 16
I/O	
USB	6 x USB 2.0 4 x USB 3.0
SATA	2 x SATA III 4 x SATA II
Com Port	3 x RS-232 2 x RS-232/422/485
Other	1 x PS/2 Keyboard 1 x PS/2 Mouse
DIO	1 x 8-bit GPIO
Display	
Chipset	Intel® 2nd/3rd Generation CPU integrated VGA + HDMI, VGA + LVDS, HDMI + LVDS
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1920 x 1200 @ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-out, Line-in
Audio Amplifier	TI TPA2012D2RTJT Stereo Class-D 2W x 2 Audio Amplifier
Ethernet	
Chipset	1 x Intel® 82579LM 1 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	9.6" x 9.6" (243.84mm x 243.84mm)
Weight	1.35lbs (0.6kg)
Power Requirement	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V

+ Ordering

ERX-Q77-A1R
Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard With Intel® Q77 Express Chipset



ERX-Q67

Intel® 2nd /3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard With Intel® Q67 Express Chipset

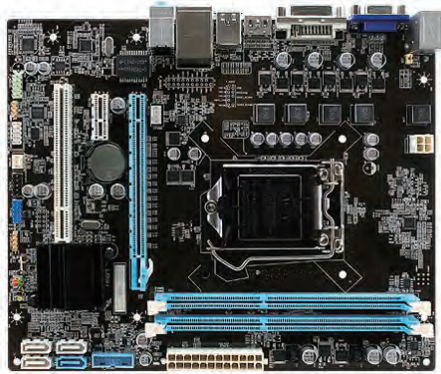
- > Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors
- > Intel® Q67 Express Chipset
- > 4 x 240-pin DIMM DDR3 1333/1600 MHz DIMM supports up to 32 GB
- > VGA, HDMI, DP
- > Realtek ALC892 Supports 5.1-CH HD Audio Codec
- > 1 x Intel® 82583BV PCI-e Gigabit Ethernet
- > 1 x Intel® 82579LM PCI-e Gigabit Ethernet
- > 1 x PCI-e x 16, 1 x PCI-e x 4, 1 x PCI-e x 1, 1 x PCI
- > 4 x SATA II, 2 x SATA III
- > 12 x USB 2.0
- > 6 x RS-232

+ Spec

System	
Processor	Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors
System Chipset	Intel® Q67 Express Chipset
System Memory	4 x 240-pin DDR3 1066/1333 MHz DIMM supports up to 32 GB
I/O Chip	Nuvoton NTC6776F
BIOS	AMI 64Mbit Flash BIOS
Watchdog Timer	H/W Reset: 1sec.~255min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
Expansion	
Expansion	1 x PCI 1 x PCI-e x 16 1 x PCI-e x 4 1 x PCI-e x 1
I/O	
USB	12 x USB 2.0
SATA	4 x SATA II 2 x SATA III
Com Port	6 x RS-232
Other	1 x PS/2 Keyboard 1 x PS/2 Mouse 1 x S/PDIF-out Header
DIO	1 x 8-bit GPIO
Display	
Chipset	Intel® 2nd/3rd Generation CPU integrated HDMI + VGA, HDMI + DP, VGA + DP
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1080 @ 60Hz DP: 1920 x 1080 @ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-in, Line-out, 1 x S/PDIF
Ethernet	
Chipset	1 x Intel® 82583V 1 x Intel® 82579LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	9.6" x 9.6" (243.84mm x 243.84mm)
Weight	1.35lbs (0.6kg)
Power Requirement	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V

+ Ordering

ERX-Q67-A2R
Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard With Intel® Q67 Express Chipset



ERX-B75

Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard With Intel® B75 Express Chipset

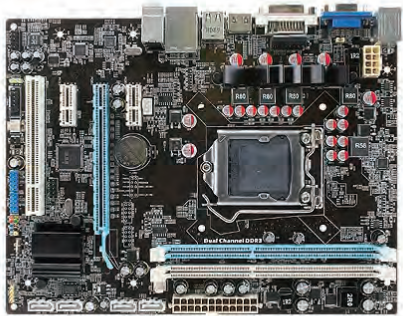
- > Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
- > Intel® B75 Express Chipset
- > 2 x 240-pin DDR3 1333/1600 MHz DIMM up to 16 GB
- > VGA, DVI-D, HDMI
- > Realtek ALC662/ 661 5.1-CH HD Audio Codec
- > Realtek RTL8111E PCIe Express Gigabit Ethernet
- > 1 x PCI, 1 x PCIe x 16, 1 x PCIe x 1
- > 3 x SATA II, 1 x SATA III
- > 4 x USB 2.0, 4 x USB 3.0
- > 1 x RS-232, 1 x PS2 Keyboard, 1 x PS2 Mouse
- > AT/ATX Power

+ Spec

System	
Processor	Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® B75 Express Chipset
System Memory	2 x 240-pin DDR3 1333/1600 MHz DIMM supports up to 16 GB
I/O Chip	Nuvoton NTC5532D
BIOS	AMI uEFI BIOS, 32Mbit SPI Flash ROM
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PCI 1 x PCIe x 16 1 x PCIe x 1
I/O	
USB	4 x USB 2.0 4 x USB 3.0
SATA	3 x SATA II 1 x SATA III
Com Port	1 x RS-232
Other	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 2nd/3rd Generation CPU integrated VGA + HDMI + DVI-D
Resolution	VGA: 2560 x 160 @ 60Hz HDMI: 1920 x 1200 @ 60Hz DVI-D: 1920 x 1200 @ 60Hz
Audio	
Chipset	Realtek ALC661 supports 5.1-CH
Audio Interface	Mic-in, Line-in, Line-out, 1 x S/PDIF
Ethernet	
Chipset	1 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	9.26" x 7.67" (235.1mm x 194.9mm)
Weight	0.88lbs (0.4kg)
Power Requirement	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V

+ Ordering

ERX-B75-A1R
Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard With Intel® B75 Express Chipset



ERX-H61

Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard With Intel® H61 Express Chipset

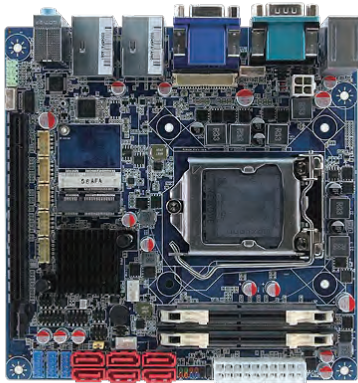
- > Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
- > Intel® H61 Express Chipset
- > 2 x 240-pin DDR3 1333/1600 MHz DIMM supports up to 8 GB
- > VGA, DVI-D, HDMI
- > Realtek ALC662/ 661 5.1-CH HD Audio Codec
- > Realtek RTL8111E PCIe-express Gigabit Ethernet
- > 1 x PCIe x 16, 2 x PCIe x 1, 1 x PCI
- > 4 x SATA II, 8 x USB 2.0
- > ATX Power

+ Spec

System	
Processor	Intel® LGA1155 Socket Supports 2nd /3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® H61 Express Chipset
System Memory	2 x 240-pin DDR3 1333/1600 MHz DIMM supports up to 8 GB
I/O Chip	Nuvoton NTC5577D
BIOS	AMI uEFI BIOS, 32Mbit SPI Flash ROM
H/W Status Monitor	Monitoring CPU Temperature and FAN Status with Auto Throttling Control
Expansion	
Expansion	1 x PCI 1 x PCIe x 16 2 x PCIe x 1
I/O	
USB	8 x USB 2.0
SATA	4 x SATA II
Com Port	1 x RS-232
Other	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 2nd/3rd Generation CPU integrated VGA + DVI-D, VGA + HDMI, DVI-D + HDMI
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz DVI-D: 1920 x 1200 @ 60Hz
Audio	
Chipset	Realtek ALC661 supports 5.1-CH
Audio Interface	Mic-in, Line-out, Line-in
Ethernet	
Chipset	1 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 50°C (32°F ~ 122°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	9.6" x 7.28" (244mm x 185mm)
Weight	0.88lbs (0.4kg)
Power Requirement	
Power Requirement	+12V/+5V/5Vsb/-12V

+ Ordering

ERX-H61-A1R
Intel® 2nd/ 3rd Generation Core™ i7/ i5/ i3, Pentium® and Celeron® Processors Micro ATX Motherboard With Intel® H61 Express Chipset



EMX-Q170P

Intel® 6th Generation Core™ Processor Mini ITX Motherboard with Intel® Q170 Express Chipset

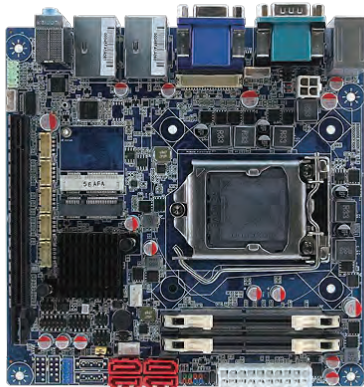
- > Intel® 6th Generation Core™ Processor (Max. TDP at 95W)
- > Intel® Q170 Express Chipset
- > 2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB
- > 1 x Intel® I219LM Gigabit Ethernet PHY
- > 1 x Intel® I211AT PCI-e Gigabit Ethernet
- > Realtek ALC892 HD Audio Codec
- > VGA, HDMI, DP, Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)
- > 5 x SATA III, 1 x SATA III or 1 x mSATA III switch by BIOS
- > 1 x PCI-e x 16
- > 1 x Full Size Mini-PCI-e with mSATA Support (SATA III)
- > 1 x Half Size Mini PCI-e
- > 4 x USB 3.0, 8 x USB 2.0
- > 1 x PS/2 Keyboard or Mouse with Dual deck USB 2.0

+ Spec

System	
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
System Chipset	Intel® Q170 Express Chipset
System Memory	2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB
I/O Chip	Nuvoton® NCT6106D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. – 65535sec./min. 1sec. or 1min. step
H/W Status Monitor	CPU temperature monitoring Voltages monitoring CPU fan speed control
TPM	Onboard Infineon SLB9665 support TPM 2.0
Board	Mini ITX
Expansion	
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
I/O	
USB	8 x USB 2.0 4 x USB 3.0
SATA	5 x SATA III, 1 x SATA III or 1 x mSATA III switch by BIOS selection
Com Port	5 x RS232 1 x RS232/422/485
Other	Onboard Infineon SLB9665 support TPM 2.0
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard or 1 x PS/2 Mouse
Display	
Chipset	Intel® 6th Generation CPU integrated
Resolution	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz DP: 4096 x 2304 @ 60Hz
LVDS	Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)
Multiple Display	Triple Display
Audio	
Chipset	Realtek ALC892 HD Audio Decoding Controller
Audio Interface	Mic-in, Line-out, Line-in
Audio Amplifier	6W Amplifier
Ethernet	
Chipset	1 x Intel® I219LM Gigabit Ethernet PHY, 1 x Intel® I211AT PCI-e Gigabit Ethernet
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5VSB/+3.3V/-12V
ACPI	Single power ATX Support S0, S3, S4, S5
Power Type	AT/ATX
Operating Temp	0~60°C (32~140°F)
Storage Temp	-40~ 75°C
Operating Humidity	0%~90% relative humidity, non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	0.40 kg

+ Ordering

EMX-Q170P-A1R
Intel® 6th Generation Core™ i7/ i5/ i3 Processor Mini ITX Motherboard with Intel® Q170 Express Chipset



EMX-H110P

Intel® 6th Generation Core™ Processor Mini ITX Motherboard with Intel® H110 Express Chipset

- > Intel® 6th Generation Core™ Processor (Max. TDP at 95W)
- > Intel® H110 Express Chipset
- > 2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB
- > 1 x Intel® I219LM Gigabit Ethernet PHY
- > 1 x Intel® I211AT PC-e Gigabit Ethernet
- > Realtek ALC892 HD Audio Codec
- > VGA, HDMI, DP, Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)
- > 3 x SATA III, 1 x SATA III or 1 x mSATA III switch by BIOS
- > 1 x PCIe x 16
- > 1 x Full Size Mini-PCI-e with mSATA Support (SATA III)
- > 1 x Half Size Mini PCI-e
- > 2 x USB 2.0 by pin header
- > 4 x USB 3.0, 2 x USB 2.0 at I/O

+ Spec

System	
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
System Chipset	Intel® H110 Express Chipset
System Memory	2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB
I/O Chip	Nuvoton® NCT6106D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	HW Reset, 1sec. – 65535sec./min.1sec. or 1min. step
HW Status Monitor	CPU temperature monitoring Voltages monitoring CPU fan speed control
TPM	Optional Infineon SLB9665 support TPM 2.0
Board	Mini ITX
Expansion	
Expansion	1 x PCIe x 16 1 x Full Size Mini PCI-e Supports mSATA (by auto switch IC) 1 x Half Size Mini PCI-e
I/O	
USB	4 x USB 2.0 4 x USB 3.0
SATA	3 x SATA III, 1 x SATA III or 1 x mSATA III switch by BIOS selection
Com Port	5 x RS232 1 x RS232/422/485
Other	Optional Infineon SLB9665 support TPM 2.0
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard or 1 x PS/2 Mouse
Display	
Chipset	Intel® 6th Generation CPU integrated VGA + HDMI + DP
Resolution	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz DP: 4096 x 2304 @ 60Hz
LVDS	Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)
Multiple Display	Dual Display
Audio	
Chipset	Realtek ALC892 HD Audio Decoding Controller
Audio Interface	Mic-in, Line-out, Line-in
Audio Amplifier	2 x 6W Amplifier
Ethernet	
Chipset	1 x Intel® I219LM Gigabit Ethernet PHY 1 x Intel® I211AT PC-e Gigabit Ethernet
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5VSB/+3.3V/-12V
ACPI	Single power ATX Support S0, S3, S4, S5
Power Type	AT/ATX
Operating Temp	0~60°C (32~140°F)
Storage Temp	-40~ 75°C (-40~167°F)
Operating Humidity	0%~90% relative humidity, non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	0.40 kg

+ Ordering

EMX-H110P-A1R
Intel® 6th Generation Core™ i7/ i5/ i3 Processor Mini ITX Motherboard with Intel® H110 Express Chipset



EMX-Q87R

Intel® 4th Generation Core™ Refresh i7/i5/i3 Mini ITX Motherboard with Intel® Q87 Express Chipset

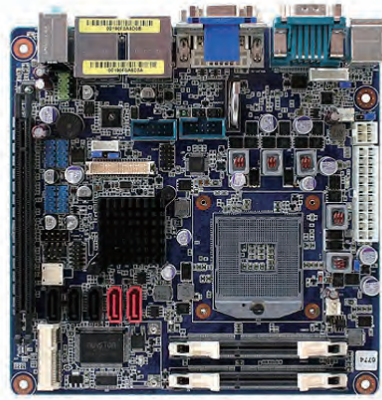
- > Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
- > Intel® Q87 Express Chipset
- > 2 x 204-pin DDR3 1333/1600 MHz SO-DIMM supports up to 16 GB
- > VGA, HDMI, DP, Dual-channel 18/24-bit LVDS
- > 1 x Intel® I217LM PCIe Gigabit Ethernet PHY
- > 1 x Intel® I211AT PCIe Gigabit Ethernet
- > Realtek ALC892 Supports 5.1-CH HD Audio Codec
- > TI TPA2012D2RTJT Stereo Class-D 2W x 2 Audio Amplifier
- > 1 x Mini PCIe Supported mSATA, 1 x PCIe x 16, 1 x CFast
- > 4 x SATA III, 6 x USB 3.0, 6 x USB 2.0
- > 3 x RS-232, 1 x RS-232/422/485, 1 x 8-bit GPIO
- > 1 x PS/2 Keyboard
- > 1 x PS/2 Mouse

+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® Q87 Express Chipset
System Memory	2 x 204-pin DDR3 1333/1600 MHz SO-DIMM supports up to 16 GB
I/O Chip	Nuvoton NTC6106D
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM; iAMT 9.0 Supported
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PCIe x 16 1 x Mini PCIe Supports mSATA (Switch Through Jumper) 1 x CFast
I/O	
USB	6 x USB 3.0 6 x USB 2.0
SATA	4 x SATA III
Com Port	3 x RS-232 1 x RS-232/422/485
Other	TPM 1.2 SLB9635 (optional)
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 4th Generation CPU integrated
Resolution	VGA: 1920 x 1200 @ 60Hz HDMI: 4096 x 2160 @ 24Hz LVDS: 1920 x 1080 @ 60Hz DP: 3840 x 2160 @ 60Hz
Multiple Display	Triple Display
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-out, Line-in
Audio Amplifier	TI TPA2012D2RTJT Stereo Class-D 2W x 2 Audio Amplifier
Ethernet	
Chipset	1 x Intel® I217LM 1 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	0°C ~ 60°C (32°F ~ 140°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	1.03lbs (0.47kg)

+ Ordering

EMX-Q87R-A1R
Intel® 4th Generation Core™ Refresh i7/i5/i3 Mini ITX Motherboard with Intel® Q87 Express Chipset



EMX-QM77

Intel® 3rd Generation Core™ i7/ i5/ i3 Mini ITX
Motherboard with Intel® QM77 Express Chipset

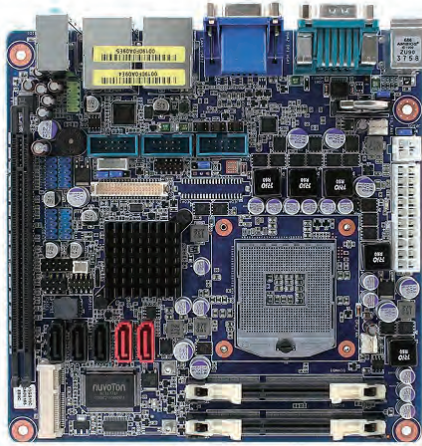
- > Intel® rPGA988 Socket Supports Intel® 3rd Generation Core™ i7/i5/i3 Processors
- > Intel® QM77 Express Chipset
- > Two 204-pin SO-DIMM Sockets support up to 16GB Dual Channel, DDR3 1333/1600 MHz
- > VGA, HDMI, DVI, Dual-channel 18/24-bit LVDS
- > 1 x Intel® 82583V PCI-e Gigabit Ethernet
- > 1 x Intel® 82579LM PCI-e Gigabit Ethernet PHY
- > Realtek ALC892 Supports 5.1-CH HD Audio Codec
- > 1 x Mini PCI-e supported mSATA, 1 x PCI-e x 16, 1 x CFast
- > 2 x SATA III, 3 x SATA II
- > 4 x USB 3.0, 8 x USB 2.0
- > 3 x RS-232, 1 x 8-bit GPIO
- > iAMT 8.0

+ Spec

System	
Processor	Intel® rPGA988 Socket Supports Intel® 3rd Generation Core™ i7/i5/i3 Processors
System Chipset	Intel® QM77 Express Chipset
System Memory	2 x 204-Pin DDR3 1333/1600 MHz SO-DIMM supports up to 16 GB
I/O Chip	NCT6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PCI-e x 16 1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x CFast
I/O	
USB	4 x USB 3.0 8 x USB 2.0
SATA	2 x SATA III 3 x SATA II
Com Port	3 x RS-232
Other	TPM 1.2 SLB9635 1 x S/PDIF-out Header
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 2nd/ 3rd Generation CPU integrated VGA + LVDS, VGA + HDMI, VGA + DVI, HDMI + LVDS, HDMI + DVI, LVDS + DVI
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1920 x 1200 @ 60Hz DVI: 1920 x 1200 @ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Ethernet	
Chipset	1 x Intel® 82583V 1 x Intel® 82579LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	1.03lbs (0.47kg)

+ Ordering

EMX-QM77-A1R
Intel® 3rd Generation Core™ i7/ i5/ i3 Mini ITX Motherboard with Intel® QM77 Express Chipset



EMX-QM67

Intel® Core™ i7/ i5/ i3 Mini-ITX Motherboard with Intel® QM67 Express Chipset

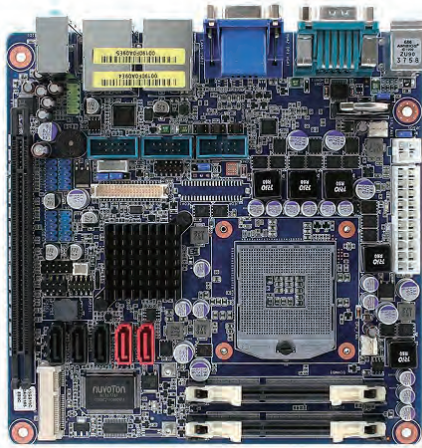
- > Intel® rPGA988 Socket Supports Intel® 2nd/ 3rd Generation Core™ i7/i5/i3 Processors
- > Intel® QM67 Express Chipset
- > 2 x 204-Pin DDR3 1066/1333 MHz SO-DIMM supports up to 16 GB
- > VGA, HDMI, DP, Dual-channel 18/24-bit LVDS
- > 1 x Intel® 82583V PCI-e Gigabit Ethernet
- > 1 x Intel® 82579LM PCI-e Gigabit Ethernet PHY
- > Realtek ALC892 Supports 5.1-CH HD Audio Codec
- > 1 x PCI-e x 16, 1 x Mini PCI-e, 1 x CFAST
- > 2 x SATA III, 3 x SATA II
- > 4 x RS-232
- > 4 x COM, 1 x 8-bit GPIO
- > Supports RAID 0, 1, 5, 10 , iAMT 7.0

+ Spec

System	
Processor	Intel® rPGA988 Socket Supports Intel® 2nd/3rd Generation Core™ i7/i5/i3 Processors
System Chipset	Intel® QM67 Express Chipset
System Memory	2 x 204-Pin DDR3 1066/1333 MHz SO-DIMM supports up to 16 GB
I/O Chip	Nuvoton NCT6776F
BIOS	AMI 16Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PCI-e x 16 1 x Mini PCI-e 1 x CFAST
I/O	
USB	12 x USB 2.0
SATA	2 x SATA III 3 x SATA II
Com Port	4 x RS-232
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 2nd/ 3rd Generation CPU integrated VGA + LVDS, VGA + HDMI, VGA + DP, HDMI + LVDS, HDMI + DP, DP+ LVDS
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 2000 @ 60Hz LVDS: 1920 x 1080 @ 60Hz DP: 2560 x 1600 @ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Ethernet	
Chipset	1 x Intel® 82579LM 1 x Intel® 82583V
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	1.03lbs (0.47kg)

+ Ordering

EMX-QM67-A2R
Intel® Core™ i7/ i5/ i3 Mini-ITX Motherboard with Intel® QM67 Express Chipset



EMX-QM67

Intel® Core™ i7/ i5/ i3 Mini-ITX Motherboard with Intel® QM67 Express Chipset

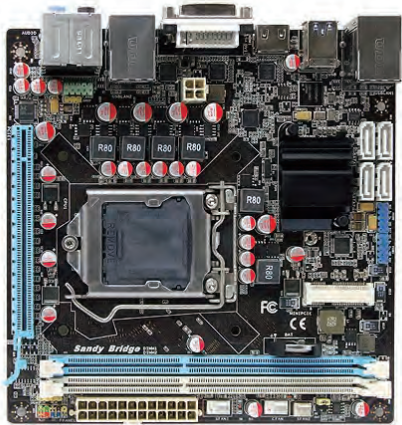
- > Intel® rPGA988 Socket Supports Intel® 2nd/ 3rd Generation Core™ i7/i5/i3 Processors
- > Intel® QM67 Express Chipset
- > 2 x 204-Pin DDR3 1066/1333 MHz SO-DIMM supports up to 16 GB
- > VGA, HDMI, DP, Dual-channel 18/24-bit LVDS
- > 1 x Intel® 82583V PCI-e Gigabit Ethernet
- > 1 x Intel® 82579LM PCI-e Gigabit Ethernet PHY
- > Realtek ALC892 Supports 5.1-CH HD Audio Codec
- > 1 x PCI-e x 16, 1 x Mini PCI-e, 1 x CFAST
- > 2 x SATA III, 3 x SATA II
- > 4 x RS-232
- > 4 x COM, 1 x 8-bit GPIO
- > Supports RAID 0, 1, 5, 10 , iAMT 7.0

+ Spec

System	
Processor	Intel® rPGA988 Socket Supports Intel® 2nd/3rd Generation Core™ i7/i5/i3 Processors
System Chipset	Intel® QM67 Express Chipset
System Memory	2 x 204-Pin DDR3 1066/1333 MHz SO-DIMM supports up to 16 GB
I/O Chip	Nuvoton NCT6776F
BIOS	AMI 16Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PCI-e x 16 1 x Mini PCI-e 1 x CFAST
I/O	
USB	12 x USB 2.0
SATA	2 x SATA III 3 x SATA II
Com Port	4 x RS-232
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 2nd/ 3rd Generation CPU integrated VGA + LVDS, VGA + HDMI, VGA + DP, HDMI + LVDS, HDMI + DP, DP+ LVDS
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 2000 @ 60Hz LVDS: 1920 x 1080 @ 60Hz DP: 2560 x 1600 @ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Ethernet	
Chipset	1 x Intel® 82579LM 1 x Intel® 82583V
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	1.03lbs (0.47kg)

+ Ordering

EMX-QM67-A2R
Intel® Core™ i7/ i5/ i3 Mini-ITX Motherboard with Intel® QM67 Express Chipset



EMX-H61

Intel® 2nd/ 3rd Generation Core™/ Pentium®/ Celeron® Mini ITX Motherboard with Intel® H61 Express Chipset

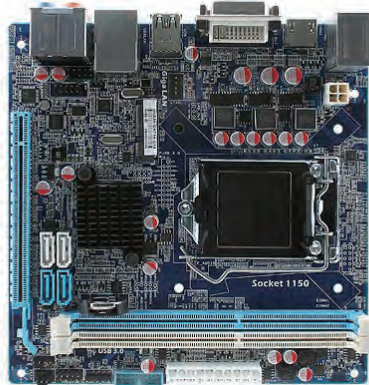
- > Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
- > Intel® H61 Express Chipset
- > 2 x 240-Pin DDR3 1066/1333 MHz DIMM supports up to 8 GB
- > VGA, DVI-D, HDMI
- > 2 x Broadcom® 57788 PCIe Gigabit Ethernet
- > Realtek ALC892 Supports 7.1-CH HD Audio
- > 1 x Mini PCI-e, 1 x PCI-e x 16
- > 4 x SATA II
- > 2 x USB 3.0, 8 x USB 2.0
- > ATX Power

