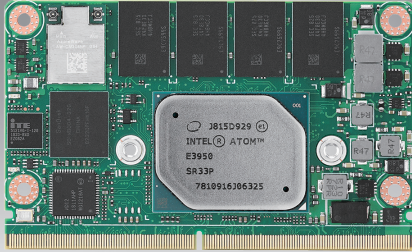


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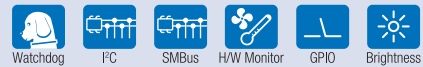
Intel® Atom™ E3900 / Pentium® / Celeron® N Series SMARC Module



Features

- SMARC2.0 & SMARC2.1 Compliance
- Intel® Atom™ E3900 / Pentium® / Celeron® N Series Processors
- Integrated dual GbE, wireless module on board design
- Dual channel LPDDR4 2/4/8 GB memory down & onboard eMMC
- Triple display (DP++, HDMI, LVDS)
- Supports iManager, WISE-PaaS/DeviceOn and embedded software APIs

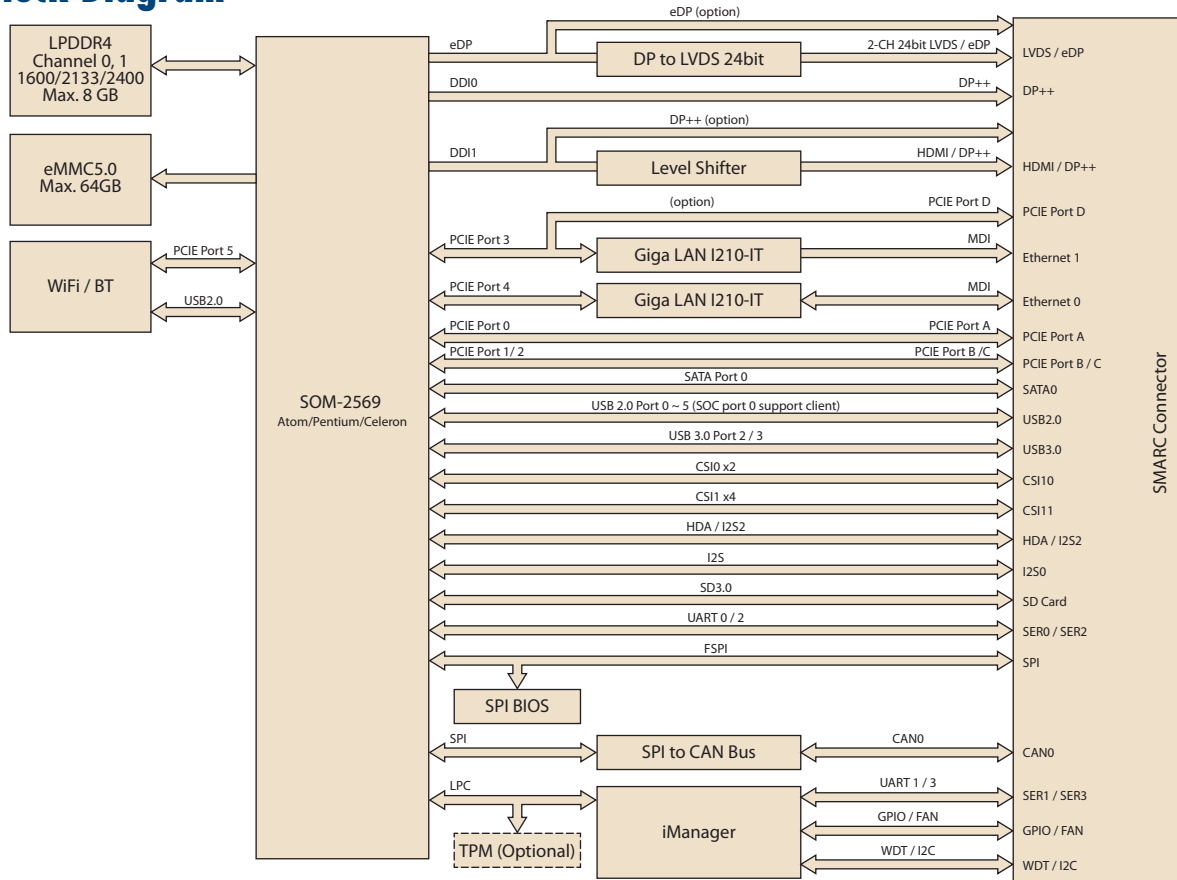
Software APIs:



Specifications

Form Factor	Form Factor	SMARC2.0 & SMARC2.1 Compliance				
	PCB Size	82 mm x 50 mm				
Processor System	CPU	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
	Turbo Boost 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	LPDDR4 2400MT/s				
	ECC Support	N/A				
	Max. Capacity	8GB				
	Channel / Socket	Dual Channel / On Board Memory				
Graphics	Controller	Intel® HD Graphics 505	Intel® HD Graphics 500	Intel® HD Graphics 500	Intel® HD Graphics 505	Intel® HD Graphics 500
	Max. Frequency	650MHz	600MHz	550MHz	750MHz	650MHz
	Graphic Memory	Intel DVM5.0				
	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	LCD (LVDS/eDP)	LVDS: Dual-channel 18/24-bit, up to 1920 x 1080 (option support eDP 4096 x 2304@60Hz, 24bpp)				
	DP++	1 Port (up to 4096 x 2160 @ 60Hz)				
	HDMI	1 Port (up to 3840 x 2160 @ 30Hz, option support DP++ up to 4096 x 2160 @ 60Hz)				
	Multiple Display	Triple displays with each display combinations				
Expansion	PCI Express x1 (Gen2)	Up to 4 PCIe x1				
	Audio Interface	1 Intel HD Audio Interface / Up to 2 I2S				
Serial Bus	SMBus	Yes				
	I2C Bus	Yes				
	CAN Bus	Yes (optional)				
Ethernet	Controller	Intel I210				
	Speed	10/100/1000 Mbps				
	Connector (RJ45)	Up to 2 Ports				
I/O	SATA3.0	1 Port (6Gbps)				
	USB3.0	2 Ports				
	USB2.0	6 Ports (480Mbps, include 1 client port)				
	GPIO	12 GPIOs				
	Watchdog	65536 level, 0-65535 sec				
	COM Port	4 Ports (2 Ports 4-wire / 2 Ports 2-wire)				
	Onboard Storage	Up to 64GB eMMC				
	TPM	TPM2.0 (Infineon SLB9665) (optional)				
	Smart Fan	N/A				
	SPI Bus	Yes				
	SDIO (SD Card)	Yes				
	Wifi / BT Module	1 Wifi / BT Module on Board (Optional)				
	CSI	2 Ports (1 Port 2-lane / 1 Port 4-lane)				
Power	Type	AT/ATX : Vin				
	Supply Voltage	Vin: 4.75-5.25V, RTC Battery: 2.0V ~ 3.3V				
	Power Consumption (Max.)	14.11 W				
	Power Consumption (Idle)	3.45 W				
Environment	Operating Temperature	Standard: 0 ~ 60 °C (32 ~ 140 °F) Extended: -40 ~ 85 °C (-40 ~ 185 °F)				
	Storage Temperature	-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	82 mm x 50 mm				

Block Diagram



Ordering Information

P/N	CPU	Freq.	Cores	CPU TDP	Memory	eMMC	Wi-Fi/BT	Thermal Solution	Operating Temperature
SOM-2569CNC-CA-S7A1	Atom x7-E3950	1.6	4	12W	8GB	64GB	-	Passive	0 ~ 60 °C
SOM-2569BNBCA-S7A1	Atom x7-E3950	1.6	4	12W	4GB	32GB	Yes	Passive	0 ~ 60 °C
SOM-2569BNBC-S7A1	Atom x7-E3950	1.6	4	12W	4GB	32GB	-	Passive	0 ~ 60 °C
SOM-2569BNBC-S6A1	Atom x5-E3940	1.6	4	9.5W	4GB	32GB	-	Passive	0 ~ 60 °C
SOM-2569BNBC-S3A1	Atom x5-E3930	1.3	2	6.5W	4GB	-	-	Passive	0 ~ 60 °C
SOM-2569CNC-CA-S2A1	Pentium N4200	1.1	4	6W	8GB	64GB	-	Passive	0 ~ 60 °C
SOM-2569BCBC-S1A1	Celeron N3350	1.1	2	6W	4GB	32GB	-	Passive	0 ~ 60 °C
SOM-2569BNBX-S7A1	Atom x7-E3950	1.6	4	12W	4GB	32GB	-	Passive	-40 ~ 85 °C

*Any other SKU or combination has project-based support. Please contact sales team for details.

Packing List

Part No.	Description	Quantity
-	SOM-2569 SMARC Module	1
1960093125T011	SOM-2569 E3900 SKU heat spreader	1
1970004428N011	SOM-2569 N Series SKU heat spreader	1

Development Board

Part No.	Description
SOM-DB2500-00A1	Development Board for SMARC 2.0

Optional Accessories

Part No.	Description
1960093089T001	Semi-Heatsink, 82L x 34W x 18H

Embedded OS

OS	P/N	Description
Win10	20706WX9HS0040	Win10 IoT 2019 Enterprise LTSC High End
Win10	20706WX9VS0043	Win10 IoT 2019 Enterprise LTSC Value
Win10	20706WX9ES0053	Win10 IoT 2019 Enterprise LTSC Entry