ESD Immunity Test Report

Contents

[1. Test lab facility 2](#_Toc452709108)

[Test Site: 2](#_Toc452709109)

[Facility name: 2](#_Toc452709110)

[Facility address: 2](#_Toc452709111)

[Facility site description: 2](#_Toc452709112)

[Test Standards 2](#_Toc452709113)

[EMC Directive 2014/30/EU 2](#_Toc452709114)

[Test Equipment: 2](#_Toc452709115)

[Environmental conditions: 2](#_Toc452709116)

[Test Operator and Date: 2](#_Toc452709117)

[2. Product Information 2](#_Toc452709118)

[3. EUT setup 3](#_Toc452709119)

[Photograph of EUT: 3](#_Toc452709120)

[4. Test Result 3](#_Toc452709121)

[5. Summary 3](#_Toc452709122)

# Test lab facility

## Test Site:

Facility name: Keysight Technology, Technology Order Fulfillment, Colorado Springs Hardware Test Center.

Facility address: 1900 Garden of the Gods Rd, Colorado Springs, CO. 80907

Facility site description:

The Keysight Technologies Technology Order Fulfillment Colorado Spring Hardware Test Center is a certified radiated interference testing facility, which complies with the standard requirements defined by IEC 61326.

## Test Standards

### EMC Directive 2014/30/EU

IEC 61326-1:2012 / EN 61326-1:2013 (Basic) Radiated Emission Reference Standards:

ESD IEC 61000-4-2, ETM 765.002Group 1 Class A. The products were tested in a typical configuration with Keysight Technologies test systems. This product is intended for use in a basic electromagnetic environment.

## Test Equipment:

|  |  |
| --- | --- |
| ESD Gun Model | MiniZap |
| ESD Gun SN | 4/21/1916 |
| ESD Gun Calibration Date | 7/13/2015 |
| Test Standard | IEC 61000-4-2 / EN 61000-4-2 Basic ETM 765.002 |
| Test Site | Colorado Springs TOF Hardware Test Center |
| Test Voltage | 110V |

## Environmental conditions:

Temperature: 72°F; Humidity :50 RH

Note: There will be no effect to the result due to changes in mains voltage or frequency.

## Test Operator and Date:

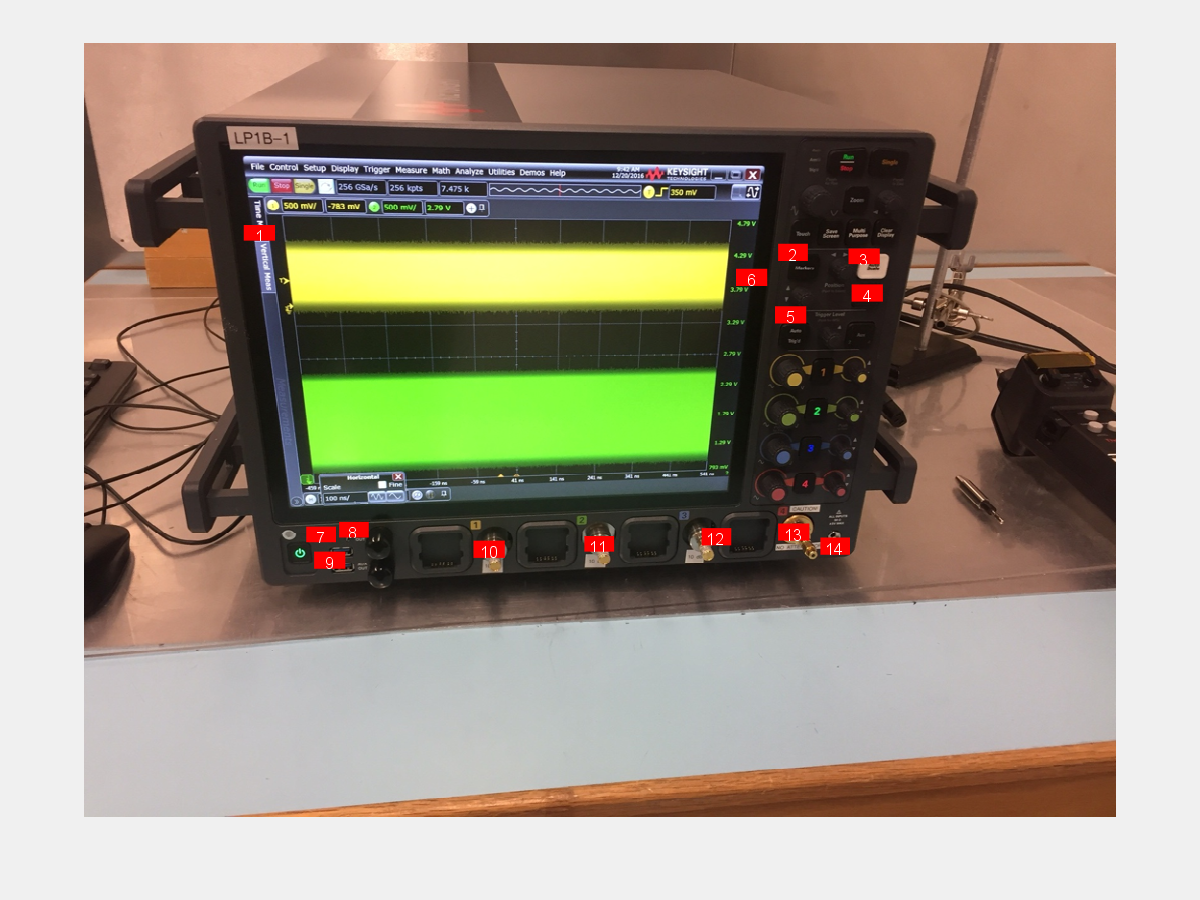
Operator: Clifford; Report generated at: Dec.20,2016 3:27:55 PM

