



Cloud Connectivity Solution

Cloud Connectivity for your IoT Devices



Benefit

- ✓ Certified Device **Quick Started**
- AWS and Microsoft partner qualification by Certified Device
- Cloud Connectivity & OTA by Dedicated Evaluation kits
- Smart Development
- GUI-based easy RTOS import & development by Tool :

Features

Certified MCU by Cloud Vendor

Certified by AWS and Microsoft **RX** is a suitable MCU for IoT devices that can implement Cloud connectivity, Secure communication and OTA feature.



Suitable Evaluation kit

Cloud connectivity with this one

Evaluation kits for developing IoT devices equipped with a Cellular module and 6 sensors. Other kits for Ether and Wi-Fi are also available.





Renesas CK-RX65N

aws

User Friendly Development Environment

Provide suitable RTOS and S/W for IoT with RX

- Certified for FreeRTOS of AWS, AzureRTOS of Microsoft
- Sensor data upload and monitoring via Cloud
- OTA Firmware update sample program
- Various IoT related Application Note and program

Quick and Easy Start by Renesas IDE

- New project creation for FreeRTOS and AzureRTOS
- FWUP FIT Driver for either RTOS or BareMetal
- Automatically set clock and PIN functions according to Evaluation kits and MCU used
- Simply set peripheral functions based on GUI by Smart Configurator
- OTA assist Tool 'QE for OTA'

Microsoft Azure Renesas Web e² studic GitHub Middleware **RX FIT Driver**

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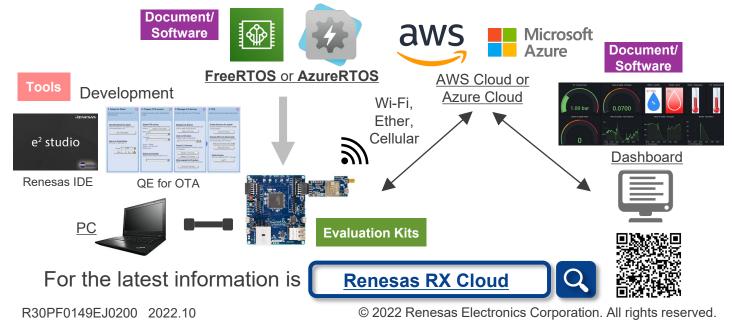
R01AN6271

