Radiated Emission Test Report

Contents

[1. Test lab facility 2](#_Toc450134220)

[Test Site: 2](#_Toc450134221)

[Facility name: 2](#_Toc450134222)

[Facility address: 2](#_Toc450134223)

[Facility site description: 2](#_Toc450134224)

[Test Standards 2](#_Toc450134225)

[EMC Directive 2014/30/EU 2](#_Toc450134226)

[Test Equipment: 2](#_Toc450134227)

[Environmental conditions: 2](#_Toc450134228)

[Test Operator and Date: 2](#_Toc450134229)

[2. Product Information 2](#_Toc450134230)

[3. EUT setup 2](#_Toc450134231)

[Photograph of EUT: 2](#_Toc450134232)

[4. Test Result 2](#_Toc450134233)

[5. Summary 2](#_Toc450134234)

# 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. 80920

Facility site description:

3 Meter Semi-echoic chamber.

Note: *The radiated RF disturbance measurements were performed on an alternate test site of a semi–anechoic chamber at a 3 m distance. The 3 m test distance on an alternate test site is allowed because the EUT met the definition of small equipment in clause 3.10 and per clause 8.4 of CISPR 11:2009+A1:2010. The alternate test site semi–anechoic chamber meets the volumetric NSA validation requirements in CISPR 16–1–4 for the ±–4 dB from theoretical at all positions and antenna polarizations in the test volume*. *The limit for 10 meter site is adjusted by 10dB to fit 3 meter site.*

## Test Standards

### EMC Directive 2014/30/EU

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

CISPR 11:2009+A1:2010 / EN 55011:2009+A1:2010 Group 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:

|  |  |
| --- | --- |
| MXE Receiver Address | USB0::0x0957::0x0f0b::MY51210168::0::INSTR |
| Turn Table Address | gpib8 |
| Antenna Address | gpib9 |
| MXE Model S/N | MXE N9038A MY51210168 |
| MXE Calibration date | 12/8/2015 |
| Turntable SN | ETS LIndergen Model 2090 MY70235245 |
| Turtable calibraton date | 12/1/2015 |
| Antenna SN | ETS LIndergen Model 3142E |
| Antenna calibration date | 12/1/2015 |
| System loss calibration date | 4/1/2016 |
| NSA calibration date | 12/1/2015 |
| Test Standard | CISPER 11 Group 1 Class A RE |
| Test Site | Colorado Springs TOF Hardware Test Center 3 Meter anechoic chamber |
| 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: May.09,2016 10:53:56 AM

