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ENGINEERING TEST REPORT #: 314312
LSR JOB #: C-2122

Compliance Testing of:

Blustream In Instrument Sensor

Test Date(s):

2/4/15	4/2/15	7/16/15	8/5/15	8/21/15
2/5/15	4/20/15	7/29/15	8/6/15	8/24/15
4/1/15	4/21/15	7/30/15	8/20/15	9/1/15

Prepared For:

bluStream Corporation
Attn: Michael Audi
3213 W. Wheeler St., Suite 111
Seattle, WA 98199

This Test Report is issued under the Authority of:
Michael Hintzke, EMC Engineer

Signature: Date: 10/23/15

Reviewed by:	**Project Engineer:**
Peter Feilen, EMC Engineer	Michael Hintzke, EMC Engineer
Signature: Date: 10/23/15	Signature: Date: 10/23/15

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LS Research, LLC in Review

As an EMC Testing Laboratory, our Accreditation and Assessments are recognized through the following:

A2LA – American Association for Laboratory Accreditation

Accreditation based on ISO/IEC 17025: 2005 with Electrical (EMC) Scope of Accreditation
A2LA Certificate Number: 1255.01

Federal Communications Commission (FCC) – USA

Listing of 3 Meter Semi-Anechoic Chamber based on Title 47 CFR – Part 2.948
FCC Registration Number: 90756

Industrie Canada Industry Canada

Canada

Industry Canada

On file, 3 Meter Semi-Anechoic Chamber based on RSS-212 – Issue 1
File Number: IC 3088-A
On file, 3 and 10 Meter OATS based on RSS-212 – Issue 1
File Number: IC 3088

U. S. Conformity Assessment Body (CAB) Validation

Validated by the European Commission as a U. S. Competent Body operating under the U. S./EU, Mutual Recognition Agreement (MRA) operating under the European Union Electromagnetic Compatibility –Council Directive 2004/108/EC (formerly 89/336/EEC, Article 10.2).
Date of Validation: January 16, 2001

Validated by the European Commission as a U.S. Notified Body operating under the U.S. /EU, Mutual Recognition Agreement (MRA) operating under the European Union Telecommunication Equipment – Council Directive 99/5/EC, Annex V.
Date of Validation: November 20, 2002
Notified Body Identification Number: 1243

Summary of Test Report

Between February 2015 and September 2015 the EUT, Blustream In Instrument Sensor, as provided by bluStream Corporation, was tested and MEETS the following requirements:

FCC and IC Paragraph	Test Requirements	Compliance (Yes/No)
FCC:15.247 (a)(2) IC: RSS 247 Section 5.2 (1)	6 dB Bandwidth of a Digital Modulation System	Yes
FCC : 15.247(b) & 1.1310 IC : RSS 247 Section 5.4 (4)	Maximum Output Power	Yes
FCC:15.247 (d) IC: RSS 247 Section 5.2 (2)	Power Spectral Density of a Digital Modulation System	Yes
FCC :15.247(d) IC : RSS 247 Section 5.5	RF Conducted Spurious Emissions at the Transmitter Antenna Terminal	Yes
FCC : 15.247(c), 15.209 & 15.205 IC : RSS 247 Section 5.5	Transmitter Radiated Emissions	Yes
FCC : 15.109 IC : RSS GEN	Receive Mode (Digital Device) Radiated Emissions	Yes
FCC : 2.1055 (d)	Frequency Stability	Yes
FCC : 15.207 IC : RSS GEN sect. 7.2.2	Power Line Conducted Emissions Measurements	N/A[1]

Note 1: Device is only powered from battery.

Test Facilities

All testing was performed at:

LS Research, LLC
W66 N220 Commerce Court
Cedarburg, Wisconsin, 53012 USA

LS Research, LLC is accredited by A2LA (American Association for Laboratory Accreditation) to the requirements of ISO/IEC 17025, 2005 "General Requirements for the Competence of Calibration and Testing Laboratories".
LS Research, LLC's scope of accreditation includes all test methods listed herein, unless otherwise noted.

3.0 Client Information

Manufacturer Name:	bluStream Corporation
Address:	3212 W. Wheeler St., Suite 111, Seattle WA 98199
Contact Person:	Michael Audi

3.1 Equipment Under Test (EUT) Information

The following information has been supplied by the applicant.

Product Name:	Blustream In Instrument Sensor
Model Number:	BS10TY01
Serial Number:	Engineering Sample
FCC ID	2AFWY-BS10TY01
IC Number	12387A-BS10TY01

3.2 Product Information

The sensor uses patent pending intelligent technology to provide a constant stream of temperature and humidity data to an application on your smart phone to warn of hazardous conditions and prevent costly repairs, lost value of your valuable object. When the sensor detects dangerous conditions within its installed environment, push notifications are sent to your device, allowing you to take corrective action before damage occurs to your object.

3.3 Modifications Incorporated In the EUT for Compliance Purposes

None

3.4 Deviations & Exclusions from Test Specifications

None noted at time of test

3.5 Additional Information

EUT programmed for continuous transmit or receive via JST to USB cable connected to laptop computer running uEnergy Test version 2.4.4. Test channels; Low Channel (2402 MHz), Mid Channel (2440 MHz), and High Channel (2480 MHz).

4.0 Conditions of Test

Environmental:

Temperature: 20-25º C
Relative Humidity: 30-60%
Atmospheric Pressure: 86-106 kPa

DC Supply to EUT: 3 VDC (nominal)

5.0 Test Equipment

All test equipment is calibrated by a calibration laboratory accredited by A2LA to the requirements of ISO 17025. For a complete list of test equipment and calibration dates, see Appendix A. Unless otherwise noted, resolution bandwidth of measuring instrument used during testing for given frequency range, see below.

Frequency Range	Resolution Bandwidth
9 kHz – 150 kHz	200 Hz
150 kHz – 30 MHz	9 kHz
30 MHz – 1000 MHz	120 kHz
Above 1000 MHz	1 MHz

6.0 Conformance Summary

The EUT was found to MEET the requirements as described within the specification of FCC Title 47, CFR Part 15.247, 15.109, Industry Canada RSS-247 issue 1 (May 2015), RSS-GEN Issue 4 (2014).

If some emissions are seen to be within 3 dB of their respective limits:
As these levels are within the tolerances of the test equipment and site employed, there is a possibility that this unit, or a similar unit selected out of production may not meet the required limit specification if tested by another agency.

LS Research, LLC certifies that the data contained herein was taken under conditions that meet or exceed the requirements of the test specifications. The results in this Test Report apply only to the item(s) tested on the above-specified dates. Any modifications made to the EUT subsequent to the indicated test date(s) will invalidate the data herein, and void this certification.

Appendix A – Test Equipment

LS RESEARCH LLC
Wireless Product Development
Equipment Calibration

Date : 3-Feb-2015 Type Test : Radiated Emissions Job # : C-2122

Prepared By: Mike Hintzke Customer : Acoustic Stream Quote #: 314310

No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	EE 960073	Spectrum Analyzer	Agilent	E4446A	US45300564	10/19/2014	10/19/2015	Active Calibration
2	AA 960158	Double Ridge Horn Antenna	ETS Lindgren	3117	109300	6/20/2014	6/20/2015	Active Calibration
3	EE 960159	0.8 - 21GHz LNA	Mini-Circuits	ZVA-213X-S+	740411007	6/20/2014	6/20/2015	Active Calibration
4	AA 960154	2.4GHz High Pass Filter	KWM	HPF-L-14186	7272-02	8/1/2014	8/1/2015	Active Calibration
5	EE 960085	N9038A MXE 26.5GHz Receiver	Agilent	N9038A	MY51210148	8/9/2014	8/9/2015	Active Calibration
6	AA 960088	Directional Coupler	Narda	3202B-10	n/a	Verification	Verification	System
7	AA 960150	Biconical Antenna	ETS	3110B	0003-3346	1/22/2015	1/22/2016	Active Calibration
8	AA 960004	Log Periodic Antenna	EMCO	93146	9512-4276	8/22/2014	8/22/2015	Active Calibration

LS RESEARCH LLC
Wireless Product Development
Equipment Calibration

Date : 3-Feb-2015 Type Test : Band-Edge Job # : C-2122

Prepared By: Mike Hintzke Customer : Acoustic Stream Quote #: 314310

No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	EE 960088	8GHz MXE Spectrum Analyzer	Agilent	N9038A	MY51210138	1/9/2015	1/9/2016	Active Calibration
2	AA 960158	Double Ridge Horn Antenna	ETS Lindgren	3117	109300	6/20/2014	6/20/2015	Active Calibration

LS RESEARCH LLC
Wireless Product Development
Equipment Calibration

Date : 3-Feb-2015 Type Test : Conducted measurements Job # : C-2122

Prepared By: Aidi Customer : Acoustic Stream Quote #: 314310

No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	EE 960087	44GHz EXA Spectrum Analyzer	Agilent	N9010A	MY53400296	12/11/2014	12/11/2015	Active Calibration
2	AA 960144	Phaseflex	Gore	EKD01D010720	5800373	Verification	Verification	System

LS RESEARCH LLC
Wireless Product Development
Equipment Calibration

Date : 3-Feb-2015 Type Test : Radiated Emissions (109) Job # : C-2122

Prepared By: Mike Hintzke Customer : Acoustic Stream Quote #: 314310

No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	EE 960073	Spectrum Analyzer	Agilent	E4446A	US45300564	10/19/2014	10/19/2015	Active Calibration
2	AA 960158	Double Ridge Horn Antenna	ETS Lindgren	3117	109300	6/20/2014	6/20/2015	Active Calibration
3	EE 960159	0.8 - 21GHz LNA	Mini-Circuits	ZVA-213X-S+	740411007	6/20/2014	6/20/2015	Active Calibration
4	EE 960088	8GHz MXE Spectrum Analyzer	Agilent	N9038A	MY51210138	1/9/2015	1/9/2016	Active Calibration
5	AA 960150	Biconical Antenna	ETS	3110B	0003-3346	1/22/2015	1/22/2016	Active Calibration
6	AA 960004	Log Periodic Antenna	EMCO	93146	9512-4276	8/22/2014	8/22/2015	Active Calibration

Appendix B – Test Data

B.1 – RF Conducted Emissions

Manufacturer	bluStream Corporation
Test Location	LS Research, LLC
Rule Part	FCC Part 15.247 / RSS-247
General Measurement Procedure	FCC KDB 558074 D01 DTS Meas Guidance v03r03 ANSI C63.10-2013 Section 6.7
General Description of Measurement	A direct measurement of the transmitted signal was performed at the antenna port of the EUT via a cable connection to a spectrum analyzer. An attenuator was placed in series with the cable to protect the spectrum analyzer. The loss from the cable and the attenuator were added on the analyzer as gain offset settings there by allowing direct measurements, without the need for any further corrections. The EUT was configured to run in a continuous transmit mode, while being supplied with typical data as a modulation source.

B.1.1 – RF Conducted – Fundamental Bandwidth

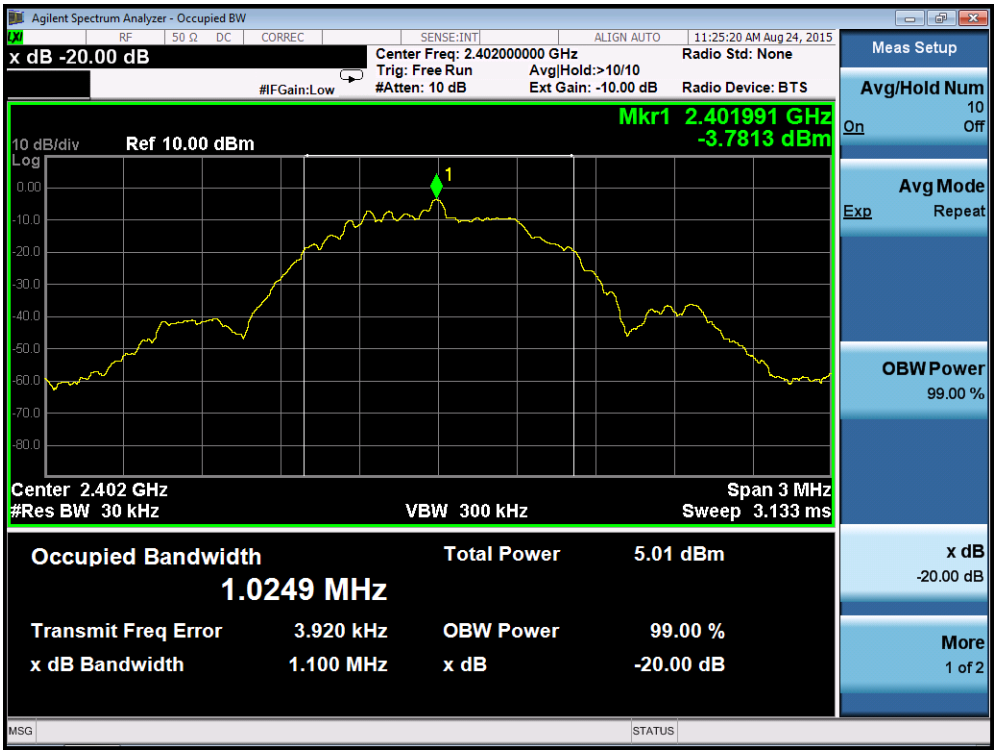
Manufacturer	bluStream Corporation
Date	8/24/15
Operator	Aidi Zainal
Temp. / R.H.	20 - 25º C / 30-60% R.H.
Rule Part	FCC Part 15.247 / RSS-247
Specific Measurement Procedure	FCC KDB 558074 Section 8.0 DTS bandwidth ANSI C63.10-2013 Section 6.9 RSS-GEN Section 6.6
Additional Description of Measurement	Peak detector used
Additional Notes	1. Continuous transmit modulated used for this test.

