

[Upgrade to revision]

R20TS0563EJ0100

Solution Toolkit

Rev.1.00

Apr. 01, 2020

QE: Development Assistance Tool for Applications

QE for Capacitive Touch[RA] V1.1.0: Development Assistance Tool for Capacitive Touch Sensor

Outline

RA Family QE for Capacitive Touch[RA] has been updated from V1.0.0 to V1.1.0.

1. Products and Versions to Be Updated

- QE for Capacitive Touch[RA] V1.0.0

To check the version: From the [Help] menu of e<sup>2</sup> studio, select [e2 studio Installation details] menu > [Installed Software] tab and you will see the version of the 'Renesas QE for Capacitive Touch[RA]'.

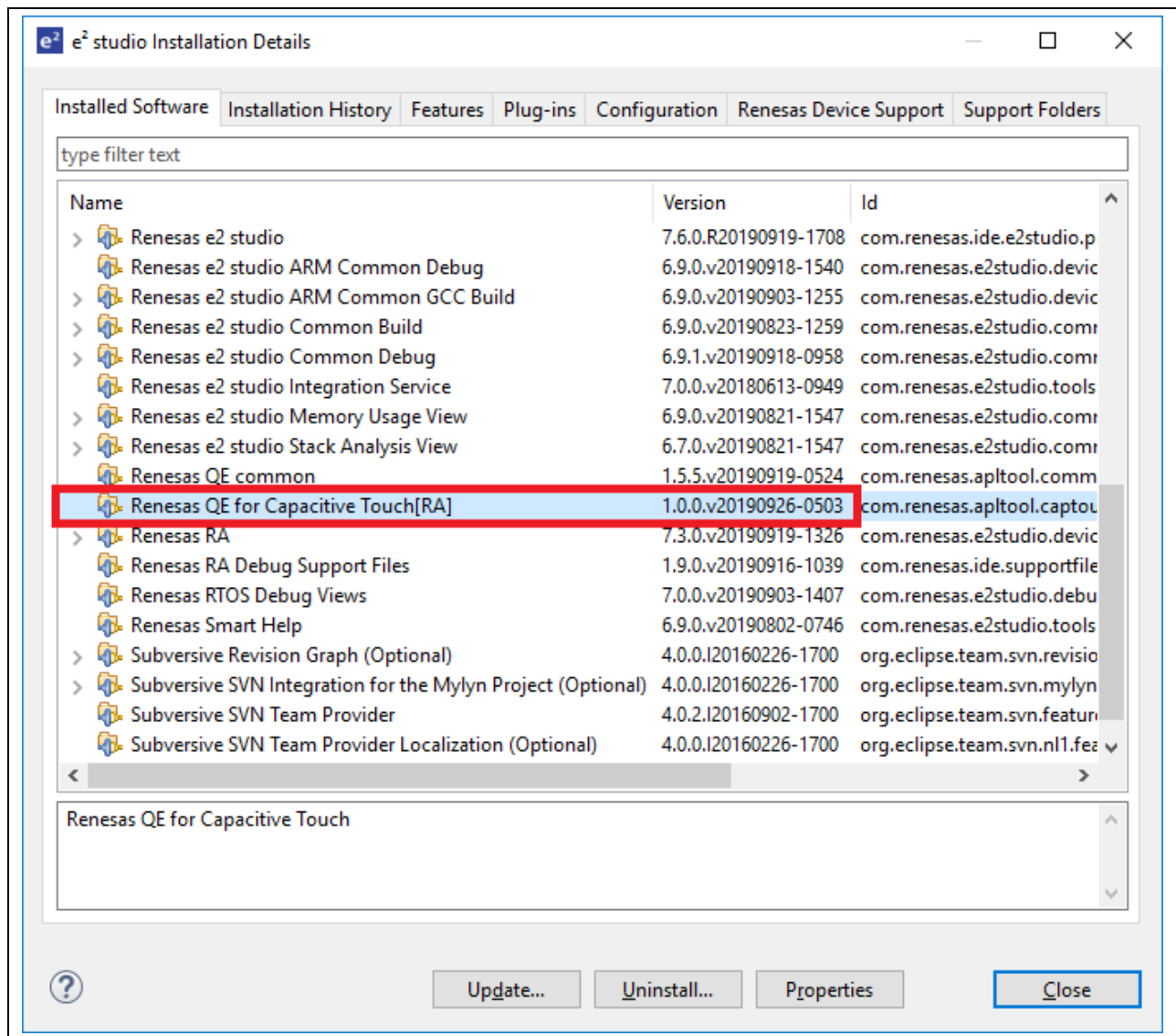


Figure 1 Checking the version of QE for Capacitive Touch[RA]

## 2. Description of the Update

The main features of the update are described in the following sections. For more details, refer to the following release note.

