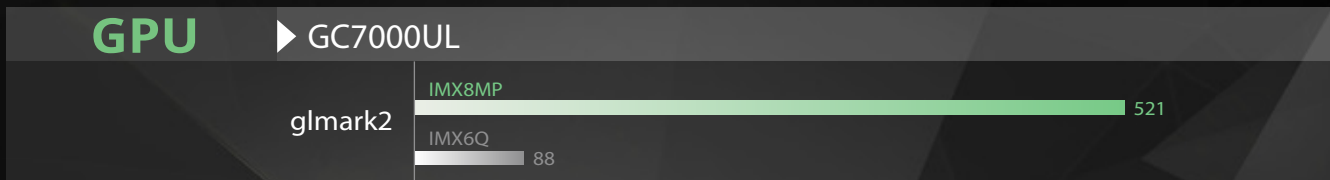
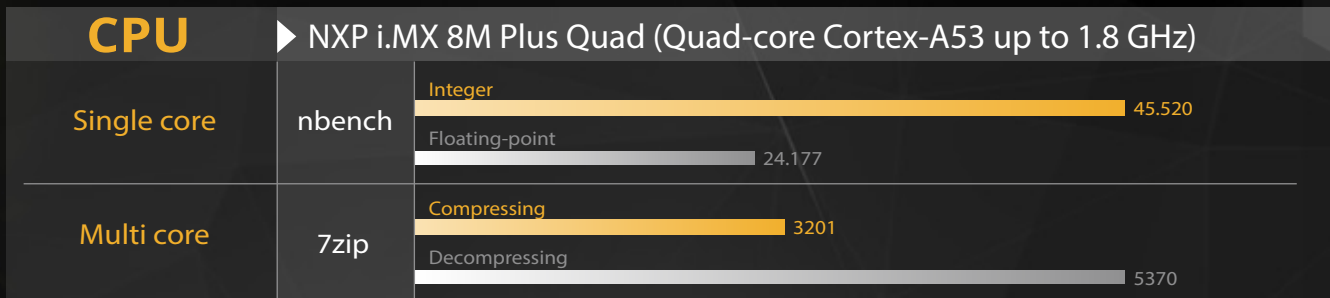


# WAFER-IMX8MP





3.5" SBC supports NXP i.MX 8M Plus Processors with 4GB LPDDR4 memory & 16GB eMMC NAND FLASH on board default, dual display and MIPI\_CSI, I<sup>2</sup>C , GPIO, dual GbE Lan, USB 3.2 Gen 1, Full RS-232, 0°C ~70°C and RoHS




**NPU** ▶ 2.3 TOPS support INT8/INT16/INT32/FP16/FP32

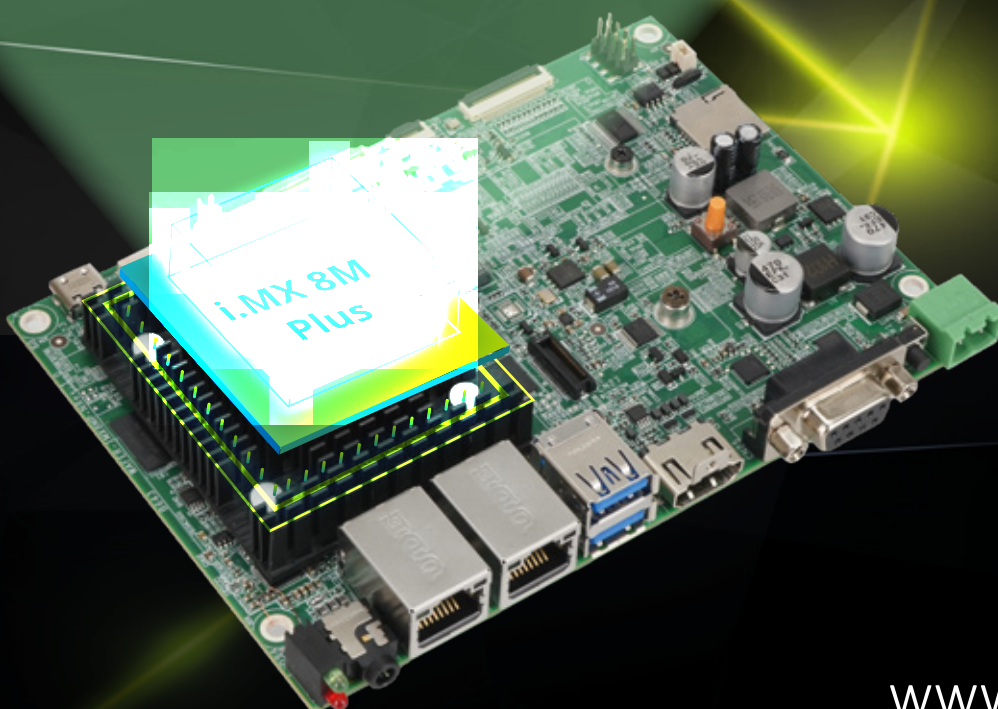
Inference tests	i.MX 8M Plus
TensorFlowLite benchmark tool CPU-1 thread	141 ms
TensorFlowLite benchmark tool CPU-4 thread	39 ms
TensorFlowLite benchmark tool NPU	2.6ms
TensorFlowLite Classification NPU	3.1ms
TensorFlowLite Detection NPU	13.5ms

