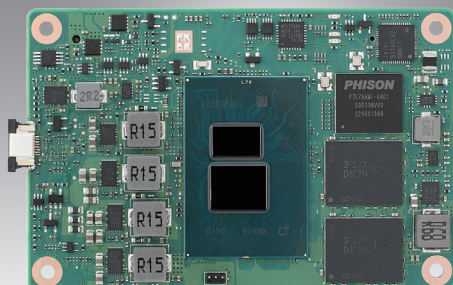


SOM-7533

Intel® Core-i®/Pentium®/Celeron® and Atom® x7000 Series Processors (Code Name: Alder Lake-N) COM Express® SOM-7533 Mini Type10

Preliminary



Features

- COM Express® R3.1 Mini Module Type 10 Pinout
- Intel® Core-i®/Pentium®/Celeron® and Atom® x7000 Series Processors
- Single-CH LPDDR5 4800MT/s up to 16GB, support IB ECC
- 2.5GbE support TSN
- Multiple I/O expansion: PCIe gen3, USB3.2 Gen2, SATA3.0
- On board eMMC up to 64GB (Optional)
- Supports iManager, Embedded Software APIs and Wise-DeviceOn

Software APIs:



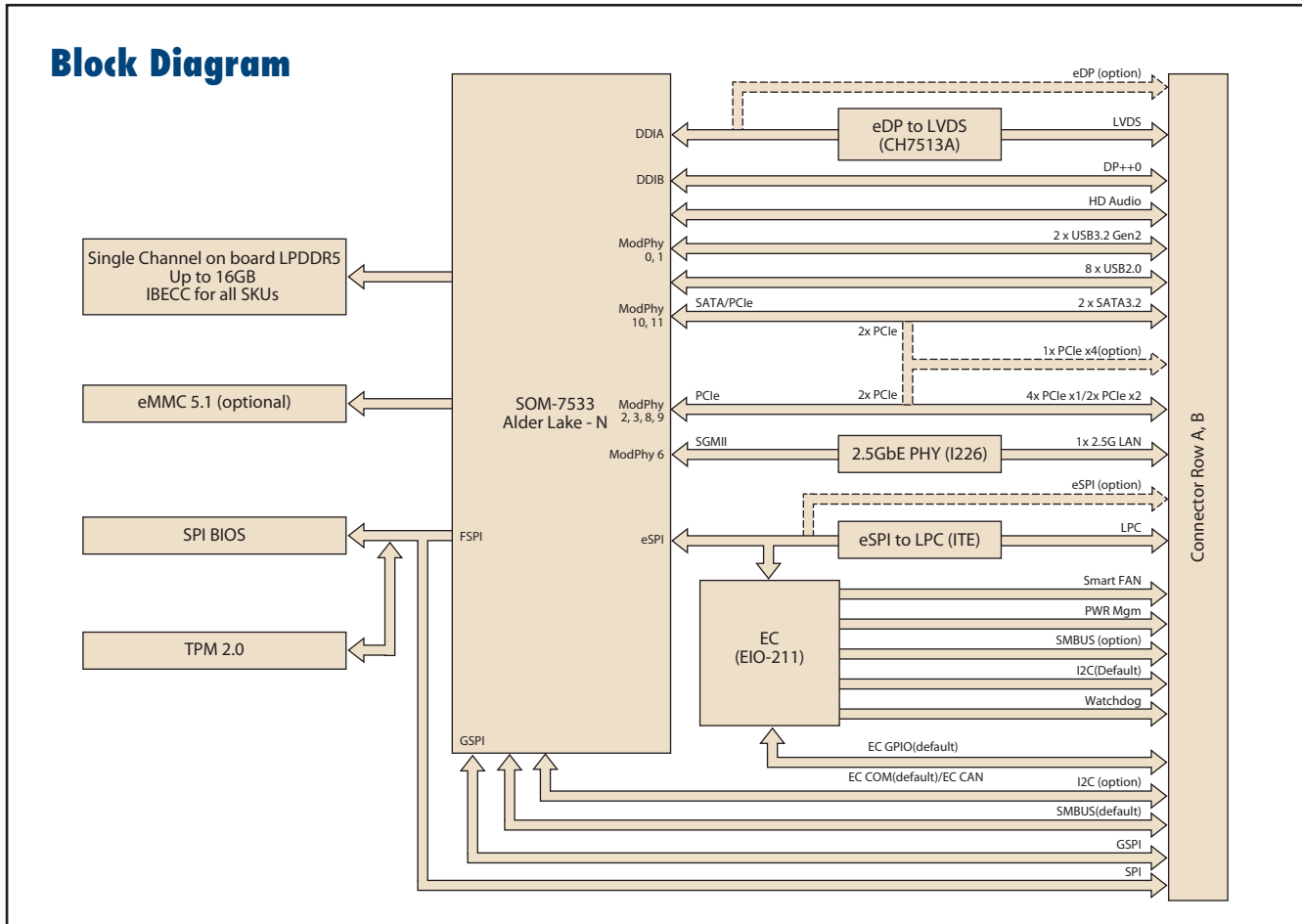
Windows Embedded

iManager WISE-DeviceOn CE FC

Specifications

Form Factor	Form Factor	COM Express Mini					
	Pin-out Type	COM Express R3.1 Type 10 compatible					
Processor System	CPU	N50	N97	N200	j3-N305	x7211E	x7425E
	Base Frequency	1.0 GHz	2.0 GHz	1.0 GHz	1.0/1.8 GHz	1.0 GHz	1.5 GHz
	Max Single Core Turbo Frequency	3.4 GHz	3.6 GHz	3.7 GHz	3.8 GHz	3.2 GHz	3.4 GHz
	Cores	2	4	4	8	2	4
	LLC	6 MB	6 MB	6 MB	6 MB	6 MB	6 MB
	CPU TDP	6W	12W	6W	9/15W	6W	12W
	IB ECC	Yes	Yes	Yes	Yes	Yes	Yes
	BIOS	AMI UEFI 256Mbit					
Memory	Technology	LPDDR5					
	Speed	4800 MT/s					
	Max. Capacity	Up to 16GB					
	Channel/Socket	Single Channel / Memory down					
	ECC Support	IB ECC Supported by all CPU SKUs					
Graphics	Controller	Intel® UHD Graphics					
	EU	16	24	32	32	16	24
	Base. Frequency	600 MHz	850 MHz	450 MHz	1.0 GHz	600 MHz	800 MHz
	Max. Frequency	750 MHz	1.2 GHz	750 MHz	1.25 GHz	1.0 GHz	1.0 GHz
	3D/HW Acceleration	Open GL 4.6, DirectX 12.1 Vulkan 1.2 (Windows) Mesa 3D, Open GL 4.6, Vulkan 1.2 (Linux)					
Display	LCD (LVDS/eDP)	1port LVDS single channel: 1366 x 768 @60Hz/eDP 1920 x 1080 @60Hz (Up to eDP 4096 x 2304 by specific SKU)					
	DDI (HDMI/DisplayPort)	1 DDI Port Support Configurable HDMI/DisplayPort -HDMI 2.0b: 4096 x 2034 @ 60Hz -DisplayPort 1.4: 4096 x 2034 @ 60Hz					
	Multiple Display	Double Simultaneous Independent Display					
Expansion	PCI Express x1 (Gen3)	4 PCIe x1 by default, 2 PCIe x2 by option; Support Configurable 1 PCIe x4 by SATA option					
	Audio Interface	HD Audio					
	LPC	Yes					
Serial Bus	SMBus	Yes					
	I2C Bus	Yes					
Ethernet	Gigabit	Intel I226 controller ; Speed: 10M / 100M / 1000M / 2.5G speeds, Support TSN by specific SKU					
