# RA4C1 Group
# Handbook for RA4C1

## Introduction

This document compiles useful information for each stage of device selection, development, and Mass production.

Please utilize this information, materials and application notes as a handbook when developing.

## Target Device

RA4C1 Group

## Contents

# 1. The table of information and materials needed for Device Selection, Development and Mass production.

## 1.1 Step1: Device Selection

This section summarizes the information that is useful for the preliminary survey phase (Step1-1) and for the evaluation phase of device performance and features (Step1-2) when selecting the device.

### 1.1.1 Step1-1: Preliminary survey phase

| # | Item | Content | Link |
|---|------|---------|------|
| 1 | **Hardware information** | Datasheet | Doc |
| 2 | | RA Family Flyer | Doc |
| 3 | | RA Family Brochure | Doc |
| 4 | **Products & Solutions** | Video | Web site |
| 5 | | Blog | Web site |
| 6 | | Reference designs (Winning combination) | Web site |
| 7 | | Renesas academy | Web site |
| 8 | **Product longevity program (PLP)** | Overview of product longevity program (PLP) | Web site |
| 9 | | Product selection (product selector) Note: Refer to PLP column in the chart. | Web site |
| 10 | **Product Specification Comparison** | RA Family Product Selector | Web site |
| 11 | | White Paper: Solving IoT Security Issues with Embedded Microcontrollers | Doc |
| 12 | | White Paper: Securing your IP and Protecting Sensitive Data | Doc |
| 13 | | White Paper: Security for the Connected World | Doc |

## 1.1.2 Step1-2: Evaluation phase of device performance and features

| # | Item | Content | Link |
|---|------|---------|------|
| **User's Manual / Documentation** | | | |
| 1 | **Document** | User's manual: Hardware | Doc |
| 2 | | RA Family NOMENCLATURE (the meaning of character in part number) | Doc |
| 3 | | Semiconductor reliability handbook | Doc |
| 4 | | RELIABILITY REPORT | Doc |
| 5 | | RoHS Product Options → Part Number →Environmental & Export Classifications | Web site |
| **Evaluation board** | | | |
| 6 | **Evaluation board (for general purpose)** | Evaluation Kit (EK) | Web site |
| **Evaluation environment (set up method)** | | | |
| 7 | **Setup method** | RA family beginner's guide | Doc |
| 8 | **Software tool** | RA Family Development Environment - RA Flexible Software Package (FSP) | Web site |
| 9 | | Migrating Projects to New FSP Version | Doc |
| 10 | | EK - Quick Start Guide | Doc |
| 11 | | EK Example Project Bundle | Doc |
| 12 | | RA smart configurator user's guide (tools for code generation) | Web site |
| **Solution** | | | |
| 13 | **Security** | Security manual | Doc |
| 14 | | IoT Security | Web site |
| 15 | | Security key management tool manual | Web site |
| 16 | | Flexible Software Package (FSP) | Web site |
| 17 | **Functional safety** | Functional safety solutions for Industrial automation | Web site |
| 18 | | Functional safety solution for industrial automation | Doc |
| 19 | | Introduction to Renesas functional safety for industrial appliance(video) | Web site |
| 20 | **Artificial Intelligence (AI)** | AI solutions | Web site |
| **Training** | | | |
| 21 | **Training information** | RA Family Video Library | Web site |
| 22 | | Software & Tool Course solution menu | Web site |
| 23 | | RA Family Software&Tool Course(Video Collection) | Web site |
| **Partner** | | | |
| 24 | **Partner information** | Partner products (system solutions provider) | Web site |
| 25 | | RA Family Partner Ecosystem | Web site |

## 1.2 Step2: Product Design, Development

This section summarizes useful information for product design and development.

| # | Item | Content | Link |
|---|------|---------|------|
| 1 | **Board Design** | Quick design guide | [Doc](#) |
| 2 | | Design Package of the Evaluation Kit, EK * | [Zip](#) |
| 3 | | CAD Model<br>Note: When you click the link in the CAD model column in the "Product Options" table on the product page, the CAD model information for each part# is displayed. | [Web site](#) |
| 4 | | board simulation model (IBIS) | [Web site](#) |
| 5 | | Design guide for main clock circuit and Sub-Clock circuit | [Doc](#) |
| 6 | | Notes regarding high-temperature operation | [Doc](#) |
| 7 | | Package information (package outline information, mount manual, etc.) | [Web site](#) |
| 8 | **Software Design** | RA Flexible Software Package Documentation (Git Hub) | [Web site](#) |
| 9 | **Development environment** | Software and Tools | [Web site](#) |
| 10 | | How to videos - RA Family Software & Tool Course | [Web site](#) |
| 11 | | Supplemental user's manual for E2 /E2 Lite emulator | [Doc](#) |

\* It requires My Renesas account to access the content.

## 1.3 Step3: Mass Production

| # | Item | Content | Link |
|---|------|---------|------|
| 1 | **Writing a program(Programmer)** | PG-FP6 | [Web site](#) |
| 2 | **Inspection(Application notes)** | Renesas flash programmer (GUI tool for PC) | [Web site](#) |

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## Supportive information

Get help from our technical staff and community.

| # | Content | Link |
|---|---------|------|
| 1 | FAQ (frequently asked inquiries) | Web site |
| 2 | RA forum (community) | Web site |
| 3 | RA Online Training Modules | Web site |
| 4 | Technical support | Web site |

## Revision History

| Rev. | Date | Description | |
|------|------|------|------|
| | | **Page** | **Summary** |
| 1.00 | Jan. 2026 | - | First edition issued |
| | | | |
| | | | |

For the most up-to-date information, please also refer to the product pages on our website (https://www.renesas.com/en). We appreciate your understanding.