+ Spec

System	
Processor	Intel® LGA1155 Socket Supports 2nd/ 3rd Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® H61 Express Chipset
System Memory	2 x 240-Pin DDR3 1066/1333 MHz DIMM supports up to 8 GB
I/O Chip	Nuvoton NTC5577D
BIOS	AMI uEFI BIOS, 32Mbit SPI Flash ROM
H/W Status Monitor	Monitoring CPU Temperature and FAN Status with Auto Throttling Control
Expansion	
Expansion	1 x PCI-e x 16 1 x Mini PCI-e
I/O	
USB	2 x USB 3.0 8 x USB 2.0
SATA	4 x SATA II 3.0Gb/s
Other	1 x S/PDIF-out Header
Display	
Chipset	Intel® 2nd/ 3rd Generation CPU integrated VGA + DVI-D, VGA + HDMI, DVI-D + HDMI
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz DVI-D: 1920 x 1200 @ 60Hz
Audio	
Chipset	Realtek ALC892 supports 7.1-CH
Audio Interface	Mic-in, Line-out, Line-in, Rear RL, S/PDIF
Ethernet	
Chipset	2 x Broadcom® 57788
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	ATX
Operating Temp	0°C ~ 50°C (32°F ~ 122°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	0.88lbs (0.4kg)
Certifications	
Certification Information	

+ Ordering

EMX-H61-A1R
Intel® 2nd/ 3rd Generation Core™/ Pentium®/ Celeron® Mini ITX Motherboard with Intel® H61 Express Chipset



SEM X-H81

Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors Mini ITX Motherboard with Intel® H81 Express Chipset

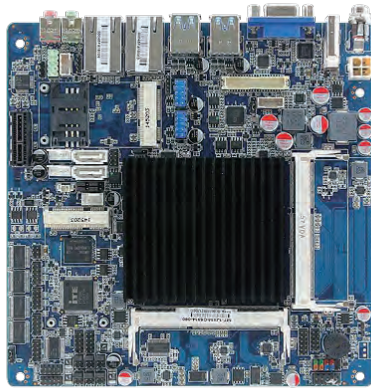
- > Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 84W)
- > Intel® H81 Express Chipset
- > 2 x 240-pin DDR3 1333/1600 MHz SO-DIMM supports up to 16 GB
- > VGA, HDMI, DVI-D
- > 1 x Realtek RTL8111E PCI-e Gigabit Ethernet
- > Realtek ALC892 Supports 7.1-CH HD Audio
- > 1 x PCI-e x 16, 1 x Mini PCI-e
- > 2 x SATA III, 2 x SATA II
- > 7 x USB 2.0, 2 x USB 3.0
- > 1 x RS-232, 1 x S/PDIF
- > ATX Power

+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 84W)
System Chipset	Intel® H81 Express Chipset
System Memory	2 x 240-pin DDR3 1333/1600 MHz SO-DIMM supports up to 16 GB
I/O Chip	Nuvoton NTC5532D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Expansion	
Expansion	1 x PCI-e x 16 1 x Mini PCI-e
I/O	
USB	7 x USB 2.0 2 x USB 3.0
Com Port	1 x RS-232
Other	1 x S/PDIF-out Header
MIO	1 x PS/2 Keyboard or Mouse
Display	
Chipset	Intel® 4th Generation CPU integrated VGA + DVI-D, VGA + HDMI, DVI-D + HDMI
Resolution	VGA: 1920 x 1200 @ 60Hz HDMI: 4096 x 2160 @ 24Hz DVI-D: 1920 x 1200 @ 60Hz
Audio	
Chipset	Realtek ALC892 supports 7.1-CH
Audio Interface	Mic-in, Line-out, Line-in, Rear R/L, S/PDIF-out
Ethernet	
Chipset	1 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	0.88lbs (0.4kg)

+ Ordering

SEM X-H81-A1R
Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors Mini ITX Motherboard with Intel® H81 Express Chipset



EMX-BSWP

Intel® Celeron® Processor N3160 Thin Mini ITX Motherboard

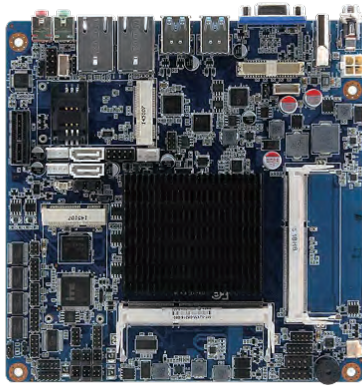
- Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz)
- 2 x 204-pin DDR3L 1600 MHz SO-DIMM supports up to 8GB
- VGA, HDMI, Dual channel 18/24-bits LVDS
- 2 x Intel® i211AT Gigabit Ethernet
- Realtek ALC662 Audio Codec
- Realtek ALC105 Stereo Class-D 3W x 2 Audio Amplifier
- 1 x Mini PCIe Supported mSATA, 1 Mini PCIe, 1 x PCIe
- 2 x SATA III, 2 x SATA Power, 4 x USB 2.0, 4 x USB 3.0
- 5 x RS232, 1 x RS232/422/485, 8-bit GPIO
- Mic-in, Line-out, 1 S/PDIF, SD card slot, Optional Infineon SLB9665 TPM 2.0
- Onboard eMMC (Optional 32GB)
- DC in 12V

+ Spec

System	
Processor	Intel® Celeron® Processor N3160 (2M Cache, up to 2.24 GHz)
System Memory	2 x 204-pin DDR3L 1600 MHz SO-DIMM supports up to 8GB
I/O Chip	EC iTE IT8528E
BIOS	AMI 64Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PCIe 1 x Mini PCIe Supports mSATA (Switch Through Jumper) 1 x Mini PCIe 1 x SD card slot Supports SD/ SDHC Card 1 x SIM card slot
I/O	
USB	4 x USB 2.0 4 x USB 3.0
SATA	2 x SATA Power 2 x SATA III
Com Port	5 x RS232 1 x RS232/422/485
Other	1 x S/PDIF
DIO	1 x 8-bit GPIO
Display	
Chipset	Intel® Atom™/ Celeron® SoC integrated Graphics HDMI + LVDS, HDMI + VGA, VGA + LVDS
Resolution	VGA: 2560 x 1600 @ 60Hz HDMI: 3840 x 2160 @ 30Hz LVDS: 1920 x 1080 @ 60Hz
LVDS	2CH 18/24bits LVDS 1920 x 1080 Chrontel. CH7511B eDP to LVDS Converter
Multiple Display	HDMI + LVDS, HDMI + VGA, VGA + LVDS
Audio	
Chipset	Realtek ALC662 supports 2-CH
Audio Interface	Mic-in, Line-out
Audio Amplifier	2 x Stereo Class-D 3W Audio Amplifier
Ethernet	
Chipset	2 x Intel I211AT Gigabit Ethernet
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ45
Mechanical & Environmental	
Power Requirement	+12V
Power Type	AT/ATX
Operating Temp	0 ~ 60°C (32 ~ 140°F)
Storage Temp	-40 ~ 75°C (-40 ~ 167°F)
Operating Humidity	0 ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	0.88lbs (0.4Kgs)

+ Ordering

EMX-BSWP-A1R
Intel® Celeron® Processor N3160 Thin Mini ITX Motherboard



EMX-BYT2

Intel® Atom™ Celeron® J1900 Processor Thin Mini ITX Motherboard

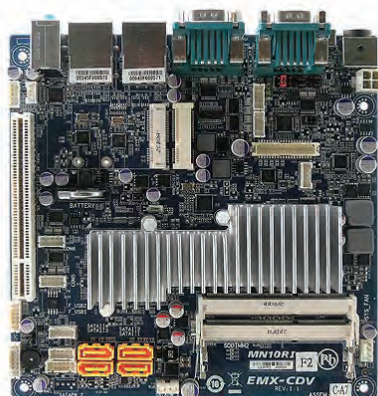
- > Onboard Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz)
- > 2 x 204-pin DDR3L 1333 MHz SO-DIMM supports up to 8GB
- > VGA, HDMI, Dual channel 18/24-bits LVDS
- > 2 x Intel® i211AT Gigabit Ethernet
- > Realtek ALC662 Audio Codec
- > 1 x Mini PCI-e Supported mSATA, 1 x Mini PCI-e, 1 x PCI-e
- > 2 x SATA II, 2 x SATA Power, 2 x USB 2.0, 4 x USB 3.0
- > 5 x RS232, 1 x RS232/422/485, 8-bit GPIO
- > Mic-in, Line-out, 1 S/PIDF, Optional Infineon SLB9665 TPM 2.0
- > Onboard eMMC (Optional 32GB)
- > DC in +12V

+ Spec

System	
Processor	Onboard Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz)
System Memory	2 x 204-pin DDR3L 1333 MHz SO-DIMM supports up to 8GB
I/O Chip	EC iTE IT8528E
BIOS	AMI 64Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PCI-e 1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x Mini PCI-e 1 x SD card slot supports SD/ SDHC Card 1 x SIM card slot
I/O	
USB	2 x USB 2.0 4 x USB 3.0
SATA	2 x SATA Power 2 x SATA II
Com Port	5 x RS232 1 x RS232/422/485
Other	1 x S/PIDF
DIO	1 x 8-bit GPIO
Display	
Chipset	Intel® Atom™/ Celeron® SoC integrated Graphics HDMI + LVDS, HDMI + VGA, VGA + LVDS
Resolution	VGA: 2560 x 1600 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS 1920 x 1080 @ 60Hz
LVDS	Dual channel 18/24-bits LVDS 1920 x 1080 Chrontel. CH7511B eDP to LVDS Converter
Multiple Display	Dual Display
Audio	
Chipset	Realtek ALC662 supports 2-CH
Audio Interface	Mic-in, Line-out
Audio Amplifier	2 x Stereo Class-D 3W Audio Amplifier
Ethernet	
Chipset	2 x Intel I211AT Gigabit Ethernet
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ45
Mechanical & Environmental	
Power Requirement	+12V
Power Type	AT/ATX
Operating Temp	0 ~ 60°C (32 ~ 140°F)
Storage Temp	-40 ~ 75°C (-40 ~ 167°F)
Operating Humidity	0 ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	0.88lbs (0.4Kgs)

+ Ordering

EMX-BYT2
Intel® Atom™ Celeron® J1900 Processor Thin Mini ITX Motherboard



EMX-CDV

Intel® Atom™ D2550 Processor Mini ITX
Motherboard with Intel® ICH10-R Express Chipset

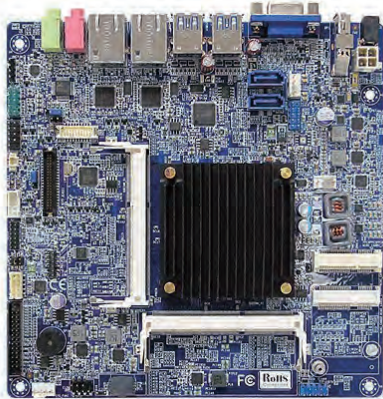
- > Intel® Atom™ D2550 Processor (1M Cache, 1.86GHz) (N2800/ N2600 for Option)
- > Intel® ICH10-R Express Chipset
- > 2 x 204-pin DDR3 1333/1600 MHz SO-DIMM supports up to 16 GB
- > VGA, HDMI, Dual-channel 18/24-bit LVDS
- > 2 x Realtek RTL8111E PCI-e Gigabit Ethernet
- > Realtek ALC269 Supports 5.1-CH HD Audio Codec + 2W Audio Amplifier
- > 1 x PCI, 2 x Mini PCI-e
- > 4 x SATA II
- > 7 x USB 2.0
- > 6 x RS-232, 1 x 8-bit GPIO
- > Supports RAID 0, 1, 5, 10 RAID 0, 1, 5, 10
- > TPM 1.2 (Optional)

+ Spec

System	
Processor	Intel® Atom™ D2550 Processor (1M Cache, 1.86GHz) (N2800/ N2600 for Option)
System Chipset	Intel® ICH10-R
System Memory	2 x 204-pin DDR3 1066/1333 MHz SO-DIMM supports up to 4 GB
I/O Chip	ITE8783
BIOS	AMI 16Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x PCI 2 x Mini PCI-e
I/O	
USB	7 x USB 2.0
SATA	4 x SATA II
Com Port	6 x RS-232
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard or Mouse
Display	
Chipset	Integrated Intel® Graphics Media Accelerator HDMI + LVDS, HDMI + VGA, VGA + LVDS
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1920 x 1080 @ 60Hz
Audio	
Chipset	Realtek ALC269 supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Audio Amplifier	Stereo Class-D 2W x 2 Audio Amplifier
Ethernet	
Chipset	2 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V
Power Type	AT/ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	1.03lbs (0.47kg)

+ Ordering

EMX-CDV-D255-A2R
Intel® Atom™ D2550 Processor Mini ITX Motherboard with Intel® ICH10-R Express Chipset



MX1900J

Intel® Atom™ Celeron® J1900 Processor Mini ITX Motherboard

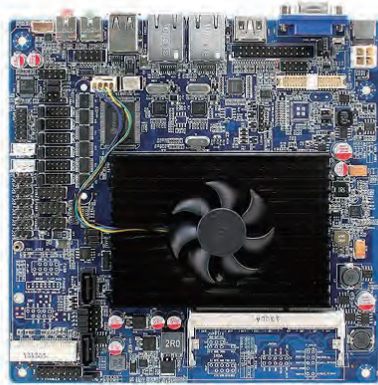
- > Onboard Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz)
- > 2 x 204-pin DDR3L 1333 MHz SO-DIMM supports up to 8 GB
- > VGA, DP, Dual-channel 18/24-bit LVDS
- > 2 x Intel® i211-AT PCI-e Gigabit Ethernet
- > Realtek ALC892 HD Audio Codec
- > Stereo Class-D 2W x2 Audio Amplifier
- > 1 x Mini PCI-e Supported mSATA, 1 x Mini PCI-e
- > 2 x SATA II
- > 4 x USB 3.0, 4 x USB 2.0
- > 1 x RS-232, 1 x 8-bit GPIO
- > DC-in +12V

+ Spec

System	
Processor	Onboard Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz)
System Memory	2 x 204-pin DDR3L 1333 MHz SO-DIMM supports up to 8 GB
I/O Chip	Nuvoton NTC6776F
BIOS	AMI 32Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x Mini PCI-e
I/O	
USB	4 x USB 2.0 4 x USB 3.0
SATA	2 x SATA II
Com Port	1 x RS-232
Other	1 x LPT
DIO	1 x 8-bit GPIO
MIO	1 x LPT
Display	
Chipset	Intel® Atom™/ Celeron® SoC integrated Graphics LVDS + VGA, VGA + DP, DP + LVDS
Resolution	VGA: 2048 x 1536 @ 60Hz LVDS: 1920 x 1200 @ 60Hz DP: 1920 x 1200 @ 60Hz
Audio	
Chipset	Realtek ALC892 supports 2-CH
Audio Interface	Mic-in and Line-out
Audio Amplifier	Stereo Class-D 2W x2 Audio Amplifier
Ethernet	
Chipset	2 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V
Power Type	ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	1.03lbs (0.47kg)

+ Ordering

MX1900J
Intel® Atom™ Celeron® J1900 Processor Mini ITX Motherboard



EMX-CDD

Intel® Atom™ D2550 Processor Thin Mini ITX Motherboard with Intel® NM10 Express Chipset

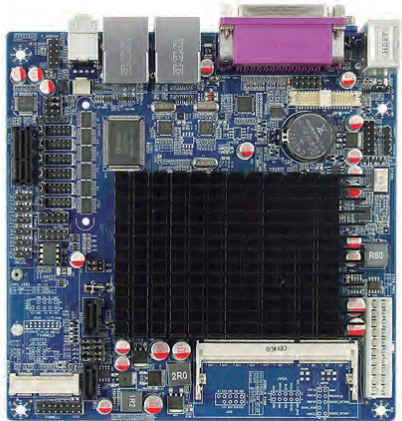
- > Intel® Atom™ D2550 Processor (1M Cache, 1.86GHz)
- > Intel® NM10 Express Chipset
- > 1 x 204-pin DDR3 1066/1333 MHz SO-DIMM supports up to 4 GB
- > VGA, HDMI, Single-channel 18/ 24-bit LVDS
- > 2 x Realtek RTL8111E PCI-e Gigabit Ethernet
- > Realtek ALC662/ 661 Audio Codec
- > Realtek ALC105 Stereo Class-D 3W x 2 Audio Amplifier
- > 1 x Mini PCI-e Supported mSATA
- > 2 x SATA II
- > 8 x USB 2.0
- > 6 x RS-232
- > 1 x 8-bit GPIO
- > DC-in +12V

+ Spec

System	
Processor	Intel® Atom™ D2550 Processor (1M Cache, 1.86GHz)
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-pin DDR3 1066/1333 MHz SO-DIMM supports up to 4 GB
I/O Chip	Winbond W83627UHG
BIOS	AMI 16Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec.~255sec. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCI-e Supports mSATA (Switch Through Jumper)
I/O	
USB	8 x USB 2.0
SATA	2 x SATA II 1 x mSATA (Mini PCI-e and mSATA SSD Switch Through Jumper)
Com Port	6 x RS-232
Other	1 x S/PDIF-out Header
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse 1 x LPT
Display	
Chipset	Integrated Intel® Graphics Media Accelerator LVDS + VGA, VGA + HDMI, HDMI + LVDS
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1440 x 900 @ 60Hz LVDS + VGA, VGA + HDMI, HDMI + LVDS Single-channel 18/ 24-bit LVDS
Audio	
Chipset	Realtek ALC661 supports 2-CH
Audio Interface	Mic-in and Line-out
Audio Amplifier	Realtek ALC105 Stereo Class-D 3W x 2 Audio Amplifier
Ethernet	
Chipset	2 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V
ACPI	
Power Type	ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)

+ Ordering

EMX-CDD-A1R
Intel® Atom™ D2550 Processor Thin Mini ITX Motherboard with Intel® NM10 Express Chipset



EMX-CDT

Intel® Atom™ D2550 Processor Mini ITX
Motherboard with Intel® NM10 Express Chipset

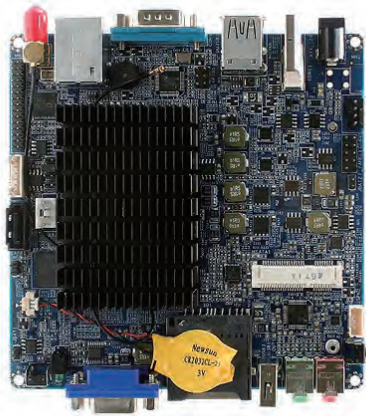
- > Intel® Atom™ D2550 Processor (1M Cache, 1.86GHz)
- > Intel® NM10 Express Chipset
- > 1 x 204-pin DDR3 1066/1333 MHz SO-DIMM supports up to 4 GB
- > VGA, HDMI, Single-channel 18/24-bit LVDS
- > 2 x Realtek RTL8111E PCIe Gigabit Ethernet
- > Realtek ALC662/661 5.1-CH HD Audio Codec
- > 1 x Mini PCI-e Supported mSATA, 1 x PCI-e x 1
- > 2 x SATA II
- > 8 x USB 2.0
- > 6 x RS-232
- > 1 x 8-bit GPIO
- > ATX Power

+ Spec

System	
Processor	Intel® Atom™ D2550 Processor (1M Cache, 1.86GHz)
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-pin DDR3 1066/1333 MHz SO-DIMM supports up to 4 GB
I/O Chip	Winbond W83627UHG
BIOS	AMI 16Mbit SPI BIOS
Watchdog Timer	HW Reset: 1sec.~255sec. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
Expansion	
Expansion	1 x PCI-e x 1 1 x Mini PCI-e Supports mSATA (Switch Through Jumper)
I/O	
USB	8 x USB 2.0
SATA	2 x SATA II 1 x mSATA (Mini PCI-e and mSATA Switch Through Jumper)
Com Port	6 x RS-232
DIO	1 x 8-bit GPIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse 1 x LPT 1 x VGA Pin-header
Display	
Chipset	Integrated Intel® Graphics Media Accelerator LVDS + VGA, VGA + HDMI, HDMI + LVDS
Resolution	VGA: 2048 x 1536 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1440 x 900 @ 60Hz
Audio	
Chipset	Realtek ALC661 supports 2-CH
Audio Interface	Mic-in and Line-out
Ethernet	
Chipset	2 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V/+5V/5Vsb/+3.3V/-12V
Power Type	ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)
Weight	1.058lbs (0.48kg)

+ Ordering

EMX-CDT-A1R
Intel® Atom™ D2550 Processor Mini ITX Motherboard with Intel® NM10 Express Chipset



SENX-BYT

Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz) Nano ITX Motherboard

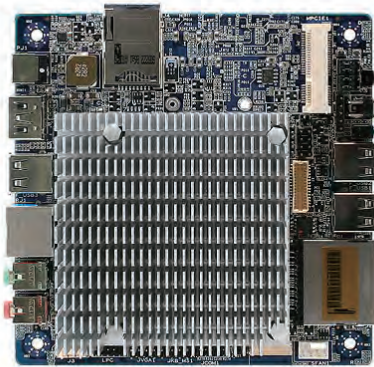
- > Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)
- > 1 x 204-Pin DDR3L 1333 MHz SO-DIMM Supports up to 8 GB
- > Onboard eMMC (32GB)
- > VGA, HDMI, Dual-channel 18/24-bit LVDS
- > 1 x Realtek RTL8111G PCIe Gigabit Ethernet
- > Realtek ALC662 2 HD Audio Codec
- > Realtek ALC105 3W Stereo Class-D Audio amplifier
- > 1 x Line-out, 1 x Mic-in
- > 1 x SATA II, 1 x SATA Power
- > 2 x USB 2.0, 1 x USB 3.0
- > 1 x RS-232 (Pin9 Without Power)
- > 1 x SD card slot, 1 x 4-bit GPIO, 1 x SIM card slot

+ Spec

System	
Processor	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)
System Memory	1 x 204-Pin DDR3L 1333 MHz SO-DIMM supports up to 8 GB
I/O Chip	iTE 8772E
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Expansion	
Expansion	1 x Half size Mini PCIe supports mSATA 1 x Full size Mini PCIe 1 x SIM Card Slot
Storage	
Storage	Onboard eMMC (32GB)
I/O	
USB	2 x USB 2.0 1 x USB 3.0
SATA	1 x SATA II
Com Port	1 x RS-232
Other	1 x Power on/off with Power LED button 1 x Power button 1 x SMA connector
DIO	1 x 4-bit GPIO
Display	
Chipset	Intel® Atom™/ Celeron® SoC integrated Graphics HDMI + VGA, HDMI + LVDS, VGA + LVDS
Resolution	VGA: 2560 x 1600 @ 60Hz HDMI: 1920 x 1080 @ 60Hz LVDS: 1920 x 1200 @ 60Hz
Audio	
Chipset	Realtek ALC662 supports 2-CH
Audio Interface	Mic-in and Line-out
Audio Amplifier	2 x Realtek ALC105 3W Stereo Class-D Audio amplifier
Ethernet	
Chipset	1 x RTL8111G
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V
Power Type	ATX
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	4.72" x 4.72" (120mm x 120mm)
Weight	0.88lbs (0.4kg)

+ Ordering

SENX-BYT190-A1R
Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz) Nano ITX Motherboard



ENX-CDD

Intel® Atom™ D2550 Processo Nano ITX Motherboard with Intel® NM10 Chipset

- > Intel® Atom™ D2550 Processor (1M Cache, 1.86GHz)
- > Intel® NM10 Express Chipset
- > 1 x 204-Pin DDR3 1066/1333 MHz SO-DIMM supports up to 4 GB
- > VGA, HDMI, Single-channel 18/24-bit LVDS
- > 1 x Realtek RTL8111E PCIe Gigabit Ethernet
- > Realtek ALC662 2-CH HD Audio Codec
- > Realtek ALC105 Stereo Class-D 3W x 2 Audio Amplifier
- > 1 x Line-out, 1 x Mic-in
- > 1 x SATA II
- > 4 x USB 2.0
- > 1 x RS-232 (Pin9 Without Power)
- > 1 x SD card slot, 1 x 4-bit GPIO, 1 x SIM card slot
- > 1 x CIR, 1 Power on/off with Power LED button

+ Spec

System	
Processor	Intel® Atom™ D2550 Processor (1M Cache, 1.86GHz)
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066/1333 MHz SO-DIMM supports up to 4 GB
I/O Chip	Nuvoton NTC5577D
BIOS	AMI 16Mbit SPI BIOS
Watchdog Timer	H/W Reset: 1sec.~255min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
Expansion	
Expansion	1 x Mini PCI-e Supports mSATA (Switch Through Jumper) 1 x 14-pin Header for Customized Add-on Card 1 x SIM Card slot
I/O	
USB	3 x USB 2.0 1 x USB 2.0
SATA	1 x SATA II
Com Port	1 x RS-232
Other	1 x CIR 1 x Power on/off with Power LED button 1 x HDD LED
DIO	1 x 4-bit GPIO
MIO	1 x PS/2 Keyboard/Mouse
Display	
Chipset	Integrated Intel® Graphics Media Accelerator LVDS + VGA, VGA + HDMI, HDMI + LVDS
Resolution	VGA: 1920 x 1200 @ 60Hz HDMI: 1920 x 1200 @ 60Hz LVDS: 1440 x 900 @ 60Hz
Audio	
Chipset	Realtek ALC662 supports 2-CH
Audio Interface	Mic-in and Line-out
Audio Amplifier	Realtek ALC105 Stereo Class-D 3W x 2 Audio Amplifier
Ethernet	
Chipset	1 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Power Requirement	+12V
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	4.72" x 4.72" (120mm x 120mm)
Weight	0.88lbs (0.4kg)

+ Ordering

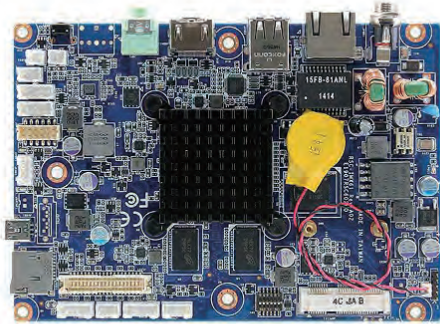
ENX-CDD-D255-A1R
Intel® Atom™ D2550 Processo Nano ITX Motherboard with Intel® NM10 Chipset

