

# Renesas Synergy<sup>™</sup> Platform

# Access to External Flash Memory in Renesas Synergy<sup>™</sup> Development Environments

## Introduction

This document uses sample projects to describe the procedures for downloading data to the external flash memory and erasing and programming the external flash memory through the execution of a program at debugger start-up. It shows the procedure using the development kit, DK-S7G2 with the Renesas Synergy<sup>™</sup> e<sup>2</sup> studio Integrated Solution Development Environment (hereafter referred to as the e<sup>2</sup> studio) or the IAR Embedded Workbench<sup>®</sup> for Renesas Synergy<sup>™</sup> (hereafter referred to as the IAR EW for Synergy). These are the standard Renesas Synergy<sup>™</sup> development environments.

For documents related to the Renesas Synergy<sup>™</sup> development environment, see Renesas Electronics Synergy website (<u>www.renesas.com/synergy/gallery</u>), and select **Support** > **Documentation**, or go to the Renesas Electronics Synergy website documentation (<u>www.renesas.com/synergy/docs</u>).

#### Environment

Operation was confirmed in the following environments.

- e<sup>2</sup> studio ISDE v7.3.0 or later
- Synergy Software Package (SSP) v1.6.0 or later
- IAR EW for Synergy v8.23.3 or later
- Renesas Synergy<sup>™</sup> Standalone Configurator (SSC) v7.3.0 or later
- SK-S7G2 or DK-S7G2 v3.1(only).
   Note: This application is not fully supported on DK-S7G2 v4.1 board.

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#### 1. Introduction

This document describes the procedures for downloading data to the QSPI flash memory mounted as external flash memory on the DK-S7G2 board and erasing and programming the external flash memory through the execution of a program.

Figure 1 is an overview of the memory map. The 'Onboard flash area' in the figure shows the area for the external flash memory on the DK-S7G2 board.



Figure 1. Memory Map (Overview)

#### 2. Preparation

This chapter describes how to get the QSPI sample project, modify the linker script file, and set a DIP switch.

#### 2.1 Getting the QSPI Sample Project

The QSPI sample project, which is required for downloading data to the external flash memory and for checking the erasure and programming of the external flash memory through the execution of a program, is included among the compressed files obtained by downloading this application note.

#### 2.2 Linker Script File

The linker script file defines the external flash memory area and section name.

In the linker script file, a 64-MB area is defined as the external flash memory. However, the external flash memory on the DK-S7G2 board has 32 MB. Modify the setting for the area in the way that suits the given development environment.



#### 2.2.1 Modifying the Linker Script File (s7g2.1d) for the e<sup>2</sup> studio

The linker script file is stored in the following directory:

```
project\script\
```

Modify the underlined sections as shown below.

QSPI\_FLASH (rx) : ORIGIN = 0x60000000, LENGTH = 0x4000000 /\* 64M, Change in QSPI section below also \*/

Modify as follows:

QSPI\_FLASH (rx) : ORIGIN = 0x60000000, LENGTH = 0x2000000 /\* 32M, Change in QSPI section below also \*/

\_\_qspi\_region\_max\_size\_\_ = <u>0x4000000;</u> /\* Must be the same as defined in MEMORY above \*/

Modify as follows:

```
__qspi_region_max_size__ = <u>0x2000000;</u> /* Must be the same as defined in MEMORY above */
```

Store the modified linker script file in the original directory.

Note: Save the original linker script file with a different name before overwriting it. In this description, the linker script file is modified to be used with the DK-S7G2 board. If you are using another board, modify the linker script file to match the amount of external flash memory on that board.

#### 2.2.2 Modifying the Linker Script File (s7g2.icf) for IAR EW for Synergy

The linker script file is stored in the following directory:

QSPI sample project\script

Modify the underlined section as shown below:

```
define symbol region_QSPI_end = 0x63FFFFFF;
```

```
Modify as follows:
```

define symbol region\_QSPI\_end = <u>0x61FFFFF;</u>

Store the modified linker script file in the original directory.

