mecha

Mecha Metal

Single Board Computer

FEATURES

- ✔ 1.8 GHz ARM 64-bit Quad-core
- ✔ 4GB LPDDR4
- ✔ Wireless, BT 5.0, BLE
- ✔ Onboard PCIe 2.0 support
- ✔ 32GB eMMC onboard (high speed)
- ✔ Rich peripheral I/O support
- ✔ 40-pins PI Compatibility
- ✔ Mechanix OS (Debian 12), Yocto Linux

HARDWARE SPECIFICATIONS

Parameters	Description
Processor	NXP i.MX8M Mini Quad Cortex™-A53 and Cortex™-M4 processor
System Memory	2GB LPDDR4 onboard / 4GB LPDDR4 onboard
Flash Memory	16GB eMMC onboard / 32GB eMMC onboard High-speed with writes upto 120 mb/s
WIFI/BT	Wi-Fi 1x1 (802.11b/g/n/ac2.4/5GHz) / Bluetooth 5.0
Power	5V 2A-3A, Type C power supply
Display	1x MIPI-DSI 4-lane upto 1920x1080 at 60Hz
Video Codec	•1080p60 VP9 •1080p60 HEVC/H.265 decoder •1080p60 AVC/H.264 Baseline, Main, High decoder •1080p60 VP8 •1080p60 AVC/H.264 encoder •1080p60 VP8

Graphics	GC Nano Ultra •Vivante GC320
Camera	1x CSI Connector (4-lane, Supports OV5640, OV5645 MP Sensor, with 1080p 30fps, 720p 60fps)
LAN	1x GbE LAN with support for PoE via HAT
USB	1x USB 2.0 Type-C (device mode/host mode switchable) 1x USB 2.0 Type-C (host mode) Additional USB Header
Antenna	1x UFL Connector
PCI	PCIe Gen2 M.2 Connector with mounting for 2242, 2230 form factor. Supports NVMe SSD, Google Coral
Audio	Onboard HD Audio Codec 2x Digital Microphone on-board 1x Loudspeaker Connector (JST)
RTC	Secure RTC onboard with battery connector
Digital Interfaces	40-pin Raspberry Pi-compatible header 14-pin additional header with USB 2.0, RTC, Additional UART, I2C, Power
LED	·1x Power White LED ·1x Status Blue LED ·1x GPIO RGB LED
Switches	·1x Function Tactile Switch ·1x Power Tactile Switch ·1x DIP- 2 way for Boot Switch
Security ICs / Authentication ICs	OPTIGA™ Trust M (Secure Element, Identity/certificate store)
Dimensions	85.6 mm×56.5mm
Environment	Humidity: 0% to 90% RH at 60°C (non-condensing)
Operating Temp.	0°C-70°C