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# RZ/V2N Group

## Handbook for RZ/V2N

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### Introduction

This document compiles useful information for each stage of device selection, development, and Mass production. You can also select what you need for your application from our rich selection of application notes that describe how to use a peripheral function, example applications, how to create a program, and more.

Please utilize these information, materials and application notes as a handbook when developing.

### Target Device

RZ/V2N Group

### Contents

1.	The table of information and materials needed for Device Selection, Development and Mass production.....	2
1.1	Step1: Device Selection .....	2
1.1.1	Step1-1: Preliminary survey phase .....	2
1.1.2	Step1-2: Evaluation phase for device performance and features .....	3
1.2	Step2: Product Design, Development .....	4
1.3	Step3: Mass Production .....	4
1.4	Supportive Information .....	4
2.	Summary of information by category .....	5
2.1	Overview.....	5
2.2	RZ/V2N Application Note [Standard].....	5

1. The table of information and materials needed for Device Selection, Development and Mass production.

### 1.1 Step1: Device Selection

This section summarizes the information that is useful for the preliminary survey phase (Step1-1) and for the evaluation phase for device performance and features (Step1-2) when selecting the device.

#### 1.1.1 Step1-1: Preliminary survey phase

#	Item	Contents	Link
1	<b>Hardware information</b>	Datasheet	<a href="#">Doc</a>
2		RZ/V2N Group Flyer	<a href="#">Doc</a>
3	<b>Product &amp; Solutions</b>	RZ Family Brochure	<a href="#">Doc</a>
4		Video	<a href="#">Web site</a>
5		Blog	<a href="#">Web site</a>
6		Reference designs (Winning Combination) - AI-Enabled Surveillance Camera - AI Dash Camera	<a href="#">Web site</a> <a href="#">Web site</a>
7	<b>Product Specification Comparison</b>	RZ Family Product Selector	<a href="#">Web site</a>
8		White Paper: Manage the Increased Scale and Complexity of Vision AI with Greater Power Efficiency of Mid-Range RZ/V2N MPU	<a href="#">Doc</a>
9	<b>Partner information</b>	Preferred Partner Program (System solutions provider)	<a href="#">Web site</a>
10		RZ Family Partner Ecosystem	<a href="#">Web site</a>

## 1.1.2 Step1-2: Evaluation phase for device performance and features

#	Item	Contents	Link
<b>User's Manual / Documentation</b>			
1	<b>Document</b>	RZ/V2N Group User's manual: Hardware	<a href="#">Doc</a>
2		RZ/V2N Group User's manual: Hardware (Additional Document)	<a href="#">Doc</a> *2
3		RZ Family Product Part Number Guide (the meaning of character in part number)	<a href="#">Doc</a>
4		Semiconductor reliability handbook	<a href="#">Doc</a>
5		Reliability Report	<a href="#">Doc</a>
<b>Evaluation Board</b>			
6	<b>Evaluation Board (For general purpose)</b>	RZ/V2N-EVK Vision AI MPU Evaluation Kit	<a href="#">Web site</a>
<b>Evaluation environment (set up method)</b>			
7	<b>Hardware (Set up EVK)</b>	RZ/V2N-EVK Hardware Manual	<a href="#">Doc</a>
8		Camera module for EVK/e-CAM22_CURZH information (*) External link	<a href="#">Web site</a>
9	<b>AI SDK</b>	RZ/V AI Web page - <i>Getting Started</i> - <i>How to build RZ/V2N AI SDK Source Code</i>	<a href="#">Web site</a> <a href="#">Web site</a> <a href="#">Web site</a>
10		RZ/V2N AI SDK Overview	<a href="#">Web site</a>
11		RZ/V2N AI SDK Release Note	<a href="#">Doc</a>
12		RZ/V2N AI SDK	<a href="#">File</a> *1
13		RZ/V2N AI SDK Source Code	<a href="#">File</a> *1
14	<b>Linux (Manual set)</b>	BSP (RTK0EF0045Z94001AZJ-v1.0.3.zip)	<a href="#">File</a>
15		Linux Interface Specification GStreamer User Manual: Software	<a href="#">Doc</a> *1
16	<b>Linux (Security Package)</b>	Security Solution Overview	<a href="#">Doc</a>
17		Security Package	<a href="#">File</a> *2
18	<b>Multi-OS</b>	RZ/V Multi-OS Package Overview	<a href="#">Web site</a>
19		RZ/V Multi-OS Package Release Note	<a href="#">Doc</a>
20		RZ/V Multi-OS Package Compressed file	<a href="#">File</a>
21		AWO (Always On) Startup Guide	<a href="#">Doc</a>
22		FSP (Flexible Software Package)	<a href="#">File</a>
23		FSP Getting Started Guide	<a href="#">Doc</a>
24	<b>ISP Support Package</b>	ISP Support Package Overview	<a href="#">Web site</a>
25		Release Note	<a href="#">Doc</a> *2
26		ISP Support Package (supported IMX415)	<a href="#">File</a> *2
27	<b>Various tools</b>	DRP-AI TVM (GitHub)	<a href="#">Web site</a>
28		DRP-AI Translator i8 Installer	<a href="#">File</a> *1
29		DRP-AI Translator i8 Release Note	<a href="#">Doc</a>
30		DRP-AI Extension Pack (Pruning tool) Manual	<a href="#">Doc</a>
31		DRP-AI Extension Pack (Pruning tool)	<a href="#">File</a> *1
32		DRP-AI Pruning Guideline (GitHub)	<a href="#">Web site</a>
33		e <sup>2</sup> studio Installer for Windows	<a href="#">File</a> *1
34		e <sup>2</sup> studio Installer for Linux	<a href="#">File</a> *1
35		Smart Configurator for RZ	<a href="#">File</a> *1
36		Smart Configurator for RZ Release Note	<a href="#">Doc</a>

