

SHB250R

PICMG 1.3 Half-size CPU Card with LGA1151 socket 9th/8th Gen Intel® Core™ i7/i5/i3, Xeon® E, Pentium® or Celeron® Processor, Intel® C246/Q370/H310, SATA 3.0, USB 3.1 Gen1, LAN and DVI-I

Features

- LGA1151 socket 9th/8th gen Intel® Core™ i7/i5/i3, Xeon® E (C246), Pentium® or Celeron® processor
- Intel® C246/Q370/H310 chipset
- 2 DDR4-2666/2400 SO-DIMM for up to 64GB of memory
- Supports M.2 slot
- Supports Intel® AMT and vPro (C246/Q370)
- TPM 2.0 supported



Core System

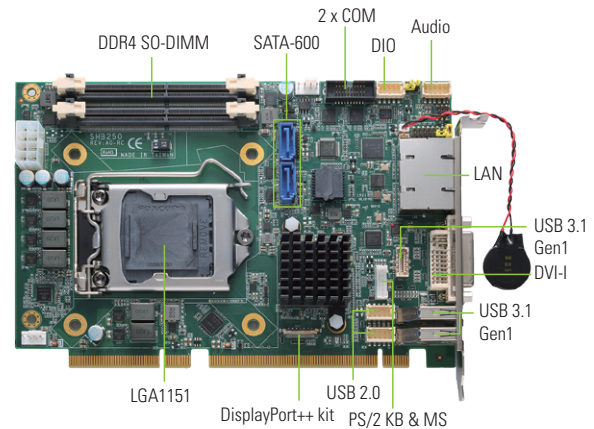
CPU	LGA1151 9 th /8 th gen Intel® Core™ i7/i5/i3, Xeon® E (C246), Pentium® or Celeron® processor (8th up to 95W, 9th up to 35W)
System Memory	C246: 2 x 260-pin 2666/2400 with ECC un-buffered SO-DIMM, up to 64GB (Intel® Core™ i7/i5 only support non-ECC) Q370/H310: 2 x 260-pin 2666/2400 un-buffered SO-DIMM, up to 64GB
Chipset	Intel® C246/Q370 (Intel® vPro supported) Intel® H310
BIOS	AMI UEFI BIOS
Storage	M.2 Key M 2242 (Q370/C246 support PCIe 3.0 x4 or SATA-3, H310 supports SATA-3)
Watchdog Timer	225 levels, 1 to 255 sec.
Expansion Interface	1 x PCIe x16 Gen3 1 x PCIe x4 or 4 x PCIe x1 Gen3
Battery	Lithium 3V/220 mAh
Power Requirements	Intel® Core™ i7-9700TE, 32GB DDR4-2666 x 2 +5V @ 0.2A, +12V @ 3.8A, +3.3V @ 0.8A
Dimensions	185 x 126 mm
Board Thickness	1.6 mm
Operating Temperature	0°C to 60°C (32°F to 140°F) depending on CPU speed and system thermal solution
Humidity	10% to 95% relative humidity, non-condensing

I/O

SATA	C246/Q370: 2 x SATA-600, support RAID 0/1 H310: 2 x SATA-600
Hardware Monitoring	Detect CPU/system temperature, voltage and fan speed
Ethernet	1 x 10/100/1000 Mbps Ethernet with Intel® i219-LM; supports Wake-on-LAN, RPL/PXE Boot ROM, AMT 1 x 10/100/1000 Mbps Ethernet with Intel® i211-AT; supports Wake-on-LAN, RPL/PXE Boot ROM
Audio	HD Codec audio as MIC-in/Line-in/Line-out/Speaker-out with Realtek ALC662
USB	4 x USB 3.1 Gen1 (2 ports in I/O, 2 ports in internal box header) 4 x USB 2.0
Serial	2 x RS-232/422/485, mode selection by SW
PS/2 Combo Port	1 x PS/2 keyboard & mouse internal connector
TPM	TPM 2.0
DIO	8 channel programmable
Others	1 x Smart CPU fan 1 x Smart system fan

Display

Graphic	Intel® HD Graphic
Memory Size	Share system memory
Display Interface	1 x DVI-I 1 x DisplayPort++ (internal header)



Packing List

Standard

CPU card

Ordering Information

Standard

SHB250RDGG-Q370 (P/N: E38C250100)	PICMG 1.3 half-size CPU card with LGA1151 socket, Intel® Q370, DVI-I, 2 GbE LAN, audio and PCIe x4
SHB250RDGG-H310 (P/N: E38C250102)	PICMG 1.3 half-size CPU card with LGA1151 socket, Intel® H310, DVI-I, 2GbE LAN, audio and PCIe x4
SHB250RDGG-C246 (P/N: E38C250101)	PICMG 1.3 half-size CPU card with LGA1151 socket, Intel® C246, DVI-I, 2GbE LAN, audio and PCIe x4

Optional

59380000300E	2 x COM port, with bracket, P=1.27 X 2.54, L=300 mm
59401502800E	1 x USB 3.1 Gen2 cable with bracket 20P, L=400 mm
59382631000E	2 x USB 2.0 cable with bracket 180 mm
594C2302500E	PS/2 keyboard & mouse cable
593826A0000E	SATA signal cable/red, L=500 mm
594826A0010E	DVI-I to DVI-D+VGA Y cable
83987091000E	DisplayPort++ kit
594C2503000E	Audio cable with bracket, L=450 mm

Processor List

CPU	Speed	Cache	Cores	TDP
Intel® Core™ i7-9700TE Processor	1.8 GHz	12 MB	8	35 W
Intel® Core™ i7-8700K Processor	3.7 GHz	12 MB	6	95 W
Intel® Core™ i7-8700 Processor	3.2 GHz	12 MB	6	65 W
Intel® Core™ i7-8700T Processor	2.4 GHz	12 MB	6	65 W
Intel® Core™ i5-9500TE Processor	2.2 GHz	9 MB	6	35 W
Intel® Core™ i5-8400 Processor	2.8 GHz	9 MB	6	65 W
Intel® Core™ i5-8500T Processor	2.1 GHz	9 MB	6	35 W
Intel® Core™ i3-9100TE Processor	2.2 GHz	6 MB	4	35 W
Intel® Core™ i3-8100 Processor	3.6 GHz	6 MB	4	65 W
Intel® Core™ i3-8100T Processor	3.1 GHz	6 MB	4	35 W
Intel® Xeon® E-2176G Processor*	3.7 GHz	12 MB	6	80 W
Intel® Xeon® E-2278GE Processor*	3.3 GHz	16 MB	8	80 W
Intel® Pentium® Gold G5400T Processor	3.1 GHz	4 MB	2	35 W
Intel® Celeron® G4900T Processor	2.9 GHz	2 MB	2	35 W

* C246 use only

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