RL78/L1A

Promotion Board Sample Code for IAR

R01AN4253EG0100
Rev.1.00
Mar 15, 2018

Introduction

Renesas Promotion Boards (RPB) are low cost demonstration systems for the selected microcontroller. The kit includes an evaluation board, on-board debugger, and demo sample code.

Target Device

RL78/L1A

Development Environment

IDE: IAR Embedded Workbench for RL78
Compiler: IAR EWRL78 v3.10.1
Hardware: RL78/G11 Promotion Board (YRPBRL78L1A)

Contents

1. Opening the sample code workspace

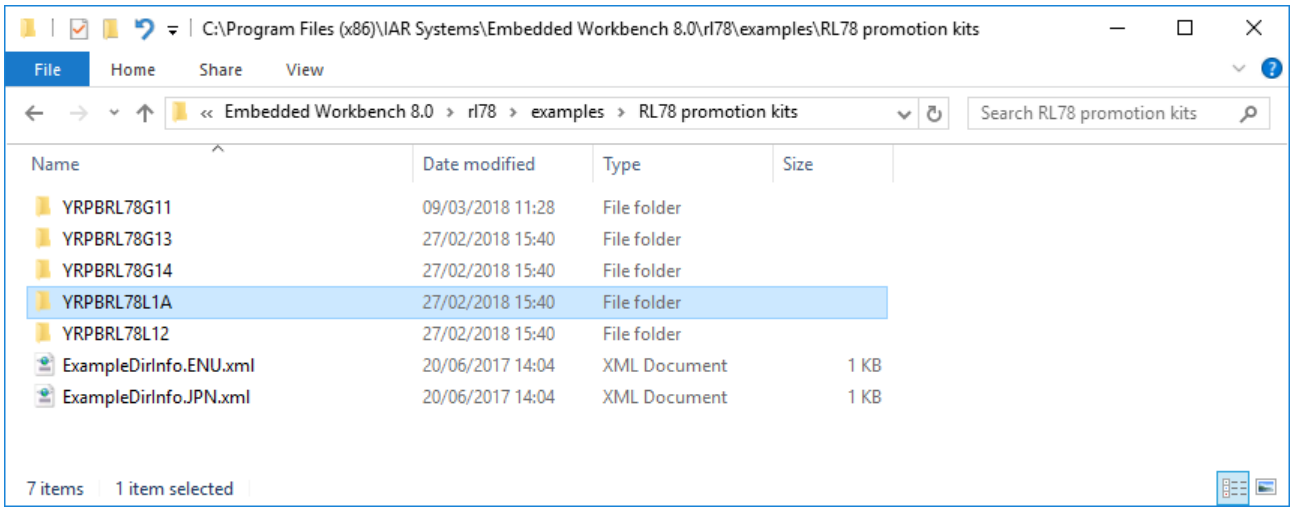
The IAR Embedded Workbench for RL78 (IAR EWRL78) IDE should already be installed on the user's personal computer (PC). The sample code is supplied as an IAR workspace.

Inside the application note zip package 'an-r01an4253eg0100-rl78l1a-apl.zip' downloaded from the Renesas website locate the 'Workspace' folder. The contents of this folder should be extracted to the IAR EWRL78 installation location as follows;

