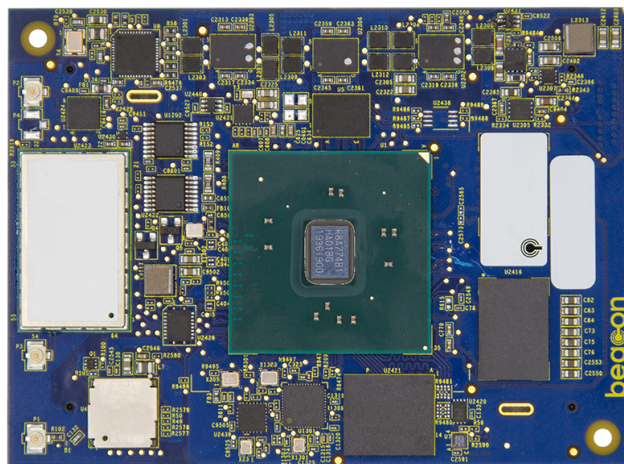


## RZ/G2 SOM Series

Configurable from dual-core up to octa-core, includes on-board Wi-Fi 5, Bluetooth 4.2, and an optional LTE CAT M1/NB1 Radio

Beacon EmbeddedWorks' RZ/G2 series of SOMs are high-performance and full featured for the most demanding embedded applications. There are multiple processor options in the RZ/G2 series of SOMs from dual-core all the way up to octa-core. The RZ/G2 SOM goes beyond the basic wired and wireless connectivity with optional LTE Cat M1 and NB-IoT cellular capabilities built-in. The flexibility in performance and connectivity makes it easy to develop a portfolio of secure devices on a single hardware design. The RZ/G2 series of SOMs are perfectly suited for high-performance multimedia processing including 3D graphics, high-definition video, and displays for next generation medical, military, aerospace, and industrial applications.

RZ/G2 SOM

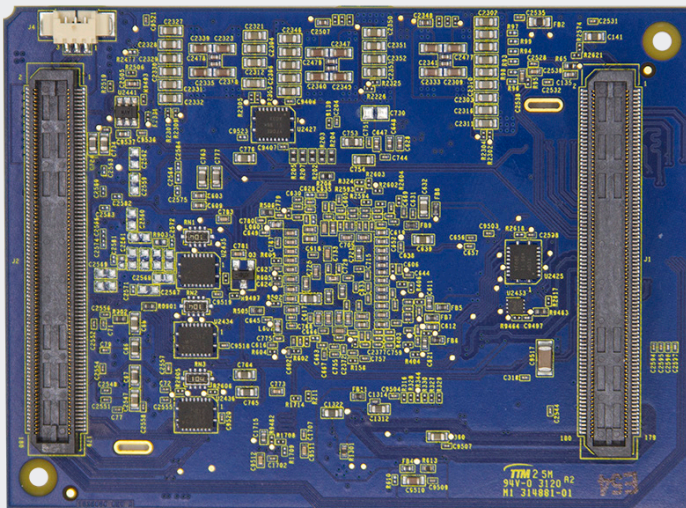
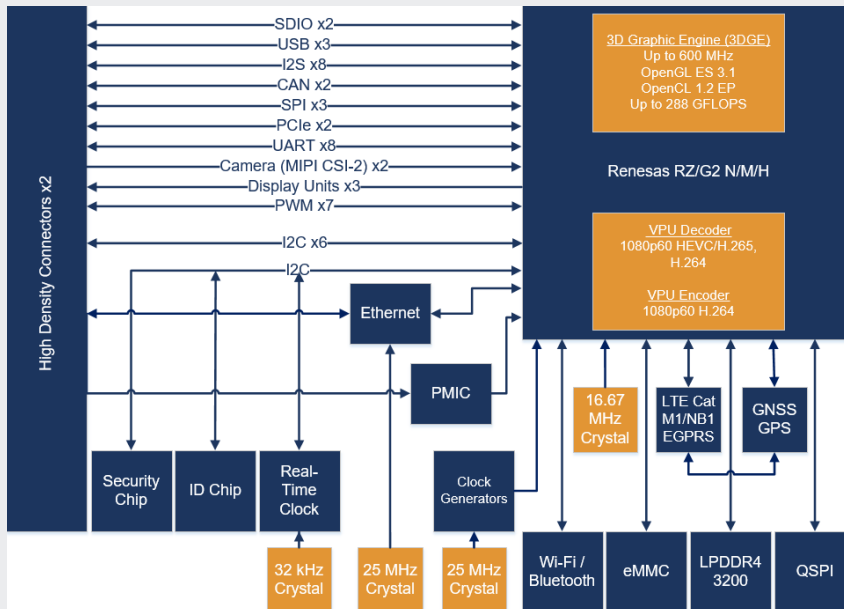


