FCC 47 CFR PART 15 SUBPART C
ISED CANADA RSS-247 ISSUE 2

CERTIFICATION TEST REPORT

FOR

WIRELESS HEADSET

MODEL NUMBER: AP2

FCC ID: A94AP2
IC: 3232A-AP2

REPORT NUMBER: R11777487-E2

ISSUE DATE: 2017-08-15

Prepared for
BOSE CORPORATION
100 THE MOUNTAIN
FRAMINGHAM, MA 01701 USA

Prepared by
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NVLAP TESTING

NVLAP LAB CODE 200246-0

Revision History

Ver.	Issue Date	Revisions	Revised By
1	2017-08-04	Initial Issue	Brian Kiewra
2	2017-08-15	Revised description in title page, sections 5.1 and 8.1, and plots on pp. 31-40	Brian Kiewra

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Bose Corporation
100 The Mountain
Framingham, MA 01701 USA

EUT DESCRIPTION: Wireless Headset

MODEL: AP2

SERIAL NUMBER: Non-Serialized

DATE TESTED: 2017-06-28 to 2017-07-13

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Pass
ISED CANADA RSS-247 Issue 2	Pass
ISED CANADA RSS-GEN Issue 4	Pass

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL LLC based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Approved & Released
For UL LLC By:

Jeffrey Moser
Operations Leader
UL – Consumer Technology Division

Prepared By:

Brian Kiewra
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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, RSS-GEN Issue 4, RSS-247 Issue 2.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 12 Laboratory Dr., Research Triangle Park, NC 27709, USA and 2800 Perimeter Park Dr., Suite B, Morrisville, NC 27560, USA.

12 Laboratory Dr., RTP, NC 27709
☐ Chamber A
☐ Chamber C

2800 Suite B Perimeter Park Dr., Morrisville, NC 27560
☒ Chamber NORTH
☒ Chamber SOUTH

The onsite chambers are covered under ISED Canada company address code 2180C with site numbers 2180C -1 through 2180C-4, respectively.

UL LLC (RTP) is accredited by NVLAP, Laboratory Code 200246-0. The full scope of accreditation can be viewed at http://www.nist.gov/nvlap/.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY	Required by standard
Occupied Channel Bandwidth	2.00%	±5 %
RF output power, conducted	1.3 dB	±1,5 dB
Power Spectral Density, conducted	2.47 dB	±3 dB
Unwanted Emissions, conducted	2.94 dB	±3 dB
All emissions, radiated	5.36 dB	±6 dB
Temperature	2.26 °C	±3 °C
Supply voltages	2.40%	±3 %
Time	3.39%	±5 %

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a wireless headset.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	DSSS	8.78	7.55

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an antenna with a maximum gain of +2.9 dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was ver 1.1.9.424.
The EUT driver software installed in the host support equipment during testing was 2.4.0.0
The test utility software used during testing was CSR BlueSuite, rev. 2.6.4.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions 1-18GHz were performed with the EUT set to transmit on low, mid, and high channels. Radiated emissions 9kHz – 1000MH and 18-26GHz were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	Lenovo	T450s	PC-0A2UQS 16/01	NA
Power Supply	Lenovo	ADLX65NLC2A	11S45N0259Z1Z9743D21T	NA

I/O CABLES

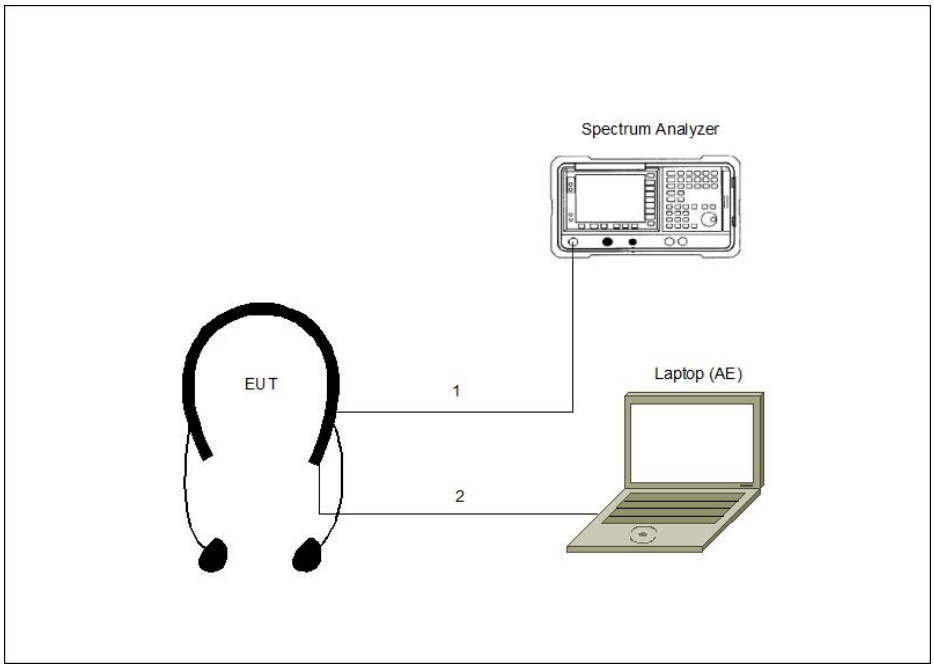
I/O Cable List						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	Antenna	1	SMA	RF	<3m	None
2	USB	1	µUSB	USB	<3m	Used to configure EUT

TEST SETUP

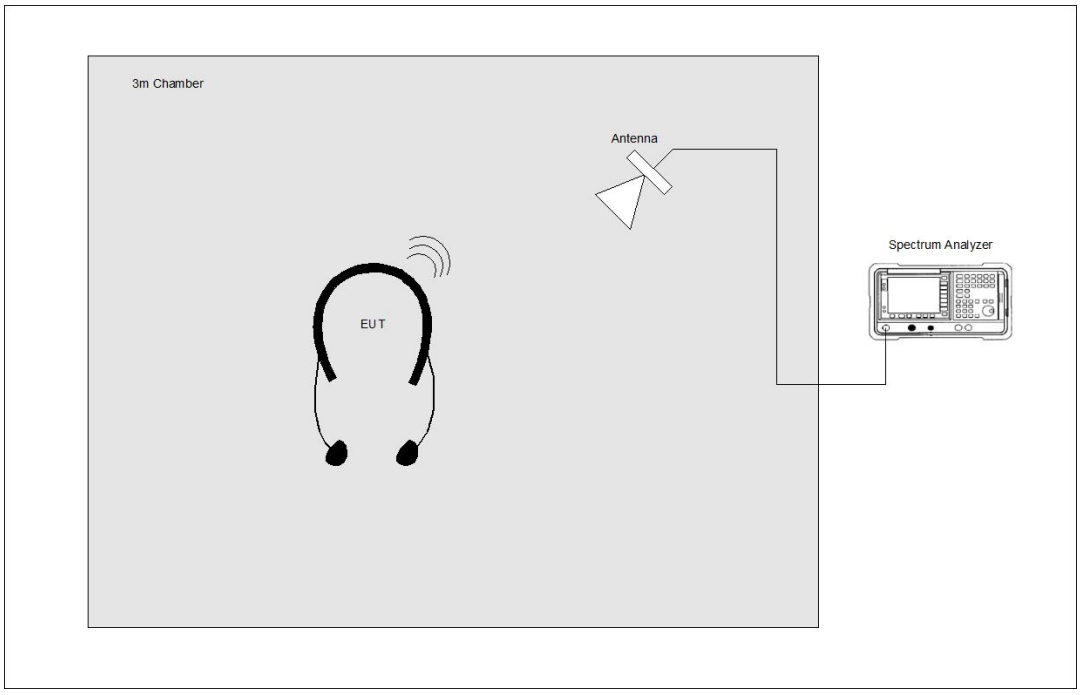
The EUT is setup as a standalone device

SETUP DIAGRAM FOR TESTS

Conducted Setup



Radiated Setup



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville - North Chamber)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	0.009-30MHz	**(Loop Ant.)**			
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2016-12-28	2017-12-31
	1-18 GHz				
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2017-04-05	2018-04-05
	Gain-Loss Chains				
N-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2016-10-04	2017-10-04
N-SAC03	Gain-loss string: 1-18GHz	Various	Various	2016-08-28	2017-08-28
	Receiver & Software				
SA0027	Spectrum Analyzer	Agilent	N9030A	2017-03-16	2018-03-16
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
	Additional Equipment used				
s/n 161024690	Environmental Meter	Fisher Scientific	15-077-963	2016-12-21	2018-12-21

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Common Equipment				
	Conducted Room 2				
SA0020	Spectrum Analyzer	Agilent Technologies	E4446A	2017-04-25	2018-04-25
PWM005	RF Power Meter	Keysight Technologies	N1911A	2017-05-18	2018-05-18
PWS005	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2017-05-18	2018-05-18
15557603	Temp/Humidity Sensor	Fisher Scientific	14-650-118	2016-11-02	2018-11-02

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville - South Chamber)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	30-1000 MHz				
AT0074	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2017-06-15	2018-06-15
	18-26.5 GHz				
AT0076	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2016-09-06	2017-09-06
	Gain-Loss Chains				
S-SAC02	Gain-loss string: 30-1000MHz	Various	Various	2017-06-11	2018-06-11
S-SAC04	Gain-loss string: 18-40GHz	Various	Various	2017-03-03	2018-03-03
	Receiver & Software				
SA0025	Spectrum Analyzer	Agilent	N9030A	2017-04-10	2018-04-10
SA0026 (18-40GHz RSE)	Spectrum Analyzer	Agilent	N9030A	2017-02-17	2018-02-28
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
	Additional Equipment used				
s/n 161024887	Environmental Meter	Fisher Scientific	15-077-963	2016-12-23	2018-12-23

