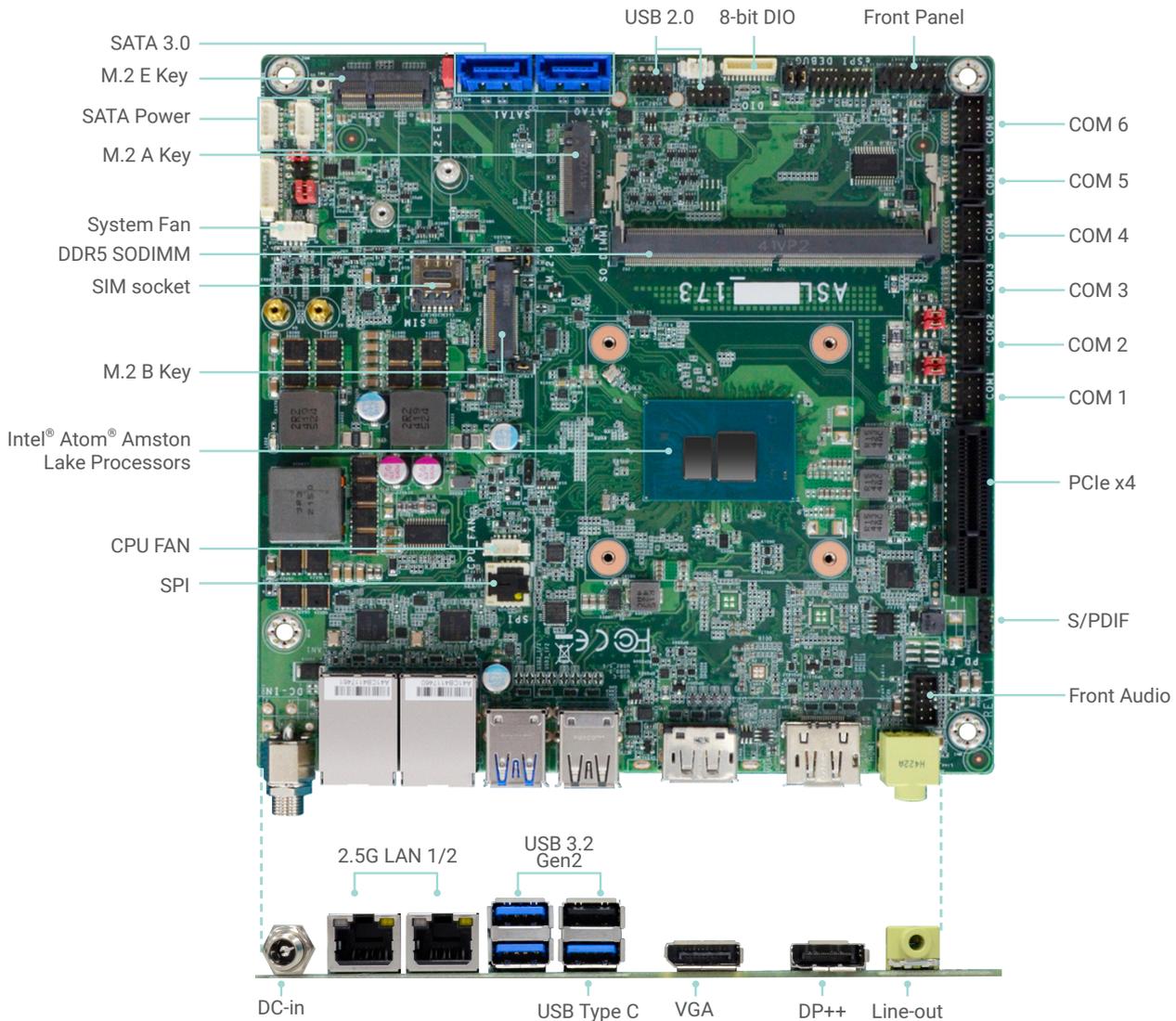


ASL171/ASL173

Intel® Atom® Amston Lake Processors
Atom Mini-ITX



KEY FEATURES



DDR5

1 DDR5 4800MHz SODIMM up to 16GB



4K High Resolution

Supports 4K/ 2K resolution



Triple Displays

DP++/VGA + HDMI/
DP++ + USB-Type C +
*M2A-Display(optional)



