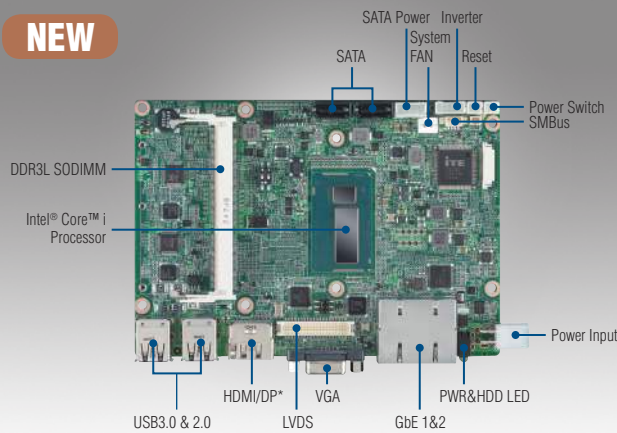


# MIO-5271

**4th Gen Intel® Core™ U-series (i5/Celeron®), 3.5" MI/O-Compact SBC, DDR3L, VGA, HDMI/DP\*, 48-bit LVDS, 2GbE, 2 x Mini PCIe, mSATA, Fanless, MIOe**

**NEW**



iManager susiAccess CE FCC

## Features

- 4th Gen Intel® Core™ U-series (i5/Celeron®), 1 x DDR3L-1600/1333 SO-DIMM support up to 8 GB
- DirectX11.1, OpenGL4.0, OpenCL1.2, 3 independent display: VGA + LVDS + HDMI/Displayport\*
- Optimized thermal design with fanless solution for wide temperature
- 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 4 COM, 2 SATA, SMBus/iPC, GPIO, Half-size Mini PCIe, Full-size Mini PCIe w/ mSATA & 2 USB 3.0
- Supports Intel AMT9.0, iManager, SUSIAccess and Embedded Software APIs

### Software APIs:



### Utilities:



## Specifications

Processor System	CPU	Intel Core i5-4300U	Intel Celeron 2980U
	Base Frequency	1.9 GHz (Dual-Core)	1.6GHz (Dual-Core)
	Max Turbo Frequency	2.9 GHz	N/A
	L3 Cache	3MB	2MB
	System Chipset	Integrated Intel 8 Series Chipset	
	BIOS	AMI UEFI 128 Mbit	
Memory	Technology	DDR3L 1333/1600 MHz	
	Max. Capacity	8 GB	
	Socket	1 x 204-pin SODIMM	
Display	Controller	Intel HD Graphics 4400 / Intel HD Graphics (Celeron)	
	Processor Graphics	DirectX11.1, OpenGL 4.0, and OpenCL 1.2 Full AVC/VC1/MPEG2 HW Decode	
	VGA	Up to 1920 x 1200 with 60 Hz, 154 MHz pixel clock rate	
	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 1920 x 1200 with 60Hz	
	HDMI / DisplayPort*	Supports HDMI 1.4 for HD Video playback Max resolution up to 3200 x 2000 at 60 Hz on DisplayPort, 4096 x 2304 at 24 Hz on HDMI	
Ethernet	Speed	10/100/1000Mbps	
	Controller	GbE1: Intel i218, GbE2: Intel i210	
Audio	Connector	2 RJ45 on Rear I/O	
	Codec	High Definition Audio (HD), Line-in, Line out, Mic-in	
WatchDog Timer	Amplifier	Optional via MIOe	
		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds	
Storage	SATA	2, up to 6.0 Gb/s (600 MB/s)	
	mSATA	1 x Full-size (support either mSATA or miniPCIe, select by switch)	
Rear I/O	Ethernet	2	
	VGA	1	
	HDMI / DisplayPort*	1	
	USB 2.0	2	
	USB 3.0	2	
	LED	Power, HDD	
	DC Jack*	1	
Internal I/O	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)	
	USB*	1 (Shares with the USB port for Mini PCIe)	
	iPC	1 (Shares with SMBus pin)	
	SMBus	1	
	GPIO	8-bit general purpose input/output	
Expansion	Mini PCIe	1 x Full-size with SIM card holder (default support mSATA) 1 x Half-size	
	MIOe	Displayport*, SMBus, 3 x USB2.0, LPC, 1 x PCIe x1, line out, +5 Vsb/+12 Vsb power, Power On, Reset	
Power	Power Type	Single 12V DC power input	
	Power Supply Voltage	Supports single 12V input, ± 10%	
	Power Consumption (Typical)	MIO-5271U-S6A1E: 0.38 A @ 12 V (4.56 W) MIO-5271U-S9A1E: 0.39 A @ 12 V (4.68 W)	
	Power Consumption (Max)	MIO-5271U-S6A1E: 1.71 A @ 12 V (20.52 W) MIO-5271U-S9A1E: 2.46 A @ 12 V (29.52 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: 24 mm (MIO-5271U), 34 mm (MIO-5271Z&Z2); Bottom Side: 6.8 mm; PCB: 1.6mm	

\*It will not be supported in default, please contact to Advantech if this function is needed.

