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MIO-2270 AMD® G series SoC GX-210JA / GX-415GA Pico-ITX SBC, DDR3/3L, 18-bit LVDS, VGA or HDMI, 1 GbE, Half-size Mini PCIe, 4 USB, 2 COM, SMBus, mSATA & MIOe Startup Manual

Packing List

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

- 1 MIO-2270 SBC
- 1 Startup Manual
- 1 SATA cable p/n: 1700006291
- 1 Audio cable p/n: 1700022444-01
- 1 COM cable p/n: 1701200220
- 1 SATA Power cable p/n: 1700019656
- 1 USB cable p/n: 1700002172
- 1 AT power cable p/n : 1700019705
- 1 Heatsink for MIO-2270DV p/n : 1960063455T011
- 1 Cooler for MIO-2270QV/QH p/n : 1960063062T001
- Screw and stud pack (2 screw for Mini PCIe, 4 M3 studs and screws for heatsink) p/n: 9666226300E

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

Note 1: For detailed contents of MIO-2270, please refer to Advantech website: <http://www.advantech.com>.

Note 2: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: <http://get.adobe.com/reader/> (Acrobat is a trademark of Adobe)

Note 3: Please disable USB3.0 controller from BIOS setup manual before OS installed. The USB3.0 ports will only operate after OS and USB 3.0 driver are installed.

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

<http://www.advantech.com>

<http://www.advantech.com/eplatform>

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

<http://service.advantech.com.tw/support/>

This manual is for the MIO-2270 Series Rev. A1

Part No. 2006227000
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1st Edition
July 2014

Specifications

General

- CPU:** AMD® G series SoC Dual core 1.0 GHz (GX-210JA) / Quad core 1.5 GHz (GX-415GA)
- System Chipset:** AMD® G series SoC GX-210JA/GX-415GA
- System Memory:** 1 x 204-pin SODIMM socket DDR3 1066 MHz for GX-210JA / 1600 MHz for GX-415GA
- L2 Cache:** 2 MB (GX-415GA) / 1 MB (GX-210JA)
- BIOS:** AMI EFI 32 Mbit Flash ROM
- Watchdog Timer:** 255 level interval timer

Battery: Lithium 3 V/210 mA/H

Note: How to clear CMOS (Must follow steps below):

- Turn off system power.
- Unplug CR2032 battery cable on BH1.
- Waiting for 15sec or short BH1 pin1-2.
- Connect battery cable on BH1.
- Turn on system power.

- Serial ATA:** Two SATA interface, one supports 2.5" HDD, up to 600 MB/s and another for mSATA devices, up to 300 MB/s
- USB:** Two USB 3.0 and two USB 2.0 compliant ports
- Audio:** High definition audio (HD), line-in, line-out
- GPIO:** 8-bit general purpose input/output
- Expansion Interface:** Half size Mini PCIe

MIOe Expansion Slot

- Interface:** 2 x USB 2.0, 2 x PCIe x1, LPC, HD Audio line-out, SMBus, DP or HDMI supported by request, 5 Vsb/12 Vsb
- Total peripheral power supply output:** 5 V @ 3 A for CPU board and MI/O Extension module totally, 12 V @ 2 A for MI/O Extension module

VGA/ HDMI/ LVDS Interface

- Controller:** AMD® GX-415GA/ GX-210JA, DirectX 11 and OpenGL4.1 support
- Output Interfaces:**
 - HDMI: Up to 1920 x 1200 (1080p)
 - VGA: 2048 x 1536
 - LVDS: Single channel 18-bit LVDS, up to 1600 x 900
 - Dual Display: VGA + LVDS or HDMI + LVDS

Ethernet Interface

- Support single 10/100/1000 Mbps Ethernet interface
- Controller:** Realtek RTL8111E (GbE1)

Specifications Cont.

Mechanical and Environmental

- **Dimensions:** 100 x 72 mm (3.9" x 2.8")
Mechanical Drawings are on page 4 - 6.
- **Power Requirement:** Single 12 V DC power input
- **Power Consumption (with 8 GB memory):**
 - Typical in Window 7 mode:
GX-415GA: 1.05 A @ 12 V (12.6 W)
GX-210JA: 0.49 A @ 12 V (5.93 W)
 - Max in HCT:
GX-415GA: 1.26 A @ 12 V (15.12 W)
GX-210JA: 0.85 A @ 12 V (10.2 W)
- **Operating Temperature:** 0 ~ 60° C (32 ~ 140° F)
- **Weight:** 0.45 kg (0.99 lb) (reference total weight)

