

## Customer Notification

# AP3-78K0RFX3-EE

## Applilet3 for 78K0R/Fx3

### Operating Precautions

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**78K0R/FB3:**       $\mu$ PD78F1804, 78F1805, 78F1806,  
 $\mu$ PD78F1807

**78K0R/FC3:**       $\mu$ PD78F1812, 78F1813, 78F1814,  
 $\mu$ PD78F1815, 78F1816, 78F1817,  
 $\mu$ PD78F1826, 78F1827, 78F1828

**78K0R/FE3:**       $\mu$ PD78F1818, 78F1819, 78F1820,  
 $\mu$ PD78F1821, 78F1822, 78F1831,  
 $\mu$ PD78F1832, 78F1833

**78K0R/FF3:**       $\mu$ PD78F1823, 78F1824, 78F1825,  
 $\mu$ PD78F1836, 78F1837, 78F1838,  
 $\mu$ PD78F1840

**78K0R/FG3:**       $\mu$ PD78F1841, 78F1842, 78F1843,  
 $\mu$ PD78F1845

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## Table of Contents

A)	Table of Operating Precautions for AP3-78K0RFX3-EE .....	5
B)	Description of Operating Precautions for AP3-78K0RFX3-EE .....	6
	No. A1 Missing API Reference .....	6
	No. A2 UARTFx: Wrong Code generated for buffered transmission .....	7
	No. A3 UARTFx: Buffer register address not incremented correctly .....	8
	No. A4 TAUx: 0% and 100% duty cycle on PWM not selectable .....	8
	No. A5 Maximum Baudrate in CSImn is set to wrong value .....	9
	No. A6 Unused modules not erased from project file .....	9
	No. A7 TAUx Channel 7 Output Pin configuration in slave mode missing .....	9
	No. A8 Generated I <sup>2</sup> C Start condition function may violate I <sup>2</sup> C specification .....	9
	No. A9 Generated I <sup>2</sup> C Stop condition function may violate I <sup>2</sup> C specification .....	10
C)	Supported Devices .....	11
D)	Supported Operating Systems .....	11
E)	Supported Development Environments .....	12
F)	Valid Specification .....	12
G)	Copyright Notices .....	13
H)	Revision History .....	13

## A) Table of Operating Precautions for AP3-78K0RFX3-EE

Table A-1 Table description

No.	Outline	Version	AP3-78K0RFX3-EE		
			V1.10	V2.00	V2.01
<a href="#">A1</a>	Missing API Reference		x	✓	✓
<a href="#">A2</a>	UARTFx: Wrong Code generated for buffered transmission		x	x	✓
<a href="#">A3</a>	UARTFx: Buffer register address not incremented correctly		x	x	✓
<a href="#">A4</a>	TAUx: 0% and 100% duty cycle on PWM not selectable		x	x	x
<a href="#">A5</a>	Maximum Baudrate in CSImn is set to wrong value		x	x	x
<a href="#">A6</a>	Unused modules not erased from project file		-	x	x
<a href="#">A7</a>	TAUx Channel 7 Output Pin configuration in slave mode missing		-	x	x
<a href="#">A8</a>	Generated I <sup>2</sup> C Start condition function may violate I <sup>2</sup> C specification		x	x	x
<a href="#">A9</a>	Generated I <sup>2</sup> C Stop condition function may violate I <sup>2</sup> C specification		x	x	x

- ✓: Not applicable
- x: Applicable
- : Not checked

## B) Description of Operating Precautions for AP3-78K0RFX3-EE

Table B-1 No. A1 Missing API Reference

<p><u>Details</u></p> <p>The online help consisting of User Guide and API reference is not available.</p> <p><u>Workaround</u></p> <p>To get a list of the possible API functions, please generate an output report. The output report includes two files generated in the project folder:</p> <ul style="list-style-type: none"><li>- function.html -&gt; summary of all API functions (used and unused functions of the current application)</li><li>- macro.html -&gt; summary of all preprocessor symbols</li></ul>
---

Table B-2 No. A2 UARTFx: Wrong Code generated for buffered transmission

Details

Module: CG\_serial.c, CG\_serial\_user.c  
 Function: UARTFx\_SendData, MD\_INTLTx

The value of UfxbuCTL is 'or' combined with the start-request flag, but due to the fact the readout value shows the pointer to the buffer and not the number of the data to be transmitted this number is overwritten with 0 and so always 9 bytes are send:

```
/* Less than 9 bytes */
UfxbuCTL = gUARTFxRemainder;
for( i=0U; i<gUARTFxRemainder; i++ )
{
    *gpUARTFxBfAddress = *gpUARTFxBfAddress;
    gpUARTFxBfAddress++;
    gpUARTFxBfAddress++;
}
gUARTFxRemainder = 0U;
UfxbuCTL |= _0010_UARTF_BUFFER_TRAN_START_REQUEST;
```

