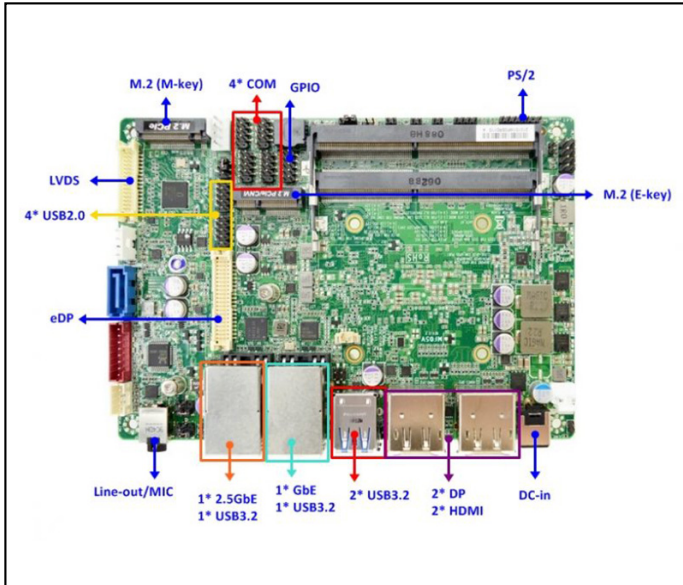


3.5" Motherboard with Intel® 11th Gen Core i, 4K/8K Quad Display Support, 4 x COM, 8 x USB, and 12–24V DC-in



## Features

- Power by Intel® 11th Gen Core i5 Processor (Tiger Lake-U TDP 12-28W)
- High-Capacity Memory: 2 x DDR4 3200MHz SO-DIMM, up to 64GB
- Dual Gigabit Networking: 1 x GbE, 1 x 2.5GbE
- With 2 x HDMI, 2 x DP, 1 x eDP, and 1 x LVDS; Support 4 x independent 4K HDR or 1 x 8K SDR display
- Comprehensive I/O: 4 x COM (2\* RS232/422/485, 2\* RS232), 4 x USB 3.2 Gen 2, 4 x USB 2.0
- Flexible Expansion: 1 x M.2 M-key 2242/2280 (PCIe Gen4), 1 x M.2 E-key 2230 with CNVi support
- Enhanced Security: Optional TPM 2.0
- Wide Power Input: DC-in 12–24V for adaptable power options

