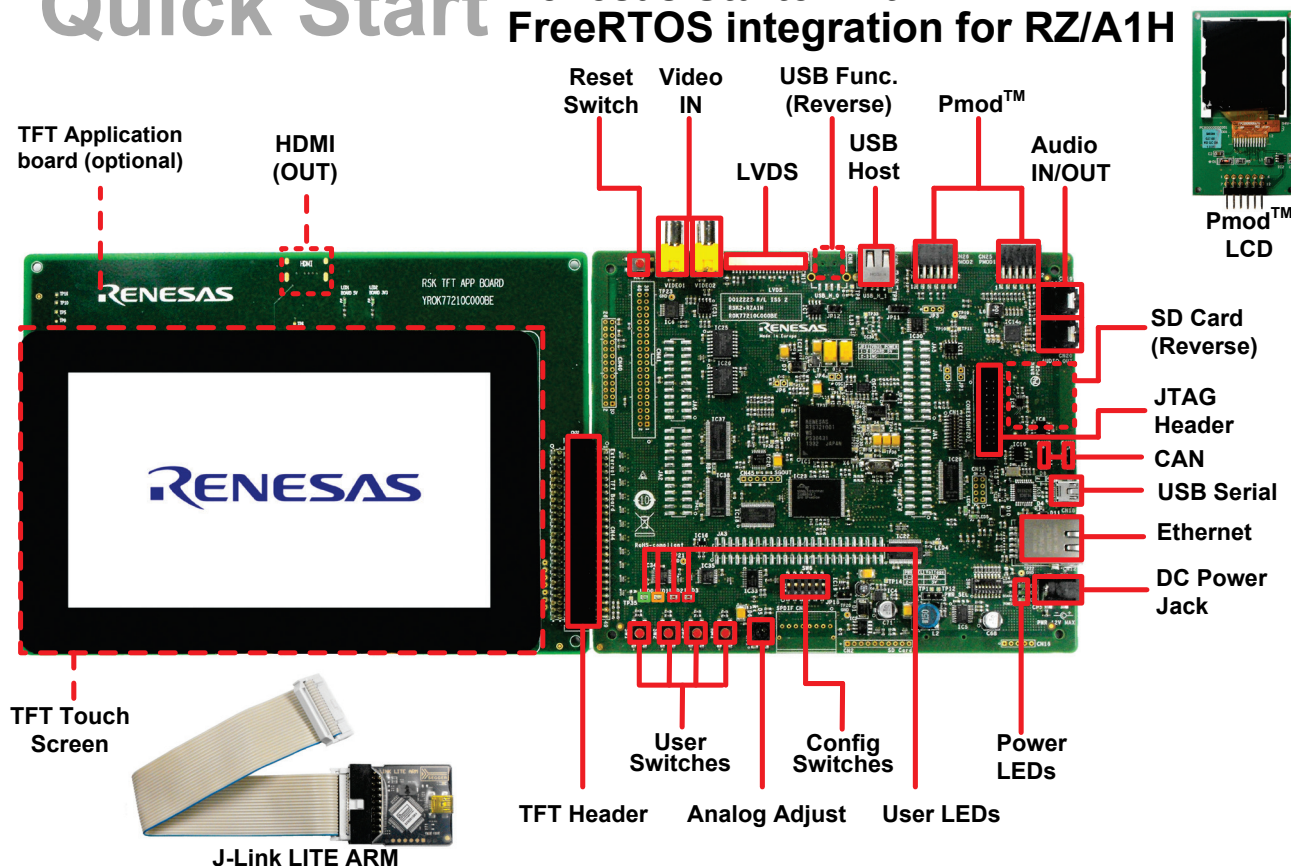


Quick Start Renesas Starter Kit+ FreeRTOS integration for RZ/A1H



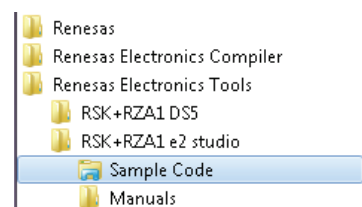
NOTE: This guide covers the demonstration application of FreeRTOS for the RZ/A1H using e² studio.

