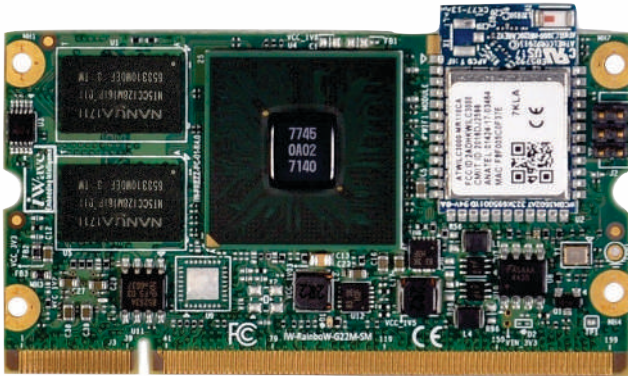


# System On Module iW-RainboW-G22M-SM RZ/G1E SODIMM Module



iWave's RZ/G1E based SODIMM system on module integrates power efficient ARM Cortex A7 Dual core CPU operating up to 1GHz speed and with 802.11n Wi-Fi & BLE4.0 Module. The SOM is packed with rich set of features and IO peripherals. It integrates HD hardware codecs, 3D Graphics Acceleration, DDR3 RAM, eMMC Flash, Gigabit and 10/100 Ethernet PHY. The SOM is ideally suitable for low power, cost effective, general embedded, industrial and video intensive applications.

**APPLICATIONS:** HMI & Access Control, Digital Signage, Industrial Control, IOT gateway, Healthcare devices, Point of sale, Network & high vision camera, Home & Office automation and White goods & appliances.

## iW-RainboW-G22M-SM HIGHLIGHTS

Dual Core ARM Cortex-A7 @ 1GHz

HD encode & decode

Built in SGX540 3D Graphic acceleration

802.11n Wi-Fi & BLE 4.0

Dual On-SOM Ethernet PHY

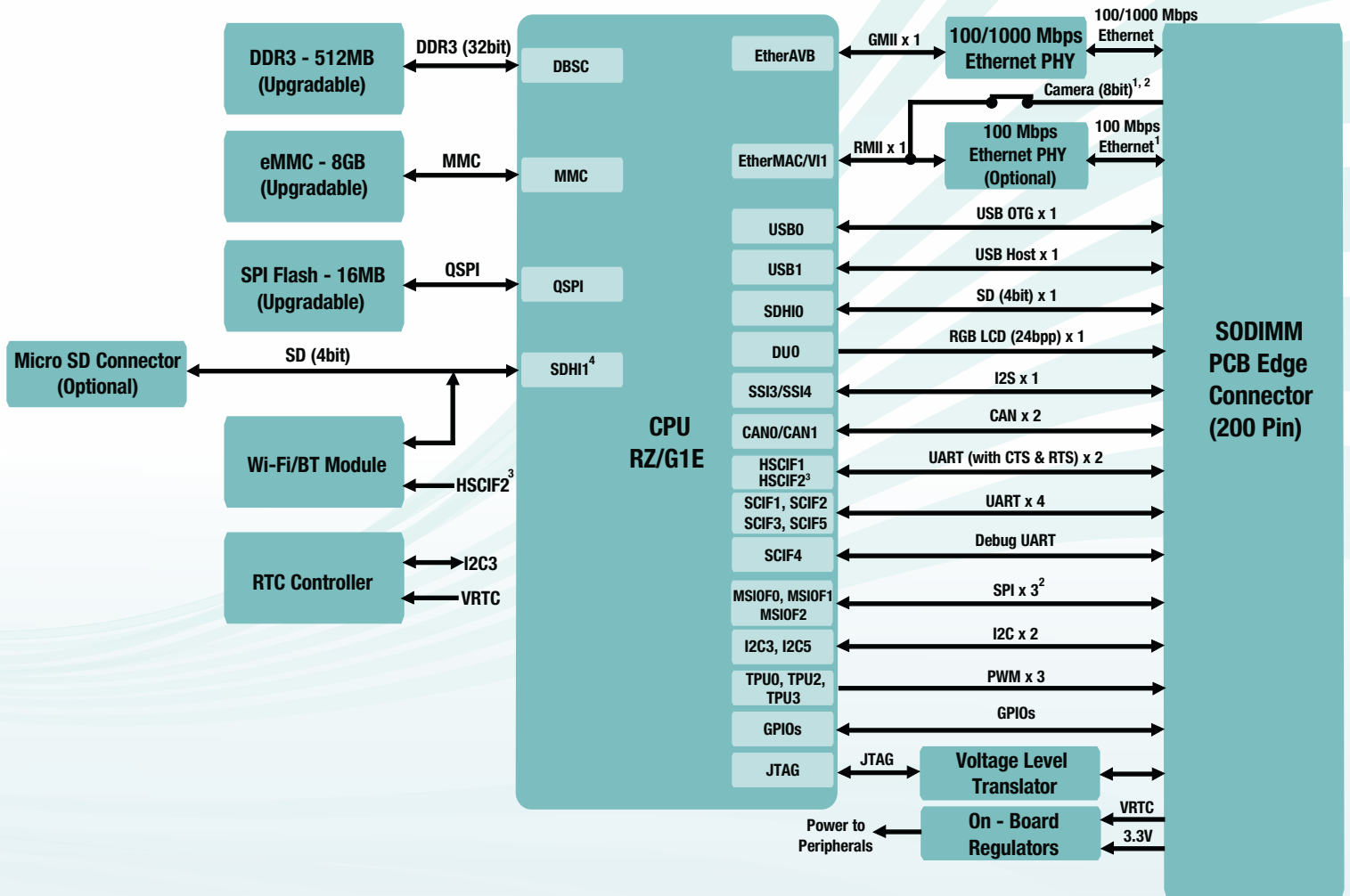
Industrial temperature support available

