

Renesas RA Family

EK-RA4M1 Example Project Overview

Introduction

This document describes the contents of the Example Project Bundle for the EK-RA4M1 kit. The Example Projects contained within the bundle show how to write code for the various Renesas Flexible Software Package (FSP) modules supported by the EK-RA4M1 kit.

The Flexible Software Package is an optimized software package designed to provide easy to use, scalable, high quality software for embedded system design. The primary goal is to provide lightweight, efficient drivers that meet common use cases in embedded systems. FSP code quality is enforced by peer reviews, automated requirements-based testing, and automated static analysis. The FSP provides uniform and intuitive APIs that are well documented. Each module is supported with detailed user documentation including example code. FSP modules can be used on any MCU in the RA family, provided the MCU has any peripherals required by the module. FSP modules also have build time configurations that can be used to optimize the size of the module for the feature set required by the application. The e² studio ISDE provides support with intuitive configurators and intelligent code generation to make programming and debugging easier and faster.

Target Device

EK-RA4M1 kit

Required Software Components

FSP v 1.0 or later

Supported Toolchains

- e² studio Integrated Development Environment (IDE), default toolchain is GCC Arm Embedded.
- Arm Keil MDK

Documentation

- Example Project Usage Guide
https://github.com/renesas/ra-fsp-examples/blob/master/example_projects/Example%20Project%20Usage%20Guide.pdf
- e² studio AC6 porting Guide
<https://en-support.renesas.com/knowledgeBase/19375553>

1. Using the Example Projects

To use the EK-RA4M1 Example Projects for e² studio and the GCC compiler, import the entire Example Project Bundle zip file into e² studio using the Project Import capability. After importing the project build, load, and run the project according to the instructions listed in the [FSP Example Project Usage Guide](#).

To use the EK-RA4M1 Example Projects for Keil MDK, download and unzip the contents of the Example Project Bundle. Then navigate to the “Keil MDK” folder and double click the desired project file name with the .UVPROJX file extension to open a specific Keil project. To change between projects, you will need to close the first project and then open the second project.

1.1 List of Example Projects in the Bundle

EK-RA4M1 Example Projects	e² studio/GCC Status	e² studio/AC6 Status	Keil MDK Status
QuickStart	Supported	Supported via port from GCC	
ACMPLP	Supported	Supported via port from GCC	
ADC	Supported	Supported via port from GCC	
AGT	Supported	Supported via port from GCC	Supported
CAC	Supported	Supported via port from GCC	
CAN	Supported	Supported via port from GCC	
CRC	Supported	Supported via port from GCC	
DMAC	Supported	Supported via port from GCC	Supported
DOC	Supported	Supported via port from GCC	
ELC	Supported	Supported via port from GCC	
Flash LP	Supported	Supported via port from GCC	Supported
FreeRTOS	Supported	Supported via port from GCC	Supported
GPT	Supported	Supported via port from GCC	Supported
GPT Input Capture	Supported	Supported via port from GCC	
ICU	Supported	Supported via port from GCC	Supported
IIC Master	Supported	Supported via port from GCC	
IIC Slave	Supported	Supported via port from GCC	Supported
KINT	Supported	Supported via port from GCC	
LPM	Supported	Supported via port from GCC	
LVD	Supported	Supported via port from GCC	
OPAMP	Supported	Supported via port from GCC	
RTC	Supported	Supported via port from GCC	Supported
SCI I2C	Supported	Supported via port from GCC	
SCI SPI	Supported	Supported via port from GCC	
SCI UART	Supported	Supported via port from GCC	
SLCDC	Supported	Supported via port from GCC	
SPI	Supported	Supported via port from GCC	
SSI	Supported	Supported via port from GCC	
WDT	Supported	Supported via port from GCC	Supported

Website and Support

Visit the following URLs to learn about key elements of the RA family, download components and related documentation, and get support.

RA Product Information	www.renesas.com/ra
RA Product Support Forum	www.renesas.com/ra/forum
RA Flexible Software Package	www.renesas.com/FSP
Renesas Support	www.renesas.com/support

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Apr.23.20	—	First release document

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