Linux support framework

 TensorFlowLite  ONNX  PYTORCH  DeepViews

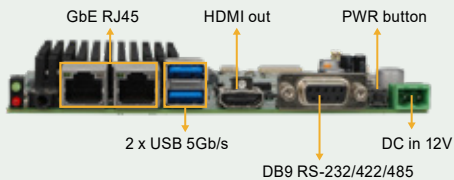
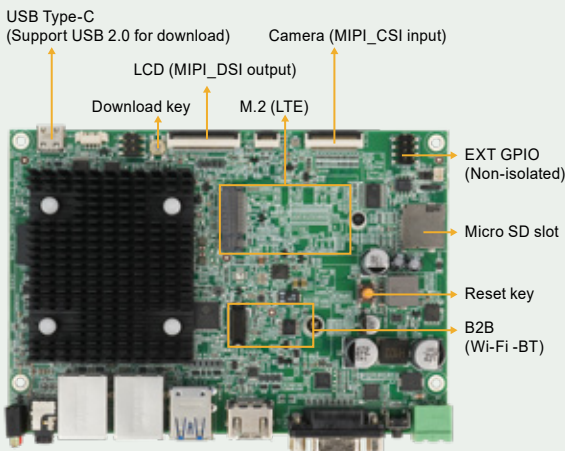
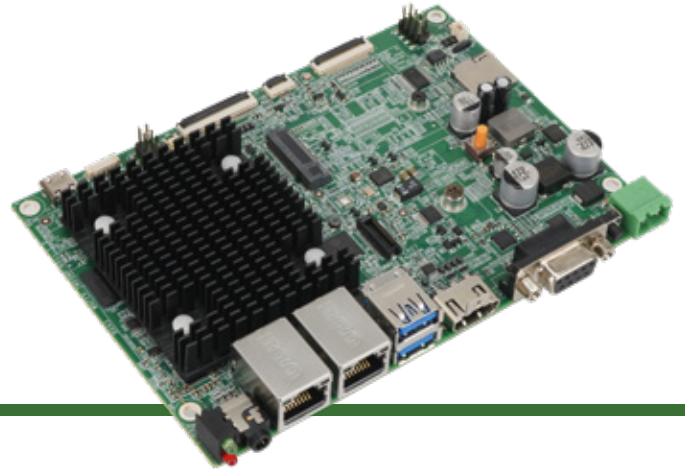
Android support framework

 TensorFlowLite



# WAFER-IMX8MP

3.5" SBC supports NXP i.MX 8M Plus Processor with 4GB LPDDR4 memory & 16GB eMMC NAND flash on board, dual display and MIPI CSI, I<sup>2</sup>C, GPIO, dual GbE LAN, USB 3.2 Gen 1, full RS-232, 0°C ~70°C and RoHS



