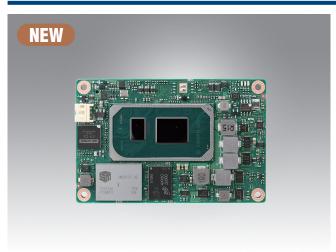
SOM-7583

11th Gen. Intel® Core™ Processor U-Series (Code Name: Tiger Lake-UP3) **COM Express® Mini Type 10**



Features

- Up to 4Cores Intel Core Processor, Intel Iris Xe Graphics 96EUs
- Max. 16GB LPDDR4 onboard, IBECC support. 32/64GB NVMe SSD
- Super Speed I/O Expansion: USB3.2 Gen2(10Gbps), PCIe Gen3, SATAIII
- Extended Temp. -40~85 °C
- Supports iManager, Edge-Al Suite, DeviceOn

Software APIs:







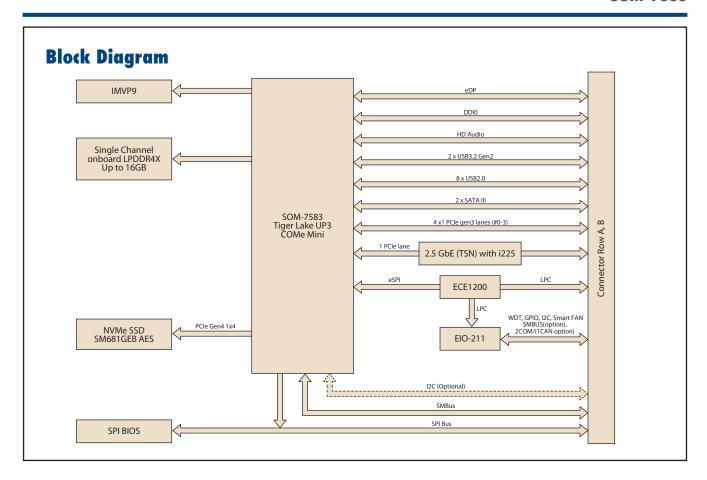






↓ Windows Embedded ÍManager WISE-DeviceOn C € F© **Specifications**

Form Factor	Form Factor	COM Express Mini Module										
T UTTT FAULUT	Pin-out Type		0 Type 10 compatible									
	CPU	Core™ i7-1185G7E	Core™ i5-1145G7E	Core™ i3-1115G4E	Celeron® 6305E	Core™ i7-1185GRE	Core™ i5-1145GRE	Core™ i3-1115GRE				
	Dono Fraguenou	2.8GHz	2.6GHz	3.0GHz	1.8GHz	2.8GHz	2.6GHz	3.0GHz				
	Base Frequency											
	Turbo Frequency	4.4GHz	4.1GHz	3.9GHz	N/A	4.4GHz	4.1GHz	3.9GHz				
Processor System	Cores	4	4	2	2	4	4	2				
	Cache	12 MB	8 MB	6 MB	4 MB	12 MB	8 MB	6 MB				
	CPU TDP	28W	28W	28W	15W	28W	28W	28W				
	Configurable TDP-up Frequency	15W/1.8GHz	15W/1.5GHz	15W/2.2GHz	N/A	15W/1.8GHz	15W/1.5GHz	15W/2.2GHz				
	Configurable TDP-down Frequency	12W/1.2GHz	12W/1.1GHz	12W/1.7GHz	N/A	12W/1.2GHz	12W/1.1GHz	12W/1.7GHz				
	Technology	LPDDR4										
	Speed	up to 4266										
Memory	ECC Support	IBECC supported by Industrial SKU										
	Onboard Memory	8GB or 16GB										
	SODIMM Memory	Not supported										
	Controller	Intel® Iris® Xe Gr	aphics/Intel® UHD Grap	nics								
Graphics	Graphics Max Dynamic Frequency	1.35GHz	1.30GHz	1.25GHz	1.25GHz	1.35GHz	1.30GHz	1.25GHz				
атартно	2D&3D/HW Acceleration		HW Encode: Supports AVC, MPEG-2, HEVC, and VP9. HW Decode: Supports Direct30* 9 Video API (DXVA2), Direct3D12 Video API, Intel Media SDK,MFT (Media Foundation Transform) filters, Intel VA API									
	VGA Not supported Not supported VGA VGA VGA VGA Not supported VGA VGA VGA VG											
	LCD	ют зарролеа eDP: eDP1.4: 3840x2160 @ 60Hz, 30bpp Or 4096x2304 @ 60Hz, 24bpp										
	EOD	eur: eur1.4: 3840x2160 @ 60Hz, 300pp Or 4096x2304 @ 60Hz, 240pp DDI port support configurable HDMI/DisplayPort										
Display	DDI	DIS plat Support collinguration enJown/Displays/Fort DisplayPort 1.4: 4096x2304 60Hz 36bp; 5120x3200 60Hz 24bpp (with DSC: 5120x3200 120Hz 30bpp; 7680x4320 60Hz 30bpp) HDMI 2.0b: 4Kx2K 24-60Hz 24bpp HDMI 1.4: 4Kx2K 24-30Hz 24bpp HDMI 1.1: 4Kx2K 24-30Hz 24bpp HDMI 1.1: 1 Can be supported using LSPCON (DP1.4 to HDMI2.1 protocol converter)										
	Type C	DP 1.4 (option from USB Type-C); HDMI 2.0b; 1 port										
	Multiple Display	DP 1.4 (Option from USB Type-G); HDML2.00; T port Dual Display (DDI & eDP)										
Expansion	PCI Express x1 (Gen3)											
гранотон		1 PCIe x4. configurable to 4 PCIe x1										
	SMRIIS	YPS										
Serial Bus	SMBus 12C Rus	Yes Yes										
	I2C Bus	Yes	nller · Sneed· 10M / 100	M / 1000M / 2 5G sn	peds .							
