

## Renesas RA Family

# EK-RA2L1 Example Project Bundle

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### Introduction

This document describes the contents of the Example Project Bundle for the EK-RA2L1 kit. The Example Projects contained within the bundle provide example code for the various Renesas Flexible Software Package (FSP) modules supported by the EK-RA2L1 kit.

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. 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.

### Supported Kit

EK-RA2L1

### Supported FSP Version

FSP v 2.4.0 or later

### Supported Toolchains

- e<sup>2</sup> studio Integrated Development Environment (IDE), default toolchain is GCC Arm Embedded.
- Keil MDK with Arm compiler toolchain
- IAR EWARM with IAR toolchain for Arm

## 1. Using the Example Projects

To use EK-RA2L1 Example Projects follow the steps mentioned in the following documents:

- Example Project Usage Guide  
[https://github.com/renesas/ra-fsp-examples/blob/master/example\\_projects/Example%20Project%20Usage%20Guide.pdf](https://github.com/renesas/ra-fsp-examples/blob/master/example_projects/Example%20Project%20Usage%20Guide.pdf)
- e<sup>2</sup> studio AC6 porting Guide  
<https://en-support.renesas.com/knowledgeBase/19375553>

## 2. List of Example Projects Supported on Different Toolchains in the Bundle

| <b>EK-RA2L1<br/>Example Projects</b> | <b>e<sup>2</sup> studio/GCC</b> | <b>e<sup>2</sup> studio/AC6</b> | <b>Keil MDK</b> | <b>IAR</b> |
|--------------------------------------|---------------------------------|---------------------------------|-----------------|------------|
| 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       | Supported  |
| BAREMETAL                            | Supported                       | Supported via port from GCC     |                 |            |
| CAC                                  | Supported                       | Supported via port from GCC     |                 |            |
| CPP                                  | Supported                       | Supported via port from GCC     |                 |            |
| CRC                                  | Supported                       | Supported via port from GCC     |                 |            |
| DCDC                                 | Supported                       | Supported via port from GCC     |                 |            |
| DOC                                  | Supported                       | Supported via port from GCC     |                 |            |
| ELC                                  | Supported                       | Supported via port from GCC     |                 |            |
| Flash LP                             | Supported                       | Supported via port from GCC     | Supported       | Supported  |
| FreeRTOS                             | Supported                       | Supported via port from GCC     | Supported       | Supported  |
| GPT                                  | Supported                       | Supported via port from GCC     | Supported       | Supported  |
| GPT Input Capture                    | Supported                       | Supported via port from GCC     |                 |            |
| ICU                                  | Supported                       | Supported via port from GCC     | Supported       | Supported  |
| IIC Master                           | Supported                       | Supported via port from GCC     |                 |            |
| IIC Slave                            | Supported                       | Supported via port from GCC     | Supported       | Supported  |
| IWDT                                 | Supported                       | Supported via port from GCC     |                 |            |
| KINT                                 | Supported                       | Supported via port from GCC     |                 |            |
| LPM                                  | Supported                       | Supported via port from GCC     |                 |            |
| MBED-CRYPTO                          | Supported                       | Supported via port from GCC     |                 |            |
| RTC                                  | Supported                       | Supported via port from GCC     | Supported       | 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     | Supported       | Supported  |
| SPI                                  | Supported                       | Supported via port from GCC     | Supported       | Supported  |
| VEEPROM                              | Supported                       | Supported via port from GCC     |                 |            |
| WDT                                  | Supported                       | Supported via port from GCC     | Supported       | Supported  |
| Wi-Fi                                | Supported                       | Supported via port from GCC     |                 |            |

**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       | <a href="http://www.renesas.com/ra">www.renesas.com/ra</a>             |
| RA Product Support Forum     | <a href="http://www.renesas.com/ra/forum">www.renesas.com/ra/forum</a> |
| RA Flexible Software Package | <a href="http://www.renesas.com/FSP">www.renesas.com/FSP</a>           |
| Renesas Support              | <a href="http://www.renesas.com/support">www.renesas.com/support</a>   |

**Revision History**

| Rev. | Date      | Description |                                       |
|------|-----------|-------------|---------------------------------------|
|      |           | Page        | Summary                               |
| 1.00 | Dec.01.20 | —           | First release document                |
| 1.01 | Feb.02.21 | —           | Added support for FSP 2.3.0           |
| 1.02 | Mar.10.21 | —           | Added support for QuickStart and DCDC |
| 1.03 | Apr.06.21 | —           | Added support for FSP 2.4.0           |
| 1.04 | Apr.23.21 | —           | Added BAREMETAL                       |

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