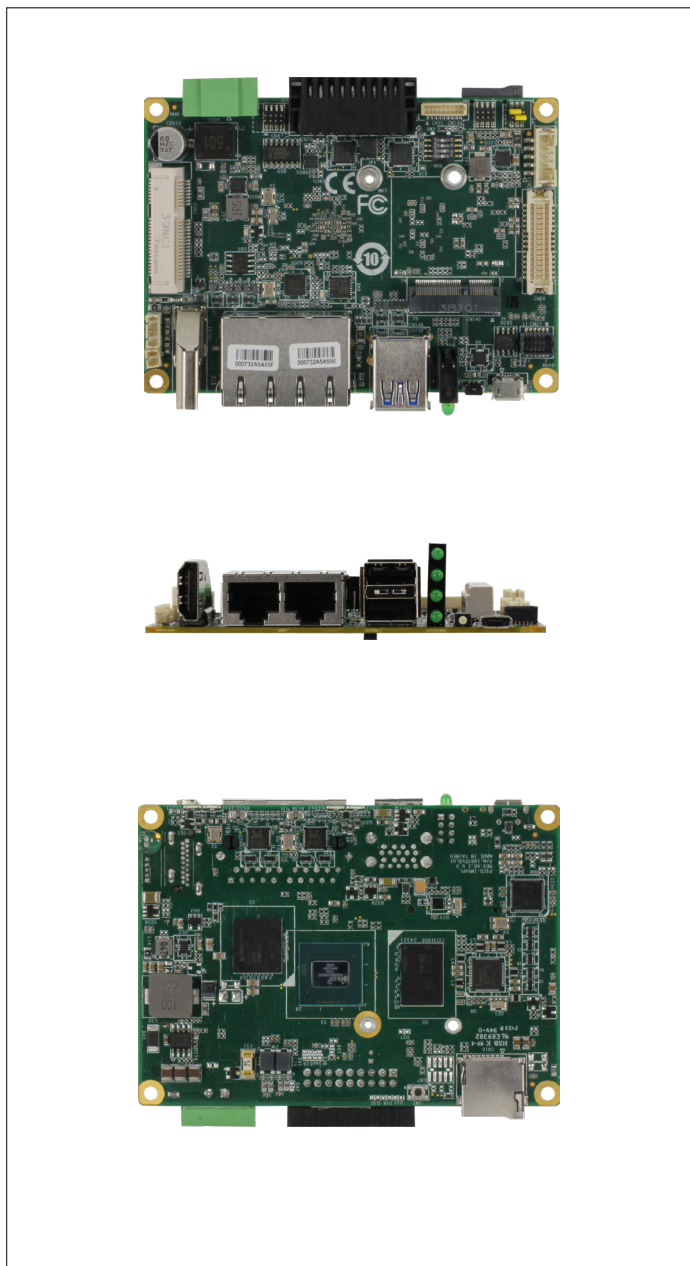


# PICO-IMX8PL

Pico-ITX Board with ARM i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor



## Specifications

| System           |   |
|------------------|---|
| Form Factor      | PICO-ITX, 2.5" SBC  |
| Processor        | ARM NXP i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor (Default w/NPU, optional w/o NPU) |
| Memory           | Onboard LPDDR4 up to 4GB  |
| Storage          | eMMC 5.1 16/32GB (Optional 64/128 GB)<br>Micro SD Card slot x1                              |
| Real Time Clock  | RTC x 1, with 3V CR2032H Lithium battery  |
| Security         | TPM 2.0 (optional)  |
| Indicators       | Programmable LED control x 3  |
| Cellular         | Full Size Mini Card x 1 (USB signal)  |
| Wireless Lan     | M.2 2230 E-key x 1 (USB, PCIe)  |
| Operating System | Debian 11(Default, GUI is optional)<br>Android 13<br>Win 10 IoT<br>Yocto                    |
| Support Protocol | Modbus, MQTT, OPCUA   |

## Features

- ARM NXP i.MX8M Plus Quad-Core, Cortex-A53 1.6GHz
- LPDDR4, up to 4 GB (8GB by customer request)
- eMMC 5.1 x 1
- HDMI 2.0 x 1 , LVDS x 1
- GbE x 2
- USB 3.0 Gen 1 x 2 , USB 2.0 x 1
- M.2 2230 E Key x 1, Full-sized minicard x 1
- COM x 2, CAN x 2, TPM 2.0 , GPIO x 8



