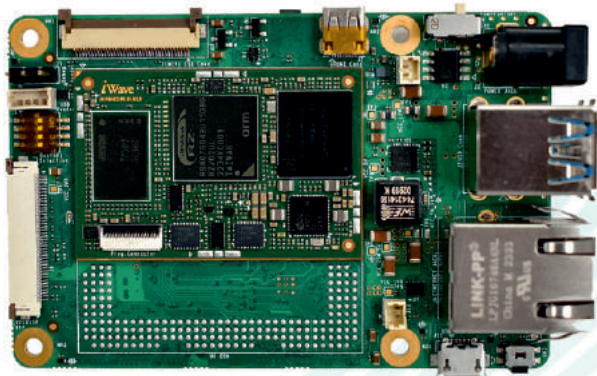




Single Board Computer iW-RainboW-G53S Renesas RZ/G2UL or RZ/A3UL or RZ/FIVE based SBC



The Renesas RZ/G2UL or RZ/A3UL or RZ/FIVE based SBC definition targeting application that require low power, low costs, and high performance. The SBCs 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 SBC.

Renesas RZ/G2UL or RZ/A3UL or RZ/FIVE MPU based Single Board computer is rich with Renesas RZ/G2UL or RZ/A3UL or RZ/FIVE MPU features along with eMMC, Gigabit Ethernet PHY, MIPI Camera, RGB Display and comes in compact 85mm x 56mm form factor.

iW-RainboW-G53S HIGHLIGHTS

Renesas RZ/G2UL MPU with 64-bit ARM® v8.2A Architecture and Arm® v8-M Architecture

Renesas RZ/A3UL MPU with 64-bit ARM® v8.2A Architecture

Renesas RZ/Five MPU With AndeStar™ V5 Instruction Set Architecture

Supports Cortex-A55 cores (RZ/G2UL & RZ/A3UL)

Supports Cortex-M33 core for Real Time Processing (RZ/G2UL)

SPECIFICATIONS

| | |
|---|--|
| CPU | Miscellaneous Interfaces |
| RZ/G2UL: 1 x Arm Cortex- A55 Single MPCore(1.0 GHz) : 1 x Arm Cortex- M Processor (200 MHz) | Debug UART Connector |
| RZ/A3UL: 1 x Arm Cortex-A55 Single MPCore (1.0 GHz) | RTC Connector |
| RZ/Five: 1 x AndeCore™ AX45MP Single core (1.0 GHz) | Expansion Connector Features |
| Memory & Storage | RGMI x 1 Port |
| DDR4 - 2GB(Expandable) ¹ | UART x 4 Ports ³ (without flow control) |
| eMMC NAND Flash - 16GB(Expandable) ¹ | CAN x 2 Ports ³ |
| Micro SD Slot | QSPI x 1 Port |
| Network & Communication | SPI x 1 Port |
| Gigabit Ethernet x1 (Single RJ45 Mag-jack Connector) | I2C x 1 Port |
| USB 2.0 OTG (microAB Receptacle Connector) | PWM x 2 Ports ³ |
| USB Header x 1 | ADC x 2 Ports |
| Video Features | JTAG x 1 Port |
| MIPI CSI Interface (4 Lane) x 1 ² | GPIOs |
| RGB Display Interface (18-bit) x 1 ² | OS Support |
| | Linux 5.10.158 (or higher) |
| | Form Factor: |
| | 56mm x 85mm |

