

Renesas RL78 Family

FPB-RL78G21 Quick Start Guide

Introduction:

The RL78/G21 Fast Prototyping Board (FPB-RL78G21) provides an entry point for evaluation, prototyping and development with the RL78/G21 MCU. Moreover, simply connecting a USB cable allows programming and debugging, so you can start designing your own applications without further investment in tools. This product supports the Arduino® UNO and Pmod™ interfaces and includes through-holes for pin headers that provide access to the signal pins of the MCU, allowing easy prototyping.

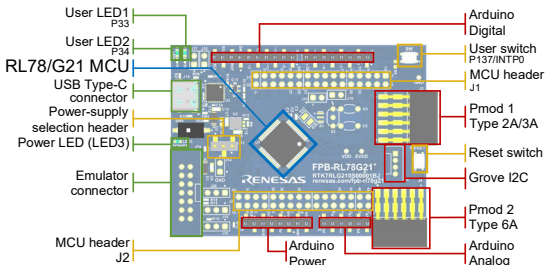
1. Package Contents

- FPB-RL78G21
RL78/G21 Fast Prototyping Board (RTK7RLG210S00001BJ)
- Quick Start Guide (this document)

2. Board Specifications

Item	Specification
Evaluation MCU RL78/G21	Part No.: R7F103GLJ3ZFB; package: 64-pin LFQFP
	Memory: 256-KB code flash, 8-KB RAM, 4-KB data flash
Push switches	Reset switch x 1, User switch x 1
LEDs	Power indicator: green x 1, User: green x 2
USB connector	Connector: USB 2.0 Type-C™
Pmod connectors	Connectors: angle type, 12 pins x 2
Arduino connectors	Arduino UNO R3: 6 pins x 1, 8 pins x 2, 10 pins x 1

3. Board Image



4. Pmod Interface

Pmod 1 (J3) Type 2A/3A

SPI	Port	Power	Pin No.
UART		VCC	12
INT		VCC	6
		GND	11
		GND	5
	P43		10
SCK10	P04		4
	P123		9
RxD1	SI10	P03	3
	P124		8
TxD1	SO10	P02	2
	INTP7	P141	7
	P77		1

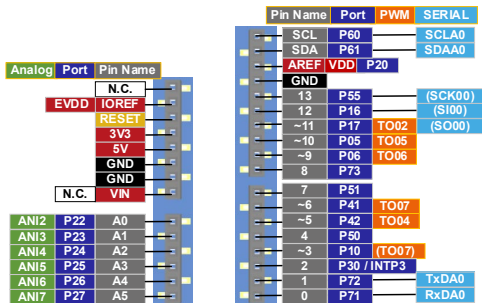
Pmod 2 (J4) Type 6A

I2C	Port	Power	Pin No.
INT		VCC	12
		VCC	6
		GND	11
		GND	5
	P52		10
(SDAA0)	P13		4
	P54		9
(SCLA0)	P14		3
	P53		8
	P15		2
	P76		7
INTP4	P31		1



*To use the functions listed in parentheses, you must change the Peripheral I/O Redirection Registers (PIORx) from their default settings. For details, refer to the RL78/G21 Hardware Manual.

5. Arduino Interface



*To use the functions listed in parentheses, you must change the Peripheral I/O Redirection Registers (PIORx) from their default settings. For details, refer to the RL78/G21 Hardware Manual.

6. Website and Support

- 1) For detailed information on the FPB-RL78G21, refer to the FPB-RL78G21 Manual available at [renesas.com/fpb-rl78g21](https://www.renesas.com/fpb-rl78g21).
- 2) For application development, the e² studio or CS+ integrated development environment, which includes the CC-RL compiler package, must be installed on the host PC. These items are also available for download at [renesas.com/fpb-rl78g21](https://www.renesas.com/fpb-rl78g21).



FPB-RL78G21

7. Getting Started with Video & Document

Pre-installed Demo

- 1) Supply power to FPB-RL78G21 through the debug USB port (J18: Type-C) by using a USB cable connected to a 5V power source such as a PC USB port.
- 2) LED3, the green power LED, will light up.
- 3) The pre-programmed Quick Start Example Project (QSEP) will begin to execute blinking of the green user LEDs, LED1 and LED2.

LED1 and LED2 respectively blink at 1 Hz and 0.5 Hz. When the user presses switch SW, the frequencies of blinking by LED1 and LED2 respectively change to 10 Hz and 5 Hz. From that point, the frequencies alternate each time SW is pressed.

For details, refer to the following video and document.

Video

renesas.com/gs-fpb-rl78

This video guides first-time users of the Fast Prototyping Board through the steps of installing a development environment, generating a project, and checking the operations involved in developing software.



Video

Document

renesas.com/doc-gs-fpb-rl78g21

This document guides first-time users of the Fast Prototyping Board through the steps of software development by using the Quick Start Example Project (QSEP) provided by Renesas.



Document

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Apr.07.26	-	New