<https://www.renesas.com/search/keyword-search.html#genre=document&q=r20out4800>

### 2.1 New Features

- Monitoring through a serial port

The sensitivity monitoring function of QE for Capacitive Touch[RA] can be used without an emulator.

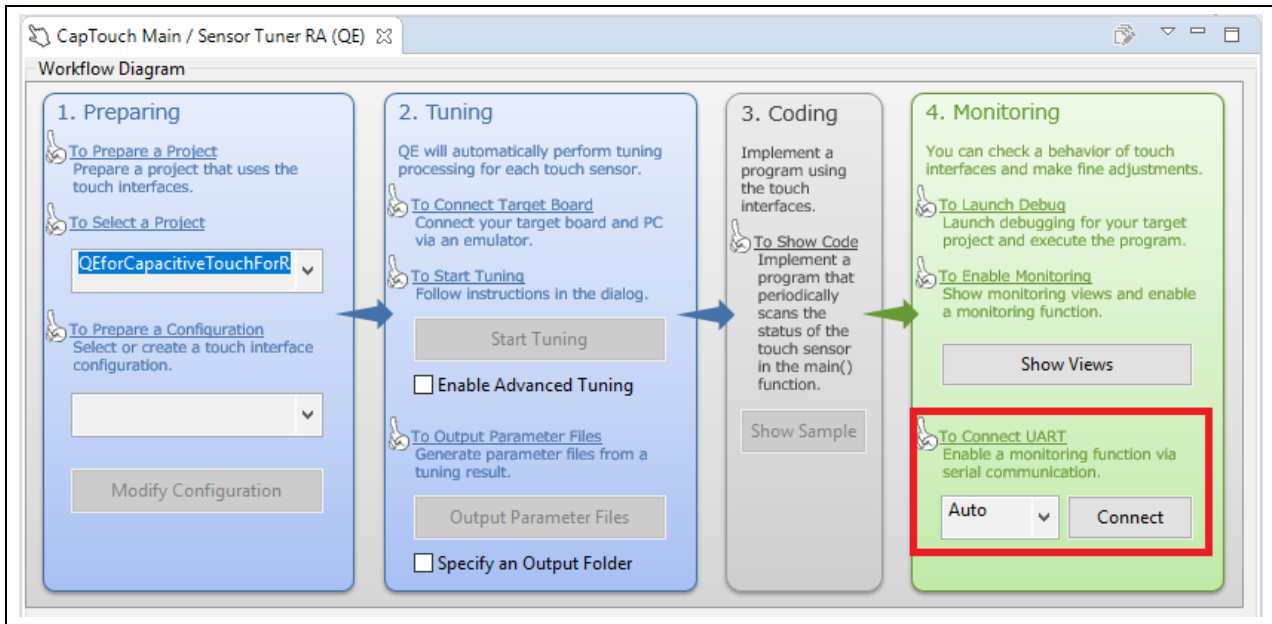


Figure 2 Serial Port Connection Menu

### 2.2 Feature Improvements

- Support for Flexible Software Package (FSP) V1.0.0

FSP V1.0.0 middleware for RA family is now supported.

The FSP components related to QE for Capacitive Touch[RA] are as follows.

Table 1 QE for Capacitive Touch[RA] V1.1.0 Supported FSP Components

FSP component name	FSP component version
CSTU (Capacitive Touch Sensing Unit) Driver FSP component for RA family Component name: r_ctsu	V1.0.0
Touch Driver FSP component for RA family Component name: rm_touch	V1.0.0

- Reduction of the touch device tuning time

Two tuning types are now available: initial tuning and tuning of sensitivity only. Selecting [Tuning of sensitivity only] after initial tuning of all items skips non-essential steps, allowing only the required tuning to be performed. This shortens the tuning time compared with the previous version.

### 3. Feature Introduction

- Noise monitoring through [Standard deviation measured and display]

Securing noise immunity is critical in development of touch devices. For this reason, QE for Capacitive Touch[RA] provides the [Standard deviation measured and display] function. This function enables convenient noise monitoring by calculating and displaying averages of noise-related values based on the data collected during a specified time.

For details, refer to [Standard deviation measured and display] from the Help menu of e<sup>2</sup> studio.

