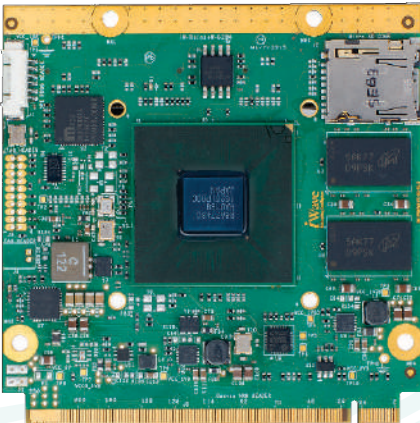


# System On Module iW-RainboW-G20M-Q7 RZ/G1M Qseven Module



iWave's RZ/G1-M based Qseven CPU module integrates high performance ARM Cortex A15 Dual CPU core operating up to 1.5GHz speed. The SOM is packed with rich set of features and IO peripherals. It integrates HD Hardware codecs, graphic acceleration, on-board PMIC, eMMC flash, DDR3 RAM, Micro SD slot, USB Hub and Gigabit Ethernet PHY. The SOM is ideally suitable for high performance general embedded, industrial and video intensive applications.

**APPLICATIONS:** HMI & Access Control, Video Surveillance, Digital Signage, Entertainment, Industrial control, Point of sale & ATM, Vehicle infotainment & Navigation, Real time image recognition, Network & high vision camera, Home & office automation, White goods and Smart appliances.

## iW-RainboW-G20M-Qseven HIGHLIGHTS

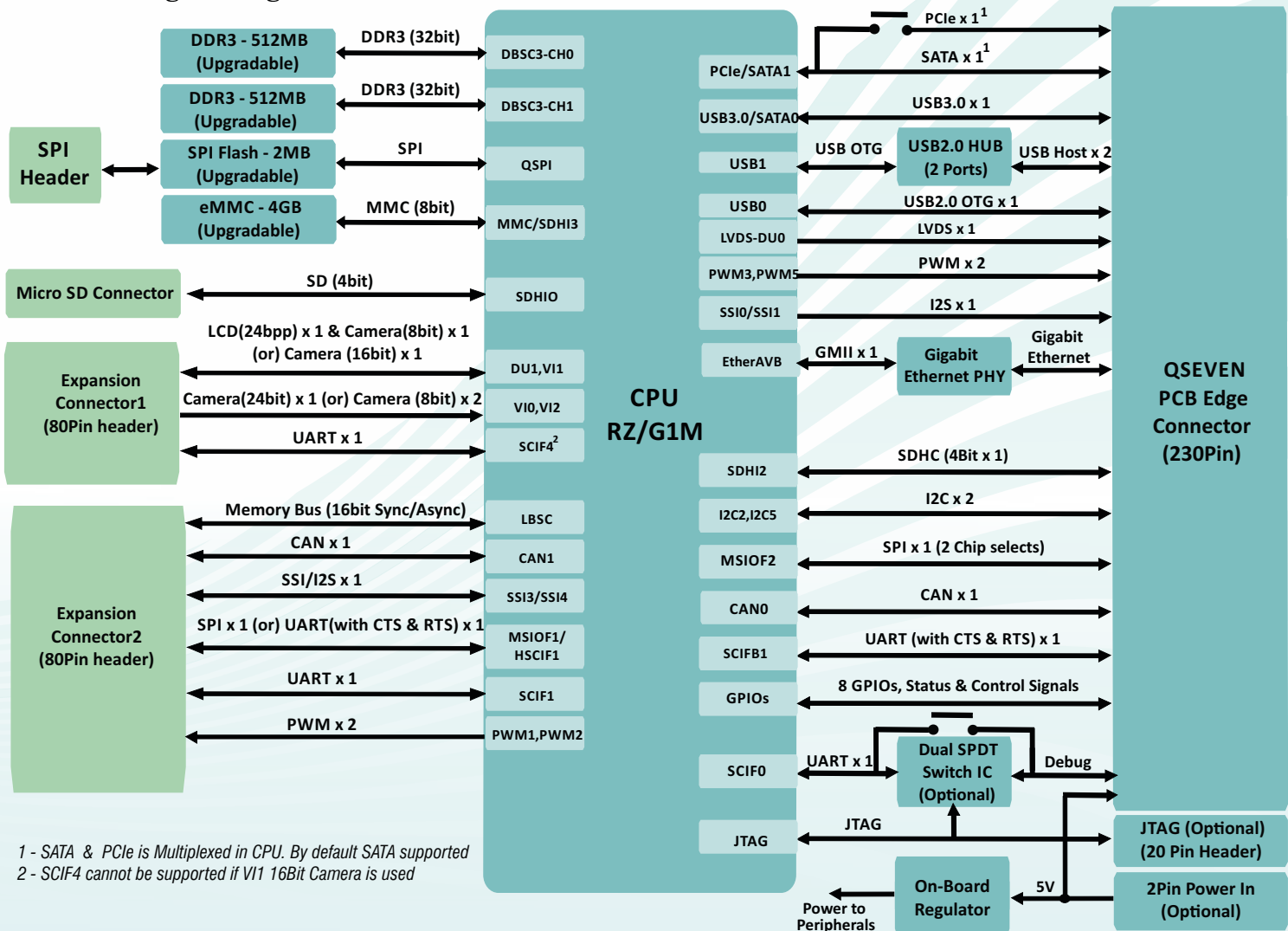
- Dual core ARM Cortex -A15 @ 1.5GHz
- Qseven R2.0 Compatible
- Dual channel HD encode & decode
- Built in HW Graphic acceleration
- Three channel video input
- USB3.0 support
- Industrial temperature support available
- Technical and quick customization support

