



**FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 2
ISED RSS-GEN ISSUE 4**

CERTIFICATION TEST REPORT

FOR

MOBILE FAP 60, 10-PRINT FINGERPRINT CAPTURE DEVICE

MODEL: NOMAD 60 WIRELESS READER

**FCC ID: Q9Y7680
IC: 7944B-7680**

REPORT NUMBER: R12204358-E1

ISSUE DATE: 2018-07-11

**Prepared for
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Revision History

Ver.	Issue Date	Revisions	Revised By
1	2018-07-11	Initial Issue	Niklas Haydon

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Cross Match Technologies, Inc.
3950 RCA Blvd, Suite 5001
Palm Beach Gardens, FL 33410, USA

EUT DESCRIPTION: Mobile FAP 60, 10-print fingerprint capture device

MODEL: Nomad 60 Wireless Reader

SERIAL NUMBER: ENB006, ENB013

DATE TESTED: 2018-04-18 to 2018-05-29

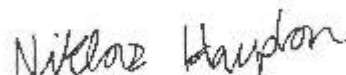
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-GEN Issue 4	Complies

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:

Prepared By:



Bob Delisi
Principal Engineer
UL – Consumer Technology Division

Niklas Haydon
Project Engineering Handler
UL – Consumer Technology Division

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

Research Triangle Park, NC 27709, USA and 2800 Suite B, Perimeter Park Drive, Morrisville, NC 27560.

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:

$$\begin{aligned}\text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamplifier Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m}\end{aligned}$$

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 mobile fap 60, 10-print fingerprint capture device that contains 802.11 a/ac/b/g/n and Bluetooth radios.

5.2. MODIFICATIONS

Modifications were made to address compliance issues with 30 to 1000 MHz worst case radiated emissions testing in R12204358-E2. However, AC power line conducted emissions testing was performed after the modifications listed below were made:

A shield was added over microcontroller, associated memory and power supplies. A bypass capacitor was added to USB flex assembly near USB connector. A TDK ZCAT 1730-0730 ferrite was added to USB-C-to-USB-C cable (refer to set up photos section).

5.3. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	22.87	193.64
2412 - 2462	802.11g	25.85	384.59
2412 - 2462	802.11n HT20	25.69	370.68
2422 - 2452	802.11n HT40	21.17	130.92

Note: Output power is peak.

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an SMD monopole antenna, with a maximum gain of 3.5 dBi.

5.5. SOFTWARE AND FIRMWARE

The firmware installed in the EUT was MfgTools-Nomad4_WIFI_Nightly_Image_04_02_2018.eng.

The EUT driver installed in the host support equipment was Nomad60 version 1.0.0.0.

The test utility software used during testing was QCA Radio Control Toolkit (QRCT) version 3.0.156.0.

5.6. WORST-CASE CONFIGURATION AND MODE

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

Worst-case data rates as provided by the client were:

802.11b mode: 2 Mbps
802.11g mode: 24 Mbps
802.11n HT20mode: MCS4
802.11n HT40mode: MCS3

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List			
Description	Manufacturer	Model	Serial Number
Laptop	HP	ProBook 4540s	CM000447
AC Adapter Type-C	PHIHONG	AQ15A-050A	P170900909A1

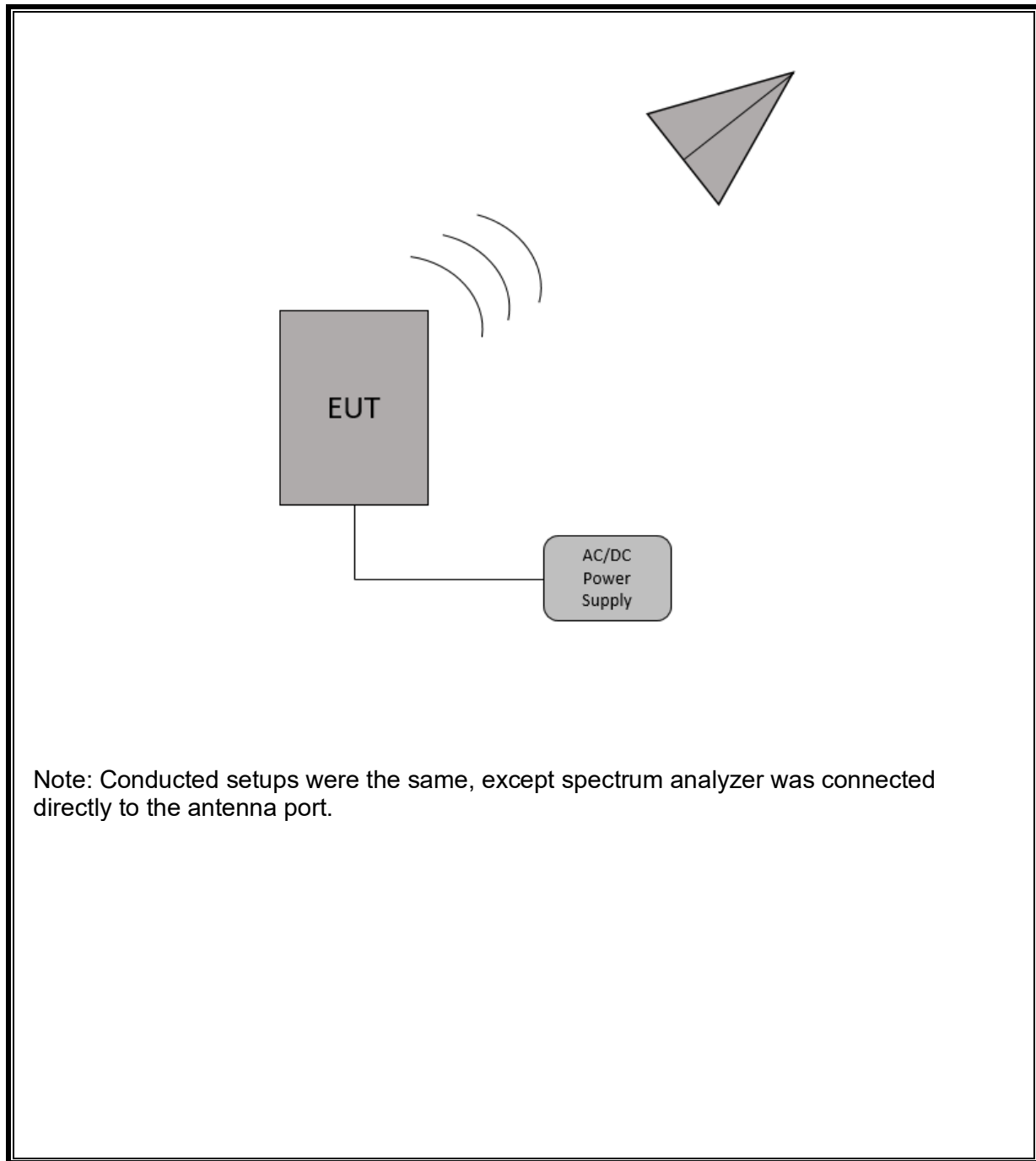
I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB-C	1	24-pin USB-C	USB-C	<3m	None

TEST SETUP

The EUT was installed in a typical configuration. The customer provided test software to exercise the EUTs during test. Refer to the following diagram.

SETUP DIAGRAM FOR TESTS



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	2018-01-02	2019-01-02
	30-1000 MHz				
AT0073	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2017-07-18	2018-07-31
	1-18 GHz				
AT0067	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2018-03-26	2019-03-26
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2018-04-30	2019-04-30
	Gain-Loss Chains				
N-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2017-09-15	2018-09-15
N-SAC02	Gain-loss string: 30-1000MHz	Various	Various	2017-06-11	2018-06-11
N-SAC03	Gain-loss string: 1-18GHz	Various	Various	2018-03-23	2019-03-23
	Receiver & Software				
SA0027	Spectrum Analyzer	Agilent	N9030A	2018-04-04	2019-04-04
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 - Radiated Disturbance Emissions Test Equipment (Morrisville - South Chamber)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	18-40 GHz				
AT0076	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2017-10-10	2018-10-10
	Gain-Loss Chains				
S-SAC04	Gain-loss string: 18-40GHz	Various	Various	2018-04-02	2019-04-02
	Receiver & Software				
SA0026	Spectrum Analyzer	Agilent	N9030A	2018-03-20	2019-03-20
	Additional Equipment used				
s/n 161024887	Environmental Meter	Fisher Scientific	15-077-963	2016-12-23	2018-12-23

Test Equipment Used – Conducted Emissions Test Equipment (Morrisville – CON2)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
SA0020	Spectrum Analyser	Agilent	E4446A	2017-11-06	2018-11-06
PRE0128068	Power Meter	Anritsu	ML2495A	2018-03-15	2019-03-15
PRE0128067	Power Sensor	Anritsu	MA2411BA	2018-03-15	2019-03-15
SN 161016511	Environmental Meter	Fisher Scientific	15-077-963	2016-12-21	2018-12-21

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL076	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3476-240	2017-06-12	2018-06-12
s/n 160938893	Environmental Meter	Fisher Scientific	14-650-118	2016-11-02	2018-11-02
LISN003	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2017-08-22	2018-08-22
PRE0101521 (75141)	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2017-08-23	2018-08-23
TL001	Transient Limiter, 0.009-30MHz	Com-Power	LIT-930A	2017-06-12	2018-06-12
PS215	AC Power Source	Elgar	CW2501M (s/n 1523A02397)	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA

7. MEASUREMENT METHODS

On Time and 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 11.1 (a).

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

Line Conducted Emission: ANSI C63.10:2013 Sections 6.2

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

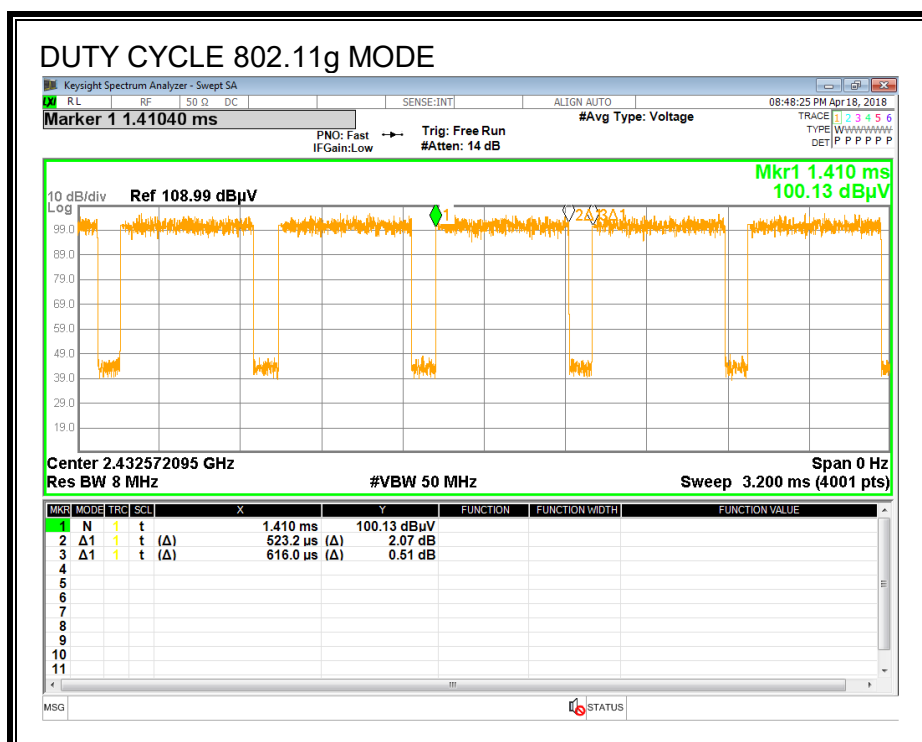
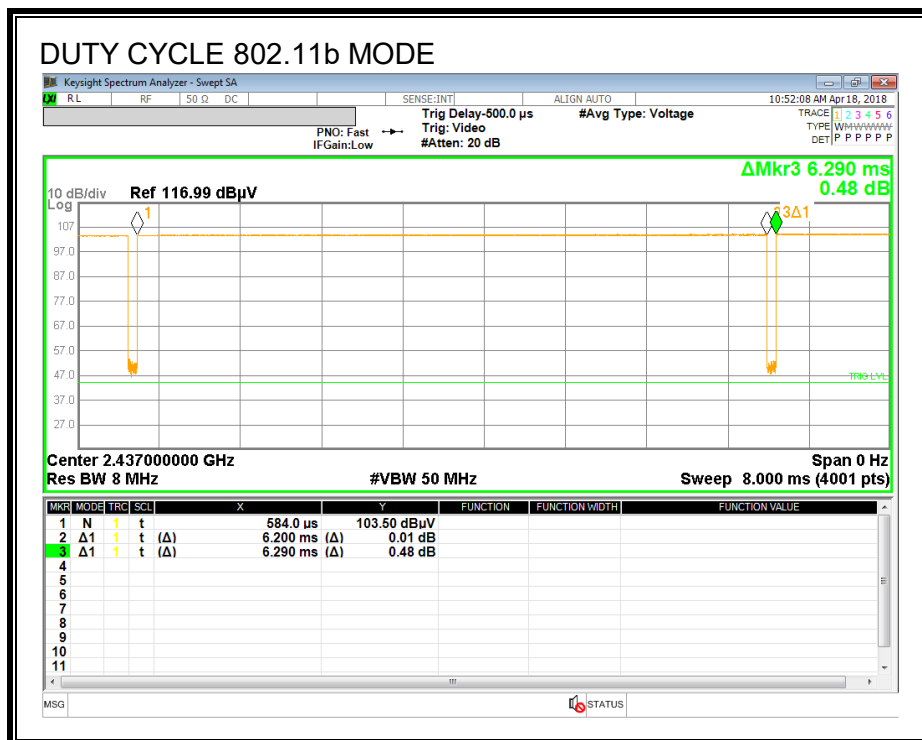
ON TIME AND DUTY CYCLE RESULTS

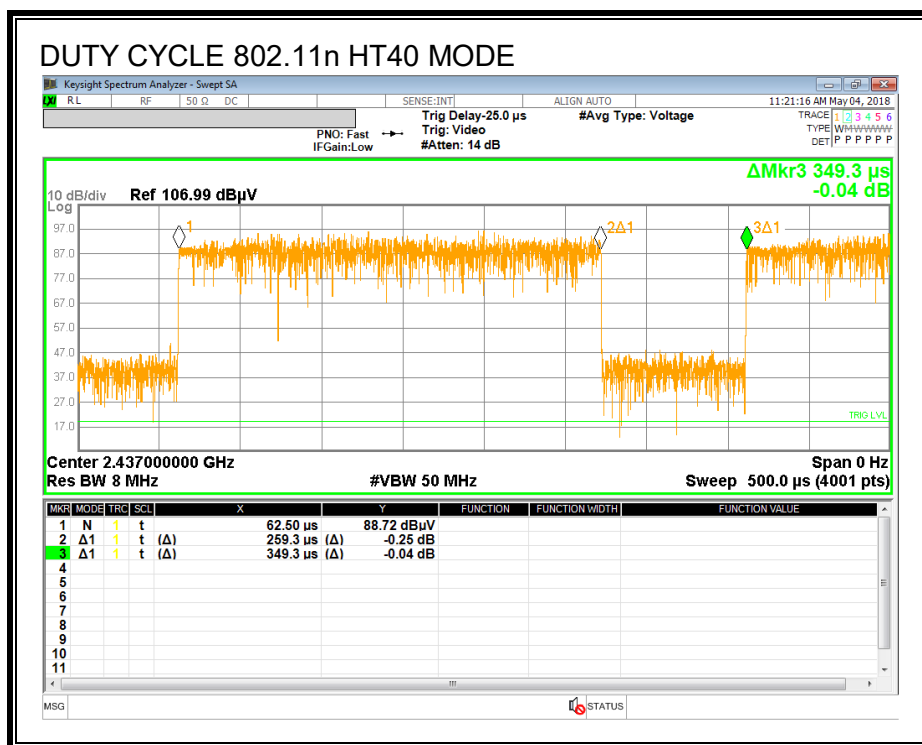
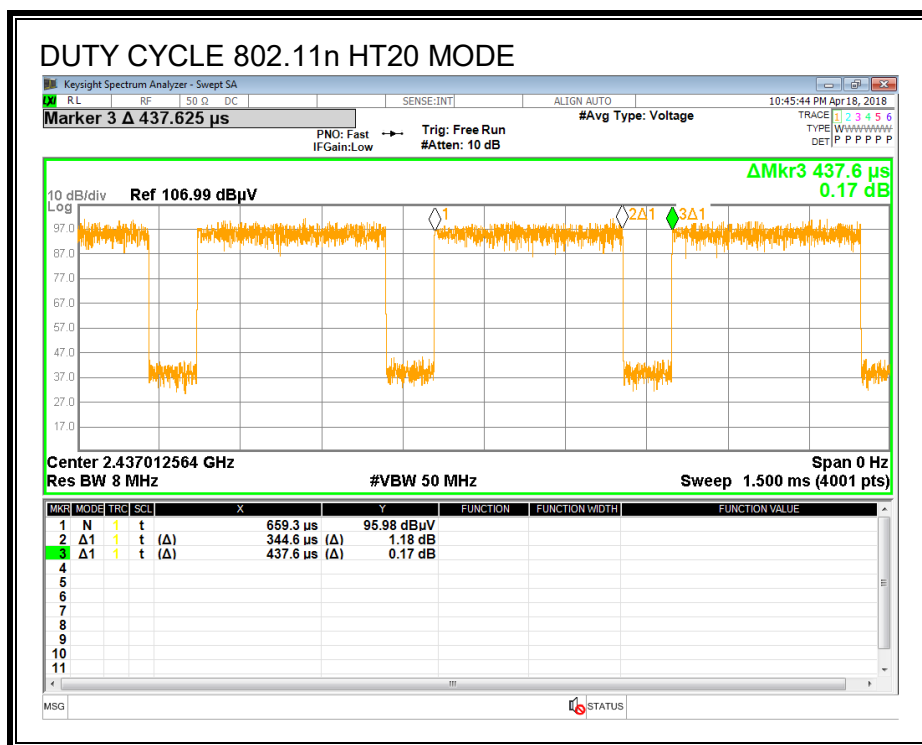
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
802.11b	6.200	6.290	0.986	98.57%	0.00	0.010
802.11g	0.523	0.616	0.849	84.94%	0.71	1.911
802.11n HT20	0.345	0.438	0.787	78.75%	1.04	2.902
802.11n HT40	0.259	0.349	0.742	74.23%	1.29	3.857

TEST INFORMATION

Test Date: 2018-05-04
Tested By: 46726/17051

DUTY CYCLE PLOTS





8.2. 802.11b MODE IN THE 2.4 GHz BAND

8.2.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

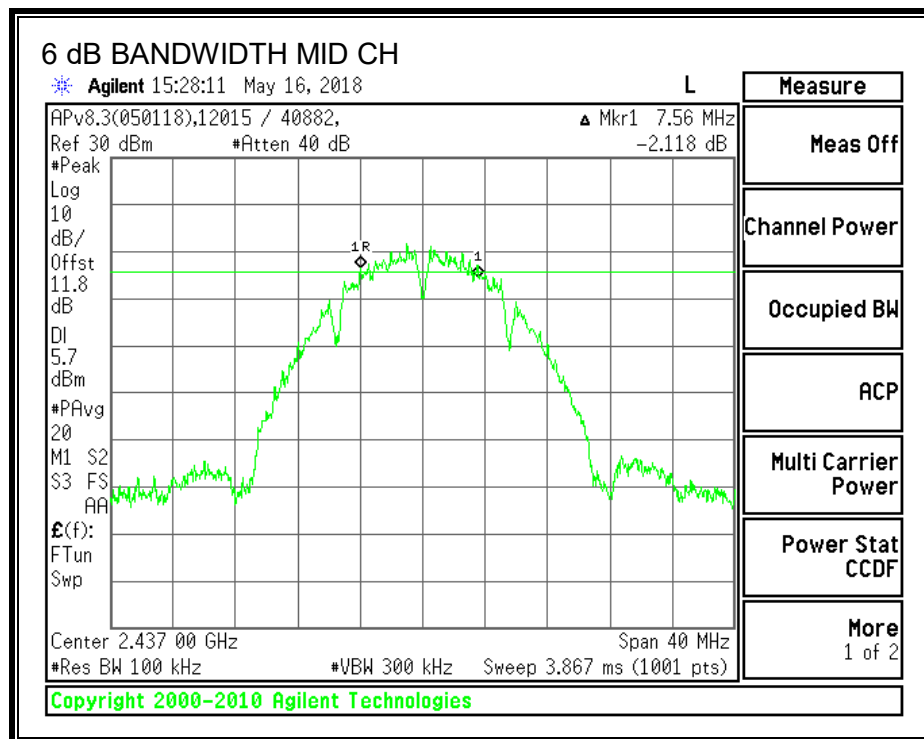
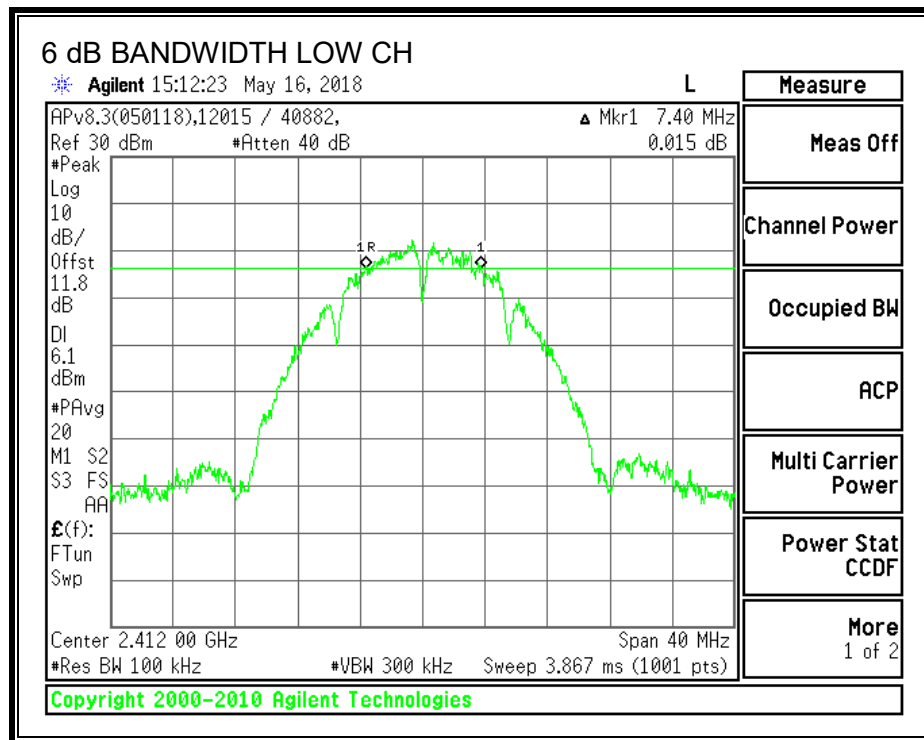
ISED RSS-247 Clause 5.2 (a)

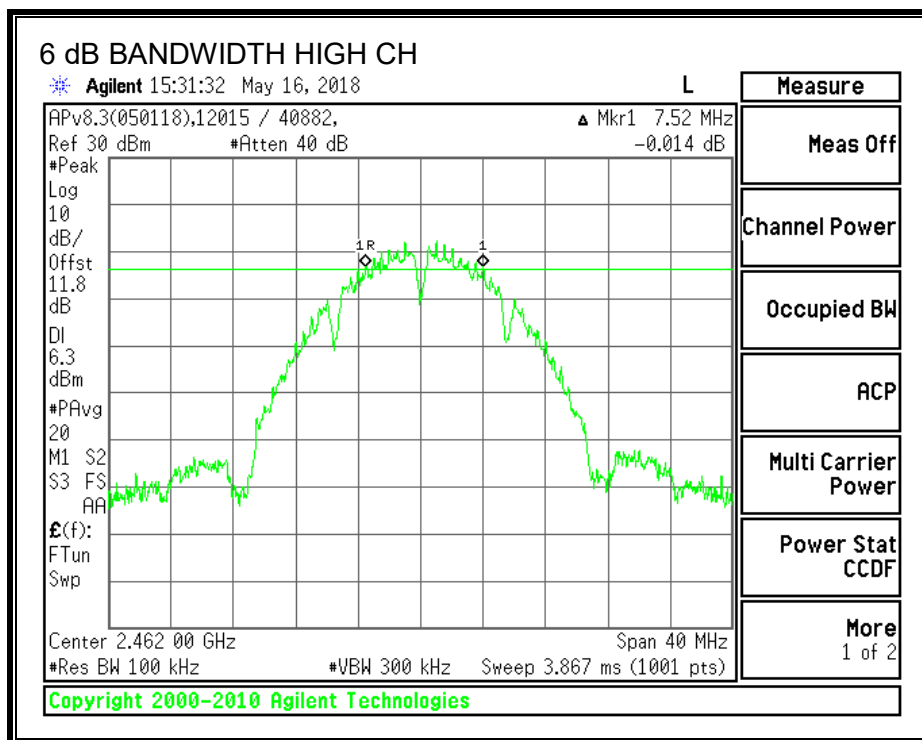
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	7.400	0.5
Mid	2437	7.560	0.5
High	2462	7.520	0.5

6 dB BANDWIDTH





8.2.2. 99% BANDWIDTH

LIMITS

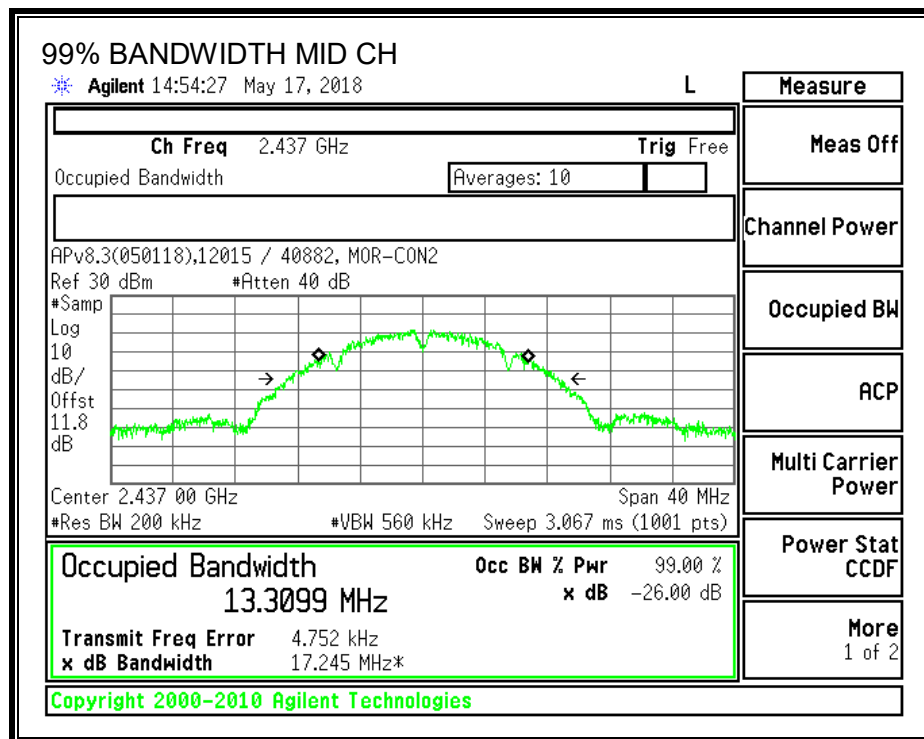
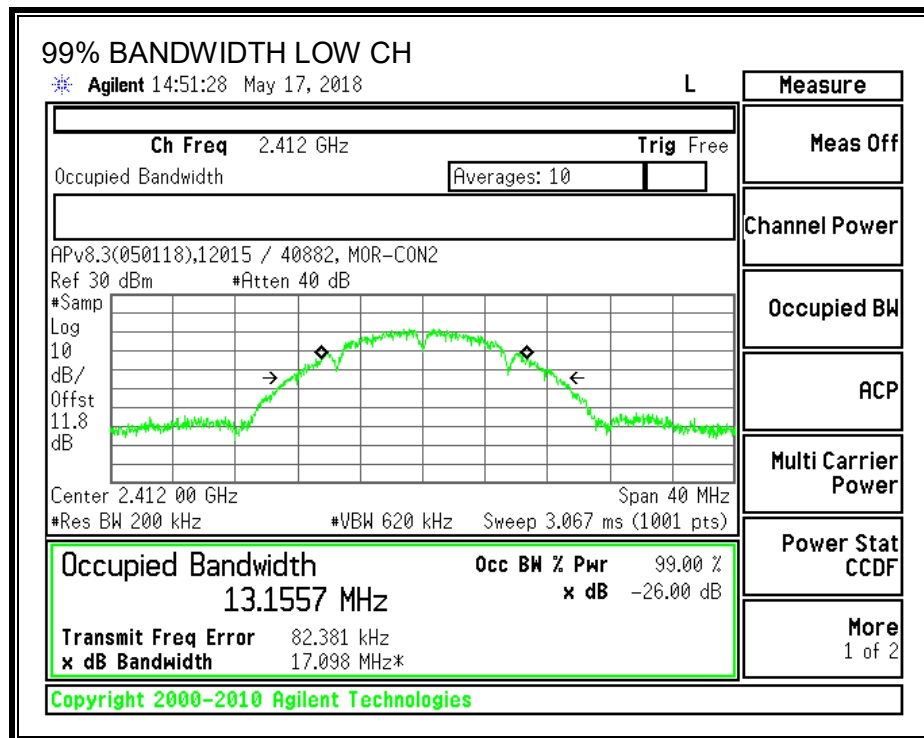
None. For reporting purposes only.

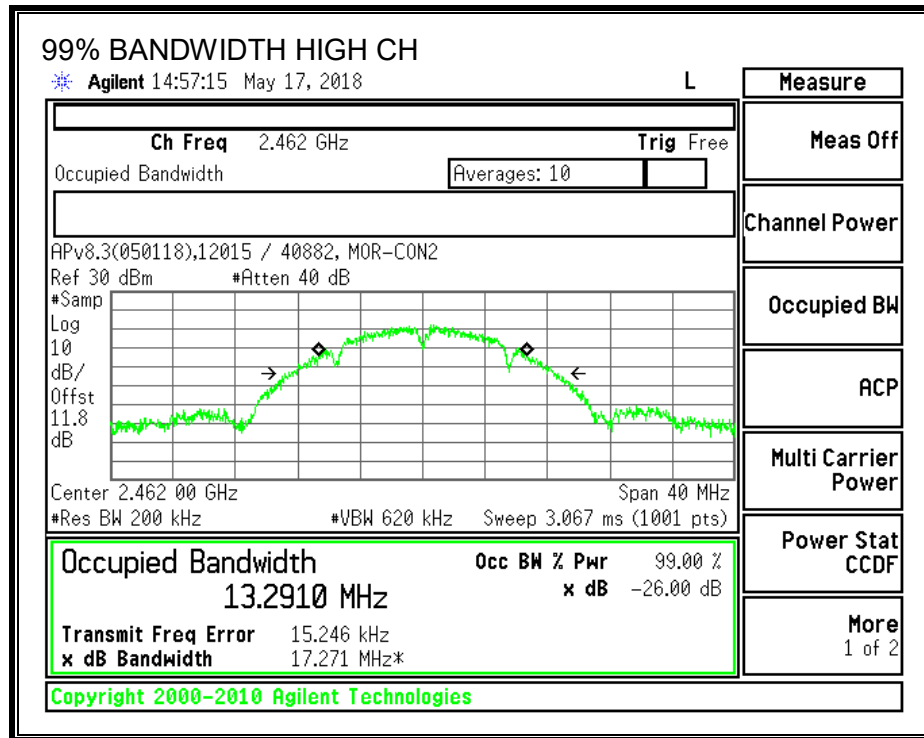
Tested per RSS-Gen 6.7

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	13.156
Mid	2437	13.310
High	2462	13.291

99% BANDWIDTH





8.2.3. OUTPUT POWER

LIMITS

FCC §15.247

ISED RSS-247 Clauses 5.4 (d), 5.4 (e), and 5.4 (f)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	3.50	30.00	30	36	30.00
2	2417	3.50	30.00	30	36	30.00
Mid	2437	3.50	30.00	30	36	30.00
10	2457	3.50	30.00	30	36	30.00
High	2462	3.50	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	22.11	30.00	-7.89
2	2417	22.87	30.00	-7.13
Mid	2437	22.85	30.00	-7.15
10	2457	22.71	30.00	-7.29
High	2462	22.48	30.00	-7.52

Note: Power is peak.

TEST INFORMATION

Date: 2018-05-04
Tester: 46726 / 17051

8.2.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

ISED RSS-247 Clause 5.2 (b)

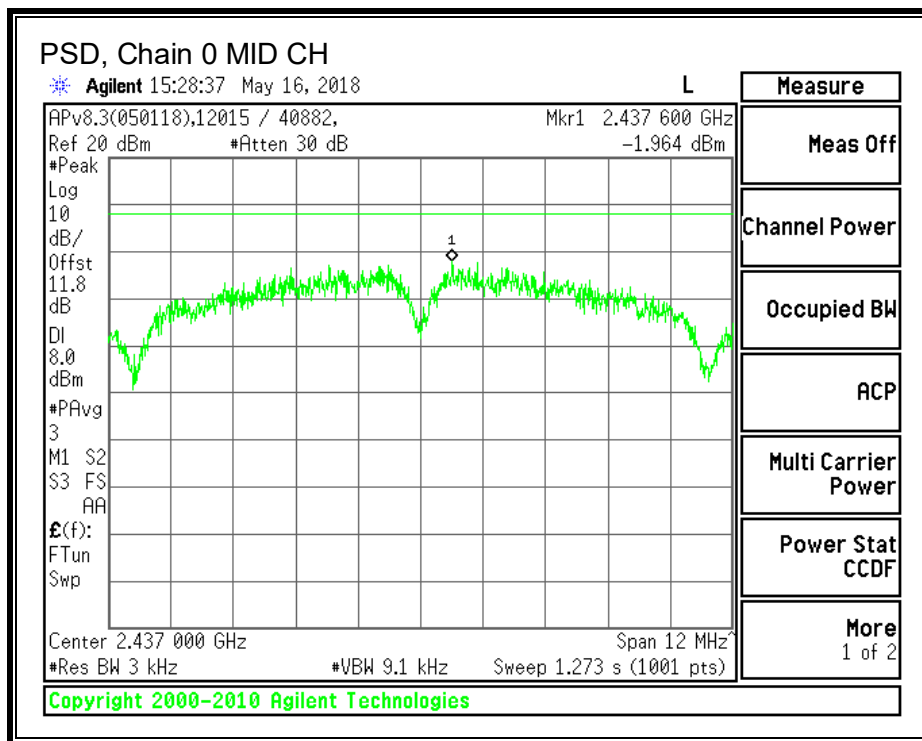
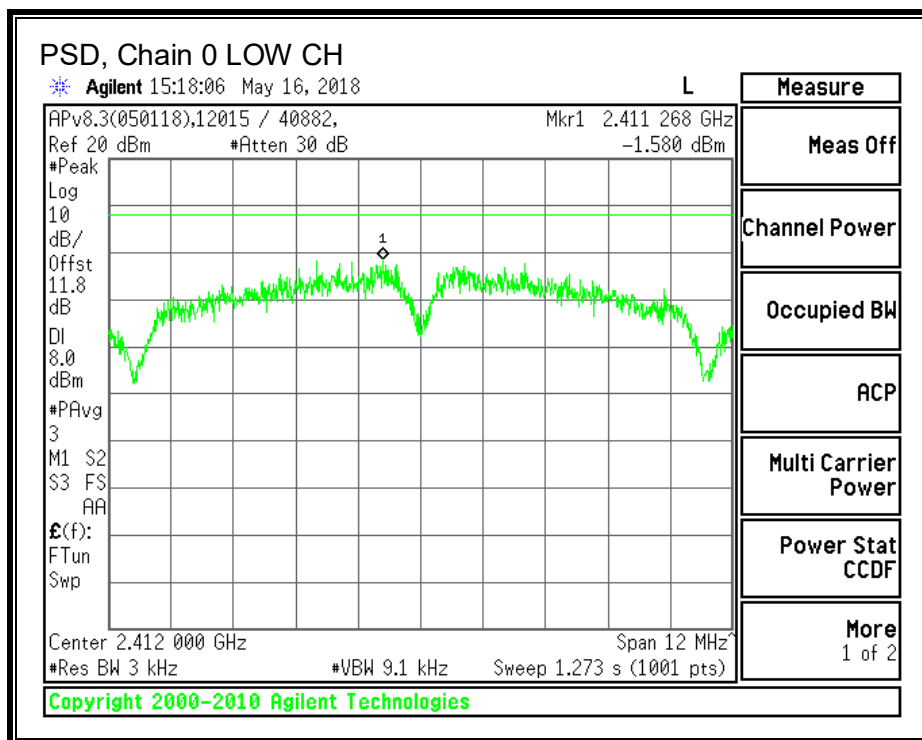
RESULTS

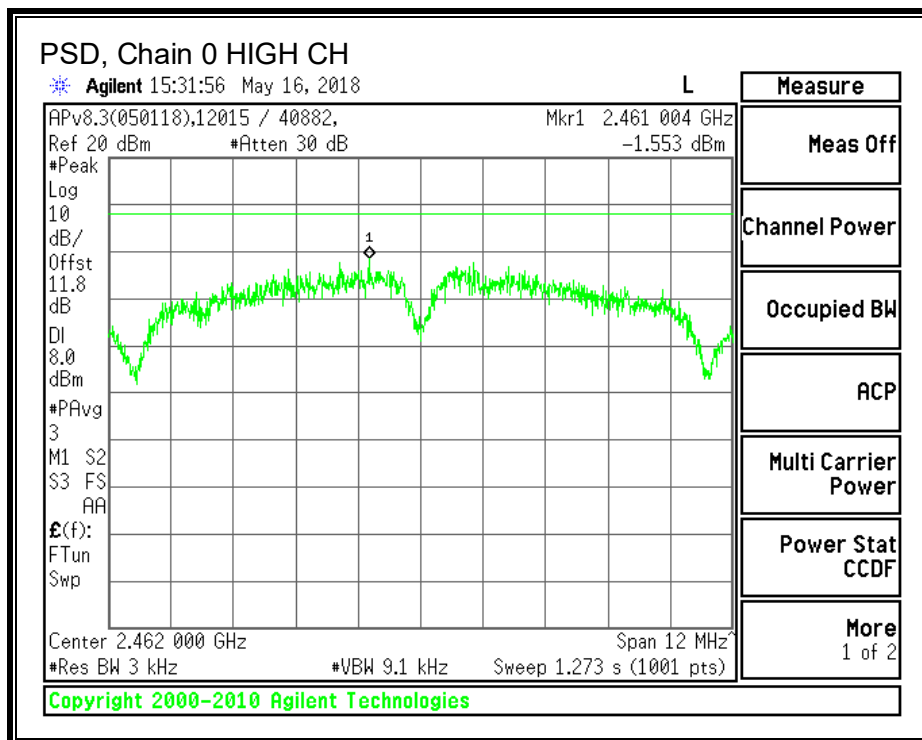
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-1.58	8.0	-9.6
Mid	2437	-1.96	8.0	-10.0
High	2462	-1.55	8.0	-9.6

Note: PSD was performed at mid channel power level.

