SOM-7583

Intel next generation Core ULT Processor COM Express® Mini Module 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)
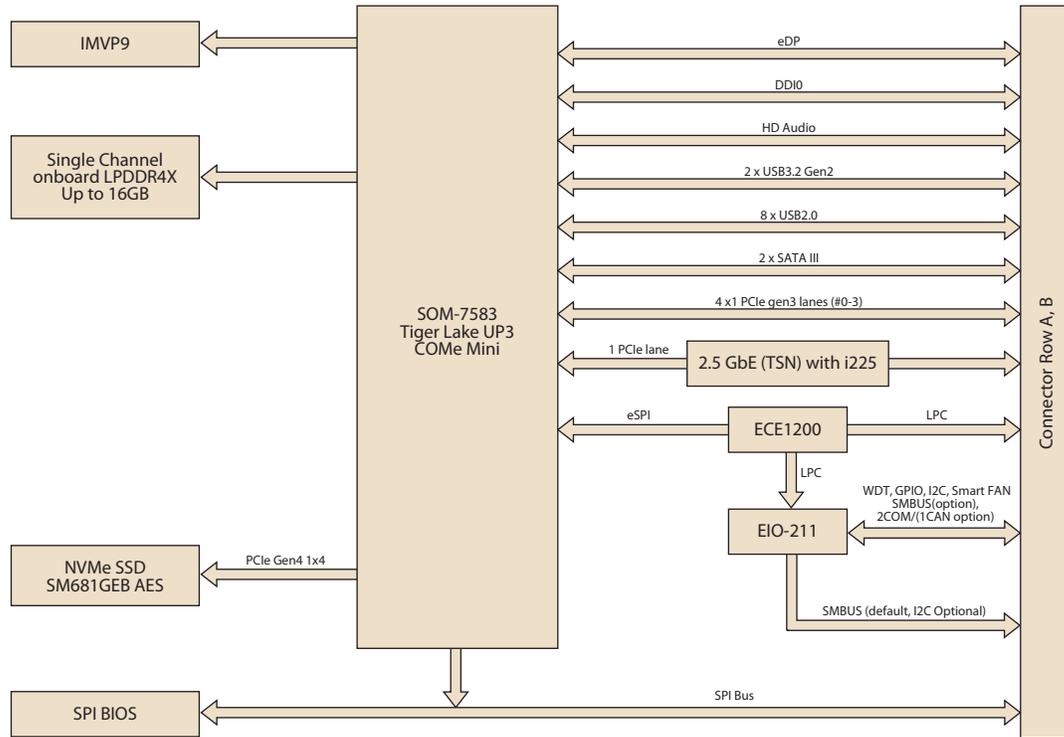- Supports iManager, Embedded Software APIs, Wise-PaaS/RMM and DeviceOn

Software APIs: Watchdog | I²C | SMBus | H/W Monitor | GPIO | Brightness

Windows Embedded iManager WISE-DeviceOn C€ 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
Memory	Technology	LPDDR4X on board up to 16GB
	Speed	
	ECC Support	IBECC supported by Industrial SKU
	Onboard Memory	16GB
	SODIMM Memory	Not supported
Graphics	Controller	Gen 12 Graphics up to 96 EUs
	Max. Frequency	1.2 GHz
	2D&3D/HW Acceleration	
Display	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	Support by default
	I2C Bus	Optional
Ethernet	Gigabit	Intel I225 LM controller ; Speed: 10M / 100M / 1000M / 2.5G speeds (2.5G TSN optional)
	TSN	Support by I225 (Industrial SKU only)
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	ATX: Vin, VSB; AT: Vin
	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
	Vibration Resistance	3.5 Grms
Mechanical	Dimensions	84 x 55 mm

ADVANTECH **Computer On Modules**

All product specifications are subject to change without notice. Last updated: 27-Jul-2020

Block Diagram

Ordering Information

P/N	CPU	Cores	Freq. (Base/Turbo)	CPU TDP	Onboard eMMC	LLC	Giga LAN	PCIex1	USB 2.0	USB 3.2 (Gen2)	SATA 3.0	LPC	Power	Thermal Solution	Operating Temperature
TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

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
	standard semi cooler
	low profile thermal module

Packing List

Part No.	Description	Quantity
	standard heat spreader	1

Embedded OS

OS	Part No.	Description
Win10	TBD	TBD