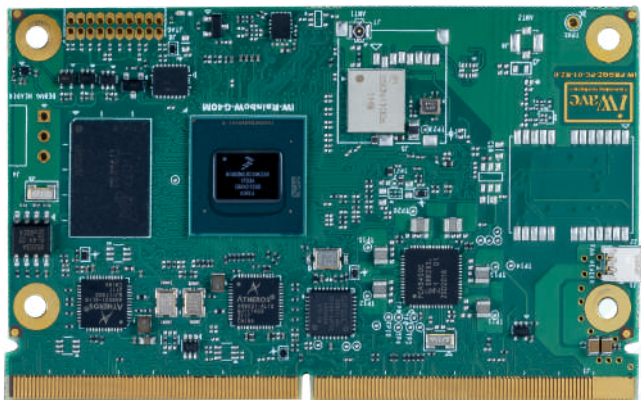


System On Module iW-RainboW-G40M

i.MX 8M Plus SMARC Module



The i.MX 8M Plus Quad/QuadLite/Dual SMARC System on Module integrates Quad/Dual Cortex A53 @ up to 1.8GHz, NPU with up to 2.3 TOP/s, two camera inputs and a HDR-capable Image Signal Processor (ISP) capable of 375 MPixels/s, H.265 1080p60 decode, 3D and 2D graphic acceleration, HiFi 4 DSP, MIPI DSI, LVDS (4/8-lane), HDMI TX, USB3.0, PCIe Gen3, on SOM Dual 10/100/1000 Mbps Ethernet PHY with TSN support on one port, IEEE 802.11 a/b/g/n/ac Wi-Fi & BT 5.0 module, USB 2.0 Hub and GNSS Module (optional). The i.MX 8M Plus SMARC System on Module is aimed to offer for applications mainly focusing on Machine Learning, NPU and vision system, advanced multimedia and industrial automation with high reliability.

iW-RainboW-G40M

HIGHLIGHTS

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

NPU with up to 2.3 TOP/s Neural Network performance

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)