	I2C Bus Gigabit	Yes Intel I225IT contr	oller ; Speed: 10M / 100	M / 1000M / 2.5G sp	eeds							
	I2C Bus Gigabit TSN	Yes Intel I225IT contr Support by I225	oller ; Speed: 10M / 100	M / 1000M / 2.5G sp	eeds							
	12C Bus Gigabit TSN SATA3.0	Yes Intel I225IT contr Support by I225 2 Ports (6Gbps)		M / 1000M / 2.5G sp	eeds							
	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2)	Yes Intel I225IT contr Support by I225 2 Ports (6Gbps) 2 Ports (10 Gbps)	M / 1000M / 2.5G sp	eeds							
	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0	Yes Intel I225IT contr Support by I225 2 Ports (6Gbps) 2 Ports (10 Gbps 8 Ports (480 Mbp)	M / 1000M / 2.5G sp	eeds							
	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC	Yes Intel I225IT contr Support by I225 2 Ports (6Gbps) 2 Ports (10 Gbps 8 Ports (480 Mbp)	M / 1000M / 2.5G sp	eeds							
Ethernet	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus	Yes Intel I225IT contr Support by I225 2 Ports (6Gbps) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes Yes)	M / 1000M / 2.5G sp	eeds							
Ethernet	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO	Yes Intel I225IT contr Support by I225 2 Ports (66bps) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes Yes 8-bit GPIO) (s)	M / 1000M / 2.5G sp	eeds							
Ethernet	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog	Yes Intel 12251T contr Support by 1225 2 Ports (6Gbps) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes Yes 8-bit GPIO 65536 level, 0 ~ 6) (s)	M / 1000M / 2.5G sp	eeds							
Ethernet	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog CAN Bus	Yes Intel I225IT contr Support by I225 2 Ports (605) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes Yes 8-bit GPIO 65536 level, 0 ~ 6 Optional) (s)	M / 1000M / 2.5G sp	eeds							
Ethernet	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog CAN Bus COM Port	Yes Intel I225IT contr Support by I225 2 Ports (610 Gbps 2 Ports (10 Gbps 8 Ports (480 Mbp Yes Yes 8-bit GPI0 65536 level, 0 ~ 0 Optional 2 Ports (2-Wire)) (s)	M / 1000M / 2.5G sp	eeds							
Ethernet	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog CAN Bus COM Port TPM	Yes Intel I225IT contr Support by I225 2 Ports (6Gbps) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes Yes 8-bit GPI0 65536 level, 0 ~ (Optional 2 Ports (2-Wire) Intel ITPM) (s) (5535 sec									
Ethernet	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog CAN Bus COM Port TPM Smart Fan	Yes Intel 12251T contr Support by 1225 2 Ports (6Gbps) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes 9-bit GPI0 65536 level, 0 - 0 Optional 2 Ports (2-Wire) Intel ITPM 2 Ports: 1 port or) ss) 55535 sec COM module (Notice:			port on carrier board						
Ethernet	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog CAN Bus COM Port TPM Smart Fan Type	Yes Intel 1225IT contr Support by 1225 2 Ports (66bps) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes 4 Bott (480 Mbp Yes 4 Bott (480 Mbp Yes 7 Bott (480 Mbp Yes 8 Bott (480 Mbp Yes 1 Bott (180 M) (s) (s) (s) (s) (s) (s) (s) (s) (s) (s	he input voltage of far	ı is aligned to Vin); 1	port on carrier board						