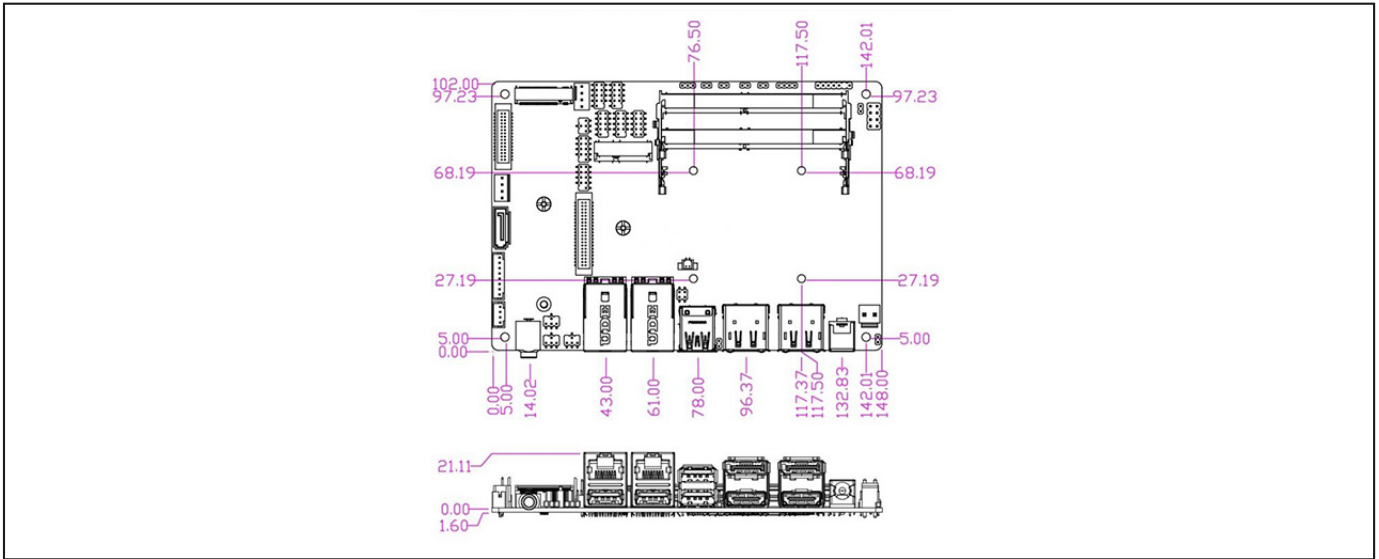
## Packing List

PART NUMBER	DESCRIPTION	QTY
MF05V Series	MF05V M/B	1
G01-COM-H2M22-1F	COM Cable	2
G01-SATA3-BL-1F	SATA Cable	1
G01-PW4PS2S-322-1F	SATA Power Cable	1
HCS3XXMHT03S-1F	Flat Type Heatsink	1

## Specifications

SYSTEM	
MB FORM FACTOR	3.5"
CPU	Onboard Intel® 11th Gen Core™ i5-1145G7E (Formerly Tiger Lake-U, TDP 15W) Onboard Intel® 11th Gen Core™ i5-1135G7 (Formerly Tiger Lake-U, TDP 15W)
CHIPSET	Intel® SoC
MEMORY	2 x DDR4 3200MHz Dual Channel SO-DIMM, up to 64GB
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 LVDS (Max. Resolution: 1920 x 1200 @60Hz)
eDP	1 x eDP (Max Resolution: 4096 x 2304@60Hz)
DP	2 x DP1.4 (Max Resolution: 4096 x 2304@60Hz)
HDMI	2 x HDMI 2.0b (Max Resolution: 4096 x 2160@60Hz)
MULTIPLE DISPLAY	Support 4 Displays
AUDIO	
CODEC	Realtek Audio Codec
COMBO	1 x Combo Audio Jack for Line-Out / Mic-In
AMPLIFIER	3W
LAN	
ETHERNET	1 x RJ45 for Intel® I219-LM GbE 1 x RJ45 for Intel® I226-V 2.5GbE
USB PORT	
USB	4 x USB 3.2 Gen 2x1 (10Gbps, Formerly USB 3.1 Gen 2) Internal Header for 4 x USB 2.0
SERIAL PORT	
COM	Internal Header for 2 x RS-232/422/485 Internal Header for 2 x RS-232
INTERNAL I/O	
GPIO	8-Bit
SMBUS	Yes
ADDITIONAL	1 x Chassis intrusion 1 x PS/2 1 x eDP 1 x LVDS w/ Inverter
STORAGE	
SATA	1 x SATA III 1 x SATA Power Connector
EXPANSION	
M.2	1 x M-Key 2242/2280 (PCIe 4.0 x4) Support NVMe 1 x E-Key 2230 (USB 2.0/PCIe x1) Support CNVi
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
CERTIFICATION	CE/FCC Class A LVD
ESG DECLARATION	EU RoHS China RoHS REACH

## Dimension Unit: mm



## Ordering Information

PART NUMBER	MF05V20-A1	MF05V22-A1	MF05V90-A01	MF05V92-A1
CPU	Intel® Core™ i5-1145G7E	Intel® Core™ i5-1145G7E	Intel® Core™ i5-1135G7	Intel® Core™ i5-1135G7
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	1 x LVDS	1 x LVDS	1 x LVDS
eDP	1 x eDP	1 x eDP	1 x eDP	1 x eDP
DP	2 x DP	2 x DP	2 x DP	2 x DP
HDMI	2 x HDMI	2 x HDMI	2 x HDMI	2 x HDMI
MULTIPLE DISPLAY	Support 4 Displays	Support 4 Displays	Support 4 Displays	Support 4 Displays
ETHERNET	1 x GbE	1 x GbE	1 x GbE	1 x GbE
ETHERNET	1 x 2.5GbE	1 x 2.5GbE	1 x 2.5GbE	1 x 2.5GbE
USB	4 x USB 3.2 Gen 2	4 x USB 3.2 Gen 2	4 x USB 3.2 Gen 2	4 x USB 3.2 Gen 2
USB	4 x USB 2.0	4 x USB 2.0	4 x USB 2.0	4 x USB 2.0
COM	2 x RS-232/422/485	2 x RS-232/422/485	2 x RS-232/422/485	2 x RS-232/422/485
COM	2 x RS-232	2 x RS-232	2 x RS-232	2 x RS-232
SATA	1 x SATA III	1 x SATA III	1 x SATA III	1 x SATA III
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
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)