## SPECIFICATIONS

<b>CPU</b>	SD(4-bit) - 1 Port
Renesas's RZ/G1E	USB2.0 Host - 1 Port
Dual Core ARM Cortex A7 CPU @ 1GHz	USB2.0 OTG - 1 Port
<b>Memory</b>	DATA UART - 4 Ports
512MB DDR3 <sup>1</sup> (Expandable upto 2GB )	CAN - 2 Ports
16MB SPI NOR Flash (Boot code)	I2S Audio - 1 Port
8GB eMMC Flash <sup>1</sup> , Micro SD Slot (Optional) <sup>2</sup>	I2C - 2 Ports
<b>Communication</b>	SPI - 2 Ports
802.11n Wi-Fi & BLE 4.0 <sup>2,3</sup>	PWM - 3 Nos
100/1000 Ethernet PHY - 1 Port	GPIOs
10/100 Ethernet PHY - 1 Port (Optional)	JTAG Port
<b>SODIMM Edge Connector Interfaces</b>	<b>Temperature</b>
FFUART - 2 Ports <sup>3</sup>	-40°C to +85°C (Industrial grade)
Debug UART - 1 Port	<b>Form Factor</b>
100/1000 Ethernet - 1 Port	67.6mm x 37mm SODIMM
10/100 Ethernet - 1 Port <sup>4</sup>	<b>Power Input</b>
24bpp RGB Display - 1 Port	3.3V @ 2A through SODIMM Edge
8-bit CSI Camera - 1 Port <sup>4</sup>	<b>Operating Systems:</b> Linux 3.10.31

*Note1: By default 512MB DDR3 and 8GB eMMC is supported. Contact iWave systems for memory expansion support.*  
*Note2: Since SDHI1 interface is shared between Wi-Fi / BT module and  $\mu$ SD Connector, either one can be use at a time. By default Wi-Fi / BT module is supported.*  
*Note3: Since HSCIF2 interface is shared between Wi-Fi / BT and SODIMM edge pins, either one can be used at a time. By default Wi-Fi / BT module is supported.*  
*Note4: 10/100 Ethernet RMII and 8-bit camera interface is multiplexed in the CPU, either one interface can be used at a time. By default 8-bit camera interface is supported in the SOM.*

**RZ/G1E SODIMM SOM BLOCK DIAGRAM**



**OS SUPPORT**

Linux 3.10.31

**DELIVERABLES**

RZ/G1E SODIMM Module  
Board Support Packages  
User Manual

**OPTIONAL KITS**

RZ/G1E Development Kit  
Camera Module

**CUSTOM DEVELOPMENT**

BSP Development/OS Porting  
Custom SOM/Carrier Development  
Custom Application/GUI Development

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, Renesas, Qualcomm, Intel Atom, Marvell and TI Processors & Xilinx Zynq and Altera FPGAs.

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 RZ/G1E SODIMM Module**

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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