7. MEASUREMENT METHODS

Duty Cycle: KDB 558074 D01 v04 Section 6.0

6 dB BW: KDB 558074 D01 v04 Section 8.5

99% Occupied Bandwidth: ANSI C63.10-2013, Section 6.9.3

Output Power: KDB 558074 D01 v04 Section 9.1.3

Power Spectral Density: KDB 558074 D01 v04 Section 10.2

Out-of-band emissions in non-restricted bands: KDB 558074 D01 v04 Section 11.0

Out-of-band emissions in restricted bands: KDB 558074 D01 v04 Section 12.1

General Radiated Emissions: ANSI C63.10:2013 Sections 6.3 – 6.6

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

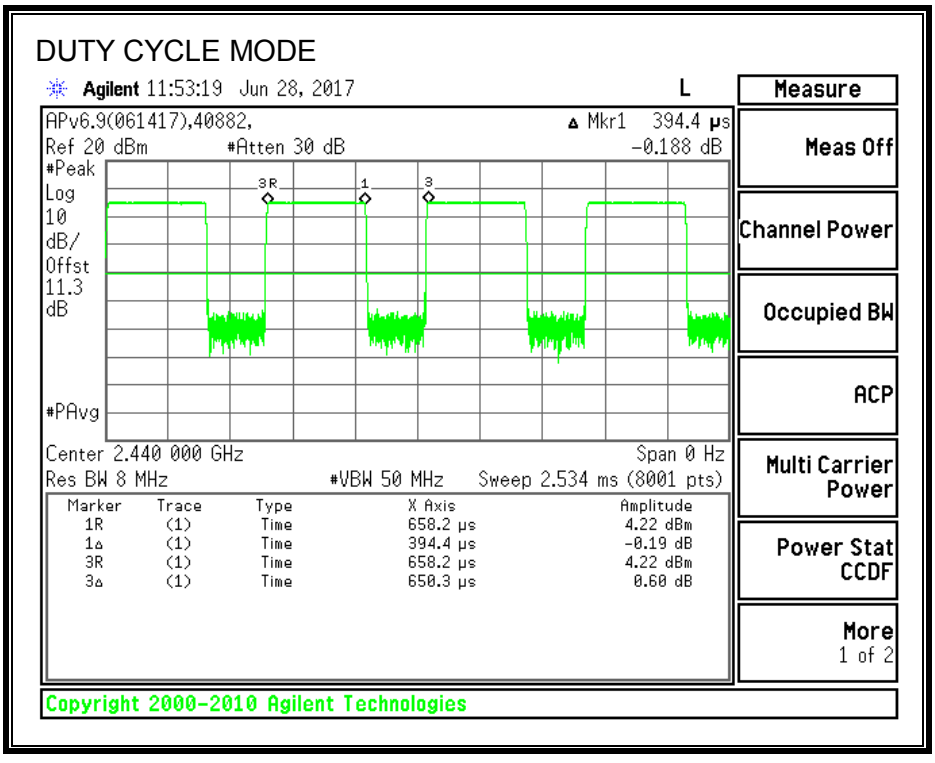
PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
GFSK	0.394	0.650	0.606	60.65%	2.17	2.535

DUTY CYCLE PLOTS



Test Information

Tester: Jeffrey Cabrera
Date: 2017-06-28

8.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

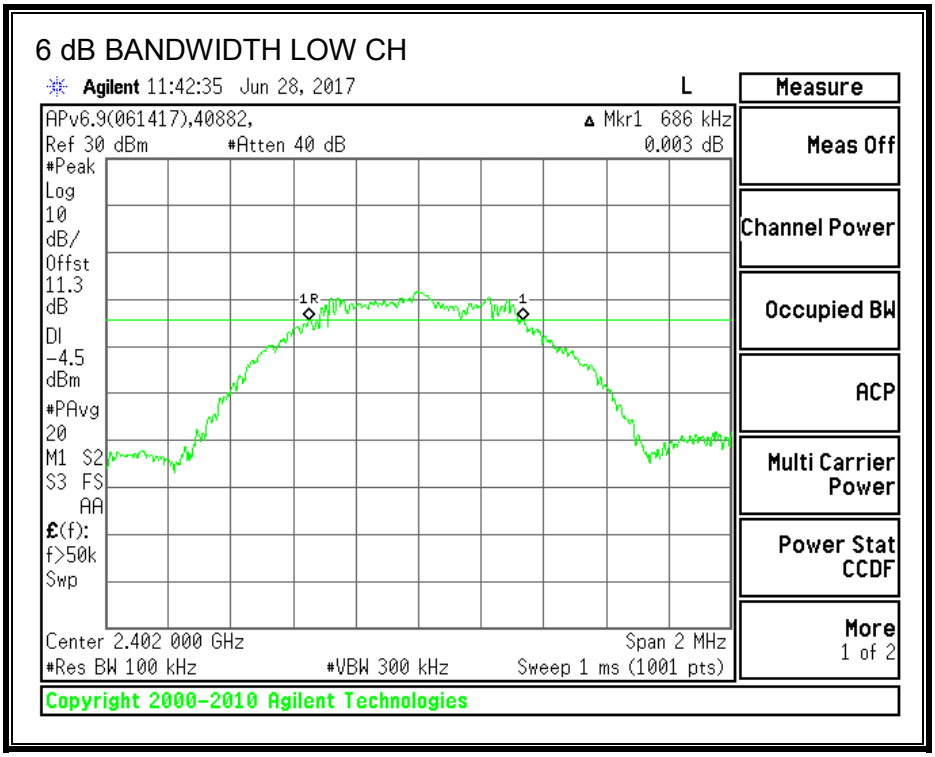
IC RSS-247 5.2 (a)

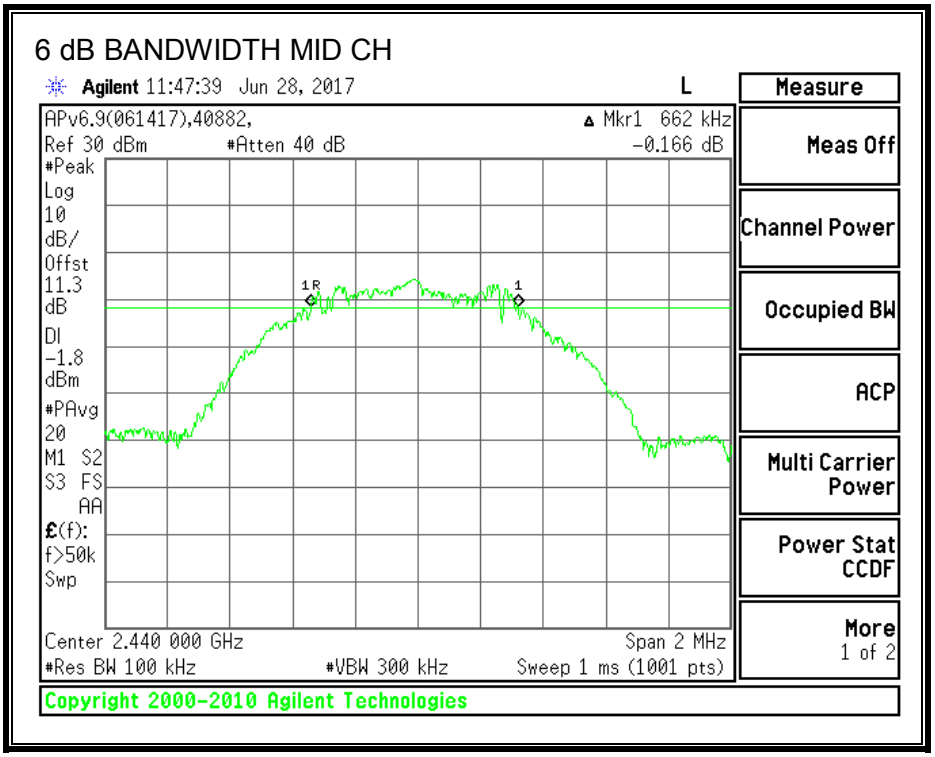
The minimum 6 dB bandwidth shall be at least 500 kHz.

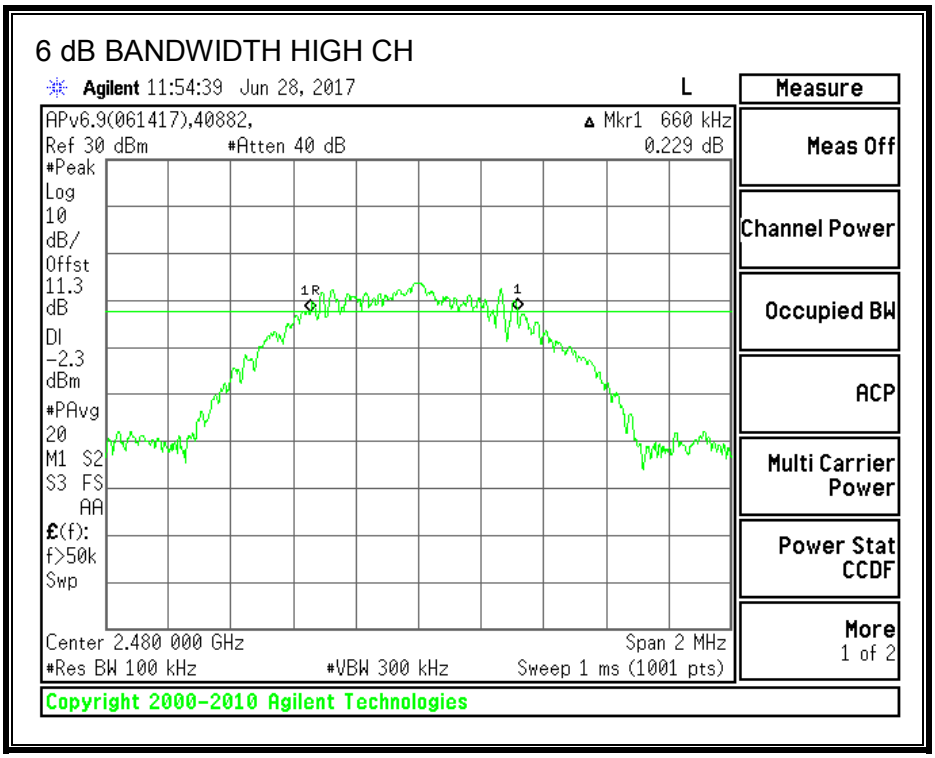
RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.6860	0.5
Middle	2440	0.6620	0.5
High	2480	0.6600	0.5

6 dB BANDWIDTH







Test Information

Tester: Jeffrey Cabrera
Date: 2017-06-28

8.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only. Test per RSS-GEN Clause 5.6

