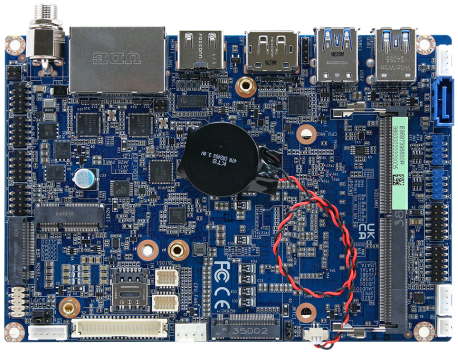
ECM-MTL

Intel® Core™ Ultra 5 Processor 125U 125H
3.5”Micro Module



Product Features

- Bottom Layer Soldered Processor
- Four Display, 1 x DP++, 1 x HDMI, 1 x 2CH LVDS or eDP, 1 x USB Type C support DP
- Two Gigabit Ethernet, 2 x 2.5GbE
- One 262-pin DDR5 5600MHz SO-DIMM socket, supports up to 48GB Max.
- Expansion Slot, M.2 Key-B, M.2 Key-E, M.2 Key-M
- DC in +12V ~ +24V

Specification

System Information	
Processor	Intel® Core™ Ultra 5 Processor 125U Intel® Core™ Ultra 5 Processor 125H
System Memory	1 x 262-pin DDR5 5600MHz SO-DIMM socket, supports up to 48GB Max.
I/O Chipset	EC iTE IT5782VG
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step
BIOS	AMI BIOS, 256Mbit SPI Flash ROM
H/W Status Monitor	CPU & system temperature monitoring Voltages monitoring
TPM	Onboard NuvoTon NPCT760AABYX supports TPM 2.0
Board	3.5"

Expansion	
Expansion	1 x M.2 Key M 2280 (with 1 x PCIe Gen4 x4) NVME 1 x M.2 Key B 3042/3052/2242 (with 1 x PCIe x1 or SATA, USB 3.2 Gen1x1, USB 2.0 with 1 x SIM card slot support WWAN+GNSS) support 5G (3.3V & 3.8V) * Only supports one SIM card (co-lay 1 x 10pin FPC connector for uSIM card adapter) 1 x M.2 Key E 2230 support WiFi module (1 x PCIe x1 & USB 2.0 Signal)

Storage

Storage	1 x M.2 (Key M, 2280) 1 x M.2 (Key B, 3042/3052/2242) 1 x SATA III

Display

Graphic Chipset	Intel® Xe LPG Graphics
Spec. & Resolution	1 x DP 1.4a: Max: 7680 x 4320@60 Hz 1 x USB Type C support DP: 4096 x 2160@60Hz 1 x HDMI 2.0b: 3840 x 2160@60Hz 1 x LVDS: 1920 x 1080 Dual channel 18/24-bits LVDS (Chrontel CH7513A-BF eDP to LVDS) or 1 x eDP: 1920 x 1080@60Hz (2 Lanes), default LVDS Note: JLVDS1 Support 1 x LVDS or 1 x eDP
Multiple Display	Four Display
LVDS	1 x LVDS: 1920 x 1080 Dual channel 18/24-bits LVDS (Chrontel CH7513A-BF eDP to LVDS) or 1 x eDP: 1920 x 1080@60Hz (2 Lanes) Default LVDS. Note: JLVDS1 Support 1 x LVDS or 1 x eDP

Audio

Audio Codec	Realtek ALC888S HD Audio Decoding Controller
Audio Interface	Line-in, Mic-in, Line-out
Audio Amplifier	2 x 2W 4Ω Amplifier

Ethernet

LAN Chipset	1 x Intel® I226LM 2.5 Gigabit Ethernet Controller 1 x Intel® I226V 2.5 Gigabit Ethernet Controller
Ethernet Interface	10/100/1000/2.5G Base-Tx GbE compatible
LAN Port	2 x RJ-45

Power Requirement

Power Mode	AT/ATX (Default Setting: AT)

Software Support

OS	Windows 11, Linux

Certification

Certification Information	CE, FCC, RoHS Compliant

I/O

USB	4 x USB 2.0 by pin header 2 x USB 3.2 Gen 2 x1 at rear I/O 1 x USB 3.2 Gen 1 x1 at rear I/O + 1 x USB Type-C 5V 3A at I/O (with USB 3.2 Gen 2x2 & DP 1.4a signal display output)
COM Port	2 x RS-232, 2 x RS-232/422/485
SATA	1 x SATA III
DIO	1 x 8-bit GPIO
MIO	1 x eSPI 1 x BIOS SPI 1 x SIM Card Slot

Mechanical & Environmental

Operating Temp.	0~60°C (32~140°F) with 0.5m/s air flow
Storage Temp.	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Weight	0.44lbs (0.2kg)
Power Requirement	DC in +12V ~ +24V
Dimension (L x W)	5.7" x 4" (146mm x 101mm)

Ordering Information

Ordering Information	ECM-MTL-125U-A1R 3.5" w/U5125U/4COM/8USB/I226/15W/A1 ECM-MTL-125H-A1R 3.5" w/U5125H/4COM/8USB/I226/28W/A1