

A background image featuring a glass sphere resting on a bed of green grass. The sphere reflects a world map, symbolizing global connectivity and IoT solutions.

INTRODUCTION OF IOT SOLUTIONS FOR RL78 FAMILY

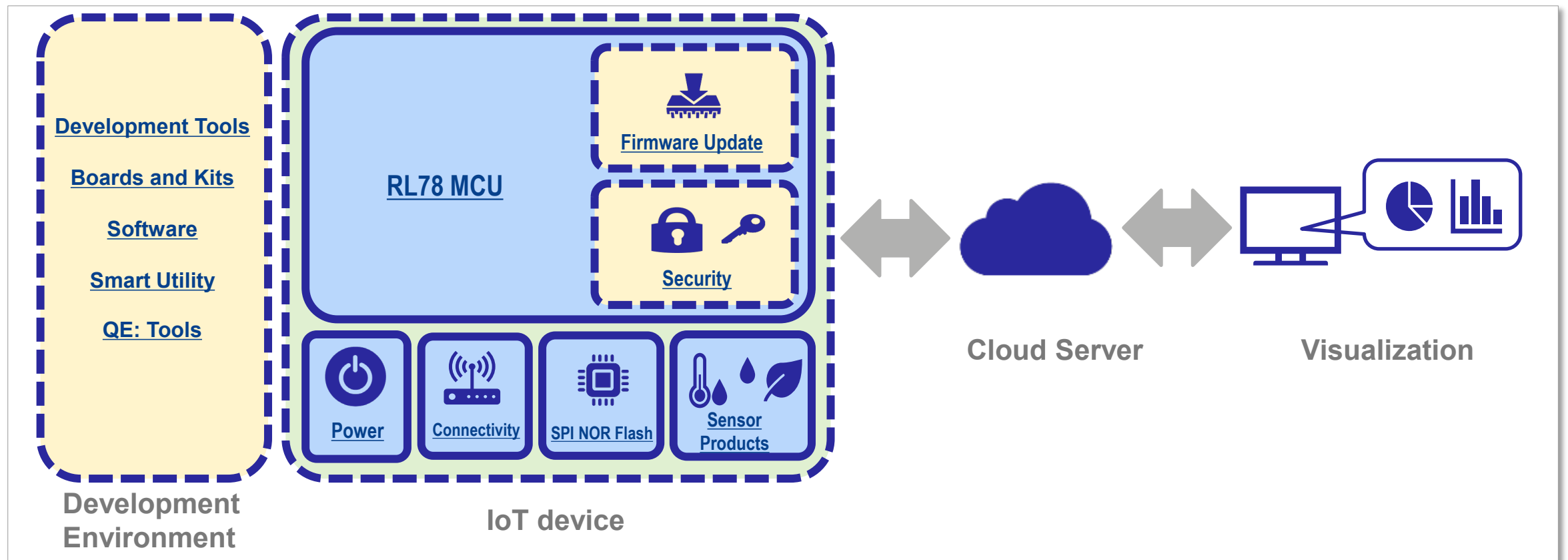
8TH, DEC. 2025

REV. 1.30

EMBEDDED PROCESSOR AND CONTROLLER SOLUTION
MARKETING DEPT,
EMBEDDED PROCESSING MARKETING DIVISION
RENESAS ELECTRONICS CORPORATION

RL78 FAMILY IOT SOLUTIONS

By using the RL78 family, it is possible to develop IoT device that take advantage of features such as the industry's highest level of low power consumption. We offer various evaluation kits, an easy-to-use development environment (e2 studio and so on), and **software solutions for connectivity, firmware updates, and security to enable IoT!**



OVERVIEW OF RL78 FAMILY IOT SOLUTIONS

RL78 IoT Solutions	
Cloud connection	
Wi-Fi communication Solutions	Technology used
AWS cloud connection	• Connectivity Wi-Fi Communication module Page 05
LoRa®-based Solutions	• AWS FreeRTOS MQTT Page 06
OTA firmware update	• LoRa communication Page 09
Non-Cloud connection (Local)	• Firmware Update Module Page 10
Firmware update	• AWS FreeRTOS, AWS IoT Core
Development Assistance Tool QE for OTA	• Self-Programming Libraries Page 13
Partner	• Firmware Update Module
Appendix	• SPI NOR Flash (When to use an external NOR)
	Perform firmware updates with a simple GUI Page 17
	Introduction of ecosystem partners Page 21
	List of solutions (Software, Board, Document, and so on) Page 23

CLOUD CONNECTION

Wi-Fi COMMUNICATION SOLUTIONS

Various sample software for using Wi-Fi communication is provided !

- AWS Certified **AWS FreeRTOS Cloud Connectivity** software
- **TCP/HTTP/MQTT** communication software for **FreeRTOS/Bare Metal**

Sample program configuration

- [GSG] [RL78/G23 Getting Started Guide for Connecting Amazon Web Services in Wi-Fi Communication: RL78/G23-128p Fast Prototyping Board + FreeRTOS](#) → [AWS Cloud Connection](#)

IoT Sample Project

MQTT

OTA

DA16XXX Wi-Fi SIS Module

FreeRTOS

Device driver layer
Hardware control

BSP

:Sample program
 :Wi-Fi control driver
 :OSS middleware
 :Software platform
 :Device driver

- [Driver] [RL78 Family US159-DA16XXXMEVZ Wi-Fi Control Module Using Software Integration System](#)
- [OTA] [RL78/G23 AWS Cloud Connectivity for MCU Firmware Update OTA on RL78/G23-128p FPB with Wi-Fi DA16600](#)

HTTP on-chip client
Sample Project

MQTT on-chip client
Sample Project

TCP client Sample Project

TLS on-chip client Sample Project

DA16XXX Wi-Fi SIS Module

FreeRTOS

Device driver layer
Hardware control

BSP

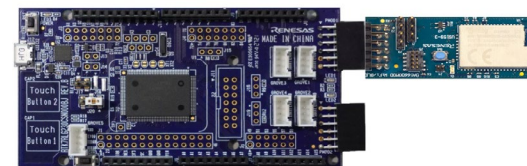
DA16XXX Wi-Fi SIS Module

Bare Metal

Device driver layer
Hardware control

BSP

Hardware Configuration



- [RL78/G23-128p Fast Prototyping Board](#)
- [US159-DA16600EVZ](#)

