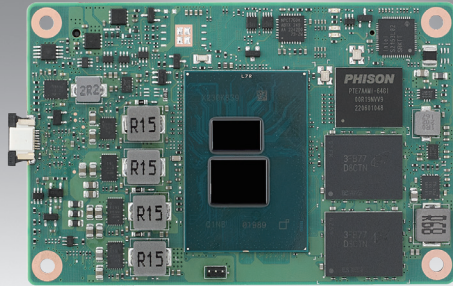


# SOM-7533 / R

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



### 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:



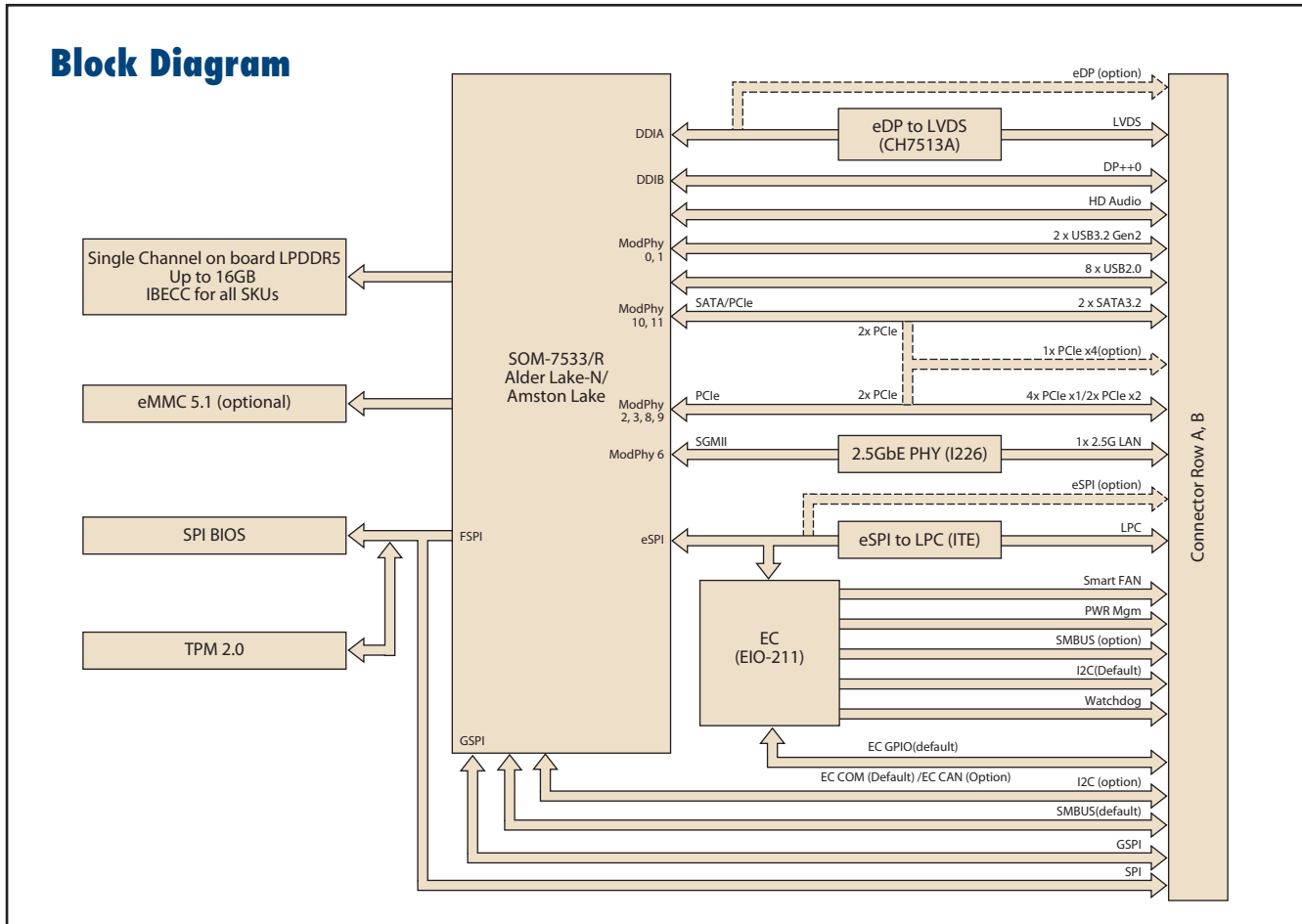
Windows Embedded

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	i3-N305	x7425E	x7835RE	x7433RE	x7211RE	
	Base Frequency	1.0 GHz	2.0 GHz	1.0 GHz	1.0/1.8 GHz	1.5 GHz	1.3 GHz	1.5 GHz	1.0 GHz	
	Max Single Core Turbo Frequency	3.4 GHz	3.6 GHz	3.7 GHz	3.8 GHz	3.4 GHz	3.6 GHz	3.4 GHz	3.2 GHz	
	Cores	2	4	4	8	4	8	4	2	
	LLC	6 MB	6 MB	6 MB	6 MB	6 MB	6 MB	6 MB	6 MB	
	CPU TDP	6W	12W	6W	9/15W	12W	12W	9W	6W	
	IB ECC	Yes	Yes	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	24	32	32	16	
	Base. Frequency	600 MHz	850 MHz	450 MHz	1.0 GHz	800 MHz	800 MHz	600 MHz	400 MHz	
	Max. Frequency	750 MHz	1.2 GHz	750 MHz	1.25 GHz	1.0 GHz	1 GHz	800 MHz	800 MHz	
	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 (2-Wire)								
	TPM	TPM2.0								
	CAN Bus	1 Port								
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	Turbo Max:40.69W @12V(x7835RE with 16GB LPDDR5) Idle:4.81W @12V(x7835RE with 16GB LPDDR5) * Only for reference and will depend on custom software loading. For more details please refer to the user manual.								