4

ARM Embedded Board RISC Single Board / SMARC

CH4-RISC Single Board / SMARC

RSC-IMX61	Freescale i.MX6 Cortex-A9 SBC
ACP-IMX6POS	Freescale i.MX6 Cortex-A9 SBC
RSC-IMX51	Freescale i.MX515 ARM Cortex-A8 RISC Module
EQM-BYT2	Intel® Atom™ Processor 3825/ 3845 Qseven Module
RQM-IMX6	Freescale i.MX6 Cortex-A9 Qseven Module
RQM-RK3188	Rockchip RK3188 cortex-A9 Qseven Module
REV-Q703	Qseven 2.0 Evaluation Baseboard
SMA-IMX6	Freescale i.MX6 SMARC Module
REV-SA01	3.5 inch SMARC specification compliant
REV-SA02	3.5 inch SMARC specification compliant



RSC-IMX61

Freescale i.MX6 Cortex-A9

- > Freescale i.MX6 Cortex-A9 Dual Lite/Quad 1GHz CPU
- > 4GB eMMC
- > 1GB DDR3 memory
- > HDMI output with screw lock
- > SD socket
- > USB2.0 Type A x2, USB 2.0 x1 (wafer), USB OTGx1
- > Gigabit LAN with Micrel MIC2788 Ethernet PHY
- > Mini-PCle(half size)
- > 12-26V DC input, typical 19V DC input
- > Optional POE (802.3AT)
- > Optional External I/R Jack (co-design with on-board I/R sensor)

Spec

System	
Processor	Freescale i.MX6 Cortex-A9 Dual lite 1Ghz Optional Quad
System Memory	DDR3 1G
I/O Chip	1GB DDR3 (Optional 2GB)
Storage	
Storage	eMMC 4GB
I/O	
External I/O Connector	1 x USB2.0 Type A x2 (Double deck) 1 x HDMI with screw lock 1 x 10/100/1000 LAN RJ45x1, Optional POE support(IEEE 802.3at) Micro SD socket x 1 1 x Jack for I/R extender cable, co-design (Optional) with on board I/R sensor (Optional)
Internal I/O Connector	1 x Optional USB2.0 x1 (wafer) 1 x USB OTG x1 (Mini USB connector) 1 x Optional 2x5 GPIO connector x1 (10bit, wafer) 1 x LVDS 24bitx2 (DF13-40DP-1.25) 1 x Backlight control 1 x Optional Line out (Audio Jack),speaker out & MIC in (wafer) 1 x Mini-PCle(half size) socket x1 (with PCIe & USB2.0 signal) 1 x I2C connector 1 x Optional SATA connector & SATA Power(i.MX6 Quad only) 1 x Battery connector for RTC 1 x I2C for touch 1 x debug port (wafer 3pin) 1 x RS232 (wafer 5pin)
Display	
Multiple Display	LVDS + HDMI
Audio	
Chipset	WM8962
Audio Interface	Line-out Audio Jack Mic-in Speaker-out
Ethernet	
Chipset	KSZ9031RNX
Ethernet Interface	1 x RJ45 Connectors for Gigabit LAN
Mechanical & Environmental	
Power Requirement	12 ~ 26V DC input , 2.5mm DC Jack, typical 19V input With brownout detection or POE power in
Power Type	AT
Operating Temp	-20°C ~ 85°C
Storage Temp	-40°C ~ 85°C
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	146mm x 102mm
Weight	0.15kg
Certifications	
Certification Information	CE, FCC Class B
Software Support	



OS Information

Android 4.4.2, Ubuntu12.04, Yocto

+ Ordering

RSC-IMX6L6D-A1R00

RSC-IMX61, i.MX6 Dual Lite, 1GB DDR3, 4GB eMMC, DC-in ,I-Temperature (A1)

RSC-IMX6L6P-A1R00

RSC-IMX61, i.MX6 Dual Lite, 1GB DDR3, 4GB eMMC, POE ,I-Temperature (A1)

RSC-IMX6Q6D-A1R00

RSC-IMX61, Freescale i.MX6 Quad, 1GB DDR3, 4GB eMMC, DC-in,Industrial Temperature(A1)

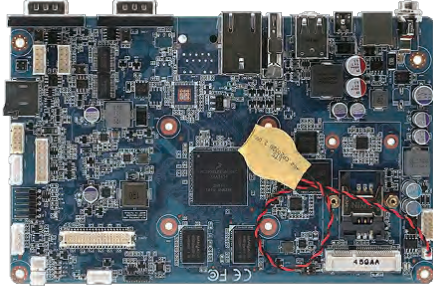
RSC-IMX6Q6P-A1R00

RSC-IMX61, Freescale i.MX6 Quad, 1GB DDR3, 4GB eMMC, POE ,Industrial Temperature(A1)



ACP-IMX6POS

Freescale i.MX6 Cortex-A9 SBC



- > Freescale i.MX6 Cortex-A9 Dual lite/Quad 1GHz CPU
- > Onboard 1GB(Dual Lite) or 2GB(Quad) DDR3 SDRAM
- > Onboard 4GB eMMC, up to 8GB
- > Quad(VGA+HDMI or LVDS+HDMI or VGA+LVDS) Dual Lite(LVDS+HDMI)
- > 1x GLAN, Optional 2nd GLAN
- > 4x UART (2x RS232, 2x RS232/485)
- > USB Touch Controller Penmount 6000 (5W RES)
- > Freescale G Sensor MMA8451
- > Cash Drawer interface (RJ11)
- > 12~24V DC Input

+ Spec

System	
Processor	Freescale i.MX 6 Dual Lite Freescale i.MX 6 Quad Core
System Memory	4 x DDR3-1600 128Mx16 FBGA96(9x14) MICRON 1G 4 x DDR3L-1600 128Mx16 FBGA96(9x14) MICRON 2G
Storage	
Storage	eMMC 4GB ~ 8GB
I/O	
USB	3 x USB 2.0 Port (1x OTG)
Com Port	2 x RS232
External I/O Connector	1 x USB Type A Double Deck 2 x RJ45 Connector with Indicate LED 1 x HDMI Connector(Vertical Type) 1 x Mini USB Connector 1 x RJ11 Connector for Catch Drawer 2 x DB9 Male Connector 1 x DC 12V Power Input by Power DC Jack
Internal I/O Connector	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 (8 ohm 1W x 2) 1 x Mini PCIe x 1 (with USB Signal Only) 1 x SIM Socket 1 x Front Panel Connector with Power Button & Indicate LED for Power & WIFI
Display	
Multiple Display	Quad(VGA+HDMI or LVDS+HDMI or VGA+LVDS) Dual Lite(LVDS+HDMI)
Audio	
Chipset	Wolfson WM8962
Audio Interface	2P Pin Header x 2 (Speaker-out R & L) (Driver Per Channel Max 2W)
Ethernet	
Chipset	LAN 1: From i.MX6 MAC, PHY is Micrel KSZ9031RNX LAN 2: Intel 82574L by PCIe Interface (Optional)
Ethernet Interface	2 x RJ45 Connectors for Dual Gigabit LAN
Mechanical & Environmental	
Power Requirement	DC 12 ~ 24V Power Input
Power Type	2.5mm DC Jack
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	(175mm x 110mm)
Weight	0.16kg
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Android 4.4.2 Ubuntu 12.04 Yocto 1.5.1
Power Requirement	



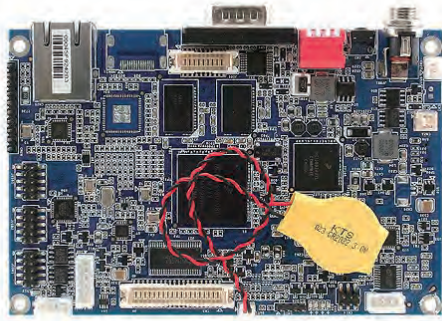
Power Requirement

DC 12 ~ 24V Power Input

+ Ordering

ACP-X6Q12J-A1R-00
ACP-IMX6POS Rev.A1 Qual CPU, DDR3 2GB

ACP-X6L12H-A1R-00
ACP-IMX6POS Rev.A1 Dual Lite CPU, DDR3 1GB



RSC-IMX51

Freescale i.MX515 ARM Cortex-A8 RISC Module

- > Freescale i.MX515 ARM Cortex-A8 800MHz CPU
- > Onboard 4GB eMMC
- > Onboard 512MB DDR2 SDRAM
- > 16~24-bits TTL/ LVDS LCD Up to 1280 x 800
- > Audio Codec/ 2.2W Amplifier
- > 10/ 100Mbps LAN
- > 1 x RS-232, 1 x RS-232/422/485, 4 x USB
- > +12V DC Input
- > Optional HDMI
- > WinCE/ Linux/ Android
- > Touch Screen Interface

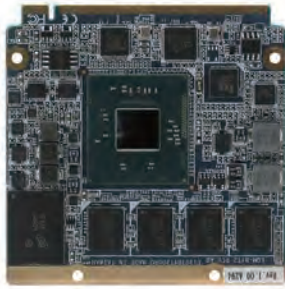
+ Spec

System	
Processor	Freescale i.MX515 ARM Cortex-A8 800MHz CPU
System Memory	Onboard 512MB DDR2
I/O	
USB	4 x USB
DIO	8-bits
MIO	1 x RS-232, 1 x RS-232/422/485, 1 x I2C, 1 x SPI
Audio	
Audio Interface	Line-in/ Mic-in/ Speaker-out (2.2W)
Ethernet	
Chipset	Onchip MAC + PHY
Ethernet Interface	10/ 100 Base-Tx Fast Ethernet Compatible
Mechanical & Environmental	
Operating Temp	0 ~ 60°C (32 ~ 140°F)
Storage Temp	-20 ~ 80°C (-4 ~ 176°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	120mm x 80mm
Input Voltage	+12V DC Input
Software Support	
OS Information	Linux Kernel Version 2.6.35 Android Ver. 2.3.4/WinCE WinCE 6.0 Windows Embedded Compact 7

+ Ordering

RSC-IMX515-B3R-00
FreeScale RSC-IMX51 Rev.B3 W/O HDMI ,w/512MB DDR2/4GB eMMC

RSC-IMX515H-B3R-00
FreeScale RSC-IMX51 Rev.B3 W/ HDMI , w/512MB DDR2/4GB eMMC



EQM-BYT2

- > Qseven spec 2.0
- > Intel Atom Processor 3825/ 3845 CPU
- > 8GB eMMC, up to 32GB
- > 2GB DDR3, up to 4GB
- > 5x USB2.0/ 1x USB 3.0/ 3x PCIe x1/ 8 Bit SDIO/ LPC/ SMBus/ I2C/ UART
- > 2x SATA (except Android)
- > MIPI CSI camera (Linux only)
- > Intel I211 Gigabit Ethernet
- > Dual Display 24bit LVDS/ HDMI
- > Standard Temperature: 0 to 60°C
- > OS: Android 4.4/ Ubuntu 12.04/ Win 8.1

+ Spec

System	
Processor	Intel Atom Processor (E3825/ E3845)
System Memory	2GB DDR3 (E3825) 4GB DDR3 (E3845)
I/O Chip	IT8528VG
BIOS	AMI 64M-bit SPI BIOS
Storage	
Storage	8GB eMMC(E3825) 32GB eMMC(E3845)
I/O	
DIO	2 x SATA (not support Android) 3 x PCIe x1 1 x SDIO 8bit 1 x MIPI CSI camera (Linux only) 1 x LPC 1 x SMBus 1 x I2C 1 x UART 5 x USB 2.0 1 x USB 3.0
Display	
LVDS	Dual channel 24-bit LVDS
Multiple Display	HDMI + LVDS
Audio	
Audio Interface	HD audio I/F
Ethernet	
Chipset	Intel I211 GbE
Ethernet Interface	10/100/1000 Base-Tx Gigabit Ethernet Compatible
Mechanical & Environmental	
Power Requirement	+5V
ACPI	Single power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Operating Temp	0°C to 60 °C
Storage Temp	-40°C to 85°C
Operating Humidity	0%~90% relative humidity, non-condensing
Dimension (L x W)	70mm x 70mm
Weight	TBD
Software Support	
OS Information	Android 4.4/ Ubuntu 12.04/ Windows 8.1

+ Ordering

EQM-BYT2-25-A1-1R

EQM-BYT2-45-A1-1R



RQM-IMX6

- > Qseven spec 2.0
- > Freescale i.MX6 Cortex-A9 Quad 1GHz CPU
- > 1GB DDR3, up to 2GB
- > 4GB eMMC, up to 32GB
- > 1x PCIe1, up to 3x PCIe1/ 4x USB 2.0/ SATA/ 8bit SDIO/ SPI/ I2C/ UART/ CAN/ GPIO/ JTAG
- > Micrel KSZ9031 Gigabit Ethernet
- > Dual Display 24bit LVDS/ HDMI
- > Standard Temperature: 0 to 60°C
- > OS: Android 4.4/ Ubuntu 12.04

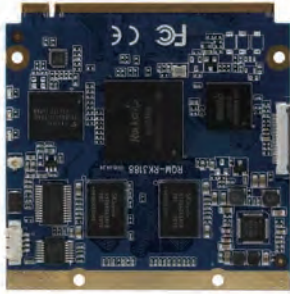
+ Spec

System	
Processor	Freescale i.MX 6 Solo/ Quad
System Memory	1GB RAM(Solo) 2GB RAM(Quad)
Storage	
Storage	4GB eMMC, up to 32GB
I/O	
DIO	1 x SATA (Ubuntu only) 1 x PCIe x1 up to 3x PCIe x1 1 x MIPI CSI camera 4 x USB 2.0 1 x OTG 1 x SDIO 8Bit 1 x SPI 1 x I2C 1 x UART 1 x CAN 1 x GPIO 1 x JTAG
Display	
LVDS	Dual channel 24-bit LVDS
Multiple Display	HDMI + LVDS
Ethernet	
Chipset	Micrel KSZ9031
Ethernet Interface	10/100/1000 Base-Tx Gigabit Ethernet Compatible
Mechanical & Environmental	
Power Requirement	+5V
Operating Temp	0°C ~ 60°C
Storage Temp	-40°C ~ 85°C
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	70mm x 70mm
Weight	TBD
Software Support	
OS Information	Android 4.4.2/ Ubuntu 12.04

+ Ordering

RQM-IMX6-S-A1-1R

RQM-IMX6-Q-A1-1R



RQM-RK3188

Rockchip RK3188 cortex-A9 Q7 Module

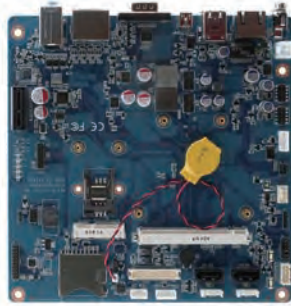
- > Rockchip RK3188 cortex-A9 Quad Core 1.6 GHz
- > 1GB DDR3L, up to 2GB
- > 8GB eMMC, up to 32GB
- > Dual Display 24bit LVDS/ HDM
- > 10/100 Ethernet
- > 1x UART/ USB OTG/ SDIO/ I2S/ I2C/ PMIC/ camera interface
- > 3x USB 2.0
- > 1x USB for wifi/BT (optional)

+ Spec

System	
Processor	Rockchip RK3188 cortex-A9 Quad Core 1.6 GHz
System Memory	1GB DDR3L, up to 2GB
Storage	
Storage	8GB eMMC, up to 32GB
I/O	
USB	3 x USB 2.0 1 x USB OTG 1 x USB for wifi/ BT (optional)
Other	1 x SDIO 1 x I2S 1 x I2C 1 x PMIC
UART	1 x UART for debug
Camera	1 x camera interface
Display	
Interface	1 x Dual display 24bit LVDS/ HDMI
Ethernet	
Ethernet Interface	1 x 10/100 Ethernet
Mechanical & Environmental	
Power Requirement	+5V
Power Type	Qseven Power Spec
Operating Temp	0°C ~ 60°C
Storage Temp	-20°C ~ 80°C
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	2.8" x 2.8" (70mm x 70mm)
Weight	TBD
Certifications	
Certification Information	CE, FCC Class B
Software Support	
OS Information	Android 4.4 Ubuntu 14.04 (with Linux kernel 3.0.36)

+ Ordering

RQM-RK3188



REV-Q703

- > Qseven 2.0 Evaluation Baseboard (Mini ITX)
- > 1x DP/ HDMI/ LVDS
- > 1x COM
- > 7x USB
- > 1x Ethernet
- > 1x mPCIe x1 (with SIM Socket)
- > 1x PCIe x1
- > 2x SATA
- > 1x SD card slot
- > Audio Phone Jack(Line In, Line out, Mic-in)
- > 1x Onboard Accelerometer (Freescale MMA8451Q)
- > 16Bit GPIO by TCA9555

+ Spec

System	
Other	Onboard Accelerometer (Freescale MMA8451Q)
I/O	
External I/O Connector	<ul style="list-style-type: none"> 1 x USB 2.0 1 x USB 3.0 1 x Ethernet 1 x HDMI 1 x COM 1 x DP 1 x OTG 1 x SD socket 3 x Audio phone jack
Internal I/O Connector	<ul style="list-style-type: none"> 2 x USB2.0 (5x2) Header 1 x USB 2.0 (5x1) wafer box 1 x GPIO(10x2) Header 1 x PCIe x1 1 x mPCIe x1 (with SIM Socket) 2 x SATA w/ PWR 1 x SPI 1 x CAN 1 x LPC 1 x JFP (Miscellaneous Setting Connector) 1 x PWM CPU Fan (4x1) Header 1 x 4P PWR Header 1 x LVDS connector 1 x Back light connector
Audio	
Chipset	X86 platform => ALC892 ARM platform => WM8962
Audio Interface	Line out/Line in/MIC in interface (I2C/ I2S/ HDA switch onboard for different Audio codec)
Mechanical & Environmental	
Power Requirement	12V DC
Operating Temp	-40°C ~ 85°C
Storage Temp	-40°C ~ 85°C
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	170 x 170mm
Weight	TBD

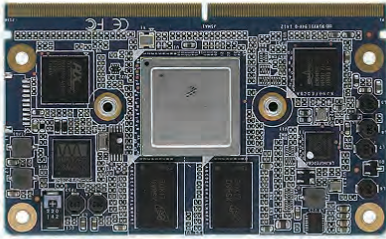
+ Ordering

REV-Q703A1R01



SMA-IMX6

Freescale i.MX6 SMARC Module



- > Onboard Freescale i.MX 6 Solo/Dual Lite/Dual/Quad CPU
Up to 1.2GHz
- > Wolfson WM8326 PMIC
- > DDR3L 512MB ~ 2GB
- > eMMC 4GB ~ 64GB
- > Broadcom BCM54610 10/100/1000
- > Up to 3 PCIe1, MLB150, 12 GPIOs, SDIO,SATA, 3 SPI, 3 I2C, 1 I2S, SPDIF, WDT, 2 CAN,JTAG

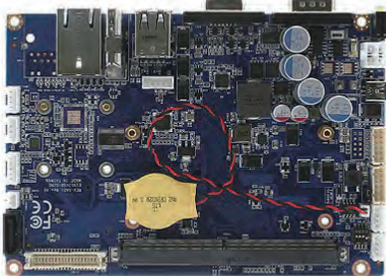
+ Spec

System	
Processor	Freescale i.MX 6 Solo 800M Hz Freescale i.MX 6 Quad Core 1.0G Hz , Optional Quad core 1.2G Hz
System Memory	4 x DDR3-1600 128Mx16 FBGA96(9x14) MICRON 1G 4 x DDR3L-1600 128Mx16 FBGA96(9x14) MICRON 2G
Storage	
Storage	eMMC 4GB ~ 64GB
I/O	
USB	2 x USB 2.0 Port (One OTG)
Com Port	2 x RX/TX (Ser1/3) 2 x UART (Ser0/2)
Other	3 x PCIe1 1 x MLB150 12 x GPIOs 1 x SDIO 1 x SATA eMMC 2 x SPI 3 x I2C 3 x I2S 1 x SPDIF 1 x WDT 2 x CAN 1 x JTAG
Display	
Chipset	Dual Display HD 1080p Encode and Decode 2D and 3D Acceleration
Mechanical & Environmental	
Power Requirement	3V to 5.25V - Operates Directly from Single Level Lithium Ion Cells, or Fixed 3.3V or 5V Power Supplies
Operating Temp	Commercial Temperature: 0°C ~ 60°C (32°F ~ 140°F) Industrial Temperature: -40°C ~ 85°C (-40°F ~ 185°F)
Storage Temp	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	(82mm x 50mm)
Weight	0.06kg
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Android 4.4.2 Ubuntu 12.04 Yocto 1.5.1

+ Ordering

SMA-IMX6SI-B1R
SMARCTM with Freescale i.MX 6 Solo 800MHz Single Core, 1GB DDR3L, 4GB eMMC, Industrial Temperature, No SATA Support, with PCIe1

SMA-IMX6QI-A1R
SMARCTM with Freescale i.MX 6 1GHz Quad Core, 1GB DDR3L, 4GB eMMC, Industrial Temperature, SATA Support, with 3 PCIe1



REV-SA01

3.5 inch SMARC specification compliant

- > 3.5" SBC Form Factor
- > Accept Avalue and Other SMARC Compatible
- > CPU Modules. (82 x 50mm)
- > HDMI, LVDS, VGA
- > Audio Interface
- > 1 x Mini-PCle + SIM Socket
- > 2 x CAN BUS
- > 2 x Gigabit LAN
- > 4 x RS-232, 3 x USB
- > 1 x SD Socket
- > 1 x SATA
- > 1 x I2C RTC
- > On-board Accelerometer (MMA8451)
- > On-board Battery Charger Support 7.4V/2 Cell Li Battery

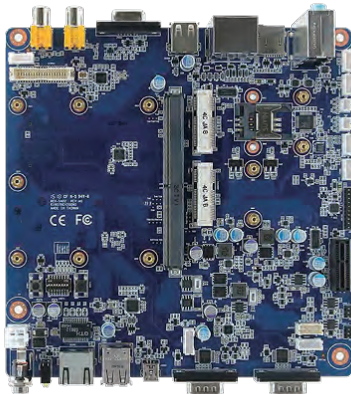
+ Spec

I/O	
USB	2 x USB Type A 1 x USB 2.0 (1 x 5 Pitch 2.0mmHeader)
MIO	4 x 4 x RS-232 (TX/RX Only)
External I/O Connector	1 x HDMI 1 x VGA 2 x RJ45 1 x DB9 1 x Mini-USB 2 x USB Type A
Internal I/O Connector	1 x LVDS Connector (24-bit Single-channel) 1 x Backlight Connector 1 x SD Socket 1 x USB Connector 2 x CAN BUS Connector 1 x Speaker-out/Mic-in 1 x RS-232 Connector 1 x GPIO Connector 1 x RTC Battery Connector 1 x 2 Cell Li Battery Connector 1 x SATA Connector
Audio	
Chipset	Wolfson WM8962
Audio Interface	Mic-in, Speaker-out
Mechanical & Environmental	
Power Requirement	+9V ~ 36V DC-in (REV-SA01-02-A1R) +9V ~ 24V DC-in (REV-SA01-03-A1R)
Power Type	AT
Operating Temp	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-20°C ~ 80°C (-40°F ~ 176°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	146mm x 101mm (3.5" SBC Form Factor)
Weight	0.13kg
Certifications	
Certification Information	CE FCC Class B

+ Ordering

REV-SA01-03-A1R
3.5"SMARC Carrier Board full function A1

REV-SA01-02-A1R
3.5"SMARC Carrier Board (A1)



REV-SA02

SMARC specification compliant

- > SMARC specification compliant
- > Display Port, HDMI, LVDS
- > 2 CVBS
- > 1 GLAN
- > 2 COM(RS232), 2 COM(RS485) , 1 USB Double Deck ,
- > 1 USB Pin Header ,1 Mini USB , 1 Mini USB(OTG)
- > 1 mPCIe
- > SD socket, 1 PCIe x1, 1 Mini-PCIe , SIM Socket
- > MIPI CSI
- > Line in/out , AMIC in , DMIC in , SPK Out
- > GPIO 2X8 , 2 CAN
- > Battery Charger , Power Button , Power LED ,

+ Spec

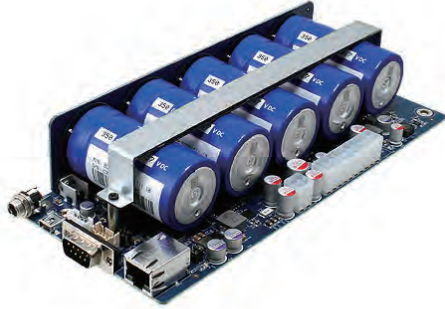
I/O	
External I/O Connector	2 RCA, 90D 1 RJ45 connector for GBE (with LED) 1 SD Socket , 90D 1 Mini USB , OTG 1 USB 2.0 1 USB Type A 2.0 double deck HDMI Displayport VGA 2 RS232 RST Switch Power Switch Power LED (Green / Yellow) DIP SW
Internal I/O Connector	Camera : FPC ,0.5mm,20p Speaker : speaker connector x2 D-MIC Mini PCIe connector(SATA) Mini PCIe connector(USB) Sim Card GPIO : One 10 x 2, pitch 2.00mm Header I2C : One 1 x 5, pitch 2.00mm Header USB2.0 : 1 x 5, pitch 2.00mm Wafer PCI E-1 Battery charger connect LVDS Connect One 20 x 2, pitch 1.25mm Wafer Inverter Connector One 5p, pitch 2.00mm Wafer 2 RS485 : 4p, pitch 2.00mm Wafer 2 CAN : 4p, pitch 2.00mm Wafer WB (reserve)
Camera	Optional MIPI Camera
Audio	
I2C/I2S/HDA Socket	I2C/I2S/HDA Socket for different Audio codec
Audio codec accessory board	Line out/Line in/AMIC , DMIC in interface X86 platform => ALC892 ARM platform => WM8962
Ethernet	
Ethernet Interface	1 RJ45 connector for GBE (with LED)
Mechanical & Environmental	
Power Requirement	DC +12V
Power Type	Power jack with lock
Operating Temp	-40 ~ 85°C
Storage Temp	-40 ~ 85°C
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	170mm x 170mm (Mini ITX Form Factor)

5

Computer on Module Peripherals & Accessories

CH5-Peripherals & Accessories +

EPM-1714	Super-CAP Power Module
EPM-1712	Vehicle 100Watt Smart DC/DC Converter
EPM-1718	60W DC to DC Marine Power Module
ACC-ADP-060N-05R	Power Adapter
EPM-1525	VGA/DVI to TTL/LVDS Scaler Module
EPM-1530	18/24-bit LVDS Receiver Module
ACC D-D Board/SSD/HDD/Software	
Mini HD/ WiFi/LAN	
4G/3G+GPS/Capture Card	
Flash Disk/DRAM/Embedded Modules	



