

# UG301: Si5332-12EX-EVB User's Guide

The Si5332-12EX-EVB is used for evaluating the Si5332 Low Jitter Any-Frequency Clock Generator. The Si5332 uses the patented Multisynth<sup>™</sup> technology to generate up to twelve independent clock frequencies each with 0 ppm synthesis error. The Si5332-12EX-EVB has three independent

input clocks. The Si5332-12EX-EVB can be controlled and configured using the Clock Builder Pro<sup>™</sup> (CB Pro<sup>™</sup>) software tool.

#### EVB FEATURES

- Powered from USB port or external power supply.
- Onboard 25 MHz XTAL allows free-run mode of operation on the Si5332 or up to 2 input clocks for synchronous clocking.
- CBPro<sup>™</sup> GUI programmable VDD supply allows device to operate from 3.3, 2.5, or 1.8 V.
- CBPro GUI programmable VDDO supplies allow each of the 10 outputs to have its own power supply voltage selectable from 3.3, 2.5, or 1.8 V.
- CBPro GUI-controlled voltage, current, and power measurements of VDD and all VDDO supplies.
- SMA connectors for input and output clocks.



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#### 1. Functional Block Diagram

Below is a functional block diagram of the Si5332-12EX-EVB. This EVB can be connected to a PC via the main USB connector for programming, control and monitoring. See section "2. Quick start" or section "7. Installing CBPro Desktop Software" for more information.

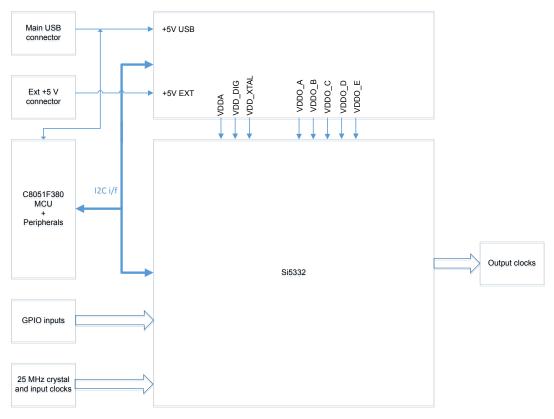


Figure 1.1. Si5332-12EX-EVB Functional Block Diagram

## 2. Si5332 CBPro<sup>™</sup>

The Si5332 is intended to be part of the CBPro software and this initial software release "showcases" that trait. This software contains:

- 1. An EVB GUI that communicates and controls the EVB by allowing the user to set VDD supplies
- 2. The ability to modify frequency plan (from the starting point CBPro file provided with this limited release) from an existing CBPro file.

CB ClockBuilder Pro Wizard - Skyworks	- 🗆 X
<ul> <li>ClockBuilder Pro Wizard</li> <li>We Make Timing Simple</li> </ul>	SKYWORKS
Work With a Design	Quick Links
Create New Project	Skyworks Timing Solutions Knowledge Base
🖶 <u>Open Project</u>	Custom Part Number Lookup
Convert Existing Project/NVM File	Applications Documentation           10/40/100G Line Card Whitepaper
ex Open Sample Project	Clock Generators for Cloud Data Centers Optimizing Si534x Jitter Performance
Evaluation Board Detected Si5332-GM2 EVB Open Default Plan EVB GUI	Selecting the Right Clocks for Timing Synchronization Applications PCIe Gen 4.0 Jitter Requirements Selecting a PCIe Reference Clock Source Making Accurate Clock Jitter Measurements
	ClockBuilder Pro Documentation
PHI ALLIANT	CBPro Tools & Support for In-System Programming CLI User's Guide Release Notes
0.	Version 4.1 Built on 9/22/2021

Figure 2.1. CBPro Start Screen

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#### 3. Si5332-12EX-EVB Schematics

The schematic and layout files are provided in the here: schematics and layouts.

Please review the files, especially the DUT page in order to get familiar with using the EVB through CBPro<sup>™</sup>.

### 4. Si5332 CBPro<sup>™</sup> EVB GUI

The EVB GUI can be used to communicate the part for register access:

The first page shows the board's identity.

le H	elp							
nfo	DUT Settings Editor	DUT Register Editor	Regulators	GPIO	Status Registers		×	Control Registers
oarc	Identification:						â	Reset and Modes
Bo	oard ID Code:	2 (Si5332GM2	-QFN-40)					Active Mode
Вс	oard SN:	00-00-1F-52-5C-1	2					Ready Mode
DUT I	D Registers:	3 <del></del>	10					Reset
D	EVICE_PN_BASE	Si5332						
DI	EVICE_REV:	D						
D	EVICE_PACKAGE	QFN_40						
D	EVICE_GRADE	A						
0	PN_ID	00005						
0	PN_REVISION	0						
D	ESIGN_ID	zeroA						
TC	OOL_VERSION	ClockBuilderPro v	4.1.1.15				U	
og								
ilter	ed 📱 Auto Scro	ll: On 📘 🛛 Insert M	arker	lear	Copy to Clipboa	rd Pause		
limes	tamp Source	Message						
5:12	49.272 EVB	Starting Read_Voltag	e_Level(regul	ator=VI	DDO_D)			
5:12	49.280 EVB	Finished Read_Voltag	e_Level(regu	lator=V	DDO_D) => V3P30			
5:12	49.280 EVB	Starting Read_Voltag	e_Level(regul	ator=VI	DDO_E)			
5.12	49.287 EVB	Finished Read Voltag	e Level(requ	lator=V	DDO(E) => V3P30			

Figure 4.1. Board ID Page

The other pages are for register access, VDD control, and GPIO control.

	- 🗆 X
le Help	
Info DUT Settings Editor DUT Register Editor Regulators GPIO Status Registers	Control Registers
Register Peek/Poke   Hex   Decimal   Address:   0x0021   33   # Bytes:   1   Read   Write      Hex:   0x6A   Unsigned Int:   106   Binary:   0   1      1 </td <td>Reset and Modes Active Mode Ready Mode Reset</td>	Reset and Modes Active Mode Ready Mode Reset
og	_
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og	
og Filtered 💽 Auto Scroll: On 💽 Insert Marker Clear Copy to Clipboard	
og Filtered Auto Scroll: On Insert Marker Clear Copy to Clipboard	
og Filtered Auto Scroll: On Insert Marker Clear Copy to Clipboard Filtestamp Source Message 15:17:20.124 EVB Starting Read_DUT_Byte(address=0x21)	
og Filtered Auto Scroll: On Insert Marker Clear Copy to Clipboard Filtered Source Message 15:17:20.124 EVB Starting Read_DUT_Byte(address=0x21) 15:17:20.128 EVB Finished Read_DUT_Byte(address=0x21) > 0x6A	

Figure 4.2. Register Access

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### 5. Installing ClockBuilderPro (CBPro) Desktop Software

To install the CBOPro software on any Windows 7 (or above) PC:

Download the ClockBuilderPro software. Both installation instructions and User's Guide for ClockBuilderPro can be found at this link. Please follow the instructions as indicated.

## SKYWORKS

## **ClockBuilder Pro**

Customize Skyworks clock generators, jitter attenuators and network synchronizers with a single tool. With CBPro you can control evaluation boards, access documentation, request a custom part number, export for in-system programming and more!

www.skyworksinc.com/CBPro



**Portfolio** www.skyworksinc.com/ia/timing



SW/HW www.skyworksinc.com/CBPro



Quality www.skyworksinc.com/quality



Support & Resources www.skyworksinc.com/support

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