

Development Platform iW-RainboW-G27D

i.MX 8 QM/QP SMARC Development Kit



The i.MX 8 QM/QP (Quad Max/Quad Plus) SMARC Development platform combines the NXP i.MX 8 QM/QP application processor based SMARC SOM and iWave's Generic SMARC Carrier Card to offer maximum performance with higher efficiency for complex consumer, medical and industrial embedded computing applications. The board is highly packed with all necessary onboard connectors to validate i.MX 8 QM/QP SoC features to the fullest.

APPLICATIONS: Intelligent Industrial Control Systems, Industrial Human-Machine interface, Ultra-Portable Devices, Home Energy Management Systems, Portable Medical Devices, 4K Digital Signage, Media streaming, Augmented & Virtual Reality, Home Automation & Entertainment, Drones, Secure POS and Video analytics.

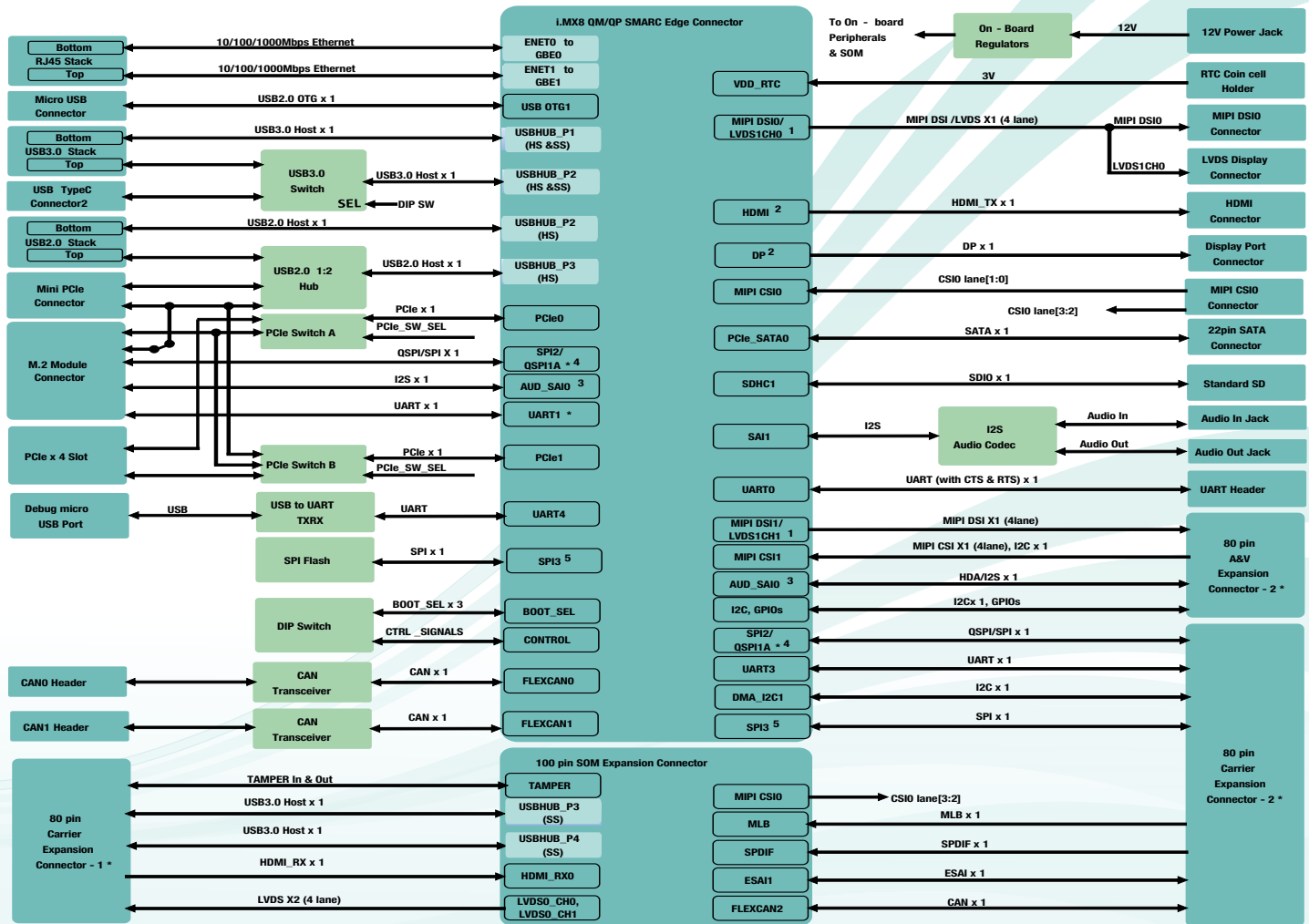
iW-RainboW-G27D HIGHLIGHTS

- i.MX 8 QM/QP SoC
- IEEE 802.11a/b/g/n/ac Wi-Fi & BT 5.0
- Dual Gigabit Ethernet
- 4GB LPDDR4 memory
- HDMI or 5.5" HD AMOLED MIPI DSI Display
- MIPI CSI Camera
- I2S Audio Codec
- SMARC R2.0 compatible

SPECIFICATIONS

i.MX 8 QM/QP SMARC SOM	
Processor:	
i.MX 8 QuadMax : 2 x Cortex-A72, 4 x Cortex-A53 & 2 x Cortex-M4F	
i.MX 8 QuadPlus : 1 x Cortex-A72, 4 x Cortex-A53 & 2 x Cortex-M4F	
LPDDR4 - 4GB (Expandable)	
eMMC Flash - 16GB (Expandable)	
Micro SD slot (Optional)	
OctaSPI Flash - 256MB (Optional)	
Gigabit Ethernet PHY Transceiver x 2	
USB 3.0 High Speed 4-Port Hub	
IEEE 802.11a/b/g/n/ac Wi-Fi & BT 5.0	
OS Support:	
Linux 4.14.98, Android Pie 9.0.0, QNX 7.0.0	
SMARC Carrier Board:	
Gigabit Ethernet Jack- 2 Port	
PCIe x1 slot / MiniPCIe slot - 1 Port	
SATA x 1 Port	
USB 3.0 Host TypeA Connector - 2 Ports	
USB 2.0 Host TypeA Connector - 2 Ports	
USB 2.0 OTG MicroB Connector - 1 Port	
Standard SD slot - 1 Port	
HDMI/DP - 1 Port	
CAN - 2 Ports	
5.5" HD AMOLED MIPI DSI display	
Capacitive Touch screen	
MIPI CSI Camera Connector	
SSI/I2S Codec	
General Purpose I2C- 1 Port	
Full Function UART - 1 Port	
RTC with backup battery	
Debug Micro USB Port	