EPM-1714

Super-CAP Power Module

- > 350F Super-Cap 4-Cell or 5-Cell Pack ATX Power Module
- > Changeable Super-Cap Module
- > Recharging for 500,000 ~ 1,000,000 Times
- > Max. Output Power 80W
- > Operation Temp : 0°C ~ 40°C

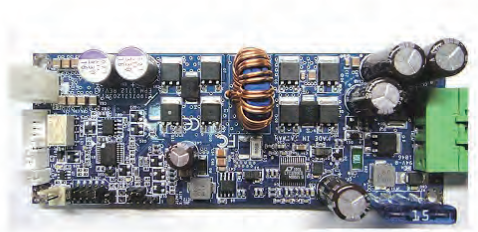
+ Spec

Mechanical & Environmental

Operating Temp	0~+40°C
Storage Temp	-30~+85°C
Input Voltage	+9V~+24V DC
Output Voltage	+12V±5%, +5V±5%, +3.3V±5%, -12V±10%
Max Output	80W
Output Current	+12V 6.5A, +5V 8A, +3.3V 5A, -12V 0.2A, +5VSB 2A
Dimensions	210mm x 90mm x 41.7mm

+ Ordering

EPM/1714-A1R/350F Super cap 5cell ATX Power Module



EPM-1712

Vehicle 100Watt Smart DC/DC Converter

- > Wide Range DC Input: +12~+36V
- > Intelligent system on/off control via jumper setting
- > 6 selectable power on/off timing modes
- > Load Down/Over Voltage/Short Circuit/Over current Protection
- > Battery voltage monitor

+ Spec

Mechanical & Environmental

Operating Temp	-20°C~+85°C
Storage Temp	-40°C~+125°C
Input Voltage	+12V~+36V DC
Output Voltage	12V DC
Max Output	100W
Input Current	15A
Output Current	12V 8.33A
Efficiency	Up to 88%
Dimensions	135mm x 50mm x 15mm

+ Ordering

EPM-1712-C1R/Vehicle 100Watt Smart DC/ DC Converter



EPM-1718

60W DC to DC Marine Power Module



ACC-ADP-060N-05R

Power Adapter



Features

- 60W Marine Power Board w/IEC 60945 Certified
- Wide DC Input Range: +9~36Vdc; DC Output: +12Vdc
- Supports Over voltage/current protection
- Input to Output Isolation: 1500Vdc
- Operating Temperature Range: -40°C ~ 85°C
- Efficiency up to 92.8%
- Dimension: 70mm x 60mm

Specifications

Wattage	60W
V-Output	12V
O/P Current	5A
Input Voltage	115~230V
Input Frequency	50 ~ 60 Hz
Single Output	12 V / 5 A
No Load	< 0.3 Watts
Efficiency	88%
DOE Level	VI
Temperature Range	Operating: 0 to + 45°C Storage : -40 to + 60°C
Altitude	5000 M
Dimension	135 x 62 x 37mm
Protection	OVP,OCP,SCP
Safety	UL 60950-1/CSA 60950-1 Edition 2/ TUV GS/PSE /CB Certificate & Report, IEC60950-1/CE/BSMI/CCC/KCC

Ordering Information

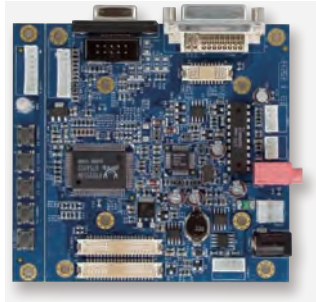
EPM-1718
60W DC to DC Marine Power Module

Ordering Information

ACC-ADP-060N-05R
Power Adapter



EPM-1525 VGA/DVI to TTL/LVDS Scaler Module



Features

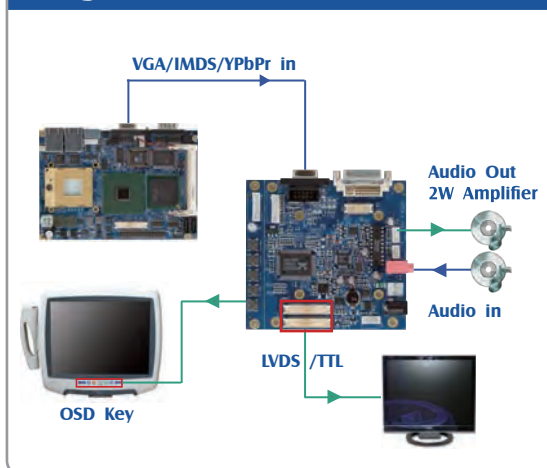
- Supports single channel 18/24-bit TTL and dual channel 18/24-bit LVDS
- Supports VGA/TMDS/YPbPr input to LVDS SXGA/UXGA/WSXGA+/WXGA+ resolution
- Fully programmable zoom ratios
- Supports non-linear scaling from 4:3 to 16:9 or 16:9 to 4:3
- Zoom scaling up and down
- Supports power saving mode when no signal input
- Programmable 5 keys OSD
- 2 W amplify audio output
- +12 V Only Operation

Note: Adjust firmware for specific LCD is necessary, please contact in advance.

Note: Please link to www.avalue.com.tw for supported panels information.

Note: Max current output: 5V@5A, 3.3V@5A

Diagram



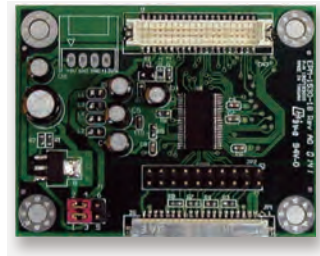
Supported Boards

All Avalue boards

Ordering Information

EPM-1525
VGA/DVI to 18/24 TTL/LVDS Scaler Module
E170X100180R
YPbPr Signal Input Cable

EPM-1530 18/24-bit LVDS Receiver Module

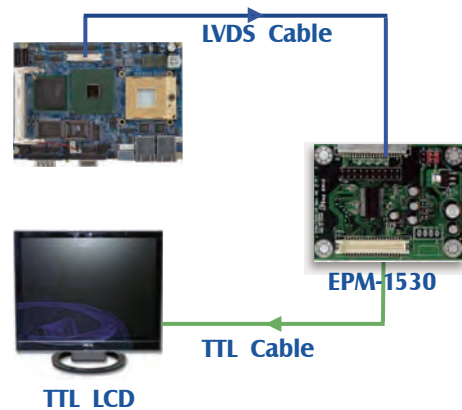


Features

- Supports 20 to 85 MHz shift clock
- Up to 2.38 Gbps throughput
- Up to 297.5 Mbytes/sec bandwidth
- 345 mV (typ) swing LVDS devices for low EMI
- Compatible with TIA/EIA-644 LVDS standard
- Flat Panel/CRT interface:
 - NS DS90C384 or equivalent receiver chipset
 - Supports VGA, SVGA, XGA and single/dual pixel SXVGA display type
- 20-pin HIROSE DF14A-20P-1.25H Connector (Input)
- Operating temperature: 32 to 140°F (0 to 60°C)
- Size (L x W): 2.6" x 2.0" (65 mm x 50 mm)

Diagram

18/24-bit LVDS Input

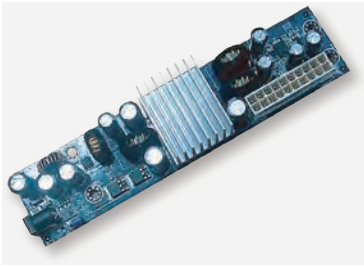


Supported Boards

Avalue boards with 18/24-bit LVDS port

Ordering Information

EPM-1530-24
18/24-bit LVDS Receiver Module

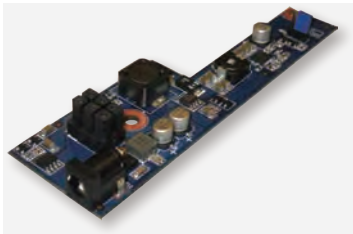


DC-DC Converter Board AD-1003

Features

• Input Voltage	+12Vdc or 15~24 Vdc, 110W
• Input Current	Max. 9.5A at +12 Vdc
• Efficiency	Min 85% at rated load & +12Vdc or 15~24 Vdc. Input
• Ripple & Noise	+5VSB/50mV, +5V/50mV, +12V/120mV, -12V/120mV
• Line Regulation	+5VSB/ ± 2%, +5V/ ± 2%, +12V/ ± 2%, -12V/ ± 2%
• Load Regulation	+5VSB/ ± 5%, +5V/ ± 5%, +12V/-7 ~ +5%, -12V/-7 ~ +5%
• Connector	4-pin DC Input (2.54mm) and DC Jack Input, 20-pin DC Output
• Dimensions	170mm x 39mm
• Temp./Humidity	Operation Temp.: 0 ~ 60°C; Storage Temp.: -40 ~ 85°C @ Humidity 20 ~ 95%
• Power (Watt)	110.2W
• Ordering Information	ACC-PSU-AD-1003R

Output Voltage/Current	Output Voltage	5VSB	+5V	+3.3V	+12V	-12V
	Amp.	5	5	3.3	12	-12
		1	7	6	4	0.2
	Watt	5	35	19.8	48	2.4



DC-DC Converter Board AD-1012

Features

• Input Voltage/Current	DC24V: 2.08A/2.50A /2.71A, DC19V: 2.63A/3.16A/3.42A, DC15V: 4.33A, DC12V: 4.17A/5.00A Power (Watt): 50W ~ 65W
• Output Voltage/Current	12V ± 0.5V/3.00A ± 0.1A 5.0V ± 0.3V/3.5A ± 0.3A Power (Watt): 55W ± 7W
• Efficiency	85% ± 5%
• Connection	Input Connector: 1 x 6.5mm Power Jack for Adaptor Output Connector: 1 x 6-pin ATX Male Connector
• Dimensions	35mm x 60mm
• Operating Temp.	0 ~ 70°C
• Storage Temp.	0 ~ 95°C
• Power (Watt)	55W ± 7W
• Ordering Information	ACC-PSU-AD-1012R



HDD

Features

• Brand	WD / Toshiba / Seagate
• Capacity	320G ~ 6TB
• Interface	SATA III 6GB/s
• RPM	5400 / 7200 RPM
• Form Factor	2.5"/3.5"

Microsoft Windows Embedded OS

ESW-XXX

Features

• Avalue provides Embedded Software to customers who integrated Avalue's hardware products.
• Windows XP Embedded
• Windows Embedded Standard
• Windows Embedded Standard 7/8





Mini-HD

ACC-MPCIE-HD-01R

Features

- Mini PCIe card with PCI Express 1.2 compliant
- H.264/AVC High Profile @ Level 4.2 up to 40Mbps
- VC-1 Advanced Profile @ Level 3 up to 45 Mbps
- VC-1 MP @ HL, VC-1 SP @ ML, WMV9
- MPEG-2 MP @ LL, ML and HL at up to 80 Mbps
- DivX 3.11, 4.1, 5.X, 6.X, XviD
- MPEG-4 Part2 SP & ASP
- AVS1-P2 Jizhun Profile, Level 6.0
- Supports one SD HD and one SD (HD+SD PIP) decoding up simultaneously
- Supports 16 QCIF, 10 CIF or 4 SD streams simultaneously
- Supports QCIF up to 1920 x 1088dpi
- Capable of 1.2 x HD decode
- Direct video playback by Windows Media Player 12 (on Windows 7) or Adobe Flash Player10.1 (on Windows XP).



Mini-WiFi

ACC-WIFI-PCIE-7R

Features

- IEEE802.11n/g/b, 1x1 11n Technology
 - 11b: 1, 2, 5.5, 11 Mbps
 - 11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
 - 11n: up to 150Mbps
- Supports 150MHz PHY Rate
- Supports WEP 64/128, WPA, WPA2, TKIP, AES
- QoS-WMM, WMM-PS
- Low power with advanced power management

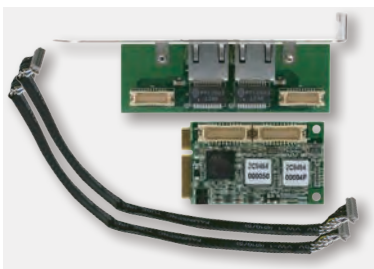


Mini-WiFi

ACC-MPCIE-WIFI-04R

Features

- IEEE802.11ac/a/b/g/n
- Supports Dual Band 2.4GHz/5.0GHz
- Supports Bluetooth 4.0
- Supports WEP 64/128-bit, WPA, WPA2, AES, TKIP
- Optimized power mode
- Operation Temperature : 0° to +80°C



Mini-LAN Port

ACC-MPCIE-LAN-05R

Features

- Mini PCI-e 2-port 10/100/1000 Ethernet board
- PCI Express x 1 compliant
- Integrated 10/100/1000Mbps transceiver
- IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, and IEEE 802.3z compliant
- IEEE 802.3x Full-Duplex flow control
- Operating temp. -20°C ~ 70°C



Mini 3G + GPS

ACC-MPCIE-3G-01R (Antenna Included)

Features

- HSUPA 5.76MB/s
- HSDPA 7.2MB/s
- UMTS/HSPA 800/850/900/1700/1900/2100 MHz
- Support GPRS/EDGE quad-band
- Interface: UART/USB/U.FL-R-SMT 50ohm antenna connector/UICC/SIM card interface
- Support Digital Audio(4-wire I2C)
- GPS/A-GPS
- Intergrated SIM holder
- Network protocol: Embedded TCP/UDP, FTP, HTTP, SSL



Mini 4G

ACC-MPCIE-4G-01R

Features

- Powerful LTE modules in industry-standard Mini PCIe package
- Highest throughput of up to 150Mb/s with LTE Cat. 4
- Variants for America and Europe/Asia
- Industrial temperature range -40 to +85 °C
- Manufactured in ISO/TS 16949 certified production sites
- 150 Mb/s Downlink, 50 Mb/s Uplink



Mini-SDI Capture Card **ACC-MPCIE-SDI-02R**

Features

- Video Input: SDI x 1
- Interface: Mini PCIe
- Display Video Format: YUY2
- Resolutions: 1920 x 1080 @ 30/25/24fps
1280 x 720 @ 60/50fps
720 x 480 @ 60fps
720 x 576 @ 50fps



Mini-HDV Capture Card **ACC-MPCIE-HDV-01R**

Features

- Video Input: 1 x YPbPr, 1 x HDMI , 1 x DVI-D, 1 x DVI-A (Through On-board Wafer Connector)
- Interface: Mini PCIe
- Display Video Format: YUY2
- Resolutions: 1920 x 1080p @ 30/25/24fps, 1920 x 1080i @ 60/50fps
1280 x 720p @ 60/50fps, 1280 x 1024p @ 60fps
1280 x 960p @ 60fps, 1024 x 768p @ 60fps
800 x 600p @ 60fps, 640 x 480p @ 60fps
720 x 480p @ 60fps, 720 x 576p @ 50fps
720 x 480i @ 60fps, 720 x 576i @ 50fps
- Audio Input: HDMI Embedded Audio
Audio L/R (2 x RCA Through Wafer Connector to A/V Cable)
- OS Support: Windows XP/Vista/Windows 7 (32-bit and 64-bit)



Why 3ME3?

3ME3 is SATA 6Gb/s designed for truly industrial field with DRAM-less concept, which have high IOPS to enhance boot-up timing and help small module devices to get greater performance without extra PCB space require from external buffer design.

- Innovative Firmware Algorithm
- DRAM-less, 100% data integrity
- Wide Temperature: -40 °C~85 °C
- High IOPS performance
- iData Guard
- Support TRIM/NCQ/SMART



SATA Slim

Features

• Flash type	SLC(3SE3)	MLC(3ME3)
• Key Features	1. Half Slim, space saving 2. High quality SLC-based solution 3. Compatible with JEDEC MO297	1. Half Slim,space saving 2. High random performance 3. Budget -friendly MLC-based solution 4. Compatible with JEDEC MO297
• Capacity	8GB~128GB	8GB-256GB
• Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s
• Sequential R/W (MB/sec, max.)	460/360	350/75
• Standard temp. OP(0°C~+70°C)	DESLM-XXXD08SC***	DESLM-XXXD09%C*** DESLM-XXXD08%C***
• Wide temp. OP(-40°C~+85°C)	DESLM-XXXD08SW***	DESLM-XXXD09%W*** DESLM-XXXD08%W***
• Max.Channel	4	4
• Max.Power consumption	1.1W (5V x 220mA)	1.6W (5V x 315mA)
• Thermal Sensor	STD:N, W/T:Y	STD:N, W/T:Y
• ATA Security	Y	Y
• S.M.A.R.T	Y	Y
• Dimension(WxLxH/mm)	54.0 X 39.8 x 4.0	54.0 X 39.8 x 4.0



Compact Flash Card

Features

• Flash type	1SE	1ME
• Key Features	High quality SLC-based solution	1. Budget friendly MLC-based solution 2. Enhanced power cycling management
• Capacity	512MB~8GB	4GB-128GB
• Interface	PATA	PATA
• Sequential R/W (MB/sec, max.)	50/40	110/75
• Standard temp. OP(0°C~+70°C)	DC1M-XXXD41AC***	DECFC-XXXD53%C***
• Wide temp. OP(-40°C~+85°C)	DC1M-XXXD41AW***	DECFC-XXXD53%W***
• Max.Channel	2	2
• Max.Power consumption	0.75W (5V x 150mA) 0.5W (3.3V x 150mA)	1.05W (5V x 150mA) 0.69W (3.3V x 150mA)
• Thermal Sensor	N	N
• ATA Security	Y	Y
• S.M.A.R.T	Y	Y
• Dimension(WxLxH/mm)	42.8 X 36.4 X 3.3	42.8 X 36.4 X 3.3



CFAST

Features

• Flash type	SLC(3SE3)	MLC(3ME3)
• Key Features	1. Compliant with CFast 2.0 standard 2. Excellent data transfer speed 3. Support hardware write protect	1. Compliant with CFast 2.0 standard 2. Budget friendly MLC-based solution 3. Support hardware write protect 4. High IOPS
• Capacity	4GB~64GB	8GB~128GB
• Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s
• Sequential R/W (MB/sec, max.)	470/250	200/110
• Standard temp. OP(0°C~+70°C)	DECFA-XXXD08SC***	DECFA-XXXD09%C***
• Wide temp. OP(-40°C~+85°C)	DECFA-XXXD08SW***	DECFA-XXXD09%W***
• Max.Channel	4	2
• Max.Power consumption	1.1W (3.3V x 360mA)	1.1W (3.3V x 320mA)
• Thermal Sensor	STD: Optional, W/T: Y	STD: Optional, W/T: Y
• ATA Security	Y	Y
• S.M.A.R.T	Y	Y
• Dimension(WxLxH/mm)	42.8 X 36.4 X 3.6	42.8 X 36.4 X 3.6



2.5" SATA SSD



Features

• Flash type	SLC(3SE3)	MLC(3ME3)
• Key Features	1. Intelligent error recovery system 2. Excellent data transfer speed 3. iData Guard Protection	1. High IOPS with DRAM-less design 2. 7mm height mechanical design 3. Low power consumption
• Capacity	8GB-256GB	8GB-256GB
• Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s
• Sequential R/W (MB/sec, max.)	490/430	450/260
• Standard temp. OP(0°C~+70°C)	DES25-XXXD06SC***	DES25-XXXD09SC*** DES25-XXXD08SC***
• Wide temp. OP(-40°C~+85°C)	DES25-XXXD06SW***	DES25-XXXD09SW*** DES25-XXXD08SW***
• Max.Channel	4	4
• Max.Power consumption	2.75W (5V x 550mA)	4.3W (5V x 870mA)
• Thermal Sensor	STD: Optional, W/T: Y	STD: Optional, W/T: Y
• ATA Security	Y	Y
• S.M.A.R.T	Y	Y
• Dimension(WxLxH/mm)	69.8 X 99.8 X 9.2	69.8 X 100.1 X 6.8

mSATA 3SE3/3ME3



Features

• Flash type	SLC(3SE3)	MLC(3ME3)
• Key Features	1. Excellent data transfer speed and IOPS 2. High quality SLC-based solution	1. Excellent data transfer speed and IOPS 2. Budget- friendly MLC-based solution
• Capacity	1GB~64GB	8GB~512GB
• Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s
• Sequential R/W (MB/sec, max.)	460/230	360/200
• Standard temp. OP(0°C~+70°C)	DEMSR-XXXD09SC*** DEMSR-XXXD08SC***	DEMSR-XXXD09SC*** DEMSR-XXXD08SC***
• Wide temp. OP(-40°C~+85°C)	DEMSR-XXXD09SW*** DEMSR-XXXD08SW***	DEMSR-XXXD09SW*** DEMSR-XXXD08SW***
• Max.Channel	4	4
• Max.Power consumption	1.2W (3.3V x 360mA)	1.4W (3.3V x 434mA)
• Thermal Sensor	STD: Optional, W/T: Y	STD: Optional, W/T: Y
• ATA Security	Y	Y
• S.M.A.R.T	Y	Y
• Dimension(WxLxH/mm)	29.8 X 50.8 X 3.3	29.8 X 50.8 X 3.3

M.2



Features

• Flash type	SLC(3SE3)	MLC(3ME3)	MLC(3MG2-P)
• Key Features	1. Type 2242 2. High quality SLC-based solution 3. iData Guard Protection	1. Type 2242-D2-B-M 2. High IOPS 3. iData Guard Protection	1. Type 2280-D2-B-M 2. High Sequential/IOPS performance 3. Support DEVSLP 4. iData Guard Protection
• Capacity	4GB~32GB	8GB~128GB	128GB~512GB
• Interface	SATA III 6.0Gb/s	SATA III 6.0Gb/s	SATA III 6.0Gb/s
• Sequential R/W (MB/sec, max.)	450/350	200/75	420/430
• Standard temp. OP(0°C~+70°C)	DEM28-XXXD06SC***	DEM24-XXXD09%C***	DGM28-XXXD81%C***
• Wide temp. OP(-40°C~+85°C)	DEM28-XXXD06SW***	DEM24-XXXD09%W***	DGM28-XXXD81%W***
• Max.Channel	2	2	4
• Max.Power consumption	1.2W (3.3V x 370mA)	1W (3.3V x 300mA)	2.84W (3.3V x 860mA)
• Thermal Sensor	STD: Optional, W/T: Y	STD: Optional, W/T: Y	Y
• ATA Security	Y	Y	Y
• S.M.A.R.T	Y	Y	Y
• Dimension(WxLxH/mm)	22.0 X 80.0 X 3.5	22.0 X 42.0 X 3.5	22.0 X 80.0 X 3.5



Embedded



Features

• Module Type	DDR4 LONG DIMM	DDR4 SODIMM	DDR3 LONG DIMM	DDR3 SO DIMM
• Frequency	2133Mhz	2133Mhz	1600Mhz/1333Mhz/1066Mhz	1600Mhz/1333Mhz/1066Mhz
• Capacity	4GB/8GB/16GB	4GB/8GB/16GB	1GB/2GB/4GB/8GB	1GB/2GB/4GB/8GB/16GB
• Chip Package	FBGA	FBGA	FBGA	FBGA
• Pin Number	288pin	260pin	240pin	204pin
• Operation Temp	0°~85°C	0°~85°C	0°~85°C	0°~85°C

Wide Temperature



Features

• Module Type	DDR3 LONG DIMM	DDR3 SO DIMM	DDR2 LONG DIMM	DDR2 SODIMM
• Frequency	1600Mhz/1333Mhz/1066Mhz	1600Mhz/1333Mhz/1066Mhz	800Mhz/667Mhz/533Mhz/400Mhz	800Mhz/667Mhz/533Mhz/400Mhz
• Capacity	1GB/2GB/4GB/8GB	1GB/2GB/4GB/8GB	512MB/1GB/2GB	512MB/1GB/2GB
• Chip Package	FBGA	FBGA	FBGA	FBGA
• Pin Number	240pin	204pin	240pin	240pin
• Operation Temp	-40°~85°C	-40°~85°C	-40°~85°C	-40°~85°C

Unbuffered w/ECC Solution



Features

• Module Type	DDR4 LONG DIMM	DDR4 SO DIMM	DDR3 LONG DIMM	DDR3 SO DIMM
• Frequency	2133Mhz	2133Mhz	1600Mhz/1333Mhz/1066Mhz	1600Mhz/1333Mhz/1066Mhz
• Capacity	4GB/8GB/16GB	4GB/8GB/16GB	1GB/2GB/4GB/8GB/16GB	1GB/2GB/4GB/8GB/16GB
• Chip Package	FBGA	FBGA	FBGA	FBGA
• Pin Number	288pin	260pin	240pin	204pin
• Operation Temp	0°~85°C	0°~85°C	0°~85°C	0°~85°C



EMSS-32R1



EMPS-32R1



EMPS-3201

Features	EMSS-32R1	EMPS-32R1	EMPS-3201
• Key Features	<ol style="list-style-type: none"> Supports SATA to dual SATA III Port Multiplier Supports H/W RAID 0/1 over SATA 30µ golden finger, 3 years warranty 	<ol style="list-style-type: none"> PCIe to dual SATA III ports Supports AHCI, Port-Multiplier Supports Hardware RAID 0, RAID1 30µ golden finger, 3 years warranty 	<ol style="list-style-type: none"> PCIe to dual SATA III ports Supports AHCI, Port-Multiplier Low power consumption 30µ golden finger, 3 years warranty
• Form-Factor	mPCIe	mPCIe	mPCIe
• Input I/F	SATA III	PCI Express 2.0	PCI Express 2.0
• Input connector	mPCIe	mPCIe	mPCIe
• Output I/F	SATA III	SATA III	SATA III
• Output connector	SATA 7 Pin x 2	SATA 7 Pin x 2	SATA 7 Pin x 2
• Dimensions(W*L*H/mm)	29.8 X 50.8 X 11.5	30 X 50.9 X 10.7	30 X 50.9 X 10.7
• Temperature	Standard temp: 0°~70°C Wide temp: -40°~85°C	Standard temp: 0°~70°C Wide temp: -40°~85°C	Standard temp: 0°~70°C Wide temp: -40°~85°C
• Order info.	EMSS-32R1-C1/EMSS-32R1-W1	EMPS-32R1-C1/EMPS-32R1-W1	EMPS-3201-C1/EMPS-3201-W1