# Product Information

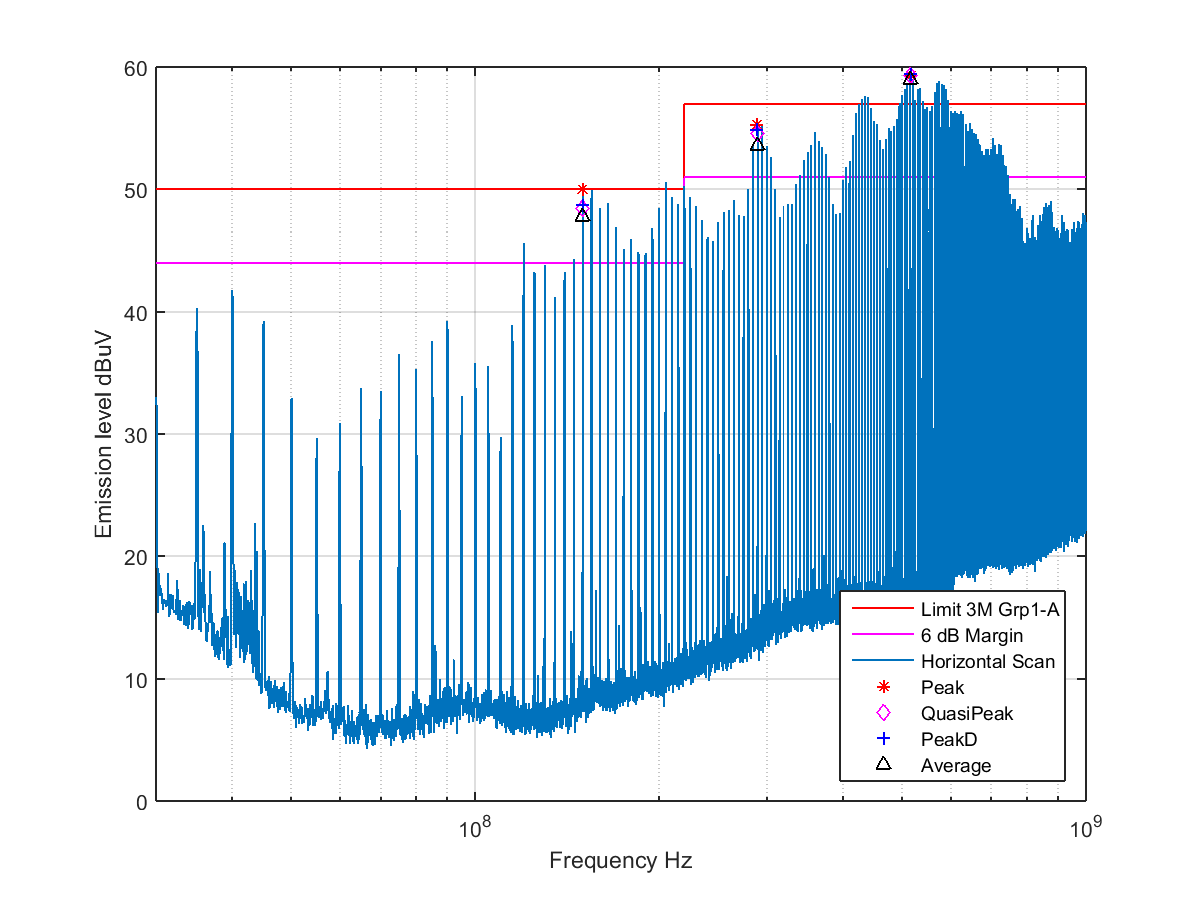
|  |  |
| --- | --- |
| Prodcut Name: | Digital |
| Product Model: | MSO3014 |
| Product SN: | MY5051145 |
| Project Stage: | PP |
| Deliver date of the test samples: | 4/15/2016 |
| DUT power: | Main |
| Auxiliary equipment list: | N/A |
| Model numbers covered by the test: | DSO3014 A/B model |
| .-Hardware Difference | Bandwidth |
| .-Software/firmware difference: | None |
| .-Cosmetic difference: | Label |
| Test Configuration | Test configuraiton is normal |

