

RA8M2 Group

Evaluation Kit for RA8M2 Microcontroller Group
EK-RA8M2 v1
Errata

Renesas RA Family
RA8 Series

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Precautions

This Evaluation Kit is only intended for use in a laboratory environment under ambient temperature and humidity conditions. A safe separation distance should be used between this and any sensitive equipment. Its use outside the laboratory, classroom, study area, or similar such area invalidates conformity with the protection requirements of the Electromagnetic Compatibility Directive and could lead to prosecution.

The product generates, uses, and can radiate radio frequency energy and may cause harmful interference to radio communications. There is no guarantee that interference will not occur in a particular installation. If this equipment causes harmful interference to radio or television reception, which can be determined by turning the equipment off or on, you are encouraged to try to correct the interference by one or more of the following measures:

- Ensure attached cables do not lie across the equipment.
- Reorient the receiving antenna.
- Increase the distance between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Power down the equipment when not in use.
- Consult the dealer or an experienced radio/TV technician for help.

Note: It is recommended that wherever possible shielded interface cables are used.

The product is potentially susceptible to certain EMC phenomena. To mitigate against them it is recommended that the following measures be undertaken:

- The user is advised that mobile phones should not be used within 10 m of the product when in use.
- The user is advised to take ESD precautions when handling the equipment.

The Evaluation Kit does not represent an ideal reference design for an end product and does not fulfill the regulatory standards for an end product.

Renesas RA Family

EK-RA8M2 v1

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1. Introduction

This Errata describes the known issues and exceptions to the functional specifications for the EK-RA8M2 v1, Evaluation Kit for the RA8M2 MCU Group. For additional information on the kit, see the EK-RA8M2 v1 User's Manual.

2. Known Issues and Exceptions

2.1 I3C SCL controlled PU (P013) only supports Low Drive Strength

2.1.1 Description

The I3C peripheral can work in I²C mode, but this configuration requires the use of external pull-ups. This capability is provided on the current design using P013. This pin, used to pull up the SCL signal, supports low drive strength only, as shown in the table extract from the device hardware manual r01uh1066ej.

While this pin will work, it may not have the capability needed for the highest speed I²C communication.

A future revision of the board will move this connection to a pin capable of high drive strength.

Table 20.7 Register settings for input/output pin function (PORT0)

PSEL[4:0] Settings	Function	Pin															
		P000	P001	P002	P003	P004	P005	P006	P007	P008	P009	P010	P011	P012	P013	P014	P015
00000b (value after reset)	Hi-z/ JTAG/SWD	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z	Hi-z
ASEL bit		AN000/ IVCMP 2	AN001/ IVCMP 3	AN002/ IVCMP 2	AN003/ IVCMP 3	AN004/ IVCMP 2	AN005/ IVCMP 3	AN006/ IVCMP 2	AN007/ IVCMP 3	AN008/ IVREF0	AN009/ IVREF1	AN010	AN011	AN012	AN013	AN014/ DA0/ IVCMP 0	AN015/ DA1/ IVCMP 0
ISEL		IRQ6- DS	IRQ7- DS	IRQ8- DS	IRQ9- DS	IRQ10- DS	IRQ11- DS	IRQ12- DS	IRQ13- DS	IRQ14	IRQ15	IRQ16	IRQ17	IRQ18	IRQ19	IRQ20	IRQ21
PCR bit	Pull-up	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NCODR bit	N-ch Open-drain	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DSCR[1:0] bit	Drive capability control ¹⁾	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
289 pins product		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
224 pins product		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—	—	—	—	✓	✓
176 pins product		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—	—	—	—	✓	✓

✓: Available
—: Setting prohibited

Note 1. The drive strength of this port cannot be controlled by PmnPFS.DSCR[1:0] bits.

Figure 1. I/O Register Settings for PORT0

2.1.2 Corrective Action

[Affected Kits]

To address this, the user can connect a resistor to the SCL line via the connections on Arduino, mikroBUS, Grove1 or QWIIC connectors, and the other end of the resistor to a suitable high drive strength capable port pin that is not used for other functions.

We suggest using port P311, as this pin is capable and is otherwise unused. It is accessible on J17 Pin 3

When implementing this configuration, ensure that P013 is set to high impedance.