PSD, Chain 0





8.2.5. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

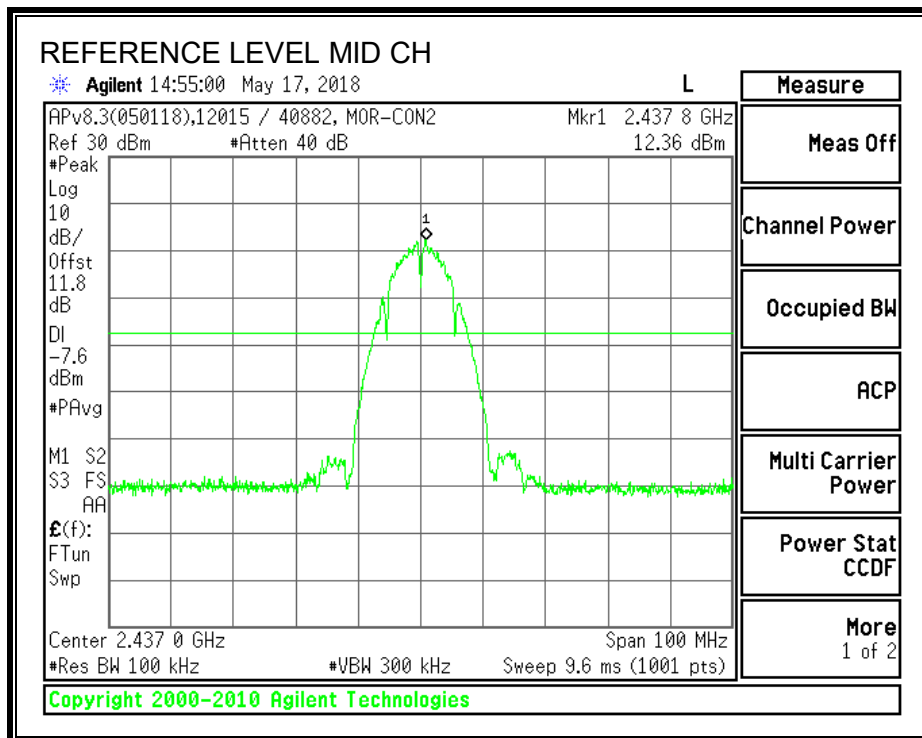
ISED RSS-247 Clause 5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

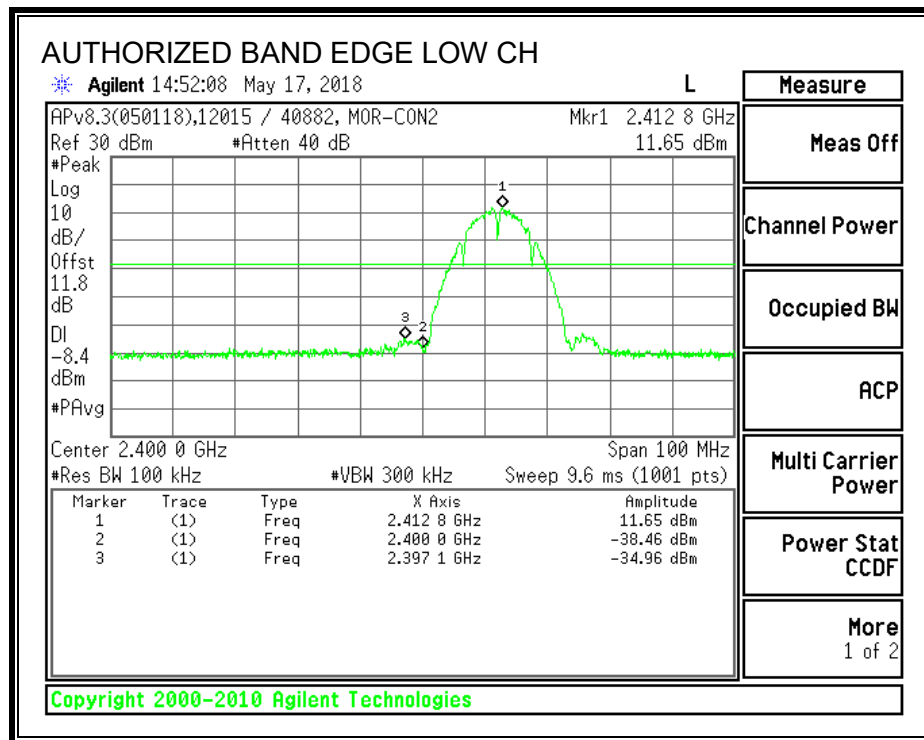
Note: Out of band emissions were performed at mid channel power level.

RESULTS

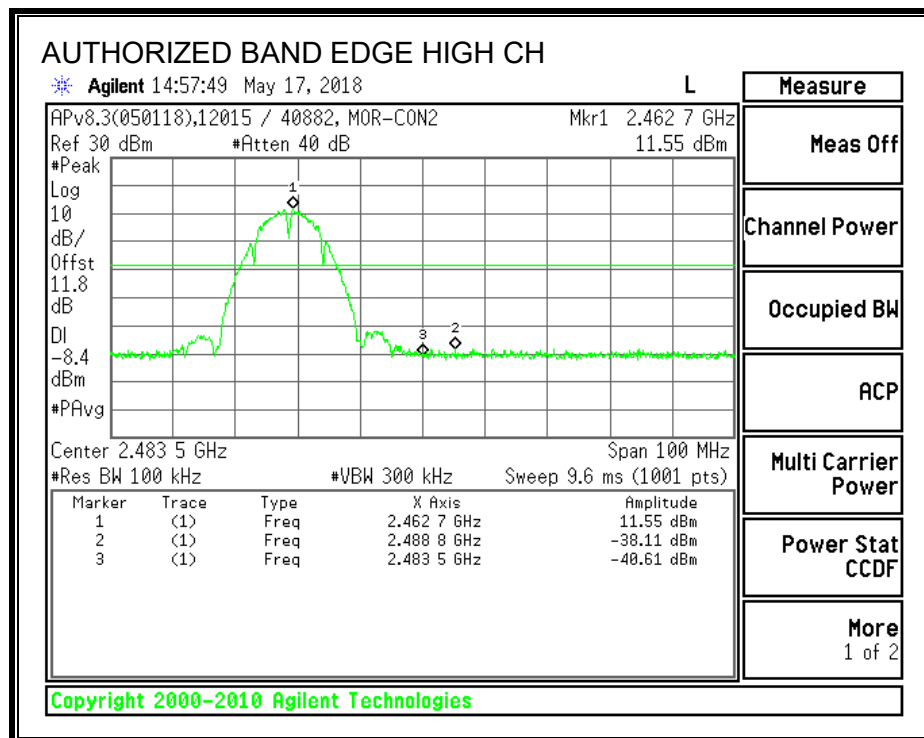
IN-BAND REFERENCE LEVEL



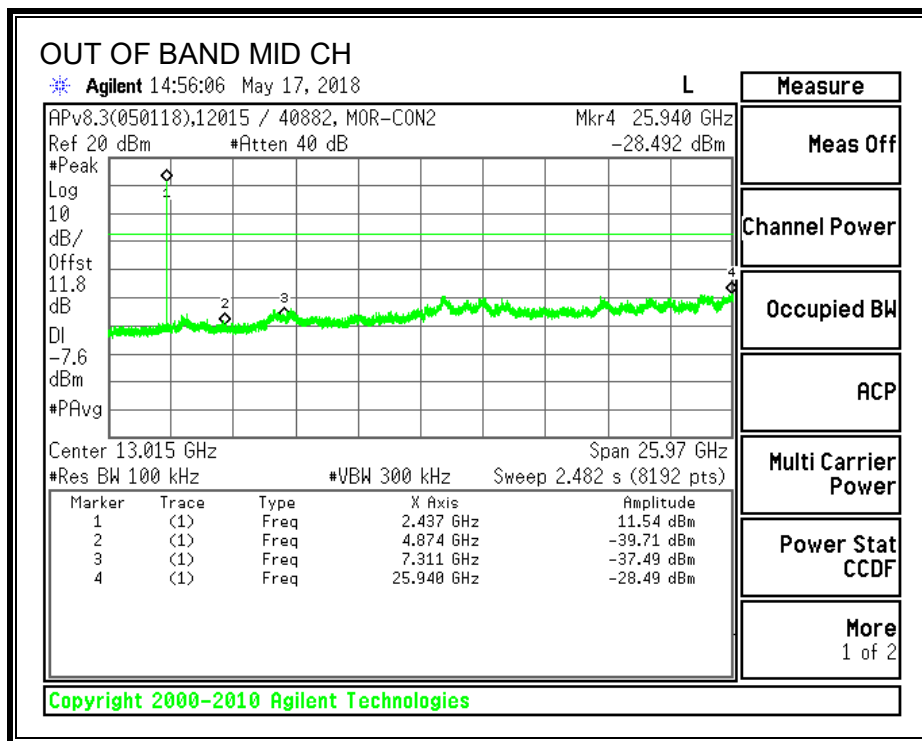
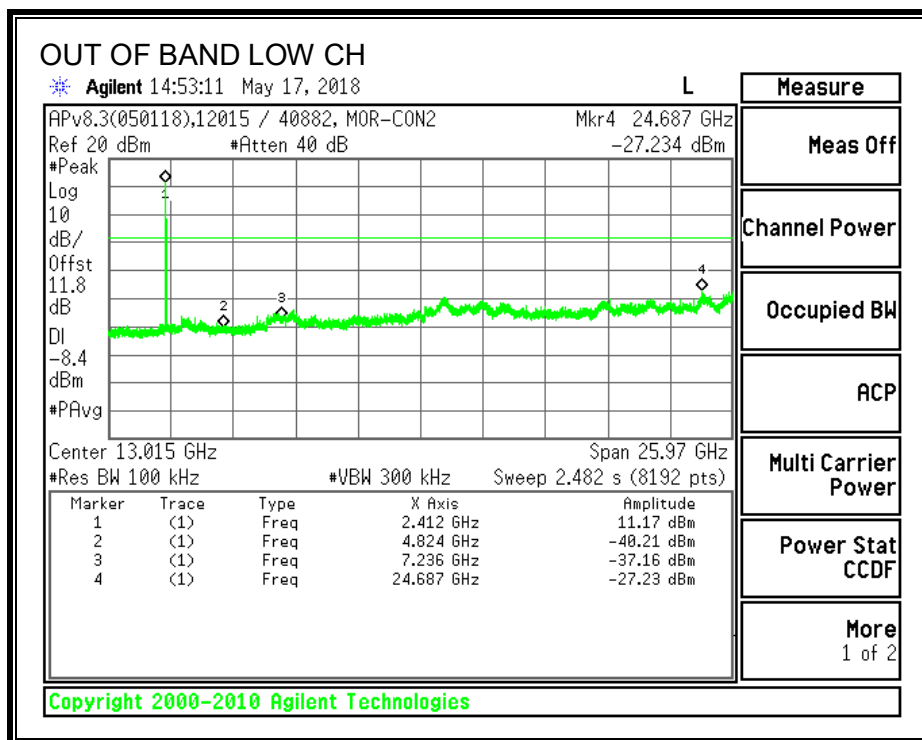
LOW CHANNEL BANDEDGE

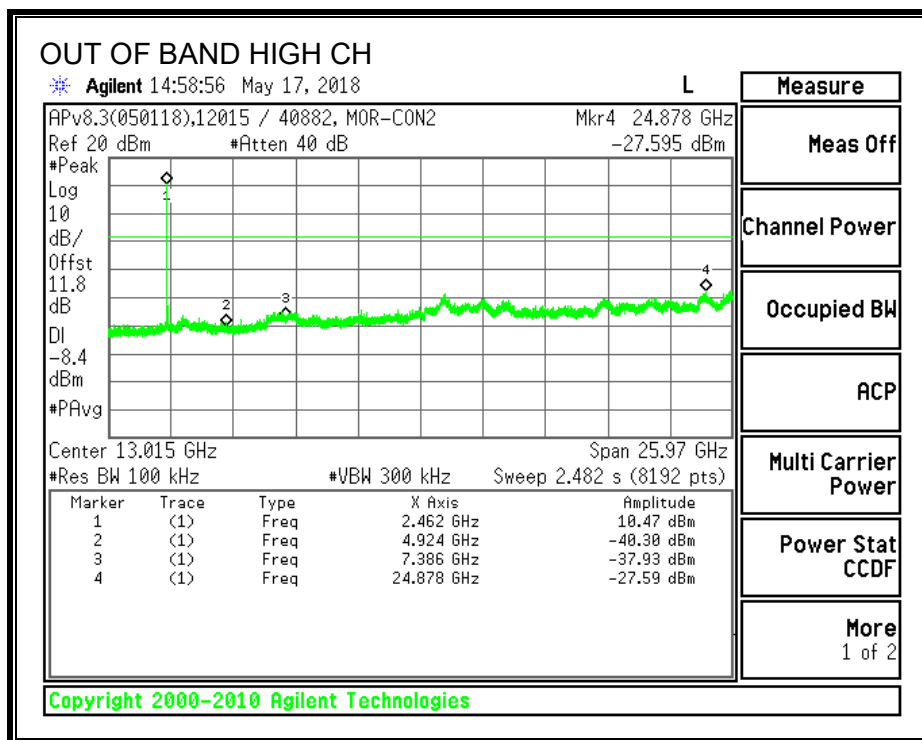


HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS





8.3. 802.11g MODE IN THE 2.4 GHz BAND

8.3.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

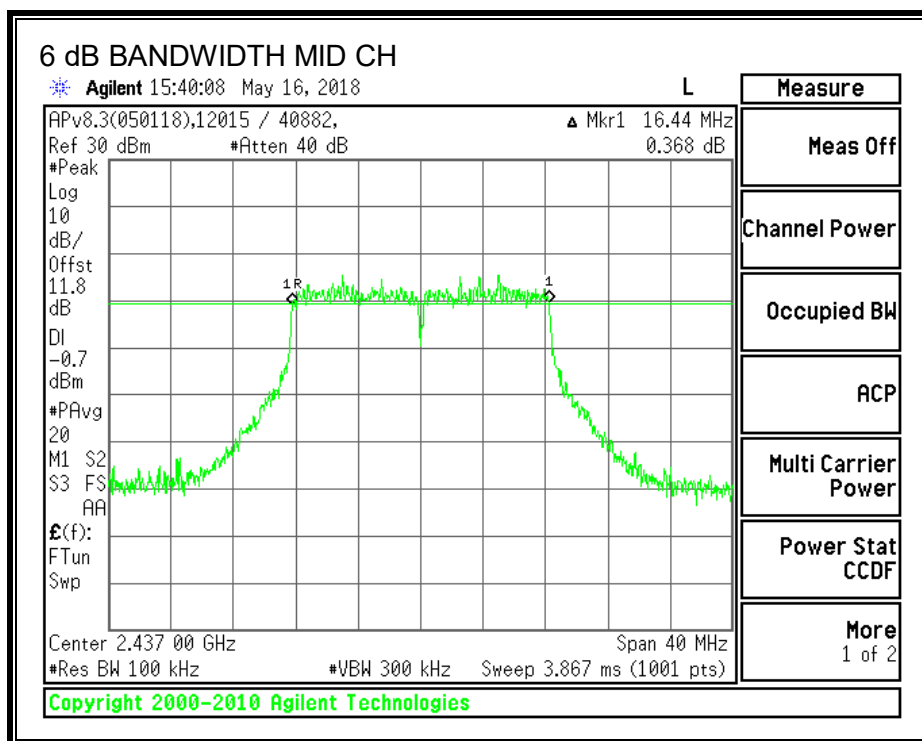
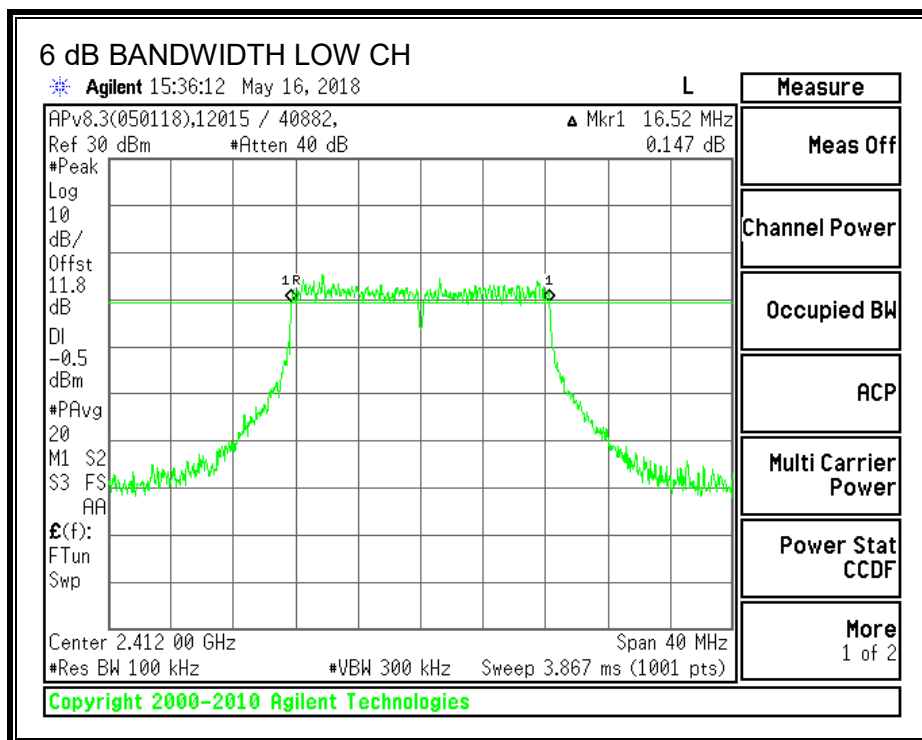
ISED RSS-247 Clause 5.2 (a)

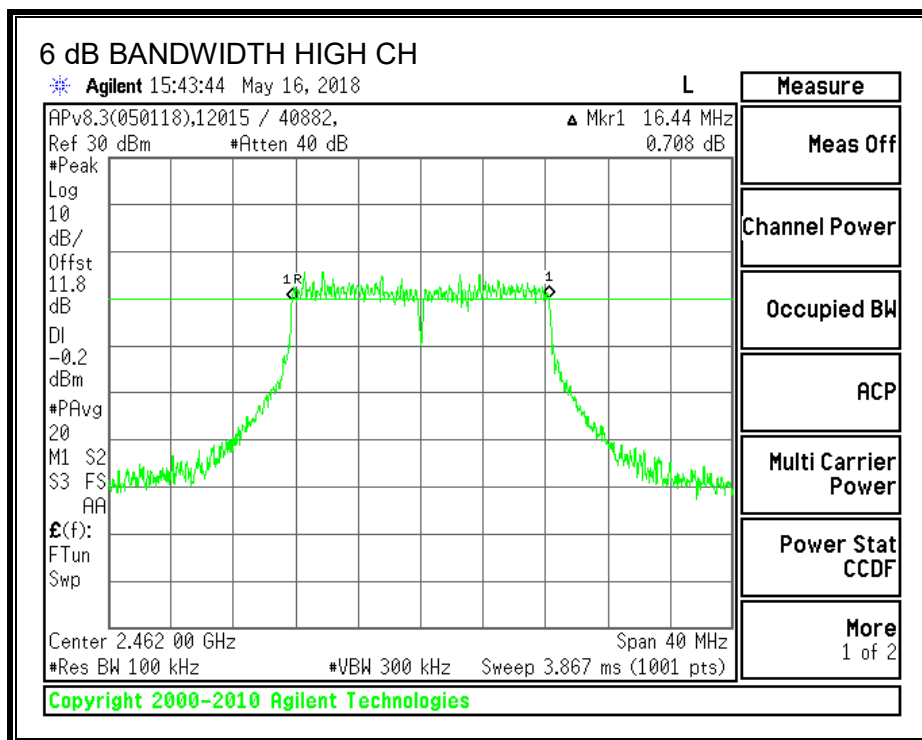
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	16.520	0.5
Mid	2437	16.440	0.5
High	2462	16.440	0.5

6 dB BANDWIDTH





8.3.2. 99% BANDWIDTH

LIMITS

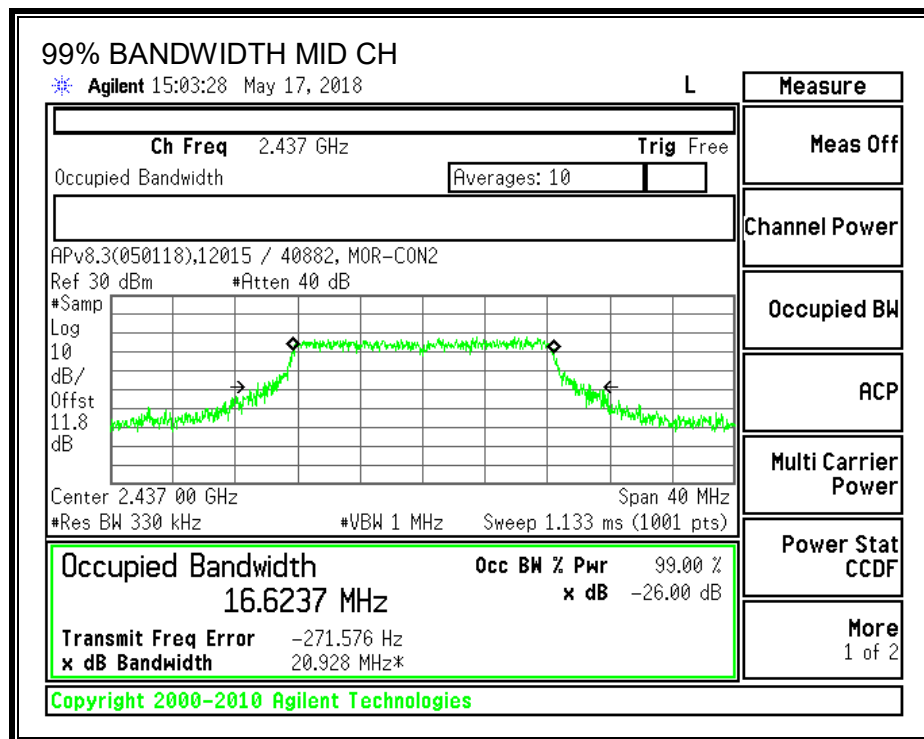
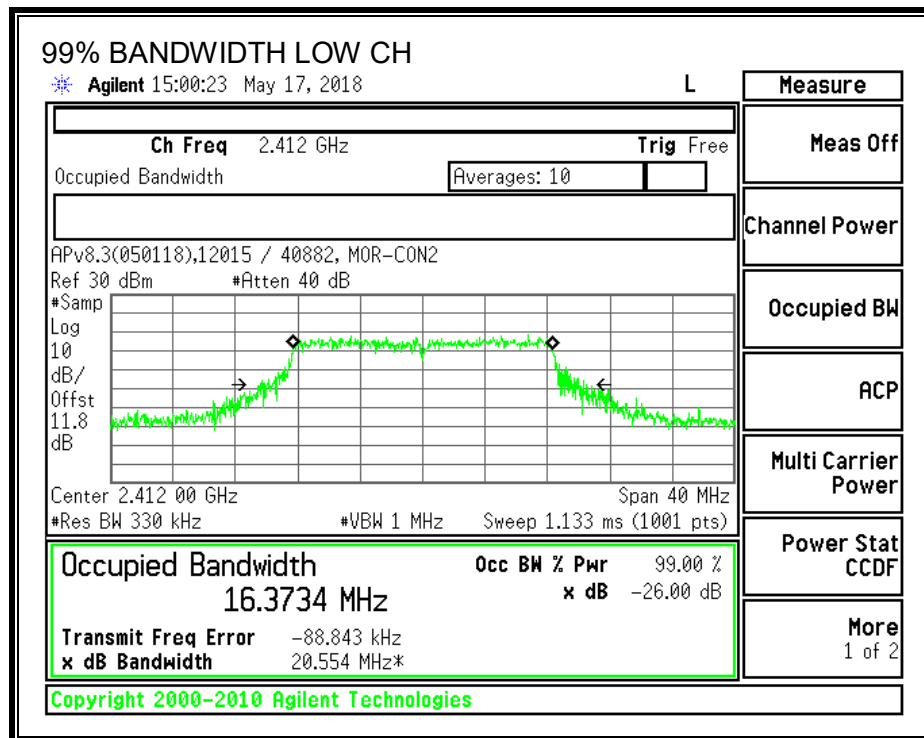
None. For reporting purposes only.

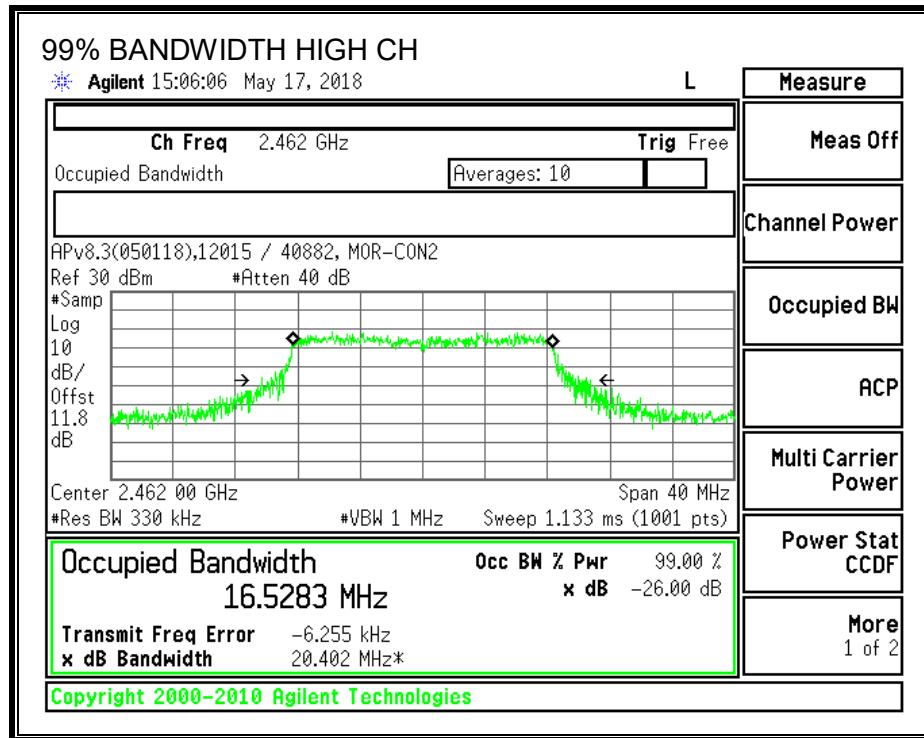
Tested per RSS-Gen 6.7

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.373
Mid	2437	16.624
High	2462	16.528

99% BANDWIDTH





8.3.3. OUTPUT POWER

LIMITS

FCC §15.247

ISED RSS-247 Clauses 5.4 (d), 5.4 (e), and 5.4 (f)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	3.50	30.00	30	36	30.00
2	2417	3.50	30.00	30	36	30.00
Mid	2437	3.50	30.00	30	36	30.00
10	2452	3.50	30.00	30	36	30.00
High	2462	3.50	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	25.62	30.00	-4.38
2	2417	25.71	30.00	-4.29
Mid	2437	25.85	30.00	-4.15
10	2452	25.67	30.00	-4.33
High	2462	23.50	30.00	-6.50

Note: Power is peak.

TEST INFORMATION

Date: 2018-05-04
Tester: 46726 / 17051

8.3.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

ISED RSS-247 Clause 5.2 (b)

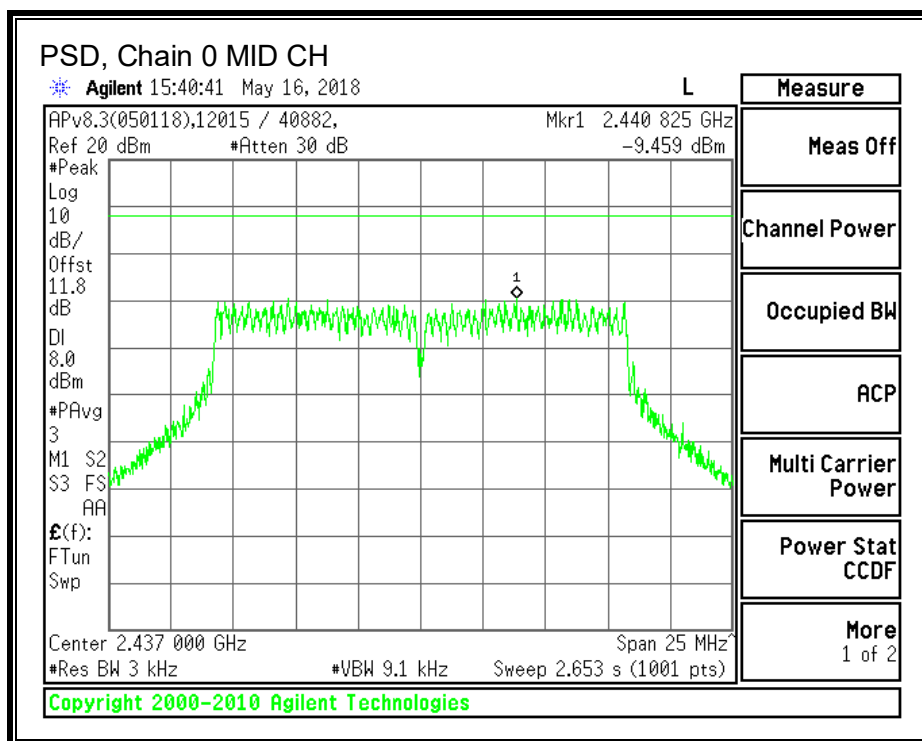
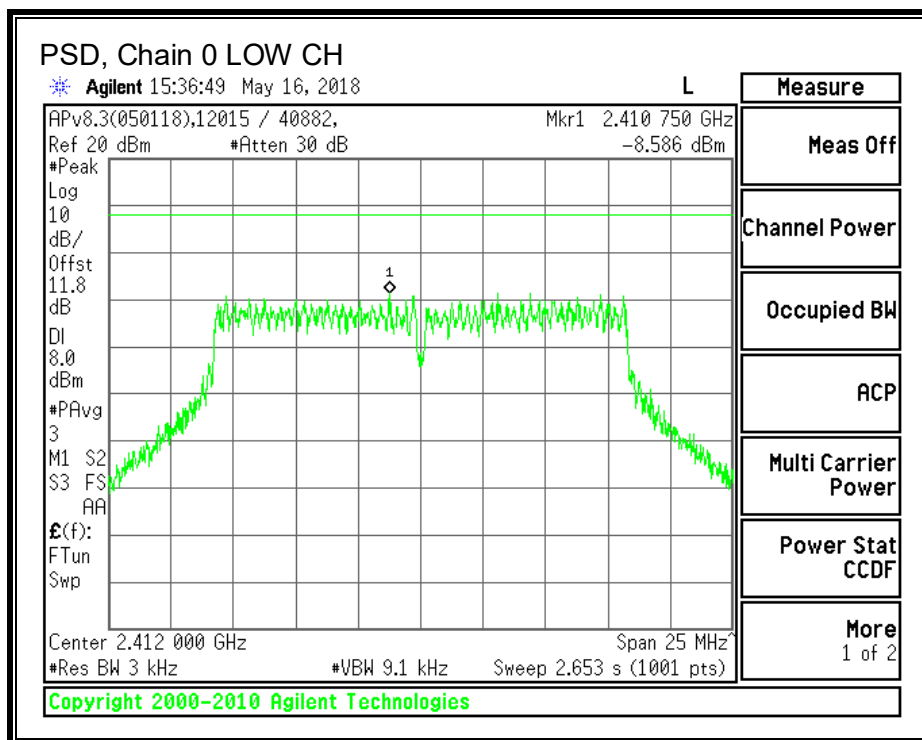
RESULTS

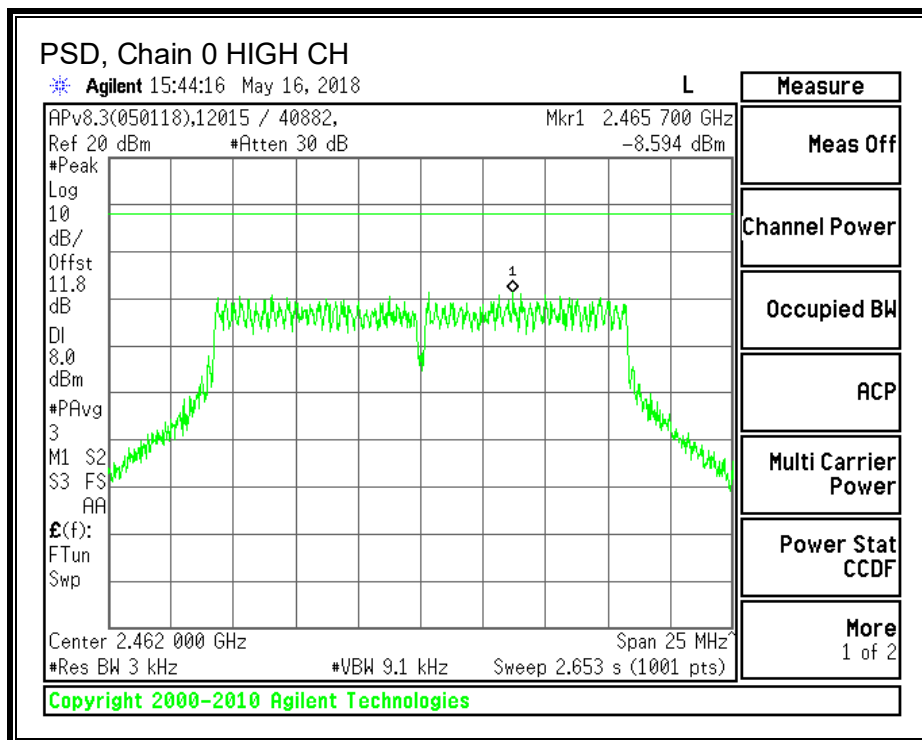
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-8.59	8.0	-16.6
Mid	2437	-9.46	8.0	-17.5
High	2462	-8.59	8.0	-16.6

Note: PSD was performed at mid channel power level.

PSD, Chain 0





8.3.5. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

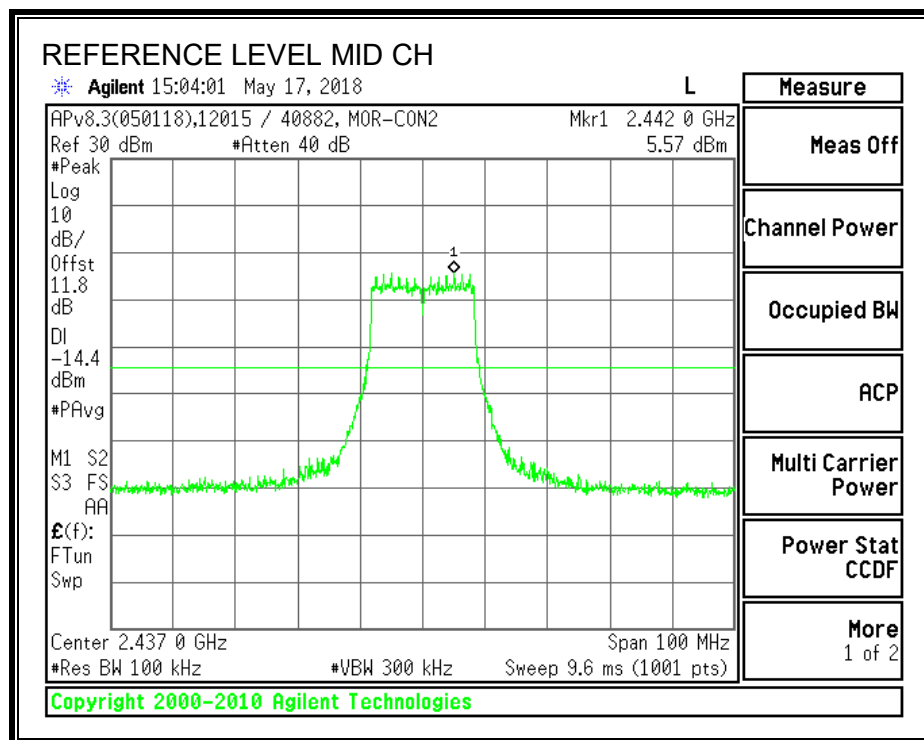
ISED RSS-247 Clause 5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

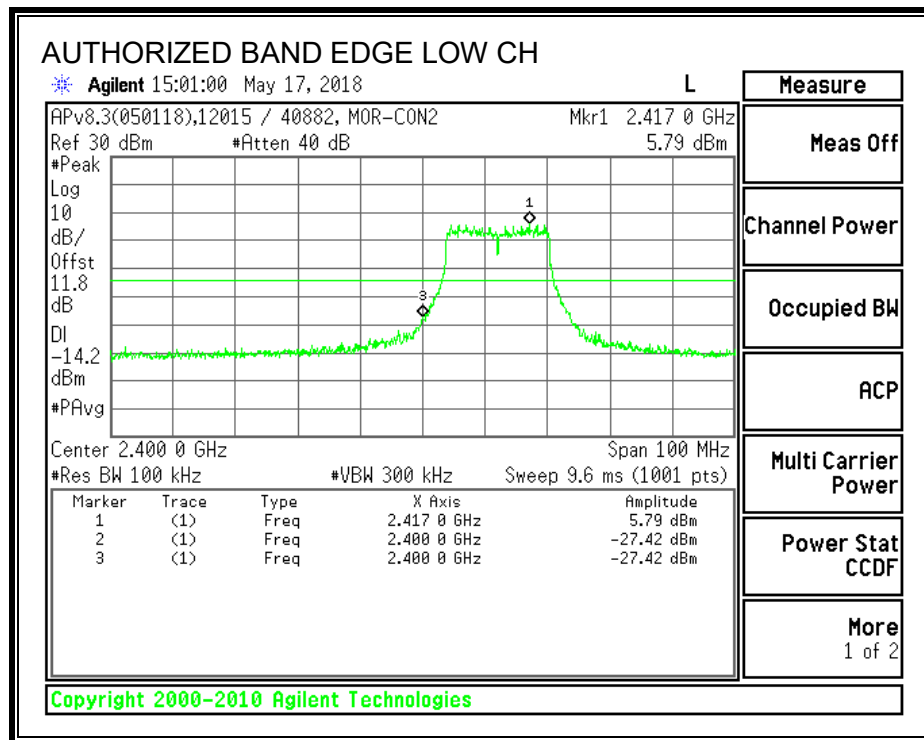
Note: Out of band emissions were performed at mid channel power level.

