

# Renesas RX Family

## FPB-RX140 Fast Prototyping Board

### 1. Introduction

The FPB-RX140 Fast Prototyping Board provides an entry point for evaluation, prototyping and development with the RX140 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 MCU signal pins, allowing easy prototyping with a breadboard.

#### Getting started is Easy!

1. Power up the FPB-RX140 through the Debug USB port (J5 DEBUG1: Micro-B) 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 'quickstart example project' will begin to execute blinking the green user LEDs LED1 and LED2.

### 2. Package Contents

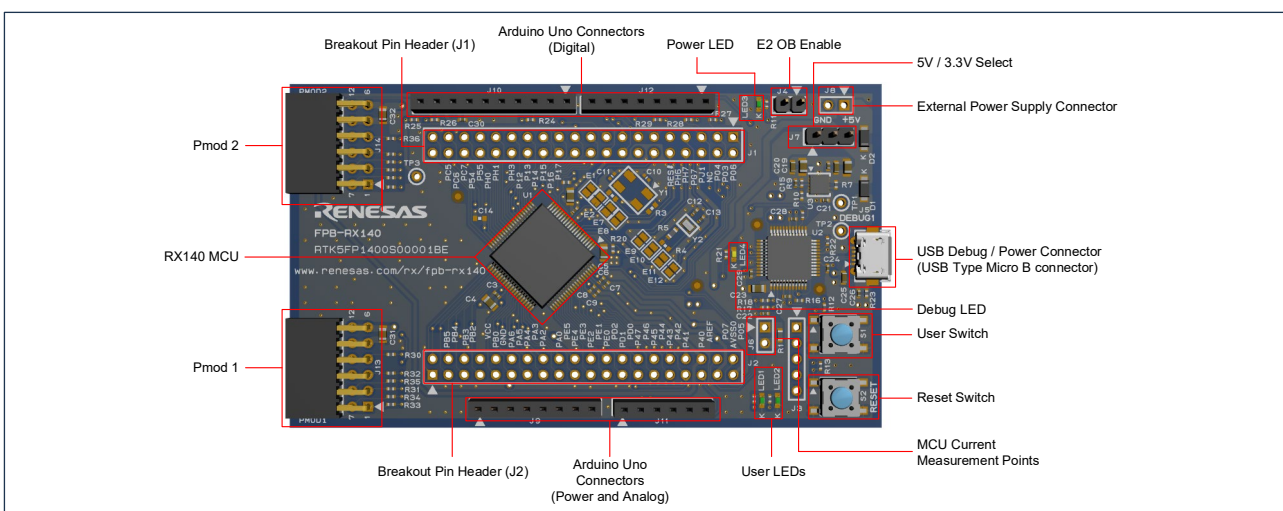
- FPB-RX140
- Printed Quick Start Guide

### 3. Board Specifications

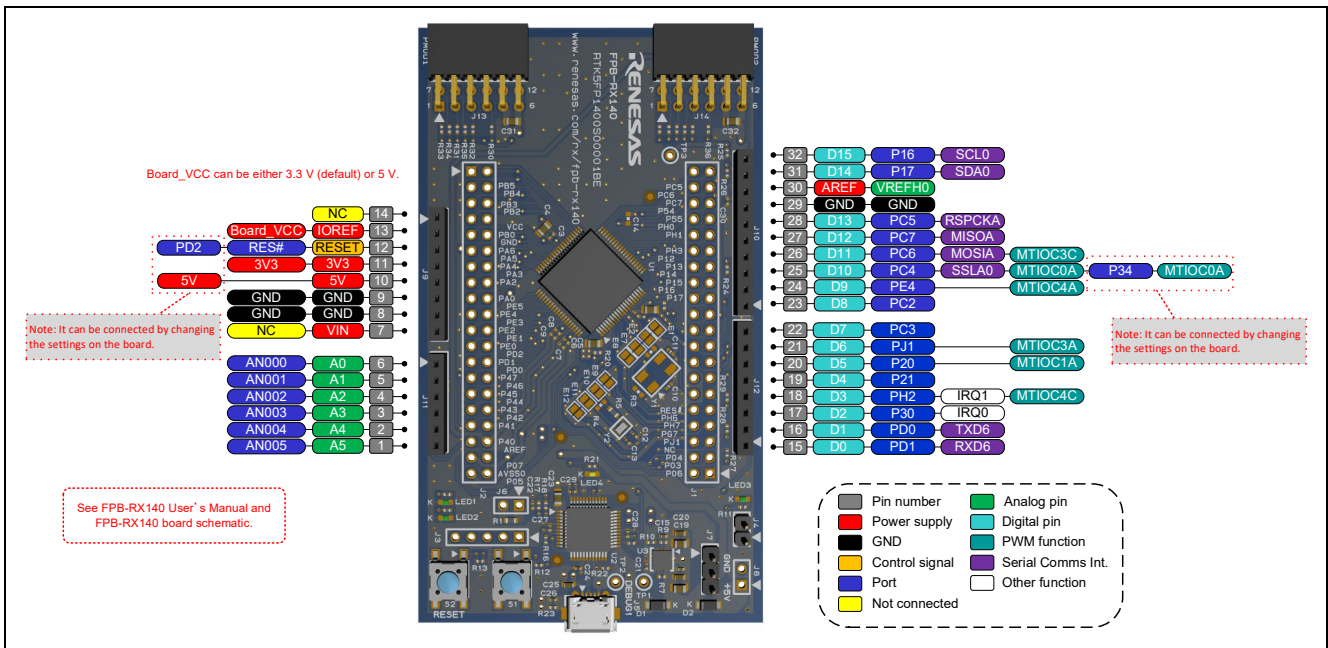
Item	Specification
Evaluation MCU	Part No: R5F51406BGFN; package: 80-pin LQFP
	On-chip memory: 256-KB code flash, 8-KB data flash, 64-KB RAM
	Encryption module: available
Board size	Size: 55 mm x 95 mm
MCU Power-supply voltage	VCC: 3.3 V or 5 V. MCU operation voltage range 1.8 V to 5.5 V.
Power-supply circuit	USB connector: VBUS (5 V input); VBUS is converted to 3.3 V by linear regulator.
	2-pin external power-supply header*1
On-board debugger / programmer	E2 emulator On Board (referred as E2 OB, FINE Interface)
Push switch	Reset switch x 1; user switch x 1
LED	Power LED: green x 1, User LED: green x 2, Debug LED: yellow x 1
USB connector	Connector: USB Micro-B
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.
Breakout pin header*1	Header: 40 pins x 2