| I/O Interfaces               |   |
|------------------------------|---|
| Serial Port                  | RS-232/422/485 switchable x 2, Phoenix Connector  |
| Ethernet                     | Gigabit Ethernet x 2, RJ-45 support IEEE 1588, TSN, integrated RGMII  |
| Audio                        | Line in / Line Out / Mic x 1 (optional)   |
| USB                          | USB 3.0 Gen1 x 2 (rear I/O)<br>USB 2.0 x 1 (pin header)   |
| ADC                          | —   |
| DI/DO                        | —   |
| CAN Bus                      | CAN-FD x 2 CH, Phoenix Connector  |
| Display                      | HDMI 2.0 x 1<br>LVDS x 1, dual channel, 18/24bit  |
| Power Connector              | 2 Pin 3.81mm Pitch Phoenix Connector  |
| Debug Port                   | Micro USB x 1   |
| Expansion Slot               | M.2 2230 E-key x 1, support Wifi/BT module, etc<br>Full Size Mini Card x 1, support 4G module, etc                |
| Other Interface              | GPIO x 8 (w/o TPM: include SPI x1, I2C x1, GPIO x2, w/TPM: I2C x1, GPIO x2)<br>UART x 1 (optional w/o debug port) |
| Power Supply                 |   |
| Power Requirement            | DC 9-36V (Optional: 12V)  |
| Power Consumption            | 9.36W (Full Loading)  |
| MTBF (Hours)                 | 1,699,754 Hours   |
| Environmental and Mechanical |   |
| Dimension                    | 3.94" x 2.84"(100mm x 72mm)   |
| Weight                       | 0.18 lbs (0.08 kg)  |
| Mount Options                | —   |
| Operation Temperature        | -40 °F ~ 176 °F (-40 °C ~ 80 °C) (Option: 0°C ~ 60°C)   |
| Storage Temperature          | -40 °F ~ 176 °F (-40 °C ~ 80 °C)  |
| Operation Humidity           | 0% ~ 90% relative humidity, non-condensing  |
| Certification                | CE/FCC Class A  |

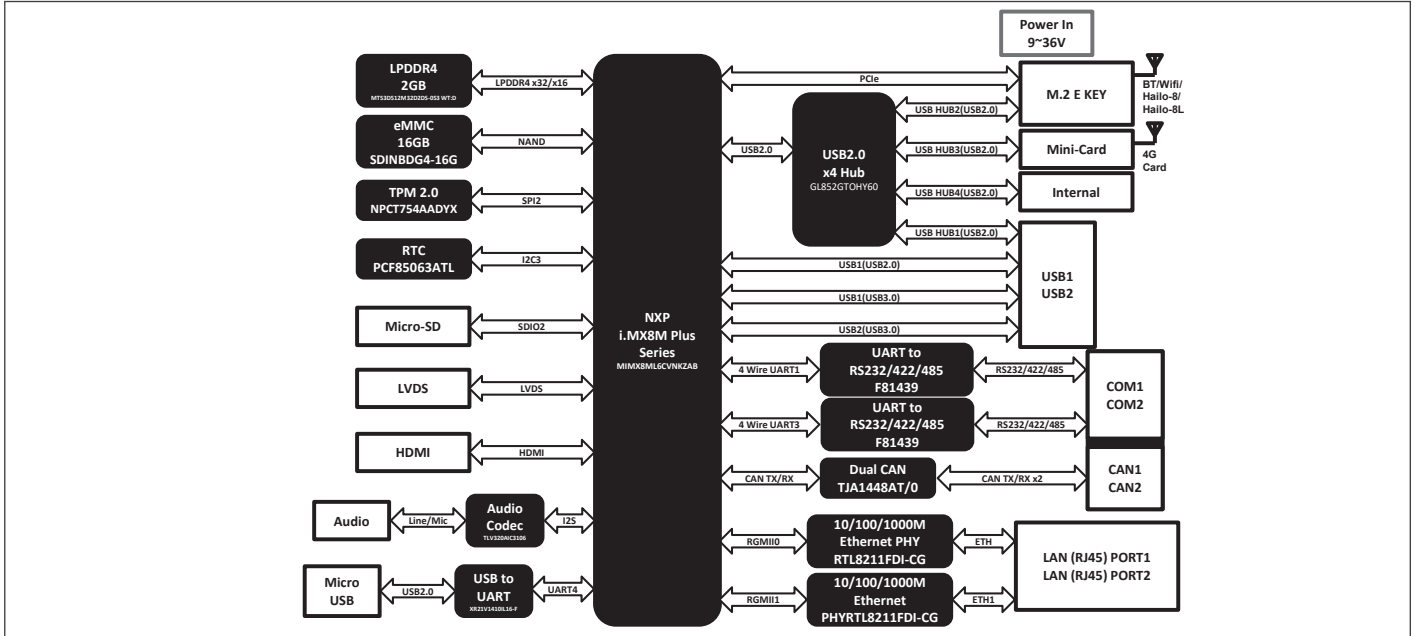
## Packing List

- PICO-IMX8PL x 1
- 2pin 3.81mm Power Terminal block w/lock x 1,
- 18pin 2.54mm Phoenix plug in Connector/lock x 1