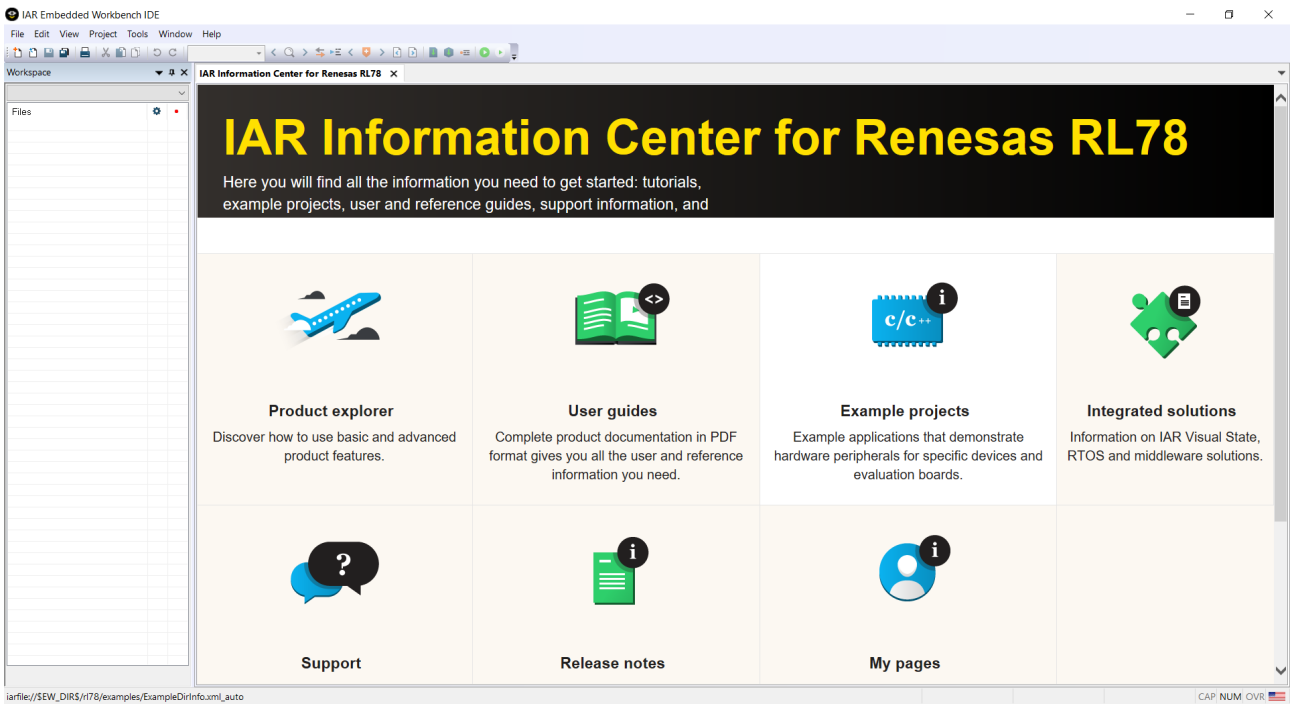
<EWRL78 Folder>\rl78\examples\RL78 promotion kits\YRPBRL78L1A

For example;

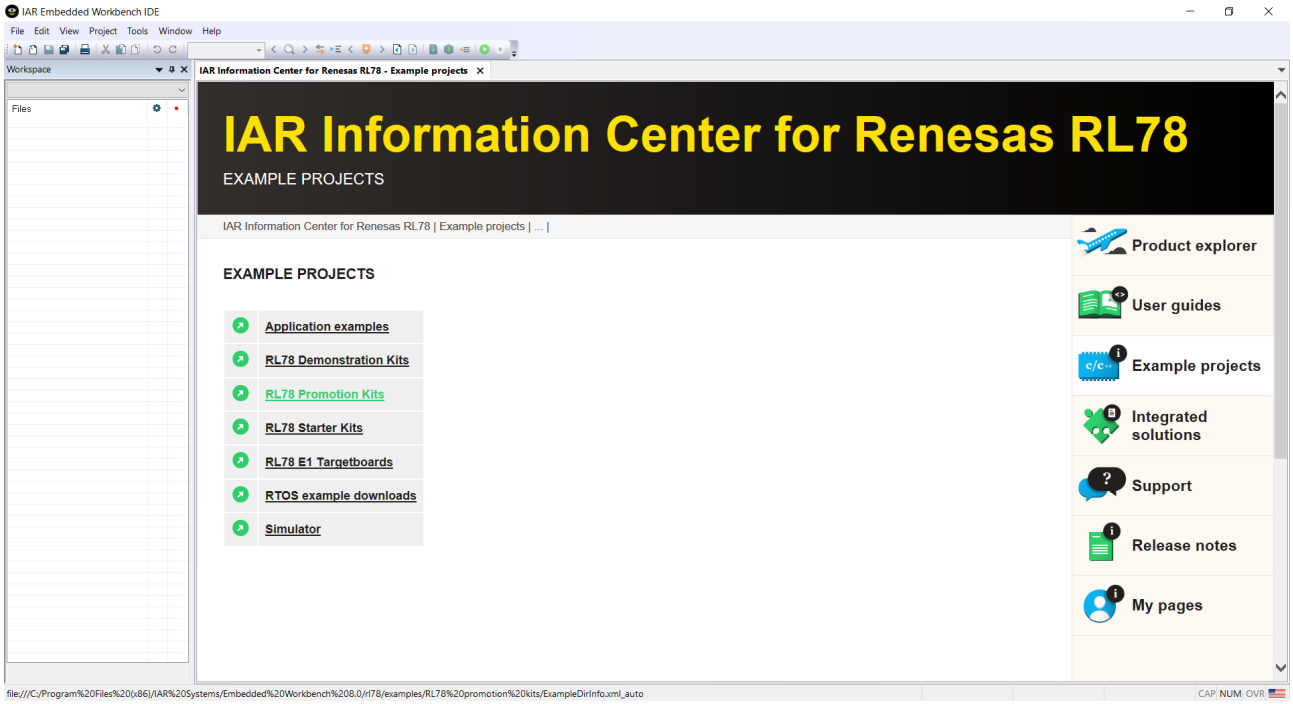
C:\Program Files (x86)\IAR Systems\Embedded Workbench 8.0\rl78\examples\RL78 promotion kits\YRPBRL78L1A



