

FEATURES

- NXP i.MX8M Mini 1.8 GHz Cortex-A53 Processors
- One Cortex-M4 For Real-Time Requirements
- Fast Ethernet With Build-In PoE Feature
- Smart Codec With Dual-Core DSP For Voice Control
- MIPI DSI, LVDS, RGB, I²C Connectors For LCD Touch Panel
- M.2 PCIe Slot Supports Google's Edge TPU AI Module
- Rich I/O With RS-232/485, I²C, GPIOs, USB 2.0 Ports

The EMB-2237-AI is a Pico-ITX (100x 72mm) PoE (Power over Ethernet) Edge AI embedded board based on NXP i.MX8M Mini ARM application processor. The board features a PoE Ethernet port, on-board dual-core DSP that runs algorithms for voice control, noise suppression, and echo cancellation technology. It also offers a full set of I/Os including RS-232/485, and M.2 PCIe slot for Edge TPU AI based solutions.

SPECIFICATIONS

SYSTEM

Processor	NXP i.MX 8M Mini 4x ARM Cortex-A53 @ 1.8GHz 1x Arm Cortex-M4 @ 400MHz
Platform	ARM Cortex-A53\
Graphic Controller	GC NanoUltra (1 Shader) OpenGL ES 2.0; GC520L 2D
Memory	Onboard 2GB LPDDR4, Up To 4GB
OS	Embedded Linux (Kernel Version 4.14, Qt & Wayland) Amazon AVS (Alexa Voice Service) Device SDK Sensory TrulyHandsfree Wake Word Engine Android 9
Storage	Onboard iNAND Flash (8GB Default) 1x Micro SD Slot 265K EEPROM With Write Protect Control
AI/ML	OpenCL CPU: 32 GOPS Google Edge TPU Coprocessor PCIe Option, Up To 4 TOPS

DISPLAY

Interface	1x MIPI 4-Lane DSI 1x Dual Channel LVDS and 24bit RGB for 5", 7", 8", 10.1" and other size LCD panels
Resolution	Up To 1920 x 1200

COMMUNICATIONS

Ethernet	1x 10/100 Mbps Ethernet With PoE Support
Wi-Fi/Bluetooth	1x Wi-Fi/Bluetooth (AP6212A) Module 802.11 b/g/n Bluetooth 4.0

I/O INTERFACE

Audio	1x Mono Class D Speaker Out, 2W(4Ω) 2x (R/L) Line-Out 2x Amplified 1.5W Out Headers
Voice Control	Dual Digital MEMS Microphone Header Via CS47L24 W/ Dual DSP Support Multi-Mic Noise Suppression Acoustic Echo Cancellation (AEC) Omni-Directional Spatial
Ports	1x RS-232/RS-485 Pin Header 2x USB 2.0 Type A 2x USB 2.0 Header 1x USB Type C OTG 4+ GPIO 2x I ² C (For TP & MIPI CSI) 1x MIPI 4-Lane CSI

EXPANSION I/O

Expansion	1x PoE (Power over Ethernet) IEEE 802.3af Module 1x M.2-2230 (E Key) Slot
-----------	--

MECHANICAL

Cooling	Fanless
Watchdog Timer	Programmable Time System Reset
Form Factor	Embedded Pico-ITX Standard
Dimensions	100mm x 72mm (3.94" x 2.83")