SMARC GPIOs – 12 Nos	
Expansion Connector interfaces: *	
QSPI x 1 port	
UART x 1 port	
I2C x 1 port	
HDMI RX x 1 port	
LVDS x 2 Channels	
MLB x 1 port	
CAN x 1 port	
SPDIF x 1 port	
ESAI x 1 port	
GPIOs	
A&V Expansion Connector interfaces: *	
4 lane MIPI DSI display	
4 lane MIPI CSI Camera	
HAD/I2S x 1 Port	
I2C x 2 Ports	
GPIOs	
Power Input: 12V DC	
Operating Temperature: +60°C to +70°C	
Form Factor: 120mmx120mm Nano ITX Size	

i.MX 8 QM/QP SMARC Development Board - Block Diagram



Note: * Optional

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

OS SUPPORT

Android Pie 9.0.0
Linux 4.14.98
QNX 7.0.0

DELIVERABLES

i.MX 8 QM SMARC Development Kit
Hardware User Manuals

OPTIONAL KITS/Modules

SMARC 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, established in 1999, focuses on Product Engineering Services involving Embedded Hardware, Software & FPGA. The company designs and develops cutting edge products and solutions. iWave has been an innovator in the development of highly integrated, high performance, low power and low cost System On Modules and Development Platforms. iWave's expertise has brought out multiple SOMs based on ARM NXP, Intel Atom, Marvell and TI Processors.

iWave System has won the confidence of its customers over the years by being a reliable partner in developing innovative products. Our engineers combine outstanding System design experience to deliver Quality Solutions. iWave specializes across Industrial, Automotive and Medical domains. We support our customers by being time efficient, which in turn helps our customers accelerate time to market their products. iWave is a Windows embedded Silver partner and a winner of the Partner Excellence Award.

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 8 QM SMARC Kit

The device can be ordered online from the iWave Website

<http://www.iwavesystems.com/webforms>

Or from our Local Partners in your region

<http://www.iwavesystems.com/about-us/business-partner.html>

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