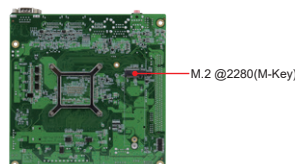


Features

- AMD Ryzen™ Embedded V2000 Series on board
- 2x DDR4 SO-DIMM, Max. 64GB, ECC compatible
- Dual Intel® Gigabit LAN
- 4x DisplayPort 1.4
- 3x USB3.1, 2x USB2.0, 4x COM, 1x SATA III
- 1x PCI-E(x16), 3x M.2 (B-Key, E-Key and M-Key)
- Watchdog timer, Digital I/O, TPM (2.0)



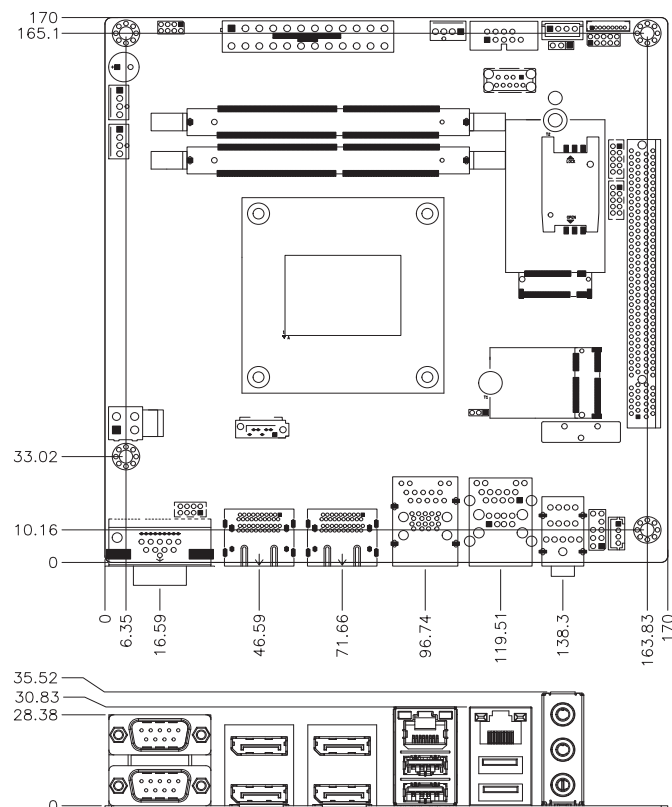
Specifications

CPU Socket	BGA1140
CPU	AMD V2000 series APU on board
PCH	N/A
Memory Types	2x DDR4-3200 SO-DIMM socket, Max 64GB, ECC compatible
BIOS	AMI
Watchdog Timer	256 levels
H/W Monitor	Yes
Storage Device Interface	2x M.2 (B-Key/ M-key)
Expansion Slots	1x PCI-E (x16)
Mini Type Slots	1x M.2 (E-Key, type:2230) 1x M.2 (B-Key, type:3052) 1x M.2 (M-key, type:2280, NVMe)
Graphics Controller	AMD Radeon Graphics
Video Output	4x DisplayPort 1.4
Ethernet	2x Intel® I211AT or I210AT Gigabit LAN
I/O Chip	F81966D-I
Serial Port	4x COM Port
USB 2.0	2x USB2.0
USB 3.X	3x USB3.1 (10Gbps)
Serial ATA	1x SATA3.0
Audio	built-in HD audio + Realtek ALC888S codec
TPM	2.0
Others	Digital I/O, SIM
Dimensions (L x W)	170mm x 170mm (6.7" x 6.7")
Power Consumption	TBD
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)
Storage Temperature	-20°C ~ 80°C (-4°F ~ 176°F)
Relative Humidity	95% (non-condensing @60°C)

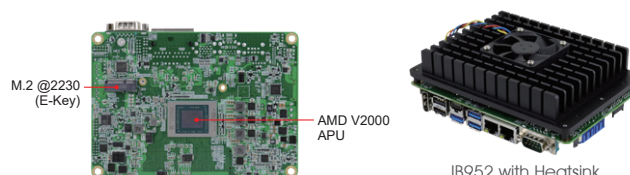
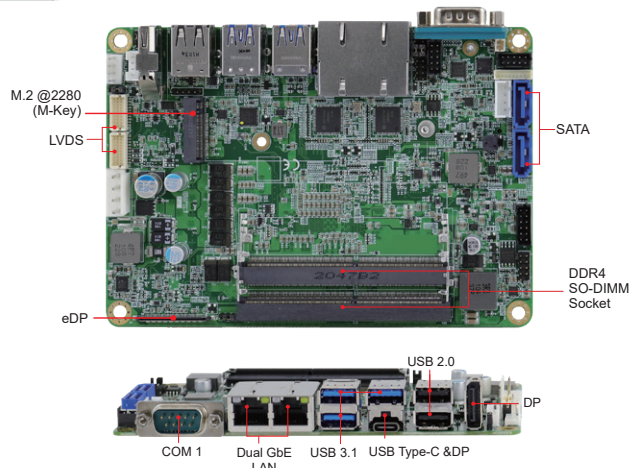
Ordering Information