\*1: To access contents of software packages, My Renesas account is required.

\*2: NDA required for access to secure site.

## 1.2 Step2: Product Design, Development

This section summarizes useful information for product design and development.  
(Note: To access contents of board design data, My Renesas account is required.)

#	Item	Contents	Link
1	<b>Board Design</b>	LPDDR4/4X Controller Setting guide - Setting parameters generation tool (Gen_tool)	<a href="#">Doc*</a>
2		PCB Design guide	<a href="#">Doc*</a>
3		Thermal design Guide	<a href="#">Doc</a>
4		LSI Design Model (IBIS) - 1 chip IBIS model	<a href="#">Model*</a>
5		Interface Design Model (Spara, IBIS) - SI simulation models for high-speed interfaces - PI simulation models	<a href="#">Model*</a>
6		CPU Board Design Data	<a href="#">Data</a>
7		EXP Board Design Data	<a href="#">Data</a>
8		Sub Board Design Data	<a href="#">Data</a>
9		Packaging Information	<a href="#">Web site</a>
10		Package Search (pkg_20143/FBGA 840)	<a href="#">Web site</a>

\* NDA required for access to secure site.

## 1.3 Step3: Mass Production

#	Item	Contents	Link
	Writing a program (Programmer)	TBD	-
	Writing a program (Tool)	TBD	-

## 1.4 Supportive Information

#	Item	Link
1	FAQ (frequently asked inquiries)	<a href="#">Web site</a>
2	RZ Family Renesas Wiki	<a href="#">Web site</a>
3	Technical support	<a href="#">Web site</a>

## 2. Summary of information by category

This part shows the information about application notes by the category.  
(Note: To access contents of sample code, My Renesas account is required.)

### 2.1 Overview

#	Category	Description
1	<a href="#">Standard</a>	Hardware Design / Software for start-up / Clock / Voltage / Memory/Others

### 2.2 RZ/V2N Application Note [Standard]

#	Title	Contents	Sample code
1	<a href="#">RZ/V Getting Started with Flexible Software Package</a>	This note describes how to create an application for the RZ/V using the Renesas Flexible Software Package (FSP).	-
2	<a href="#">RZ/V available partner camera module list</a>	List of camera modules that can be connected to the RZ/V series.	-
3	<a href="#">RZ/V2N Group Lifetime Guideline</a>	This note describes the guidelines for the lifetime of the RZ/V2N group.	-
4	<a href="#">RZ/V2N Group Thermal Design Guide Application Note</a>	This note describes the guidelines for the thermal design of the RZ/V2N group.	-
5	<a href="#">[NDA]DDRTOP Application Note</a>	This note describes the DRAM access configuration procedure for the LPDDR4/4X controller (DDR), and how to use Gen_tool.	-
6	<a href="#">[NDA]PCB Design Guidelines</a>	This note describes the notices of PCB design for RZ/V2N group.	-

## Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Apr.25.2025	-	The first edition issued

This handbook reflects information available as of April 25, 2025. For the latest information, please also refer to the product pages on our website ([RZ/V2N - 15TOPS Quad-Core Vision AI MPU with 2-Camera Connection and Excellent Power Efficiency | Renesas](#)).