## SPECIFICATIONS

<b>CPU:</b>	<b>Expansion Connector Interfaces:</b>
Renesas's RZ/G1M CPU @ 1.5GHz	24bpp RGB LCD or 16bit camera I/F
Dual core ARM Cortex A15	24bit camera or dual 8bit camera IF
SGX544MP2 Graphic core @ 520MHz	8bit camera interface
<b>Memory :</b>	UART - 2 Ports
1GB DDR3 (Expandable) <sup>1</sup>	16bit Memory bus interface
2MB SPI NOR Flash (For boot code)	SPI/UART & CAN
4GB eMMC Flash (Expandable)	SSI/I2S Audio
Micro SD Slot (Optional)	PWM-2 Ports, GPIOs
<b>Qseven Edge Interfaces:</b>	<b>Communication:</b>
SATA - 1 Port	Gigabit Ethernet PHY - 1 Port
USB3.0 host - 1 Port	2 Port USB HUB
USB2.0 host - 2 Ports	<b>OS Support :</b>
USB2.0 device - 1 Port	Linux 3.10.31
LVDS Display - 1 Port	<b>Power Input:</b>
Gigabit Ethernet - 1 Port	5V @ 2A through Qseven Edge
SDHC - 1 Port	<b>Operating Temperature:</b>
I2S Audio - 1 Port	-40°C to +85°C Industrial
I2C-2 Ports, SPI, CAN	<b>Form Factor:</b>
UART, PWM-2 Ports, GPIOs	70mm x 70mm, Qseven R2.0 compatible
JTAG or UART console	

Note1: By default 1GB DDR3 and 4GB eMMC only supported. Contact iWave for memory expansion support.

**RZ/G1M Qseven SOM BLOCK DIAGRAM**



1 - SATA & PCIe is Multiplexed in CPU. By default SATA supported  
2 - SCIF4 cannot be supported if VI1 16Bit Camera is used

**OS SUPPORT**

Linux 3.10.31

**DELIVERABLES**

RZ/G1M Qseven Module  
Board Support Packages  
User Manual

**OPTIONAL KITS**

RZ/G1M Qseven Development Kit

**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, Freescale, Intel Atom, Marvell and TI Processors.

iWave Systems 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 class specification. The registered trademarks are proprietary of their respective owners.

\*Optional items not included in the standard deliverables.

**Ordering the RZ/G1M Qseven SOM**

The board can be ordered online from the iWave Website  
<http://www.iwavesystems.com/webforms>

**iWave Systems Tech. Pvt. Ltd.,**

7/B, 29<sup>th</sup> Main, BTM Layout 2<sup>nd</sup> Stage,  
Bangalore-560076, India.  
Ph:+91-80-26683700, 26786245  
Email: [mktg@iwavesystems.com](mailto:mktg@iwavesystems.com)  
[www.iwavesystems.com](http://www.iwavesystems.com)

**iWave Japan, Inc.**

8F-B, Kannai Sumiyoshi Building,  
3-29, Sumiyoshi-cho, Naka-ku,  
Yokohama, Kanagawa, Japan.  
Ph: +81-45-227-7626  
Email: [info@iwavejapan.co.jp](mailto:info@iwavejapan.co.jp)  
[www.iwavejapan.co.jp](http://www.iwavejapan.co.jp)