MI989F-2718	AMD Ryzen™ V2718 APU (1.7GHz~4.15GHz) on board Mini-ITX motherboard, with 4x DisplayPort, dual Gigabit LAN, TPM (2.0), EuP/ErP, CPU cooler on board
MI989F-2748	AMD Ryzen™ V2748 APU (2.9GHz~4.15GHz) on board Mini-ITX motherboard, with 4x DisplayPort, dual Gigabit LAN, TPM(2.0), EuP/ErP, CPU cooler on board

Dimensions and Drawing



NEW



Features

- AMD Ryzen™ Embedded V2000 on board
- 2x DDR4 SO-DIMM, Max. 64GB
- 2x Gigabit LAN
- Supports 2x DisplayPort (DP connector and Type-C), 1x eDP, 1x 24-bit LVDS dual-channel
- 2x USB2.0, 3x USB3.1, 2x SATA III, 2x COM
- 2x M.2 sockets (M-key/ E-key)

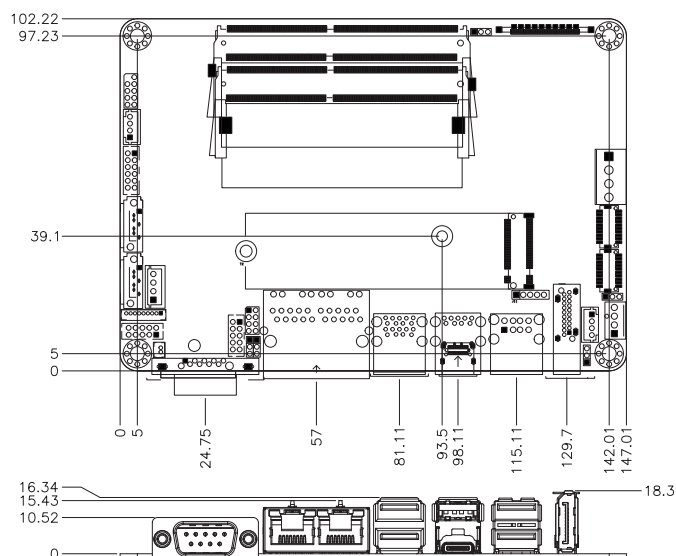
Specifications

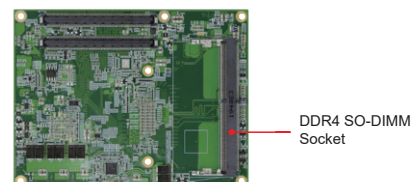
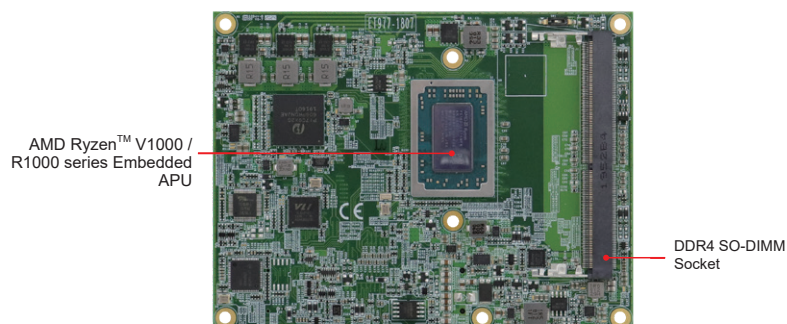
CPU	AMD Ryzen™ Embedded V2000 on board
PCH	N/A
Memory Type	DDR4-3200 SO-DIMM, Max. 64GB, supports ECC
BIOS	AMI
Watchdog Timer	256 levels
H/W Monitor	Yes
Storage Device Interface	1x M.2 (M-Key)
Mini Type Slots	1x M.2 (M-key, type:2280, NVMe) 1x M.2 (E-key, type:2230)
Graphics Controller	AMD Raden™ Vega integrated
Video Output	2x DisplayPort (DP connector & Type-C), 1x 24-bit Dual-channel LVDS, 1x eDP
Ethernet	2x Intel® I211AT or I210AT Gigabit LAN
I/O Chipset	Fintek F81964
Serial Port	1x RS232/422/485 (Jumper-less selection) 1x RS232
USB 2.0	2x USB2.0 on board
USB 3.X	3x USB3.1 on board
Serial ATA	2x SATA III
Audio	Built-in audio w/ Realtek ALC888S
TPM	TPM (2.0)
Others	Digital I/O(4-in/ 4-out), EuP/ErP, +12V~+24V DC-in (+/-10%)
Dimensions (L x W)	102mm x 147mm (4" x 5.8")
Power Consumption	AMD Ryzen™ Embedded V2748 2.9GHz w/ 2x 16GB DDR4-3200 +12V: 7.61A AMD Ryzen™ Embedded V2718 1.70GHz w/ 2x 16GB DDR4-3200 +12V: 3.92A
Operating Temperature	0°C~60°C (32°F~140°F)
Storage Temperature	-20°C~80°C (-4°F~176°F)
Relative Humidity	95% (non-condensing@60°C)

