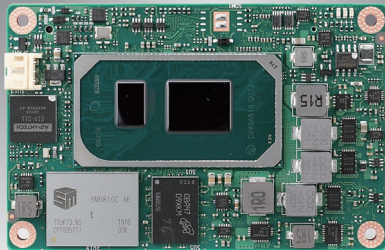


# SOM-7583

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

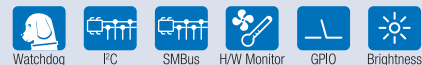
Preliminary



### Features

- Intel® Intel next generation Core ULT Processor
- COM Express R3.0 Mini Module Type 10 pin out
- LPDDR4X 4266 Up to 16GB
- High speed I/O: 2 USB3.2 (Gen2), 1 PCIe x4 (Gen3), 2 SATA (Gen3)
- On board storage NVMe SSD 64GB (up to 128GB)
- Supports iManager, Embedded Software APIs, Wise-PaaS/RMM and DeviceOn

Software APIs:

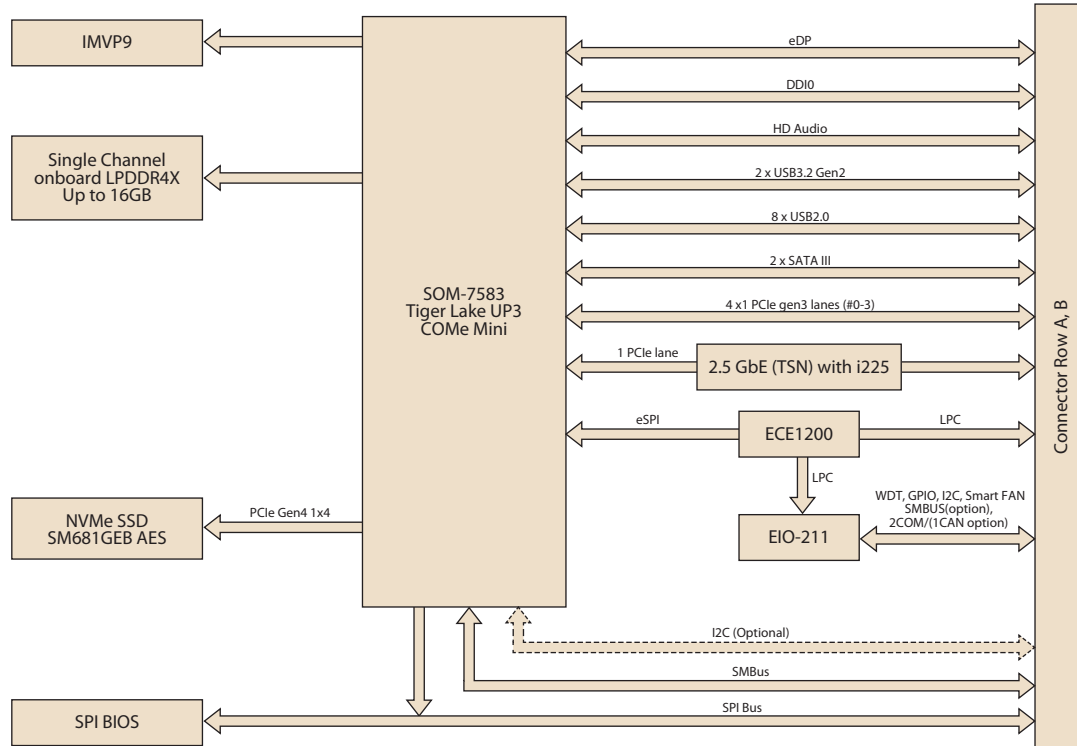


Windows Embedded iManager WISE-DeviceOn CE FC

### Specifications

Form Factor	Form Factor	COM Express Mini Module
	Pin-out Type	COM Express R3.0 Type 10 compatible
Processor System	CPU	Core i7/i5/i3/Celeron (embedded or Industrial)
	Base Frequency	2.2GHz-1.6GHz
	CPU TDP	12/15/28W TDP
	Configurable TDP-up Frequency	28W
	Configurable TDP-down Frequency	12W
Memory	Technology	LPDDR4X on board up to 16GB
	Speed	up to 4266
	ECC Support	IBECC supported by Industrial SKU
	Onboard Memory	16GB
Graphics	SODIMM Memory	Not supported
	Controller	Gen 12 Graphics up to 96 EUs
	Max. Frequency	1.2 GHz
Display	2D&3D/HW Acceleration	HW Encode: Supports AVC, MPEG-2, HEVC, and VP9. HW Decode: Supports Direct3D* 9 Video API (DXVA2), Direct3D12 Video API, Intel Media SDK, MFT (Media Foundation Transform) filters, Intel VA AP
	VGA	Not supported
	LCD	eDP (HBR3) by option, source from TGL-UP3 DDIB eDP eDP: eDP1.4: 3840x2160 @ 60Hz, 30bpp Or 4096x2304 @ 60Hz, 24bpp4
	DDI	DDI port support configurable HDMI/DisplayPort DisplayPort 1.4: 4096x2304 60Hz 36bpp; 5120x3200 60Hz 24bpp (with DSC: 5120x3200 120Hz 30bpp; 7680x4320 60Hz 30bpp) HDMI 2.0b: 4Kx2K 48-60Hz 24bpp HDMI 1.4: 4Kx2K 24-30Hz 24bpp HDMI2.1 Can be supported using LSPCON (DP1.4 to HDMI2.1 protocol converter)
	Type C	By carrier board design
	Multiple Display	Dual Display (DDI & eDP)
Expansion	PCI Express x1 (Gen3)	1 PCIe x4. Can configure to 4 PCIe x1
Serial Bus	SMBus	Yes
	I2C Bus	Yes
Ethernet	Gigabit	Intel I225 LM controller ; Speed: 10M / 100M / 1000M / 2.5G speeds
	TSN	Support by I225
I/O	SATA3.0	2 Ports (6Gbps)
	USB3.2 (Gen2)	2 Ports (10 Gbps)
