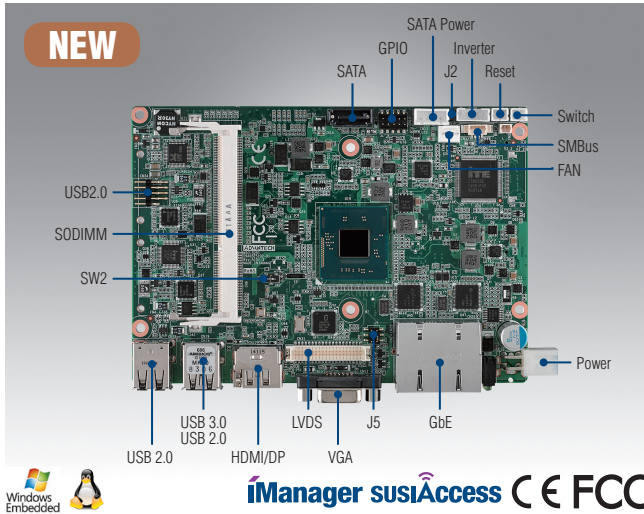


MIO-5251

Intel® Celeron J1900 & Atom™ E3825/ E3845, 3.5" MI/O-Compact SBC, DDR3L, VGA, HDMI/DP, 48-bit LVDS/eDP, 2GbE, Mini PCIe, mSATA/SD card, iManager, MIOe



Features

- Intel® Celeron J1900 & Atom™ E3825/E3845, DDR3L-1066/1333MHz SODIMM up to 8GB
- DirectX11, OpenGL3.2, OpenCL1.2, multi-display: VGA+LVDS/eDP+ HDMI/DP*
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow
- 2 Intel i210 GbE, rich I/O: 4COM, SATA, USB3.0, SMBus/I²C, GPIO full-size Mini PCIe w/ SIM holder, full-size mSATA or SD card
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs:



Utilities:

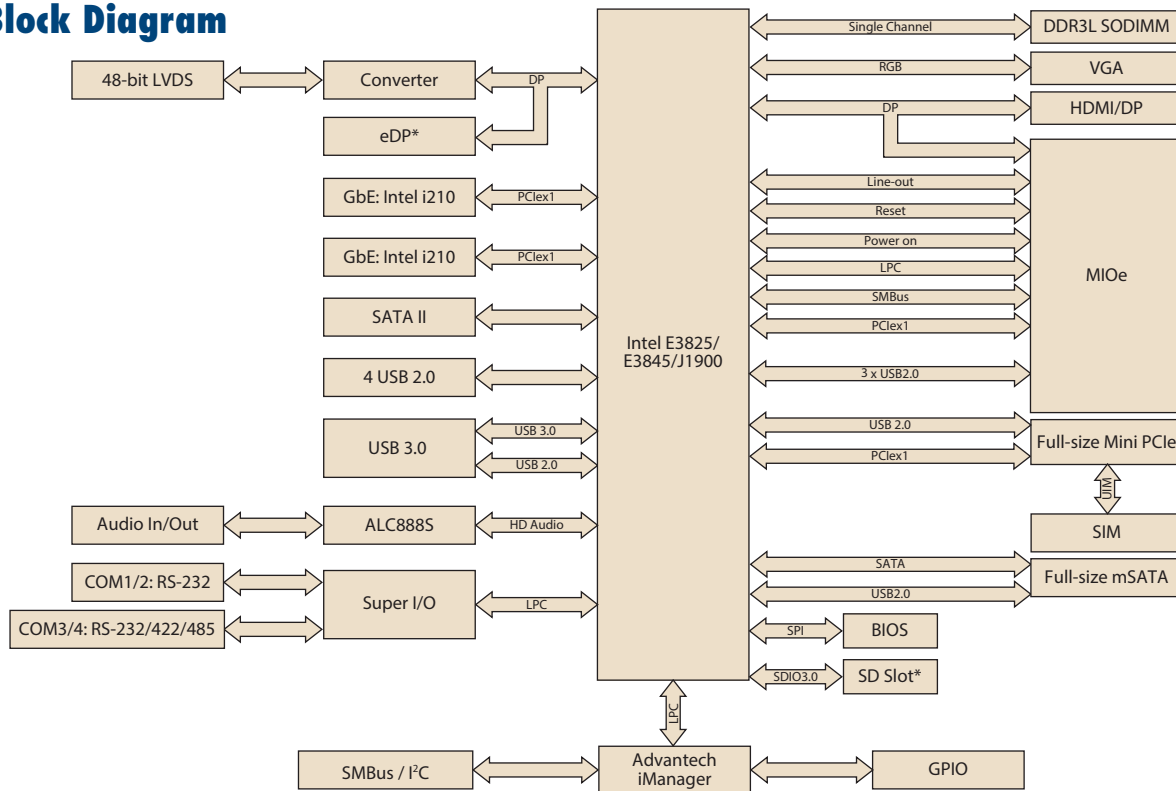


Specifications

| | | Intel Celeron J1900 | Intel Atom E3845 | Intel Atom E3825 |
|--------------------------|--------------------------------------|---|---------------------|----------------------|
| Processor System | CPU | Intel Celeron J1900 | Intel Atom E3845 | Intel Atom E3825 |
| | Base Frequency | 2 GHz (Quad-Core) | 1.91GHz (Quad-Core) | 1.33 GHz (Dual-Core) |
| | Burst Frequency | 2.42 GHz | - | - |
| | L2 Cache | 2MB | 2MB | 1MB |
| | BIOS | AMI UEFI BIOS at 64 Mb | | |
| Memory | Technology | DDR3L 1333 MHz | DDR3L 1333MHz | DDR3L 1066 MHz |
| | Max. Capacity | 8 GB | | |
| | Socket | 1 x 204-pin SODIMM | | |
| Display | Controller | Intel Gen7 graphic engine | | |
| | Graphic Features | DirectX11, OpenGL3.2, OpenCL1.2 HW Decode: H.264, MPEG2, MVC, VC-1, WMV9, MJPEG and VP8. HW Encode: H.264 (MPEG2 and MVC only for J1900) | | |
| | VGA | 2560 x 1600 at 60Hz | | |
| | LVDS | 48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz Supports 3.3/5/12V for VDD power, 5/12V for inverter | | |
| | eDP* | up to 2560 x 1600 at 60Hz | | |
| | HDMI / DisplayPort* | HDMI 1.4a for HD video playback, 1080P at 60Hz Displayport*, up to 2560 x 1600 at 60Hz | | |
| | Mult-Display | VGA + HDMI/Displayport*, VGA+ LVDS/eDP*, HDMI/Displayport* +LVDS/eDP | | |
| Ethernet | Speed | 10/100/1000Mbps | | |
| | Controller | Intel i210 | | |
| | Connector | 2 RJ45 | | |
| Audio | Codec | Realtek ALC888S, High Definition Audio (HD), Line-in, Line out, Mic-in | | |
| | Amplifier* | Optional via MIOe | | |
| WatchDog Timer | | Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds | | |
| Storage | SATA | 1, up to 3Gb/s (300 MB/s) | | |
| | mSATA | 1 x Full-size | | |
| | SD slot* | 1 (Shared with mSATA), only support on E3825/E3845 | | |
| Rear I/O | Ethernet | 2 (10/100/1000Mbps) | | |
| | VGA | 1 | | |
| | HDMI / DisplayPort* | 1 | | |
| | USB 2.0 | 3 | | |
| | USB 3.0 | 1 | | |
| | LED | Power, HDD | | |
| Internal I/O | DC Jack* | 1 | | |
| | Serial | 2 x RS-232 from COM1/2, 2 x RS-232/422/485 from COM3/4 with auto flow control (ESD protection: air gap ±15kV, contact ±8kV) | | |
| | USB2.0 | 1 | | |
| | I ² C | 1 (Shared with SMBus pin) | | |
| Expansion | SMBus | 1 | | |
| | GPIO | 8-bit (5V tolerance) | | |
| | Mini PCIe | 1 x Full-size with SIM holder | | |
| | MIOe | SMBus, 3 x USB2.0, LPC, 1 x PCIe x1, line out, DisplayPort*, +5 Vsb/+12 Vsb power, Power On, Rest | | |
| Power | Power Type | Single 12V DC power input | | |
| | Power Supply Voltage | 12V ± 10% | | |
| | Power Consumption (Typical) | MIO-5251J-U0A1E: | 0.62A @12V (7.44W) | |
| | | MIO-5251EW-S9A1E: | 0.51A @12V (6.12W) | |
| | | MIO-5251E-S3A1E: | 0.39A @12V (4.68W) | |
| | Power Consumption (Max, test in HCT) | MIO-5251J-U0A1E: | 1.16A @12V (13.92W) | |
| MIO-5251EW-S9A1E: | | 0.92A @12V (11.04W) | | |
| MIO-5251E-S3A1E: | | 0.78A @12V (9.36W) | | |
| Power Management | ACPI | | | |
| Battery | Lithium 3 V / 210 mAh | | | |
| Environment | Operating | Standard: 0 ~ 60° C (32 ~ 140° F), Extend: -40 ~ 85° C (-40 ~ 185° F) | | |
| | Storage: | -40 ~ 85° C (-40 ~ 185° F) | | |
| | Non-Operating | -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 | 0.5kg (1.1lb), weight of total package | | |
| | Height | Top Side: 19 mm; Bottom Side: 6.8 mm; PCB: 1.6 mm | | |