- 3.5" SBC with NXP i.MX 8M Plus Quad processor on-board SoC
- 4GB LPDDR4 memory (up to 8GB) & 16GB eMMC NAND flash (up to 128GB)
- Dual displays with HDMI, MIPI DSI and camera MIPI CSI input
- Rich I/O: GbE RJ45, USB 5Gb/s, full RS-232/422/485, micro SD slot
- M.2 B Key Slot (optional for 3G/LTE/5G module)
- Optional Wi-Fi 5 / Wi-Fi 6 / Bluetooth 5.0
- OS supports Android 12 / Yocto 4.0 (Linux Kernel 5.10)

## Software Support

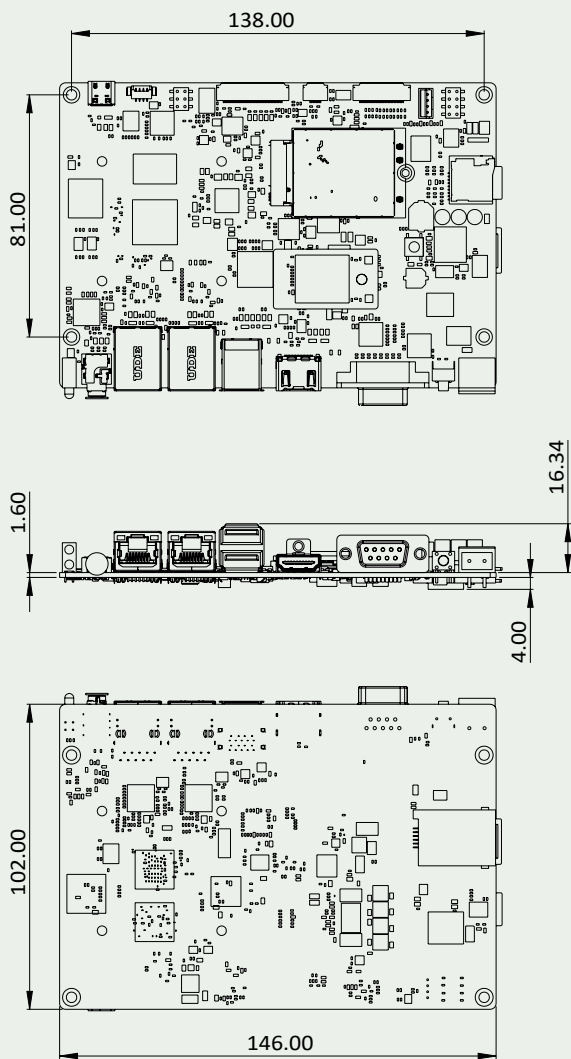
Android 12 Features	
Framework	NEW KOTLIN based GPIO APP UART APP
Security	Fully SELinux enabled DM-Verify enabled
System	A/B partitions System Update Engine (New A/B OTA) Device Tree Overlay (Dynamic change hardware configuration)
Wireless	1. WiFi STA/AP mode 2. WiFi Direct 3. Concurrent mode 4. Bluetooth classic 5. Bluetooth LE 6. LTE networking
Neural Network	TensorFlow-Lite (CPU, NPU)
Video support format	MP4, AVI, MKV, WEBM, 3gp
Audio support format	WAV, MP3, AAC
Yocto 4.0 Features	
Framework	XWayland display framework QT5 based application Python v3.8 Custom meta-layer SYSTEMD architecture
System	Weston Desktop AI demos libgpiod openssl modem manager
Wireless	WiFi STA/AP mode WiFi Direct Concurrent mode Bluetooth classic Bluetooth LE LTE/5G NR networking
Neural Network	eiQ framework (NPU, CPU, GPU) Tensorflow-Lite (NPU) OpenCV Caffe (CPU)
Video support format	MP4, AVI, MKV, WEBM
Audio support format	WAV, MP3, AAC



