

MIO-4370**12th/13th Gen. Intel® Core™ Processor (LGA1700 Socket Type), 4" EPIC SBC, DDR5, Dual HDMI, eDP, 2 x 2.5GbE with TSN, 4 x USB 3.2, CAN Bus, TPM****Packing List**

Before you begin installing your system, please make sure that the following items have been shipped:

- 1 x MIO-4370 SBC
- 1 x USB 2.0 Cable 20cm (P/N: 1700030406-01)
- 1 x Audio Cable 20cm (P/N: 1700019584-01)
- 2 x COM Cable 20cm (P/N: 1700030404-01)
- 1 x Startup Manual (P/N: 2046437000)
- 1 x Screw Kit (3 x M3x5L screws for the M.2 module, 4 sets of screws and stand-off)
- 1 x Jumper Kit (10 x Jumpers)
- 1 x WISE-DeviceOn Package
- 1 x McAfee/Acronis Package

If any of the above items are missing or damaged, contact your distributor or sales representative immediately.

Note 1: For detailed contents regarding MIO-4370, please refer to information on the support website: <https://www.advantech.com/en/support>.

Note 2: Adobe Reader is required to view any PDF file. Adobe Reader can be downloaded at: <https://get.adobe.com/reader/otherversions/> (Adobe is the trademark of Adobe Systems Incorporated.)

For more information about this and other Advantech products, visit our website at:

<https://www.advantech.com/en>

For technical support and customer service, visit our support website at:

<https://www.advantech.com/en/support>

This manual is for the the MIO-4370 series.

Part No. 2046437000

Printed in China

Edition 1

March 2023

Specifications**General****• CPU:**

- Intel® Core™ i9-12900TE (16 Cores / 24 Threads, up to 4.8 GHz)
- Intel® Core™ i7-12700TE (12 Cores / 20 Threads, up to 4.6 GHz)
- Intel® Core™ i5-12500TE (6 Cores / 12 Threads, up to 4.3 GHz)
- Intel® Core™ i3-12100TE (4 Cores / 8 Threads, up to 4.0 GHz)

• Chipset: R680E/H610E**• System memory:** DDR5-4800 up to 32GB, SODIMM, Single Channel**• BIOS:** AMI UEFI 256Mbit**• Watchdog timer:** 65536 level, 0~65535 sec (Multi-level WDT)**• TPM:** Support**• Battery:** Lithium 3V/220mAH**• Audio:** Supports High Definition Audio (HD), Line-in, Line-out, and Mic-in.**Expansion Interface**

- 2 x M.2 M-Key (Chipset: R680E) or 1 x M.2 M-Key (Chipset: H610E) for 2280 module (PCIe Gen 4 x4)
- 1 x M.2 E-Key for 2230 module (PCIe x1, USB 2.0)
- 1 x M.2 B-Key (Chipset: H610E only) with SIM slot for 3042 module (USB 2.0 only)

Display**• Controller:**

- Intel® UHD Graphics 770 with 32 Execution Units
- Intel® UHD Graphics 730 with 24 EUs (i3-12100TE only)

• Maximum resolution:

- LCD: 1 x eDP 1.4b, up to 5120 x 3200 @ 60Hz, 24bpp
- HDMI: 2 x HDMI 1.2, up to 1920 x 1200 @ 60Hz, 24bpp

• Multiple displays: eDP + HDMI + HDMI**Ethernet Interface****• Controller:** LAN1/LAN2: Intel® i225**• Speed:** LAN1/LAN2: up to 2.5GbE with TSN support**I/O****• External I/O:** 2 x RJ-45, 2 x HDMI, 4 x USB 3.2**• Internal I/O:** 2 x USB 2.0, 2 x RS-232/422/485, CANBus, I²C, Audio, GPIO, Front Panel**• Power connector type:** ATX 2x2 pin 180D (Optional ATX 2x2 pin 90D)

Specifications (Cont.)

Mechanical and Environmental

- **Dimensions (L x W):** 165 x 114 mm (6.5" x 4.5")
- **Power supply type:** Supports ACPI
- **Power requirement:** Vin: DC 12V ± 10%
- **Operating temperature:** Standard: 0 ~ 60°C (32 ~ 140°F)
- **Net Weight:** 320 g (w/o CPU & Cooler)

Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application. The table below lists the function of each of the jumpers and connectors.

