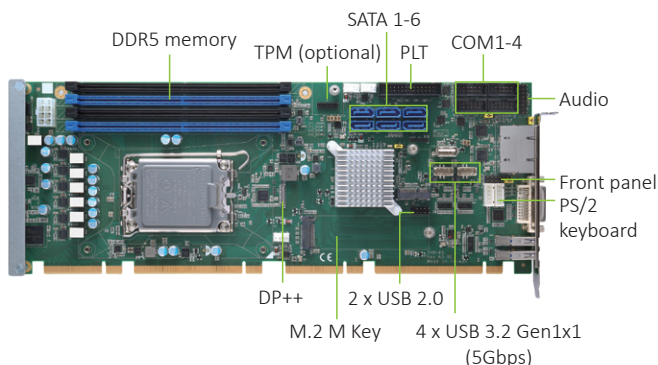


# SHB160 NEW

PICMG 1.3 Full-Size CPU Card with LGA1700 13th/12th Gen Intel® Core™ i7/i5/i3, Pentium® or Celeron® Processor, Intel® R680E/H610E, SATA 3.0, M.2 Key E/M, USB 3.2 Gen1/Gen2, Dual 2.5GbE LAN, and DVI-I



## Features

- LGA1700 13th/12th Gen Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor (up to 125W)
- Intel® R680E/H610E chipset
- DDR5 4400MHz U-DIMM up to 128GB ECC (R680E only)/ non-ECC memory
- Supports Intel® AMT and vPro (R680E)
- TPM 2.0 supported (optional)
- Supports dual 2.5GbE
- Supports PLT port
- Supports M.2 Key M/ Key E (H610E only support Key E)
- Supports PCIe 4.0 through the gold fingers



## Specifications

### Core System

CPU	LGA1700 13th/12th* Gen Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor (up to 125W)
System Memory	4 x DDR5-4400MHz* ECC or non-ECC U-DIMM, up to 128GB (R680E) 2 x DDR5-4400MHz non-ECC U-DIMM, up to 64 GB (H610E) *1DPC 2R up to 4400MHz *2DPC 1R up to 4000MHz *2DPC 2R up to 3600MHz
Chipset	Intel® R680E/H610E
BIOS	AMI UEFI BIOS
SSD	M.2 Key M 2280, PCIe 4.0 x4 signal (R680E only)
Watchdog Timer	225 levels, 1 to 255 sec.
Expansion Interface	1 x PCIe x16 Gen4 1 x PCIe x4 Gen4 or 4 x PCIe x1 Gen4 4 x 32-bit PCI bus masters 1 x M.2 Key E with 2230
Battery	Lithium 3V/220 mAh
Power Consumption	Intel® Core™ i5-12400 with 32GB 4 x DDR5-4400, +12V_CPU @5.2A , +5V @4.64A, +3.3V @1.76A

### Display

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

### I/O

SATA	6 x SATA-600, support RAID 0/1/5/10 (R680E) 4 x SATA-600 (H610E)
Hardware Monitoring	Detect CPU/system temperature, voltage and fan speed
Ethernet	1 x 10/100/1000/2500 Mbps with Intel® I225-LM; supports Wake-on-LAN, PXE Boot ROM, TSN, and Intel® AMT with Intel vPro® 1 x 10/100/1000/2500 Mbps with Intel® I225-V; supports Wake-on-LAN, PXE Boot ROM
Audio	HD Codec audio as MIC-in/Line-in/Line-out/Speaker-out with audio kit AX93242 (optional)
USB	2 x USB 3.2 Gen2x1 (Rear I/O) 4 x USB 3.2 Gen1x1 (Internal box header) (H610E only with 2 x USB 3.2 Gen1x1) 3 x USB 2.0 (2 x Internal pin header, 1 x port with 180D type A) (H610E without 180D type A) 4 x USB 2.0 (4 x ports on SHB connector-C via golden fingers)
Serial	2 x RS-232 2 x RS-232/422/485, mode selection by SW

PS/2 Combo Port	1 x PS/2 keyboard internal connector 1 x PS/2 mouse internal connector
TPM	TPM 2.0 module (optional)
Others	1 x LPT 1 x Smart CPU fan 2 x Smart system fan

#### Mechanical and Environmental

Dimensions	338 x 126 mm
Board Thickness	1.6 mm
Operating Temperature	0°C to +60°C (+32°F to +140°F)
Humidity	10% to 95% relative humidity, non-condensing

## Packing List

#### Standard

User's manual

## Ordering Information

#### Standard

SHB160DGG-R680E (P/N: TBC)	PICMG 1.3 full-size CPU card with 13th/12th LGA1700 socket, Intel® R680E, ECC, DVI-I, 2.5GbE LAN, 6 x SATA, and PCIe x4 BIOS
SHB160DGG-H610E (P/N: TBC)	PICMG 1.3 full-size CPU card with 13th/12th LGA1700 socket, Intel® H610E, DVI-I, 2.5GbE LAN, 4 x SATA, and PCIe x4 BIOS

#### Optional

5938A808010E	2 x USB 2.0 cable with bracket, P=2.54 mm, L=190 mm
5948C122800E	2 x USB 3.1 (Gen1) cable with bracket, L=400 mm
59401502800E	2 x USB 3.1 (Gen2) cable with bracket, L=400 mm
59380000290E	PS/2 keyboard & mouse cable with bracket
593826A0000E	SATA signal cable/red, L=500mm
E393242100	AX93242-RC HD audio converter kit
59380402010E	1 x COM port cable with bracket, P=2.54 mm, L=300 mm
59380703000E	2 x COM port cable with bracket, P=2.54 mm, L=300 mm
594826A0010E	DVI-I to DVI-D+VGA Y cable
83935151000E	TPM 2.0 module (AX93515)
83987091000E	DisplayPort kit
711000001500	2U Special cooler kit for SHB160, compatible, 125W
711000001400	1U Special cooler kit for SHB160, compatible, 65W

\*\*SHB160 series requires a specially designed cooler, please order specific coolers "2U: 711000001500 / CPU 125W TDP" or "1U: 711000001400 / CPU 65W TDP".