

[Notification]

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E2 Emulator for Reducing the Time Required to Solve Problems

with Speed Performance by Using the CAN Communication Time Measurement Solution

Outline

This document gives an overview of the advanced on-chip debugging emulator (E2 emulator) based on the concept of "improvement of development efficiency", and explains the CAN communication time measurement solution for RH850 family. The E2 emulator allows you to quickly solve problems regarding response times in CAN communications.

1. Overview of the E2 Emulator

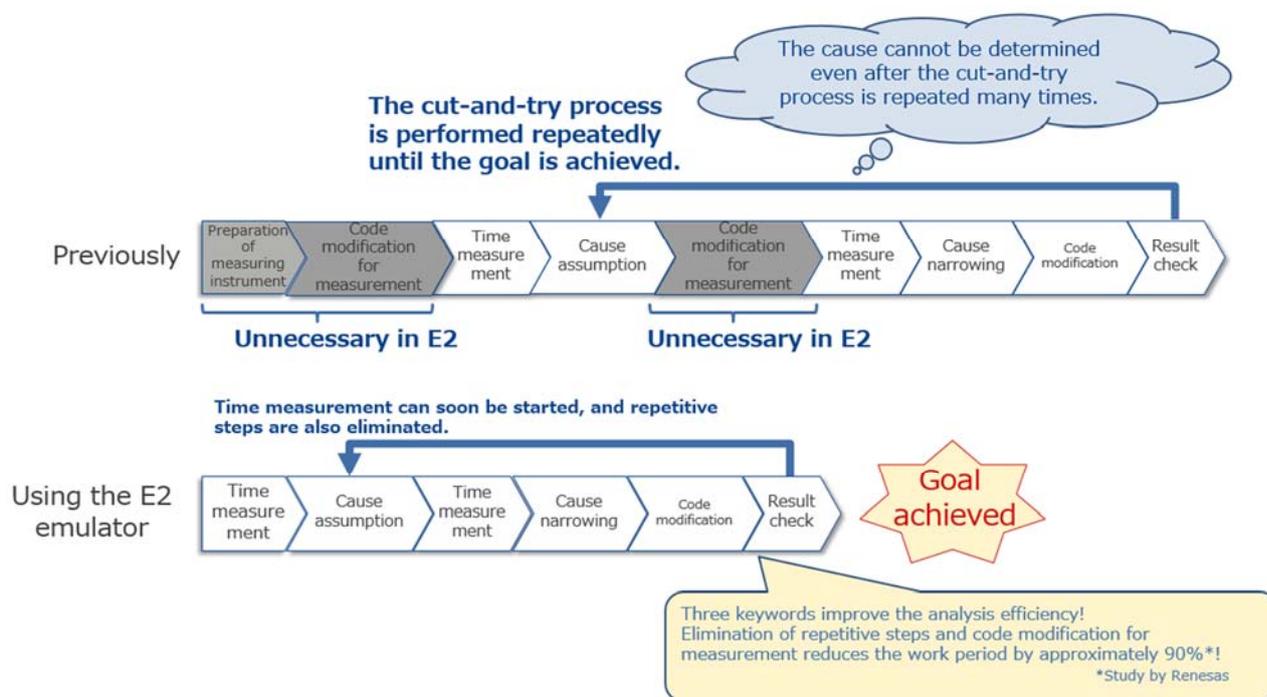
The E2 emulator is an advanced on-chip debugging emulator and flash programmer, and is established based on the concept of "improvement of development efficiency". The maximum download speed is two times faster than the E1 emulator. In addition to the CAN communication time measurement solution explained in this document, the E2 emulator combined with various solutions will further reduce development time.

For details about the E2 emulator, refer to the URL below.

<https://www.renesas.com/e2>

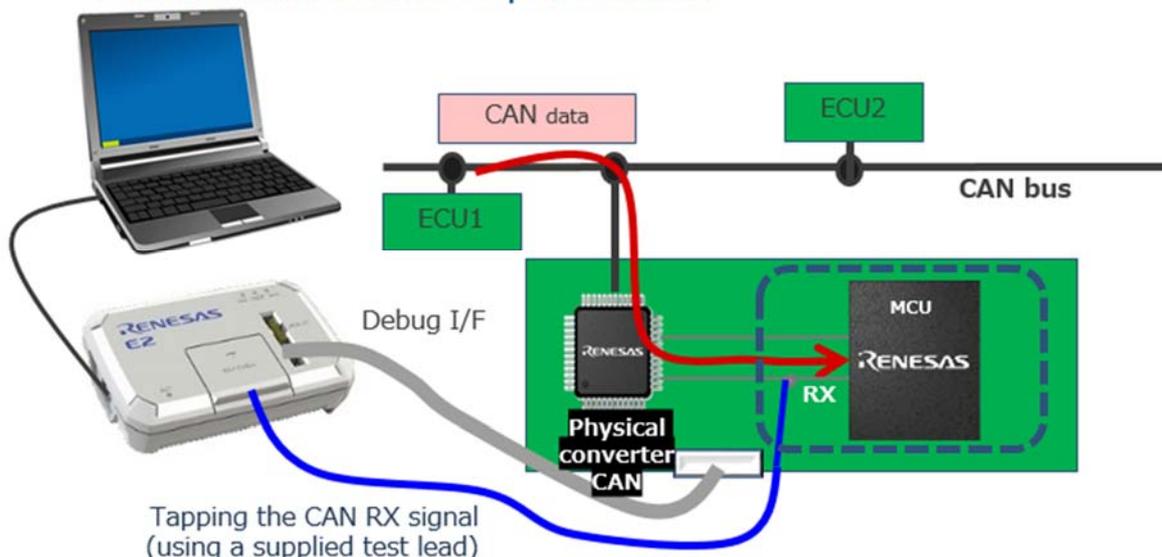
2. CAN Communication Time Measurement Solution