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: -40 ~ 85 °C (-40 ~ 185 °F)								
	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	CPU TDP	CPU Base Freq.	Max Single Core Turbo Frequency.	GFX HFM	GFX Burst Mode	RAM	EMMC	TSN	Thermal solution	Operating Temp.
SOM-7533DCCC-S8A1	i3-N305	8	9/15W	1.0/1.8 GHz	3.8 GHz	1.0 GHz	1.25 GHz	16GB	64GB	N/A	Passive	0 – 60°C
SOM-7533CCBC-U0A1	N97	4	12W	2.0 GHz	3.6 GHz	800 MHz	1.2 GHz	8GB	32GB	N/A	Passive	0 – 60°C
SOM-7533DCBC-S0A1	N200	4	6W	1.0 GHz	3.7 GHz	450 MHz	750 MHz	16GB	32GB	N/A	Passive	0 – 60°C
SOM-7533BCAC-S0A1	N50	2	6W	1.0 GHz	3.4 GHz	600 MHz	750 MHz	4GB	16GB	N/A	Passive	0 – 60°C
SOM-7533CCBC-S5A1	x7425E	4	12W	1.5 GHz	3.4 GHz	800 MHz	1.0 GHz	8GB	32GB	Yes	Passive	0 – 60°C
SOM-7533RDCBX-S3A1	x7835RE	8	12W	1.3 GHz	3.6 GHz	800 MHz	1.0 GHz	16GB	32GB	Yes	Active	-40 – 85°C
SOM-7533RCCBX-S5A1	x7433RE	4	9W	1.5 GHz	3.4 GHz	600 MHz	800 MHz	8GB	32GB	Yes	Active	-40 – 85°C
SOM-7533RBCOX-S0A1	x7211RE	2	6W	1.0 GHz	3.2 GHz	400 MHz	800 MHz	4GB	N/A	Yes	Active	-40 – 85°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

## Optional Accessories

Part No.	Description
1970005864T001	Semi-Heatsink
1970004886N001	Semi-Cooler (For SOM-7533R series part number)

## Packing List

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

## 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