Outline

When using the products in the title, note the following point.
1. More than 1 SCI channel uses DTC, abnormality in data transfer might happen.

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1.1 Applicable Products

1) SCI module Firmware Integration Technology (SCI FIT module)
   The applicable revision numbers and document numbers are as follows:

   Table 1.1 SCI FIT module applicable products

<table>
<thead>
<tr>
<th>Revision number of the SCI FIT module</th>
<th>Document number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rev.4.30</td>
<td>R01AN1815EJ0430</td>
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<tr>
<td>Rev.4.20</td>
<td>R01AN1815EJ0420</td>
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<td>R01AN1815EJ0410</td>
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<td>R01AN1815EJ0391</td>
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<td>Rev.3.90</td>
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<td>Rev.3.80</td>
<td>R01AN1815EJ0380</td>
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<td>Rev.3.70</td>
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<tr>
<td>Rev.3.60</td>
<td>R01AN1815EJ0360</td>
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</table>

2) RX Driver Package
   The SCI 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 SCI FIT module are as follows:

   Table 1.2 SCI FIT module applicable products

<table>
<thead>
<tr>
<th>RX Driver Package product name</th>
<th>RX Driver Package revision number</th>
<th>Document number</th>
<th>Revision number of the included SCI FIT module</th>
</tr>
</thead>
<tbody>
<tr>
<td>RX Family</td>
<td>Rev.1.34</td>
<td>R01AN6323xx0134</td>
<td>Rev.4.30</td>
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<tr>
<td>RX Family</td>
<td>Rev.1.33</td>
<td>R01AN6073xx0133</td>
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<td>RX Family</td>
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<td>R01AN5882xx0130</td>
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<td>RX Family</td>
<td>Rev.1.29</td>
<td>R01AN5826xx0129</td>
<td>Rev.3.70</td>
</tr>
</tbody>
</table>
1.2 Applicable Devices
RX110, RX111, RX113, RX130, RX140, and RX13T groups
RX230, RX231, RX23E-A, RX23W, RX23T, RX24T, and RX24U groups
RX64M, RX65N, RX66N, and RX66T, RX671 groups
RX71M, RX72T, RX72M, and RX72N groups

1.3 Details
Data transfer would fail when more than 1 SCI channels uses DTC FIT module.
In SCI code, DTC transfer information structures `tx_info_dtc` and `rx_info_dtc` are shared among SCI channels. Under this condition, if the data transfer of one SCI channel (using DTC) is initiated before the data transfer of the other SCI channel (using DTC) is completed, transfer may be erroneous because the DTC transfer information structure is corrupted.

```c
//r_sci_rx_dtc.c
...
dtc_cmd_arg_t         tx_args_dtc;
dtc_transfer_data_cfg_t tx_cfg_dtc;
dtc_transfer_data_t   tx_info_dtc;
dtc_cmd_arg_t         rx_args_dtc;
dtc_transfer_data_cfg_t rx_cfg_dtc;
dtc_transfer_data_t   rx_info_dtc;
...
//Only 1 set of transfer information and shared by all SCI channels using DTC
```
1.4 Conditions

- When more than one SCI channels use DTC, transfer may be erroneous.

Below are sample codes which illustrate the conditions under which the error would happen:

```c
//main.c
...
R_SCI_SendReceive(g_my_sci_handle12, ..., ...);
R_SCI_Send(g_my_sci_handle0, ..., ...);
//CH12 transfer may be erroneous.
...
```

In the above code, `R_SCI_SendReceive(g_my_sci_handle12, ..., ...)` is called immediately after `R_SCI_Send(g_my_sci_handle0, ..., ...)`, without checking if CH12 data transfer is completed. `tx_info_dtc` is used by both CH0 and CH12, DTC transfer information for CH12 is corrupted, and thus transfer may be erroneous.

Similarly, the code below would also yield transfer to be erroneous:

```c
//main.c
...
R_SCI_Send(g_my_sci_handle12, ..., ...);
R_SCI_Send(g_my_sci_handle0, ..., ...);
//CH12 transfer will be corrupted. Error would happen
...
```
1.5 Workaround
Temporary workaround: Do not use two or more SCI channels with DTC
User should upgrade to SCI FIT Rev.4.40 once it is available

1.6 Schedule for Fixing the Problem
This problem will be fixed in SCI FIT Rev.4.40
## Revision History

<table>
<thead>
<tr>
<th>Rev.</th>
<th>Date</th>
<th>Description</th>
<th>Page</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
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<td>1.00</td>
<td>Jul. 01.22</td>
<td>First edition issued</td>
<td>-</td>
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