- Note: Save the original linker script file with a different name before overwriting it. In this description, the linker script file is modified to be used with the DK-S7G2 board. If you are using another board, modify the linker script file to match the amount of external flash memory on that board.
- Note: For DK-S7G2 v4.1 board, make the following changes in case you come across a download error. You can also use the backup file present in the project root directory.

Modify the underlined section as shown below:

```
place in QSPI_region { block QSPI_NON_RETENTIVE_BLOCK,
section .qspi_flash };
```

Modify as follows:

```
place in QSPI_region { block QSPI_NON_RETENTIVE_BLOCK,
rw section .qspi_flash };
```



## 2.3 DIP Switch Setting

The external flash memory on the DK-S7G2 board is enabled or disabled through a DIP switch setting. To use the downloading function described in this document, turn on **switch 2** (QSPI) on DIP switch block S5.



Figure 2. DIP Switch Setting

## 3. **QSPI Sample Project**

The QSPI sample project in the compressed files can be used with both the  $e^2$  studio and IAR EW for Synergy.

## 3.1 Overview of the QSPI Sample Project

This section describes the memory map of this sample project.

The blinky() function is allocated to the range starting at 0x60000000 in the external flash memory area (this function causes LED1 and LED2 on the main board to blink on and off at one-second intervals).

The area from 0x60010000 to 0x60017fff is used for erasure and programming of the external flash memory through execution of the program.



Figure 3. Memory Map of the Project



## 3.2 Operation of the QSPI Sample Project

Operations of this sample project are in the following order. The results are displayed on the debugger by using the semi-hosting<sup>1</sup> function.

- 1. Data in the areas from 0x60000000 to 0x60000010 and from 0x60010000 to 0x60010010 are displayed in the debugger to confirm the downloading of data to the external flash memory when the debugger starts up.
- 2. Data in the areas from 0x60000000 to 0x60000010 and from 0x60010000 to 0x60010010 are again displayed in the debugger to confirm erasing of the sector in the area from 0x6001 0000 to 0x6001 7fff through execution of the program.
- 3. Data in the areas from 0x60000000 to 0x60000010 and from 0x60010000 to 0x60010010 are again displayed in the debugger to confirm the writing of 0x9999, 0x8888, 0x7777, 0x6666, and 0x5555 to the area from 0x60010000 to 0x60010010 through execution of the program.
- 4. The Blinky() function that has been downloaded to the external flash memory is executed.

## 3.3 Starting the QSPI Sample Project in the e<sup>2</sup> studio

The QSPI sample project for the e<sup>2</sup> studio must be imported to be used. This section describes the procedure for importing the QSPI sample project.

To skip the development walkthrough in this document and open a completed project in e<sup>2</sup> studio, refer to *Importing a Renesas Synergy Project* (r11an0023eu0121-synergy-ssp-import-guide.pdf) for instructions on importing the project into e<sup>2</sup> studio and building the project. The included Simple\_QSPI\_Example.zip file contains the completed project.

1. Click on the **Debugger** tab. Select **J-Link ARM** for **Debug hardware** and **R7FS7G2** for **Target Device** and click on the **Debug** button.

,					),	S
Image: Second Secon	Name: Simple_QSPL_Test Debug Main	Source Common Target Device: R7FS7G2 Rebug Tool Settings Host name or IP address: GDB port number: ADM port number: -none-eabi-gdb	localhost 61234 61236	Browse	Variables	×
Filter matched 9 of 11 items			Apply		Re <u>v</u> ert	

Figure 4. Specifying the Debugger



 $<sup>^{1}</sup>$  The semi-hosting function used by this sample project displays the result of the <code>printf()</code> function on a debugger.

2. After the debugger starts up, open blinky.c and confirm that the blinky() function has been allocated to the external flash memory area.



Figure 5. Allocation of the Blinky() Function (in the e<sup>2</sup> studio)

3. Check the data in address 0x60010000 in the **Memory** view. For details on using the **Memory** view, refer to section 3.3.2.