EMPU-3401



EMPV-1202



EMUC-B201

Features	EMPU-3401	EMPV-1202	EMUC-B201
• Key Features	<ol style="list-style-type: none"> PCI Express 2.0 to 4 x USB ports with SuperSpeed (5Gbps) data rate Independent 1.5A overcurrent protection (OCP) for each port Compliant with xHCI 1.0, USB 3.0 Rev 1.0 Supports USB Battery Charging Specification Revision 1.2 30µ golden finger, 3 years warranty 	<ol style="list-style-type: none"> mPCIe to VGA & 18/24 bit LVDS Graphic Card VGA Output: 1920x1080, up to 75Hz vertical rate 18/24 bit LVDS supports up to 1600 x 1200 90°, 180°, and 270° rotation of on-screen images 30µ golden finger, 3 years warranty EMPV-1202-C1 Support 18/24 bit JEIDA LVDS EMPV-1202-C2 Support 24 bit VESA LVDS 	<ol style="list-style-type: none"> mPCIe form factor. Two channels CANbus 2.0B (2 x DB-9) with Galvanic Isolation 2500 V Supports -40 to +85 degrees USB 2.0 through either gold finger or pin header Support CDC-ACM LED indicator Power/Error/Active/Link Termination resistor enabled/disabled by jumper 30µ " golden finger, 3 years warranty Industrial design, manufactured in innodisk Taiwan
• Form-Factor	mPCIe	mPCIe	mPCIe
• Input I/F	PCI Express 2.0	PCI Express 1.0	USB 2.0
• Input connector	mPCIe	mPCIe	mPCIe or USB 5pin header
• Output I/F	USB 3.0 X 4	VGA, 18/24 bit LVDS	CANbus 2.0B
• Output connector	19pin box header x 2	40pin 1.25mm x 1 (40DP-1.25)	2 x DB-9
• Dimensions(W*L*H/mm)	30.0 X 50.9 X 6.1	30 X 50.9 X 8.2	30.0 X 50.9 X 6.1
• Temperature	Standard temp: 0°~70°C Wide temp: -40°~85°C	Standard temp: 0°~70°C Wide temp: -40°~85°C	Wide temp: -40°~85°C
• Order info.	EMPU-3401-C1/EMPU-3401-W1	EMPV-1202-C1/EMPV-1202-C2 EMPV-1202-W1/EMPV-1202-W2	EMUC-B201-W1



EMPL-G201



EMP2-X402



EMP2-X403

Features	EMPL-G201	EMP2-X402	EMP2-X403
• Key Features	<ol style="list-style-type: none"> Dual isolated GbE LAN ports Flexible daughter board with cable to fit into different system 15KV ESD(Electro-Static Discharge) Surge Protection Optional Industrial Temperature (-40°C to +85°C) support 30µ " golden finger, 3 years warranty Optional terminal stand or bracket for daughter board 	<ol style="list-style-type: none"> PCIe 2.0 compliant. RS-422/485 mode configurable by switch Supports 485HD(Half Duplex) and 485FD(Full Duplex) Up to 25 Mbps serial data rate 16C550 compatible. 256-byte FIFOs Industrial temperature (-40 °C to 85 °C) operation Flexible design with DB-9 connectors and cable Termination Resistor by jumper setting. ESD up to 15KV(Electrostatic Discharge) protection circuit to prevent syste damage 	<ol style="list-style-type: none"> PCI-Express specification Rev. 2.0 compliant Up to 1 Mbps serial data rate. 16550 compatible. 256-byte FIFOs Industrial temperature(-40 oC to 85 oC) operation Flexible design with DB-9 connectors and cable ESD up to 15KV(Electrostatic Discharge) protection circuit to prevent system damage Supports CTS/RTS hardware flow control 30µ " golden finger, 3 years warranty Industrial design, manufactured in innodisk Taiwan
• Form-Factor	mPCIe	mPCIe	mPCIe
• Input I/F	PCI Express 2.1	PCI Express 2.0	PCI Express 2.0
• Input connector	mPCIe	mPCIe	mPCIe
• Output I/F	GbE LAN x 2	RS-422/485 x 2	RS-232
• Output connector	2 x RJ45	DB-9 x 2	DB-9 x 4
• Dimensions(W*L*H/mm)	30 X 50.9 X 6.1	30 X 50.9 X 8.2	30 X 50.9 X 6.7
• Temperature	Standard temp: 0°~70°C Wide temp: -40°~85°C	Wide temp: -40°~85°C	Wide temp: -40°~85°C
• Order info.	EMPL-G201-C1/EMPL-G201-W1 EMPL-G201-C2/EMPL-G201-W2	EMP2-X402-W1	EMP2-X403-W1

6

Embedded System & Platforms Embedded Fanless System

CH6-Embedded Fanless System

NUC-BYT	Intel® Celeron® SoC Processor J1900 Fanless Tiny system
EPC-BSW	Intel® Pentium®/Celeron® SoC Processor Fanless Tiny System
EPC-BYT2	Freescale i.MX515 ARM Cortex-A8 RISC Module
EPC-BYT	Intel® Atom™ SoC processor J1900 Fanless Tiny System
EPC-CDV	Intel® Atom™ Processor D2550 Fanless Tiny System with Intel® NM10 Chipset
EPC-KA	AMD G-Series SoC Processor GX-415GA Fanless Tiny System
EMS-BYT	Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Fanless Rugged Embedded System
EMS-BYT-6COM	Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Fanless Rugged Embedded System with 6 COMs
EMS-BYT-5LAN	Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Fanless Rugged Embedded System with LAN Bypass
EMS-BYT-4COM Isolation	Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Fanless Rugged Embedded System with 4 COM Isolations
EMS-BYT-PoE	Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Fanless Rugged Embedded System with PoE
EMS-BYT-HDMI	Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Fanless Rugged Embedded System with HDMI
EMS-BYT-DVI	Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Fanless Rugged Embedded System with DVI
EMS-CDV	Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with Intel® NM10 Chipset
EMS-CDV-6COM	Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with 6 COMs
EMS-CDV-5LAN	Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with LAN Bypass
EMS-CDV-4COM Isolation	Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with 4 COM Isolations
EMS-CDV-PoE	Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with PoE
EMS-CDV-HDMI	Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with HDMI
EMS-CDV-DVI	Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with DVI
EPS-QM87	4th Gen Intel®Core™ Processor Core™ i7/i5/i3 Fanless Rugged Embedded System with 2 expansion slots
EPS-QM77	3rd Gen Intel®Core™ Processor Core™ i7/i5/i3 Fanless Rugged Embedded System with 2 expansion slots
EPS-QM87E	4th Gen Intel®Core™ Processor Core™ i7/i5/i3 Fanless Rugged Embedded System with Intel® QM87 Chipset
EPS-QM77E	3rd Gen Intel®Core™ Processor Core™ i7/i5/i3 Fanless Rugged Embedded System with Intel® QM77 Chipset
ERS-BYT	Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System
ERS-CDV	Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with Intel® NM10 Chipset
ERS-A50M	AMD G-Series Processor T56N Fanless Rugged Embedded System with AMD A50M Chipset
VMS-BYT	Intel® Atom™ SoC Processor E3845 Fanless Vehicle Telematics System
ERS-BYTE-10COM	Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System with 8 COM Isolations
ERS-CDVE-10COM	Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with 8 COM Isolations



NUC-BYT

Intel® Celeron® SoC Processor J1900 Fanless Tiny system

- > Onboard Intel® Celeron® J1900 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/Os, 1 COM, 2LAN, 2 HDMI, 2 Antenna mounting, 4 USB
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Fanless Operating from 0 ~ 50°C
- > Wide Range DC Power Input from 9~24V
- > Compact Size, 116(W) x 110(D) x 65(H) mm
- > Supports VESA mounting kits

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor
System Memory	1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
H/W Status Monitor	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
Board	NUCB-BYT
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	2 x USB 2.0 2 x USB 3.0
Other	1 x Knockouts for Antenna Mounting 1 x SIM Card Slot
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	HDMI: Max. resolution 1920x1200 @ 60Hz
Audio	
Chipset	Realtek ALC887 supports 2-CH
Audio Interface	Line-Out
Ethernet	
Chipset	2 x Intel® 82583V
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA, CFast), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F)
Storage Temp	-10°C ~ 60°C (14°F ~ 140°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	VESA Mount kit (Optional)
Dimension (L x W x H)	4.57" x 4.33" x 2.56" (116mm x 110mm x 65mm)
Vibration Test	With SSD/mSATA : 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
Shock Test	With CF/SSD : 10Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win 7 / Win 8 / Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+9V ~ +24V
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 90 ~ 240Vac/ 50 ~ 60Hz; Output, 36W Adapter (12 V @ 3A Adapter) AC-DC Adapter



EPC-BSW

Intel® Pentium®/Celeron® SoC Processor Fanless Tiny System

- > Onboard Intel® Pentium®/Celeron® SoC Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 HDMI, 1 Mic-In, 1 Line-In, 1 Line-Out, 2 LAN, 5 COM, 6 USB
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Fanless Operating from 0 ~ 50°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Compact Size, 178mm x 142mm x 50mm
- > Supports VESA 75 & 100
- > IP 30 Rating

+ Spec

System	
Processor	Intel® Pentium®/Celeron® processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	ECM-BSW + AUX-032
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x mSATA 1 x 2.5" Drive Bay (7mm HDD Restricted)
I/O	
USB	2 x USB 2.0 4 x USB 3.0
Com Port	1 x RS-232/422/485 4 x RS-232
Other	2 x Knockouts for Antenna Mounting
Display	
Chipset	Intel® Braswell SoC integrated Graphics
Resolution	HDMI: Max. resolution 1920x1080 @ 30Hz
Audio	
Chipset	Realtek ALC233 supports 2.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Realtek 8119I
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA, CF), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Stand (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	7" x 5.6" x 2.0" (178mm x 142mm x 50mm)
Vibration Test	With SSD/mSATA : 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
Shock Test	With CF/SSD : 10Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack



Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

Ordering

EPC-BSW-3150-A1-1R
Intel® Celeron® SoC processor N3150 Fanless Tiny System

ACC-EPC-VESA-2R
VESA Mount kit

ACC-EPC-DINRACK-1R
Din Rail Kit



EPC-BYT2

Intel® Atom™ SoC processor J1900 Fanless Tiny System



- > Onboard Intel® Celeron® SoC Processor
- > Intel® Valleyview D SoC
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 1 COM, 2 LAN, 4 USB, 2 Antenna Mounting
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Wide Range DC Power Input from 12 ~ 26V
- > Fanless Operating from -10 ~ 45°C
- > Compact Size, 175mm x 110mm x 40mm
- > Optional Wall Mount Kit / VESA / DIN-Rail
- > Supports TPM 1.2

+ Spec

System	
Processor	Intel® Celeron® Processor J1900 Family
System Chipset	Valleyview D SoC Integrated
System Memory	One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
I/O Chip	EC ITE IT8528E
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./1sec.step
H/W Status Monitor Board	Monitoring System Temperature, Voltage with Auto Throttling Control ECM-BYT2
Storage	
Solid State Drive	1 x mSATA 1 x 2.5" Drive Bay
I/O	
USB	4 x USB (1 x USB 3.0, 3 x USB 2.0)
Com Port	1 x RS-232
Expansion	1 x Full Size Mini PCIe (mSATA supported) 1 x Half Size Mini PCIe
VGA	1 x VGA
Antenna	2 x Antenna mounting
HDMI	1 X HDMI
Switch	1 x Power on/off membrane w/ LED
Display	
Chipset	Intel® Celeron® SoC Integrated Graphics
Resolution	VGA Mode: 2560 x 1600 @ 60Hz HDMI Mode: 1920 x 1200 @ 60Hz
Multiple Display	Dual Display, VGA + HDMI
Ethernet	
Chipset	2 x Realtek RTL8111E Gigabit Ethernet
Ethernet Interface	10/100/1000 Base-Tx Gigabit Ethernet Compatible
Mechanical & Environmental	
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	+12~26Vdc (Lockable DC Jack)
Operating Temp	-10 ~ +45°C (w/mSATA & SSD), Ambient w/Air Flow 0 ~ 40°C (32 ~ 104°F) (w/HDD), Ambient w/Air Flow
Storage Temp	-40 ~ 75°C (-40 ~ 167°F)
Relative Humidity	0% ~ 90% Relative Humidity, Non-condensing
Color	Black
Vibration Protection	With CF/SSD: 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
Shock Protection	With CF/SSD: 10G, IEC 60068-2-27, Half Sine, 11ms
Fanless	YES
Certifications	
Certification Information	CE, FCC Class A
Power Requirement	
Power Mode	AT/ATX (ATX is the default setting)
Specification	
Dimension	175mm x 110mm x 40mm (W x D x H)
System Control	
LED Indicator	1 x Power on/off LED on rear side 1 x Storage LED on rear side



EPC-BYT

Intel® Atom™ SoC processor J1900 Fanless Tiny System

- > Onboard Intel® Celeron® J1900 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 1 CF, 1 Mic-In, 1 Line-In, 1 Line-Out, 2 LAN, 4 COM, 6 USB
- > Expansion Slot Supports 1 Mini PCIe Slot
- > Fanless Operating from 0 ~ 50°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Compact Size, 178mm x 142mm x 50mm
- > Supports VESA 75 & 100
- > IP 30 Rating

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min.
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	ECM-BYT + AUX-032
Expansion	
Expansion	1 x Mini PCIe
Storage	
Storage	1 x CompactFlash Type III Socket 1 x mSATA 1 x 2.5" Drive Bay (7mm HDD Restricted)
I/O	
USB	5 x USB 2.0 1 x USB 3.0
Com Port	3 x RS-232 1 x RS-232/422/485
Other	1 x Knockouts for Antenna Mounting
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	VGA: Max. resolution 2560x1080@ 60Hz HDMI: Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA, CF), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Stand (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	7" x 5.6" x 2.0" (178mm x 142mm x 50mm)
Vibration Test	With SSD/mSATA : 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
Shock Test	With CF/SSD : 10Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 7 Win 8 Linux
Power Requirement	



Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

Ordering

EPC-BYT-1900-A1-1R
Intel® Atom™ SoC processor J1900 Fanless Tiny System

ACC-EPC-VESA-2R
VESA Mount kit

ACC-EPC-DINRACK-1R
Din Rail Kit



EPC-CDV

Intel® Atom™ Processor D2550 Fanless Tiny System with Intel® NM10 Chipset

- > Onboard Intel® Atom™ D2550 BGA Processor
- > Intel® NM10 Express Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 1 CF, 1 Mic-In, 1 Line-In, 1 Line-Out, 2 LAN, 2 COM, 5 USB
- > Expansion Slot Supports 1 Mini PCIe Slot
- > Fanless Operating from 0 ~ 50°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Compact Size, 178mm x 112mm x 50mm
- > Supports VESA 75 & 100

+ Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	ECM-CDV + AUX-032
Expansion	
Expansion	1 x Mini PCIe
Storage	
Storage	1 x CompactFlash Type III Socket 1 x mSATA 1 x 2.5" Drive Bay
I/O	
USB	5 x USB 2.0
Com Port	1 x RS-232 1 x RS-232/422/485 (Factory Optional)
Other	1 x Knockouts for Antenna Mounting
Display	
Chipset	Intel® Cedarview Integrated Graphics
Resolution	VGA: Max. resolution 1920x1200@ 60Hz HDMI: Max. resolution 1920x1080@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA, CF), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Stand (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	7" x 4.4" x 2.0" (178mm x 112mm x 50mm)
Vibration Test	With SSD/mSATA : 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
Shock Test	With CF/SSD : 10Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win xp Win 7 Linux
Power Requirement	



Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

Ordering

EPC-CDV-255-A1-1R
Intel® Atom™ Processor D2550 Fanless Tiny System with Intel® NM10 Chipset

ACC-EPC-VESA-2RVESA
Mount kit

ACC-EPC-DINRACK-1R
Din Rail Kit



EPC-KA

AMD G-Series SoC Processor GX-415GA Fanless Tiny System

- > Onboard AMD G-Series GX-415GA BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3 1600MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 1 CF, 1 Mic-In, 1 Line-In, 1 Line-Out, 2 LAN, 2 COM, 5 USB
- > Expansion Slot Supports 1 Mini PCIe Slot
- > Fanless Operating from 0 ~ 50°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Compact Size, 178mm x 142mm x 50mm
- > Supports VESA 75 & 100
- > IP 30 Rating

+ Spec

System	
Processor	AMD G-Series GX-415GA 4-Core 1.5GHz processor
System Memory	1 x 240-Pin DDR3 1600MHz DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	ECM-KA + AUX-032
Expansion	
Expansion	1 x Mini PCIe
Storage	
Storage	1 x CompactFlash Type III Socket 1 x mSATA 1 x 2.5" Drive Bay (7mm HDD Restricted)
I/O	
USB	3 x USB 2.0 2 x USB 3.0
Com Port	2 x RS-232
Other	1 x Knockouts for Antenna Mounting
Display	
Chipset	AMD Soc Integrated Graphics
Resolution	VGA: Max. resolution 1920x1200@ 60Hz HDMI: Max. resolution 1920x1080@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA, CF), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Stand (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	7" x 5.6" x 2.0" (178mm x 142mm x 50mm)
Vibration Test	With SSD/mSATA : 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
Shock Test	With CF/SSD : 10Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win xp Win 7 Win 8 Linux
Power Requirement	



Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

+ Ordering

EPC-KA-415GA-A1-1R
AMD G-Series SoC Processor GX-415GA Fanless Tiny System

ACC-EPC-VESA-2R
VESA Mount kit

ACC-EPC-DINRACK-1R
Din Rail Kit



EMS-BYT

Intel® Celeron®/Atom™ SoC Processor J1900/E3845 Fanless Rugged Embedded System

- > Onboard Intel® Celeron®/Atom™ J1900/E3845 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 1 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 2 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 3 USB
- > Expansion Slot Supports 2 Mini PCIe Slot & IET Interface
- > Front Access Swappable 2.5" Drive Bay, SIM Card
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -15 ~ 60°C & -40 ~ 75°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor Intel® Atom™ E3845 4-Core 1.91GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor Board	Monitoring CPU & System Temperature and Voltage EBM-BYTS
Expansion	
Expansion	1 x Avalue 80-Pin IET Interface 2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	1 x USB 3.0 2 x USB 2.0
Com Port	2 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	VGA:Max. resolution 2560x1080 @ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 1.77" (240mm x 170mm x 45mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

+ Ordering

EMS-BYT-1900-A1-1R
Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System

EMS-BYT-3845-A1-1R
Intel® Atom™ SoC Processor E3845 Fanless Rugged Embedded System



EMS-BYT-6COM

Intel® Celeron®/Atom™ SoC Processor
J1900/E3845 Fanless Rugged Embedded System
with 6 COMs

- > Onboard Intel® Celeron®/Atom™ J1900/E3845 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 1 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 6 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Front Access Swappable 2.5" Drive Bay, SIM Card
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -15 ~ 60°C & -40 ~ 75°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor Intel® Atom™ E3845 4-Core 1.91GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Board	EBM-BYTS + AUX-M01
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	4 x USB 2.0 1 x USB 3.0
Com Port	6 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	VGA:Max. resolution 2560x1080@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

+ Ordering

EMS-BYT-1900-A1-2R
Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System with 6 COMs

EMS-BYT-3845-A1-2R
Intel® Atom™ SoC Processor E3845 Fanless Rugged Embedded System with 6 COMs



EMS-BYT-5LAN

Intel® Celeron®/Atom™ SoC Processor
J1900/E3845 Fanless Rugged Embedded System
with LAN Bypass

- > Onboard Intel® Celeron®/Atom™ J1900/E3845 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 5 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 2 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > Supports 2-Pair LAN Bypass
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -15 ~ 60°C & -40 ~ 75°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor Intel® Atom™ E3845 4-Core 1.91GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor Board	Monitoring CPU & System Temperature and Voltage EBM-BYTS + AUX-M02
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	4 x USB 2.0 1 x USB 3.0
Com Port	2 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	VGA: Max. resolution 2560x1080@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I211AT 4 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	5 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

+ Ordering

EMS-BYT-1900-A1-3R
Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System with LAN Bypass

EMS-BYT-3845-A1-3R
Intel® Atom™ SoC Processor E3845 Fanless Rugged Embedded System with LAN Bypass



EMS-BYT-4COM-Isolation

Intel® Celeron®/Atom™ SoC Processor
J1900/E3845 Fanless Rugged Embedded System
with 4 COM Isolations

- > Onboard Intel® Celeron®/Atom™ J1900/E3845 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 1 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 6 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > Supports 2.5kv Isolation Protection
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -15 ~ 60°C & -40 ~ 75°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor Intel® Atom™ E3845 4-Core 1.91GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Board	EBM-BYTS + AUX-M07
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	4 x USB 2.0 1 x USB 3.0
Com Port	6 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	VGA:Max. resolution 2560x1080@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

+ Ordering

EMS-BYT-1900-A1-4R
Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System with 4 COM Isolations

EMS-BYT-3845-A1-4R
Intel® Atom™ SoC Processor E3845 Fanless Rugged Embedded System with 4 COM Isolations



EMS-BYT-PoE

Intel® Celeron®/Atom™ SoC Processor
J1900/E3845 Fanless Rugged Embedded System
with PoE

- > Onboard Intel® Celeron®/Atom™ J1900/E3845 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 5 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 2 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > PoE, IEEE 802.3af Compliant, Powered Device (PD) Auto Detection
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -15 ~ 50°C & -40 ~ 65°C
- > Wide Range DC Power Input from 12 ~ 26V

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor Intel® Atom™ E3845 4-Core 1.91GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor Board	Monitoring CPU & System Temperature and Voltage EBM-BYTS + AUX-M04
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	4 x USB 2.0 1 x USB 3.0
Com Port	2 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	VGA:Max. resolution 2560x1080@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I211AT 4 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	5 x RJ-45
Mechanical & Environmental	
Operating Temp	(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 ~ 65°C (-40°F ~ 167°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	



OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz; Output 120W Adapter (19 V @ 6.32A Adapter) AC-DC Adapter

+ Ordering

EMS-BYT-1900-A1-5R
Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System with PoE

EMS-BYT-3845-A1-5R
Intel® Atom™ SoC Processor E3845 Fanless Rugged Embedded System with PoE



EMS-BYT-HDMI

Intel® Celeron®/Atom™ SoC Processor
J1900/E3845 Fanless Rugged Embedded System
with HDMI

- > Onboard Intel® Celeron®/Atom™ J1900/E3845 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 3 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 4 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > Dual Display, VGA + HDMI
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -15 ~ 60°C & -40 ~ 75°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor Intel® Atom™ E3845 4-Core 1.91GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Board	EBM-BYTS + EBM-BYTS DB-A
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	4 x USB 2.0 1 x USB 3.0
Com Port	4 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display
Resolution	VGA:Max. resolution 2560x1080@ 60Hz HDMI:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	3 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	3 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

+ Ordering

EMS-BYT-1900-A1-6R
Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System with HDMI

EMS-BYT-3845-A1-6R
Intel® Atom™ SoC Processor E3845 Fanless Rugged Embedded System with HDMI



EMS-BYT-DVI

Intel® Celeron®/Atom™ SoC Processor
J1900/E3845 Fanless Rugged Embedded System with DVI

- > Onboard Intel® Celeron®/Atom™ J1900/E3845 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 1 DVI, 1 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 2 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > Dual Display, VGA + DVI
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -15 ~ 60°C & -40 ~ 75°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor Intel® Atom™ E3845 4-Core 1.91GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Board	EBM-BYTS + EBM-CDVS DB-A
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	4 x USB 2.0 1 x USB 3.0
Com Port	2 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display
Resolution	VGA:Max. resolution 2560x1080@ 60Hz DVI-D:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

+ Ordering

EMS-BYT-1900-A1-7R
Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System with DVI

EMS-BYT-3845-A1-7R
Intel® Atom™ SoC Processor E3845 Fanless Rugged Embedded System with DVI



EMS-CDV

Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with Intel® NM10 Chipset

- > Onboard Intel® Atom™ D2550 BGA Processor
- > Intel® NM10 Express Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 1 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 2 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 3 USB
- > Expansion Slot Supports 2 Mini PCIe Slot & IET Interface
- > Front Access Swappable 2.5" Drive Bay, SIM Card
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

+ Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EBM-CDVS
Expansion	
Expansion	1 x Avalue 80-Pin IET Interface 2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	3 x USB 2.0
Com Port	2 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Cedarview Integrated Graphics
Resolution	VGA:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), 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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 1.77" (240mm x 170mm x 45mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win XP Win 7 Linux
Power Requirement	



Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

 Ordering

EMS-CDV-255-A1-1R
Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with Intel® NM10 Chipset



EMS-CDV-6COM

Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with 6 COMs

- > Onboard Intel® Atom™ D2550 BGA Processor
- > Intel® NM10 Express Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 1 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 6 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Front Access Swappable 2.5" Drive Bay, SIM Card
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EBM-CDVS + AUX-M01
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	5 x USB 2.0
Com Port	6 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Cedarview Integrated Graphics
Resolution	VGA:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), 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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win XP Win 7 Linux
Power Requirement	



Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

Ordering

EMS-CDV-255-A1-2R
Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with 6 COMs



EMS-CDV-5LAN

Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with LAN Bypass

- > Onboard Intel® Atom™ D2550 BGA Processor
- > Intel® NM10 Express Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 5 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 2 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > Supports 2-Pair LAN Bypass
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

+ Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EBM-CDVS + AUX-M02
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	5 x USB 2.0
Com Port	2 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Cedarview Integrated Graphics
Resolution	VGA:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	5 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	5 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), 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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win p Win 7 Linux
Power Requirement	



Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

Ordering

EMS-CDV-255-A1-3R
Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with LAN Bypass



EMS-CDV-4COM-Isolation

Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with 4 COM Isolations

- > Onboard Intel® Atom™ D2550 BGA Processor
- > Intel® NM10 Express Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 1 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 6 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > Supports 2.5kv Isolation Protection
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

+ Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EBM-CDVS + AUX-M07
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	5 x USB 2.0
Com Port	6 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Cedarview Integrated Graphics
Resolution	VGA:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), 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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win XP Win 7 Linux
Power Requirement	



Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

Ordering

EMS-CDV-255-A1-4R
Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with 4 COM Isolations



EMS-CDV-PoE

Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with PoE

- > Onboard Intel® Atom™ D2550 BGA Processor
- > Intel® NM10 Express Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 5 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 2 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > PoE, IEEE 802.3af Compliant, Powered Device (PD) Auto Detection
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 50°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window. Easy to Install mSATA. Memory and Mini

+ Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EBM-CDVS + AUX-M04
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	5 x USB 2.0
Com Port	2 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Cedarview Integrated Graphics
Resolution	VGA:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	5 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	5 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), ambient w/ air flow -15°C ~ 50°C (5°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win XP Win 7 Linux
Power Requirement	



Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz; Output 120W Adapter (19 V @ 6.32A Adapter) AC-DC Adapter

 Ordering

EMS-CDV-255-A1-5R
Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with PoE



EMS-CDV-HDMI

Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with HDMI

- > Onboard Intel® Atom™ D2550 BGA Processor
- > Intel® NM10 Express Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 3 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 4 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > Dual Display, VGA + HDMI
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EBM-CDVS + EBM-BYTS DB-A
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	5 x USB 2.0
Com Port	4 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Cedarview Integrated Graphics Supports dual display
Resolution	VGA: Max. resolution 1920x1200@ 60Hz HDMI: Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82574L 2 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	3 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), 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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information	Win XP Win 7 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

+ Ordering

EMS-CDV-255-A1-6R
Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with HDMI



EMS-CDV-DVI

Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with DVI

- > Onboard Intel® Atom™ D2550 BGA Processor
- > Intel® NM10 Express Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 1 DVI, 1 LAN, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 2 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > Dual Display, VGA + DVI
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

+ Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EBM-CDVS + EBM-CDVS DB-A
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	5 x USB 2.0
Com Port	2 x RS-232/422/485 (BIOS)
Other	1 x SIM Card Slot 1 x SMBus 2 x PS2/ KB & MS 2 x Knockouts for Antenna Mounting
DIO	1 x 12bit GPIO
Display	
Chipset	Intel® Cedarview Integrated Graphics Supports dual display
Resolution	VGA:Max. resolution 1920x1200@ 60Hz DVI-D:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), 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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal + Plastic
Mounting Kit	Wall Mount kit (Standard) VESA Mount kit (Optional)
Dimension (L x W x H)	9.45" x 6.69" x 2.36" (240mm x 170mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information	Win XP Win 7 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

+ Ordering

EMS-CDV-255-A1-7R
Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with DVI



EPS-QM87

4th Gen Intel®Core™ Processor Core™ i7/i5/i3
Fanless Rugged Embedded System with 2
expansion slots

- > Onboard 4th Gen Intel®Core™ i7/i5/i3 BGA Processor
- > Intel® QM87 Express Chipset
- > Two 204-pin SODIMM Socket Up to 16GB DDR3L 1333/1600MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 2 DP, 8 COM, 8 USB, 1 LPT, 2 PCI, 8 In/8 Out GPIO, 1 Min-In, 1 Line-In, 1 Line-Out, 1 x EXT PW Switch
- > Expansion Slot Supports 2 Mini PCIe Slot & 2 PCI Slot
- > Triple Display, CRT + DP + DP & HDMI + DP + DP
- > Rugged Design for Vibration & Shock Protection
- > Supports Software Base RAID 0/1
- > Service Window, Easy to Install 2.5" Drive Bay, DOM, Memory, Mini PCIe Module and Maintenance
- > Optional: PCI + PCIe16 Riser Card, 1 PCIe16 Riser Card

+ Spec

System	
Processor	4th Gen Intel® Core™ i7-4700EQ 4-Core 2.4GHz processor 4th Gen Intel® Core™ i5-4422E, 2-Core, 1.8GHz processor 4th Gen Intel® Core™ i3-4110E, 2-Core, 2.6GHz processor
System Chipset	Intel® QM87 Express Chipset
System Memory	2 x 204-Pin DDR3L 1333MHz SO-DIMM up to 16 GB or 2 x 204-Pin DDR3L 1600MHz SO-DIMM up to 16 GB
Watchdog Timer	H/W Reset: 1sec.~255min. and 1sec. or 1min./step
H/W Status Monitor Board	Monitoring CPU & System Temperature and Voltage EAP-CE02 + ESM-QM87
Expansion	
Expansion	2 x PCI 2 x Mini PCIe
Storage	
Storage	2 x 2.5" Drive Bay
I/O	
USB	4 x USB 2.0 4 x USB 3.0
Com Port	4 x RS-232 4 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) 2 x Knockouts for Antenna Mounting
DIO	1 x 16bit GPIO
Display	
Chipset	Intel® QM87 Chipset Integrated Supports triple display
Resolution	VGA:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 3840x2160@ 24Hz DP:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 217LM 1 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, SATA DOM), ambient w/ air flow; i7 -10°C ~ 50°C (14°F ~ 122°F) (w/SSD, SATA DOM), ambient w/ air flow; i5/i3 -10°C ~ 60°C (14°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Weight	5.8Kg
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	9.84" x 10.63" x 4.45" (250mm x 270mm x 113mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis



Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Phoenix Connector & Lockable DC Jack
Power Requirement	+12V ~ +26V Optional +18Vdc~+75Vdc DC/DC Wide Range Power Module
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 1.0b and 2.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Optional

+ Ordering

EPS-QM87-47-A1-1R
4th Gen Intel®Core™ Processor Core™ i7-4700EQ Fanless Rugged Embedded System with 2 expansion slots

EPS-QM87-44-A1-1R
4th Gen Intel®Core™ Processor Core™ i5-4400E Fanless Rugged Embedded System with 2 expansion slots

EPS-QM87-41-A1-1R
4th Gen Intel®Core™ Processor Core™ i3-4102E Fanless Rugged Embedded System with 2 expansion slots

SSD
Intel® SSD 535 Series (56GB, 120GB, 180GB, 240GB)



EPS-QM77

3rd Gen Intel®Core™ Processor Core™ i7/i5/i3
Fanless Rugged Embedded System with 2
expansion slots

- > Supports 3rd Gen Intel®Core™ i7/i5/i3 rPGA 988B Processor
- > Intel® QM77 Express Chipset
- > Two 204-pin SODIMM Socket Up to 16GB DDR3L 1333/1600MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 2 DP, 8 COM, 8 USB, 1 LPT, 2 PCI, 8 In/8 Out GPIO, 1 Min-In, 1 Line-In, 1 Line-Out, 1 x EXT PW Switch
- > Expansion Slot Supports 2 Mini PCIe Slot & 2 PCI Slot
- > Triple Display, CRT + DP + DP & HDMI + DP + DP
- > Rugged Design for Vibration & Shock Protection
- > Supports Software Base RAID 0/1
- > Service Window, Easy to Install 2.5" Drive Bay, DOM, Memory, Mini PCIe Module and Maintenance

+ Spec

System	
Processor	3rd Gen Intel® Core™ i7-3610QE 4-Core 2.3GHz processor 3rd Gen Intel® Core™ i5-3610ME 2-Core 2.7GHz processor 3rd Gen Intel® Core™ i3-3120ME 2-Core 2.4GHz processor
System Chipset	Intel® QM77 Express Chipset
System Memory	2 x 204-Pin DDR3L 1333MHz SO-DIMM up to 16 GB or 2 x 204-Pin DDR3L 1600MHz SO-DIMM up to 16 GB
Watchdog Timer	H/W Reset: 1sec.~255min. and 1sec. or 1min./step
H/W Status Monitor Board	Monitoring CPU & System Temperature and Voltage EAP-CE02 + ESM-QM77
Expansion	
Expansion	2 x PCI 2 x Mini PCIe
Storage	
Storage	2 x 2.5" Drive Bay
I/O	
USB	4 x USB 2.0 4 x USB 3.0
Com Port	4 x RS-232 4 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) 2 x Knockouts for Antenna Mounting
DIO	1 x 16bit GPIO
Display	
Chipset	Intel® QM77 Chipset Integrated Supports triple display
Resolution	VGA:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 1920x1200@ 60Hz DP:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82579LM 1 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, SATA DOM), ambient w/ air flow; i7 -10°C ~ 50°C (14°F ~ 122°F) (w/SSD, SATA DOM), ambient w/ air flow; i5/i3 -10°C ~ 60°C (14°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Optional)
Dimension (L x W x H)	9.84" x 10.63" x 4.45" (250mm x 270mm x 113mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	



Certification Information	CE FCC Class A
Software Support	
OS Information	Win XP Win 7 Win 8 Linux
Power Requirement	
Power Connector	Phoenix Connector & Lockable DC Jack
Power Requirement	+12V ~ +26V Optional +18Vdc~+75Vdc DC/DC Wide Range Power Module
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 1.0b and 2.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Optional

+ Ordering

EPS-QM77-61Q-A1-1R
3rd Gen Intel®Core™ Processor Core™ i7-3610QE Fanless Rugged Embedded System with 2 expansion slots

EPS-QM77-61M-A1-1R
3rd Gen Intel®Core™ Processor Core™ i5-3610ME Fanless Rugged Embedded System with 2 expansion slots

EPS-QM77-12M-A1-1R
3rd Gen Intel®Core™ Processor Core™ i3-3120ME Fanless Rugged Embedded System with 2 expansion slots

ACC-EPS-WM-3R
Wall Mount kit



EPS-QM87E

4th Gen Intel®Core™ Processor Core™ i7/i5/i3
Fanless Rugged Embedded System with Intel® QM87 Chipset

- > Onboard 4th Gen Intel®Core™ i7/i5/i3 BGA Processor
- > Intel® QM87 Express Chipset
- > One 204-pin DDR3L SODIMM Up to 8GB DDR3L 1333/1600MHz SDRAM
- > Rich I/O, 1 DVI, 1 Mic-In, 1 Line-Out, 2 HDMI, 2 LAN, 4 COM, 6 USB
- > Expansion Slot Supports 1 Mini PCIe Slot
- > Triple Independent Display, Dual HDMI + CRT(via DVI to VGA Adapter)
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Supports iAMT 9.0 and TPM Function
- > Service Windows, Easy to Install mSATA, 2.5" Drive Bay, Memory Mini PCIe Module

+ Spec

System	
Processor	4th Gen Intel® Core™ i7-4700EQ 4-Core 2.4GHz processor 4th Gen Intel® Core™ i5-4422E, 2-Core, 1.8GHz processor 4th Gen Intel® Core™ i3-4110E, 2-Core, 2.6GHz processor
System Chipset	Intel® QM87 Express Chipset
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB or 1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step
H/W Status Monitor Board	Monitoring System Temperature and Voltage with Auto Throttling Control EPI-QM87
Expansion	
Expansion	1 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	2 x USB 2.0 4 x USB 3.0
Com Port	2 x RS-232 2 x RS-232/422/485 (Factory Optional)
Other	2 x Knockouts for Antenna Mounting
Display	
Chipset	Intel® QM87 Chipset Integrated Supports triple display
Resolution	DVI-I:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 3840x2160@ 24Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In and Line-Out
Ethernet	
Chipset	1 x Intel® I210AT 1 x Intel® I217LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	9.84" x 8.66" x 2.36" (250mm x 220mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	



OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +19V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz; Output 84W Adapter (12V @ 7A Adapter) Input: 100 ~ 240Vdc/ 50 ~ 60Hz; Output 120W Adapter (12 V @ 10A Adapter)

+ Ordering

EPS-QM87E-A1-1R
4th Gen Intel®Core™ Processor Core™ i7-4700EQ Fanless Rugged Embedded System with Intel® QM87 Chipset

EPS-QM87E-A1-2R
4th Gen Intel®Core™ Processor Core™ i5-4400E Fanless Rugged Embedded System with Intel® QM87 Chipset

EPS-QM87E-A1-3R
4th Gen Intel®Core™ Processor Core™ i3-4102E Fanless Rugged Embedded System with Intel® QM87 Chipset



EPS-QM77E

3rd Gen Intel®Core™ Processor Core™ i7/i5/i3
Fanless Rugged Embedded System with Intel®
QM77 Chipset

- > Supports 3rd Gen Intel®Core™ i7/i5/i3 rPGA 988B Processor
- > Intel® QM77 Express Chipset
- > One 204-pin DDR3L SODIMM Up to 8GB DDR3L 1333/1600MHz SDRAM
- > Rich I/O, 1 DVI, 1 HDMI, 1 Mic-In, 1 Line-Out, 1 Line-In, 2 LAN, 2 COM, 6 USB
- > Expansion Slot Supports 1 Mini PCIe Slot
- > Dual Display, DVI + HDMI
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Supports iAMT 8.0, TPM Function and Software Base RAID 0/1
- > Service Windows Easy to Install mSATA 2.5" Drive Bay

+ Spec

System	
Processor	3rd Gen Intel® Core™ i7-3610QE 4-Core 2.3GHz processor 3rd Gen Intel® Core™ i5-3610ME 2-Core 2.7GHz processor 3rd Gen Intel® Core™ i3-3120ME 2-Core 2.4GHz processor
System Chipset	Intel® QM77 Express Chipset
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB or 1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step
H/W Status Monitor Board	Monitoring System Temperature and Voltage with Auto Throttling Control EPI-QM77
Expansion	
Expansion	1 x Mini PCIe
Storage	
Storage	2 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	2 x USB 2.0 4 x USB 3.0
Com Port	1 x RS-232 1 x RS-232/422/485(Factory Optional)
Other	2 x Knockouts for Antenna Mounting
Display	
Chipset	Intel® QM77 Chipset Integrated Supports dual display
Resolution	DVI-I:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82574L 1 x Intel® 82579LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	9.84" x 8.66" x 2.36" (250mm x 220mm x 60mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	



OS Information	Win XP Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +19V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 1.0b and 2.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz; Output 84W Adapter (12V @ 7A Adapter) Input: 100 ~ 240Vdc/ 50 ~ 60Hz; Output 120W Adapter (12 V @ 10A Adapter)

Ordering

EPS-QM77E-A1-2R
3rd Gen Intel®Core™ Processor Core™ i7-3610QE Fanless Rugged Embedded System with Intel® QM77 Chipset

EPS-QM77E-A1-3R
3rd Gen Intel®Core™ Processor Core™ i5-3610ME Fanless Rugged Embedded System with Intel® QM77 Chipset

EPS-QM77E-A1-4R
3rd Gen Intel®Core™ Processor Core™ i3-3120ME Fanless Rugged Embedded System with Intel® QM77 Chipset

ACC-EPS-WM-2R
Wall Mount kit



ERS-BYT

Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System



- > Onboard Intel® Celeron® J1900 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 1 CF, 1 8-bit GPIO, 1 Mic-In, 1 Line-In, 1 Line-Out, 2 LAN, 4 COM, 4 USB
- > Expansion Slot Supports 1 Mini PCIe Slot
- > Front Access Swappable 2.5" Drive Bay
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min.
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	ECM-BYT + AUX-032
Expansion	
Expansion	1 x Mini PCIe
Storage	
Storage	1 x CompactFlash Type III Socket 1 x mSATA 1 x 2.5" Drive Bay
I/O	
USB	3 x USB 2.0 1 x USB 3.0
Com Port	3 x RS-232 1 x RS-232/422/485 Can be set as RS-232/422/485 by BIOS
Other	2 x Knockouts for Antenna Mounting
DIO	1 x 8bit GPIO
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	VGA:Max. resolution 2560x1080@ 60Hz HDMI:Max. resolution 1920x1200@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	10.67" x 5.91" x 2.17" (271mm x 150mm x 55mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 7 Win 8 Linux
Power Requirement	

Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

Ordering

ERS-BYT-1900-A1-1R
Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System



ERS-CDV

Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with Intel® NM10 Chipset

- > Onboard Intel® Atom™ D2550 BGA processor
- > Intel® NM10 Express Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 1 CF, 1 16-bit GPIO, 1 Mic-In, 1 Line-In, 1 Line-Out, 2 LAN, 2 COM, 6 USB
- > Expansion Slot Supports 1 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Supports Wall Mount kit
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

+ Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	ECM-CDV + AUX-032
Expansion	
Expansion	1 x Mini PCIe
Storage	
Storage	1 x CompactFlash Type III Socket 1 x mSATA 1 x 2.5" Drive Bay
I/O	
USB	6 x USB 2.0
Com Port	1 x RS-232 1 x RS-232/422/485 (Factory Optional)
Other	2 x Knockouts for Antenna Mounting
DIO	1 x 16bit GPIO
Display	
Chipset	Intel® Cedarview Integrated Graphics
Resolution	VGA:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 1920x1080@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	10.67" x 5.91" x 2.17" (271mm x 150mm x 55mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Win XP Win 7 Linux
Power Requirement	



Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

 Ordering

ERS-CDV-255-B1-1R
Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with Intel® NM10 Chipset



ERS-A50M

AMD G-Series Processor T56N Fanless Rugged Embedded System with AMD A50M Chipset

- > Onboard AMD G-Series T56N Processor
- > AMD A50M Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 1 HDMI, 1 CF, 1 Mic-In, 1 Line-In, 1 Line-Out, 2 LAN, 2 COM, 6 USB
- > Expansion Slot Supports 1 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 50°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Supports Wall Mount kit
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

+ Spec

System	
Processor	AMD T56N 2-Core 1.6GHz
System Chipset	AMD A50M Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	ECM-A50M-56N + AUX-032
Expansion	
Expansion	1 x Mini PCIe
Storage	
Storage	1 x CompactFlash Type III Socket 1 x mSATA 1 x 2.5" Drive Bay
I/O	
USB	6 x USB 2.0
Com Port	1 x RS-232 1 x RS-232/422/485 (Factory Optional)
Other	2 x Knockouts for Antenna Mounting
Display	
Chipset	AMD Fusion Accelerated Processors Supports dual display
Resolution	VGA:Max. resolution 1920x1200@ 60Hz HDMI:Max. resolution 1920x1080@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	2 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA, CF), ambient w/ air flow -10°C ~ 60°C (14°F ~ 140°F) (w/HDD), ambient w/ air flow
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	10.67" x 5.91" x 2.17" (271mm x 150mm x 55mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win XP Win 7 Win 8 Linux
Power Requirement	



Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V
ACPI	Single Power ATX Support S0, S1, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) AC-DC Adapter

Ordering

ERS-A50M-56N-B1-1R
AMD G-Series Processor T56N Fanless Rugged Embedded System with AMD G-Series A50M Chipset



VMS-BYT

Intel® Atom™ SoC Processor E3845 Fanless Vehicle Telematics System



- > Onboard Intel® Atom™ SoC E3845 Processors
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 1 LVDS, 1 DC-Out, 1 8-bit GPIO, 1 CFast, 1 2.5" Swappable Drive by, 2 Line-out, 2 Mic-in, 2 LAN, 2 COM, 3 USB, 5 Antenna Mounting
- > Power Management and Low Voltage Protection Design
- > Rugged Fanless Design Compliant with MIL Standard
- > Wake on RTC/SMS Via WWAN Module
- > Optional CAN modules supports SAE J1939 or J1708
- > Wide Range DC Power Input from 9 ~ 36V
- > Fanless Operating from -40 ~ 75°C

+ Spec

System	
Processor	Intel® Atom™ E3845 4-Core 1.91GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Board	EBM-BYTV
Expansion	
Expansion	1 x Avalue 80-Pin IET Interface 1 x Bluetooth Interface 1 x CAN module Interface 2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x CFast™ or mSATA
I/O	
USB	2 x USB 2.0 1 x USB 3.0
Com Port	2 x RS-232/422/485 (BIOS)
Other	1 x DC-Out (12V/4A) 5 x Knockouts for Antenna Mounting
DIO	1 x 8-Bit GPIO (Digital Input) Input Voltage (Internal Type): 5VDC TTL (default) Input Voltage (Source Type): 0~30 VDC (Digital Output) Digital Output (Sink Type): 5VDC TTL (default), max current: 20mA Digital Output (Source Type): 0~30VDC, max current: 250mA
Display	
Chipset	Intel® Valleyview SoC integrated Graphics Supports dual display
Resolution	VGA:Max. resolution 2560x1080@ 60Hz LVDS:Max. resolution 1600x1200@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	2 x Mic-In and 2 x Line-Out
Ethernet	
Chipset	2 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA, CFast), ambient w/ air flow -40°C ~ 75°C (-40°F ~ 167°F)
Storage Temp	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	9.45" x 7.3" x 2.36" (240mm x 186mm x 60mm)
Vibration Test	Operating with SSD/CFast/mSATA : MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure Storage with SSD/CFast/mSATA : MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
Shock Test	Operating with SSD/CFast/mSATA : MIL-STD-810G, Method 516.6, Procedure I, functional shock=20G Non-Operating with SSD/CFast/mSATA: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75G
Certifications	



Certification Information	CE FCC Class A e13 Mark
Software Support	
OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Phoenix Connector
Power Requirement	+9V ~ +36V
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (Industrial PC Power Mode)

+ Ordering

VMS-BYT-3845-A1-1R
Intel® Atom™ SoC Processor E3845 Fanless Vehicle Telematics System

VMS-BYT-3845-A1-2R
Intel® Atom™ SoC Processor E3845 Fanless Vehicle Telematics System with Isolation IET module



ERS-BYTE-10COM

Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System with 8 COM Isolations

- > Onboard Intel® Celeron® J1900 BGA Processor
- > One 204-pin SODIMM Socket Up to 8GB DDR3L 1333MHz SDRAM
- > Rich I/O, 1 VGA, 1 1 LVDS, 1 LAN, 1 LPT, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 10 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > COM3 ~ COM10 Supports 2.5KV Isolation Protection
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -15 ~ 60°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

+ Spec

System	
Processor	Intel® Celeron® J1900 4-Core 2.0GHz processor
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor Board	Monitoring CPU & System Temperature and Voltage EBM-BYTS + AUX-M03
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	4 x USB 2.0 1 x USB 3.0
Com Port	4 x RS-232/422/485 (BIOS) 6 x RS-232 COM3 ~ COM10 Supports 2.5KV Isolation Protection
Other	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	1 x 12bit GPIO
Display	
Chipset	Intel® Valleyview SoC integrated Graphics
Resolution	VGA:Max. resolution 2560x1080@ 60Hz LVDS:Max. resolution 1920x1080@ 60Hz
Audio	
Chipset	Realtek ALC892
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	9.09" x 12.36" x 3.15" (231mm x 160mm x 80mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information	Win 7 Win 8 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection; Reverse current/voltage protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz; Output 120W Adapter (19 V @ 6.32A Adapter) AC-DC Adapter

+ Ordering

ERS-BYTE-J19-A1-1R
Intel® Celeron® SoC Processor J1900 Fanless Rugged Embedded System with 8 COM Isolations



ERS-CDVE-10COM

Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with 8 COM Isolations

- > Onboard Intel® Atom™ D2550 BGA Processor
- > Intel® NM10 Express Chipset
- > One 204-pin SODIMM Socket Up to 4GB DDR3 1066MHz SDRAM
- > Rich I/O, 1 VGA, 1 1 LVDS, 1 LAN, 1 LPT, 1 SIM Card Slot, 1 Swappable HDD, 1 Mic-In, 1 Line-In, 1 Line-Out, 1 12-bit GPIO, 1 SMBUS, 10 COM, 2 PS/2 for KB & MS, 2 Knockouts Antenna Mounting, 5 USB
- > COM3 ~ COM10 Supports 2.5KV Isolation Protection
- > Expansion Slot Supports 2 Mini PCIe Slot
- > Rugged Design for Vibration & Shock Protection
- > Fanless Operating from -10 ~ 60°C
- > Wide Range DC Power Input from 12 ~ 26V
- > Service Window, Easy to Install mSATA, Memory and Mini PCIe Module

+ Spec

System	
Processor	Intel® Atom™ D2550 2-Core 1.86GHz processor
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EBM-CDVS + AUX-M03
Expansion	
Expansion	2 x Mini PCIe
Storage	
Storage	1 x 2.5" Drive Bay 1 x mSATA
I/O	
USB	5 x USB 2.0
Com Port	4 x RS-232/422/485 (BIOS) 6 x RS-232 COM3 ~ COM10 Supports 2.5KV Isolation Protection
Other	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	1 x 12bit GPIO
Display	
Chipset	Intel® Cedarview Integrated Graphics
Resolution	VGA:Max. resolution 1920x1200@ 60Hz LVDS:Max. resolution 1920x1080@ 60Hz
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82574L
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), 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)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	9.09" x 12.36" x 3.15" (231mm x 160mm x 80mm)
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class B
Software Support	



OS Information	Win XP Win 7 Linux
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	+12V ~ +26V TVS component for surge protection
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz; Output 120W Adapter (19 V @ 6.32A Adapter) AC-DC Adapter

Ordering

ERS-CDVE-255-A1-1R
Intel® Atom™ Processor D2550 Fanless Rugged Embedded System with 8 COM Isolations



7

Embedded System & Platforms Industrial PC

CH7-Industrial PC

SLP-SKL	Intel® 6th Generation Core™ i7/i5/i3 Processor Fanless Expendable Controller with PCI/PCI-e expansion slots
EPC-BTCR	Fanless Intel® Atom™ Processor Z3735F system
ECS-BSW	Fanless Intel® Celeron® Processor N3160 Tiny Box PC
SEPC-BYT	Fanless Intel® Celeron® Processor J1900 Tiny Box PC
SEPC-KA	Fanless Onboard AMD Embedded G-Series SOC Quad core Processor Tiny Box PC
SEPC-CDD2	Fanless Intel® Atom™ D2550 Tiny Box PC with Intel® NM10 Express Chipset Tiny Box PC
BAX-P500-Q170	ATX Barebone System with Intel® Q170 Express Chipset
BRX-P500-B75	Micro ATX Barebone System with Intel® B75 Express Chipset
BMX-P520-H81	Mini ITX Barebone System with Intel® H81 Chipset
BMX-T521-BSW	Fanless Intel® Celeron® Processor N3160 Mini ITX Box PC
BMX-T521-BYT	Fanless Intel® Celeron® Processor J1900 Mini ITX Box PC
BMX-T520-QM77	Intel® Core™ i7/ i5/ i3 Processors Fanless Mini ITX Barebone System with Intel® QM77 Express Chipset
BAX-R1U0-Q87R	1U Rackmount Barebone System
BAX-R1U0-Q170	1U Rackmount Barebone System
BAX-R2U0-Q87R	2U Rackmount Barebone System
BAX-R2U0-Q170	2U Rackmount Barebone System
BAX-R4U0-Q87R	4U Rackmount Barebone System
BAX-R4U0-Q170	4U Rackmount Barebone System
BAX-R1U4S-C226	1U Rackmount Storage with 4 hot-swap drive bays
BAX-R1U4S-Q170	1U Rackmount Storage with 4 hot-swap drive bays
BAX-R2U8S-C226	2U Rackmount Storage with 8 hot-swap drive bays
BAX-R2U8S-Q170	2U Rackmount Storage with 8 hot-swap drive bays
BMX-P54S-Q87R	Mini Server with 4 hot-swap drive bays
BMX-P54S-Q170	Mini Server with 4 hot-swap drive bays



SLP-SKL

6th Gen Intel® Core™ Processor Core™ i7/i5/i3
Fanless Expendable Controller with PCI/PCIe
expansion slots

