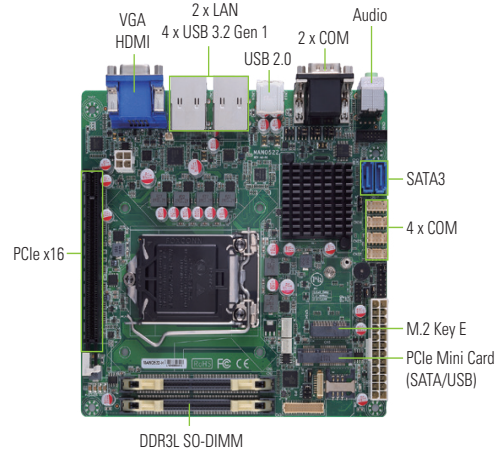


# MANO522

Mini-ITX SBC with LGA1151 Socket 9th/8th Gen Intel® Core™ i7/i5/i3 Processor, HDMI, VGA, LVDS, USB 3.2 Gen 1, mSATA, M.2 and Dual GbE LAN

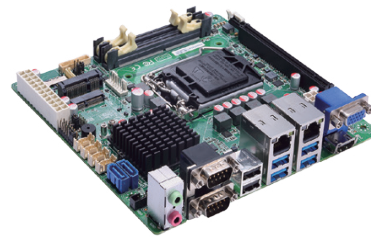
## Features

- LGA1151 socket 9th/8th gen Intel® Core™ i7/i5/i3 processor
- Intel® H310 chipset
- 2 DDR4 SO-DIMM for up to 64GB of memory
- 4 USB 3.2 Gen 1 and 2 USB 2.0
- 6 COM ports
- 2 SATA-600 and 1 mSATA
- PCIe x16 and M.2 Key E



### Core System

CPU	LGA1151 socket 9th/8th gen Intel® Core™ i7/i5/i3 processor (up to 65W)
System Memory	2 x 260-pin DDR4-2666/2400 SO-DIMM, up to 64GB
Chipset	Intel® H310
BIOS	AMI
SSD	1 x mSATA
Watchdog Timer	255 levels, 1 to 255 sec.
Expansion Interface	1 x PCIe x16 1 x M.2 Key E 22 x 30
Battery Lithium	Lithium 3V/220mAh
Power Input	24+4 pin ATX connector AT Mode Auto Power Function supported
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



▲ Side view

### Display

Chipset	Intel® integrated Gfx graphic engine
Memory Size	Share system memory
Display Interface	1 x VGA 1 x HDMI 1 x LVDS; 18/24-bit single/dual channel

### Packing List

<b>Standard</b>	
I/O bracket	

### Ordering Information

<b>Standard</b>	
MANO522V/GGA-H310 (P/N: E38M522101)	Mini-ITX SBC with LGA1151 socket 9th/8th gen Intel® Core™ processor, Intel® H310, HDMI, VGA, LVDS, 2 GbE LAN, HD audio and gift box
<b>Optional</b>	
594M5002100E	2 x COM port, P=2.0 mm, L=300 mm
59384500100E	Audio cable with bracket, P=2.0 mm, L=420 mm
594E8422800E	2 x USB 2.0 wafer cable with bracket, P=2.0, L=180 mm

### I/O

SATA	2 x SATA-600
Hardware Monitoring	Detect CPU/system temperature, voltage and fan speed
Ethernet	1 x 10/100/1000 Mbps Ethernet with Intel® i211-AT; supports Wake-on-LAN, PXE Boot ROM 1 x 10/100/1000 Mbps Ethernet with Intel® i219-LM; supports Wake-on-LAN, PXE Boot ROM
Audio	HD Codec audio as MIC-in/Line-in/Line-out with Realtek ALC662
USB	4 x USB 3.2 Gen 1 2 x USB 2.0
Serial	1 x RS-232/422/485 (with +5V/+12V power) 5 x RS-232
PS/2 Combo Port	N/A
TPM	Firmware TPM 2.0 (fTPM 2.0)
SMBus	N/A
Digital I/O	8-channel in/out programmable

## 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.

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