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

Label	Function
J1	LCD Power / Auto Power on
SW1	DDR3/ DDR3L power select
SW2	LAN Enable/ Disable

Connectors

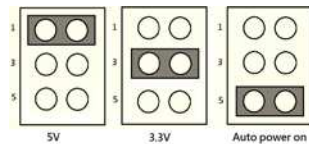
Label	Function
CN1	12 V Power Input
CN2	DDR3 SO-DIMM
CN3	18 bits LVDS Panel
CN5	HD Audio
CN6	Inverter Power/Internal SATA Power
CN7	GPIO
CN8	DC JACK (by request)
CN10	mSATA
CN12	COM1/COM2
CN14	Front Panel
CN15	VGA
CN16	MIOe
CN17	Gigabit Ethernet
CN18	CPU Fan
CN20	HDMI
CN21	SATA
CN22	SMBus
CN24	Internal USB

Jumpers and Connectors

CN25	External USB
CN31	Mini PCIe
BH1	Battery

Jumper Settings

J1	LCD Power / Auto Power On
Part Number	1653003260
Footprint	HD_3x2P_79
Description	PIN HEADER 3*2P 180D(M) 2.0 mm SMD 21N22050
Setting	Function
(1-2)	+5 V
(3-4)*	+3.3 V (default)
(5-6)*	Auto Power On (default)



SW1	DDR3/ DDR3L power select
Part Number	1600000071
Footprint	SW_3P_CJS-1201TA1
Description	DIP SW CJS-1201TA1 SMD 3P SPDT P=6.0mm W=2.5mm
Setting	Function
(1-2)	DDR3L
(2-3)*	DDR3 (default)



SW2	LAN Enable and Disable
Part Number	1600000071
Footprint	SW_3P_CJS-1201TA1
Description	DIP SW CJS-1201TA1 SMD 3P SPDT P=6.0mm W=2.5mm
Setting	Function
(1-2)*	LAN Enable (default)
(2-3)	LAN Disable



MIO-2270 Connector Locations

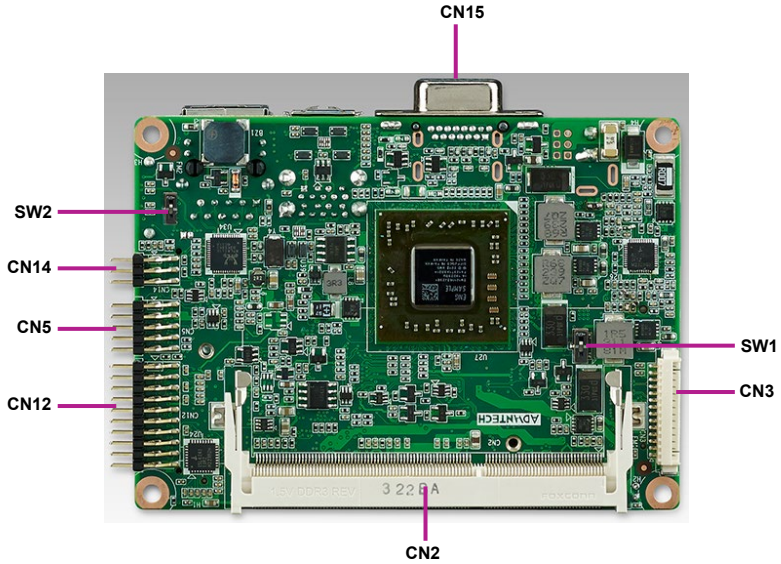


Figure 1: MIO-2270 Connect Location (Top Side)