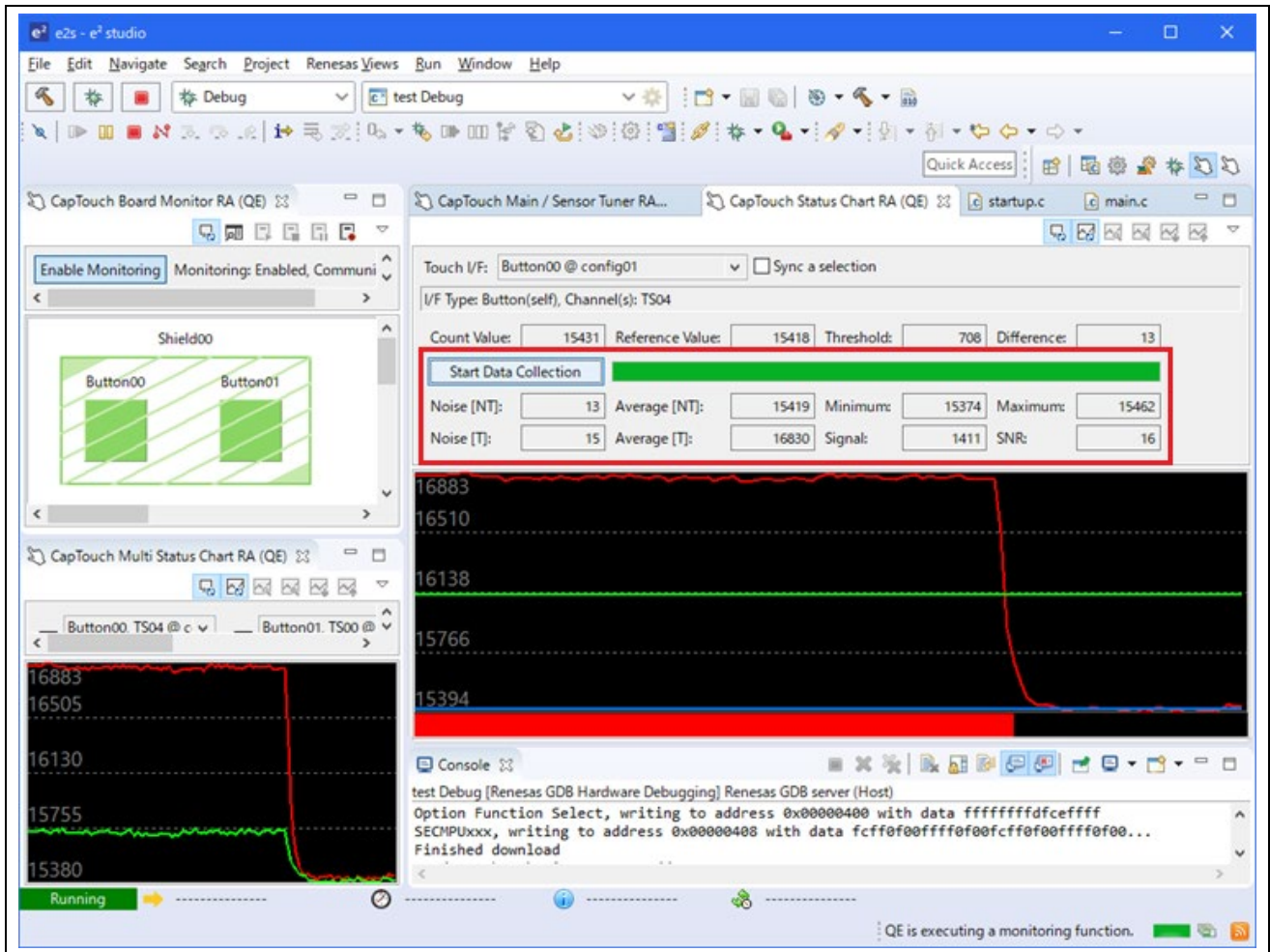


Figure 3 Standard deviation measured and display: Starting data collection and display of measurement results

### 4. Operating Environment

- e<sup>2</sup> studio integrated development environment V7.8.0 or later (Scheduled to be released on April 20.)

### 5. Obtaining the Product

Download the installer for QE for Capacitive Touch[RA] V1.1.0 from the URL below.

<https://www.renesas.com/qe-capacitive-touch>

## 6. 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...] button to open the [Add Repository] dialog box.
- (4) Click the [Archive...] button, select the installation file (zip file) in the opened file selection dialog box, and then click the [Open] 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 [Renesas QE for Capacitive Touch[RA] check box.  
Unselect the checkbox for the [Contact all update sites during install to find required software] <sup>(Note)</sup>, and then click on the [Next>] button.
- (7) Confirm that the installation target is correct, and then click the [Next>] button.
- (8) After checking the license, select the [I agree accept the terms of the license agreements] radio button if you agree it, and then click on the [Finish] button.
- (9) When the dialog box for selecting a trusted certificate appears, check the displayed certificate, and then click on the [OK] button to continue installation.
- (10) Restart e<sup>2</sup> studio by following the instructions on the screen.
- (11) Start this product from the [Renesas Views] - [Renesas QE] menu of e<sup>2</sup> studio.

For details about how to use this product, refer to the QE items from the [Help] menu of e<sup>2</sup> studio.

Note: To install plug-ins for e<sup>2</sup> studio other than QE, select [Contact all update sites during install to find required software] before proceeding with the following steps.

**Revision History**

Rev.	Date	Description	
		Page	Summary
1.00	Apr.01.20	-	First edition issued

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