Jumpers

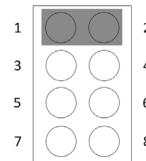
Location	Functions
J1	AT Mode/Load BIOS Default
VDD1	Panel Voltage Selection Jumper

Connectors

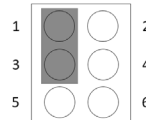
Location	Functions
DCIN1	DC Power Input Connector (180D)
AUDIO1	AUDIO CABLE Connector
eDP1	eDP Connector
COM1	COM Port Internal Connector 1
COM2	COM Port Internal Connector 2
CN1	Front Panel Internal Connector
CN4	GPIO Connector
CANBUS1	CANBus Connector
USB3	USB 2.0 Internal Connector
LAN1	LAN Connector 1
LAN2	LAN Connector 2
USB1	USB 3.2 Connector 1
USB2	USB 3.2 Connector 2
HDMI1	Dual HDMI Connector
FAN1	Smart FAN Connector
DIMMA1	DDR5 SODIMM
I2C_1	I2C_SMB_Connector
BAT1	RTC Battery Connector
M2_M2	M.2 M-Key Connector
M2_M1 (M2_B1)	M.2 M-Key Connector (Co-layout & BOM Option: M.2 B-Key Connector)
SIM1	NANO SIM (Co-layout & BOM option)
M2_E1	M.2 E-Key Connector

Jumper Settings

J1	AT Mode/Load BIOS Default
Setting	Function
(1-2)*	AT_DET# Open: ATX mode Short: AT mode (*Default)
(3-4)	NORMAL_BIOS Open: Normal (Default) Short: (reserved)
(5-6)	LOAD BIOS Default setting: Open: Normal (Default) Short: Load BIOS Default
(7-8)	Top Swap: Open: Normal (Default) Short: Top Swap function



VDD1	Panel Voltage Selection
Setting	Panel Voltage
(1-3)* Short	+3.3V (*Default)
(3-5) Short	+5V
(3-4) Short	+12V



Caution! The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions



Jumper & Connector Locations

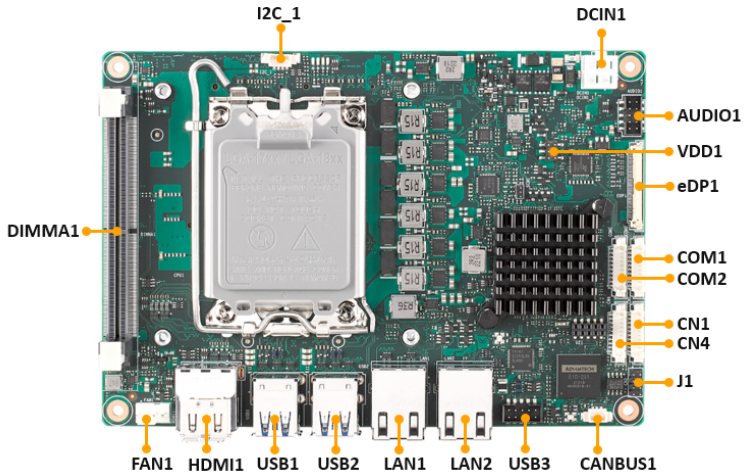


Figure 1. MIO-4370 Jumper & Connector Locations (Top Side)

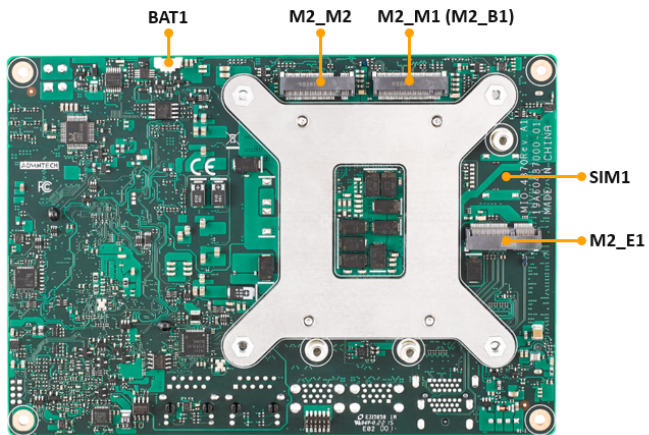


Figure 2. MIO-4370 Jumper & Connector Locations (Bottom Side)

Mechanical Diagrams

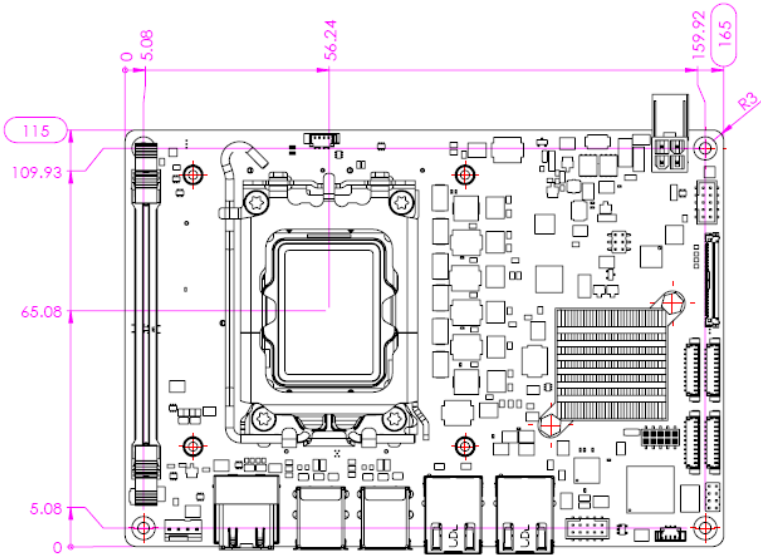


Figure 3. MIO-4370 Mechanical Diagram (Top Side)

