

ProXO (XT/XP/XF)

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



renesas.com/clocklivebench



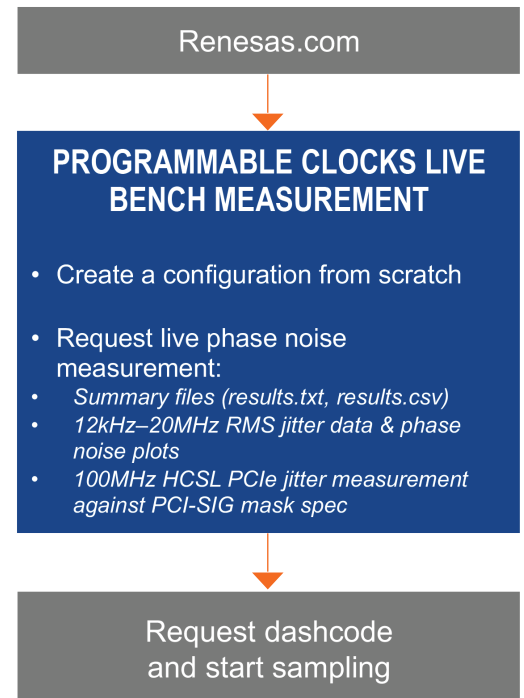
SYSTEM OVERVIEW

SYSTEM PURPOSE

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

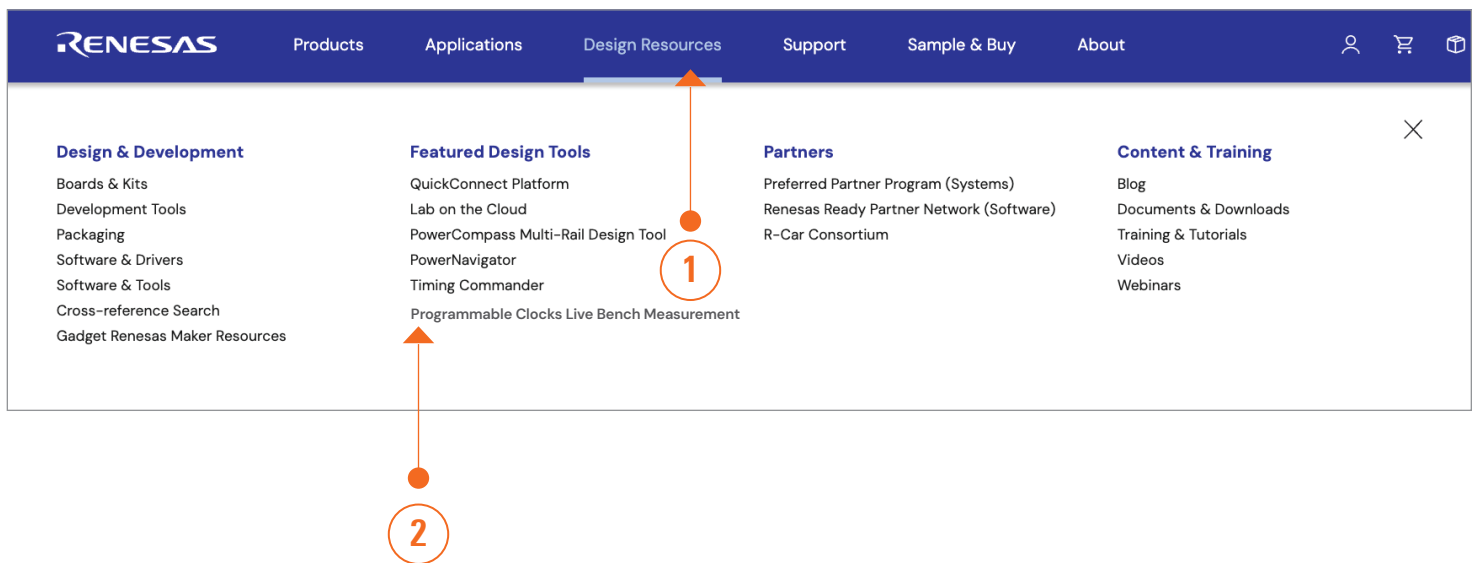
SYSTEM BENEFIT

- 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 *

☐ XT ± 3 ppm 3.2mm x 2.5mm
☐ XF ± 25 ppm 2.5mm x 2.0mm
☐ XF ± 25 ppm 3.2mm x 2.5mm
☐ XF ± 25 ppm 5.0mm x 3.2mm
☐ XF ± 50 ppm 2.5mm x 2.0mm
☐ XF ± 50 ppm 3.2mm x 2.5mm

SUBMIT

1

2

3

Select Product Family – ProXo

Select ProXo Variants

Click "Submit" once finished

CREATE OR LOAD A CONFIGURATION

Option 1: Importing an existing RBS file*

CONFIGURATION RESULT

PROXO PART CONFIGURATION CUSTOMER PART BUILDER

Chip Family XT

Stability +/- 3ppm

Temperature Range -40°C to +85°C

Packaging Type 3.2mm x 2.5mm

Output Type LVDS

Voltage Source 1.8V

Frequency 15MHz

Progress log

- driver instance is created
- output_freq_goal is configured with value 15MHz
- output_freq_goal is configured with value 15MHz

Error(s) 0

Warning(s) 0

Select "Import RBS" and upload your .rbs file

1

2

IMPORT RBS **SUBMIT**

Click "Submit"

*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*

The screenshot shows a 'Submit RBS file' dialog box. It has a title bar with a close button (X). The main content area contains a text input field labeled 'Enter the file name.*' with the text 'XT 3 ppm Testing' entered. Below the input field, a green message states 'This file name is available.' There are two buttons: 'Save and Upload' and 'Save'. A 'Note' section at the bottom explains the buttons: 'Save and Upload' generates the RBS file and uploads it to the server, while 'Save' only generates the RBS file. Numbered annotations are present: '3' points to the input field with the label 'Enter file name', and '4' points to the 'Save and Upload' button with the label 'Upload your file name to the server'.

