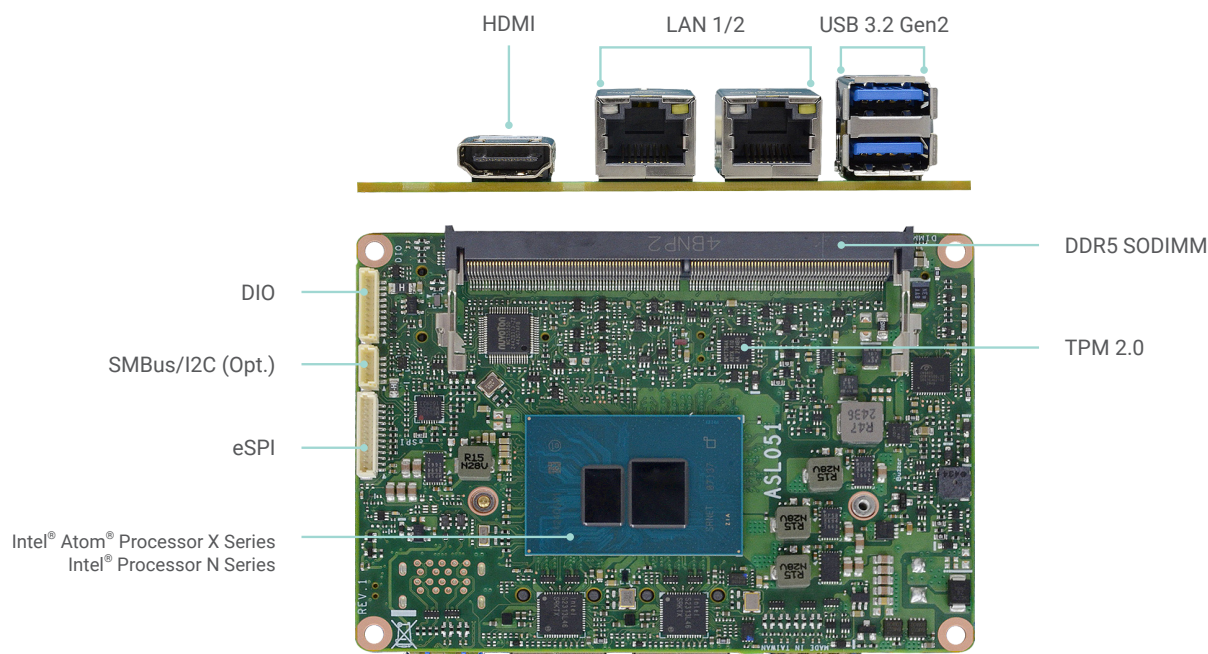


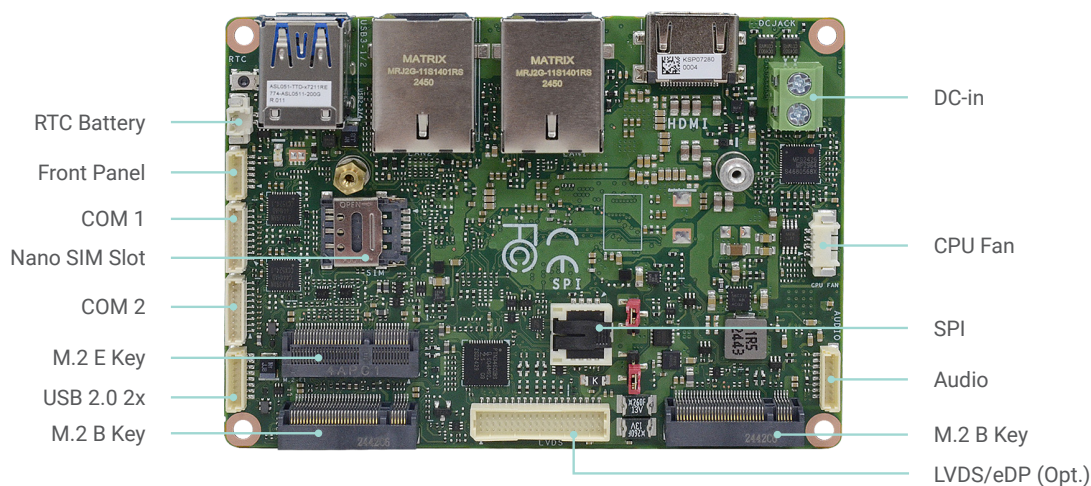
ASL051

Atom

Intel® Atom® Processor X Series
Intel® Processor N Series
2.5" Pico-ITX



Bottom View



Top View

KEY FEATURES



DDR5

1 DDR5 4800MHz SODIMM



4K High Resolution

Supports 4K/2K resolution



Dual Display

HDMI + LVDS/eDP (Opt.)



