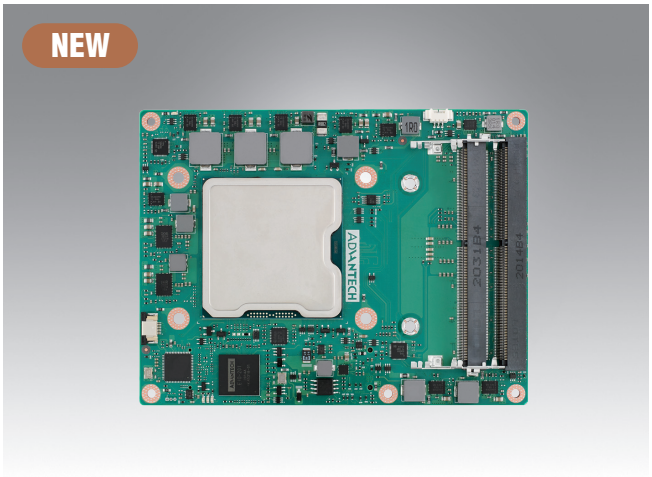
SOM-5993/R

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



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 SATA)
- Supports SUSI, DeviceOn and Edge AI Suite

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

Utilities: BIOS flash, Monitoring

Windows Embedded iManager WISE-DeviceOn CE FC

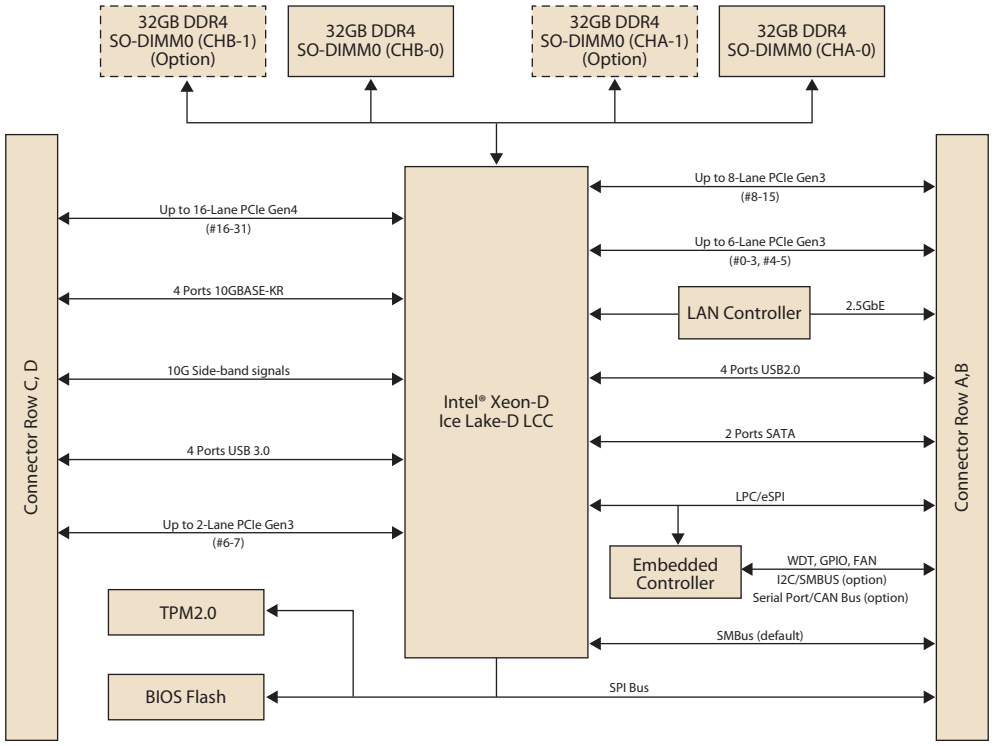
Specifications

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	D-1713NT	D-1813NT
	Base Frequency	2.0GHz	2.2GHz	1.9GHz	2.4GHz	2.0GHz	2.2GHz	2.2GHz
	Max Single Core Turbo Frequency	3.1GHz	3.4GHz	3.0GHz	3.5GHz	3.1GHz	3.5GHz	2.4GHz
	Cores	10	8	8	4	4	4	4
	LLC	15MB	15MB	15MB	10MB	10MB	10MB	10MB
	CPU TDP	67W	59W	52W	50W	40W	45W	42W
	BIOS	AMI UEFI 256Mbit						
Memory	Technology	DDR4						
	Max. Frequency	2933MHz						
	ECC Support	Non-ECC or ECC						
	Max. Capacity	Up to 128GB, with 32GB per SO-DIMM sockets						
	Socket	Max. 4x 260P SO-DIMM (Dual Channel). Default: 2x on top side & Option: 2x on bottom side						
Expansion	PCI Express	1 PCIe gen4x16, bifurcatable to 2x8, 4x4 1 PCIe gen3x8, bifurcatable to 2 x4, 4 x2, 1 x4 and 2 x2 or 2 x2 and 1 x4 2 PCIe gen3x4, bifurcatable to 4 x2, 1 x4 and 2 x2 or 2 x2 and 1 x4						
	LPC	Yes						
Serial Bus	SMBus	Yes						
	I²C Bus	Yes						
Ethernet	10GB Ethernet	Intel integrated 4 x 10G LAN contorller; Interface: 10GBASE-KR						
	Gigabit	1 Port support 10M / 100M / 1000M / 2.5GbE						
I/O	SATA	2 Ports SATA Gen3 (6 Gbps) for D-1735TR & D-1712TR; and SATA Gen2 (3 Gbps) for D-1746TER, D-1732TE, & D-1715TER						
	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	Turbo Max:84.38W @12V (D-1746TER with 128GB DDR4 2666) Idle:34.50W @12V (D-1746TER with 128GB DDR4 2666) * Only for reference and will depend on custom software loading. For more details please refer to the user manual.						