RESULTS

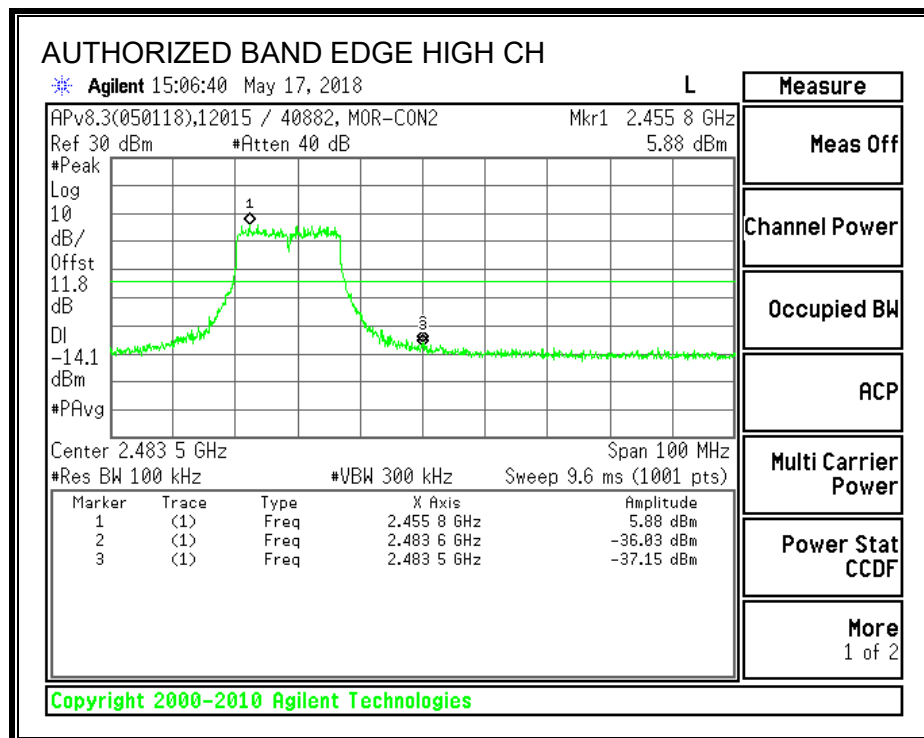
IN-BAND REFERENCE LEVEL



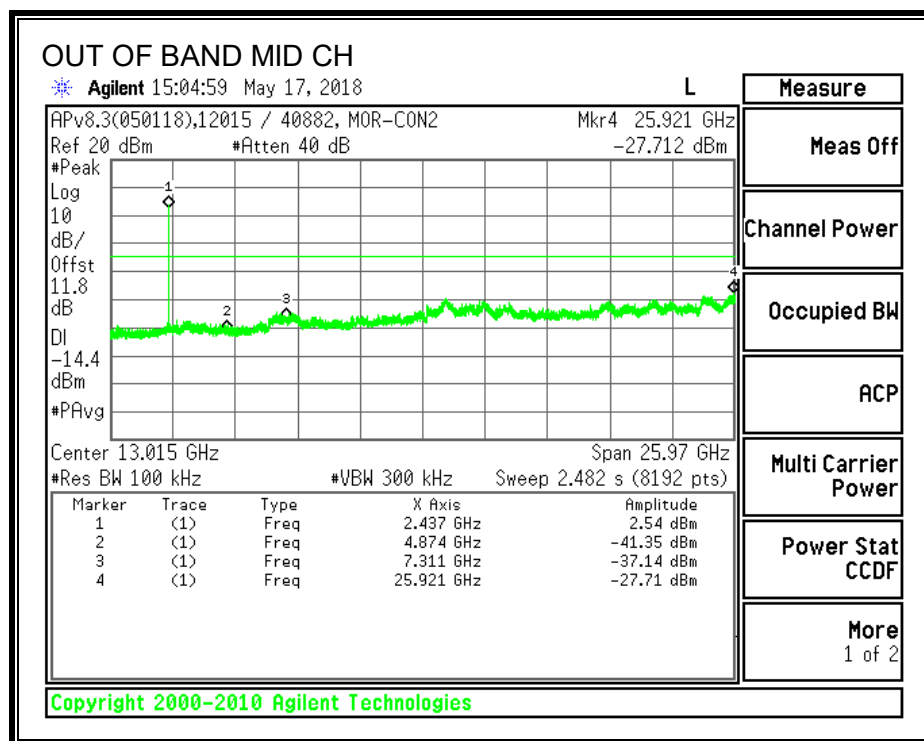
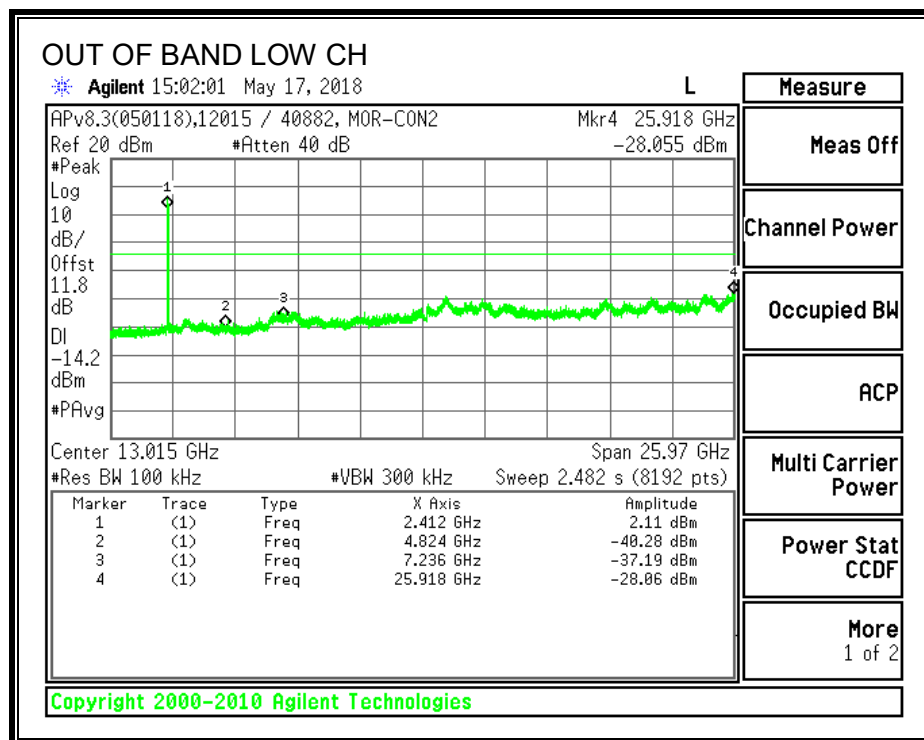
LOW CHANNEL BANDEDGE

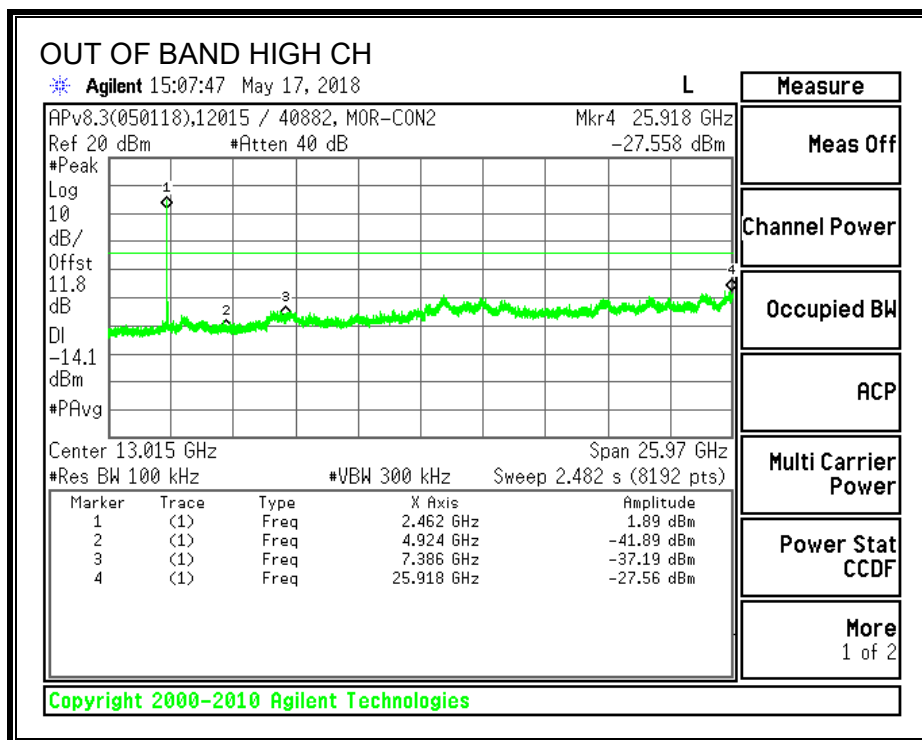


HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS





8.4. 802.11n HT20 MODE IN THE 2.4 GHz BAND

8.4.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

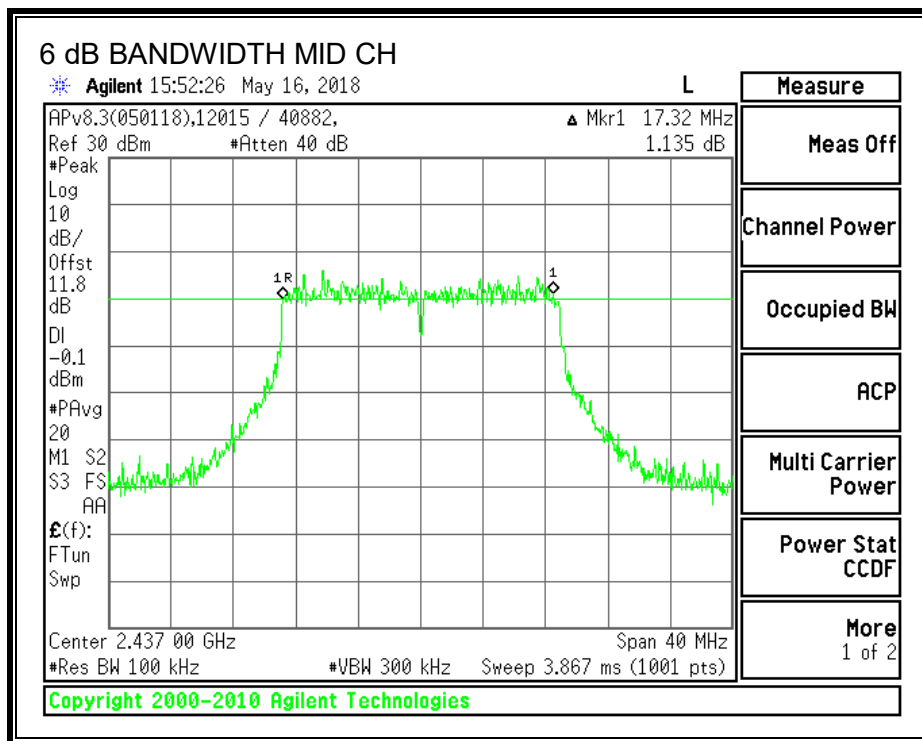
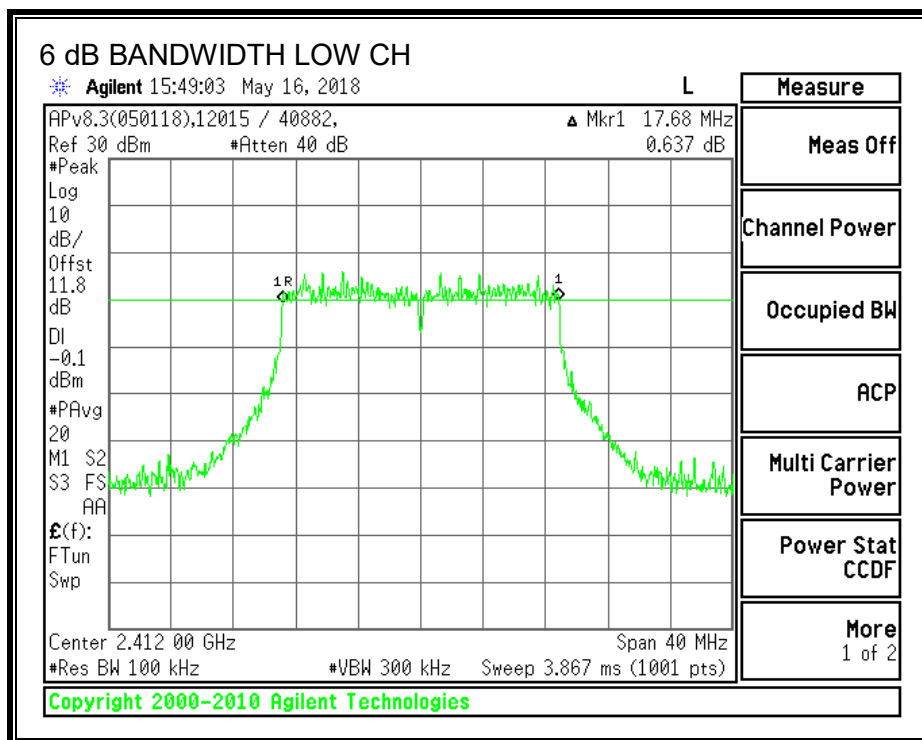
ISED RSS-247 Clause 5.2 (a)

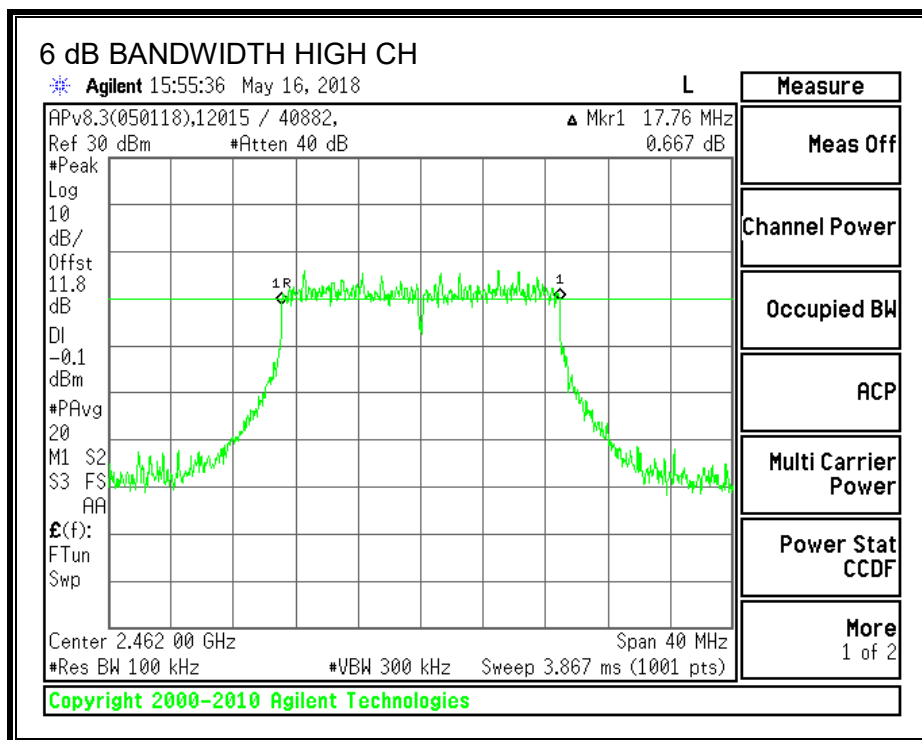
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	17.680	0.5
Mid	2437	17.320	0.5
High	2462	17.760	0.5

6 dB BANDWIDTH





8.4.2. 99% BANDWIDTH

LIMITS

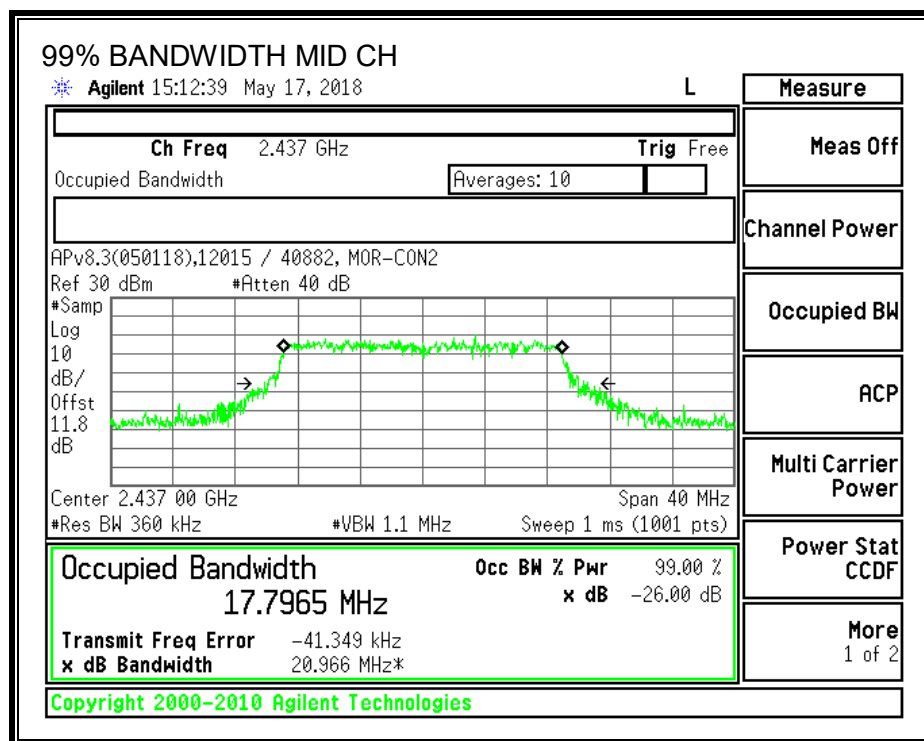
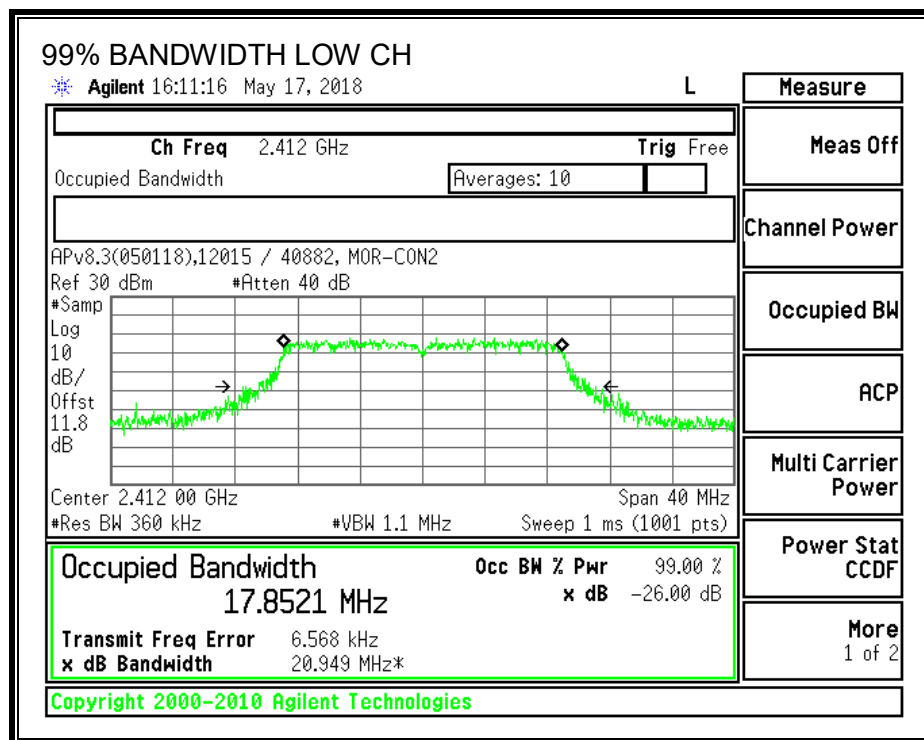
None. For reporting purposes only.

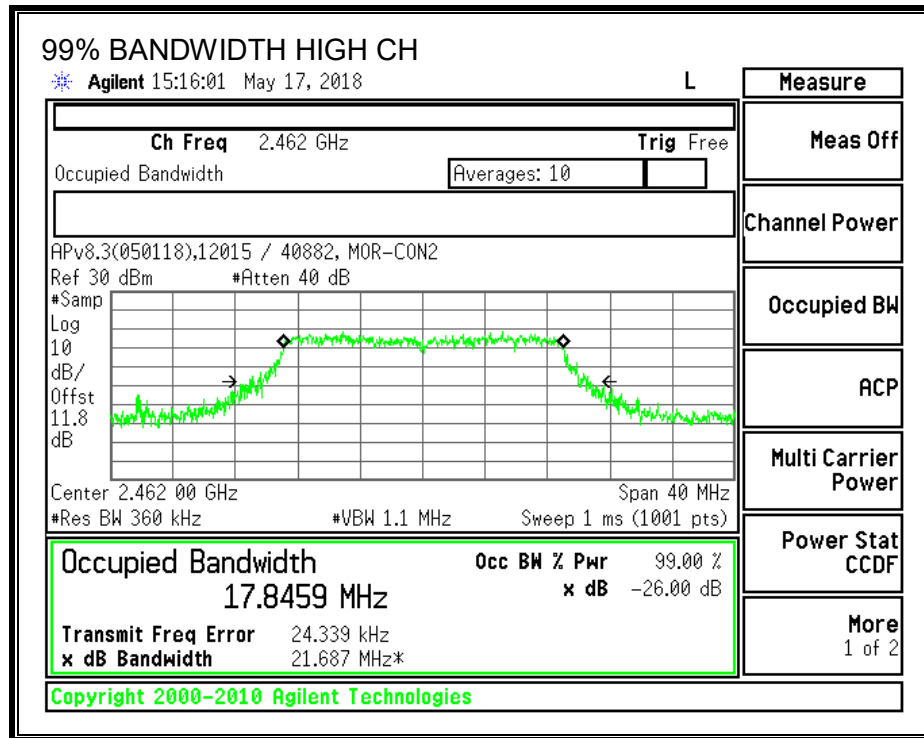
Tested per RSS-Gen 6.7

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.852
Mid	2437	17.797
High	2462	17.846

99% BANDWIDTH





8.4.3. OUTPUT POWER

LIMITS

FCC §15.247

ISED RSS-247 Clauses 5.4 (d), 5.4 (e), and 5.4 (f)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	3.50	30.00	30	36	30.00
2	2417	3.50	30.00	30	36	30.00
Mid	2437	3.50	30.00	30	36	30.00
10	2452	3.50	30.00	30	36	30.00
High	2462	3.50	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	22.13	22.13	30.00	-7.87
2	2417	25.69	25.69	30.00	-4.31
Mid	2437	25.47	25.47	30.00	-4.53
10	2457	25.09	25.09	30.00	-4.91
High	2462	22.72	22.72	30.00	-7.28

Note: Power is peak.

TEST INFORMATION

Date: 2018-05-04

Tester: 46726 / 17051

8.4.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

ISED RSS-247 Clause 5.2 (b)

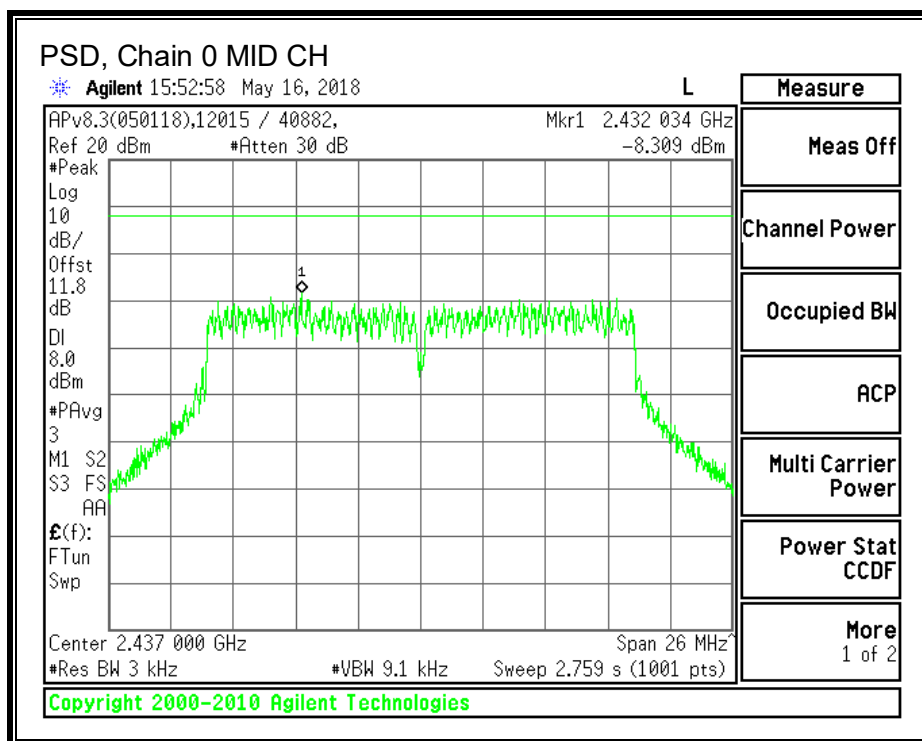
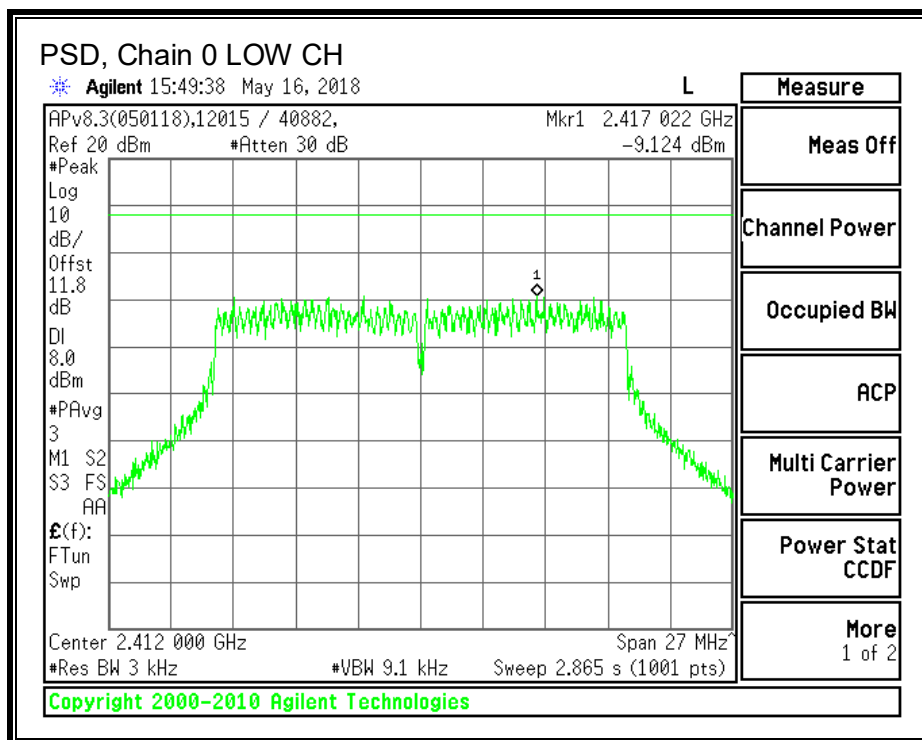
RESULTS

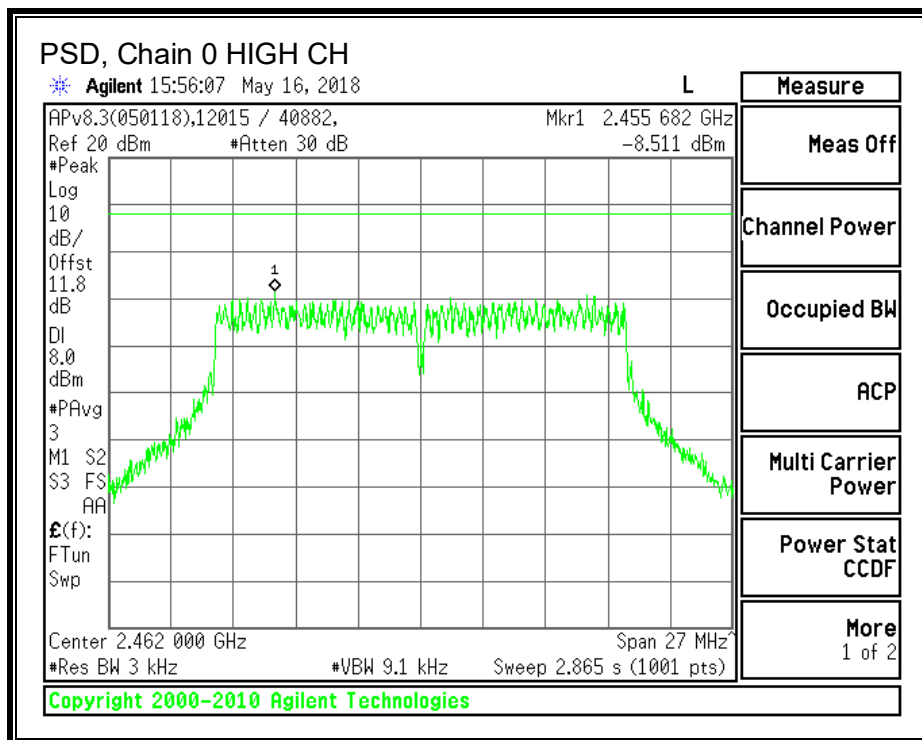
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-9.12	-9.12	8.0	-17.1
Mid	2437	-8.31	-8.31	8.0	-16.3
High	2462	-8.51	-8.51	8.0	-16.5

Note: PSD was performed at mid channel power level.

PSD, Chain 0





8.4.5. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

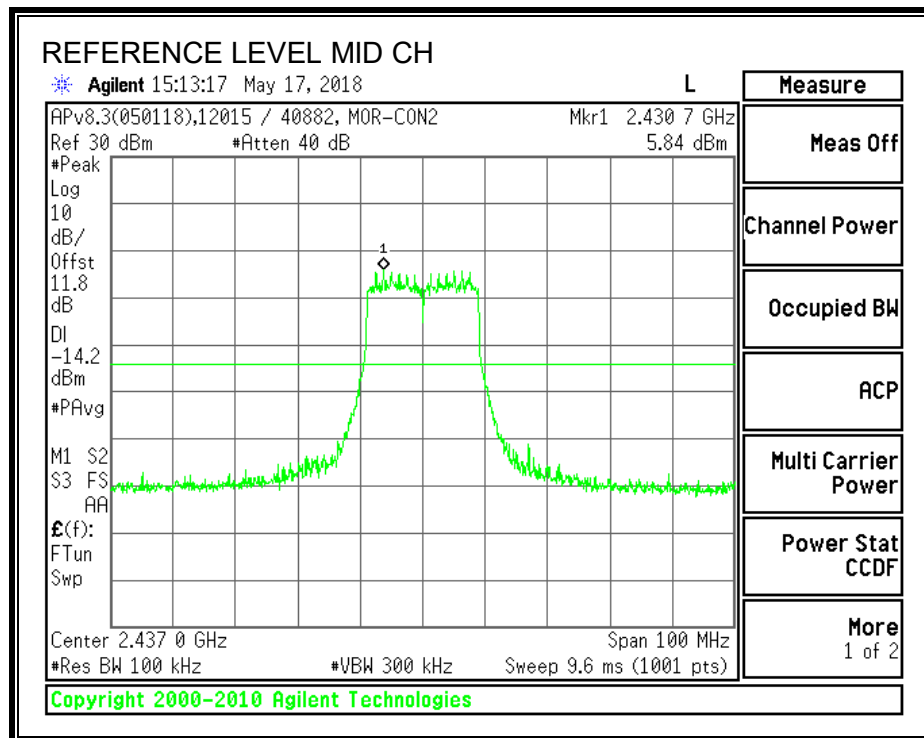
ISED RSS-247 Clause 5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

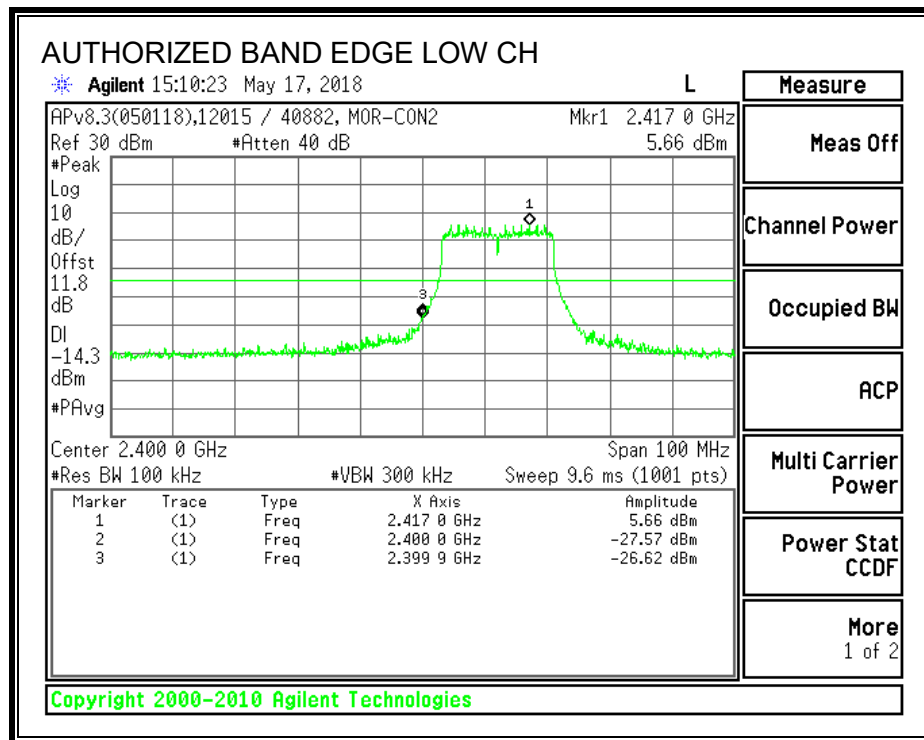
Note: Out of band emissions were performed at mid channel power level.

RESULTS

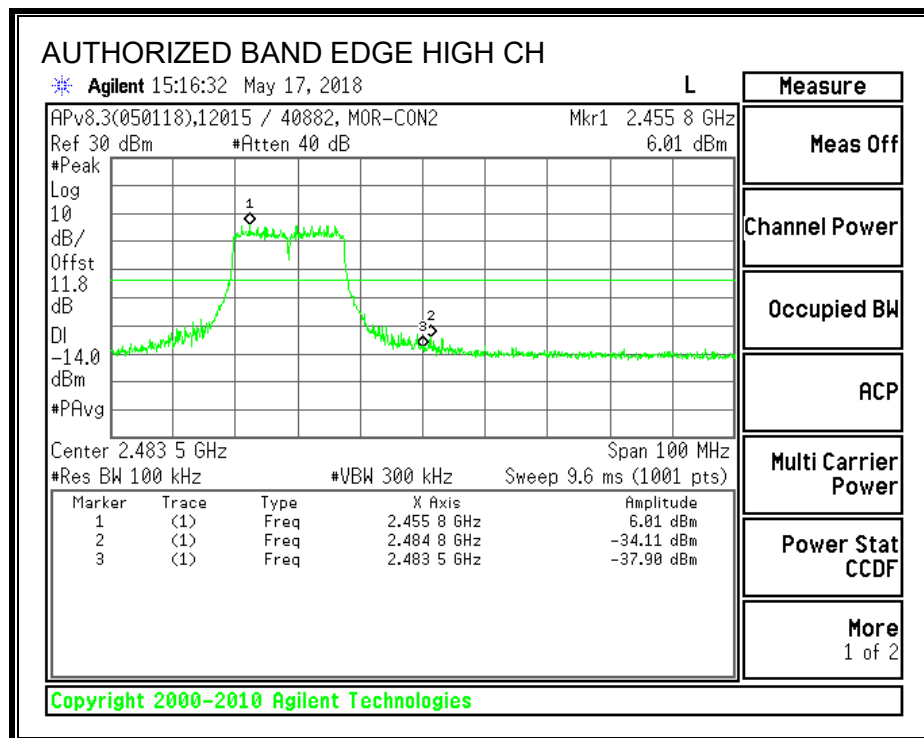
IN-BAND REFERENCE LEVEL



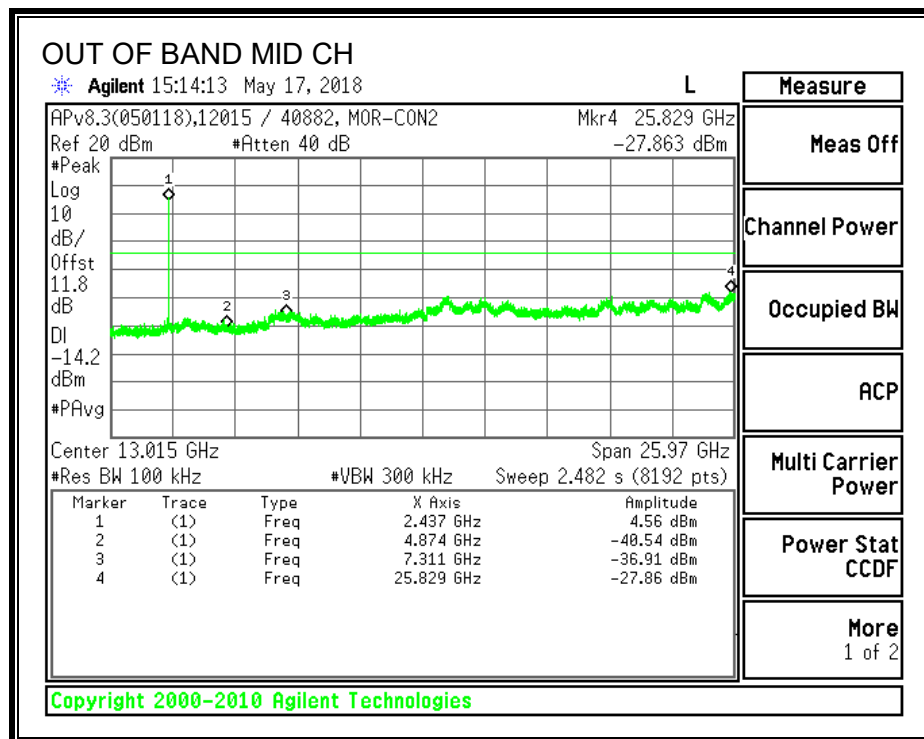
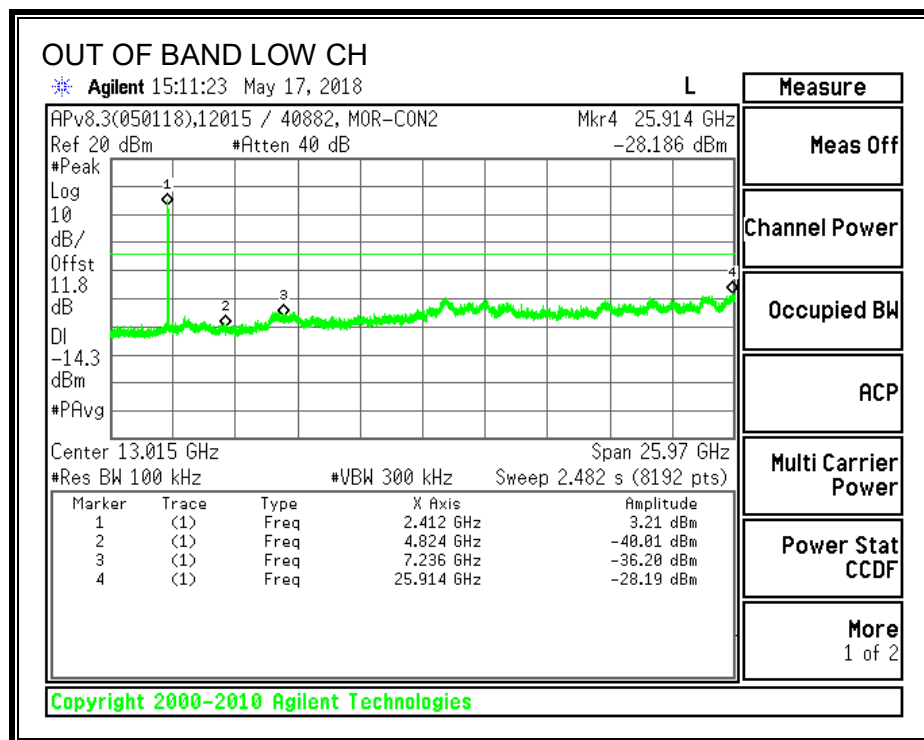
LOW CHANNEL BANDEDGE

