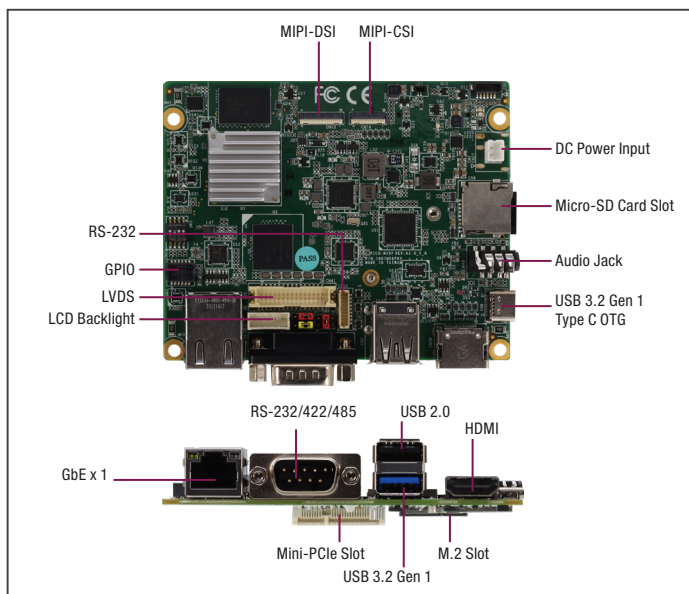


RICO-MX8P

Pico-ITX Fanless Board with NXP i.MX 8M Plus



Features

- NXP i.MX 8M Plus
- Onboard LPDDR4 2GB/4GB/8GB (Optional)
- Onboard eMMC 16GB and Micro-SD Card Slot
- HDMI 2.0(Default), LVDS, MIPI (Optional)
- M.2 2230 E-Key Slot (WiFi/BT Module, Optional)
- GbE x 2 (Onboard x 1, Daughter Board x 1)
- USB 3.2 Gen 1 x 2 (Type-C OTG x 1, Type-A x 1)
- USB 2.0 x 1 (Type-A)
- RS-232/422/485 x 1, 2-wire RS232 x 1 ,Debug Port x 1
- 8-bit GPIO, I2C, mPCIe Slot x 1
- +12V DC Input
- 12~24V Input, PoE, CANBus x 2, USB 2.0 x 2 via PER-T650 Daughter board
- Debian 11 Support
- Small Board Size (100mm x 80mm)



Specifications

System	
Form Factor	Pico-ITX Plus (100mm x 80mm)
CPU	NXP i.MX 8M Plus Quad-Core ARM® Cortex®-A53 Processor, 1.6GHz ARM® Cortex®-M7, 800MHz Processor for Low-Power Processing NPU: 2.3 TOPS (Optional)
GPU	GC7000 UltraLite: 3D GPU (2 shaders) OpenGL ES 3.1, Vulkan, OpenCL 1.2 GC520L: 2D GPU
Graphics	Video Processing Unit (VPU): 720p60 H.265, VP9 decoder 720p60 H.264, VP8 decoder 720p60 H.265, H.264 encoder
Memory Capacity	Onboard LPDDR4 2GB/4GB/8GB (Optional)
Storage/SSD	16GB eMMC and Micro-SD card
Operating System	Debian 11
Kernel	Kernel 5.10 (Debian 11)
Watchdog Timer	Integrated
Power Requirement	+12V DC Input
Power Consumption (Typical)	0.93A@12V, full load, Quad-Core CPU
Dimension	3.94" x 3.15" (100mm x 80mm)
Gross Weight	0.44 lb. (0.2Kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	100,000
Certification	CE/FCC
Display	
HDMI	HDMI 2.0 (Type-A)
eDP	N/A
LVDS	4-Lane/8-Lane LVDS Interface JP2, 5V/12V: Backlight Power Selection JP3, 3.3V/5V: LVDS Power Selection LCD Backlight Connector
MIPI	4-Lane MIPI DSI Interface
RF Function	
WiFi	Supported via M.2 2230 E-Key (Optional, PCIe 3.0 [x1] I/F)
BT	Supported via M.2 2230 E-Key (Optional, PCIe 3.0 [x1] I/F)
I/O	
Ethernet	Onboard RJ45 GbE Port x 1 RJ45 GbE Port x 1 (via Daughter Board, T650 or T668)
USB Port	USB 3.2 Gen 1 x 2 (Type-C OTG x 1, Type-A x 1) USB 2.0 x 1 (Type-A)