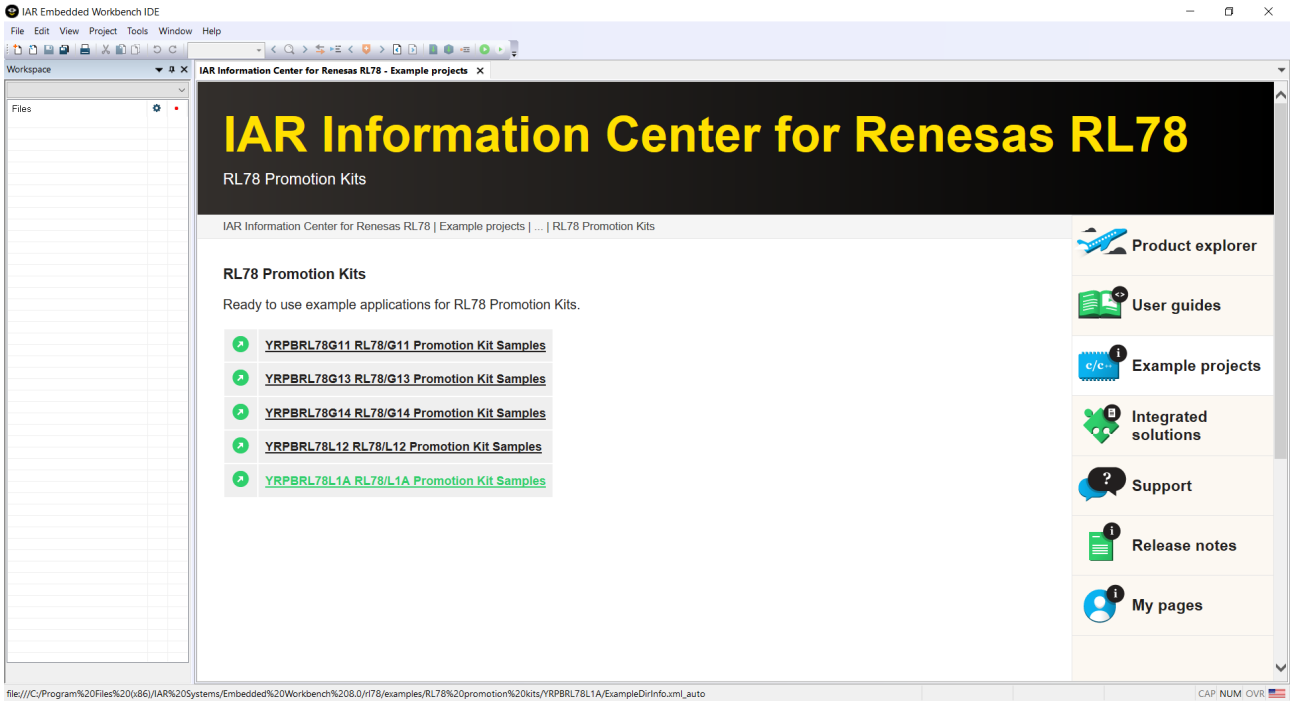
Once extracted from the zip file open IAR EWRL78 and select 'Example projects' from the IAR information Centre;