Enter file name 3

Upload your file name to the server 4

Submit RBS file

Enter the file name.*

XT 3 ppm Testing

This file name is available.

Save and Upload **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 'CUSTOMER PART BUILDER' interface. It has two tabs: 'CONFIGURATION' and 'RESULT'. The 'CONFIGURATION' tab is active, showing a 'PROXO PART CONFIGURATION' section. This section contains several dropdown menus for configuration: 'Chip Family' (XT), 'Stability' (+/- 3ppm), 'Temperature Range' (-40°C to +85°C), 'Packaging Type' (3.2mm x 2.5mm), 'Output Type' (LVDS), 'Voltage Source' (1.8V), and 'Frequency' (15MHz). Each dropdown has a lock icon. Numbered annotations are present: '1' points to the 'CONFIGURATION' tab with the label 'Enter requirements', '2' points to the 'PROXO PART CONFIGURATION' section with the label 'Enter device specifications', and '3' points to the 'RESULT' tab with the label 'View status of test'. At the bottom, there are buttons for 'INFO', 'SUPPORT', 'IMPORT RBS', and 'SUBMIT'. On the right side, there is a 'Progress log' section showing a list of events: 'driver instance is created', 'output_freq_goal is configured with value 15MHz', and 'output_freq_goal is configured with value 15MHz'. Below the progress log, there are sections for 'Error(s)' and 'Warning(s)', both showing a count of 0.

1 Enter requirements

2 Enter device specifications

3 View status of test

CONFIGURATION **RESULT**

PROXO PART CONFIGURATION CUSTOMER PART BUILDER

Chip Family XT

Stability +/- 3ppm

Temperature Range -40°C to +85°C

Packaging Type 3.2mm x 2.5mm

Output Type LVDS

Voltage Source 1.8V

Frequency 15MHz

Progress log

- driver instance is created
- output_freq_goal is configured with value 15MHz
- output_freq_goal is configured with value 15MHz

Error(s) 0

Warning(s) 0

INFO **SUPPORT** **IMPORT RBS** **SUBMIT**

CREATE OR LOAD A CONFIGURATION

Option 3: Enter known part number.