# WAFER-IMX8MP Block Diagram



### Dimensions



### Specifications

Model	WAFER-IMX8MP
Processor	NXP i.MX 8M Plus Quad (Quad-core Cortex-A53 up to 1.8 GHz)
GPU	GC7000UL 3D (2 shaders), GC520L
NPU	up to 2.3 TOPS
RAM	4GB LPDDR4-3200, up to 8GB
Flash	16GB eMMC NAND flash, up to 128GB SD card 1 x Micro SD slot Others
Expansion	1 x PCIe x1 Gen3
Audio	1 x 3.5mm Audio Jack (Mic-in & Line out)
Speaker	2 x Speaker (3W/8Ω)
Display	1 x MIPI DSI 4 lanes (40-pin 0.5mm FPC 90°)
Camera	1 x MIPI CSI 4 lanes (30-pin 0.5mm FPC)
HDMI	1 x HDMI output 2.0a Type A, up to 4K
Wi-Fi	Wi-Fi 5/6 (optional board to board IEI module)
Bluetooth	Support Bluetooth V5.0
LTE	M.2 B key connector for 4G LTE
I/O	2 x GbE RJ45 2 x USB 5Gbps Type A 1 x Full RS-232/422/485 (DB9 Port) 1 x RS-232/RS-485 (2x3 pin header) 1 x I <sup>2</sup> C (for Touch, 8-pin 2.0mm FPC) GPIO 8 bit (4 in / 4 out, pin header)
Button	Power key
LED Indicator	1 x Power 1 x Reserved (Programmable)
Dimensions (LxW) (mm)	146 x 102
Input	12V DC
Operating Temperature	0°C – 70°C (with air flow)
Storage Temperature	-20°C – 80°C
Humidity	10% – 99% (non-condensing)
EMC & Safety	EMC Class B
Supported OS	Android 12 / Yocto 4.0 (Linux Kernel 5.10)

### Optional accessories



### Ordering Information

Android 14	
WAFER-IMX8MP-A/BD	3.5" SBC supports NXP i.MX 8M Plus Processors with 4GB LPDDR4 memory & 16GB eMMC NAND Flash
Yocto 5.0	
WAFER-IMX8MP-Y/BD	3.5" SBC supports NXP i.MX 8M Plus Processors with 4GB LPDDR4 memory & 16GB eMMC NAND Flash
Debian 12	
WAFER-IMX8MP-D/BD	3.5" SBC supports NXP i.MX 8M Plus Processors with 4GB LPDDR4 memory & 16GB eMMC NAND Flash
Ubuntu 22.04	
WAFER-IMX8MP-U/BD	3.5" SBC supports NXP i.MX 8M Plus Processors with 4GB LPDDR4 memory & 16GB eMMC NAND Flash

### Optional Accessories

23T00-01010AW01-RS	Lcd Bonding Touch; 10.1"; All Win; 800*1280; 340 cd/l; LED; TQ101AJ02TP; MIPI 8BIT; Touch windows; Capacity type [Projected Capacitive]; COF; WeidahiTech; WDT8913; RoHS
71001-COD631A5SFE-RS	Camera; Image Module; CCM; 2592*1944; Truly; COD631-A5SF-E; 1/4"; 8.5 X 14.5 X 5.45mm; I2C; sensor type: OV5640; RoHS
19800-026300-100-RS	Speaker+Cable Module; 3; 150mm/350mm; 28AWG (A) Speaker: 36.6*14*10.4MM, 8Ω, 2W*2 (B) JST PHR-4 P=2.0; ASH; RoHS
32102-045100-100-RS	Wire cable; Power Cable; 1; 100MM; 20AWG (A) DC jack 5.5*2.5+NUT; RoHS
iWB-BCM43752-R10	Radio frequency card, WIFI+Bluetooth Module, AP6275S, 2T2R, 802.11 a/b/g/n/ac/ax Wi-Fi + BT 5.0; RoHS
iWB-RTL8822-R10	Radio Frequency Card, Support 2-stream 802.11ac solutions, A 2T2R capable WLAN baseband, Support Bluetooth 5.0 system, B TO B Connector, RoHS.