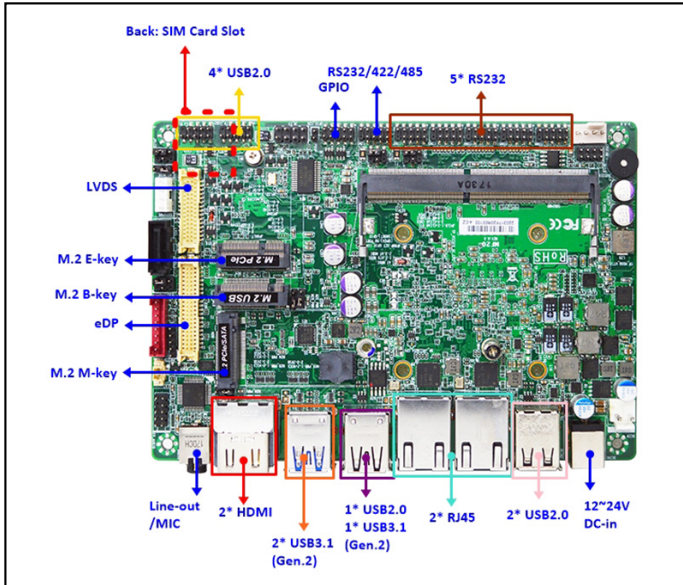


## 3.5" Motherboard with Intel SoC CPU, Triple Display, Dual 2.5GbE LAN, and Wide-Range 12–24V DC-in



### Features

- Powered by Intel® J6412 SoC Processor (formerly Elkhart Lake)
- Dual 2.5GbE Networking: Fast and reliable connectivity
- Versatile Display Options: 2 x HDMI 2.0b, 1 x eDP/LVDS for flexible configurations
- Comprehensive I/O: 6 x COM, 3 x USB 3.2 Gen 2, 7 x USB 2.0
- Flexible Expansion: 1 x M.2 E-key 2230, 1 x M.2 B-key 3042 with SIM slot
- Storage Options: 1 x M.2 M-key 2242/2280, 1 x SATA III (6Gb/s), optional eMMC
- Wide Power Input: DC-in 12–24V for adaptable power needs

### Packing List

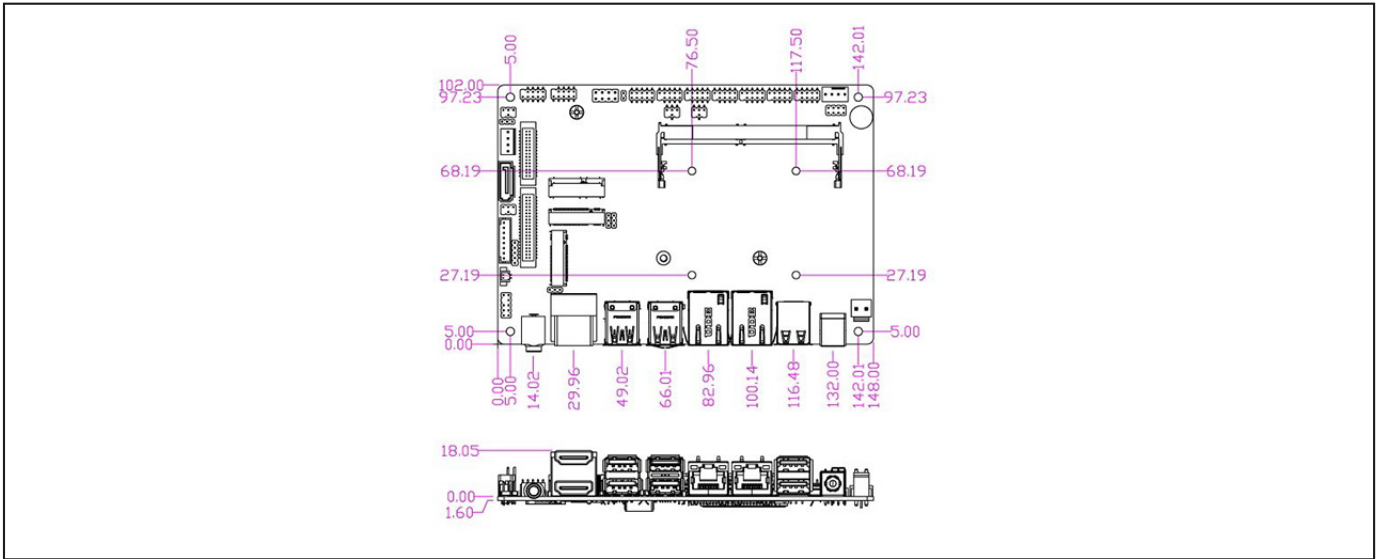
PART NUMBER	DESCRIPTION	QTY
MF20 Series	MF20 Series M/B	1
G01-COM-H2M22-1F	COM Cable	2
G01-PW4PS-2S-322F	SATA PWR Cable	1
G01-SATA3-BL-1F	SATA Cable	1
HCS3XXMHT03S-1F	Flat Type Heatsink	1

