

# SSP v1.6.3

## Additional Usage Note

**Renesas Synergy™ Platform**  
**Synergy Software**  
**Synergy Software Package**

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## Renesas Synergy™ Platform

## SSP v1.6.3 Additional Usage Note

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## 1. Introduction

This document describes additional usage notes for **Synergy Software Package (SSP) version 1.6.3**.

## 2. Release Information

SSP Release Version	v1.6.3
Release Date	Jun 28, 2019

The intended audience for this release is Renesas Synergy™ customers, prospective customers, partners, and support staff. This document lists additional information on SSP v1.6.3 usage. See the *SSP v1.6.3 Release Note* for enhancements, bug fixes, and known issues that were identified since the last release for SSP v1.6.0.

## 3. SSP v1.6.3 Additional Usage Note

### 3.1 BSP for SSP Supported Platforms

**Issue ID:** 2625

Unaligned access across the memory map boundary 0x20000000 (between SRAMHS and SRAM0) results in a data read/write failure due to the Synergy hardware restriction. However, user applications might cause an unaligned access across the boundary, since linker script files for S7 or S5 MCU parts define the single 'RAM' section across SRAMHS and SRAM0. For details on this hardware restriction, see the *Arm® Cortex®-M4 Technical Reference Manual*, section 3.4.3

[http://infocenter.arm.com/help/topic/com.arm.doc.100166\\_0001\\_00\\_en/arm\\_cortexm4\\_processor\\_trm\\_100166\\_0001\\_00\\_en.pdf](http://infocenter.arm.com/help/topic/com.arm.doc.100166_0001_00_en/arm_cortexm4_processor_trm_100166_0001_00_en.pdf).

**Applies to:** S7 and S5 MCU Series

**Workaround:** Users need to modify their linker script manually to ensure that objects do not cross the memory map boundary, 0x20000000.

**Issue ID:** 10664

If a user is using the trace buffer for debugging and has data stored in the RAM at addresses above 0x20004000, that data is overwritten by the trace buffer when debugging.

**Applies to:** S1JA and S128 MCU Groups

**Workaround:** The S128 linker script currently allocates 1K for the trace buffer at 0x20000000. This allocation could be removed, freeing up the 1K incorrectly reserved for the trace buffer. Using the e<sup>2</sup> studio trace buffer function will store 1K of the trace buffer data beginning at 0x20004000. Therefore, 1K of RAM must not be used by the application if the trace buffer is to be used for debugging.

### 3.2 Crypto/r\_sce

**Issue ID:** 11147

Only data input lengths that are multiples of the AES block size are supported for AES encryption/decryption APIs for XTS chaining mode.

**Applies to:** S7, S5, and S3 MCU Series

**Workaround:** None

**Issue ID:** 15261

The key generation time for 1024-bit RSA varies from 170 milliseconds to 1.2 seconds, while for 2048-bit RSA, it varies from 1.65 seconds to 10 seconds. This results in a noticeable delay during RSA 2048-bit key generation, at times.

**Applies to:** S5 and S7 MCU Series

**Workaround:** None

### 3.3 GUIX Integration

**Issue ID:** 14456

Build warnings are being observed when compiling `gx_src` code with GCC 7.2.1.

**Applies to:** S7G2 and S5D9 MCU Groups

**Workaround:** None

### 3.4 ISDE User Experience Improvement

**Issue ID:** 12908

A multiple symbol definition error may occur during linkage if an X-Ware library component and the corresponding source component such as `ux` and `ux_src` are included. If this occurs, remove the library such as `libux.a` from the list of libraries used by the linker.

For GCC, this is in the Cross ARM C Linker > Libraries section of the C/C++ Build > Settings in the project Properties.

For IAR, this is in the IAR Linker for ARM > Library section of the C/C++ Build > Settings in the project Properties.

Module Names: `ux` (USBX), `tx` (ThreadX), `nx` (NetX), `nxd` (NetX Duo), `fx` (FileX), `gx` (GUIX), `ux_host_class_XXX` (USBX Host Classes), `ux_device_class_XXX` (USBX Device Classes).

**Applies to:** All supported Synergy MCU Groups

**Issue ID:** 13854

When debugging a project with a large number of threads (for example, 150 threads), with the RTOS Resource view open, `e2` studio might hang and become unresponsive.

