

# Development Platform iW-RainboW-G33D i.MX 8M Q/QL/D SMARC Development Kit



The i.MX 8M Quad/QuadLite/Dual SMARC Development platform combines the NXP's i.MX 8M Quad/QuadLite/Dual application processor based SMARC SOM and iWave's Generic SMARC Carrier Card to offer consumer, medical and industrial embedded computing & multimedia applications. The board is highly packed with all necessary onboard connectors to validate i.MX 8M Quad/QuadLite/Dual SoC features.

**APPLICATIONS:** Digital Media Adaptors, HD Digital signage, Industrial HMI, Building Automation, Imaging & Scanning, Audio/Video Streaming devices, and Machine Vision.

## iW-RainboW-G33D

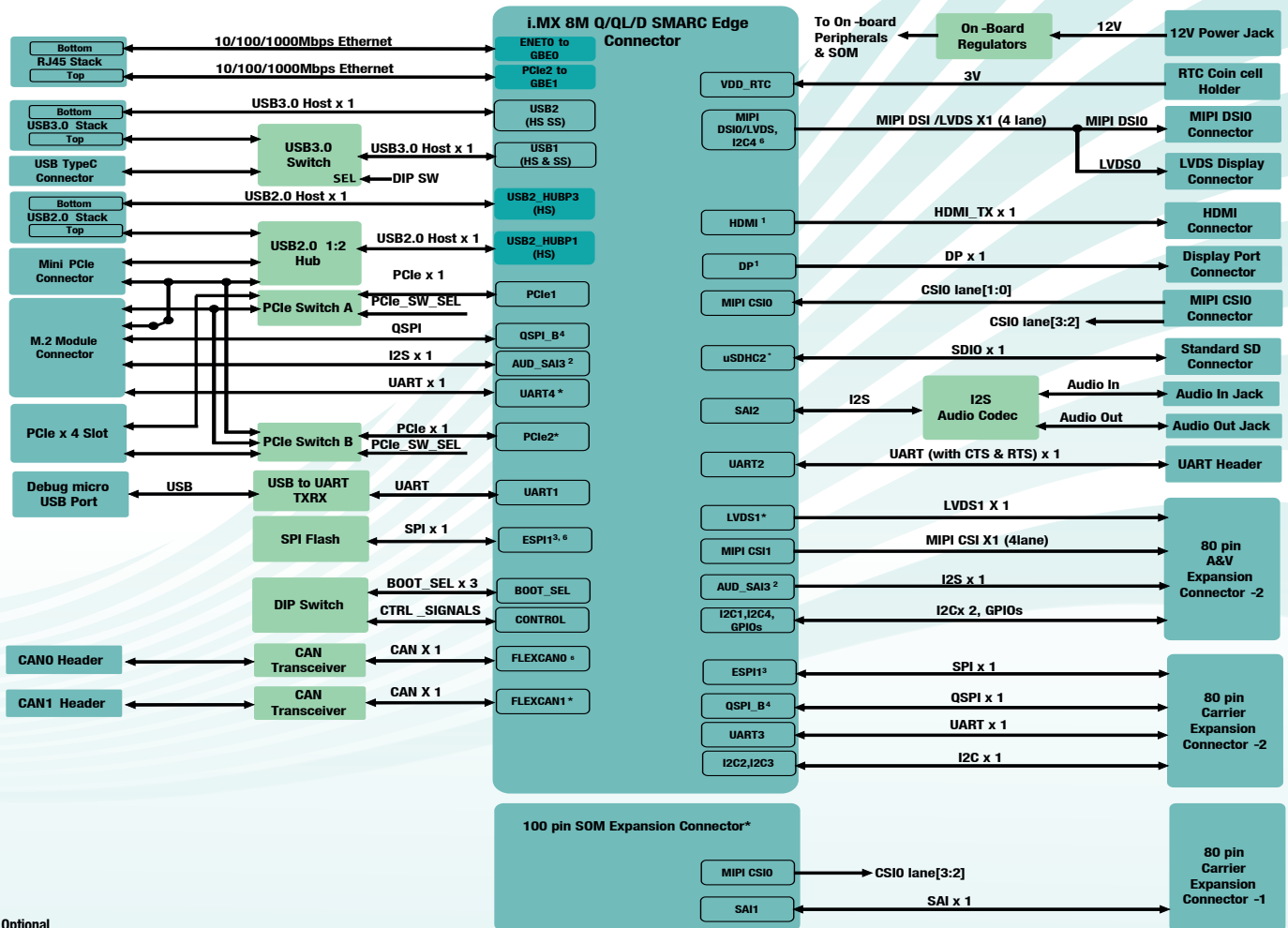
### HIGHLIGHTS

- i.MX 8M Quad/QuadLite/Dual SoC
- IEEE 802.11a/b/g/n/ac Wi-Fi & BT 5.0
- Dual Gigabit Ethernet
- 2GB LPDDR4 memory (Expandable)
- 5.5" HD AMOLED MIPI DSI Display
- MIPI CSI Camera
- USB 3.0 TypeC Connector
- I2S Audio Codec
- SMARC V2.0 Standard

### SPECIFICATIONS

i.MX 8M SMARC SOM	
<b>Processor:</b>	
i.MX 8M Quad: 4 x Cortex-A53, 1 x Cortex-M4, GPU & VPU Decode	
i.MX 8M QuadLite: 4 x Cortex-A53, 1 x Cortex-M4, & GPU	
i.MX 8M Dual: 2 x Cortex-A53, 1 x Cortex-M4, GPU & VPU Decode	
LPDDR4 - 2GB (Expandable)	
eMMC Flash - 8GB (Expandable)	
QSPI Flash (Optional)	
Gigabit Ethernet PHY Transceiver x 2	
USB 2.0 High Speed 4-Port Hub	
IEEE 802.11a/b/g/n/ac Wi-Fi & BT 5.0	
<b>OS Support:</b>	
Linux 4.14.98, Android Pie 9.0.0	
<b>SMARC Carrier Board:</b>	
Gigabit Ethernet Jack- 2 Port	
PCIe x1 slot / Mini PCIe slot - 1 Port	
USB 3.0 Host TypeA Connector - 1 Port	
USB 3.0 OTG TypeC Connector - 1 Port	
USB 2.0 Host TypeA Connector - 2 Ports	
Standard SD slot - 1 Port	
HDMI/DP - 1 Port	
