LSP-Kit-OracADJ-X

ProGrAnalog Corp.
09/21/2023

LoadSlammer Controller for Xilinx Versal ACAP FFEDs

Details

- Powered by a 24V barrel jack and connected by a Mini-B USB.
- Used for testing power delivery to Xilinx Versal devices.
- Plugs into XPOD for Xilinx FFED testing.
- XPOD connects to Xilinx FFED
- Voltage and current measurements are captured for every test taken.
- Both stimuli and measurements are generated and measured with this device.
- Realtime current is displayed on the GUI and via SMB situated on top of the device.
- GUI supports:
    - Automated test suites.
    - Automatic PDF Report generation.
    - Save, file share, and recall of waveforms.
    - Save, file share, and recall of workstations.

What is included in the LSP-Kit-OracADJ-X box:

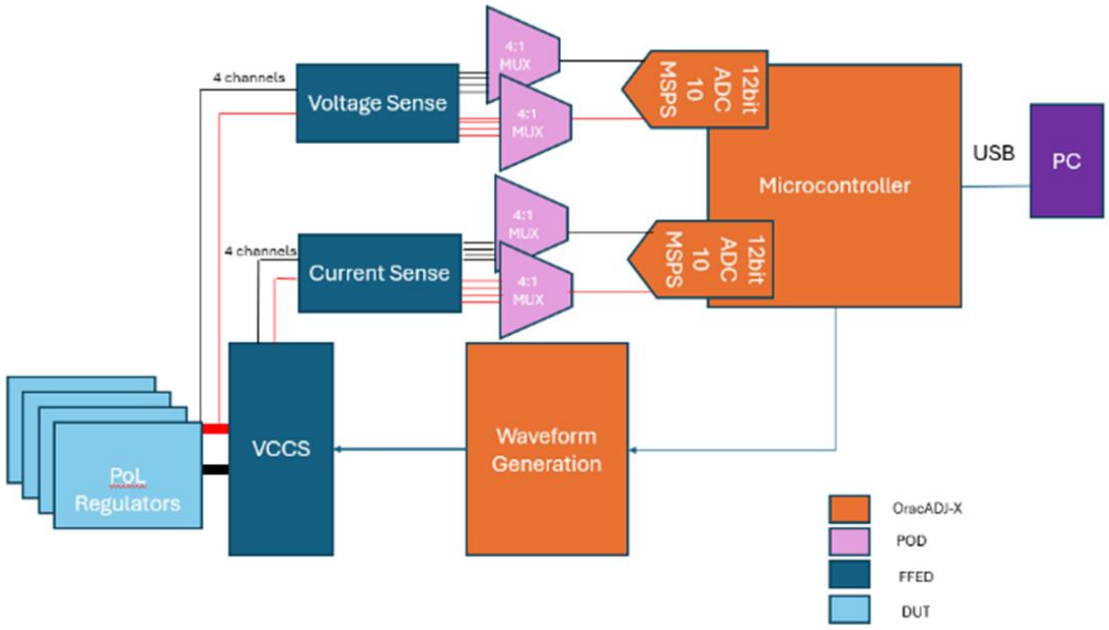
- OracADJ-X Device
- 3ft USB-A to Mini USB-B Cable
- 24V AC Power Supply

Specifications

Parameter		Min	Typ.	Max	Unit
Timing Characteristics					
Rise Time		270			ns
On Time Range		7.5µ		N/A	Sec
Load Characteristics					
Current Range*		*Determined by FFED package			
Current Resolution*					
Current Output Accuracy			5		%
Input Voltage Rating		0.6		2.0	V
Current Readout Accuracy			5		%
Sampling System					
Sampling Rate				10	MSPS
Bandwidth			5		MHz
Capture Depth			24,000		Points
Channel System		1		5	Channels
Device Connection					

(1) LoadSlammer OracADJ-X will only work with XPOD and Xilinx FFED.
(2) LoadSlammer OracADJ-X must only be used with an active Xilinx FFED that has a positive voltage.
(3) The USB data connection is non-isolated, this effectively grounds the DUT's ground.

FFED, OracADJ-X, POD System Block Diagram



GUI

Transient - PWM and Frequency Sweep

Example VCCINT rail

GUI

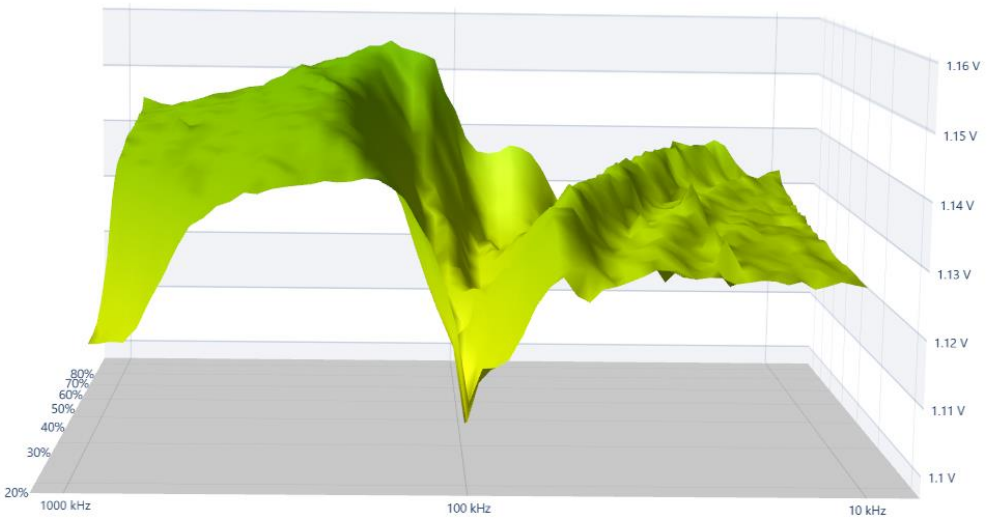
Automation - Static & Dynamic Sweep Testing

