| [Upgrade to revision] | R20TS0768EJ0100 |
|---|---|
| RX23W Group | Rev.1.00 |
| | Nov. 01, 2021 |

# [Upgrade to revision]
# RX23W Group
# BLE Module Firmware Integration Technology Rev.2.30

## Outline

RX23W Group BLE Module Firmware Integration Technology has been updated from Rev.2.20 to 2.30.

Please update the product if you might be using it under any of the conditions described in section "3 Details of the Conditions" below.

## 1. Products to Be Updated

RX23W Group BLE Module Firmware Integration Technology

Rev.1.00, 1.01, 1.10, 2.00, 2.10, 2.11, 2.20

## 2. Description

The main change is as follows. Refer to the Application Note's Revision History for other changes.

RX23W Group BLE Module Firmware Integration Technology Application Note

## 2.1 Issue Fixed

The following issue has been fixed.

If any of the conditions below is met when starting the process for the connection with Bluetooth Low Energy, BLEIRQ interrupts occur repeatedly, and the main routine may not be executed properly.

[Conditions]

- A BLEIRQ interrupt has occurred, but R_BLE_Execute API has not been called within a certain time.

- Peripheral role: The advertising operation has been stopped, and at the same time, the request for connection has arrived from the peer device.

- Central role: The cancellation for connection and the request for connection have occurred simultaneously.

## 3. Details of the Conditions

### 3.1 Condition 1

The sending/receiving of the CONNECT_IND frame triggers the process for the connection with Bluetooth Low Energy and causes a BLEIRQ interrupt. The issue may occur in the following cases.

- Central role: Failed to call R_BLE_Execute API within 1.8 msec after the BLEIRQ has occurred.

- Peripheral role: Failed to call R_BLE_Execute API within 1.0 msec after the BLEIRQ has occurred.

### 3.2 Condition 2

The peripheral role has received a connection request from the central role while the advertising operation is being stopped. The advertising operation stops in the following cases.

- An application has called R_BLE_GAP_StopAdv API.

- fast_period or slow_period of R_BLE_ABS_StartLegacyAdv API is set to other than 0, and no connection request has arrived in the specified time.

It takes about 2 msec to stop the advertising operation. The issue occurs if the peripheral receives a connection request from the central during the operation time.

### 3.3 Condition 3

If a cancellation time is set to the central role's R_BLE_ABS_CreateConn API, R_BLE_GAP_CancelCreateConn API is executed when the time comes. The issue occurs if the cancellation for the connection is requested when the process for the connection has started.

## 4. Updating the Product

Download the FIT module using the RX Smart Configurator and update the software component version.

For details, visit the following web site and refer to the RX Smart Configurator User's Guide.

Firmware Integration Technology (FIT) | Renesas

## Revision History

| Rev. | Date | Description | |
| | | Page | Summary |
|------|------|------|---------|
| 1.00 | Nov.01.21 | - | First edition issued |
| | | | |

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www.renesas.com/contact/

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