Multiple Expansion

1 M.2 A Key,
1 M.2 B Key,
1 M.2 E Key

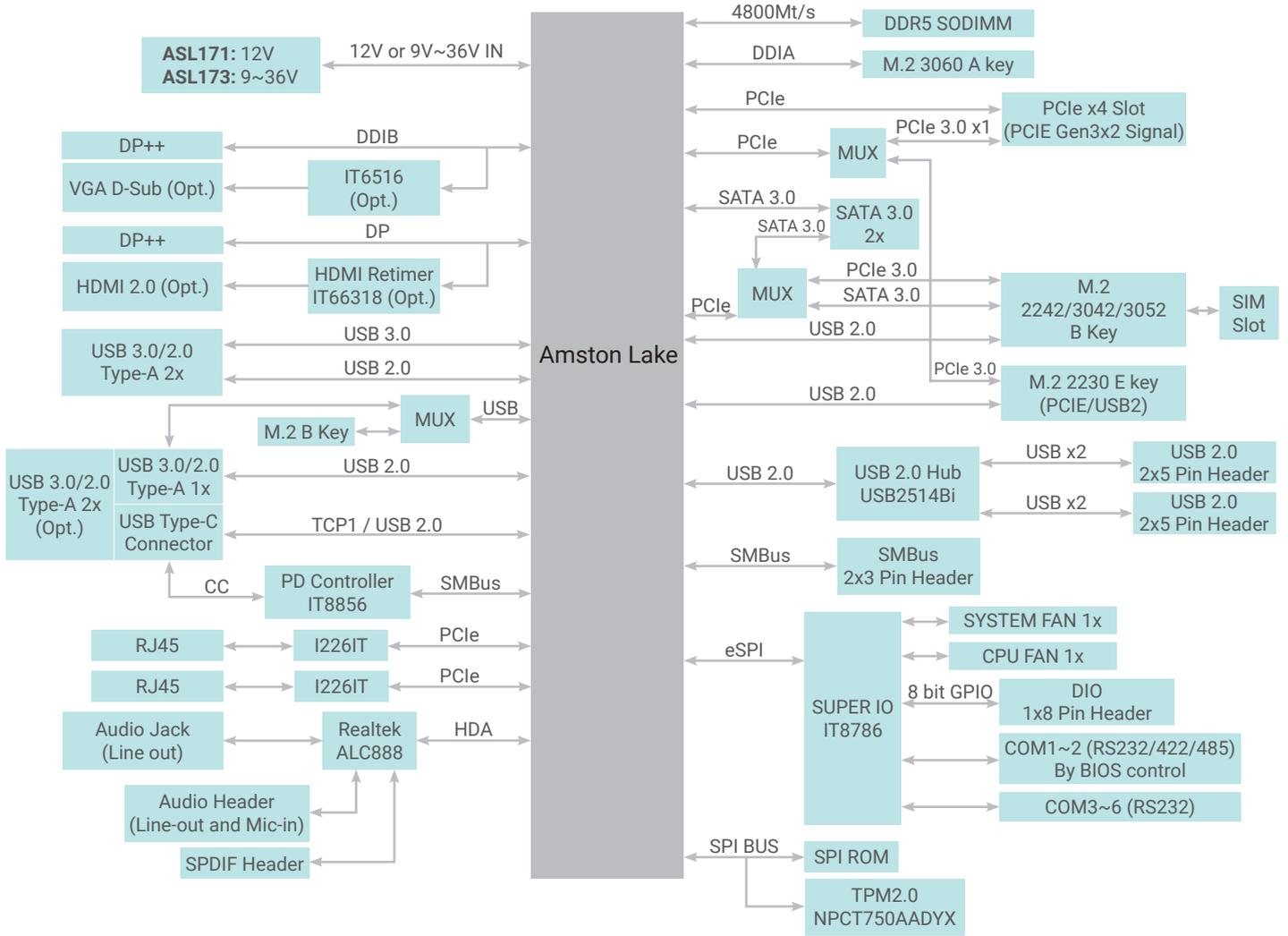


Rich I/O

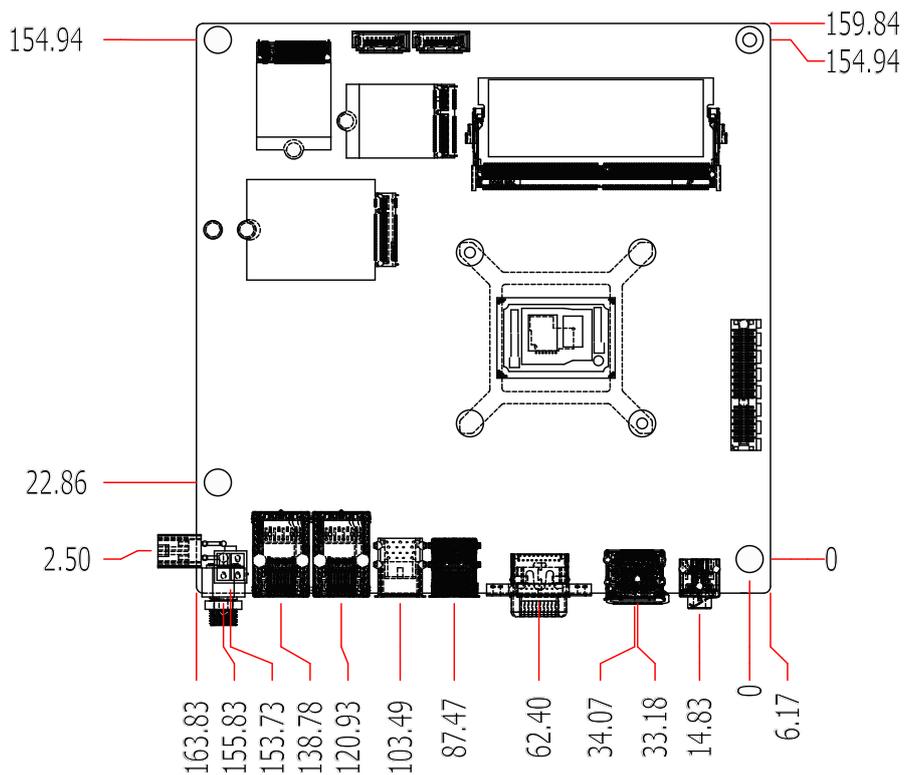
2 2.5GbE LAN, up to 4
USB 3.2, 1 USB Type C,
2 USB2.0, 2 SATA3.0,
6 COM

*M2A Display support
(eDP/LVDS/VGA/HDMI/DP)

