

## Guiliani on Renesas RZ/A3UL Evaluation Board Kit: Quickstart Guide – “GuilianiDemo” application

Product:	Guiliani-SDK for Renesas RZ/A3UL
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## 1 Introduction

The “GuilianiDemo” presents some of the capabilities of the Guiliani HMI framework running on the Renesas RZ/A3UL.

Additionally the efficient way of working for HMI application development by using the Guiliani Streaming Editor (GSE) is introduced. The user may make some first changes to the “GuilianiDemo”, simulate the changes on PC and download the changes to the RZ/A3UL board – all without the need of compiling and linking a new executable.

This quick guide runs you through this process within minutes!

- Preparing your PC, i.e. installing and configuring the required tool chain
- Installing the “GuilianiDemo” demo on the RZ/A3UL boards
- Using the Guiliani Editor (GSE) to simulate the “GuilianiDemo” on PC and to make your own first changes to the “GuilianiDemo”.
- Exporting your changes and loading them to the RZ/A3UL board
- Compiling your own GSE and StreamRuntime

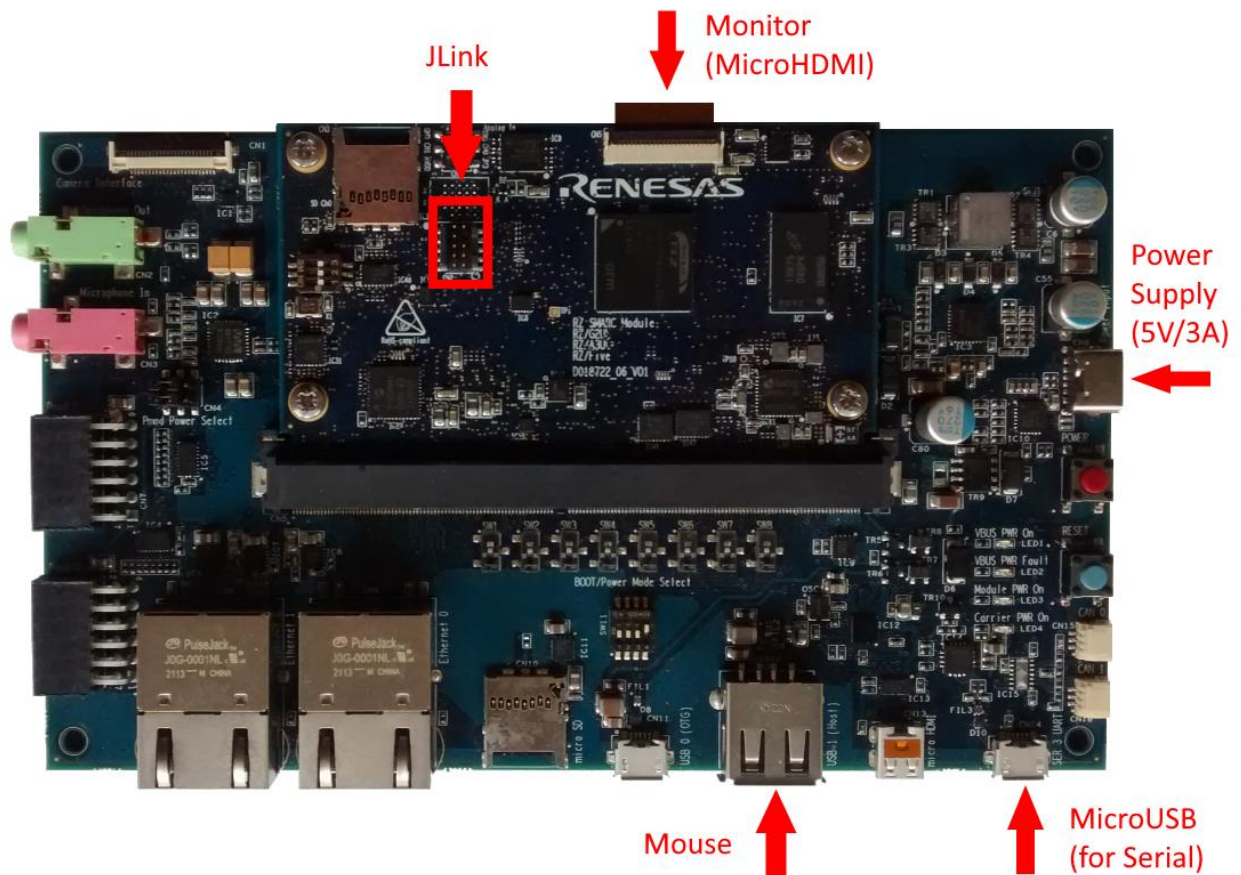
## 2 System Preparation

- The evaluation kit for which the software and this manual are developed is *RZ/A3UL Evaluation Board Kit*:

## 2.1 Connecting the board

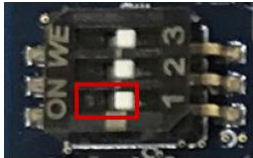
For connecting the board you will need (see the image below):

- power supply (5V/3A) with USB-C connector
- parallel-to-HDMI-adaptor (included in Evaluation Kit)
- MicroHDMI-to-HDMI-adaptor
- Micro-USB to USB cable (included in Evaluation Kit)
- USB-Mouse



## 2.2 Preparing the board

When using the debugger SW1 should be set accordingly



Enable Debugger

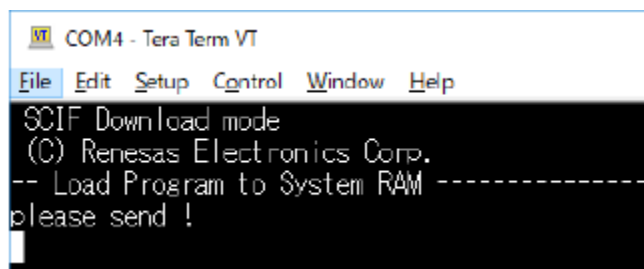
## 2.3 Erasing the flash

If there is already an application flashed on the board it is recommended to erase the flash-contents prior to using e2studio.

- Switch off the board and set SW11 to the following state



- Connect the board's CN14 Micro-USB to a PC