**Applies to:** All MCUs

**Workaround:** Make the RTOS Resource View small and expand it once the Debug Tree view has finished updating.

### 3.5 LevelX Records

**Issue ID:** 14455

Build warnings are observed when compiling `lx_nand_src` with GCC 7.2.1.

**Applies to:** S3, S5, and S7 MCU Series

**Workaround:** None

### 3.6 MCU Implementation/ SW Architecture

**Issue ID:** 10864

The pin configuration tab in the configurator cannot be used to configure the opamp or analog comparators for every use case.

**Applies to:** S7G2, S5D9, S5D5, S5D3, S3A7, S3A3, S128, and S124 MCU Groups

**Workaround:** Configure the pins manually in the user-defined code.

### 3.7 NetX

**Issue ID:** 7745

The NetX/NetX Duo FTP Client requires FileX in Stack configuration. Due to dependencies, FileX cannot be removed from the configurator while using the FTP\_Client application.

**Applies to:** S7G2, S5D9, and S5D5 MCU Groups

**Workaround:** None

**Issue ID:** 11994

The NetX/Duo FTP server does not support passive data transfer mode. Hence, only active mode FTP can be currently used.

**Applies to:** S7G2, S5D9, S5D5, and S5D5 MCU Groups

**Workaround:** None

**Issue ID:** 14293

Warnings will be observed on compiling nxd applications with GCC7.

**Applies to:** S7, S5, and S3 Series MCUs

**Workaround:** None

**Issue ID:** 15218

When multiple network interfaces are used in the application, since the IP Driver interface structure member is not initialized properly in the IP's helper thread function, this causes bus fault and the application goes into default handler for compiler optimization of -O0, -O2, and -O3.

**Applies to:** S7G2, S5D9, S5D5, and S5D53 MCUs

**Workaround:** Use compiler optimization -O1, -Og, and -Os during multiple network interfaces.

### 3.8 nxd\_tls\_secure

**Issue ID:** 15051

Warnings will be observed on compiling nxd applications with GCC7.

**Applies to:** S7 and S5 MCU Series

**Workaround:** None

### 3.9 r\_adc

**Issue ID:** 14707

The S7G2, S5D9, and S5D3 MCUs have features for setting the Programmable Gain Amplifier (PGA) for single inputs and differential inputs with multiple levels of gain setting for Amplifier\_0, Amplifier\_1, and Amplifier\_2. This feature is not supported in the existing r\_adc driver. Currently, this feature is disabled, and no options are provided in the configuration parameter properties to set the gain level.

**Applies to:** S7G2, S5D9, and S5D3 MCU Groups

**Workaround:** None

### 3.10 r\_ctsu

**Issue ID:** 6927

R\_CTSU\_Update\_Parameters() returns error. Not all return codes are described in the function header. Some return codes are as follows:

SSP\_ERR\_NOT\_OPEN when mode is set to CTSU\_MODE\_UNCONFIGURED

SSP\_ERR\_IN\_USE, when the Measurement Status Counter is set to non-zero value, or the CTSU Data Transfer Status flag is set

SSP\_ERR\_CTSU\_RC\_OVERFLOW, when CTSUROVF flag is set

SSP\_ERR\_CTSU\_SC\_OVERFLOW, when CTSUSOVF flag is set

SSP\_ERR\_CTSU\_ICOMP, when TSCAP Voltage Error Monitor flag is set.

**Applies to:** All supported Synergy MCU Groups

**Workaround:** In cases where the returned error code is not described in the function header, see the return code description in the `ssp_common_api.h` file.

**Issue ID:** 6928

If the application calls `R_CTSU_Read()` while the driver is in an uninitialized state, then the documented return code is `SSP_SUCCESS`, but the actual return code is `SSP_ERR_NOT_OPEN`. When calling `R_CTSU_Read()` while the driver is uninitialized, the application should expect a return code of `SSP_ERR_NOT_OPEN`.

The `R_CTSU_Read()` function is not sufficiently tested with the `CTSU_READ_FILTERED_REF_ICO_VALUES_SEL` and `CTSU_READ_FILTERED_REF_ICO_VALUES_ALL` options.

**Applies to:** All supported MCU Groups

**Workaround:** None

**Issue ID:** 6929

Auto-calibration, auto-scan, and auto-drift compensation features are not available in the `r_ctsu` driver.

**Applies to:** All MCUs

**Workaround:** None

**Issue ID:** 6931

Parameter checking for NULL parameters is not implemented. Passing in a NULL parameter to the `r_ctsu` API will result in undefined system operation.

