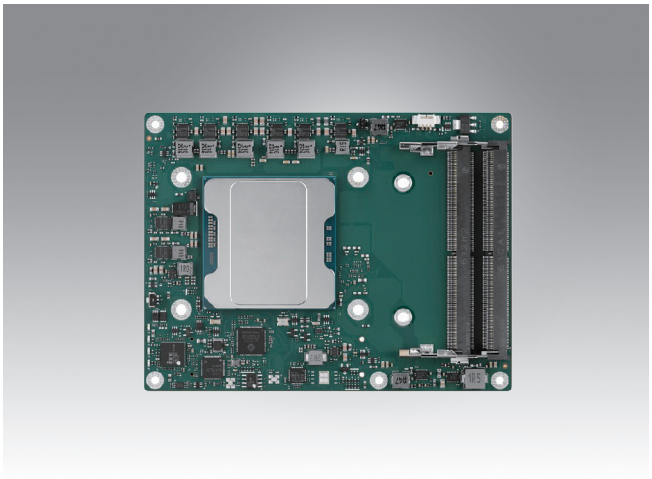
SOM-5994

Intel® Atom P6900 (Grand Ridge) Processors
COM Express® Basic Type 7 Module



Features

- Intel® Atom P6900 (Grand Ridge) Processors
- COM Express® R3.1 Basic Module Type 7 Pinout
- 16~24 E Cores Processor, with Max. TDP 86W
- Dual-Channel DDR5-4800MT/s up to 64GB SODIMM
- High speed Ethernet (4x 10GBASE-KR interfaces, one 2.5GbE)
- Multiple Expansions (16x PCIe x16 Gen4, 16x PCIe Gen3/2, 4x USB3.0, SATA3)
- Supports Yocto, Embedded BIOS, SUSI API and DeviceOn