Serial Port	RS-232/422/485 x 1 JP1, 5V/12V: RS-232/422/485 Voltage Output Selection COM Port Setting via S/W RS-232 Pin Header x 1 Debug Port x 1 UART x 2 (Tx/Rx Only)
Audio	Audio Combo Jack x 1 (3.5mm)
GPIO	GPIO x 8, 2x7P Wafer x 1
Expansion Slot	Full Size Mini-PCle Slot x 1 (For LTE, USB I/F) 40-Pin FPC Connector x 1 (Connect to Daughter Board)
SIM Slot	Push-Push Nano-SIM Slot with Tray
SD Socket	Push-Push Micro-SD Card Slot x 1
Camera	4-Lane MIPI CSI Interface

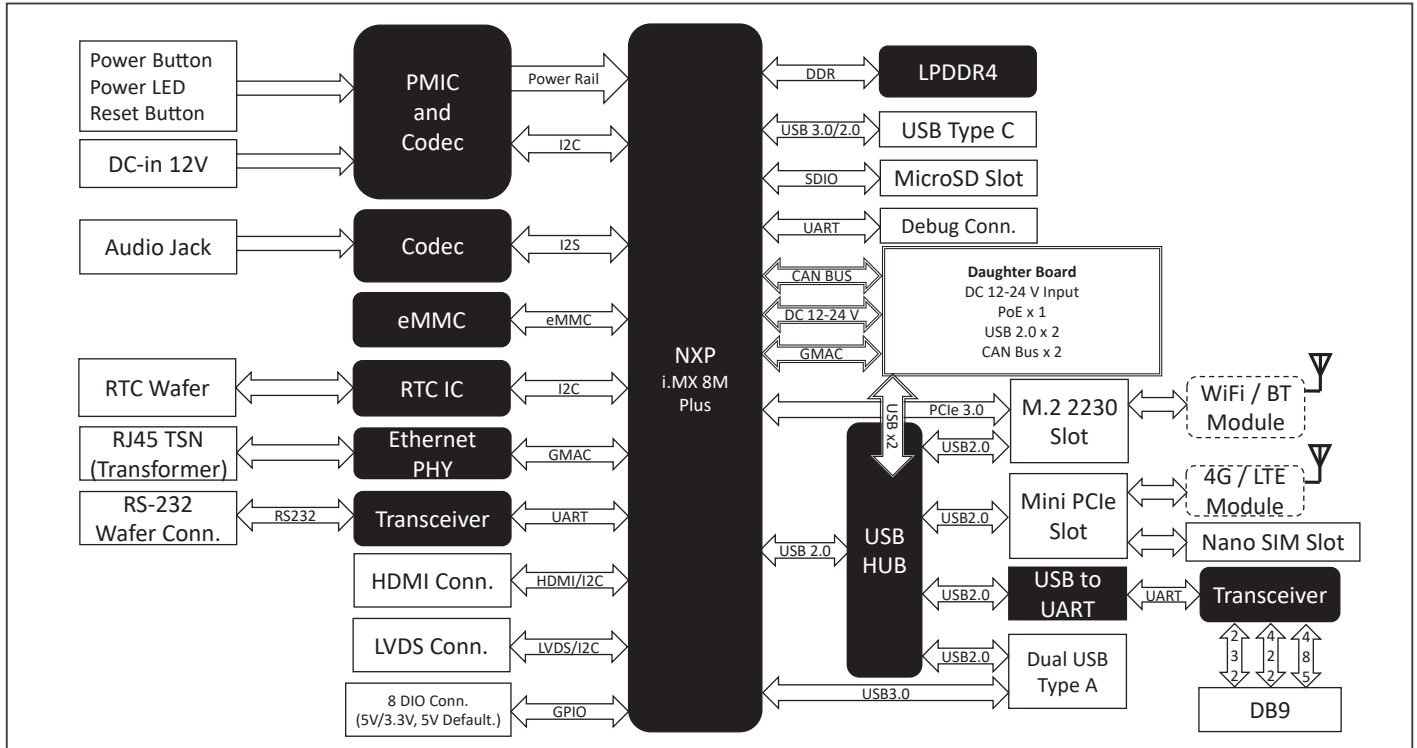
Packing List

- RICO-MX8P
- MB Power Cable
- RTC Battery

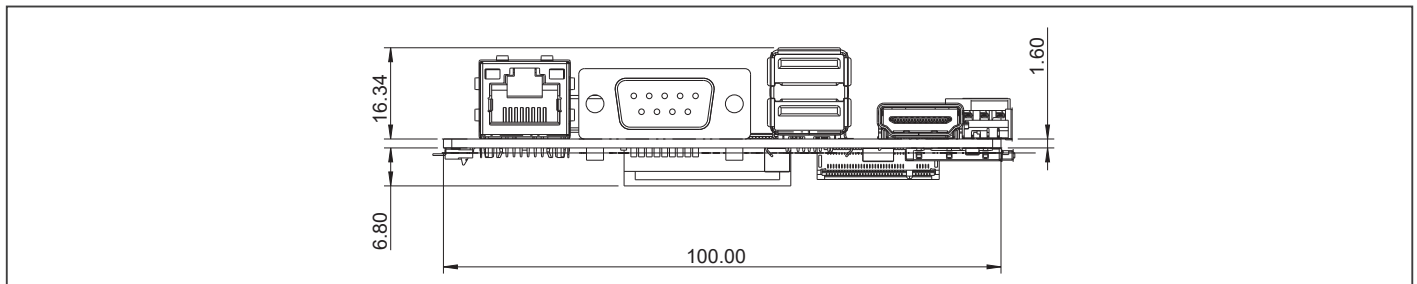
Optional Accessories

Part Number	Description	Qty.
PER-T650-A10	12-24V Input, PoE x 1, CANBus x 2, USB 2.0 x 2	1
