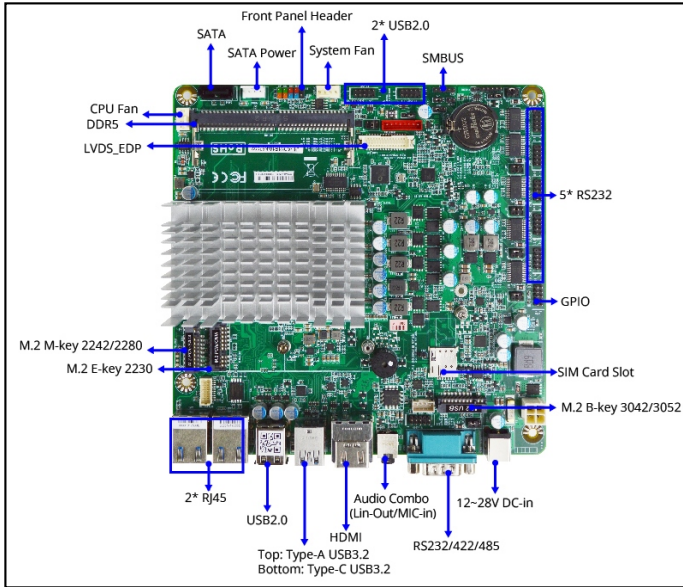


Mini-ITX with Intel® Processor N-Series Intel® SoC



Features

- Power by Onboard Intel® Processor N-Series (formerly Twin Lake)
- Versatile Display Options: Support 1 x Type C DP, 2 x 4K HDMI® and 1 x LVDS/eDP Outputs
- Dual Ethernet Ports: 2 x 2.5GbE for fast and reliable networking
- Storage Expansion: 1 x SATAIII, 1 x M.2 M-key NVMe
- Additional Expansion: 1 x M.2 E-key, 1 x M.2 B-key
- Comprehensive I/O: 1 x USB 3.2, 1 x USB 3.2 Type C, 2 x USB 2.0 and 6 x COM ports
- Wide Range Power Input: DC-in 12-28V for robust industrial flexibility
- Security Enhance: Support Onboard TPM2.0 (option)

Packing List

PART NUMBER	DESCRIPTION	QTY
MTX-TWL1	MTX-TWL1 MB	1
F04-MB-101-F	I/O Shield	1
F05-JNF9T-3F	Heatsink	1
G01-COM-H2M22-1F	COM Port Cable	2
G01-SATA3-BL-1F	SATA Cable	1
G01-PW4PS2S-322-1F	SATA Power Y Cable	1

