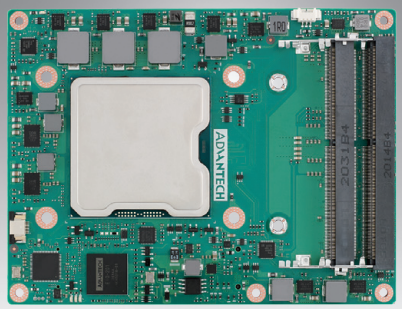
SOM-5993

Intel® Xeon® D Processor (Code Name: Ice Lake-D LCC) COM Express® Basic Type7

Preliminary



Windows Embedded iManager WISE-DeviceOn CE FC

Features

- Intel® Xeon® D Processor
- COM Express R3.0 Basic Module Type 7 pin out
- 4~10 core processor, with max. TDP 67W
- High speed Ethernet (4 x 10GBASE-KR interfaces, one GbE)
- Various expansion (PCIe x16 Gen4, PCIe X8, 4PCIe X1, 4 USB3.0, 2 SATA3)
- Supports SUSI, DeviceOn and Edge AI Suite

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

Utilities: BIOS flash, Monitoring

Specifications

Form Factor	Form Factor	COM Express Basic Module				
	Pin-out Type	COM Express R3.0 Type 7 compatible				
Processor System	CPU	D-1746TER	D-1735TR	D-1732TE	D-1715TER	D-1712TR
	Base Frequency	2.0GHz	2.2GHz	1.9GHz	2.4GHz	2.0GHz
	Max Single Core Turbo Frequency	3.1GHz	3.4GHz	3.0GHz	3.5GHz	3.1GHz
	Cores	10	8	8	4	4
	LLC	15MB	15MB	15MB	10MB	10MB
	CPU TDP	67W	59W	52W	50W	40W
	BIOS	AMI UEFI 128Mbit				
Memory	Technology	DDR4				
	Max. Frequency	2933MHz				
	ECC Support	Non-ECC or ECC				
	Max. Capacity	128GB				
	Socket	4x 260P SO-DIMM, Dual Channel				
Expansion	PCI Express	1 PCIe gen4x16, bifurcatable to 2x8, 4x4 1 PCIe gen3x8, bifurcatable to 2x4, 4x2, 4x1 2 PCIe gen3x4, bifurcatable to 4x2, 4x1				
	LPC	Yes				
Serial Bus	SMBus	Yes				
	I²C Bus	Yes (Optional)				
Ethernet	10GB Ethernet	Intel integrated 4 x 10G LAN contorller; Interface: 10GBase-KR				
	Gigabit	Intel I225 IT controller; Speed: 10M / 100M / 1000M / 2.5G speeds				
I/O	SATA3.0	2 Ports (6Gbps)				
	USB3.0	4 Ports				
	USB2.0	4 Ports				
	SPI Bus	Yes				
	GPIO	8-bit				
	Watchdog	65536 level, 0 ~ 65535 sec				
	COM Port	2 Ports (2-Wire)				
	TPM	TPM2.0				
	Smart Fan	2 Ports: 1 port on COM module; 1 port on carrier board				
Power	Type	ATX: Vin, VSB; AT: Vin				
	Supply Voltage	Vin: 9V(± 5%)~12V (± 5%),VSB: 5V±5%, RTC Battery: 2.0-3.3V				
	Power Consumption (Max.)	TBD				
	Power Consumption (Idle)	TBD				
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")				

