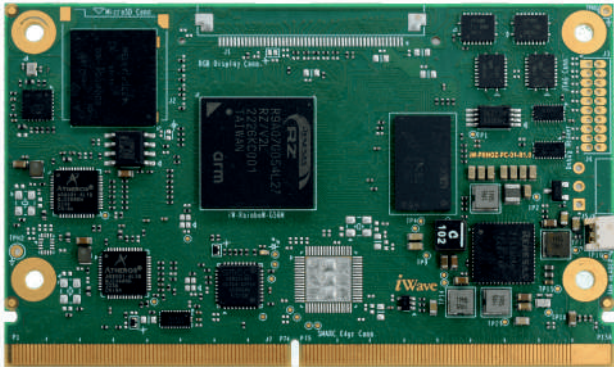




System on Module iW-RainboW-G56M Renesas RZ/V2L or RZ/G2L based SMARC SOM



The Renesas RZ/V2L or RZ/G2L based SMARC SOM is targeted for applications that require low power, low costs, and high performance. RZ/V2L and RZ/G2L CPUs are equipped with dual Cortex®-A55 (1.2GHz) and Cortex-M33. RZ/V2L additionally supports the Renesas Original built-in AI accelerator "DRP-AI" for vision. The SMARC SOMs are used as building blocks for portable and stationary embedded systems. The core CPU and support circuits, including DRAM, boot flash, power sequencing, CPU power supplies and GbE are concentrated on the SOM Module.

Renesas RZ/V2L or RZ/G2L MPU based system of module is rich with Renesas RZ/V2L or RZ/G2L MPU features along with eMMC, MIPI DSI, LVDS, HDMI TX, USB2.0, on SOM Dual 10/100/1000Mbps Ethernet PHY, USB 2.0 Hub, RGB (24bit) and comes in compact 82mm x 50mm form factor.

iW-RainboW-G56M HIGHLIGHTS

Renesas RZ/V2L MPU with 64-bit ARM® v8.2A Architecture and Arm® v8-M Architecture

Renesas RZ/G2L MPU with 64-bit ARM® v8.2A Architecture and Arm® v8-M Architecture

Supports dual Cortex-A55 & Single Cortex-M33

Renesas RZ/V2L supports AI accelerator, DRP-AI for accelerating AI processing

Up to 2GB DDR4 Memory

Dual 1000/100/10 Mbps Ethernet

10+ years of Product Longevity Program

SMARC v2.1.1 Compatible SOM

SPECIFICATIONS

CPU

RZ/V2L: 2 x Cortex-A55 @1.2GHz , 1 x M33 core@200MHz, DRP-AI Accelerator

RZ/G2L: 2 x Cortex-A55 @1.2GHz , 1 x M33 core@200MHz

Memory & Storage

DDR4 – 2GB (Expandable)

eMMC NAND Flash – 16GB (Expandable)

QSPI Flash (16Mb)

EEPROM -32K bit

Octa SPI (Optional)

EEPROM 16K bit (Optional)

Micro SD Slot (Optional)

Network & Communication

Gigabit Ethernet PHY Transceiver x 2

USB 2.0 High-Speed 4-Port Hub

Other

RGB Connector (24 Bit RGB) (Optional)

TPM 2.0 (Optional)

JTAG Header (Optional)

Debug UART Header (Optional)

Expansion Connector (Optional)

Edge Connector Features

Gigabit Ethernet x 2 Port (through ON-SOM Gigabit Ethernet PHY Transceiver)

USB2.0 Host x 4 Ports (through On-SOM USB Hub)

USB2.0 OTG x 2Port

SD (4 bit) x 1 Port

HDMI TX x 1 (Optional)

4 lane MIPI DSI x1

4 Lane LVDS x 1 (Optional)

4 lane MIPI CSI x 1

I2C x 4 (Power Management I2C is optional)

CAN x 2

SPI x 2

I2S x 2

UART x 4 (One is optional)

