

CB5-108

AMD RYZEN EMBEDDED 8000 SERIES MINI-ITX MOTHERBOARD



AMD Ryzen
Embedded 8000 processors



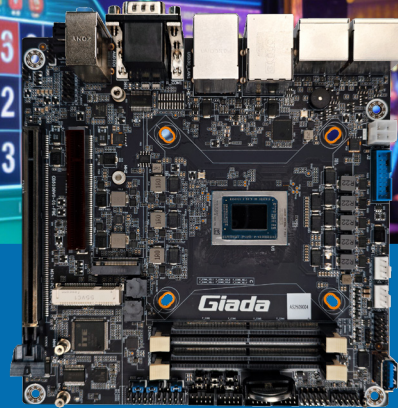
XDNA Architecture NPU
16 TOPs



4 x DP1.4
(Max.7680 x 4320 @60 Hz)



Mini-ITX form-factor
170 mm x 170 mm (6.69" x 6.69")



CPU

CPU	AMD Ryzen Embedded 8000 SoC, TDP≤45W 8845HS, 8645HS, 8840U, 8640U
Chipset	SoC
Total Cores	8 Cores /6 Cores
TDP	45 W /28W
NPU	XDNA Architecture, Up to 16 TOPs
Frameworks Supported	Video CODEC engine (VCN) with AV1 encode/decode Enhanced Audio Engine (ACP) WoV, LPAP

System

GPU	AMD Radeon RDNA3 Graphics, Up to 6 x WGP (12 CUs), Up to 2.7GHz
Graphic Engine	VCN4.0; AOMedia (AV1) decoder + encoder VP9, H.264, H.265 decode with 8bit and 10bitH.264, H.265 8bit, H.264 B-frame, H.265
System Memory	Up to 64 GB, 2x SO-DIMM DDR5-5600 MHZ ECC/Non- ECC(Vertical)
Storage	1 x M-Key M.2 (2242/2280) PCIe4.0 x4 for SSD
TPM	Optional: TPM2.0
Watchdog Timer	Yes
Auto Power On	Yes
RTC	Set up independently every day, a week as a cycle
Power Requirement	1 x ATX, 4pin 12V
Dimensions	170 mm x 170 mm (6.69" x 6.69")
Operating system	Windows 11 (64bit) Linux Ubuntu (64bit)
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F) @0.7m/s Air Flow
Storage Temperature	-20°C ~ 75°C (-4°F ~ 167°F)
Humidity	5% ~ 95% @ 45°C (non-condensing)

Network

Network Controller	2 x RTL8111H Gigabit Ethernet
Wi-Fi/BT	NA
Mobile Network	NA

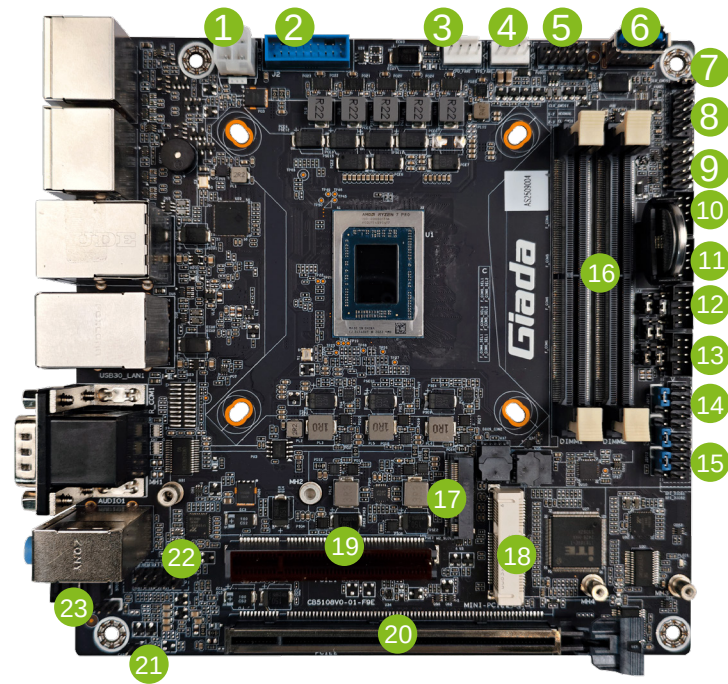
Rear I/O

USB	2 x USB Type-C3.2 Gen2, 3 x USB2.0
Display Interface	4 x DP1.4 (Max.7680 x 4320 @60 Hz)
Audio	1 x Line in, 1 x Line out, 1 x MIC in, 1 x SPDIF
Ethernet Interface	2 x 1 GbE RJ45
Serial Port	1 x RS232, 1 x RS232/422/485

Internal I/O

USB	1 x USB3.2 Type-A port, 2 x USB2.0 by 2 x 5pin USB header
Mini-PCIe	1 x Full-size Mini-PCIe (PCIe x1 & USB 2.0)
GPIO	8-bit GPIO (4GPI, 4GPO)
Power	1 x ATX (2 x 2pin 12V only)
PCIe Slot	1 x PCIe4.0 x16 Slot (8 lanes) 1 x PCIe4.0 x8 Slot (4 lanes)
I2C	1, (2pin)
F_Audio	1, (2 x 5pin F_AUDIO); 1, (1 x 4pin SPDIF)
F_PANEL	1, (2 x 5pin)
BIOS Switch	1, (1 x 3pin)
BIOS write protect	2, BIOS#1, BIOS#2 (1 x 3pin)
Clear_CMOS	1, (1 x 3pin)
Case Open	1, (2pin)
Serial port	2 x RS232/CCTalk x2, 1 x RS232/TTL, 1 x RS232/422/485

Dimensions and Drawing



No.	Dimensions	No.	Dimensions
1	ATX PWR_IN	20	PCIE4.0 x16(8lans)
2	FUSB3.0 GEN2	21	CASE OPEN
3	CPU_FAN	22	F AUDIO
4	SYS_FAN	23	F SPDIF
5	F USB2.0		
6	USB3.2 GEN2		
7	CLR_CMOS		
8	F PANEL		
9	GPIO		
10	F_COM4		
11	F_COM5		
12	F_COM6		
13	F_COM1		
14	SPI_BIOS1		
15	SPI_BIOS2		
16	2*SO-DIMM		
17	M.2 2242/2280 PCIE		
18	MINI PCIE		
19	PCIE4.0 x8(4lans)		

Order information

CB5-108	CPU: AMD Ryzen Embedded 8000 SoC, 8845HS	
	RAM: NA	Storage: NA