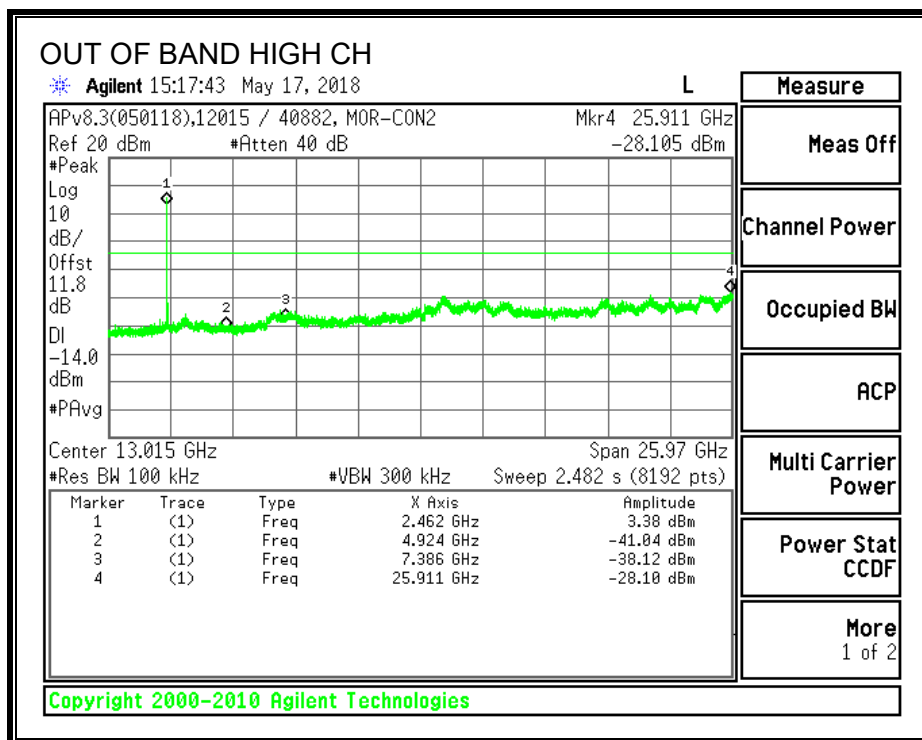


HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS





8.5. 802.11n HT40 MODE IN THE 2.4 GHz BAND

8.5.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

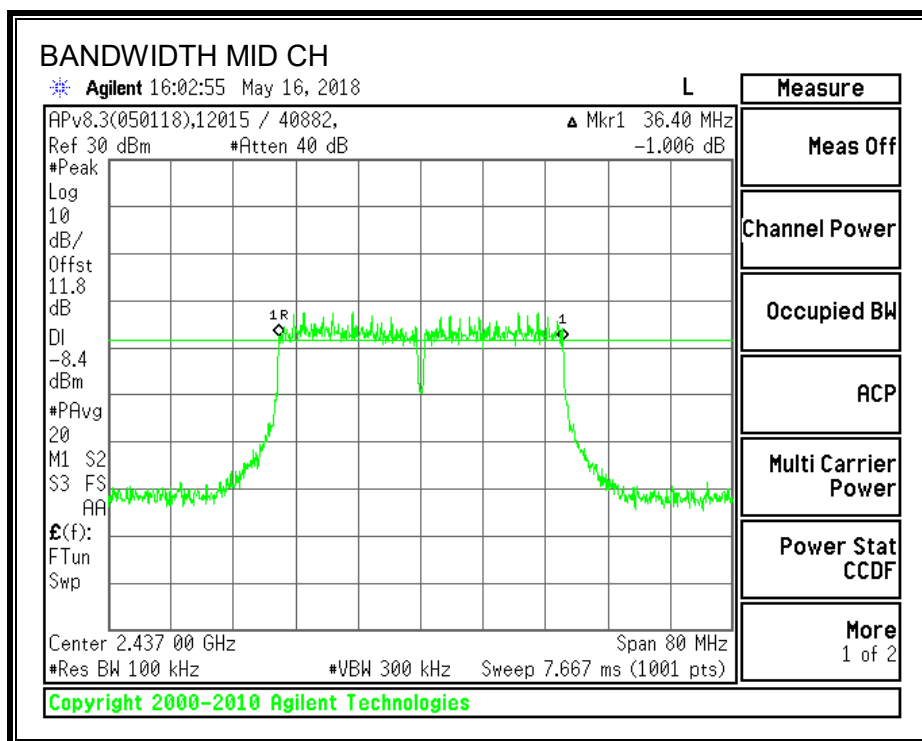
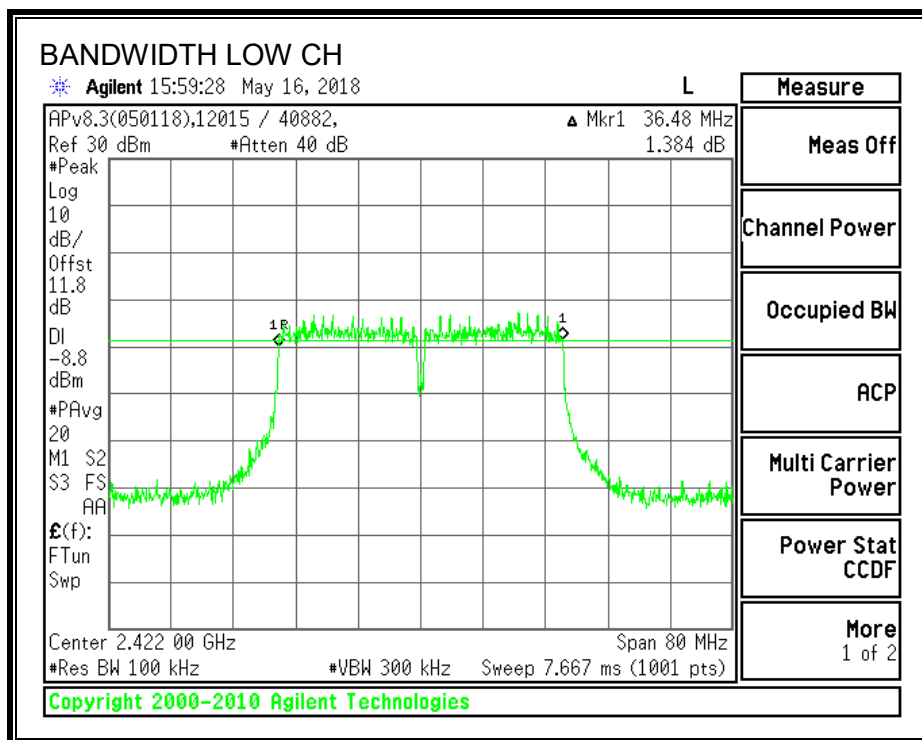
ISED RSS-247 Clause 5.2 (a)

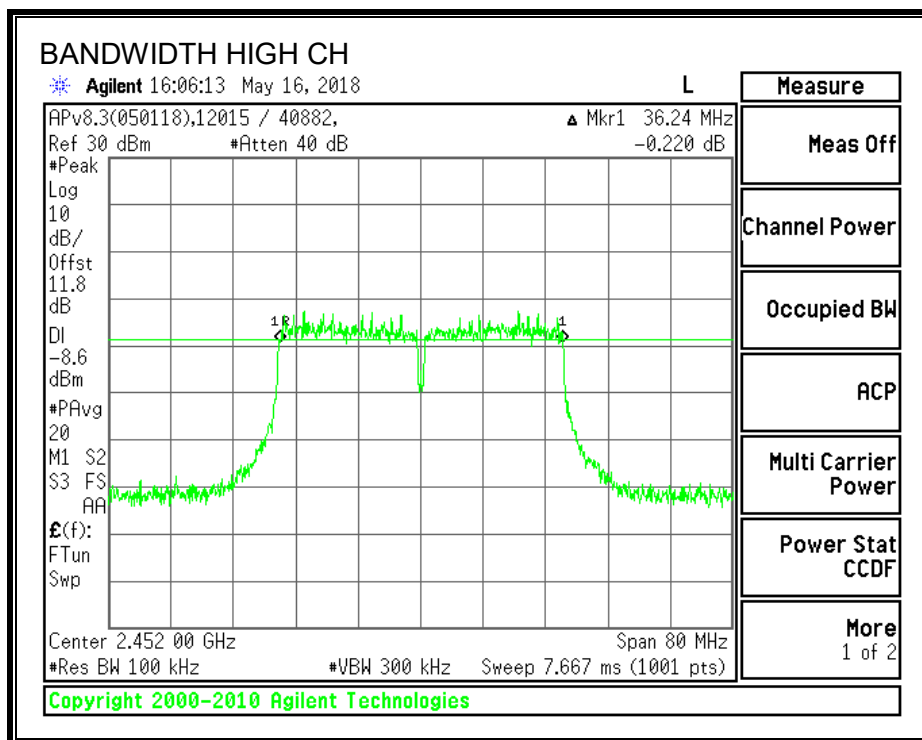
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2422	36.480	0.5
Mid	2437	36.400	0.5
High	2452	36.240	0.5

6 dB BANDWIDTH





8.5.2. 99% BANDWIDTH

LIMITS

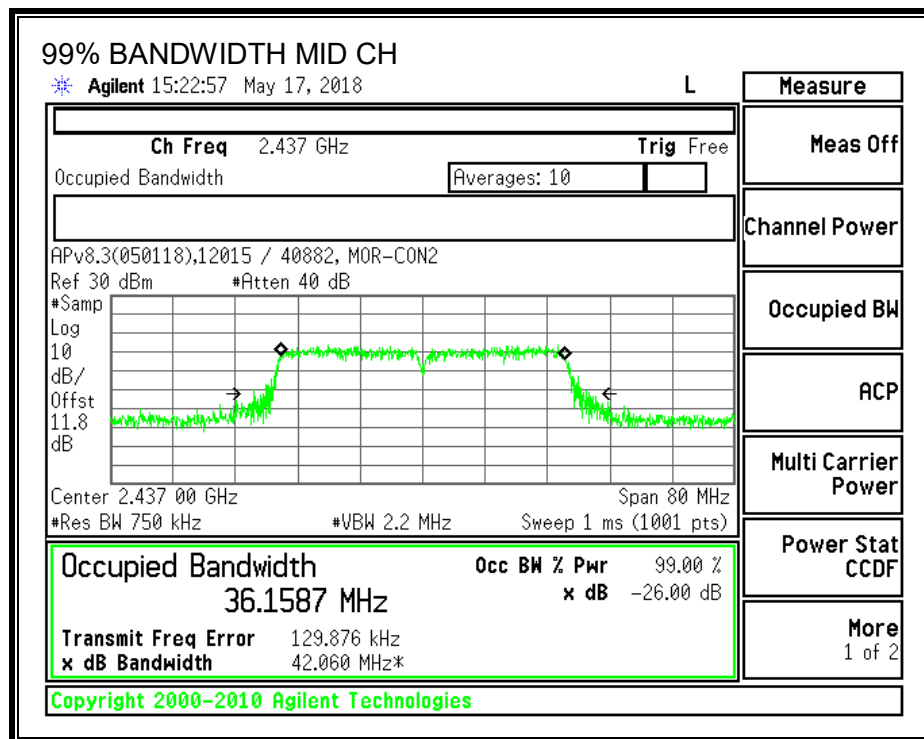
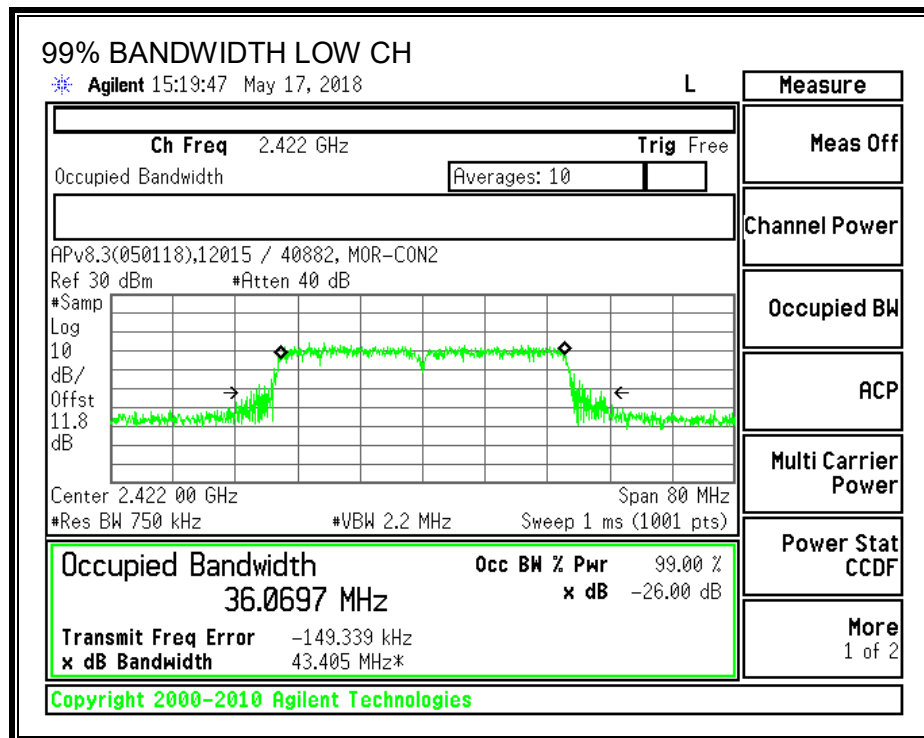
None. For reporting purposes only.

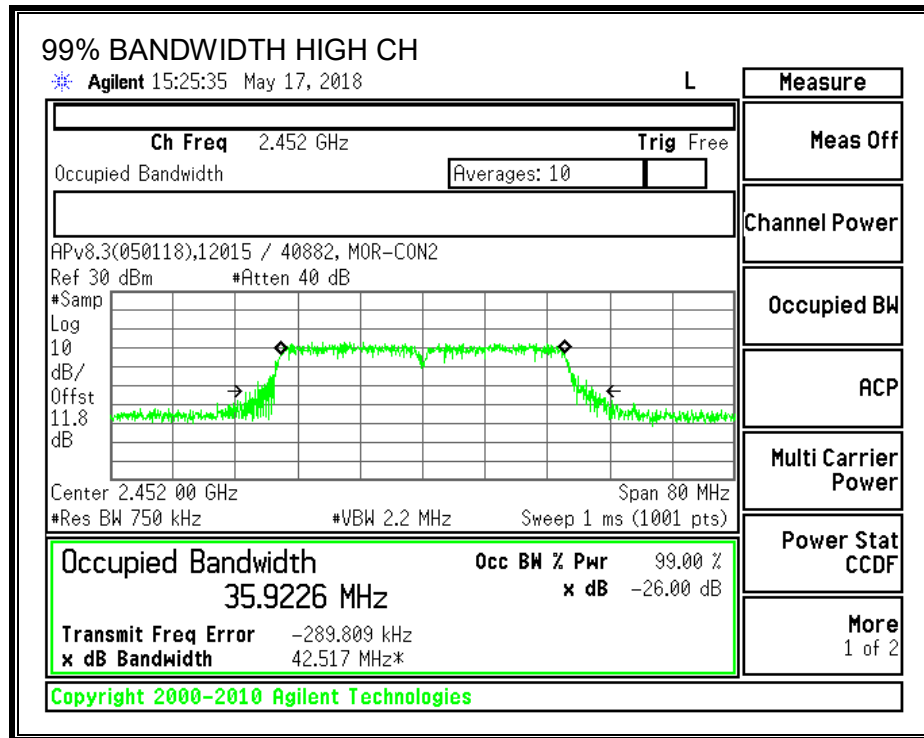
Tested per RSS-Gen 6.7

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2422	36.070
Mid	2437	36.159
High	2452	35.923

99% BANDWIDTH





8.5.3. OUTPUT POWER

LIMITS

FCC §15.247

ISED RSS-247 Clauses 5.4 (d), 5.4 (e), and 5.4 (f)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2422	3.50	30.00	30	36	30.00
4	2427	3.50	30.00	30	36	30.00
5	2432	3.50	30.00	30	36	30.00
Mid	2437	3.50	30.00	30	36	30.00
8	2447	3.50	30.00	30	36	30.00
High	2452	3.50	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2422	19.49	30.00	-10.51
4	2427	20.12	30.00	-9.88
5	2432	20.18	30.00	-9.82
Mid	2437	20.53	30.00	-9.47
8	2447	21.17	30.00	-8.83
High	2452	20.18	30.00	-9.82

Note: Power is peak.

TEST INFORMATION

Date: 2018-05-04

Tester: 46726 / 17051

8.5.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

ISED RSS-247 Clause 5.2 (b)

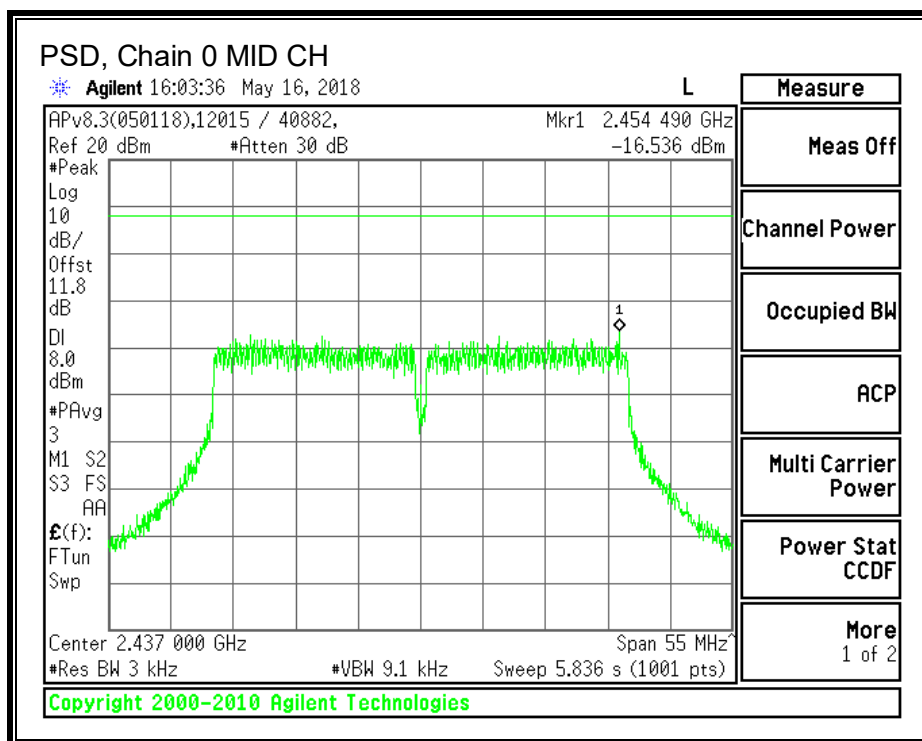
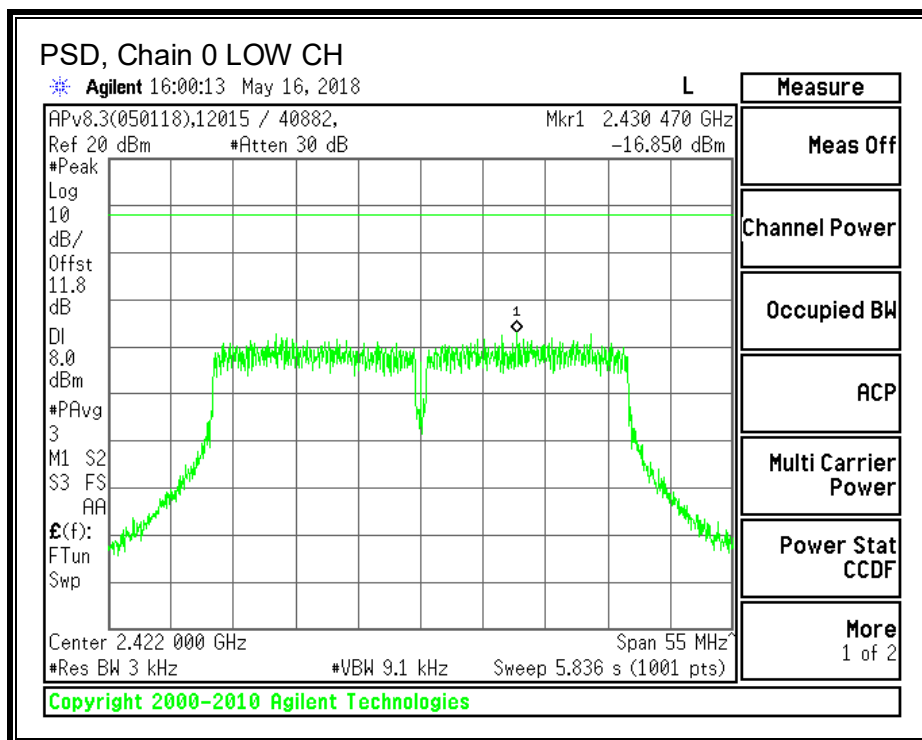
RESULTS

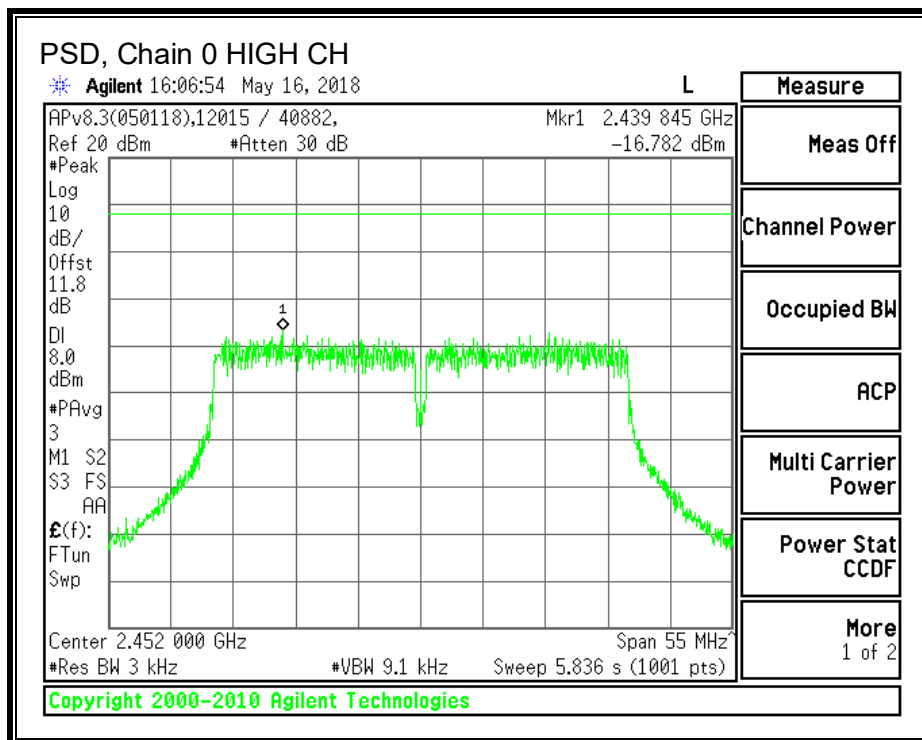
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2422	-16.85	8.0	-24.9
Mid	2437	-16.54	8.0	-24.5
High	2452	-16.78	8.0	-24.8

Note: PSD was performed at mid channel power level.

PSD, Chain 0





8.5.5. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

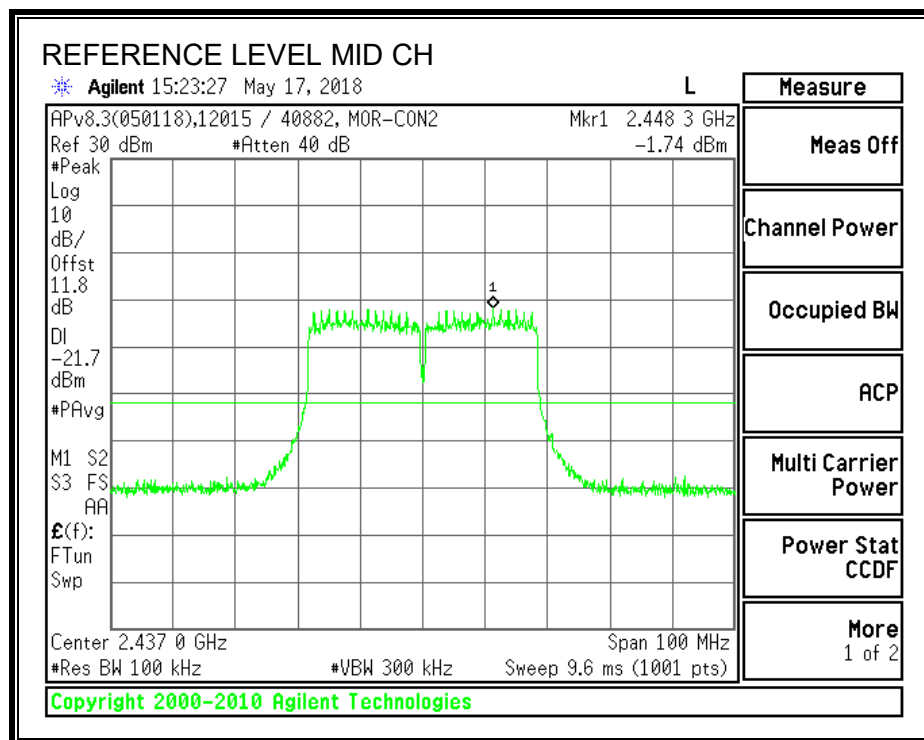
ISED RSS-247 Clause 5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

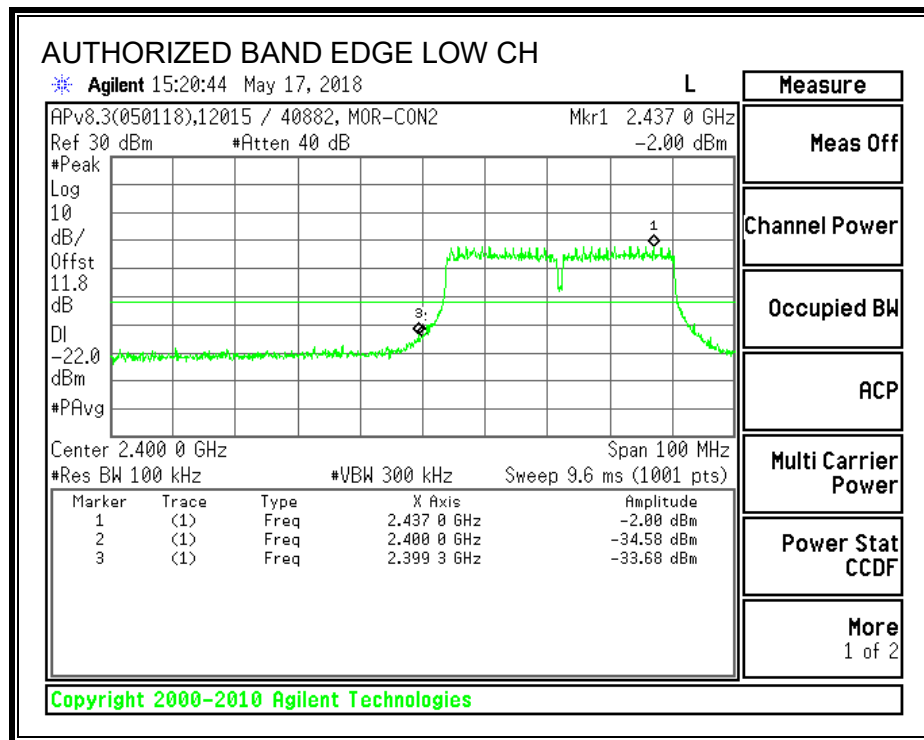
Note: Out of band emissions were performed at mid channel power level.

RESULTS

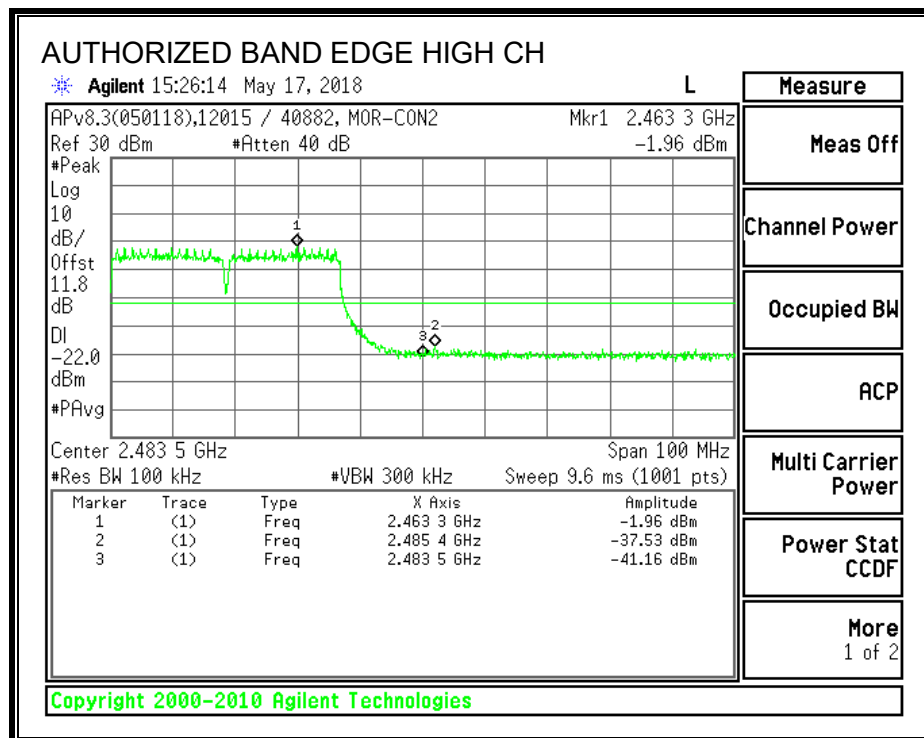
IN-BAND REFERENCE LEVEL



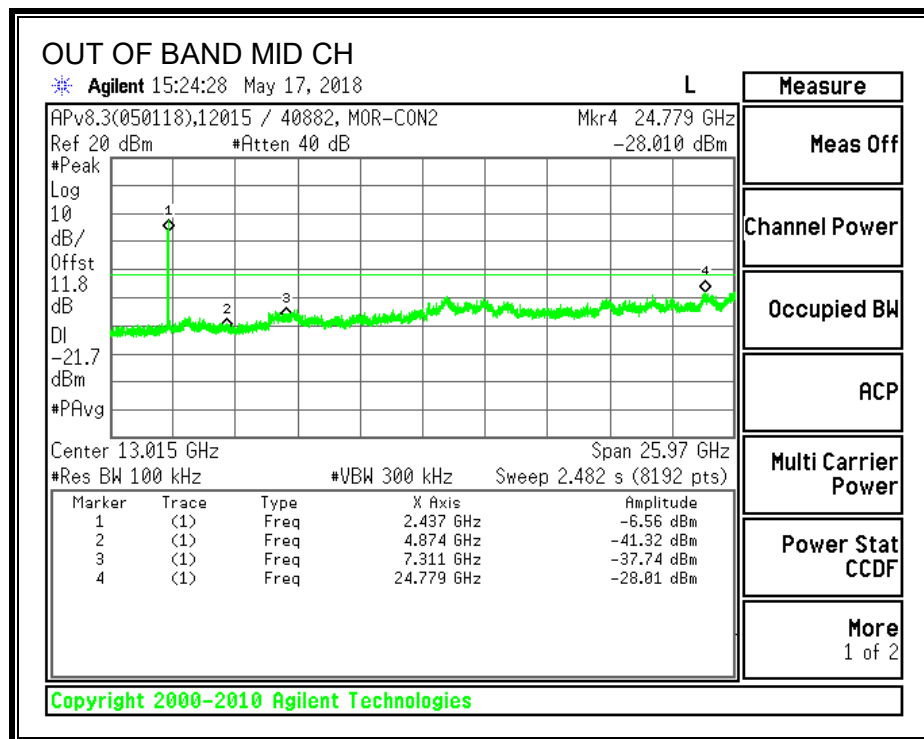
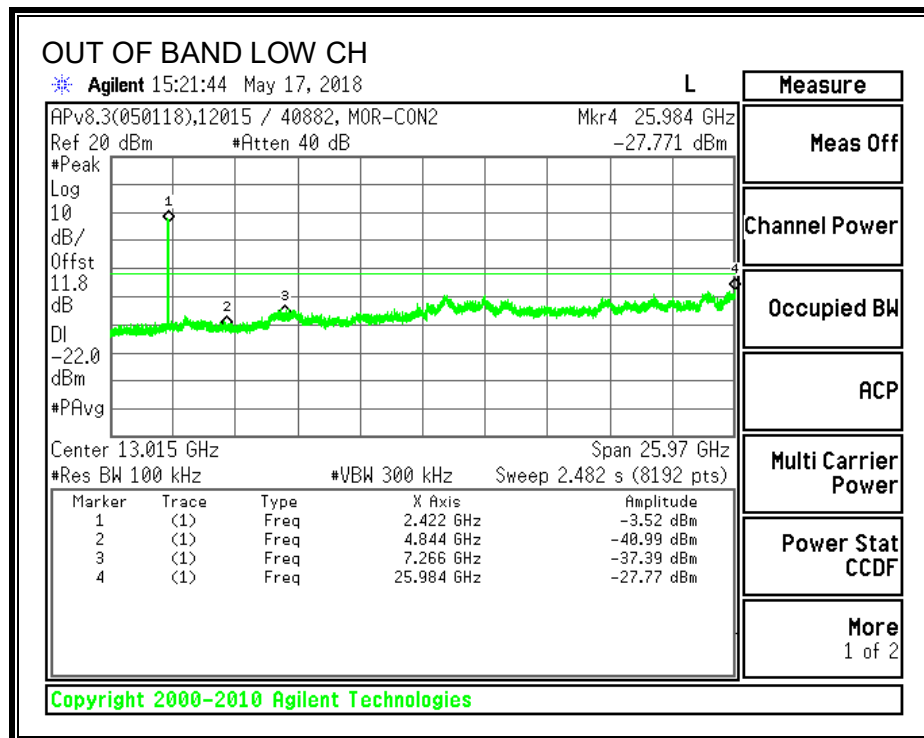
LOW CHANNEL BANDEDGE

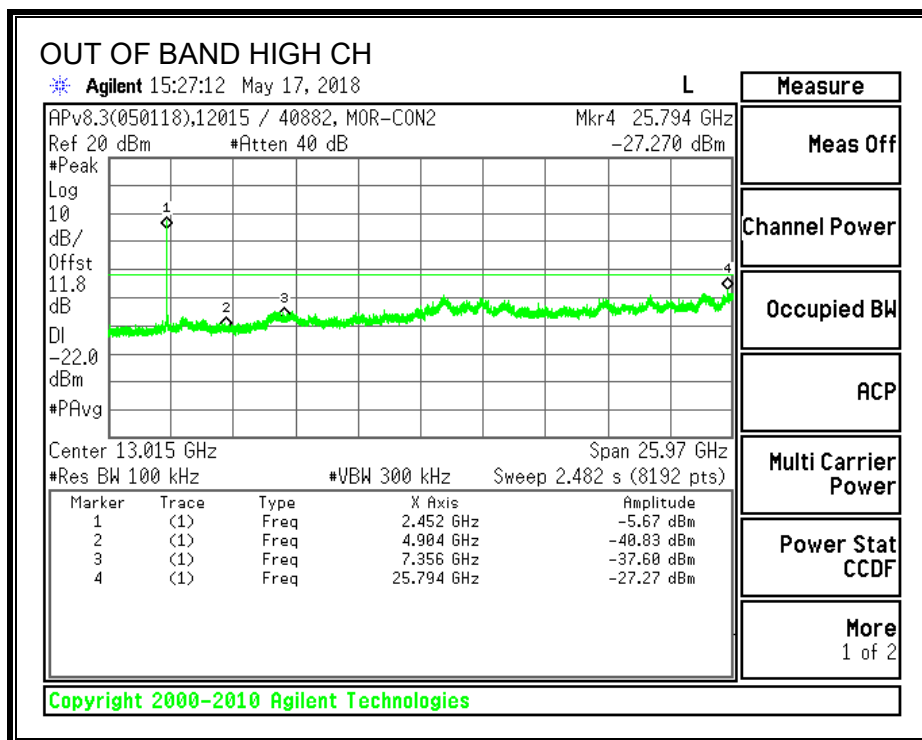


HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS





9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-GEN Clause 8.9 (Transmitter)

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 by measuring using a Peak detector with the resolution bandwidth set to 1MHz and a reduced video bandwidth, based on $1/T_{on}$ where T_{on} is the transmit on time.

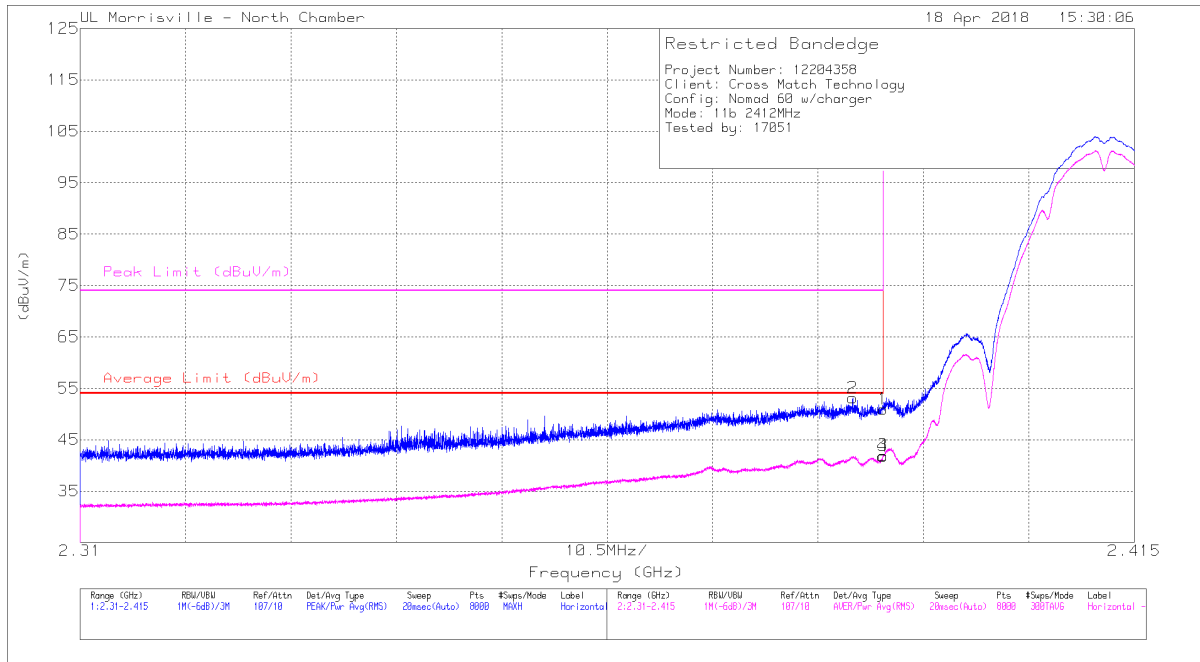
The spectrum from 1 to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. For 9kHz to 1000 MHz and 18 to 26 GHz investigation, the worst-case channel was selected.

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.

