

VersaClock[®] 7 (RC210XX & RC310XX)

Programmable Clocks Live Bench Measurement Tool Step-by-Step Guide



renesas.com/clocklivebench

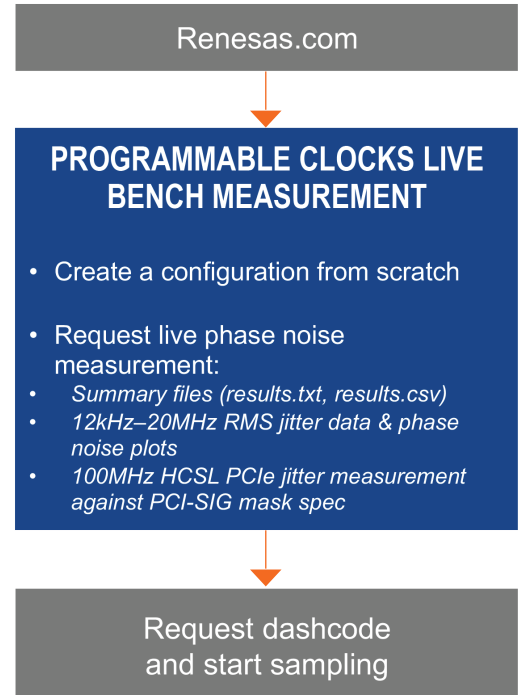
SYSTEM OVERVIEW

SYSTEM PURPOSE

- Instant access to automated jitter measurements for Renesas' flagship clock devices.
- Support PCIe Gen6/7 measurement against latest spec.

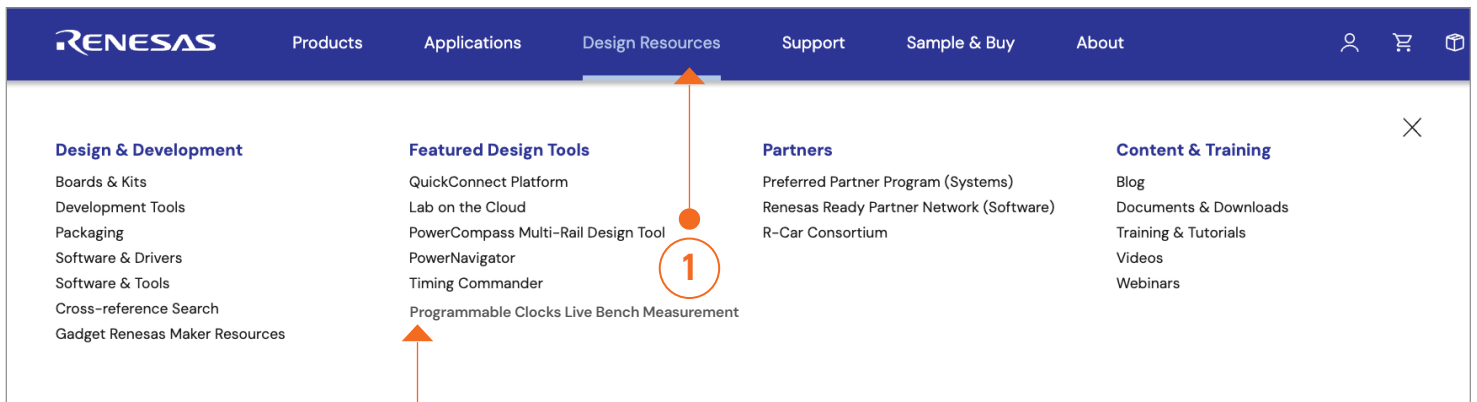
SYSTEM BENEFIT

- No EVB or lab equipment needed.
- Easy dashcode generation and sampling process.
- Most Renesas timing devices support multiple configurations, and once qualified, can be used across different platforms.



HOW TO FIND THE TOOL

Access Programmable Clocks Live Bench Measurement Tool from Website:
Design Resources → Programmable Clocks Live Bench Measurement



CREATE OR LOAD A CONFIGURATION

Clock & Timing Solution

Lab on the Cloud – Programmable Clocks LiveBench Measurement

This system will help you:

- Create a configuration from scratch or import an existing .rbs file from RICBox
- Request a live phase noise measurement
- Request the creation of a custom orderable part number (dash code)

The system supports the device families shown to the left. Once you select the family and product, use the library icon to get a list of links to more information.

