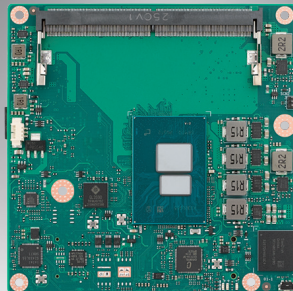


SOM-6833

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

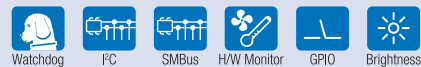
NEW



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

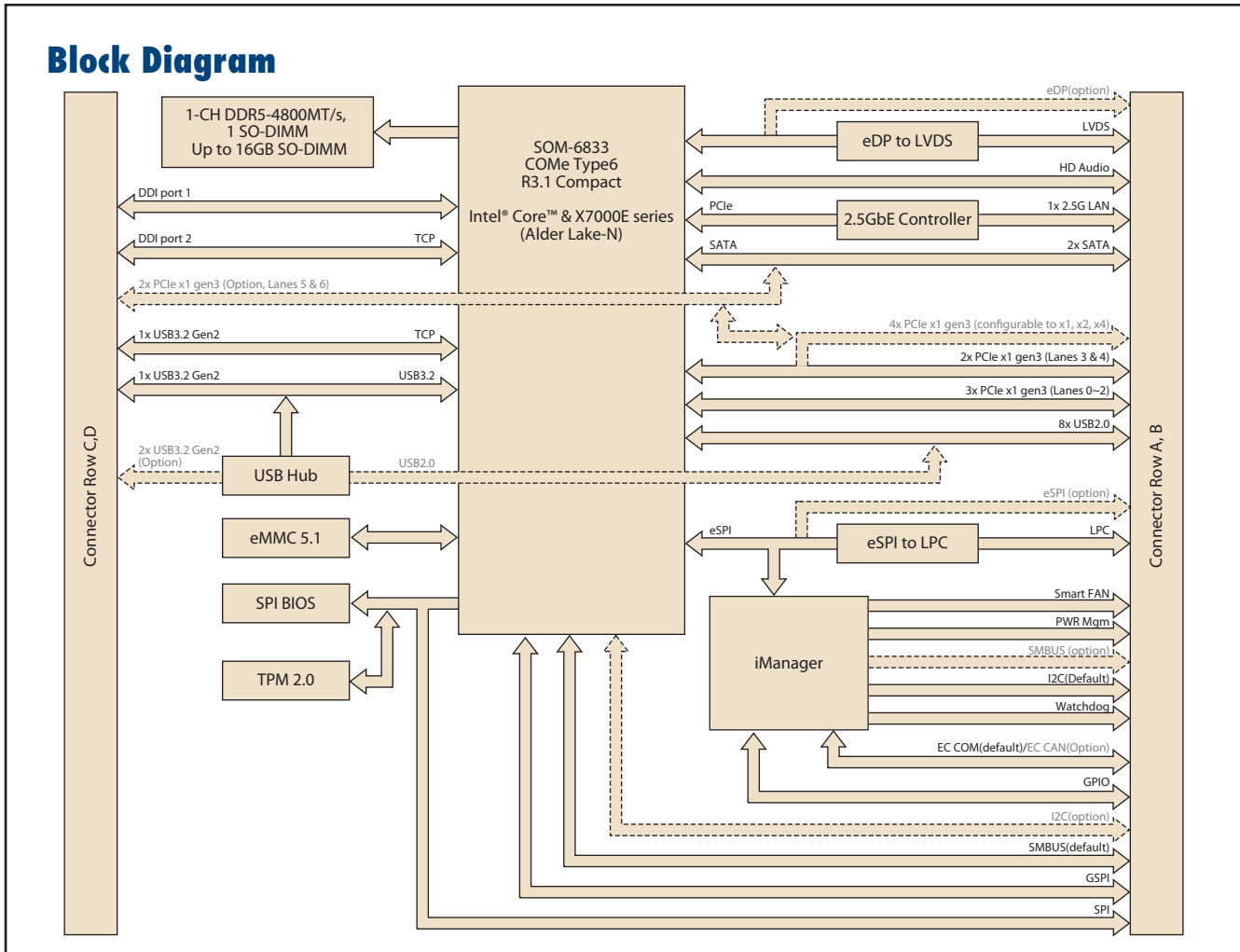
Software APIs:



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	x7211E	x7425E	x7213E
	Base Frequency	1.0 GHz	2.0 GHz	1.0 GHz	1.0/1.8 GHz	1.0 GHz	1.5 GHz	1.7 GHz
	Max Single Core Turbo Frequency	3.4 GHz	3.6 GHz	3.7 GHz	3.8 GHz	3.2 GHz	3.4 GHz	3.2 GHz
	Cores	2	4	4	8	2	4	2
	LLC	6 MB	6 MB	6 MB	6 MB	6 MB	6 MB	6 MB
	CPU TDP	6W	12W	9W	9/15W	9W	12W	10W
	IB ECC	N/A	N/A	N/A	N/A	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	16	24	16
	Base. Frequency	600 MHz	850 MHz	450 MHz	1.0 GHz	600 MHz	800 MHz	800 MHz
	Max. Frequency	750 MHz	1.2 GHz	750 MHz	1.25 GHz	1.0 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)	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						
I/O	SATA3.0	2 Port (6 Gbps)						
	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	2 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 mm						

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-6833A2-S0A1	Atom X7211E	2	6W	16EU	1.0GHz	3.2GHz	600MHz	NA	NA	Yes	Yes	Edp	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
TBD	Semi-Heatsink

Embedded OS

OS	Part No.	Description
Win10	TBD	TBD

Packing List

Part No.	Description	Quantity
-	SOM-6833 COM module	1
TBD	Heatsreader	1