125530060Y	12V/60W Power Adaptor	1
1255300365	12V/36W Power Adaptor	1
9686Y00196	WiFi 5 Kit, Emwicon WMX6219	1

Block Diagram Unit: mm



Dimension Unit: mm



Ordering Information

Part Number	CPU	OS	RAM	Storage	LAN	RS-232	USB	Display	WiFi & BT	3G/LTE Slot
RICO-MX8P-A10-0001	Quad-Core ARM® Cortex®-A53, 1.6GHz	Debian 11	2GB LPDDR4	16GB eMMC	GbE x 1	1 (RS-232) 1 (RS-232/422/485)	USB 3.2 Gen 1 x 2 USB 2.0 x 1	HDMI 2.0 x 1 LVDS x 1 MIPI DSI x 1	Via M.2 WiFi/BT module (Optional) (E Key)	1 (mPCIe Slot)
RICO-MX8P-A10-0002	Quad-Core ARM® Cortex®-A53, 1.6GHz	Debian 11	4GB LPDDR4	16GB eMMC	GbE x 1	1 (RS-232) 1 (RS-232/422/485)	USB 3.2 Gen 1 x 2 USB 2.0 x 1	HDMI 2.0 x 1 LVDS x 1 MIPI DSI x 1	Via M.2 WiFi/BT module (Optional) (E Key)	1 (mPCIe Slot)