Note: 1 to 18 GHz emissions were performed at mid channel power level. Bandedge was performed at the power levels reported in the output power sections.

9.2. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (CHANNEL 1, HORIZONTAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (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	43.47	Pk	32	-24.5	50.97	-	-	74	-23.03	4	228	H
2	* 2.387	45.61	Pk	32	-24.5	53.11	-	-	74	-20.89	4	228	H
3	* 2.39	34.44	RMS	32	-24.5	41.94	54	-12.06	-	-	4	228	H
4	* 2.39	34.31	RMS	32	-24.5	41.81	54	-12.19	-	-	4	228	H

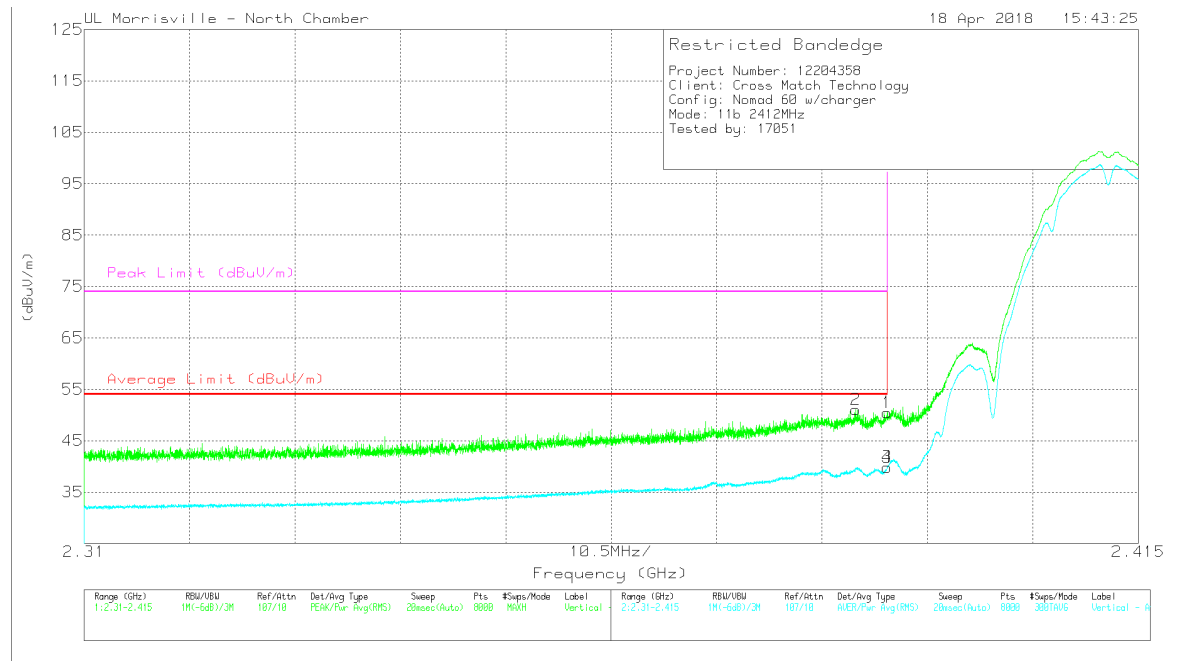
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 1, VERTICAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (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	42.97	Pk	32	-24.5	50.47	-	-	74	-23.53	127	120	V
2	* 2.387	43.56	Pk	32	-24.5	51.06	-	-	74	-22.94	127	120	V
3	* 2.39	32.37	RMS	32	-24.5	39.87	54	-14.13	-	-	127	120	V
4	* 2.39	32.29	RMS	32	-24.5	39.79	54	-14.21	-	-	127	120	V

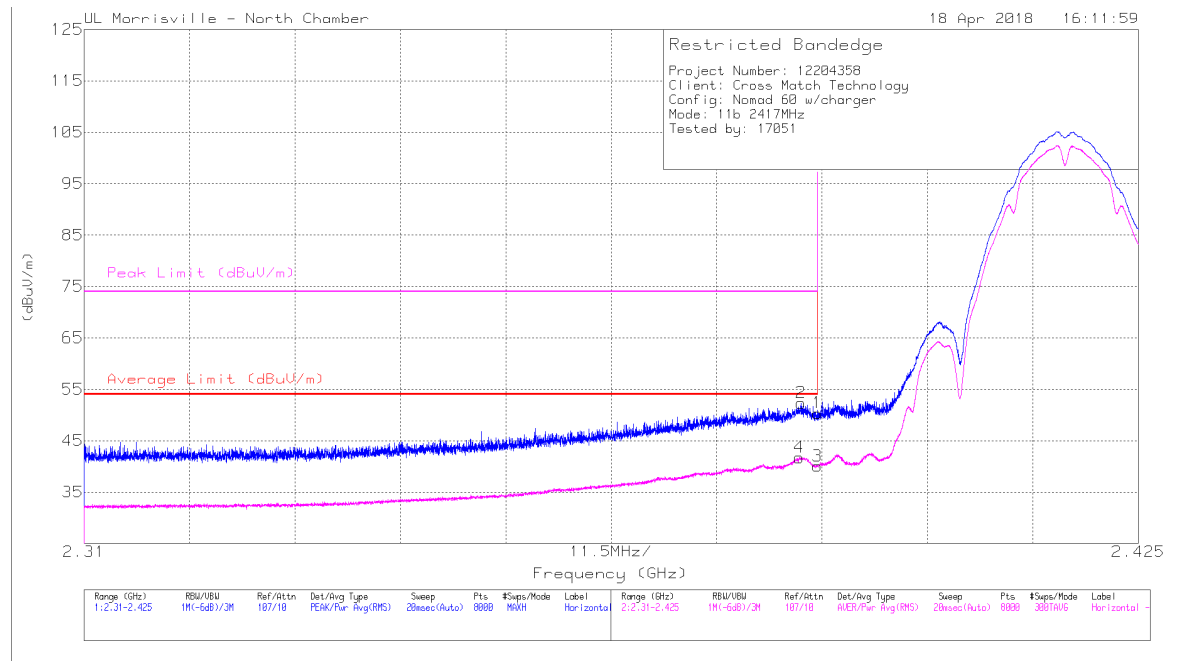
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2, HORIZONTAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (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	42.88	Pk	32	-24.5	50.38	-	-	74	-23.62	17	252	H
2	* 2.388	44.85	Pk	32	-24.5	52.35	-	-	74	-21.65	17	252	H
3	* 2.39	32.57	RMS	32	-24.5	40.07	54	-13.93	-	-	17	252	H
4	* 2.388	34.23	RMS	32	-24.5	41.73	54	-12.27	-	-	17	252	H

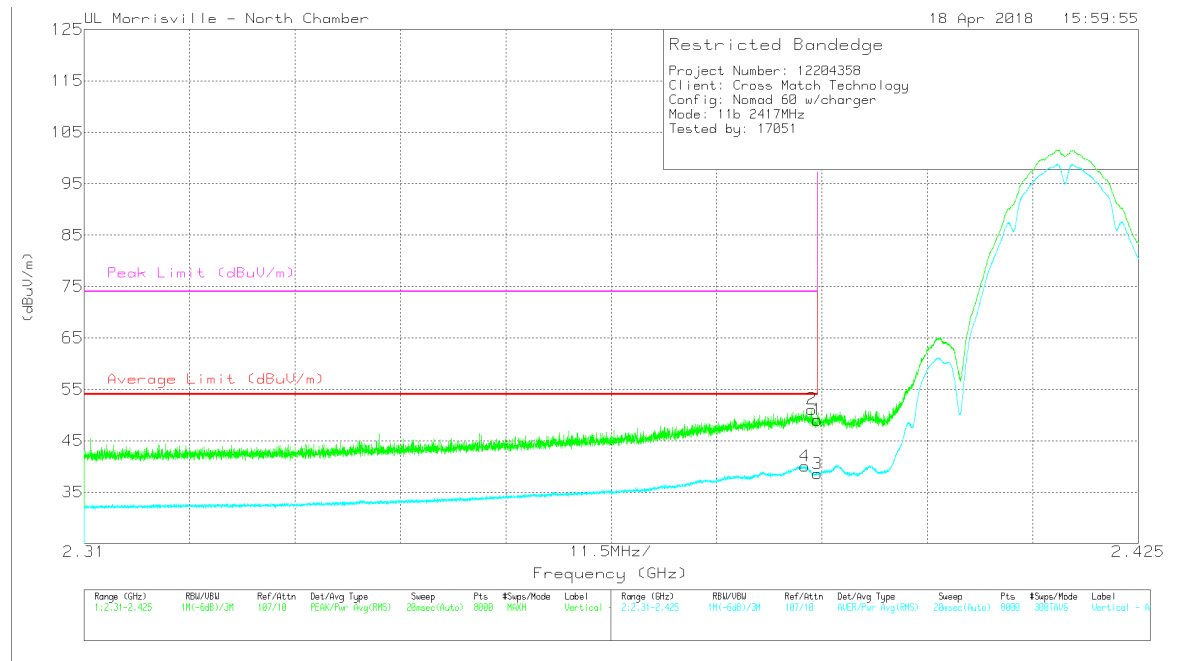
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2, VERTICAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (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	41.55	Pk	32	-24.5	49.05	-	-	74	-24.95	126	123	V
2	* 2.389	43.62	Pk	32	-24.5	51.12	-	-	74	-22.88	126	123	V
3	* 2.39	31.1	RMS	32	-24.5	38.6	54	-15.4	-	-	126	123	V
4	* 2.389	32.56	RMS	32	-24.5	40.06	54	-13.94	-	-	126	123	V

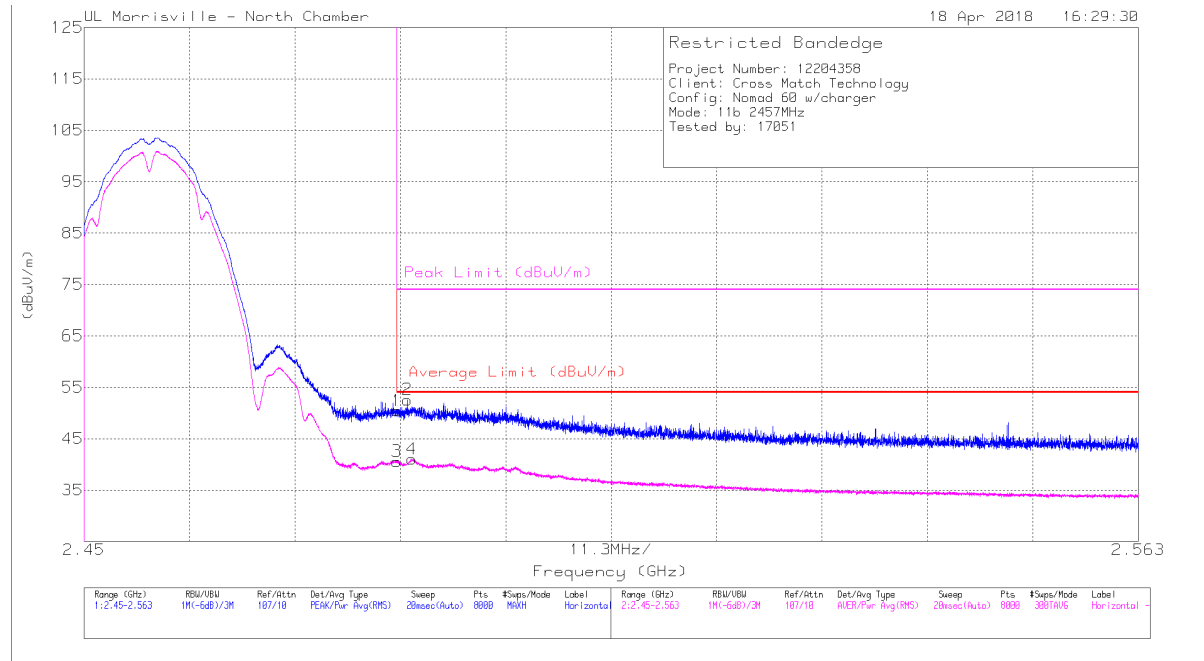
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 10, HORIZONTAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (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	42.36	Pk	32.5	-24.4	50.46	-	-	74	-23.54	73	219	H
2	* 2.485	44.48	Pk	32.5	-24.4	52.58	-	-	74	-21.42	73	219	H
3	* 2.484	32.49	RMS	32.5	-24.4	40.59	54	-13.41	-	-	73	219	H
4	* 2.485	32.95	RMS	32.5	-24.4	41.05	54	-12.95	-	-	73	219	H

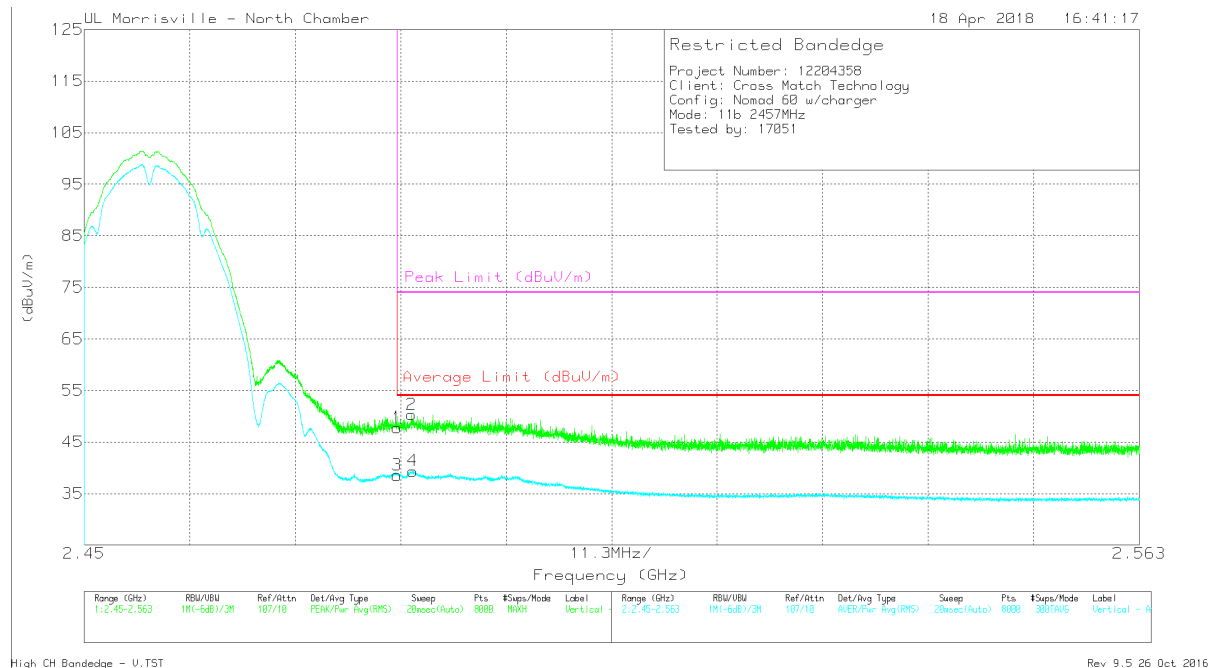
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 10, VERTICAL)



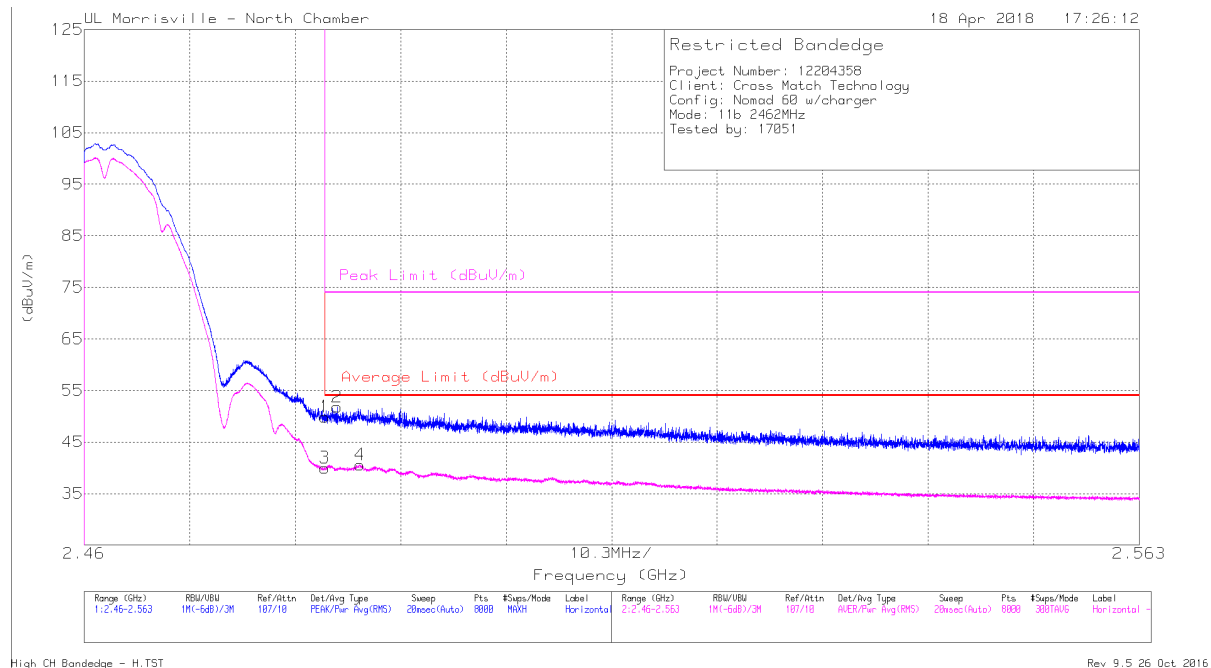
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.68	Pk	32.5	-24.4	47.78	-	-	74	-26.22	108	122	V
2	* 2.485	42.2	Pk	32.5	-24.4	50.3	-	-	74	-23.7	108	122	V
3	* 2.484	30.45	RMS	32.5	-24.4	38.55	54	-15.45	-	-	108	122	V
4	* 2.485	31.29	RMS	32.5	-24.4	39.39	54	-14.61	-	-	108	122	V

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11, HORIZONTAL)



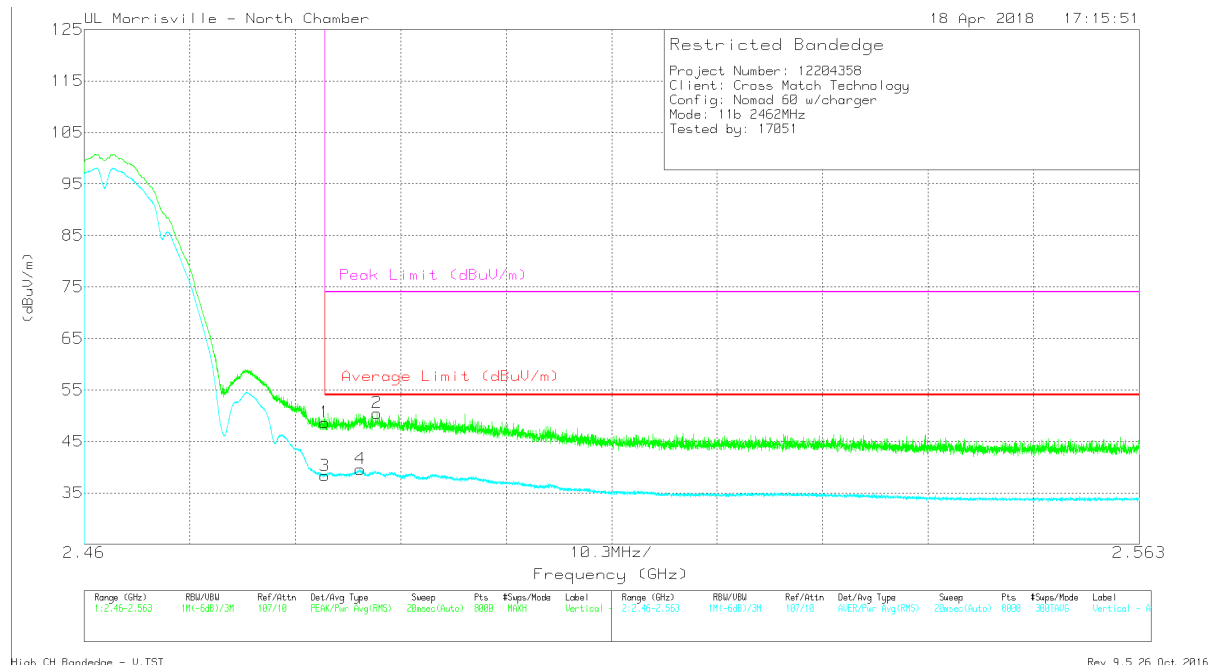
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.76	Pk	32.5	-24.4	49.86	-	-	74	-24.14	65	215	H
2	* 2.485	43.66	Pk	32.5	-24.4	51.76	-	-	74	-22.24	65	215	H
3	* 2.484	31.89	RMS	32.5	-24.4	39.99	54	-14.01	-	-	65	215	H
4	* 2.487	32.47	RMS	32.5	-24.4	40.57	54	-13.43	-	-	65	215	H

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11, VERTICAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (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	40.58	Pk	32.5	-24.4	48.68	-	-	74	-25.32	105	121	V
2	* 2.489	42.41	Pk	32.5	-24.4	50.51	-	-	74	-23.49	105	121	V
3	* 2.484	30.24	RMS	32.5	-24.4	38.34	54	-15.66	-	-	105	121	V
4	* 2.487	31.54	RMS	32.5	-24.4	39.64	54	-14.36	-	-	105	121	V

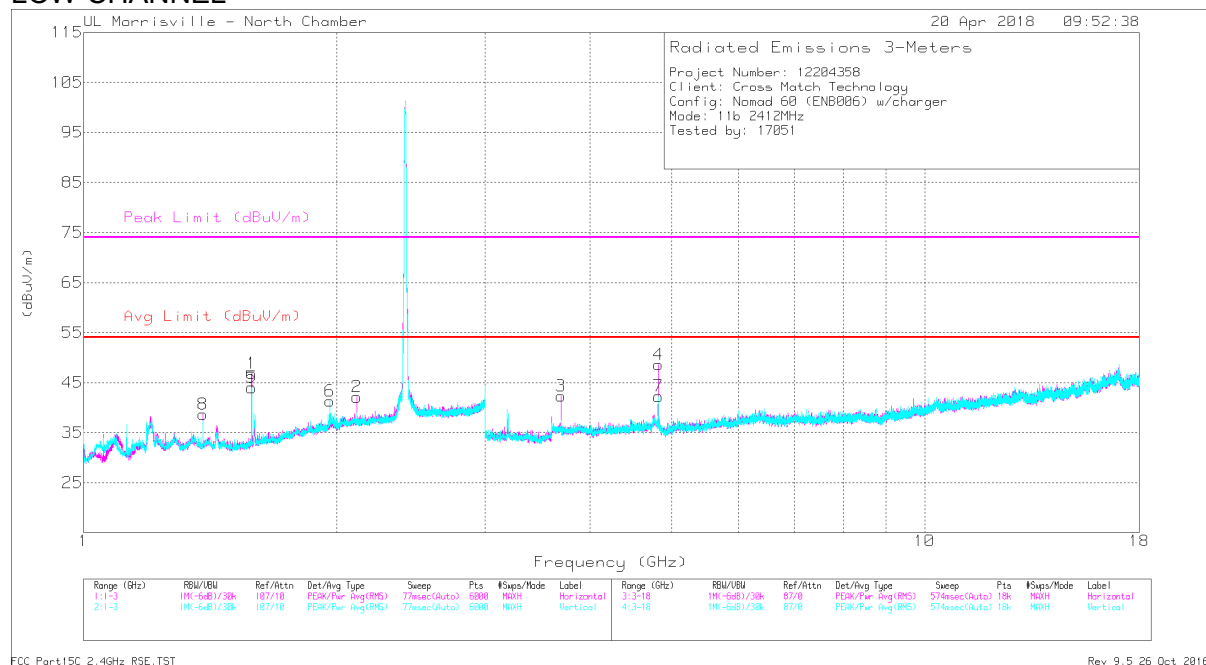
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
8	* 1.386	40.61	PK2	29.2	-25.4	44.41	-	-	74	-29.59	190	115	H
	* 1.386	34.11	MAv1	29.2	-25.4	37.91	54	-16.09	-	-	190	115	H
1	* 1.584	47.38	PK2	28.3	-24.7	50.98	-	-	74	-23.02	111	183	H
	* 1.584	42.52	MAv1	28.3	-24.7	46.12	54	-7.88	-	-	111	183	H
5	* 1.584	46.09	PK2	28.3	-24.7	49.69	-	-	74	-24.31	75	315	V
	* 1.584	40.35	MAv1	28.3	-24.7	43.95	54	-10.05	-	-	75	315	V
3	* 3.696	47.36	PK2	33.3	-32.3	48.36	-	-	74	-25.64	17	101	H
	* 3.696	39.52	MAv1	33.3	-32.3	40.52	54	-13.48	-	-	17	101	H
4	* 4.824	51.37	PK2	34.1	-31.7	53.77	-	-	74	-20.23	38	237	H
	* 4.824	46.43	MAv1	34.1	-31.7	48.83	54	-5.17	-	-	38	237	H
7	* 4.824	47.43	PK2	34.1	-31.7	49.83	-	-	74	-24.17	35	262	V
	* 4.824	40.45	MAv1	34.1	-31.7	42.85	54	-11.15	-	-	35	262	V
6	1.962	34.37	Pk	31.4	-24.5	41.27	-	-	-	-	0-360	199	V
2	2.112	34.84	Pk	31.8	-24.5	42.14	-	-	-	-	0-360	103	H

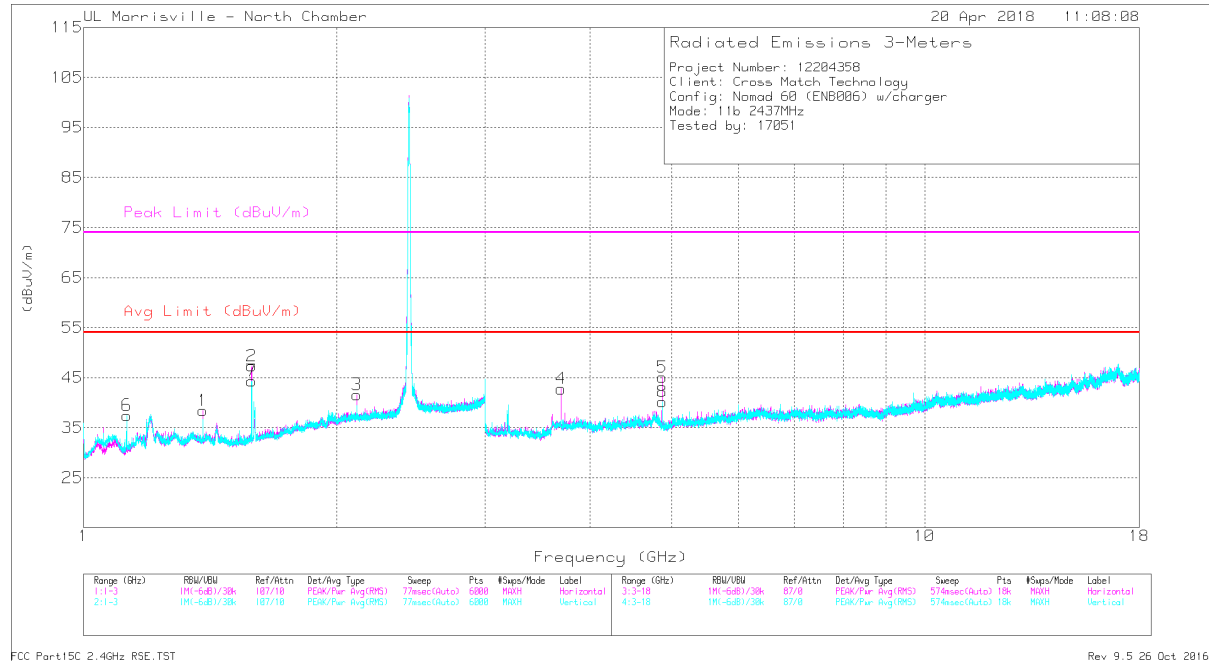
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MIDDLE CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.386	40.3	PK2	29.2	-25.4	44.1	-	-	74	-29.9	197	115	H
	* 1.386	34.09	MAv1	29.2	-25.4	37.89	54	-16.11	-	-	197	115	H
2	* 1.584	47.53	PK2	28.3	-24.7	51.13	-	-	74	-22.87	111	183	H
	* 1.584	42.64	MAv1	28.3	-24.7	46.24	54	-7.76	-	-	111	183	H
6	* 1.125	41.58	PK2	27.8	-26.7	42.68	-	-	74	-31.32	160	136	V
	* 1.125	33.69	MAv1	27.8	-26.7	34.79	54	-19.21	-	-	160	136	V
7	* 1.584	45.37	PK2	28.3	-24.7	48.97	-	-	74	-25.03	69	315	V
	* 1.584	40.1	MAv1	28.3	-24.7	43.7	54	-10.3	-	-	69	315	V
4	* 3.696	47.21	PK2	33.3	-32.3	48.21	-	-	74	-25.79	15	100	H
	* 3.696	39.56	MAv1	33.3	-32.3	40.56	54	-13.44	-	-	15	100	H
5	* 4.874	48.87	PK2	34	-31.6	51.27	-	-	74	-22.73	36	249	H
	* 4.874	42.93	MAv1	34	-31.6	45.33	54	-8.67	-	-	36	249	H
8	* 4.874	45.61	PK2	34	-31.6	48.01	-	-	74	-25.99	47	260	V
	* 4.874	38.11	MAv1	34	-31.6	40.51	54	-13.49	-	-	47	260	V
3	2.112	34.3	Pk	31.8	-24.5	41.6	-	-	-	-	0-360	103	H

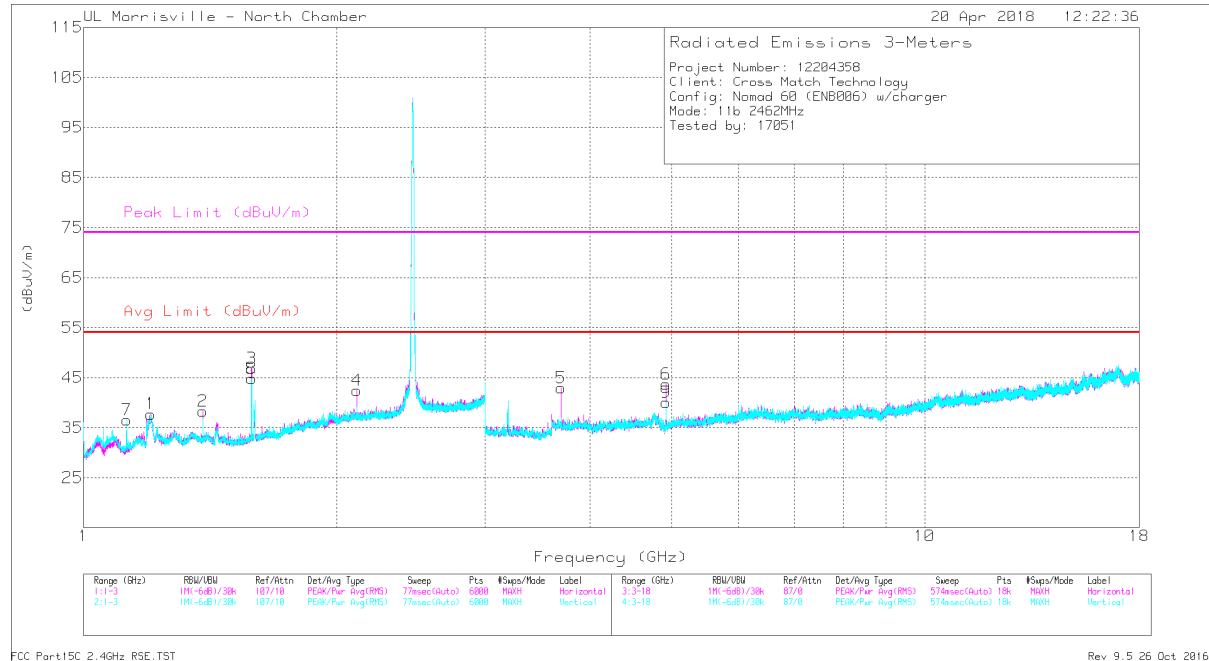
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.201	42.78	PK2	28.4	-26.2	44.98	-	-	74	-29.02	25	203	H
	* 1.201	30.47	MAv1	28.4	-26.2	32.67	54	-21.33	-	-	25	203	H
2	* 1.386	40.66	PK2	29.2	-25.4	44.46	-	-	74	-29.54	194	116	H
	* 1.386	34.12	MAv1	29.2	-25.4	37.92	54	-16.08	-	-	194	116	H
3	* 1.584	47.51	PK2	28.3	-24.7	51.11	-	-	74	-22.89	112	183	H
	* 1.584	42.64	MAv1	28.3	-24.7	46.24	54	-7.76	-	-	112	183	H
7	* 1.125	41.72	PK2	27.8	-26.7	42.82	-	-	74	-31.18	161	137	V
	* 1.125	33.73	MAv1	27.8	-26.7	34.83	54	-19.17	-	-	161	137	V
8	* 1.584	45.64	PK2	28.3	-24.7	49.24	-	-	74	-24.76	76	315	V
	* 1.584	40.26	MAv1	28.3	-24.7	43.86	54	-10.14	-	-	76	315	V
5	* 3.696	47.46	PK2	33.3	-32.3	48.46	-	-	74	-25.54	17	100	H
	* 3.696	39.5	MAv1	33.3	-32.3	40.5	54	-13.5	-	-	17	100	H
6	* 4.924	47.94	PK2	34	-32	49.94	-	-	74	-24.06	40	274	H
	* 4.924	42.38	MAv1	34	-32	44.38	54	-9.62	-	-	40	274	H
9	* 4.924	44.07	PK2	34	-32	46.07	-	-	74	-27.93	53	274	V
	* 4.924	36.51	MAv1	34	-32	38.51	54	-15.49	-	-	53	274	V
4	2.112	35.15	Pk	31.8	-24.5	42.45	-	-	-	-	0-360	102	H

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

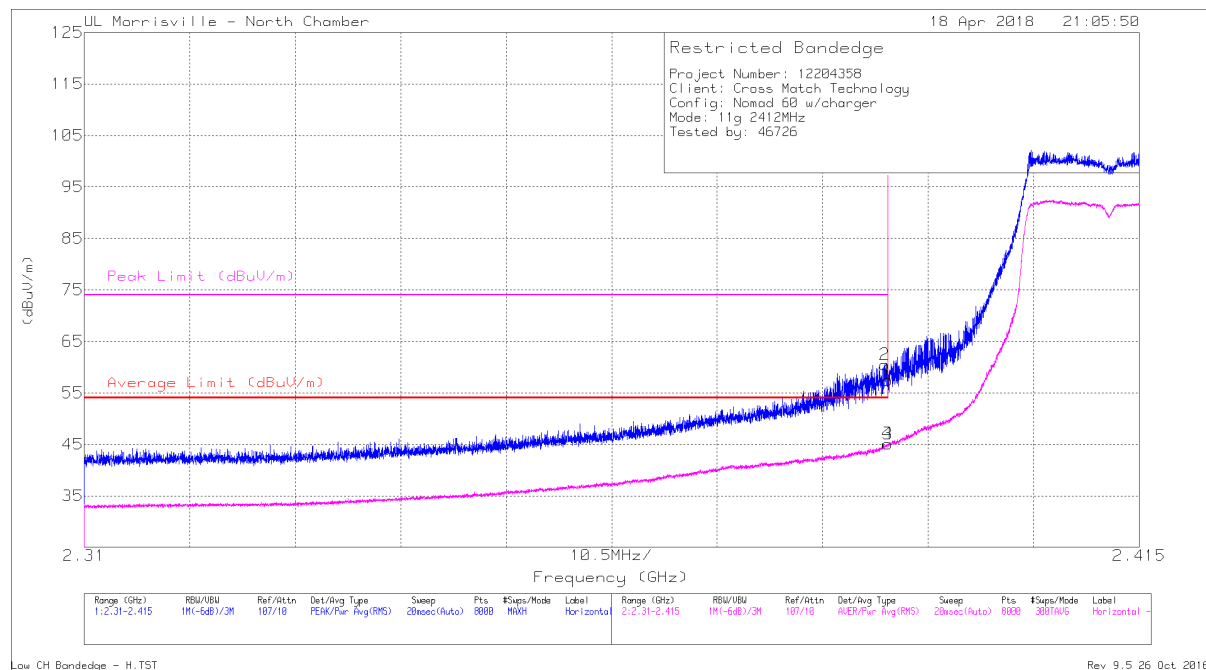
Pk - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.3. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (CHANNEL 1, HORIZONTAL)



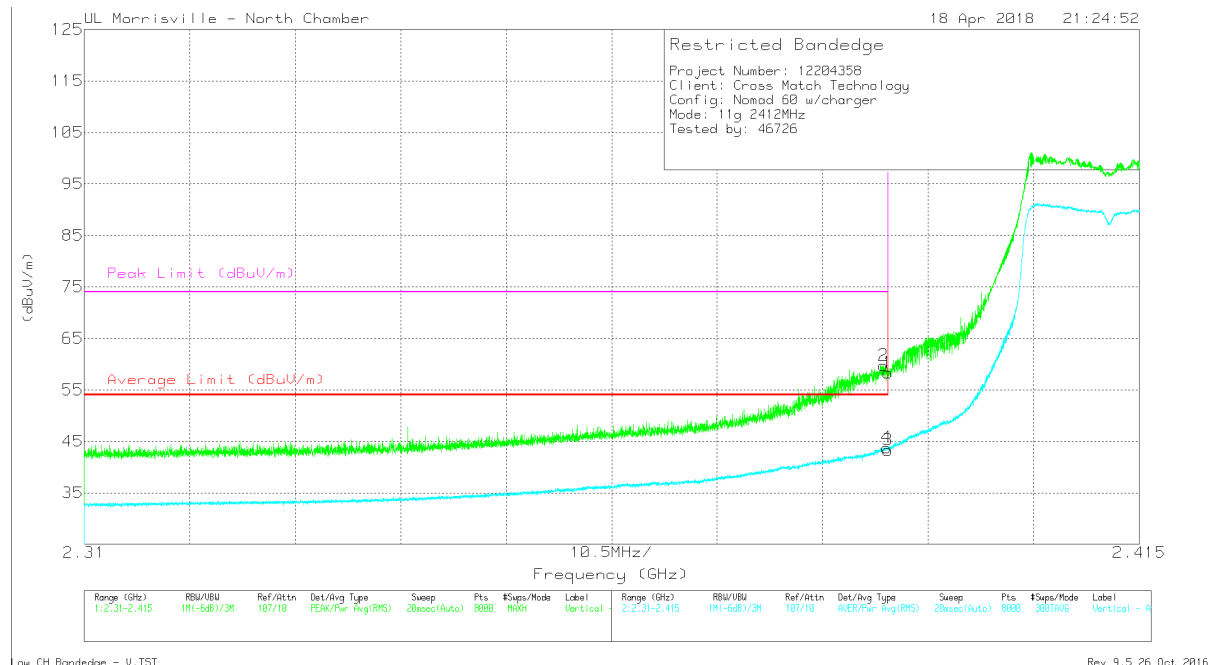
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	49.99	Pk	32	-24.5	0	57.49	-	-	74	-16.51	17	232	H
2	* 2.39	52.98	Pk	32	-24.5	0	60.48	-	-	74	-13.52	17	232	H
3	* 2.39	36.88	RMS	32	-24.5	.71	45.09	54	-8.91	-	-	17	232	H
4	* 2.39	36.91	RMS	32	-24.5	.71	45.12	54	-8.88	-	-	17	232	H