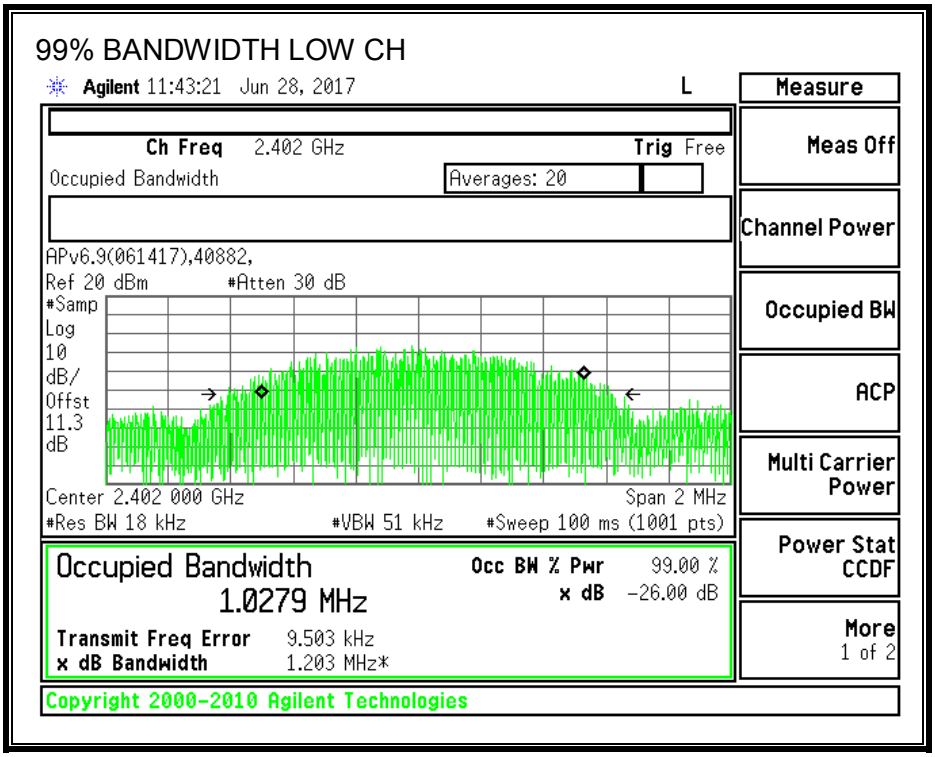
TEST PROCEDURE

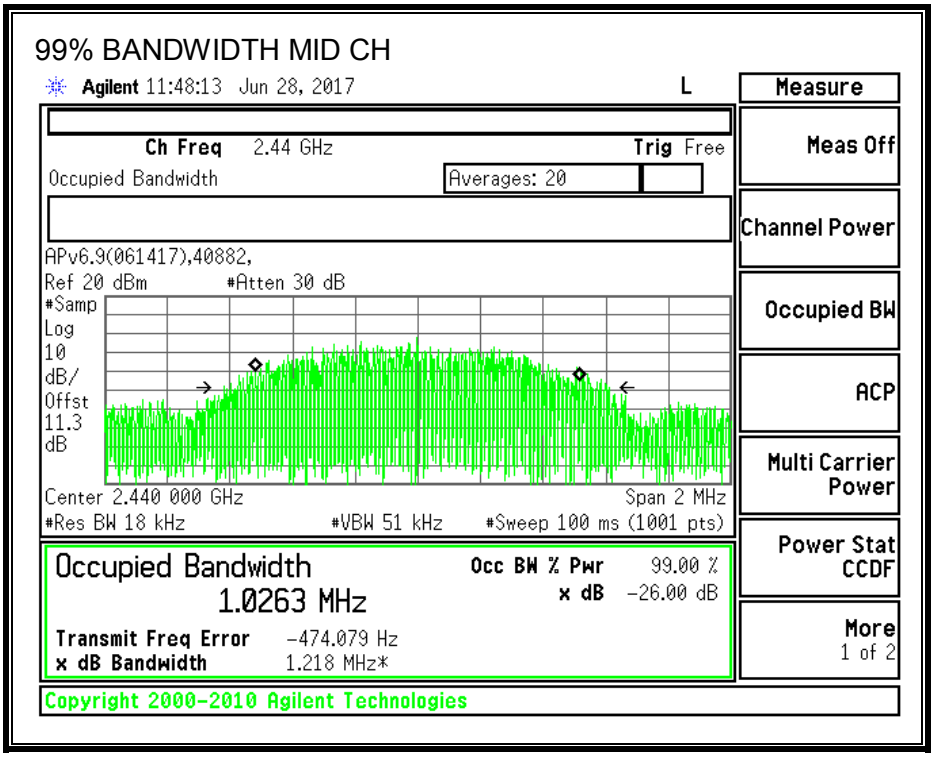
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth and to 1% of the span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

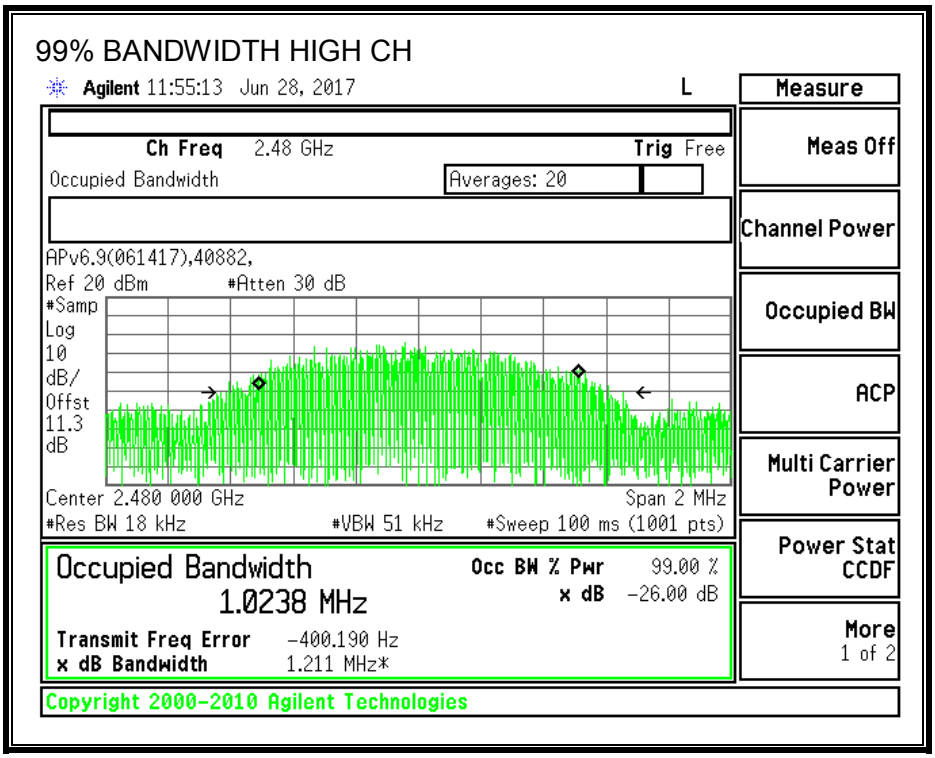
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0279
Middle	2440	1.0263
High	2480	1.0238

99% BANDWIDTH







Test Information

Tester: Jeffrey Cabrera
Date: 2017-06-28

8.4. OUTPUT POWER

LIMITS

FCC §15.247 (b)

IC RSS-247 5.4 (d)

The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

RESULTS

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	8.780	30	-21.220
Middle	2440	6.060	30	-23.940
High	2480	5.240	30	-24.760

Test Information

Tester: Jeffrey Cabrera
Date: 2017-06-28

8.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

RESULTS

The cable assembly insertion loss of 11.31 dB (including 10 dB pad and 1.31 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	5.66
Middle	2440	5.54
High	2480	4.78

Test Information
Tester: Jeffrey Cabrera
Date: 2017-07-05

8.6. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

IC RSS-247 5.2 (b)

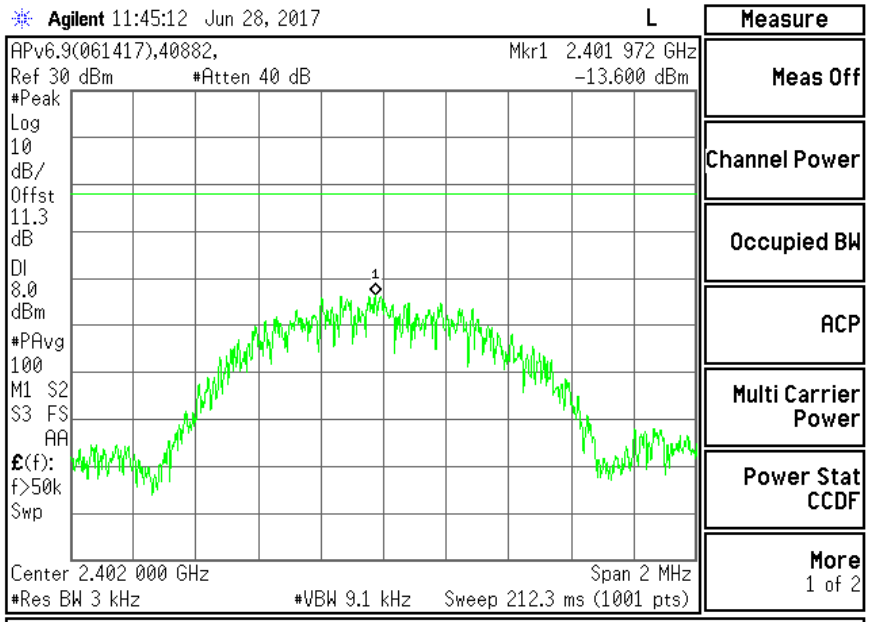
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

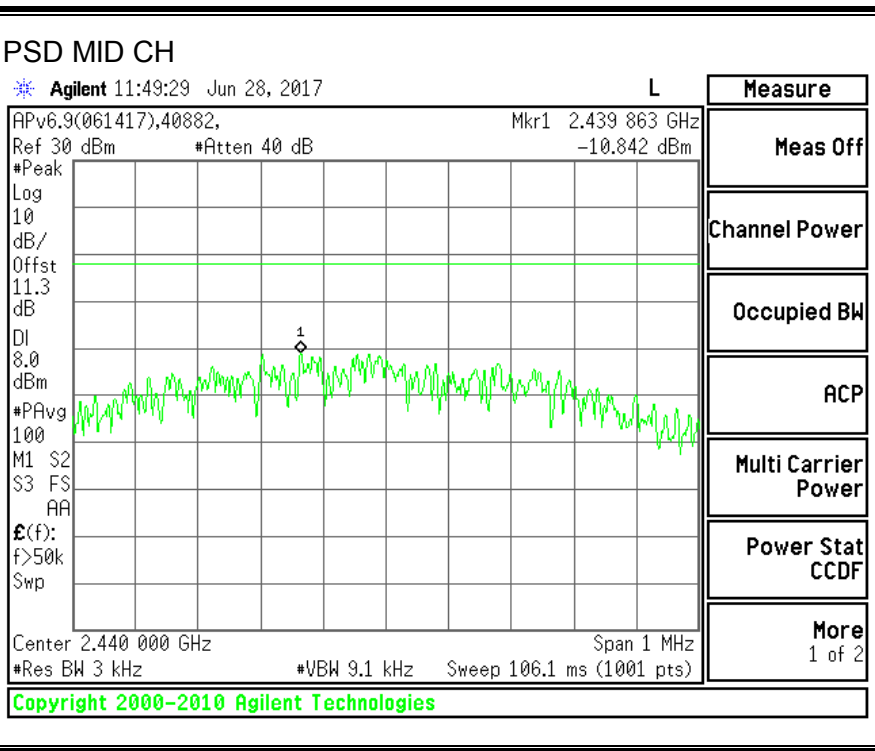
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-13.600	8	-21.60
Middle	2440	-10.842	8	-18.84
High	2480	-11.774	8	-19.77

