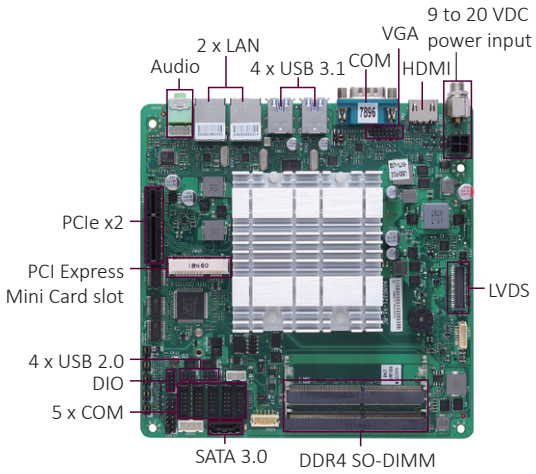
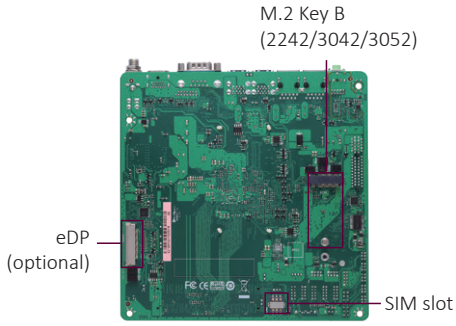
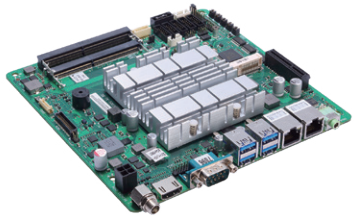
MANO321

Thin Mini-ITX SBC with Intel® Celeron® Processor J6412, HDMI, VGA, LVDS, USB 3.1, Mini PCI Express, M.2 Key B, and HD Audio





▲ Rear view



▲ Side view



Features

- Intel® Celeron® processor J6412
- 2 DDR4 SO-DIMM for up to 32GB of memory
- 1 PCIe x2 for PCIe x4 expansion slot and 1 Mini PCI Express Card slot
- 4 USB 3.1 and 4 USB 2.0
- 1 SATA-600 and 1 M.2 Key B
- Supports 6 COM
- 9 to 20 VDC power in
- HDMI, VGA, LVDS with triple view supported

Specifications

Core System

CPU	Intel® Celeron® processor J6412
System Memory	2 x 260-pin DDR4-3200/2666/2400 SO-DIMM, up to 32GB
Chipset	SoC integrated
BIOS	AMI
Storage	1 x SATA-600
Watchdog Timer	255 levels, 1 to 255 sec.

Specifications

Expansion Interface	1 x PCIe x4 slot with PCIe x2 signal 1 x M.2 Key B 1 x PCI Express Mini Card slot 1 x SIM Card slot * M.2 Key B function options: USB 3.1 for 3042/3052 5G modules or SATA interface for 2242 SSDs.
Battery Lithium	Lithium 3V/220 mAH
Power Input	1 x 9 to 20 VDC Jack 1 x 9 to 20V 4-pin ATX connector
Power Consumption (Max.)	32.7W
Display	
Chipset	Intel® Integrated UHD Graphics
Display Interface	1 x HDMI 1.4b 1 x VGA 1 x eDP (LVDS BOM optional)
I/O	
External	1 x 9 to 20 VDC power jack 1 x HDMI 2 x 10/100/1000 Mbps Ethernet with Realtek RTL8111H, supporting Wake-on-LAN and PXE Boot ROM 1 x audio jack (Line-out) with Realtek ALC897 audio codec 4 x USB 3.1 (rear I/O) 1 x RS-232/422/485 (rear I/O)
Internal	4 x USB 2.0 1 x RS-232/422/485 and 4 x RS-232 1 x audio header (Mic-in/Line-in/Speaker-out) 1 x SATA-600 1 x eDP 1 x 4-pin ATX power connector 1 x VGA header
Key Benefits	
TPM	Infenon SLB9760 T2.0 with TPM 2.0 compliant
SMBus	1 x 1 x 5 SMBus pin header
Digital I/O	8-channel programmable input/output
Mechanical and Environmental	
Dimensions	170 x 170 mm
Board Thickness	1.6 mm
Operating Temperature	0°C to +60°C (+32°F to +140°F)
Relative Humidity	10% to 95% relative humidity, non-condensing