CAN - 2 Ports	
5.5"HD AMOLED MIPI DSI display	
Capactive Touchscreen	
MIPI CSI Camera Connector	
I2S codec	
General Purpose I2C-1 Port	
Full Function UART - 1 Port	
RTC with backup battery	
Debug Micro USB Port	
SMARC GPIOs - 12 Nos	
<b>Expansion Connector interfaces:</b>	
QSPI x 1 port	
SPI x 1 port	
UART x 1 port	
I2C x 2 port	
SAI (8 Tx and 8 Rx channels) x 1 Port(Optional)	
<b>A&amp;V Expansion Connector interfaces:</b>	
MIPI CSI x 1 Port (4 lane)	
SAI/I2S x 1 Port	
I2C x 2 Ports	
GPIOs	
<b>Power Input:</b> 12V DC	
<b>Operating Temperature:</b> 0°C to +60°C	
<b>Form Factor:</b>	
120mmx120mm Naon ITX Size	

## i.MX 8M Q/QL/D SMARC Development Board - Block Diagram



Note: \* Optional

1. Either HDMI or DP can be supported on SOM, in default configuration HDMI 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 SPI Flash and Expansion Connector - 2

5. Either MIPI\_DSI or LVDS can be supported on SOM, in default configuration MIPI\_DSI is supported.

6. Either SPI or CAN0 can be supported on SOM, in default configuration SPI is supported.

### OS SUPPORT

Linux 4.14.98  
Android Pie 9.0.0

### DELIVERABLES

i.MX 8M SMARC Development Kit  
Hardware User Manuals

### OPTIONAL KITS/Modules

SMARC Heat Sink  
Camera Module

### CUSTOM DEVELOPMENT

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

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\*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.

### Ordering the i.MX 8M SMARC Kit

The device can be ordered online from the iWave Website

<https://www.iwavesystems.com/product/i-mx-8m-quad-quadlite-dual-smarc-som/>

Or from our Local Partners in your region

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