

FemtoClock™ 3 Wireless (RC381XX)

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



renesas.com/clocklivebench



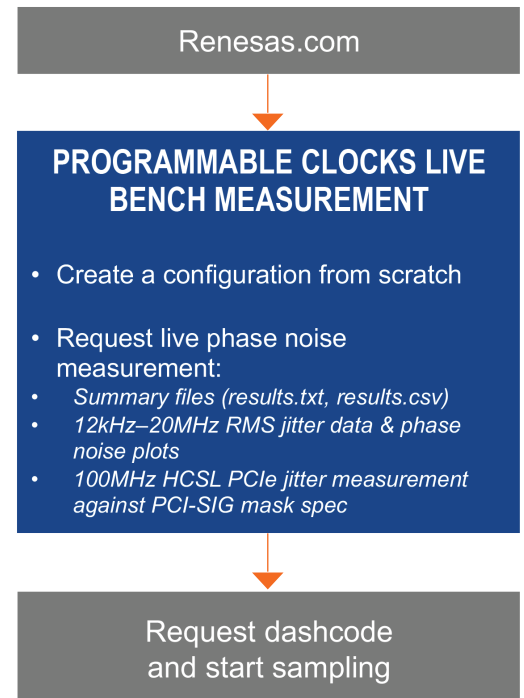
SYSTEM OVERVIEW

SYSTEM PURPOSE

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

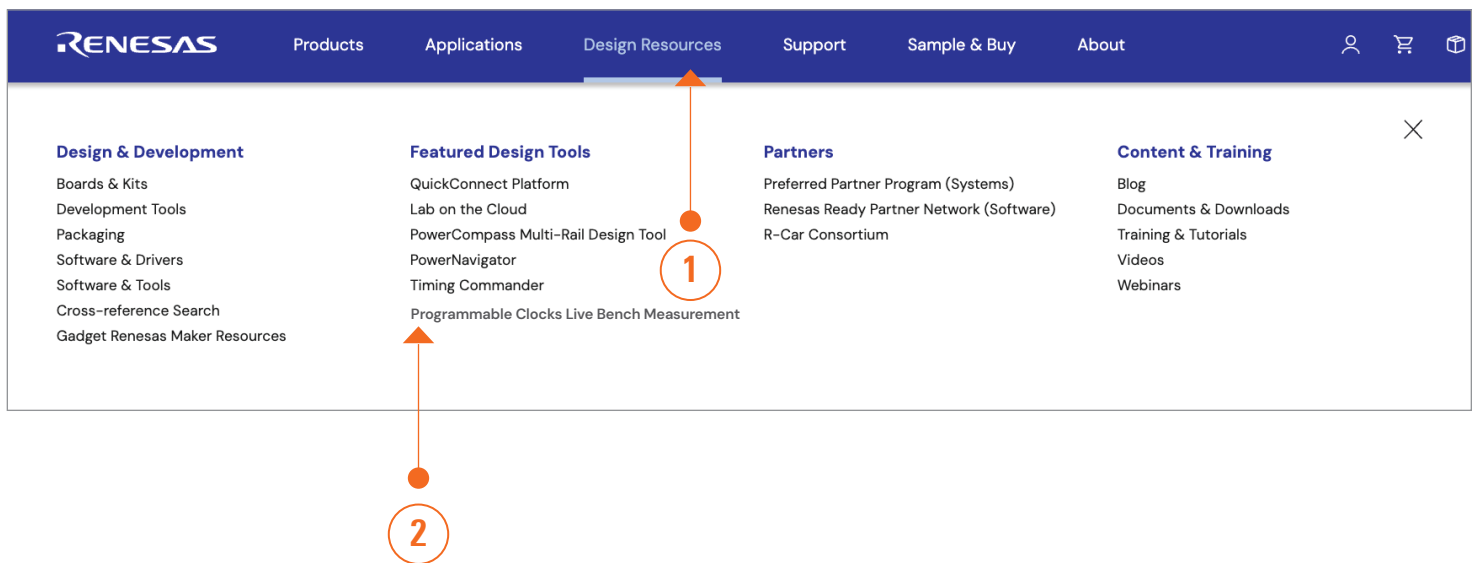
SYSTEM BENEFIT

- 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



SELECTING THE FAMILY AND VARIANT

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

☐ ProXO

☒ FemtoClock3-Wireless

Select Product *

☒ RC38108A1

☐ RC38108A2

☐ RC38112A1

☐ RC38112A2

1

2

3

Select Product Family– FemtoClock 3 Wireless

Select FemtoClock 3 Wireless Variants

Click “Submit” once finished



CREATE OR LOAD A CONFIGURATION

Option 1: Importing an existing RBS file*

The screenshot shows the 'CONFIGURATION' tab of the Renesas RICBox GUI. The 'INPUTS' sub-tab is active, displaying fields for Crystal Frequency (54MHz) and Load Capacitance (8 pF). Below these are DPLL and Reference Clocks settings. At the bottom, the 'IMPORT RBS' and 'SUBMIT' buttons are highlighted with red boxes and numbered 1 and 2 respectively. A blue text overlay says 'Select "Import RBS" and upload your .rbs file' with an arrow pointing to the 'IMPORT RBS' button. Another blue text overlay says 'Click "Submit"' with an arrow pointing to the 'SUBMIT' button. On the right side, the 'Progress log' shows a green message 'driver instance is created'. Below it, the 'Error(s)' and 'Warning(s)' sections are empty.

CONFIGURATION | OTP | RESULT

INPUTS | DPLL | OUTPUTS

Crystal

Frequency 54MHz

Load Capacitance (pF) 8

DPLL

Operation Mode Synthesizer

Reference Clocks

REF0 CLKIN0

REF1 CLKIN1

REF2 CLKIN2

REF3 CLKIN3

REF4 nCLKIN3

REF5 nCLKIN3

REF6 nCLKIN3

Select "Import RBS" and upload your .rbs file 1

IMPORT RBS SUBMIT 2

Click "Submit"

Progress log

- driver instance is created

Error(s)

Warning(s)

