Mecha Comet (I.MX 8M Plus)

The Mecha Comet is a handheld modular Linux computer. Using its magnetic snap interface, the Comet can work as a multipurpose device, such as a remote terminal using a keyboard extension, a game controller or a tinkering tool using a breakout extension or you could make your own robot out of it.

The Comet is powered by a 1.8 GHz ARM64 Quad-core processor, with upto 8GB of memory and 128GB of onboard storage (expandable). The operating system is powered by Mechanix OS, a custom Fedora-based distro for Linux.

SPECIFICATIONS

System-on-Chip
NXP i.MX 8M Plus
Quad-Core ARM Cortex-A53, 1.8 GHZ

Memory
4 / 8 GB LPDDR4, 4266 MT/s
64 / 128 GB eMMC Flash

Processor Units
ML Accelerator (2.3 TOPS)
Cortex-M7 @ 800 MHz

GPU
Vivante GC7000UL 3D, GC520L 2D
Up to 1000 MHz shader clock

Video Processing
1080p60 H.265, H.264, VP9 decode
1080p60 H.265, H.264 encode*

Wireless
WiFi 6 802.11a/b/g/n/ac/ax
v5.4 Bluetooth, BLE, LE Audio

Display
3.92” AMOLED, 1080×1240
500 nits, 5-finger touch

Display Out
Display Port over Type-C (2k60)
Supports Audio

Audio
1.2 W Speaker, 6 Ohm, 3.5 mm jack
2x HD Digital Mic

Camera
8MP IMX219 sensor, 3264 × 2464@60
Inbuilt Auto-focus

PCI Express
PCIe 3.0, 1x (8gb/s)
B-Key, 2242 and 3042 sizes

USB
2x USB-C 3.0, 1x USB-C 2.0
Power Delivery, Up to 24V

Battery
4100 MaH LiPo Battery
Fast Charging, discharge upto 5A

Sensors
Gyroscope, Accelerometer,
Magnetometer, Ambient Light Sensor

Indicators
Inbuilt Haptic Vibration Motor
1x Programmable RGB LED

Security
Isolated trust anchor
Supports RSA, ECC, ED25519

Mecha Comet

Expandable Storage
MicroSD (SDXC)
NVMe SSD (2230)

4G Modem
LTE Cat 4 module on M.2
NanoSIM Slot

Dimensions
73 mm x 155 mm x 14 mm
225 grams (7.9 Oz)

40-Pin IO Connector

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

Physical Layout