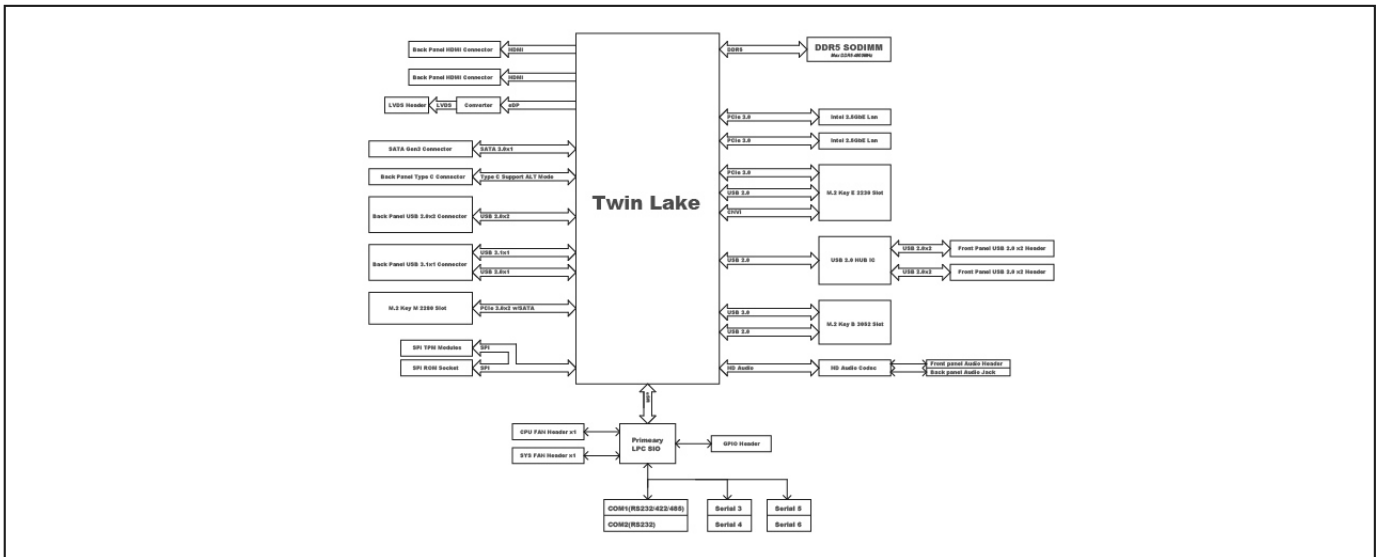
Optional Accessory

PART NUMBER	DESCRIPTION	QTY
L01AS059-F	Adapter 19V/3.42A/ 65W	1

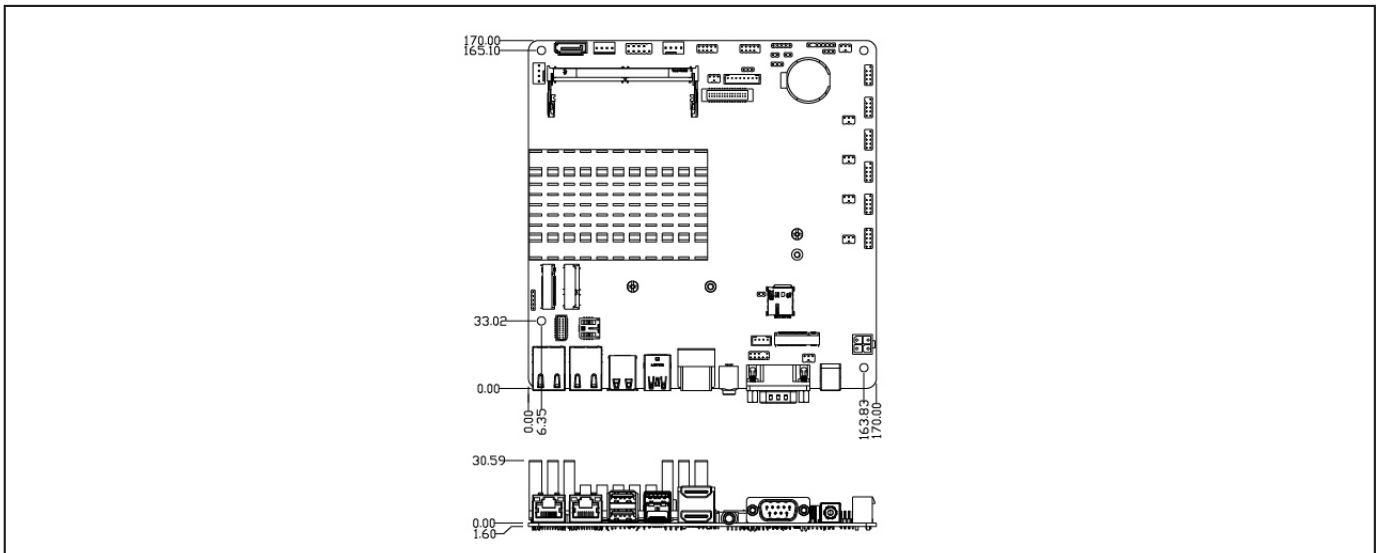
Specifications

SYSTEM	
MB FORM FACTOR	Mini-ITX
CPU	Onboard Intel Atom® N250 Processor (Formerly Twin Lake, TDP 6W) Onboard Intel Atom® N150 Processor (Formerly Twin Lake, TDP 6W)
CHIPSET	Intel® SoC
MEMORY	1 x DDR5 4800MT/s, Single Channel SO-DIMM, up to 32GB
BIOS	UEFI
WAKE ON LAN	Yes
WATCHDOG TIMER	255 Levels
SECURITY	TPM2.0
RTC BATTERY	Lithium Battery
DIMENSION (W X D)	170.0 (W) x 170.0 (D) mm (6.7" x 6.7")
OS SUPPORT	Windows® 11 (64bit), Windows® 10 (64bit), Linux
POWER	
POWER REQUIREMENT	DC-in 12-28V
POWER ON MODE	AT / ATX
CONNECTOR	DC Jack 4-pin Header
DISPLAY	
GPU	Intel® UHD Graphics
LVDS	1 x 24-bit Dual Channel LVDS (Max. Resolution: 1920 x 1080 @60Hz / Co-Lay eDP)
Type-C DP	1 x Type-C DP1.4 (Max Resolution: 4096 x 2160@60Hz)
HDMI®	2 x HDMI® 2.0b (Max Resolution: 4096 x 2160@60Hz)
MULTIPLE DISPLAY	Support 3 Displays
AUDIO	
CODEC	Realtek Audio Codec
COMBO	1 x Combo Audio Jack for Line-Out / Mic-In
AMPLIFIER	3W
LAN	
ETHERNET	2 x RJ45 for Intel® I226-V 2.5GbE
USB PORT	
