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# Datasheet

## **ADVANTECH**

**MIO-5350**

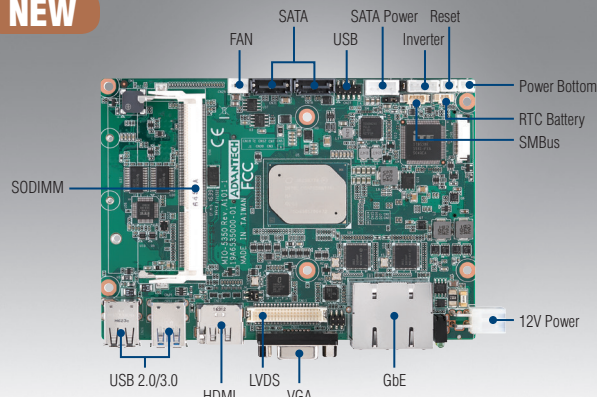
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# MIO-5350

**Intel® Pentium N4200 Celeron N3350 & Atom™ E3950/E3940/E3930, 3.5" MI/O-Compact SBC, DDR3L, VGA, HDMI/DP\*, 48-bit LVDS/eDP\*, 2GbE, Mini PCIe, mSATA, iManager, M.2 E Key, \*TPM 2.0, MIOe**

**NEW**



**iManager WISE-PaaS/RMM** **CE FCC**

## Features

- Intel® Pentium N4200 & Celeron N3350, Atom™ E3950, E3940, E3930, DDR3L 1867 MHz, up to 8GB
- DirectX 12.0, OpenGL 4.3, OpenCL 2.0, Triple 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, 2 SATA, 2 USB 3.0, SMBus/I<sup>2</sup>C, GPIO full-size Mini PCIe, full-size mSATA
- Supports iManager, RMM and Embedded Software APIs