# EUT setup

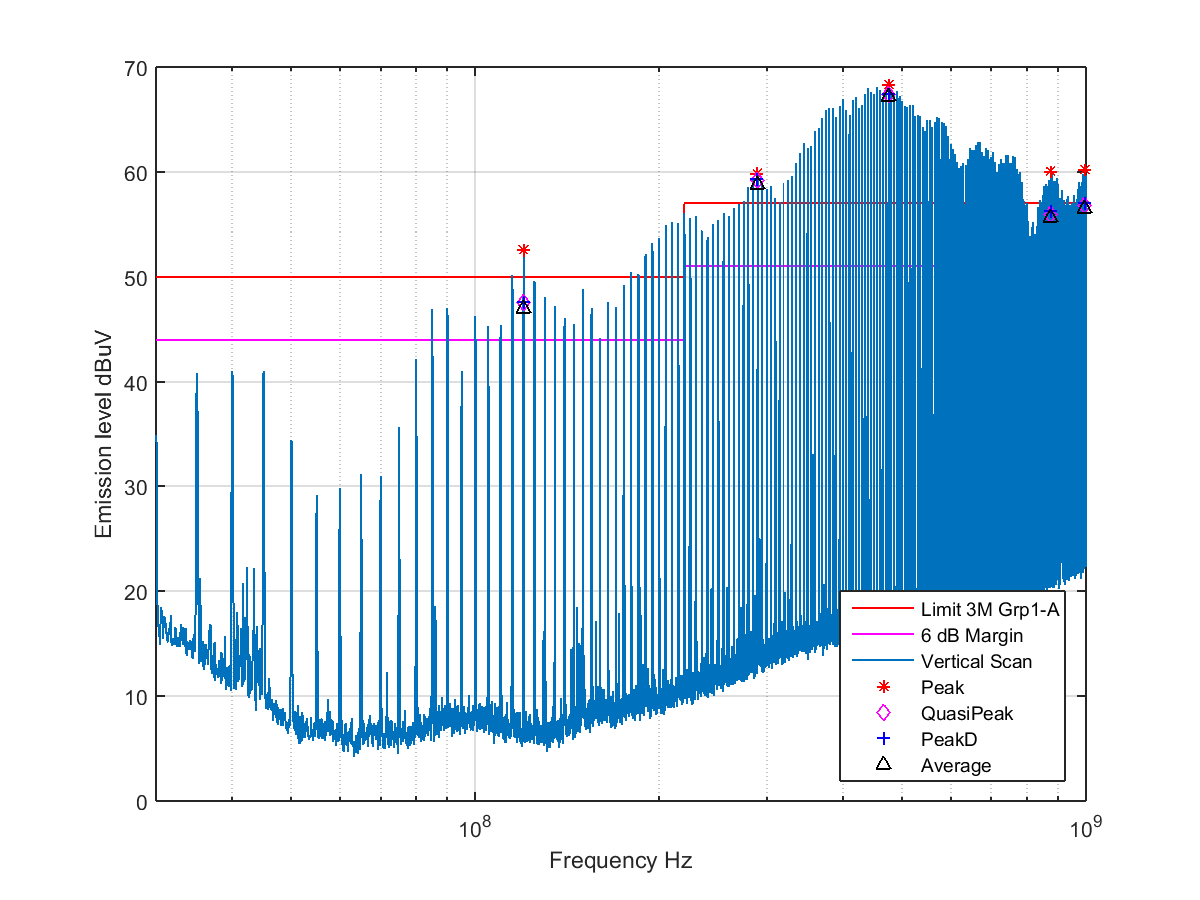
## Photograph of EUT:

# Test Result

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Frequency (Hz) | Amplitude (dBuV) | TurnTable (degree) | Tower (cm) | Polar | QuasiPeak (dBuV) | Peak (dBuV) | Avg (dBuV) | DeltQ (dB) | DeltP (dB) | DeltA (dB) |
| 149994952.0 | 50.0 | 57.0 | 176.0 | H | 48.4 | 48.7 | 47.8 | -1.6 | -1.3 | -2.2 |
| 290000724.0 | 55.3 | 80.0 | 150.0 | H | 54.6 | 54.9 | 53.6 | -2.4 | -2.1 | -3.4 |
| 515000000.0 | 59.3 | 8.0 | 160.0 | H | 59.3 | 59.5 | 59.0 | 2.3 | 2.5 | 2.0 |



|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Frequency (Hz) | Amplitude (dBuV) | TurnTable (degree) | Tower (cm) | Polar | QuasiPeak (dBuV) | Peak (dBuV) | Avg (dBuV) | DeltQ (dB) | DeltP (dB) | DeltA (dB) |
| 119998714.0 | 52.6 | 320.0 | 170.0 | V | 47.5 | 47.6 | 47.0 | -2.5 | -2.4 | -3.0 |
| 290005724.0 | 59.8 | 247.0 | 150.0 | V | 59.2 | 59.3 | 58.8 | 2.2 | 2.3 | 1.8 |
| 475003355.0 | 68.3 | 251.0 | 151.0 | V | 67.4 | 67.5 | 67.2 | 10.4 | 10.5 | 10.2 |
| 875004848.0 | 60.0 | 137.0 | 168.0 | V | 55.9 | 56.2 | 55.6 | -1.1 | -0.8 | -1.4 |
| 995004795.0 | 60.2 | 289.0 | 153.0 | V | 56.8 | 57.0 | 56.5 | -0.2 | 0.0 | -0.5 |



# Summary

The unit FAILED the Radiated Emission Test in Horizontal polarization!

The unit FAILED the Radiated Emission Test in Vertical polarization!