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 1, VERTICAL)



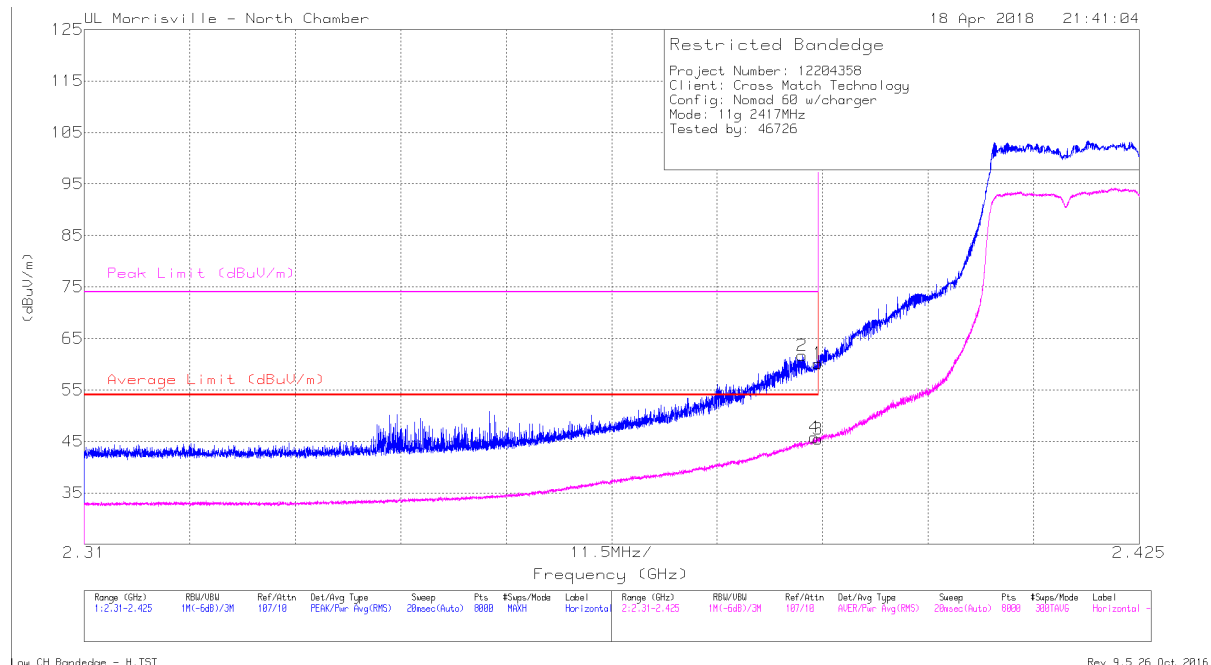
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	50.85	Pk	32	-24.5	0	58.35	-	-	74	-15.65	128	119	V
2	* 2.39	52.25	Pk	32	-24.5	0	59.75	-	-	74	-14.25	128	119	V
3	* 2.39	35.11	RMS	32	-24.5	.71	43.32	54	-10.68	-	-	128	119	V
4	* 2.39	35.58	RMS	32	-24.5	.71	43.79	54	-10.21	-	-	128	119	V

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2, HORIZONTAL)



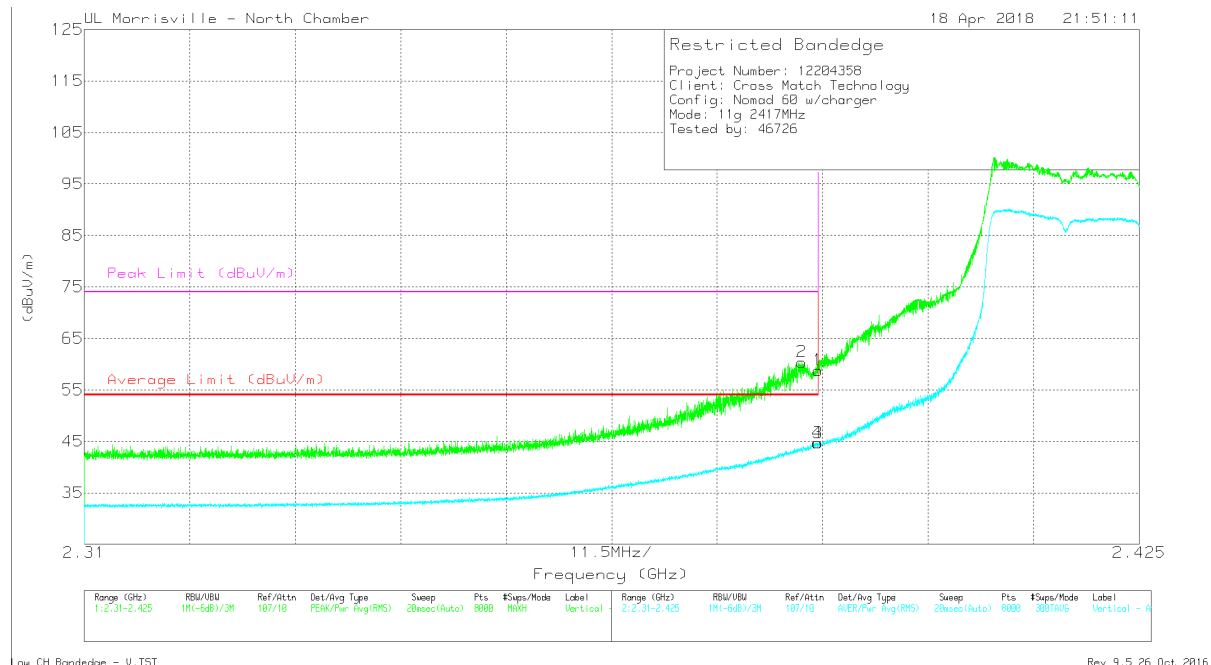
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	52.63	Pk	32	-24.5	0	60.13	-	-	74	-13.87	69	244	H
2	* 2.388	54.2	Pk	32	-24.5	0	61.7	-	-	74	-12.3	69	244	H
3	* 2.39	37.24	RMS	32	-24.5	.71	45.45	54	-8.55	-	-	69	244	H
4	* 2.39	37.55	RMS	32	-24.5	.71	45.76	54	-8.24	-	-	69	244	H

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2, VERTICAL)



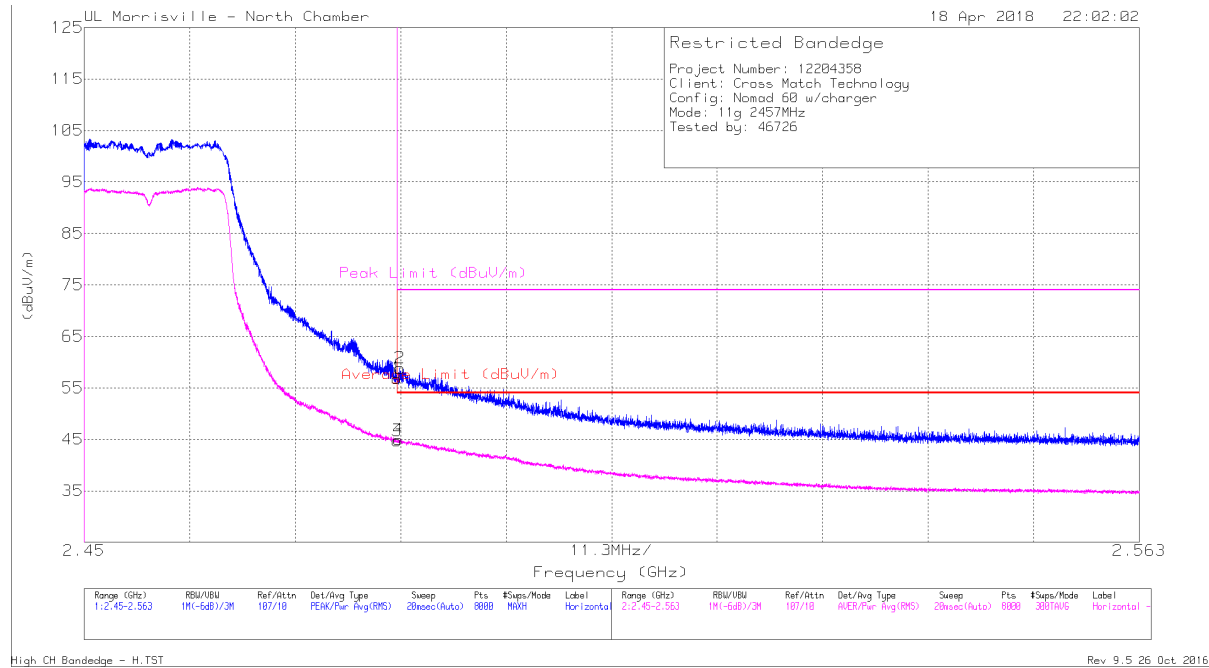
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	51.32	Pk	32	-24.5	0	58.82	-	-	74	-15.18	1	276	V
2	* 2.388	52.91	Pk	32	-24.5	0	60.41	-	-	74	-13.59	1	276	V
3	* 2.39	36.48	RMS	32	-24.5	.71	44.69	54	-9.31	-	-	1	276	V
4	* 2.39	36.49	RMS	32	-24.5	.71	44.7	54	-9.3	-	-	1	276	V

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 10, HORIZONTAL)



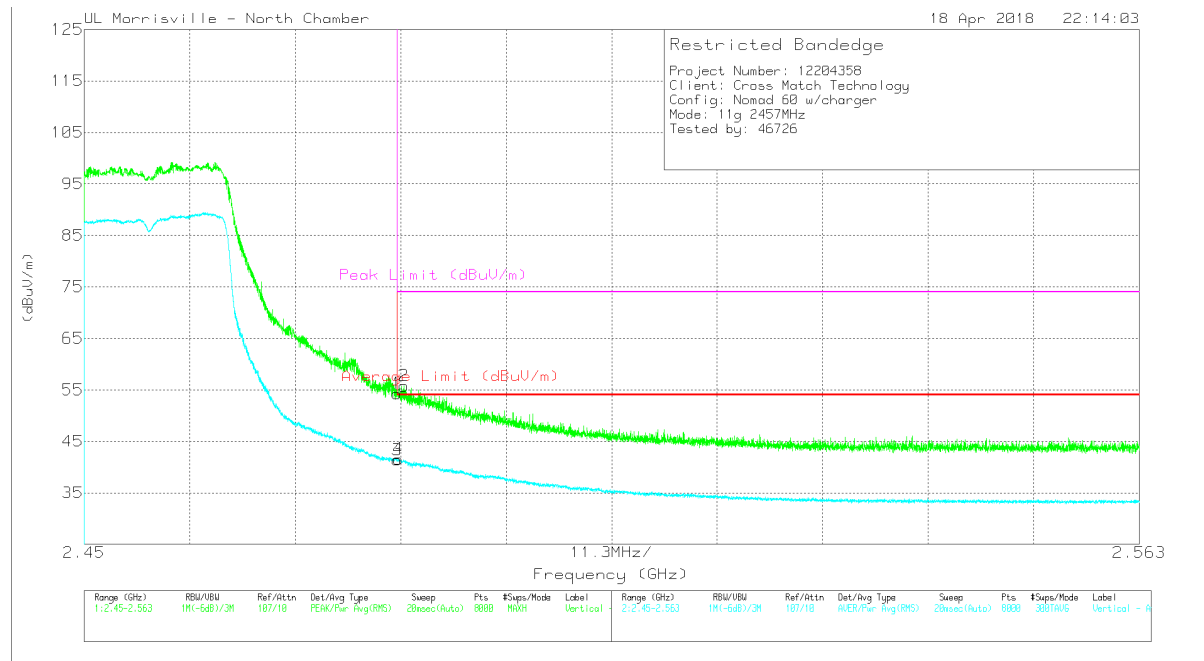
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	48.73	Pk	32.5	-24.4	0	56.83	-	-	74	-17.17	16	231	H
2	* 2.484	50.74	Pk	32.5	-24.4	0	58.84	-	-	74	-15.16	16	231	H
3	* 2.484	35.94	RMS	32.5	-24.4	.71	44.75	54	-9.25	-	-	16	231	H
4	* 2.484	36.14	RMS	32.5	-24.4	.71	44.95	54	-9.05	-	-	16	231	H

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 10, VERTICAL)



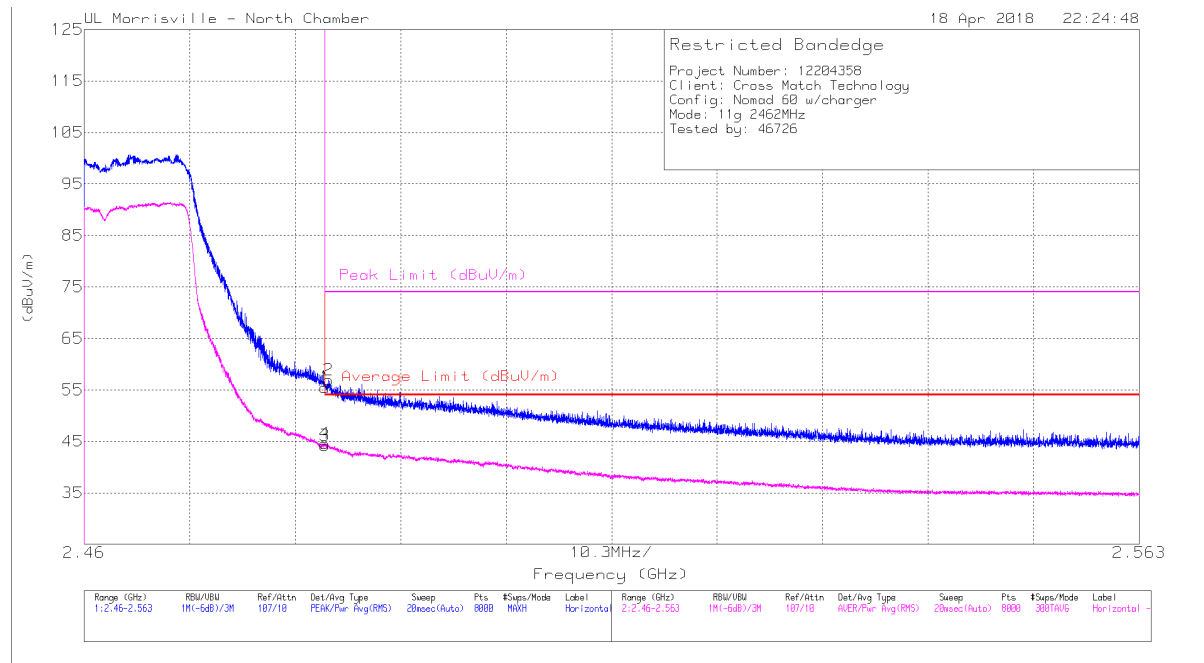
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	46.17	Pk	32.5	-24.4	54.27	-	-	74	-19.73	356	281	V
2	* 2.484	47.68	Pk	32.5	-24.4	55.78	-	-	74	-18.22	356	281	V
3	* 2.484	33.29	RMS	32.5	-24.4	41.39	54	-12.61	-	-	356	281	V
4	* 2.484	33.45	RMS	32.5	-24.4	41.55	54	-12.45	-	-	356	281	V

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11, HORIZONTAL)



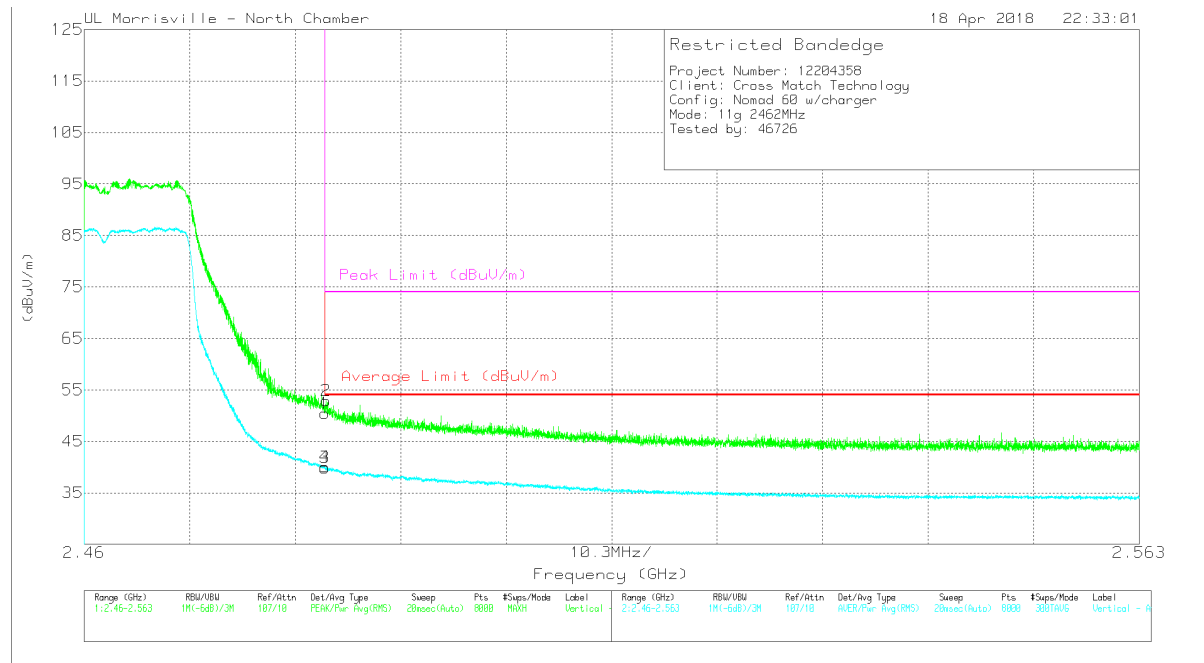
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	47.39	Pk	32.5	-24.4	0	55.49	-	-	74	-18.51	17	233	H
2	* 2.484	48.82	Pk	32.5	-24.4	0	56.92	-	-	74	-17.08	17	233	H
3	* 2.484	35.41	RMS	32.5	-24.4	.71	44.22	54	-9.78	-	-	17	233	H
4	* 2.484	35.75	RMS	32.5	-24.4	.71	44.56	54	-9.44	-	-	17	233	H

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11, VERTICAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/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	42.32	Pk	32.5	-24.4	0	50.42	-	-	74	-23.58	349	182	V
2	* 2.484	44.8	Pk	32.5	-24.4	0	52.9	-	-	74	-21.1	349	182	V
3	* 2.484	31.09	RMS	32.5	-24.4	.71	39.9	54	-14.1	-	-	349	182	V
4	* 2.484	31.22	RMS	32.5	-24.4	.71	40.03	54	-13.97	-	-	349	182	V

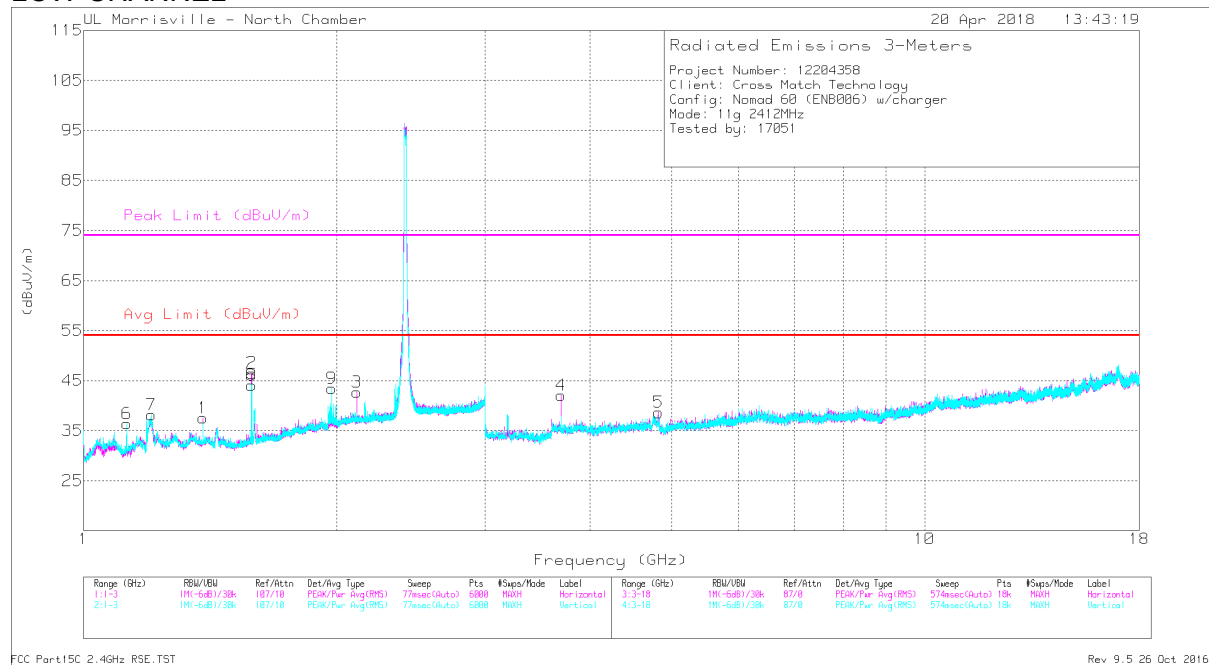
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/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
1	* 1.386	40.11	PK2	29.2	-25.4	0	43.91	-	-	74	-30.09	197	115	H
	* 1.386	34.16	MAv1	29.2	-25.4	.71	38.67	54	-15.33	-	-	197	115	H
2	* 1.584	47.61	PK2	28.3	-24.7	0	51.21	-	-	74	-22.79	112	182	H
	* 1.584	42.9	MAv1	28.3	-24.7	.71	47.21	54	-6.79	-	-	112	182	H
6	* 1.125	41.45	PK2	27.8	-26.7	0	42.55	-	-	74	-31.45	159	137	V
	* 1.125	33.8	MAv1	27.8	-26.7	.71	35.61	54	-18.39	-	-	159	137	V
7	* 1.188	44.25	PK2	28.1	-26.3	0	46.05	-	-	74	-27.95	171	163	V
	* 1.199	31.34	MAv1	28.3	-26.2	.71	34.15	54	-19.85	-	-	171	163	V
8	* 1.584	45.11	PK2	28.3	-24.7	0	48.71	-	-	74	-25.29	73	314	V
	* 1.584	39.56	MAv1	28.3	-24.7	.71	43.87	54	-10.13	-	-	73	314	V
4	* 3.696	47.28	PK2	33.3	-32.3	0	48.28	-	-	74	-25.72	17	100	H
	* 3.696	39.4	MAv1	33.3	-32.3	.71	41.11	54	-12.89	-	-	17	100	H
5	* 4.824	44.45	PK2	34.1	-31.7	0	46.85	-	-	74	-27.15	38	239	H
	* 4.824	32.56	MAv1	34.1	-31.7	.71	35.67	54	-18.33	-	-	38	239	H
9	1.973	36.55	Pk	31.4	-24.5	0	43.45	-	-	-	-	0-360	199	V
3	2.112	35.41	Pk	31.8	-24.5	0	42.71	-	-	-	-	0-360	99	H

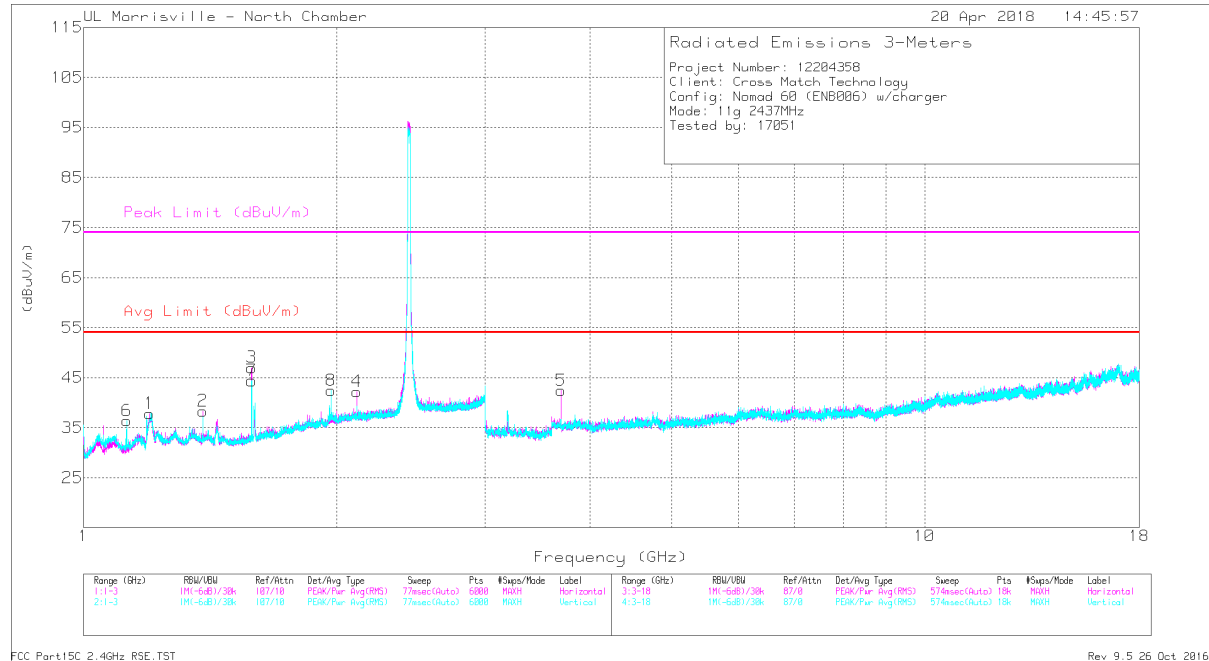
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MIDDLE CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/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
1	* 1.197	42.86	PK2	28.3	-26.2	0	44.96	-	-	74	-29.04	24	202	H
	* 1.201	30.56	MAv1	28.4	-26.2	.71	33.47	54	-20.53	-	-	24	202	H
2	* 1.386	40.09	PK2	29.2	-25.4	0	43.89	-	-	74	-30.11	197	116	H
	* 1.386	34.22	MAv1	29.2	-25.4	.71	38.73	54	-15.27	-	-	197	116	H
3	* 1.584	47.82	PK2	28.3	-24.7	0	51.42	-	-	74	-22.58	113	182	H
	* 1.584	42.91	MAv1	28.3	-24.7	.71	47.22	54	-6.78	-	-	113	182	H
6	* 1.125	41.77	PK2	27.8	-26.7	0	42.87	-	-	74	-31.13	159	137	V
	* 1.125	33.84	MAv1	27.8	-26.7	.71	35.65	54	-18.35	-	-	159	137	V
7	* 1.584	45.02	PK2	28.3	-24.7	0	48.62	-	-	74	-25.38	71	314	V
	* 1.584	39.5	MAv1	28.3	-24.7	.71	43.81	54	-10.19	-	-	71	314	V
5	* 3.696	46.95	PK2	33.3	-32.3	0	47.95	-	-	74	-26.05	15	101	H
	* 3.696	39.5	MAv1	33.3	-32.3	.71	41.21	54	-12.79	-	-	15	101	H
8	1.968	35.43	Pk	31.5	-24.5	0	42.43	-	-	-	-	0-360	199	V
4	2.112	34.94	Pk	31.8	-24.5	0	42.24	-	-	-	-	0-360	102	H

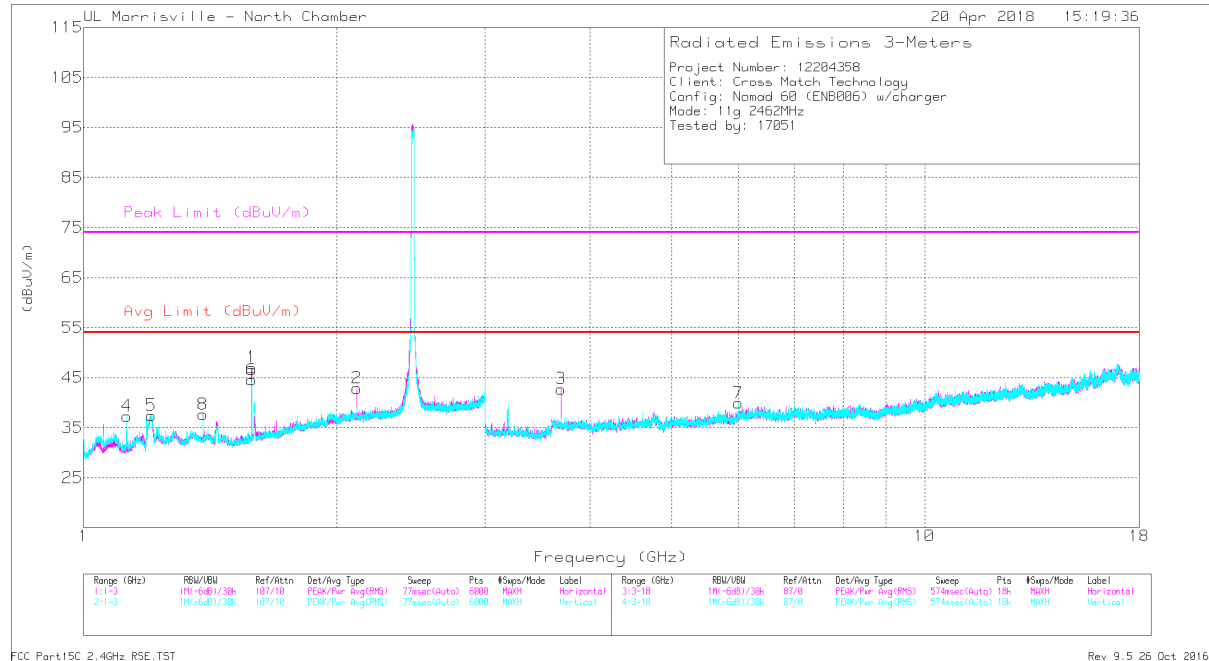
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL



FCC Part15C 2.4GHz RSE, TST

Rev 9.5 26 Oct 2016

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/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
1	* 1.584	47.8	PK2	28.3	-24.7	0	51.4	-	-	74	-22.6	113	183	H
	* 1.584	42.9	MAv1	28.3	-24.7	.71	47.21	54	-6.79	-	-	113	183	H
8	* 1.386	40.33	PK2	29.2	-25.4	0	44.13	-	-	74	-29.87	199	116	H
	* 1.386	34.21	MAv1	29.2	-25.4	.71	38.72	54	-15.28	-	-	199	116	H
4	* 1.125	41.77	PK2	27.8	-26.7	0	42.87	-	-	74	-31.13	160	136	V
	* 1.125	33.82	MAv1	27.8	-26.7	.71	35.63	54	-18.37	-	-	160	136	V
5	* 1.202	44.08	PK2	28.4	-26.2	0	46.28	-	-	74	-27.72	170	162	V
	* 1.199	31.48	MAv1	28.3	-26.2	.71	34.29	54	-19.71	-	-	170	162	V
6	* 1.584	45.18	PK2	28.3	-24.7	0	48.78	-	-	74	-25.22	76	315	V
	* 1.584	39.62	MAv1	28.3	-24.7	.71	43.93	54	-10.07	-	-	76	315	V
3	* 3.696	47.34	PK2	33.3	-32.3	0	48.34	-	-	74	-25.66	18	100	H
	* 3.696	39.5	MAv1	33.3	-32.3	.71	41.21	54	-12.79	-	-	18	100	H
2	2.112	35.59	Pk	31.8	-24.5	0	42.89	-	-	-	-	0-360	101	H
7	6	35.02	Pk	35.1	-30.2	0	39.92	-	-	-	-	0-360	102	V

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

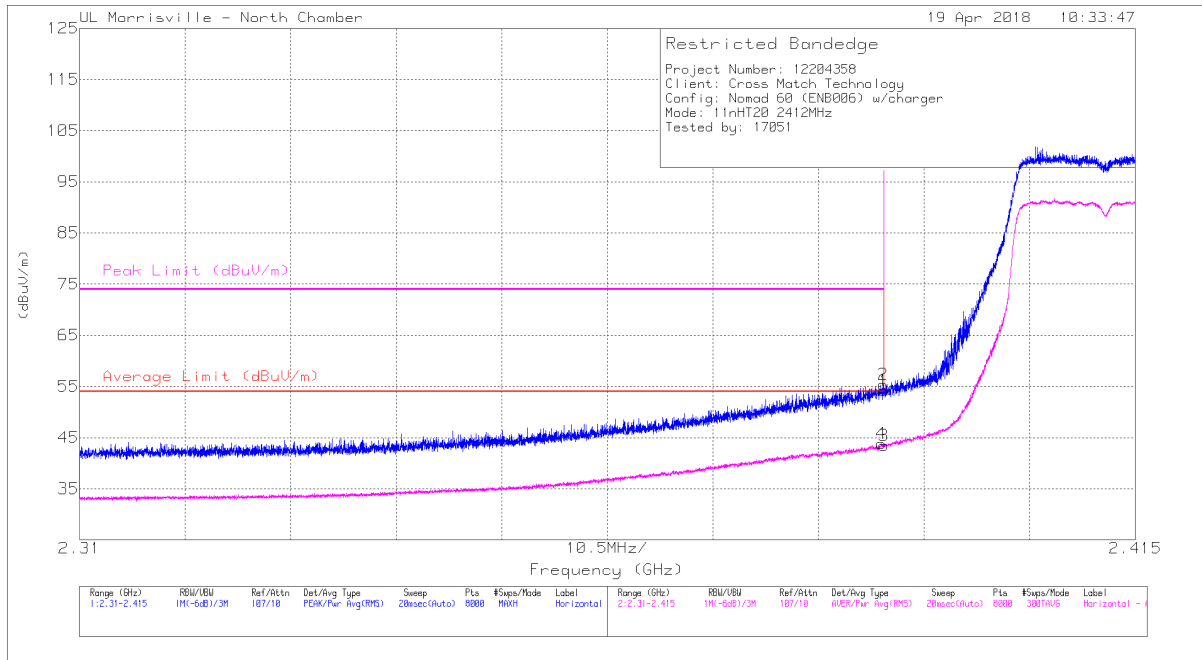
Pk - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.4. TX ABOVE 1 GHz 802.11nHT20 MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (CHANNEL 1, HORIZONTAL)



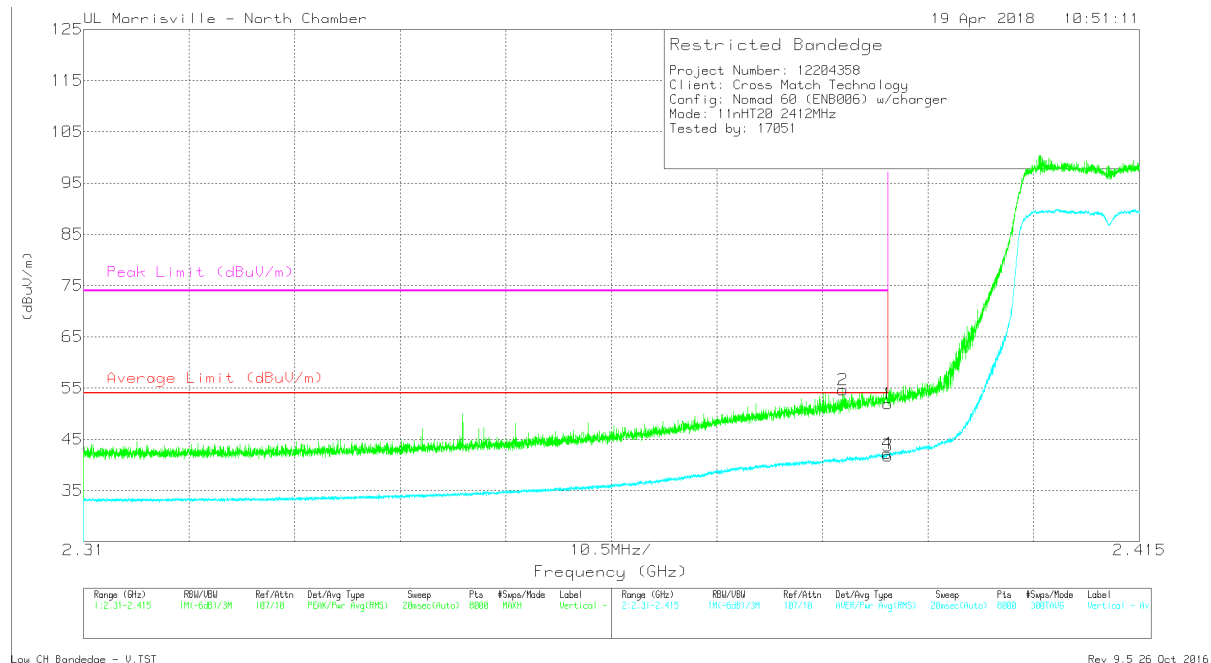
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	46.66	Pk	32	-24.5	0	54.16	-	-	74	-19.84	16	250	H
2	* 2.39	47.87	Pk	32	-24.5	0	55.37	-	-	74	-18.63	16	250	H
3	* 2.39	34.92	RMS	32	-24.5	1.04	43.46	54	-10.54	-	-	16	250	H
4	* 2.39	35.26	RMS	32	-24.5	1.04	43.8	54	-10.2	-	-	16	250	H

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 1, VERTICAL)



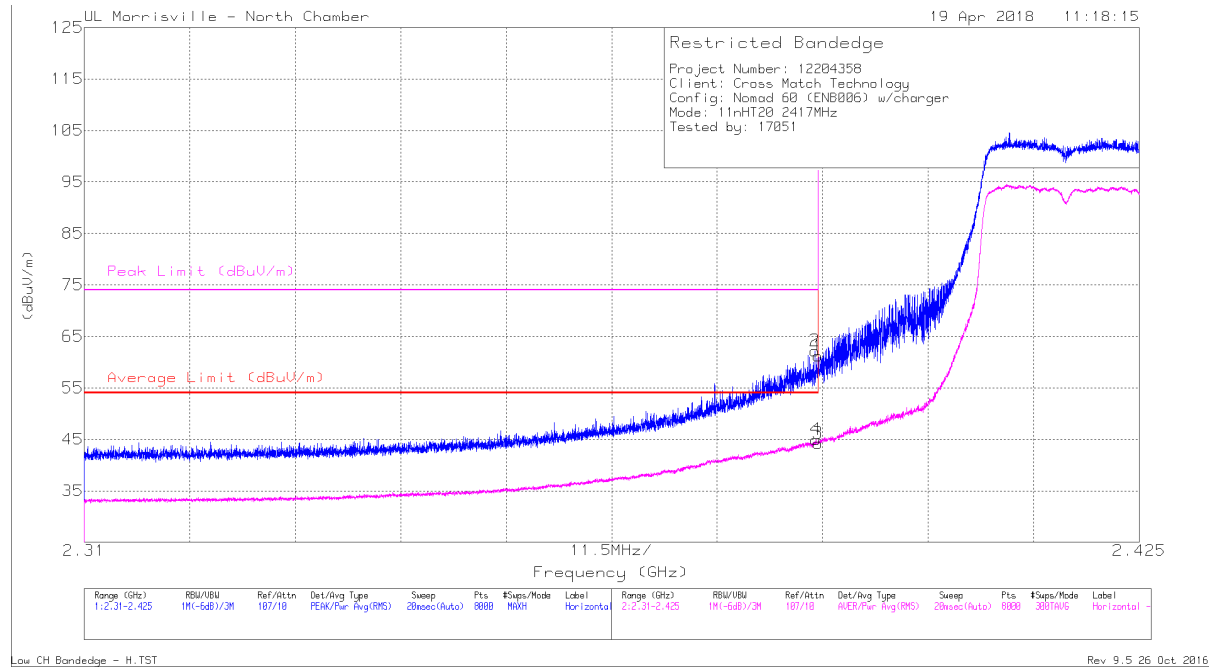
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.386	47.05	Pk	32.1	-24.5	0	54.65	-	-	74	-19.35	119	142	V
1	* 2.39	44.47	Pk	32	-24.5	0	51.97	-	-	74	-22.03	119	142	V
3	* 2.39	33.24	RMS	32	-24.5	1.04	41.78	54	-12.22	-	-	119	142	V
4	* 2.39	33.67	RMS	32	-24.5	1.04	42.21	54	-11.79	-	-	119	142	V

