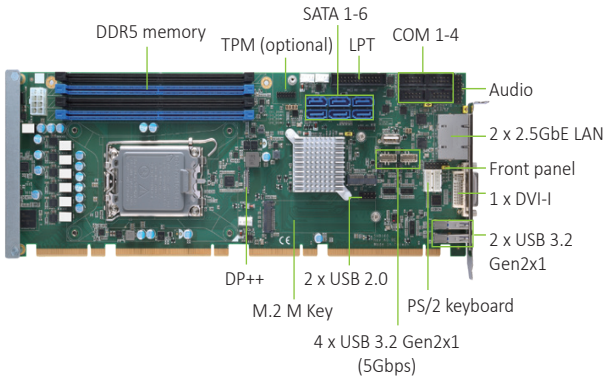


SHB160 NEW

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 LAN
- Supports LPT port
- Supports M.2 Key M/ Key E (H610E only supports 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

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|-------------------|------------------------------------------------|
| 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® I226-LM; supports Wake-on-LAN, PXE Boot ROM, TSN, and Intel® AMT with Intel vPro® 1 x 10/100/1000/2500 Mbps with Intel® I226-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 Gen2x1 (Internal box header) (H610E only with 2 x USB 3.2 Gen2x1) 3 x USB 2.0 (2 Internal pin headers, 1 port with 180D type A) (H610E without 180D type A) 4 x USB 2.0 (4 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

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

Packing List

Standard

User's manual

Ordering Information

Standard

| | |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| SHB160DGG-R680E (P/N: E38C160100) | 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

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|--------------|------------------------------------------------------|
| 5938A808010E | 2 x USB 2.0 cable with bracket, P=2.54 mm, L=190 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".

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

US

sales@assured-systems.com

Sales: +1 347 719 4508
Support: +1 347 719 4508

1309 Coffeen Ave
Ste 1200
Sheridan
WY 82801
USA

EMEA

sales@assured-systems.com

Sales: +44 (0)1785 879 050
Support: +44 (0)1785 879 050

Unit A5 Douglas Park
Stone Business Park
Stone
ST15 0YJ
United Kingdom

VAT Number: 120 9546 28
Business Registration Number: 07699660