The E2 emulator has three keywords "Easy measurement", "No missing data", and "Quick identification" for improved efficiency of analysis regarding response times in CAN communications.



- Easy measurement

The E2 emulator can singly and easily measure the CAN communication response time.

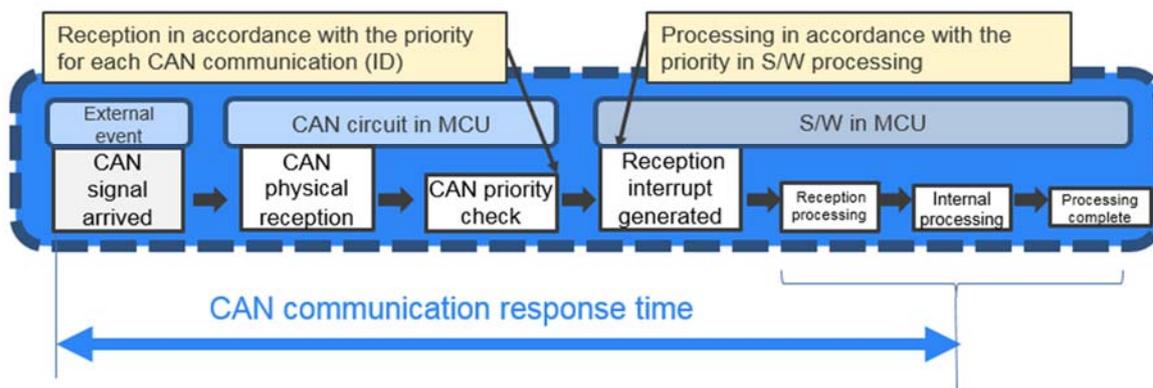


The E2 emulator can singly and easily measure response times, which are important for CAN communications, without using an expensive CAN analyzer.

The measurement method is simply to connect the E2 emulator to the MCU RX signal by using a supplied test lead.

- No missing data

Breaking the program is possible in the case of "set time < CAN communication response time".

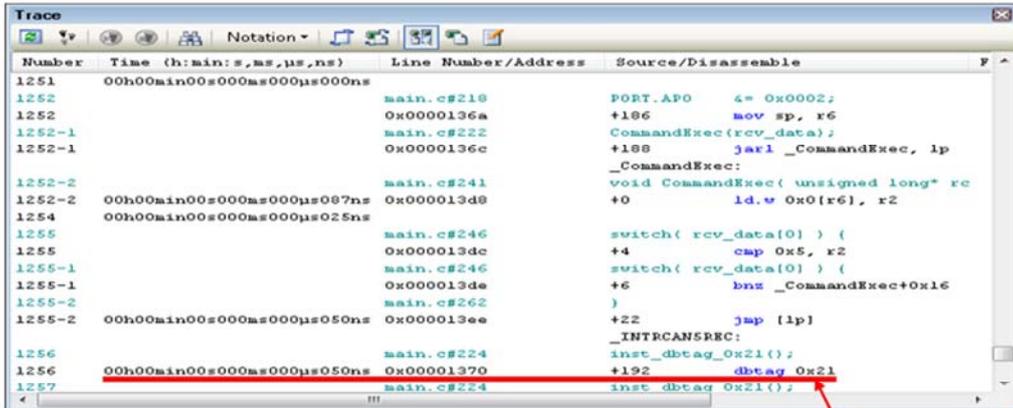


If the CAN communication response time specified by the user exceeds a design value, the E2 emulator can stop the program.

● Quick identification

Checking trace data from the measurement end point to locate a problem

Trace result



CAN communication history

[Time]	[Type]	[Contents]
0h 00m 00s 251ms 452us 316	CAN	ID=0x3E6 DLC=0x8 DATA=0xE603000000
0h 00m 00s 251ms 702us 425	CAN	ID=0x3E7 DLC=0x8 DATA=0xE703000000000000 Ack=0
0h 00m 00s 251ms 946us 958	SWTrace	DBTAG 0x021

Measurement end point of the CAN communication response time

You can quickly locate a problem in the program by finding the end point of the CAN communication response time measurement from the CAN communication history and checking trace data from the measurement end point.

3. How to Purchase the Product

For product ordering, contact your local Renesas Electronics marketing office or distributor with the following information.

For product pricing, make inquiries in the same manner.

Product Name	E2 emulator
Orderable Part Name	RTE0T00020KCE00000R

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Jul. 01, 2018	-	First edition issued

TOYOSU FORESIA, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061 Japan
 Renesas Electronics Corporation

■Inquiry

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

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