Table

Frequency (MHz)	6 dB DTS BW (MHz)	99% OBW (MHz)	20 dB OBW (MHz)
2402	0.695	1.025	1.100
2440	0.685	1.024	1.096
2480	0.695	1.023	1.107

Plots

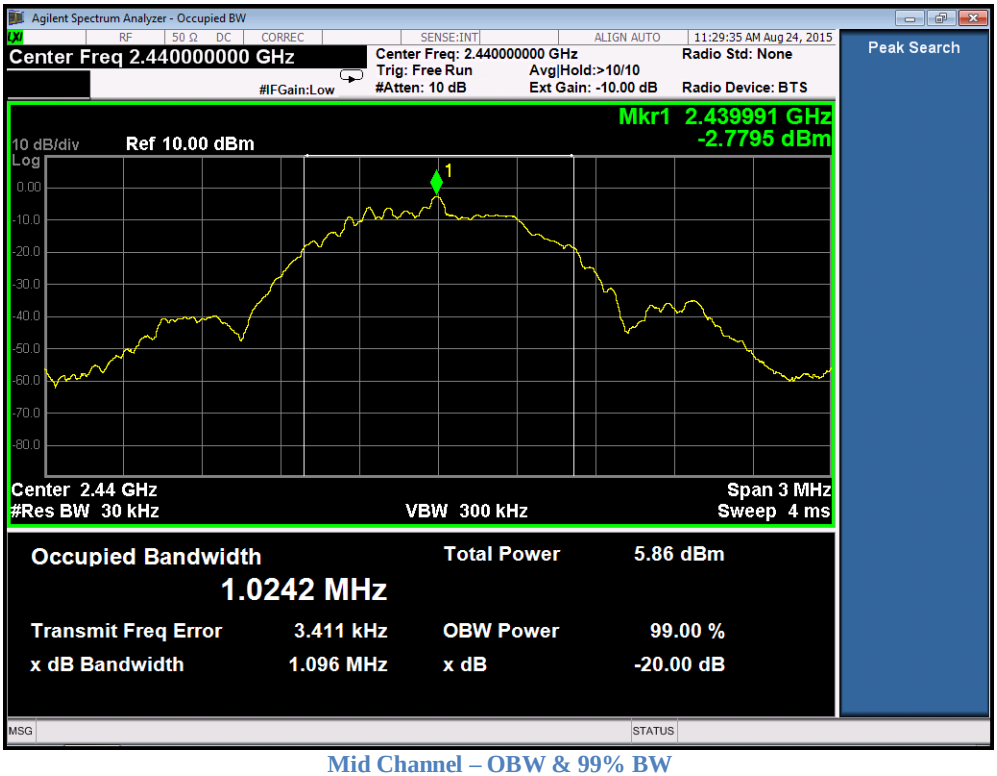
Low Channel - DTS BW



Low Channel – OBW & 99% BW

Plots

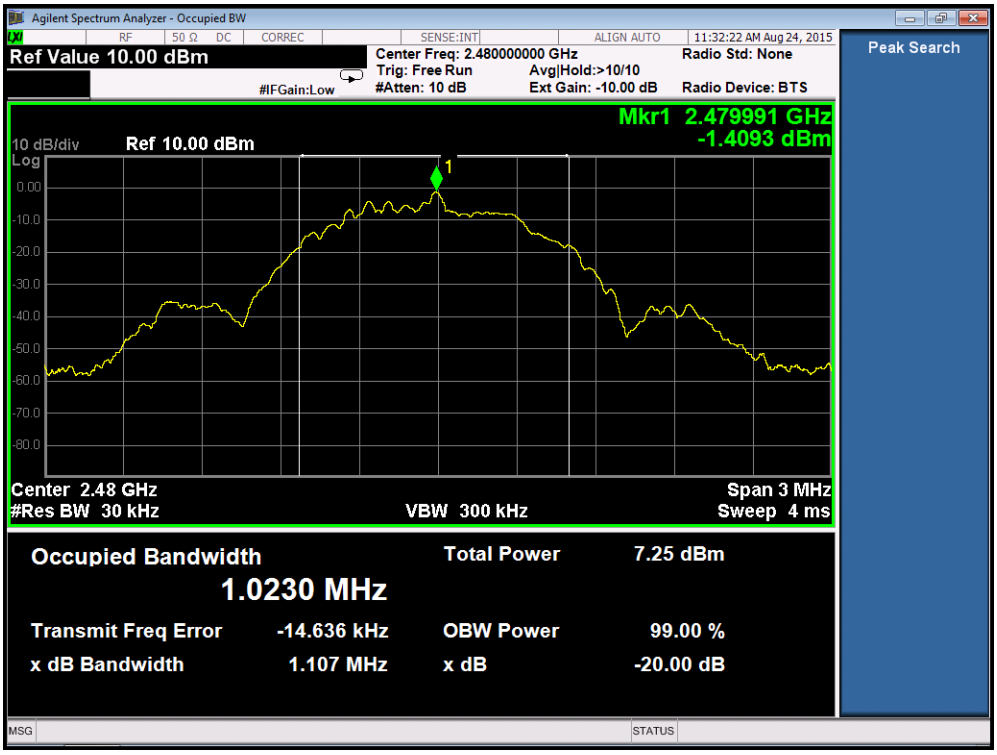
Mid Channel - DTS BW



Mid Channel – OBW & 99% BW

Plots

High Channel - DTS BW



High Channel – OBW & 99% BW

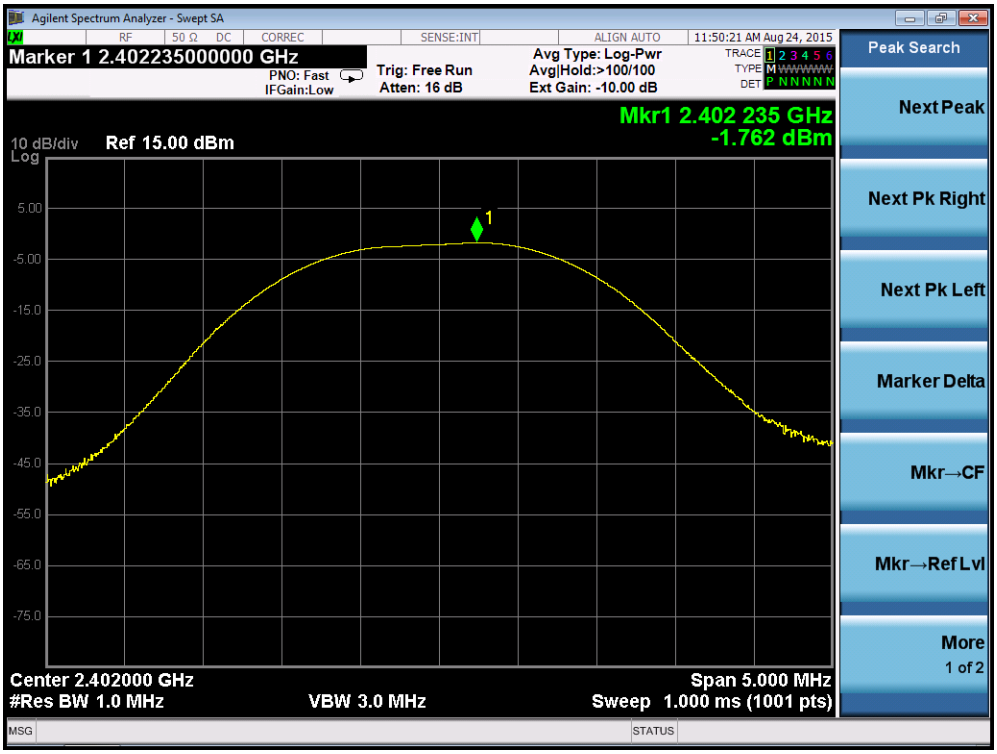
B.1.2 – RF Conducted – Fundamental Power and Spectral Density

Manufacturer	bluStream Corporation
Date	8/24/15
Operator	Aidi Zainal
Temp. / R.H.	20 - 25º C / 30-60% R.H.
Rule Part	15.247 / RSS-210 A8
Specific Measurement Procedure	FCC KDB 558074 Section 9.1 (Power) / 10.2 (PSD)
Additional Description of Measurement	Peak Output Power and Peak PSD methods utilized for measurement 100 kHz resolution bandwidth used for Peak Power Spectral Density measurement
Additional Notes	1. Continuous transmit modulated used for this test. Sample Calculation: Margin (dB) = Limit – Measured Level

Table

Frequency (MHz)	6 dB DTS BW (MHz)	99% OBW (MHz)	20 dB OBW (MHz)	100 kHz PSD (dBm)	PSD Limit (dBm / 3 kHz)	PSD Margin (dB)	Max Output Power (dBm)	Max Output Power Limit (dBm)	Max Output Power Margin (dB)
2402	0.695	1.025	1.100	-2.2	8.0	10.2	-1.8	30.0	31.8
2440	0.685	1.024	1.096	-0.7	8.0	8.7	-0.3	30.0	30.3
2480	0.695	1.023	1.107	0.6	8.0	7.4	1.1	30.0	28.9

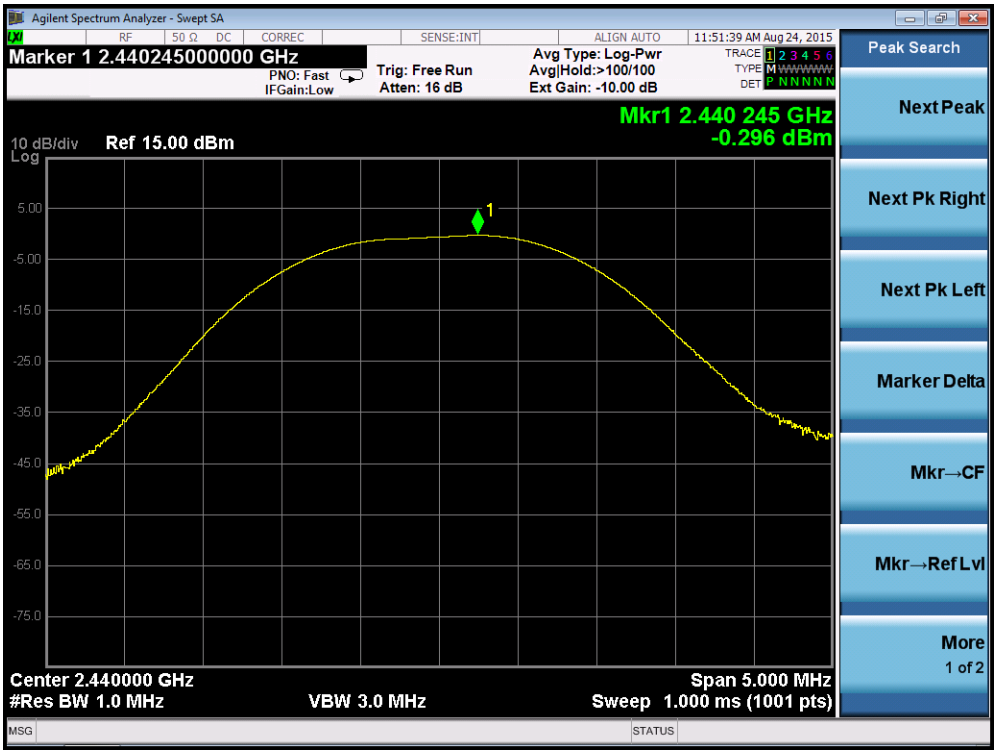
Plots



Low Channel – Peak Output Power

Low Channel – Peak Power Spectral Density

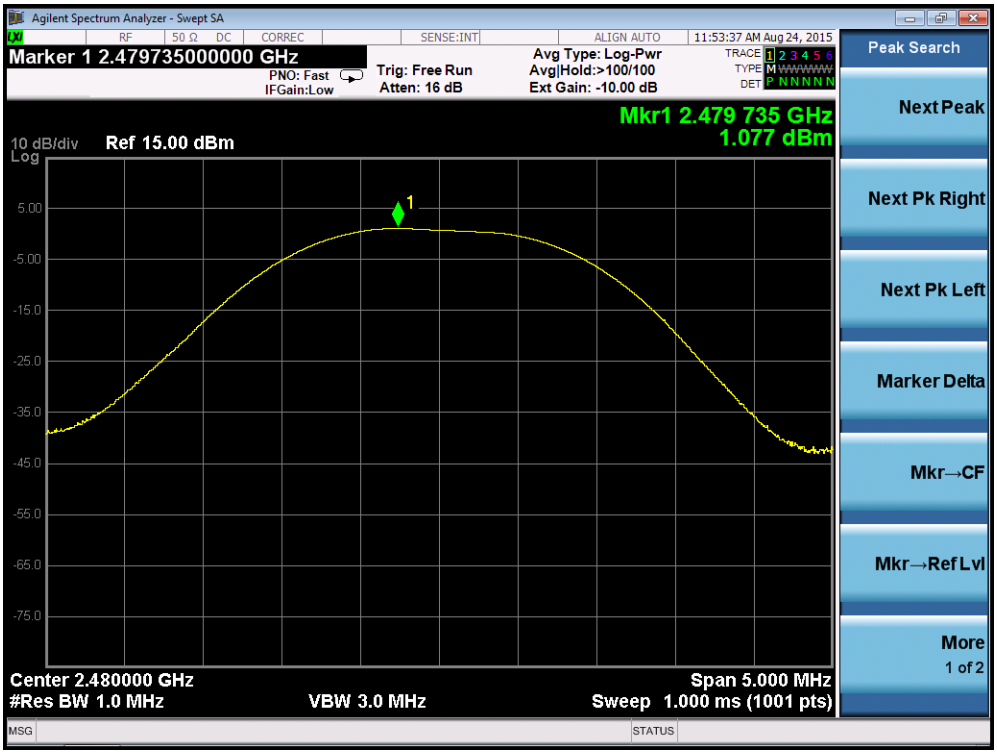
Plots



Mid Channel – Peak Output Power

Mid Channel – Peak Power Spectral Density

Plots



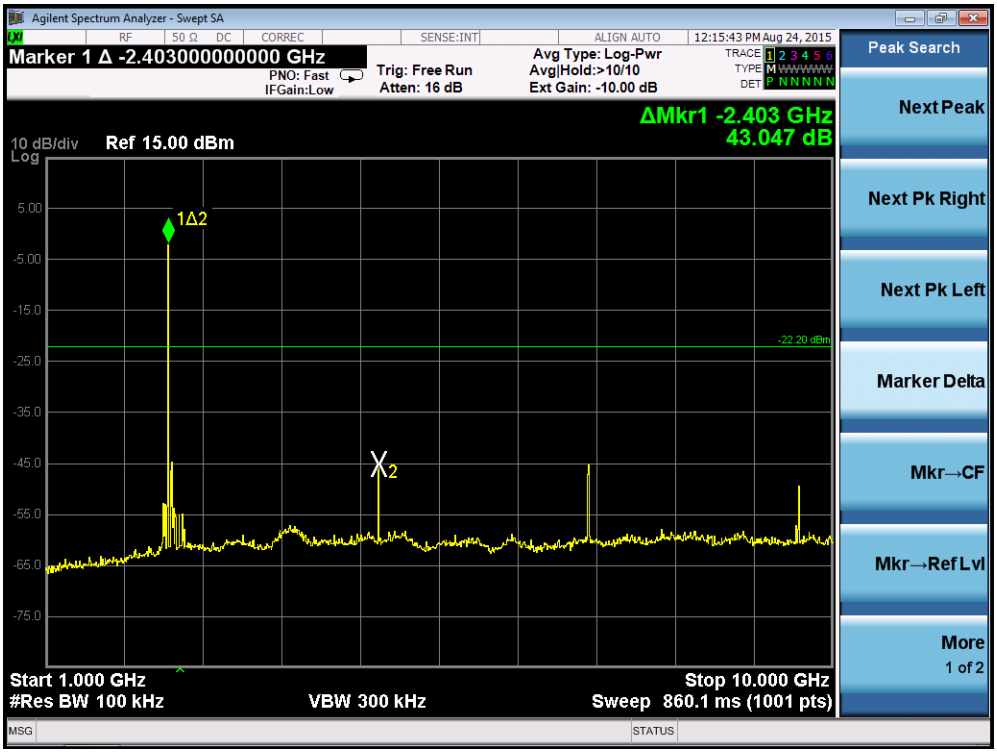
High Channel – Peak Output Power

High Channel – Peak Power Spectral Density

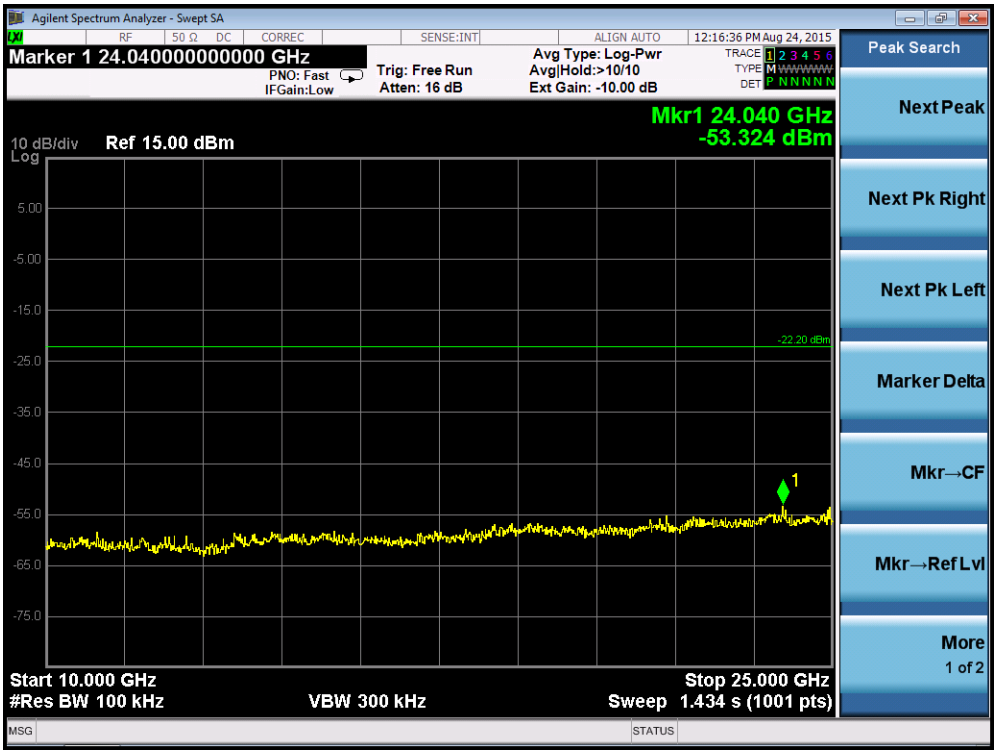
B.1.3 – RF Conducted – Spurious Emissions