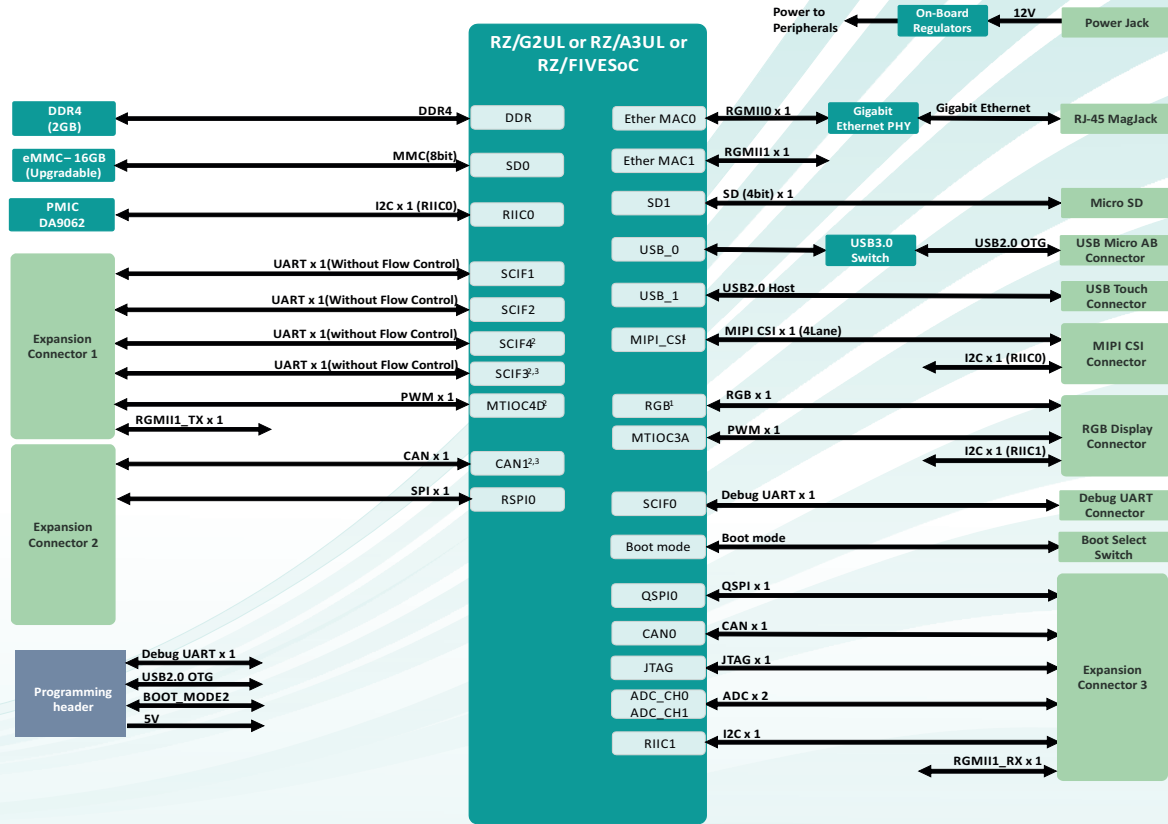
Notes:

¹RZ/Five default configuration: DDR4-1GB & eMMC NAND Flash-8GB

²Not available in RZ/FIVE MPU based SBC.

³These features count supported are subject to configuration & MPU used.

Renesas RZ/G2UL or RZ/A3UL or RZ/FIVE based SBC Block Diagram



Notes:

- ¹ Not available when using RZ/FIVE MPU.
- ² Available only when using RZ/FIVE MPU.
- ³ Either SCIF3 or CAN1 can be supported as they are supported through same pins. By default, SCIF3 is supported.

OS SUPPORT

Linux 5.10.158

DELIVERABLES

Renesas RZ/G2UL or RZ/A3UL or RZ/FIVE based SBC
Board Support Package
User Manual
Quick Start Guide

OPTIONAL KITS/Modules

Renesas RZ/G2UL or RZ/A3UL or RZ/FIVE based SBC
Heat Sink

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/G2UL or RZ/A3UL or RZ/FIVE based SBC

The device can be ordered online from the iWave Website

<https://www.iwavesystems.com/product/renesas-rz-g2ul-or-rz-a3ul-or-rz-five-based-single-board-computer/>

Or from our Local Partners in your region

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

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