- Turn on the board (2 seconds press on Power switch)
- Open a serial console (e.g. TeraTerm) and open a serial connection (8N1 115200 Baud)
- Reset the board and a short message will be displayed in the serial console



- Send the file "Flash\_Writer\_SCIF\_RZA3UL\_SMARC\_DDR4\_1GB\_1PCS.mot". it is located inside the FlashTools-subfolder of the SDK.
- After sending a new prompt is displayed in the serial console

```
COM4 - Tera Term VT
File Edit Setup Control Window Help
SCIF Download mode
(C) Renesas Electronics Corp.
-- Load Program to System RAM -----
please send !

Flash writer for RZ/G2 Series V0.89 Jun.04,2021
Product Code : RZ/G2L
>
```

- Type “xcs” (without the quotes) followed by [Enter] into the serial console

```
Flash writer for RZ/G2 Series V0.89 Jun.04,2021
Product Code : RZ/G2L
>xcs
ALL ERASE SpiFlash memory
Clear OK?(y/n)
```

- Answer with “y” to erase the board’s flash contents (this will take about 60 seconds to complete)
- Type “xls2” (without the quotes)
- Enter 20000000 for “Program Top Address” and 0 for “Qspi Save Address”

```
>xls2
===== Qspi writing of RZ/G2 Board Command =====
Load Program to Spiflash
Writes to any of SPI address.
Dialog : AT25QL128A
Program Top Address & Qspi Save Address
===== Please Input Program Top Address =====
Please Input : H'20000000

===== Please Input Qspi Save Address ===
Please Input : H'0
Work RAM(H'50000000-H'53FFFFFF) Clear....
please send ! ( '.' & CR stop load)
```

- Send the file “rza3ul\_smarc\_qspi\_ipl.srec” also located inside the FlashTools-subfolder.

```
===== Qspi Save Information =====
SpiFlashMemory Stat Address : H'00000000
SpiFlashMemory End Address : H'0000A8B4
=====
```

- When the file is written successfully turn off the board and switch back to QSPI-boot mode



## 2.4 Setting up FSP in e2studio

During installation of e2studio the latest FSP will be installed automatically. If the installed version of the FSP is different from the version which is needed by the SDK, you may receive an error-message in e2studio.

