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Bluetooth® Low Energy Virtual UART Solution

# Wireless Update of Parameters


It has been common to use a serial communication interface for such purposes as to update the parameters of a device. In recent years, however, smartphones have come to support Bluetooth Low Energy as a low power wireless interface.

Now, a growing number of customers want to switch from PCs to smartphones and from wired transmission to wireless transmission.

For our Bluetooth Low Energy microcontroller "RL78/G1D", we offer virtual UART sample software designed to enable the switch from serial communication. This makes it easy for customers to go wireless.

## Benefits

### Control from a smartphone

The smartphone supports Bluetooth Low Energy, which facilitates one-to-one wireless communication.

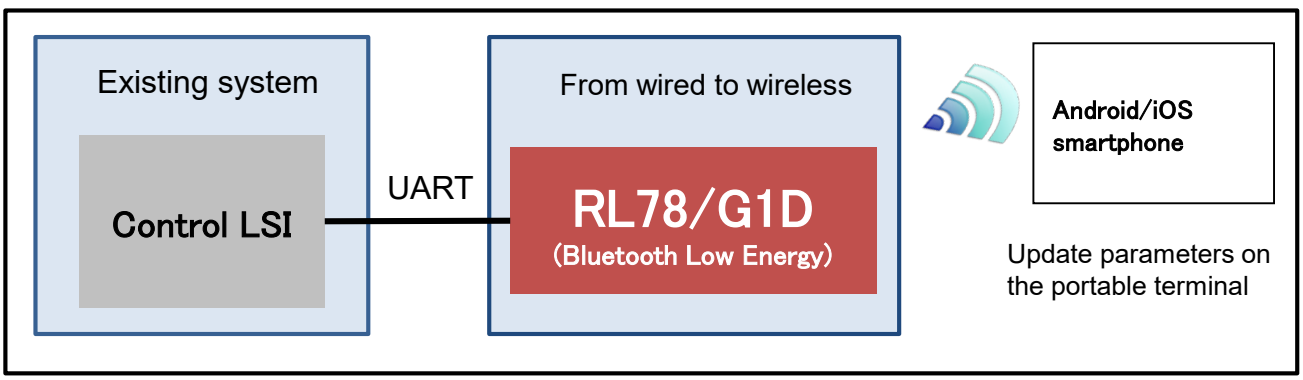
### UART-like communication

An application note and sample program for a Bluetooth Low Energy virtual UART is provided (R01AN3130).

### Easy switch from an existing system

It is easy to switch from a program for UART serial communication interface in the existing system .

## Application example



## Application products


## Recommended devices

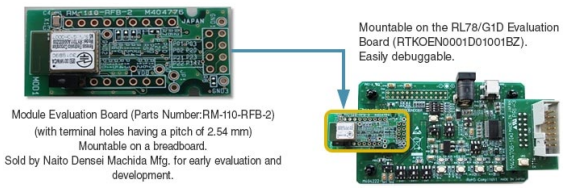
| Block¥ | Semiconductor | Recommended component | Features and others |
|---|---|---|---|
| Control microcontroller | Microcontroller | RL78/G1D group(R5F11A) | Built-in Bluetooth Low Energy |
| | Module | RL78/G1D module (RY7011A0000DZ00) | Equipped with RL78/G1D, built-in antenna and RF crystal oscillator, consumer-use applications |

## Related application notes/sample code

| Name | Document No. |
|---|---|
| Bluetooth® Low Energy Protocol Stack BLE Virtual UART Application | R01AN3130 |
| BLE Virtual UART Application Android Programming Guide | R01AN3842 |

## Evaluation board

| Name | Model name |
|---|---|
| RTK0EN0001D01001BZ (RL78/G1D evaluation board)<br>The module mounted on the evaluation board can be replaced with the Bluetooth® Low Energy-enabled embedded radio module (RM-110-RFB-2) manufactured by NAITO DENSEI MACHIDA MFG. Co., Ltd. | RTK0EN0001D01001BZ |
| Bluetooth® Low Energy-enabled embedded radio module (RM-110-RFB-2)<br>(Equipped with an RL78/G1D module, which can be used to replace the module mounted on the RL78/G1D evaluation board.) | RM-110-RFB-2<br>(Manufactured by NAITO DENSEI MACHIDA MFG. Co., Ltd.) |




For details, go to:
https://www.renesas.com/solutions/bluetooth

■Refer to "http://www.renesas.com" for information on the latest and detailed sales offices.