

[Released on the Web]

Solution Tool Kit

QE: Dedicated Tools for Particular Applications

QE for USB: A Dedicated Tool for USB Development

Technical Preview Edition V1.2.0

Outline

We are releasing technical preview edition V1.2.0 of QE for USB as a solution tool kit.

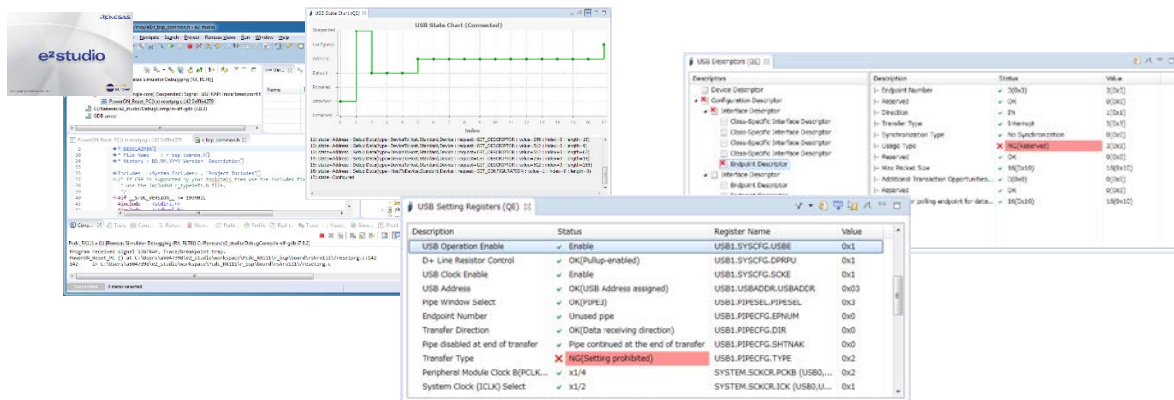
We provide this program free of charge as an extension plug-in for the e² studio integrated development environment.

QE is a collective term for a set of embedded software development tools, each of which is dedicated to the development of particular types of application. QE for USB is a solution tool for the more efficient development of USB systems.

Note: While this product is newly released, its version numbers start from V1.2.0.

1. Outline of the Product

QE for USB



The QE for USB solution kit is a dedicated tool for developing the USB sections of systems built around RX family and RL family devices.*

Using QE for USB under the e² studio eases the debugging of USB systems, shortening development periods and lowering costs.

This product is a technical preview, and we request and will greatly appreciate any feedback you may have after trying it out.

Send your e-mail with any feedback to the below address.

Mailing address: qe_feedback@lm.renesas.com

No support, including responses to inquiries through contact points, is provided for the technical preview. Also note that the quality is not guaranteed, please accept this before trying it.

For details of the product, visit our Web site at:

http://www.renesas.com/qe_usb

The above information will be available from April 20.

Note: Refer to section 3, for details of the supported MCUs.

2. Features

- Display of USB states in real-time on a chart

This product supports debugging of the USB connection (enumeration) process, which systems that include USB must conduct correctly. If problems with the connection arise, displaying USB states on a chart in a real-time makes it easy to check the points where they do by visualizing the connection process. This otherwise requires detailed understanding of the operation of the firmware.

- Debugging with notification of configuration errors on the display

To support correct register settings when using USB, this product displays the various registers for USB with reference to the existing hardware manuals in a list with the meanings of the settings. By preventing errors in the initial settings of registers, this can reduce the time taken for initial settings. The list also gives notifications of errors in settings.

- A dedicated view for checking the settings of USB descriptors

The dedicated view of descriptor settings allows checking of the configured descriptor values and gives notifications of any defect. This view also displays the meanings of settings, helping to reduce errors in implementation.

- Immediate activation of a protocol analysis tool for USB communications

The Wireshark protocol analysis tool*, useful for checking the contents and state of USB communications, can be activated by simply clicking on a button of the QE for USB window.

*: Wireshark is free software provided by the Wireshark Foundation.

Refer to the following Web page for the details.

Wireshark Web site: <https://www.wireshark.org/>

3. Supported MCUs

RX family: RX71M, RX64M, RX63N, RX631, RX62N, RX621, RX231, and RX111

RL78 family: RL78/G1C, and RL78/L1C

4. Operating Environment

- Operating environment: Windows10, Windows8.1, and Windows7
- Integrated development environment: e² studio V4.0.0 and later versions
- Applicable USB: USB systems based on peripheral functionalities
- Applicable USB middleware: The following USB middleware from Renesas*
 - *: Except for the Host features (support for these will be added in the future)