Ordering Information

IB952F-2748	AMD Ryzen™ V2748 Octa APU (2.9GHz~4.15GHz) on board 3.5" SBC w/ dual LAN, 2x DisplayPort (DP+ Type-C), eDP & LVDS (24-bit dual-channel), EuP/ErP, 12V~24V DC-in
IB952F-2718	AMD Ryzen™ V2718 Octa APU (1.7GHz~4.15GHz) on board 3.5" SBC w/ dual LAN, 2x DisplayPort (DP+ Type-C), eDP & LVDS (24-bit dual-channel), EuP/ErP, 12V~24V DC-in
HSIB952-A	Heatsink with Fan for IB952F-2718
HSIB952-B	Heatsink with Fan for IB952F-2748
HSIB952-1	Heat spreader for IB952
IB92	Cable kit w/ COM, Power, SATA + Power

Dimensions and Drawing





Features

- Onboard AMD Ryzen™ Embedded V1000/ R1000 Series
- 2x DDR4-2400 SO-DIMM sockets, Max. 32GB, ECC compatible
- Supports up to 4x independent displays (HDMI/DVI/ DisplayPort, LVDS, and eDP) via the carrier board
- 4x USB 3.1, 8x USB 2.0, 2x SATA III
- Supports TPM (2.0)

Specifications

CPU	Onboard AMD Ryzen™ Embedded V1000 / R1000 Series
PCH	N/A
Memory Type	2x DDR4 SO-DIMM, Max. 32GB
BIOS	AMI
Watchdog Timer	256 levels
H/W Monitor	Yes
Storage Device Interface	N/A
Expansion Slots	V1000 Series: 1x PEG(8x)(Gen3), 4x PCI-E(1x)(Gen3), 2x PCI-E(1x) R1000 Series: 1x PEG(4x)(Gen3), 3x PCI-E(1x)(Gen3), 3x PCI-E(1x)
Graphics Controller	AMD Radeon™ Vega GPU integrated
Video Output	V1000 Series: 3x DDI R1000 Series: 2x DDI 1x LVDS or 1x eDP (By option)
Ethernet	Intel® I211AT or I210AT Gigabit LAN
I/O Chip	Fintek F81804U-I
Serial Port	2x UART (Tx/Rx only)
USB 2.0	8x USB2.0 Port [USB 2.0 Hub x 3 ports, (VL822-Q7)]
USB 3.X	1x USB3.1 port (10G), 3x USB3.1 ports (VL822-Q7)
Serial ATA	2x SATA III via carrier board
Audio	AMD Ryzen™ built-in HD audio controller
TPM	TPM (2.0)
Others	Digital I/O (4in/4-out)
Dimensions (L X W)	125mm x 95mm (4.92" x 3.74")
Power Consumption	AMD V1605B w/ 2x 8GB DDR4-2133, +12V: 3.28A AMD R1606G w/ 2x 8GB DDR4-2133, +12V: 3.43A
Operating Temperature	0°C~60°C (32°F~140°F)
Storage Temperature	-20°C~80°C (-4°F~176°F)
Relative Humidity	90% (non-condensing @60°C)

Ordering Information

ET977-1605LV	COM Express (Type-6) CPU Module with AMD Ryzen™ V1605B QC APU (2.0GHz~3.6GHz), DDR4 dual-channel memory, LVDS support
ET977-1606LV	COM Express (Type-6) CPU Module with AMD Ryzen™ R1606G DC APU (2.6GHz~3.5GHz), DDR4 dual-channel memory, LVDS support
ET977-1505LV	COM Express (Type-6) CPU Module with AMD Ryzen™ R1505G DC APU (2.4GHz~3.5GHz), DDR4 dual-channel memory, LVDS support
HSET977-A	Heatsink with Fan for ET977
HSET977-1	Heat Spreader for ET977

Dimensions and Drawing