\*Top side image to scale

The design, development, manufacturing, and ongoing support of embedded technology is a complex and time-consuming process without the right expertise. At Beacon EmbeddedWorks, we elevate your product development with custom SOM solutions and high-performance application development kits. Beacon EmbeddedWorks is a leader in designing and developing SOMs with wireless technologies including Wi-Fi 5, Bluetooth, and optional LTE Cat M1/NB1 cellular. We have the experience and knowledge to help you select the right SOM, integrate the SOM into your product design, or develop a customized SOM to meet the needs of your application.

Beacon EmbeddedWorks can also help at any stage in the product lifecycle, so our expertise and assistance doesn't end when you've completed your hardware design. Beacon EmbeddedWorks provides continuation support including obsolescence management and application engineering for any product with one of our SOMs embedded. We also continually update our board support package (BSP) options with the latest versions of Linux, Android, and real-time operating systems.

## RZ/G2 SOM Block Diagram



Bottom View > Actual Size

## RZ/G2 SOM Ordering Information

MODEL NUMBER	LPDDR4	eMMC	WI-FI 5	ETHERNET PHY	TEMP. (°C)
SOMRZG2H-10-1DE5SNIR-A	8GB	32GB	Y	Y	-40 to +85
SOMRZG2M-10-1BE5SNIR-A	4GB	32GB	Y	Y	-40 to +85
SOMRZG2N-10-1AD5DNIR-B	2GB	16GB	N	Y	-40 to +85

View the RZ/G2 development kit at [beaconembedded.com/project/rzg2-development-kit/](https://beaconembedded.com/project/rzg2-development-kit/)

## PRODUCT FEATURES

### Processor

- RZ/G2N: Dual ARM® Cortex™-A57 cores running up to 1.5 GHz
- RZ/G2M: Dual ARM® Cortex™-A57 cores running up to 1.5 GHz plus quad ARM® Cortex™-A53 cores running up to 1.2GHz
- RZ/G2H: Quad ARM® Cortex™-A57 cores running up to 1.5 GHz plus quad ARM® Cortex™-A53 cores running up to 1.2GHz

### Graphics

- PowerVR 3D Graphics Engine (3DGE)
- H.264 encode/decode and H.265 decode Video Codices
- Up to seven 500Mpix/s video signal processors (VSP)

### Embedded Memory

- RZ/G2N: Up to 4GB of 32-bit wide LPDDR4 memory
- RZ/G2M and RZ/G2H: Up to 8GB of 64-bit wide LPDDR4 memory
- eMMC, configurable (Up to 64GB)
- Quad SPI NOR Flash, configurable (Up to 64MB)

### Network Connectivity and Positioning

- Wi-Fi 5 (802.11a/b/g/n/ac)
- Bluetooth 4.2 and BLE
- Ethernet 10/100/1000 MAC + PHY
- LTE Cat M1 / NB1 and EGPRS Cellular Radio (optional)
- GNSS (optional GPS)

### Security

- NXP A71CH Plug and Trust IC

### USB

- USB 2.0 high-speed On-the-Go controller and PHY
- USB 2.0 high-speed Host controller and PHY
- USB 3.0 DRD controller and PHY

### Display

- HDMI 1.4b (1080p60 /4Kp30)
- LVDS
- Parallel RGB (up to 24-bit)

### Camera

- One MIPI CSI-2 (4 lanes)
- One MIPI CSI-2 (2 lanes)

### Audio

- Up to eight I2S ports
- Direct Memory Access Controller (DMAC)
- Mixer, Sample Rate Converter, Digital Volume and Mute

### PCIe

- Two single lane x1 PCIe Gen 2.0

### Serial I/O

- Up to eight UART interfaces, five with flow control
- Up to six I2C interfaces
- Up to three SPI interfaces operating as either master or slave
- Two CAN 2.0B ports

### GPIO

- Additional multiplexed GPIOs supporting various peripherals such as PWMs, SDIO, UART, SPI, and I2C

### RTC

- On-board ultra-low power real-time clock (RTC)

### Debug

- JTAG support

### Mechanical

- Dimensions: 90mm x 66mm
- Weight: 39.8 grams

### RoHS Compliant