Workaround

None; the generated code has to be corrected manually:

```
/* Less than 9 bytes */
Uf0buCTL = gUARTF0Remainder;
for( i=0U; i<gUARTF0Remainder; i++ )
{
    *gpUARTF0BfAddress = *gpUARTF0BfAddress;
    gpUARTF0BfAddress++;
    gpUARTF0BfAddress++;
}
Uf0buCTL = gUARTF0Remainder |
            _0010_UARTF_BUFFER_TRAN_START_REQUEST;
gUARTF0Remainder = 0U;
```

Table B-3 No. A3 UARTFx: Buffer register address not incremented correctly

Details

Module: CG\_serial\_user.c  
 Function: MD\_INTLTn

"gpUARTFnTxBfAddress" has the address of UARTF buffer register(UFnBUF0) as an initial value. But "gpUARTFnTxBfAddress" is incremented in UARTFn\_SendData. After that, "gpUARTFnTxBfAddress" was used without initialization in MD\_INTLTn.

```
UF1STC |= _0400_UARTF_BUC_CLEAR;
if (gUARTF1Quotient > 0U)
{
```

Workaround

None; the generated code has to be corrected manually:

```
UF1STC |= _0400_UARTF_BUC_CLEAR;
gpUARTF1TxBfAddress = (UCHAR*)UARTF1_BUFFER_ADDRESS;
if (gUARTF1Quotient > 0U)
{
```

Table B-4 No. A4 TAUx: 0% and 100% duty cycle on PWM not selectable

Details

When selecting (multiple) PWM output a duty cycle of 0% or 100% can not be selected in the slave channel menu.

Workaround

Call "TAUx\_Channely\_ChangeDuty" with the duty cycle of 0 or 100 as parameter at the beginning of the program.

Where **x** is the TAU and **y** is the TAU channel number.

**Table B-5 No. A5 Maximum Baudrate in CSImn is set to wrong value**

<p><u>Details</u></p> <p>The maximal configurable Baudrate is set to 400000 bps, even if faster Baudrate is possible by the controller settings.</p> <p><u>Workaround</u></p> <p>Manually set up the correct Baudrate after generating Applilet code.</p>
---

**Table B-6 No. A6 Unused modules not erased from project file**

<p><u>Details</u></p> <p>If a peripheral is disabled after it was used and code was generated at least once, the regarding source files are not excluded from the project.</p> <p><u>Workaround</u></p> <p>Manually exclude / erase the source files from the IAR Embedded Workbench project.</p>
---

**Table B-7 No. A7 TAUx Channel 7 Output Pin configuration in slave mode missing**

<p><u>Details</u></p> <p>When using TAUx channel 7 in any kind of possible slave output pin the Port Pin configuration is missing.</p> <p><u>Workaround</u></p> <p>Manually adept the right output pin configuration to the TAUx_Init() function</p>
--

**Table B-8 No. A8 Generated I<sup>2</sup>C Start condition function may violate I<sup>2</sup>C specification**

<p><u>Details</u></p> <p>Applilet generated code to send the start condition (<code>void IICxy_StartCondition(void)</code>) of an I<sup>2</sup>C frame does not take care to wait for <math>t_{HD;STA}</math>, specified by the I<sup>2</sup>C specification. The specified wait times are 4<math>\mu</math>s for Normal and 0.6<math>\mu</math>s for Fast mode.</p> <p><u>Workaround</u></p> <p>Set up a wait loop between “clear IICxy SDA” and “clear IICxy SCL”, that meets the I<sup>2</sup>C specification, manually.</p>
---

**Table B-9 No. A9** Generated I<sup>2</sup>C Stop condition function may violate I<sup>2</sup>C specification

Details

Applilet generated code to send the stop condition (`void IICxy_StopCondition(void)`) of an I<sup>2</sup>C frame does not take care to wait for  $t_{SU:STO}$ , specified by the I<sup>2</sup>C specification. The specified wait times are 4 $\mu$ s for Normal and 0.6 $\mu$ s for Fast mode.

Workaround

Set up a wait loop between “set IICxy SCL” and “set IICxy SDA”, that meets the I<sup>2</sup>C specification, manually.