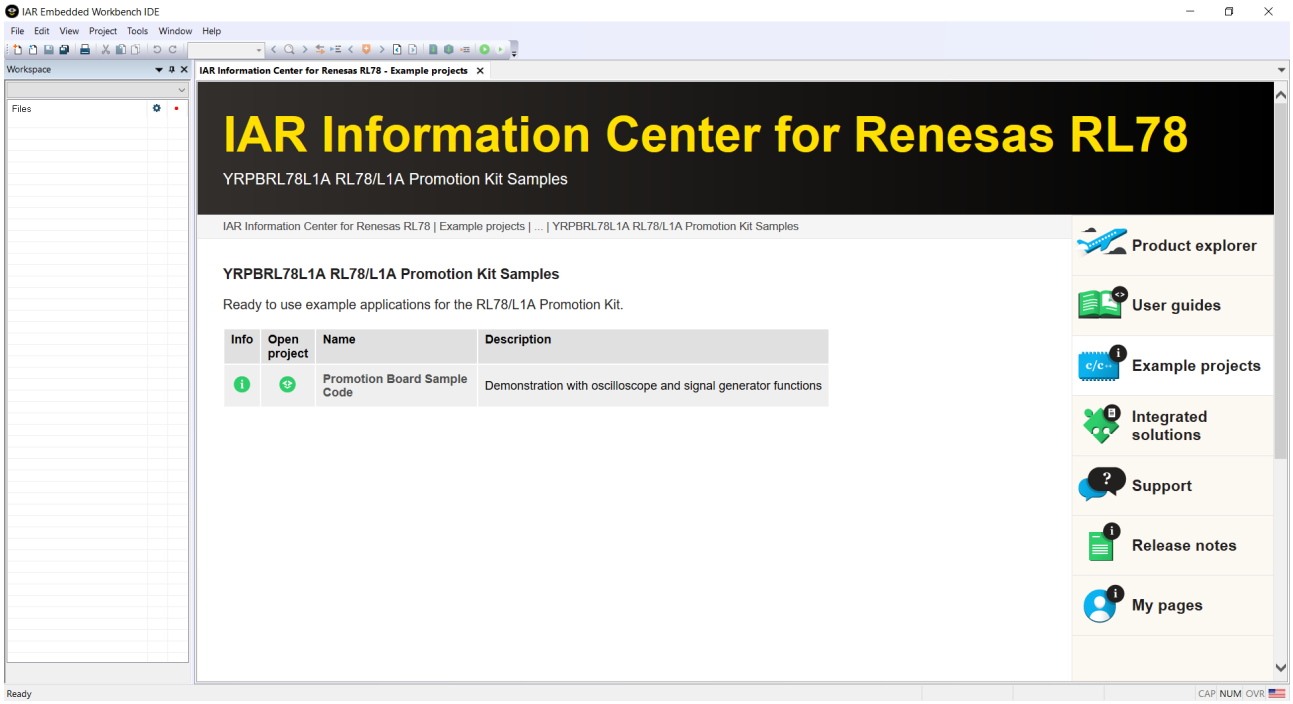
Choose ‘RL78 Promotion Kits’ from the list of Example Projects;



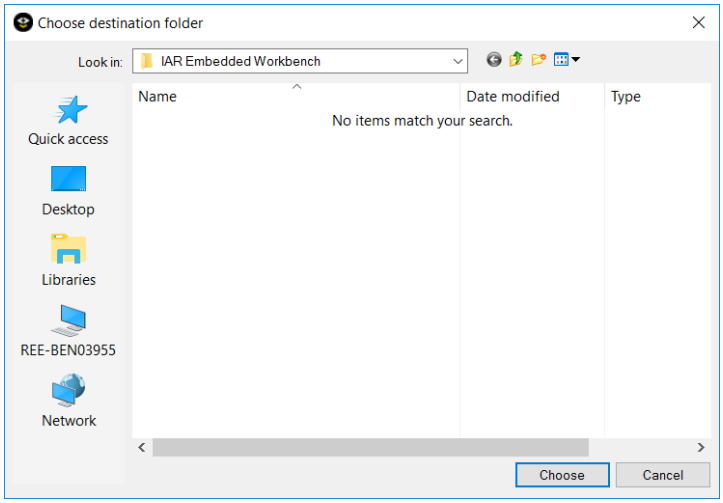
Select ‘YRPBRL78L1A RL78/G11 Promotion Kit Samples’ from the list of RL78 Promotion Kits;