Multiple Expansion

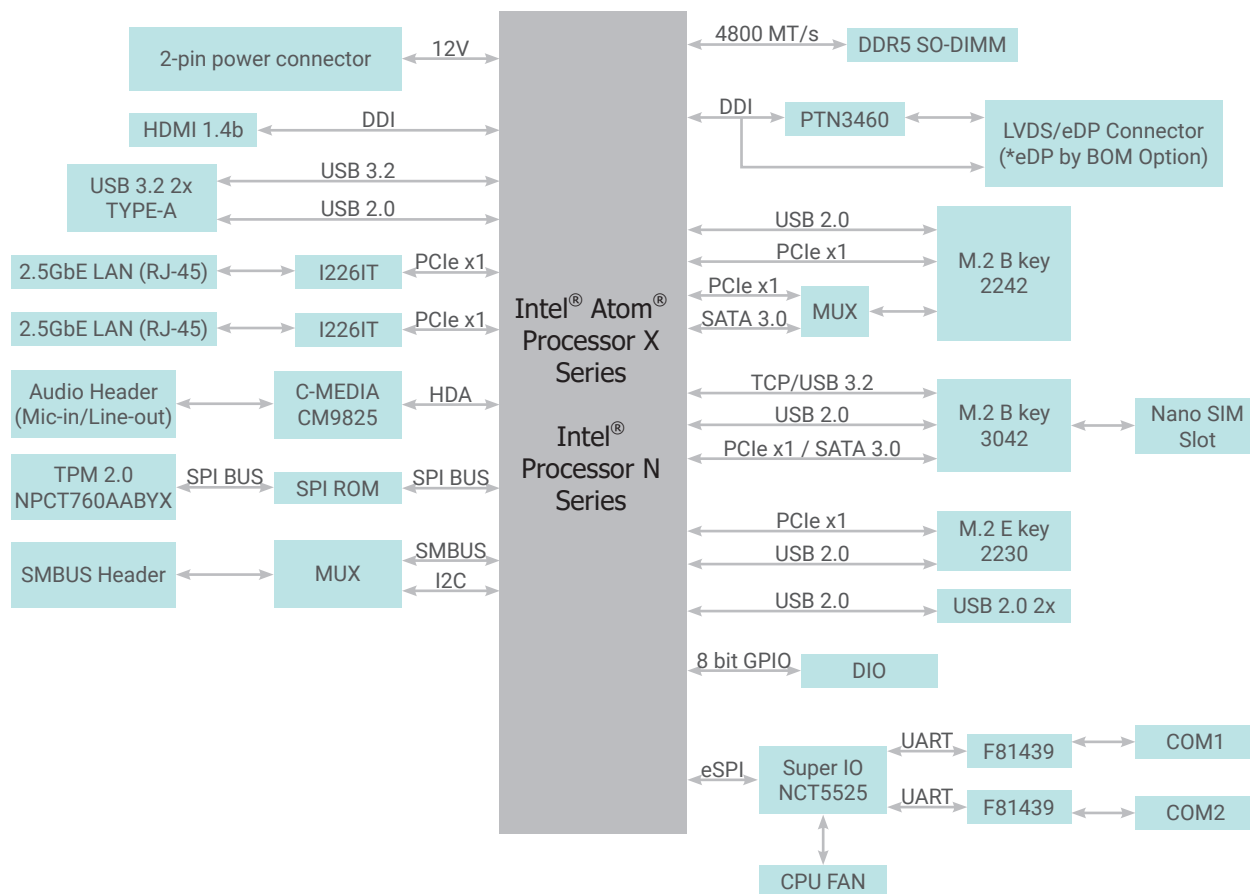
1 M.2 E Key, 2 M.2 B Key



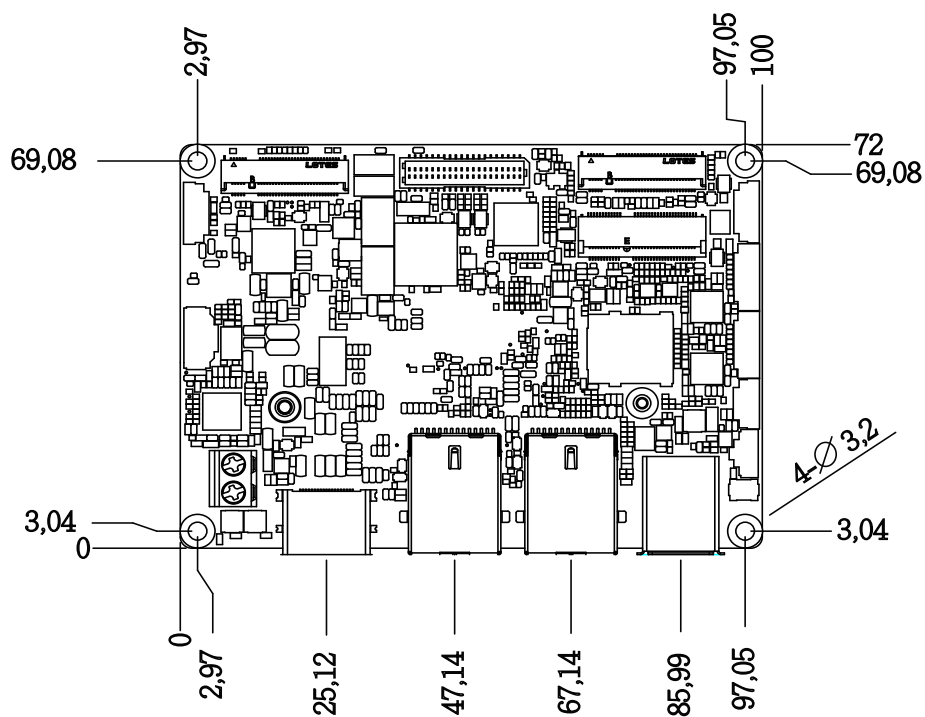
Rich I/O

2 Intel 2.5GbE, 2 COM, 2 USB 3.2, 2 USB 2.0

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

SYSTEM	Processor	Intel Atom® Processor X Series (Code Name: Amston Lake) Intel Atom® Processor x7211RE, 2 Cores, 1.0~3.2 GHz, 6 W Intel Atom® Processor x7433RE, 4 Cores, 1.5~3.4 GHz, 9 W Intel Atom® Processor x7835RE, 8 Cores, 1.3~3.6 GHz, 12 W Intel® Processor N series (Code Name: Twin Lake, Alder Lake-N) Intel® Processor N150, 4 Cores, 1.0~3.6 GHz, 6W Intel® Core™ 3 Processor N355, 8 Cores, 1.8~3.9 GHz, 15W Intel® Processor N97, 4 Cores, 2.0~3.6 GHz, 12W Intel® Core™ 3 Processor N305, 8 Cores, 1.8~3.8 GHz, 15W
	Memory	One 262-pin SODIMM up to 16GB Single Channel DDR5 4800MHz
	BIOS	AMI SPI 256Mbit
	Controller	Intel® UHD Graphics
GRAPHICS	Feature	OpenGL 4.6, Direct X 12.1, OpenCL 3.0 HW Decode: HEVC, VP9, AV1, AVC HW Encode: HEVC, VP9, AVC
	Display	1 x HDMI 1 x LVDS/eDP (Opt.) HDMI: resolution up to 4096x2160 @24Hz LVDS: dual channel 18/24-bit, resolution up to 1920x1200 @60Hz eDP: resolution up to 2560x1440 @ 60Hz (2 Lane)
	Dual Displays	HDMI + LVDS/eDP (Opt.)
	Interface	1 x M.2 2230 E Key (PCIe 3.0 x1/USB 2.0), for Wi-Fi/BT. 1 x M.2 3042/2242 B Key (PCIe 3.0 x1/USB 3.2 Gen 1 x1/SATA 3.0) with 1 x Nano SIM slot for 4G/5G. 1 x M.2 2242 B key (PCIe 3.0 x2/USB 2.0/SATA 3.0), for storage.
