

[Released on the Web]

R20TS0509EJ0100

Solution Toolkit

Rev.1.00

Dec. 01, 2019

QE for BLE[RX] V1.0.0:

Development Assistance Tool for Bluetooth® Low Energy

Outline

QE for BLE[RX] V1.0.0 (development assistance tool for Bluetooth® low energy) will be released on the Web.

This product is available free of charge.

1. Features

QE for BLE[RX] is a dedicated tool for developing Bluetooth® low energy-based embedded systems. This solution tool kit runs in the e² studio integrated development environment. The combination of e² studio and QE for BLE[RX] makes it easy to test the communications features of RX23W group of RX family that supports BLE5, thus reducing the time required in developing a product prior to its release on the market.

Adding Bluetooth functions to a product requires the addition and customization of complex Bluetooth profiles. The QE for BLE[RX] supports Bluetooth development for RX family devices with the following functions.

- 1) Designation of a profile provided by Bluetooth SIG

In the GUI of Smart Configurator, you can generate code by designating a Bluetooth profile provided by Bluetooth SIG Inc. (<https://www.bluetooth.com/>).

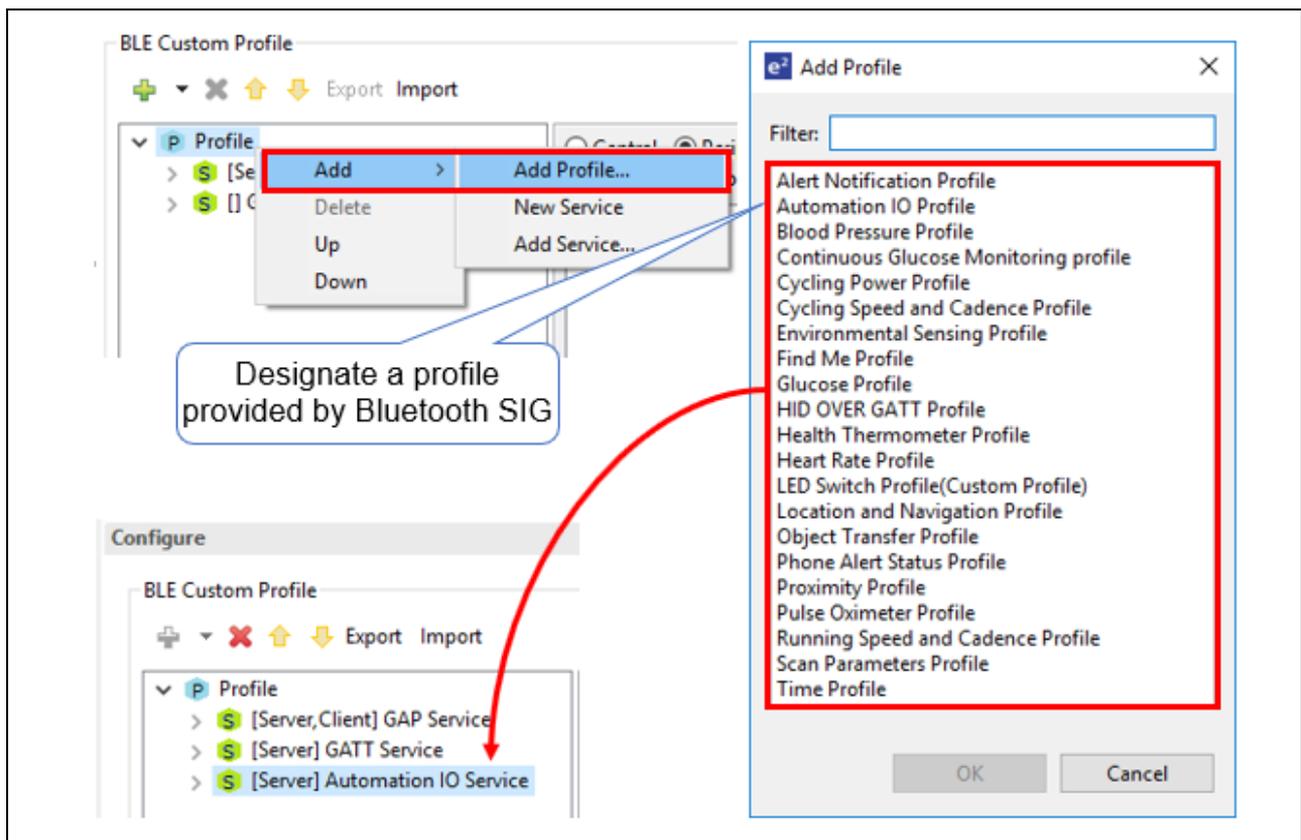


Figure 1 Designation of a Profile Provided by Bluetooth SIG

2) Definition of a proprietary profile

If you want to perform unique data communication (not through profiles provided by Bluetooth SIG), you must define a profile. In the GUI of Smart Configurator, you can modify a profile easily and generate code.