### Software APIs:



### Utilities:

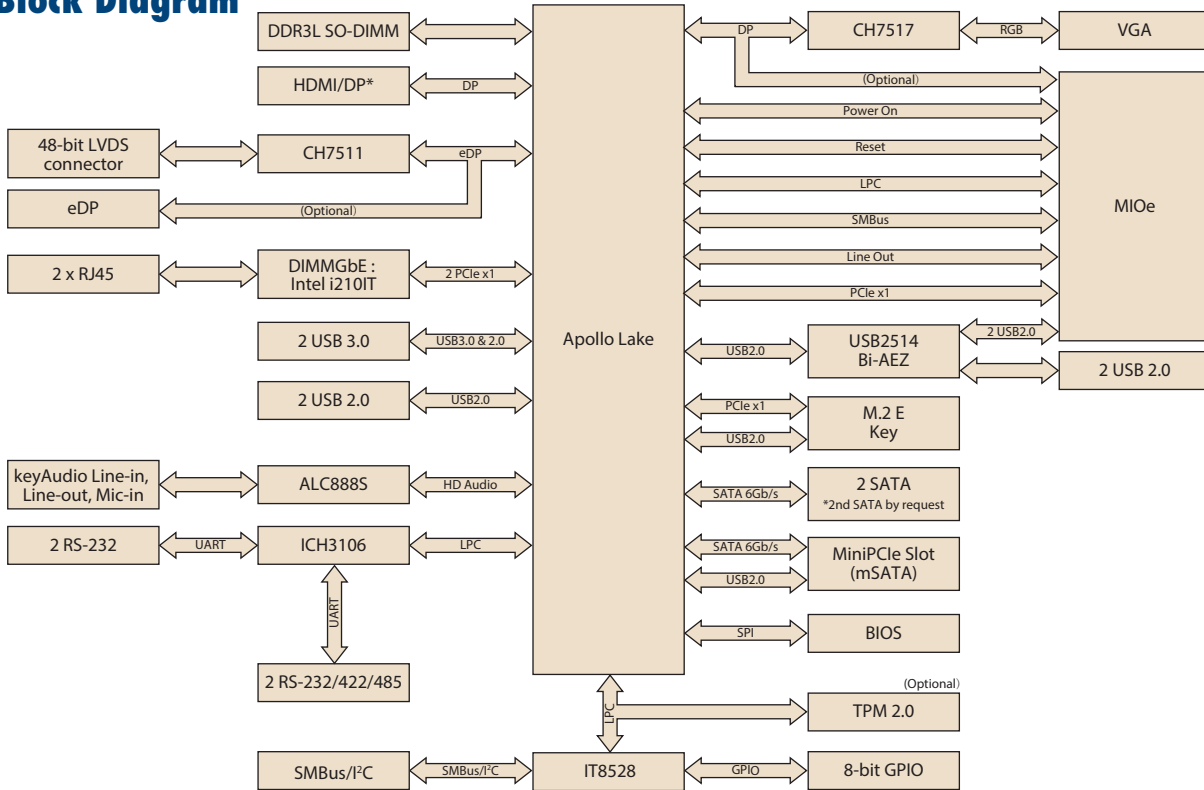


## Specifications

		Intel Pentium 4200	Intel Celeron N3350	Intel Atom E3950	Intel Atom E3940	Intel Atom E3930
Processor System	CPU	Intel Pentium 4200	Intel Celeron N3350	Intel Atom E3950	Intel Atom E3940	Intel Atom E3930
	Base Frequency	1.1 (Quad-Core)	1.1 (Dual-Core)	1.6 (Quad-Core)	1.6 (Quad-Core)	1.3 (Dual-Core)
	Burst Frequency	2.5	2.4	2	1.8	1.8
	L2 Cache	2	2	2	2	2
Memory	BIOS	AMI UEFI BIOS at 64 Mb				
	Technology	DDR3L 1867 MHZ				
Display	Max. Capacity	8 GB				
	Socket	1 x 204-pin SODIMM				
	Controller	Intel Gen9 Graphic engine				
Ethernet	Graphic Features	DirectX 12.0, OpenGL 4.3, OpenCL 2.0 HW Decode: MPEG2, H.264 (L5.2), VC-1, WMV9, VP8, JPEG/MJPEG, H.265 (HEVC), VP9, MVC				
	VGA	Maximum Resolution up to 1920 x 1200				
	LVDS	48 bit LVDS up to 1.4b (3840 x 2160 @ 30Hz) Supports 3.3/5/12V for VDD power, 5/12V for inverter				
	eDP*	v1.4 4096 x 2160 @ 60Hz				
	HDMI / DP*	HDMI 3840 x 2160 @ 30Hz/ DP1.2a (4096 x 2160 @ 60Hz)				
Audio	Multit-Display	VGA, HDMI/DP*, LVDS/eDP*				
	Speed	10/100/1000Mbps				
WatchDog Timer	Controller	Intel i210				
	Connector	2 RJ45				
Storage	Codec	Realtek ALC888S, High Definition Audio (HD), Line-in, Line out, Mic-in				
	Amplifier*	Optional via MIOe				
Rear I/O	Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds					
	SATA	2 (2nd SATA is by request), up to 3Gb/s (300 MB/s)				
Internal I/O	mSATA	1 x Full-size				
	Ethernet	2 (10/100/1000Mbps)				
	VGA	1				
	HDMI / DisplayPort*	1				
	USB 2.0	2				
	USB 3.0	2				
	LED	Power, HDD				
Security	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)				
	USB 2.0	2				
	I <sup>2</sup> C	1 (Shared with SMBus pin)				
Expansion	SMBus	1				
	GPIO	8-bit (5V tolerance)				
Power	TPM2.0*	Support by request				
	Mini PCIe	1 x Full-size				
	MIOe	SMBus, 3 x USB2.0, LPC, 1 x PCIe x1, line out, DisplayPort*, +5 Vsb/+12 Vsb power, Power On, Rest				
	Power Type	Single 12V DC power input				
	Power Supply Voltage	12V ± 10%				
	Power Consumption (Typical)	N4200: 0.4A @ 12V (4.80W) N3350: 0.4A @ 12V (4.80W)				
Environment	Power Consumption (Max, test in HCT)	N4200: 1.26A @ 12V (15.12W) N3350: 1.29 @ 12V (15.48W)				
	Power Management	ACPI				
	Battery	Lithium 3 V / 210 mAh				
Physical Characteristics	Operating	0 ~ 60 °C (32 ~ 140 °F) (Operating humidity: 40 °C @ 95% RH Non-Condensing)				
	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



### Ordering Information

Part No.	CPU	L2 Cache	Memory	LVDS/ eDP*	VGA	HDMI/ DP*	GbE	Audio	RS-232/ 422/485	RS-232	USB 3.0	USB 2.0	SATA III	M.2 E Key	Mini PCle	mSATA	MIOe	Power connector	Thermal Solution*	Operating Temp.
MIO-5350N-S2A1E	Intel N4200	2MB	SODIMM	48-bit	Yes	1	2	Yes	2	2	2	4	1	1	Full-size	Full-size	Yes	2x2pin	Passive	0°C-60°C
MIO-5350N-S1A1E	Intel N3350	2MB	SODIMM	48-bit	Yes	1	2	Yes	2	2	2	4	1	1	Full-size	Full-size	Yes	2x2pin	Passive	0°C-60°C

Note: passive=fanless

### Packing List

Part No.	Description	Quantity
2006535000	MIO-5350 SBC	1
	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

### Optional Accessories

Part No.	Description
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
Win10	2070015276	64bit (ENG)
WEC2013		
Linux		Ubuntu 14.04
VxWorks		6.9.3.3
Android		Kit Kat 4.4
Software API		iManager 2.0

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