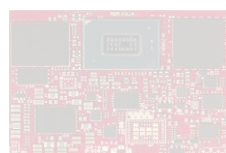


Unleash the RZ/G3L for Edge Computing



82x30mm, MXM3 form factor



Optional form factor
OSM-M 45x30mm



Experience a new level of intelligent performance with our new RZ/G3L System-on-Module, integrating the versatile graphical capabilities and high-speed communication interfaces. This powerful combination delivers exceptional processing capabilities for HMI and Edge computing applications!

The Renesas RZ/G3L application processor features dual-display graphics capabilities with both 3D and 2D engines and hardware accelerators for H.264 1080p30 video decoding and encoding. With MIPI-DSI, LVDS and parallel RGB display outputs, MIPI-CSI camera input, flexible audio interfaces and comprehensive communication features, the RZ/G3L is ideal for Industrial, User Interface (HMI) and Multimedia applications.

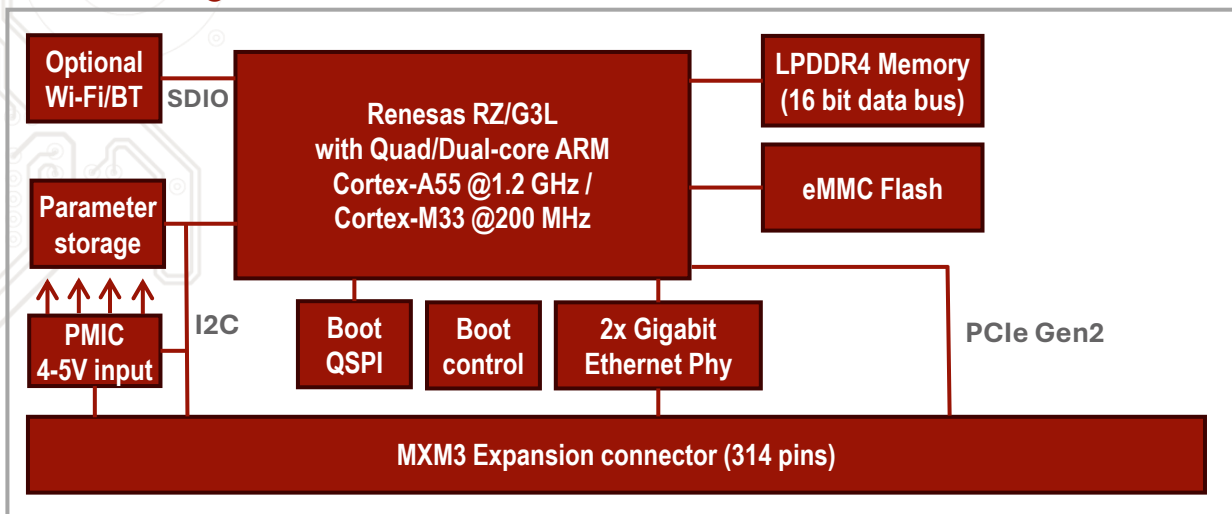
Unlock the full potential of Edge computing with our **RZ/G3L System-on-Module!**

Specification

Processor	Cores	Renesas RZ/G3L Dual/Quad-core ARM Cortex-A55 and Cortex-M33
	Frequency	1.2 GHz on Cortex-A55, 200 MHz on Cortex-M33
Memory	SDRAM	1-2 GByte LPDDR4 2133 MT/s, 16-bit/1ch databus
	NAND FLASH	8-64 GByte eMMC NAND Flash for OS and bootloader
Graphics output	MIPI-DSI	4 lanes with resolution up to 1920x1080 at 60 Hz (1080p60), max 1920x1200 at 60 Hz
	LVDS	WXGA up to 1366x768/1280x800 60Hz, 1ch, 25-87 MHz
	Parallel RGB	18/24 bit up to WXGA, 1280x800 at 60 Hz (720/800p60)
	Video Codec Engine	Decode/Encode H.264: 1080p30 (only on G3L, not on G3SE)
	3D Graphics Engine	Mali-G31 @600 MHz supporting Vulkan 1.2, OpenGL ES 1.1/2.0/3.2 and OpenCL 2.0 full (only on G3L, not on G3SE)
Graphics input	Camera interface	1x MIPI-CSI2, 2 lanes, up to 1.5 Gbps per lane
High-Speed Communication	Ethernet	2x Gigabit Ethernet interface with on-board Ethernet PHYs
	Wi-Fi/BT	Optional Murata LBEE5HY2FY (2FY), 802.11a/b/g/n/ac/ax SISO, Wi-Fi 6E and 5.4 BR/EDR/BLE, SDIO interface, based on Infineon chipset CYW55513
	PCIe	PCIe Gen2
	USB	2x USB2 (Host/Device)
	CAN	3x CANFD
Power	Supply voltage	4-5V
	Power Consumption	5 Watts peak (TBD)
Mechanical	Dimensions (W x H x D)	82 x 30 x 5 mm, EACOM form factor
Expansion		MXM3 format, 314 positions



Block Diagram



Ordering Information

Part No. ^[1]	CPU	G3L / G3SE	Cortex-A55	SDRAM/ eMMC	Wi-Fi/ BT	Operating Temp.
EAC00586	R9A08G046L46GBG	G3L w VCP	4x @1.2GHz	1/8 GByte	No	0 - 70° C
EAC00587	R9A08G046L46GBG	G3L w VCP	4x @1.2GHz	1/8 GByte	No	-40 - 85° C
EAC00588	R9A08G045SE5GBG	G3SE wo VCP	2x @1.2GHz	1/8 Gbyte	No	0 - 70° C
EAC00589	R9A08G045SE5GBG	G3SE wo VCP	2x @1.2GHz	1/8 Gbyte	No	-40 - 85° C

^[1] Standard configurations listed. Subject to change. Wi-Fi/BT, other memory configurations and temperature ranges on request.

Support and Customization

Embedded Artists is a reliable and competent development partner - we help you become successful!

- Professional and responsive support
- Pre-designed standard Carrier boards for integration
- Custom Carrier board design
- Customization
 - Different form factor, different pinning, supply voltage, memory sizes, etc.
 - Single Board Computer (SBC) solutions
- Display solutions
- Mechanical solutions
- Schematic review of customer carrier board designs
- Driver and application development

Development Kit

The RZ/G3L SOM is supported by the RZ/G3L Developer's Kit that provides a quick path to get started with development and integration work.

The kit provides reference implementations of key interfaces. Ordering part # EAK00590

