RA6Wx Group

This handbook consolidates key information, reference materials, and application notes for device selection, product evaluation, design and development, and mass production. Use the relevant chapter at each stage of development to identify applicable products, tools, technical documents, and supporting resources.

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1. Device Selection

This section provides information for selecting a product. Section 1.1 supports the initial product survey, while Section 1.2 provides resources for evaluating device performance, features, development kits, and certifications.

1.1 Survey Phase

This section summarizes useful information for product survey phase.

Num	Item	Content	Product	Link
1	**Survey Product**	Wi-Fi MCUs	RA6Wx/RRQ61xxx	Website
2		Blog	RA6Wx/RRQ61xxx	Website
3		White Paper	RA6Wx/RRQ61xxx	Doc
4		Video & Events	RA6Wx/RRQ61xxx	Website
5		Applications	RA6Wx/RRQ61xxx	Website
6		Product Selector	RA6Wx/RRQ61xxx	Website
7	**Product Information**	Overview	RA6W1	Website
8			RA6W2	Website
9			RRQ61001	Website
10			RRQ61051	Website
11		Datasheet	RA6W1	Doc
12			RA6W2	Doc
13			RRQ61001	Doc
14			RRQ61051	Doc
15	**Application Diagrams**	Automatic Espresso Maker with Digital Controls	RA6Wx/RRQ61xxx	Website
16		Air Fryer Toaster Oven with Digital Controls	RA6Wx/RRQ61xxx	Website
17		Mid-Range Smart Lock Designed to Support Aliro	RA6Wx/RRQ61xxx	Website
18		Entry-Level Apple HomeKit-Ready Smart Lock	RA6Wx/RRQ61xxx	Website
19		Solar-Powered Location Tracker	RA6Wx/RRQ61xxx	Website
20		Pet Camera Robot	RA6Wx/RRQ61xxx	Website
21		Smart Fish Tank	RA6Wx/RRQ61xxx	Website
22		Level 2 EV Charger	RA6Wx/RRQ61xxx	Website
23		Smart Home Central Control Box	RA6Wx/RRQ61xxx	Website
24		Residential AFCI Circuit Breaker	RA6Wx/RRQ61xxx	Website
25		Smart Heat Pump	RA6Wx/RRQ61xxx	Website
26		High-End Central Thermostat	RA6Wx/RRQ61xxx	Website
27		Unmanned Aerial Vehicle (UAV)	RA6Wx/RRQ61xxx	Website
28		Digital Otoscope	RA6Wx/RRQ61xxx	Website
29		Video Conferencing Camera with AI Capabilities	RA6Wx/RRQ61xxx	Website

1.2 Evaluation Phase

This section summarizes useful information for product evaluation phase.

Num	Item	Content	Product	Link
1	**Evaluation Board & Kits**	EK-RA6W1	RA6W1	Website
2		EK-RA6W2	RA6W2	Website
3		QCIOT-RRQ61051EVZ	RRQ61051	Website
4		Order EVB	RA6W1	Website
5	**Certificate**	Wi-Fi Alliance Certification	RA6W1	Doc
6			RRQ61001	Doc
7			RRQ61051	Doc
8		RED 3.3 IOE for Renesas Wi-Fi Devices	RA6Wx/RRQ61xxx	Doc
9		RED 3.3 Attestation of Conformity	RA6W1/RRQ61001	Doc
10			RA6W2/RRQ61051	Doc
11	**Guide & Manual**	RA6Wx/RRQ610x1 Evaluation Kit Manual	RA6Wx/RRQ61xxx	Website
12		RA6W1/RRQ61001 Quick Start Guide	RA6W1/RRQ61001	Doc
13		RA6W2/RRQ61051 Quick Start Guide	RA6W2/RRQ61051	Doc
14		QCIOT-RRQ61051EVZ Evaluation Board Manual	RRQ61051	Doc

2. Design and Development

This chapter provides software packages, development tools, manuals, guides, and application resources for designing and developing products based on RA6W1, RA6W2, RRQ61001, and RRQ61051.

