

ProXO (XT/XP/XF)

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



renesas.com/clocklivebench

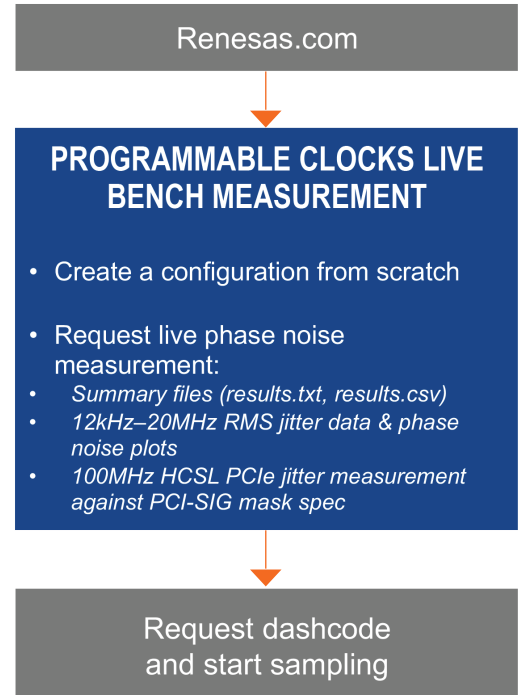
SYSTEM OVERVIEW

SYSTEM PURPOSE

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

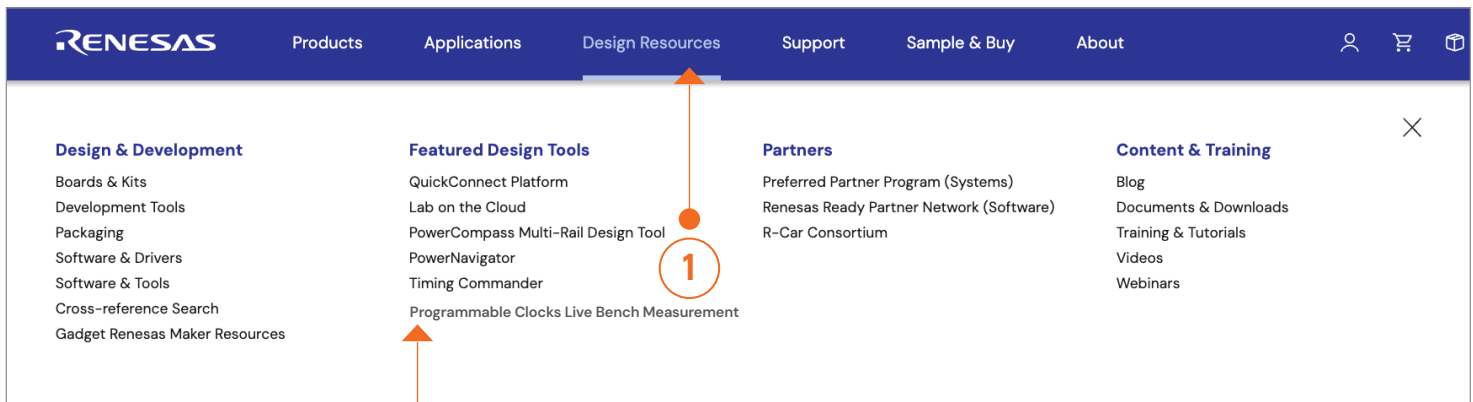
SYSTEM BENEFIT

- 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 Select Product Family – 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 Select ProXo Variants

SUBMIT 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**

IMPORT RBS **SUBMIT** **2** 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*

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.

Annotations: **3** Enter file name; **4** Upload your file name to the server

*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.

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.

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.

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	

Click to download .rbs file

Click to download results

Count of stored results: 3 / 30

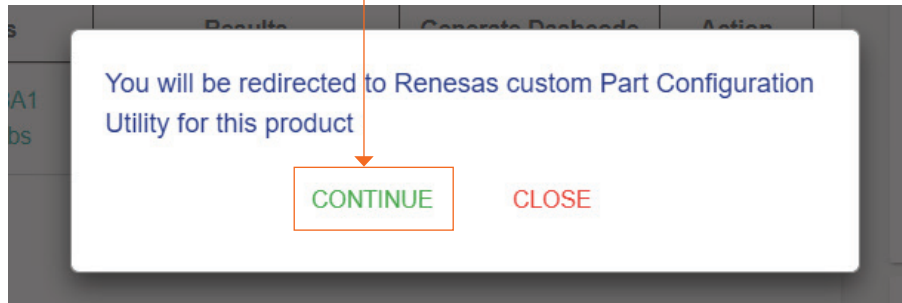
If the result looks good, click to generate dashcode

