

To our customers,

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## Old Company Name in Catalogs and Other Documents

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April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

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## **Customer Notification**

# **QB-78K0FX1™**

## **In-Circuit Emulator**

## **Operating Precautions**

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### **Target Devices** **78K0/Fx1+ Series**

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## Table of Contents

(A)	Table of Operating Precautions .....	4
(B)	Description of Operating Precautions.....	5
(C)	Valid Specification.....	7
(D)	Revision History .....	8

QB-78K0FX1

**(A) Table of Operating Precautions**

No.	Outline	Control Code <sup>Note</sup>	QB-78K0FX1		
			A	B	
1	Ring oscillator operation during HALT (Technical Limitation)		7	7	
2	Caution on option byte (Direction of Use)		7	7	
3	Caution on target power during break (Direction of Use)		7	7	
4	aFCAN Emulation with Peripheral Break function on (Technical Limitation)		7	7	
5	aFCAN Receive/Transmit history function (Technical Limitation)		7	3	
6	LVI Reset Control Flag Register RESF (Technical Limitation)		7	3	
7	Program execution due to simultaneous occurrence of a software break and an interrupt request (Technical Limitation)		7	3	
8	Reading of Special Function Registers during a software break (Technical Limitation)		7	3	
9	Illegal program execution after restart due to a software break (Technical Limitation)		7	3	

3: Not applicable

7: applicable

**Note:**

- The “control code” is the second digit from the left in the 10-digit serial number in the warranty supplied with the product you purchased (if it has not been upgraded). If the product has been upgraded, a label indicating the new version is attached to the product and the x in V-UP LEVEL x on this label indicates the control code.

**(B) Description of Operating Precautions**

No. 1	Ring oscillator operation during HALT (Technical Limitation)
	<p><u>Details</u> As long as the operation clock for the watchdog timer is not stopped, the watchdog timer does not stop operation when the HALT instruction is executed. This happens even if the mask option “Ring-OSC can be stopped by software” is set. As a result the reset signal is generated.</p>
No. 2	Caution on option byte function (Direction of Use)
	<p><u>Details</u> When using a microcontroller with on chip flash memory and option byte function, the function set by the option byte at address 0080H cannot be emulated. To set the option byte function pls. use the Mask Option dialog box of the debugger instead of the option byte.</p>
No. 3	Caution on target power during break (Direction of Use)
	<p><u>Details</u> Don't turn off the target power supply during break.</p>
No. 4	aFCAN Emulation with Peripheral Break function on (Technical Limitation)
	<p><u>Details</u> The Peripheral Break function cannot be used, if the aFCAN is used. The values of the aFCAN special function registers and the message buffer RAM maybe undefined.</p> <p><u>Workaround</u> Switch off the Peripheral Break function in the configuration dialog box of the debugger.</p>
No. 5	aFCAN Receive/Transmit history function (Technical Limitation)
	<p><u>Details</u> The RGPT and TGPT registers are not updated/incremented when they are read by the CPU.</p> <ol style="list-style-type: none"> <li>1. History List pointers cannot be used RGPT/TGPT: Always the same value will be read</li> <li>2. History List empty flags cannot be used RHPM/THPM: Set after RESET, cleared on CAN activity, but not reset after reading by the CPU</li> </ol> <p><u>Workaround</u> Scan all buffers by software (checking DN or TRQ appropriately) instead to use RGPT/TGPT/RHPM/THPM.</p> <p>There is no workaround for tracing the reception/transmission sequence.</p>

Operating Precautions for QB-78K0FX1™

No. 6	LVI Reset Control Flag Register RESF (Technical Limitation)
	<p><u>Details</u> The RESF register indicates the reset source after reset. If program execution is stopped, due to a breakpoint and during this break a LVI reset occurs, the RESF register will be cleared after restart of the program execution. Therefore the reset source cannot be determined.</p>
No. 7	Program execution due to simultaneous occurrence of a software break and an interrupt request (Technical Limitation)
	<p><u>Details</u> The following behaviour occurs, when a software break and an interrupt request occur simultaneously:</p> <ul style="list-style-type: none"> <li>• The software break occurs before start of the interrupt service routine execution.</li> <li>• After this software break the PC points to a 1-byte lower address of the interrupt service routine. When the user program execution continues, the program may not run correctly.</li> <li>• In the Trace Window will be shown "XCHW AX, AX". But this has no meaning.</li> </ul> <p><u>Workaround</u> Please use hardware breakpoints.</p>
No. 8	Reading of Special Function Registers (SFR) during a software break (Technical Limitation)
	<p><u>Details</u> If Peripheral Break is enabled, the peripheral macro will work one clock longer, when a SFR with retry function will be read</p> <p>For example:</p> <ul style="list-style-type: none"> <li>• The Time SFR may increase, when the SFR window incl. the SFRs with retry function will be refreshed.</li> </ul>
No. 9	Illegal program execution after restart due to a software break (Technical Limitation)
	<p><u>Details</u> When the next program data followed on a software break is C0H, the contents of the program counter PC, the program status word PSW and the stack pointer SP are not correct after the software break. Due to this the program will not run correctly when the program execution continues.</p> <p><u>Workaround</u> Please use hardware breakpoints.</p>

**(C) Valid Specification**

<b>Item</b>	<b>Date published</b>	<b>Document No.</b>	<b>Document Title</b>
1	April 2005	U17534EJ1V0UM0 0 or later	QB-78K0FX1 User's Manual

**(D) Revision History**

<b>Item</b>	<b>Date published</b>	<b>Document No.</b>	<b>Comment</b>
1	September, 2004	TPS-LE-OP-0TQBFX1	1 <sup>st</sup> Release
2	May, 2005	TPS-LE-OP-0TQBFX1-1	1 <sup>st</sup> Update Items 3 and 4 added
3	September, 2005	TPS-LE-OP-0TQBFX1-2	2 <sup>nd</sup> Update Items 3, 6, 7, 8 and 9 added