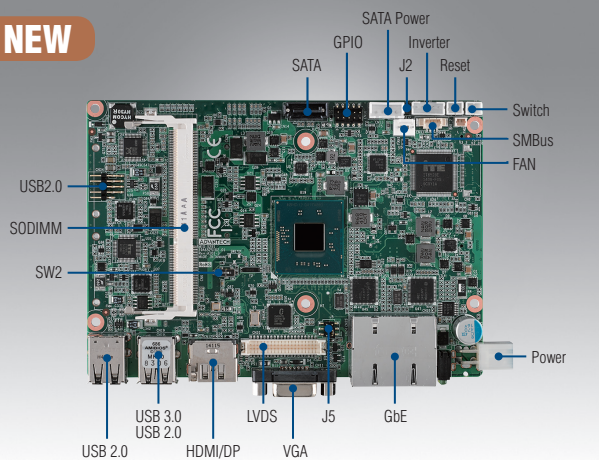


# MIO-5251

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

**NEW**



**iManager susiAccess** CE FCC

## Features

- Intel® Celeron J1900 & Atom E3825, 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/I<sup>2</sup>C, GPIO full-size Mini PCIe w/ SIM holder, full-size mSATA or SD card
- Supports iManager, SUSIAccess and Embedded Software APIs

### Software APIs:



### Utilities:

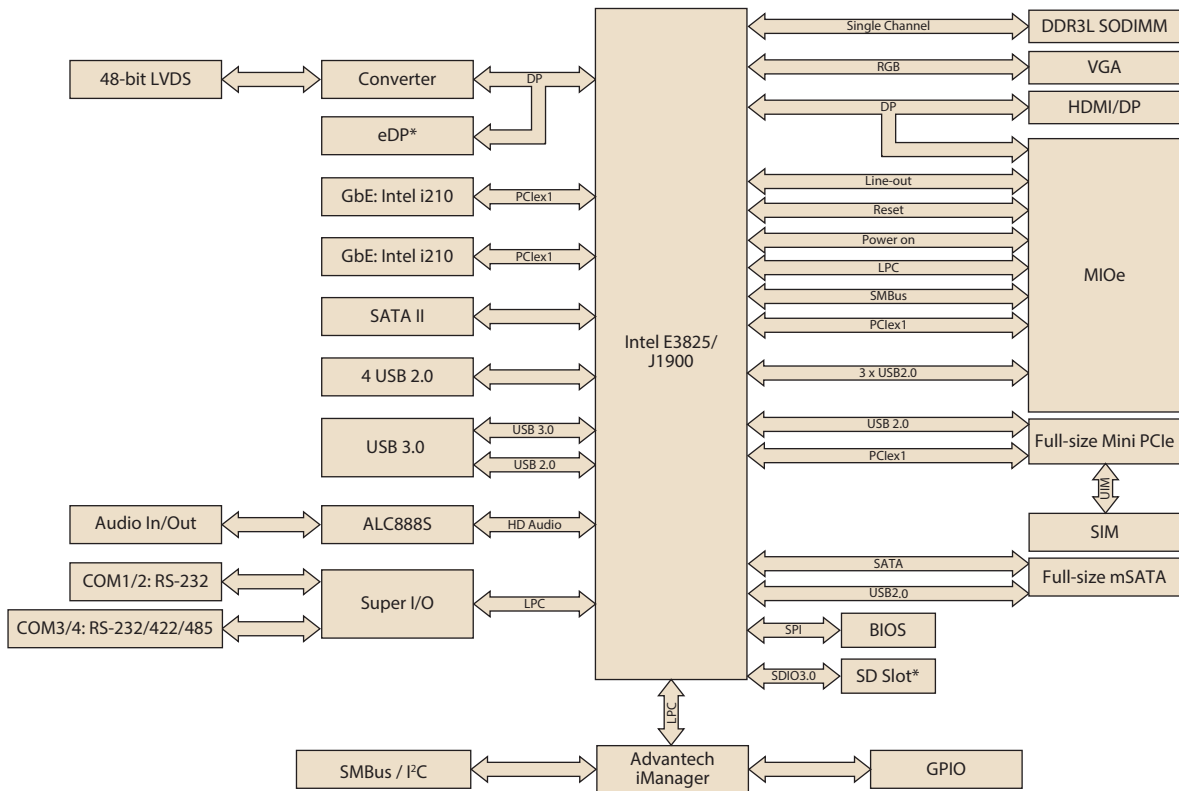


## Specifications

Processor System	CPU	Intel Celeron J1900	Intel Atom E3825
	Base Frequency	2 GHz (Quad-Core)	1.33 GHz (Dual-Core)
	Burst Frequency	2.42 GHz	-
	L2 Cache	2MB	1MB
Memory	BIOS	AMI UEFI BIOS at 64 Mb	
	Technology	DDR3L 1333 MHz	DDR3L 1066 MHz
Display	Max. Capacity	8 GB	
	Socket	1 x 204-pin SODIMM	
	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 up to 2560 x 1600 at 60Hz	
	eDP*	up to 2560 x 1600 at 60Hz	
Ethernet	HDMI / DisplayPort*	HDMI 1.4a for HD video playback, 1080P at 60Hz Displayport*, up to 2560 x 1600 at 60Hz	
	Multit-Display	VGA + HDMI/Displayport*, VGA+ LVDS/eDP*, HDMI/Displayport* +LVDS/eDP	
Audio	Speed	10/100/1000Mbps	
	Controller	Intel i210	
WatchDog Timer	Connector	2 RJ45	
	Codec	Realtek ALC888S, High Definition Audio (HD), Line-in, Line out, Mic-in	
Storage	Amplifier*	Optional via MIOe	
	SATA	Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds	
	mSATA	1, up to 3Gb/s (300 MB/s)	
	SD slot*	1 x Full-size	
Rear I/O	SD slot*	1 (Shared with mSATA)	
	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 <sup>2</sup> C	1 (Shared with SMBus pin)	