Manufacturer	bluStream Corproation
Date	8/24/15
Operator	Aidi Zainal
Temp. / R.H.	20 - 25º C / 30-60% R.H.
Rule Part	15.247 / RSS-247 Section 5.5
Specific Measurement Procedure	FCC KDB 558074 Section 11.0 – Emissions in non-restricted frequency bands
Additional Description of Measurement	Peak output power measurements therefore spurious emissions attenuated 20 dBc.
Additional Notes	1. Continuous transmit modulated used for this test. 2. See DTS BW plots for 100 kHz reference 3. NF = measurement of system Noise Floor

Plots

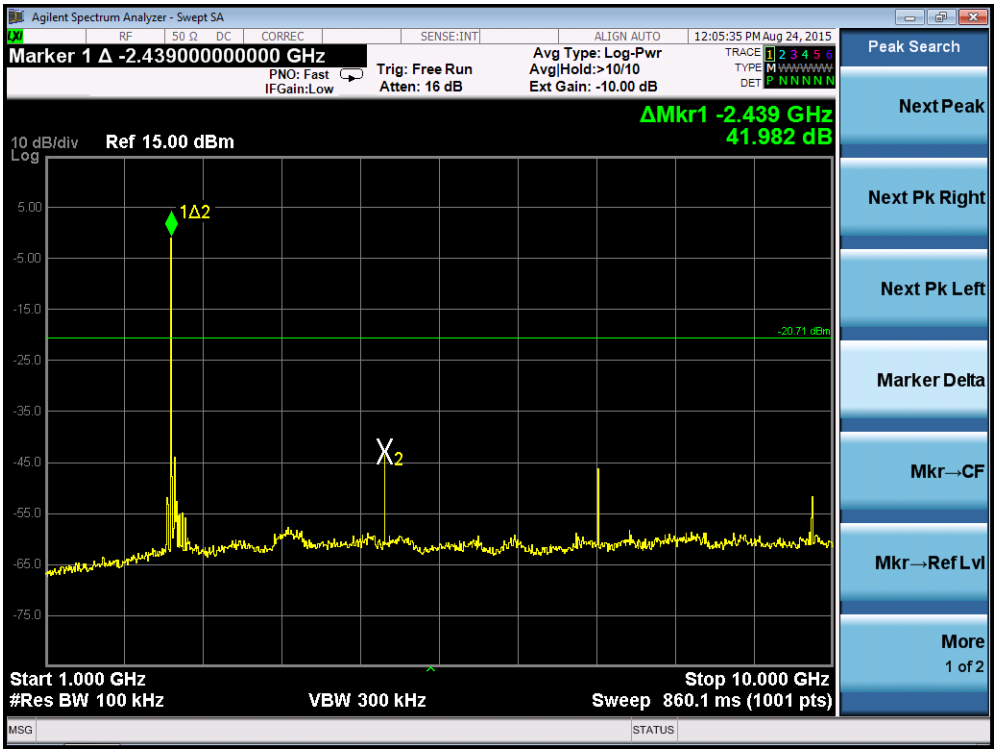


Low Channel: 1 GHz – 10 GHz



Low Channel: 10 GHz – 25 GHz

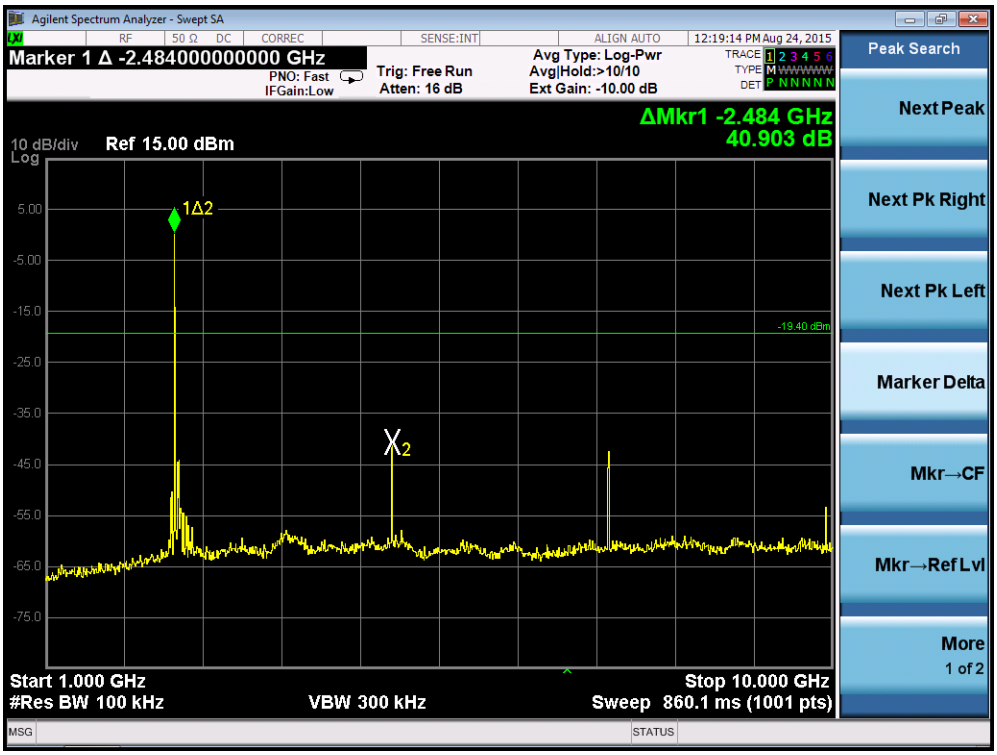
Plots



Mid Channel: 1 GHz – 10 GHz

Mid Channel: 10 GHz – 25 GHz

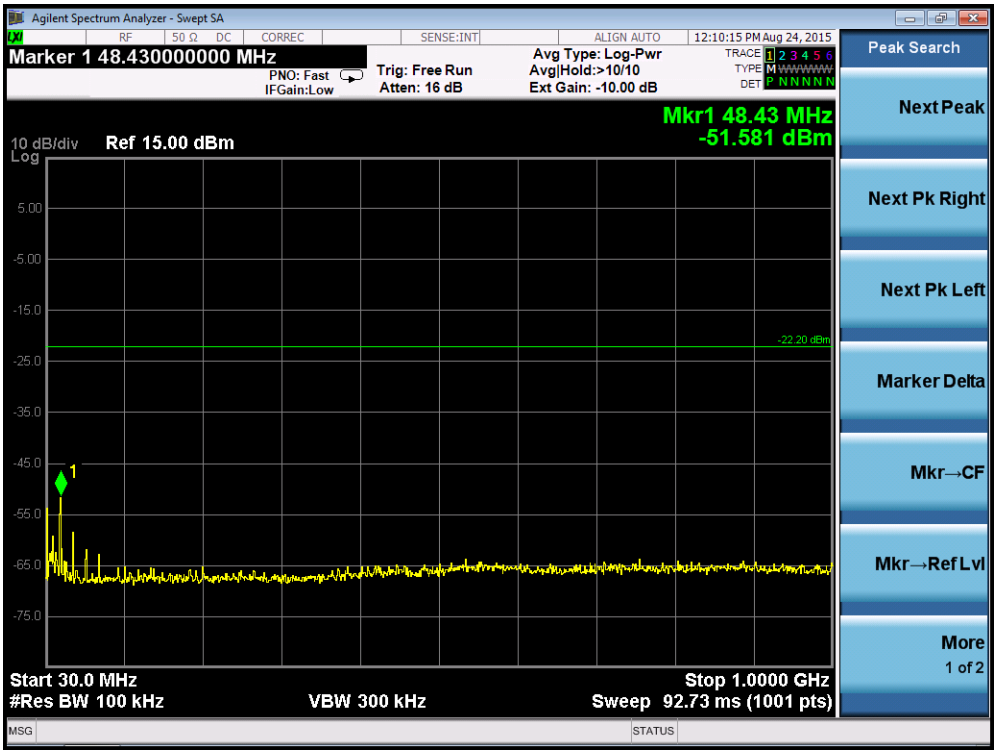
Plots



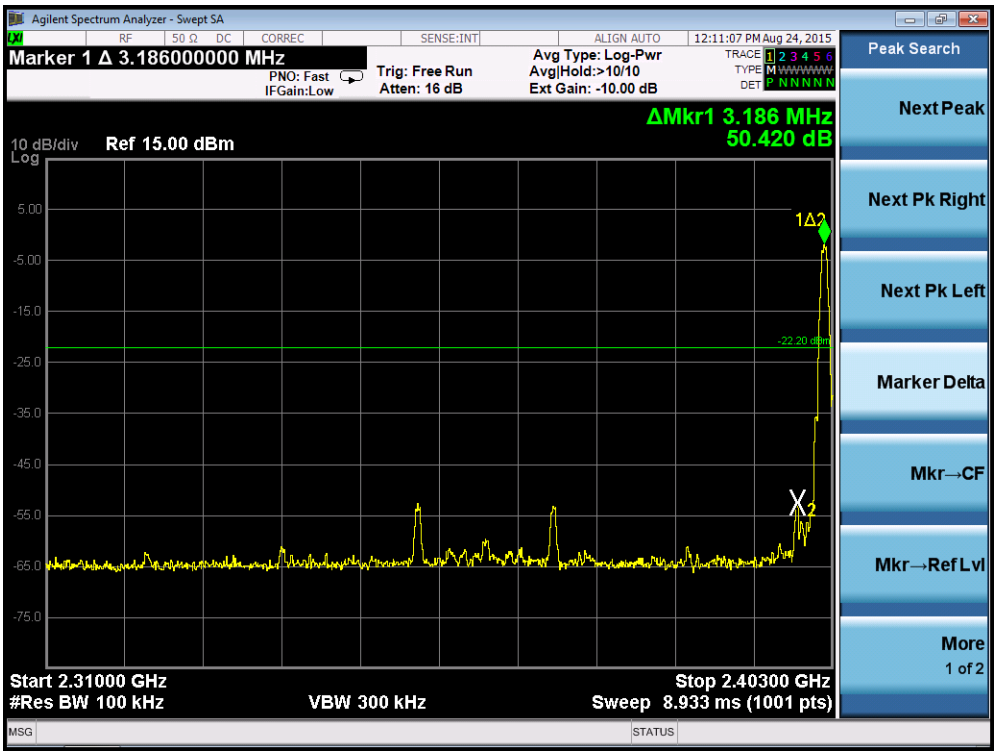
High Channel: 1 GHz – 10 GHz

High Channel – 10 GHz – 25 GHz

Plots

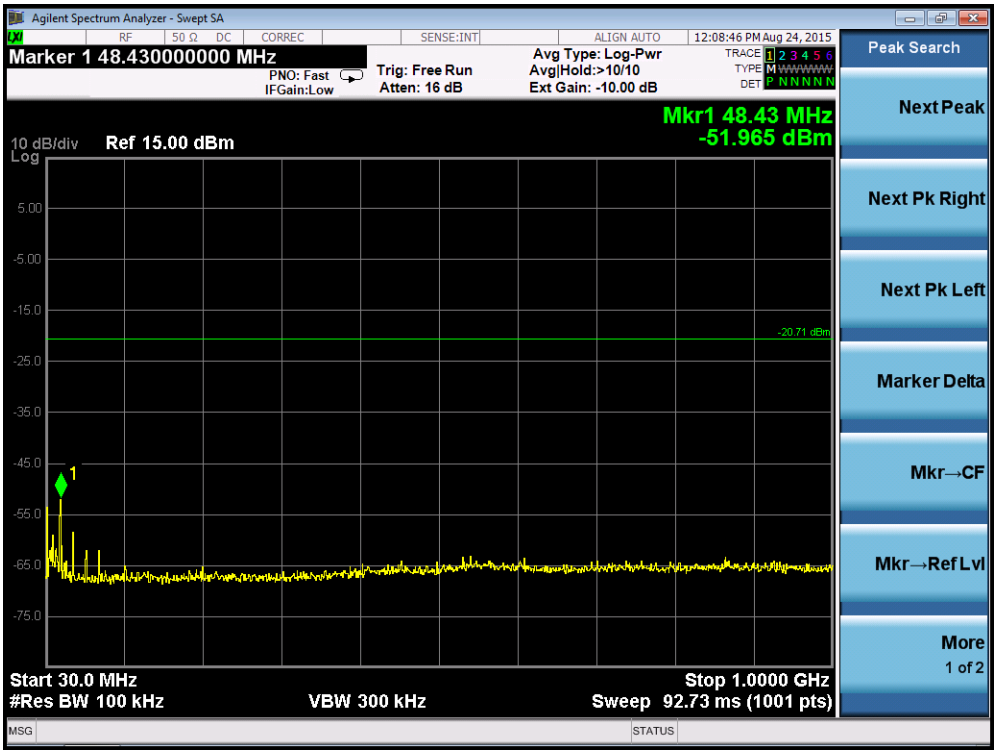


Low Channel: 30 MHz – 1000 MHz



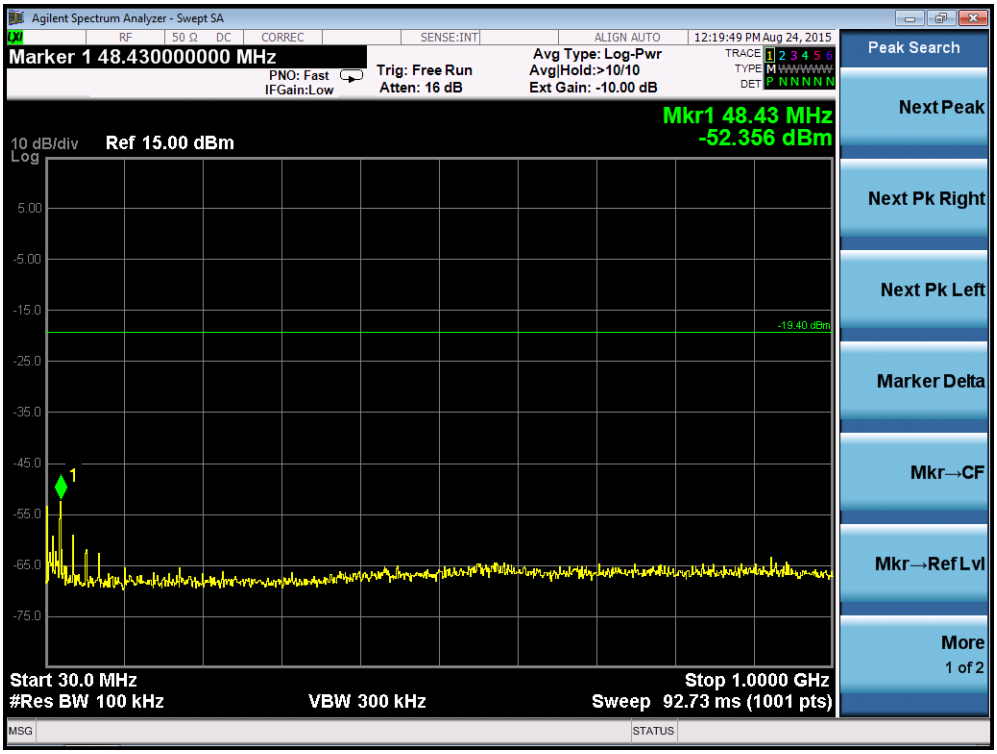
Low Channel – Bandedge

Plots

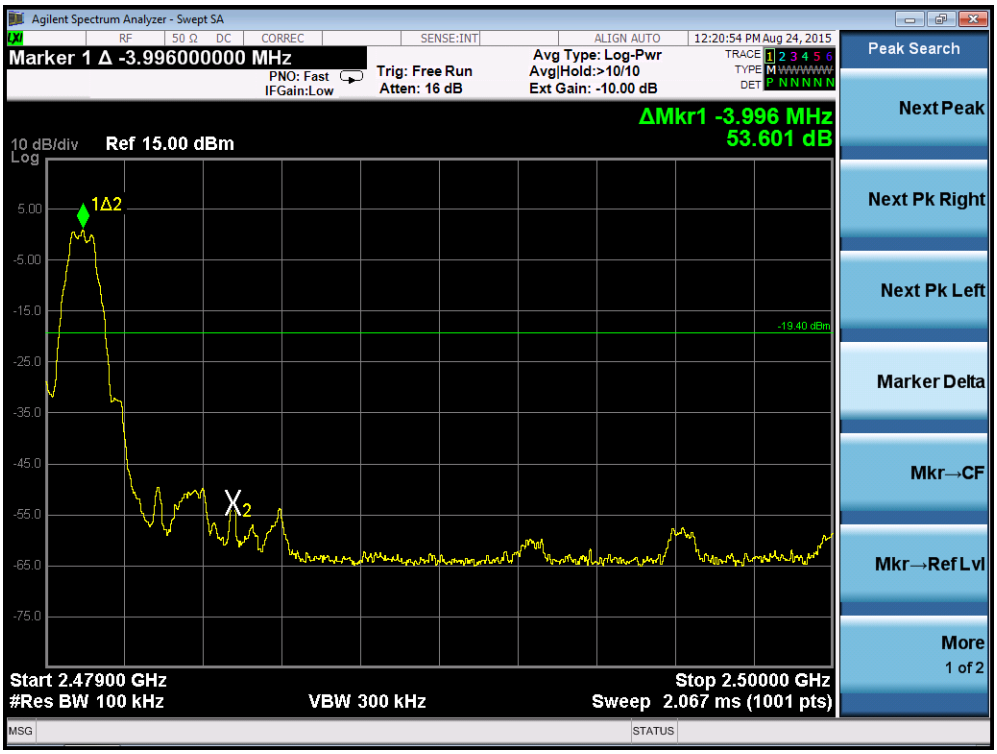


Mid Channel: 30 MHz - 1000 MHz

Plots



High Channel: 30 MHz – 1000 MHz



High Channel - Bandedge

B.1.4 – RF Conducted – Frequency Stability

Manufacturer	bluStream Corporation
Date	8/24/15
Operator	Aidi Zainal
Temp. / R.H.	20 - 25º C / 30-60% R.H.
Rule Part	15.247 / RSS-210 A8
Specific Measurement Procedure	FCC KDB 558074
Additional Description of Measurement	RF Conducted Measurement
Additional Notes	1. Continuous transmit modulated used for this test.

Table

Channel	9.0 VDC	7.65 VDC (-15%)	Max Drift (Hz)
	Frequency (Hz)	Frequency (Hz)	
Low	2401986303	2401986366	63
Mid	2439985748	2439985886	138
High	2479985375	2479985436	61

B.2 – Radiated Emissions

Rule Part(s)	FCC: 15.247 / 15.205 / 15.209 IC: RSS-247 Section 5.5			
Measurement Procedure	ANSI C63.4 - 2014 ANSI C63.10 – 2013 FCC KDB 558074 D01 DTS Meas Guidance v03r03			
Test Location	LS Research, LLC - FCC Listed 3 meter Semi-Anechoic Chamber			
Test Distance	See data section			
EUT Placement	80 cm height non-conductive table above reference ground plane			
Frequency Range of Measurement	Biconical: 30-300 MHz	Log Periodic Dipole Array: 300-1000 MHz	Double-Ridged Waveguide Horn: 1-18 GHz	Standard Gain Horn: 18-26GHz