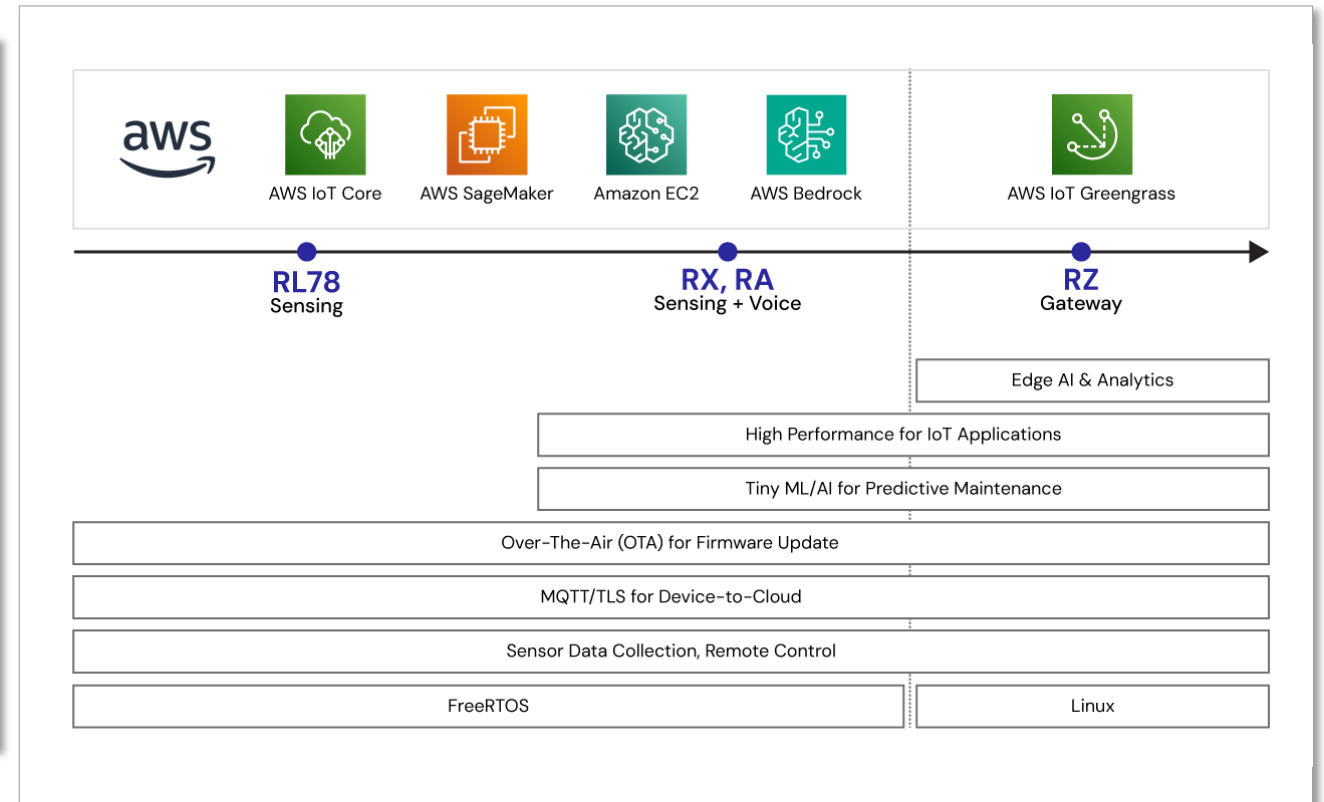
AWS CLOUD CONNECTION OVERVIEW



For cloud connectivity, it supports FreeRTOS, a real-time OS for IoT device development provided by Amazon Web Services (AWS).

The evaluation board program has AWS device certification, so you can start development immediately.

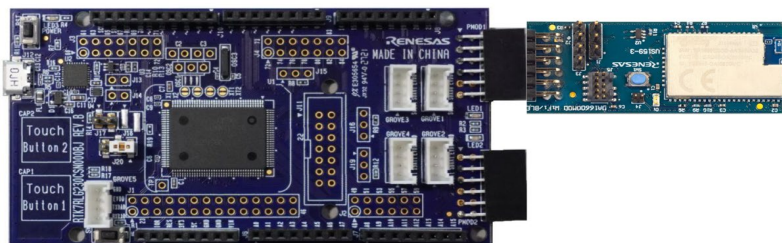
We support your IoT development with various application notes such as visualization of data uploaded to the cloud and OTA firmware updates.



RL78 MICROCONTROLLER EVALUATION BOARD FOR AWS CLOUD CONNECTIVITY

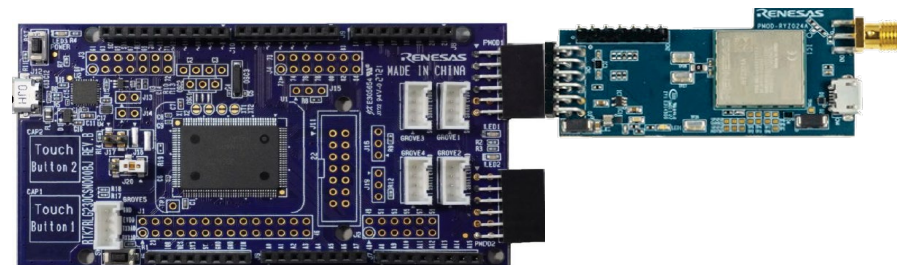
The following evaluation boards that use Wi-Fi and Cellular communications are **AWS certified** and listed in **AWS Partner Device Catalog**.

W-Fi Environment



**RL78/G23-128p Fast Prototyping Board
US159-DA16600EVZ**

Cellular Environment



**RL78/G23-128p Fast Prototyping Board
RTKYZ024A0B00000BE**

The existing LTE module RYZ024A will no longer be manufactured and shipped. Sequans' product model number GM02S is pin- and function-compatible replacement.

* Environments of older OS versions are also included for reference.