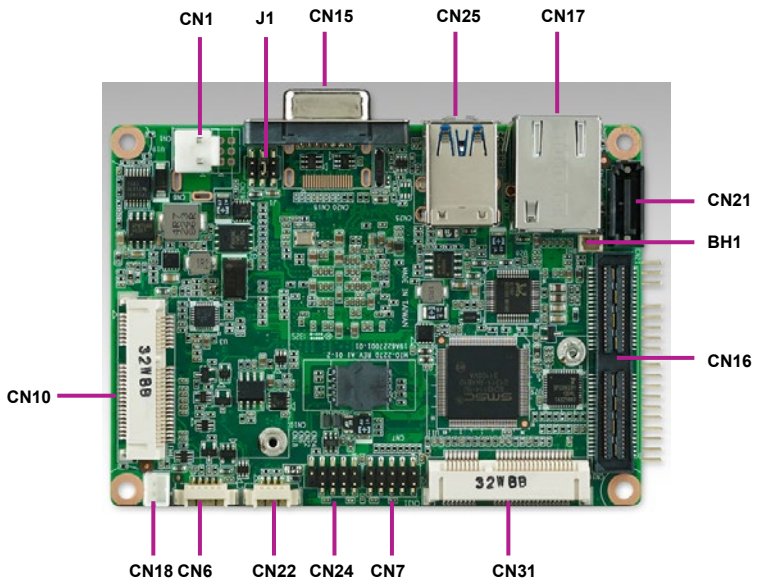
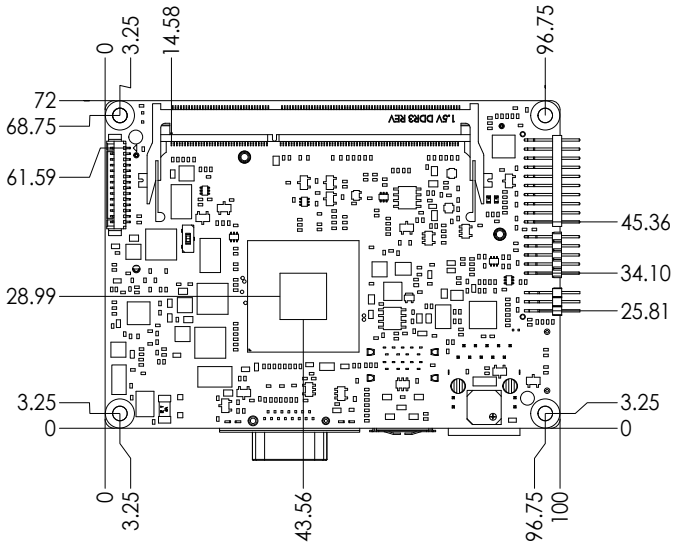
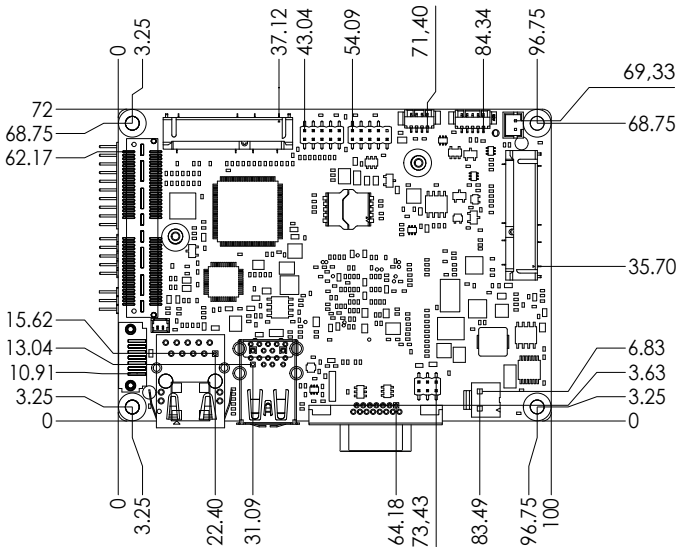


Figure 2: MIO-2270 Connect Location (Bottom Side)