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2, HORIZONTAL)



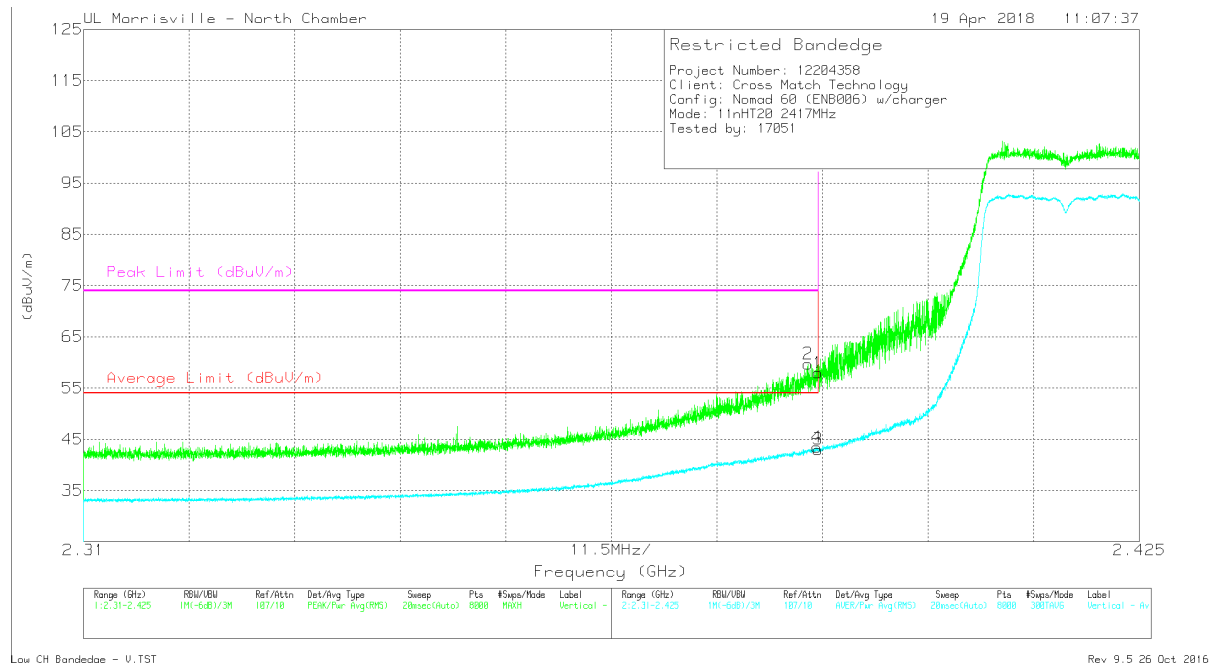
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	53.72	Pk	32	-24.5	0	61.22	-	-	74	-12.78	15	250	H
2	* 2.39	54.72	Pk	32	-24.5	0	62.22	-	-	74	-11.78	15	250	H
3	* 2.39	35.73	RMS	32	-24.5	1.04	44.27	54	-9.73	-	-	15	250	H
4	* 2.39	36.46	RMS	32	-24.5	1.04	45	54	-9	-	-	15	250	H

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2, VERTICAL)



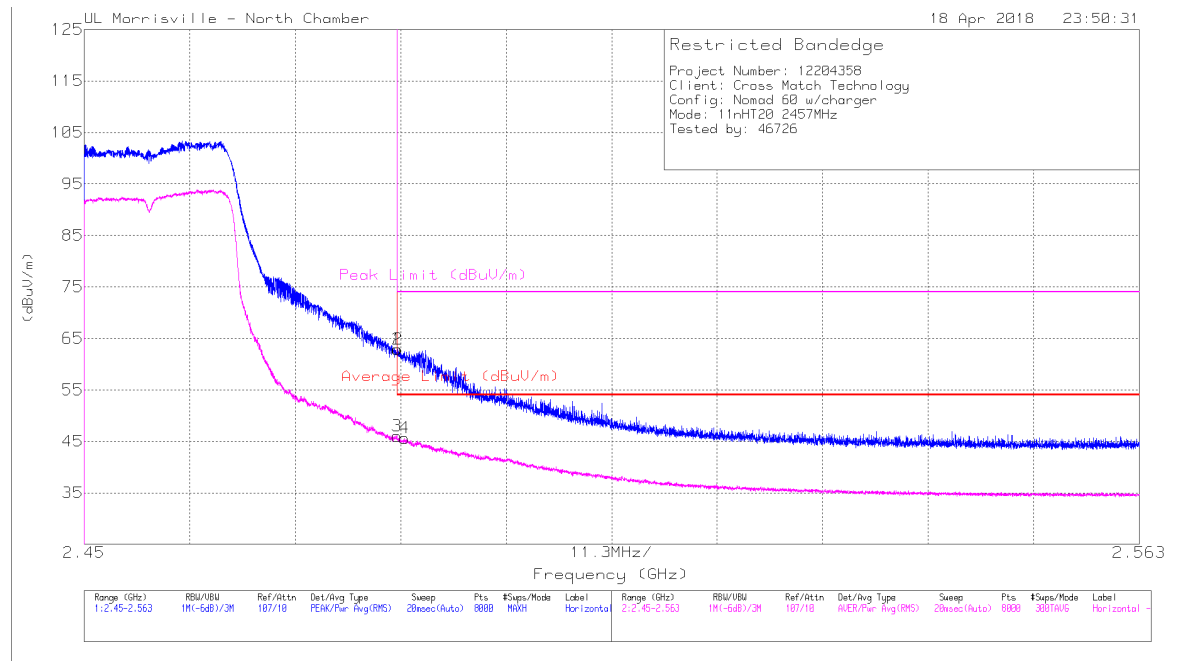
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.389	52.22	Pk	32	-24.5	0	59.72	-	-	74	-14.28	120	143	V
1	* 2.39	50.49	Pk	32	-24.5	0	57.99	-	-	74	-16.01	120	143	V
3	* 2.39	34.49	RMS	32	-24.5	1.04	43.03	54	-10.97	-	-	120	143	V
4	* 2.39	34.88	RMS	32	-24.5	1.04	43.42	54	-10.58	-	-	120	143	V

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 10, HORIZONTAL)



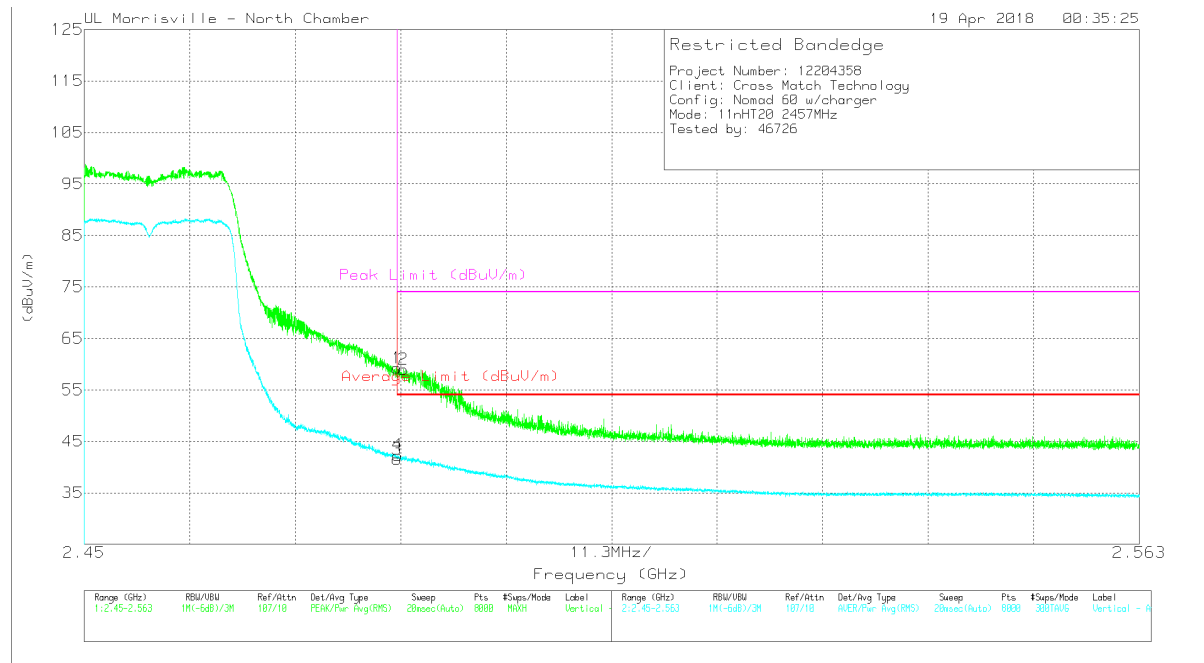
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	54.79	Pk	32.5	-24.4	0	62.89	-	-	74	-11.11	36	296	H
2	* 2.484	54.8	Pk	32.5	-24.4	0	62.9	-	-	74	-11.1	36	296	H
3	* 2.484	36.86	RMS	32.5	-24.4	1.04	46	54	-8	-	-	36	296	H
4	* 2.484	36.49	RMS	32.5	-24.4	1.04	45.63	54	-8.37	-	-	36	296	H

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 10, VERTICAL)



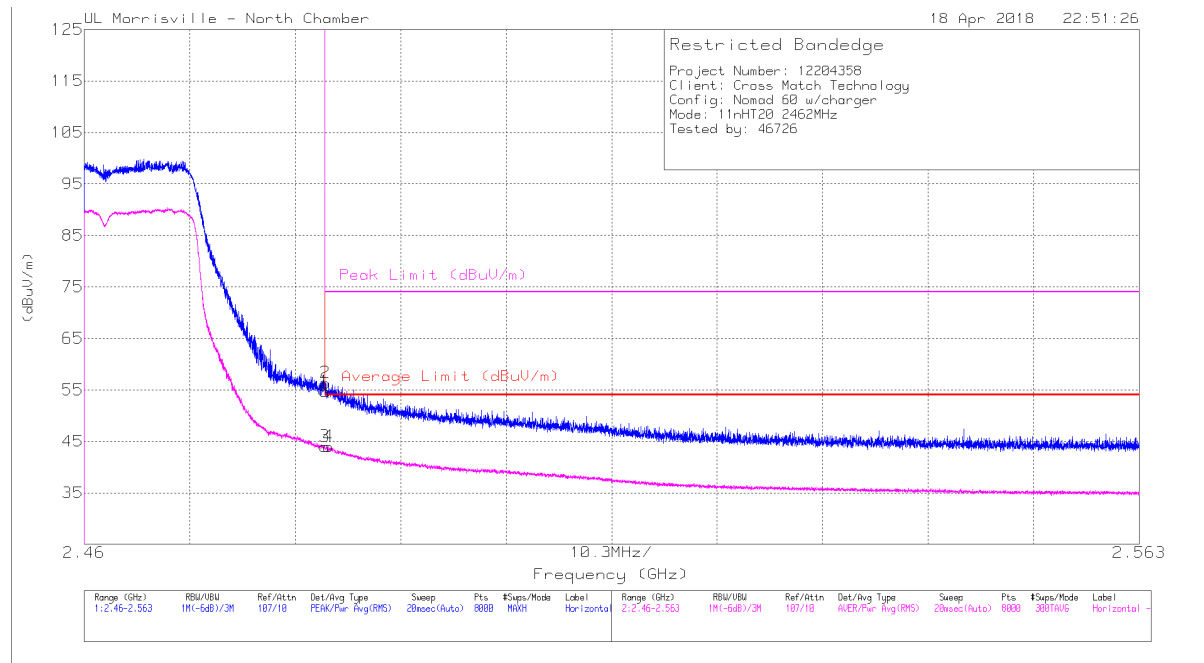
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	51.12	Pk	32.5	-24.4	0	59.22	-	-	74	-14.78	325	123	V
2	* 2.484	50.91	Pk	32.5	-24.4	0	59.01	-	-	74	-14.99	325	123	V
3	* 2.484	32.41	RMS	32.5	-24.4	1.04	41.55	54	-12.45	-	-	325	123	V
4	* 2.484	33.17	RMS	32.5	-24.4	1.04	42.31	54	-11.69	-	-	325	123	V

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11, HORIZONTAL)



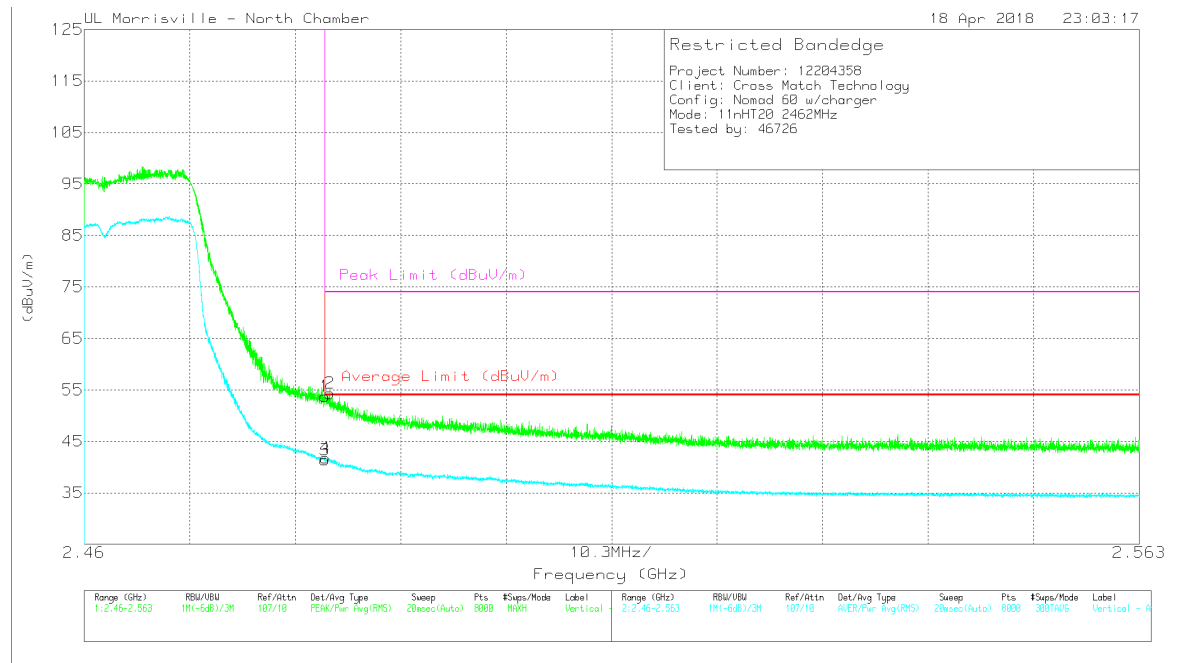
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	46.62	Pk	32.5	-24.4	0	54.72	-	-	74	-19.28	70	227	H
2	* 2.484	48.27	Pk	32.5	-24.4	0	56.37	-	-	74	-17.63	70	227	H
3	* 2.484	34.87	RMS	32.5	-24.4	1.04	44.01	54	-9.99	-	-	70	227	H
4	* 2.484	34.86	RMS	32.5	-24.4	1.04	44	54	-10	-	-	70	227	H

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11, VERTICAL)



Marker	Frequency (GHz)	Meter Reading (dBUV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/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	45.63	Pk	32.5	-24.4	0	53.73	-	-	74	-20.27	354	228	V
2	* 2.484	46.22	Pk	32.5	-24.4	0	54.32	-	-	74	-19.68	354	228	V
3	* 2.484	32.24	RMS	32.5	-24.4	1.04	41.38	54	-12.62	-	-	354	228	V
4	* 2.484	32.61	RMS	32.5	-24.4	1.04	41.75	54	-12.25	-	-	354	228	V

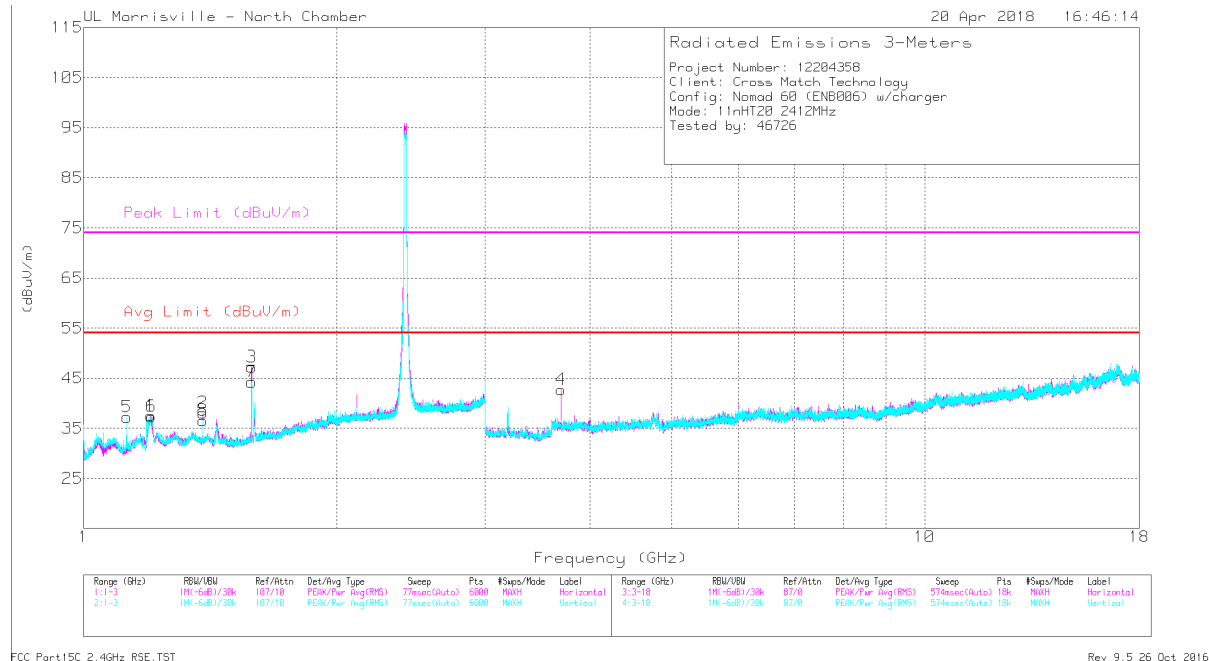
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL



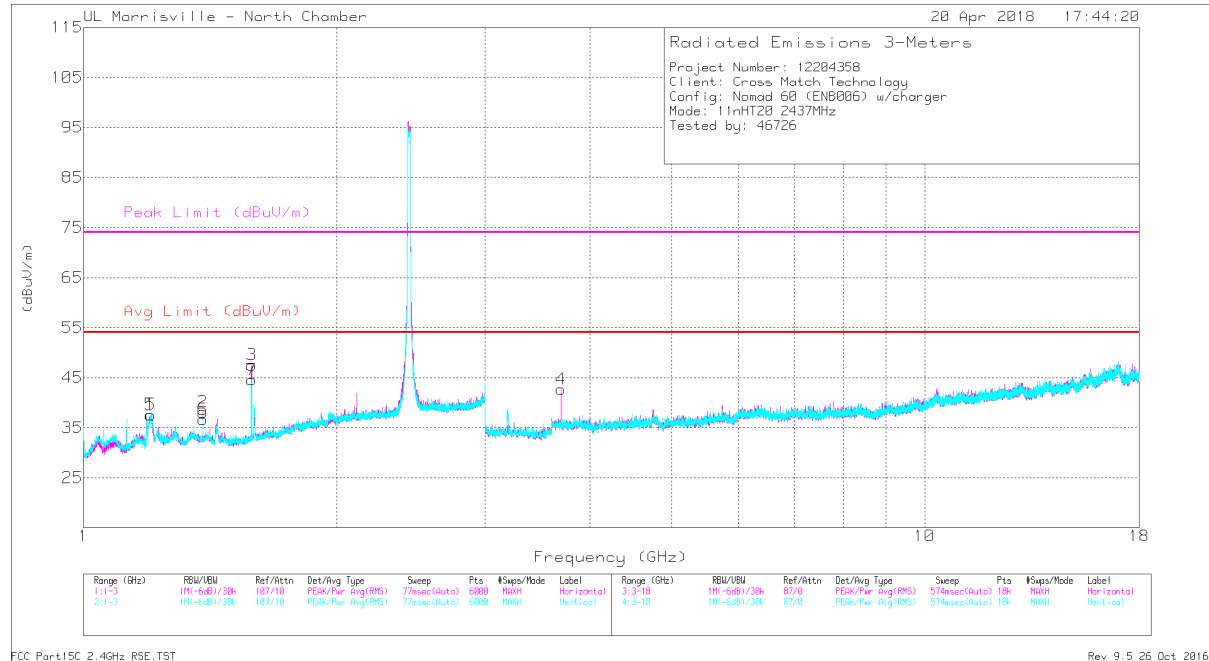
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.203	42.84	PK2	28.4	-26.2	0	45.04	-	-	74	-28.96	32	200	H
	* 1.203	30.44	MAv1	28.4	-26.2	1.04	33.68	54	-20.32	-	-	32	200	H
2	* 1.386	40.97	PK2	29.2	-25.4	0	44.77	-	-	74	-29.23	191	118	H
	* 1.386	34.14	MAv1	29.2	-25.4	1.04	38.98	54	-15.02	-	-	191	118	H
3	* 1.584	47.67	PK2	28.3	-24.7	0	51.27	-	-	74	-22.73	110	186	H
	* 1.584	42.78	MAv1	28.3	-24.7	1.04	47.42	54	-6.58	-	-	110	186	H
4	* 3.696	46.97	PK2	33.3	-32.3	0	47.97	-	-	74	-26.03	17	138	H
	* 3.696	38.61	MAv1	33.3	-32.3	1.04	40.65	54	-13.35	-	-	17	138	H
5	* 1.125	42.03	PK2	27.8	-26.7	0	43.13	-	-	74	-30.87	159	137	V
	* 1.125	33.75	MAv1	27.8	-26.7	1.04	35.89	54	-18.11	-	-	159	137	V
6	* 1.204	42.76	PK2	28.4	-26.2	0	44.96	-	-	74	-29.04	26	110	V
	* 1.204	30.4	MAv1	28.4	-26.2	1.04	33.64	54	-20.36	-	-	26	110	V
7	* 1.584	44.26	PK2	28.3	-24.7	0	47.86	-	-	74	-26.14	94	103	V
	* 1.584	38.1	MAv1	28.3	-24.7	1.04	42.74	54	-11.26	-	-	94	103	V
8	* 1.386	38.86	PK2	29.2	-25.4	0	42.66	-	-	74	-31.34	172	106	V
	* 1.386	30.72	MAv1	29.2	-25.4	1.04	35.56	54	-18.44	-	-	172	106	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MIDDLE CHANNEL



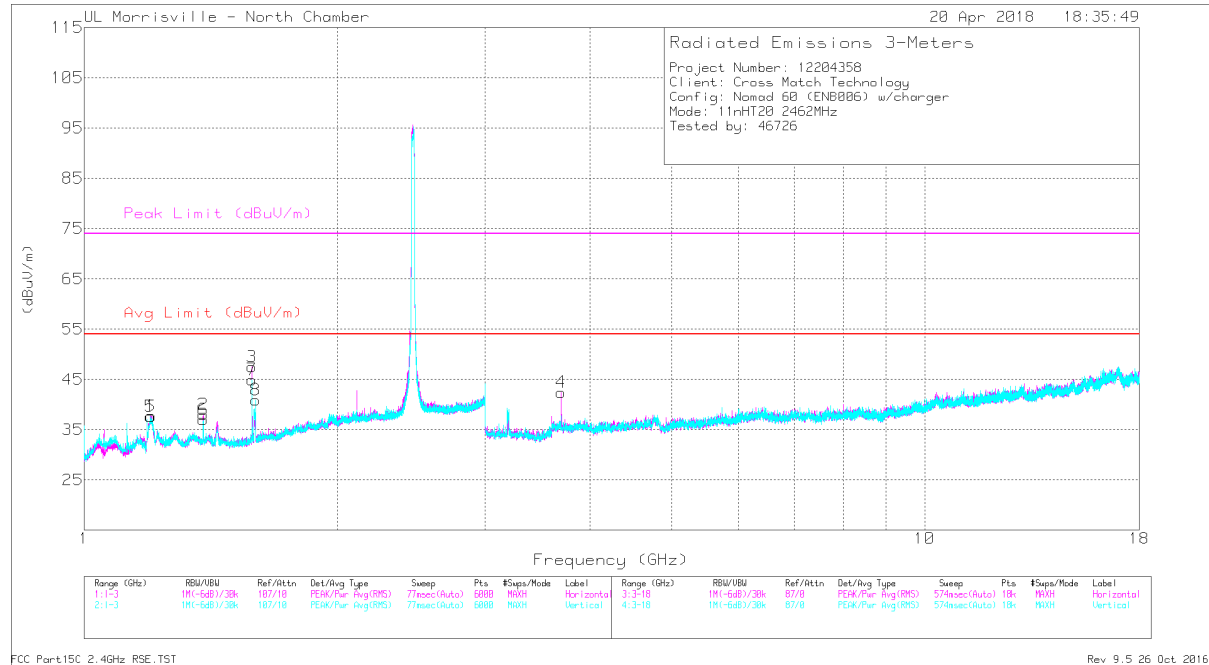
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.201	43.3	PK2	28.4	-26.2	0	45.5	-	-	74	-28.5	25	202	H
	* 1.201	30.72	MAV1	28.4	-26.2	1.04	33.96	54	-20.04	-	-	25	202	H
5	* 1.386	40.44	PK2	29.2	-25.4	0	44.24	-	-	74	-29.76	211	157	H
	* 1.386	33.33	MAV1	29.2	-25.4	1.04	38.17	54	-15.83	-	-	211	157	H
2	* 1.584	47.68	PK2	28.3	-24.7	0	51.28	-	-	74	-22.72	106	185	H
	* 1.584	42.74	MAV1	28.3	-24.7	1.04	47.38	54	-6.62	-	-	106	185	H
6	* 1.201	42.51	PK2	28.4	-26.2	0	44.71	-	-	74	-29.29	25	112	V
	* 1.201	30.84	MAV1	28.4	-26.2	1.04	34.08	54	-19.92	-	-	25	112	V
3	* 1.386	39.3	PK2	29.2	-25.4	0	43.1	-	-	74	-30.9	175	103	V
	* 1.386	31.08	MAV1	29.2	-25.4	1.04	35.92	54	-18.08	-	-	175	103	V
7	* 1.584	44.22	PK2	28.3	-24.7	0	47.82	-	-	74	-26.18	95	105	V
	* 1.584	37.77	MAV1	28.3	-24.7	1.04	42.41	54	-11.59	-	-	95	105	V
4	* 3.696	47.48	PK2	33.3	-32.3	0	48.48	-	-	74	-25.52	16	102	H
	* 3.696	39.47	MAV1	33.3	-32.3	1.04	41.51	54	-12.49	-	-	16	102	H

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

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL



Margin	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dB/m)	Amp/Cbl/Filtr/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
1	* 1.201	43.09	PK2	28.4	-26.2	0	45.29	-	-	74	-28.71	31	200	H
	* 1.201	30.64	MAv1	28.4	-26.2	1.04	33.88	54	-20.12	-	-	31	200	H
2	* 1.386	40.55	PK2	29.2	-25.4	0	44.35	-	-	74	-29.65	185	114	H
	* 1.386	33.95	MAv1	29.2	-25.4	1.04	38.79	54	-15.21	-	-	185	114	H
3	* 1.584	47.92	PK2	28.3	-24.7	0	51.52	-	-	74	-22.48	99	144	H
	* 1.584	42.83	MAv1	28.3	-24.7	1.04	47.47	54	-6.53	-	-	99	144	H
5	* 1.199	42.58	PK2	28.3	-26.2	0	44.68	-	-	74	-29.32	20	110	V
	* 1.199	30.13	MAv1	28.3	-26.2	1.04	33.27	54	-20.73	-	-	20	110	V
6	* 1.386	39.47	PK2	29.2	-25.4	0	43.27	-	-	74	-30.73	165	106	V
	* 1.386	30.68	MAv1	29.2	-25.4	1.04	35.52	54	-18.48	-	-	165	106	V
7	* 1.584	44.34	PK2	28.3	-24.7	0	47.94	-	-	74	-26.06	99	105	V
	* 1.584	37.96	MAv1	28.3	-24.7	1.04	42.6	54	-11.4	-	-	99	105	V
8	* 1.599	43.79	PK2	28.5	-24.6	0	47.69	-	-	74	-26.31	158	218	V
	* 1.599	28.32	MAv1	28.5	-24.6	1.04	33.26	54	-20.74	-	-	158	218	V
4	* 3.696	47.49	PK2	33.3	-32.3	0	48.49	-	-	74	-25.51	21	105	H
	* 3.696	39.41	MAv1	33.3	-32.3	1.04	41.45	54	-12.55	-	-	21	105	H

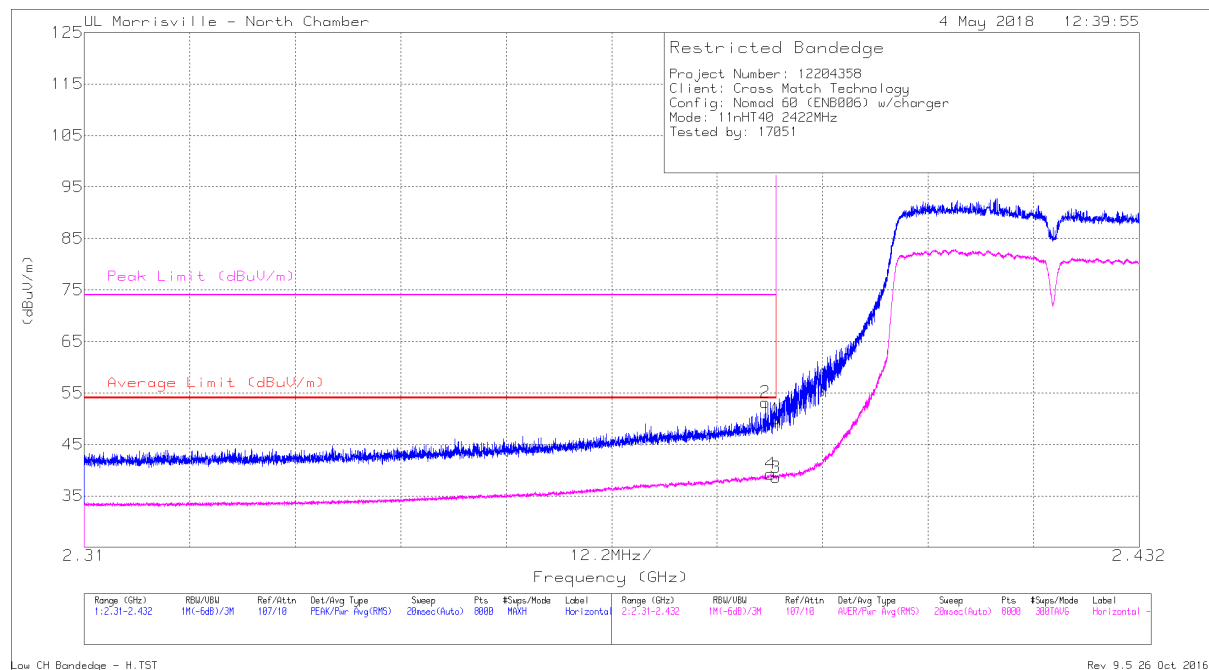
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.5. TX ABOVE 1 GHz 802.11nHT40 MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (CHANNEL 3, HORIZONTAL)



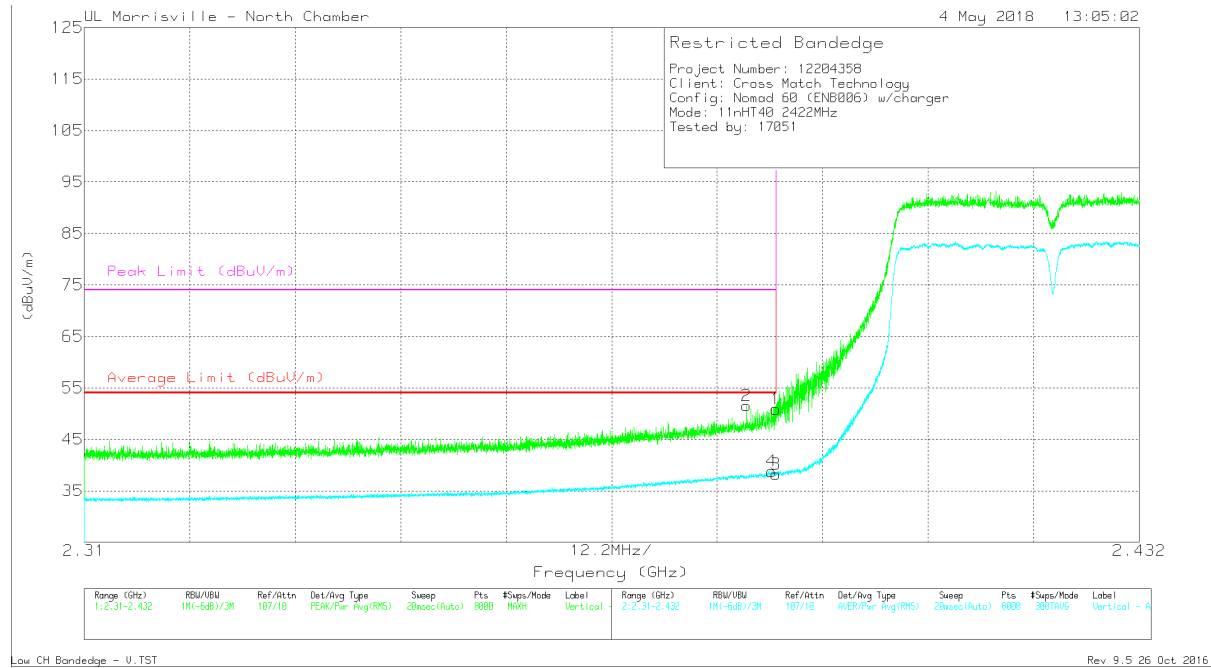
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	42.47	Pk	32	-24.5	0	49.97	-	-	74	-24.03	75	333	H
2	* 2.389	45.65	Pk	32	-24.5	0	53.15	-	-	74	-20.85	75	333	H
3	* 2.39	29.8	RMS	32	-24.5	1.29	38.59	54	-15.41	-	-	75	333	H
4	* 2.389	30.49	RMS	32	-24.5	1.29	39.28	54	-14.72	-	-	75	333	H

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (cCHANNEL 3, VERTICAL)



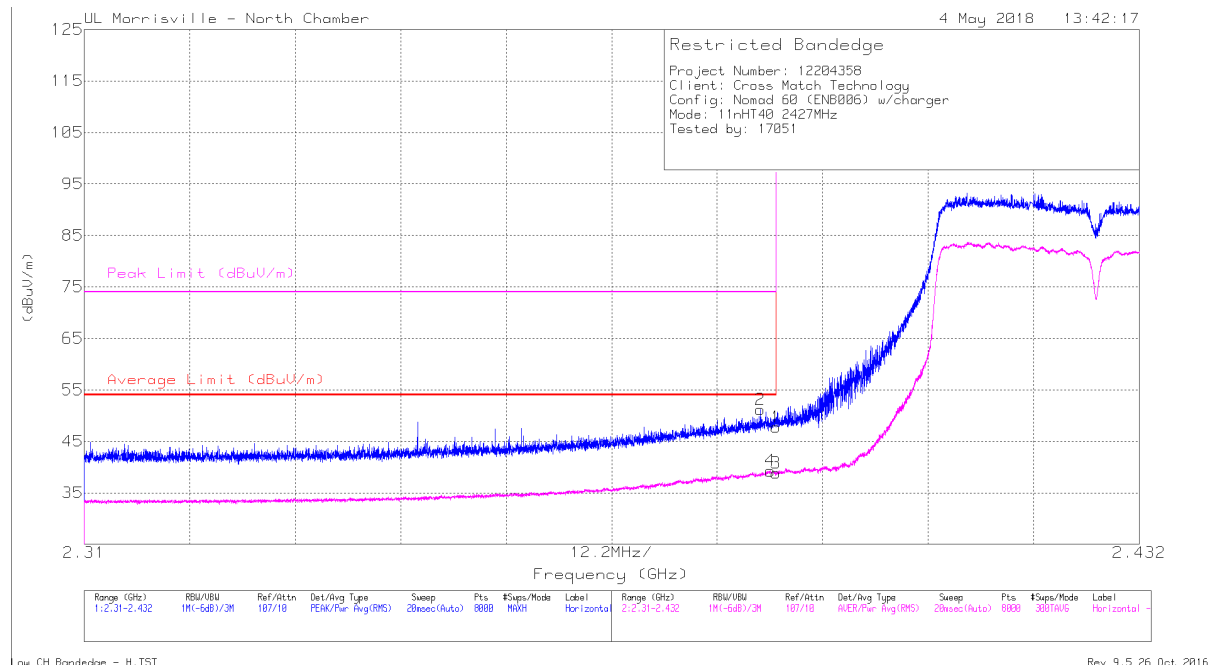
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.387	44.05	Pk	32	-24.5	0	51.55	-	-	74	-22.45	62	100	V
4	* 2.389	30	RMS	32	-24.5	1.29	38.79	54	-15.21	-	-	62	100	V
1	* 2.39	43.39	Pk	32	-24.5	0	50.89	-	-	74	-23.11	62	100	V
3	* 2.39	29.43	RMS	32	-24.5	1.29	38.22	54	-15.78	-	-	62	100	V

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 4, HORIZONTAL)



