

[Notes]

R20TS0287EJ0100

Rev.1.00

RX Family TCP/IP for Embedded System M3S-T4-Tiny

Apr. 1, 2018

Outline

When using the RX family TCP/IP for embedded system M3S-T4-Tiny, note the following point.

1. When calling callback functions at completion of UDP transmission

1. When Calling Callback Functions at Completion of UDP Transmission

1.1 Applicable Products

- RX family TCP/IP for embedded system M3S-T4-Tiny Firmware Integration Technology V.2.06 to V.2.07 (abbreviated as “M3S-T4-Tiny” hereafter)
- Sample code that uses RX family TCP/IP for embedded system M3S-T4-Tiny Firmware Integration Technology V.1.06
- RX Family RX Driver Package V.1.12 to V.1.14 (M3S-T4-Tiny is included in the RX Driver Package.)

1.2 Applicable MCUs

RX family

1.3 Details

Processing at completion of UDP transmission is incorrect, which results in a memory reference to an unintended location.

As a result, pre-registered callback functions may not be called and completion of transmission may not be detected.

1.4 Conditions

This problem occurs when the `udp_snd_dat()` API (UDP transmission) is executed as a non-blocking call.

1.5 Workaround

M3S-T4-Tiny comes with the library file make environment (CS+ project) and source code. The user must perform the following procedure to generate library files with which to overwrite the user project.

[Procedure]

Folder names and paths: Those of V.2.07 are used.

Integrated development environment: CS+ V.6.01.00

- (1) Decompress “¥an-r20an0051jj0207-rx-t4-connectivity¥FITModules¥r_t4_rx_v2.07.zip”.
- (2) Decompress “¥r_t4_rx_v2.07¥r_t4_rx¥make_lib¥make_lib.zip”.
- (3) Double-click “¥make_lib¥T4_Library¥cs¥rx_ether¥rx_ether.mtpj” and start CS+.

(4) Open `udp.c` and modify lines around line 763 of `_udp_snd()` as shown below. The modification is shown in red.

[Before modification]

```
fncd = TFN_UDP_SND_DAT;
if (0 == (_ch_info_head[udp_ccep[count].cepatr].ip_terminated_flag))
{
    (*pcep->callback)(i + 1, fncd, (VP)&pureq->snd_ercd);
}
```

[After modification]

```
fncd = TFN_UDP_SND_DAT;
if (0 == (_ch_info_tbl->ip_terminated_flag))
{
    (*pcep->callback)(i + 1, fncd, (VP)&pureq->snd_ercd);
}
```

(5) - In the CS+ menu bar, click [Build] -> [Build Mode Settings].

- In the [Build Mode Settings] window, in the [Build Mode list] section, select "DefaultBuild". Click the [Apply to All] button.

- Click the [Close] button to close the [Build Mode Settings] window.

(6) - In the CS+ project tree, under `T4_Library_rxv1_ether_little` (sub-project), double-click [CC-RX].

- Click the [Compile Options] tab. Under [MISRA C rule check], locate [Apply rule]. Change the setting to "Not apply rule".

(7) Perform the same procedure for `T4_Library_rxv1_ether_big` (sub-project) as in (6).

(8) - In the CS+ menu bar, click [Build] -> [Rebuild Project] to execute rebuild.

- When rebuild is completed, the following files are generated.

```
¥make_lib¥T4_Library¥cs¥rx_ether¥T4_Library_rxv1_ether_little¥DefaultBuild¥T4_Library_rxv1_ether_little.lib
```

```
¥make_lib¥T4_Library¥cs¥rx_ether¥T4_Library_rxv1_ether_big¥DefaultBuild¥T4_Library_rxv1_ether_big.lib
```

(9) Use the library files in (8) to overwrite "T4_Library_rxv1_ether_little.lib" and "T4_Library_rxv1_ether_big.lib" in the user project.

1.6 Schedule for Fixing the Problem

This problem will be fixed in the next version.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Apr. 1, 2018	-	First edition issued

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