The screenshot shows a 'Submit RBS file' dialog box. It has a title bar with a close button. The main content area has a label 'Enter the file name.*' above a text input field containing 'RC38108A1 Testing'. To the right of the input field is a red circle with the number 3 and the text 'Enter file name'. Below the input field, a green message says 'This file name is available.'. There are two buttons: 'Save and Upload' (highlighted with a red box and a red circle with the number 4) and 'Save'. Below the buttons, a 'Note:' section contains two bullet points: 'Save and Upload - Generate RBS file and upload to server.' and 'Save - Only generate RBS file.'.

Submit RBS file

Enter the file name.*

RC38108A1 Testing 3 Enter file name

This file name is available.

Save and Upload 4 Save

Note:

- Save and Upload - Generate RBS file and upload to server.
- Save - Only generate 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.

The screenshot shows the configuration tool interface with the following annotations:

- 1** Enter requirements: Points to the CONFIGURATION tab.
- 2** Enter input, enable SSC (PCIe), enter output frequencies: Points to the INPUTS section.
- 3** Request dashcode: Points to the OTP tab.
- 4** View status of test: Points to the RESULT tab.

The interface includes sections for Crystal, Frequency, Load Capacitance (pF), DPLL, Operation Mode, and Reference Clocks. It also has buttons for INFO, SUPPORT, IMPORT RBS, and SUBMIT.

On the right side, there is a Progress log showing "driver instance is created", and sections for Error(s) and Warning(s), both showing 0 counts.

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.

The screenshot shows the results table with the following annotations:

- Click to download rbs. file**: Points to the RBS Files column.
- Click to download results**: Points to the Results column.
- Count of stored results**: Points to the 7 / 20 indicator.
- If the result looks good, click to generate dashcode.**: Points to the Generate Dashcode column.