[Future Kits]

This issue will be corrected in later versions of the kit.

2.1.3 Kits Affected

Version:	1
Serial numbers:	302675 to 302974

3. Appendix – Kit Identification

3.1 Kit Version

The kit version is identified on the board above the Renesas RA logo as shown in Figure 2.



Figure 2. Identification of the Kit Version Number on the EK-RA8M2 Board

3.2 Serial Number

In addition to the kit version number, the kit serial number is used to uniquely identify a kit.

The serial number is located on the bar code sticker on the back/bottom side of EK-RA8M2 board. In the example in Figure 3, the serial number is “302675”.

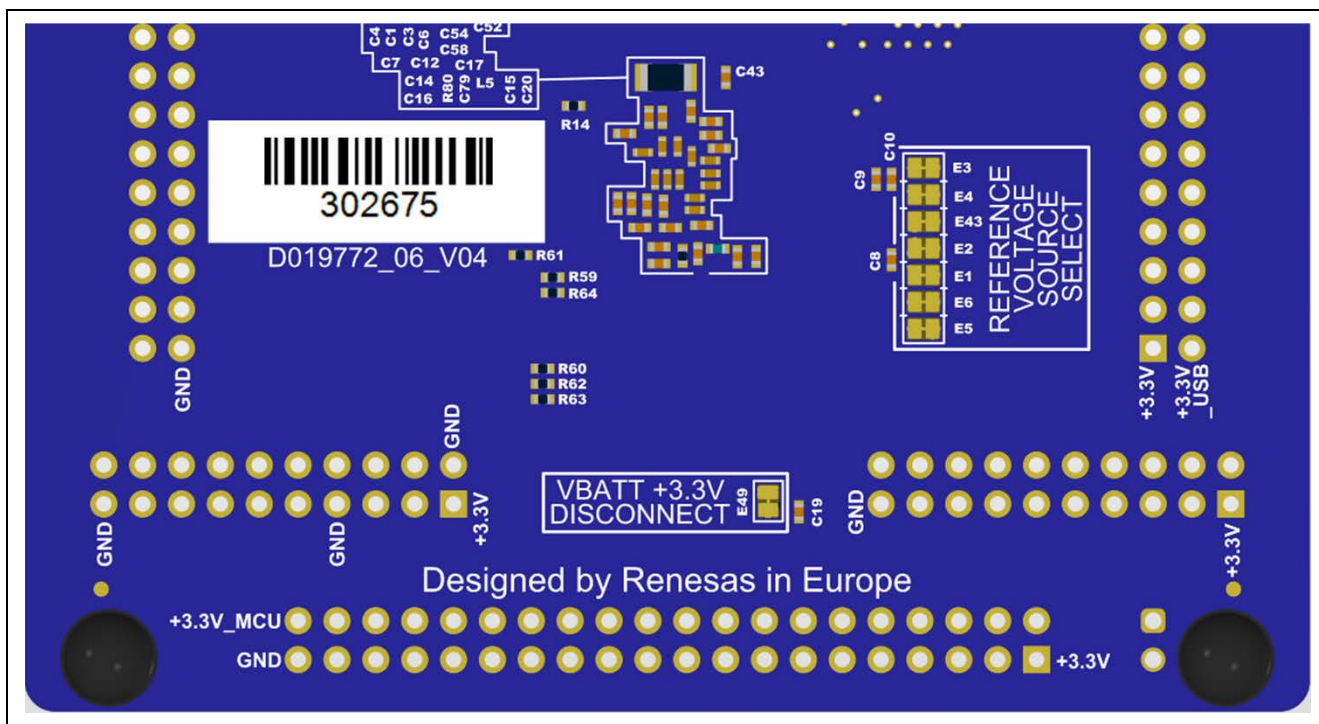


Figure 3. Identification of the Serial Number on the EK-RA8M2 Board

4. Website and Support

Visit the following URLs to learn about the kit and the RA family of microcontrollers, download tools and documentation, and get support.

EK-RA8M2 Resources	renesas.com/ek-ra8m2
RA Kit Information	renesas.com/ra/kits
RA Product Information	renesas.com/ra
RA Product Support Forum	renesas.com/ra/forum
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Renesas Support	renesas.com/support
RA Flexible Software Package (FSP)	renesas.com/fsp

Revision History

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