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

Model Name		ASL171	ASL173
SYSTEM	Processor	Intel® Atom x7000RE series processors (Code Name : Amston Lake) Intel® Atom Processor x7835RE, 8 Cores, 1.3~3.6GHz, 12W Intel® Atom Processor x7433RE, 4 Cores, 1.5~3.4GHz, 9W Intel® Atom Processor x7213RE, 2 Cores, 2.0~3.4GHz, 9W Intel® Atom Processor x7211RE, 2 Cores, 1.0~3.2GHz, 6W	
	Memory	One 262-pin SODIMM up to 16GB Single Channel DDR5 4800MHz	One 262-pin SODIMM up to 16GB Single Channel DDR5 4800MHz
	BIOS	AMI SPI 256Mbit	AMI SPI 256Mbit
GRAPHICS	Controller	Intel® UHD Graphics	
	Feature	OpenGL 4.6, Direct X 12.1, OpenCL 3.0 HW Decode: HEVC, VP9, AV1, AVC HW Encode: HEVC, VP9, AVC	OpenGL 4.6, Direct X 12.1, OpenCL 3.0 HW Decode: HEVC, VP9, AV1, AVC HW Encode: HEVC, VP9, AVC
	Display	1 x DP++/ VGA (Co-layout) 1 x DP++/ HDMI2.0 (Co-layout) 1 x USB Type C (DP alt-mode/USB3.2 Gen2/ PD 15W) HDMI: resolution up to 3840x2160 @ 24Hz DP++: resolution up to 3840x2160 @ 60Hz VGA: resolution up to 2048x1536 @ 60Hz USB-C: resolution up to 3840x2160 @24Hz	1 x DP++/ VGA (Co-layout) 1 x DP++/ HDMI2.0 (Co-layout) 1 x USB Type C (DP alt-mode/USB3.2 Gen2/ PD 15W) HDMI: resolution up to 3840x2160 @ 24Hz DP++: resolution up to 3840x2160 @ 60Hz VGA: resolution up to 2048x1536 @ 60Hz USB-C: resolution up to 3840x2160 @24Hz
Triple Displays	DP++/VGA + HDMI/DP++ + USB Type C (DP alt-mode/USB3.2 Gen2/PD 15W) + M2A-Display (optional)	DP++/VGA + HDMI/DP++ + USB Type C (DP alt-mode/USB3.2 Gen2/PD 15W) + M2A-Display (optional)	
EXPANSION	Interface	1 x PCIe x4 (PCIe signal x2) 1 x M.2 2242/3042/3052 B Key (PCIe Gen3x1 or SATA3 and USB2.0 wi USB3(opt.)) 1 x M.2 2230 E Key (PCIe Gen3x1, USB2.0) 1 x M.2 3060 A Key support DFI M2A-display module (opt. MOQ required) 1 x Nano SIM socket (connected to M.2 B key)	1 x PCIe x4 (PCIe signal x2) 1 x M.2 2242/3042/3052 B Key (PCIe Gen3x1 or SATA3 and USB2.0 wi USB3(opt.)) 1 x M.2 2230 E Key (PCIe Gen3x1, USB2.0) 1 x M.2 3060 A Key support DFI M2A-display module (opt. MOQ required) 1 x Nano SIM socket (connected to M.2 B key)
AUDIO	Audio Codec	Realtek ALC888S	
ETHERNET	Controller	2 x Intel® I226IT (10/100/1000/2500Mbps)	
REAR I/O	Ethernet	2 x 2.5GbE RJ45	
	USB	4 x USB 3.2 Gen2 or 3 x USB 3.2 Gen2 + 1 x USB 2.0 or 3 x USB 3.2 Gen2 + 1 x USB Type C	4 x USB 3.2 Gen2 or 3 x USB 3.2 Gen2 + 1 x USB 2.0 or 3 x USB 3.2 Gen2 + 1 x USB Type C
	Display	1 x HDMI /DP++ (opt., MOQ may required) 1 x DP++ /VGA (opt., MOQ may required) 1 x USB Type C (DP alt-mode/USB3.2 Gen2/ PD 15W)	1 x HDMI /DP++ (opt., MOQ may required) 1 x DP++ /VGA (opt., MOQ may required) 1 x USB Type C (DP alt-mode/USB3.2 Gen2/ PD 15W)
	Audio	1 x Line-out	
INTERNAL I/O	Serial	2 x RS-232/422/485 (RS-232 w/ power) (2.0mm pitch) 4 x RS-232 (2.0mm pitch)	
	USB	4 x USB 2.0 (2.0mm pitch) or 3 x USB 2.0 (2.00mm pitch) + 1 x Vertical USB 2.0 (type A) (opt., MOQ required)	
	Audio	1 x S/PDIF 1 x Line-out/Mic-in	
	SATA	2 x SATA 3.0 (up to 6Gb/s)	
	DIO	1 x 8-bit DIO	
	SMBus	1 x SMBus	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	TPM	dTPM (default) fTPM (option)	dTPM (default) fTPM (option)
POWER	Type	Single 12VDC (+/-5%) (DC-In jack by default)	
	Connector	DC-in Jack Right Angle Connector (4-pin) Vertical Type Connector (4-pin)	
	Consumption	Idle: x7835RE 12W: 9V @ 0.82A (7.38W) Max: x7835RE 12W: 9V @ 6.12A (55.08W) Idle: x7835RE 12W: 36V @ 0.3A (10.8W) Max: x7835RE 12W: 36V @ 1.52A (54.72W)	Idle: x7835RE 12W: 9V @ 0.82A (7.38W) Max: x7835RE 12W: 9V @ 6.12A (55.08W) Idle: x7835RE 12W: 36V @ 0.3A (10.8W) Max: x7835RE 12W: 36V @ 1.52A (54.72W)
	RTC Battery	CR2032 Coin Cell	
OS SUPPORT	Microsoft	Windows IoT Enterprise 10 LTSB Windows 11	
	Linux	Linux	
ENVIRONMENT	Temperature	Operating: -40 to 85°C Storage: -40 to 85°C	Operating: -40 to 85°C Storage: -40 to 85°C
	Humidity	Operating: 5 to 90% RH Storage: 5 to 90% RH	Operating: 5 to 90% RH Storage: 5 to 90% RH