**Applies to:** S7G2, S5D9, S5D5, S3A7, S128, and S124 MCU Groups

**Workaround:** When using this driver, make sure that the control structure passed to the `r_ctsu` API is not NULL.

### 3.11 r\_sci\_spi

**Issue ID:** 10962

Each MCU supports a different range of bit rates and this depends on the speed of the clock provided to the SCI-SPI peripheral. For the maximum supported bit rate for a particular MCU, see the corresponding MCU User's Manual.

**Applies to:** All MCUs

**Workaround:** None

### 3.12 sf\_audio\_playback\_hw\_dac

**Issue ID:** 9308

`sf_audio_playback` is not tested with the DMAC module as a transfer driver.

**Applies to:** All boards except S1JA, S128, and S124 boards

**Workaround:** `sf_audio_playback` module can use DTC module as a transfer driver, instead of DMAC.

### 3.13 sf\_ble

**Issue ID:** 9256

The projects using RL78G1D framework will see compilation warnings. All the warnings are in the 3<sup>rd</sup> party RL78G1D driver code and will not have impact on user applications. The RL78G1D framework file does not have any warnings.

**Applies to:** RL78G1D on all Synergy MCUs

**Workaround:** None

### 3.14 sf\_cellular

**Issue ID:** 9475

Applications using the cellular framework will not be able to upgrade module firmware over the air (FOTA) since FOTA is not supported by the cellular framework.

**Applies to:** Cellular framework CAT3 and CAT1 implementation on all Synergy MCUs

**Workaround:** None

### 3.15 sf\_ble

**Issue ID:** 9225

HID profile client mode is not supported by RL78G1D. As a result, the BLE framework implementation of the HID profile also does not support the HID profile client mode. Applications using the BLE framework for RL78G1D will not be able to use the HID profile in client mode.

**Applies to:** All Synergy MCUs

**Workaround:** None

### 3.16 sf\_el\_fx

**Issue ID:** 12753

The warning "control reaches end of non-void function" will be seen if code is configured to reach `fx_fault_tolerant_transaction_fail()`.

**Applies to:** S7, S5, and S3 MCU Series

**Workaround:** None

**Issue ID:** 14281

The FileX update rate of the system time happens depending on the macro value of `FX_UPDATE_RATE_IN_SECONDS` and `FX_UPDATE_RATE_IN_TICKS` in `fx_api.h`. There is a FileX configurator option that controls `FX_UPDATE_RATE_IN_SECONDS` value, but there is no user configurator option to control the `FX_UPDATE_RATE_IN_TICKS` value, and therefore the FileX update rate of the system time cannot be effectively controlled.

**Applies to:** All MCUs

**Workaround:** Disable Synergy builder and update `FX_UPDATE_RATE_IN_TICKS` in `fx_api.h` as required.

### 3.17 sf\_el\_ix\_nor

**Issue ID:** 12613

Build warnings are observed when compiling `sf_el_ix_nor` with GCC.

**Applies to:** S7, S5, and S3 MCU Series

**Workaround:** None

**Issue ID:** 15029

1. The current `sf_el_ix_nor` framework does not have the functionality to resize the flash memory out of the total memory available.
2. Even though the DK-S7G2, DK-S3A7, ADK-S3A3, TBB-S5D5, and ADK-S3A1 boards have over 16 MB of flash memory, only 16 MB is accessible.

**Applies to:** All MCUs

**Workaround:** There is no workaround because:

1. The feature is unsupported.
2. The current QSPI BSP is hard-coded to 3-byte addressing.



### 3.18 sf\_el\_nx

**Issue ID:** 7513

The current sf\_el\_nx (NetX Port driver) is hard-coded to use the RMI interface which is for a Micrel Ethernet PHY chip mounted on Renesas kits but does not support other PHY chips or MII interfaces. The customer defines an Ethernet PHY chip driver when using a different PHY chip than the one mounted on Renesas kits, or when using a PHY chip with a MII interface.

**Workaround:** There is no plan to provide support for additional Ethernet PHY chip drivers included in SSP; users are required to create their own PHY chip driver.

To create a PHY chip driver, users can use the sf\_el\_nx (NetX Port) module under **/ssp/src/framework/sf\_el\_nx/** as a template and modify it for the target Ethernet PHY chip. Source files under sf\_el\_nx are in plain text; you can copy the file to other directories, such as **/src/** directory, and exclude the original sf\_el\_nx module from being built to avoid 'multiple definition' compile-error.

