



## 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 PCI-e Supported mSATA, 1 Mini PCI-e, 1 x PCI-e
- > 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/PIDF, SD card slot, Optional Infineon SLB9665 TPM 2.0
- > Onboard eMMC (Optional 32GB)
- > DC in +12V

#### + Spec

System	
<b>Processor</b>	Intel® Celeron® N3160 Processor (2M Cache, up to 2.24 GHz)
<b>System Memory</b>	2 x 204-pin DDR3L 1600 MHz SO-DIMM supports up to 8GB
<b>I/O Chip</b>	EC iTE IT8528E
<b>BIOS</b>	AMI 64Mbit SPI BIOS
<b>Watchdog Timer</b>	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
<b>H/W Status Monitor</b>	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
<b>Expansion</b>	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	
<b>USB</b>	4 x USB 2.0 4 x USB 3.0
<b>SATA</b>	2 x SATA Power 2 x SATA III
<b>COM Port</b>	5 x RS232 1 x RS232/422/485
<b>DIO</b>	1 x 8-bit GPIO
<b>Other</b>	1 x S/PDIF
Display	
<b>Chipset</b>	Intel® Atom™/ Celeron® SoC integrated Graphics
<b>Resolution</b>	VGA: 2048 x 1536 @ 60Hz HDMI: 3840 x 2160 @ 30Hz LVDS: 1920 x 1080 @ 60Hz
<b>LVDS</b>	2CH 18/24bits LVDS 1920 x 1080 Chrontel. CH7511B eDP to LVDS Converter
<b>Multiple Display</b>	HDMI + LVDS +VGA
Audio	
<b>Chipset</b>	Realtek ALC662 supports 2-CH
<b>Audio Interface</b>	Mic-in, Line-out
<b>Audio Amplifier</b>	2 x Stereo Class-D 3W Audio Amplifier
Ethernet	
<b>Chipset</b>	2 x Intel I211AT Gigabit Ethernet
<b>Ethernet Interface</b>	10/100/1000 Base-Tx GbE compatible
<b>LAN Port</b>	2 x RJ45
Mechanical & Environmental	
<b>Power Requirement</b>	+12V
<b>Power Type</b>	AT/ATX
<b>Operating Temp</b>	0 ~ 60°C (32 ~ 140°F)
<b>Storage Temp</b>	-40 ~ 75°C (-40 ~ 167°F)
<b>Operating Humidity</b>	0 ~ 90% Relative Humidity, Non-condensing
<b>Dimension (L x W)</b>	6.69" x 6.69" (170mm x 170mm)
<b>Weight</b>	0.88lbs (0.4Kgs)

#### + Ordering

EMX-BSWP-A1R  
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