\*1 This part is not mounted

### 4. Board Layout

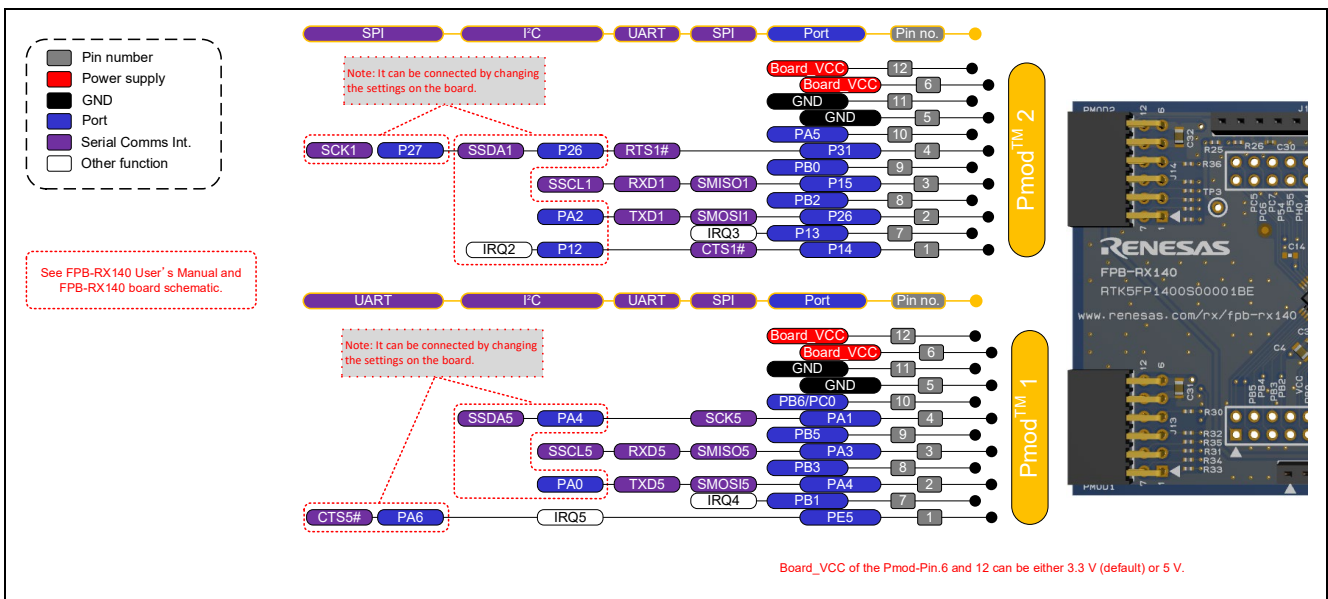


### 5. Arduino Interface



### 6. Pmod Interface

The FPB-RX140 has Pmod 1 and Pmod 2 connectors for Type-2A (SPI), Type-3A (UART) and Type-6A (I<sup>2</sup>C) interface.



### 7. WEB and Support

1. For detailed information on the FPB-RX140, please refer to the FPB-RX140 User's Manual available at [renesas.com/rx/fpb-rx140](http://renesas.com/rx/fpb-rx140).
2. For application development, the integrated development environment e<sup>2</sup> studio, the compiler package CC-RX and Renesas Flash Programmer must be installed on the host PC. These are available for download at [renesas.com/rx/fpb-rx140](http://renesas.com/rx/fpb-rx140).