The following steps give high-level guidance to work around the issue:

1. Copy the directory **/ssp/src/framework/sf\_el\_nx/** including all the files under the directory to **/src/**.
2. Exclude original sf\_el\_nx module in SSP from your build. Right click on the directory **/ssp/src/framework/sf\_el\_nx/** and select '**Exclude from build...**'. Then click the '**Select All**' button.
3. Modify **/src/sf\_el\_nx/nx\_hw\_init.c**. Modify nx\_synergy\_ethernet\_init() as indicated below to select the MII interface. Change IOPORT\_ETHERNET\_MODE\_RMII to **IOPORT\_ETHERNET\_MODE\_MII**.  
g\_ioport\_on\_ioport.pinEthernetModeCfg(IOPORT\_ETHERNET\_CHANNEL\_n,  
IOPORT\_ETHERNET\_MODE\_RMII);
4. Modify **/src/sf\_el\_nx/phy/ether\_phy.c** and **ether\_phy.h**. Modify these files to match to your Ethernet PHY chip.
5. Be sure to select MII pins under the '**Pins**' tab in the Synergy Configurator. Check the pin configuration setting, **Peripherals > Connectivity:ETHERC**.

Notes: 1. Source files under **/ssp/src/framework/sf\_el\_nx/** are overwritten by the tool when building a project. Be sure to copy the files before editing.

2. To exclude files from building, right-click on the files and select '**Exclude from build**' (as is the case for e<sup>2</sup> studio).

### 3.19 sf\_el\_ux

**Issue ID:** 8574

The current sf\_el\_ux HCD driver does not enable the Double Buffer feature for Bulk OUT PIPEs, which is supported by the USB hardware. Therefore, USB data throughput for Data Write through a Bulk OUT PIPE will be less than the value for Double Buffer-Enabled. This issue is only for Data Write (Bulk OUT). Double buffering is supported for Data Read (Bulk IN).

**Applies to:** S7, S5, and S3 MCU Series

**Workaround:** None

**Issue ID:** 13528

In USBX Device CDC class, in blocking mode, write/read calls made to the sf\_el\_ux DCD driver do not support the timeout feature, and this may result in indefinite waiting for the host transfer to get completed.

Note: **Option 1:** In order to use the non-blocking or callback mode in USBX CDC device class, call the `ux_device_class_cdc_acm_ioctl()` API in the application to use transmission with callback. See the latest *USBX Device Stack User Guide* for more information on Device class APIs.

**Option 2:** Call the `ux_device_stack_transfer_abort()` API from other threads in the application to abort the pending transfer requests.

**Applies to:** All MCUs

**Workaround:** None

**Issue ID:** 14447

DMA is not supported for composite device class due to which the composite device fails to work when DMA transfer mode is enabled.

**Applies to:** All MCUs

**Workaround:** Use CPU transfer mode instead of DMA

### 3.20 sf\_touch\_ctsu

**Issue ID:** 6858

When channel is set to NULL, the `SF_TOUCH_CTSU_Read()` returns `SSP_ERR_INTERNAL`.

Return values from the ThreadX API calls are not checked in the framework, which can lead to functional issues in the framework when ThreadX APIs return errors. The framework may not work as expected in such cases, since errors are not handled.

With valid callback and context, if `callback_index` is set to `SF_TOUCH_CTSU_CFG_MAX_WIDGET_TYPES (= 3)`, `SF_TOUCH_CTSU_Open()` returns `SSP_ERR_OUT_OF_MEMORY`.

**Applies to:** All MCUs

**Workaround:** None

**Issue ID:** 6859

`SF_TOUCH_CTSU_Read()` returns the error value `SSP_ERR_INTERNAL` if the semaphore **get** or **put** is not successful.

**Applies to:** All MCUs

**Workaround:** None

### 3.21 sf\_touch\_ctsu\_button

**Issue ID:** 6882

1. Valid range for `button_count` is 0 to less than `SF_TOUCH_CTSU_BUTTON_CFG_USER_SUPPORTED_BUTTONS (= 12)`.
2. For `button_count` values outside the range, `SF_TOUCH_CTSU_Button_Open()` returns error `SSP_ERR_ASSERTION`.

**Applies to:** All MCUs

**Workaround:** None

**Issue ID:** 6883

For `button_count` values outside the range, `SF_TOUCH_CTSU_Button_Open()` returns the error `SSP_ERR_ASSERTION`, and buttons outside the range cannot be operated.

