

RZ/G3E Board Support Package

Version 1.0.0

R01US0804EJ0100

Rev. 1.00

Jun. 30, 2025

Release Note

Introduction

This release note describes the contents and important points of the RZ/G3E Board Support Package (hereinafter referred to as “BSP”).

Please also refer to the following documents that describe the instructions to build BSP and boot the evaluation boards.

- r01us0805ej0100-rzg3e(Linux_Start-up_Guide_RZG3E).pdf

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1. Release Items

- **Name and version**

RZ/G3E Board Support Package

Version 1.0.0 (hereinafter referred to as “BSP v1.0.0”)

- **Distribution method**

Please visit the site below and create an account to download the packages. This site is for the entire RZ Family which includes the RZ/G3E series. Basic packages of BSP v1.0.0 which are listed in Table 2 can be downloaded.

RZ Family:

<https://www.renesas.com/products/microcontrollers-microprocessors/rz-arm-based-high-end-32-64-bit-mpus>

You can also download the basic packages of BSP v1.0.0 which are listed in Table 2 from the site below.

RZ/G3E Board Support Package:

<https://www.renesas.com/software-tool/rzg3e-board-support-package>

- **Target boards**

The target boards of this BSP are as below table.

Table 1. Target board list

Device	Evaluation Board
RZ/G3E	RZ/G3E Evaluation Board Kit. (P/N: RTK9947E57S01000BE)

- **Build Environment**

Linux Host PC

OS: Ubuntu 22.0.4 LTS (64 bit OS must be used.)

200GB free space on HDD or SSD is necessary. (*)

Note) Please note that the build of BSP is failed when Ubuntu 24.04 is used.

- **Functions**

- Linux Kernel
- Linux Drivers
- Graphics Libraries
- Codec Libraries

- **File contents**

BSP is delivered by the files listed in Table 2.

Table 2. RZ/G3E Board Support Package

Basic files of BSP v1.0.0

File	Description
RTK0EF0045Z0040AZJ-v1.0.0.zip (*1)	Board Support Package. This file includes the Yocto recipe packages and the necessary documents.
rzg3e_bsp_v1.0.0.tar.gz	Yocto recipe packages
r01us0804ej0100-rzg3e(Release_Note).pdf	This document
r01us0805ej0100-rzg3e(Linux_Start-up_Guide_RZG3E).pdf	Documents describing building instruction, booting method and the required settings of bootloader for RZ/G3E .

(*1) These packages are provided “AS IS” with no warranty and the license which is described in the source code. Please check the contents of the license, then consider the applicability to the product carefully.

Optional packages (*1)

	File (“XX” is replaced by “EN” or “JP”.)	Description
RZ MPU Graphics Library	RTK0EF0045Z14001ZJ-v4.2.0.2_rzg_XX.zip	For RZ/G3E . This provides graphics function compliant with the OpenGL ES standard.
RZ MPU Video Codec Library	RTK0EF0207Z00001ZJ-v4.4.0.0_rzg3e_XX.zip	RZ MPU Video Codec Library for RZ/G3E .

Additional packages

File	Description
RTK0EF0045Z9006AZJ-v4.0.2.zip	BSP Manual Set for RZ/G3E

Note) Detailed information regarding the configuration (Device tree) and usage of the device drivers contained in this BSP can be downloaded from Renesas.com. Please download the "BSP Manual Set".

2. Components

The components which are commonly used in this release are listed in Table 3. Please also refer to the manifest file for details. The manifest file is created to follow path after building the images:

```
$WORK/build/tmp/deploy/images/smarc-rzg3e/core-image-<image-name>-smarc-rzg3e.rootfs.manifest
```

Note: [<image-name>](#) is minimal or Weston.

Please refer to the instructions in Linux Start-up Guide of each device.

Table 3. Versions of commonly used components

Components	BSP v1.0.0
Linux kernel	6.1.107-cip28
gcc	13.3.0
glibc	2.39
busybox	1.36.1
openssl	3.2.4
gststreamer1.0	1.22.12
wayland	1.22.0
weston	13.0.1
python3	3.12.9
docker	25.0.3

Please note that VLPv4 includes packages licensed under the GPLv3 by default. If you wish to exclude these packages, please refer to the Linux Start-up Guide for instructions.

3. Restrictions

(1) Suspend to RAM

- VSPI cannot be used after resuming.
- Codec cannot resume if suspending while encoding and decoding. Before suspending, wait for finishing the encode and decode process if they are running.
- In addition to the above, if using decode, entering the following command from your console:

```
$ echo 16050000.vspm > /sys/module/vspm/drivers/platform:vspm-vsp/unbind
```

4. Notes

4.1 Note

(1) Suspend to RAM

Some open source kernel drivers developed by organizations or individuals other than Renesas (for example, HDMI transmitter, camera, and so on) do not support Suspend to RAM.