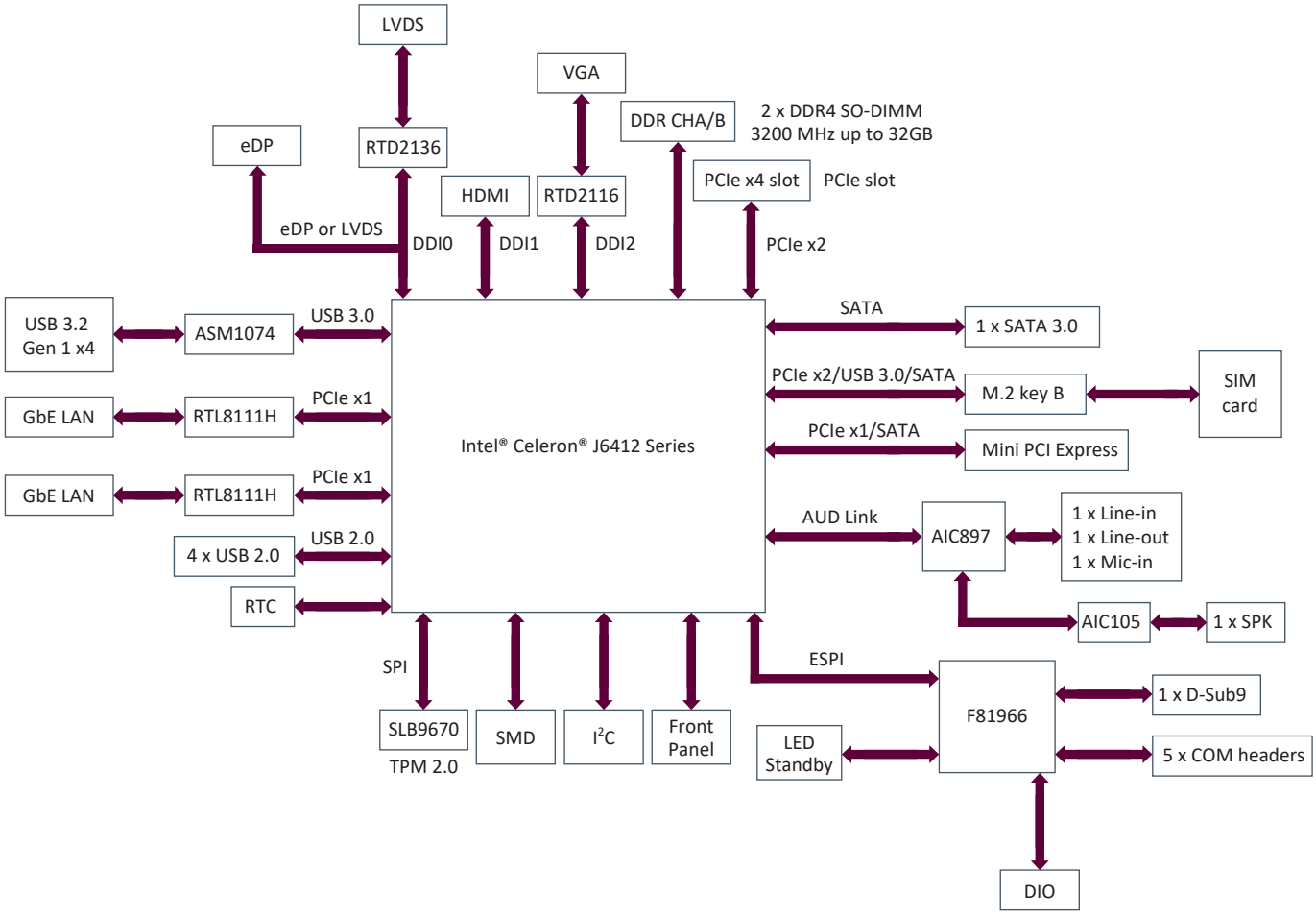
Ordering Information

MANO321-J-B-U (P/N: E38M321100)	Thin Mini-ITX SBC with Intel® Celeron® processor J6412, HDMI, VGA, LVDS, USB 3.1, Mini PCI Express, M.2 Key B for USB 3.1, and HD audio; bulk packing
MANO321-J-S-U (P/N: E38M321101)	Thin Mini-ITX SBC with Intel® Celeron® processor J6412, HDMI, VGA, LVDS, USB 3.1, Mini PCI Express, M.2 Key B for USB 3.1, and HD audio; single box packing
MANO321-J-B-S (P/N: E38M321102)	Thin Mini-ITX SBC with Intel® Celeron® processor J6412, HDMI, VGA, LVDS, USB 3.1, Mini PCI Express, M.2 Key B for SATA, and HD audio; bulk packing
MANO321-J-S-S (P/N: E38M321103)	Thin Mini-ITX SBC with Intel® Celeron® processor J6412, HDMI, VGA, LVDS, USB 3.1, Mini PCI Express, M.2 Key B for SATA, and HD audio; single box packing
Optional	
590000039200	COM cable, D-Sub 9-pin to DuPont 10-pin (2 x 5, 2.0 mm pitch), L=300 mm
590000054400	Power cable, 4-pin housing to SATA 15-pin, 180°, L=300 mm
590000085100	SATA 7-pin to SATA 7-pin cable, 350 mm, female 180° to female 180°, with metal lock, internal use
590000064100	VGA cable, D-Sub 15-pin female to HS (2004-H, 2 x 8) 16-pin, 2.0 mm pitch, 250 mm
591000005900	USB 2.0 cable, dual Type-A female to HS 8-pin (2 x 4, DP2032H, 2.0 mm pitch), 250 mm
5095AD24000E	Power adapter, 19V, 120W, with screw lock

Packing List

I/O bracket, heatsink

Block Diagram



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