- > Intel® 6th Generation Core™ (Skylake-S) Processor + Intel® Q170 Express Chipset
- > 2 x 260-pin DDR4 SODIMM Socket, Supports Up to 32GB DDR4 2133MHz SDRAM
- > Dual display (DVI + DP)
- > HD Audio, Dual Gigabit Ethernet
- > 3 x PCI + 1 x PCIe x16, 6 x USB3.0, 4 x COM, 1 x CFast, 2 x 2.5" drive bay, 1 x PS2 Keyboard, 1 x PS2 Mouse, 16CH isolated DIO
- > Fanless Operation
- > Wide Range DC Power Input from 9~36V
- > Support Avalue IET module

+ Spec

System	
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)
System Chipset	Intel® Q170 Express Chipset
System Memory	2 x 260-Pin DDR4 2133MHz SO-DIMM up to 32 GB
Watchdog Timer	H/W Reset: 1sec.~255min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
TPM	2.0
Expansion	
Expansion	1 x Mini PCI-e Supports mSATA 1 x PCI-e x16 3 x PCI
Storage	
Storage	1 x Mini PCI-e Supports mSATA 2 x 2.5" Drive Bay support RAID 0,1 1 x CFast™
I/O	
USB	6 x USB 3.0
Com Port	2 x RS-232 2 x RS-232/422/485
Other	1 x Power on/off switch with Power LED 1 x Reset button 1 x HDD LED 1 x CFast LED 1 x Internal USB 2.0 (Type-A)
DIO	1 x 16CH isolated DIO
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Expansion	Avalue IET Module
Display	
Chipset	Intel® 6th Generation CPU integrated
Resolution	DP: 4096x2304 @ 60Hz DVI-I: 1920x1200 @ 60Hz DP + DVI-I
Interface	DP DVI-I
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® I219LM 1 x Intel® I210AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/Industrial SSD, CFast), ambient w/ air flow 0°C to 50°C (32°F to 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Weight	4.5 kg



Construction	Aluminum + Metal
Mounting Kit	Wall Mount/VESA(Optional.)
Dimension (L x W x H)	200 x 225 x 218 mm
Vibration Test	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD/mSATA : 50Grms, IEC 60068-2-27, Half Sine, 11ms
Certifications	
Certification Information	CE FCC Class A
Software Support	
OS Information	Win 8.1 Win 7 Linux
Power Requirement	
Power Connector	Phoenix Connector
Power Requirement	Built-in 9-36 VDC wide-range DC input
ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 1.0b and 2.0 Compliant
Power Mode	ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 180W Adapter (24V @ 7.5A)

+ Ordering

SLP-SKL-1701-A1R
6th Gen Intel® Core™ Processor Core™ i7-6700TE Fanless Expendable Controller with 3 PCI + 1 PCI-ex 16 expansion slots

SLP-SKL-1702-A1R
6th Gen Intel® Core™ Processor Core™ i5-6500TE Fanless Expendable Controller with 3 PCI + 1 PCI-ex 16 expansion slots



EPC-BTCR

Fanless Intel® Atom™ Processor Z3735F system



- > Onboard Intel® Atom™ Processor Z3735F (2M Cache, up to 1.83 GHz)
- > Onboard 32GB eMMC
- > Onboard 2GB DDR3L Memory
- > 1 x HDMI
- > 1 x 10/100 Ethernet
- > 1 x Line-Out
- > 3 x USB 2.0
- > 1 x micro USB Client (Android Only)
- > 1 x RS-232
- > 1 x MicroSDXC™ Card slot
- > 1 x SMA connector (Optional)
- > 1 x Power LED
- > 65W adapter (DC in +19V@3.4A)

+ Spec

System	
Processor	Intel® Atom™ Processor Z3735F (2M Cache, up to 1.83 GHz)
System Memory	onboard 2GB DDR3L Memory
Storage	
Storage	1 x MicroSDXC™ Card slot Onboard 32GB eMMC
I/O	
USB	3 x USB 2.0 1 x micro USB Client (Android only)
Com Port	1 x RS-232
Other	1 x Power on/off switch 1 x Power LED 1 x SMA connector (Optional) 802.11b/g/n Wi-Fi Module support 1T/1R (Optional)
Display	
Chipset	Intel® Atom™ SoC integrated Graphics
Interface	HDMI
Audio	
Chipset	Realtek ALC5645
Audio Interface	Line-Out
Ethernet	
Ethernet Interface	1 x 10/100 Ethernet
Mechanical & Environmental	
Operating Temp	(w/eMMC) ambient w/air flow 0 ~ 40°C (32 ~ 140°F)
Storage Temp	-20 ~ 75°C (-4 ~ 167°F)
Operating Humidity	0 ~ 90% Relative Humidity, Non-condensing
Weight	0.5 kg
Construction	Aluminum + Metal
Mounting Kit	VESA/ Din rail/ Kensington lock(optional)
Dimension (L x W x H)	147x 160 x 35 mm
Power Requirement	
Power Connector	DC Jack
Power Requirement	+19V
Power Mode	AT
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 65W Adapter (19V @ 3.4A)

+ Ordering

EPC-BTCR-W81-A1R
Fanless Intel® Atom™ Processor Z3735F System with Windows EMB Industry Pro Retail 8.1

EPC-BTCR-A44-A1R
Fanless Intel® Atom™ Processor Z3735F System with Android 4.4

EPC-BTCR-LIN-A1R
Fanless Intel® Atom™ Processor Z3735F System with Linux Ubuntu 14.04 (Kernel 3.16)



ECS-BSW

Fanless Intel® Celeron® Processor N3160 Tiny Box PC

- > 4 x USB 3.0, 2 x USB 2.0, 5 x RS232
- > 2 x RealTek RTL8119 Gigabit Ethernet
- > 1 x 204-pin DDR3L 1600MHz SODIMM Socket Supports Up to 8GB
- > 1 x HDMI, 1 x VGA
- > 1 x 2.5" Drive bay
- > 1 x Power on/off switch with Power LED button
- > 1 x SMA connector (optional)
- > 60W Adapter (DC in 12V@5A)

+ Spec

System	
Processor	Intel® Celeron® Processor N3160 (2M Cache, up to 2.08 GHz)
System Memory	1 x 204-Pin DDR3L 1600MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535min. and 1sec. or 1min./step
H/W Status Monitor Board	Monitoring CPU & System Temperature and Voltage ECM-BSW
Expansion	
Expansion	1 x Full-Sized Mini PCI-e supports mSATA 1 x Half-Sized Mini PCI-e
Storage	
Storage	1 x Full-Sized Mini PCI-e supports mSATA 1 x 2.5" Drive Bay
I/O	
USB	4 x USB 3.0 2 x USB 2.0
Com Port	5 x RS-232
Other	1 x Power on/off Switch 1 x Power LED 1 x HDD LED 1 x SMA Connector (Optional)
Display	
Chipset	Intel® Atom™ Celeron® SoC Integrated Graphics
Resolution	HDMI: 1920 x 1080 @ 60Hz VGA: 2560 x 1600 @ 60Hz VGA + HDMI
Interface	VGA HDMI
Audio	
Chipset	Realtek ALC233 support 2.1-CH
Audio Interface	Mic-In and Line-Out
Ethernet	
Chipset	2 x Realtek RTL8119I
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Weight	1.5 kg
Construction	Aluminum + Metal
Mounting Kit	VESA/ Din rail/ Wall Mount (Optional.)
Dimension (L x W x H)	180 x 126 x 68 mm
Software Support	
OS Information	Win 7, Win 8, Linux
Power Requirement	
Power Connector	DC Jack (lockable)



Power Requirement	+12V ~ +26V
Power Mode	ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)

+ Ordering

ECS-BSW-A1R
Fanless Intel® Celeron® Processor N3160 Tiny Box PC



SEPC-BYT

Fanless Intel® Celeron® Processor J1900 Tiny Box PC



- > 1 x VGA, 1 x HDMI
- > 1 x Realtek RTL8111G PCIe Gigabit Ethernet
- > 1 x Mic-In, 1x Line-Out
- > 2 x USB 2.0, 1 x USB 3.0
- > 1 x RS-232 (Pin 9 without power)
- > 1 x 2.5" Drive bay
- > 1 x SD card slot
- > 1 x SIM card slot
- > 1 x SMA connector
- > 1 x Half size Mini PCIe supported mSATA
- > 1 x Full size Mini PCIe supported WiFi
- > DC in +12V
- > VESA Compliance

+ Spec

System	
Processor	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Board	SENX-BYT
Expansion	
Expansion	1 x Mini PCIe supports mSATA 1 x Mini PCIe
Storage	
Storage	1 x Mini PCIe supports mSATA 1 x 2.5" Drive Bay Onboard eMMC (16GB /32GB)
I/O	
USB	1 x USB 3.0 2 x USB 2.0
Com Port	1 x RS-232
Other	1 x SD card slot 1 x SIM card slot 1 x Power on/off switch 1 x Power LED 1 x HDD LED 1 x SMA connector
Display	
Chipset	Intel® Atom™ Celeron® SoC integrated Graphics
Resolution	HDMI:Max. resolution 1920x1080@60Hz VGA:Max. resolution 2560x1600@60Hz VGA + HDMI
Interface	VGA HDMI
Audio	
Chipset	Realtek ALC662 supports 2-CH
Audio Interface	Mic-In and Line-Out
Ethernet	
Chipset	1 x Realtek RTL8111G
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Weight	1.2 kg
Construction	Aluminum + Metal
Mounting Kit	VESA Mount kit (Optional)
Dimension (L x W x H)	180 x 125 x 58 mm
Power Requirement	
Power Connector	DC Jack
Power Requirement	+12V
Power Mode	ATX



Adapter

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

+ Ordering

SEPC-BYT-A1R
Fanless Intel® Celeron® Processor J1900 Tiny Box PC



SEPC-KA

Fanless Onboard AMD Embedded G-Series SOC Quad core Processor Tiny Box PC



- > Fanless Onboard AMD Embedded G-Series SOC Quad core GX-415GA 1.5GHz Processor Tiny Box PC
- > 1 x 204-Pin DDR3/DDR3L 1333/1600MHz SO-DIMM, Up to 16 GB
- > 1 x Display Port, 1 x HDMI
- > 1 x Realtek RTL8111G PCIe Gigabit Ethernet
- > 1 x Mic-In, 1 x Line-Out
- > 4 x USB 2.0, 2 x USB 3.0
- > 1 x RS-232 (Pin 9 without power)
- > 1 x 2.5" Drive bay
- > 1 x SD card slot
- > 1 x CIR
- > 1 x S/PDIF
- > 1 x Line-out, 1 x Mic-in

+ Spec

System	
Processor	Onboard AMD Embedded G-Series SOC Quad core GX-415GA 1.5GHz Processor
System Memory	1 x 204-Pin DDR3/DDR3L 1333/1600MHz SO-DIMM up to 16 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Board	SENX-KA
Expansion	
Expansion	1 x Mini PCI-e Supports mSATA 1 x Mini PCI-e
Storage	
Storage	1 x Mini PCI-e Supports mSATA 1 x 2.5" Drive Bay
I/O	
USB	4 x USB 2.0 2 x USB 3.0
Com Port	1 x RS-232
Other	1 x SD card slot 1 x SIM card slot 1 x Power on/off switch 1 x Power LED 1 x HDD LED 1 x SMA connector (optional) 1 x S/PDIF 1 x CIR
Display	
Chipset	AMD Embedded G-Series Integrated
Resolution	HDMI: 3840 x 2160 @ 24 Hz / 1920 x 1080 @ 60 Hz DP: 3840 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz HDMI+ DP
Interface	HDMI DP
Audio	
Chipset	Realtek ALC892 Audio Codec supports 2-CH
Audio Interface	Mic-In and Line-Out
Ethernet	
Chipset	1 x Realtek RTL8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Mounting Kit	VESA Mount kit (Optional)
Dimension (L x W x H)	180 x 125.2 x 53 mm
Power Requirement	
Power Connector	DC Jack



Power Requirement	+12V
Power Mode	ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)

+ Ordering

SEPC-KA-A1R
Fanless Onboard AMD Embedded G-Series SOC Quad core Processor Tiny Box PC



SEPC-CDD2

Fanless Intel® Atom™ D2550 Tiny Box PC with Intel® NM10 Express Chipset Tiny Box PC

- > Fanless Intel® Atom™ D2550 Tiny Box PC
- > Onboard Intel® Atom™ Processor D2550 (1M Cache, 1.86 GHz)
- > Intel® NM10 Express Chipset
- > One 204-Pin DDR3 1066/1333MHz SO-DIMM socket, supports up to 4GB Max
- > 1 x VGA, 1 x HDMI
- > 1 x Realtek RT8111E PCI-e Gigabit Ethernet
- > 1 x Mic-In, 1 x Line-Out
- > 4 x USB 2.0
- > 1 x RS-232 (Pin 9 without power)
- > 1 x 2.5" Drive bay
- > 1 x SD Card slot
- > 1 x SIM card slot

+ Spec

System	
Processor	Intel® Atom™ D2550 Processor (1M Cache, 1.86GHz)
System Chipset	Intel® NM10 Express Chipset
System Memory	1 x 204-Pin DDR3 1066/1333MHz SO-DIMM up to 4 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Board	ENX-CDD
Expansion	
Expansion	1 x Mini PCI-e supports mSATA
Storage	
Storage	1 x Mini PCI-e supports mSATA, 1 x 2.5" Drive Bay
I/O	
USB	4 x USB 2.0
Com Port	1 x RS-232
Other	1 x SD card slot 1 x SIM card slot 1 x Power on/off switch with Power LED 2 x SMA connector (optional) 1 x CIR
Display	
Chipset	Intel® Atom™ SoC integrated Graphics
Resolution	HDMI: 1920x1080 @ 60Hz VGA: 2560x1600 @ 60Hz VGA + HDMI
Interface	VGA, HDMI
Audio	
Chipset	Realtek ALC661 supports 2-CH
Audio Interface	Mic-In and Line-Out
Ethernet	
Chipset	1 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Weight	1.2 Kg
Construction	Aluminum + Metal
Mounting Kit	VESA Mount kit (Optional)
Dimension (L x W x H)	180 x 122 x 55.5 mm
Power Requirement	
Power Connector	DC Jack
Power Requirement	+12V
Power Mode	ATX
Adapter	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)

+ Ordering

SEPC-CDD2-A1R
Fanless Intel® Atom™ D2550 Tiny Box PC with Intel® NM10 Express Chipset Tiny Box PC



BAX-P500-Q170

ATX Barebone System with Intel® Q170 Express Chipset

- > ATX Wall mount Chassis
- > Compliant with Avalue ATX Board EAX-Q170P
- > Four 288-pin DDR4 2133MHz DIMM socket, supports up to 64GB Max
- > 1 x 3.5" HDD Internal Drive Bay or 1 x 2.5" HDD Internal Drive Bay
- > 2 x 5.25" External Drive Bay
- > 1 x VGA, 1 x HDMI, 1 x DP
- > 2 x RJ45
- > 4 x USB 3.0, 4 x USB 2.0
- > 1 x RS-232, 1 x PS2 Keyboard or 1 x PS2 Mouse
- > 7 x Full Height PCI Slot
- > 1 x PS2 350W Power supply

+ Spec

System	
Processor	Intel® 6th Generation Core™ Process (Max. TDP at 95W)
System Chipset	Intel® Q170 Express Chipset
System Memory	4 x 288-pin DDR4 2133MHz DIMM up to 64GB
I/O Chip	Nuvoton® NCT6106D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. – 65535sec./min.1sec. or 1min. step
H/W Status Monitor	CPU temperature monitoring Voltages monitoring CPU fan speed control
TPM	Onboard Infineon SLB9665 support TPM 2.0
Board	EAX-Q170P
Expansion	
Expansion	7 x Full Height expansion slots
Storage	
Storage	1 x 2.5" or 1 x 3.5" Internal Drive Bay 2 x 5.25" External Drive Bay
I/O	
USB	4 x USB 2.0 4 x USB 3.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard/Mouse
Display	
Chipset	Intel® 6th Generation CPU integrated
Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz DP: 4096 x 2304 @ 60Hz
Multiple Display	VGA + HDMI + DP Triple Display
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Audio Amplifier	6W Amplifier
Ethernet	
Chipset	1 x Intel® I219LM 1 x Intel® I211AT
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	(w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	330 x 196 x 450 mm
Construction	Metal
Mounting Kit	Wall Mount Kit Standard
Dimensions(W x L x D)	334 x 96 x 370 mm (H x W x D)
Power Requirement	
Power Connector	AC Jack (IEC 320 C14)
Power Requirement	100 ~ 240 Vac
Power Mode	ATX



Adapter

Standard PS2 350W Power Supply

+ Ordering

BAX-P500-Q170-A1R

ATX Barebone System with Intel® Q170 Express Chipset



BRX-P500-B75

Micro ATX Barebone System with Intel® B75 Express Chipset



- > Micro ATX Chassis
- > Compliant with Avalue Micro ATX Board ERX-B75
- > Two 240-pin DIMM Sockets support up to 16GB Dual Channel, DDR3 1333/1600 MHz SDRAM
- > 1 x 3.5" HDD Internal Drive Bay or 1 x 2.5" HDD Internal Drive Bay
- > 1 x 5.25" External Drive Bay or 1 x 3.5" HD (Up to 92mm)
- > 1 x VGA, 1 x DVI-D, 1 x HDMI
- > 1 x Realtek RTL8111E PCI-Express Gigabit Ethernet
- > 1 x Realtek ALC662/661 5.1-CH HD Audio Codec
- > 1 x PCI-e x 16, 1 x PCI-e x 1, 1 x PCI
- > 4 x USB 3.0, 4 x USB 2.0
- > 1 x RS-232, 1 x PS2 KB & Mouse
- > 1 x Standard TFX 300W Power supply

+ Spec

System	
Processor	Intel® 2nd/ 3rd Generation Core™ i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® B75 Express Chipset
System Memory	2 x 240-pin DDR3 1333/1600MHz DIMM up to 16 GB
H/W Status Monitor Board	Monitoring System Temperature and Voltage with Auto Throttling Control ERX-B75
Expansion	
Expansion	4 x Low profile expansion slots
Storage	
Storage	1 x 2.5" or 3.5" Internal Drive Bay 1 x 3.5"(Up to 92mm) or 5.25" External Drive Bay
I/O	
USB	4 x USB 2.0 4 x USB 3.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 2nd/ 3rd Generation CPU integrated
Resolution	VGA:2560 x 160 @ 60Hz HDMI:1920 x 1200 @ 60Hz DVI-D:1920 x 1200 @ 60Hz
Interface	VGA HDMI DVI-D
Audio	
Chipset	Realtek ALC661 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(wHDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Construction	Metal
Dimensions(W x L x D)	334 x 96 x 370 mm
Power Requirement	
Power Mode	ATX
Adapter	Standard TFX 300W Power Supply

+ Ordering

BRX-P500-B75-A1R
Micro ATX Barebone System with Intel® B75 Express Chipset



BMX-P520-H81

Mini ITX Barebone System with Intel® H81 Chipset

- > Mini ITX Chassis
- > Compliant with Avalue Mini ITX Board SEMX-H81
- > Two 240-pin DIMM Sockets support up to 16GB Dual Channel, DDR3 1333/1600 MHz
- > 1 x 3.5" HDD (Thickness 24.5mm) or 1 x 2.5" HDD (by bracket) Internal Drive Bay (optional)
- > 1 x 3.5" HDD (Thickness 20.0mm) Internal Drive Bay
- > 1 x 5.25" External Drive Bay
- > 1 x VGA, 1 x DVI-D, 1 x HDMI
- > 1 x Realtek RTL8111E PCIe Gigabit Ethernet
- > 1 x Realtek ALC892 Supports 7.1-CH HD Audio
- > 1 x PCIe x 16, 1 x Mini PCIe
- > 2 x USB 3.0, 6 x USB 2.0
- > 1 x RS-232
- > 1 x Standard TFX 300W Power supply

+ Spec

System	
Processor	Intel® 4th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 84W)
System Chipset	Intel® H81 Express Chipset
System Memory	2 x 240-pin DDR3 1333/1600MHz DIMM up to 16 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
Board	SEMX-H81
Expansion	
Expansion	1 x Low profile expansion slot
Storage	
Storage	1 x 2.5" or 1 x 3.5" (up to 24.5mm) Drive Bay 1 x 3.5" (up to 20.0mm) Drive Bay 1 x 5.25" External Drive Bay
I/O	
USB	6 x USB 2.0 2 x USB 3.0
Com Port	1 x RS-232
Other	1 x SMA connector (optional) 1 x S/PDIF-out Header
MIO	1 x PS/2 Keyboard/Mouse
Display	
Chipset	Intel® 4th Generation CPU integrated
Resolution	VGA:1920 x 1200 @ 60Hz HDMI:4096 x 2160 @ 24Hz DVI-D:1920 x 1200 @ 60Hz
Multiple Display	Dual Display
Interface	VGA, HDMI, DVI-D
Audio	
Chipset	Realtek ALC892 supports 7.1-CH
Audio Interface	Mic-In, Line-In, Line-Out, Rear R/L & S/PDIF-out
Ethernet	
Chipset	1 x Realtek 8111E
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	1 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Metal
Storage Humidity	10 ~ 95% @ 40°C Non-condensing
Dimensions(W x L x D)	265 x 100 x 310 mm
Power Requirement	
Power Connector	AC Jack (IEC 320 C14)
Power Requirement	100 ~ 240 Vac
Power Mode	ATX
Adapter	Standard TFX 300W Power Supply

+ Ordering

BMX-P520-H81-A1R
Mini ITX Barebone System with Intel® H81 Chipset



BMX-T521-BSW

Fanless Intel® Celeron® Processor N3160 Mini ITX Box PC

- > 1 x VGA, 1 x HDMI
- > 2 x Intel® I211AT Gigabit Ethernet
- > 2 x 204-pin DDR3L 1600 MHz SO-DIMM Socket, Supports up to 8GB Max (Default: 1 x 2GB DDR3L Memory)
- > 1 x Mic-In, 1 x Line-Out
- > 4 x USB 2.0, 4 x USB 3.0
- > 5 x RS-232, 1 x RS232/422/485
- > 2 x 2.5" Drive bay, 1 x SD Card Slot
- > 1 x SIM Card Slot
- > 1 x Full Size Mini PCIe Supports mSATA Only (Switch by Jumper)
- > 1 x Full Size Mini PCIe Supports WiFi & 3G/4G Module
- > DC in +12V (Lockable DC Jack)

+ Spec

System	
Processor	Intel® Celeron® Processor N3160 (2M Cache, up to 2.08 GHz)
System Memory	2 x 204-pin DDR3L 1600 MHz SO-DIMM up to 8 GB (Default: 1 x 2GB DDR3L)
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EMX-BSWP
Expansion	
Expansion	1 x Full Size Mini PCIe support mSATA Only 1 x Full Size Mini PCIe support WiFi & 3G/4G module
Storage	
Storage	1 x SD card slot support SD/SDHC Card 2 x 2.5" Drive Bay
I/O	
USB	4 x USB 3.0, 4 x USB 2.0
SATA	2 x SATA III 2 x SATA Power
Com Port	5 x RS232 (pin9 with power) 1 x RS232/422/485
Other	2 x SMA Connector (Optional)
SIM	1 x SIM Card Slot
Display	
Chipset	Intel® Atom™ / Celeron® SoC integrated Graphics
Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30Hz VGA + HDMI
Audio	
Chipset	Realtek ALC662 supports 2-CH
Audio Interface	Mic-In and Line-Out
Ethernet	
Chipset	2 x Intel I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Dimension (L x W x H)	180 x 182 x 76 mm
Storage Humidity	10 ~ 95% @ 40°C Non-condensing
Power Requirement	
Power Connector	DC Jack (lockable)
Power Requirement	+12V
Power Mode	ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)

+ Ordering

BMX-T521-BSW-A1R
Fanless Intel® Celeron® Processor N3160 Mini ITX Box PC



BMX-T521-BYT

Fanless Intel® Celeron® Processor J1900 Mini ITX Box PC

- > 1 x VGA, 1 x HDMI
- > 2 x Intel® I211AT Gigabit Ethernet
- > 2 x 204-pin DDR3L 1333 MHz SO-DIMM Socket, Supports up to 8GB Max (Default: 1 x 2GB DDR3L Memory)
- > 1 x Mic-In, 1 x Line-Out
- > 2 x USB 2.0, 4 x USB 3.0
- > 5 x RS-232, 1 x RS232/422/485
- > 2 x 2.5" Drive Bay, 1 x SD Card Slot
- > 1 x SIM Card Slot
- > 1 x Full Size Mini PC-e Supports mSATA Only (Switch by Jumper)
- > 1 x Full Size Mini PC-e Supports WiFi & 3G/4G Module
- > DC in +12V (Lockable DC Jack)

+ Spec

System	
Processor	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)
System Memory	2 x 204-pin DDR3L 1333MHz SO-DIMM up to 8 GB (Default: 1 x 2GB DDR3L)
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EMX-BYT2
Expansion	
Expansion	1 x Full Size Mini PC-e support mSATA Only 1 x Full Size Mini PC-e support WiFi & 3G/4G module
Storage	
Storage	1 x SD card slot support SD/SDHC Card 2 x 2.5" Drive Bay
I/O	
USB	4 x USB 3.0, 2 x USB 2.0
SATA	2 x SATA II 2 x SATA Power
Com Port	5 x RS232 (pin9 with power) 1 x RS232/422/485
Other	1 x SIM Card Slot 2 x SMA Connector (Optional)
Display	
Chipset	Intel® Atom™/ Celeron® SoC integrated Graphics
Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 1920 x 1200 @ 60Hz VGA + HDMI
Audio	
Chipset	Realtek ALC662 supports 2-CH
Audio Interface	Mic-In and Line-Out
Ethernet	
Chipset	2 x Intel I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ45
Mechanical & Environmental	
Operating Temp	(w/SSD, mSATA), ambient w/ air flow 0°C ~ 50°C (32°F ~ 122°F) (w/HDD), ambient w/ air flow 0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Aluminum + Metal
Dimension (L x W x H)	180 x 182 x 76 mm
Storage Humidity	10 ~ 95% @ 40°C Non-condensing
Power Requirement	
Power Connector	DC Jack (lockable)
Power Requirement	+12V
Power Mode	ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A)

+ Ordering

BMX-T521-BYT-A1R
Fanless Intel® Celeron® Processor J1900 Mini ITX Box PC



BMX-T520-QM77

Intel® Core™ i7/ i5/ i3 Processors Fanless Mini ITX Barebone System with Intel® QM77 Express Chipset