	USB2.0	8 Ports (480 Mbps)
	LPC	Yes
	SPI Bus	Yes
	GPIO	8-bit GPIO
	Watchdog	65536 level, 0 - 65535 sec
	CAN Bus	Optional
	COM Port	2 Ports (2-Wire)
	TPM	Intel fTPM
	Smart Fan	2 Ports: 1 port on COM module (Notice: the input voltage of fan is aligned to Vin); 1 port on carrier board
	Power	Type
Supply Voltage		Vin: 8.5V - 20V; VSB: 4.75V - 5.25 V, RTC Battery: 2.0V - 3.3V
Environment	Operating Temperature	Standard: 0 - 60 °C (32 - 140 °F) Extend: -40 - 85 °C (-40 - 185 °F)
	Storage Temperature	Standard: 0 - 60 °C (32 - 140 °F) Extend: -40 - 85 °C (-40 - 185 °F)
	Humidity	Operating: 40 °C @ 95% relative humidity, non-condensing Storage: 60 °C @ 95% relative humidity, non-condensing
Mechanical	Vibration Resistance	3.5 Grms
	Dimensions	84 x 55 mm

## Block Diagram



## Ordering Information

Part Number	CPU	Base Freq.	CPU TDP	LLC	GFX Gen.11	LPDDR4X	SSD	Thermal Solution	i225	vPro	Operating Temp
SOM-7583C7-S8A1	i7-1185G7E	1.8 GHz	15W	12MB	96EUs	16GB	64GB	Active	IT	No	0 ~ 60 °C
SOM-7583C7A-S8A1 (For MZ10)	i7-1185G7E	1.8 GHz	15W	12MB	96EUs	16GB	64GB	Active	IT	No	0 ~ 60 °C
SOM-7583C5-S5A1	i5-1145G7E	1.5 GHz	15W	8MB	80EUs	8GB	32GB	Active	IT	No	0 ~ 60 °C
SOM-7583C3-U2A1	i3-1115G4E	2.2 GHz	15W	6MB	48EUs	8GB	32GB	Active	IT	No	0 ~ 60 °C
SOM-7583CR-S8A1	6305E	1.8 GHz	15W	4MB	48EUs	8GB	32GB	Active	IT	No	0 ~ 60 °C
SOM-7583R7X-S8A1	i7-1185GRE	1.8 GHz	15W	12MB	96EUs	16GB	64GB	Active	IT	Yes	-40 ~ 85 °C
SOM-7583R5X-S5A1	i5-1145GRE	1.5 GHz	15W	8MB	80EUs	8GB	32GB	Active	IT	Yes	-40 ~ 85 °C
SOM-7583R3X-U2A1	i3-1115GRE	2.2 GHz	15W	6MB	48EUs	8GB	32GB	Active	IT	No	-40 ~ 85 °C
SOM-7583RCX-S8A1	6305RE	1.8 GHz	15W	4MB	48EUs	8GB	32GB	Active	IT	No	-40 ~ 85 °C

Note: Any other sku or combination is project based support. Please contact sales for details.

## Development Board

Part No.	Description
SOM-DB5830-00A1	COMe R3.0 Devel. Board Type6 Rev. A1
SOM-DB5830A-00A1	COMe R3.0 Devel. Board Type6 Rev.A1 w/eDP

## Optional Accessories

Part No.	Description
1970004886N001	SOM-7583 semi-cooler
	low profile thermal module

## Packing List

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

## Embedded OS

OS	Part No.	Description
Win10	TBD	TBD