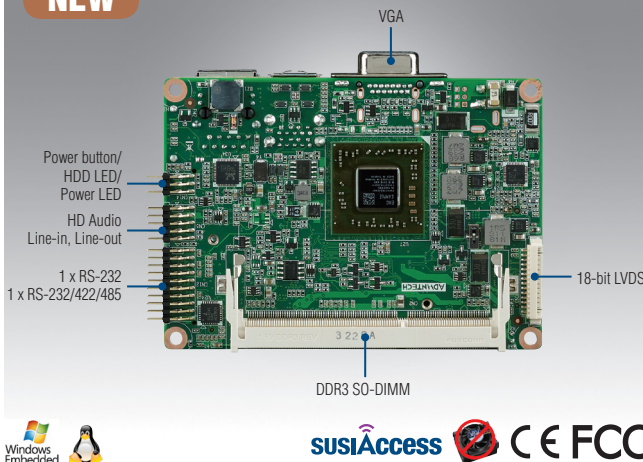


# MIO-2270

**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:



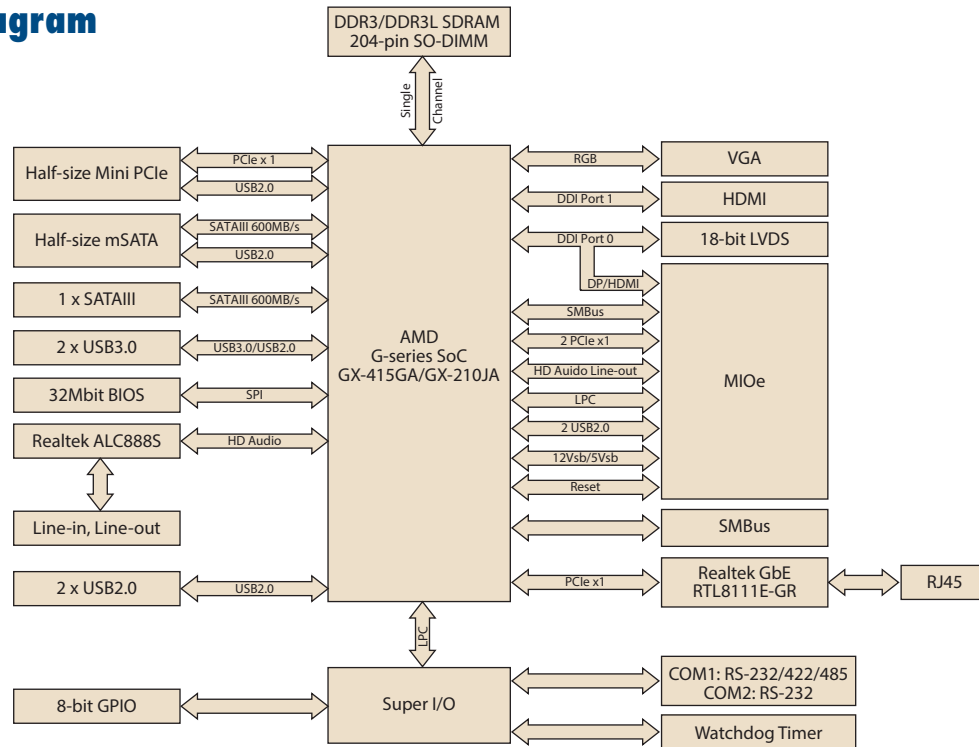
### Utilities:



## 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                                                                                                                                                                                          |                            |
| Memory                   | BIOS                                 | AMI EFI 32 Mbit                                                                                                                                                                                                                 |                            |
|                          | 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<br>2D/ 3D Acceleration, Motion Video Acceleration<br>Hardware decode (UVD) for H.264, MPEG2/4, VC1, MVC<br>Graphic engine HD 8330E for GX-415GA, HD 8180 for GX-210JA |                            |
|                          | LVDS                                 | Supports single channel 18-bit LVDS<br>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)<br>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)<br>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)<br>MIO-2270DV-S0A1E: w/ DDR3 0.85A @ 12V (10.2W), w/ DDR3L 0.83A @ 12V (9.96W)                                                                    |                            |
|                          | Power Management                     | ACPI                                                                                                                                                                                                                            |                            |
|                          | Battery                              | 3V/ 210mAh                                                                                                                                                                                                                      |                            |
| Enviornment              | 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<br>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 screws 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)



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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