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.

Last updated: 20-Oct-2026

Block Diagram



Ordering Information

Part No.	CPU	Cores	Base Freq.	Max Turbo Freq.	CPU TDP	LLC Cache	DDR4 SODIMM	Giga LAN	10GBASE-KR	PEG X16	PEG X8	PEG X1	USB 2.0	USB 3.0	SATA	LPC	Power	Thermal Solution	Operating Temp.
SOM-5993D10-U0A1	D-1746TER	10	2.0GHz	3.1GHz	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	2.2GHz	3.4GHz	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	1.9GHz	3.0GHz	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	2.4GHz	3.5GHz	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	2.0GHz	3.1GHz	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	2.0GHz	3.1GHz	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	1.9GHz	3.0GHz	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	2.4GHz	3.5GHz	50W	10MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	-40–85 °C**
SOM-5993D4-U2A1	D-1713NT	4	2.2GHz	3.5GHz	45W	10MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	0–60 °C
SOM-5993RD4-U2A1*	D-1813NT	4	2.2GHz	2.4GHz	42W	10MB	ECC/non ECC	1	4	1	1	4	4	4	2	Yes	AT/ATX	Active	0–60 °C

Any other SKUs or combination is project based support. Please contact sales for details.
*The BIOS of this SKU is different from other SKUs.
**Wide-temperature specification applies to the SOM module only. Actual system operating temperature depends on system thermal design and requires system-level validation.

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)
SOM-DB5920-00A2	COMe Type 7 Devel. Board Rev.A2 wo/10G PHY for Backplane

Packing List

Part No.	Description	Quantity
-	SOM-5993 module	1
1970005371T001	Standard heat spreader	1

Optional Accessories

Part No.	Description
1970005036T001	Semi-Cooler 125 x 95 x 33.2 mm with 12V Fan
1970005514T001	QFCS

Embedded OS

OS	Part No.	Description
Win10	TBD	TBD