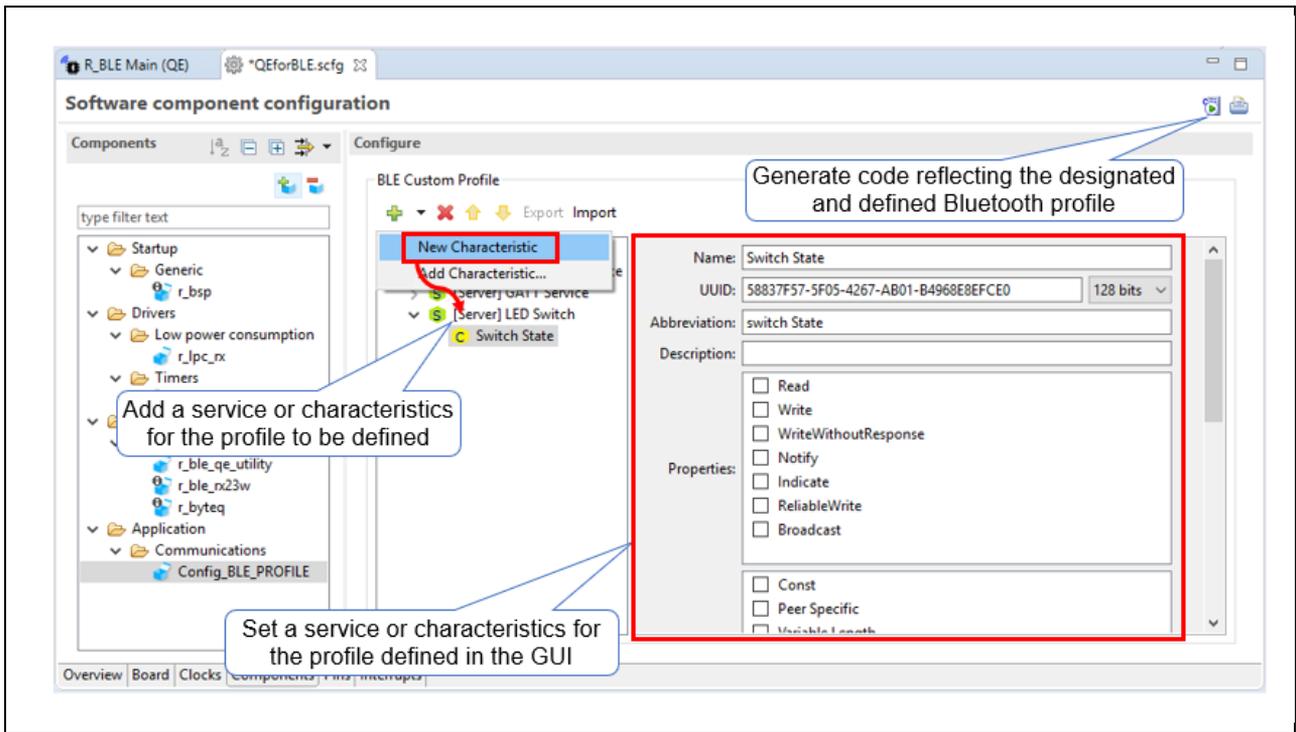


Figure 2 Proprietary Profile Definition and Code Generation

3) Communication check by using a profile

Renesas provides an API for the Bluetooth protocol stack called "R\_BLE" (<https://www.renesas.com/ble-protocol-stack-rx>) to implement Bluetooth communication easily from an application program. The QE for BLE[RX] allows you to check profile-based communication by creating and executing an R\_BLE5 script that uses R\_BLE.

