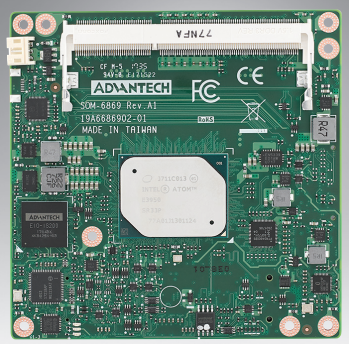
SOM-6869

Intel® Atom™ E3900 & Pentium™ and Celeron™ N Series Processors COM-Express Compact Module

NEW



Windows Embedded WISE-PaaS/RMM iManager CE FC

Features

- COM R2.1 Type 6 Compact Module
- Intel® Atom™ E3900 & Pentium™ and Celeron™ N Series Processors
- Max. 8GB, dual Channel DDR3L memory (A1: non-ECC ; B1: ECC)
- Supports up to 3 simultaneous display: LVDS/eDP, VGA, HDMI/DisplayPort
- Supports H.264/AVC, H.265/HEVC, VP9, VP8 HW DECODE
- Supports Wide-range opreating temp.
- iManager, WISE-PaaS/RMM, and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

Utilities: BIOS flash, Monitoring, Embedded Security ID

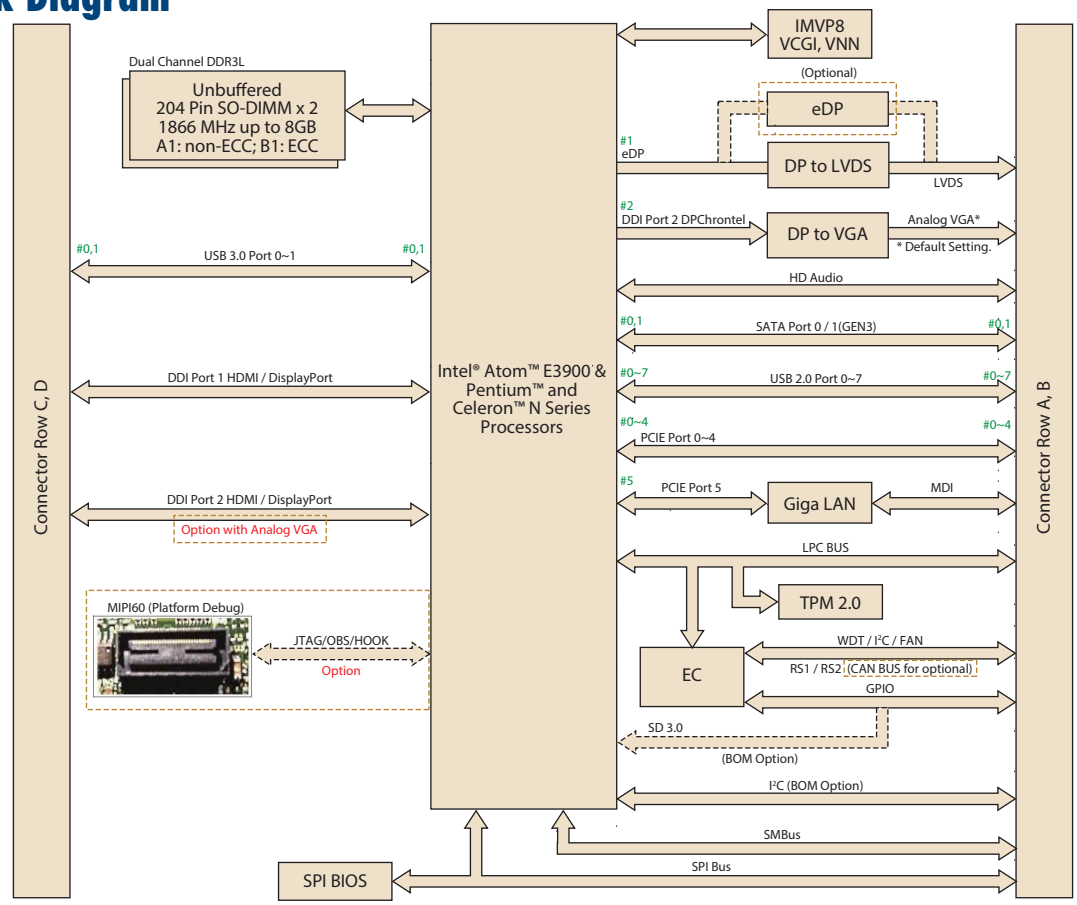
Specifications

Compliance	Form-Factor	COM Express Compact Module				
	Pin-out Type	COM Express R2.1 Type 6 pin out				
Platform	Processor	Atom X7-E3950	Atom X5-E3940	Atom X5-E3930	Pentium N4200	Celeron N3350
	Base Frequency	1.6GHz	1.6GHz	1.3GHz	1.1GHz	1.1GHz
	Burst Frequency	2GHz	1.8GHz	1.8GHz	2.5GHz	2.4GHz
	Core/Thread	4/4	4/4	2/2	4/4	2/2
	LLC	2 MB	2 MB	2 MB	2 MB	2 MB
	CPU TDP	12 W	9.5 W	6.5 W	6 W	6 W
	BIOS	AMI UEFI BIOS @ 64 Mb				
Memory	Technology	Dual channel DDR3L, 1866 for non ECC/1600 for ECC				
	ECC Support	A1: non-ECC; B1: ECC (E3900 SKU only)				
	Channel/Socket	Dual Channels / 2 sockets				
	Max. Capacity	Up to 8 GB				
Graphics	Controller	Intel® HD Graphics 505	Intel® HD Graphics 500	Intel® HD Graphics 500	Intel® HD Graphics 505	Intel® HD Graphics 500
	Graphics Burst Frequency	650MHz	600MHz	550MHz	750MHz	650MHz
	Graphics Memory	Intel DMVT5.0				
	3D/HW Acceleration	DX (9.3, 10, 11.3, 12), OpenGL 4.3, OGL ES 3.0, OpenCL 2.0 HEVC (H.265) @ L5, H.264 @ 5.2, MVC, MPEG2, VP8, VP9, VC-1, WMV9,JPEG/MJPEG HW Decode, HEVC (H.265) @ L4, H.264 @ 5.2, MVC, VP8, VP9, JPEG/MJPEG HW Encode				