Measurement Detectors	30-1000MHz RBW: 120 kHz VBW: At least 300 kHz		1 - 40 GHz: RBW : 1MHz VBW: At least 3 (MHz) Peak 10 Hz Average	
Description of Measurement	1) The antenna, cable, pre-amp, and other necessary measurement system correction factors are loaded onto the EMI receiver / spectrum analyzer when the measurements are preformed. The data is gathered and reported as the corrected values. 2) The EUT is placed on a non-conductive pedestal made of expanded polyethylene foam centered on a turn-table in the test location with the antenna at the test distance from the EUT 3) Maximum radiated RF emissions are determined by rotation of azimuth and scanning the sense antenna between 1 and 4 meters in height using both horizontal and vertical antenna polarities. Maximized levels are manually noted at degree values of azimuth and at sense antenna height.			
Example Calculations	Reported Measurement data = Raw receiver measurement + Antenna Correction Factor + Cable factor (dB) - amplification factor (when applicable) + Additional factor (when applicable)			

FCC Part 15.209 / IC RSS-210 Section 2.7 Limits:

Frequency (MHz)	3 m Limit (µV/m)	3 m Limit (dBµV/m)	Type
30-88	100	40.0	Quasi-Peak
88-216	150	43.5	Quasi-Peak
216-960	200	46.0	Quasi-Peak
Above 960	500	54.0	Average (>1 GHz)

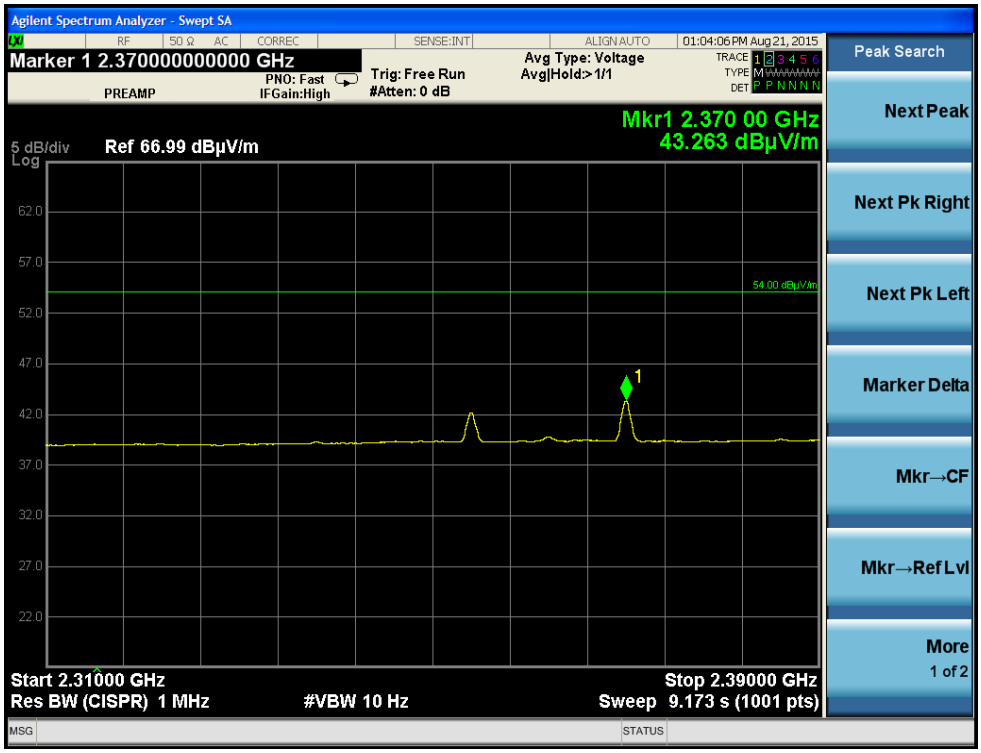
B.2.1 – Transmitter Band-Edge Restricted Band

Manufacturer	bluStream Corporation
Date	8/21/15
Operator	Michael Hintzke
Temp. / R.H.	20 - 25º C / 30-60% R.H.
Rule Part	15.247/ 15.205 / 15.209, RSS 247 Section 5.5
Measurement Procedure	ANSI C63.4 - 2014 ANSI C63.10 - 2013 FCC KDB 558074 v03r03
Test Distance	3 meter
EUT Placement	80 cm height non-conductive pedestal centered on turn-table (<1GHz) 150 cm height non-conductive pedestal centered on turn-table (>1GHz)
Detectors	Peak; RBW 1MHz VBW 3 MHz (10Hz VBW for average measurements)
Additional Notes	1) Tested in continuous transmit modulated mode with EUT rotated in three orientations. 2) EUT maximized in azimuth and antenna height with maximum results reported.

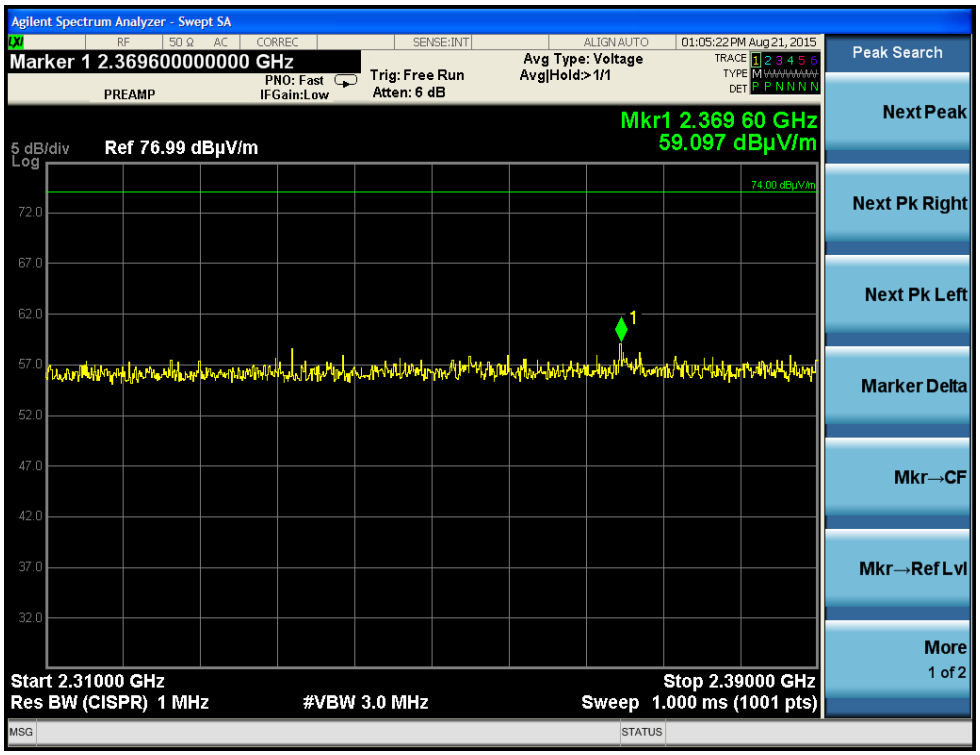
Example Calculation:

FCC 15.209 Average Limit @ 3 meter (dBµV/m) – Average Reading (dBµV/m) = Margin
FCC 15.209 Peak Limit @ 3 meter (dBµV/m) – Peak Reading (dBµV/m) = Margin

