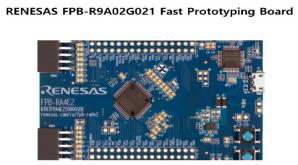

RENESAS FPB-R9A02G021 Fast Prototyping Board User Guide

Contents

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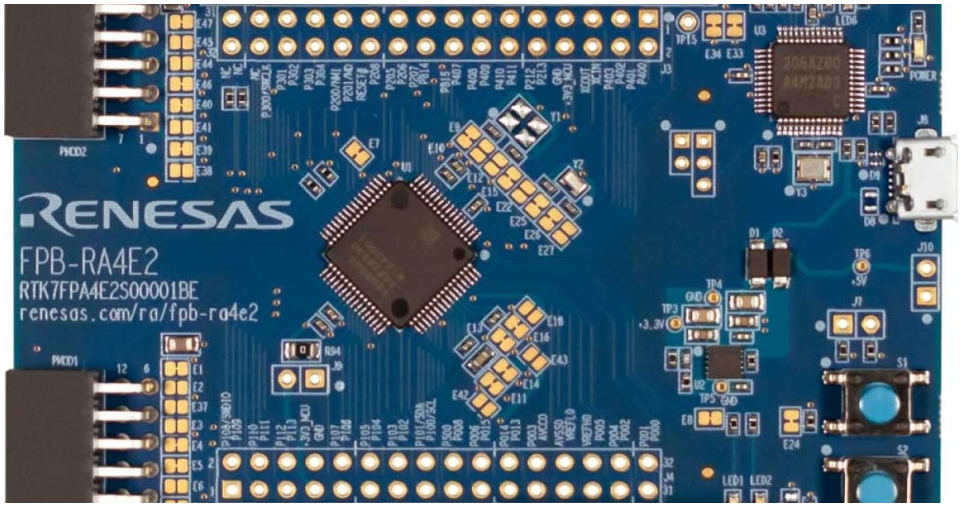

Introduction

The FPB-R9A02G021 Fast Prototyping Board provides an entry point for evaluation, prototyping and development

with the R9A02G021 MCU. Moreover, since this board incorporates an emulator circuit, you can use it for designing your own applications without further investments in tools. This product includes through-holes for pin headers that allow access to all MCU signal pins, allowing easy prototyping with a breadboard.
Getting started is Easy!

1. Power up the FPB-R9A02G021 board through the Debug USB port (J17: Type-C) using an USB cable connected to a 5V power source like a PC USB port.
2. The green power LED3 will light up.
3. The pre-programmed ‘blinky example project’ will begin to execute blinking the green user LEDs LED1 and LED2.

Package Contents

- FPB-R9A02G021 v1 Board (RTK9FPG021S00001BJ)
- Printed Quick Start Guide
- Printed information for China RoHS

Specifications

- **Evaluation MCU:** R9A02G0214CNE
- **On-chip memory:** 128-KB ROM, 16-KB RAM, 4-KB data flash memory
- **Board size:** 55 mm x 95 mm
- **Power-supply voltage:** VCC 3.3 V, MCU operation voltage range 1.6 V to 5.5 V
- **Power-supply circuit:** Push switch
- **USB connector:** VBUS (5 V input), VBUS converted to 3.3 V by linear regulator
- **LEDs:** Power indicator (green x 1), user (green x 2), Debug LED (yellow x 1)
- **Connectors:** USB Type-C, PmodTM connector, MCU header

Board Specifications

Item	Specification
Evaluation MCU	Part No: R9A02G0214CNE; package: 48-pin HWQFN
	On-chip memory: 128-KB ROM, 16-KB RAM, 4-KB data flash memory
Board size	Size: 55 mm x 95 mm
Power-supply voltage	VCC: 3.3 V. MCU operation voltage range 1.6 V to 5.5 V.
Power-supply circuit	USB connector: VBUS (5 V input); VBUS is converted to 3.3 V by linear regulator.
	2-pin external power-supply header*1
Push switch	Reset switch x 1; user switch x 1
LED	Power indicator: green x 1, user: green x 2, Debug LED: yellow x 1
USB connector	Connector: USB Type-C
Pmod™ connector	Connector: Angle type, 12 pins x 2
Arduino® connector	Connector: 6 pins x 1, 8 pins x 2, 10 pins x 1 The interface is compatible with Arduino® UNO R3.
Grove® connector *1	Connector: Angle type, 4 pins x 1
MCU header*1	Header: 24 pins x 2