1. Pre-requisites

- This refers to the previous quick start guide [r20ut3006eg0200_rsk+rza1h_qsg.pdf](#) which covers the basics of using the Renesas RZ/A1H RSK
 - Installation.
 - Connection between PC and target board.
 - Importing sample code.
 - Building code.
 - Downloading the debug file to the device.
 - Running code.
- This document serves as an introduction to the Renesas FreeRTOS sample covering the following:
 - Importing the FreeRTOS sample RZ_RSK_FreeRTOS_V8.1.2_e2studio (project).
 - Integrating additional sample(s).
 - Using the sample.

2. Importing the FreeRTOS sample

- This project cannot be imported into e² studio using the normal procedure as documented in the previous guide due to the file structure imposed by FreeRTOS.
- Open the Sample Code folder from the 'Start Menu'.
- Navigate to the sub folder FreeRTOS



6. Copy the RZ_RSK_FreeRTOS_V8.1.2_e2studio root folder to your desired folder and unzip the file.
7. Left-click in the File menu, and select 'Import'.
8. Under 'Import Source' select General > Existing Projects into Workspace, and click 'Next'.
9. Click the 'Browse' button, and locate your desired folder (from step 6).
10. Ensure the 'Copy projects into workspace' option is not ticked and then click 'Finish'.

3. Integrating additional samples

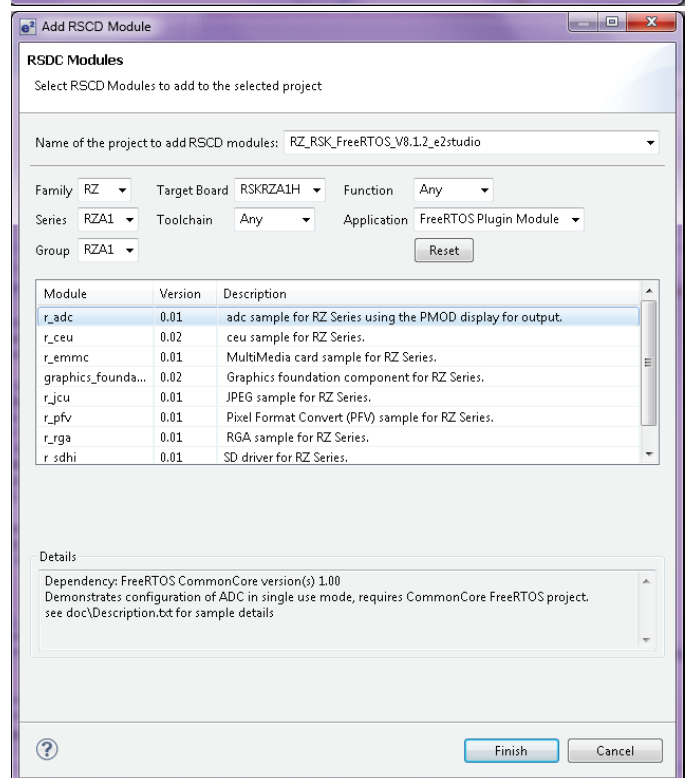
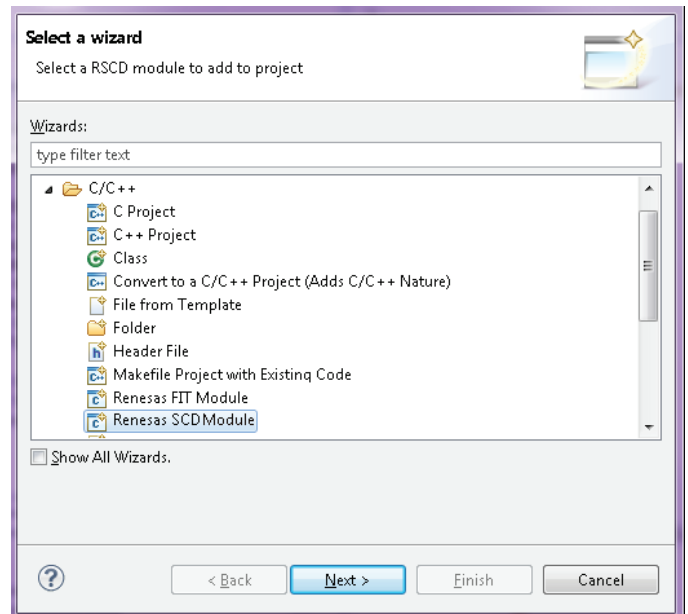
11. Sample code can be deployed into the project using the import wizard.
12. From the menu bar select File > New > Project
13. Expand the 'C/C++' folder.
14. Select the import wizard 'Renesas SCD Module' and click 'Next'.

