

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.

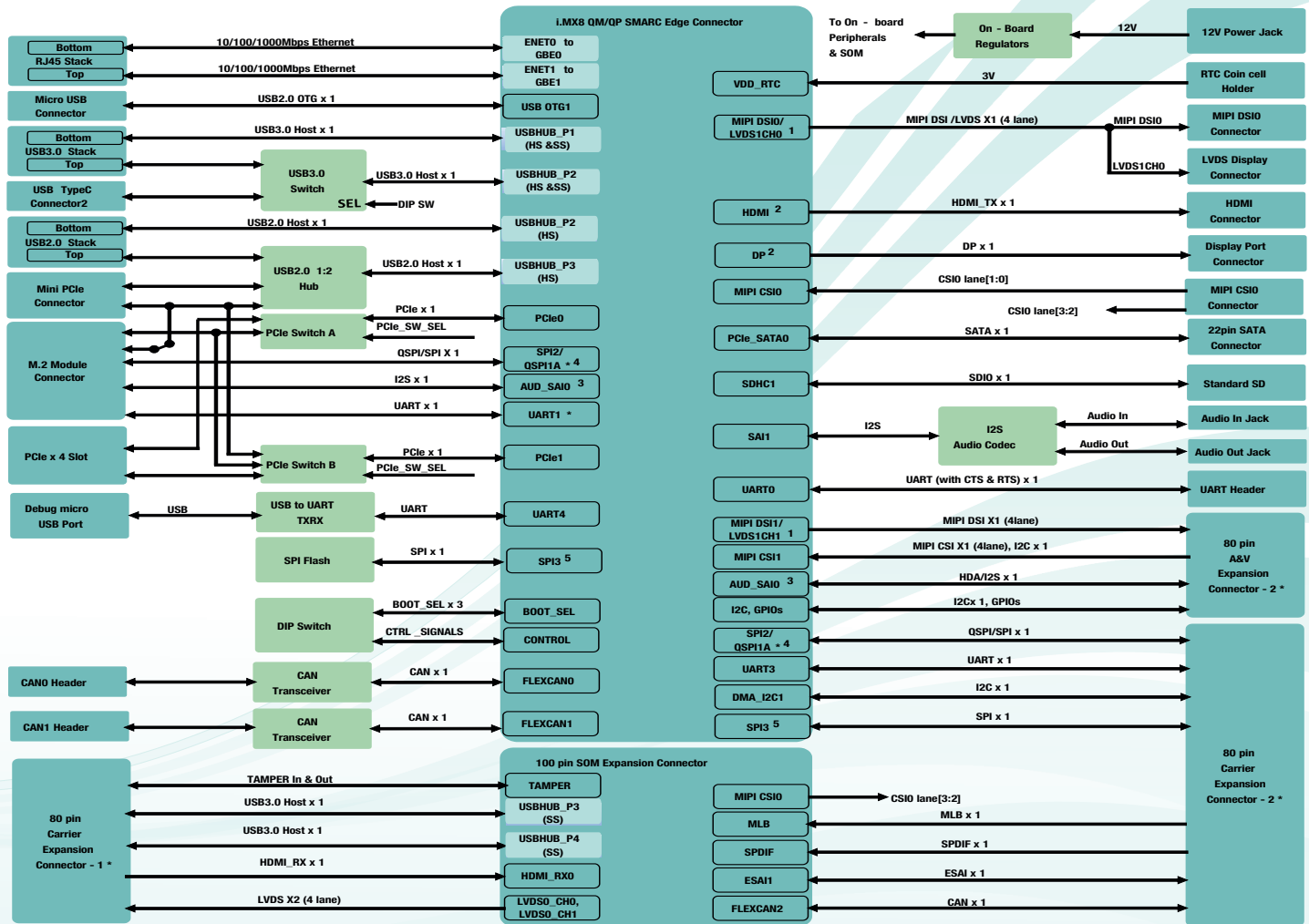
iW-RainboW-G27D HIGHLIGHTS

- 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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iWave Systems:

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<u>iW-G27D-SCQM-4L008G-E032G-ACC</u>	<u>iW-G27D-SCQM-4L004G-E016G-LCG</u>	<u>iW-G27D-SCQM-4L008G-E032G-LCG</u>