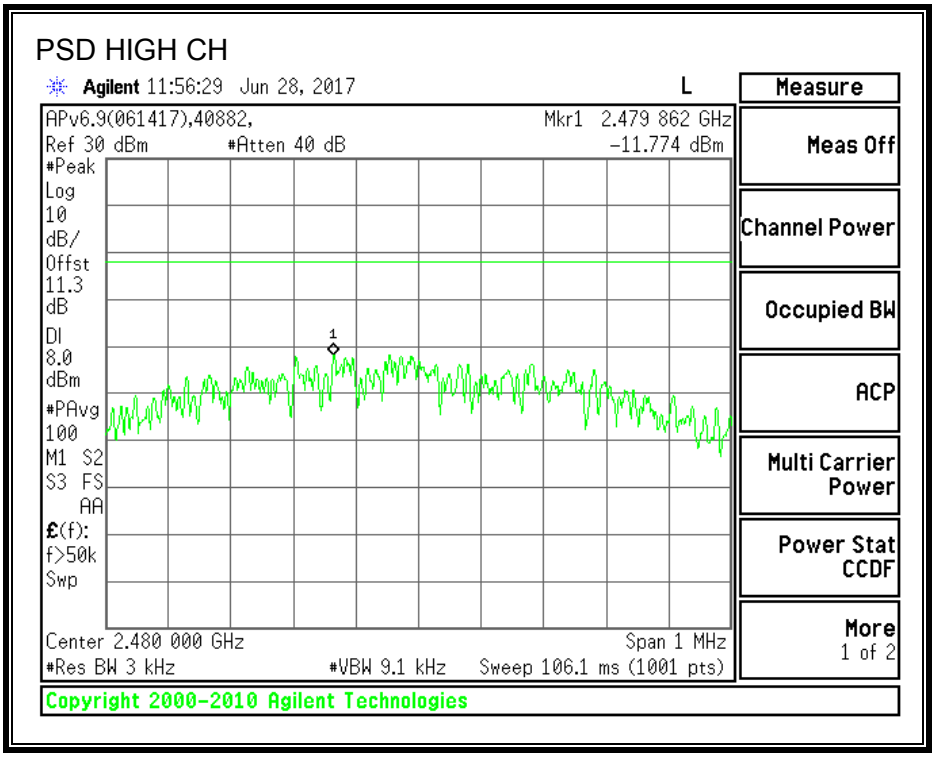
POWER SPECTRAL DENSITY

PSD LOW CH



PSD MID CH





Test Information

Tester: Jeffrey Cabrera
Date: 2017-06-28

8.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-247 5.5

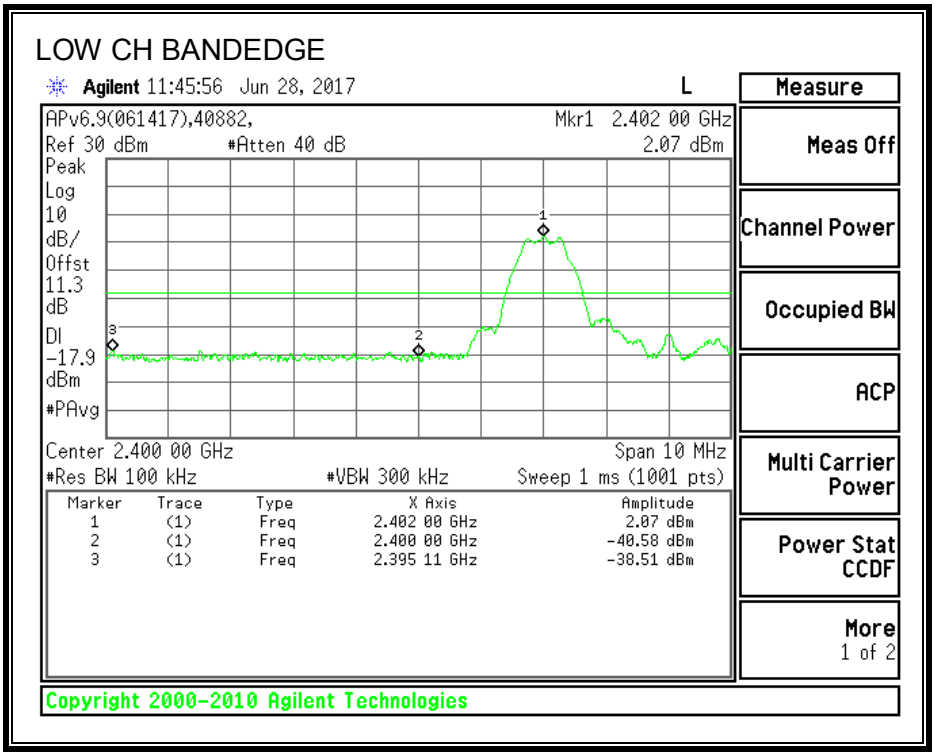
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