Display	VGA	1 port up to 1920 x 1200				
	LCD (LVDS/DP)	LVDS: Dual-channel 18/24-bit, up to 1366 x 768 eDP: Up to 4096 x 2160 @ 60 Hz				
	DDI (HDMI/DisplayPort)	Multi-independent display: Up to 3 simultaneous display (1 Internal + 2 Externals) Resolution: ▪ HDMI1.4b: 3840 x 2160 @ 30Hz ▪ DP1.2a: 4096 x 2160 @ 60Hz				
	Triple Display	eDP, VGA, HDMI/DisplayPort(DDI1) LVDS, VGA, HDMI/DisplayPort(DDI1) eDP, HDMI/DisplayPort(DDI1), HDMI/DisplayPort(DDI2) LVDS, HDMI/DisplayPort(DDI1), HDMI/DisplayPort(DDI2)				
Expansion	PCI Express x1	5 PCIe x1, 1 PCIe x4 + 1 PCIe x1 (Optional)				
	Audio Interface	Intel HD Audio Interface				
	LPC	Yes (25MHz)				
Serial Bus	SMBus	Yes (Default from CPU; Option from EC)				
	I²C Bus	Yes (Default from EC; Option from CPU)				
Ethernet	Controller	Intel i210IT/i210AT				
	Speed	10/100/1000 Mbps				
I/O	SATA	2 ports, Support Gen 1(1.5 Gb/s) or Gen2 (3 Gb/s) and Gen3.1 (6Gb/s)				
	USB3.0	2 ports				
	USB2.0	8 ports				
	SPI Bus	Support SPI BIOS EEPROM				
	GPIO	8-bit GPIO programmable				
	SDIO	Optional				
	Watchdog	65536 level, 0 ~ 65535 sec				
	COM Port	2 Ports (2-Wire)				
	Express Card	2				
	TPM	TPM2.0				
	CAN Bus	Optional				
	Smart Fan	2 Ports; 1 Port on COM Module. Support 12V Fan, 1 Port on Carrier Board				
Power	Type	ATX: Vin, VSB; AT: Vin				
	Supply Voltage	ATX (Vin 4.75-20V, Vsb 4.75-5.25V) AT (Vin 4.75-20V)				
	Power Consumption	Max. 14.76Watt. (N4200) Idle 4.46Watt.(N4200)				
Environment	Temperature	Operating Standard: 0 ~ 60° C (32 ~ 140° F), Extend: -40 ~85 °C (-40 ~ 185 °F) (E3900 SKU only) Storage: -40 ~ 85° C (-40 ~ 185° F)				
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing				
	Vibration Resistance	3.5 Grms				
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")				

All product specifications are subject to change without notice.