**Applies to:** All MCUs

**Workaround:** The `button_count` values must be set to value 0 to less than `SF_TOUCH_CTSU_BUTTON_CFG_USER_SUPPORTED_BUTTONS (= 12)`.

**Issue ID:** 9661

`SF_TOUCH_CTSU_BUTTON` module is not built for the S5D5\_proto board. The build configuration needs to be updated.

**Applies to:** S5D5\_proto board

**Workaround:** Add S5D5\_proto board in the `SF_TOUCH_CTSU_BUTTON` build XML

**Issue ID:** 12742

The GT202 module supported by the WiFi Framework is affected by the WPA2 KRACK issue.

**Applies to:** GT202 module supported by the WiFi Framework

**Workaround:** None

### 3.22 sf\_WiFi

**Issue ID:** 8394

The projects using GT202 framework will see compilation warnings. All the warnings are in the 3<sup>rd</sup> party GT202 driver code. The GT202 framework files do not have any warnings. The warnings should not impact the user applications.

**Applies to:** WiFi Framework for GT202 on DK-S7G2, DK-S3A7, PK-S5D9, TB-S5D5, TB-S3A6 (only socket), ADK-S3A3 Synergy MCUs

**Workaround:** None

**Issue ID:** 14126

WiFi WPS functionality does not work with WPA security.

**Applies to:** WiFi Framework using GT202

**Workaround:** None

### 3.23 SSP IAR Support

**Issue ID:** 12972

C-RUN with bounds checking is not supported with Synergy project in EWSYN.

**Applies to:** All MCUs

**Workaround:** None

**Issue ID:** 14485

Library projects which use multiple or long include paths cause the compiler command line to exceed the system limit and fail to build the library.

**Applies to:** Projects created with IAR compiler in e<sup>2</sup> studio

**Workaround:** None

### 3.24 SSP XMLs for ISDE

**Issue ID:** 10695

The configurator does not warn about the limitation on the RSPI bit rate if the bit rate is less than or equal to 30 MHz.

**Applies to:** All MCUs

**Workaround:** The RSPI bit rate must be a positive integer that is less than or equal to 30 MHz or PCLK/2, whichever is the smaller value.

### 3.25 Synergy Software Configurator

**Issue ID:** 7665

When using the Synergy Software Configurator in e<sup>2</sup> studio/SSC, if you rename a thread on the Threads tab and generate code, a new `thread_entry.c` file is created with template content, and the old `thread_entry.c` file remains in the project. If you have edited the `thread_entry.c` file, your changes are not moved to the new file. The old file remains in the project. It will not be called; it causes a build error if not removed from the project manually.

**Applies to:** All MCUs

**Workaround:** Manually move any edits (if made) from the old `thread_entry.c` file to the new `thread_entry.c` file, then manually delete the old `thread_entry.c` file from your project.

### 3.26 Synergy Tools

**Issue ID:** 15093

Using the option “Rename and import existing C/C++ project” causes intermittent failure in importing the project, and gives an error message.

**Applies to:** All MCUs

**Workaround:** None

**Issue ID:** 15104

e<sup>2</sup> studio v7.3.0 is sensitive to the casing of linker script file names. This is experienced only in the projects created with the previous version of e<sup>2</sup> studio where the linker script names do not exactly match in casing. In this case, the user would experience a build error saying that the linker script is not found.

**Applies to:** All MCUs

**Workaround:** If the build is failing with .ld not found error, go to the linker configuration in e<sup>2</sup> studio project properties and delete the linker script entry.

### 3.27 Tools Development

**Issue ID:** 15202

When TraceX standalone installer is used, TraceX fails to launch and gives a license error when the existing TraceX installation is overwritten by reinstalling TraceX.

**Applies to:** All MCUs

**Workaround:** Uninstall existing TraceX application and install it again

### 3.28 USBX

**Issue ID:** 6470

USBX Host Class Prolific (`ux_host_class_prolific`) is currently included in the SSP package as an experimental module but is yet to be tested, so the functionality is not guaranteed.

**Applies to:** All applicable MCUs

**Workaround:** Not applicable

**Issue ID:** 8505

Users need to set 'requested\_length' of the USBX Device CDC API `ux_device_class_cdc_acm_read` large enough compared to the expected reception data length. If the length of the reception data from a USB host is larger than the 'requested\_length,' the API returns `UX_SUCCESS` but the reception data will not be stored in a user buffer and the actual length is set to '0'.

