

# QuickConnect Studio V1.5.0

## Release Note

### Introduction

This document outlines the device support, application support, and new features added in V1.5.0, fixed issues, and open issues in QCS V1.4.1.

### Contents

|     |                                      |   |
|-----|--------------------------------------|---|
| 1.  | Overview.....                        | 2 |
| 2.  | Browser requirements.....            | 2 |
| 3.  | Supported kits and applications..... | 2 |
| 3.1 | Supported kits.....                  | 2 |
| 3.2 | Supported Applications.....          | 4 |
| 4.  | What is new in this release .....    | 4 |
| 4.1 | New Features .....                   | 4 |
| 4.2 | New Kits .....                       | 5 |
| 4.3 | New Applications .....               | 5 |
| 5.  | Known limitations.....               | 5 |
| 6.  | Fixes and improvements.....          | 5 |
| 7.  | Support contact .....                | 5 |
| 8.  | Revision History .....               | 6 |

## 1. Overview

QuickConnect Studio is a unified, browser-based, no-code/low-code Embedded System Design platform that enables engineers to rapidly prototype and configure Hardware and Software using Renesas and Partners products.

The platform provides a visual drag-and-drop interface where users can select MCU kits, peripherals across various supported interfaces (Pmods, Arduino, Camera, USB). The platform automatically generates software which includes drivers, middleware and reference applications ranging from IoT to Edge AI. Users can customize, compile and debug their application from the browser window leveraging Renesas managed Remote board farms.

Key Engineering capabilities include:

1. Hardware-Software Co-Design
2. Automatic Code Generation and Customization
3. Unified Debug interface (Direct/Remote) using QC-Debug
4. Auto-Validation of HW/SW design blocks using QC-Docking

## 2. Browser requirements

**Compatible web browsers:** Google Chrome, Internet Explorer, Edge, Firefox, Safari

## 3. Supported kits and applications

### 3.1 Supported kits

| Category | Usage              | Kit name                                                            |
|----------|--------------------|---------------------------------------------------------------------|
| Embedded | Beginner kit       | BGK-RA6E2                                                           |
|          | AI kit             | AIK-RA4E1                                                           |
|          |                    | AIK-RA6M3                                                           |
|          | Cloud connectivity | CK-RA6M3                                                            |
|          | Voice kit          | VK-RA6E1                                                            |
|          | Evaluation kit     | EK-RA2A1, EK-RA2A2, EK-RA2E1, EK-RA2E2, EK-RA2L1, EK-RA2L2          |
|          |                    | EK-RA4E2, EK-RA4M1, EK-RA4M2, EK-RA4M3, EK-RA4W1                    |
|          |                    | EK-RA6E2, EK-RA6M1, EK-RA6M2, EM-RA6M3, EK-RA6M4, EK-RA6M5          |
|          |                    | EK-RA8D1, EK-RA8D1-HMI, EK-RA8M1, EK-RA8P1                          |
|          |                    | RZ-G2L <sup>*6</sup> , RZ-V2L <sup>*6</sup>                         |
|          | Fast prototype     | FPB-RA0E1, FPB-RA2E3, FPB-RA4E1, FPB-RA4E2                          |
|          |                    | FPB-RA6E1, FPB-RA6E2, FPB-RA8E1                                     |
|          | SOM                | FEATHER-RA8M1 <sup>*1</sup>                                         |
| Sensor   | Camera             | Arducam Mega SPI Camera <sup>*2</sup> , OV3640 Camera <sup>*3</sup> |

|                         |                    |                                                                                                                                                                                                                                                                                    |
|-------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Optical sensor     | AS7331 Spectral UV, AS7343 Spectral, AS7331_QWIIC                                                                                                                                                                                                                                  |
|                         | Distance measuring | TMF8828 Multi-Zone ToF, VCNL4200_MIKROBUS                                                                                                                                                                                                                                          |
|                         | Gas sensor         | FECS43 SO2 Gas Sensor, FECS44 Ammonia Gas Sensor, FECS50 H2S Gas Sensor<br>RRH46410 Digital Gas Sensor Module<br>TGS5141 CO Gas Sensor,<br>TGS6810 Combustible/Methane Gas Sensor<br>ZMOD4410 Indoor Air Quality, ZMOD4510 Outdoor Air Quality, ZMOD4450 Refrigeration Air Quality |
|                         | Flow sensor        | FS1015 Vertical Mount Air Velocity,<br>FS3000 Horizontal Mount Air Velocity                                                                                                                                                                                                        |
|                         | Humidity sensor    | HS3001 Temperature/Humidity, HS4001 Temperature/Humidity, SHT40 Temperature/Humidity, MLX90632 Non-Contact Infrared Temperature Sensor, PCT2075 Adafruit Temperature Sensor                                                                                                        |
|                         | Motion sensor      | ICM42688 6-Axis MEMS, ICM42670 6-Axis MEMS*4                                                                                                                                                                                                                                       |
| <b>Audio</b>            | Microphone         | ICS43434 Digital Microphone, DA7212_Mikrobus                                                                                                                                                                                                                                       |
| <b>Power Management</b> | Power monitor      | ISL28022 Digital Power Monitor                                                                                                                                                                                                                                                     |
| <b>Connectivity</b>     | BLE                | DA14531 Bluetooth, DA14535 Bluetooth                                                                                                                                                                                                                                               |
|                         | WiFi               | DA16200 WiFi, DA16600 WiFi                                                                                                                                                                                                                                                         |
|                         | NFC                | PTX105R NFC Card Reader*5                                                                                                                                                                                                                                                          |
| <b>Expansion kit</b>    | Arduino            | Arduino EDU                                                                                                                                                                                                                                                                        |

