

RX671 handbook for engineers

The information/materials required at the time of product development summarized and listed for each development phase.

Please use it as a handbook when developing.

Table of contents:

[Step1: MCU selection](#)

[Step2: Designing and evaluating](#)


[Step3: Mass production](#)

Step1: MCU selection

	Item	Content	Link
1	Hardware information	Datasheet	Doc
2	Products & Solutions	Video	Web site
3		Blog	Web site
4		Reference designs (Winning combination)	Coming soon
5	Product longevity program (PLP)	Overview of product longevity program (PLP)	Web site
6		Product selection (product selector) Note: Refer to PLP column in the chart.	Web site
7	Replacement information	Differences of specification among RX products	Doc
8		[SH/H8/H8S/H8SX/M16C/V850] → RX microcontroller migration guide	Web site
9		Design guide for migration between RX family differences in package external form	Doc

[Go to Top](#)

Step2: Designing and evaluating

Item		Content	Link
Common			
1	Hardware information	User's manual: Hardware	Doc
2		RX family hardware manual guidance (how to read user's manual: hardware)	Doc
3		Technical update (errata information)	Web site
4		Part number guide for RX family product (the meaning of character in part number)	Doc
5		Semiconductor reliability handbook	Doc
6		RELIABILITY REPORT	Doc
7		RoHS Product Options → Part Number → Package information → RoHS Info	Web site
8		Security guide for MCUs with encryption functions	Web site
9	Software information	Instruction set for RXv3 core architecture (user's manual)	Doc
10	Evaluation board (for general purpose)	EK-RX671 (evaluation kit for RX671 MCU group)	Web site
11		Renesas starter kit+ for RX671 (all functions could be evaluated)	Web site
12		Target board for RX671 (low-cost model)	Web site
13	Solution board	Capacitive Touch Evaluation System for RX671 (for capacitive touch evaluation)	Web site
14		Industrial automation functional safety reference board	Web site
15	Partner information	Partner products (system solutions provider)	Web site
16		Partner products (trusted technology partners that deliver commercial-grade building blocks)	Web site
Hardware design			
1	Design information	Hardware design guide	Web site
2		Design guide for main clock circuit and Sub- Clock circuit	Doc
3		Notes regarding high-temperature operation	Doc
4		Guidelines for full-speed USB2.0 board design	Doc
5	Board simulates	ECAD, board simulation model (IBIS) Note: ECAD can be found by clicking on the respective part number of the product options. 	Web site
6	Other	Resonator and matching circuit information	Web site

Item		Content	Link	
Hardware design				
7	Other	Package information (package outline information, mount manual, etc.)	Web site	
8	Development environment	Supplemental user's manual for E1/E20/E2 Lite/E2 emulator	Doc	
Software design				
1	Software information	Getting started with the RX family development environment	Web site	
2		Development tools for RX family	Web site	
3		Software environment (OS, middleware, drivers)	Web site	
4		RX smart configurator user's guide (tools for code generation)	Doc	
5	Training information	Smart configurator tutorial - create a LED blinking program using RX family MCU	Web site	
6		How to use tools and solutions (video clips)	Web site	
7	System design	Examples of transitioning to low power consumption modes	Doc Sample	
Solution				
1	Cloud	Portal page	RX cloud connectivity solution	Web site
2		Application notes	AzureRTOS sample projects using e2 studio or IAR EW	Doc
3	Security	Portal page	RX security solutions	Web site
4		Manual	Security key management tool manual	Doc
5		Application notes	TSIP (Trusted Secure IP) driver (binary version)	Doc Sample
6			How to use AES cryptography with Trusted Secure IP(TSIP)	Doc
7		Other information	Video	Web site
8	Voice recognition	Portal page	Voice recognition solutions	Web site
9		Application notes	Voice recognition demonstration (AmiVoice Micro)	Doc
10	Capacitive touch	Portal page	Capacitive touch sensor solution	Web site
11		Design guide	First step guide (CTSU capacitive touch introduction guide)	Doc
12			The electrode design guide for capacitive touch (CSTU)	Doc
13			Capacitive touch noise immunity guide	Doc
14			The development guide for capacitive touch applications using QE and FIT	Doc

	Item		Content	Link
Solution				
15	Capacitive touch	Application notes	The development guide for 3D gesture recognition application using QE for capacitive touch	Doc
16			How to use QE for capacitive touch for Renesas RX family with IAR EWRX	Doc
17			QE for capacitive touch advanced mode parameter guide	Doc
18	GUI	Portal page	Graphical user interface (GUI) solutions	Web site
19		Support information	RX family LCD-related FAQ list	Web site
20		Application notes	QE for display GUI display application development guide using serial connection LCD	Doc
21			GUI sample program using serial LCD and emWin library	Doc Sample
22			OTA-supported HMI sample program with touch keys and LCD	Doc Sample
23			Module for image rendering (emWin)	Doc Sample
24	Functional safety	Portal page	IEC61508 functional safety solutions for industry	Web site
25		Other information	Functional safety solution for Industrial automation	Web site
26			Introduction to Renesas functional safety	Web site
Support				
1	Support information		FAQ (frequently asked inquiries)	Web site
2			RX forum (community)	Web site
3			Ask to technical support Note: Please click login in the upper right corner	Web site

[Go to Top](#)

Step3: Mass production

Item		Content		Link
1	Writing a program	Programmer	PG-FP6	Web site
2		Writing tool	Renesas flash programmer (GUI tool for PC)	Web site
3	Firmware update	Application notes	Renesas MCU firmware update design policy	Doc
4			Firmware update module using firmware integration technology	Doc Sample
5			How to manage the access control for flash memory	Doc
6	Inspection	Design information	Boundary scan description language (BSDL) file	Web site

[Go to Top](#)