**Applies to:** All Synergy MCU Groups

**Workaround:** Set 'requested\_length' of the USBX Device CDC API `ux_device_class_cdc_acm_read` large enough compared to the expected reception data length.

**Issue ID:** 8647

The USB throughput for file read/write operation with USBX Device Class Mass Storage is not consistent and may vary for every measurement time.

**Applies to:** All Synergy MCU Groups

**Workaround:** None

**Issue ID:** 10027

USBX Device Class HID does not support Interrupt-Out endpoint. The use of Interrupt-Out endpoint is optional in the USB HID specification. It would not often be the case in embedded applications, but Synergy customers may require the feature for their production.

**Applies to:** All MCUs

**Workaround:** Ask Synergy customer support for a custom HID class example that enables Interrupt-In and Interrupt-Out endpoints.

**Issue ID:** 14100

Warnings for “this statement may fall through” will be observed when compiling the USBX Device class source code.

**Applies to:** All MCUs

**Workaround:** None

#### 4. Additional Technical Notes

- Subscribe to the Synergy Technical Bulletin Board to receive the latest technical news and notifications about new features, known issues, workarounds, and release announcements. To subscribe, visit [http://renesasrulz.com/synergy/synergy\\_tech\\_notes/f/214.aspx](http://renesasrulz.com/synergy/synergy_tech_notes/f/214.aspx). Sign in to Renesas Rulz, and press **Email Subscribe to this forum**.
- Additional technical information, including informative papers and articles on SSP and Synergy can be found at Synergy Knowledge Base, [www.renasssynergy.com/knowledgebase](http://www.renasssynergy.com/knowledgebase).

## Website and Support

Visit the following vanity URLs to learn about key elements of the Synergy Platform, download components and related documentation, and get support.

Synergy Software	<a href="http://www.renesas.com/synergy/software">www.renesas.com/synergy/software</a>
Synergy Software Package	<a href="http://www.renesas.com/synergy/ssp">www.renesas.com/synergy/ssp</a>
Software add-ons	<a href="http://www.renesas.com/synergy/addons">www.renesas.com/synergy/addons</a>
Software glossary	<a href="http://www.renesas.com/synergy/softwareglossary">www.renesas.com/synergy/softwareglossary</a>
Development tools	<a href="http://www.renesas.com/synergy/tools">www.renesas.com/synergy/tools</a>
Synergy Hardware	<a href="http://www.renesas.com/synergy/hardware">www.renesas.com/synergy/hardware</a>
Microcontrollers	<a href="http://www.renesas.com/synergy/mcus">www.renesas.com/synergy/mcus</a>
MCU glossary	<a href="http://www.renesas.com/synergy/mcuglossary">www.renesas.com/synergy/mcuglossary</a>
Parametric search	<a href="http://www.renesas.com/synergy/parametric">www.renesas.com/synergy/parametric</a>
Kits	<a href="http://www.renesas.com/synergy/kits">www.renesas.com/synergy/kits</a>
Synergy Solutions Gallery	<a href="http://www.renesas.com/synergy/solutionsgallery">www.renesas.com/synergy/solutionsgallery</a>
Partner projects	<a href="http://www.renesas.com/synergy/partnerprojects">www.renesas.com/synergy/partnerprojects</a>
Application projects	<a href="http://www.renesas.com/synergy/applicationprojects">www.renesas.com/synergy/applicationprojects</a>
Self-service support resources:	
Documentation	<a href="http://www.renesas.com/synergy/docs">www.renesas.com/synergy/docs</a>
Knowledgebase	<a href="http://www.renesas.com/synergy/knowledgebase">www.renesas.com/synergy/knowledgebase</a>
Forums	<a href="http://www.renesas.com/synergy/forum">www.renesas.com/synergy/forum</a>
Training	<a href="http://www.renesas.com/synergy/training">www.renesas.com/synergy/training</a>
Videos	<a href="http://www.renesas.com/synergy/videos">www.renesas.com/synergy/videos</a>
Chat and web ticket	<a href="http://www.renesas.com/synergy/resourcelibrary">www.renesas.com/synergy/resourcelibrary</a>

## 5. Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Jun.21.19	-	Initial release
1.01	Jun.28.19	-	Second release

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SSP v1.6.3 Additional Usage Note

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# Renesas Synergy™ Platform SSP v1.6.3 Additional Usage Note