Figure 6. Displaying Data from the External Flash Memory in the Memory View

4. Set a breakpoint at the point where the blinky() function is called from hal\_entry.c.



Figure 7. Setting a Breakpoint

- 5. When the program is executed, it stops at the breakpoint that has been set in step 6. Check erasure and programming of the external flash memory. For the results to expect from erasure and programming of the external flash memory, see section 3.3.2.
- 6. When the program is made to start running again, the blinky() function downloaded to the external flash memory area is executed to cause LED1 and LED2 on the board to blink on and off at one-second intervals.



#### 3.3.1 Checking Data in the External Flash Memory

Use the **Memory** view to check the data in the external flash memory. This section describes the procedure for checking the data in the external flash memory by using the **Memory** view.

 Select the Window > Show View > Memory or Window > Show View > Other... > Debug > Memory menu item.



Figure 8. Setting the Display of the Memory View

2. Clicking on the + button shows the **Monitor Memory** dialog box. Enter **0x60010000** and check the displayed data from memory.

Console Memory X Monitors	
e <sup>2</sup> Monitor Memory	×
Enter address or expression to monitor:           0x60010000 <ul> <li></li> </ul>	
OK         Cancel	

Figure 9. Setting the Memory View

Data has been written to address 0x60010000 as shown in Figure 10.

Monitors	+ × %	0x60010000 : 0x6001	0000 <hex int<="" th=""><th>teger&gt; 🛛 🔪</th><th>🕂 New Rende</th><th>erings</th></hex>	teger> 🛛 🔪	🕂 New Rende	erings
♦ 0x60010000		Address	0 - 3	4 - 7	8 - B	C - F
		000000060010000	00009999	00008888	00007777	00006666
		000000060010010	00005555	FFFFFFF	FFFFFFF	FFFFFFF
		000000060010020	FFFFFFF	FFFFFFF	FFFFFFF	FFFFFFF
		000000060010030	FFFFFFF	FFFFFFF	FFFFFFF	FFFFFFF
		000000060010040	FFFFFFF	FFFFFFF	FFFFFFFF	FFFFFFF

Figure 10. Checking the Data in the External Flash Memory



Note: The SEGGER JTAG debugger normally caches the memory area that corresponds to the external QSPI flash device. This caching improves performance by also preventing real-time changes to the QSPI flash device from being visible in this memory window. To view changes to this memory in real-time, we added the following two lines to the Simple\_QSPI\_Example Debug.jlink file in the source project:

[FLASH] CacheExcludeSize = 0x800000 CacheExcludeAddr = 0x60010000

#### 3.3.2 Checking Erasure and Programming of the External Flash Memory

The code for the erasure and programming of the external flash memory is in the hal\_entry() function, which is in the hal\_entry.c source file. The semi-hosting function is used to display the results in the **Renesas Debug Virtual Console** view of the debugger. To show the **Renesas Debug Virtual Console** view, select **Renesas Debug Virtual Console** by clicking on the button to open a console while the **Console** view is being displayed.

📃 Console 🔀	Memory	= × 🔆   B. 🔝 🕬   📰   🖅	2 🗉 🕶 🔂	
Simple_QSPI_T	est Debug [Renesas GDB Har	dware Debugging] C:/Renesas/e2_studio_5_0_	0_043_offic 🛄	1 Renesas Debug Virtual Console
Reset_Handler	() at/synergy/ssp/sr	c/bsp/cmsis/Device/RENESAS/S7G2/Source/	/startup_Si	2 C/C++ Build Console
				3 New Console View

#### Figure 11. Showing the Renesas Debug Virtual Console View

The results of execution are displayed as shown in Figure 12.