## Optional Accessories

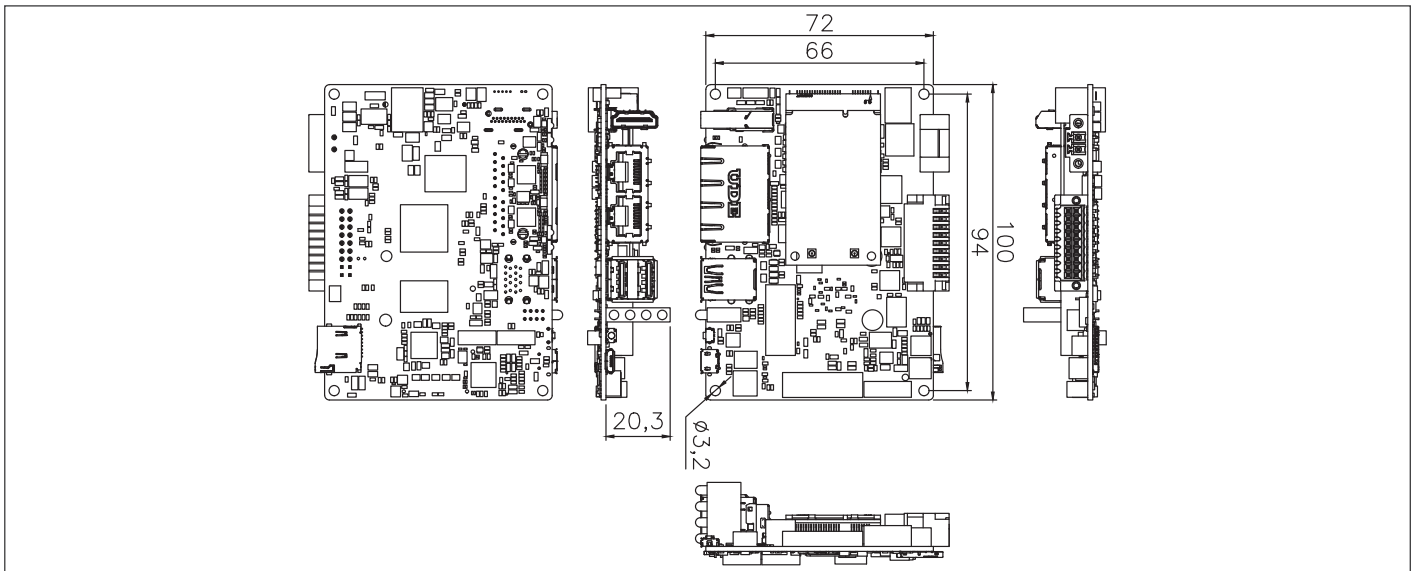
| Part Number       | Description   |
|-------------------|---|
| 9741EG2560        | PCIe mini card. 4G LTE. module kit. Global Band W/ SIM holder. W/Cable & antenna. Quectel. EG25-G         |
| 9651882200        | M.2 2230 E key Wireless Kit.802.11 ac/a/b/g/n + BT 5.0.2T2R,Enli RTL-8822CE.w/2 sets of cable and antenna |
| PICO-IMX8PL-HSK01 | PICO-IMX8PL Heat Sink.100*72*15.5mm.Silver.   |
| 125530040D        | Power Adapter.DC.100-240V.12V.3.34A.40W.3P Phoenix P=3.81mm.  |
| 170203180J        | POWER CORD.3P-250V 13A.1.8M.UK  |
| 170X000799        | POWER CORD.3P-125V 10A.1.8M.JUSA  |
| 170X000800        | POWER CORD.3P-250V 10A.1.8M.EU  |
| 170X000806        | POWER CORD.3P-125V 7A.1.8M.TWJN   |
| 170X000803        | POWER CORD.3P-125V 7A.1.8M.JPN  |

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

| Part Number          | CPU   | NPU      | Memory             | Display                         | Storage                  | LAN     | USB   | COM                                  | Expansion slot                            | Power                              | Operation Temp. | Audio                        | Others   | OS        |
|----------------------|---|----------|--------------------|---------------------------------|--------------------------|---------|---|--------------------------------------|---|------------------------------------|-----------------|------------------------------|--|-----------|
| PICO-IMX8PL-A10-0001 | ARM NXP i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor | 2.3 TOPs | Onboard LPDDR4 2GB | HDMI x 1 (rear I/O)<br>LVDS x 1 | eMMC 16GB,<br>MicroSD x1 | GbE x 2 | USB 3.0 Gen1 x 2 (rear I/O)<br>USB 2.0 x 1 (pin header) | RS232(4-wire)/422/485 x 2 (rear I/O) | M.2 2230 E-key x 1<br>miniCard (Full) x 1 | +12V (Lockable terminal block)     | -40°C ~ 80°C    | —                            | SPI x 1, I2C x 1,<br>GPIO x 2<br>CAN 2.0 FD x 2 (rear I/O) | Debian 11 |
| PICO-IMX8PL-A10-0002 | ARM NXP i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor | 2.3 TOPs | Onboard LPDDR4 4GB | HDMI x 1 (rear I/O)<br>LVDS x 1 | eMMC 32GB,<br>MicroSD x1 | GbE x 2 | USB 3.0 Gen1 x 2 (rear I/O)<br>USB 2.0 x 1 (pin header) | RS232(4-wire)/422/485 x 2 (rear I/O) | M.2 2230 E-key x 1<br>miniCard (Full) x 1 | +9 ~36 V (Lockable terminal block) | -40°C ~ 80°C    | Line in / Line Out / Mic x 1 | I2C x 1, GPIO x 2,<br>TPM x 1<br>CAN 2.0 FD x 2 (rear I/O) | Debian 11 |