SOFTWARE FOR AWS CLOUD CONNECTIVITY



Renesas provides AWS-certified cloud connection software!

Wi-Fi Environment

- [RL78/G23 Getting Started Guide for Connecting Amazon Web Services \(202406-LTS Version\) in Wi-Fi Communication: RL78/G23-128p FPB + FreeRTOS Application Note](#)
 - [RL78/G23 Getting Started Guide for Connecting Amazon Web Services \(202406-LTS Version\) in Wi-Fi Communication: RL78/G23-128p FPB + FreeRTOS - Sample Code](#)
 - * FreeRTOS 202406.01 LTS Library **New**

- [RL78/G23 Getting Started Guide for Connecting Amazon Web Services in Wi-Fi Communication: RL78/G23-128p Fast Prototyping Board + FreeRTOS](#)
 - [RL78/G23 Getting Started Guide for Connecting Amazon Web Services in Wi-Fi Communication: RL78/G23-128p Fast Prototyping Board + FreeRTOS - Sample Code](#)
 - * FreeRTOS 202210.01 LTS Library, OTA dataplane MQTT

Cellular Environment

- [RL78/G23 Getting Started Guide for Connecting Amazon Web Services in LTE Communication: RL78/G23-128p Fast Prototyping Board + FreeRTOS](#)
 - [RL78/G23 Group Connecting to Amazon Web Services in LTE communication using FreeRTOS with RL78/G23 FPB](#)
 - * FreeRTOS 202210.01 LTS Library, OTA dataplane MQTT

GitHub: [renesas/iot-reference-rl78](https://github.com/renesas/iot-reference-rl78)

LoRa®-BASED SOLUTIONS

COVER A WIDE AREA WITH LOW POWER CONSUMPTION

Update

LoRa® is a spread spectrum modulation technique derived from chirp spread spectrum (CSS) technology developed by Semtech Corporation.

Renesas LoRa®-based solutions use the sub-GHz frequency band of frequencies below 1 GHz, and can cover a wide area with low power consumption.

Development Environment (MCU Evaluation Board + RF Transceiver)

RL78 MCU:

FPB-RL78G23-64p, FPB-RL78G23-128p,
FPB-RL78G22, FPB-RL78L23, FPB-RL78G14

* FPB is Fast Prototyping Board

RF Transceiver:

Semtech SX1261/1262 Shield



Software for Ease of Design

- Providing **LoRaWAN® protocol stack** compliant with the LoRaWAN® specification (Class A/B/C)
- Providing Private LoRa®-based network sample and the **radio driver** for custom protocol.
- The **firmware update sample** utilizing LoRaWAN® is available.

LoRaWAN®
Sample Apps

LoRaWAN®
MAC Stack

LoRa®-based
Sample Apps

LoRa®-based Radio Driver

* Please refer to the web-page for the MCU's supported functions.

Power LoRa® -based Solutions

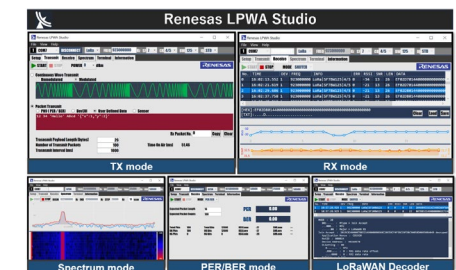
- The combination of a low-power microcontroller (**RL78/G23, RL78/G22, RL78/G14**) and a LoRa® transceiver (Semtech SX1261/SX1262)
- The designed communication software for low power consumption achieves a current consumption of less than 1μA

* Please refer to the web page for current consumption

	RL78/G23 SX1261
Sleep	0.55 μA
RX / TX	4.6 / 25.5 mA

Tools for Ease of RF Characteristics Evaluation

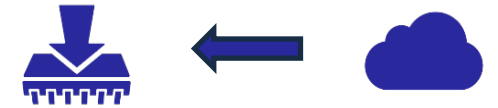
“**Renesas LPWA Studio**” tool that makes RF characteristics evaluation easy



OTA FIRMWARE UPDATE

REMOTE FIRMWARE UPDATE VIA OTA

OVERVIEW



The RL78 MCU, which supports AWS FreeRTOS, can perform **OTA (Over The Air) firmware updates using the cloud (AWS) !**

We provide an application note to easily incorporate the firmware update function into your system, and a [development support tool \(QE for OTA\)](#) to easily try out OTA (Over The Air) !

- [AWS Cloud Connectivity on RL78/G23 with Wi-Fi DA16000 — Getting Started Guide \(Included OTA \)](#)
- [RL78/G22, RL78/G23, RL78/G24, RL78/L23 Firmware Update Module](#) **Update**
- [QE for OTA: Development Assistance for Cloud](#)

