iWave
Embedding Intelligence

Development Platform iW-RainboW-G27D

i.MX8 QM/QP SMARC Development Kit



The i.MX8 QM/QP (Quad Max/Quad Plus) SMARC Development platform combines the NXP i.MX8 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.MX8 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.MX8 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

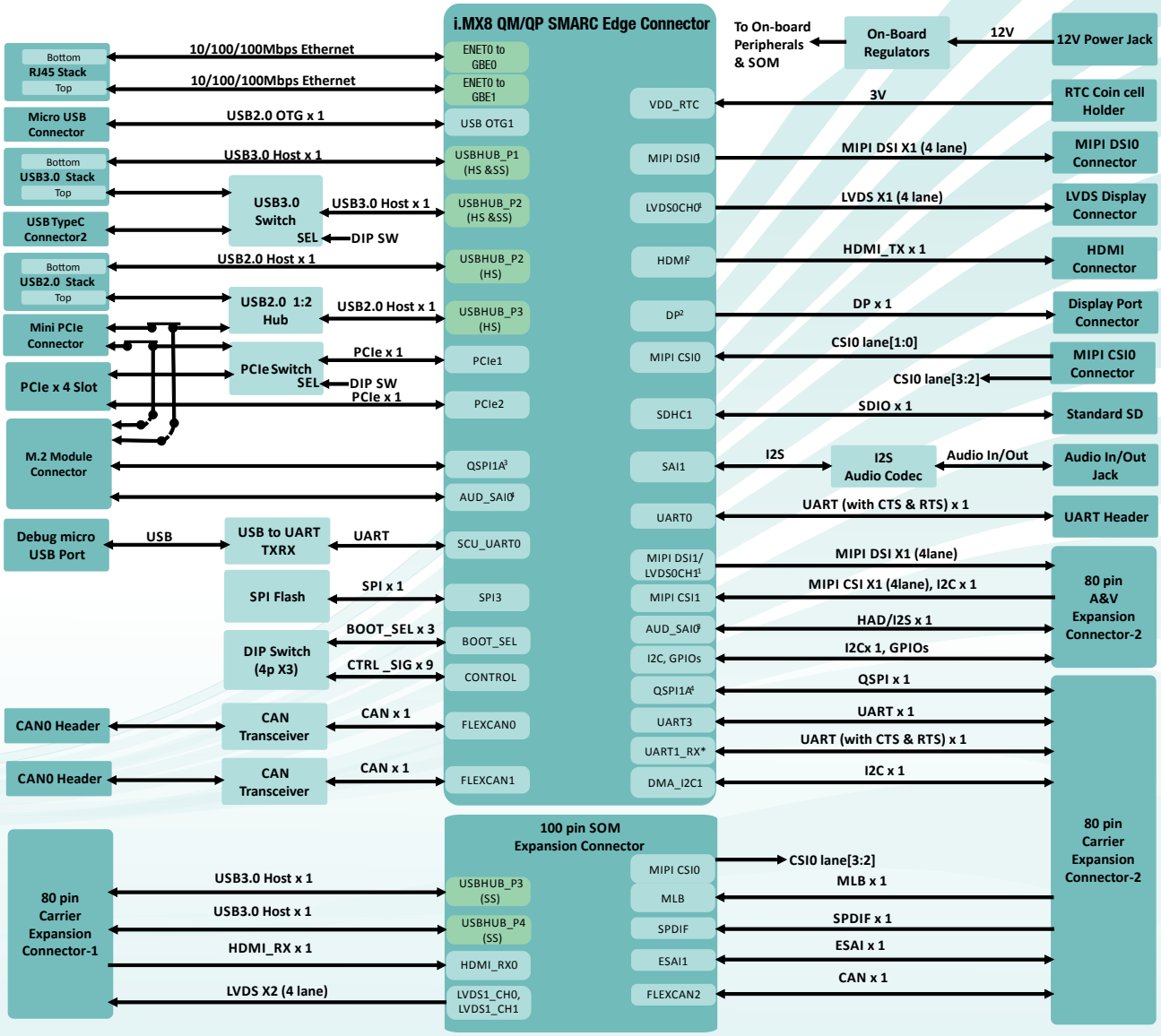
i.MX8 QM/QP SMARC SOM
Processor:
i.MX8 QuadMax : 2 x Cortex-A72, 4 x Cortex-A53 & 2 x Cortex-M4F i.MX8 QuadPlus : 1 x Cortex-A72, 4 x Cortex-A53 & 2 x Cortex-M4F
LPDDR4 - 4GB (Expandable)
eMMC Flash - 16GB (Expandable)
Micro SD slot (Optional)
OctaSPI Flash - 256MB (Optional)
Gigabit Ethernet PHY Transceiver 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/12S 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

iWave
Embedding Intelligence

Proven Partner
NXP

i.MX8QM/QP SMARC Development Board - Block Diagram



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

OS SUPPORT
Android Pie 9.0.0
Linux 4.14.98
QNX 7.0.0

DELIVERABLES
i.MX8QM SMARC Development Kit
Hardware User Manuals

OPTIONAL KITS/Modules
Qseven Heat Sink
Camera Module

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.MX8QM 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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