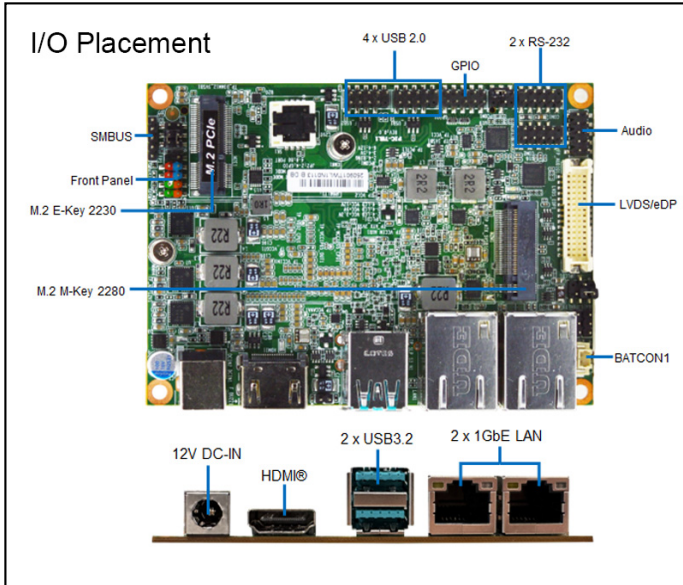


Pico-ITX Motherboard with Intel® N-series Processors



Features

- **Powered by Intel® Processor N-series N150 Processor (Formerly Twin Lake)**
- **High-Performance Memory: Supports DDR5 SO-DIMM, up to 32GB**
- **Dual Display Support: 1 x HDMI® for 4K display and 1 x LVDS Co-lay with eDP**
- **Storage & Expansion: 1 x M.2 E-Key, 1 x M.2 M-Key**
- **Comprehensive I/O: 2 x USB 3.2 Gen2, 4 x USB 2.0, 2 x RS-232/422/485**
- **Enhanced Security: Supports Intel fTPM**
- **Wide Operating Temperature: from -20 ~ 60°C for different Industrail application**
- **Dual LAN : 2 x RJ45 for Realtek® RTL8111H GbE**

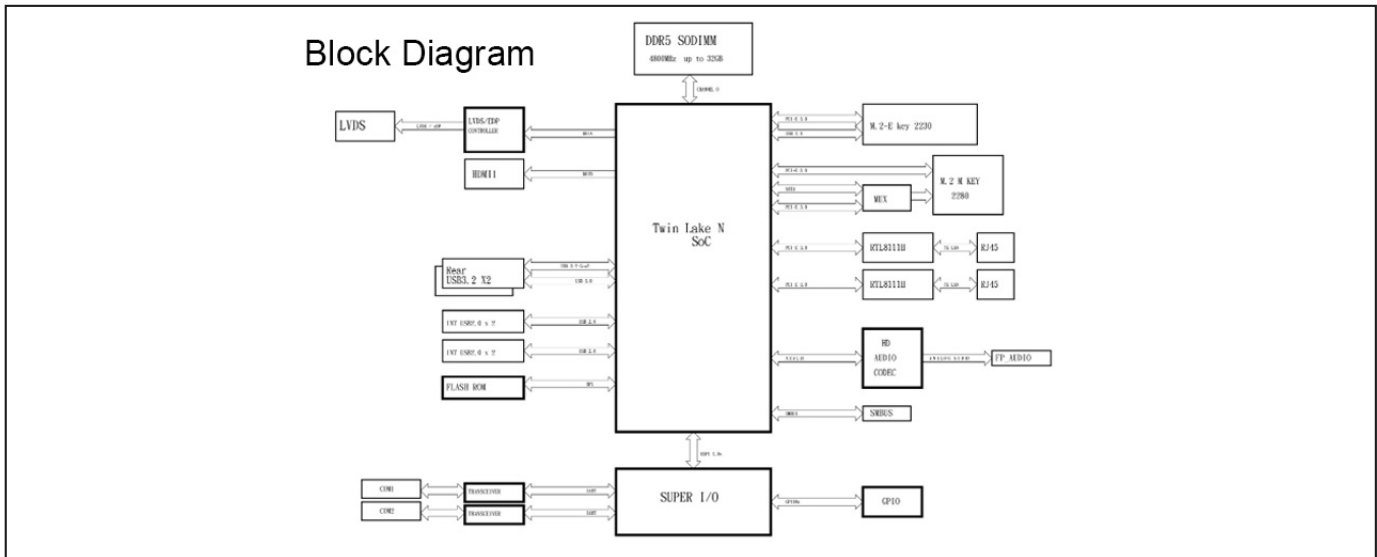
Packing List

PART NUMBER	DESCRIPTION	QTY
Part Number	Description	QTY per Board
PIC-TWL1	PIC-TWL1 MB	1
G01-COM-H2M22-1F	COM Cable	1
F05-PICO-01-F	Heatsink	1

Specifications

SYSTEM	
MB FORM FACTOR	Pico-ITX
CPU	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	Intel® PTT (Integrated fTPM)
RTC BATTERY	Lithium Battery
DIMENSION (W X D)	100.0 (W) x 72.0 (D) mm (3.9" x 2.8")
OS SUPPORT	Windows® 11 (64bit), Linux
POWER	
POWER REQUIREMENT	DC-in 12V
POWER ON MODE	AT / ATX (Default) Mode
CONNECTOR	DC Jack Internal 2-pin Header
DISPLAY	
GPU	Intel® Graphics
LVDS	1 x 24-bit Dual Channel LVDS (Max. Resolution: 1920 x 1200 @60Hz, co-layout eDP)
HDMI®	1 x HDMI® 1.4b (Max Resolution: 3840 x 2160@30Hz)
MULTIPLE DISPLAY	Support 2 Displays
AUDIO	
CODEC	Realtek Audio Codec
COMBO	1 x Internal Header
LAN	
ETHERNET	2 x RJ45 for Realtek® RTL8111H GbE
USB PORT	
USB	2 x USB 3.2 Gen 2x1 (10Gbps, Formerly USB 3.1 Gen 2) Internal Header for 4 x USB 2.0
SERIAL PORT	
COM	Internal Header for 2 x RS-232/422/485
INTERNAL I/O	
GPIO	8-Bit
SMBUS	Yes
FRONT PANEL	HDD Active LED, Power LED, Power On/Off, Reset
ADDITIONAL	1 x AT/ATX Mode Selection
EXPANSION	
M.2	1 x M-Key 2280 (PCIe Gen 3 x2/SATA interface) support NVMe 1 x E-Key 2230 (USB 2.0/PCIe x1) for WIFI/BT Module
ENVIRONMENT & CERTIFICATION	
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



Ordering Information

PART NUMBER	PIC-TWL1-N1500010
CPU	Intel® Atom® N150 Processor