RZ/A1H Group

Renesas Starter Kit Web Engine Demonstration for e^2 studio

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Introduction

Renesas Starter Kits (RSK) are supplied as complete development systems for the selected microcontroller. The kit includes an evaluation board, portable On-Chip Debugger, and a set of peripheral sample code.

The Web Engine Demonstration is available for various Renesas platforms, each may support different peripherals and functions. This Application Note describes the functions of the RSK+RZ/A1H Web Engine Demonstration.

This Application Note assumes that the reader is familiar with the RSK+RZ/A1H and operation of e^2 studio for building, programming and debugging. The RSK+RZ/A1H Quick Start Guide must have been completed before continuing through this manual.

The Web Engine Demonstration provides an example of ethernet connectivity and a sample web server application that can control peripherals on the RSK+RZ/A1H. C functions may be called from the web server output processor, allowing dynamic data to be displayed in web pages.

Files held on a USB Mass Storage device inserted in to the RSK+RZ/A1H board can be served to a PC from a web based file explorer.

A passive telnet server is also included, demonstrating remote management via a command line.

Target Device

RZ/A1H

Development environment

IDE: e^2 studio v4.2.0
Compiler: GNUARM-NONE v15.01
Hardware: Renesas Starter Kit+ for RZ/A1H

Contents

1. Getting Started

Within this Application Note package you will find a Manuals folder containing a Quick Start Guide and User Manual. The Quick Start Guide provides a simple step-by-step guide to get up and running quickly with Web Engine for RSK+RZ/A1H. In addition, the User Manual provides a detailed understanding of the Web Engine, detailing the functions and commands available.

Website and Support

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

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

Support
http://www.renesas.com/rskrza1

Revision History

		Description	
Rev.	**Date**	**Page**	**Summary**
1.0	Feb 23, 2016		First edition.
1.1	Jun 08, 2016		USB CDC ASM support added.

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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