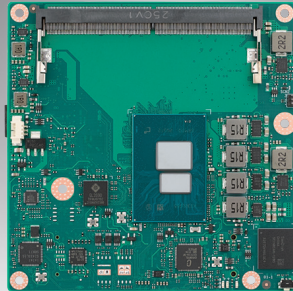


# SOM-6833

## Intel® Core-i®/Pentium®/Celeron® and Atom® x7000 Series Processors (Code Name: Alder Lake-N) COM Express® SOM-6833 Compact Type6

**NEW**



### Features

- COM Express® R3.1 Compact Module Type 6 Pinout
- Intel® Core-i®/Pentium®/Celeron® and Atom® x7000 Series Processors
- Single-CH DDR5 4800MT/s up to 16GB, support IB ECC
- PCIe gen3, USB3.2 Gen2, SATA3.0, 2.5GbE support TSN
- On board eMMC (Option)
- Supports iManager, Embedded Software APIs and Wise-DeviceOn

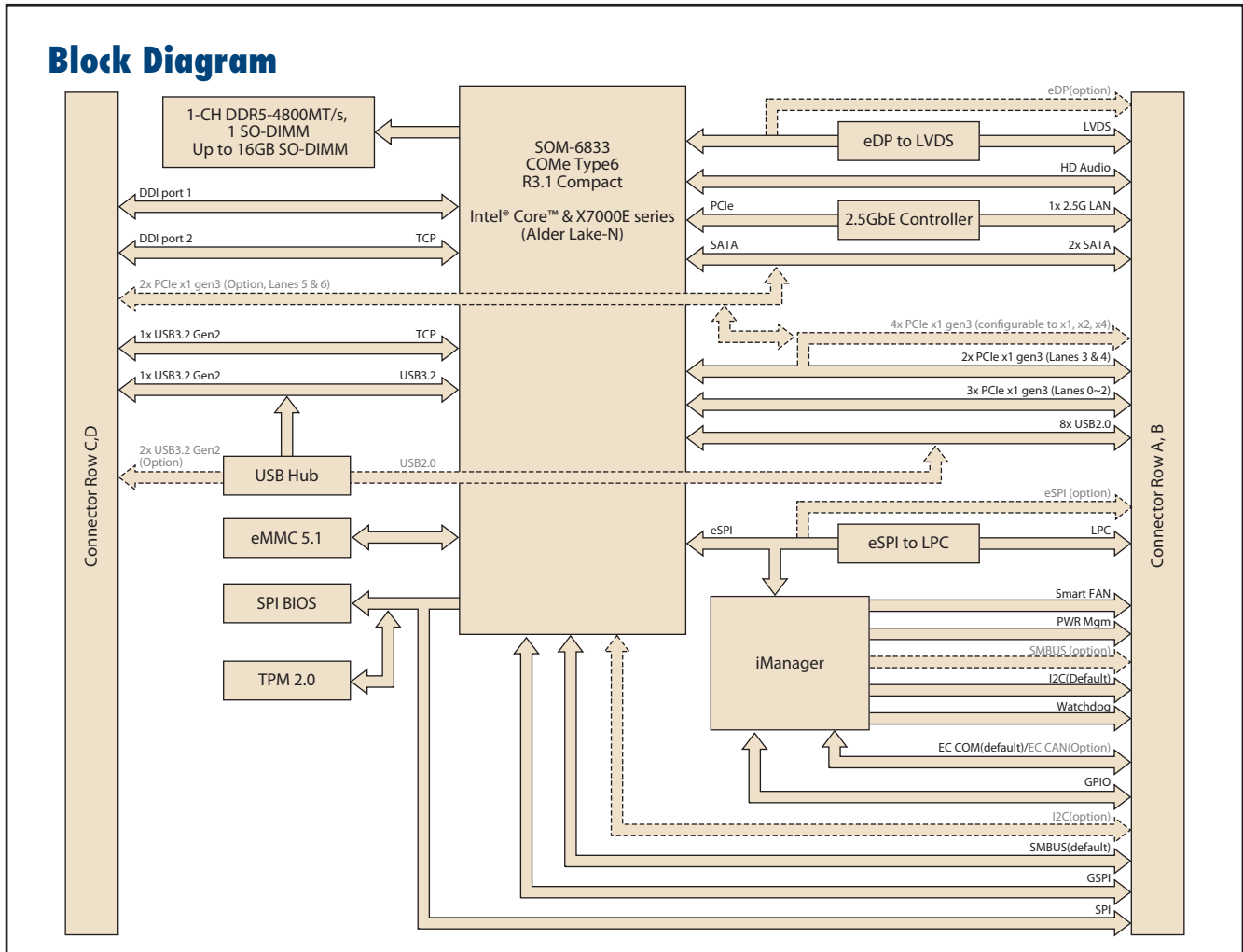
Software APIs:



### Specifications

Form Factor	Form Factor	COM Express Compact					
	Pin-out Type	COM Express R3.1 Type 6 compatible					
Processor System	CPU	N50	N97	N200	i3-N305	x7425E	
	Base Frequency	1.0 GHz	2.0 GHz	1.0 GHz	1.0/1.8 GHz	1.5 GHz	
	Max Single Core Turbo Frequency	3.4 GHz	3.6 GHz	3.7 GHz	3.8 GHz	3.4 GHz	
	Cores	2	4	4	8	4	
	LLC	6 MB	6 MB	6 MB	6 MB	6 MB	
	CPU TDP	6W	12W	9W	9/15W	12W	
	IB ECC	Yes	Yes	Yes	Yes	Yes	
	BIOS	AMI UEFI 256Mbit					
Memory	Technology	DDR5					
	Speed	4800 MT/s					
	Max. Capacity	Up to 16GB					
	Channel/Socket	Single Channel / 1 x 262P SODIMM					
	ECC Support	IB ECC					
Graphics	Controller	Intel® UHD Graphics					
	EU	16	24	32	32	24	
	Base. Frequency	600 MHz	850 MHz	450 MHz	1.0 GHz	800 MHz	
	Max. Frequency	750 MHz	1.2 GHz	750 MHz	1.25 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)	LVDS dual channel: 1920 x 1200@60Hz/eDP 1920 x 1080 @60Hz (Up to eDP 4096 x 2304 by CPU N97 SKU)					
	DDI (HDMI/DisplayPort)	2 DDI ports support configurable HDMI/DisplayPort -HDMI 2.0b: 4096 x 2160 @ 60Hz -DisplayPort 1.4: 4096 x 2160 @ 60Hz					
	Multiple Display	Triple Simultaneous Independent Display					
Expansion	PCI Express x1 (Gen3)	5 PCIe x1 by default, Up to 7 PCIe x1 with 2 SATA option co-lay					
	eSPI/LPC	Default LPC, Option eSPI					
Serial Bus	SMBus	Yes					
	I2C Bus	Yes					
Ethernet	Gigabit	Intel I226 controller ; Speed: 10M / 100M / 1000M / 2.5G speeds, Support TSN by specific SKU					
	SATA3.0	2 Port (6 Gbps)					
I/O	USB3.2 (Gen2)	Default 2 Ports (10 Gbps), Option to 4 Ports by USB Hub					
	USB2.0	8 Ports (480 Mbps)					
	Audio	HD Audio					
	SPI Bus	Yes. For BIOS EEPROM					
	GPIO	8-bit					
	Onboard Storage	eMMC5.1 (Option)					
	Watchdog	65536 level, 0 ~ 65535 sec					
	COM Port	2 Ports (2-Wire)					
	TPM	TPM2.0					
	CAN Bus	1 Ports (Option with COM Port)					
	Power	Type	ATX: Vin, VSB; AT: Vin				
		Supply Voltage	Vin: 8.5V ~ 20V; VSB: 4.75V ~ 5.25V; RTC Battery: 2.0V ~ 3.3V				
Power Consumption (Max.)		TBD					
Power Consumption (Idle)		TBD					
Environmen	Operating Temperature	Standard: 0 ~ 60 °C (32 ~ 140 °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	95 mm x 95 m					

### Block Diagram



### Ordering Information

P/N	CPU	Core	TDP	Graphics	Base Freq.	Max. Boost Freq.	GFX HFM	EMMC	USB Hub	IBECC	TSN	LVDS/Edp	Thermal solution	Operating Temp.
SOM-6833N8-S8A1	I3-N305	8	9/15W	32EU	1.0GHz /1.8GHz	3.8GHz	1.0GHz	128G	Yes	Yes	No	LVDS	Passive	0 – 60 °C
SOM-6833A4-S5A1	Atom X7425E	4	12W	24EU	1.5GHz	3.4GHz	800MHz	64G	Yes	Yes	Yes	LVDS	Passive	0 – 60 °C
SOM-6833N4-U0A1	N97	4	12W	24EU	2.0GHz	3.6GHz	850MHz	32G	NA	Yes	No	LVDS	Passive	0 – 60 °C
SOM-6833N4-S0A1	N200	4	6W	32EU	1.0GHz	3.7GHz	450MHz	NA	NA	Yes	No	LVDS	Passive	0 – 60 °C
SOM-6833N2-S0A1	N50	2	6W	16EU	1.0GHz	3.4GHz	600MHz	NA	NA	Yes	No	Edp	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

### Optional Accessories

Part No.	Description
1960048815N001	Semi-Heatsink

### Embedded OS

OS	Part No.	Description
Win10	TBD	TBD

### Packing List

Part No.	Description	Quantity
-	SOM-6833 COM module	1
1970005894N001	Heatspreader	1