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

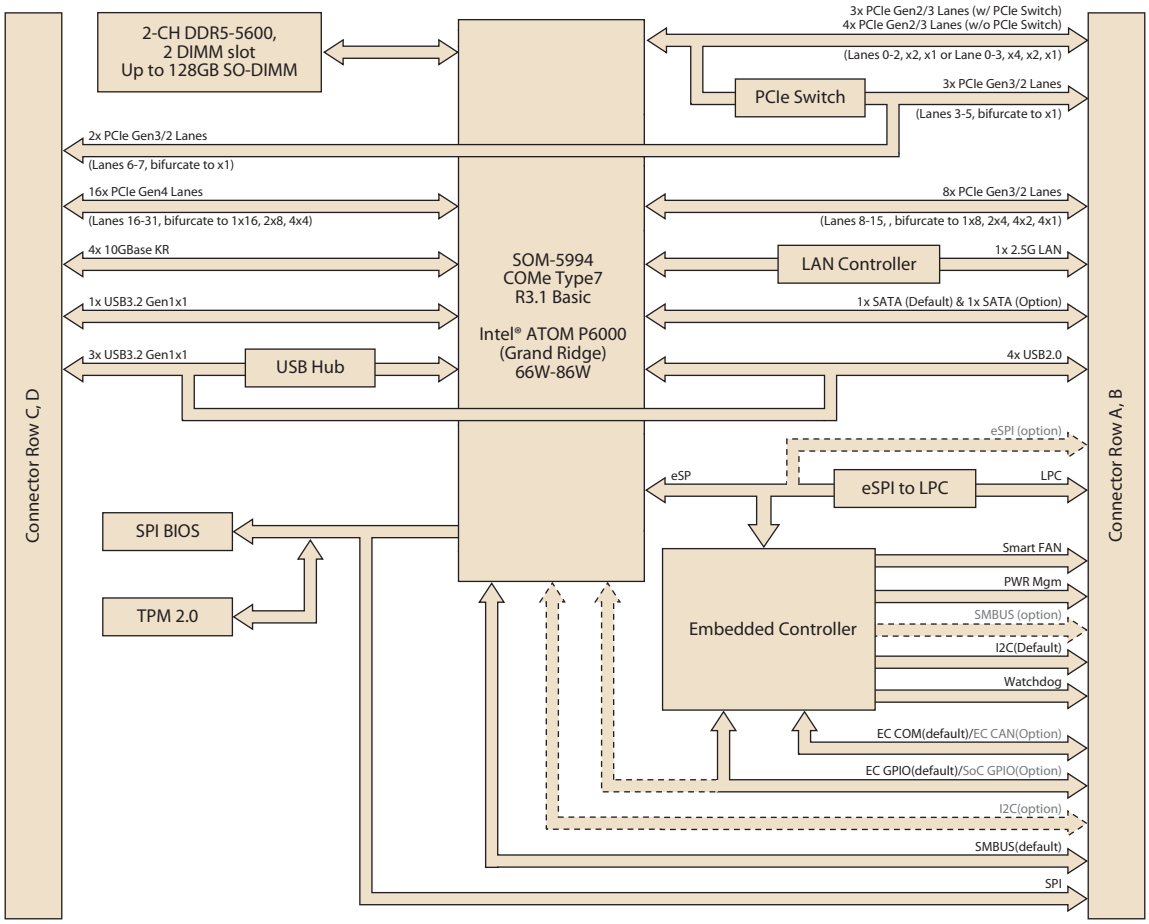
SUSI API DeviceOn CE FC

Specifications

Form Factor	Form Factor	COM Express Basic			
	Pin-out Type	COM Express R3.1 Type 7 compatible			
Processors	CPU	P6962-5	P6962-3	P6942-3	P6922-3
	Cores	24c	24c	16c	8c
	Frequency	2.6GHz	2.2GHz	2.2GHz	2.2GHz
	Power (SDP)	86W	82W	66W	~50W
	Last Level Cache (LLC)	24MB	24MB	16MB	8MB
	BIOS	AMI UEFI 256Mbit			
Memory	Technology	DDR5			
	Speed	5600 MT/s			
	Max. Capacity	Up to 128GB			
	Channel/Socket	Dual Channel / 2 Sockets SODIMM, 1DPC			
	ECC Support	Support ECC			
Ethernet	10GB Ethernet	Intel integrated 4 x 10G LAN contorller; Interface: 10GBASE-KR			
	Gigabit	1 Port support 10M / 100M / 1000M / 2.5GbE			
I/O Interfaces	PCI Express	16x PCIe Gen4 Lanes, bifurcatable to 1x16, 2x8, 4x4 16x PCIe Gen3/2 Lanes, bifurcatable to x8, x4, x2 or x1			
	LPC	Yes			
	SATA3.0	Up to 2 Ports (6Gbps)			
	USB3.2 (Gen2)	4 Ports (10 Gbps)			
	USB2.0	4 Ports (480 Mbps)			
	GPIO	8-bit, Default from EC, Option from SoC			
	Watchdog	65536 level, 0 ~ 65535 sec			
	COM Port	2 Ports (2-Wire)			
	Smart Fan	2 Ports: 1 port on COM module; 1 port on carrier board			
Serial Bus	SMBus	Default from SoC and option from EC			
	I2C Bus	Default from EC and option from SoC			
	CAN Bus	Support one CAN Bus option from COM Port			
	SPI Bus	Yes			
Security	Trusted Platform Module (TPM)	TPM2.0			
Power	Type	ATX: Vin, VSB; AT: Vin			
	Supply Voltage	Vin: 12V (± 5%),VSB: 5V±5%, RTC Battery: 2.0-3.3V			
	Power Consumption (Max.)	TBC			
	Power Consumption (Idle)	TBC			
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,IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis			
Mechanical	Dimensions	125 mm x 95 mm (4.92” x 3.74”)			

All product specifications are subject to change without notice.

Block Diagram



Ordering Information

Part No.	SKU	Cores	Core Frequency	SDP	PCIe Lane 0~15	DDR4 SODIMM	Thermal Solution	Operating Temp.
SOM-5994A24X-U6A1	P6962-5	24c	2.6GHz	86W	PCIe Gen2	ECC	Active	-40~85°C
SOM-5994A24-U2A1	P6962-3	24c	2.2GHz	82W	PCIe Gen3	ECC	Active	0~60°C
SOM-5994A16-U2A1	P6942-3	16c	2.2GHz	66W	PCIe Gen3	ECC	Active	0~60°C
SOM-5994A8-U2A1	P6922-3	8c	2.2GHz	50W	PCIe Gen3	ECC	Active	0~60°C

Any other SKUs or combination is project based support. Please contact sales for details.

Development Board

Part No.	Description
SOM-DB5930-00A1	COMe Devel. Board COMe R3.1 Type7 pin-out (LVDS)
SOM-DB5930A-00A1	COMe Devel. Board COMe R3.1 Type7 pin-out (eDP)

Optional Accessories

Part No.	Description
TBD	Semi-Heatsink
TBD	QFCS Cooler

Packing List

Part No.	Description	Quantity
-	SOM-5994 COM module	1
TBD	Heatspreader	1

Embedded OS

OS	Part No.	Description
Ubuntu	TBD	TBD