PWM x 2

SMARC GPIOs

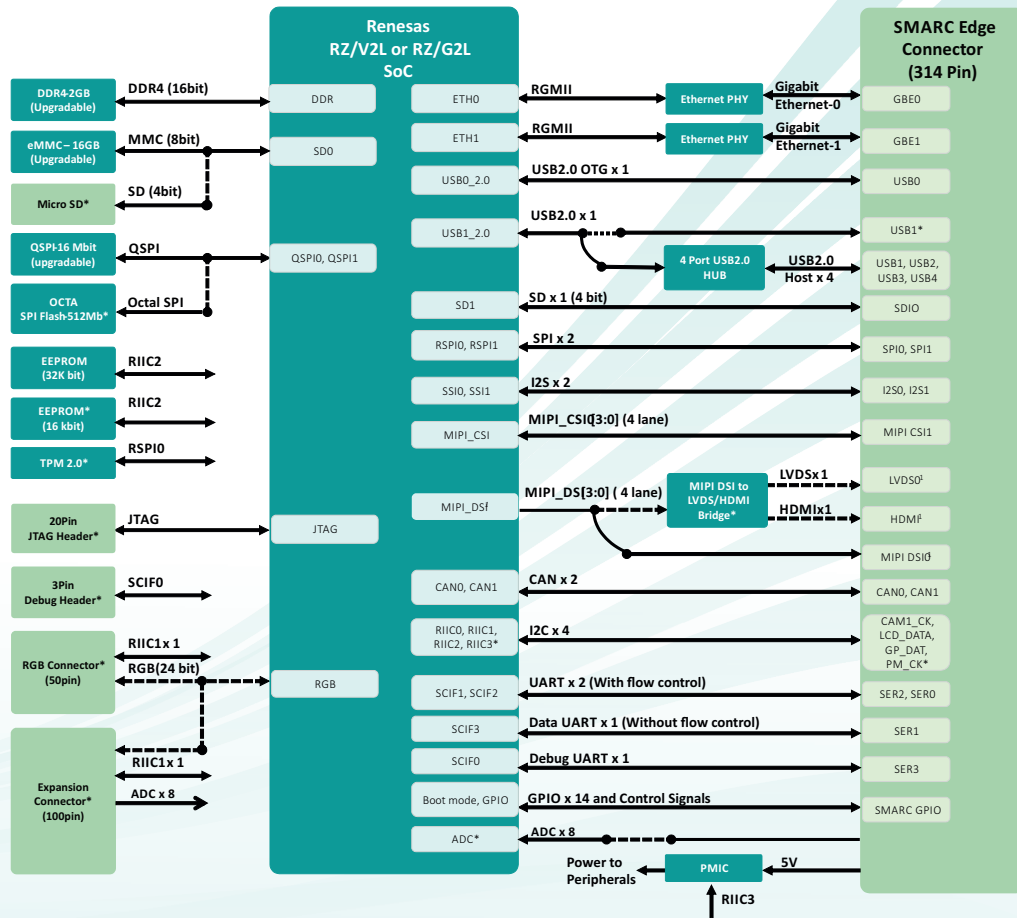
OS Support

Linux 5.10.175

Form Factor:

82mm x 50mm

Renesas RZ/V2L or RZ/G2L Based SMARC SOM Block Diagram



Notes:
 *Optional.
¹Either LVDS and HDMI or MIPI DSI is supported. By default MIPI DSI is supported.

OS SUPPORT

Linux 5.10.175

DELIVERABLES

Renesas RZ/V2L or RZ/G2L based SMARC SOM
 Board Support Package
 User Manual
 Quick Start Guide

OPTIONAL KITS/Modules

Renesas RZ/V2L or RZ/G2L SMARC Dev Kit
 Heat Sink
 Camera Module

CUSTOM DEVELOPMENT

BSP Development/OS Porting
 Custom SOM/Carrier Development
 Custom Application/GUI Development
 Design Review and Support

iWave Systems Technologies is an ISO 9001:2015 certified company, head quartered in Bangalore India established in the year 1999. The company focuses on providing embedded solution and services for Industrial, Medical, Automotive and various other Embedded Computing applications. iWave Systems offers wide range of System On Modules and Single Board Computers built using wide range of CPU and FPGA SoC platforms with different form factors such as Qseven, SMARC, SODIMM and HPC by closely working with Tier-1 silicon companies such as NXP, Xilinx, Intel etc.

iWave Systems offers various state of art ready ODM solutions such as Connected Telematic Control Unit / OBD II devices for the automotive edge analytics, Comprehensive ARINC818 solutions for the low latency Aerospace applications and Rugged IP rated performance scalable HMI solutions for Industrial applications.

iWave Systems also provides comprehensive Engineering design services involving Embedded Hardware, FPGA and Software development. iWave offers carrier board and custom hardware development with manufacturing and certification services. iWave's Hardware expertise spans complex board design up to 30 layers; Analog, Digital & RF Designs; FPGA Development up to 3+ million gates and VHDL / Verilog RTL Development & Verification. Our Software expertise ranges from OS Porting, Firmware & Device Drivers Development and Wireless & Protocol Stacks.

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Renesas RZ/V2L or RZ/G2L based SMARC SOM

The device can be ordered online from the iWave Website

<https://www.iwavesystems.com/>

Or from our Local Partners in your region

<http://www.iwavesystems.com> <https://www.iwavesystems.com/>

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