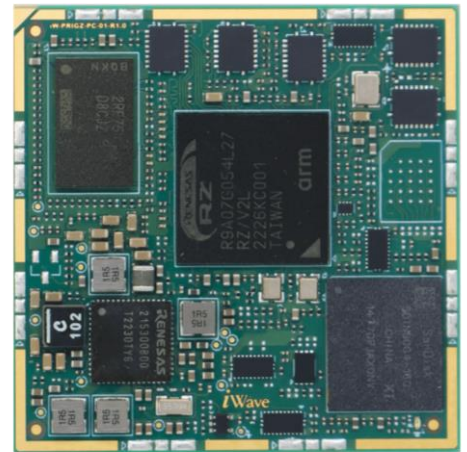


iW-RainboW-G56M

RZ/V2L & RZ/G2L OSM-LF LGA System on Module

The Renesas RZ/V2L & RZ/G2L SoC based LGA Module is designed as per the Open Standard Module™ specification (OSM). It integrates Renesas's RZ/V2L & RZ/G2L offerings Dual Cortex-A55@1.2GHz, Single Cortex-M33@200MHz, Mali-G31@500MHz module. RZ/V2L supports original DRP-AI for accelerating AI processing.

The RZ/V2L & RZ/G2L OSM is aimed to offer for applications mainly focusing on Machine Learning, NPU and vision system, advanced multimedia and industrial automation with high reliability.



Highlights

- ❖ Renesas RZ/V2L & RZ/G2L SoC with 64-bit ARM®v8.2A, ARM®v8-M & 3D-Graphics Engine with Arm®Mali™ Architecture
- ❖ Supports Dual Cortex-A55 & Single Cortex-M33
- ❖ Up to 2GB DDR4 Memory
- ❖ Supports 2 × 1Gb Ethernet
- ❖ OSM v1.1 Size-LF LGA Module with 45mm x 45mm form factor