Example shown far right

Alternatively, for direct access to this wizard use:
File > New > Renesas SCD Module

15. Select your chosen sample, for the purposes of this document we shall select the r_adc sample.
16. Ensure your project is selected in the 'Name of the project...' drop-list control.
17. Ensure the Family is set to 'RZ'.
18. Ensure the Series is set to 'RZA1'.
19. Ensure the Group is set to 'RZA1'.
20. Ensure the Target Board is set to 'RSKRZA1H'.
21. Ensure the Application is set to 'FreeRTOS Plugin Module'.
22. Select the r_adc module and click 'Finish'.

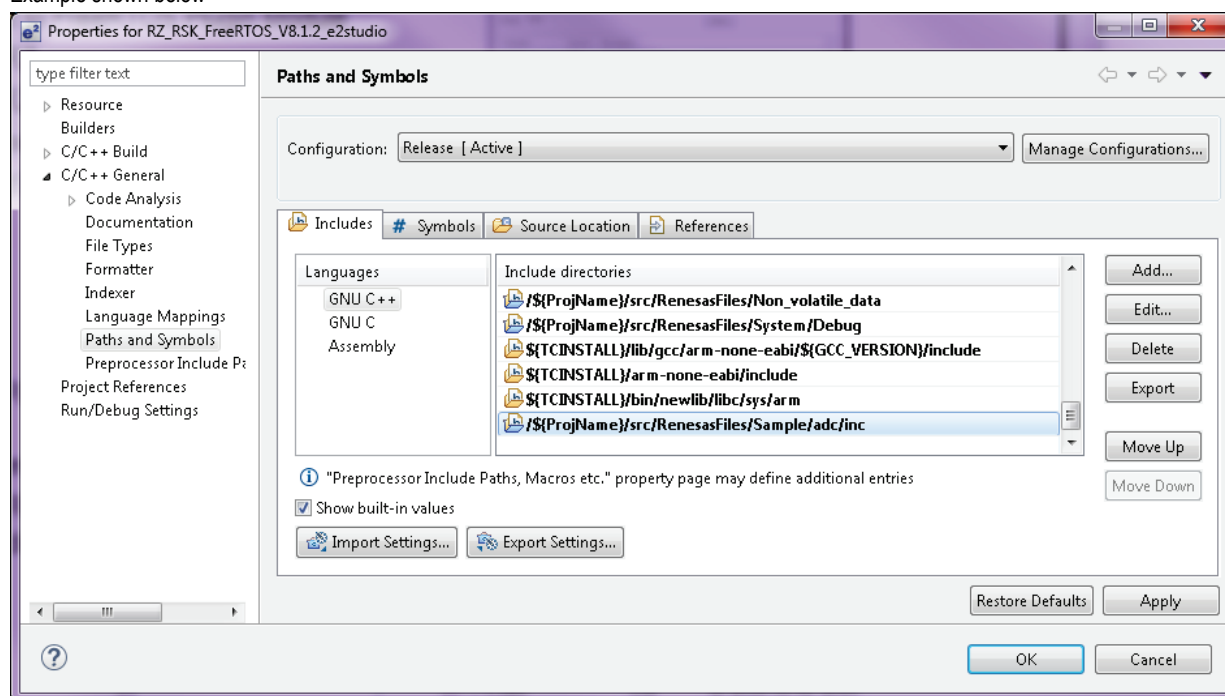
Example shown far right



23. The subsequent message boxes are for information only, so just click 'OK' to continue to the next step.

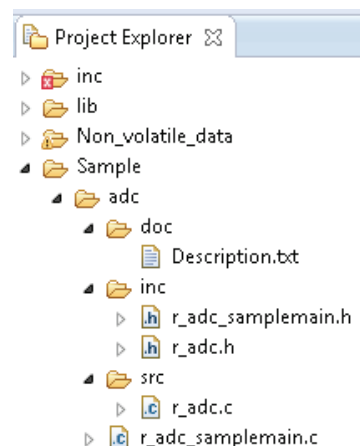
24. Once you arrive at the Properties dialog box, review the additional include folders and click 'Apply' then 'OK'. For this sample, only one folder is added (highlighted).

Example shown below



25. Review the new code that has been imported into your project.

Example shown far right



26. Read the Description.txt file which provides supplemental information for the selected sample and to ensure that no steps (additional to those given below) are required to complete the process.

27. Open the following source file
/RZ_RSK_FreeRTOS_V8.1.2_e2studio/src/main.c

28. Locate the comment

```
/* START INSERT SAMPLE HEADER FILE INCLUDES HERE */  
/* END INSERT SAMPLE HEADER FILE INCLUDES HERE */
```

29. Add the include file for your sample between the two comments

```
#include "r_adc_samplemain.h"
```

30. Locate the comment

```
/* START INSERT SAMPLE MAIN FUNCTION CALLS HERE */  
/* END INSERT SAMPLE SETUPS HERE */
```

31. Add the sample main function call between the two comments

```
R_ADC_SampleMain(p_iostr->pIn, p_iostr->pOut);
```

32. The module should now be installed.

33. Build the project.

4. Using the sample

