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Contributing to more efficient embedded system development

E2 Emulator

RTE0T00020KCE00000R

https://www.renesas.com/e2

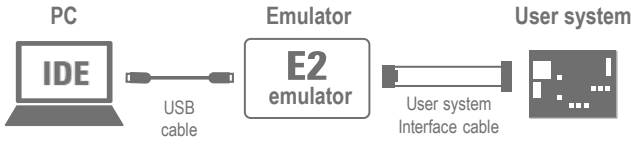
Overview

The E2 emulator is an advanced on-chip debugging emulator and flash programmer developed with the concept of greater efficiency in development. The combination of its high-speed downloading and various software and hardware solutions will contribute to reducing development times.

Package components

- E2 emulator main unit
- Conversion adapter
- User system interface cable
- USB cable
- Test lead

System configuration



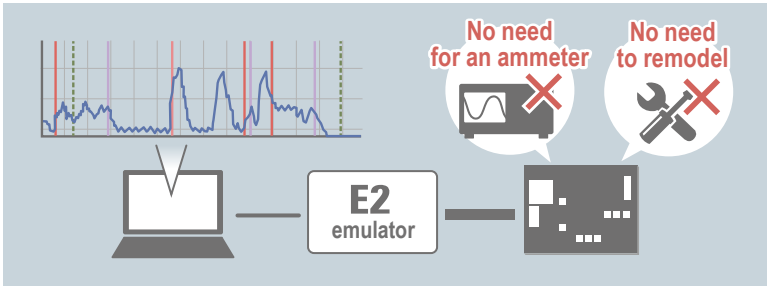
for RL78 and RX Families

Current Consumption Tuning Solution

In conjunction with the QE for Current Consumption, a dedicated tool for measuring current drawn, the E2 emulator is capable of the following items. These shorten the time taken to tune currents.

- ✔ Measuring current with the E2 emulator alone
- ✔ Stopping a program when an excessive current is detected
- ✔ Visualizing the relationship between program operations and current

https://www.renesas.com/qe-current-consumption



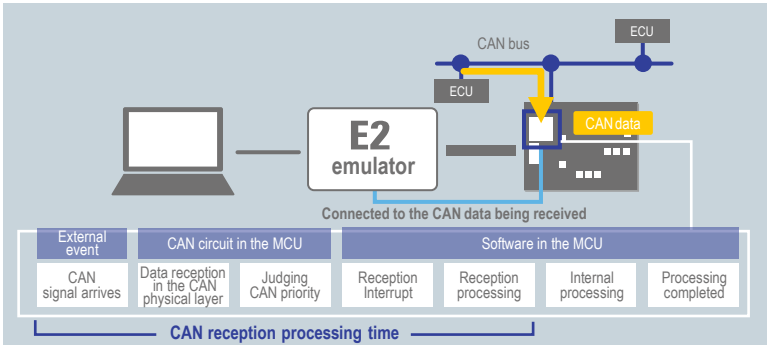
for RH850 Family

CAN Communications Time Measurement Solution

The following CAN-related tasks ease verifying the speed of CAN communications in terms of system requirements.

- ✔ Measuring the reception processing time in CAN communications with the E2 emulator alone
- ✔ Stopping a program when the reception processing time exceeds the design value
- ✔ Visualizing the history of CAN communications

https://www.renesas.com/e2-solution-can



Target Devices

- ✔ RA family
- ✔ RE family
- ✔ RL78 family
- ✔ RX family
- ✔ RH850 family
- ✔ R-Car D1

Since the supported devices differ with the software you are using, confirm details in the [Target devices] column of [Release Information] under [Product Info] on the Web page of the E2 emulator. https://www.renesas.com/e2

Product Specifications

Item	Description
Method of connection Break function Tracing Reference to and changing memory contents while a program runs Performance measurement	Since the method of connection and the functions may differ with the device you are using, refer to Onchip Debuggers Performance Property Search keyword : R20UT0616
On-board programming	Supported
User interfaces	14pin 2.54mm pitch connector (7614-6002: from 3M Japan, 2514-6002 : from 3M Limited) 20pin 1.27mm pitch connector (FTSH-110-01-L-DV-K : from Samtec) 10pin 1.27mm pitch connector (FTSH-105-01-L-DV-K : from Samtec)
PC interface	USB 2.0, full speed and high speed
Connection to the system	Connection to the system is via the user system interface cable which comes with the product (signals for connection vary with the type of the target MCU).
Facility to supply power to the user system from the E2 emulator	200 mA max. (1.8 V to 5.0 V)
Power-supply voltage	The range of operating voltage for the target MCU (1.8 V to 5.5 V)
External dimensions (except for the protruding parts)	105.9 mm × 64.0 mm × 19.5 mm
Compliance with overseas standards	European Standards: EN 55022 Class A, EN 55024 US FCC Standard: FCC part 15 Class A

The supported facilities differ with the integrated development environment you are using.

Optional Products

The following optional products are provided to facilitate the use of the E2 emulator in various ways.
They are only for certain ranges of products, so take care to select products that work with the MCU you are using.

Conversion adapter	Converts the number and pitch of pins of the connector for connecting the emulator.
Isolator	Enables debugging in environments where the grounds of the user system and the host PC are not the same.
Low-voltage OCD board	Enables debugging of an MCU with a power-supply voltage such that the onchip flash ROM cannot be reprogrammed.
Debugging MCU board	Enables the use of enhanced debugging functions.

Contact information
For further information on a product technology, to most up-to-date version of a document, or your nearest office, please visit **www.renesas.com/contact/**

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