🖳 Console 🔀 [	Memory		
Renesas Debug Vir	rtual Conso	ole	
Simple QSPI exa	ample		
QSPI memory aft	er Jlink	programming	
0x60000000: 0xb	088b580	0x60010000:	0x00000000
0x60000004: 0xf	44faf00	0x60010004:	0x00000011
0x6000008: 0x6	517b737a	0x60010008:	0x00000022
0x6000000c: 0x6	513b2302	0x6001000c:	0x00000033
0x60000010: 0x6	593b697a	0x60010010:	0x00000000
QSPI memory aft	er sector	erase	
0x60000000: 0xb	088b580	0x60010000:	0xffffffff
0x60000004: 0xf	44faf00	0x60010004:	0xffffffff
0x6000008: 0x6	517b737a	0x60010008:	0xffffffff
0x6000000c: 0x6	513b2302	0x6001000c:	0xffffffff
0x60000010: 0x6	593b697a	0x60010010:	Øxfffffff
QSPI memory aft	er page p	program	
0x60000000: 0xb	088b580	0x60010000:	0x00009999
0x60000004: 0xf	44faf00	0x60010004:	0x00008888
0x6000008: 0x6	517b737a	0x60010008:	0x00007777
0x6000000c: 0x6	513b2302	0x6001000c:	0x00006666
0x60000010: 0x6	593b697a	0x60010010:	0x00005555
Calling Blinky			

Figure 12. Results Shown by Executing the Debug Virtual Console



## 3.4 Starting the QSPI Sample Project in the IAR EW for Synergy

The QSPI sample project for IAR EW for Synergy can be used by opening a workspace. This section describes how to open a workspace.

1. Select the **File > Open Workspace** menu and open a workspace. Specify QSPI\_Example.eww as the workspace from among the QSPI sample project files that have been decompressed.



Figure 13. Opening a Workspace

2. The QSPI sample project has now been registered in the workspace. Open the Renesas Synergy<sup>™</sup> Standalone Configurator (SSC) and set up a configuration. To set up a configuration, right-click on the Synergy icon under the project tree and select **Open Renesas Synergy Configurator...** or click on the **Synergy Configuration** icon. If you are starting the SSC for the first time, you will be required to set the directories where the SSC and SSP have been installed, and the full path to the license file.

Simple_QSPI_Exa	mple - IAR Embedded Workbench IDE	🐢 🕼 🚱 🔤 👯 🛸 🕭
File Edit View P	roject Tools Window Help	
🗅 🚅 🖬 🕼 🎂	※      ■      ■        ×        ×        ×        ×        ×        ×        ×        ×        ×        ×        ×        ×        ×        ×        ×         ×        ×         ×        ×        ×        ×        ×        ×        ×         ×        ×         ×         ×         ×         ×        ×         ×         ×         ×         ×         ×           ×           ×          ×          ×         ×           ×         ×         ×          ×         ×         ×	
Workspace	x	
Debug	▼	
Files	<u> 2</u>	
🗉 🗇 Simple_QS		
	Open Renesas Synergy Configurator	
r	Renesas Synergy Settings	
	Options	

Figure 14. Starting the SSC



Specify the directory where the SSC is installed, the full path to the license file, and click on the **OK** button to complete the setting.

Renesas Synergy Settings	×
Location where Renesas Synergy SSC/SSP is installed: C:\Renesas\Synergy\SSC_v5_4_0_023	
License file: C:\Renesas\Synergy\SSC_v5_4_0_023\internal\projectgen\arm\Licenses\SSP_License_Exar $\vee$	
License information:	_
CUSTOMER INFORMATION: Company: Renesas Electronics America Inc. UserName: Renesas Synergy Evaluation User Email: noreply@renesas.com	
LICENSE INFORMATION: Issued: 29/06/2016	
SUPPORTED COMPONENTS: Component: Synergy BSP Permissions: Source=yes,Edit=yes,Save=yes,View=yes,Compile=yes	,
Replace encrypted files with decrypted files     OK     Cancel	

Figure 15. Setting the Directory where the SSC is Installed and the Path to the License File

3. Open the SSC as described in step 2 and generate a project. After the project has been generated, click on the **x** button in the upper right corner of the window to close the window. If the window remains open, control is not returned to IAR EW for Synergy.