1. This part is not mounted

1. Board Layout

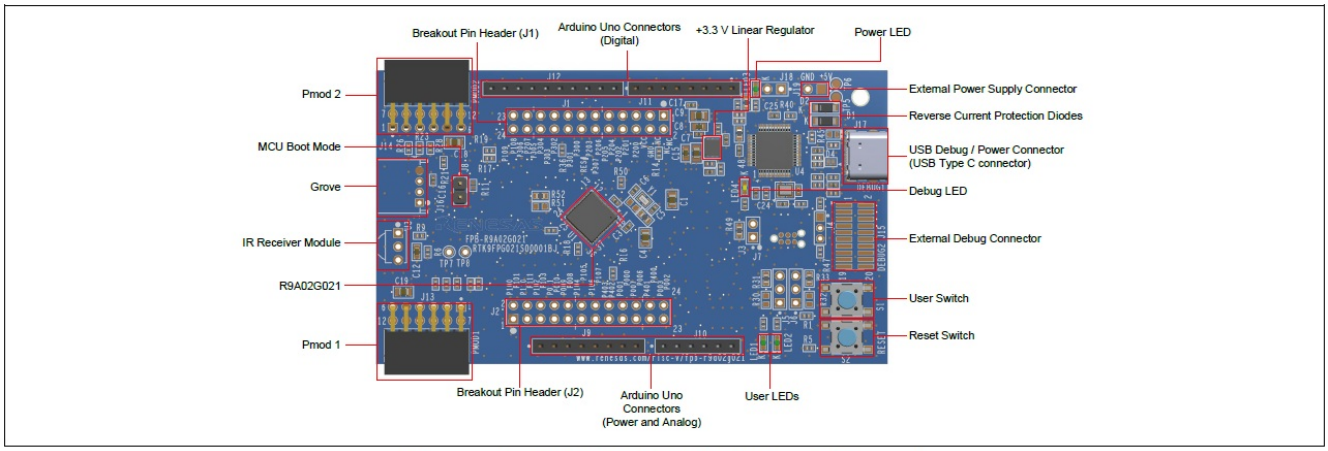

Figure 1. FPB-R9A02G021 Board Layout

2. Arduino Interface

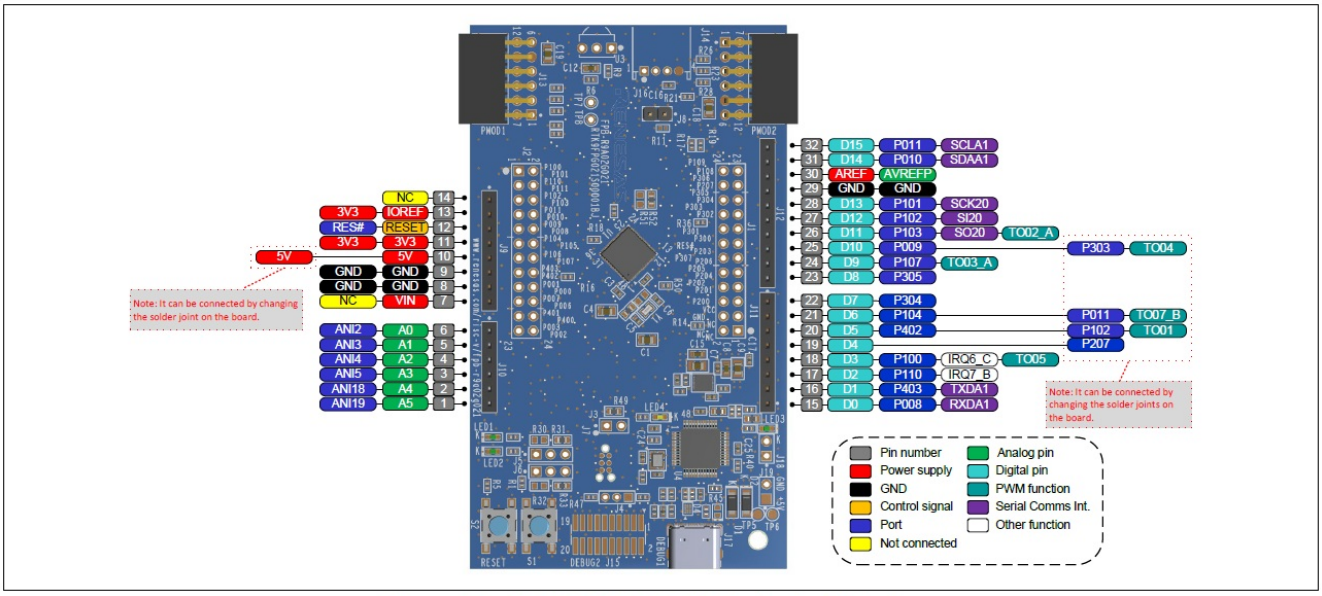

Figure 2. FPB-R9A02G021 Arduino Interface

3. **Pmod Interface**

   The FPB-R9A02G021 Fast Prototyping Board has Pmod 1 connector for Type-2A, Type-3A and Type-6A interface and Pmod 2 for Type-3A and Type-6A interface.