Excels in ML vision, edge intelligence & advanced multimedia applications

Dual or Quad-core ARM Cortex-A53 up to 1.8GHz & M7 at 800MHz

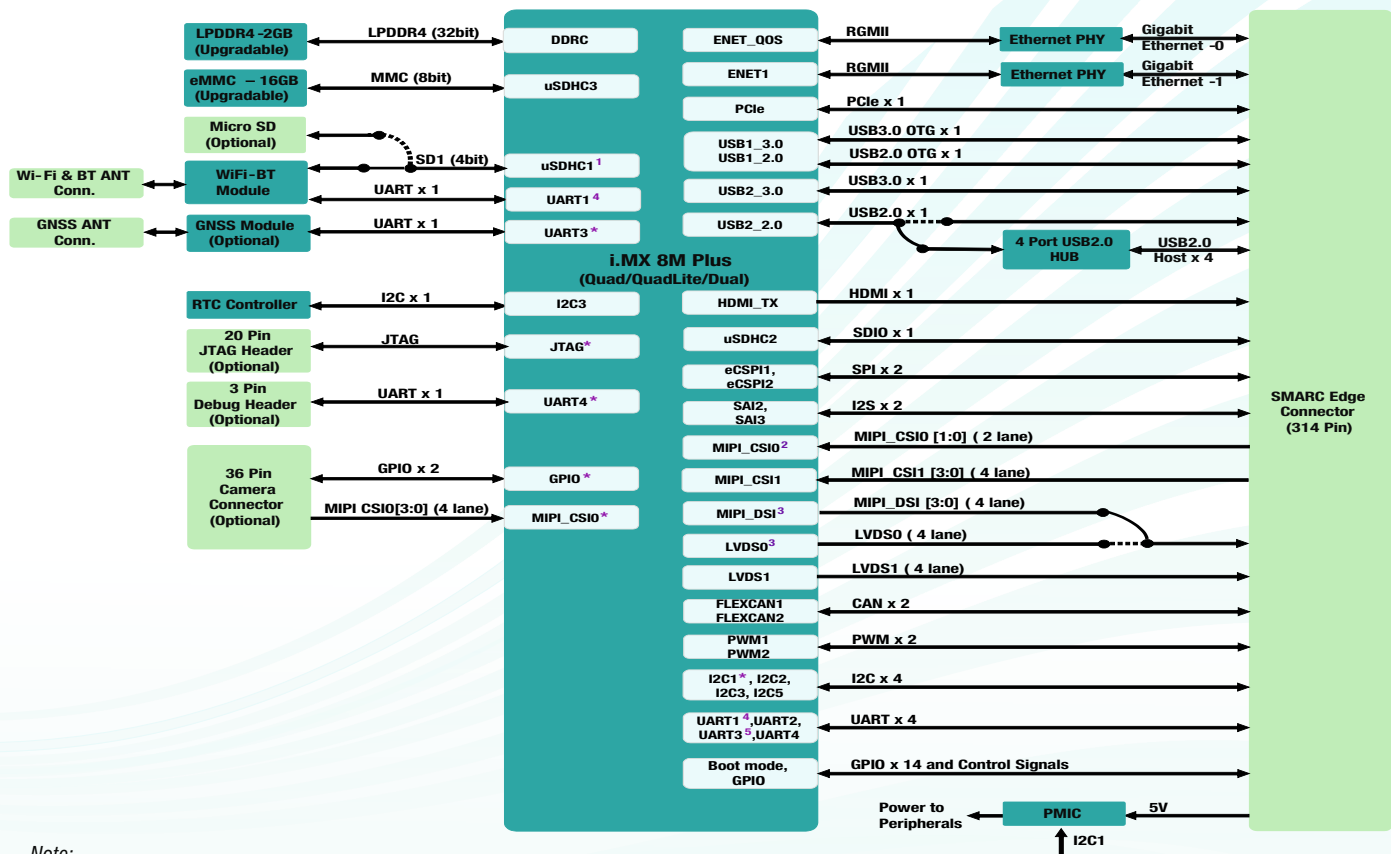
10+ years of Product Longevity Program

SMARC v2.1.1 Compatible SOM

SPECIFICATIONS

SoC	
i.MX 8M Plus Quad : 4 x Cortex-A53, 1 x Cortex-M7, GPU, VPU, NPU ,ISP & HiFi4 Audio DSP	4 lane MIPI DSI x1 or LVDS0
i.MX 8M Plus Quad Lite : 4 x Cortex-A53, 1 x Cortex-M7 & GPU	4 lane LVDS1
i.MX 8M Plus Dual : 2 x Cortex-A53, 1 x Cortex-M7, GPU, VPU, NPU ,ISP & HiFi4 Audio DSP	2 lane MIPI CSIO x 1
Memory & Storage	4 lane MIPI CSI1 x 1
LPDDR4 -2GB (Expandable up to 8GB)	I2C x 4 (Power Management I2C is optional)
eMMC Flash - 16GB(Expandable upto 128GB)	CAN FD x 2
Micro SD slot (Optional)	SPI x 2
Other	I2S x 2
IEEE 802.11a/b/g/n/ac Wi-Fi & BLE 5.0	UART x 4 (One is optional)
GNSS receiver Module –GPS/GLONASS/ Galileo/BeiDou(Optional)	PWM x 2
Edge Connector Features	SMARC GPIOs
Gigabit Ethernet x 2 (TSN support on one port)	Optional Camera Connector Features
PCIe 3.0 x 1	4 lane MIPI CSIO x 1 (Optional)
USB 2.0 Host x 4	I2C x 1 (Optional)
USB 3.0 Host x 1 (Not including 2.0 lines)	GPIOs (Optional)
USB 3.0 OTG x 1	OS Support
SD 3.01 x 1	Linux 5.4.70
HDMI 2.0a TX x 1	Android 11
	General Features
	Power Input
	5V, 2.5A through SMARC EDGE Connector
	Form Factor
	82mm x 50mm
	Operating Temperature
	-40°C to +85°C
	Environment Specification
	REACH & RoHS3 Compliant

i.MX 8M Plus SMARC SOM Block Diagram



Note:

1. uSDHC1 is default connected to Wi-Fi module and Optionally connected to microSD Connector.
 2. MIPI_CSI0 1st 2 lanes MIPI_CSI0[1:0] are default connected to SMARC Edge and MIPI_CSI0[3:0] are Optionally connected to on SOM Camera Connector.
 3. MIPI_DSI and LVDS0 is shared in SMARC Edge Connector where MIPI DSI is default connected and LVDS0 is optionally connected to SMARC edge.
 4. In default configuration UART1 interface of i.MX 8M plus is connected to on SOM Bluetooth module, hence SMARC SER2 will be an optional feature.
 5. In default configuration UART3 interface of i.MX 8M plus is connected to SMARC SER1, hence on SOM GNSS module will be an optional feature.
- * Optional Feature

OS SUPPORT

Linux 5.4.70
Android 11

DELIVERABLES

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

OPTIONAL KITS/Modules

i.MX 8M Plus SMARC Development Kit
5.5" Cap touch Display
Heat Sink/Heat Spreader
Camera Module

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.

Note: iWave reserves the right to change these specifications without notice as part of iWave's continuous effort to meet the best in breed specification. The registered trademarks are proprietary of their respective owners.

i.MX 8M Plus SMARC Module

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>

INDIA

iWave Systems Technologies Pvt Ltd.
#7/B, 29th Main, BTM Layout
2nd Stage,
Bangalore - 560 076
mktg@iwavesystems.com

www.iwavesystems.com

JAPAN

iWave Japan Inc.
8F Kannai Sumiyoshi Building,
3-29 Sumiyoshi-cho, Naka -ku,
Yokohama Kanagawa, Japan
mktg@iwavesystems.com

EUROPE

International Sales & Marketing Europe
Venkelbaan 55 2908KE Capelle
aan den IJssel,
The Netherlands
info@iwavesystems.eu

USA

iWave USA
1692 Westmont Ave. Campbell
Ca95008
USA
info@iwavesystems.us