

[New Release]

R20TS0995EJ0100

Rev.1.00

Jan. 16, 2024

# RH850, R-Car Model-Based Environment Embedded Target for Virtual Platform

## Outline

RH850, R-Car Model-Based Environment has been released.

The free evaluation edition of this product has also been published.

Embedded Target for RH850/U2B Virtual Platform V1.00.00

Embedded Target for R-Car S4 Virtual Platform V1.00.00

Embedded Target for R-Car V4H Virtual Platform V1.00.00

Product web page: <https://www.renesas.com/mbd-rh850-rcar-vpf>

## 1. Product Overview

Embedded Target for Virtual Platform (ET-VPF) is a development environment that generates peripheral code for target devices from Simulink® models and enables cooperative verification as Virtual Hardware In the Loop Simulation (vHILS) in a virtual environment with Simulink.

- Peripheral code is generated from Simulink models, along with the algorithm code, making it easy to check the operation and evaluate the performance of the application including peripheral functions for device selection and prototyping, even if you are not familiar with device specifications.
- The use of a virtual environment enables early verification, even before the WS of the device is completed, and verification can be performed without the need for actual devices.

## 2. Product Features

- Peripheral code is generated by adding blocks corresponding to the peripheral functions of the device to the model. The supported peripheral functions are as follows.

| Devices                                 | Peripheral functions      |
|-----------------------------------------|---------------------------|
| RH850/U2B, RH850/F1KM-S1, RH850/F1KM-S4 | Port, ADC, CAN, UART, PWD |
| R-Car S4, R-Car V4H                     | GPIO, CAN, Ethernet       |

RH850/F1KM was released in October 2022

- It automatically builds a vHILS verification environment using a virtual environment and enables verification of the cooperation between Simulink and the virtual environment.
- A comparison of vHILS and the Model In the Loop Simulation (MILS) execution results enables back-to-back testing as recommended by ISO 26262.

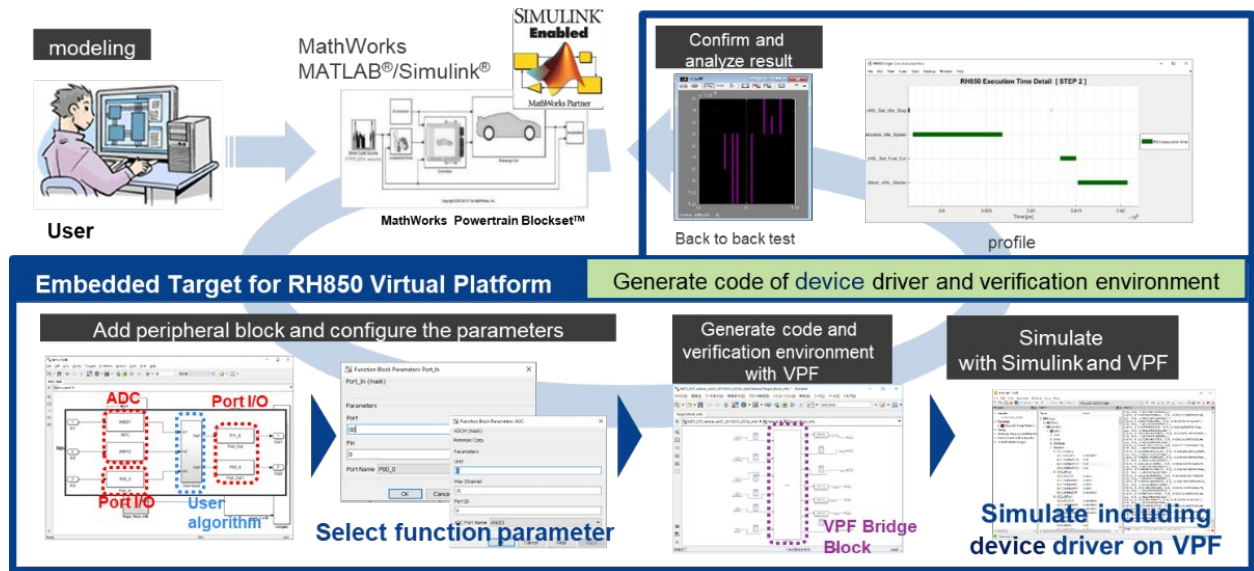


Figure 1: Product overview for RH850

### 3. Target Devices

RH850/U2B, R-Car S4, R-Car V4H

### 4. Operating Environment

- Windows® 10 (64-bit version)
- MATLAB® R2020a
- RH850/U2B
  - VLAB V2.8.3
  - Cygwin V2.11.2
  - Smart Configurator for RH850 V1.8.0
  - CC-RH V2.05.00 (Included in CS+ V8.09.00)
- R-Car
  - Virtualizer Development Kit
    - T-2022.06-3 (R-Car S4)
    - Q-2020.06 (R-Car V4H)
  - MCAL
    - Ver19.1.0 (R-Car S4)
    - Ver19.0.20 (R-Car V4H)

Microsoft Corporation

The MathWorks Inc.

Australian Semiconductor Technology Company

[www.cygwin.com](http://www.cygwin.com)

Renesas Electronics Corporation

Renesas Electronics Corporation

Synopsys Inc.

Renesas Electronics Corporation

### 5. Free Evaluation Edition

Before purchasing the product, you can evaluate its performance and functionality with the evaluation edition.

After obtaining the evaluation edition from the download list in Product web page, please request the license key from your distributor or our sales representative.

## 6. Purchasing the Product

Contact your local Renesas Electronics sales office or distributor and inform them of the following product information.

For the price of the product, contact the sales office or distributor.

| Product name                               | Part No.           |
|--------------------------------------------|--------------------|
| Embedded Target for RH850 Virtual Platform | RTC00CST000000011J |
| Embedded Target for R-Car Virtual Platform | RTC00CST000000013J |

Revision History

| Rev. | Date      | Description |                      |
|------|-----------|-------------|----------------------|
|      |           | Page        | Summary              |
| 1.00 | Jan.16.24 | -           | First edition issued |
|      |           |             |                      |

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