example shows 4 static, 114 dynamic tests on VCCINT rail

GUI

3D Sweep Results

Example VCCINT at 1.12V



GUI

Automated – Report Generation

Summary

	Pass	Borderline	Fail	Total
VCCINT	118	0	0	118
VCC_IO	118	0	0	118
VCC_SOC	118	0	0	118
VGTY_AVTT	118	0	0	118
Summary Total	100%	0%	0%	472

Summary Report: VC1902-FD - Group A

Report Created By: Roger
Created On: 1/20/2023 4:58:12 PM
Board Serial Number: 0F4043H
Bench: 01

GUI Version: 1.0.0.0
Windows Version: Microsoft Windows NT 10.0.22000.0

Controller: LSP_AD SN: LSP_AD-C56ACEED
HW Revision Number: 0
Software Revision: 8/17/2022 8:40:44 PM

Adapter: 0
Revision: 4

Test Settings

VCCINT

Tolerance Settings:

Nominal	DC Range	Min AC	MaxA
VID - (IDD * LL_SLOPE)	Nominal ± 0.02	VID - (EDC * LL_SLOPE) - 0.11	VID +

Marginal Range for Max: 10 %

Marginal Range for Min: 10 %

Load Line Slope: 400 µΩ

Dynamic Load Settings:

EDC:	190 A
Max Load Step:	190 A
Max Load Release:	190 A
Duration:	100 ms

Static Load Settings:

Min Current:	0 A
Max Current:	190 A
Step Current:	47.5 A
Duration:	5 s

Max AC: 1.10 V **Min AC:** 0.70 V **Load Line Slope:** 400 µΩ

Waveform Analysis:

Frequency: 1 kHz **Duty Cycle:** 25 % **EDC:** 190 A
Load Step: 190 A **Load Release:** 190 A **Duration:** 100 ms

Dynamic Analysis:

Rail Name: VCCINT **VID:** 0 V **Nominal Voltage:** 0.90 V

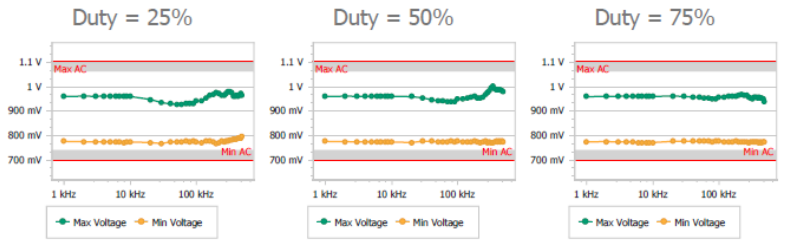
Max AC: 1.10 V **Min AC:** 0.70 V **Load Line Slope:** 400 µΩ

Duty 75 %			
Frequency	RMS	Min	Max
1 kHz	841.3 mV	773.5 mV	959.1 mV
2 kHz	841.8 mV	774.1 mV	959.7 mV
3 kHz	844.2 mV	773.5 mV	960.3 mV
4 kHz	843.6 mV	773.5 mV	960.9 mV
5 kHz	844.5 mV	772.3 mV	959.7 mV
6 kHz	844.4 mV	771.1 mV	960.9 mV
7 kHz	844.1 mV	770.5 mV	960.9 mV
8 kHz	844.8 mV	770.5 mV	960.9 mV
9 kHz	844.5 mV	770.5 mV	959.7 mV
10 kHz	844.7 mV	770.5 mV	959.7 mV
20 kHz	845.5 mV	775.3 mV	961.5 mV
30 kHz	846.4 mV	775.9 mV	959.7 mV
40 kHz	847.2 mV	775.3 mV	957.3 mV
50 kHz	846.4 mV	775.9 mV	955.4 mV
60 kHz	847.4 mV	775.3 mV	951.8 mV
70 kHz	847.8 mV	775.3 mV	951.8 mV

Dynamic Analysis:

Rail Name: VCCINT **VID:** 0 V **Nominal Voltage:** 0.90 V

Max AC: 1.10 V **Min AC:** 0.70 V **Load Line Slope:** 400 µΩ



Availability

Mouser part number	ProGrAnalog part number
124-LSP-KITORACADJ-X	LSP-Kit-OracADJ-X

Visit us at:

https://loadslammer.com

Questions:

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