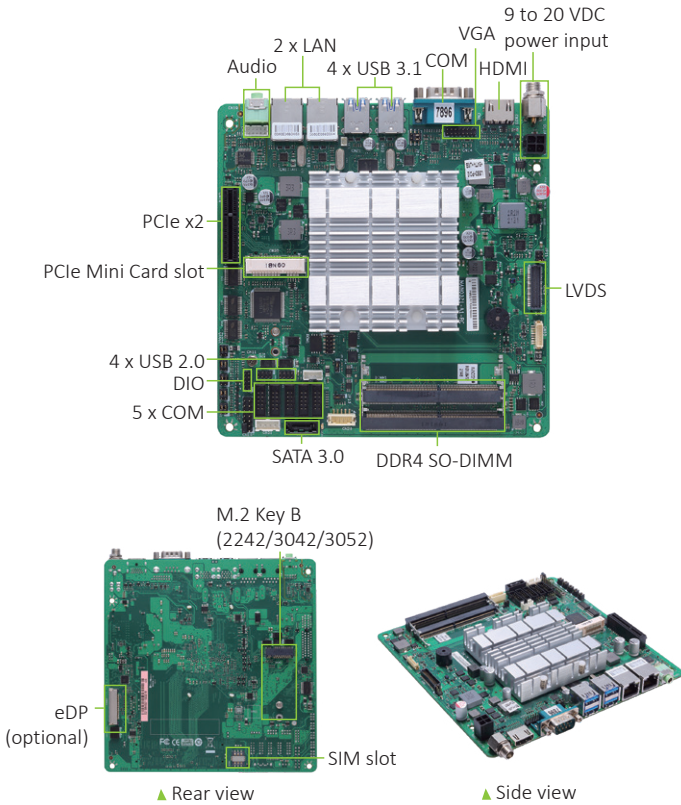


# MAN0321

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



## Features

- Intel® Celeron® processor J6412
- 2 DDR4 SO-DIMM for up to 32GB of memory
- 1 PCIe x2 for PCIe x4 expansion slot
- 1 PCIe Mini Card slot and PCIe x1
- 4 USB 3.1 and 4 USB 2.0
- 1 SATA-600 and 1 M.2 Key B
- Supports 6 COM
- Low profile
- 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
Watchdog Timer	255 levels, 1 to 255 sec.
Expansion Interface	1 x PCIe x4 slot with PCIe x2 signal 1 x M.2 Key B 1 x PCIe 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 3V/220 mAH
Power Input	1 x 9 to 20V DC Jack 1 x 9 to 20V 4-pin ATX connector

### Display

Chipset	Intel® Integrated UHD Graphics
Memory Size	Shared memory
Display Interface	1 x HDMI 1.4b 1 x VGA 1 x LVDS (eDP BOM optional)

## I/O

SATA	1 x SATA-600
Ethernet	2 x 10/100/1000 Mbps Ethernet with Realtek RTL8111H, supporting Wake-on-LAN and PXE Boot ROM
Audio	HD Codec audio as MIC-in/Line-in/Line-out with Realtek ALC897/888S
USB	4 x USB 2.0 (internal) 4 x USB 3.1 (rear I/O)
Serial	1 x RS-232/422/485 and 4 x RS-232 (internal) 1 x RS-232/422/485 (rear I/O)
TPM	Infenon SLB9760 T2.0 with TPM 2.0 compliant
SMBus	1 x 1*5 SMBus pin header
Digital I/O	8-channel in/out programmable

## 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)
Humidity	10% to 95% relative humidity, non-condensing

## Packing List

I/O bracket, heatsink

## Ordering Information

### Standard

MANO321-J-B-U (P/N: E38M321100)	Thin Mini-ITX SBC with Intel® Celeron® processor J6412, HDMI, VGA, LVDS, USB 3.1, Mini PCIe, 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 PCIe, 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 PCIe, 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 PCIe, M.2 Key B for SATA, and HD audio; single box packing

### Optional

594M5402100E	COM cable DB9M/DuPont 2 x 5 P2.0 L=20 cm
594E3420610E	Cable 4P housing to SATA/180D L=300 mm
59386831010E	SATA2 signal cable 180D, L=350 mm (RC)
590000015500	VGA cable 250 mm DSUB 15P (F) /HS(2004-H-2x8P)16P Pitch=2.0
591000005900	USB 2.0 Type-A Fx2/HS(DP 2032H- 2 x 4P) 8P 250mm
5095AD24000E	Adapter 19V 120W w/screw