Plots

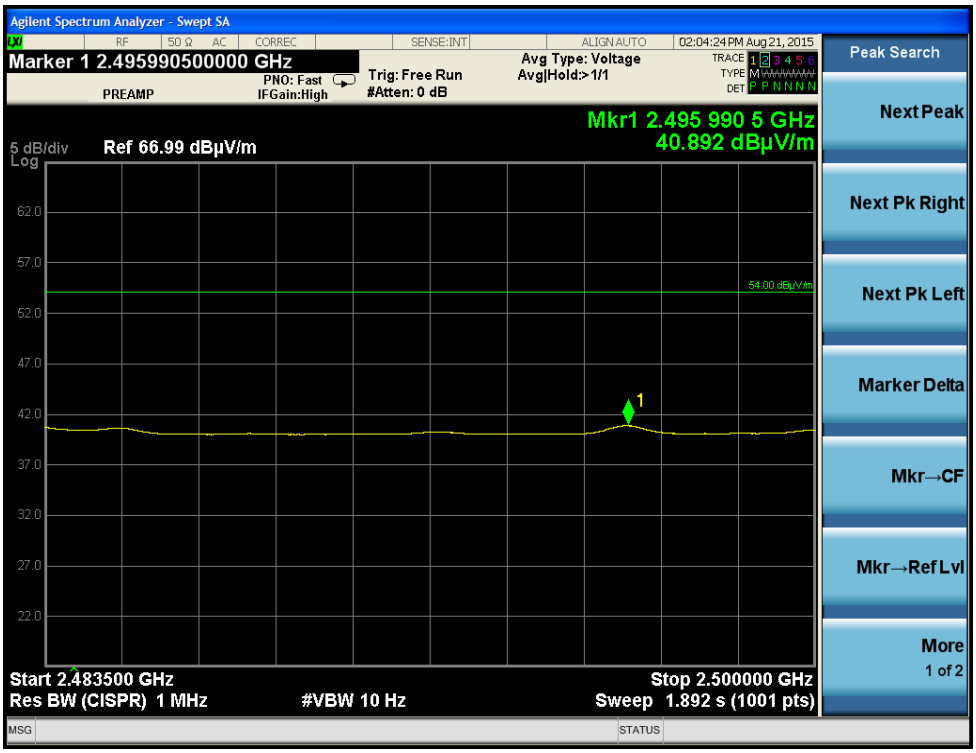


Low Channel – Bandedge Average

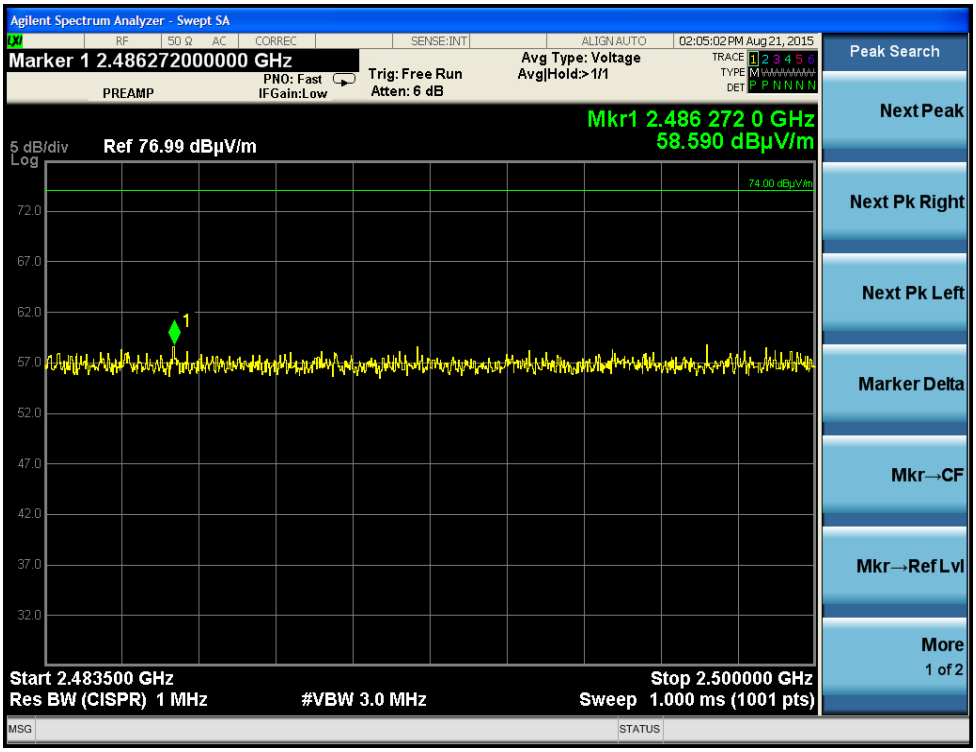


Low Channel – Bandedge Peak

Plots



High Channel – Bandedge Average



High Channel – Bandedge Peak

B.2.2 – Transmitter Radiated Spurious Emissions in Restricted Bands

Manufacturer	bluStream Corporation
Date	8/6/15, 8/21/15, 8/24/15, 9/1/15
Operator	Michael Hintzke
Temp. / R.H.	20 - 25º C / 30-60% R.H.
Rule Part	15.247/ 15.205 / 15.209
Measurement Procedure	ANSI C63.4 - 2014 ANSI C63.10 - 2013 FCC KDB 558074 v03r03 Section 12.2.7 Radiated spurious emission test
Test Distance	3 meter 4-18 GHz, 1 meter 18-25 GHz
EUT Placement	80 cm height non-conductive pedestal centered on turn-table (<1GHz) 150 cm height non-conductive pedestal centered on turn-table (>1GHz)
Detectors	Peak; RBW 1 MHz Average VBW (10Hz)
Additional Notes	1) Tested in continuous transmit modulated mode on three channels in three orientations.

Example Calculation:

FCC 15.209 Quasi-Peak Limit @ 3 meter (dBµV/m) – Peak Reading (dBµV/m) = Margin
FCC 15.209 Average Limit @ 3 meter (dBµV/m) – Average Reading (dBµV/m) = Margin
FCC 15.209 Peak Limit @ 3 meter (dBµV/m) – Peak Reading (dBµV/m) = Margin

Tables

30-1000 MHz

Frequency (MHz)	Quasi Peak Reading (dBµV/m)	Quasi Peak Limit (dBµV/m)	Quasi Peak Margin (dB)
199.2	18.1	43.5	25.5
198.7	18.0	43.5	25.5
927.6	27.1	46	18.9
997.5	27.7	54	26.4

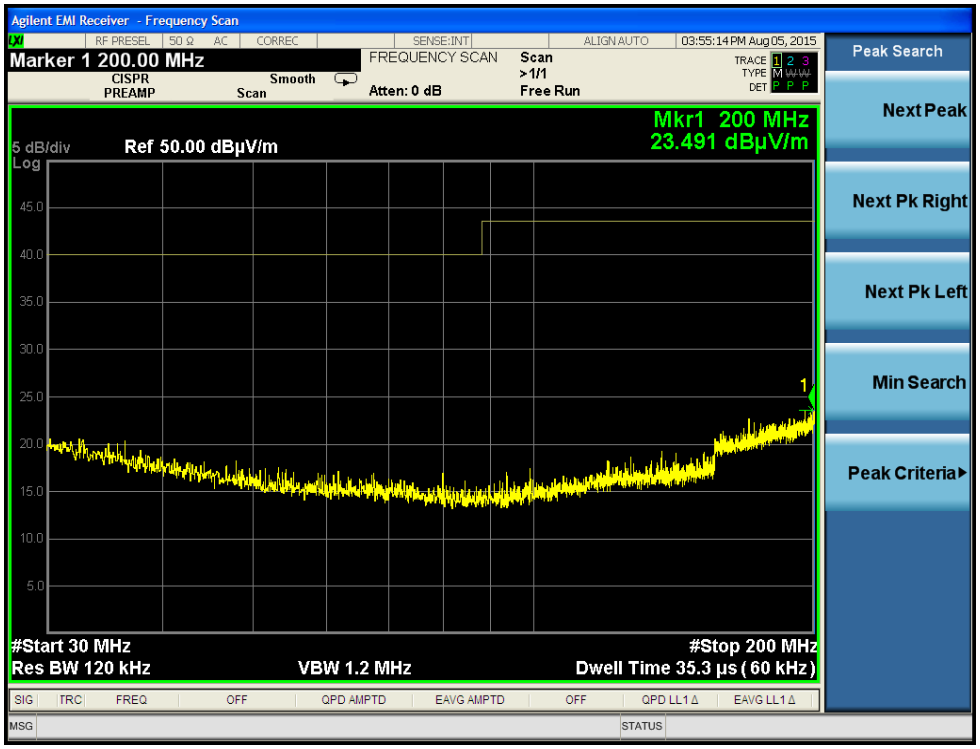
1-25 GHz - Average

Frequency (MHz)	Average Reading (dBµV/m)	Average Limit (dBµV/m)	Average Margin (dB)
2528	39.7	54	14.3
2528	45.8	54	8.2
2528	47.3	54	6.7
2528	42.0	54	12.0
2528	37.0	54	17.0
2528	48.3	54	5.7

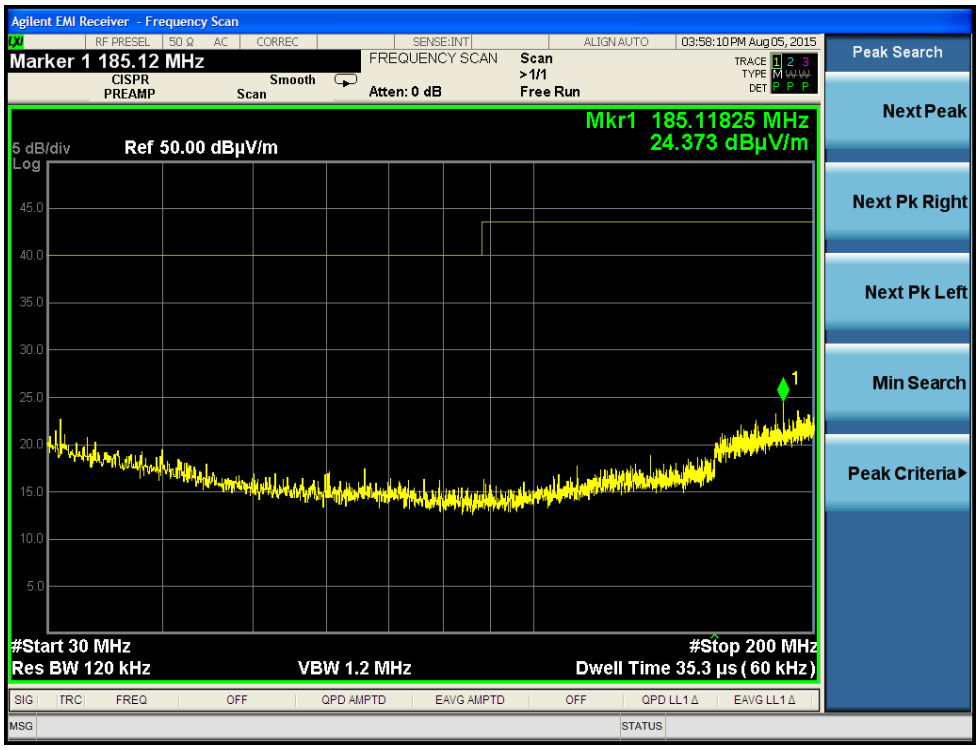
1-25GHz - Peak

Frequency (MHz)	Peak Reading (dBµV/m)	Peak Limit (dBµV/m)	Peak Margin (dB)
2528	48.5	74	25.5
2528	53.4	74	20.6
2528	55.1	74	18.9
2528	50.2	74	68.8
2528	46.2	74	27.8
2528	55.8	74	18.2