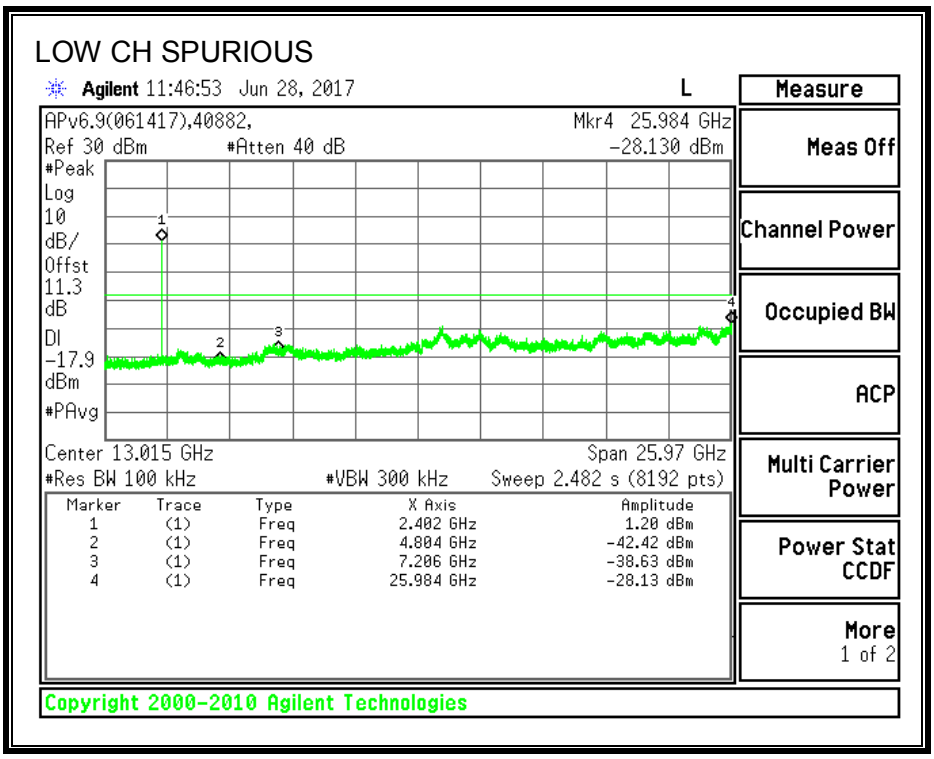
Test Information

Tester: Jeffrey Cabrera
Date: 2017-06-28

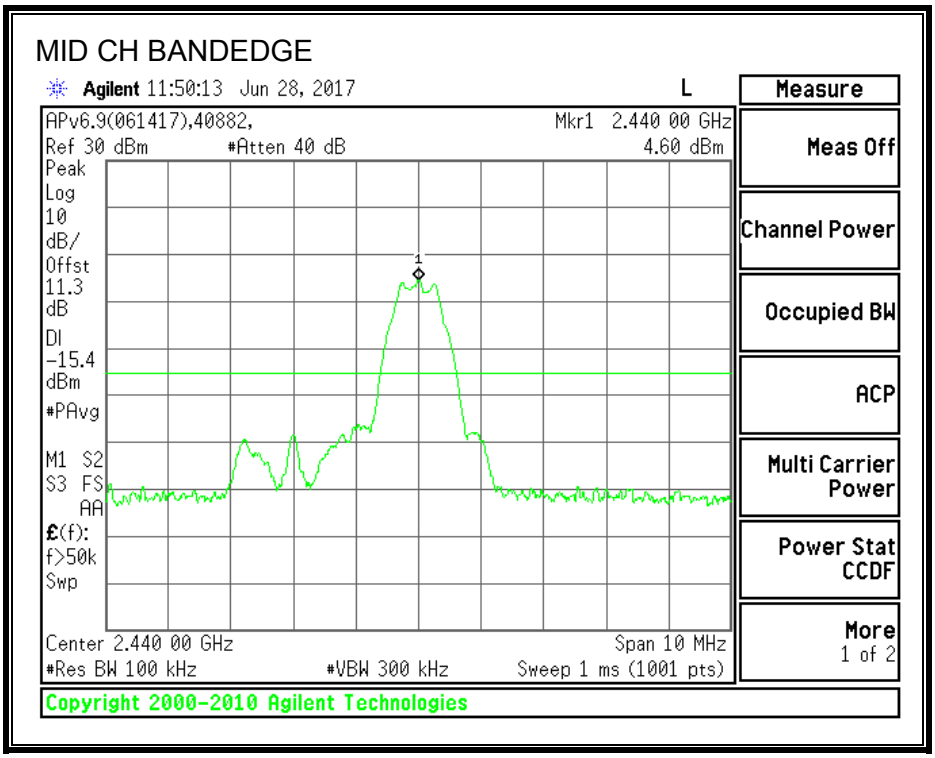
RESULTS

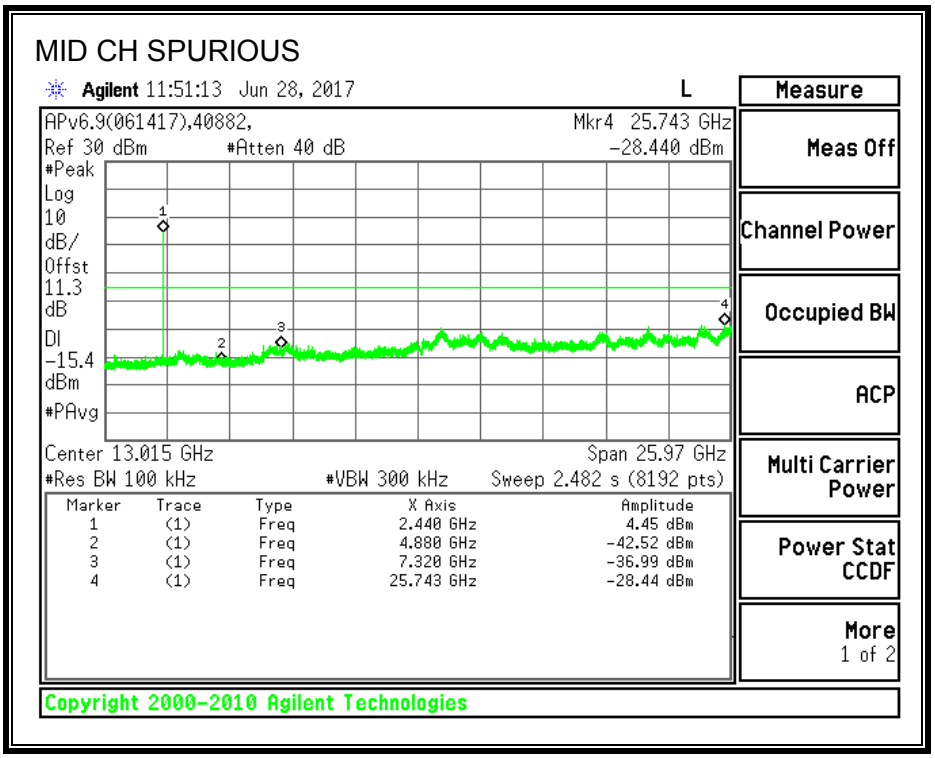
SPURIOUS EMISSIONS, LOW CHANNEL



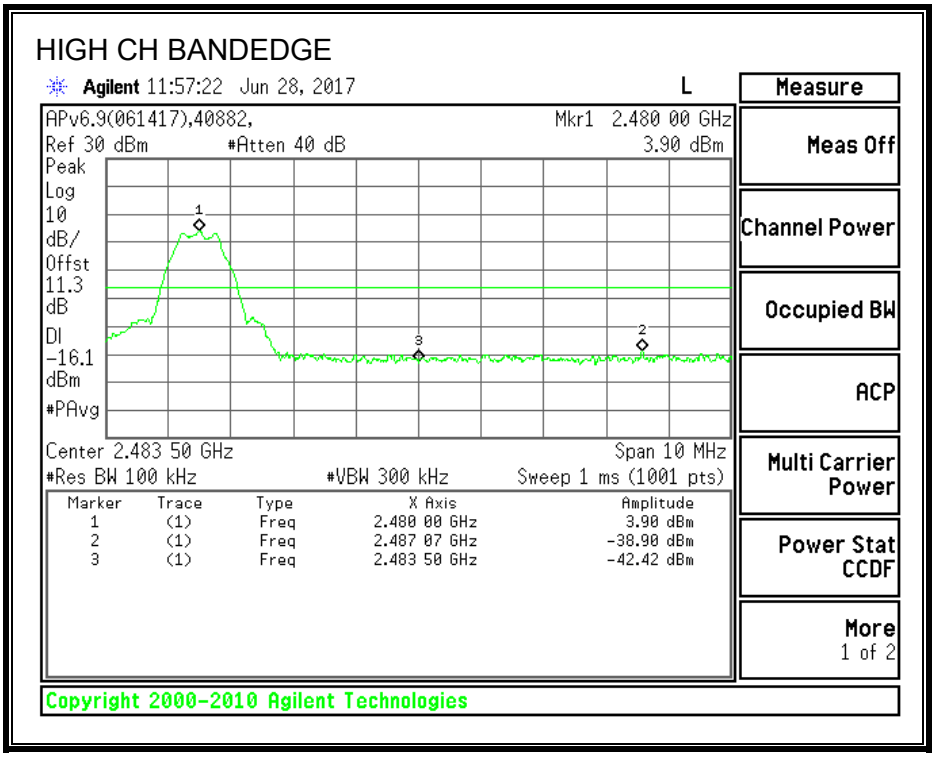


SPURIOUS EMISSIONS, MID CHANNEL

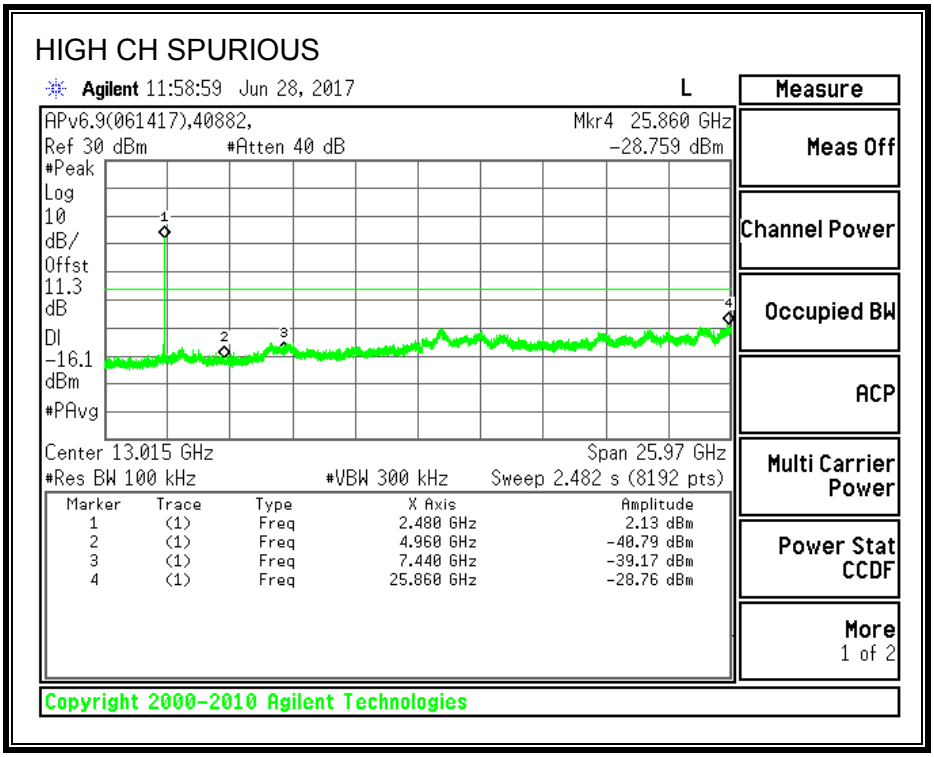




SPURIOUS EMISSIONS, HIGH CHANNEL



HIGH CH SPURIOUS



9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209
IC RSS-GEN Clause 8.9 (Transmitter)
IC RSS-GEN Clause 7.1.2 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz measurements and 1.5 m above the ground plane for above 1GHz measurements. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 120 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements for the 30-1000 MHz range, 9 kHz for peak detection measurements or 9 kHz for quasi-peak detection measurements for the 0.15-30 MHz range and 200 Hz for peak detection measurements or 200 Hz for quasi-peak detection measurements for the 9 to 150 kHz range. Peak detection is used unless otherwise noted as quasi-peak.

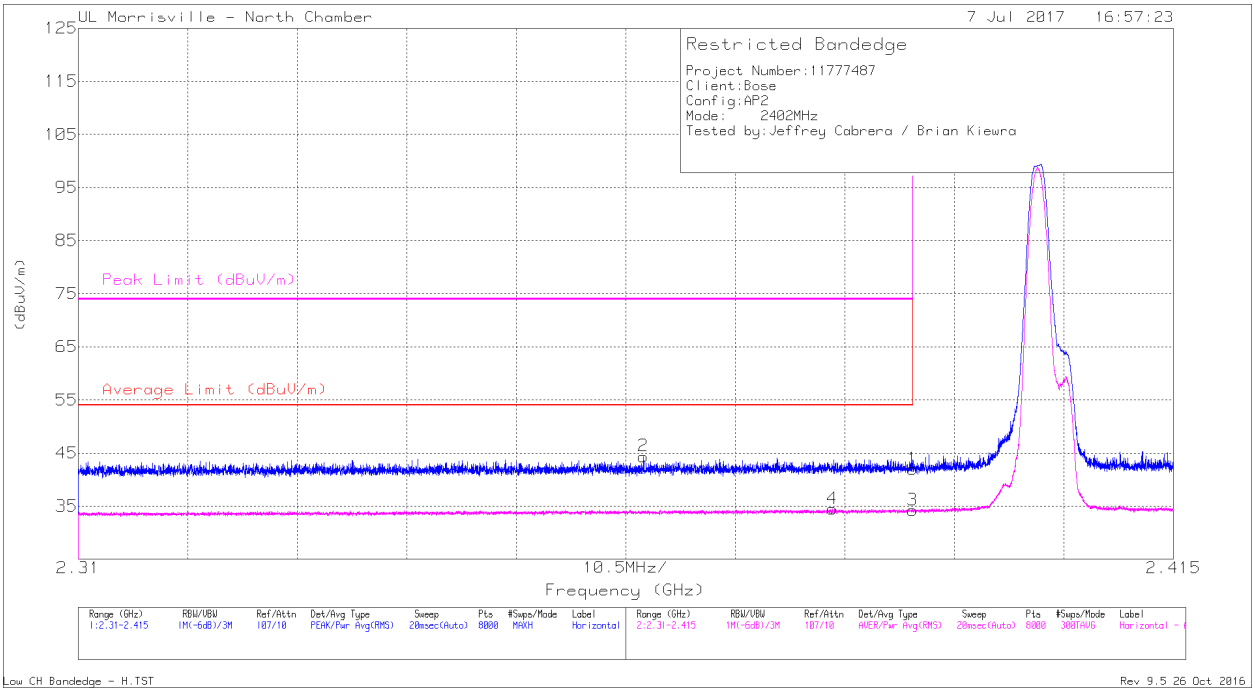
For peak measurements above 1 GHz, the resolution bandwidth is set to 1 MHz and the video bandwidth is set to 3 MHz. For average measurements above 1GHz, the resolution bandwidth and video bandwidth are set as described in ANSI C63.10:2013 for the applicable measurement. The particular averaging method used for this test program was RMS.