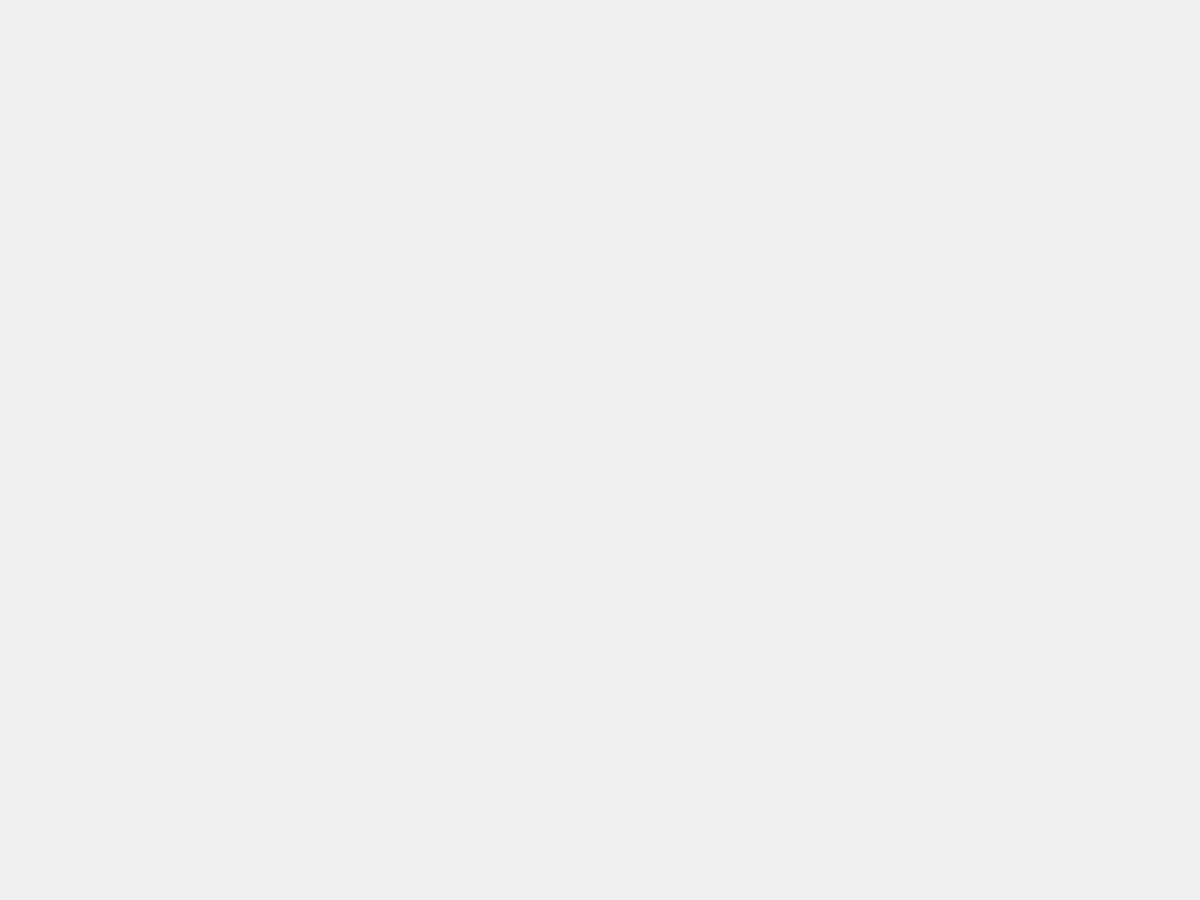
# Product Information

|  |  |
| --- | --- |
| Product Name: | Delta Breadbord |
| Product Model: | N7018A |
| Product SN: | LP0-1 |
| Project Stage: | Breadboard |
| Deliver date of the test samples: | 12/13/2016 |
| DUT power: | 5V |
| Auxiliary equipment list: | USBC Display port, SMA, Jtag |
| Model numbers covered by the test: | N/A |
| .-Hardware Difference | NA |
| .-Software/firmware difference: | NA |
| .-Cosmetic difference: | NA |
| Test Configuration | early evaluation. FPGA running on 20Mhz clock. all turned on. 200mA power consumptions. |

# EUT setup

## Photograph of EUT:





# Test Result

|  |  |
| --- | --- |
| Contact: 10 single contact discharges (+/-) to select points and to vertical and horizontal coupling plane (4 faces). Contact discharges are not applied to insulated areas. | PC= Performance code:  **A**= Normal, within specific limits  **B**= Temporary degradation, self recoverable.  **C**=Temporary degradation requiring operator intervention.  **D**= Not recoverable **ND**=No Discharge |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Discharge Type | Location | 2KV | 4KV | 6KV | 8KV | Comments: |
| Contact Discharge | Horizontal Plane | A | A | A | A | Pass.-Normal Performanc within specified limits. |
| Contact Discharge | Vertical Plane | A | A | A | A | Pass.-Normal Performanc within specified limits. |
| Contact Discharge | 1 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 2 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 3 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 4 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 5 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 6 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 7 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 8 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 9 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 10 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 11 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 12 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 13 | A | A | A | A | Pass.-Normal Performance within specified limits. |
| Contact Discharge | 14 | A | A | A | A | Pass.-Normal Performance within specified limits. |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Discharge Type | Location | 2KV | 4KV | 6KV | 8KV | 10KV | 12KV | 15KV | Comments: |

# Summary

The unit Passed the ESD test!