EXPENSION	Audio Codec	CMEDIA CM9825
AUDIO	Controller	2 x Intel® I226V/IT (10/100/1000/2500Mbps)
ETHERNET	Ethernet	2 x 2.5GbE (RJ-45)
REAR I/O	USB	2 x USB 3.2 Gen2
	Display	1 x HDMI
	Serial	2 x RS-232/422/485 (1.00mm pitch, 2 x 9-pin header)
INTERNAL I/O	USB	2 x USB 2.0 (1.00mm pitch, 1 x 8-pin header)
	Display	1 x 40 pin LVDS/eDP (Default: LVDS)
	Audio	1 x Line-out/Mic-in (1.00mm pitch, 1 x 8-pin header)
	Smart Fan	12V (4-wire)
	DIO	1 x 8-bit DIO (1.00 pitch, 1 x 10-pin header)
	Front Panel	1 x front panel (power button/reset button, power LED, HDD act LED)
	SMBus	1 x SMBus/I2C (Opt.)
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds
SECURITY	TPM	dTPM2.0
POWER	Type	Single 12V (+/- 5%) DC
	Connector	2-pin Terminal Block
	Consumption	Typical: x7835RE (w/Cooler), 12V @ 0.66A (7.92W) Max: x7835RE (w/Cooler), 12V @ 4.51A (54.12W)
	RTC Battery	CR2032 Coin Cell
OS SUPPORT	OS Support (UEFI Only)	Windows 10 IoT Enterprise LTSC 2021 Windows 11 IoT Enterprise LTSC 24H2 Linux
	Temperature	Operating: -40 to 85 °C, -5 to 65 °C Storage: -40 to 85°C
	Humidity	Operating: 5 to 90% RH Storage: 5 to 90% RH
ENVIRONMENT	MTBF	x7835RE: 410,407 hrs @ 25°C; 188,819 hrs @ 45°C; 84,311 hrs @ 60°C; 47,388 hrs @70°C; 36,140 hrs @85°C Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled
	Dimensions	2.5" Pico-ITX Form Factor 100mm (3.94") x 72mm (2.83")
	Height	PCB: 1.6 mm Top Side: 16mm Bottom Side: 9.4mm