[View quick user guide](#)

Select Family *

FemtoClock3
 VersaClock7
 FemtoClock3-Wireless

Select Product *

RC21005BQ
 RC21008B
 RC21008BQ
 RC21012BQ
 RC21012B
 RC31005BQ

SUBMIT

CREATE OR LOAD A CONFIGURATION

Option 1: Importing an existing RBS file*

CONFIGURATION | OTP | RESULT

INPUTS | SPREAD SPECTRUM | OUTPUTS

Crystal

Operation Mode: Synthesizer

Mode: Xtal

Frequency: 50MHz

Load Capacitance (pF): 8

Reference Clock

CLKIN0: None

CLKIN0b: None

Input Mode CLKIN0: DISABLED

Progress log

- driver instance is created
- file loaded successfully

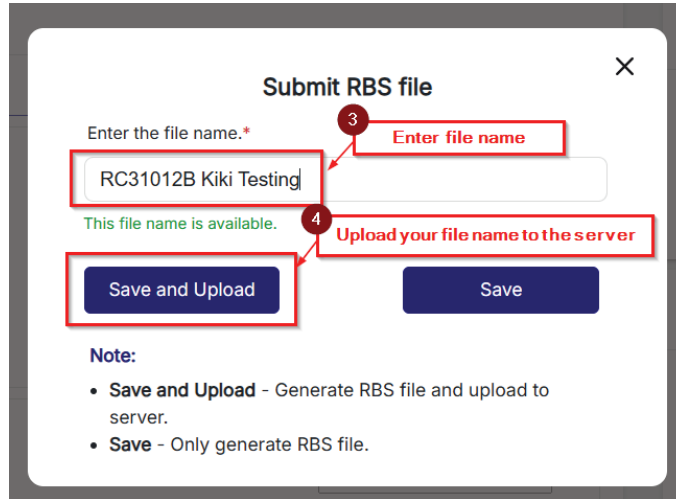
Error(s) 0

Warning(s) 0

*RBS file is generated using Renesas RICBox GUI. For more details, please see Appendix.

CREATE OR LOAD A CONFIGURATION

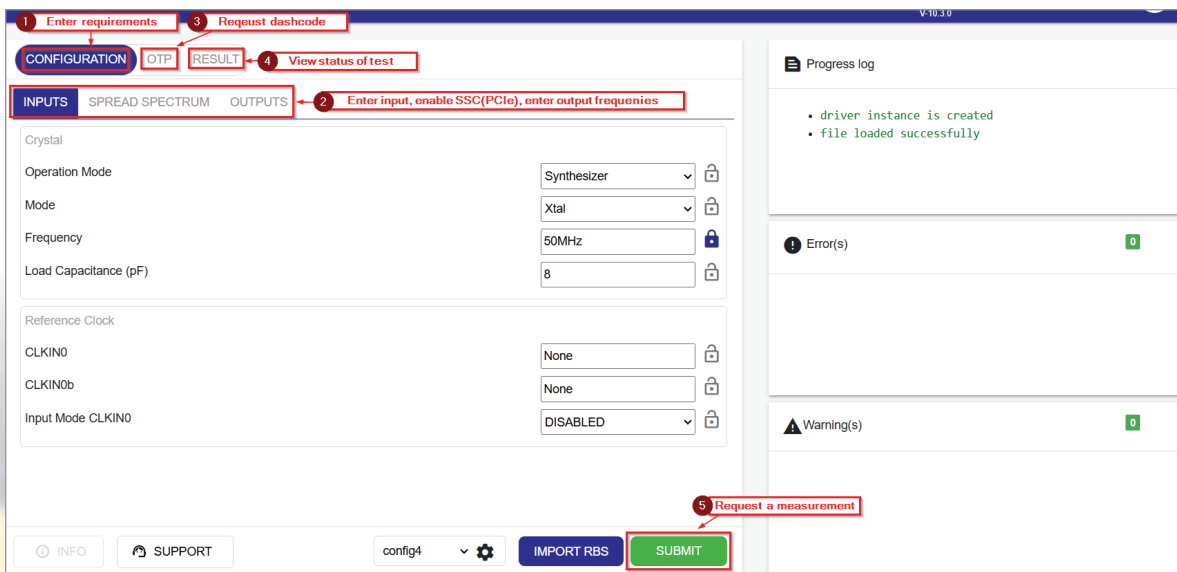
Option 1: Importing an existing RBS file*



*RBS file is generated using Renesas RICBox GUI. For more details, please see Appendix.

