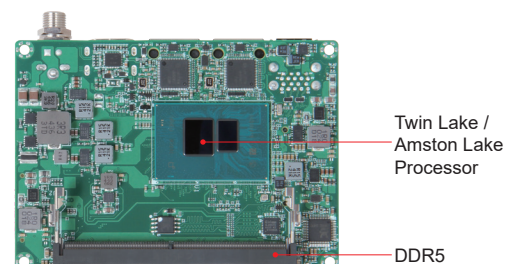
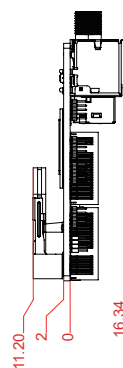
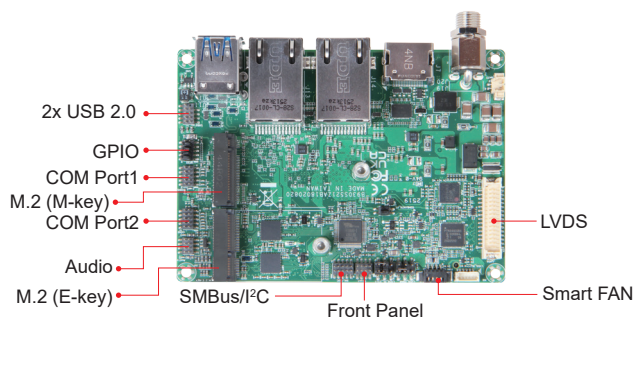


PICO-8020

Pico-ITX Embedded Board Featuring Intel® Processor N150 and Intel Atom® x7433RE/x7211RE Processors with Dual Display, GbE LAN, USB 3.2 Gen2, M.2

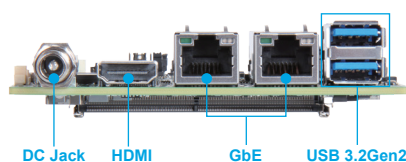


The Portwell PICO-8020 is a Pico-ITX form factor embedded board featuring Intel® Processor N150 and Intel Atom® x7433RE/x7211RE processors. It supports DDR5 memory, dual displays, dual GbE LAN, versatile I/O (including 2x USB 3.2 Gen 2 ports), and M.2 expansion. The PICO-8020 is ideal for industrial, medical, and IoT edge applications.

FEATURES

- Intel® Processor N150 (formerly Twin Lake) and Intel Atom® x7433RE/x7211RE Processors (formerly Amston Lake)}
- Up to 16GB DDR5 4800MT/s SO-DIMM
- Support dual display via HDMI, LVDS
- High speed I/O with dual GbE and dual USB 3.2 Gen 2
- Multiple expansions with M.2 E Key and M Key
- Support onboard TPM 2.0

REAR I/O



Ordering Guide

AB1-3U28	(R).PICO-8020-N150. Intel Twin Lake SoC. w/DDR5/HDMI/GbE/TPM/COM/USB/Audio
AB1-3T73	(R).PICO-8020-X7433RE. Intel Amston Lake SoC. w/DDR5/HDMI/GbE/TPM/COM/USB/Audio
AB1-3U31	(R).PICO-8020-X7211RE. Intel Amston Lake SoC. w/DDR5/HDMI/GbE/TPM/COM/USB/Audio

	Thermal Kit	Part No.
A	Heat spreader	B830CB70
B	Heat sink	B830CB60
C	Cooler	B9972440

GENERAL

Processor	- Intel® Processor N150 - Intel Atom® x7433RE Processor - Intel Atom® x7211RE Processor
BIOS	AMI uEFI BIOS
Memory	1x DDR5 4800MT/s SO-DIMM up to 16GB
Storage Devices	1x M.2 M Key 2242 (PCIe/SATA)
Watchdog Timer	Programmable Watchdog Timer, time out period from 0.5 secs to 254.5 secs
Hardware Monitoring	System Monitor (Voltage, Fan speed, Temperature)
Expansion Interface	1x M.2 E Key 2230

I/O INTERFACE

Audio	- HDA controller integrated in Intel® SoC - Realtek ALC897 HDA codec - Support line-in, line-out, mic-in on board pin header
Ethernet	- 2x Intel® 1GbE Controller (I210) - 2x RJ45 connectors on rear I/O
Serial Port	2x RS-232/422/485 with on board pin header
USB	- 2x USB 3.2 Gen 2 on rear I/O - 2x USB 2.0 on board pin header
Others	- TPM 2.0 onboard - 8x GPIO - 1x I2C & 1x SMBus - 1x Smart Fan

DISPLAY

Graphic Controller	Intel® Graphics up to 24 EUs
Display Interface	- LVDS: 1x LVDS on board connector (Dual channel, 24bit, 1920x1200 @60Hz) - HDMI: 1x HDMI port on rear I/O (HDMI 2.0, 3840x2160 @60Hz)

Mechanical & Environment

Dimension	100mm(L) x 72mm(W)
Power Supply	DC in 12-24V input
Environment	- Operating temperature: 0°C~60°C (SKU: N150) - Operating temperature: -40°C~85°C (SKU: x7433RE / x7211RE) - Storage Temperature: -40°C~85°C - Relative Humidity: 5~95%, non-condensing
Certification	CE, FCC

*All information provided is subject to change without notice. Last updated: October 3, 2025