34. Once the project is rebuilt and has been downloaded, invoke the help command to determine how many new commands have been added to the system.
35. Serial Port settings :
Baud 115200, Data bits 8, Stop bits 1, Parity None, Flow Control None.

Example shown far right

```
RZA1 CommonConsole Ver.1.00.0000
Copyright (C) Renesas Electronics Europe.

REE> help
The commands available are:

REE> --- skip ---

adcstart <CR> - Run ADC sample
adcstop <CR> - Terminate ADC sample

REE> █
```

5. User Manuals

For Windows™ 7 the user manuals are available in

Start Menu > All Programs > Renesas Electronics Tools > RSK+RZA1 e2 studio > Manuals

For Windows™ 8.1, click the down arrow ↵ in the Start page. The user manuals are available in
Apps > Renesas Electronics Tools

6. Compiler Support

The version of the compiler provided with this RSK is a fully functional GNU compiler but requires registration before it can be used.

Support for the GNU NONE Compiler is available from <http://www.kpitgnutools.com>

7. Support

Online technical support and information is available at: <http://www.renesas.com/rskrza1>

The Hardware Manual supplied with this RSK is current at the time of publication. Please check for any updates and additional content from the Renesas internet site at: <http://www.renesas.com/rskrza1>

Technical Contact Details

America: techsupport.america@renesas.com

Europe: <http://www.renesas.eu/ibg-kitsupport>

Japan: csc@renesas.com

© 2015 Renesas Electronics Europe Limited. All rights reserved

© 2015 Renesas Electronics Corporation. All rights reserved.

© 2015 Renesas Solutions Corp. All rights reserved.

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

8. FreeRTOS Support

Online support and information for FreeRTOS is available at: <http://www.freertos.org/>

9. Original Quick Start Guide

The guide describing the basics of RSK connectivity is available at: <http://documentation.renesas.com>