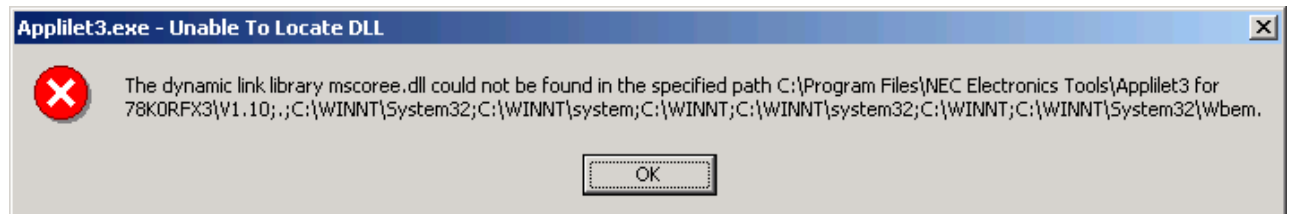
### C) Supported Devices

ROM [KB]	78K0R/FB3	78K0R/FC3		78K0R/FE3	78K0R/FF3	78K0R/FG3
	30,32 pins	40 pins	48 pins	64 pins	80 pins	100 pins
256	-	-	μPD78F1830	μPD78F1835	μPD78F1840	μPD78F1845
192	-	-	μPD78F1829	μPD78F1834	μPD78F1839	μPD78F1844
128	-	-	μPD78F1828	μPD78F1833	μPD78F1838	μPD78F1843
		-	μPD78F1827	μPD78F1822	μPD78F1825	
96	-	-	μPD78F1817	μPD78F1832	μPD78F1837	μPD78F1842
		-	μPD78F1826	μPD78F1821	μPD78F1824	
64	μPD78F1807	μPD78F1811	μPD78F1816	μPD78F1831	μPD78F1836	μPD78F1841
			μPD78F1815	μPD78F1820	μPD78F1823	
48	μPD78F1806	μPD78F1810	μPD78F1814	μPD78F1819	-	-
32	μPD78F1805	μPD78F1809	μPD78F1813	μPD78F1818	-	-
24	μPD78F1804	μPD78F1808	μPD78F1812	-	-	-

Supported
Not supported

### D) Supported Operating Systems

Applilet3 supports Windows XP, Windows Vista and Windows 7.  
 For operation the Microsoft .NET Framework Version 2.0 Redistributable Package is necessary.  
 If the Microsoft .NET Framework Version 2.0 Redistributable Package is not installed, the following Windows error message will occur during application start:



The Microsoft .NET Framework Version 2.0 Redistributable Package can be downloaded from the Microsoft Corporation WEB Site: <http://www.microsoft.com/downloads>

Download Package: .NET Framework Version 2.0 Redistributable Package (x86)

And, please use .NET Framework version 2.0 Redistributable package with latest patches.

## E) Supported Development Environments

<b>Renesas Electronics Development Tools</b>	
<b>Product Name</b>	<b>Version</b>
Project Manager PM+	V6.30 or later
CC78K0R	V2.12 or later
RA78K0R	V1.31 or later
ID78K0R-QB	V3.60 or later
Device File Package DF78F1845	V1.10 or later

<b>IAR Systems Development Tools</b>	
<b>Product Name</b>	<b>Version</b>
Embedded Workbench for 78K EW78K	V4.62.4 or later

## F) Valid Specification

<b>Item</b>	<b>Date published</b>	<b>Document No.</b>	<b>Document Title</b>
1	August 2010	R01UH0007EJ0400_78K0RFX3	78K0R/Fx3 User's Manual

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## H) Revision History

Item	Date published	Document No.	Comment
1	04-Feb-2009	U20144EE1V0IF00	First release.
2	27-May-2010	R20TU0004ED0200_K0RFx3_URN	Update
3	02-Sep-2010	R20TU0004ED0201_K0RFx3_URN	Item <a href="#">A2</a> added, update 'Supported Development Environments'
4	09-Sep-2010	R20TU0004ED0202_K0RFx3_URN	Item <a href="#">A2</a> modified, item <a href="#">A3</a> added
5	05-Oct-2010	R20TU0004ED0203_K0RFx3_URN	Item <a href="#">A4</a> added
6	21-Dec-2010	R20TU0004ED0204_K0RFx3_URN	Item <a href="#">A5</a> and <a href="#">A6</a> added, <a href="#">A2</a> and <a href="#">A3</a> fixed
7	01-Feb-2011	R20TU0004ED0205_K0RFx3_URN	Item <a href="#">A7</a> added
8	20-Jun-2011	R20TU0004ED0206_K0RFx3_URN	Item <a href="#">A8</a> and <a href="#">A9</a> added