- > Avalue Standard Fanless Mini ITX Chassis
- > Compliant with Avalue Mini ITX Board (OEM Thermal Module)
- > Intel® rPGA988 Socket Supports Intel® 2nd/3rd Generation Core™ i7/i5/i3 Processors
- > Intel® QM77 Express Chipset
- > Two 204-pin SO-DIMM Sockets support up to 16GB DDR3 1333/1600 MHz SDRAM
- > Dual Display, HDMI, VGA, DVI-D
- > Realtek ALC892 HD Audio
- > Dual Gigabit Ethernet
- > Supports iAMT 8.0, TPM 1.2 and Software RAID Function

+ Spec

System	
Processor	Intel® Core™ i7-3610QE 4-Core 2.3GHz Intel® Core™ i5-3610ME 2-Core 2.7GHz Intel® Core™ i3-3120ME 2-Core 2.4GHz
System Chipset	Intel® QM77 Express Chipset
System Memory	2 x 204-pin DDR3 1333/1600MHz SO-DIMM up to 16 GB
Watchdog Timer	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EMX-QM77
Expansion	
Expansion	1 x Mini PCI-e 1 x PCI-ex16
Storage	
Storage	2 x 2.5" Drive Bay 1 x 3.5" Drive Bay 1 x 3.5" or 2 x 2.5" Drive Bay 1 x CFast™
I/O	
USB	4 x USB 2.0 4 x USB 3.0
Com Port	3 x RS-232
Other	2 x Knockouts for Antenna Mounting
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 2nd/3rd Generation CPU integrated
Resolution	VGA:2048 x 1536 @ 60Hz HDMI:1920 x 1200 @ 60Hz DVI:1920 x 1200 @ 60Hz VGA + HDMI + DVI-D
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Ethernet	
Chipset	1 x Intel® 82583V 1 x Intel® 82579LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Operating Temp	(w/SSD), ambient w/ air flow; i7 -10°C ~ 50°C (14°F ~ 122°F) (w/SSD), ambient w/ air flow; i5/i3/Celeron -10°C ~ 60°C (14°F ~ 140°F)
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Construction	Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	353 x 230 x 99 mm
Storage Humidity	10 ~ 95% @ 40°C Non-condensing
Power Requirement	



Power Connector	Phoenix Connector DC Jack (lockable)
Power Requirement	+12V
ACPI	Single Power ATX Support S0, S1, S3, S4, S5 ACPI 3.0 Compliant
Power Mode	ATX
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A) Optional

+ Ordering

BMX-T520-QM77-A1R
Intel® Core™ i7/ i5/ i3 Processors Fanless Mini ITX Barebone System with Intel® QM77 Express Chipset



BAX-R1U0-Q87R

1U Rackmount Barebone System



- > 1U Rackmount System
- > Intel® 4th Generation Core™ Processors (Max. TDP at 95W)
- > 4 x 240-Pin DDR3 1333/1600 MHz DIMM socket, supports to 32 GB Max
- > 2 x 3.5" Drive Bay or 1 x 2.5" + 1 x 3.5" Drive Bay
- > 1 x Slim ODD Bay
- > Full Height PCI Slot x 1 (via riser card and bracket)
- > 315W 1U Flex 100-240 Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® Q87 Express Chipset
System Memory	4 x 240-Pin DDR3 1333/1600 MHz DIMM up to 32 GB
I/O Chip	Nuvoton® NCT6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. Step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EAX-Q87R
Expansion	
Expansion	Full Height PCI Slot x 1 (via riser card and bracket)
Storage	
Storage	2 x 3.5" Drive Bay or 1 x 2.5" + 1 x 3.5" Drive Bay
I/O	
USB	4 x USB 3.0, 2 x USB 2.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 4th Generation CPU integrated
Resolution	DVI: Max. resolution 1920 x 1200 @ 60Hz VGA: Max. resolution 1920 x 1200 @ 60Hz DP: Max. resolution 3840 x 2160 @ 24Hz DP + VGA + DVI
Audio	
Audio Interface	N/A
Ethernet	
Chipset	1 x Intel® I217LM 1 x Intel® I210AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	381 x 482.6 x 44.4 mm
Power Requirement	
Adapter	315W 1U Flex 100-240V

+ Ordering

BAX-R1U0-Q87R-A1R

1U Rackmount System With Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard & Intel® Q87 Express Chipset



BAX-R1U0-Q170

1U Rackmount Barebone System



- > 1U Rackmount System
- > Intel® 6th Generation Core™ Processors (Max. TDP at 95W)
- > 4 x 288-pin DDR4 2133MHz DIMM socket, supports up to 64GB Max
- > 2 x 3.5" Drive Bay or 1 x 2.5" + 1 x 3.5" Drive Bay
- > 1 x Slim ODD Bay
- > Full Height PCI Slot x 1 (via riser card and bracket)
- > 315W 1U Flex 100-240 Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
System Chipset	Intel® Q170 Express Chipset
System Memory	4 x 288-pin DDR4 2133MHz DIMM up to 64 GB
I/O Chip	Nuvoton® NCT6106D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. step
H/W Status Monitor	CPU temperature monitoring Voltages monitoring CPU fan speed control
TPM	Onboard Infineon SLB9665 support TPM 2.0
Board	EAX-Q170P
Expansion	
Expansion	Full Height PCI Slot x 1 (via riser card and bracket)
Storage	
Storage	2 x 3.5" Drive Bay or 1 x 2.5" + 1 x 3.5" Drive Bay
I/O	
USB	4 x USB 3.0, 2 x USB 2.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard or Mouse
Display	
Chipset	Intel® 6th Generation CPU integrated
Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600@ 30 Hz DP: 4096 x 2304 @60Hz VGA + HDMI + DP
Multiple Display	Triple Display
Audio	
Audio Interface	N/A
Ethernet	
Chipset	1 x Intel® I219LM 1 x Intel® I211AT
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	381 x 482.6 x 44.4 mm
Construction	Metal

+ Ordering

BAX-R1U0-Q170-A1R
1U Rackmount System With Intel® 6th Generation Core™ Processors ATX Motherboard & Intel® Q170 Express Chipset



BAX-R2U0-Q87R

2U Rackmount Barebone System



- > 2U Rackmount System
- > Intel® 4th Generation Core™ Processors (Max. TDP at 95W)
- > 4 x 240-Pin DDR3 1333/1600 MHz DIMM socket, supports to 32 GB Max
- > 6 x 3.5" Drive Bay or 2 x 5.25" + 4 x 3.5" Drive Bay
- > 4 x Low profile expansion slots
- > 500W PS2 100-240Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® Q87 Express Chipset
System Memory	4 x 240-Pin DDR3 1333/1600 MHz DIMM up to 32 GB
I/O Chip	Nuvoton® NCT6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. Step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EAX-Q87R
Expansion	
Expansion	4 x Low profile expansion slots
Storage	
Storage	6 x 3.5" Drive Bay or 2 x 5.25" + 4 x 3.5" Drive Bay
I/O	
USB	4 x USB 3.0, 2 x USB 2.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard, 1 x PS/2 Mouse
Display	
Chipset	Intel® 4th Generation CPU integrated
Resolution	DVI: Max. resolution 1920 x 1200 @ 60Hz VGA: Max. resolution 1920 x 1200 @ 60Hz DP: Max. resolution 3840 x 2160 @ 24Hz DP + VGA + DVI
Audio	
Chipset	1 x Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Audio Amplifier	TI TPA3005D2 Stereo Class-D 6W x 2 Audio Amplifier
Ethernet	
Chipset	1 x Intel® I217LM 1 x Intel® I210AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	504 x 482.6 x 88.9 mm
Construction	Metal
Power Requirement	
Adapter	500W PS2 100-240Vac Power Supply

+ Ordering

BAX-R2U0-Q87R-A1R

2U Rackmount System With Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard & Intel® Q87 Express Chipset



BAX-R2U0-Q170

2U Rackmount Barebone System



- > 2U Rackmount System
- > Intel® 6th Generation Core™ Processors (Max. TDP at 95W)
- > 4 x 288-pin DDR4 2133MHz DIMM socket, supports up to 64GB Max
- > 6 x 3.5" Drive Bay or 2 x 5.25" + 4 x 3.5" Drive Bay
- > 4 x Low profile expansion slots
- > 500W PS2 100-240Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
System Chipset	Intel® Q170 Express Chipset
System Memory	4 x 288-pin DDR4 2133MHz DIMM up to 64 GB
I/O Chip	Nuvoton® NCT6106D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. step
H/W Status Monitor	CPU temperature monitoring Voltages monitoring CPU fan speed control
TPM	Onboard Infineon SLB9665 support TPM 2.0
Board	EAX-Q170P
Expansion	
Expansion	4 x Low profile expansion slots
Storage	
Storage	6 x 3.5" Drive Bay or 2 x 5.25" + 4 x 3.5" Drive Bay
I/O	
USB	4 x USB 3.0, 2 x USB 2.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard or Mouse
Display	
Chipset	Intel® 6th Generation CPU integrated
Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz DP: 4096 x 2304 @ 60Hz VGA + HDMI + DP
Multiple Display	Triple Display
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Audio Amplifier	2 x 6W Amplifier
Ethernet	
Chipset	1 x Intel® I219LM 1 x Intel® I211AT
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	504 x 482.6 x 88.9 mm
Construction	Metal
Power Requirement	
Adapter	500W PS2 100-240Vac Power Supply

+ Ordering

BAX-R2U0-Q170-A1R
2U Rackmount System With Intel® 6th Generation Core™ Processors-ATX Motherboard & Intel® Q170 Express Chipset



BAX-R4U0-Q87R

4U Rackmount Barebone System

- > 4U Rackmount System
- > Intel® 4th Generation Core™ Processors (Max. TDP at 95W)
- > 4 x 240-Pin DDR3 1333/1600 MHz DIMM socket, supports to 32 GB Max
- > 3 x 3.5" Internal Drive Bay
- > 2 x 3.5" + 3 x 5.25" External Drive Bay
- > 7 x Full Height expansion slots
- > 500W PS2 100-240Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® Q87 Express Chipset
System Memory	4 x 240-Pin DDR3 1333/1600 MHz DIMM up to 32 GB
I/O Chip	Nuvoton® NCT6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. Step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EAX-Q87R
Expansion	
Expansion	7 x Full Height expansion slots on chassis
Storage	
Storage	3 x 3.5" Internal Drive Bay 2 x 3.5" + 3 x 5.25" External Drive Bay
I/O	
USB	4 x USB 3.0, 2 x USB 2.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Display	
Chipset	Intel® 4th Generation CPU integrated
Resolution	DVI: Max. resolution 1920 x 1200 @ 60Hz VGA: Max. resolution 1920 x 1200 @ 60Hz DP: Max. resolution 3840 x 2160 @ 24Hz DP + VGA + DVI
Audio	
Chipset	1 x Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Audio Amplifier	TI TPA3005D2 Stereo Class-D 6W x 2 Audio Amplifier
Ethernet	
Chipset	1 x Intel® I217LM 1 x Intel® I210AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	508 x 482.6 x 178 mm
Construction	Metal
Power Requirement	
Adapter	500W PS2 100-240Vac Power Supply

+ Ordering

BAX-R4U0-Q87R-A1R
4U Rackmount System With Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard & Intel® Q87 Express Chipset



BAX-R4U0-Q170

4U Rackmount Barebone System

- > 4U Rackmount System
- > Intel® 6th Generation Core™ Processors (Max. TDP at 95W)
- > 4 x 288-pin DDR4 2133MHz DIMM socket, supports up to 64GB Max
- > 3 x 3.5" Internal Drive Bay
- > 2 x 3.5" + 3 x 5.25" External Drive Bay
- > 7 x Full Height expansion slots
- > 500W PS2 100-240Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
System Chipset	Intel® Q170 Express Chipset
System Memory	4 x 288-pin DDR4 2133MHz DIMM up to 64 GB
I/O Chip	Nuvoton® NCT6106D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. step
H/W Status Monitor	CPU temperature monitoring Voltages monitoring CPU fan speed control
TPM	Onboard Infineon SLB9665 support TPM 2.0
Board	EAX-Q170P
Expansion	
Expansion	7 x Full Height expansion slots on chassis
Storage	
Storage	3 x 3.5" Internal Drive Bay 2 x 3.5" + 3 x 5.25" External Drive Bay
I/O	
USB	4 x USB 3.0, 2 x USB 2.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard or Mouse
Display	
Chipset	Intel® 6th Generation CPU integrated
Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz DP: 4096 x 2304 @ 60Hz VGA + HDMI + DP
Multiple Display	Triple Display
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Audio Amplifier	2 x 6W Amplifier
Ethernet	
Chipset	1 x Intel® I219LM 1 x Intel® I211AT
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	508 x 482.6 x 178 mm
Construction	Metal
Power Requirement	
Adapter	500W PS2 100-240Vac Power Supply

+ Ordering

BAX-R4U0-Q170-A1R
4U Rackmount System With Intel® 6th Generation Core™ Processors ATX Motherboard & Intel® Q170 Express Chipset



BAX-R1U4S-C226

1U Rackmount Storage with 4 hot-swap drive bays



- > 1U Rackmount short depth storage system
- > Intel® 4th Generation Core™ Processors (Max. TDP at 95W)
- > 4 x 240-Pin DDR3 1333/1600 MHz DIMM socket, supports to 32 GB Max
- > 4 x 2.5" or 3.5" hot-swap HDD trays
- > 1 x Internal 2.5" HDD Drive Bay
- > Easy-swap 40 mm PWM fans with Anti-Vibration mechanism
- > Built in Info-Tag for systems easy management
- > Supports 6Gb/s SATA backplane
- > Full Height PCI Slot x 1 (via riser card and bracket)
- > 315W 1U Flex 100-240Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i5/ i3/ Xeon®, Pentium® and Celeron® Processors
System Chipset	Intel® C226 Express Chipset
System Memory	4 x 240-Pin DDR3 1333/1600 MHz DIMM up to 32 GB
I/O Chip	Nuvoton NCT6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. Step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EAX-C226
Expansion	
Expansion	Full Height PCI Slot x 1 (via riser card and bracket)
Storage	
Storage	4 x 2.5" or 3.5" hot-swap HDD trays 1 x Internal 2.5" Drive Bay
I/O	
USB	4 x USB 3.0, 2 x USB 2.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Video	VGA, DP, DVI
Display	
Chipset	Intel® 4th Generation CPU integrated
Resolution	DVI: Max. resolution 1920 x 1200 @ 60Hz VGA: Max. resolution 1920 x 1200 @ 60Hz DP: Max. resolution 3840 x 2160 @ 24Hz DP + VGA + DVI
Audio	
Audio Interface	N/A
Ethernet	
Chipset	1 x Intel® I217LM 1 x Intel® I210AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	533.4 x 482.6 x 44.4 mm
Power Requirement	
Adapter	315W 1U Flex 100-240Vac

+ Ordering

BAX-R1U4S-C226-A1R

1U Rackmount 4bays Storage System With Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard & Intel® C226 Express Chipset



BAX-R1U4S-Q170

1U Rackmount Storage with 4 hot-swap drive bays



- > 1U Rackmount short depth storage system
- > Intel® 6th Generation Core™ Processors (Max. TDP at 95W)
- > 4 x 288-pin DDR4 2133MHz DIMM socket, supports up to 64GB Max
- > 4 x 2.5" or 3.5" hot-swap HDD trays
- > 1 x Internal 2.5" HDD Drive Bay
- > Easy-swap 40 mm PWM fans with Anti-Vibration mechanism
- > Built in Info-Tag for systems easy management
- > Supports 6Gb/s SATA backplane
- > Full Height PCI Slot x 1 (via riser card and bracket)
- > 315W 1U Flex 100-240Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
System Chipset	Intel® C170 Express Chipset
System Memory	4 x 288-pin DDR4 2133MHz DIMM up to 64 GB
I/O Chip	Nuvoton® NCT6106D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	HW Reset, 1sec. – 65535sec./min. 1sec. or 1min. step
H/W Status Monitor	CPU temperature monitoring Voltages monitoring CPU fan speed control
TPM	Onboard Infineon SLB9665 support TPM 2.0
Board	EAX-Q170P
Expansion	
Expansion	Full Height PCI Slot x 1 (via riser card and bracket)
Storage	
Storage	4 x 2.5" or 3.5" hot-swap HDD trays 1 x Internal 2.5" Drive Bay
I/O	
USB	4 x USB 3.0, 2 x USB 2.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard or Mouse
Display	
Chipset	Intel® 6th Generation CPU integrated
Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz DP: 4096 x 2304 @ 60Hz VGA + HDMI + DP
Multiple Display	Triple Display
Audio	
Audio Interface	N/A
Ethernet	
Chipset	1 x Intel® I219LM 1 x Intel® I211AT
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	533.4 x 482.6 x 44.4 mm
Power Requirement	
Adapter	315W 1U Flex 100-240Vac

+ Ordering

BAX-R1U4S-Q170-A1R

1U Rackmount 4bays Storage System With Intel® 6th Generation Core™ Processors ATX Motherboard & Intel® Q170 Express Chipset



BAX-R2U8S-C226

2U Rackmount Storage with 8 hot-swap drive bays



- > 2U Rackmount short depth storage system
- > Intel® 4th Generation Core™ Refresh i5/ i3/ Xeon®, Pentium® and Celeron® Processors
- > 4 x 240-Pin DDR3 1333/1600 MHz DIMM socket, supports to 32 GB Max
- > 8 x 2.5" or 3.5" hot-swap HDD trays with lock supported
- > 1 x 2.5" internal Drive Bay
- > Easy-swap 40 mm PWM fans with Anti-Vibration mechanism
- > Supports 6Gb/s Mini-SASbackplane
- > 4 x Low profile expansion slots
- > 500W 1U Single 100-240 Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i5/ i3/ Xeon®, Pentium® and Celeron® Processors
System Chipset	Intel® C226 Express Chipset
System Memory	4 x 240-Pin DDR3 1333/1600 MHz DIMM up to 32 GB
I/O Chip	Nuvoton® NCT6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. Step
H/W Status Monitor Board	Monitoring System Temperature and Voltage with Auto Throttling Control EAX-C226
Expansion	
Expansion	4 x Low profile expansion slots on chassis
Storage	
Storage	8 x 2.5" or 3.5" hot-swap HDD trays 1 x 2.5" Drive Bay
I/O	
USB	4 x USB 3.0, 2 x USB 2.0
Com Port	1 x RS-232
MIO	1 x PS/2 Keyboard 1 x PS/2 Mouse
Video	VGA, DP, DVI
Display	
Chipset	Intel® 4th Generation CPU integrated
Resolution	DVI: Max. resolution 1920 x 1200 @ 60Hz VGA: Max. resolution 1920 x 1200 @ 60Hz DP: Max. resolution 3840 x 2160 @ 24Hz DP + VGA + DVI
Audio	
Chipset	1 x Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-in, Line-in and Line-out
Audio Amplifier	TI TPA3005D2 Stereo Class-D 6W x2 Audio Amplifier
Ethernet	
Chipset	1 x Intel® I217LM 1 x Intel® I210AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	571.5 x 482.6 x 88.9 mm

+ Ordering

BAX-R2U8S-C226-A1R
2U Rackmount 8bays Storage System With Intel® 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors ATX Motherboard & Intel® C226 Express Chipset



BMX-P54S-Q87R

Mini Server with 4 hot-swap drive bays

- > Mini server storage system
- > Intel® 4th Generation Core™ Processors (Max. TDP at 95W)
- > 2 x 204-pin DDR3 1333/1600 MHz SO-DIMM sockets, support up to 16GB Max
- > 4 x 2.5" or 3.5" hot-swap HDD trays
- > 1 x Internal 2.5" HDD Drive Bay
- > 1 x Slim ODD bay (Optional 2.5" HDD bracket)
- > M/B Tray for easy maintenance
- > 120 x 25 mm rear PWM fan for system cooling
- > Kensington slot and padlock loop
- > Supports 6Gb/s SATA backplane
- > 1 x Low profile slot
- > 265W 1U Flex 100-240Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/ i5/ i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
System Chipset	Intel® Q87 Express Chipset
System Memory	2 x 204-pin DDR3 1333/1600MHz SO-DIMM up to 16 GB
I/O Chip	Nuvoton® NCT6776F
BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min./step
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Board	EMX-Q87R
Expansion	
Expansion	1 x Low profile expansion slot
Storage	
Storage	4 x 2.5" or 3.5" hot-swap HDD trays 1 x 2.5" Internal Drive Bay
I/O	
USB	6 x USB 3.0
Com Port	1 x RS-232
Other	TPM 1.2 SLB9635 (optional)
MIO	1 x PS2 Keyboard 1 x PS2 Mouse
Display	
Chipset	Intel® 4th Generation CPU integrated
Resolution	VGA: Max. Resolution 1920 x 1200 @60Hz HDMI: Max. Resolution 4096 x 2160 @ 24 Hz/ 1920 x 1080 @ 60Hz DP: Max. Resolution 3840 x 2160 @ 60Hz VGA + HDMI + DP
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Audio Amplifier	TI TPA2012D2RTJT Stereo Class-D 2W x 2 Audio Amplifier
Ethernet	
Chipset	1 x Intel® I217LM 1 x Intel® I211AT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	275 x 210 x 230 mm
Power Requirement	
Adapter	265W 1U Flex 100-240Vac Power Supply

+ Ordering

BMX-P54S-Q87R-A1R
Mini Server 4bays Storage System With Intel® 4th Generation Core™ Refresh i7/ i5/ i3 Mini ITX Motherboard & Intel® Q87 Express Chipset



BMX-P54S-Q170

Mini Server with 4 hot-swap drive bays

- > Mini server storage system
- > Intel® 6th Generation Core™ Processors (Max. TDP at 95W)
- > 2 x 260-pin DDR4 2133MHz SO-DIMM socket, supports up to 32GB Max
- > 4 x 2.5" or 3.5" hot-swap HDD trays
- > 1 x Internal 2.5" HDD Drive Bay
- > 1 x Slim ODD bay (Optional 2.5" HDD bracket)
- > M/B Tray for easy maintenance
- > 120 x 25 mm rear PWM fan for system cooling
- > Kensington slot and padlock loop
- > Supports 6Gb/s SATA backplane
- > 1 x Low profile slot
- > 265W 1U Flex 100-240Vac Power Supply

+ Spec

System	
Processor	Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
System Chipset	Intel® Q170 Express Chipset
System Memory	2 x 260-pin DDR4 2133MHz SO-DIMM up to 32 GB
I/O Chip	Nuvoton® NCT6106D
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. 1sec. or 1min. step
H/W Status Monitor	CPU temperature monitoring Voltages monitoring CPU fan speed control
TPM	Onboard Infineon SLB9665 support TPM 2.0
Board	EMX-Q170P
Expansion	
Expansion	1 x Low profile expansion slot
Storage	
Storage	4 x 2.5" or 3.5" hot-swap HDD trays 1 x 2.5" Internal Drive Bay
I/O	
USB	4 x USB 3.0 2 x USB 2.0
Com Port	1 x RS-232
Other	Onboard Infineon SLB9665 support TPM 2.0
MIO	1 x PS/2 Keyboard or Mouse
Display	
Chipset	Intel® 6th Generation CPU integrated
Resolution	VGA: 2560 x 1600 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz DP: 4096 x 2304 @ 60Hz VGA + HDMI + DP
Multiple Display	Triple Display
Audio	
Chipset	Realtek ALC892 supports 5.1-CH
Audio Interface	Mic-In, Line-In and Line-Out
Audio Amplifier	2 x 6W Amplifier
Ethernet	
Chipset	1 x Intel® I219LM 1 x Intel® I211AT
Lan Port	2 x RJ-45
Mechanical & Environmental	
Power Type	ATX
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)
Storage Temp	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	275 x 210 x 230 mm
Power Requirement	
Adapter	265W 1U Flex 100-240Vac Power Supply

+ Ordering

BMX-P54S-Q170-A1R
Mini Server 4bays Storage System With Intel® 6th Generation Core™ Processors ATX Motherboard & Intel® Q170 Express Chipset



8

Embedded System & Platforms RISC System

CH8-RISC System



AIB-IMX6

BOX System with Freescale i.MX6





AIB-IMX6

BOX System with Freescale i.MX6

- > Freescale i.MX6 Cortex-A9 Dual Lite/Quad 1GHz CPU
- > 4GB eMMC
- > 1GB DDR3 memory
- > HDMI output with screw lock
- > Micro SD socket
- > USB2.0 Type A x2(Double deck)
- > USB OTGx1
- > Gigabit LAN with Micrel MIC2788
- > Ethernet PHY
- > Mini-PCle(half size)
- > 12-26V DC input, typical 19V DC input
- > Optional POE (802.3AT)
- > Optional External I/R Jack

+ Spec

System	
Processor	Freescale i.MX6 Multimedia Processor
System Chipset	i.MX6
System Memory	1 X Onboard DDR3 1GB
SBC	RSC-IMX61
Storage	
Storage	1 x On board 4GB eMMC
I/O	
USB	2 x USB 2.0(Double deck) 1 x Mini-USB Connector
Com Port	1 x RS232(Debug Port)
Display	
Resolution	HDMI: Max. resolution 1080P @ 60Hz
Audio	
Chipset	WM8962
Mechanical & Environmental	
Power Requirement	12 ~ 26V DC input , 2.5mm DC Jack,typical 19V input With brownout detection or POE power in(optional)
Power Type	DC Input
Operating Temp	-40°C ~ 70°C (-40°F ~ 158°F)
Storage Temp	-40°C ~ 70°C (-40°F ~ 158°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Dimension (L x W)	153(mm) x 107.8(mm) x 30(mm)
Weight	1.5KG
Mounting Kit	2 x Mounting Bracket
Vibration Test	With eMMC : 2Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
Shock Test	With eMMC : 10Grms, IEC 60068-2-29, Half Sine, 11ms
System Fan	Fanless
Construction - Front	Black
Construction - Rear	Black
Certifications	
Certification Information	CE FCC Class B
Software Support	
OS Information	Android 4.4.2 Ubuntu12.04 Yocto
Power Requirement	
Power Connector	Lockable DC Jack
Power Requirement	12V
Adapter	60W

+ Ordering

AIB-X6L1B-A1R-00
BOX System with Freescale i.MX6_DL , RSC-IMX61_DL(A1) ,4G eMMC + 1GB RAM , Industrial Temperature

Embedded System
Embedded Computing
Single Board Computer
Computer On Module
Industrial Barebone
Industrial Computer
Industrial Motherboards

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