REMOTE FIRMWARE UPDATE VIA OTA

EXAMPLE

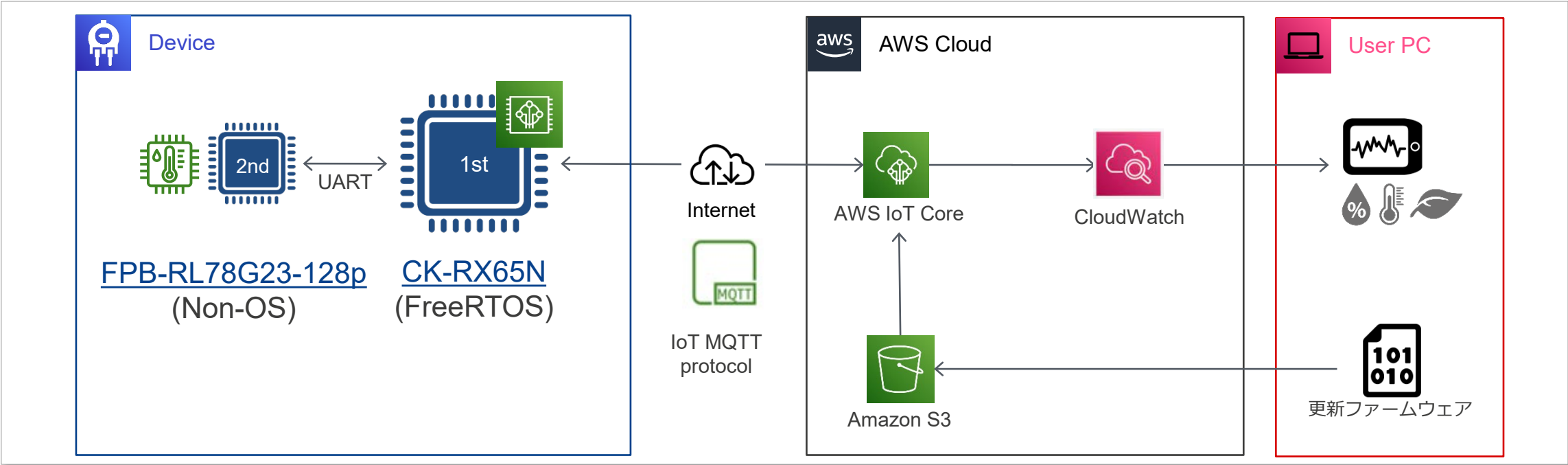


We also provide a sample program that enables **OTA firmware update of the Secondary MCU (RL78/G22) connected via a communication path** via the 1st MCU (RX65N) with AWS FreeRTOS communication function.

- RL78/G23 OTA Update of a Secondary Device by Amazon Web Services with the Use of FreeRTOS

Configure OTA firmware update for secondary MCU:

New

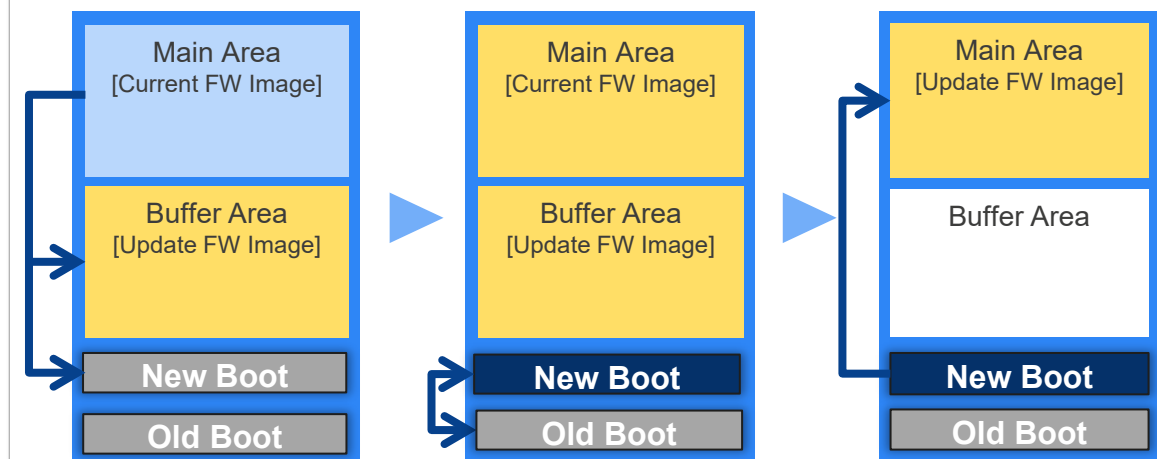


FIRMWARE UPDATE

SELECTING A FIRMWARE UPDATE METHOD

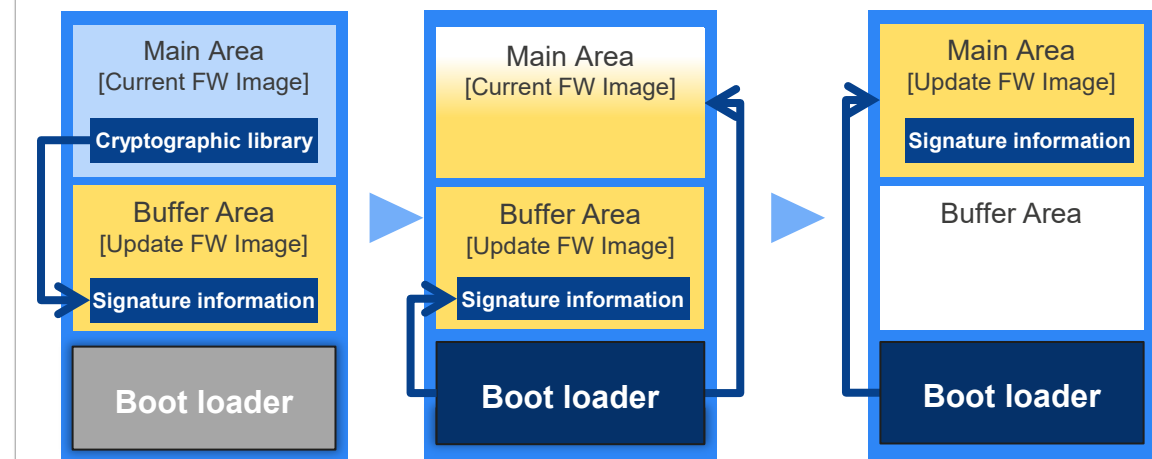
Purpose	Solution	Content
Small code size	Firmware update using boot swap	Achieving Firmware Updates Using Boot Swap
Securely Update	Firmware Update Module	Realization of firmware update with built-in Secure Boot function

- Boot swap update example



Example) [RL78/G23 Updating Firmware by Using UART Communication and Boot Swapping](#)

- Secure Boot Update Example



Example) [RL78/G22, RL78/G23, RL78/G24, RL78/L23 Firmware Update Module](#)