CREATE OR LOAD A CONFIGURATION

Option 2: No RBS file. Create new configuration from scratch.



GET THE RESULTS

Results – Get the results (including the RBS file), phase noise text files, and phase noise graphs. Also include PCIe analysis if applicable.

Generate Dashcode – Redirect link to renesas.com to start the dashcode generation and sampling process.

RBS files – Save this .rbs file locally if you wish to generate dashcode later.

Click to download rbs. file Click to download results Count of stored results

Sr.No	Product	RBS Files	Results	Generate Dashcode	Action
1	RC21008B	adam_2024setp16_0646PM.rbs	Download ↓	GENERATE	🗑️
2	RC31008BQ	adam_2024sept24_933am.rbs	Download ↓	GENERATE	🗑️
3	RC21008B	adam_2024oct01_826pm.rbs	Download ↓	GENERATE	🗑️
4	RC31012BQ	adam_2024oct02_1045am.rbs	Download ↓	GENERATE	🗑️

If the result looks good, click to generate dashcode.

GENERATE DASHCODE

After confirming the result looks good, click "GENERATE" to get unique dashcode.

Sr. No	Family	Product	RBS Files	Results	Generate Dashcode	Action
1	VersaClock 7	RC31012B	RC31012B Kiki Testing.rbs	Download ↓	GENERATE	🗑️

You will be redirected to Renesas custom Part Configuration Utility for this product

CONTINUE CLOSE

Click "CONTINUE"

GENERATE DASHCODE

RENESAS Products Applications Design Resources Support Sample & Buy

Products / Clocks & Timing / Jitter Attenuators with Frequency Translation / RC310 / Customize

RC310 Custom Part Configuration Utility

Use this form to upload your configuration file

The rbs. file and addendum will be automatically uploaded to the website.

rbs file *

RC31012B Kiki Testing.rbs (747.51 KB) Remove

Select a RC31005BQ or RC31008B or RC31008BQ or RC31012B or RC31012BQ configuration file (.rbs) from your computer.

Supplied Addendum

RC31012B_datasheet_addendum.pdf (256.42 KB) Remove

OPTIONAL: Select a RC31005BQ or RC31008B or RC31008BQ or RC31012B or RC31012BQ addendum file (.pdf) from your computer.

RC310 Custom Part Configuration Utility

Customer Name
Kiki

Company
Renesas

Project Name
Testing

Application
Sample

Sample Schedule
Sample

Enter project informations

Comments / Special Requests

Click "Upload" to generate unique dashcode

Upload Clear and start over

GENERATE DASHCODE

RC310 Custom Part Configuration Utility

Success! Your custom part number **RC31012B13EGNA#BBO** and documentation has been created. The information below has been emailed to you. Click the link below to request samples.

Custom part number: **RC31012B13EGNA#BBO**

[Request Samples](#)

Dashcode created.

NOTE

Storage Limit

- Max 20 test results per user
- Delete older results when full (check counter on results screen)