e2 studio												×
Run Renesas Views Search												
🛱 🍠 🛅 💁 • 🔗 • 🖞 • 🖏 • 🏷												
[Synergy Project] Synergy Configuration 🔀	-		67 F	ackag	2		(		-	- Ab		
Summary	Generate Project Cont	ent	A	NC P3	3 12 P303	4 VSS	s VSS	6 7 1905 P90	I VCC_ DCDC	9 10 VLO VCI	11 1 9902	12
This editor allows you to modify the Synergy project set	tings stored in the configuration file (configuration.xml).	Â	8	P109 P1	18 ¥7301	VCC	VCC	7312 P90	2 P200	VLO VS	5 P901	Fac
BSP			c	P111 P1	10 P112	P304	P309	7310 P31	1 P201	P904 VS	S 9315	F2C
+ Allows board and device selection			D	VCC VS	5 P113	P305	P306	907 P30	8 P910	P903 VO	C P204	PHS
<ul> <li>The board type is optional</li> <li>Board properties can be modified in the Properties vi</li> </ul>	ew			P610 P6	11 P115	P114	P914	915 990	8 P909	P900 P31	3 P414	971
		E		P614 P6	12 P613	P608	P300	905 990	7 RES	P314 P71	0 9712	VSS USB
+ Allows configuration of the clock generation circuit			a	P813 PA	15 PA14	P609	PA12	A11 PAG	18 P615	P206 P71	3 P807	VSS USB
· · · · · · · · · · · · · · · · · · ·			н	ICLF VS	s vcc	PA09	PA10	AD2 PA3	I3 P913	P800 P80	14 P806	vc _
Pins + Allows editing of the projects nin configuration and set	et up		3	PAD7 PA	96 PA05	PAD4	PA03	AD1 PAC	00 P703	P406 P70	4 P802	PBC
, mono colong of the projecto princorrigo action and a			ĸ	P605 P6	H 1603	P107	P607	805 <b>F80</b>	8 ¥809	P515 P40	4 P702	Pex
Threads + Allows configuring of threads within a Sypergy project	+		-	P602 P6	01 P600	P106	P811	812 VC	c vss	P007 P00	3 VSS	vc
+ Synergy modules and objects can be added to individ	dual threads		м	VSS VC	C P105	P804	P505	506 P50	8 P015	P014 P01	0 P004	PBC
+ Properties of each thread, module and object can be	modified in the Properties view		N	P102 P1	13 19104	P501	P502	507 PS1	0 VREFL	AV\$50 P01	1 P008	P00
Messaging			P	P101 P8	00 7810	P903	P503	509 VC	C AVCC	0 POD	6 P001	PBC
+ Allows configuration of the messaging framework			R	P100 P8	01 P902	P500	P504	CL2 VS	s vreth	0 POD	9 9005	POC
ICU				1 2	3	4	5	6 7	8	9 10	11	12
+ Allows configuration of interrupts		-										
Summary BSP Clocks Pins Threads Messaging ICU C	omponents											

Figure 16. Generating a Project and Ending SSC Operation



When control is returned to IAR EW for Synergy, build the project. To build the project, press the F7 key
or select Project > Make.

>/€       Simple_QSPI_E         File       Edit         View       □         □       □	Example - IAR Embedded Workbench IDE Project Tools Window Help Add Files
Workspace Debug Files Dissiple_Q Het @Synergy	Add Group Import File List Add Project Connection Edit Configurations
	Create New Project Add Existing Project Options Alt+F7
	Make F7 Compile Ctrl+F7 Rebuild All

Figure 17. Building the Project

#### 3.4.1 Starting and Checking the Debugger

To start the debugger, select **Project > Download and Debug** or click on the **Download and Debug** icon.



Figure 18. Starting the Debugger



1. When the debugger is started, select **View > Disassembly** to open the **Disassembly** window. By entering 'blinky' in the **Go to** text box in the **Disassembly** window and pressing the **Enter** key, you can confirm that the blinky() function has been allocated to the external flash memory area.



Figure 19. Allocation of the blinky() Function in the IAR EW for Synergy

Check the data in address 0x60010000 in the Memory window. Display the Memory window by selecting View > Memory. By entering 0x60010000 in the Go to text box in the Memory window, you can check the data at those locations in the external flash memory.