4.2 Memory Map

4.2.1 RZ/G3E

Note)

Kernel uses 4KB page size (VA_BITS=48) and 4 levels of translation tables.

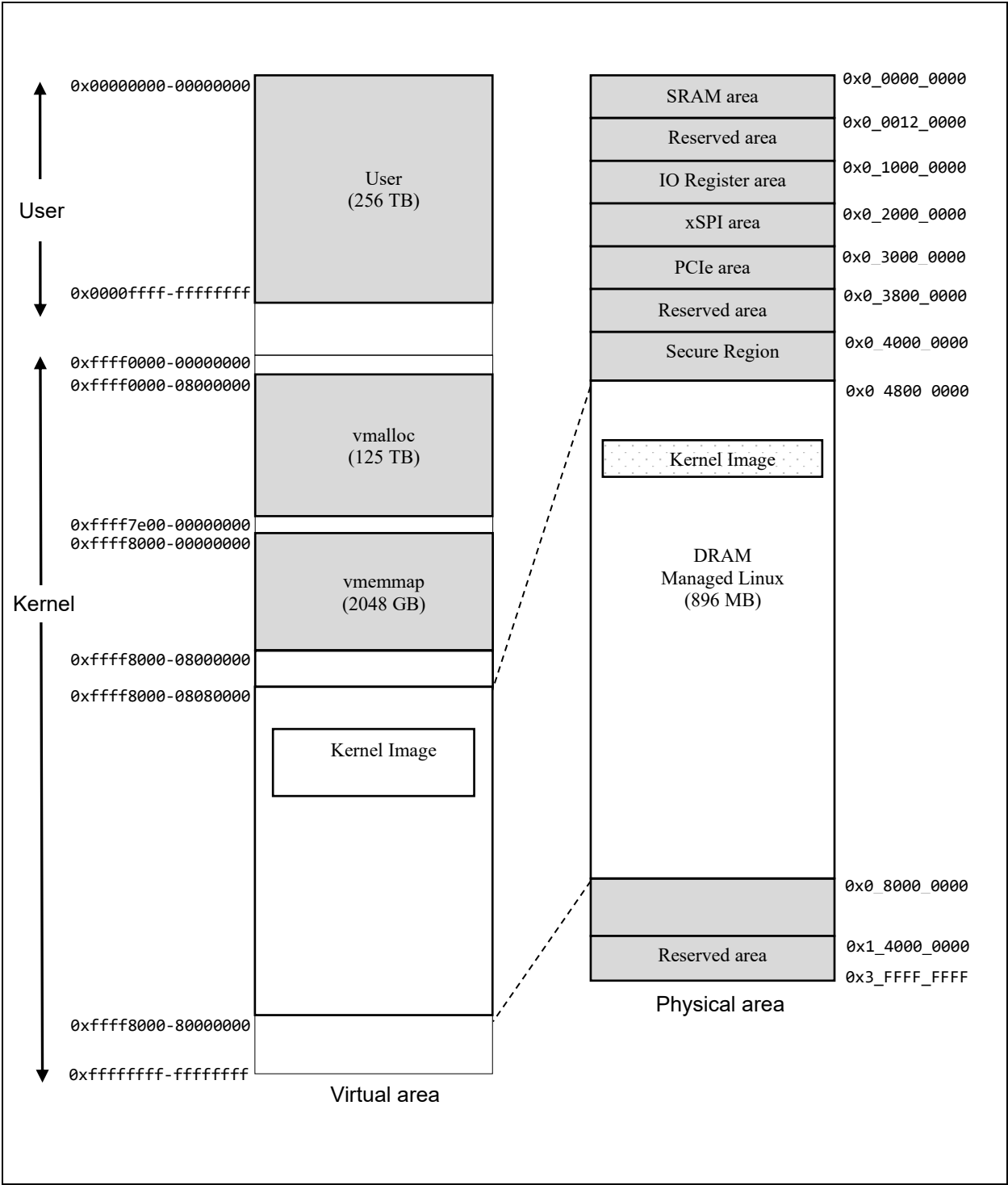


Figure 1. Memory map of kernel (RZ/G3S SMARC Evaluation Kit)

5. Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Jun. 30, 2025	-	First edition for BSP v1.0.0.

Website and Support

Renesas Electronics Website

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

Inquiries

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

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