Sr.No	Product	RBS Files	Results	Generate Dashcode	Action
1	RC38108A1	adam_2024setp16_0646PM.rbs	Download	GENERATE	
2	RC38108A2	adam_2024sept24_933am.rbs	Download	GENERATE	
3	RC38112A1	adam_2024oct01_826pm.rbs	Download	GENERATE	
4	RC38112A2	adam_2024oct02_1045am.rbs	Download	GENERATE	

GENERATE DASHCODE

CONFIGURATION

OTP

RESULT

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

1

1 / 30

Sr.No	Family	Product	RBS Files	Results	Generate Dashcode	Action
1	FemtoClock3W	RC38108A1	RC38108A1 Testing.rbs	Download	GENERATE	

Click "CONTINUE"

2

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

CONTINUE

CLOSE

RENEASAS

Products

Applications

Design Resources

Support

Sample & Buy

Products / Clocks & Timing / Jitter Attenuators with Frequency Translation / RC38108 / Customize

RC38108 Custom Part Configuration Utility

Use this form to upload your configuration file

rbs file *

RC38108A1 Testing.rbs (331.74 KB)

Remove

Select a **RC38108A** configuration file (rbs) from your computer.

Supplied Addendum

RC38108A1_datasheet_addendum.pdf (257.41 KB)

Remove

OPTIONAL: Select a **RC38108A** addendum file (.pdf) from your computer.

The RBS file and addendum will be automatically uploaded to the website

GENERATE DASHCODE

Customer Name
Kiki

Company
Renesas

Project Name
Testing

Application
Sample

Sample Schedule
Sample

Enter project informations

Comments / Special Requests

Click "Upload" to generate unique das hcode

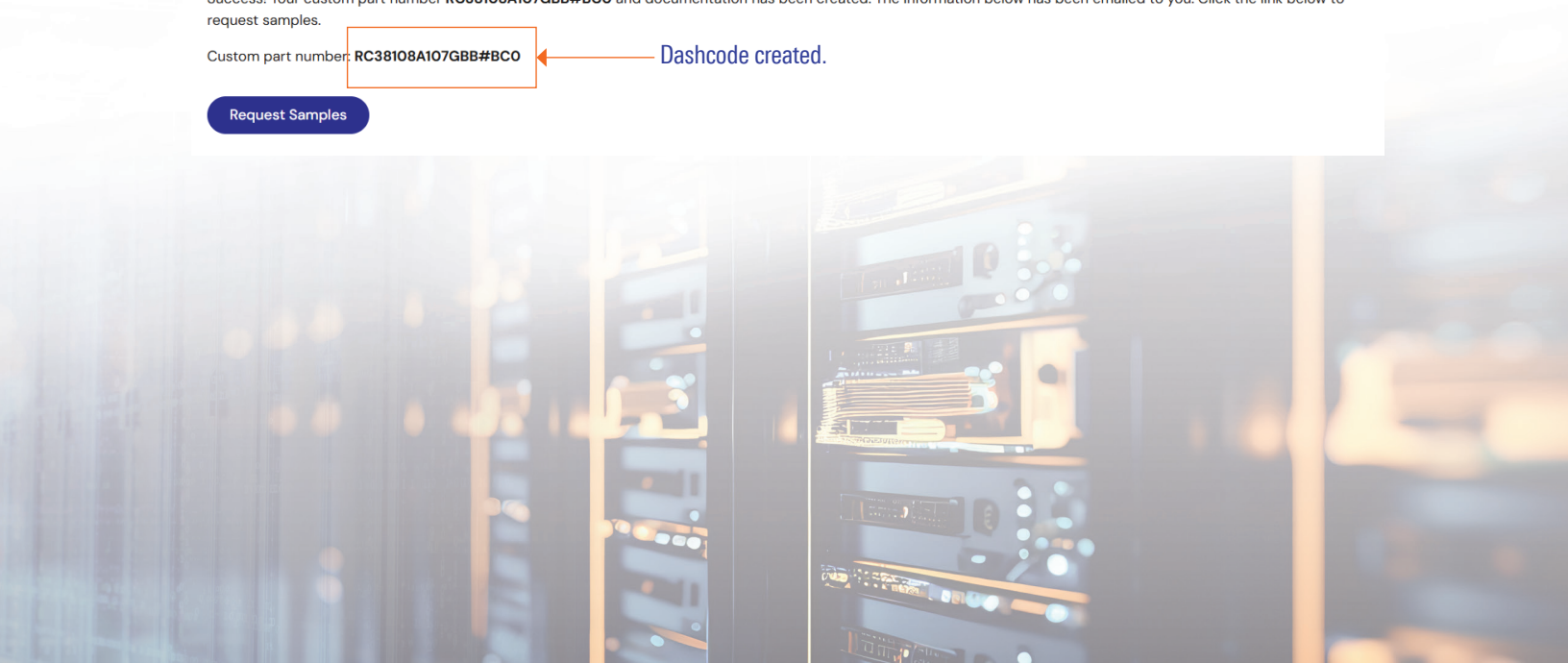
Upload Clear and start over

RC38108 Custom Part Configuration Utility

Success! Your custom part number **RC38108A107GBB#BCO** and documentation has been created. The information below has been emailed to you. Click the link below to request samples.