Cloud Connectivity Solution										
Part Name	CPU	Frequency	ROM	RAM	Trusted Secure IP	BGO, Dual Bank	RX Driver support			
							Ether	Wi-Fi	Cat-M1	
RX72M/RX72N	RXv3	240 MHz	4 MB	1 MB						
<u>RX66N</u>	RXv3	120 MHz	4 MB	1 MB						
<u>RX671</u>	RXv3	120 MHz	2MB	384 KB			-		TBD	
RX65N/RX651	RXv2	120 MHz	2 MB	640 KB						
Kit Name			Orderable Part Number			AWS	Azure	Communication		
Renesas Starter Kit+ for RX65N-2MB			RTK50565N2S10000BE					Ether		
RX65N Cloud K	it for EU,	for EU, JPN, SGP		RTK5RX65N0S0000BE						
	for US		RTK5RX65N0S01000BE				VVI-FI			
RX72N Envision Kit			RTK5RX72N0C0000BJ					Ether, Wi-Fi		
Renesas Starter Kit+ for RX671			RTK55671EHS10000BE					Wi-Fi		
Renesas CK-RX65N			RTK5CK65N0S04000BE CY22 Q4				Cat-M1, Ether			
Tool Name	Category		Feature Description							
e ² studio Integrated Development Environment			 Easy create or import FreeRTOS and Azure RTOS projects as a new project Automatically set clock & PIN functions according to the board and MCU Simply set peripheral functions based on GUI by Smart Configurator 							
QE for OTA	Cloud Assis	t Tool	- Smoothly integrate complicated cloud registration and OTA execution by following the GUI guide							
Application Note								Documen	t No.	
Renesas MCU Firmware Update Design Policy								<u>R01AN5548</u>		
How to implement FreeRTOS OTA using Amazon Web Services on RX65N								<u>R01AN5549</u>		
CK-RX65N SIM activation, Creating the trial account and using Dashboard Getting Started Guide								R01QS0064		
RX65N Sample Code for OTA Update of Secondary Device with Amazon Web Services Using FreeRTOS								R01AN6220		
RX72N Envision	RX72N Envision Kit Using Quick-Connect IoT to Send Sensor Information to Amazon Web Services								<u>R11AN0560</u>	
	Part Name RX72M/RX72N RX66N RX671 RX65N/RX651 Kit Name RX65N Cloud K RX65N Cloud K RX72N Envision Renesas Starter Renesas Starter Renesas Starter Renesas Starter Renesas Starter Renesas MCU R Application No R RX65N Sample	Part Name CPU RX72M/RX72N RXv3 RX66N RXv3 RX671 RXv3 RX65N/RX651 RXv2 Renesas Starter for EU, RX65N Cloud KI for EU, RX72N Envision KI for EU, Renesas Starter for EU, Gef for OTA Category QE for OTA Cloud Assis How to implemer rere Upd CK-RX65N SIMUE Kategory RX65N Sample Kategory	Part NameCPUFrequencyRX72M/RX72NRXv3240 MHzRX66NRXv3120 MHzRX671RXv3120 MHzRX65N/RX651RXv2120 MHzRanesas Starterreverse120 MHzRX65N Cloud Kitfor RU120 MHzRX65N Cloud Kitfor CU120 MHzRX65N Cloud Kitfor CUreverseRanesas Starterfor CUreverseRX72N Envisionfor CUreverseRenesas Starterfor RX671reverseRenesas CK-RX67reversereverseRenesas CK-RX67reversereverseGe for OTACloud Assist ToolreverseApplication NumereversereverseRenesas MCU Firewer Update of SereverseHow to implement FireRTOS OTA using An CK-RX65N Sample Corr A using the triat RX65N Sample Corr A using the triat 	Part Name CPU Frequency ROM RX72M/RX72N RXv3 240 MHz 4 MB RX66N RXv3 120 MHz 4 MB RX671 RXv3 120 MHz 4 MB RX671 RXv3 120 MHz 2MB RX671 RXv3 120 MHz 2 MB RX65N/RX651 RXv2 120 MHz 2 MB RX65N/RX651 RXv2 120 MHz 2 MB RX65N/RX651 RXv2 120 MHz 2 MB RX65N Cloud Kit RTK505 2 MB RTK505 RX72N Envision for EU, JPN, SGP RTK5RX RA72N Envision RTK5RX RTK5RX Renesas Starter Kit+ for RX671 RTK5RX Renesas Starter Kit+ for RX671 RTK5RX Renesas CK-RWE Feature e² studio Integrated Development Environment - Easy of - Automa - Simply QE for OTA CI-u Assist Tool - Smoot following QE for OTA CK-RX65N SIM - Stroot following CK-RX65N SIM RTK50 SI - Stroot following CK-RX65N SIM - Stroot followin	Part Name CPU Frequency ROM RAM RX72M/RX72N RXv3 240 MHz 4 MB 1 MB RX66N RXv3 120 MHz 4 MB 1 MB RX671 RXv3 120 MHz 4 MB 1 MB RX671 RXv3 120 MHz 2 MB 384 KB RX651/RX651 RXv2 120 MHz 2 MB 640 KB RX65N/RX651 RXv2 120 MHz 2 MB 640 KB Renesas Starter Kor RX65N-2MB RTK50565N2510000 RTK50565N2510000 RTK50565N2500000 RX65N Cloud Kit for EU, JPN, SGP RTK5R×65N0501000 RTK57×2N0C00000 RX72N Envision for US RTK5R×65N0501000 RTK57×2N0C00000 Renesas Starter Kit+ for RX671 RTK56571EHS10000 RTK56571EHS10000 RTK50565N0504000 Renesas CK-RX65N Integrated Development - Easy create or imp - Automatically set - Simply set peripher QE for OTA CI-u Assist Tool - Simoly set peripher - Simply set peripher QE for OTA CI-u Assist Tool - Si	Part Name CPU Frequency ROM RAM Trusted Secure IP RX72M/RX72N RXv3 240 MHz 4 MB 1 MB I Image: Secure IP Image: Sec	Part Name CPU Frequency ROM RAM Trusted Secure IP BGO, Dual Bank RX72M/RX72N RXv3 240 MHz 4 MB 1 MB ◇ ◇ RX66N RXv3 120 MHz 4 MB 1 MB ◇ ◇ ◇ RX671 RXv3 120 MHz 2MB 384 KB ◇ ◇ ◇ RX65N/RX651 RXv2 120 MHz 2MB 640 KB ◇ ◇ ◇ RX65N/RX651 RXv2 120 MHz 2MB 640 KB ◇ ◇ ◇ RX65N/RX651 RXv2 120 MHz 2MB 640 KB ◇ ◇ ◇ RX65N/RX651 RXv2 120 MHz 2MB 640 KB ◇ ◇ ◇ Rx65N/RX651 RXv2 120 MHz RK50565N2S10000BE ◇ ◇ ◇ Renesas Starter Kit+ for RX671 RTK5RX65N0S010000BE ◇ ◇ ◇ ◇ Renesas Starter Kit+ for RX671 RTK55671EHS10000BE ◇ ◇ </th <th>Part Name CPU Frequency ROM RAM Trusted Secure IP BGO, Dual Bank RX Driver Ether RX72M/RX72N RXv3 240 MHz 4 MB 1 MB Image: Construction of the construction of th</th> <th>Part Name CPU Frequency ROM RAM Trusted Secure IP BGO, Dual Bank RX Driver support RX72M/RX72N RXv3 240 MHz 4 MB 1 MB Image: Secure IP BGO, Dual Bank RX Driver support RX66N RXv3 120 MHz 4 MB 1 MB Image: Secure IP Image: Secure IP</th>	Part Name CPU Frequency ROM RAM Trusted Secure IP BGO, Dual Bank RX Driver Ether RX72M/RX72N RXv3 240 MHz 4 MB 1 MB Image: Construction of the construction of th	Part Name CPU Frequency ROM RAM Trusted Secure IP BGO, Dual Bank RX Driver support RX72M/RX72N RXv3 240 MHz 4 MB 1 MB Image: Secure IP BGO, Dual Bank RX Driver support RX66N RXv3 120 MHz 4 MB 1 MB Image: Secure IP Image: Secure IP	

Solution Configuration

• You can easily build an IoT development environment by using the RX Cloud Solution.

Low Power Consumption (Intermittent Operation) using LTE Cat-M1 Module (RYZ014A) and FreeRTOS



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