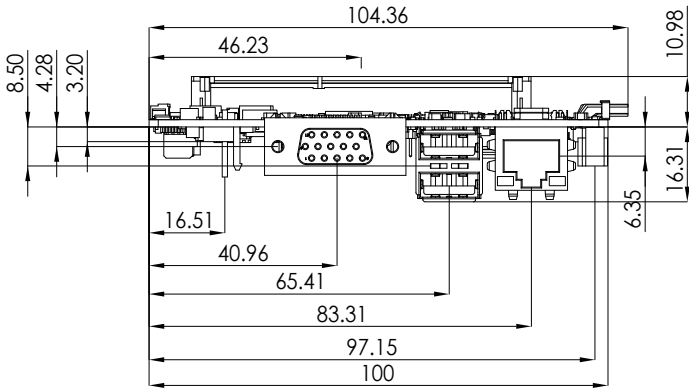
MIO-2270 Mechanical Drawing



Unit: mm

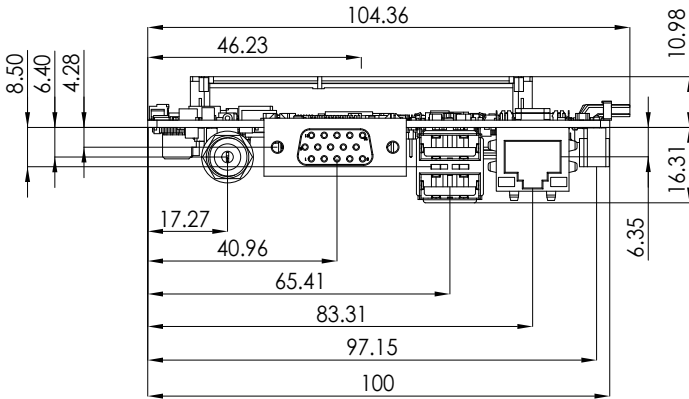


Unit: mm



Unit: mm

Figure 5: MIO-2270 Mechanical Drawing (Side View)



Unit: mm

Figure 6: MIO-2270 Mechanical Drawing (Side View with Optional DC/Jack)

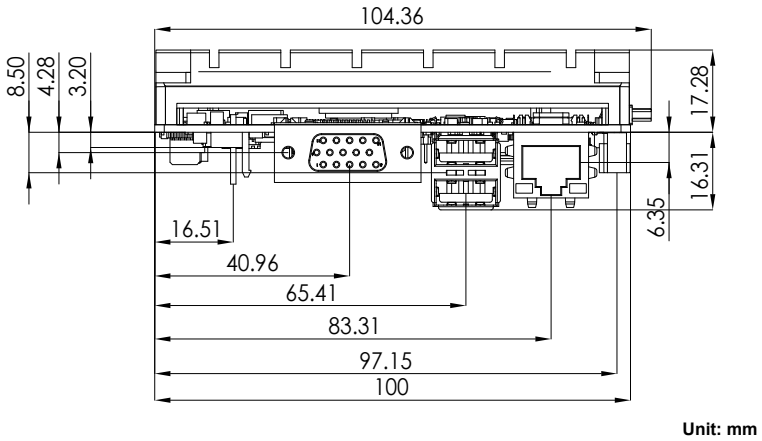


Figure 7: MIO-2270 Mechanical Drawing (Side view with Heatsink)

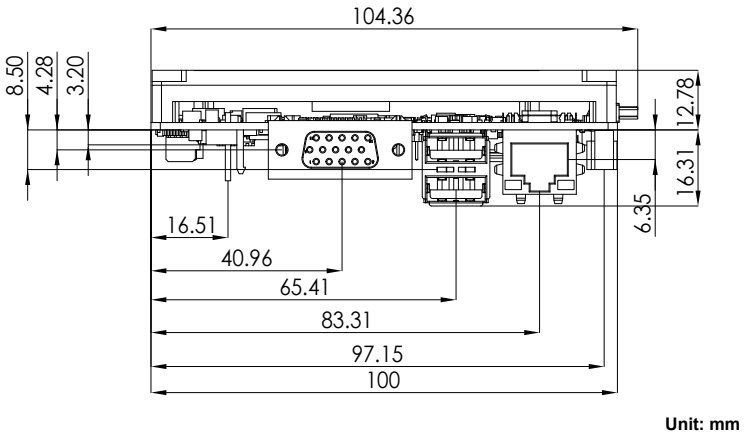
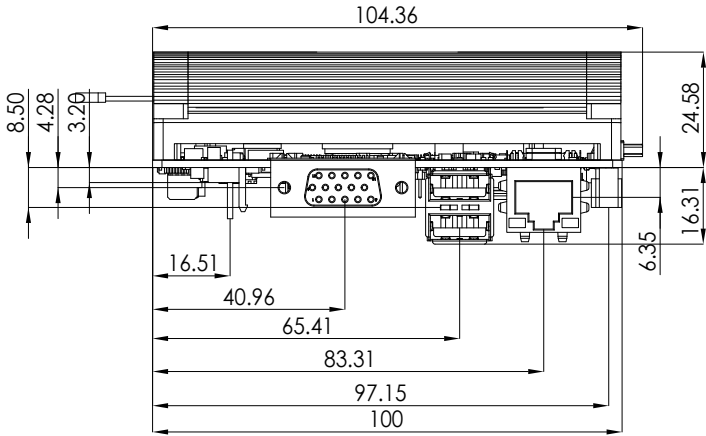


Figure 8: MIO-2270 Mechanical Drawing (Side View with Optional Heatspreader)



Unit: mm

Figure 9: MIO-2270 Mechanical Drawing (Side view with Cooler)

Caution

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