USB	1 x USB 3.2 Gen 2x1 (10Gbps, Formerly USB 3.1 Gen 2) 1 x USB 3.2 Gen 2x1 Type-C (10Gbps) Support DP ALT Mode 2 x USB 2.0 Internal Header for 4 x USB 2.0
SERIAL PORT	
COM	1 x DB-9 for RS-232/422/485 with 5V/12V header Internal Header for 5 x RS-232 with 5V/12V header
INTERNAL I/O	
GPIO	8-Bit
SMBUS	Yes
FAN	1 x CPU Fan Header 1 x System Fan Header
FRONT PANEL	HDD Active LED, Power On/Off, Power LED, Reset
ADDITIONAL	1 x PS/2
STORAGE	
SATA	1 x SATA III 1 x SATA Power Connector
EXPANSION	
M.2	1 x M-Key 2242/2280 (SATA/PCIe 3.0 x2) Support NVMe 1 x E-Key 2230 (USB 2.0/PCIe 3.0 x1) Support CNVi 1 x B-Key 3042/3052 (USB 3.2/USB 2.0) for 4G/5G Module
SIM	1 x Nano SIM Card Slot
ENVIRONMENT & CERTIFICATION	
SHOCK	15G, 11ms duration
VIBRATION	1 Grms/ 5- 500Hz/ Operation
OPERATING TEMPERATURE	-20°C ~ 60°C (-4°F ~ 140°F)
STORAGE TEMPERATURE	-20°C ~ 85°C (-4°F ~ 185°F)
OPERATING HUMIDITY	10 ~ 90% Relative Humidity, Non-condensing
CERTIFICATION	CE/FCC Class A

Block Diagram



Dimension Unit: mm



Ordering Information

PART NUMBER	MTX-TWL1-N2500010	MTX-TWL1-N2500210	MTX-TWL1-N1500010	MTX-TWL1-N1500210
CPU	Intel® Atom® N250 Processor	Intel® Atom® N250 Processor	Intel® Atom® N150 Processor	Intel® Atom® N150 Processor
SECURITY	Intel® PT (fTPM)	TPM 2.0 (dTPM)	Intel® PTT (fTPM)	TPM 2.0 (dTPM)