* This specification is supported by request

Block Diagram



*: Supported by request

Ordering Information

| Part No. | CPU | L2 Cache | Memory | LVDS | VGA | HDMI/DP | GbE | Audio | RS-232/422/485 | RS-232 | USB 3.0 | USB 2.0 | SATAII | Mini PCIe | mSATA | MIOe | Power connector | Thermal Solution* | Operating Temp. |
|-------------------|-------------------------|----------|-------------|--------|-----|---------|-----|-------|----------------|--------|---------|---------|--------|-----------|-----------|------|-----------------|-------------------|-----------------|
| MIO-5251J-U0A1E | Intel J1900 2GHz 10W | 2MB | SODIMM | 48-bit | Yes | 1 | 2 | Yes | 2 | 2 | 1 | 4 | 1 | Full-size | Full-size | Yes | 2x2pin | Passive | 0°C~60°C |
| MIO-5251E-S3A1E | Intel E3825 1.33GHz 6W | 1MB | SODIMM | 48-bit | Yes | 1 | 2 | Yes | 2 | 2 | 1 | 4 | 1 | Full-size | Full-size | Yes | 2x2pin | Passive | 0°C~60°C |
| MIO-5251EW-S9A1E | Intel E3845 1.91GHz 10W | 2MB | SODIMM | 48-bit | Yes | 1 | 2 | Yes | 2 | 2 | 1 | 4 | 1 | Full-size | Full-size | Yes | 2x2pin | Passive (higher) | -40°C~85°C |
| MIO-5251JZ-2GA1E | Intel J1900 2GHz | 2MB | 2GB bundled | 48-bit | Yes | 1 | 2 | Yes | 2 | 2 | 1 | 4 | 1 | Full-size | Full-size | Yes | 2x2pin | Passive (higher) | -20°C~80°C |
| MIO-5251JZ2-2GA1E | Intel J1900 2GHz | 2MB | 2GB bundled | 48-bit | Yes | 1 | 2 | Yes | 2 | 2 | 1 | 4 | 1 | Full-size | Full-size | Yes | 2x2pin | Passive (higher) | -40°C~85°C |

Note1: J1900 and E3845/E3825 with different version BIOS and only for 64bit Win8/Win7, 32bit supported by T-P/N. (Default setting is Legacy boot)
 Note2: passive=fanless

Packing List

| Part No. | Description | Quantity |
|----------------|--|----------|
| | MIO-5251 SBC | 1 |
| 2006525100 | Startup Manual | 1 |
| 1700006291 | M Cable SATA 7P/SATA 7P 30cm C=R 180/90 | 1 |
| 1700018785 | SATA 35cm power cable | 1 |
| 1701200220 | COM RS-232 Cable 2*10P-2.0/D-SUB 9P (M)*2 22CM | 2 |
| 1700019584 | Audio Cable 2*5P-2.0/JACK*3 20cm | 1 |
| 9689000002 | mini Jumper pack | 1 |
| 1960062791T001 | Heatsink (104 x 83 x 19 mm) for MIO-5251E/J | 1 |
| 1960066556T001 | Wide temp. heatsink (145.4 x 84.2 x 29 mm) for MIO-5251JZ/JZ2/EW | 1 |

Optional Accessories

| Part No. | Description |
|----------------|-------------------------------------|
| 1960065073N001 | Heat spreader (16.7mm height) |
| 1757003934 | Adapter 100-240V 60W 12V 5A W/O PFC |
| 1703100264 | Internal 1 port USB cable 22.5cm |

Embedded OS / API

| Embedded OS/API | Part No. | Description |
|-----------------|------------|---------------------------|
| WE8S | 2070013167 | 64bit (ENG/T-CH/S-CH/JP) |
| WE7E | 2070013061 | 64bit (ENG/T-CH/S-CH/JP) |
| WEC7 | 2070013993 | img WEC7 MIO-5251 v1.0 EN |
| Linux | | Ubuntu 14.04 |
| VxWorks | | 6.9.3.3 |
| Android | | Kit Kat 4.4 |
| Software API | | iManager 2.0 |

Rear I/O View

