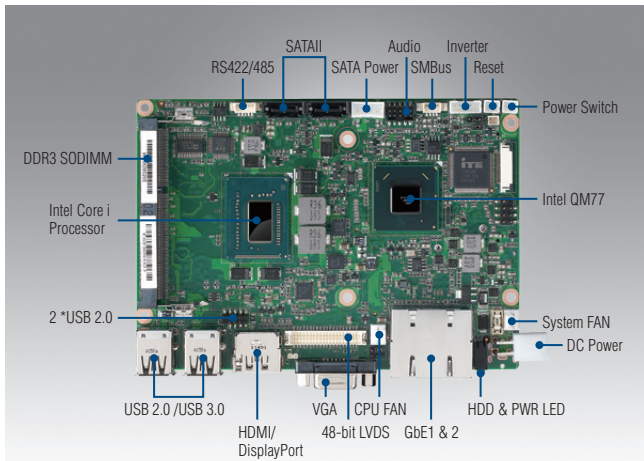


MIO-5290

Intel® Core™ i7 / i3, 3.5" MI/O-Compact SBC, DDR3/DDR3L, VGA, DP/HDMI, 48-bit LVDS, 2GbE, 2 x Mini PCIe, mSATA, iManager, MIOe



iManager susiAccess CE FCC

Features

- Intel® Core™ i7, i3 and Celeron processors + Intel QM77 PCH, 1 x DDR3/DDR3L SO-DIMM support up to 8 GB
- DirectX11, OpenGL 3.1, OpenCL 1.1, 3 independent display: VGA or LVDS + DisplayPort + DisplayPort (from MIOe)
- Supports Intel® AMT8.0, USB 3.0, TPM1.2
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow
- 2 GbE support, HD Audio, Rich I/O interface with 2 COM, 2 SATA, SMBus, 8-bit GPIO, Half-size Mini PCIe, Full-size Mini PCIe & 2 USB 3.0
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs:



Utilities:

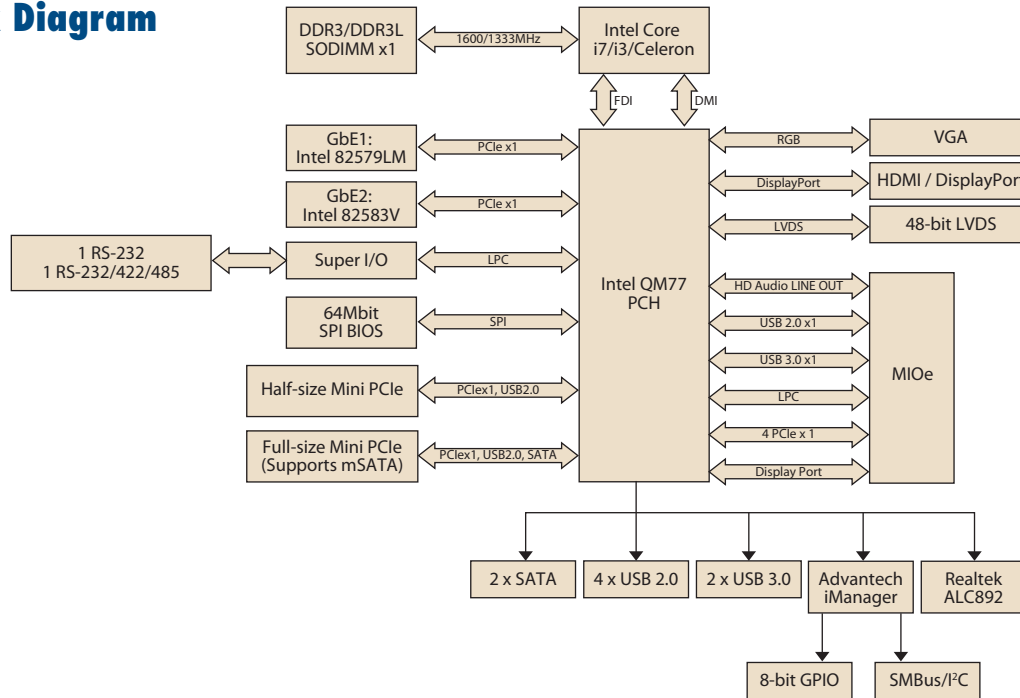


Specifications

| | | | | | |
|--------------------------|--------------------------------------|--|--------------------|--------------------|--------------------|
| Processor System | CPU | Celeron 1047UE | ULV Core i3 3217UE | ULV Core i7 3517UE | LV Core i7 3555LE |
| | Frequency | 1.4GHz (Dual-Core) | 1.6GHz (Dual-Core) | 1.7GHz (Dual-Core) | 2.5GHz (Dual-Core) |
| | L3 Cache | 2MB | 3MB | 4MB | 4MB |
| | System Chipset | Intel QM77 | | | |
| Memory | BIOS | AMI EFI 64Mbit | | | |
| | Technology | DDR3 1600MHz, DDR3L 1333 MHz | | | |
| Display | Max. Capacity | 8 GB | | | |
| | Socket | 1 x 204-pin SODIMM | | | |
| | Controller | Intel HD Graphics 4000 / Intel HD Graphics (Celeron) | | | |
| | Graphic Engine | DirectX11, OpenGL 3.1, and OpenCL 1.1 Hardware decode acceleration: AVC/H.264, MPEG-2, VC-1 | | | |
| | VGA | Integrated 340.4MHz RAMDAC, Max resolution up to 2048 x 1536 at 75Hz | | | |
| Ethernet | LVDS | LVDS with 3.3V, 5V and 12V on LCD VDD power, 5V and 12V support on LVDS inverter Dual channel 24-bit LVDS, max resolution up to 2560 x 1600 at 60Hz | | | |
| | HDMI / DisplayPort* | Supports HDMI 1.4 for HD Video playback Max resolution up to 2560 x 1600 at 60Hz on DisplayPort, Max resolution up to 1920 x 1200 at 60Hz on HDMI | | | |
| | 3 Independent Display | VGA + Displayport (coastline) + Displayport (MIOe) or LVDS + Displayport (coastline) + Displayport (MIOe) | | | |
| Audio | Speed | 10/100/1000Mbps | | | |
| | Controller | GbE1: Intel 82579LM, GbE2: Intel 82583V | | | |
| WatchDog Timer | Connector | 2 RJ45 on Rear I/O | | | |
| | Chipset | Realtek ALC892, High Definition Audio (HD), Line-in, Line out, Mic-in | | | |
| Storage | Amplifier | Optional via MIOe | | | |
| | Output | System reset, Programmable counter from 1 ~ 255 minutes/seconds | | | |
| Rear I/O | SATA | 2, up to 6.0 Gb/s (600 MB/s) | | | |
| | mSATA | Supports either mSATA or full size miniPCIe, selected by BIOS, default support miniPCIe | | | |
| | Ethernet | 2 (10/100/1000Mbps) | | | |
| | VGA | 1 | | | |
| | HDMI / DisplayPort | 1 | | | |
| Internal I/O | USB 2.0 | 2 x USB 2.0 | | | |
| | USB 3.0 | 2 x USB 3.0 | | | |
| | LED | Power, HDD | | | |
| | DC Jack | Only on MIO-5290U-S6A1E/MIO-5290U-S7A1E | | | |
| | USB | 2 x USB 2.0 | | | |
| Expansion | Serial | RS-232 from COM1, RS-232/422/485 from COM2 with auto flow control (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) | | | |
| | PC | 1 (Shares with SMBus pin) | | | |
| | SMBus | 1 | | | |
| | GPIO | 8-bit general purpose input/output | | | |
| Power | Mini PCIe | 1 x Full-size 1 x Half-size | | | |
| | MIOe | Displayport, SMBus, 1 x USB2.0, 1 x USB3.0, LPC, 4 x PCIe x1, line out, 5 Vsb/12 Vsb power, Power On Reset | | | |
| | Power Type | Single 12V DC power input | | | |
| | Power Supply Voltage | Supports single 12V input, ± 10% | | | |
| | Power Consumption (Typical) | MIO-5290U-S6A1E: w/DDR3: 1.615 A @ 12 V (19.38 W), w/DDR3L: 1.507 A @ 12 V (18.08 W) MIO-5290U-S7A1E: w/DDR3: 2.023 A @ 12 V (24.28 W), w/DDR3L: 1.965 A @ 12 V (23.5 W) MIO-5290L-U5A1E: w/DDR3: 2.356 A @ 12 V (28.27 W), w/DDR3L: 2.309 A @ 12 V (27.7 W) MIO-5290U-S4A1E: w/DDR3: 1.18 A @ 12 V (14.16 W), w/DDR3L: 1.1 A @ 12 V (13.2 W) | | | |
| | Power Consumption (Max, test in HCT) | MIO-5290U-S6A1E: w/DDR3: 2.024 A @ 12 V (24.29 W), w/DDR3L: 1.84 A @ 12 V (22.08 W) MIO-5290U-S7A1E: w/DDR3: 2.412 A @ 12 V (28.94 W), w/DDR3L: 2.3 A @ 12 V (27.6 W) MIO-5290L-U5A1E: w/DDR3: 2.896 A @ 12 V (34.75 W), w/DDR3L: 2.708 A @ 12 V (32.5 W) MIO-5290U-S4A1E: w/DDR3: 1.68 A @ 12 V (20.16 W), w/DDR3L: 1.49 A @ 12 V (17.88 W) | | | |
| | Power Management | ACPI | | | |
| Battery | Lithium 3 V / 210 mAh | | | | |
| Environment | Operational | 0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing) | | | |
| | Non-Operational | -40° C ~ 85° C and 60° C @ 95% RH Non-Condensing | | | |
| Physical Characteristics | Dimensions (L x W) | 146 x 102 mm (5.7" x 4"), same as 3.5" | | | |
| | Weight | 0.84 kg (1.72lb), weight of total package | | | |
| | Height | Top Side: 37 mm (MIO-5290U series), 47.7 mm (MIO-5290L series); Bottom Side: 9 mm; PCB: 1.6mm | | | |