RBS File Matching

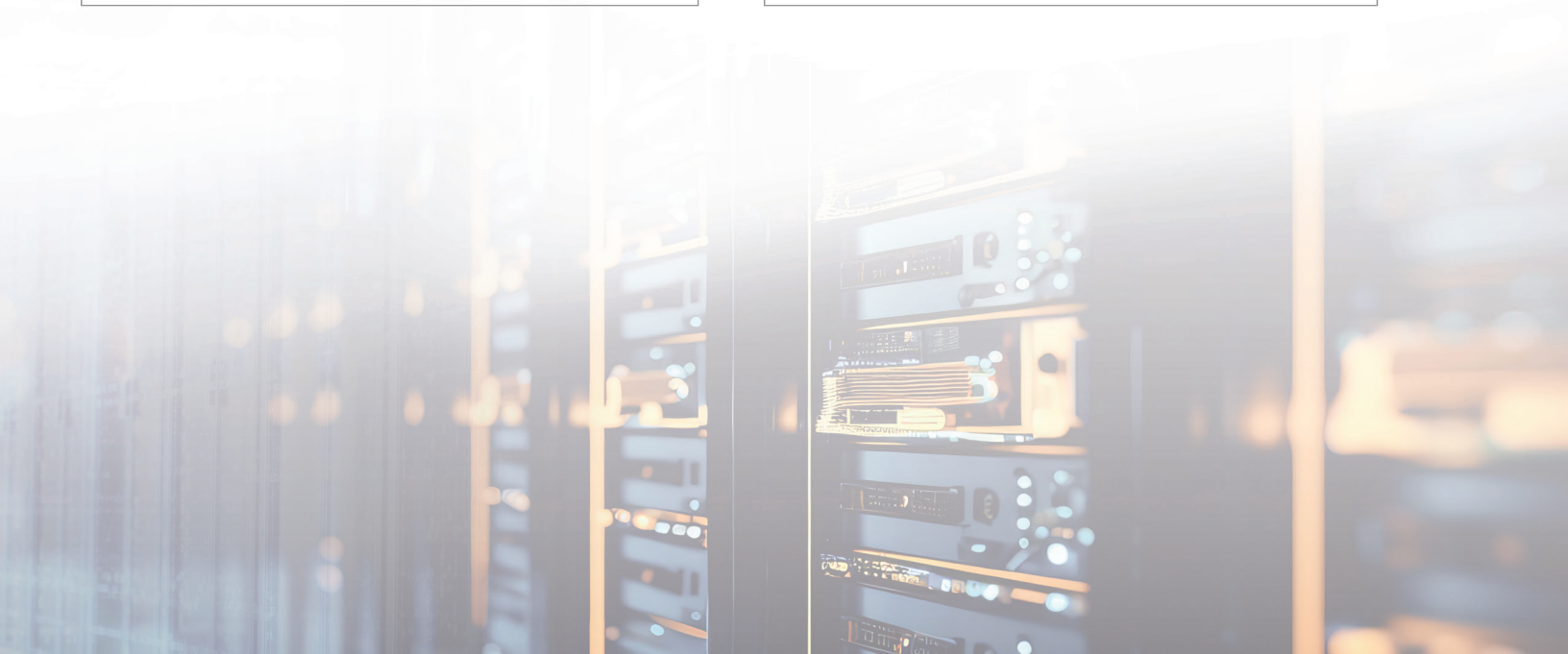
- Imported RBS must match the selected device

Test Queuing

- Requests run one at a time
- Multiple submissions will be queued

Support Scope

- System measures provided configurations only
- For optimization, an application engineer is still needed



GETTING HELP WITH SYSTEM

For manual jitter requests or system issues, please submit on JIRA at:

<https://clocking.atlassian.net/servicedesk/customer/portals> → Renesas Timing Support → TPD Support → Fill in form

Welcome to the TPD Help Desk

Search for information

Contact Us

Direct person contact or feedback on particular product or services: [TPD_PLM/Agps product owners](#).
For EVB please proceed to [link](#) for sample request or order through distribution.

Featured portals

1 Renesas Timing Support
Please submit Applications Engineering technical support requests here.

TPD Supply Escalation
We no longer support escalation from this portal.
For more request, please use the [EVB Card](#).

Direct Contact Info

<https://renesasgroup.sharepoint.com/sites/ILBU-TPD/SitePages/Contacts.aspx>

TPD Help Desk / Renesas Timing Support

Renesas Timing Support

Please submit Applications Engineering technical support requests here.

What can we help you with?

2 TPD Support

TPD Help Desk / Renesas Timing Support

Renesas Timing Support

Please submit Applications Engineering technical support requests here.

What can we help you with?

TPD Support

Required fields are marked with *

Raise this request on behalf of?