FIRMWARE UPDATE MODULE

SECURELY UPDATE

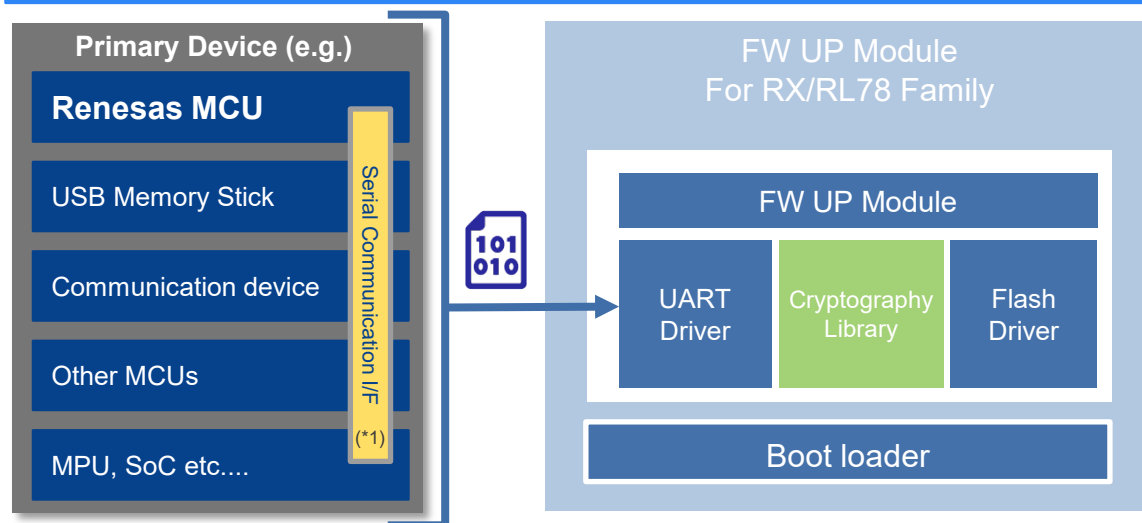


Update

* FW UP: Firmware update

The FW UP Module is ideal for FW update over various Primary Devices

Get an Update FW via serial communication



*1 : Firmware Updating Communications Module : ([RX](#), [RL78](#))

Application Notes



FW UP Module APN ([Link](#)) for RX Family



FW UP Module APN ([Link](#)) for RL78 Family

Compatible with various use cases

Stand-alone

(Products that run on a single device)



Air conditioners, etc.

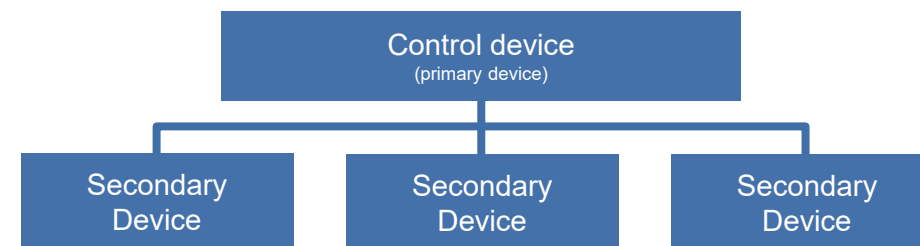
such as Paired systems

Outdoor unit

Indoor unit

Industrial system

(System consisting of control devices and connected various secondary devices)

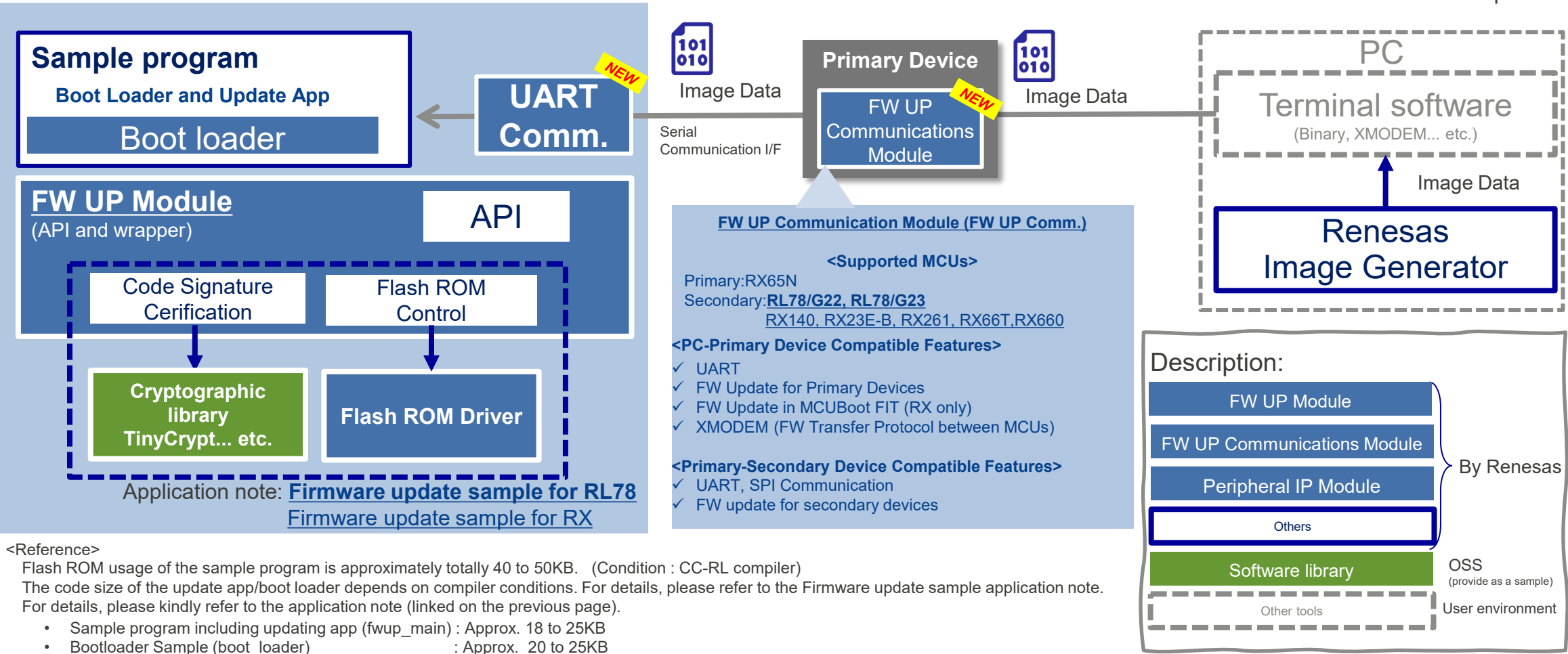


MCUs supported by FW UP Module : **RX Family** - All RX Family,
RL78 Family - RL78/G22, RL78/G23, RL78/G24, RL78/L23