* In order to have optimize compatibility on HDMI, DisplayPort is not under best configuration. If any compatibility issue occur on DP, please help to contact with technical service.

Block Diagram



Ordering Information

| Part No. | CPU | L3 Cache | LVDS | VGA | HDMI/DP | GbE | HD Audio | RS-232/422/485 | RS-232 | USB 3.0 | USB 2.0 | SATA | Half-size Mini PCIe | Full-size Mini PCIe ¹ | MIOe | Power connector | Thermal Solution ² | Operation Temp. |
|-----------------|---|----------|--------|-----|---------|-----|----------|----------------|--------|---------|---------|------|---------------------|----------------------------------|------|-----------------|-------------------------------|-----------------|
| MIO-5290U-S6A1E | Intel Core i3 ULV 1.6GHz 3217UE DC, 17W | 3MB | 48-bit | Yes | Yes | 2 | Yes | 1 | 1 | 2 | 4 | 2 | 1 | 1 | Yes | DC Jack | Active | 0 ~ 60° C |
| MIO-5290U-S7A1E | Intel Core i7 ULV 1.7GHz 3517UE DC, 17W | 4MB | 48-bit | Yes | Yes | 2 | Yes | 1 | 1 | 2 | 4 | 2 | 1 | 1 | Yes | DC Jack | Active | 0 ~ 60° C |
| MIO-5290L-U5A1E | Intel Core i7 LV 2.5GHz 3555LE DC, 25W | 4MB | 48-bit | Yes | Yes | 2 | Yes | 1 | 1 | 2 | 4 | 2 | 1 | 1 | Yes | 2x2 pin | Active | 0 ~ 60° C |
| MIO-5290U-S4A1E | Intel Celeron 1.40 GHz 1047UE DC, 17W | 2MB | 48-bit | Yes | Yes | 2 | Yes | 1 | 1 | 2 | 4 | 2 | 1 | 1 | Yes | 2x2 pin | Active | 0 ~ 60° C |

¹ Full-size Mini PCIe supports mSATA

² Active = with fan

Packing List

| Part No. | Description | Quantity |
|----------------|---|----------|
| | MIO-5290 SBC | 1 |
| 2006529000 | Startup Manual | 1 |
| 1700006291 | M Cable SATA 7P/SATA 7P 30cm C=R 180/90 | 1 |
| 1700018785 | SATA 35cm power cable | 1 |
| 1700019435 | COM RS-485 D-SUB 9P (M)/1*5P 1.25 25cm cable | 1 |
| 1701200220 | COM RS-232 Cable 2*10P-2.0/D-SUB 9P (M)*2 22CM | 1 |
| 1700019584 | Audio Cable 2*5P-2.0/JACK*3 20cm | 1 |
| 9689000002 | mini Jumper pack | 1 |
| 1960057431N001 | Cooler for MIO-5290L series only (Height: 47.7mm) | 1 |
| 1960057432N001 | Cooler for MIO-5290U series only (Height: 37mm) | 1 |

Rear I/O View



MIO-5290U-S6A1E
MIO-5290U-S7A1E



MIO-5290L-U5A1E
MIO-5290U-S4A1E

Optional Accessories

| Part No. | Description |
|----------------|-------------------------------------|
| 1960058000N001 | Heat spreader for MIO-5290 |
| 1700006291 | SATA cable 7P/ 7P 30cm C=R 180/90 |
| 1703100260 | Internal USB cable |
| 1757003934 | Adaptor 100-240V 60W 12V 5A W/O PFC |

Embedded OS/API

| Embedded OS/API | Part No. | Description |
|-----------------------------|---------------------------|--|
| Windows Embedded Standard | 2070011449 | WES2009 MIO-5290 ENG |
| Windows Embedded Standard 7 | 2070011453/ 2070011452 | WES7E 32/64bit MIO-5290 ENG/GER/JPN/CH |
| VxWorks | | 6.9.2 |
| QNX | | 6.5 |
| Linux | | CentOS 6.3/Ubuntu 12.04 |
| Software API | | iManager 2.0 |



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