[Notes]

RX Family

RSPI Module Firmware Integration Technology,

RX Driver Package

Outline

When using the products in the title, note the following point.

1. Notes on callback functions when RSPI and DTC are combined

1. Notes on callback functions when RSPI and DTC are combined

1.1 Applicable Products

(1) RSPI module Firmware Integration Technology (RSPI FIT module)

The applicable revision numbers and document numbers are as follows.

Table 1.1　　RSPI FIT module applicable products

Revision number of the RSPI FIT module	Document number
Rev.2.05	R01AN1827EJ0205
Rev.2.04	R01AN1827EJ0204
Rev.2.03	R01AN1827EJ0203
Rev.2.02	R01AN1827EJ0202
Rev.2.01	R01AN1827EJ0201
Rev.2.00	R01AN1827EJ0200

(2) RX Driver Package

The RSPI FIT module in (1) is also included in the RX Driver Package.
The product names and revision numbers of the applicable RX Driver Package and the revision numbers of the RSPI FIT module are as follows.

Table 1.2　　Products which include the RSPI FIT module

RX Driver Package product name	RX Driver Package revision number	Document number	Revision number of the included RSPI FIT module
RX Family RX Driver Package Ver.1.26	Rev.1.26	R01AN5401EJ0126	Rev.2.05
RX Family RX Driver Package Ver.1.25	Rev.1.25	R01AN5371EJ0125	Rev.2.05
RX Family RX Driver Package Ver.1.24	Rev.1.24	R01AN5267EJ0124	Rev.2.04
RX Family RX Driver Package Ver.1.23	Rev.1.23	R01AN4976EJ0123	Rev.2.03
RX Family RX Driver Package, Ver.1.22	Rev.1.22	R01AN4873EJ0122	Rev.2.03
RX Family RX Driver Package Ver.1.20	Rev.1.20	R01AN4794EJ0120	Rev.2.01
RX Family RX Driver Package Ver.1.19	Rev.1.19	R01AN4677EJ0119	Rev.2.00

1.2   Applicable Devices

RX110, RX111, RX113, and RX130 groups

RX230, RX231, RX23E-A, RX23W, RX23T, RX24T, and RX24U groups

RX64M, RX651, RX65N, and RX66T groups

RX71M, RX72T, RX72M, and RX72N groups

1.3   Details and Conditions

We have identified an error in the processing of the DTC callback function in the sample program. Therefore, either or both of the following problems may occur if you create a callback function according to the sample program code and perform any one of the R_RSPI_Write, R_RSPI_Read, and R_RSPI_WriteRead functions, thus combining RSPI with DTC.

(1)   Second communication does not start.

If the program lacks processing for writing 0 to the SPE bit, the second and subsequent communications will not start.

(2)   Missing data occurs in transmission or reception.

An internal transmit buffer empty interrupt request may persist. In this case, missing transmission or reception data may occur in the subsequent communications.

1.4 Workaround

If you use it in combination with DTC, add each of the following processing to the callback function.

The following description is based on the sample program for RSPI FIT module Rev.2.05 as an example.

(1) Workaround for when the second communication does not start

If you use it in combination with DTC, write 0 to the SPE bit in the user RSPI callback function, which is called at the end of communication.

(2) Workaround for when missing data occurs in transmission or reception

If you use it in combination with DTC, write 0 to the SPTIE bit in the user RSPI callback function, which is called at the completion of DTC transmission.

Before modification

```
static void my_rspi_callback(void *p_data)
{
    demo_callback_event = (*(rspi_callback_data_t *)p_data).event_code;
    transfer_busy = false;
}
```

After modification (Add the parts shown in red.)

```
static void my_rspi_callback(void *p_data)
{
    demo_callback_event = (*(rspi_callback_data_t *)p_data).event_code;
    transfer_busy = false;

#ifdef RSPI_DTC_TEST // Macro definition defined in the RSPI sample program, to be enabled when combined with DTC.
    RSPI0.SPCR.BIT.SPTIE   = 0;   // Disable SPTI for (2).
    RSPI0.SPCR.BIT.SPE     = 0;   // Disable RSPI for (1).
#endif
}
```

1.5 Schedule for Fixing the Problem

This problem will be fixed in the next version.

Revision History

Rev.	Date	Description	
		Page	**Summary**
1.00	Oct.01.20	-	First edition issued

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