

FEATURES

- ✓ 1.8 GHz ARM 64-bit Quad-core
- ✓ 8GB LPDDR4
- ✓ Wireless, BT 5.0, BLE
- ✓ Onboard PCIe 3.0 support
- ✓ 64GB eMMC onboard (high speed)
- ✓ Rich peripheral I/O support
- ✓ 40-pogo pins
- ✓ Mechanix OS (Debian 12), Yocto



HARDWARE SPECIFICATIONS

Parameters	Description
SOC	NXP i.MX 8M Plus (64-bit) Quad-Core ARM Cortex-A53 (1.8 GHz per core) 32 KB/32 KB L1 (ECC), 512 KB L2 (ECC), 612 KB OCRM Cortex-M7 @ 800 MHz
Additional Processor	Machine Learning Accelerator (2.3 TOPS); Tensilica HiFi 4 DSP with 256 KB OCRM and 64 KB TCM
RAM	4GB / 8GB DDR4 LPDDR4
Disk	64GB / 128 GB eMMC NAND Flash
GPU	Vivante GC7000UL 3D, Vivante GC520L 2D
VPU	Encoding - 1080p60 H.265, H.264 Decoding - HD (1080p +720p)
Wireless	2.4 GHz and 5.0 GHz IEEE 802.11ac wireless
Bluetooth	Bluetooth 5.0, BLE
Display	3.92", AMOLED 1080 x 1240, 419 pixels per inch Capacitive 5-finger touch 550 nits brightness
Display Output	Mini HDMI (4k30px1 or 1080p60x2)



Audio	High-Performance, Ultra-low Power Consumption / Stereo Audio Codec 1.2 W rated Speaker, 6 Ohm rated impedance Dual - 100 Hz ~ 10 kHz Digital, PDM Microphone MEMS 3.5mm Headphone Jack (Out/In, TRRS)
Camera	IMX219 8 MP Sensor, Autofocus 1080p: 60 fps, 720p: 180 fps
PCIe	PCIe 3.0 (8 Gbps/s), M.2 (NGFF) with B-key for 2230, 2242 and 3042 cards
USB	1 x USB Type-C 3.0 (dedicated, high-speed) 1 x USB Type-C 3.0 (shared with pogo pins, M.2 and Charging port)
Power	USB Type-C, 5V DC (2-3A) 4000 MaH LiPO Battery Fast Charging, 0 to 50% in 35 mins 1.5 - 10 W Consumption (at 5V)
ADC	16-bit, Single Channel
Motion	6-Axis Gyroscope
Light	Ambient Light Sensor
Haptics	Haptic Vibration Motor with driver
LED	1x RGB Programmable LED
Crypto	ARM Hardware Crypto Accelerator Isolated Trust anchor for RSA, ECC, AES keys Accelerated engine for OpenSSL 3.0, 1.1.1g
Pins	40 pogo pins with - 14x GPIO, 4x ADC, 2x UART, 2x I2C, 1x SPI, 2x PWM, 1x USB, 1x RTC

5V	USB DM	USB DP	GND	UART TX	UART RX	GPIO	I2C SCL	I2C SDA	3V3	3V3	I2C SDA	I2C SCL	GPIO	UART RX	UART TX	GND	RTC	RST	5V
ADC	ADC	PWM	DBG TX	DBG RX	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	MOSI	MISO	SCLK	SSO	GPIO	GPIO	PWM	ADC	ADC

Dimensions	73 mm x 155 mm x 14 mm
Weight	215 grams (7.5 Oz)
Screws	M2.5 Socket Head (Allen) Bolt

Changelog

Version	Description	Author
1	Initial design version (DVT)	Shoaib M



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