SPECIFICATION

Model Name		ASL171	ASL173
ENVIRONMENT	MTBF	ASL171-CT-x7211RE MTBF 472,343 hrs @ 25°C; 291,391 hrs @ 45°C; 192,586 hrs @ 60°C; 144,364 hrs @ 70°C; 93,242 hrs @ 85°C Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled	ASL173-CT-x7835RE MTBF 455,085 hrs @ 25°C; 278,736 hrs @ 45°C; 183,740 hrs @ 60°C; 137,635 hrs @ 70°C; 88,893 hrs @ 85°C Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled
MECHANISM	Dimensions	Mini-ITX Form Factor 170mm (6.7") x 170mm (6.7")	Mini-ITX Form Factor 170mm (6.7") x 170mm (6.7")
	Height	PCB: 1.6mm Top Side: 20mm Bottom Side: 3mm	PCB: 1.6mm Top Side: 20mm Bottom Side: 3mm
STANDARDS AND CERTIFICATION	Certifications	CE, FCC, RoHS, UKCA	CE, FCC, RoHS, UKCA

ORDERING INFORMATION

Model Name	P/N	CPU	Memory	Rear I/O			Internal I/O			Power	Thermal	Operating Temp.
				Display	2.5 GbE	USB	RS-232	RS-232/422/485	USB			
ASL171-CT-x7835RE	770-ASL1711-000G	x7835RE	1 DDR5	DP/DP/Type C	2	3 USB 3.2 Gen2, 1 USB Type C	4	2	4 USB 2.0	Fanless	-40 to 85°C	
ASL171-CT-x7433RE	770-ASL1711-100G	x7433RE		VGA/DP/Type C		3 USB 3.2 Gen2, 1 USB Type C						
ASL171-CT-x7213RE	770-ASL1711-200G	x7213RE		DP/HDMI		4 USB 3.2 Gen2						
ASL171-CT-x7211RE	770-ASL1711-300G	x7211RE		DP/DP		3 USB 3.2 Gen2, 1 USB 2.0						
ASL173-CT-x7835RE	770-ASL1731-000G	x7835RE		VGA/DP/Type C		3 USB 3.2 Gen2, 1 USB Type C						
ASL173-CT-x7433RE	770-ASL1731-100G	x7433RE		DP/DP		3 USB 3.2 Gen2, 1 USB 2.0						
ASL173-CT-x7213RE	770-ASL1731-200G	x7213RE		DP/HDMI		3 USB 3.2 Gen2, 1 USB 2.0						
ASL173-CT-x7211RE	770-ASL1731-300G	x7211RE		DP/DP/Type C		3 USB 3.2 Gen2, 1 USB Type C						

PACKING LIST

• 1 ASL171/ASL173 motherboard
• 1 COM port cable (Length: 250mm, 1 x COM ports)
• 1 Serial ATA data & power cable w/lock (Length: 300mm)
• 1 Heat sink