List of the supported firmware

➤ RX family

◆ RX71M, RX64M groups

- USB Basic Host and Peripheral Driver
Firmware Integration Technology Rev.1.10
- USB Peripheral Mass Storage Class Driver (PMSC)
Firmware Integration Technology Rev.1.10
- USB Peripheral Communications Device Class Driver (PCDC)
Firmware Integration Technology Rev.1.10
- USB Peripheral Mass Storage Class Driver (PMSC)
Using Firmware Integration Technology Modules Rev.1.10
- USB Peripheral Communications Devices Class Driver (PCDC)
Using Firmware Integration Technology Modules Rev.1.10
- USB Basic Host and Peripheral Driver
Firmware Integration Technology Rev.1.11
- USB Peripheral Mass Storage Class Driver (PMSC)
Firmware Integration Technology Rev.1.11
- USB Peripheral Communications Device Class Driver (PCDC)
Firmware Integration Technology Rev.1.11
- USB Peripheral Human Interface Device Class Driver
Firmware Integration Technology Rev.1.11
- USB Peripheral Mass Storage Class Driver (PMSC)
Using Firmware Integration Technology Modules Rev.1.11
- USB Peripheral Communications Devices Class Driver (PCDC)
Using Firmware Integration Technology Modules Rev.1.11
- USB Peripheral Human Interface Devices Class Driver
Using Firmware Integration Technology Modules Rev.1.11

◆ RX63N, RX631 groups

- Renesas USB MCU and USB ASSP USB Basic Host and Peripheral firmware Rev.2.10
- Renesas USB MCU and USB ASSP USB Peripheral Mass Storage Class Driver (PMSC) Rev.2.10
- Renesas USB MCU and USB ASSP USB Peripheral Communications Device Class Driver (PCDC)
Rev.2.10
- Renesas USB MCU and USB ASSP USB Peripheral Human Interface Devices Class Driver (PHID)
Rev.2.10

- USB Basic Host and Peripheral Driver
Firmware Integration Technology Rev.1.11
- USB Peripheral Mass Storage Class Driver (PMSC)
Firmware Integration Technology Rev.1.11
- USB Peripheral Communications Device Class Driver (PCDC)
Firmware Integration Technology Rev.1.11
- USB Peripheral Human Interface Device Class Driver
Firmware Integration Technology Rev.1.11
- USB Peripheral Mass Storage Class Driver (PMSC)
Using Firmware Integration Technology Modules Rev.1.11
- USB Peripheral Communications Devices Class Driver (PCDC)
Using Firmware Integration Technology Modules Rev.1.11
- USB Peripheral Human Interface Devices Class Driver
Using Firmware Integration Technology Modules Rev.1.11

- ◆ RX62N, RX621 groups
 - Renesas USB MCU and USB ASSP USB Basic Host and Peripheral firmware Rev.2.10
 - Renesas USB MCU and USB ASSP USB Peripheral Mass Storage Class Driver (PMSC) Rev.2.10
 - Renesas USB MCU and USB ASSP USB Peripheral Communications Device Class Driver (PCDC) Rev.2.10
 - Renesas USB MCU and USB ASSP USB Peripheral Human Interface Devices Class Driver (PHID) Rev.2.10
 - Renesas USB MCU and USB ASSP USB Peripheral Mass Storage Class Driver (PMSC) Rev.2.20
 - Renesas USB MCU and USB ASSP USB Peripheral Communications Device Class Driver (PCDC) Rev.2.20
 - Renesas USB MCU and USB ASSP USB Peripheral Human Interface Devices Class Driver (PHID) Rev.2.20

- ◆ RX231, RX111 groups
 - USB Basic Mini Host and Peripheral Driver (USB Mini Firmware)
Firmware Integration Technology
 - USB Peripheral Communications Device Class Driver for USB Mini Firmware
Firmware Integration Technology
 - USB Peripheral Human Interface Device Class Driver for USB Mini Firmware
Firmware Integration Technology
 - USB Peripheral Mass Storage Class Driver for USB Mini Firmware
Firmware Integration Technology
 - USB Peripheral Communications Devices Class Driver for USB Mini Firmware
Using Firmware Integration Technology Modules
 - USB Peripheral Human Interface Devices Class Driver for USB Mini Firmware
Using Firmware Integration Technology Modules
 - USB Peripheral Mass Storage Class Driver for USB Mini Firmware
Using Firmware Integration Technology Modules

- RL78 family
 - ◆ RL78/G1C, RL78/L1C
 - USB Host and Peripheral Basic Mini Firmware Rev.2.15
 - USB Peripheral Mass Storage Class Driver (PMSC) using Basic Mini Firmware Rev.2.15
 - USB Peripheral Communications Device Class Driver (PCDC) using USB Basic Mini Firmware Rev.2.15
 - USB Peripheral Human Interface Devices Class Driver (PHID) using Basic Mini Firmware Rev.2.15

5. Obtaining the Product

Access the below URL and install “QE for USB V1.2.0”

http://www.renesas.com/qe_usb_download

The above program will be available from April 20.

Remark: After installation, the tool can run as a plug-in of the e² studio.

6. QE: Dedicated Tools for Particular Applications

As one of our solution tool kits, we will be expanding our range of dedicated Quick and Effective (QE) tools for particular applications (tool solutions) to add to the range of development and know-how for applications. In addition to “QE for USB” and “QE for Bluetooth Smart”, we will be providing further development tools to suit various other applications.

For details of the QE tools for particular applications, visit our Web site at:

<http://www.renesas.com/qe>

The above information will be available from April 20.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Apr. 16, 2016	-	First edition issued

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■Inquiry

<http://www.renesas.com/en-hq/support/contact.html>

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