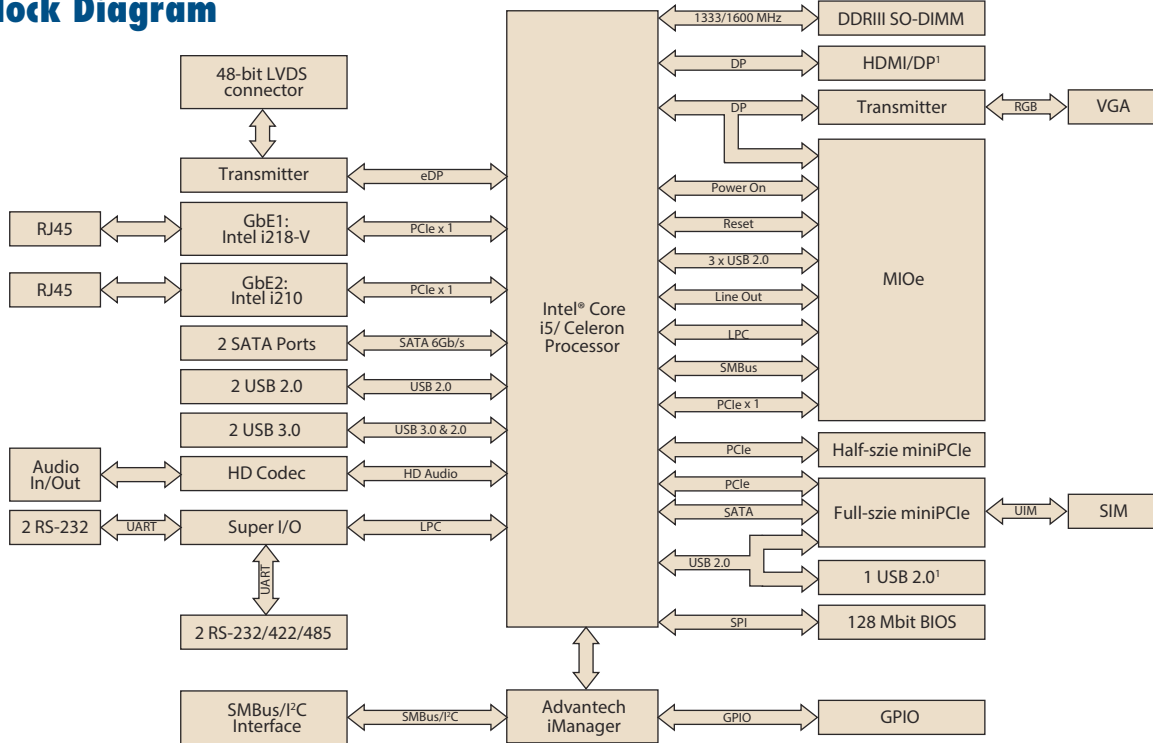
**ADVANTECH**

**MIO/ Extension SBCs, Modules and Chassis**

All product specifications are subject to change without notice

Last updated : 17-Feb-2015

### Block Diagram



<sup>1</sup> Support by request

### Ordering Information

Part No.	CPU	L3 Cache	Memory	LVDS	VGA	HDMI/DP <sup>1</sup>	GbE	HD Audio	RS-232/422/485	RS-232	USB 3.0	USB 2.0	SATAIII	Half-size Mini PCIe	Full-size Mini PCIe <sup>2</sup>	MIOe	Power connector	Thermal Solution <sup>2</sup>	Operation Temp.
MIO-5271U-S9A1E	Intel i5-4300U 1.9GHz 15W	3MB	SO-DIMM	48-bit	Yes	HDMI	2	1	2	2	2	2	2	1	1	1	2x2 pin	Passive	0 – 60° C
MIO-5271U-S6A1E	Intel Celeron 2980U 1.6GHz 15W	2MB	SO-DIMM	48-bit	Yes	HDMI	2	1	2	2	2	2	2	1	1	1	2x2 pin	Passive	0 – 60° C
MIO-5271Z-4GS9A1E	Intel i5-4300U 1.9GHz 15W	3MB	4GB bundle	48-bit	Yes	HDMI	2	1	2	2	2	2	2	1	1	1	2x2 pin	Passive	-20 – 80° C
MIO-5271Z-4GS9A1E	Intel i5-4300U 1.9GHz 15W	3MB	4GB bundle	48-bit	Yes	HDMI	2	1	2	2	2	2	2	1	1	1	2x2 pin	Passive	-40 – 85° C

<sup>1</sup> Support by request  
<sup>2</sup> Default support mSATA

### Packing List

Part No.	Description	Quantity
	MIO-5271 SBC	1
2006527100	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
1960062041T001	Heatsink (104 x 83 x 24 mm) for MIO-5271U only	1
1960066765T001	Heatsink (145 x 84 x 34 mm) for MIO-5271Z&Z2 only	1

### Rear I/O View



MIO-5271U-S9A1E  
 MIO-5271U-S6A1E  
 MIO-5271Z-4GS9A1E  
 MIO-5271Z2-4GS9A1E

### Optional Accessories

Part No.	Description
1960063980N001	Heat spreader for MIO-5271
1700023098-01	Internal 1 x USB-A cable 15CM

### Embedded OS/API

Embedded OS/API	Part No.	Description
Windows Embedded Standard 7	2070012422	WES7E MIO-5271 x86 V5.1.6 EN/TC/SC/JP
VxWorks		6.9.2
Linux		Ubuntu 13.04
Software API		iManager 2.0