CONFIGURATION RESULT

PROXO PART CONFIGURATION CUSTOMER PART BUILDER

Enter Part Number

XFC215156.250000K

1 Go to customer part builder

2 Enter device part number

INFO SUPPORT IMPORT RBS SUBMIT

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

3 / 30

Sr.No	Family	Product	RBS Files	Results	Generate Dashcode	Action
1	ProXO	XT +/- 3 ppm 3.2mm x 2.5mm	XT 3 ppm Testing.rbs	Download	GENERATE	
2	ProXO	XF +/- 25 ppm 2.5mm x 2.0mm	XF 25 ppm test.rbs	Download	GENERATE	
3	ProXO	XF +/- 25 ppm 2.5mm x 2.0mm	XF Test.rbs	Download	GENERATE	

If the result looks good, click to generate dashcode

GENERATE DASHCODE

CONFIGURATION

RESULT

1 / 30

Sr.No	Family	Product	RBS Files	Results	Generate Dashcode	Action
1	ProXO	XF +/- 25 ppm 2.5mm x 2.0mm	XF 15MHz.rbs	Download	GENERATE	

After confirming the result looks good,
Click "GENERATE" to get unique dashcode **1**

Click "CONTINUE" **2**

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

CONTINUE

CLOSE

GENERATE DASHCODE

Clock Oscillators, Quartz Crystal Oscillators (XO), Voltage Controlled Oscillator Clocks

Product Selector

Featured Products | Documentation | Videos & Training | Tools & Resources

General Configuration

Parameter	Value
Jitter	< 150fs
Package	2.5 x 2 mm
Output Frequency	156.25 MHz
Frequency Stability	± 50 ppm
VDD Voltage	1.8 V
Output Type	CML
Output Enable/Disable Position (E/D) Position	Pin 5
Temperature Grade	-40°C to +105°C

The part configuration will be provided based on configuration settings

GENERATE DASHCODE

Enter project information

Customer Name	<input type="text" value="Kiki"/>
Company	<input type="text" value="Renesas"/>
Project Name	<input type="text" value="Testing"/>
Application	<input type="text" value="Sample"/>
Sample Schedule	<input type="text" value="Sample"/>
<input type="text"/>	
<input type="button" value="Make Changes"/>	<input type="button" value="Generate Part Number"/>