Plots

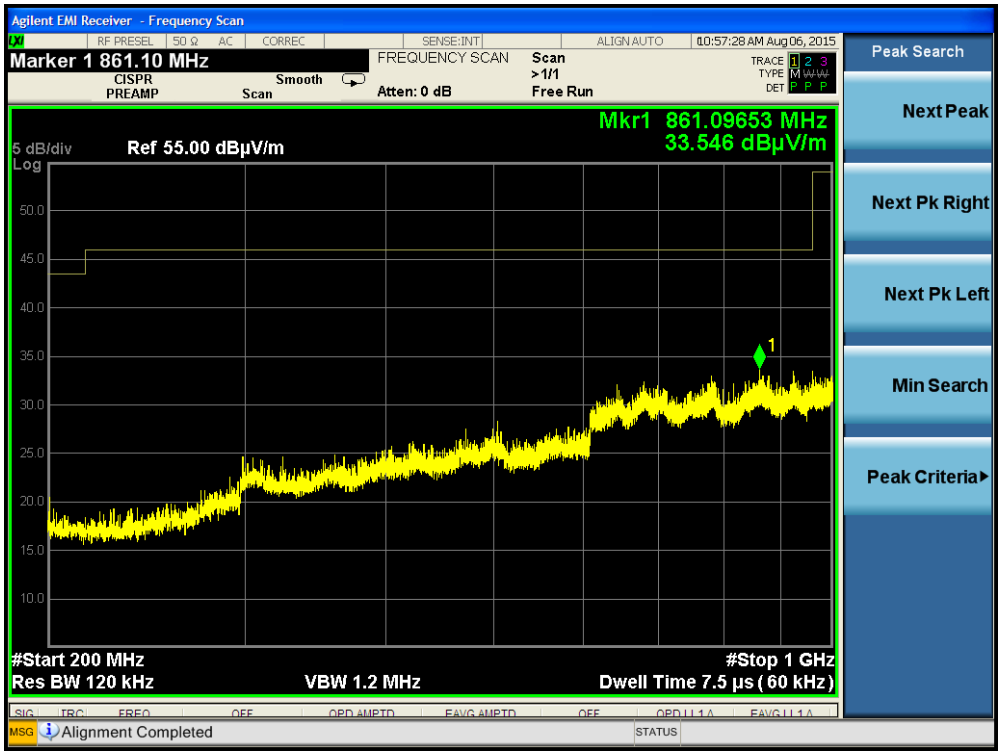


30 MHz – 200 MHz Horizontal Polarity

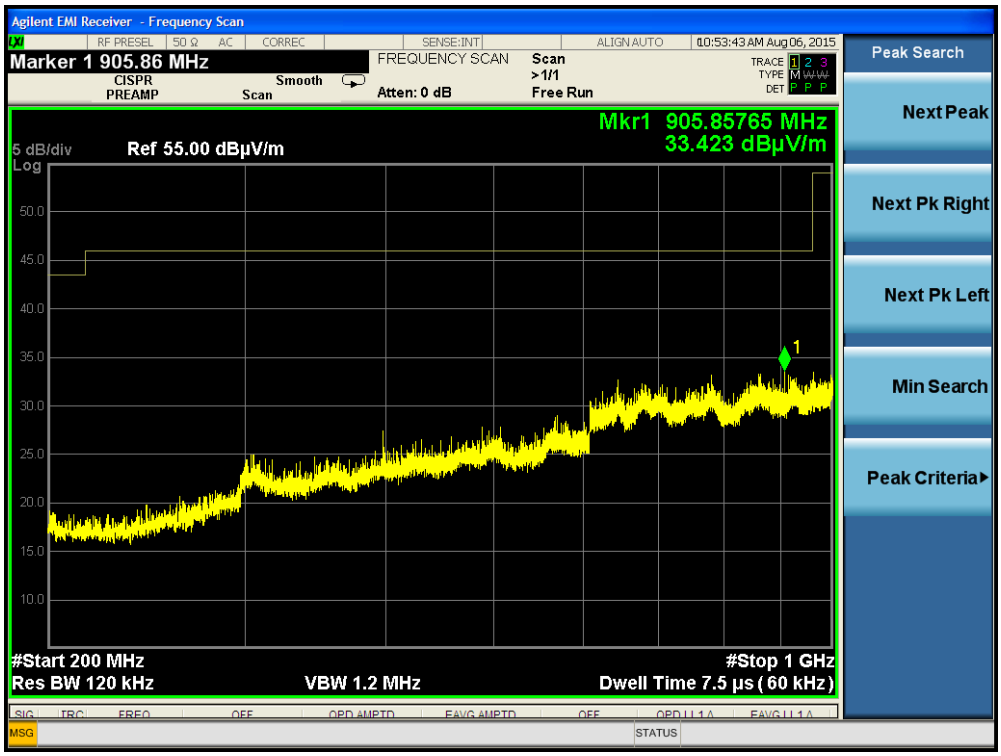


30 MHz – 200 MHz Vertical Polarity

Plots

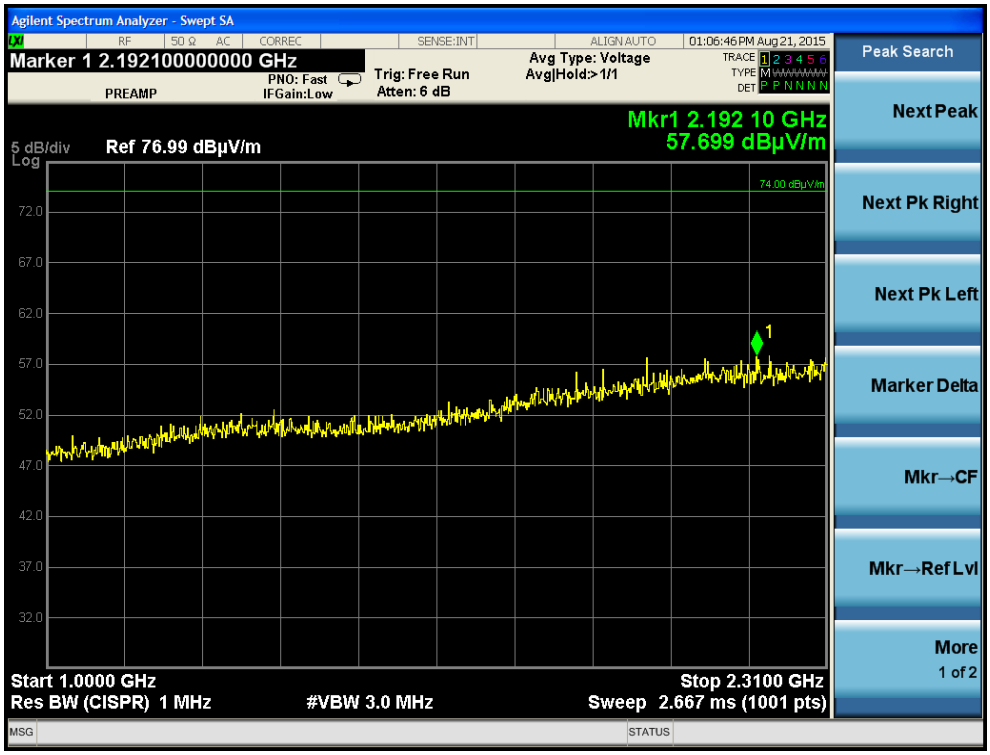


200 MHz – 1000 MHz Horizontal Polarity



200 MHz – 1000 MHz Vertical Polarity

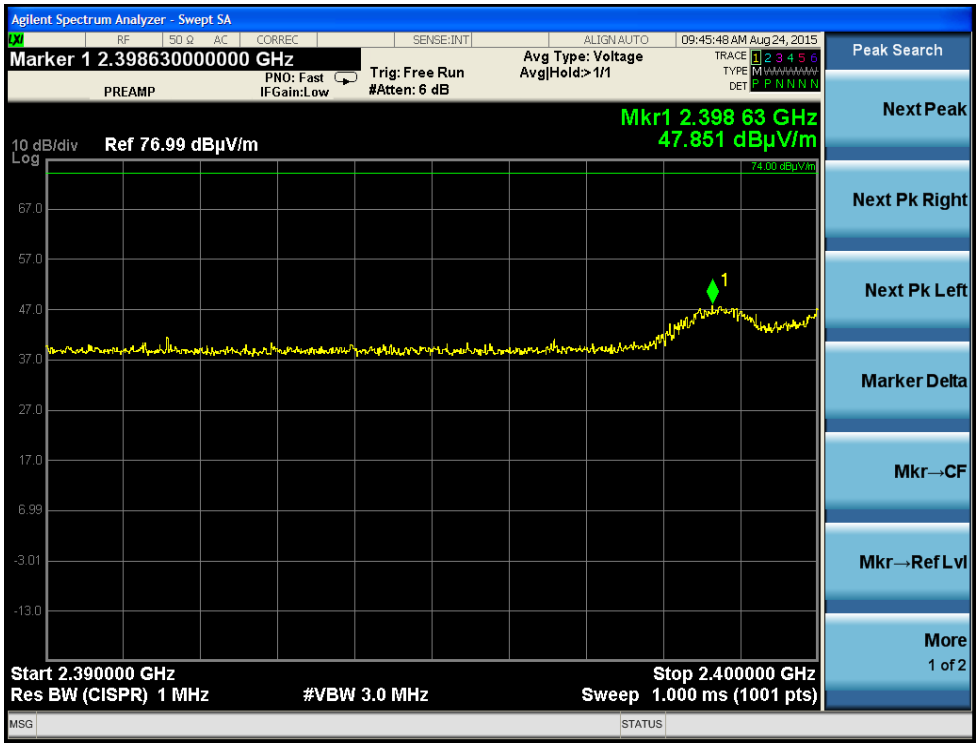
Plots



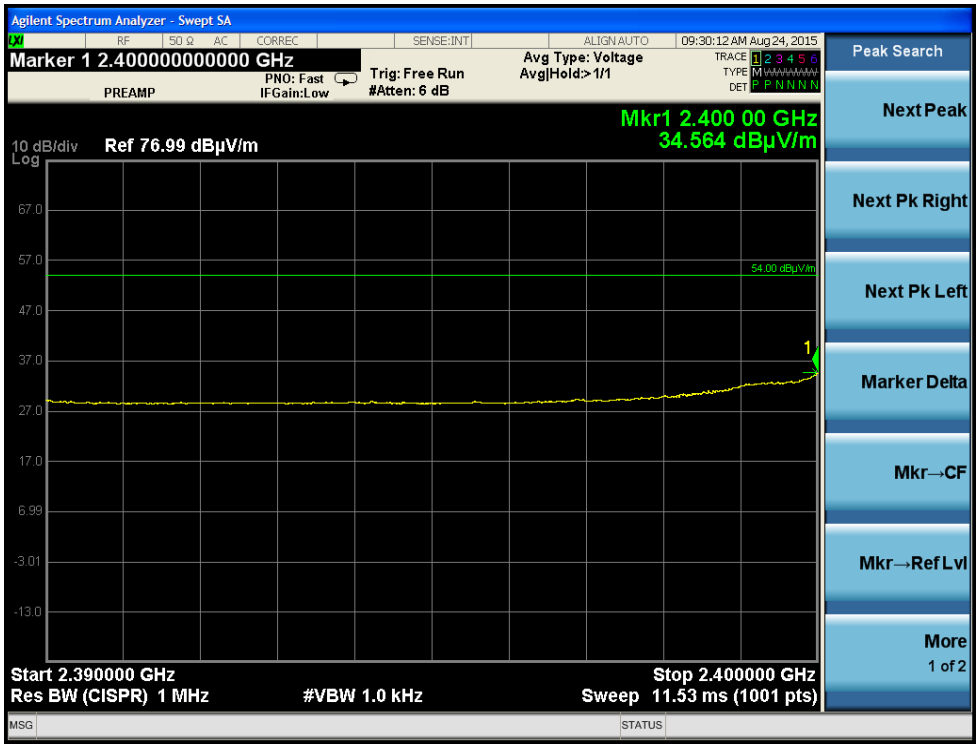
1000 MHz – 2310 MHz Peak

1000 MHz – 2310 MHz Average

Plots

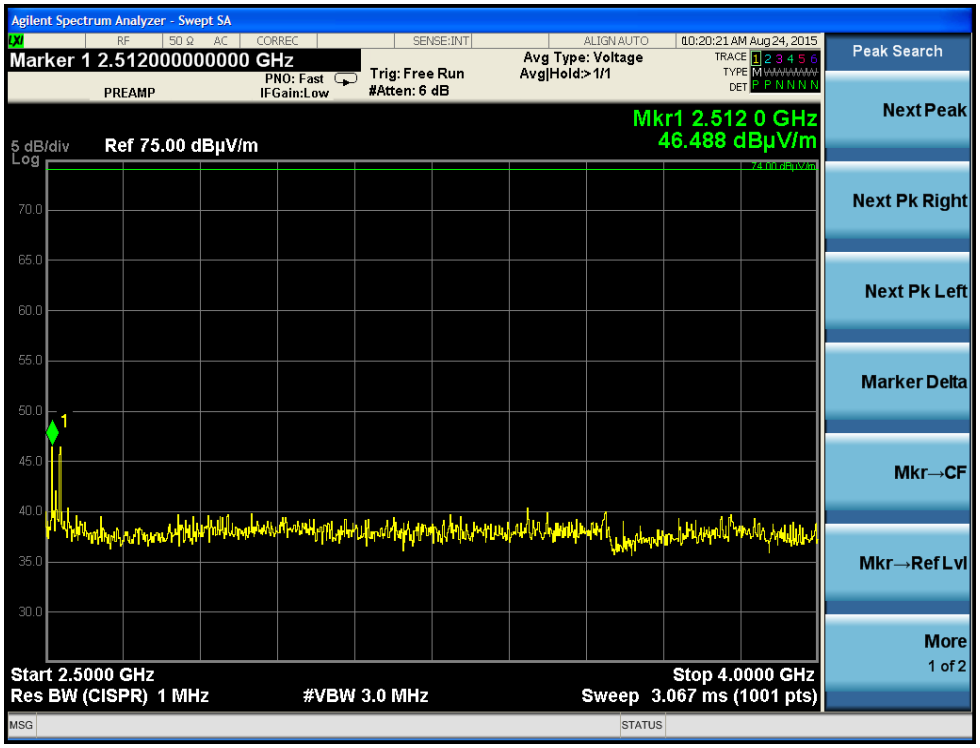


2390 MHz – 2400 MHz Peak

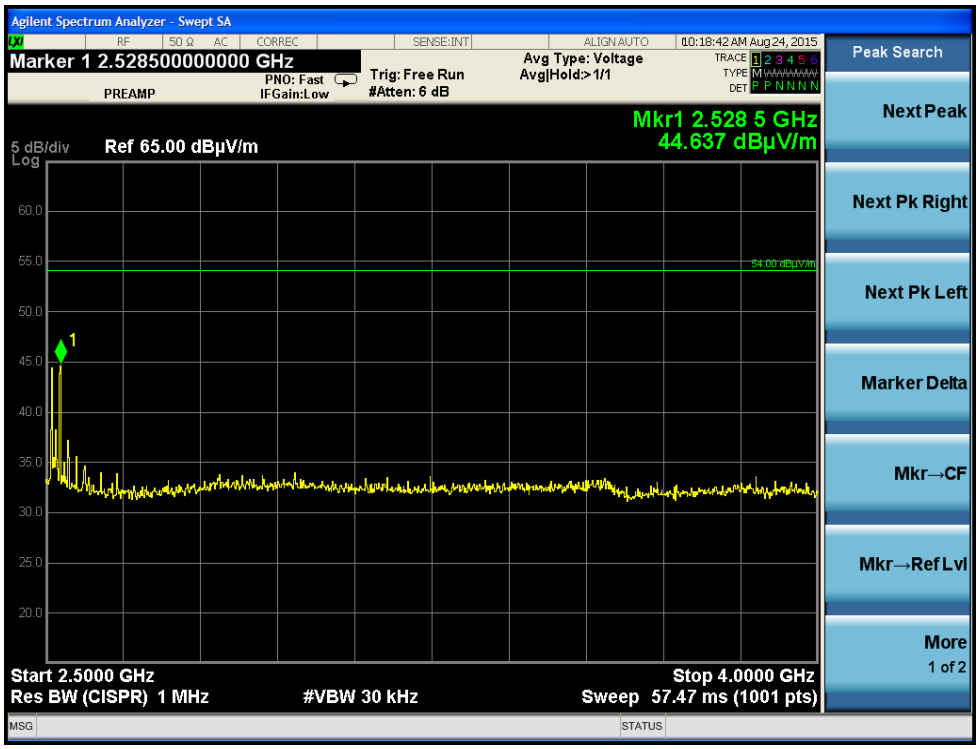


2390 MHz – 2400 MHz Reduced VBW

Plots

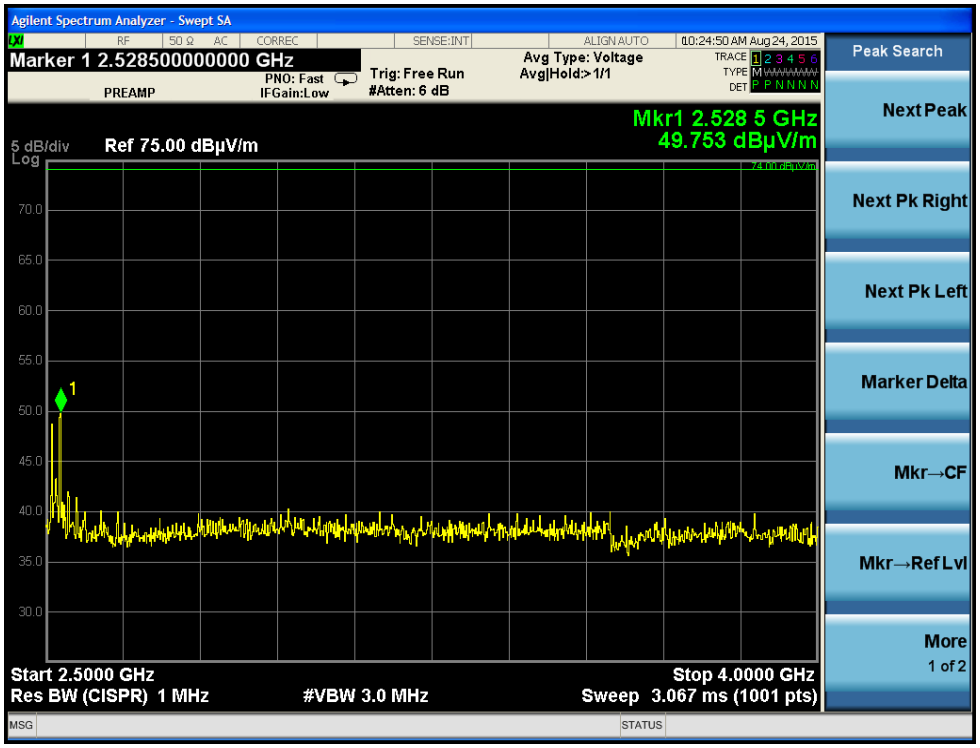


2500 MHz – 4000 MHz Peak

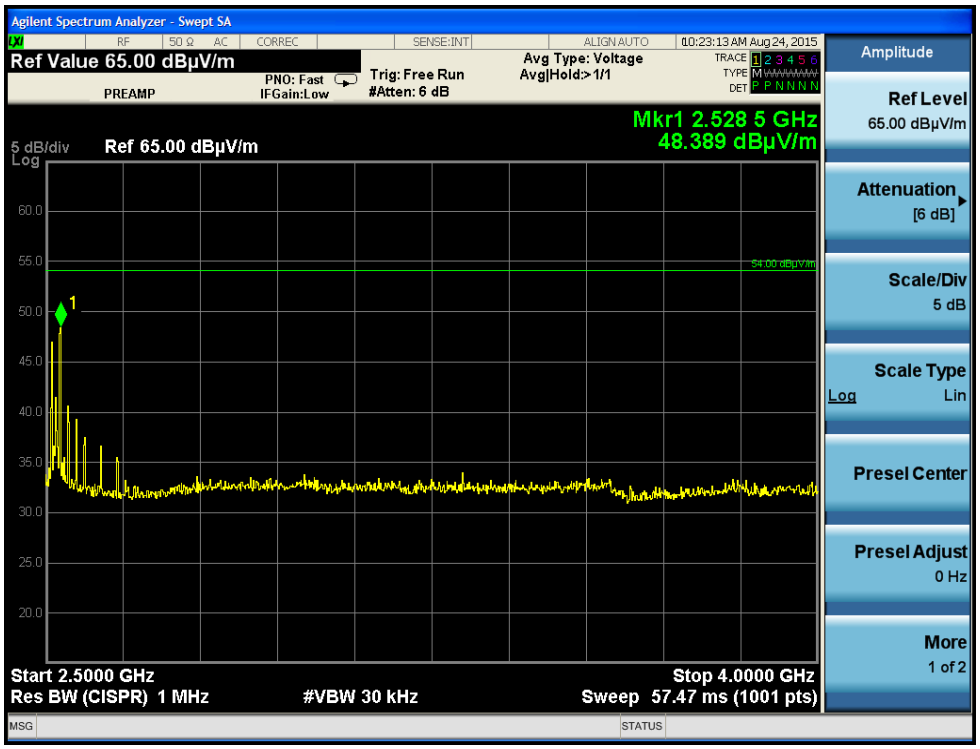


2500 MHz – 4000 MHz Reduced VBW

Plots



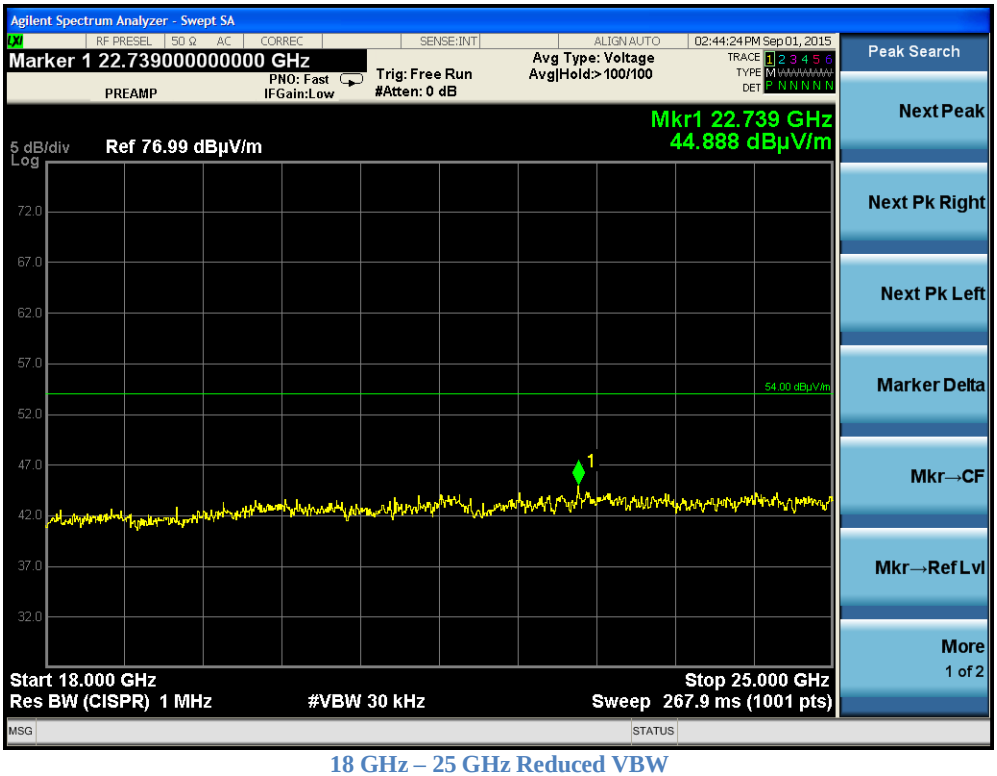
4 GHz – 18 GHz Peak



4 GHz – 18 GHz Reduced VBW

Plots

18 GHz – 25 GHz Peak



18 GHz – 25 GHz Reduced VBW

