

SOM-5962

Intel® Atom™ C3000 Processor COM Express R3.0 Type 7 Module



Features

- Intel® Atom™ C3000 processor
- COM Express R3.0 basic module Type 7 pin out
- 2~16 core processors, with max. TDP 31W
- Dual-CH DDR4 2400 w/ECC, max. 128GB
- High speed Ethernet (4 10GBASE-KR interfaces, one GbE)
- Abundant expansion: (3 PCIe4, 2 SATA 3.0, 4 USB 3.0)
- Supports iManager, embedded software APIs and WISE-PaaS/DeviceOn

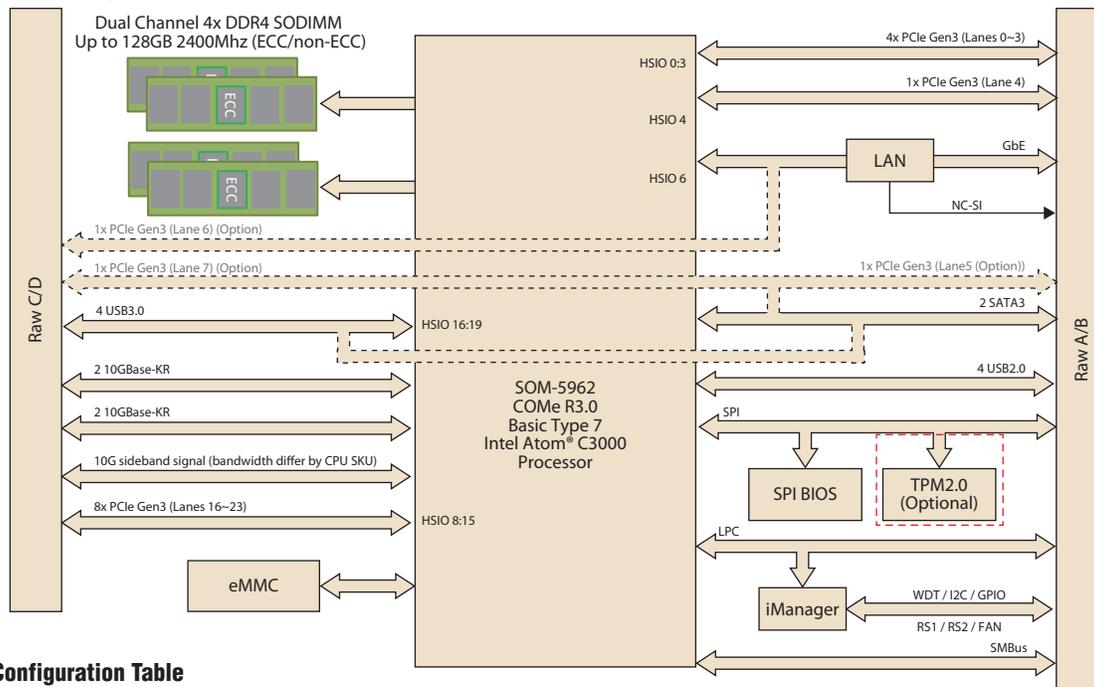
Software APIs:



Specifications

Form Factor	Form Factor	COM Express Basic Module				
	Pin-out Type	COM Express R3.0 Type 7 compatible				
Processor System	CPU	C3958	C3558	C3808	C3708	C3508
	Base Frequency	2.0GHz	2.2GHz	2GHz	1.7GHz	1.6GHz
	Max Single Core Turbo Frequency	2.0GHz	2.2GHz	2GHz	1.7GHz	1.6GHz
	Cores	16	4	12	8	4
	LLC	16MB	8MB	12MB	16MB	8MB
	CPU TDP	31W	16W	25W	17W	11.5W
	BIOS	AMI UEFI 128Mbit				
Memory	Technology	DDR4				
	Max. Frequency	2400 MHz	2133 MHz	2133 MHz	2133 MHz	1866 MHz
	ECC Support	Non-ECC or ECC				
	Max. Capacity	128GB				
	Socket	4x 260P SO-DIMM, Dual Channel (Up to 2pcs SODIMM by optional SKU)				
Expansion	PCI Express	1 PCIe gen3 x8, bifurcatable to 2 x4, 4 x2. 1 PCIe gen3 x4, bifurcatable to 2 x2 (up to 2 PCIe x8 by option) Note: Depending on SoC HSIO lanes				
	LPC	Yes 24MHz				
Serial Bus	SMBus	Yes				
	I²C Bus	Yes				
Ethernet	10GB Ethernet	Intel integrated 4 x 10G LAN controller; Interface: 10GBase-KR				
	Gigabit	Intel I210AT/I210IT controller; Speed: 10/100/1000 Mbps				
I/O	SATA3.0	2 x ports				
	USB3.0	4 x ports Note: Depending on SoC HSIO lanes				
	USB2.0	4 x ports				
	SPI Bus	Yes				
	GPIO	8-bit				
	Watchdog	65536 level, 0 ~ 65535 sec				
	COM Port	2 Ports (2-Wire)				
	TPM	TPM2.0 (Optional)				
	Smart Fan	2 x ports: 1 port on COM module (notice: the input voltage of fan is aligned to Vin); 1 port on carrier board				
	Onboard storage	Up to 64GB eMMC				
Power	Type	ATX: Vin, VSB, AT; Vin				
	Supply Voltage	Vin: 8.5 (9-5%) ~ 20V (19+5%), VSB: 5V±5%, RTC Battery: 2.0-3.3V				
	Power Consumption (Max.)	32.6 Watt				
	Power Consumption (Idle)	11.8 Watt				
Environment	Operating Temperature	Standard: 0 ~ 60 °C (32 ~ 140 °F), Extend: -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	125 mm x 95 mm (4.92" x 3.74")				

