

# System On Module iW-RainboW-G27M

## i.MX 8 QM/QP Qseven Module

The i.MX 8 QM/QP(QuadMax/QuadPlus) Qseven System On Module integrates Cortex A72, Cortex A53 & Cortex-M4F Cores, Dual GPU systems, 4K H.265 capable VPU and dual failover-ready display controllers based i.MX 8 QM/QP SoC with on SOM 1000/100/10 Mbps Ethernet PHY, USB 3.0 HUB and IEEE 802.11 a/b/g/n/ac/ax Wi-Fi & BT 5.0 module. The i.MX 8 QM/QP Qseven System On Module is aimed to offer maximum performance with higher efficiency for complex embedded application of consumer, medical and industrial embedded



### 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 and analytics.

### iW-RainboW-G27M HIGHLIGHTS

- i.MX 8 QM/QP SoC with 64-bit ARMv8 Architecture
- Multi-OS Platform Support
- 10+ years of Product Longevity Program
- IEEE 802.11a/b/g/n/ac/ax Wi-Fi & Bluetooth 5.0
- 1000/100/10 Mbps Ethernet
- Qseven v2.1 Compatible SOM

### SPECIFICATIONS

#### 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

#### Memory & storage

LPDDR4 - 4GB (Expandable)<sup>1</sup>

eMMC Flash - 16GB(Expandable)<sup>1</sup>

Octa QSPI Flash (Optional)

Micro SD Slot (Optional)

#### Other

RTC Controller (Optional)

FAN Connector

UART Header (Optional)

#### Camera Connector

MIPI-CSI x 2 (1x4 Lane, 1x2 Lane)

CSI-I2C x 2

#### Qseven Edge Connector:

PCIe Gen 3.0 x 2

SATA 3.0 x 1

USB Host 3.0 x 3

USB Host 2.0 x 3

USB OTG 2.0

Gigabit Ethernet

LVDS x 2

SDIO

HDMI/DP

SPI

I2S

CAN

Data UART

PWM x 3

I2C x 3

JTAG/Debug UART x 1

GPIO's

#### Expansion Connector-1

MIPI - DSI x 2

HDMI RX

ENET1 x 1

I2C x 1

CAN x 2

ADC x 2

PWM x 1

GPIO's

#### Expansion Connector-2

LVDS x 2

USB Host 3.0 X 1

USB Host 2.0 X 1

QSPI x 1

I2C x 1

TAMPER x 2

MLB x 1

ESAI x 1

SPI x 1

SPDIF x 1

#### Operating Temperature

-40°C to +85°C (Industrial)

#### Board Form Factor

Qseven v2.1 Compatible

#### Power Input : 5V, 5A

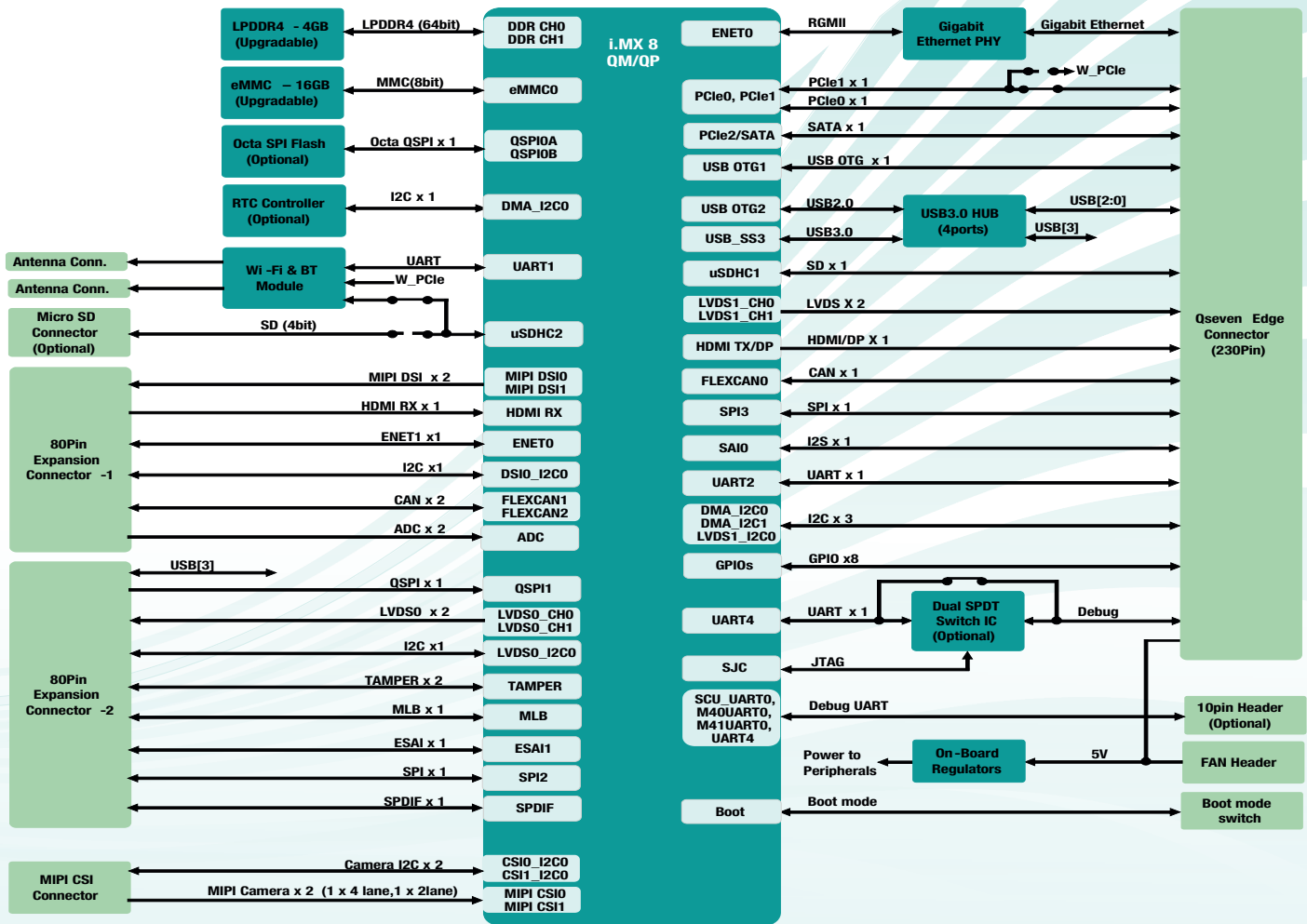
#### Operating System

Linux 5.4.24, Android Pie 9.0.0, Ubuntu 18.04, QNX 7.0.0

Note:

1.Contact iWave for Memory expansion support.

## i.MX 8 QM/QP Qseven SOM Block Diagram



### OS SUPPORT

Linux 5.4.24  
Android Pie 9.0.0  
Ubuntu 18.04  
QNX 7.0.0

### DELIVERABLES

i.MX 8 QM/QP Qseven Module  
Board Support Package  
User Manual

### OPTIONAL KITS/Modules

i.MX 8 QM/QP Development Kit  
7" Cap touch Display  
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 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.

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### i.MX 8 QuadMax Qseven Module

The device can be ordered online from the iWave Website  
<https://www.iwavesystems.com/product/i-mx-8-qm-qp-qseven-som/>  
Or from our Local Partners in your region  
<http://www.iwavesystems.com/about-us/business-partner.html>

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