Ethernet	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog CAN Bus COM Port TPM Smart Fan	Yes Intel I225IT contr Support by I225 2 Ports (60 Gbps 2 Ports (10 Gbps 8 Ports (480 Mbp Yes Yes 8-bit GPI0 65536 level, 0 ~ (Optional 2 Ports (2-Wire) Intel TTPM 2 Ports: 1 port or ATX: Vin, VSB; A Vin: 8.5V ~ 20V;	COM module (Notice: T: Vin VSB: 4.75V ~ 5.25 V, R	he input voltage of far	ı is aligned to Vin); 1	port on carrier board						
Ethernet	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog CAN Bus COM Port TPM Smart Fan Type	Yes Intel 12251T contr Support by 1225 2 Ports (6Gbps) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes 4-bit GPI0 65536 level, 0 ~ (0ptional 2 Ports (2-Wire) Intel TIPM 2 Ports: 1 port or ATX: Vin, VSB; 4 Vin: 8.5V ~ 20V; Standard: 0 ~ 60	COM module (Notice: T: Vin VSB: 4.75V ~ 5.25 V, R	he input voltage of far	ı is aligned to Vin); 1	port on carrier board						
Serial Bus Ethernet 1/0 Power Environment	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog CAN Bus COM Port TPM Smart Fan Type Supply Voltage	Yes Intel I225IT contr Support by I225IT contr Support by I225IT contr 2 Ports (60Eps) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes Yes 8-bit GPIO 65536 level, 0 ~ (Optional 2 Ports (2-Wire) Intel ITPM 2 Ports: 1 port or ATX: Vin, VSB; A Vin: 8.5V ~ 20V; Standard: 0 ~ 60 Extend: ~ 40 ~ 85 Standard: 0 ~ 60	COM module (Notice: T: Vin VSB: 4.75V ~ 5.25 V, R C: (32 ~ 140 °F) C: (-40 ~ 185 °F)	he input voltage of far	ı is aligned to Vin); 1	port on carrier board						
Ethernet I/O Power	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog CAN Bus COM Port TPM Smart Fan Type Supply Voltage Operating Temperature	Yes Intel 12251T contr Support by 1225 2 Ports (6Gbps) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes 8-bit GPI0 65536 level, 0 - (Optional 2 Ports (2-Wire) Intel fTPM 2 Ports: 1 port or ATX: Vin, VSS, 4 Vin: 8.5V - 20, V Standard: 0 - 60 Extend: -40 - 85 Standard: 0 - 85 Operating: 40 °C	COM module (Notice: T: Vin VSB: 4.75V ~ 5.25 V, R °C (32 ~ 140 °F) °C (-40 ~ 185 °F) °C (-40 ~ 185 °F) @ 95% relative humidi	he input voltage of far IC Battery: 2.0V ~ 3.3 y, non-condensing	ı is aligned to Vin); 1	port on carrier board						
Ethernet //O Power	I2C Bus Gigabit TSN SATA3.0 USB3.2 (Gen2) USB2.0 LPC SPI Bus GPIO Watchdog CAN Bus COM Port TPM Smart Fan Type Supply Voltage Operating Temperature Storage Temperature	Yes Intel 12251T contr Support by 1225 2 Ports (6Gbps) 2 Ports (10 Gbps 8 Ports (480 Mbp Yes 8-bit GPI0 65536 level, 0 - (Optional 2 Ports (2-Wire) Intel fTPM 2 Ports: 1 port or ATX: Vin, VSS, 4 Vin: 8.5V - 20, V Standard: 0 - 60 Extend: -40 - 85 Standard: 0 - 85 Operating: 40 °C	COM module (Notice: T: Vin VSB: 4.75V ~ 5.25 V, R °C (32 ~ 140 °F) °C (32 ~ 140 °F) °C (32 ~ 140 °F) °C (32 ~ 140 °F) °C (-40 ~ 185 °F)	he input voltage of far IC Battery: 2.0V ~ 3.3 y, non-condensing	ı is aligned to Vin); 1	port on carrier board						