Go	to 0x60	010000	•	Men	nory			•	•		, nin							
600	00ffc0	00 00	00 0	00 0	0 00	00	00	00	00	00 0	0 00	00	00	00	 			
600	ODffdO	00 01	00 0	00 0	0 00	00	00	00	00	00 0	0 00	00	00	00	 			
600	00ffe0	00 01	00 0	00 0	0 00	00	00	00	00	00 0	0 00	00	00	00	 			
600	OOfffO	00 0	1 00	<u>nn n</u>	0 00	00	00	00	00	00 0	0 00	00	00	00	 			
600	010000	00 01	00 0	00 1	1 00	00	00	22	00	00 0	0 33	00	00_	00	 	. "	. 3 .	
600	010010	00 0	J UU	UU U	0 00	00	00	00	00	UU U	0 00	00	00	00	 			
600	010020	00 01	00 0	00 0	0 00	00	00	00	00	00 0	0 ff	ff	ff	ff	 			
≥ 600	010030	ff fi	ff	ff f	f ff	ff	ff	ff	ff	ff f	f ff	ff	ff	ff	 			
<b>2 600</b>	010040	ff fi	ff	ff f	f ff	ff	ff	ff	ff	ff f	f ff	ff	ff	ff	 			
2 600	010050	ff fi	ff	ff f	f ff	ff	ff	ff	ff	ff f	f ff	ff	ff	ff	 			

Figure 20. Displaying the External Flash Memory Area in the Memory Window

- 3. To use the semi-hosting function to check the results of executing the program, use the **Terminal I/O** window. Select **View** > **Terminal I/O** to open the **Terminal I/O** window.
- 4. Set a breakpoint at the point where the blinky() function is called from hal\_entry.c.



Figure 21. Setting a Breakpoint



5. While the program executes up to the breakpoint, the data in the external flash memory are displayed in the **Terminal I/O** window. A break then occurs at the breakpoint that was set in step 4. The data is displayed in the **Terminal I/O** window as shown in Figure 22 by using the semi-hosting function.

Calling Blinky	Calling Blinky	Terminal I/O Output: Simple QSPI QSPI memory 0x60000000: 0x60000000: 0x60000000: 0x60000000: QSPI memory 0x60000000: 0x600000000: 0x6000000: 0x6000000: 0x6000000: 0x6000000: 0x60000000: 0x6000000: 0x60000000: 0x60000000: 0x6000000: 0x60000000000: 0x60000000	example after Jlink programmin 0xf000f8df 0x60010000 0x0000301d 0x60010004 0xf000f8df 0x6001000c 0xb083b5f0 0x60010010 after sector erase 0xf000f8df 0x60010000 0x0000301d 0x60010008 0x000037cd 0x60010000 0xb083b5f0 0x60010000 after page program 0xf000f8df 0x60010000 after 0x60010000 0x0000301d 0x60010004 0xf000f8df 0x60010004 0xf000f8df 0x60010004 0x000037cd 0x60010004 0xf000f8df 0x60010004 0xf000f8df 0x60010004	Log 0x000000000 0x00000011 0x00000022 0x000000033 0x000000000 0xffffffff 0xffffffff 0xffffffff 0xffffffff 0xffffffff 0xffffffff 0xffffffff 0xffffffff 0xf00009999 0x00008888 0x00007777 0x00006666 0x00005555	x file: Off
		0x60000008: 0x6000000c: 0x60000010: Calling Bli	0xf000f8df 0x60010008 0x000037cd 0x6001000c 0xb083b5f0 0x60010010 nky	: 0x00007777 : 0x00006666 : 0x00005555	Ŧ
Deput:	Input:	Inout		tri opdag	Mada

Figure 22. Display in the Terminal I/O Window

6. When continuous execution of the program resumes, the blinky() function downloaded to the external flash memory area is executed to cause LED1 and LED2 on the board to blink on and off at one-second intervals.



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



# **Revision History**

		Description	
Rev.	Date	Page	Summary
1.00	Mar.28.17	-	Initial version
1.01	Aug.24.17	-	Updated to SSP v1.3.0
1.02	Sep.27.17	1	Environment of SSP version changed
1.03	Jan.19.18	-	Updated for SSP v1.4.0
1.04	May.07.19	-	Added note for DK-S7G2 v4.1. Updated for SSP v1.6.0.



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#### **Corporate Headquarters**

TOYOSU FORESIA, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061, Japan www.renesas.com

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