Ordering Information

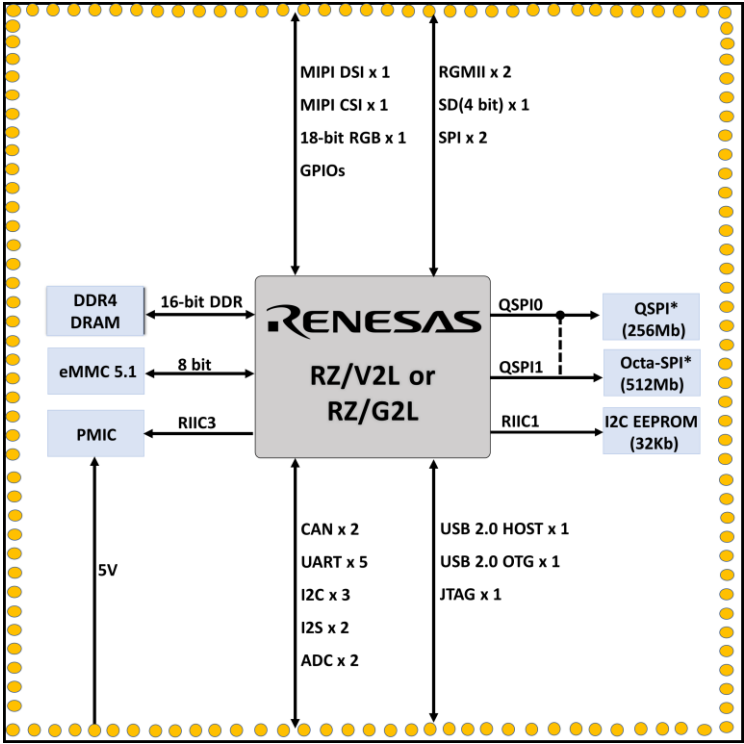
iW-G56M- OLVL-4D002G-E016G-BIA

RZ/V2L OSM, 2GB DDR4, 16GB eMMC

iW-G56M- OLGL-4D002G-E016G-BIA

RZ/G2L OSM, 2GB DDR4, 16GB eMMC

Block Diagram



* Optional

Technical Specifications

CPU: Renesas RZ/V2L & RZ/G2L Processors	RZ/V2L: 2 x Arm®Cortex-A55@1.2GHz, 1 x Arm®Cortex-M33@200MHz, 1 x Arm®Mali™-G31@500MHz, DRP-AI for accelerating AI processing. RZ/G2L: 2 x Arm®Cortex-A55@1.2GHz, 1 x Arm®Cortex-M33@200MHz, 1 x Arm®Mali™-G31@500MHz.	OSM LGA Features	• 1 x MIPI CSI (4-lane) • 1 x MIPI DSI (4-lane) • 3 x I2C, 2 x I2S • 1 x RGB (18-bit) • 2 x CAN • 2 x PWM • 2 x UART (with flow control) • 2 x UART (without flow control) • 1 x Debug UART • 2 x ADC • 1 x JTAG • Boot mode • GPIOs
Memory	2GB DDR4 (Expandable)	Operating System	Linux 5.10.201
Storage	16GB eMMC Flash (Expandable) 32Kb I2C EEPROM QSPI Flash-256Mb/Octa-SPI Flash-512Mb ¹	Operating Temp.	-40°C to +85°C (Industrial Grade)
OSM LGA Features	• 2 x RGMII • 1 x SD (4bit) • 1 x USB 2.0 Host • 1 x USB 2.0 OTG • 2 x RSPI	Form Factor	30mm x 30mm
		Power Input	5V input through OSM LGA
		Environment Spec.	REACH & RoHS3 Compliant

¹ Optional

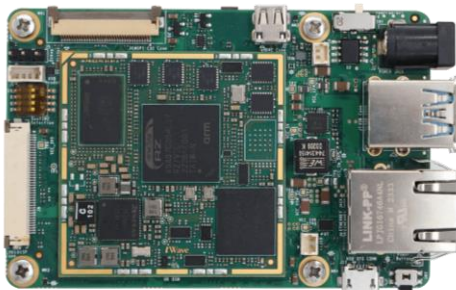
Deliverables

- RZ/V2L & RZ/G2L OSM Module
- Thermal solutions
- Board Support Package

Resources

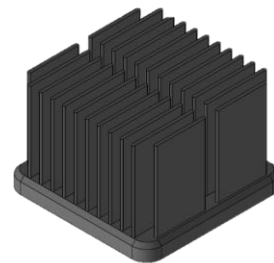
- Datasheet
- Quick Start Guide
- Linux User Manual

Product accessories



RZ/V2L & RZ/G2L SBC

The RZ/V2L & RZ/G2L SBC integrates Renesas's RZ/V2L & RZ/G2L offerings Dual Cortex-A55@1.2GHz, Single Cortex-M33@200MHz, Mali-G31@500MHz module. 1 x Ethernet PHY, 18-bit RGB display and Expansion Connectors.



Thermal Solutions

For any highly integrated OSM Modules, thermal design is very important factor. iWave Supports Heat Sink for RZ/V2L & RZ/G2L OSM.

Applications

Industrial HMI & Automation

Enables seamless interaction between humans and machines in automation and smart systems supporting management and security.

Smart city & Home appliance

Improves energy efficiency, security, and control in smart buildings. Facilitates secure data transmission and edge computing for management.

Industry

AI applications on industries helps in improving efficiency, increasing productivity & quality.

Camera Applications

Enhances real-time data collection and detection in security and surveillance.

A Global Leader in Embedded Systems Engineering and Solutions

Since 1999, we have pioneered leadership in embedded systems technology, establishing ourselves as a strategic embedded technology partner for advanced solutions. Our comprehensive portfolio encompasses ARM and FPGA System on Modules, COTS FPGA solutions, and ODM solutions which include Telematics, Gateways & HMI Solutions.

Beyond our robust product ecosystem, we provide comprehensive ODM support with specialized custom design and manufacturing capabilities, enabling customers to accelerate and optimize their product development roadmaps. With a strategic focus on industrial, automotive, medical, and avionics markets, we deliver innovative technology solutions to global clients.

mktg@iwave-global.com

iWave

Bangalore, India

iWave USA

Campbell, California

iWave Global

Ras Al Khaimah, UAE

iWave Global GmbH

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