	SMBus	1	
Expansion	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: 0.62A @ 12V (7.44W) MIO-5251E: 0.42A @ 12V (5.04W)	
	Power Consumption (Max, test in HCT)	MIO-5251J: 1.16A @ 12V (13.92W) MIO-5251E: 0.81A @ 12V (9.72W)	
	Power Management	ACPI	
Environment	Battery	Lithium 3 V / 210 mAh	
	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	
Physical Characteristics	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing	
	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	

\* The specification is supported by request

## Block Diagram



\*: Supported by request

## Ordering Information

Part No.	CPU	L2 Cache	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*	Operation Temp.
MIO-5251J-U0A1E	Intel J1900 2GHz 10W	2MB	48-bit	Yes	1	2	Yes	2	2	1	4	1	Full-size	Full-size	Yes	2x2pin	Passive	0 ~ 60° C
MIO-5251E-S3A1E	Intel E3825 1.33GHz 6W	1MB	48-bit	Yes	1	2	Yes	2	2	1	4	1	Full-size	Full-size	Yes	2x2pin	Passive	0 ~ 60° C
MIO-5251JZ-2GA1E	Intel J1900 2GHz	2MB	48-bit	Yes	1	2	Yes	2	2	1	4	1	Full-size	Full-size	Yes	2x2pin	Passive (higher)	-20 ~ 80° C
MIO-5251JZ2-2GA1E	Intel J1900 2GHz	2MB	48-bit	Yes	1	2	Yes	2	2	1	4	1	Full-size	Full-size	Yes	2x2pin	Passive (higher)	-40 ~ 85° C

Note1: J1900/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-5251	1
1960066556T001	Wide temp. heatsink (145.4 x 84.2 x 29 mm)	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
WES8	TBD	
WES7E	2070013061	64bit (ENG/T-CH/S-CH/JP)
WEC7	TBD	
Linux		Kernel 3.x
VxWorks		6.9.3.3
Android		Kit Kat 4.4
Software API		iManager 2.0

## Rear I/O View