B.2.3 – Radiated Emissions Receive Mode

Manufacturer	bluStream Corporation
Date	8/5/15, 8/6/15, 8/21/15
Operator	Michael Hintzke
Temp. / R.H.	20 - 25º C / 30-60% R.H.
Rule Part	15.109 / RSS-GEN
Measurement Procedure	ANSI C63.4 - 2014 ANSI C63.10 - 2013
Test Distance	3 meter 4-18 GHz, 1 meter 18-25 GHz
EUT Placement	80 cm height non-conductive table centered on turn-table
Detectors	Peak; RBW 1 MHz
Additional Notes	1) Tested in continuous receive mode on three channels in three orientations. 2) No emissions found above system noise floor.

Example Calculation:

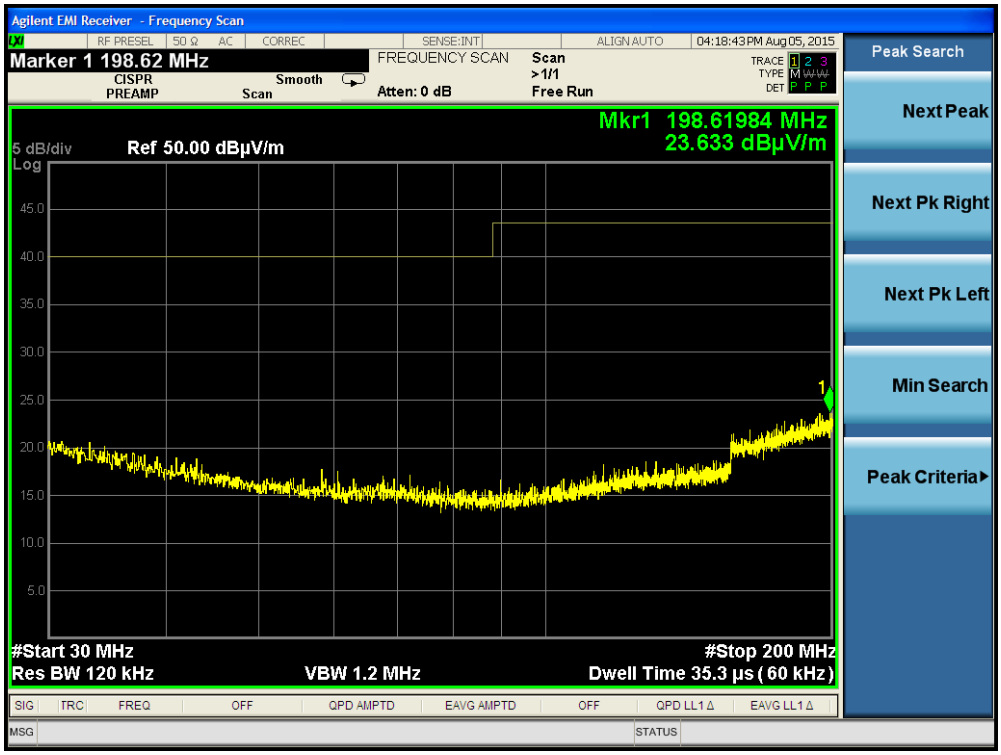
Limit (dBµV/m) – Reading (dBµV/m) = Margin

Table

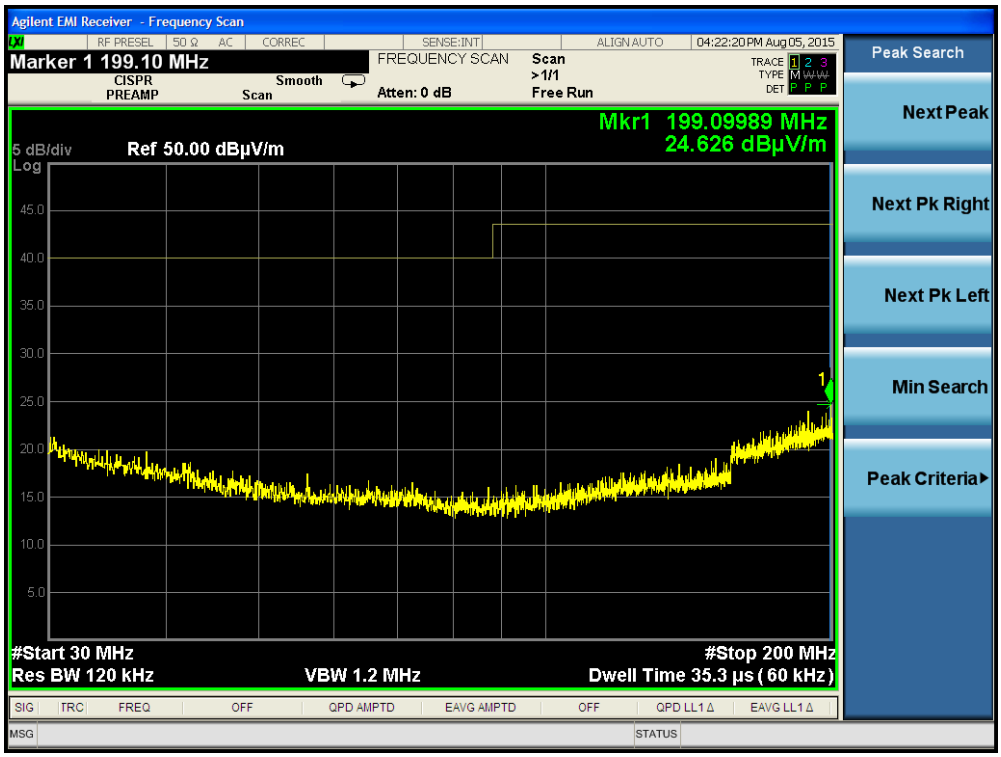
30-1000 MHz

Frequency (MHz)	Quasi Peak Reading (dBµV/m)	Quasi-Peak Limit (dBµV/m)	Quasi Peak Margin (dB)
198.6	18.0	43.5	25.5
199.8	18.0	43.5	25.5
920.6	27.2	46.0	18.8
999.6	27.9	54.0	26.1