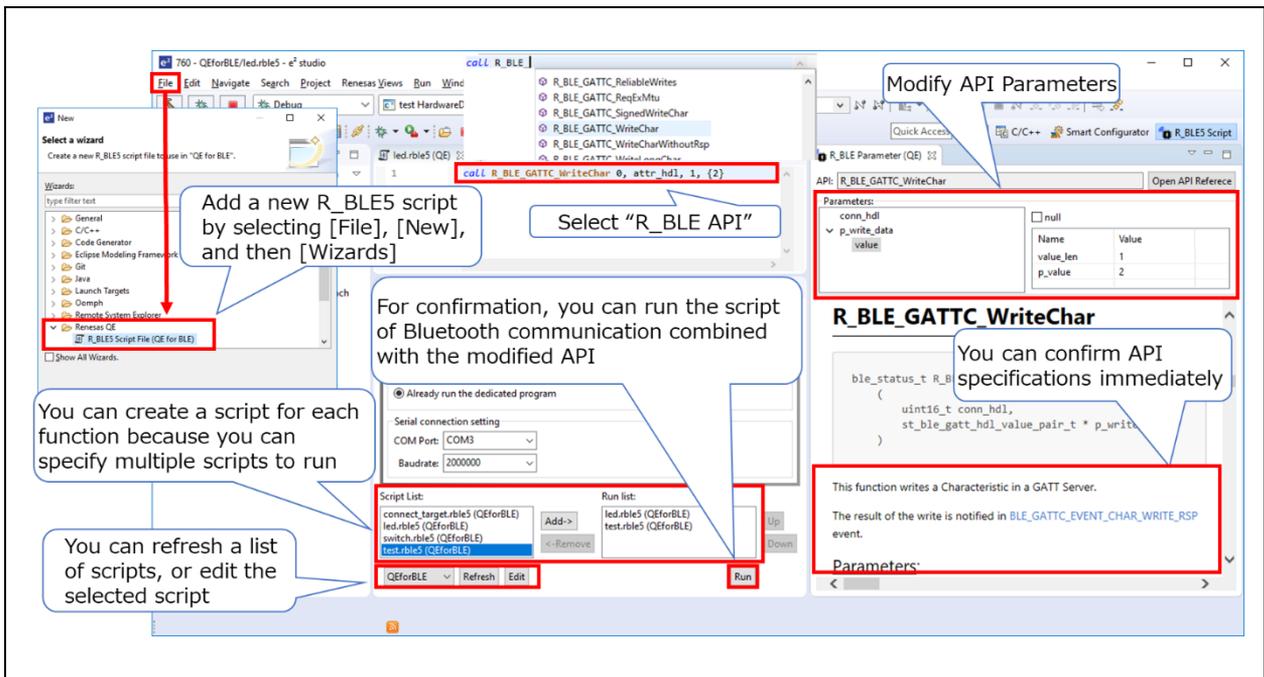


Figure 3 Checking Profile-Based Communication by Executing an R\_BLE5 Script

## 2. Supported Devices

RX family: RX23W group

## 3. Operating Environment

e<sup>2</sup> studio integrated development environment V7.6.0 or later

## 4. Obtaining the Program

Obtain the solution toolkit from the URL below.

<https://www.renesas.com/ge-ble>

(Scheduled to be released on December 4.)

## 5. Installation

The installation procedure is shown below.

- (1) Activate e<sup>2</sup> studio.
- (2) Click [Help], and then click the [Install New Software...] menu to open the [Install] dialog box.
- (3) Click the [Add (A)...] button to open the [Add Repository] dialog box.
- (4) Click the [Archive (A)...] button, select the installation file (zip file) in the opened file selection dialog box, and then click the [Open (O)] button.
- (5) Click the [OK] button in the [Add Repository] dialog box.
- (6) Expand the [Renesas QE] item shown in the [Install] dialog box, select the check box for [Renesas QE for BLE[RX]], and then click the [Next (N)>] button.
- (7) Confirm that the installation target is correct, and then click the [Next(N)>] button.
- (8) After reviewing the license, select the [I agree to the terms of use (A)] radio button and then click the [End (F)] button.
- (9) When the selection dialog box for trusted certificates appears, check the displayed certificate, and then click the [OK] button to continue installation.
- (10) Restart e<sup>2</sup> studio according to the instructions on the screen.
- (11) Start this product from the [Renesas Views] – [Renesas QE] menu of e<sup>2</sup> studio.

For instructions on how to use this product, see the QE items in the [Help] menu of e<sup>2</sup> studio.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Dec.01.19	-	First edition issued

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