The spectrum from 1 to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. The spectrum from 9kHz to 1000MHz and 18 to 26GHz was investigated on the worst-case channel.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

9.2. TRANSMITTER ABOVE 1 GHz

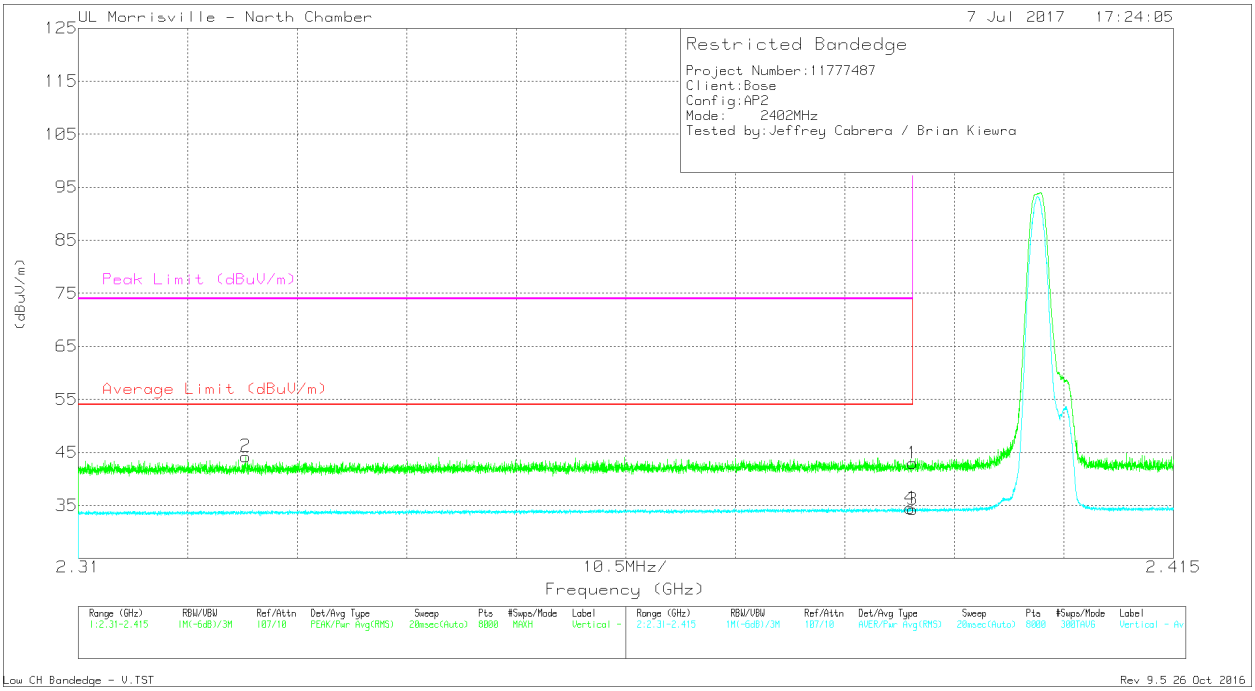
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	34.66	Pk	31.8	-24.5	0	41.96	-	-	74	-32.04	159	309	H
2	* 2.364	37.08	Pk	31.7	-24.4	0	44.38	-	-	74	-29.62	159	309	H
3	* 2.39	24.78	RMS	31.8	-24.5	2.17	34.25	54	-19.75	-	-	159	309	H
4	* 2.382	25.04	RMS	31.8	-24.5	2.17	34.51	54	-19.49	-	-	159	309	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

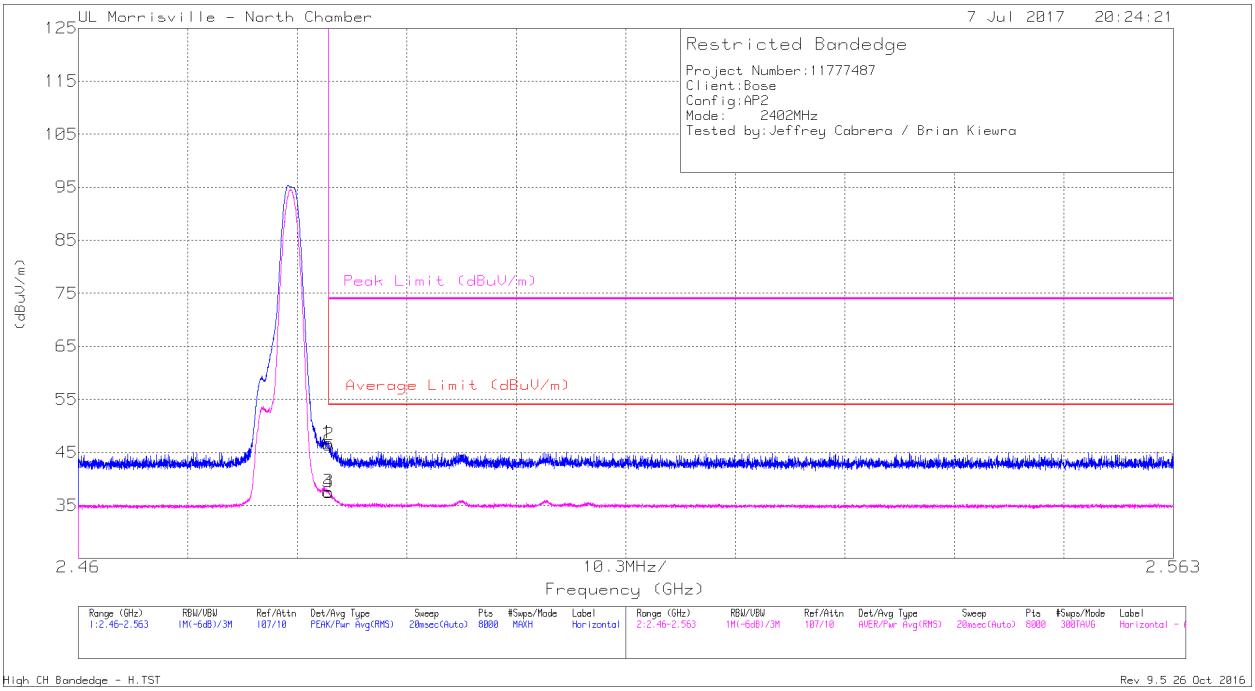
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.326	37.25	Pk	31.5	-24.5	0	44.25	-	-	74	-29.75	187	268	V
1	* 2.39	35.69	Pk	31.8	-24.5	0	42.99	-	-	74	-31.01	187	268	V
3	* 2.39	24.74	RMS	31.8	-24.5	2.17	34.21	54	-19.79	-	-	187	268	V
4	* 2.39	25.01	RMS	31.8	-24.5	2.17	34.48	54	-19.52	-	-	187	268	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

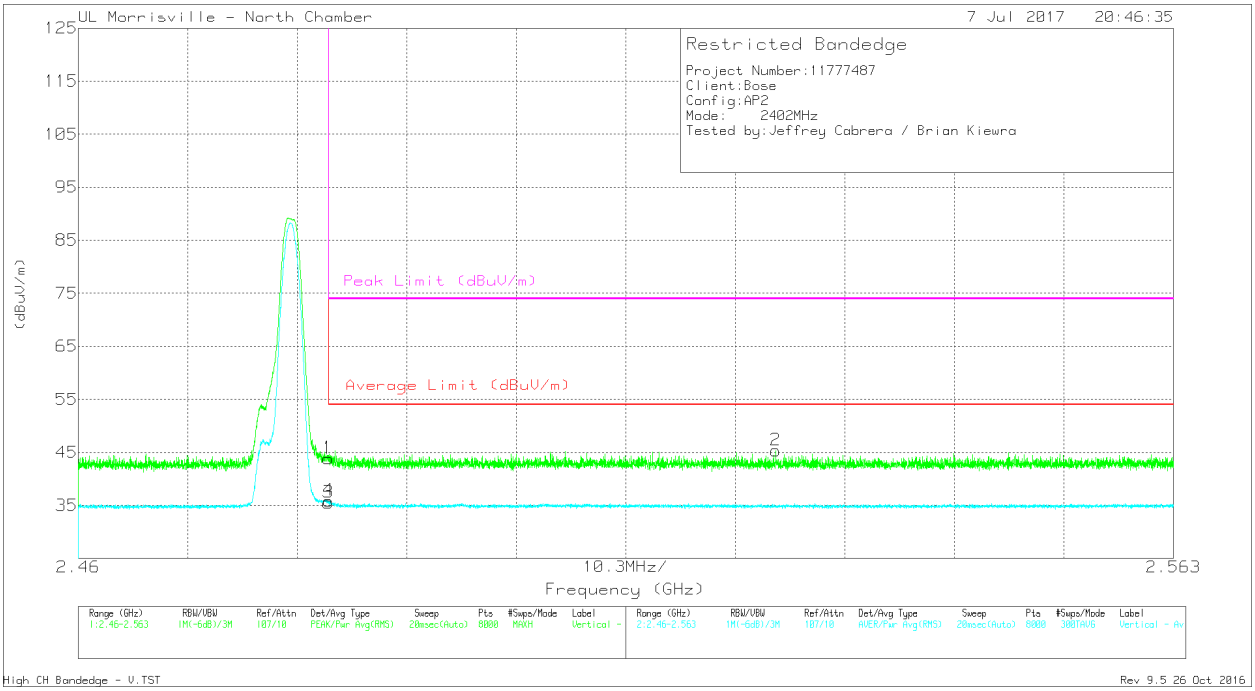
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	38.91	Pk	32.3	-24.4	0	46.81	-	-	74	-27.19	167	262	H
2	* 2.484	38.56	Pk	32.3	-24.4	0	46.46	-	-	74	-27.54	167	262	H
3	* 2.484	27.54	RMS	32.3	-24.4	2.17	37.61	54	-16.39	-	-	167	262	H
4	* 2.484	27.33	RMS	32.3	-24.4	2.17	37.4	54	-16.6	-	-	167	262	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