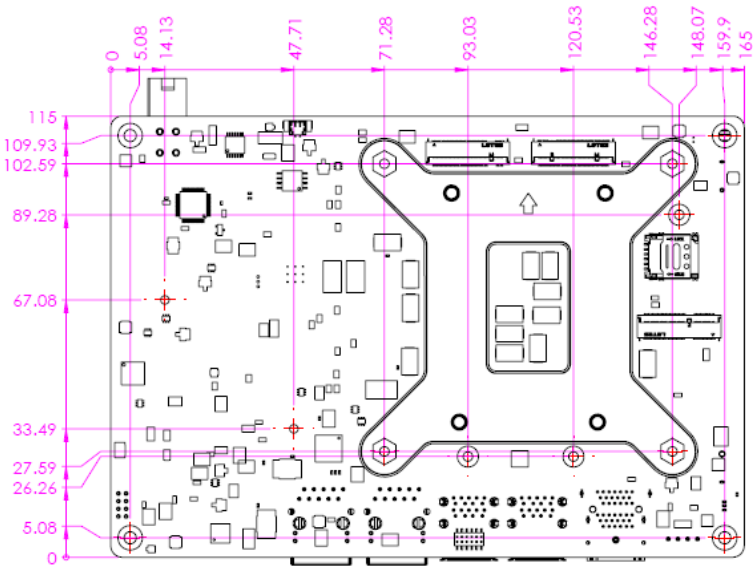


Figure 4: MIO-4370 Mechanical Diagram (Bottom Side)

Mechanical Diagrams (Cont.)

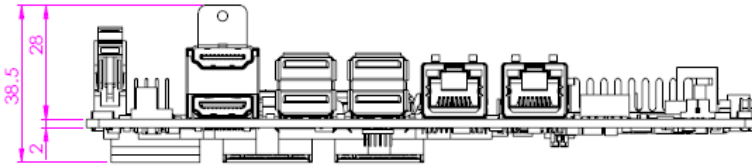


Figure 5: MIO-4370 Mechanical Diagram (Coastline)

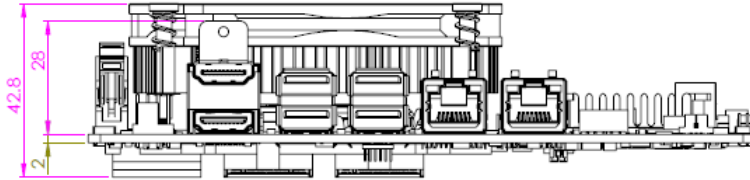


Figure 6: MIO-4370 Mechanical Diagram (with Cooler)

Quick Installation Guide

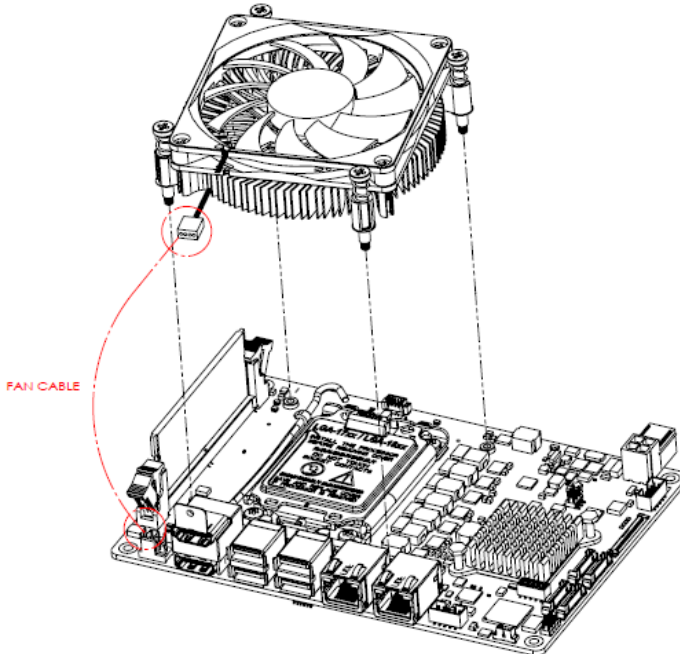


Figure 7: MIO-4370 Cooler Installation (*CPU Cooler is an Optional Accessory)