Num	Item	Content	Product	Link
1	**Software & Tools**	RAFW Flexible Software Package	RA6Wx/RRQ61xxx	Website
2		e² studio(IDE and Coding Tool)	RA6Wx/RRQ61xxx	Website
3		Renesas Flash Programmer	RA6Wx/RRQ61xxx	Website
4		SmartBond™ Development Tools	RA6Wx/RRQ61xxx	Website
5		Security Tool for RA6Wx/RRQ610x1	RA6Wx/RRQ61xxx	Zip
6		QE for Matter: Development Assistance Tool for Matter Applications	RA6Wx/RRQ61xxx	Website
7	**Manuals & Guides**	Official Renesas RA Family Beginner's Guide	RA6Wx/RRQ61xxx	Doc
8		RA Family Nomenclature	RA6Wx/RRQ61xxx	Doc
9		Renesas RAFW FSP User Manual	RA6Wx/RRQ61xxx	Zip
10		RAFW FSP Application Migration Guide	RA6Wx/RRQ61xxx	Doc
11		RA6W1/RRQ61001 Application Development	RA6W1/RRQ61001	Doc
12		RA6W1/RRQ61001 AWS IoT Core Quick Start Guide	RA6W1/RRQ61001	Doc
13		Wi-Fi Matter Quick Start Guide	RA6Wx/RRQ61xxx	Website
14		JTAG Manual	RA6Wx/RRQ61xxx	Doc
15		AT Commands Manual	RA6Wx/RRQ61xxx	Doc
16		Host Interface Manual	RA6Wx/RRQ61xxx	Website
17		Target Wake Time User Manual	RA6Wx/RRQ61xxx	Doc
18		RA6W1 Hardware Design Guide	RA6W1	Doc
19	**Application Notes**	PMGR DPM	RA6Wx/RRQ61xxx	Website
20		OTA Firmware Update	RA6Wx/RRQ61xxx	Doc

Num	Item	Content	Product	Link	
21		PSRAM Integration	RA6Wx/RRQ61xxx	Doc	
22		Security Tool	RA6Wx/RRQ61xxx	Doc	
23	Examples & Applications	RA6W1 RRQ61001 Example Project Bundle	RA6W1/RRQ61001	Zip	
24		RA6W2 RRQ61051 Example Project Bundle	RA6W2/RRQ61051	Zip	
25		HTTPS Web Server with Virtual File System Application	RA6Wx/RRQ61xxx	Zip	Doc
26		Using AWS IoT Door Lock Reference Application with RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc
27		Using AWS IoT Door Lock Reference Application with AT Commands in RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc
28		Using AWS IoT Fleet Provisioning with RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc
29		Using AWS S3 OTA Application with RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc
30		Using Azure IoT Cloud Connectivity Reference Application with RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc
31		Using Matter Door Lock Reference Application with AT Commands in RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc
32		Using Matter Door Lock with RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc
33		Using MQTT Client with RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc
34		Using MQTT-over-WebSocket with RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc
35		Using the Bluetooth® LE Proximity Profile Reporter Application	RA6W2/RRQ61051	Zip	Doc
36		Using WebSocket Client with RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc
37		Using Wi-Fi Provisioning over Bluetooth LE with RAFW Connectivity Devices	RA6W2/RRQ61051	Zip	Doc
38		Using Wi-Fi Provisioning with RAFW Connectivity Devices	RA6Wx/RRQ61xxx	Zip	Doc

3. Mass Production

This chapter summarizes useful information for mass product.

Num	Item	Content	Product	Link
1	**Connectivity Production Line**	Overview	RA6Wx/RRQ61xxx	Website
2		Quick Start Guide	RA6Wx/RRQ61xxx	Website
3		User Manual	RA6Wx/RRQ61xxx	Doc
4		Production Line Tool Software	RA6Wx/RRQ61xxx	Website
5		Related Boards & Kits	RA6Wx/RRQ61xxx	Website
6		Videos & Training	RA6Wx/RRQ61xxx	Website
7	**Manual**	Mass Production Manual	RA6Wx/RRQ61xxx	Website

4. Support Site Information

You can get help from our technical staff and community.

Num	Item	Content	Product	Link
1	**Support Site**	Knowledge Base	RA6Wx/RRQ61xxx	Website
2		Support Communities	RA6Wx/RRQ61xxx	Website
3		Submitting a Ticket	RA6Wx/RRQ610x1	Website

5. Revision History

Revision	Date	Description
1.10	Oct 16, 2026	Added materials for RA6W2. Added application diagrams to the Survey Phase. Added examples and applications to the Design and Development Phase.
1.00	Jan 29, 2026	Initial release.

For the most up-to-date information, see the product pages on our website (https://www.renesas.com/en).