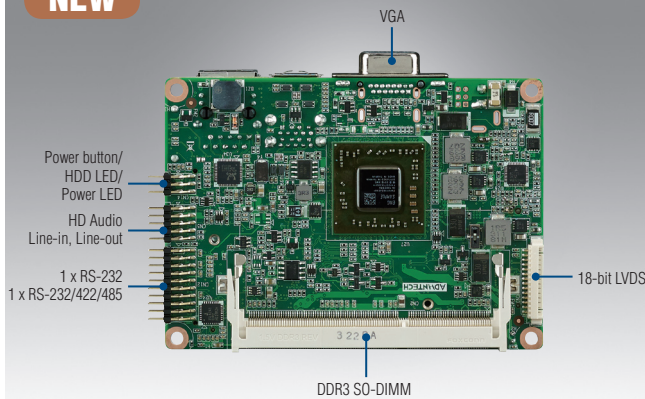


# MIO-2270

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

**NEW**



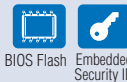
## Features

- Embedded AMD® G-Series SoC GX-415GA/ GX-210JA processor design, DDR3/ DDR3L 1600MHz support up to 8GB
- Outstanding graphic performance with DirectX®11.1 support, dual independent display by 18-bit LVDS + VGA or 18-bit LVDS + HDMI
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow
- Rich I/O interface with 2 COM, 1 SATA, USB3.0, PCIe Mini Card and mSATA
- Supports SUSIAccess and Embedded Software APIs

### Software APIs:



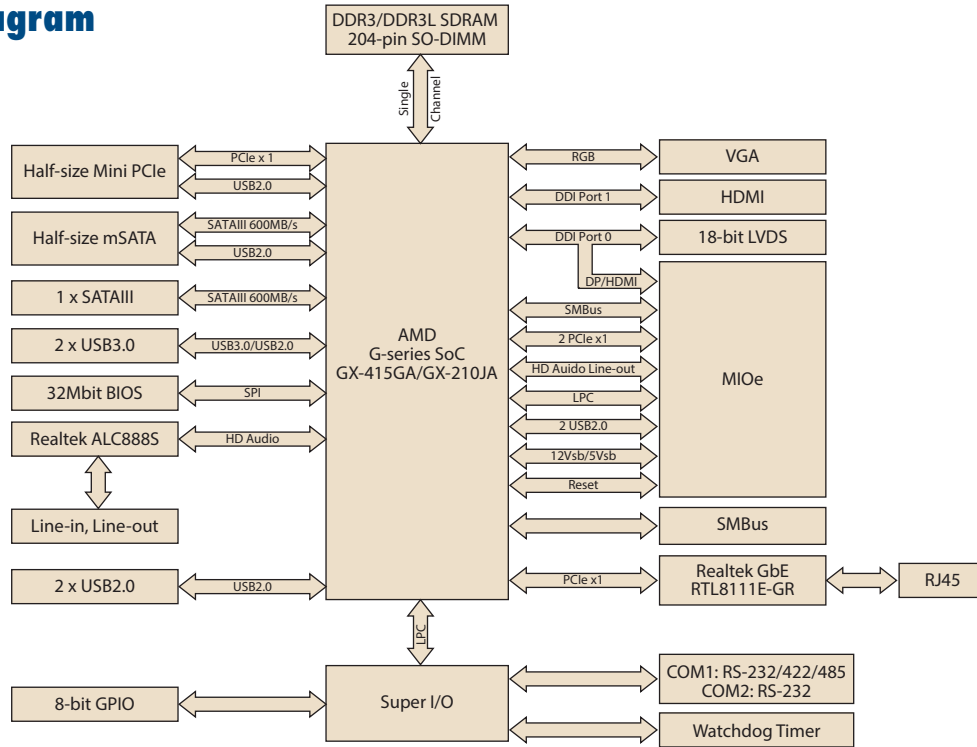
### Utilities:



## Specifications

Processor System	CPU	AMD® G-Series SoC GX-415GA	AMD® G-Series SoC GX-210JA
	Frequency	Quad-Core 1.5 GHz	Dual-Core 1.0 GHz
	L2 Chche	2 MB	1 MB
	System Chipset	AMD® G series SoC processor integrated	
	BIOS	AMI EFI 32 Mbit	
Memory	Technology	DDR3/ DDR3L 1600 MHz	DDR3/ DDR3L 1066 MHz
	Max. Capacity	8 GB	
	Socket	1 x 204-pin SODIMM (Support 1.5V DDR3 and 1.35V DDR3L)	
Display	Chipset	AMD® G series SoC	
	Graphic Engine	DirectX®11.1 graphic with UVD4.2, Open GL4.1/ Open CL 1.2 2D/ 3D Acceleration, Motion Video Acceleration Hardware decode (UVD) for H.264, MPEG2/4, VC1, MVC Graphic engine HD 8330E for GX-415GA, HD 8180 for GX-210JA	
	LVDS	Supports single channel 18-bit LVDS Resolution: 1600 x 900 at 60 Hz/ 18bpp	
	VGA	Up to 2048x1536 at 60Hz	
	HDMI	Supports 1920x1200 at 60 Hz/ 24bpp	
	Dual Display	Yes (VGA+LVDS or HDMI+LVDS)	
Ethernet	Speed	10/100/1000 Mbps	
	Controller	GbE Realtek RTL8111E 10/100/1000 Mbps	
	Connector	RJ45 on rear I/O	
Audio	Chipset	Realtek ALC888S, High Definition Audio (HD), Line-in, Line-out	
Watchdog Timer		Output system reset, Programmable counter from 1-255 minutes/ seconds	
Storage	mSATA	1 x half size mini PCIe slot (Integrates USB signal, supports either mSATA or USB interface module)	
	SATA	1 x SATA III (Max. Data Transfer Tate 600MB/s) support 5V HDD only	
Rear I/O	Ethernet	1 (10/100/1000 Mbps)	
	VGA	1	
	USB	2 x USB 3.0 compatible with USB 2.0	
	DC Power Jack	1 (Support by request)	
Internal I/O	USB	2 x USB 2.0	
	Serial	1 x RS-232 from COM2 (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) 1 x RS-232/422/485 from COM1 with auto-flow control	
	SMBus	1	
	GPIO	8-bit general purpose input/ output	
	Expansion	Mini PCI Express	1 x Half-size
	MIOe	SMBus, 2 x USB2.0, LPC, 2 x PCIe x1, line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset	
Power	Power Type	Single 12V DC power input (Supports DC power hot plug)	
	Power supply voltage	Supports single 12V input, ±10%	
	Total Peripheral power supply output	5V @ 3A for CPU board and MIOe module totally, 12V @ 2A for MIOe module	
	Power Consumption (Typical)	MIO-2270QH-S5A1E: w/ DDR3 1.05A @ 12V (12.6W), w/ DDR3L 1.02A @ 12V (12.24W) MIO-2270DV-S0A1E: w/ DDR3 0.494A @ 12V (5.93W), w/ DDR3L 0.491A @ 12V (5.89W)	
	Power Consumption (Max, test in HCT)	MIO-2270QH-S5A1E: w/ DDR3 1.26A @ 12V (15.12W), w/ DDR3L 1.21A @ 12V (14.52W) MIO-2270DV-S0A1E: w/ DDR3 0.85A @ 12V (10.2W), w/ DDR3L 0.83A @ 12V (9.96W)	
	Power Management	ACPI	
	Battery	3V/ 210mAH	
Environment	Operation	0 ~ 60° C (32 ~ 140°F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	
	Non-Operation	-40° C ~ 85° C and 60° C @ 95% RH non-condensing	
Physical Characteristics	Dimensions (L x W)	100 x 72 mm (3.9" x 2.8")	
	Weight	0.45 kg (0.99 lb), weight of total package	
	Total Height	33.59mm for MIO-2270D 40.89mm for MIO-2270Q	

## Block Diagram



## Ordering Information

Part Number	CPU	L2 Cache	Memory	LVDS	VGA	HDMI	Audio	RS-232	RS-232/422/485	USB 3.0	USB 2.0	mSATA	SATA III	MIOe	Mini PCIe	Thermal solution	Operating Temp
MIO-2270QV-S5A1E	GX-415GA, 1.5 GHz, 15W	2MB	SO-DIMM	18-bit	Yes	-	Yes	1	1	2	2	Yes	1	Yes	Half-size	Active	0-60°C
MIO-2270QH-S5A1E	GX-415GA, 1.5 GHz, 15W	2MB	SO-DIMM	18-bit	-	Yes	Yes	1	1	2	2	Yes	1	Yes	Half-size	Active	0-60°C
MIO-2270DV-S0A1E	GX-210JA, 1.0 GHz, 6W	1MB	SO-DIMM	18-bit	Yes	-	Yes	1	1	2	2	Yes	1	Yes	Half-size	Passive	0-60°C

GX-210JA with HDMI supported by request

## Packing List

Part No.	Description	Quantity
	MIO-2270 SBC	1
	Startup Manual	1
1700006291	SATA cable 30cm	1
1700019656	SATA power cable 5P-1.25/5P-2.0+SATA 5P 15 cm	1
1701200220	RS-232 x 2 ports 2.0mm pitch 22cm	1
1700022444-01	Audio cable 2.0 mm pitch 20 cm (line-in & line-out)	1
1700002172	USB cable 2.0 mm pitch USB-A(F) 17 cm	1
1700019705	AT power cable 12 cm	1
9666226300E	Screw and stud pack (2 screw for Mini PCIe, 4 M3 studs and screw for heatsink)	1
1960063062T001	CPU cooler for MIO-2270QV/QH	1
1960063455T011	CPU Heatsink for MIO-2270DV/DH	1

## Optional Accessories

Part No.	Description
1960065075N001	MIO-2270 Heat spreader (99.5x70.5x11.2 mm)

## Embedded OS/API

Embedded OS/API	Part No.	Description
Win CE	2070013053	CE7.0 ENG
	2070012828	WES2009 X32 V4.5 MUI24
WES	2070012881	WES7E X64 V5.6.7 EN/TC/SC/JP
		Ubuntu 13.04
Linux Software		SUSI V3.0

## Rear I/O view



MIO-2270QV-S5A1E  
MIO-2270DV-S0A1E



MIO-2270QH-S5A1E



MIO-2270 w/ DC Jack (by request)