Block Diagram



*HSIO Configuration Table

HSIO Configuration table	PCIex4	PCIe x1	BMC	PCIex8	LAN	SATA 3.0	USB 3.0
HSIO 20 (Default)	0-3	NA	4	8-15	6	5,7	16-19
HSIO 20 (Optional)	0-3, 4-7	NA	NA	8-15	NA	18, 19	16-17
HSIO 12	0-3	8, 10	4	NA	6	18, 19	16-17
HSIO 10	0-3	NA	4	NA	6	18, 19	16-17
HSIO 8	0-3	NA	4	NA	6	18, 19	NA

Ordering Information

Part No.	CPU	Core	Base Freq.	Max. Boost Freq.	CPU TDP	LLC	DDR4 SODIMM	HSIO	10GBase-KR		Giga LAN	Rugged RAM	Onboard eMMC	Power	Thermal solution	Operating Temp.
									LAN0 (Gbps)	LAN1 (Gbps)						
SOM-5962C16-U0A1	C3958	16	2GHz	2GHz	31W	16MB	2400	20	10 2.5 1	10 2.5 1	1	NA	64GB	AT/ATX	Active	0 - 60 °C
SOM-5962C4-U2A1	C3558	4	2.2GHz	2.2GHz	16W	8MB	2133	12		2.5 1	1	NA	64GB	AT/ATX	Active	0 - 60 °C
SOM-5962C12X-U0A1	C3808	12	2GHz	2GHz	25W	12MB	2133	20	10 2.5 1	10 2.5 1	1	NA	64GB	AT/ATX	Active	-40 - 85 °C
SOM-5962C12XA-U0A1	C3808	12	2GHz	2GHz	25W	12MB	2133	20	10 2.5 1	10 2.5 1	1	Yes	64GB	AT/ATX	Active	-40 - 85 °C
SOM-5962C8X-S7A1	C3708	8	1.7GHz	1.7GHz	17W	16MB	2133	20	10 2.5 1	10 2.5 1	1	NA	64GB	AT/ATX	Active	-40 - 85 °C
SOM-5962C4X-S6A1	C3508	4	1.6GHz	1.6GHz	11.5W	8MB	1866	8	2.5 1	2.5 1	1	NA	64GB	AT/ATX	Active	-40 - 85 °C

Note: Any other SKU or combination has project-based support. Please contact sales for details.
 Note2 : LAN0 and LAN1 each support 2 port

Packing List

Part No.	Description	Quantity
-	SOM-5962 COM module	1
1970004431N011	Heatspreader	1

Development Board

Part No.	Description
SOM-DB5920-01A1	COM Express Development Board for T7 Pin-out, support 10GBASE-T (4 port)

Optional Accessories

Part No.	Description
1960088918T001	Semi-Cooler 125 x 95 x 33.5 mm with 12V Fan
SQR-YD4I32G2K6SSEME	Rugged SODIMM DDR4 2666, 32GB ECC, i-grade
SQR-SD4N8G2K6SNBCB	SODIMM DDR4 2666, 8GB non-ECC
AQD-SD4U16N26-SE	SODIMM DDR4 2666, 16GB non-ECC
SQR-SD4N32G2K6SNME	SODIMM DDR4 2666, 32GB non-ECC
AQD-SD4U8GE24-SE	SODIMM DDR4 2400, 8GB ECC
SQR-SD4N32G2K6SSEME	SODIMM DDR4 2666, 32GB ECC

Embedded OS

OS License	Part No.	Description
Standard version for Server	968QS16S16	WinSvrEmb Std 2016 x64 ORY 16Core MUI
Standard version for Server	968QS16S5C	WinSvrEmb Std 2016 x64 ORY 16Core 5CAL MUI
Ubuntu lmg	20706U20DS0072	img UbuntuD SOM-5962 64b 20.04 ENU