MECHANISM	Certifications	CE, FCC, RoHS, UKCA
STANDARDS AND CERTIFICATIONS		

ORDERING INFORMATION

Model Name	P/N	Processor	Memory	Display	2.5 GbE	RS-232/422/485	USB 3.2 Gen2	USB 2.0	Power	Thermal	Temp.
ASL051-TTD-x7835RE	770-ASL0511-000G	Intel Atom® x7835RE, 8C, 12W	1 DDR5 SODIMM	HDMI + LVDS	2	2	2	2	12VDC	Fanless	-40~85°C
ASL051-TTD-x7433RE	770-ASL0511-100G	Intel Atom® x7433RE, 4C, 9W									-40~85°C
ASL051-TTD-x7211RE	770-ASL0511-200G	Intel Atom® x7211RE, 2C, 6W									-40~85°C
ASL051-BCD-N355	770-ASL0511-300G	Intel® Core™ 3 N355, 8C, 15W									-5~65°C
ASL051-BCD-N150	770-ASL0511-500G	Intel® N150, 4C, 6W									-5~65°C
ASL051-BCD-N305	770-ASL0511-600G	Intel® Core™ 3 N305, 8C, 15W									-5~65°C
ASL051-BCD-N97	770-ASL0511-700G	Intel® N97, 4C, 12W									-5~65°C

PACKING LIST

• 1 ASL051 board	
• 1 Heat spreader (Height: 11 mm)	A71-808373-000G

OPTIONAL ITEMS

• Power adapter (60W, 12V)	671-106012-000G
• 2-pin power to DC jack cable (Length: 115mm)	A81-004013-000G
• COM port cable (Length: 250mm, 1x COM port)	A81-015130-018G
• USB 2.0 cable (Length: 200mm, 2 USB ports)	A81-001201-018G
• Front panel cable (Length: 250mm)	A81-009899-018G
• Audio cable (Length: 200mm)	A81-022043-054G
• DIO cable (Length: 200mm)	A81-009715-018G
• SMBus cable (Length: 200mm)	A81-009716-018G
• Heat sink for 85°C(9W), 70°C(12W), 65°C(15W) (Height: 25.9mm)	A71-008194-A00G
• Cooler for 85°C(12W) (Height: 26mm)	A71-108165-A00G