Plots

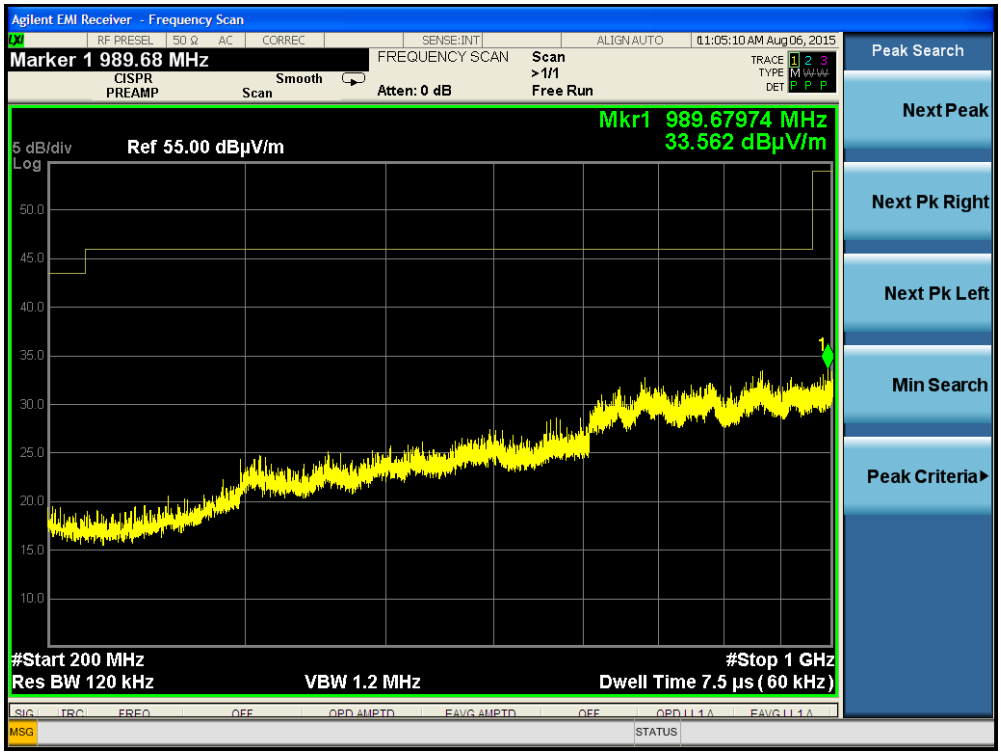


30 MHz – 200 MHz Horizontal Polarity

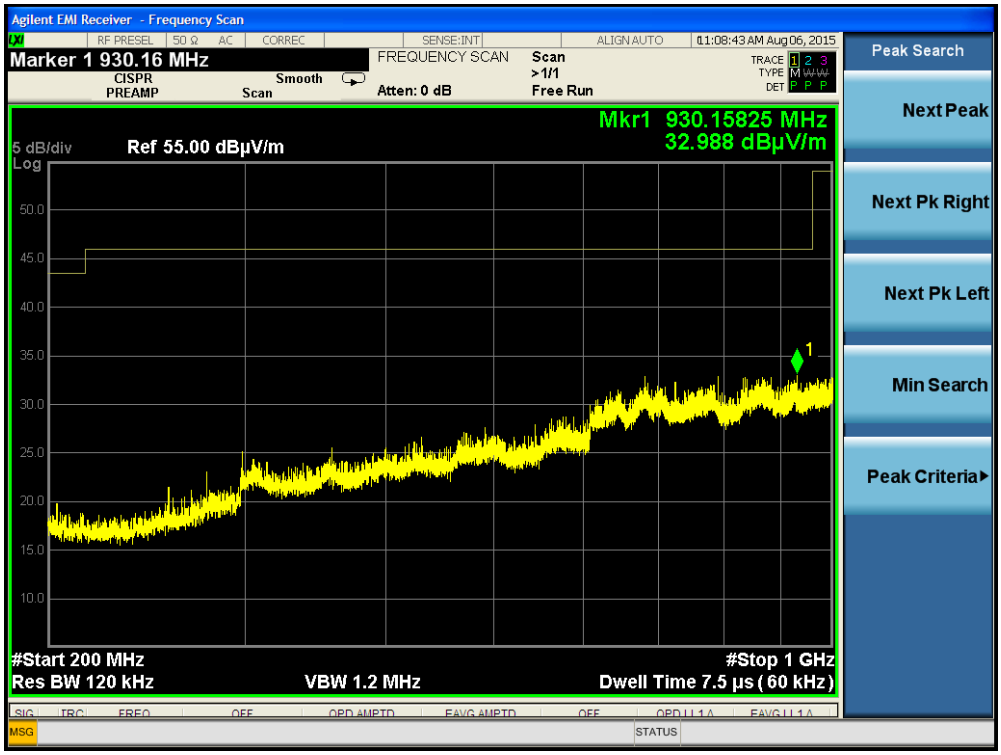


30 MHz – 200 MHz Vertical Polarity

Plots

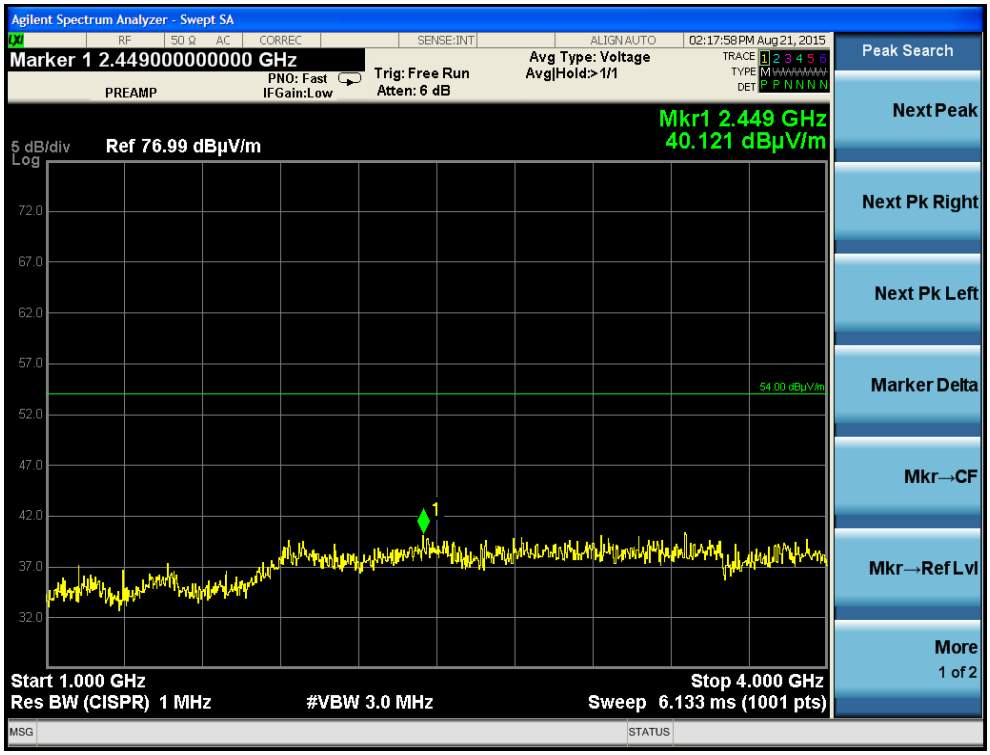


200 MHz – 1000 MHz Horizontal Polarity

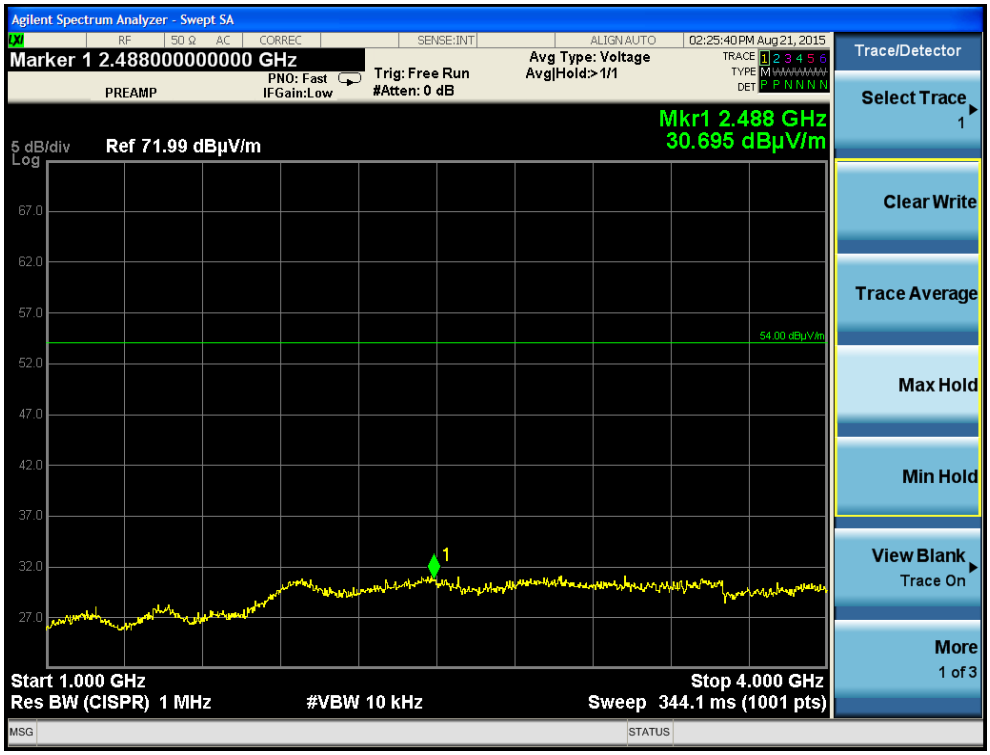


200 MHz – 1000 MHz Vertical Polarity

Plots



1000 MHz – 4000 MHz Peak



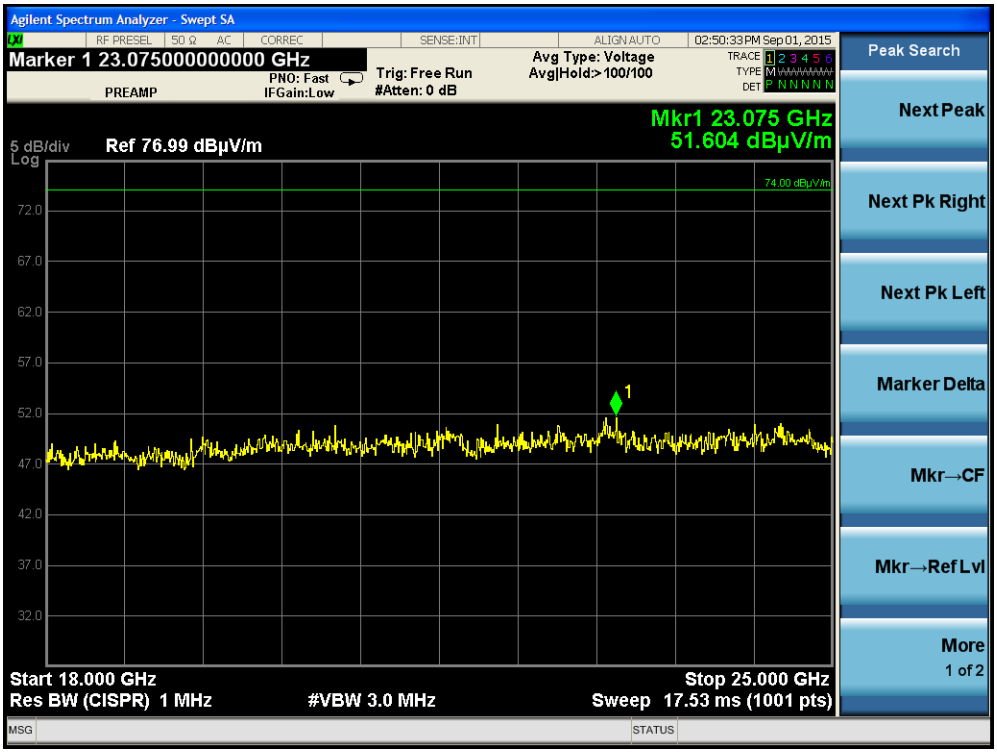
1000 MHz – 4000 MHz Reduced VB@

Plots

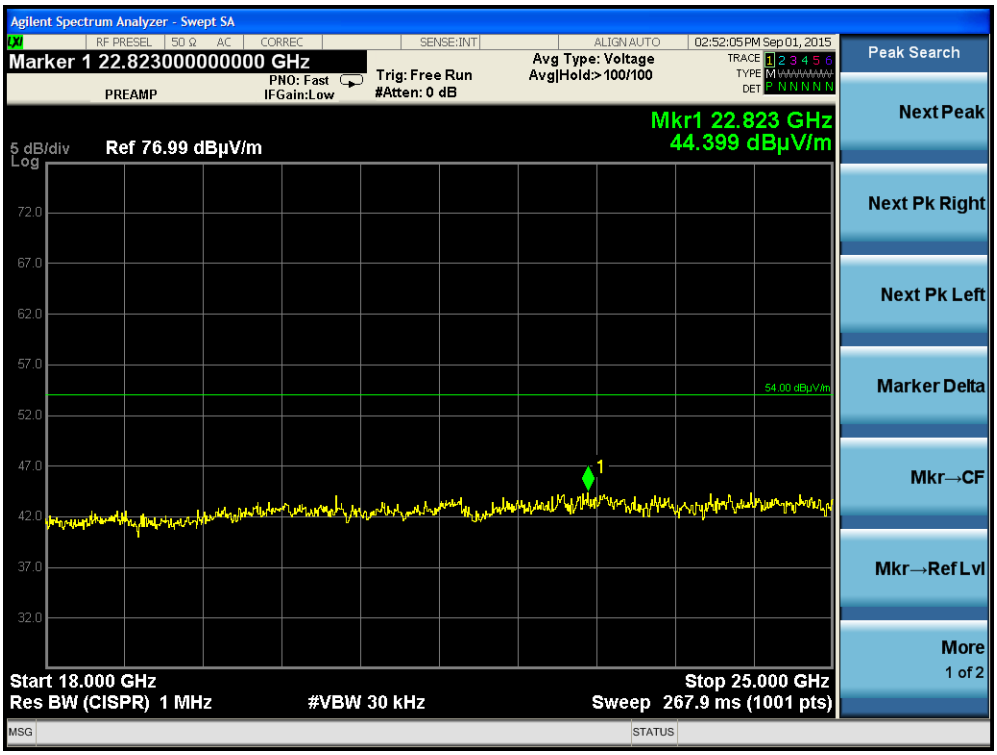
4 GHz – 18 GHz Peak

4 GHz – 18 GHz Reduced VBW

Plots

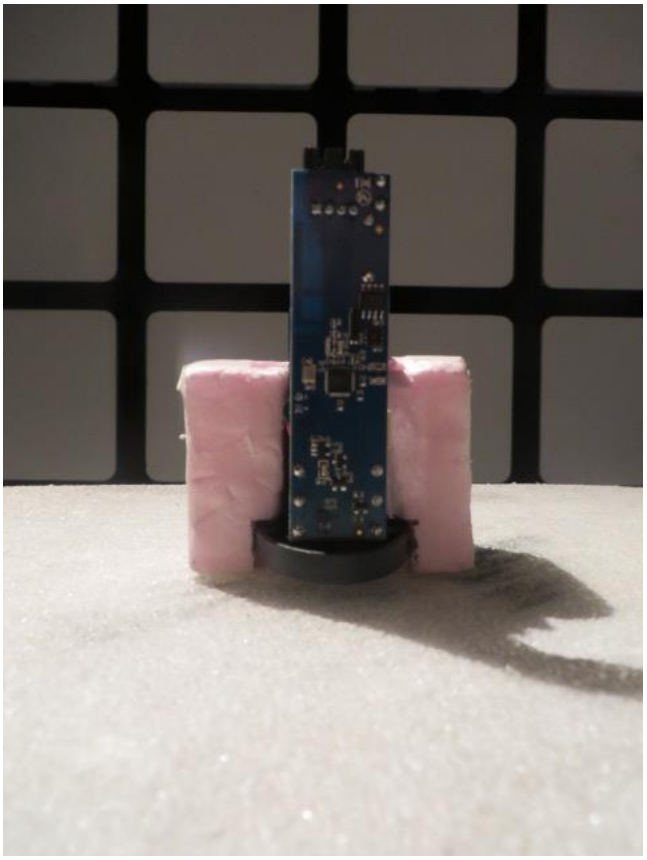


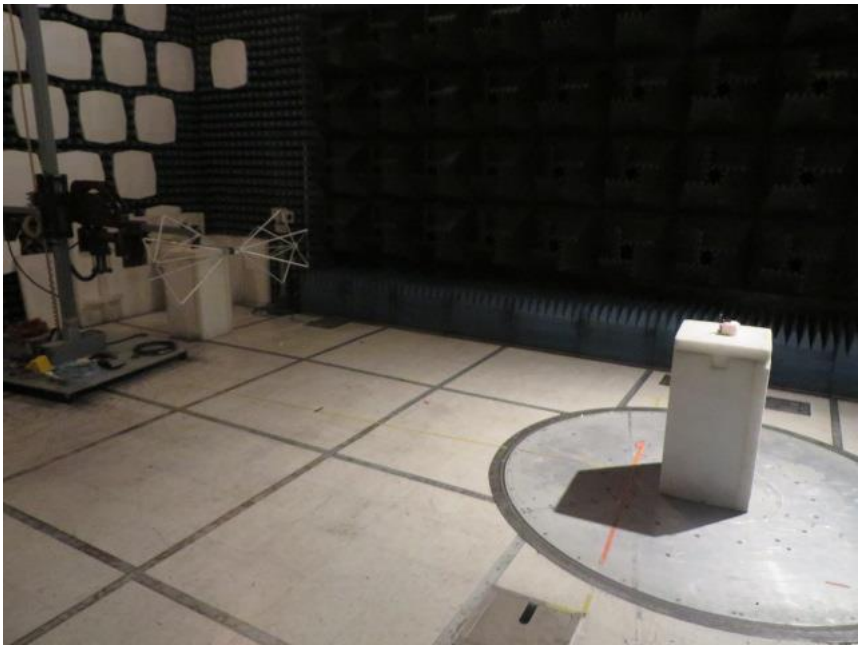
18 GHz – 25 GHz Peak

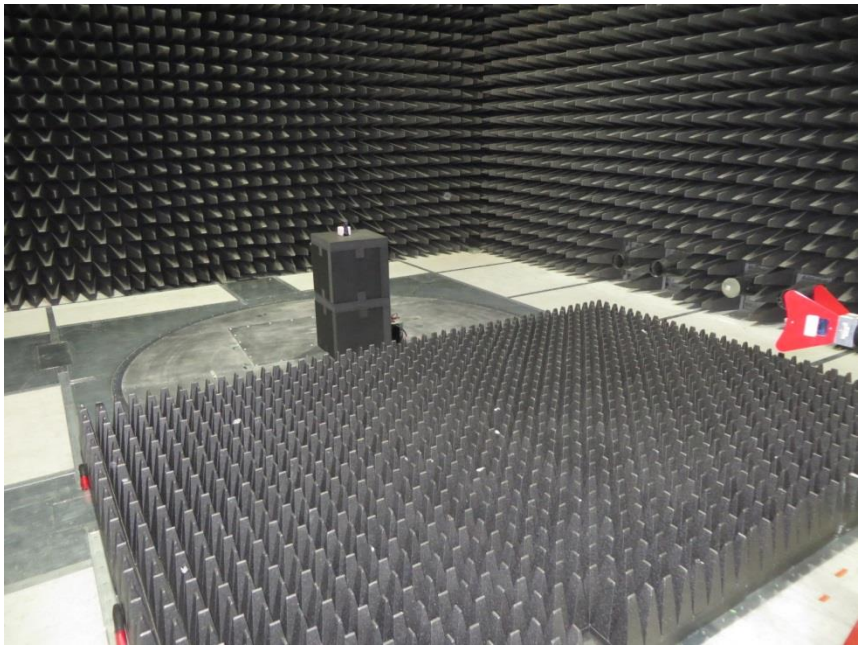


18 GHz – 25 GHz Reduced VBW

Photos







Appendix C - Uncertainty Summary

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level, using a coverage factor of k=2.

Table of Expanded Uncertainty Values, (K=2) for Specified Measurements

Measurement Type	Particular Configuration	Uncertainty Values
Radiated Emissions	3 – Meter chamber, Biconical Antenna	4.82 dB
Radiated Emissions	3-Meter Chamber, Log Periodic Antenna	4.88 dB
Radiated Emissions	3-Meter Chamber, Horn Antenna	4.85 dB
Absolute Conducted Emissions	Agilent PSA/ESA Series	1.38 dB
AC Line Conducted Emissions	Shielded Room/EMCO LISN	3.20 dB
Radiated Immunity	3 Volts/Meter in 3-Meter Chamber	2.05 Volts/Meter
Conducted Immunity	3 Volts level	2.33 V
EFT Burst, Surge, VDI	230 VAC	54.4 V
ESD Immunity	Discharge at 15kV	3200 V
Temperature/Humidity	Thermo-hygrometer	0.64° / 2.88 %RH

Appendix D - References

Publication	Year	Title
FCC CFR Parts 0-15	2015	Code of Federal Regulations – Telecommunications
ANSI C63.4	2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
RSS-210 Annex 8	2010	Low-power License-exempt Radio communication Devices (All Frequency Bands): Category I Equipment
RSS-GEN Issue 4	2014	General Requirements and Information for the Certification of Radio Apparatus
ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
FCC KDB 558074 D01 DTS Meas Guidance v03r03	2015	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247

END OF REPORT

Date	Version	Comments	Person
10/21/15	V0	Initial Draft Release	MH
10/23/15	V0	Review	PF
10/23/15	V1	Revisions	MH