You can now either select one of the installed FSP-versions in the “FSP Configuration” or manually install a specific FSP-version. Refer to chapter 2.2 in the document <https://www.renesas.com/us/en/document/qsg/getting-started-rza-flexible-software-package-v110> on the details

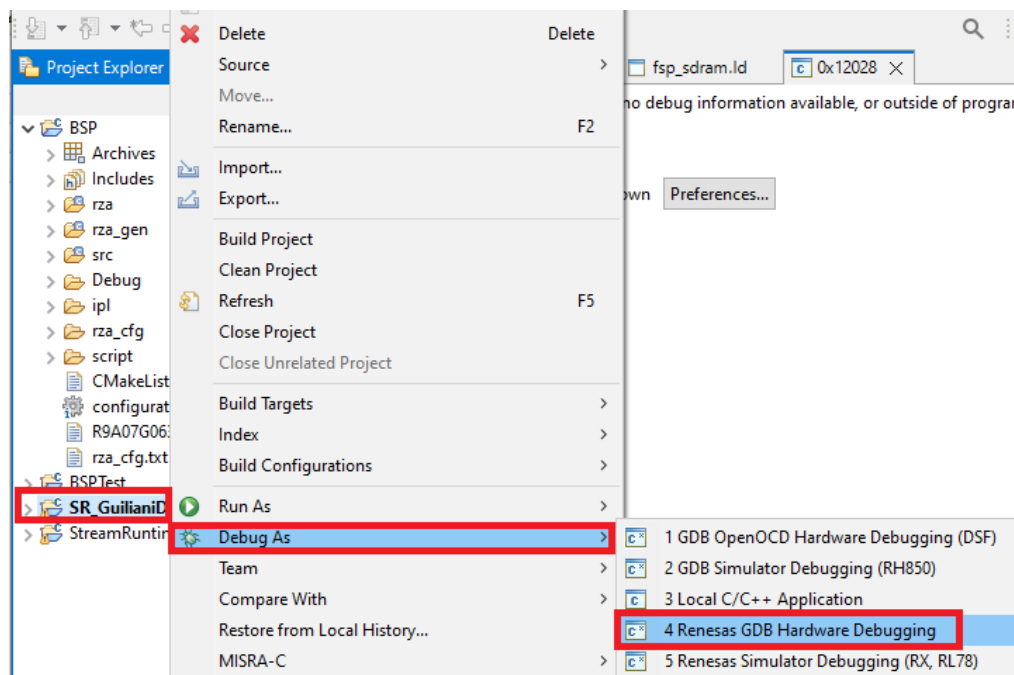
## 3 Load example project

- Start e2studio
- Import the prepared projects located inside the Renesas-subfolder of the SDK into the e2studio-workspace
- Compile the Debug-configuration of the BSP and SR\_GuilianiDemo projects
- Start debugging of SR\_GuilianiDemo

During the build of SR\_GuilianiDemo the Resource-file inside the Export-subfolder of the SDK will be converted into an SREC-file which is then flashed together with the application-binary onto the board when debugging is started.

### 3.1 Start Debugging

After the application has been build right-click on “SR\_GuilianiDemo” in the “Project Explorer”, select “Debug as” and “4 Renesas GDB Hardware Debugging”



## **4 Edit example project on the computer**

Please read the “GuilianiDemo Manual” (found in the documentation folder) for a short description on the contents of the demo and how to modify and export the project.

## **5 Load edited example project onto the board**

When you have successfully exported the changed GuilianiDemo copy the file Resources.dat to the subfolder Export/RZA3UL build the application and start the debugging process as described previously.