### Specifications

SYSTEM	
MB FORM FACTOR	3.5"
CPU	Onboard Intel® Celeron® Processor J6412 (Formerly Elkhart Lake, TDP 10W)
CHIPSET	Intel® SoC
MEMORY	1 x DDR4 3200MHz, Single Channel SO-DIMM, up to 32GB
BIOS	AMI Flash ROM
WATCHDOG TIMER	255 Levels
SECURITY	TPM2.0
DIMENSION (W X D)	148.0 (W) x 102.0 (D) mm (5.8" x 4.0")
OS SUPPORT	Windows® 11 (64bit) Windows® 10 (64bit) Linux
POWER	
POWER REQUIREMENT	DC-in 12–24V
POWER ON MODE	AT / ATX
CONNECTOR	DC Jack
DISPLAY	
GPU	Intel® HD Graphics
LVDS	1 x 24-bit Dual Channel LVDS (Max. Resolution: 1920 x 1080 @60Hz / Co-Lay eDP)
eDP	1 x eDP1.3 (Max Resolution: 4096 x 2160@60Hz, co-lay with LVDS)
HDMI	2 x HDMI 2.0b (Max Resolution: 4096 x 2160@60Hz)
MULTIPLE DISPLAY	Support 3 Displays
LAN	
ETHERNET	2 x RJ45 for Intel® I226-V 2.5GbE
USB PORT	
USB	3 x USB 3.2 Gen 2x1 (10Gbps, Formerly USB 3.1 Gen 2) 3 x USB 2.0 Internal Header for 4 x USB 2.0
SERIAL PORT	
COM	Internal Header for 5 x RS-232 Internal Header for 1 x RS-232/422/485
INTERNAL I/O	
GPIO	8-Bit
SMBUS	Yes
FAN	1 x CPU Fan Header
ADDITIONAL	1 x eDP (co-layout LVDS) 1 x LVDS w/ Inverter 1 x Audio Header
STORAGE	
SATA	1 x SATA III 1 x SATA Power Connector
eMMC	Onboard 64GB eMMC 5.1 (optional)
EXPANSION	
M.2	1 x M-key 2242/2280 (PCIe Gen.3x2/SATA interface) Support NVME 1 x E-Key 2230 (USB 2.0/PCIe 3.0 x1) 1 x B-key 3042 (USB3.1/USB2.0 interface) support W/SIM card slot
SIM	1 x SIM Card Slot
ENVIRONMENT & CERTIFICATION	
SHOCK	15G, 11ms duration
VIBRATION	1 Grms/ 5- 500Hz/ Operation
OPERATING TEMPERATURE	0°C ~ 60°C (32°F ~ 140°F)
STORAGE TEMPERATURE	-20°C ~ 85°C (-4°F ~ 185°F)
OPERATING HUMIDITY	10 ~ 90% relative humidity, non-condensing
STORAGE HUMIDITY	0 ~ 95% Relative Humidity, Non-condensing
CERTIFICATION	CE/FCC Class A LVD
ESG DECLARATION	EU RoHS China RoHS REACH

## Dimension

Unit: mm



## Ordering Information

PART NUMBER	MF20-00-A01	MF20-02-A1	MF20-04-A1	MF20-08-A1
CPU	Intel® Celeron® J6412	Intel® Celeron® J6412	Intel® Celeron® J6412	Intel® Celeron® J6412
SECURITY		TPM2.0		TPM2.0
POWER REQUIREMENT	DC-in 12-24V	DC-in 12-24V	DC-in 12-24V	DC-in 12-24V
GPU	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics
LVDS	1 x LVDS/eDP	1 x LVDS	1 x LVDS	1 x LVDS
HDMI	2 x HDMI	2 x HDMI	2 x HDMI	2 x HDMI
MULTIPLE DISPLAY	Support 3 Displays	Support 3 Displays	Support 3 Displays	Support 3 Displays
ETHERNET	2 x 2.5GbE	2 x 2.5GbE	2 x 2.5GbE	2 x 2.5GbE
USB	3 x USB 3.2 Gen 2	3 x USB 3.2 Gen 2	3 x USB 3.2 Gen 2	3 x USB 3.2 Gen 2
USB	7 x USB 2.0	7 x USB 2.0	7 x USB 2.0	7 x USB 2.0
COM	5 x RS-232	5 x RS-232	5 x RS-232	5 x RS-232
COM	1 x RS-232/422/485	1 x RS-232/422/485	1 x RS-232/422/485	1 x RS-232/422/485
SATA	1 x SATA III	1 x SATA III	1 x SATA III	1 x SATA III
eMMC			eMMC 64GB	eMMC 64GB
M.2	1 x M-Key 2242/2280	1 x M-Key 2242/2280	1 x M-Key 2242/2280	1 x M-Key 2242/2280
M.2	1 x E-Key 2230	1 x E-Key 2230	1 x E-Key 2230	1 x E-Key 2230
M.2	1 x B-Key 3042	1 x B-Key 3042	1 x B-Key 3042	1 x B-Key 3042
SIM	1 x SIM Card Slot	1 x SIM Card Slot	1 x SIM Card Slot	1 x SIM Card Slot
OPERATING TEMPERATURE	0°C - 60°C (32°F - 140°F)	0°C - 60°C (32°F - 140°F)	0°C - 60°C (32°F - 140°F)	0°C - 60°C (32°F - 140°F)