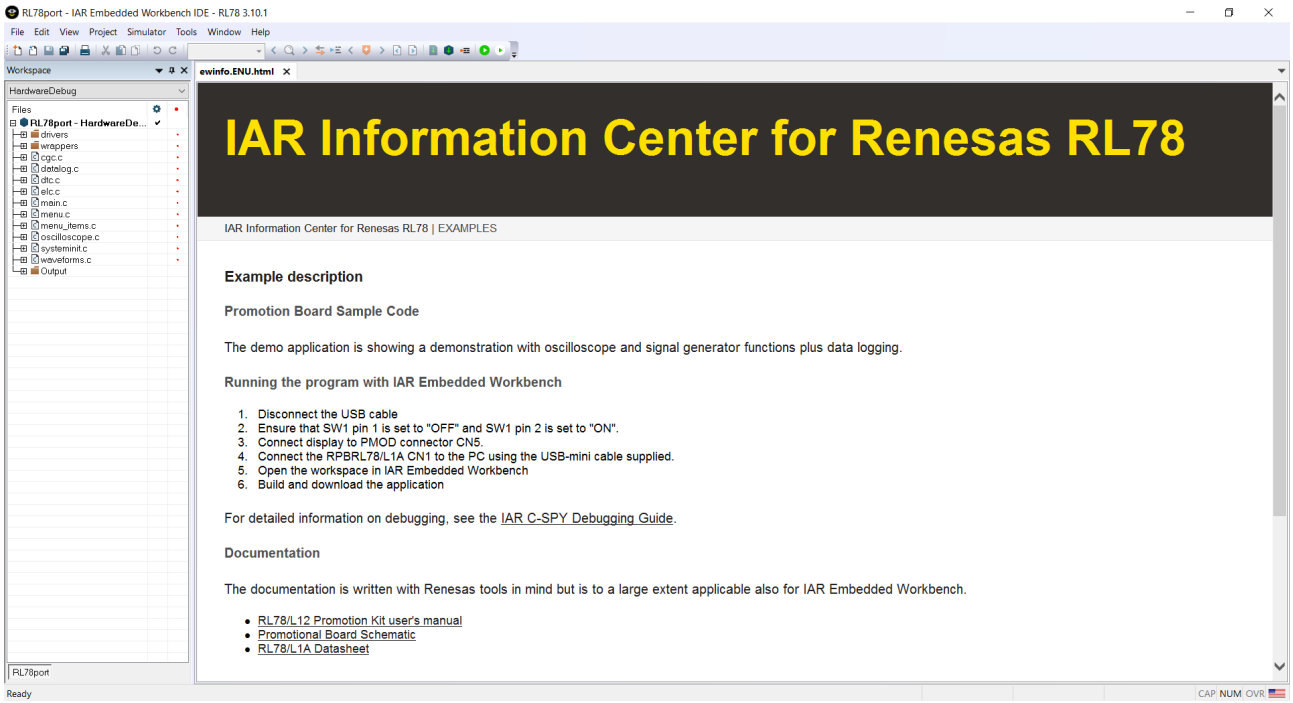
You will see the Promotion Board Sample Code;



Click on the 'Open project' icon  . You will be prompted to choose a destination folder. Select a suitable working folder for you project;