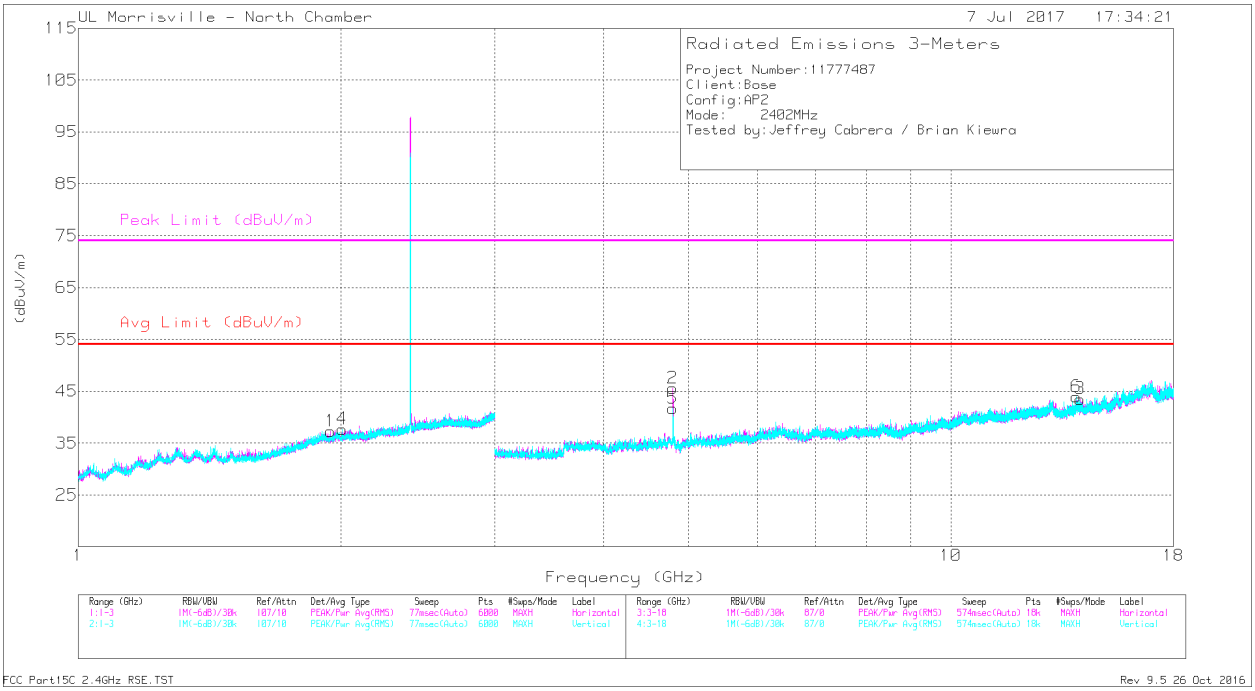
RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	35.97	Pk	32.3	-24.4	0	43.87	-	-	74	-30.13	284	262	V
3	* 2.484	25.47	RMS	32.3	-24.4	2.17	35.54	54	-18.46	-	-	284	262	V
4	* 2.484	25.83	RMS	32.3	-24.4	2.17	35.9	54	-18.1	-	-	284	262	V
2	2.526	37.57	Pk	32.2	-24.4	0	45.37	-	-	74	-28.63	284	262	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DCCF	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.805	47.54	PK2	34.1	-31.7	0	49.94	-	-	74	-24.06	171	104	H
	* 4.804	38.92	MAv1	34.1	-31.7	2.17	43.49	54	-10.51	-	-	171	104	H
5	* 4.804	44.8	PK2	34.1	-31.7	0	47.2	-	-	74	-26.8	319	110	V
	* 4.804	35.1	MAv1	34.1	-31.7	2.17	39.67	54	-14.33	-	-	319	110	V
1	1.946	30.27	Pk	31.4	-24.4	0	37.27	-	-	-	-	0-360	199	H
4	2.008	30.81	Pk	31.4	-24.5	0	37.71	-	-	-	-	0-360	102	V
6	13.931	32.28	Pk	38.7	-27	0	43.98	-	-	-	-	0-360	199	V
3	14.07	31.81	Pk	38.8	-27.1	0	43.51	-	-	-	-	0-360	199	H

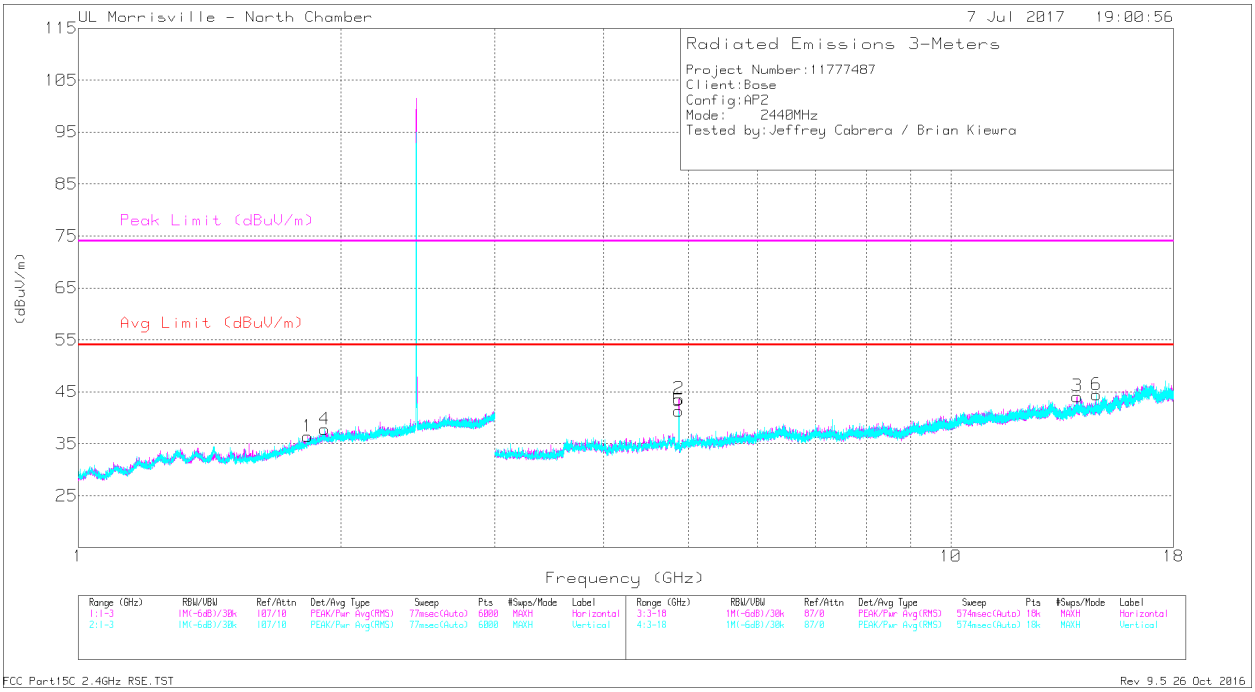
Radiated Emissions

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

PK2: Maximum Peak

MAv1: Maximum RMS Average



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.88	45.57	PK2	34	-31.6	0	47.97	-	-	74	-26.03	38	103	H
	* 4.88	37.31	MAv1	34	-31.6	2.17	41.88	54	-12.12	-	-	38	103	H
5	* 4.879	43.64	PK2	34	-31.6	0	46.04	-	-	74	-27.96	12	128	V
	* 4.88	33.82	MAv1	34	-31.6	2.17	38.39	54	-15.61	-	-	12	128	V
1	1.831	30.3	Pk	30.6	-24.5	0	36.4	-	-	-	-	0-360	102	H
4	1.914	30.87	Pk	31.4	-24.5	0	37.77	-	-	-	-	0-360	102	V
3	13.963	32.34	Pk	38.7	-26.9	0	44.14	-	-	-	-	0-360	102	H
6	14.688	31.14	Pk	39.5	-26.2	0	44.44	-	-	-	-	0-360	199	V

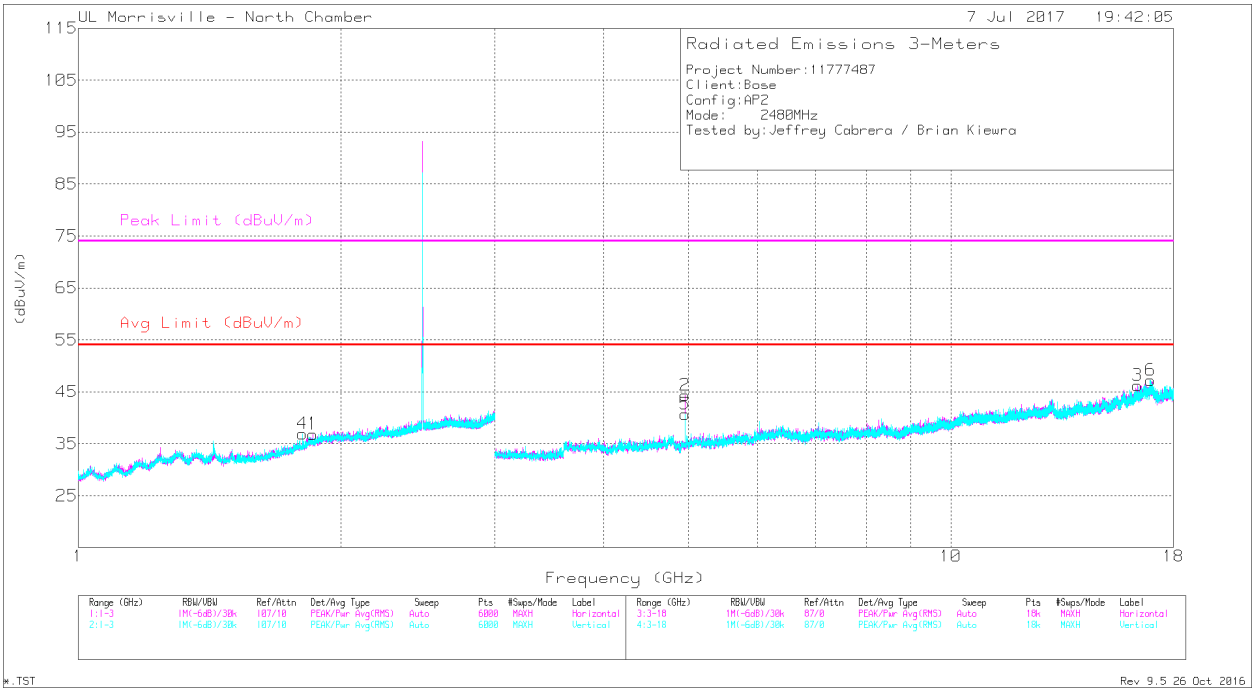
Radiated Emissions

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

PK2: Maximum Peak

MAv1: Maximum RMS Average



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.96	46.67	PK2	34.1	-32.5	0	48.27	-	-	74	-25.73	46	104	H
	* 4.96	38.46	MAv1	34.1	-32.5	2.17	42.23	54	-11.77	-	-	46	104	H
5	* 4.96	44.68	PK2	34.1	-32.5	0	46.28	-	-	74	-27.72	27	280	V
	* 4.96	34.33	MAv1	34.1	-32.5	2.17	38.1	54	-15.9	-	-	27	280	V
4	1.806	30.91	Pk	30.4	-24.4	0	36.91	-	-	-	-	0-360	199	V
1	1.856	30.34	Pk	30.9	-24.4	0	36.84	-	-	-	-	0-360	102	H
3	16.36	30.02	Pk	41.2	-25	0	46.22	-	-	-	-	0-360	102	H
6	16.955	29.88	Pk	41.9	-24.6	0	47.18	-	-	-	-	0-360	199	V