Ordering Information

Part Number	СРИ	Base Freq.	Maximum TDP	LLC	GFX Gen.11	IBECC	USB4	On Board LPDDR4	NVMe SSD	LAN speed (max.)	vPro	Thermal Solution	Operating Temp
SOM-7583C7-S8A1	i7-1185G7E	1.8 GHz	28W	12MB	96EUs	-	N/A	16GB	64GB	2.5G	Υ	Active	0 ~ 60 °C
SOM-7583C5-S5A1	i5-1145G7E	1.5 GHz	28W	8MB	80EUs	-	N/A	8GB	32GB	2.5G	Υ	Active	0 ~ 60 °C
SOM-7583C3-U2A1	i3-1115G4E	2.2 GHz	28W	6MB	48EUs	-	N/A	8GB	32GB	2.5G	-	Active	0 ~ 60 °C
SOM-7583CR-S8A1	Celeron 6305E	1.8 GHz	15W	4MB	48EUs	-	N/A	8GB	32GB	2.5G	-	Active	0 ~ 60 °C
SOM-7583R7X-S8A1	i7-1185GRE	1.8 GHz	28W	12MB	96EUs	Υ	N/A	16GB i-grade	64GB	2.5G	Υ	Active	-40 ~ 85 °C
SOM-7583R5X-S5A1	i5-1145GRE	1.5 GHz	28W	8MB	80EUs	Υ	N/A	8GB i-grade	32GB	2.5G	Υ	Active	-40 ~ 85 °C
SOM-7583R3X-U2A1	i3-1115GRE	2.2 GHz	28W	6MB	48EUs	Υ	N/A	8GB i-grade	32GB	2.5G	-	Active	-40 ~ 85 °C
SOM-7583C7A-S8A1	i7-1185G7E	1.8 GHz	28W	12MB	96EUs	-	Option*	16GB	64GB	2.5G	Υ	Active	0~60°C

^{*} SOM-MZ10 is not included in SOM-7583C7A-S8A1, need to be purchased from optional accessories.

Development Board

Part No.	Description			
SOM-DB5830-00A2	COMe R3.0 Devel. Board Type6/Type10. Rev A2			

Packing List

Part No.	Description	Quantity	
1970004887T001	SOM-7583 heat spreader	1	

Optional Accessories

Part No.	Description
1970004886N001	SOM-7583 semi-cooler
SOM-MZ10-00A1	SOM-MZ10 USB4 card

Embedded OS

08	Part No.	Description
Win10	20706WX9EM0025	img W10 19EL SOM-7583 64b 1809 ENU (Audio_NV)
Win10	20706WX9HM0021	img W10 19HL SOM-7583 64b 1809 ENU (Audio_NV)
Win10	20706WX9VM0018	img W10 19VL SOM-7583 64b 1809 ENU (Audio NV)

^{*} Any other sku or combination is project based support. Please contact sales for details.