Wing Ki Hui (wing-ki.hui@renesas.com)

Region*

Americas

Request Category*

Technical Question | Software Issues (RicBo/Timing Commander/Lab on the Cloud) |

Product Family*

VersaClock 7 (aka VC7) - RC21, RC31

Customer Name*

Kiki

"Technical Question" to route to the correct Application Engineer for bench testing of the RBS - "Software Issues" to route to the correct Application Engineer for Lab on the Cloud support

Due date*

30May25

Subject Line (Customer | Part | Subject)*

Description*

Normal text | B | I | U | A | L | H | G | D | C | S | P | +

Need manual jitter support

Email CC (list separated by ";" or "
"; you can paste Outlook email format such as "Jon Smith <jon.smith@companyX.com>")

Attachment

Drag and drop files, paste screenshots, or browse

We will receive your Jira ticket once you clicked "Send"

Send Cancel

TPD Help Desk / Renesas Timing Support

Kiki TECHSUPP-9334

Wing Ki Hui raised this on Today 3:32 PM

Hide details

Region: Americas

Request Category: Dash Code & Addendum Support

Product Family: VersaClock 7 (aka VC7) - RC21, RC31

Customer Name: Kiki

Customer Project: Sample

Due date: Tomorrow

Description: Need manual jitter support

Email CC (list separated by ";" or "
"; you can paste Outlook email format such as "Jon Smith <jon.smith@companyX.com>")

JIRA ticket created, our application engineer will start working on your request.

Notifications on

To Do

Schedule the Work

Request type

TPD Support

Shared with

Wing Ki Hui

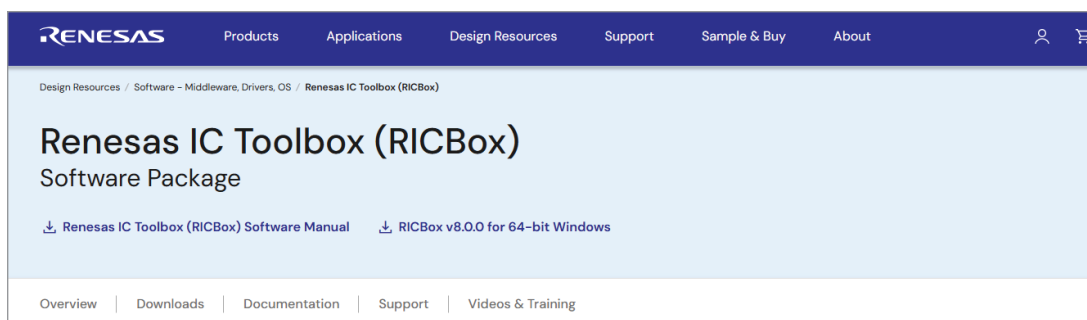
Share

APPENDIX

WHAT IS RICBox?

Renesas IC Toolbox (RICBox) is a software platform that lets users:

- Configure Renesas devices via evaluation kits connected to a PC
- Build configuration profiles for devices with non-volatile memory
- Ensure correct startup behavior, especially for clock devices needing pre-set configurations
- Especially useful when you want your device to boot up with a specific setup automatically



OTHER USEFUL INFORMATION

FemtoClock 3 Product Pages: [RC323](#) and [RC223](#)

RICBox Builder Tool: [Renesas IC Toolbox \(RICBox\)](#)



Renesas Electronics America Inc. | [renesas.com](https://www.renesas.com)
6024 Silver Creek Valley Rd, San Jose, CA 95138 | Phone: 1-888-468-3774

© 2025 Renesas Electronics America Inc. (REA). All rights reserved. All trademarks are the property of their respective owners. REA believes the information herein was accurate when given but assumes no risk as to its quality or use. All information is provided as-is without warranties of any kind, whether express, implied, statutory, or arising from course of dealing, usage, or trade practice, including without limitation as to merchantability, fitness for a particular purpose, or non-infringement. REA shall not be liable for any direct, indirect, special, consequential, incidental, or other damages whatsoever, arising from use of or reliance on the information herein, if advised of the possibility of such damages. REA reserves the right, without notice, to discontinue products or make changes to the design or specifications of its products or other information herein. All contents are protected by U.S. and international copyright laws. Except as specifically permitted herein, no portion of this material may be reproduced in any form, or by any means, without prior written permission from Renesas Electronics America Inc. Visitors or users are not permitted to modify, distribute, publish, transmit or create derivative works of any of this material for any public or commercial purposes.

Document No.: R11QSD070EU0000