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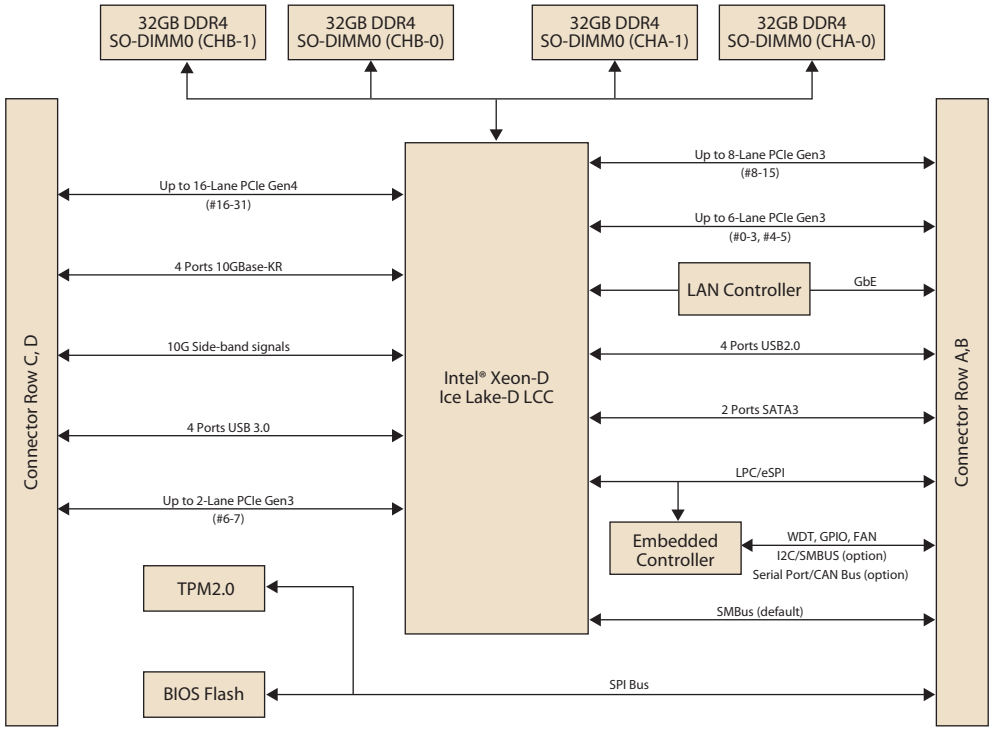
All product specifications are subject to change without notice.

Block Diagram



Ordering Information

P/N	CPU	Cores	Freq.	CPU TDP	LLC	DDR4 SODIMM	Giga LAN	10GBase-KR	PEG X16	PEG X8	PEG X1	USB 2.0	USB 3.0	SATA III	LPC	Power	Thermal Solution	Operating Temperature
SOM-5993D10-U0A1	D-1746TER	10	2.0G	67W	15MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	0 ~ 60 °C
SOM-5993D8-U2A1	D-1735TR	8	2.2G	59W	15MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	0 ~ 60 °C
SOM-5993D8-S9A1	D-1732TE	8	1.9G	52W	15MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	0 ~ 60 °C
SOM-5993D4-U4A1	D-1715TER	4	2.4G	50W	10MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	0 ~ 60 °C
SOM-5993D4-U0A1	D-1712TR	4	2.0G	40W	10MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	0 ~ 60 °C
SOM-5993D10X-U0A1	D-1746TER	10	2.0G	67W	15MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	-40 ~ 85 °C
SOM-5993D8X-S9A1	D-1732TE	8	1.9G	52W	15MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	-40 ~ 85 °C
SOM-5993D4X-U4A1	D-1715TER	4	2.4G	50W	10MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	-40 ~ 85 °C

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

Development Board

PN	Description
SOM-DB5920-01A2	COMe Type 7 Devel. Board Rev.A2 w/10G PHY EA64 (4 port, Copper)
SOM-DB5920-F1A2	COMe Type 7 Devel. Board Rev.A2 w/10G PHY EA65 (4 port, Fiber)

Packing List

Part No.	Description	Quantity
-	SOM-5993 module	1
TBD	Standard heat spreader	1

Optional Accessories

Part No.	Description
1970005036T001	Semi-Cooler 125 x 95 x 33.2 mm with 12V Fan
TBD	QFCS

Embedded OS

OS	Part No.	Description
Win10	TBD	TBD