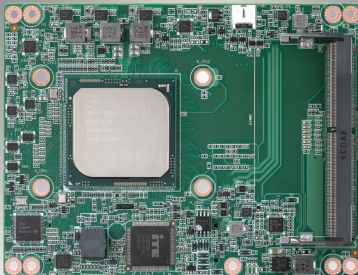


# SOM-5991

## Intel® Xeon® Processor D-1500 Product Family COM Express® Basic Module Type 6

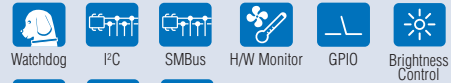
Preliminary



### Features

- Intel® Xeon® Processor D-1500 Product Family
- COM Express R2.1 Basic Module Type 6 pin out compatible
- Up to 16 core with TDP 45W
- Dual DDR4 2400, 1.2V Low Power Memory, up to 32GB
- Integrated high speed 10GbE interface
- PCIe x16, 8 PCIe x1, 2 x 10GBASE-KR interface
- Supports iManager, SUSIAccess and Embedded Software APIs

#### Software APIs:



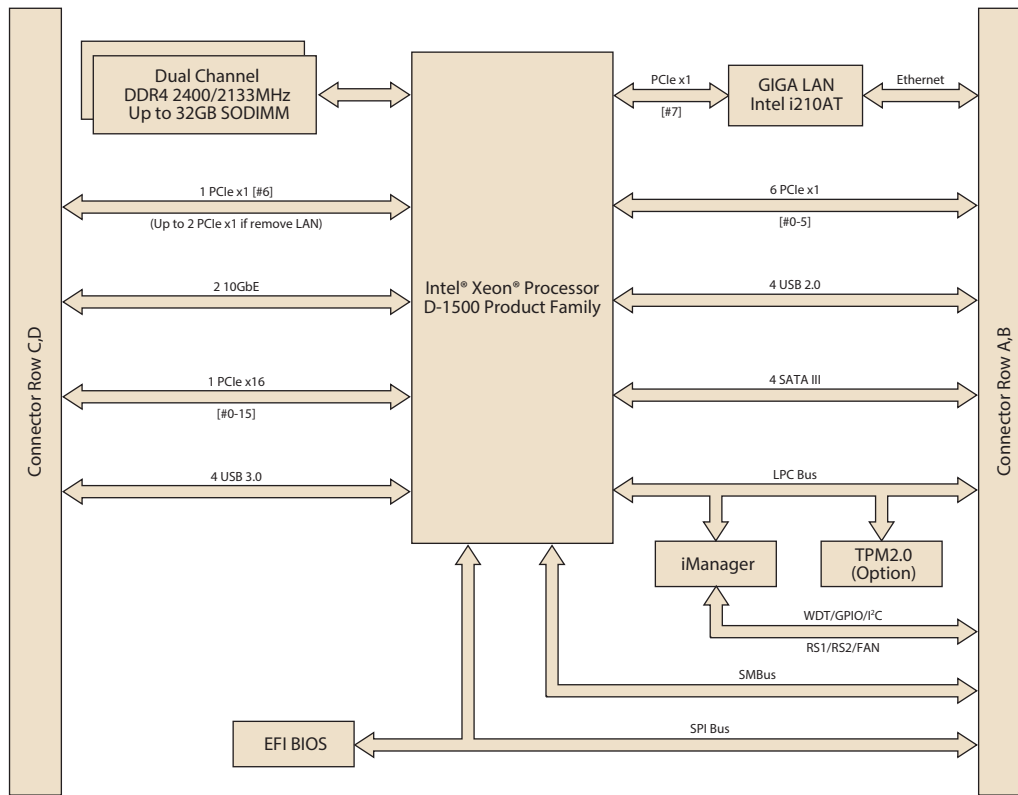
#### Utilities:



### Specifications

Form Factor	Form Factor	COM Express Basic Module		
	Pin-out Type	COM Express R2.1 Type 6 compatible		
Processor System	CPU	Xeon D-1548	Xeon D-1537	Pentium D1517
	Base Frequency	2.0 GHz	1.7 GHz	1.6 GHz
	Max Single Core Turbo Frequency	2.6 GHz	2.3 GHz	2.2 GHz
	Core	8	8	4
	LLC	12MB	12MB	6MB
	CPU TDP	45W	35W	25W
	BIOS	AMI UEFI 128Mbit		
Memory	Technology	DDR4 up to 2400MHz		
	ECC Support	Support ECC		
	Max. Capacity	up to 32GB		
	Socket	Dual Channel 260P SODIMM		
Expansion	PCI Express x16	1 port support up to Gen3 8.0 GT/s Bifurcatable to 2 x8, 1 x8 & 2 x4, or 4 x4		
	10GBASE-KR	2 x 10GBASE-KR Interfaces, with side-band MDIO and I2C control signals		
	PCI Express x1	7 ports support up to Gen2 5.0 GT/s (Up to 8 ports if remove LAN)		
	LPC	Yes		
Serial Bus	SMBus	Yes		
	I²C Bus	Support 100Kb/s & 400Kb/s devices. Default master mode, optional slave mode		
Ethernet	Controller	Intel® i210AT		
	Speed	10/100/1000 Mbps		
I/O	SATA	4 ports support SATA III 6.0Gb/s		
	USB3.0	4 ports		
	USB2.0	4 ports		
	SPI Bus	Yes (BIOS only)		
	GPIO	8-bit GPIO		
	Watchdog	65536 level, 0 ~ 65535 sec		
	COM Port	2 ports (2-wire)		
	Express Card	2 ports		
	TPM (option)	TPM2.0		
Smart Fan	2 ports. 1 port on COM Module support 12V Fan ; 1 port on Carrier Board			
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.)	TBD		
	Power Consumption (Idle)	TBD		
Environment	Temperature	Operating Standard: 0 ~ 60° C (32 ~ 140° F), Extend: -40 ~ 85° C (-40 ~ 185° F) with 0.7m/s air flow. Storage: -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 x 95 mm (4.92" x 3.74")		

## Block Diagram



## Ordering Information

Part No.	CPU	Core	Freq.	CPU TDP	LLC	DDR4 SODIMM	Giga LAN	10GBase-KR	PEG x16	PCIe x1 (max.)	USB 2.0	USB 3.0	SATA III	LPC	Power	Thermal solution	Operating Temp.
SOM-5991X8-U0A1E	Xeon D-1548	8	2.0	45W	12MB	ECC/non ECC	1	2	1	8	4	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5991X8-S7A1E	Xeon D-1537	8	1.7	35W	12MB	ECC/non ECC	1	2	1	8	4	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5991P4-S6A1E	Pentium D1517	4	1.6	25W	6MB	ECC/non ECC	1	2	1	8	4	4	4	Yes	AT/ATX	Active	0 ~ 60° C