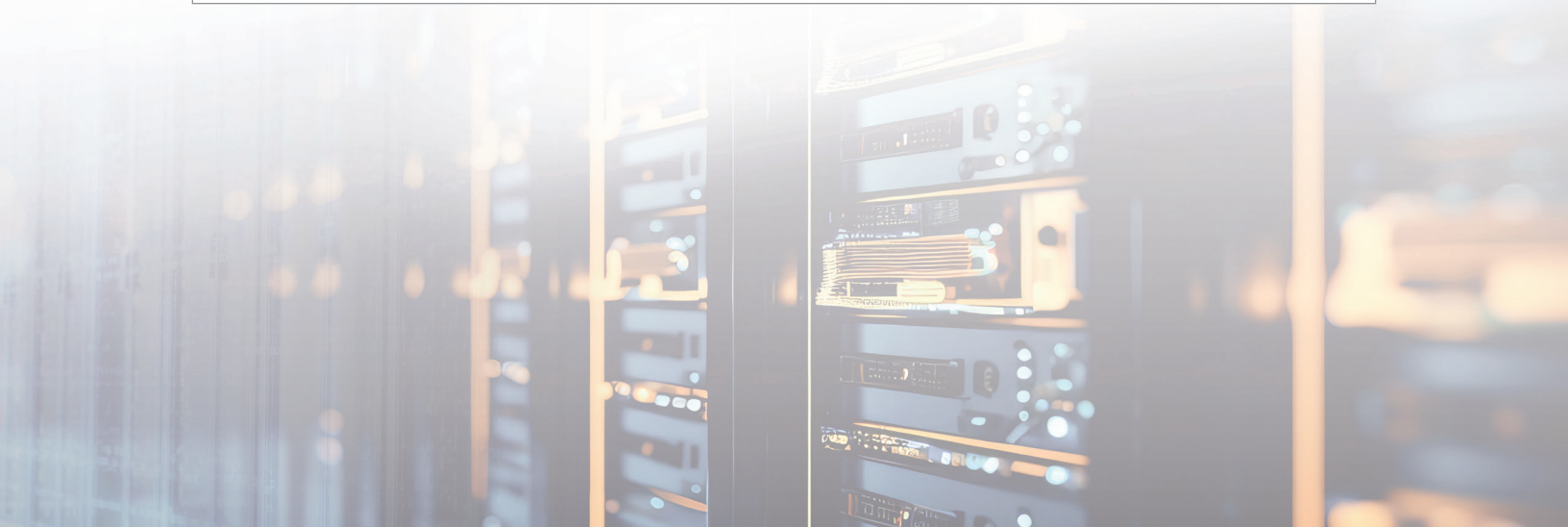
Click to generate a part number

Renesas XO Crystal Oscillator Custom Part Configuration Utility

Success! Your custom part number **XFC215156.250000K** and documentation has been created. The information below has been emailed to you. Click the link below to request samples.

Custom part number: **XFC215156.250000K** ← Dashcode created

Documentation: [XFC215156.250000K Addendum Document](#)



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:

Use a "Request Category" of "Technical Question" to route to the correct Application Engineer for bench testing of the RBS.

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

→ Product Family "ProXO – XT, XF, XP"

Welcome to the TPD Help Desk

Q 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 Solar Grid



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 *

Raise this request on behalf of *

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

Region *

Americas

Request Category *

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

Product Family *

VersaClock 7 (aka VC7) - RC21, RC31

Customer Name *

Kiki

Due date *

30May25

Subject Line (Customer | Part | Subject) *

Description *

Normal text B I ...

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

TECHSUPP-9334

Kiki

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>")

BACKLOG:

Notifications on

To Do

Schedule the Work

Request type: TPD Support

Shared with: Wing Ki Hui (Creator)

Share

OTHER USEFUL INFORMATION

ProXO Product Landing Pages:

XT: www.renesas.com/xt

XP: www.renesas.com/xp

XF: www.renesas.com/xf

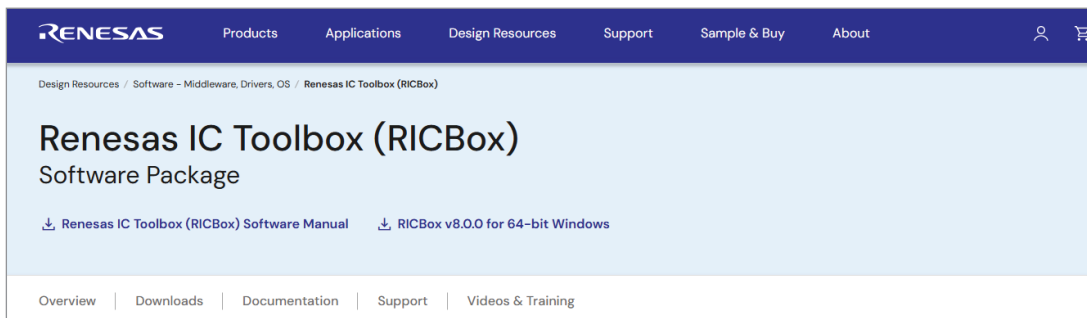
RICBox Builder Tool: Renesas IC Toolbox (RICBox)

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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Document No.: R11QS0068EU0000