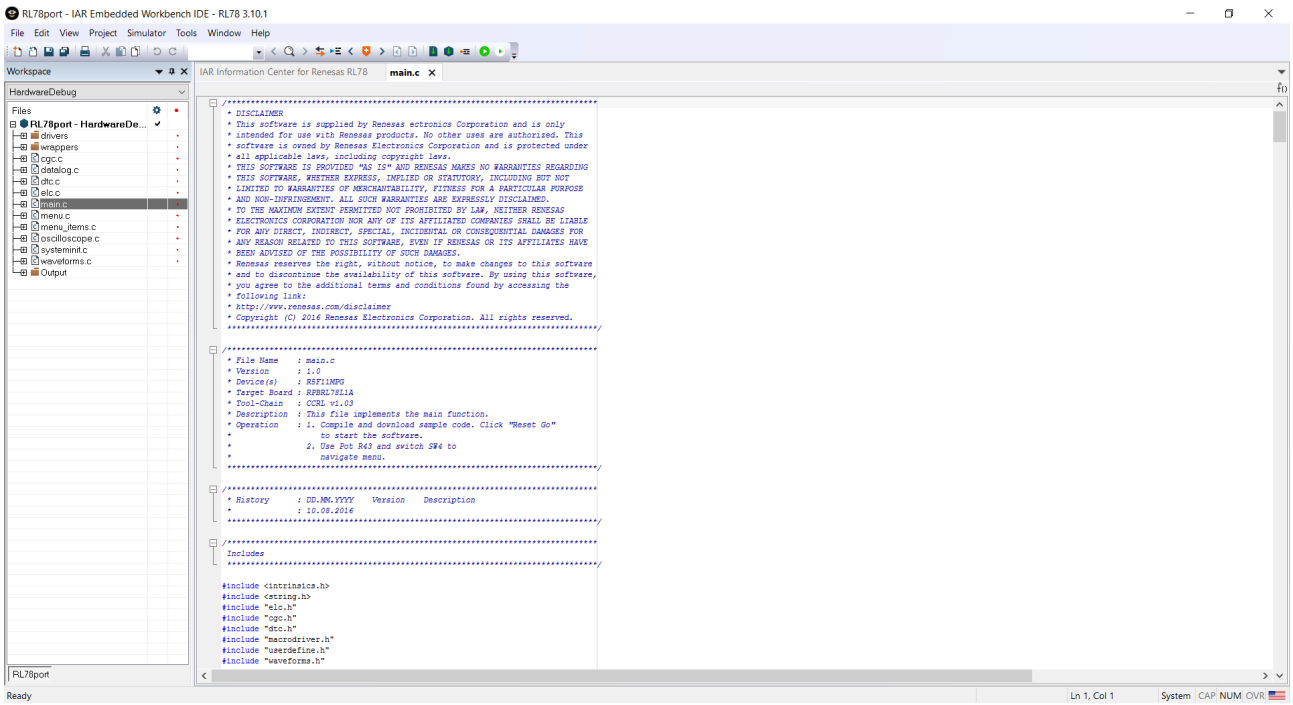


The workspace will open with information about the sample code in IAR Information Centre. Links to supporting documentation are also provided;



2. Opening Sample Code and Source Files

Once the workspace has been opened, the source code and all dependent files can be opened in the editor by expanding the folders in the Workspace tree and double clicking the files listed. All files have been grouped according to their file type. Each source file can be expanded to reveal dependant files.



3. Source Code Functionality

The project is specifically written to run on the appropriate RPB. However the source code can be useful as an example of peripheral initialization even without the hardware.

Each sample project will contain a C source file “main.c” which includes the C function main().

Website and Support

Renesas Electronics Website
https://www.renesas.com

Inquiries
https://www.renesas.com/contact

Support
https://www.renesas.com/en-eu/solutions/key-technology/human-interface/rl78-l1a.html

Revision History

		Description	
Rev.	**Date**	**Page**	**Summary**
1.00	Mar 15, 2018	All	First issue.

General Precautions in the Handling of Microprocessing Unit and Microcontroller Unit Products

The following usage notes are applicable to all Microprocessing unit and Microcontroller unit products from Renesas. For detailed usage notes on the products covered by this document, refer to the relevant sections of the document as well as any technical updates that have been issued for the products.

1. Handling of Unused Pins

   Handle unused pins in accordance with the directions given under Handling of Unused Pins in the manual.

   — The input pins of CMOS products are generally in the high-impedance state. In operation with an unused pin in the open-circuit state, extra electromagnetic noise is induced in the vicinity of LSI, an associated shoot-through current flows internally, and malfunctions occur due to the false recognition of the pin state as an input signal become possible. Unused pins should be handled as described under Handling of Unused Pins in the manual.

2. Processing at Power-on

   The state of the product is undefined at the moment when power is supplied.

   — The states of internal circuits in the LSI are indeterminate and the states of register settings and pins are undefined at the moment when power is supplied.
   In a finished product where the reset signal is applied to the external reset pin, the states of pins are not guaranteed from the moment when power is supplied until the reset process is completed.
   In a similar way, the states of pins in a product that is reset by an on-chip power-on reset function are not guaranteed from the moment when power is supplied until the power reaches the level at which resetting has been specified.

3. Prohibition of Access to Reserved Addresses

   Access to reserved addresses is prohibited.

   — The reserved addresses are provided for the possible future expansion of functions. Do not access these addresses; the correct operation of LSI is not guaranteed if they are accessed.

4. Clock Signals

   After applying a reset, only release the reset line after the operating clock signal has become stable. When switching the clock signal during program execution, wait until the target clock signal has stabilized.

   — When the clock signal is generated with an external resonator (or from an external oscillator) during a reset, ensure that the reset line is only released after full stabilization of the clock signal. Moreover, when switching to a clock signal produced with an external resonator (or by an external oscillator) while program execution is in progress, wait until the target clock signal is stable.

5. Differences between Products

   Before changing from one product to another, i.e. to a product with a different part number, confirm that the change will not lead to problems.

   — The characteristics of Microprocessing unit or Microcontroller unit products in the same group but having a different part number may differ in terms of the internal memory capacity, layout pattern, and other factors, which can affect the ranges of electrical characteristics, such as characteristic values, operating margins, immunity to noise, and amount of radiated noise. When changing to a product with a different part number, implement a system-evaluation test for the given product.

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