RZ/G3E Evaluation Board Kit

This document provides quick-start instructions for setting up the RZ/G3E Evaluation Board Kit (EVK) and booting Linux.

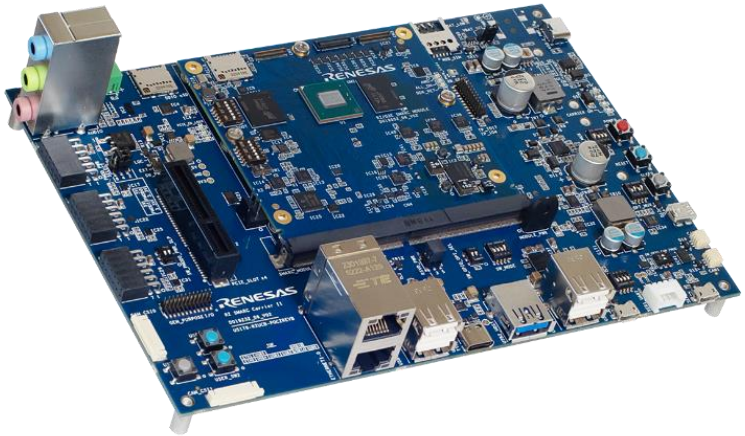
Contents

1. EVK Information

1.1 How to Get the EVK

To obtain the RZ/G3E EVK, go to the RZ/G3E EVK RTK9947E57S01000BE product page and click *Buy/Quote* under *Product Options* (Buy Direct).

1.2 EVK Contents



RZ/G3E Module Board & Carrier Board

The RZ/G3E Evaluation Board Kit consists of a module board (SOM) and a carrier board, ideal for evaluating the features of the RZ/G3E MPU. The module board complies with the SMARC v2.1 standard.

Main Contents:

- RZ/G3E module board (SMARC 2.1)
- RZ SMARC series carrier board II
- Various adapter boards, cables, screws, and other accessories

2. Quick Start Procedure

The **HMI SDK (Human Machine Interface Software Development Kit)** and **BSP (Board Support Package)** are available for this guide, and you may choose based on your usage.

However, if you are new to the RZ/G platform, we recommend starting with the HMI SDK for initial evaluation, as it provides a quicker and easier setup and allows you to experience the basic HMI functionality.

2.1 Quick Start with the HMI SDK

For users who require **a quick evaluation and HMI development environment**, the **RZ/G HMI SDK** is available, providing a ready-to-use system and demo applications. In this section, refer to the **Renesas RZ/G HMI SDK** website.

The RZ/G HMI SDK is an all-in-one Linux-based development environment for the RZ/G EVK.

The HMI SDK provides a Yocto-based Linux environment with development tools, system libraries, graphics and multimedia support, and HMI frameworks such as HTML5, LVGL, or Flutter, making it easy to create and run HMI applications.

➢**Recommended:**

We recommend starting with the **Getting Started** to begin using the **HMI SDK package**.

Using the pre-built image included in the package, you can create a bootable microSD card for the EVK and boot the Linux environment immediately. Demo applications and a toolchain installer are also included.

If you would like to further explore the HMI applications, refer to the **HMI Applications** section after completing all procedures in the Getting Started.

Note: To run the HMI applications, the following equipment is also required. Please refer to **Hardware Setup** for more details.

- HDMI Display & HDMI Cable (to display the demo applications)
- USB Hub (to connect multiple USB devices)
- USB Keyboard & Mouse (to operate the demo applications)
- USB Camera (for video input)
- Audio Speaker (for audio output)

➢**Optional:**

For users who require system customization, a **HMI SDK Yocto Build Package** is also available, allowing the Linux environment and HMI components to be built from source. For detailed procedures, refer to the **Building the HMI SDK with Yocto**.

2.2 Advanced Linux Development Options

In addition to the HMI SDK quick start flow, the BSP is also available for users who require further customization or prefer to build the Linux environment from source.

➢**BSP:**

For expert users who want to start development with **the latest LTS kernel** and require a higher level of customization, the **Board Support Package** is available.

You can download the latest BSP from the link below and follow the "*Linux Start-up Guide*" included in the downloaded **RZ/G3E Board Support Package** (ZIP) to build the BSP.

RZ/G3E Board Support Package | Renesas

3. Revision History

Revision	Date	Description
1.00	Aug 25, 2025	Initial release.
2.00	Mar 30, 2026	Updated the content to include the HMI SDK.