System Configuration for Secondary Device Update with FW UP Module

New

➤ Secondary device firmware update



<Reference>

- Flash ROM usage of the sample program is approximately totally 40 to 50KB. (Condition : CC-RL compiler)
- The code size of the update app/boot loader depends on compiler conditions. For details, please refer to the Firmware update sample application note.
- For details, please kindly refer to the application note (linked on the previous page).
- Sample program including updating app (fwup_main) : Approx. 18 to 25KB
 - Bootloader Sample (boot_loader) : Approx. 20 to 25KB

DEVELOPMENT ASSISTANCE TOOL QE FOR OTA

QE for OTA : Development Assistance tool for IoT

~ Significantly Reduce customers' OTA development troublesome ~



QE for OTA

QE for OTA



Quick and Effective
tool solution

Contribute for add From Over the Air (OTA) feature to future IoT products.

Easy-to-Use with GUI.
Automate troublesome in step by step !

- Just set GUI along the workflow, you can try OTA right away
No complex actions are required on AWS consoles **to learn OTA feature.**

QE for OTA



(i) Connect
to Cloud

(ii) Create
Initial Firmware

(iii) Create & Store
Update Firmware

(iv) Execute
OTA

Reduce man-hours from PoC to MP.

- Reduce the number of hours required for
1 IoT device OTA by **86%!**



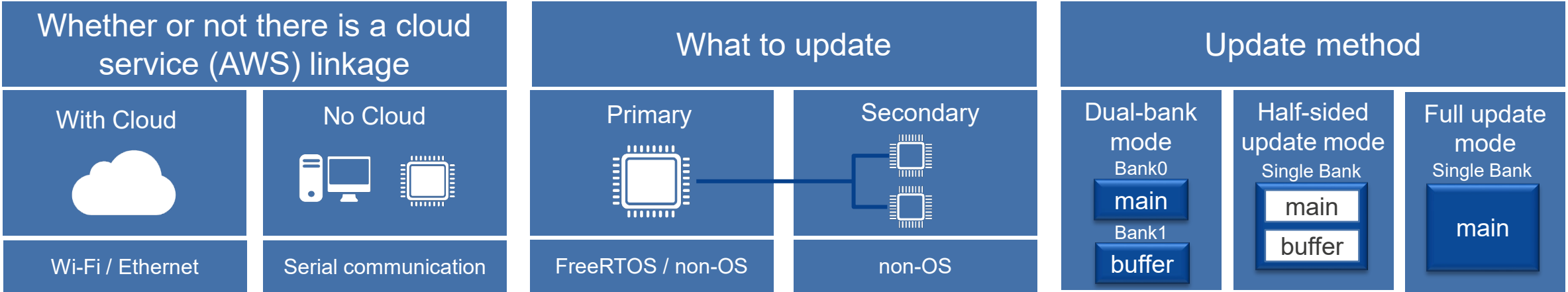
- Reduce required time to create initial firmware for
10 IoT devices OTA by **99%.**



* operation 1m + wait 19m

QE FOR OTA ALSO SUPPORTS FIRMWARE UPDATES ON DEVICES THAT DO NOT CONNECT TO THE CLOUD

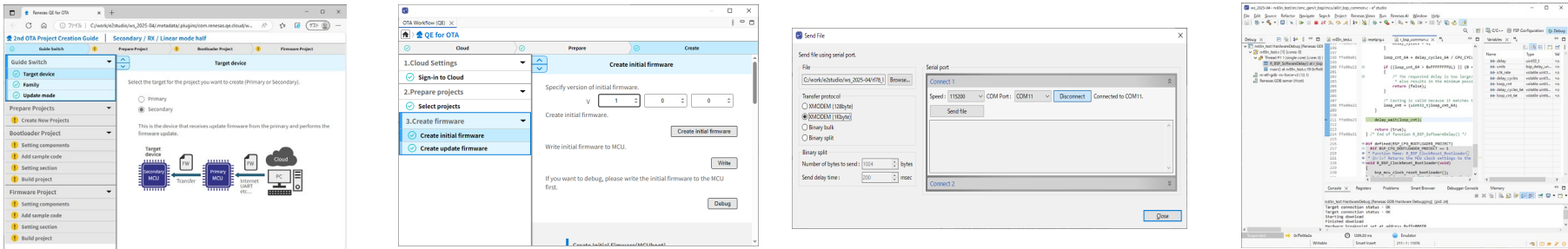
From Over the Air (OTA) to local applications, firmware updates for various system configurations can be achieved with simple GUI operations!



Quick and Effective tool solution



QE for OTA



LIST OF FIRMWARE UPDATE CONFIGURATIONS THAT CAN BE EXECUTED BY QE FOR OTA

QE for OTA



Update

: RL78 compatible

	Firmware Update WITHOUT via Cloud			Firmware Update WITH via Cloud		
: Update FW Location						
Update Target	Primary	Primary	Secondary	Primary	Primary	Secondary
Supported Devices	<RA> RA6M4, RA6M5 <RX> RX Family – All series <RL78> RL78/G22,G23,G24,L23	<RX> RX65N	<RX> RX23E-B, RX66T, RX660, RX261, RX140 <RL78> RL78/G23	<RA> RA6M5 <RX> RX65N <RL78> RL78/G23	<RX> RX65N	<RX> RX23E-B, RX66T, RX660, RX261, RX140 <RL78> RL78/G23
with / without RTOS	non-OS	FreeRTOS, non-OS	non-OS	FreeRTOS	FreeRTOS	non-OS
Flash Memory Update method	< RA, RX > Dual Bank Method < RL78 > Partial Update Method	Support for Primary MCU FW update is planned by next version in 1Q/2026 *3	Dual Bank Method*1, Partial Update Method, Full update method	< RA, RX > Dual Bank Method < RL78 > Partial Update Method	Dual Bank Method	Dual Bank Method*1, Partial Update Method, Full update method
Communication method	Serial Communication*2			< RA, RX > Ethernet < RL78 > Cellular		Serial Communication*2

*1: Only supported by Dual Bank mode-compatible devices. *2: Using " Serial Communication Firmware Updating Communications Module ([RX](#), [RL78](#)) " for communication between MCUs.