Radiated Emissions

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

PK2: Maximum Peak

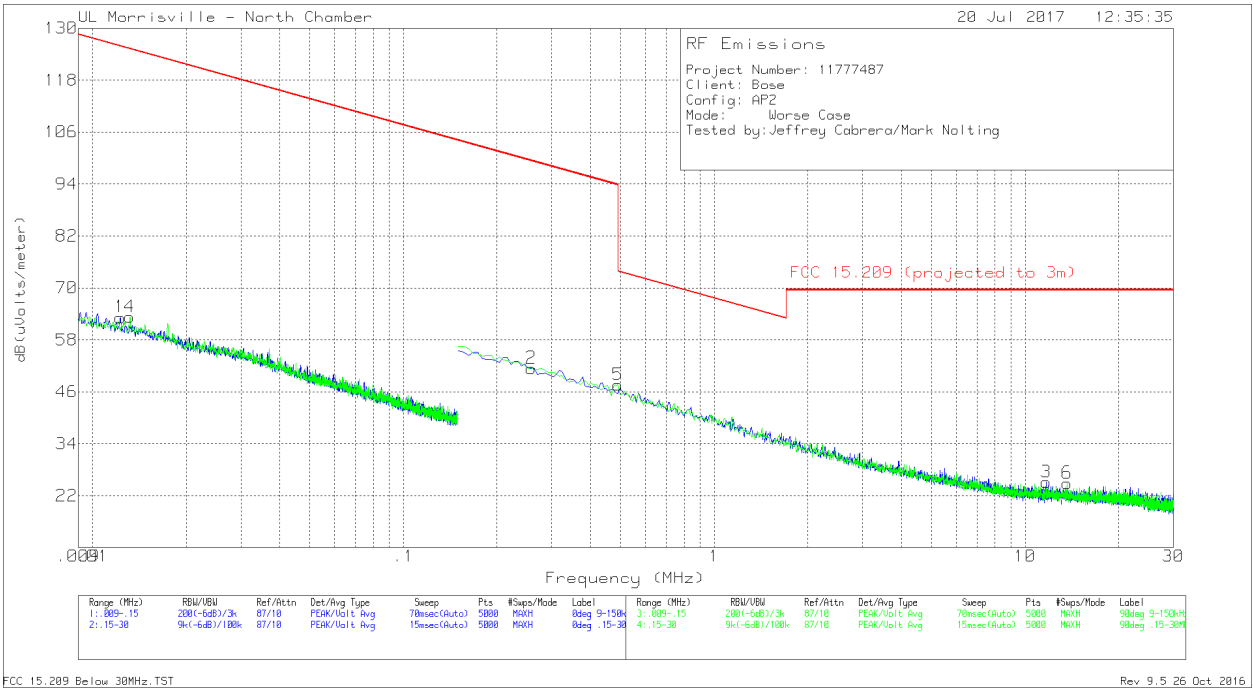
MAv1: Maximum RMS Average

9.3. RADIATED WORST-CASE

SPURIOUS EMISSIONS 9kHz to 30MHz (WORST-CASE CONFIGURATION)

Note: All measurements were made at a test distance of 3 m. The limits in the plots and tabular data are the FCC/IC limits extrapolated from the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to the measurement distance to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (specification distance / test distance).

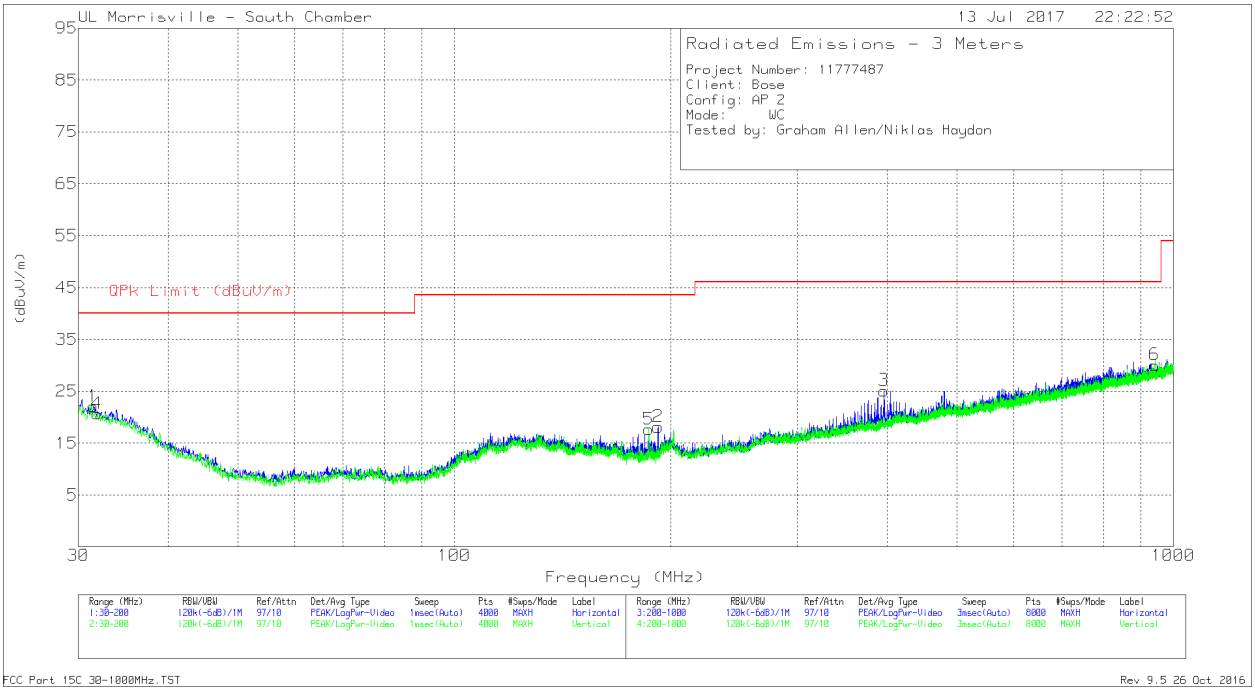
Although these tests were performed at a test site other than an open area test site, adequate comparison measurements were confirmed against an open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 AF (dB/m)	Cbl (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.209 (projected to 3m)	Margin (dB)	Azimuth (Degs)
1	.01228	45.81	Pk	17.3	.1	63.21	125.82	-62.61	0-360
4	.01317	46.3	Pk	16.9	.1	63.3	125.21	-61.91	0-360
2	.25748	40.72	Pk	10.6	.1	51.42	99.39	-47.97	0-360
5	.49035	36.69	Pk	10.8	.1	47.59	73.79	-26.2	0-360
3	11.70389	13.99	Pk	10.5	.6	25.09	69.54	-44.45	0-360
6	13.67432	13.88	Pk	10.4	.6	24.88	69.54	-44.66	0-360

Pk - Peak detector

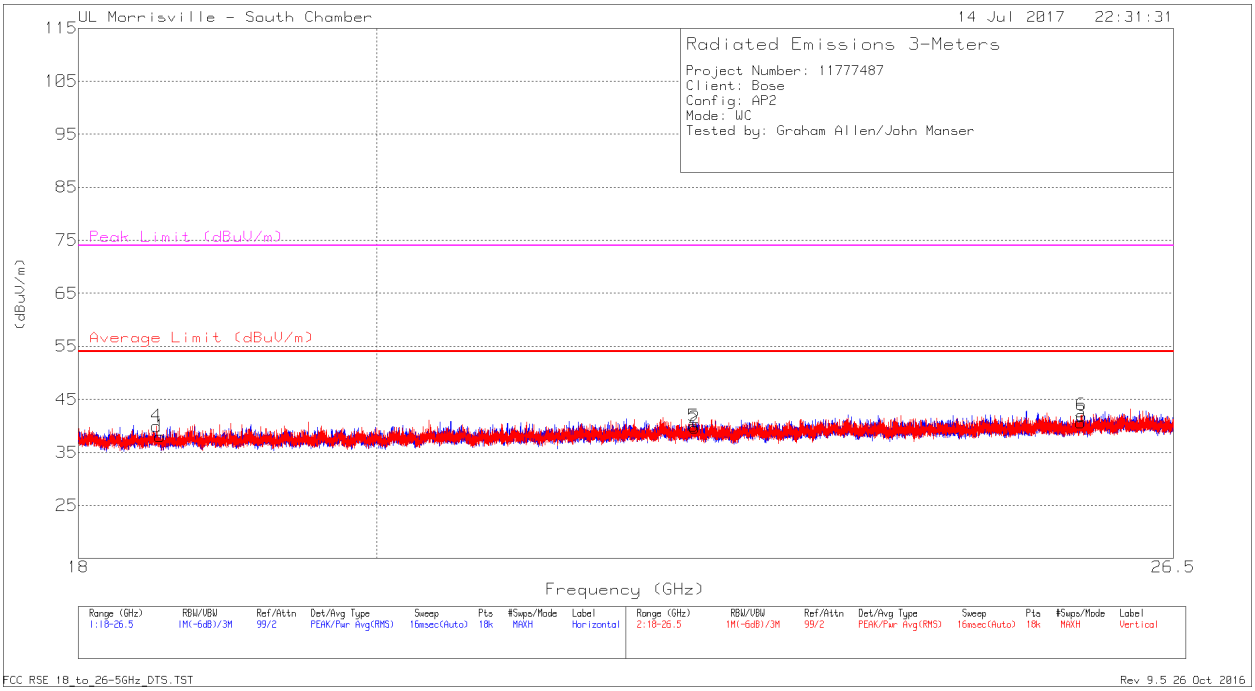
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0074 AF (dB/m)	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.4879	28.75	Pk	25.1	-31.8	22.05	40	-17.95	0-360	99	H
2	192.0094	32.22	Pk	16.1	-30.2	18.12	43.52	-25.4	0-360	99	H
3	395.9255	34.13	Pk	20.2	-29.2	25.13	46.02	-20.89	0-360	102	H
4	31.8705	27.68	Pk	24.8	-31.8	20.68	40	-19.32	0-360	101	V
5	186.398	32.25	Pk	15.7	-30.3	17.65	43.52	-25.87	0-360	101	V
6	941.3964	29.15	Pk	27.4	-26.5	30.05	46.02	-15.97	0-360	299	V

Pk - Peak detector

SPURIOUS EMISSIONS 18 to 26MHz (WORST-CASE CONFIGURATION)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0076 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 18.527	47.92	PK2	32.7	-40.5	40.12	54	-13.88	74	-33.88	57	202	H
2	* 22.381	47.54	PK2	33.6	-39.3	41.84	54	-12.16	74	-32.16	304	297	H
4	* 18.506	48.41	PK2	32.7	-40.5	40.61	54	-13.39	74	-33.39	289	246	V
5	* 22.368	47.7	PK2	33.6	-39.3	42	54	-12	74	-32	92	159	V
3	25.645	43.75	Pk	34.3	-37.4	40.65	54	-13.35	74	-33.35	0-360	299	H
6	25.653	45.21	Pk	34.3	-37.5	42.01	54	-11.99	74	-31.99	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
MAv1 - Maximum RMS Average