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**



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	

GENERATE DASHCODE

Enter project information

Customer Name
Kiki

Company
Renesas

Project Name
Testing

Application
Sample

Sample Schedule
Sample

Make Changes Generate Part Number

Click to generate a part number

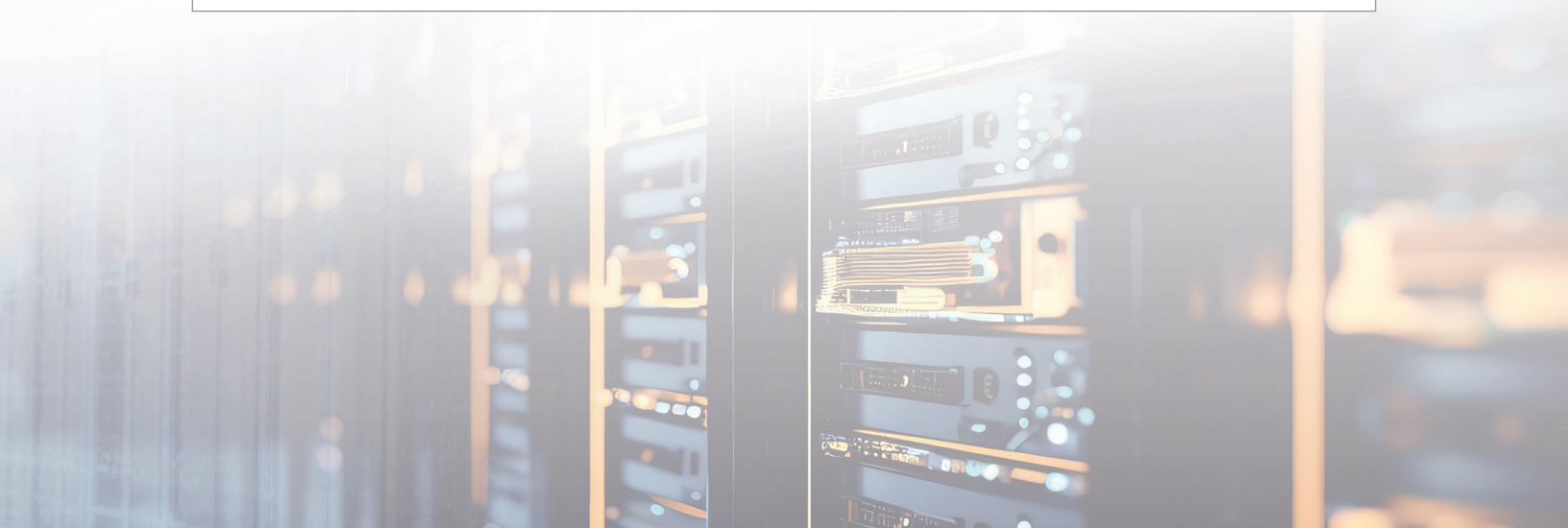
Renesas XO Crystal Oscillator Custom Part Configuration Utility

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

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:

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

- 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 Ord.



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 Software Issues (RicBox/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 ... A v ...

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

BACKLOG:

- Notifications on
- To Do
- Schedule the Work

Request type

TPD Support

Shared with

- Wing Ki Hui (Creator)
- Share

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.

OTHER USEFUL INFORMATION

ProXO Product Landing Pages:

XT: www.renesas.com/xt

XP: www.renesas.com/xp

XF: www.renesas.com/xf

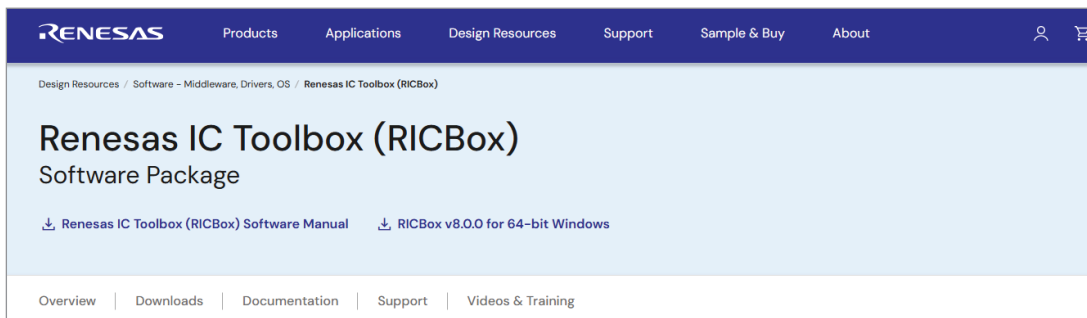
RICBox Builder Tool: Renesas IC Toolbox (RICBox)

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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