PARTNER ECOSYSTEM

PARTNER ECOSYSTEM

Renesas is enabling a comprehensive partner ecosystem to deliver an array of software and hardware building blocks that will work out-of-the-box with **Renesas RL78 Family MCUs**.

Renesas RL78 Partner Ecosystem Solutions

- **Security & Safety**
- **Connectivity & Cloud**

APPENDIX



SOFTWARE SOLUTIONS TO REALIZE IOT (1)

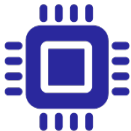
Renesas provides various software solutions for IoT development using RL78!

Connectivity 	• [Wi-Fi] US159-DA16XXXMEVZ Wi-Fi Control Module Using SIS Others → <u>Wi-Fi communication solutions</u> • [Wi-Fi] Wi-Fi Communication (Soft AP mode) with DA16200/DA16600 • [Bluetooth LE] US159-DA1453xEVZ BLE Control Module Using SIS • [LoRa] LoRa®-based Solutions for RL78 Family • [Cellular] LTE RYZ024A MQTT Communication
Cloud connection 	• <u>Software for cloud connectivity</u>
OTA Firmware update 	• <u>Remote Firmware Update via OTA</u>

Blue: Application notes, web page links, Black: Page links within the document

SOFTWARE SOLUTIONS TO REALIZE IOT (2)

Renesas provides various software solutions for IoT development using RL78!

Firmware update (Non-Cloud) 	• Firmware Update Module • Updating Firmware by Using UART Communication and Boot Swapping • Firmware Upgrade Using External Flash Memory via Simplified SPI (CSI) Communication → Selecting a Firmware Update Method
SPI NOR Flash 	• SPI Serial Flash Memory Driver Serial Memory
Security 	• Crypto Library AES Library, RSA Library, SHA Hash Function Library

Blue: Application notes, web page links, **Black:** Page links within the document

BOARDS & KITS

Main boards & kits related to RL78 IoT solutions

	<u>FPB-RL78G23-128p - RL78/G23-128p Fast Prototyping Board</u>
	<u>FPB-RL78G22 - RL78/G22 Fast Prototyping Board</u>
	<u>US159-DA16600EVZ - Ultra-Low-Power Wi-Fi + Bluetooth Low Energy Combo Pmod Board</u>
	<u>RTKYZ024A0B00000BE - PMOD Expansion Board for RYZ024A</u>

DOCUMENTATION (CONNECTIVITY)

Application Note		
RL78/G22 Wi-Fi Communication (Soft AP mode) with DA16200/DA16600	日本語	Related Files: Sample Code
RL78 Family US159-DA14531EVZ BLE Control Module Using Software Integration System		Related Files: Sample Code
RL78 Family US159-DA16XXXMEVZ Wi-Fi Control Module Using Software Integration System		Related Files: Sample Code
RL78/G23 AWS Cloud Connectivity for MCU Firmware Update Over-the-Air on RL78/G23-128p Fast Prototyping Board with Wi-Fi DA16600		Related Files: Sample Code
RL78/G22 LTE MQTT Communication Application Note	日本語	Related Files: Sample Code
LoRaWAN® Stack Reference Guide	Update	
LoRaWAN® Stack Sample Application	Update	
RL78/G23, RL78/G22, RL78/L23, RL78/G14 LoRaWAN® Sensor Demo	Related Files: Sample Code	Update
RL78/G23, RL78/G22, RL78/L23, RL78/G14 LoRa®-based Wireless Software Package	Related Files: Sample Code	Update



DOCUMENTATION (SPI SERIAL FLASH MEMORY DRIVER)

Application Note

[RL78 Family Serial NOR Flash Memory Control Module Software Integration System](#) [日本語](#) Related Files: [Sample Code](#)

[RL78/G14, RL78/G1C, RL78/L12, RL78/L13, RL78/L1C, RL78/G23 Group Clock Synchronous Single Master Control Software Using CSI Mode of Serial Array Unit](#) [日本語](#) Related Files: [Sample Code](#)

[RX Family, RL78 Family, 78K0R/Kx3-L Macronix International MX25/66L Family Serial NOR Flash Memory Control Software](#) [日本語](#) Related Files: [Sample Code](#)

[RX Family, RL78 Family, 78K0R/Kx3-L Micron Technology M25P Series Serial Flash memory Control Software](#) [日本語](#) Related Files: [Sample Code](#)

[RX Family, RL78 Family, 78K0R/Kx3-L Micron Technology M45PE Series Serial Flash memory Control Software](#) [日本語](#) Related Files: [Sample Code](#)

[RX Family, RL78 Family, 78K0R/Kx3-L Micron Technology N25Q Serial NOR Flash Memory Control Software](#) [日本語](#) Related Files: [Sample Code](#)

[RX Family, RL78 Family, 78K0R/Kx3-L Micron Technology P5Q Serial Phase Change Memory Control Software](#) [日本語](#) Related Files: [Sample Code](#)



DOCUMENTATION (SECURITY)

Application Note
RL78/G24 FAA AES Library Introduction Guide 日本語 Related Files: Sample Code
RL78 Family How to change devices in the sample project for the DSP Library and the Security Library 日本語
RL78 Family SHA Hash Function Library: Introduction Guide 日本語 Related Files: Sample Code
RL78 Family AES Library: Introduction Guide 日本語 Related Files: Sample Code
RL78 Family RSA Library: Introduction Guide 日本語 Related Files: Sample Code

DOCUMENTATION (CLOUD CONNECTION)

Application Note

[RL78/G23 Getting Started Guide for Connecting Amazon Web Services \(202406-LTS Version\) in Wi-Fi Communication: RL78/G23-128p FPB + FreeRTOS](#) Related Files: [Sample Code](#) **NEW**

[Getting Started Guide for Connecting Amazon Web Services in Wi-Fi Communication: RL78/G23-128p Fast Prototyping Board + FreeRTOS](#) Related Files: [Sample Code](#)