\*Note:

1. Feather-RA8M1 is a beta release and it supports Zalmotek Robot Dog application only
2. Arducam Mega SPI Camera currently only works with EK-RA6M4 on Camera streaming and EK-RA8D1-HMI Camera capture application
3. OV3640 Camera currently only works with EK-RA8D1-HMI on Camera capture application
4. ICM42670 6Axis MEMS currently only works with AI kits on AI motion detection applications
5. PTX105R NFC Card Reader currently only works with EK-RA6M4 on NFC based smart lock application
6. RZ/G2L and RZ/V2L only work with Linux applications, like Object detection, Video playback, Audio playback, and Image display

## 3.2 Supported Applications

Applications may only apply to limited MCUs due to MCU resources.

| Application Category             | Usage               | Application name                                                                                      |
|----------------------------------|---------------------|-------------------------------------------------------------------------------------------------------|
| <b>Quick-Start Code Snippet</b>  | USB                 | USBX peripheral human interface, USBX host Mass storage, USBX device Mass storage                     |
|                                  | Arduino             | Arduino GPIO, Arduino PWM, Arduino interrupt, Arduino Analog                                          |
|                                  | Ethernet            | NetX Duo FTP Client                                                                                   |
|                                  | Evaluation          | Quick Start Example, Blink LEDs, Low power mode                                                       |
| <b>Functional Building Block</b> | AI                  | AI motion detection, AI motion detection over BLE, Video playback with LVGL, Image playback with LVGL |
|                                  | Camera              | Camera Streaming                                                                                      |
|                                  | Audio               | Audio data logger (wired), Audio playback with LVGL                                                   |
|                                  | Sensor Connectivity | Sensor Data over BLE, Sensor Data USB logger, Sensor Data to AWS cloud, Sensor Data to AdafruitIO     |
|                                  | Data logger         | LittleFS QSPI MQTT logger                                                                             |
| <b>System Reference Design</b>   | Smart Home          | NFC based smart lock application                                                                      |
|                                  | Robot               | Zalmotek Robotic dog                                                                                  |

## 4. What is new in this release

### 4.1 New Features

1. GitHub Extension Support
2. Direct Debugging Support for EK-RA6E2/E1, EK-RA6M3/M4, RA6T1/T2/T3 and BGK-RA6E2 MCU Kits
3. Support for RZ G2L/V2L MPU Product families
4. Added support for Mikrobus interfaces
5. Infrastructure updates:
  - a. EKS version upgrade from 1.30 to 1.31
  - b. Storage Architecture Migration from EBS to EFS
6. Platform update:
  - a. Upgraded Theia IDE to v1.60.2, Eclipse GLSP to 2.3.0.

## 4.2 New Kits

1. EK-RA8P1: Evaluation board with 1GHz ARM Cortex-M85 MCU
2. EK-RA2L2: Evaluation board with 48MHz ARM Cortex-M23 MCU
3. FPB-RA0E2: Fast Prototype Board with 32MHz ARM Cortex-M23 MCU
4. NXP PCT2075 Temperature Sensor: I2C Qwiic adapter board
5. Sensirion SHT40 Temperature Sensor: I2C Qwiic adapter board
6. VCNL4200 Proximity IR Sensor: I2C Mikrobus adapter board
7. AMS OSRAM AS7331 UV Sensor: I2C Qwiic adapter board
8. DA7212EVZ Audio: I2S Mikrobus adapter board
9. RZ/G2L: Evaluation board with Dual core ARM Cortex-A55 MPU
10. RZ/V2L: Evaluation board with Dual core ARM Cortex-A55 + DRP AI MPU

## 4.3 New Applications

1. Object detection with AI on RZ/G2L and RZ/V2L
2. Video playback with LVGL on RZ/G2L and RZ/V2L
3. Audio playback with LVGL on RZ/G2L and RZ/V2L
4. Image display with LVGL on RZ/G2L and RZ/V2L

## 5. Known limitations

1. Direct Debugging support is limited to EK-RA6E2/E1, EK-RA6M3/M4, RA6T1/T2/T3, and BGK-RA6E2.
2. To perform Direct Debugging, users have to keep the MD pin open. Refer to the user guide for more details.

## 6. Fixes and improvements

1. Fixed device combination failures for the EK-RA2A1 kit
2. Fixed issues in deleting user workspace files

## 7. Support contact

Follow the link for FAQs: [QuickConnect Studio | Renesas Customer Hub](#)

For more information and queries, reach out to:

[rishi.kumar.ur@renesas.com](mailto:rishi.kumar.ur@renesas.com) / [Rajkumar.Thiagarajan@renesas.com](mailto:Rajkumar.Thiagarajan@renesas.com)

## 8. Revision History

| Revision | Date         | Description      |
|----------|--------------|------------------|
| 1.00     | Aug 29, 2025 | Initial release. |