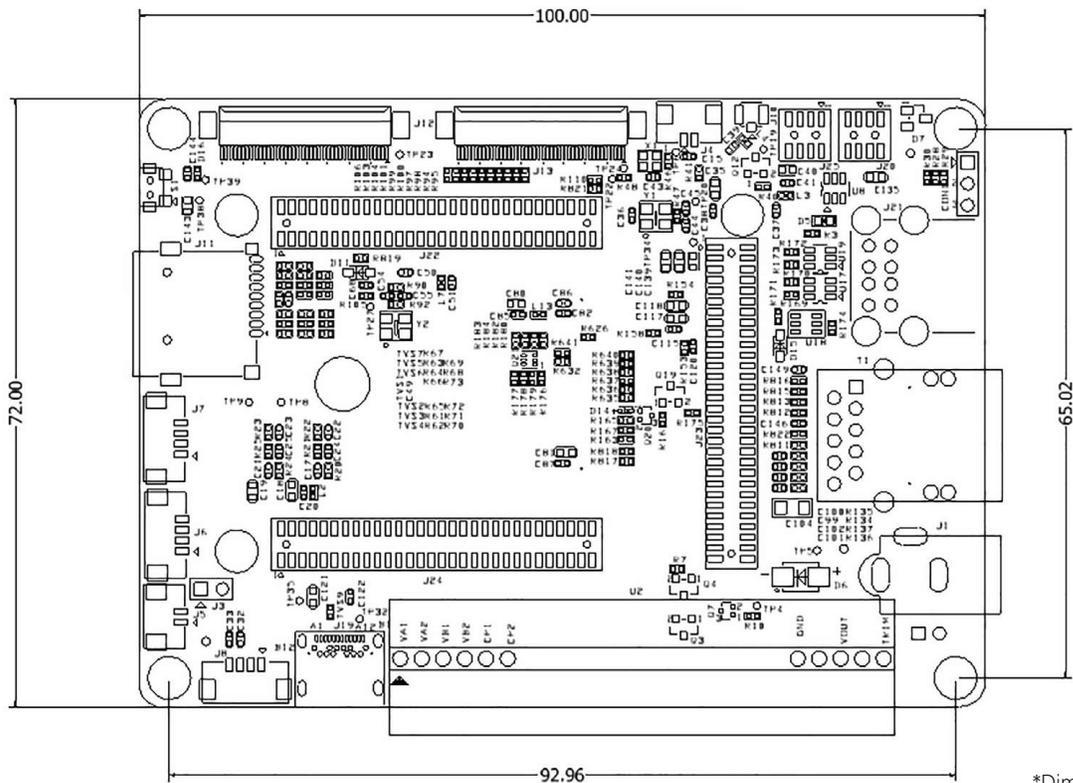
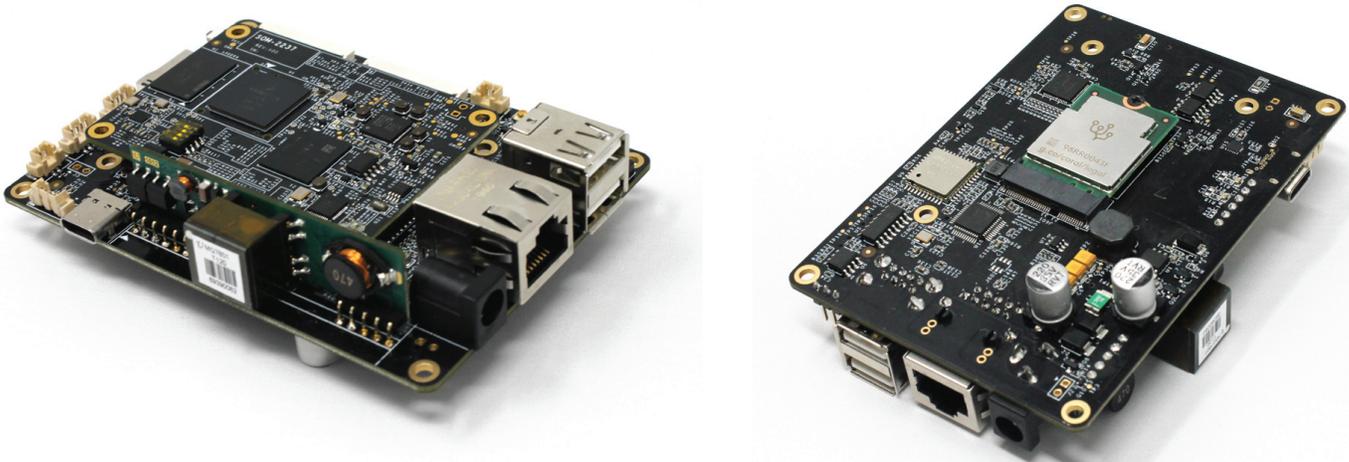
POWER

Input Voltage	12V DC Barrel Jack Or PoE Via RJ45
---------------	------------------------------------

ENVIRONMENTAL

Operating Temp	0°C to 60°C (32°F to 140°F)
Storage Temp	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% @ 40°C (Non-Condensing)

*Specifications are representative. Specific product technology may be different than indicated.



*Dimensions in mm

ORDER OPTIONS

PART NUMBER	DESCRIPTION
SOM-2237	NXP i.MX8M Mini SOM With Smart Codec & Ethernet
IOB-2407	IOB-2407 Carrier Board For SOM-2237
EMB-2237-AI	SOM-2237 i.MX8M Mini SOM + IOB-2407 Carrier Board
EMB-2237-AI-POE	SOM-2237 i.MX8M Mini SOM + IOB-2407 Carrier Board With POE Module