[RL78/G23 Getting Started Guide for Connecting Amazon Web Services in LTE Communication: RL78/G23-128p Fast Prototyping Board + FreeRTOS Rev.1.00 日本語](#) Related Files: [Sample Code](#)

DOCUMENTATION (FIRMWARE UPDATE)

Application Note	
RL78/G22 ota firmware update for a secondary mcu	日本語 related files: sample code
RL78/G22, RL78/G23, RL78/G24, RL78/L23 Firmware Update Module	日本語 related files: sample code
RL78/G22, RL78/G23 Firmware Updating Communications Module	日本語 Related Files: sample code NEW
RL78/G23 updating firmware by using uart communication and boot swapping	日本語 related files: sample code
RL78/G23 firmware upgrade using external flash memory via simplified spi (csi) communication rev.1.00 (renesas.com)	
日本語 related files: sample code	

DOCUMENTATION (SELF PROGRAMMING)

Communication method	APPLICABLE DEVICES	APPLICATION NOTE
UART	G12,G1G,G1P,L12	RL78/G12 Self-Programming (Received Data via UART) CC-RL 日本語 Related Files: Sample Code
	X1x *	RL78/G13 Self-Programming (Received Data via UART) CC-RL 日本語 Related Files: Sample Code
		RL78/G13 Flash Self Programming: Execution: Application Note 日本語 Related Files: Sample Code
	G2x	RL78/G23 Self-Programming Using Boot Swapping via UART communications 日本語 Related Files: Sample Code
		RL78/G23 Updating Firmware by Using UART Communication and Boot Swapping 日本語 Related Files: Sample Code
SPI(CSI)	G12,G1G,G1P,L12	RL78/G12 Self-Programming (Received Data via CSI) CC-RL 日本語 Related Files: Sample Code
	x1x *	RL78/G13 Self-Programming (Received Data via CSI) CC-RL 日本語 Related Files: Sample Code
	G2x	RL78/G23 Firmware Upgrade Using External Flash Memory via Simplified SPI (CSI) Communication 日本語 Related Files: Sample Code
IIC	G12,G1G,G1P,L12	RL78/G12 Self-Programming (Received Data via IIC) CC-RL 日本語 Related Files: Sample Code
	x1x *	RL78/G13 Self-Programming (Received Data via IIC) CC-RL 日本語 Related Files: Sample Code

* RL78/G10, G1M, G1N, excluding the above devices (applicable to **devices with boot swap function**)
 For details, refer to [RL78 Family Self RAM list of Flash Self Programming Library](#)



VIDEOS (1)

RL78 Family LTE CAT-M1 MQTT Communication Solution [06:12]

This video will show the steps to operate MQTT communication for send and receive (Publish/Subscribe) via MQTT Broker in an LTE CAT-M1 cellular communication.

RL78 Family Secondary Device OTA Update Solution [6:14]

This video will show the steps to operate the secondary device OTA firmware update solution via primary device with the AWS Cloud, tailored for low-end microcontrollers lacking direct internet connectivity.

RL78/G23 Quick Start Guide - Visualizing Sensor Info with AWS through LTE (Part 1) [07:36]

RL78/G23 Quick Start Guide - Visualizing Sensor Info with AWS through LTE (Part 2) [06:43]

This video guide shows how to visualize sensor information through a connection with Amazon Web Services (AWS) by LTE communications. The target MCU is an RL78/G23.



VIDEOS (2)

RL78 LoRa®-based Solution [03:26]

This video introduces RL78 LoRa®-based Solution. It realizes a true low-power wireless IoT system by combination of the world's top-class low power RL78 microcontroller and LoRaWAN®

RL78 LoRaWAN® Sensor Demo Tutorial [06:02]

This video will show you how to set up the RL78 LoRaWAN® Sensor Demo. Using the RL78 / G23 and LoRaWAN® ecosystem, you can realize both the "LoRaWAN sensor network evaluation" and "IoT system construction using LoRaWAN" with minimal man-hours.

BLOG POSTS

- [Renesas Initiatives in Smart Agriculture - Part 1](#)
- [Would You Like to Use a LoRa®-Based Solution from Renesas to Develop IoT Applications with Low Power Consumption?](#)
- [Why Not Connect to Amazon Web Services \(AWS\) with RL78?](#)



RESOURCES FOR IOT SOLUTIONS

- [IoT Cloud Solutions](#)
- [QuickConnect Platform](#)
- [Applications](#)
- [Firmware Update module](#)
- [SPI Serial Flash Memory Driver](#)
- [Crypto Library](#)
- [Wireless Connectivity](#)
- [\[Flyer\] RL78 Family Real-time OS](#)

REVISION HISTORY

Rev.	Date	Description
1.00	7 th , May, 2024	1st edition
1.10	20 th , Nov. 2024	Main changes • Added US159-DA16XXXMEVZ Wi-Fi Control Module Using Software Integration System • Added RL78/G23 Getting Started Guide for Connecting Amazon Web Services in Wi-Fi Communication: RL78/G23-128p Fast Prototyping Board + FreeRTOS • Added RL78/G23 Visualization of Sensor Information with Connecting Amazon Web Services in LTE Communication: RL78/G23-128p Fast Prototyping Board + FreeRTOS Rev.1.00 (renesas.com) • Added RL78 Family Renesas FS3000 Sensor Control Module Software Integration System • Added RL78 Family Renesas RRH46410 Sensor Control Module Software Integration System Added Boards & Kits, Documentation, and Videos related to the above.
1.20	8 th , Jul, 2025	Main changes • Deleted sensor-related items for discontinued sensor products • Added SPI NOR Flash information • Added Wi-Fi communication solutions • Added LoRa-based Solutions • Added selection of firmware update method • Added Documentation (Self-Programming) • Updated documentation information for IoT Solutions
1.30	8 th , Dec, 2025	Main changes • Added a description of the firmware communication module to the system configuration of a secondary device update • Added RL78/L23 to Firmware Update Module Support • Added RL78/L23 to LoRa solutions • Deleted Application note information using AWS FreeRTOS 2020xx LTS Library • Added Application note information using AWS FreeRTOS 202406.01 LTS Library

[Renesas.com](https://www.renesas.com)