

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.

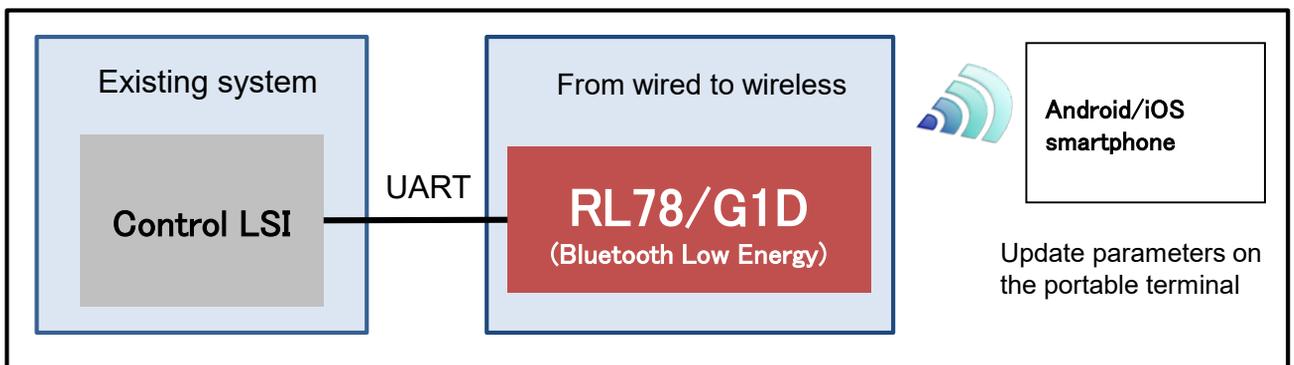
› UART-like communication

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) 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) (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 (Manufactured by NAITO DENSEI MACHIDA MFG. Co., Ltd.)

Module Evaluation Board (Parts Number:RM-110-RFB-2)
(with terminal holes having a pitch of 2.54 mm)
Mountable on a breadboard.
Sold by Naito Denssei Machida Mfg. for early evaluation and development.

Mountable on the RL78/G1D Evaluation Board (RTK0EN0001D01001BZ).
Easily debuggable.



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