

## **RX66N 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.

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#### **Step1: MCU selection**

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

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## Step2: Designing and evaluating

Item		Content	Link
Common			
1	Hardware information	User's manual: Hardware	<a href="#">Doc</a>
2		RX family hardware manual guidance (how to read user's manual: hardware)	<a href="#">Doc</a>
3		Technical update (errata information)	<a href="#">Web site</a>
4		Product change notice (PCN)	<a href="#">Web site</a>
5		Part number guide for RX family product (the meaning of character in part number)	<a href="#">Doc</a>
6		Semiconductor reliability handbook	<a href="#">Doc</a>
7		RELIABILITY REPORT	<a href="#">Doc</a>
8		RoHS Product Options → Part Number → Package information → RoHS Info	<a href="#">Web site</a>
9	Software information	Instruction set for RXv3 core architecture (user's manual)	<a href="#">Doc</a>
10	Evaluation board (for general purpose)	Target board for RX66N (low-cost model)	<a href="#">Web site</a>
11		Renesas starter kit+ for RX72N (all functions could be evaluated) Note: By setting the operating frequency to 120MHz or less, it is possible to evaluate it as an equivalent product to RX66N. When using Ethernet, it is necessary to use Ch0 side for RX66N (Ch1 is used for RSK+ for RX72N)	<a href="#">Web site</a>
12	Solution board	Industrial automation functional safety reference board	<a href="#">Web site</a>
13	Partner information	Partner products (system solutions provider)	<a href="#">Web site</a>
14		Partner products (trusted technology partners that deliver commercial-grade building blocks)	<a href="#">Web site</a>
Hardware design			
1	Design information	Hardware design guide	<a href="#">Web site</a>
2		Design guide for main clock circuit and Sub- Clock circuit	<a href="#">Doc</a>
3		Notes regarding high-temperature operation	<a href="#">Doc</a>
4		Guidelines for full-speed USB2.0 board design	<a href="#">Doc</a>
5		Ethernet hardware design guide	<a href="#">Doc</a>

Item		Content	Link	
Hardware design				
6	Board simulates	ECAD, board simulation model (IBIS) Note: ECAD can be found by clicking on the respective part number of the product options.📍	<a href="#">Web site</a>	
7	Other	Resonator and matching circuit information	<a href="#">Web site</a>	
8		Package information (package outline information, mount manual, etc.)	<a href="#">Web site</a>	
9	Development environment	Supplemental user's manual for E1/E20/E2 Lite/E2 emulator	<a href="#">Doc</a>	
Software design				
1	Software information	Getting started with the RX family development environment	<a href="#">Web site</a>	
2		Development tools for RX family	<a href="#">Web site</a>	
3		Software environment (OS, middleware, drivers)	<a href="#">Web site</a>	
4		RX smart configurator user's guide (tools for code generation)	<a href="#">Doc</a>	
5	Training information	Smart configurator tutorial - create a LED blinking program using RX family MCU	<a href="#">Web site</a>	
6		How to use tools and solutions (video clips)	<a href="#">Web site</a>	
7	System design	Examples of transitioning to low power consumption modes	<a href="#">Doc</a>   <a href="#">Sample</a>	
Solution				
1	Cloud	Portal page	RX cloud connectivity solution	<a href="#">Web site</a>
2		Application notes	How to create Azure ADU environment	<a href="#">Doc</a>
3			AzureRTOS sample projects using e2 studio or IAR EW	<a href="#">Doc</a>
4	Security	Portal page	RX security solutions	<a href="#">Web site</a>
5		Manual	Security key management tool manual	<a href="#">Doc</a>
6		Application notes	TSIP (Trusted Secure IP) driver (binary version)	<a href="#">Doc</a>   <a href="#">Sample</a>
7			How to use AES cryptography with Trusted Secure IP(TSIP)	<a href="#">Doc</a>
8		Other information	Video	<a href="#">Web site</a>
9	GUI	Portal page	Graphical user interface (GUI) solutions	<a href="#">Web site</a>
10		Support information	RX family LCD-related FAQ list	<a href="#">Web site</a>
11		Application notes	GUI development sample using QE for display [RX]	<a href="#">Doc</a>   <a href="#">Sample</a>
12			QE for display [RX] user's manual	<a href="#">Doc</a>   <a href="#">Sample</a>
13			WVGA display sample program using GLCDC	<a href="#">Doc</a>   <a href="#">Sample</a>

	Item		Content	Link
Solution				
14	GUI	Application notes	WQVGA display sample program using GLCDC	<a href="#">Doc</a>   <a href="#">Sample</a>
15			Module for image rendering (emWin)	<a href="#">Doc</a>   <a href="#">Sample</a>
16	Functional safety	Portal page	IEC61508 functional safety solutions for industry	<a href="#">Web site</a>
17		Other information	Functional safety solution for industrial automation	<a href="#">Doc</a>
18			Introduction to Renesas functional safety (video)	<a href="#">Web site</a>
Support				
1	Support information		FAQ (frequently asked inquiries)	<a href="#">Web site</a>
2			RX forum (community)	<a href="#">Web site</a>
3			Ask to technical support Note: Please click login in the upper right corner	<a href="#">Web site</a>

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### Step3: Mass production

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

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