

System On Module iW-RainboW-G40D

i.MX 8M Plus SMARC Development Board



The i.MX 8M Plus SMARC Development Platform incorporates i.MX 8M Plus SoC based SMARC SOM and SMARC Carrier board for complete validation of i.MX 8M Plus SoC functionality. The Development board can be used for quick prototyping of various applications targeted by the i.MX 8M Plus Applications Processor. With the 120mmx120mm Nano ITX size, SMARC Carrier board is highly packed with all the necessary on-board connectors to validate the features of i.MX 8M Plus SMARC SOM.

APPLICATION: Applications focusing on Machine Learning and Artificial Intelligence, NPU & Vision System, advanced multimedia and industrial automation, Vision and advanced sensing, Factory Automation, Machine Vision and more.

iW-RainboW-G40D **HIGHLIGHTS**

i.MX 8M Plus Q/QL/D SoC with 64-bit ARMv8-A Architecture

Dual or Quad-core ARM Cortex-A53 up to 1.8GHz & M7

NPU with up to 2.3 TOP/s Neural Network performance

Excels in ML vision, edge intelligence & advanced multimedia applications

IEEE 802.11a/b/g/n/ac Wi-Fi & Bluetooth 5.0

Dual 1000/100/10 Mbps Ethernet (TSN support on one Port)

GNSS receiver Module -GPS/GLONASS/Galileo/BeiDou (optional)

4K HDMI & 5.5" HD AMOLED MIPI DSI Display

Quick customization services in a very shorter period.

10+ years of Product Longevity Program

SPECIFICATIONS

i.MX 8M Plus Quad: 4 x Cortex-A53, 1 x Cortex-M7, GPU, VPU, NPU, ISP & HiFi4 Audio DSP

i.MX 8M Plus Quad Lite: 4 x Cortex-A53, 1 x Cortex-M7 & GPU

i.MX 8M Plus Dual: 2 x Cortex-A53, 1 x Cortex-M7, GPU, VPU, NPU, ISP & HiFi4 Audio DSP

LPDDR4 -2GB (Expandable up to 4GB)

eMMC Flash - 16GB(Expandable upto 128GB)

On SOM Micro SD slot (Optional) Standard SD/MMC

Gigabit Ethernet PHY Transceiver x 2 (One with TSN support)

USB 2.0 High-Speed 4-Port Hub

IEEE 802.11a/b/g/n/ac Wi-Fi & BLE 5.0

GNSS receiver Module -GPS/GLONASS/ Galileo/BeiDou(Optional)

4 Lane MIPI CSI Camera Connector (Optional)

OS Support

Linux 5.4.70, Android 11

SMARC Carrier Board

Gigabit Ethernet Jack- 2 Port

PCle x1 slot / MiniPCle slot - 1 Port

USB 3.0 Host TypeA Connector - 2 Ports (Top Port muxed with type-C)

USB 2.0 Host TypeA Connector - 2 Ports USB 3.0 OTG Type-C Connector - 1 Port

Standard SD slot - 1 Port

SPI Flash - 1

HDMI2.0 - 1 Port

CAN FD - 2 Ports

5.5" HD AMOLED MIPI DSI display with

Capacitive Touch Screen

20pin LVDS Connector

MIPI CSI Camera Connector

Audio In & Out Jack through I2S Codec x1

Full Function UART - 1 Port

RTC with backup battery

Debug Micro USB Port

Carrier Expansion Connector

SPI x 2

HART x 1

I2S x 1. I2C x 2

A&V Expansion Connector interfaces

4 Iane LVDS, 4 Iane MIPI CSI

SAI/12S x 1 Port

I2C x 1 Port, GPIOs

Power Input

12V. 2A DC

Operating Temperature

0°C to +60°C

Form Factor

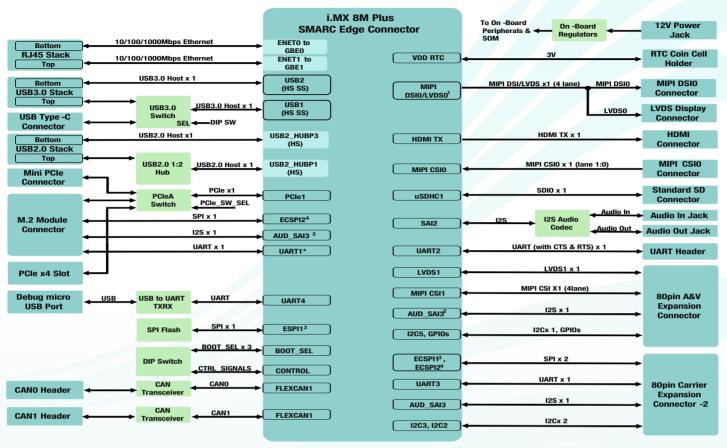
120mmx120mm Nano ITX Size







i.MX 8M Plus SMARC Development Kit Block Diagram



Note: * Optional

- 1. Either MIPI_DSI or LVDS can be supported on SOM, in default configuration MIPI_DSI is supported.
- 2. Shared between M.2 Connector and A&V Expansion Connector
- 3. Shared between SPI Flash and Expansion Connector-2
- 4. Shared between M.2 Connector and Expansion Connector-2

OS SUPPORT

Linux 5.4.70 Android 11

DELIVERABLES

i.MX 8M Plus SMARC Dev Kit Board Support Package User Manual

OPTIONAL KITS/Modules

Camera Module Heat Sink / Heat Spreader

CUSTOM DEVELOPMENT

BSP Development/OS Porting Custom SOM/Carrier Development Custom Application/GUI Development Design Review and Support

iWave Systems Technologies is an ISO 9001:2015 certified company, head quartered in Bangalore India established in the year 1999. The company focuses on providing embedded solution and services for Industrial, Medical, Automotive and various other Embedded Computing applications. iWave Systems offers wide range of System On Modules and Single Board Computers built using wide range of CPU and FPGA SoC platforms with different form factors such as Qseven, SMARC, SODIMM and HPC by closely working with Tier-1 silicon companies such as NXP, Xilinx, Intel etc.

iWave Systems offers various state of art ready ODM solutions such as Connected Telematic Control Unit / OBD II devices for the automotive edge analytics, Comprehensive ARINC818 solutions for the low latency Aerospace applications and Rugged IP rated performance scalable HMI solutions for Industrial applications.

iWave Systems also provides comprehensive Engineering design services involving Embedded Hardware, FPGA and Software development. iWave offers carrier board and custom hardware development with manufacturing and certification services.iWave's Hardware expertise spans complex board design up to 30 layers; Analog, Digital & RF Designs; FPGA Development up to 3+ million gates and VHDL / Verilog RTL Development & Verification. Our Software expertise ranges from OS Porting, Firmware & Device Drivers Development and Wireless & Protocol Stacks

*Optional items not included in the standard deliverables.

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i.MX 8M Plus SMARC DevKit

The device can be ordered online from the iWave Website https://www.iwavesystems.com/product/i-mx-8m-plus-smarc-som/ Or from our Local Partners in your region http://www.iwavesystems.com/about-us/business-partner.html

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