Last updated: 11-Sep-2018

Block Diagram



Ordering Information

Part No.	CPU	Frequency Base/Burst	Core	CPU TDP	DDR3L Memory	ECC	LVDS	VGA	DDI	Giga LAN	HD Audio	PCIe x 1	USB 2.0	USB 3.0	SATAIII	LPC	Power	Thermal Solution	Operating Temperature
SOM-6869RC-S1A1E	Celeron N3350	1.1/2.4 GHz	2C	6W	DDR3L-1866 MHz	No	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	Passive	0 ~ 60 °C
SOM-6869PC-S2A1E	Pentium N4200	1.1/2.5 GHz	4C	6W	DDR3L-1866 MHz	No	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	Passive	0 ~ 60 °C
SOM-6869AC-S3A1E	Atom x5-E3930	1.3/1.8 GHz	2C	6.5W	DDR3L-1866 MHz	No	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	Passive	0 ~ 60 °C
SOM-6869AC-S6A1E	Atom x5-E3940	1.6/1.8 GHz	4C	9.5W	DDR3L-1866 MHz	No	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	Passive	0 ~ 60 °C
SOM-6869AC-S7A1E	Atom x7-E3950	1.6/2.0 GHz	4C	12W	DDR3L-1866 MHz	No	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	Passive	0 ~ 60 °C
SOM-6869AC-S3B1	Atom x5-E3930	1.3/1.8 GHz	2C	6.5W	DDR3L-1600 MHz	Yes	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	Passive	0 ~ 60 °C
SOM-6869AC-S6B1	Atom x5-E3940	1.6/1.8 GHz	4C	9.5W	DDR3L-1600 MHz	Yes	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	Passive	0 ~ 60 °C
SOM-6869AC-S7B1	Atom x7-E3950	1.6/2.0 GHz	4C	12W	DDR3L-1600 MHz	Yes	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	Passive	0 ~ 60 °C
SOM-6869AX-S3A1E	Atom x5-E3930	1.3/1.8 GHz	2C	6.5W	DDR3L-1866 MHz	No	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	TBC	-40 ~ 85 °C
SOM-6869AX-S6A1E	Atom x5-E3940	1.6/1.8 GHz	4C	9.5W	DDR3L-1866 MHz	No	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	TBC	-40 ~ 85 °C
SOM-6869AX-S7A1E	Atom x7-E3950	1.6/2.0 GHz	4C	12W	DDR3L-1866 MHz	No	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	TBC	-40 ~ 85 °C
SOM-6869ACX-S3B1	Atom x5-E3930	1.3/1.8 GHz	2C	6.5W	DDR3L-1600 MHz	Yes	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	TBC	-40 ~ 85 °C
SOM-6869ACX-S6B1	Atom x5-E3940	1.6/1.8 GHz	4C	9.5W	DDR3L-1600 MHz	Yes	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	TBC	-40 ~ 85 °C
SOM-6869ACX-S7B1	Atom x7-E3950	1.6/2.0 GHz	4C	12W	DDR3L-1600 MHz	Yes	18/24-bit	1	2	1	Yes	5	8	2	2	Yes	AT/ATX	TBC	-40 ~ 85 °C

Note: Any other sku or combination is project based support. Please contact sales for details.

Packing List

Part No.	Description	Quantity
-	SOM-6869 CPU Module (N4200, N3350 CPU SKU)	1
1960080793T000	Heatspreader * For N4200, N3350 CPU SKU	1

Part No.	Description	Quantity
-	SOM-6869 CPU Module	1
1960080792T000	Heatspreader (for E3900 SKU)	1
1960080793T000	Heat spreader (for N SKU)	1

Optional Accessories

Part No.	Description
1960048815N001	Semi-Heatsink 95 x 95 x 16.25 mm
1960048819N001	Semi-Cooler 95 x 95 x 33 mm
96LEDK-I057VG50NA1	5.7" LED PANEL 500N 640X480(G)
96LEDK-A084SV45NB2	8.4" LED PANEL 450N 800X600(G) G084SN05 V9
96LEDK-C150XG40NG1	15" LED PANEL 400N 1024X768(G) G150XGE-L04
96LEDK-A170SX35NF1	17" LED 350N 1280X1024(G) G170EG01 V1

Development Board

Part No.	Description
SOM-DB5800-00A2E	COMe Devel. Board Type6 pint-out Rev. A2

Embedded OS

OS	Part No.	Description
Win10	2070015008	img W10 16EL SOM-6869 64bit 1701 Eng