I/O	SATA3.0	2 Port (6 Gbps)					
	USB3.2 (Gen2)	2 Ports (10 Gbps)					
	USB2.0	8 Ports (480 Mbps)					
	SPI Bus	Yes. For BIOS EEPROM					
	GPIO	8-bit					
	Onboard Storage	eMMC up to 64GB (Optional)					
	Watchdog	65536 level, 0 ~ 65535 sec					
	COM Port	2 Ports (4-Wire), 2 Ports (2-Wire)					
	TPM	TPM2.0					
	CAN Bus	2 Ports					
Power	Type	ATX: Vin, VSB; AT: Vin					
	Supply Voltage	Vin: 4.75V ~ 20V; VSB: 4.75V ~ 5.25V; RTC Battery: 2.0V ~ 3.3V					
	Power Consumption (Max.)	TBD					
	Power Consumption (Idle)	TBD					
Environment	Operating Temperature	Operating Standard: 0 ~ 60 °C (32 ~ 140 °F), Extend: -40 ~ 85 °C (-40 ~ 185 °F) with 0.7m/s air flow.					
	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					
Mechanical	Dimensions	84 mm x 55 mm					

Block Diagram



Ordering Information

Part No.	CPU	Core	Graphics	Base Freq.	Max. Boost Freq.	GFX HFM	GFX Burst Mode	Onboard Memory	CPU TDP	EMMC	IBECC	Thermal solution	Operating Temp.
SOM-7533DCCC-S8A1	I3-N305	8	32 EU	1.0GHz/1.8GHz	3.8GHz	1.0GHz	1.25GHz	16G	9W/15W	64G	Yes	Passive	0 - 60 °C
SOM-7533CCBC-U0A1	N97	4	24 EU	2.0GHz	3.6GHz	850MHz	1.2GHz	8G	12W	32G	Yes	Passive	0 - 60 °C
SOM-7533DCBC-S0A1	N200	4	32 EU	1.0GHz	3.7GHz	450MHz	750MHz	16G	6W	32G	Yes	Passive	0 - 60 °C
SOM-7533BCAC-S0A1	N50	2	16 EU	1.0GHz	3.4GHz	600MHz	750MHz	4G	6W	16G	Yes	Passive	0 - 60 °C
SOM-7533CCBC-S5A1	Atom x7425E	4	24 EU	1.5GHz	3.4GHz	800MHz	1.0GHz	8G	12W	32G	Yes	Passive	0 - 60 °C
SOM-7533BCAC-S1A1	Atom x7211E	2	16 EU	1.0GHz	3.2GHz	600MHz	1.0GHz	4G	6W	16G	Yes	Passive	0 - 60 °C

*Any other SKUs or combination is project based support. Please contact sales for details.

Development Board

Part No.	Description
SOM-DB5830-00A3	COMe Devel. Board COMe R3.1 Type6 pin-out (LVDS) 0 - 60 °C
SOM-DB5830A-00A3	COMe Devel. Board COMe R3.1 Type6 pin-out (eDP) 0 - 60 °C

Packing List

Part No.	Description	Quantity
-	SOM-7533 COM module	1
1970005865T001	Heatspreader	1

Optional Accessories

Part No.	Description
1970005864T001	Semi-Heatsink

Embedded OS

OS	Part No.	Description
Win10	20706WX1HS0079	img W10 21HL SOM-7533 64b 21H2 ENU
Win10	20706WX1VS0080	img W10 21VL SOM-7533 64b 21H2 ENU
Win10	20706WX1ES0079	img W10 21EL SOM-7533 64b 21H2 ENU