Custom part number: **RC38108A107GBB#BCO** ← Dashcode created.

Request Samples



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 Queueing

- 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

→ Product Family "FemtoClock 3 Wireless (RC383xx)"

The screenshot shows the TPD Help Desk interface. At the top is a dark blue header with the text "Welcome to the TPD Help Desk" and a search bar. Below this is a light blue section titled "Contact Us" with a link to "TPD PLM/Apps product owners". Underneath is a "Featured portals" section with two cards. The first card, "Renesas Timing Support", is highlighted with a red box and a red circle with the number 1. The second card, "TPD Supply Escalation", is not highlighted. Below the featured portals is a "Direct Contact Info" section with a link to "https://renesasgroup.sharepoint.com/sites/IIBU-TPD/SitePages/Contacts.aspx". At the bottom is a "What can we help you with?" section with a "TPD Support" button highlighted by a red box and a red circle with the number 2.

Welcome to the TPD Help Desk

Search for information

Contact Us

Direct person contact or feedback on particular product or services: [TPD PLM/Apps 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 your request, please use the Sales Grid.

Direct Contact Info

<https://renesasgroup.sharepoint.com/sites/IIBU-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

GETTING HELP WITH SYSTEM

Use a "Request Category" of "Software Issues" to route to the correct Application Engineer for Lab on the Cloud 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 *

- "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

Raise this request on behalf of*

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

Region*

Americas

Request Category *

Technical Question × Software Issues (RicBox/Timing Commander/Lab on the Cloud) ×

Product Family *

VersaClock 7 (aka VC7) - RC21, RC31

Customer Name*

Kiki

Due date*

30May/25

Subject Line (Customer | Part | Subject)*

Description*

Normal text ▾ B I ... A ▾ ☰ ☲ ☳ ☴ ☵ ☶ ☷ ↺ @ ☯ ☲ ☳ ☴ ☵ ☶ ☷ < > " " + ▸

Need manual Jitter support

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

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

TECHSUPP-9334

Wing Ki Hui raised this on Today 3:32 PM

Region

Americas

Request Category

Dash Code & Addendum Support

Product Family

VersaClock 7 (aka VCT) - 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>")

[Hide details](#)

[BACKLOG](#)

Notifications on

ToDo

Schedule the Work

Request type

TPD Support

Shared with

Wing Ki Hui
Creator

Share

OTHER USEFUL INFORMATION

FemtoClock 3 Wireless Product Pages: [RC38108](#) and [RC38112](#)

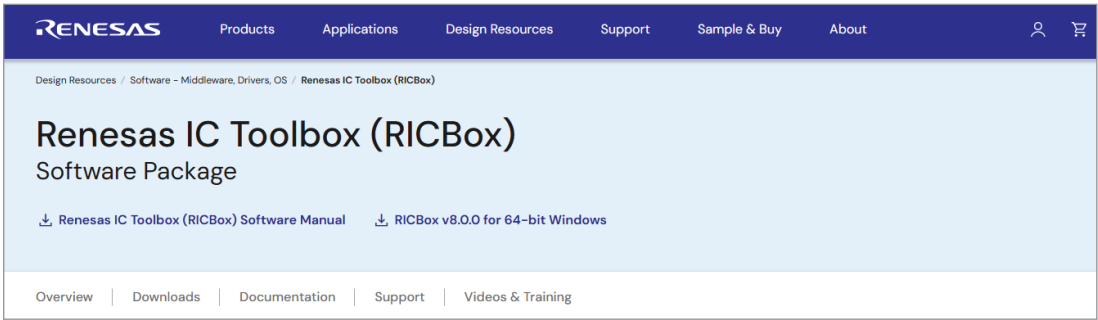
RICBox Builder Tool: Renesas IC Toolbox (RICBox)

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



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