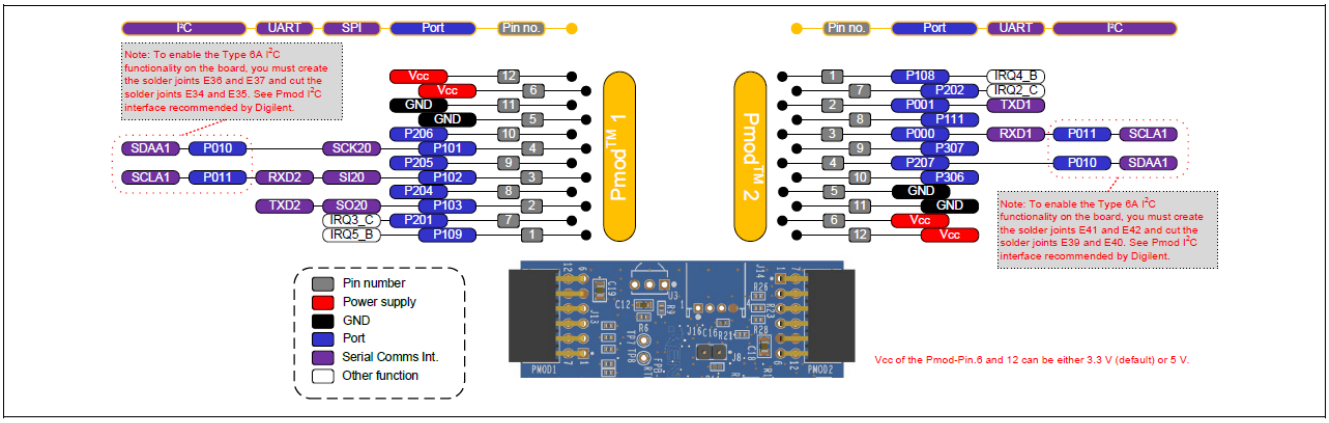

Figure 3. FPB-R9A02G021 Pmod Interface

4. **Starting the Blinky Example Project**

   The green power LED3 will light up, and the pre-programmed ‘blinky example project’ will begin to execute, blinking the green user LEDs LED1 and LED2.

5. **Grove Interface**

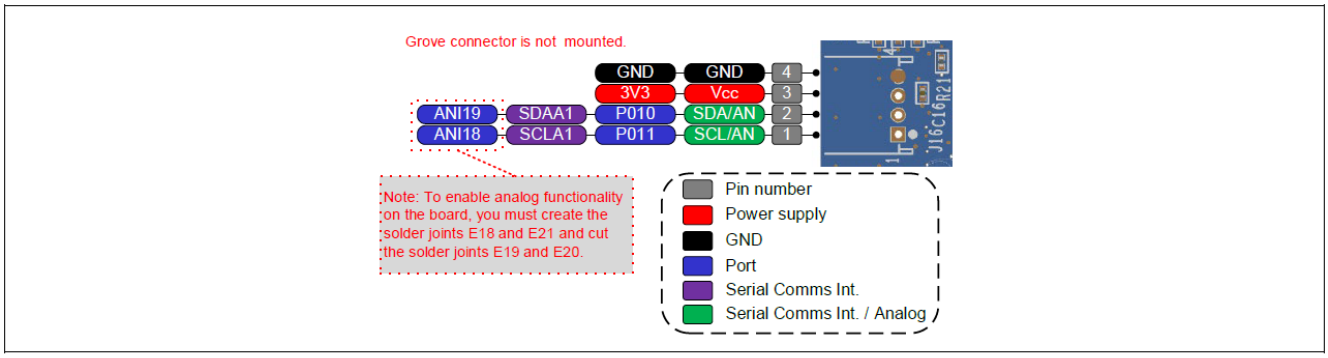

Figure 4. FPB-R9A02G021 Seeed Grove Interface

WEB and Support

1. For detailed information on the FPB-R9A02G021 board, please refer to the FPB-R9A02G021 User’s Manual available at renesas.com/risc-v/fpb-r9a02g021.

2. Renesas provides sample projects for various features of the R9A02G021 MCU. These sample projects can be used as a reference when starting application development. For application development, the integrated development environment e2 studio, the compiler package LLVM for RISC-V and Renesas Flash Programmer must be installed on the host PC. These are available for download at renesas.com/risc-v/fpb-r9a02g021.

FAQ

Q: How do I power up the FPB-R9A02G021 board?
A: You can power up the board through the Debug USB port (J17: Type-C) using a USB cable connected to a 5V power source like a PC USB port.

Q: What is included in the package contents?
A: The package includes the FPB-R9A02G021 v1 Board, Printed Quick Start Guide, and Printed information for China RoHS compliance.

Documents / Resources

	RENESAS FPB-R9A02G021 Fast Prototyping Board [pdf] User Guide FPB-R9A02G021 Fast Prototyping Board, FPB-R9A02G021, Fast Prototyping Board, Prototyping Board

References

- FPB-R9A02G021 - FPB-R9A02G021 RISC-V MCU Fast Prototyping Board | Renesas
- User Manual