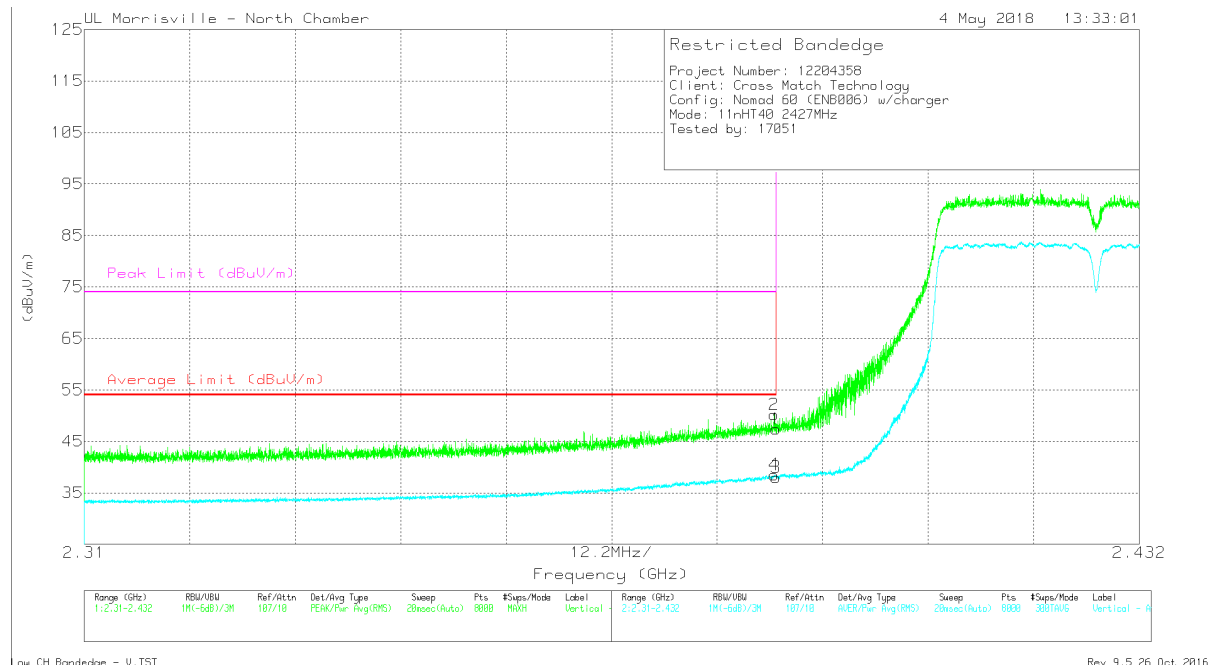
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2	* 2.388	43.66	Pk	32	-24.5	0	51.16	-	-	74	-22.84	74	256	H
4	* 2.389	30.5	RMS	32	-24.5	1.29	39.29	54	-14.71	-	-	74	256	H
1	* 2.39	40.24	Pk	32	-24.5	0	47.74	-	-	74	-26.26	74	256	H
3	* 2.39	30.02	RMS	32	-24.5	1.29	38.81	54	-15.19	-	-	74	256	H

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (cCHANNEL 4, VERTICAL)



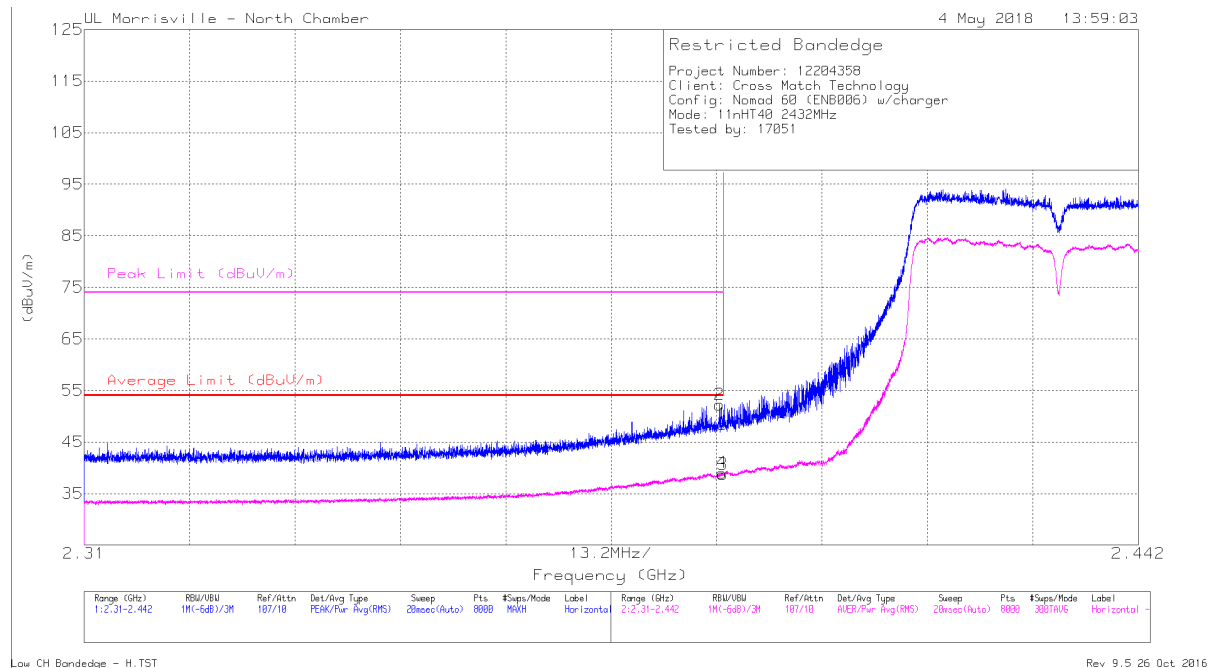
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.9	Pk	32	-24.5	0	47.4	-	-	74	-26.6	60	100	V
2	* 2.39	42.7	Pk	32	-24.5	0	50.2	-	-	74	-23.8	60	100	V
3	* 2.39	29.22	RMS	32	-24.5	1.29	38.01	54	-15.99	-	-	60	100	V
4	* 2.39	29.7	RMS	32	-24.5	1.29	38.49	54	-15.51	-	-	60	100	V

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 5, HORIZONTAL)



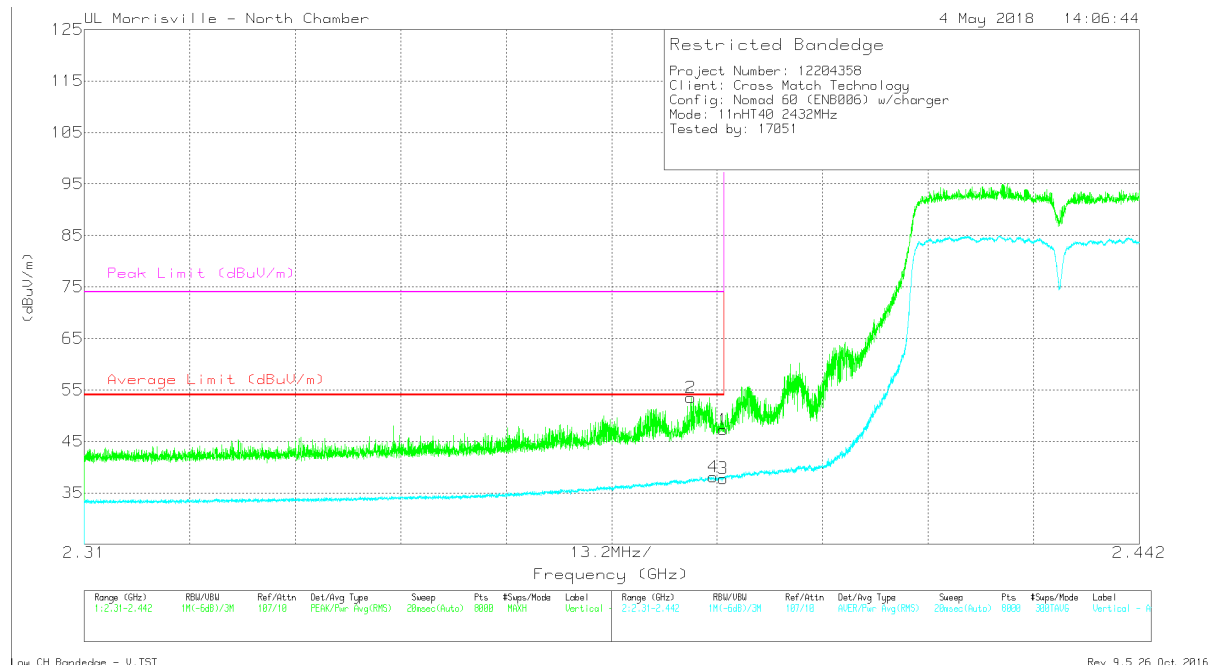
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.93	Pk	32	-24.5	0	48.43	-	-	74	-25.57	72	253	H
2	* 2.39	44.73	Pk	32	-24.5	0	52.23	-	-	74	-21.77	72	253	H
3	* 2.39	29.95	RMS	32	-24.5	1.29	38.74	54	-15.26	-	-	72	253	H
4	* 2.39	30.23	RMS	32	-24.5	1.29	39.02	54	-14.98	-	-	72	253	H

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

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (cCHANNEL 5, VERTICAL)



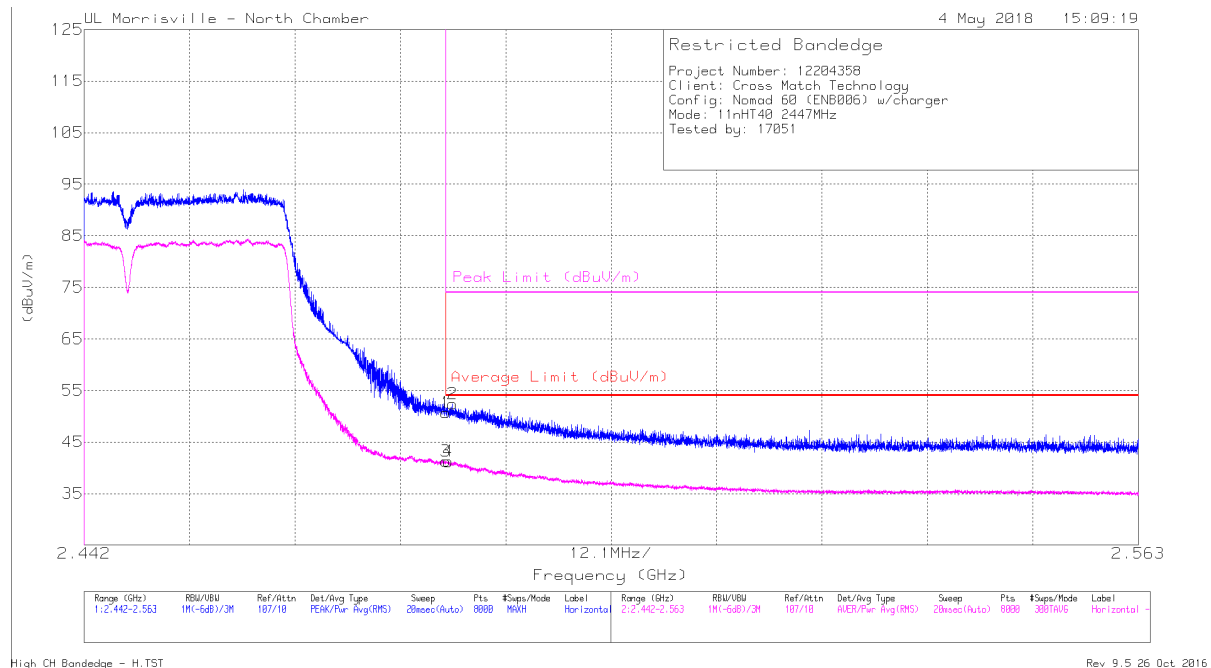
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.386	45.99	Pk	32	-24.5	0	53.49	-	-	74	-20.51	60	100	V
4	* 2.389	29.31	RMS	32	-24.5	1.29	38.1	54	-15.9	-	-	60	100	V
1	* 2.39	39.77	Pk	32	-24.5	0	47.27	-	-	74	-26.73	60	100	V
3	* 2.39	28.97	RMS	32	-24.5	1.29	37.76	54	-16.24	-	-	60	100	V

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 8, HORIZONTAL)



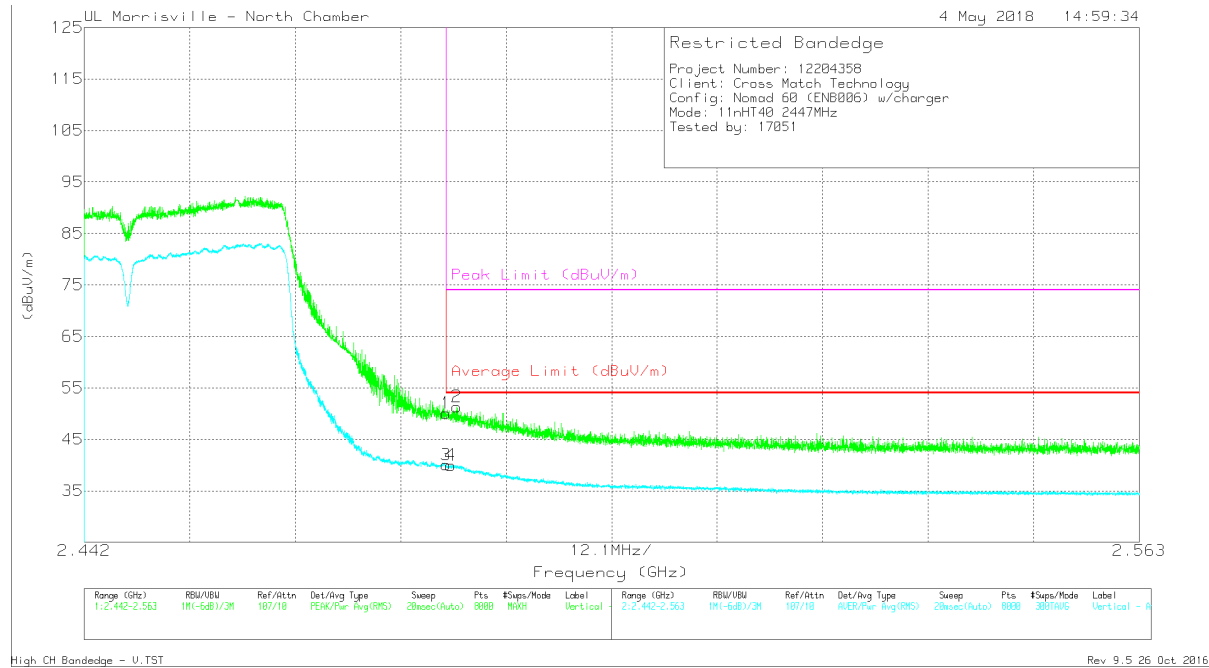
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	42.68	Pk	32.4	-24.4	0	50.68	-	-	74	-23.32	77	266	H
2	* 2.484	44.41	Pk	32.4	-24.4	0	52.41	-	-	74	-21.59	77	266	H
3	* 2.484	31.99	RMS	32.4	-24.4	1.29	41.28	54	-12.72	-	-	77	266	H
4	* 2.484	31.95	RMS	32.4	-24.4	1.29	41.24	54	-12.76	-	-	77	266	H

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 8, VERTICAL)



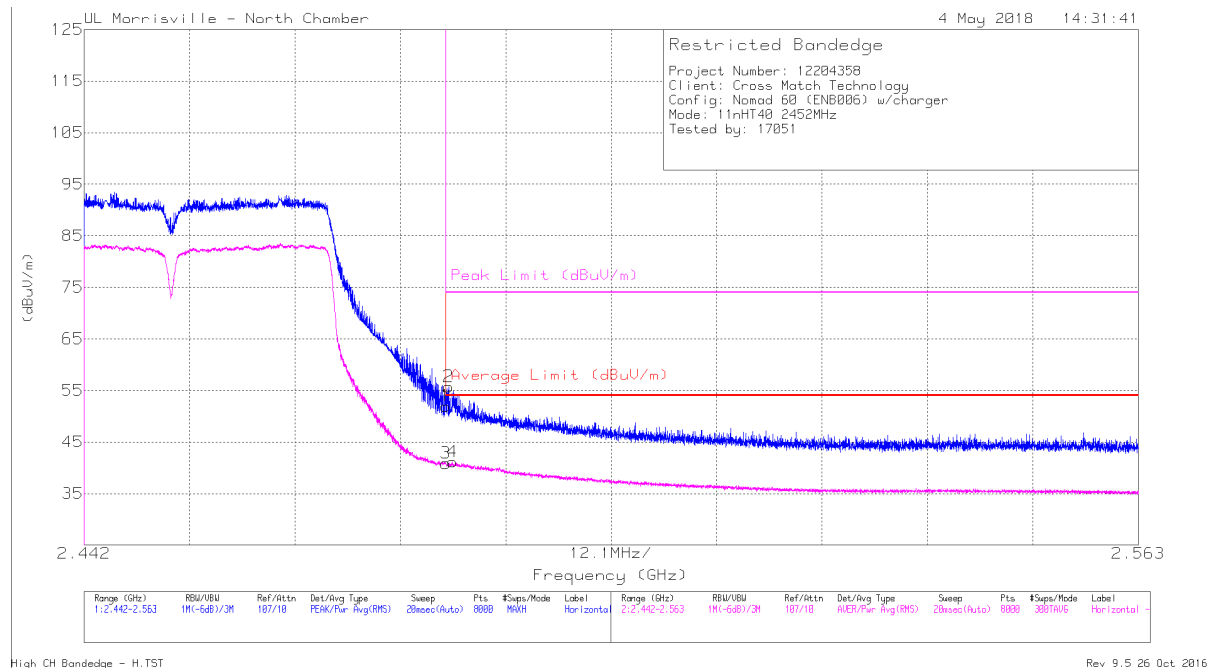
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	42.1	Pk	32.4	-24.4	0	50.1	-	-	74	-23.9	123	173	V
3	* 2.484	30.76	RMS	32.4	-24.4	1.29	40.05	54	-13.95	-	-	123	173	V
4	* 2.484	30.69	RMS	32.4	-24.4	1.29	39.98	54	-14.02	-	-	123	173	V
2	* 2.485	43.35	Pk	32.4	-24.4	0	51.35	-	-	74	-22.65	123	173	V

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 9, HORIZONTAL)



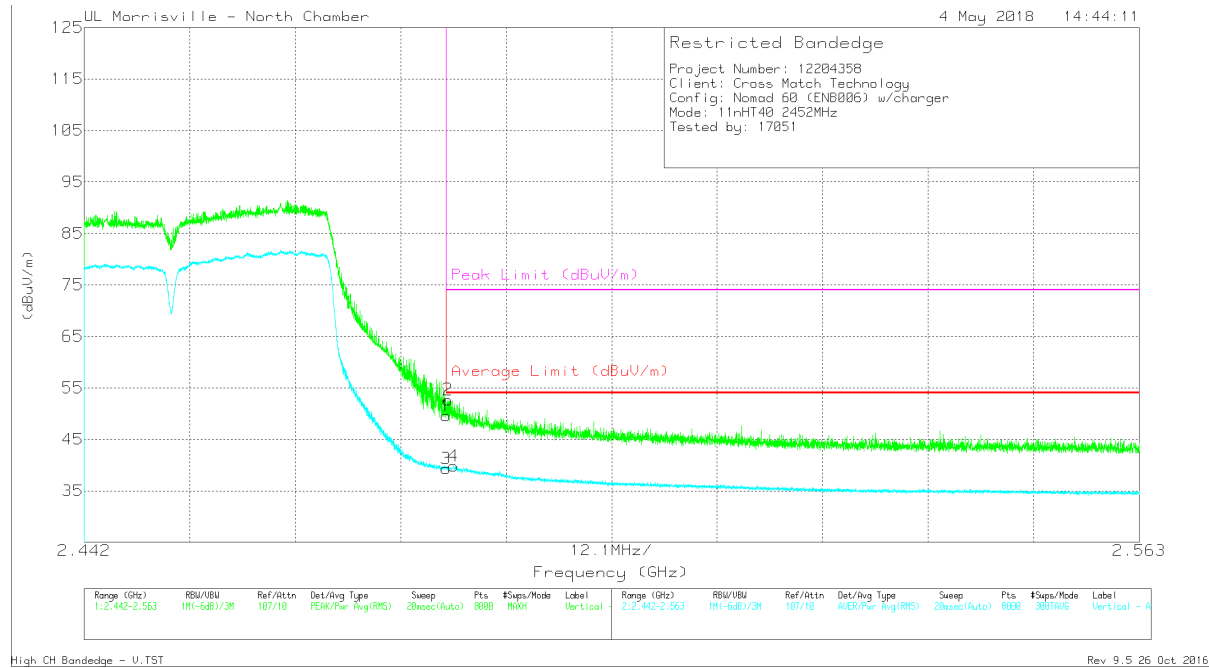
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	43.97	Pk	32.4	-24.4	0	51.97	-	-	74	-22.03	76	266	H
2	* 2.484	47.72	Pk	32.4	-24.4	0	55.72	-	-	74	-18.28	76	266	H
3	* 2.484	31.59	RMS	32.4	-24.4	1.29	40.88	54	-13.12	-	-	76	266	H
4	* 2.484	31.85	RMS	32.4	-24.4	1.29	41.14	54	-12.86	-	-	76	266	H

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

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 9, VERTICAL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/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	41.58	Pk	32.4	-24.4	0	49.58	-	-	74	-24.42	122	171	V
2	* 2.484	44.68	Pk	32.4	-24.4	0	52.68	-	-	74	-21.32	122	171	V
3	* 2.484	30.04	RMS	32.4	-24.4	1.29	39.33	54	-14.67	-	-	122	171	V
4	* 2.484	30.53	RMS	32.4	-24.4	1.29	39.82	54	-14.18	-	-	122	171	V

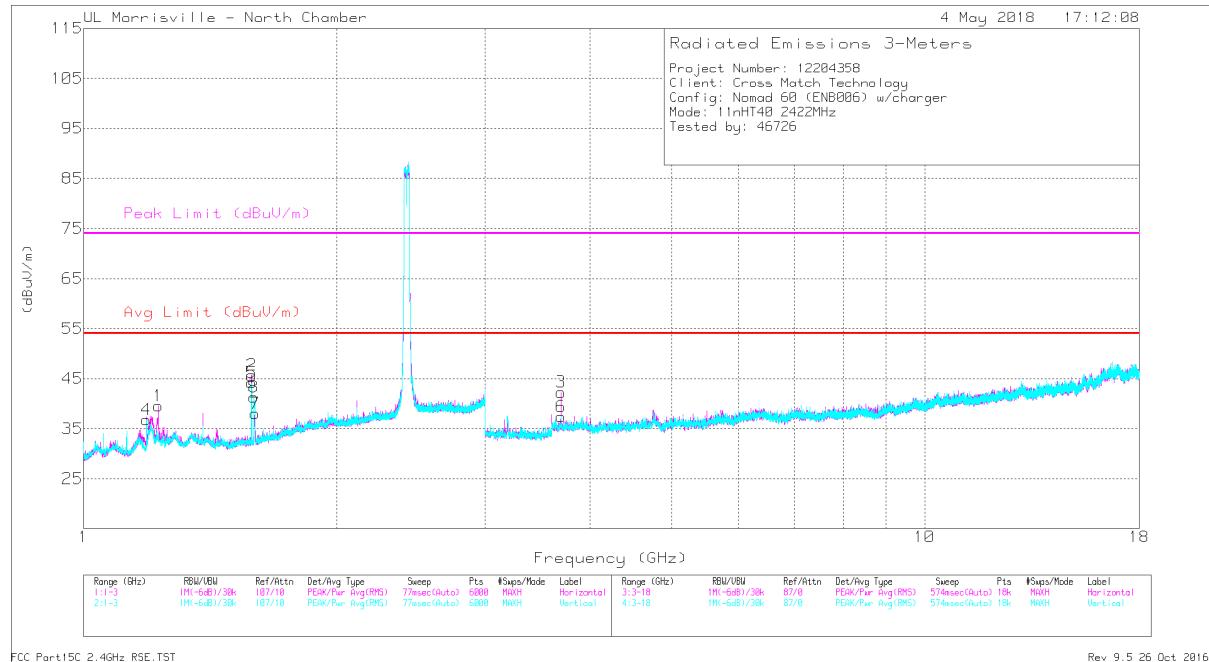
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL



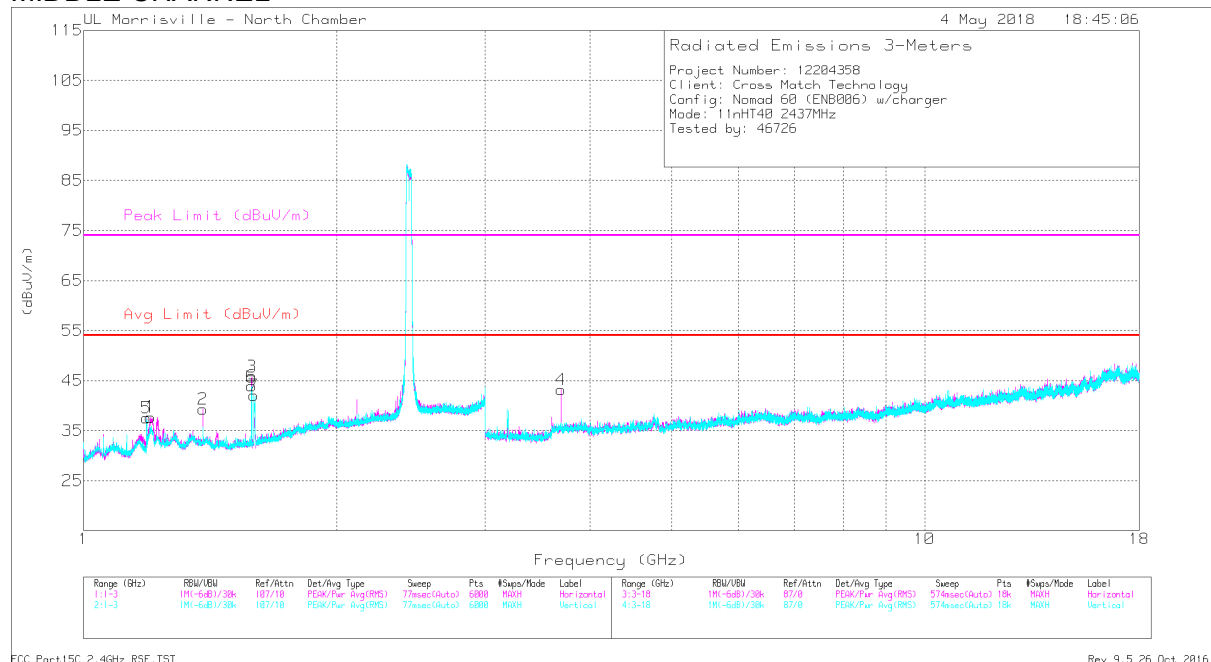
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.584	45.71	PK2	27.8	-24.7	0	48.81	-	-	74	-25.19	39	162	H
	* 1.584	40.04	MAv1	27.8	-24.7	1.29	44.43	54	-9.57	-	-	39	162	H
2	* 1.599	41.51	PK2	27.9	-24.6	0	44.81	-	-	74	-29.19	168	193	H
	* 1.599	27.95	MAv1	27.9	-24.6	1.29	32.54	54	-21.46	-	-	168	193	H
7	* 1.227	47.35	PK2	28.9	-26.1	0	50.15	-	-	74	-23.85	96	211	H
	* 1.227	28.79	MAv1	28.9	-26.1	1.29	32.88	54	-21.12	-	-	96	211	H
3	* 3.696	46.89	PK2	33.2	-32.3	0	47.79	-	-	74	-26.21	88	103	H
	* 3.696	38.44	MAv1	33.2	-32.3	1.29	40.63	54	-13.37	-	-	88	103	H
4	* 1.188	41.03	PK2	28.3	-26.3	0	43.03	-	-	74	-30.97	132	172	V
	* 1.188	33.06	MAv1	28.3	-26.3	1.29	36.35	54	-17.65	-	-	132	172	V
5	* 1.584	44.24	PK2	27.8	-24.7	0	47.34	-	-	74	-26.66	248	199	V
	* 1.584	38.19	MAv1	27.8	-24.7	1.29	42.58	54	-11.42	-	-	248	199	V
8	* 1.593	42.94	PK2	27.9	-24.7	0	46.14	-	-	74	-27.86	157	267	V
	* 1.593	28.98	MAv1	27.9	-24.7	1.29	33.47	54	-20.53	-	-	157	267	V
6	* 3.696	43.51	PK2	33.2	-32.3	0	44.41	-	-	74	-29.59	30	318	V
	* 3.696	32.27	MAv1	33.2	-32.3	1.29	34.46	54	-19.54	-	-	30	318	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MIDDLE CHANNEL



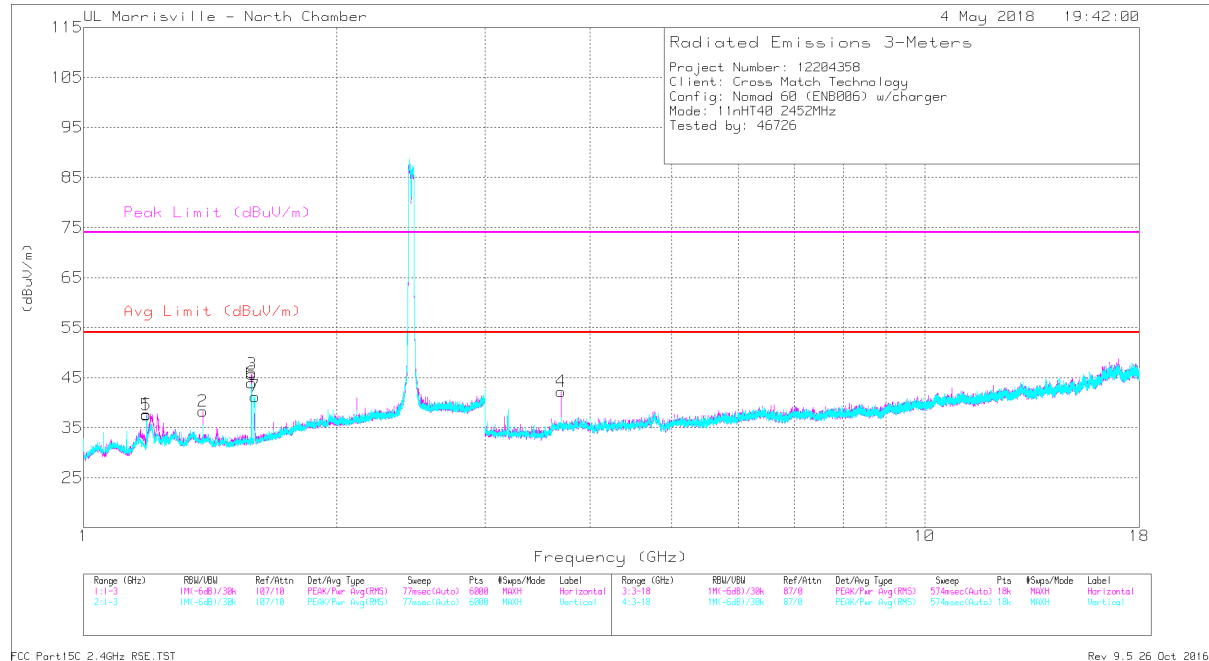
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.2	43.68	PK2	28.7	-26.2	0	46.18	-	-	74	-27.82	90	236	H
	* 1.2	31.71	MAV1	28.7	-26.2	1.29	35.5	54	-18.5	-	-	90	236	H
2	* 1.386	40.75	PK2	29	-25.4	0	44.35	-	-	74	-29.65	185	117	H
	* 1.386	33.66	MAV1	29	-25.4	1.29	38.55	54	-15.45	-	-	185	117	H
3	* 1.584	41.31	PK2	27.8	-24.7	0	44.41	-	-	74	-29.59	37	373	H
	* 1.584	32.2	MAV1	27.8	-24.7	1.29	36.59	54	-17.41	-	-	37	373	H
4	* 3.696	47.38	PK2	33.2	-32.3	0	48.28	-	-	74	-25.72	82	138	H
	* 3.696	39.27	MAV1	33.2	-32.3	1.29	41.46	54	-12.54	-	-	82	138	H
5	* 1.188	43.88	PK2	28.3	-26.3	0	45.88	-	-	74	-28.12	130	125	V
	* 1.188	33.81	MAV1	28.3	-26.3	1.29	37.1	54	-16.9	-	-	130	125	V
6	* 1.584	44.08	PK2	27.8	-24.7	0	47.18	-	-	74	-26.82	136	195	V
	* 1.584	37.74	MAV1	27.8	-24.7	1.29	42.13	54	-11.87	-	-	136	195	V
7	* 1.593	40.29	PK2	27.9	-24.7	0	43.49	-	-	74	-30.51	159	331	V
	* 1.593	26.47	MAV1	27.9	-24.7	1.29	30.96	54	-23.04	-	-	159	331	V

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

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL



Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/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
1	* 1.188	42.5	PK2	28.3	-26.3	0	44.5	-	-	74	-29.5	170	195	H
	* 1.188	33.64	MAV1	28.3	-26.3	1.29	36.93	54	-17.07	-	-	170	195	H
5	* 1.386	40.48	PK2	29	-25.4	0	44.08	-	-	74	-29.92	183	114	H
	* 1.386	33.92	MAV1	29	-25.4	1.29	38.81	54	-15.19	-	-	183	114	H
2	* 1.584	45.62	PK2	27.8	-24.7	0	48.72	-	-	74	-25.28	38	160	H
	* 1.584	40.14	MAV1	27.8	-24.7	1.29	44.53	54	-9.47	-	-	38	160	H
4	* 3.696	46.85	PK2	33.2	-32.3	0	47.75	-	-	74	-26.25	76	124	H
	* 3.696	38.86	MAV1	33.2	-32.3	1.29	41.05	54	-12.95	-	-	76	124	H
3	* 1.188	40.86	PK2	28.3	-26.3	0	42.86	-	-	74	-31.14	123	102	V
	* 1.188	33.67	MAV1	28.3	-26.3	1.29	36.96	54	-17.04	-	-	123	102	V
6	* 1.584	44.12	PK2	27.8	-24.7	0	47.22	-	-	74	-26.78	247	203	V
	* 1.584	38.23	MAV1	27.8	-24.7	1.29	42.62	54	-11.38	-	-	247	203	V
7	* 1.599	44.19	PK2	27.9	-24.6	0	47.49	-	-	74	-26.51	160	240	V
	* 1.599	30.68	MAV1	27.9	-24.6	1.29	35.27	54	-18.73	-	-	160	240	V

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

PK2 - KDB558074 Method: Maximum Peak

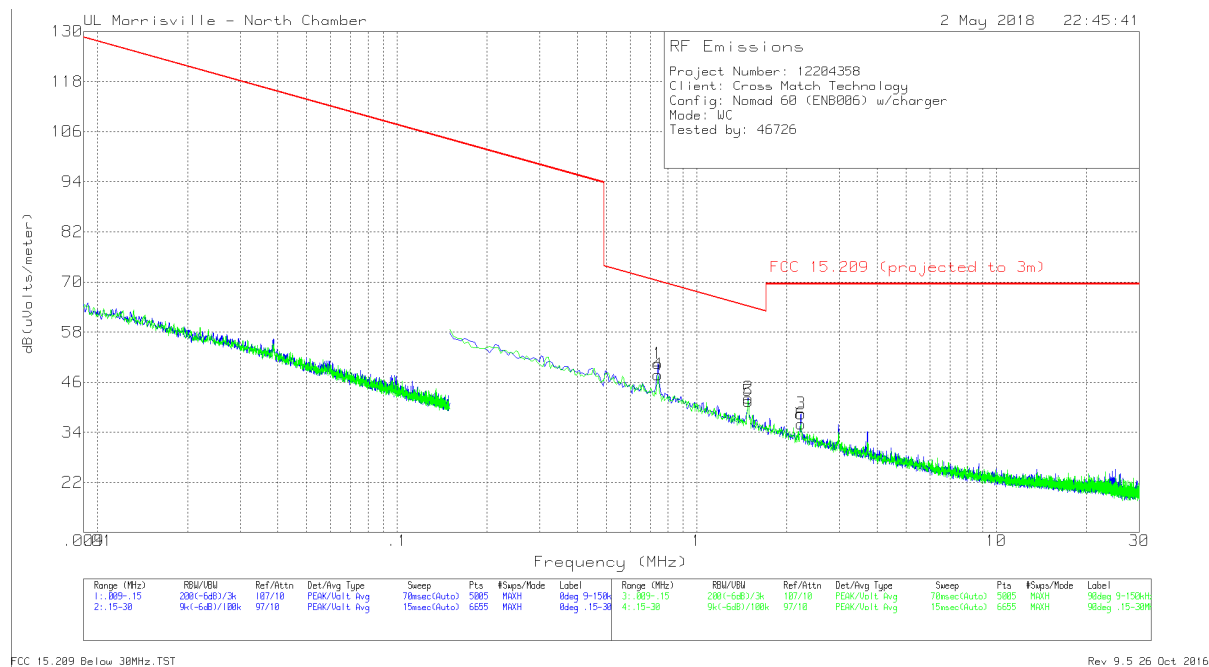
MAV1 - KDB558074 Option 1 Maximum RMS Average

9.6. 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).

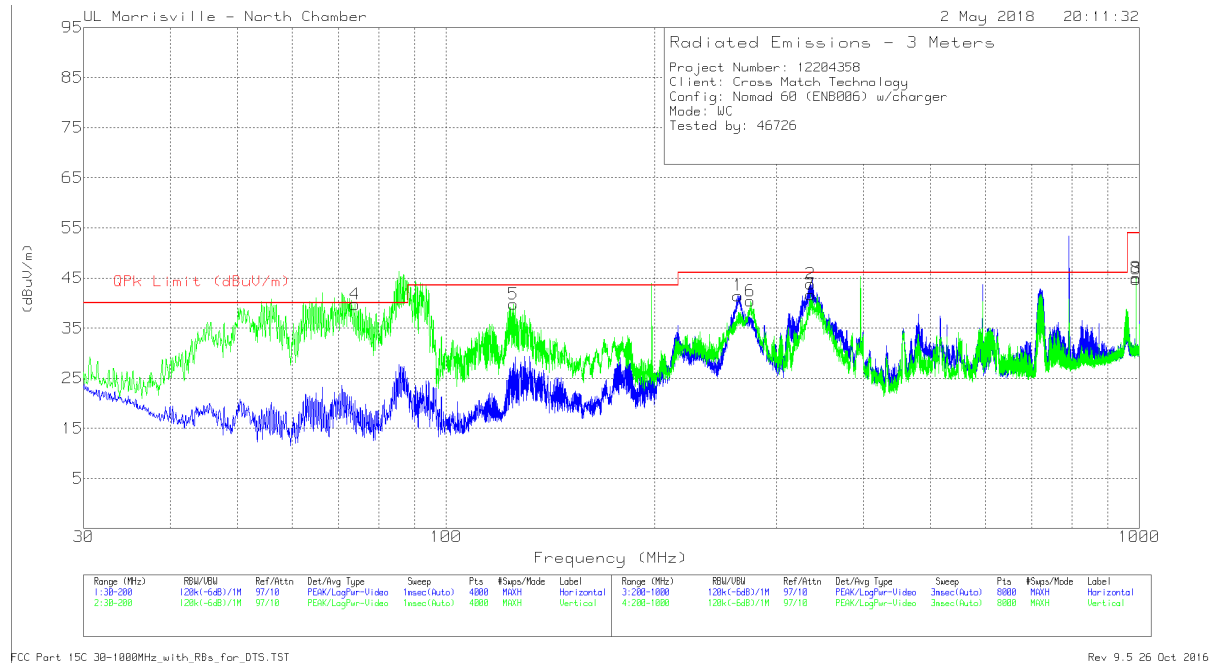
Although these tests were performed at a test site other than an open area test site, adequate comparison measurements were confirmed against an open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made 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)	Face
4	.74215	36.2	Pk	11.5	.1	47.8	70.19	-22.39	0-360	Off
5	1.48683	29.81	Pk	11.5	.2	41.51	64.16	-22.65	0-360	Off
6	2.2315	24.26	Pk	11.6	.2	36.06	69.54	-33.48	0-360	Off
1	.74215	38.9	Pk	11.5	.1	50.5	70.19	-19.69	0-360	On
2	1.48683	30.52	Pk	11.5	.2	42.22	64.16	-21.94	0-360	On
3	2.22702	26.66	Pk	11.6	.2	38.46	69.54	-31.08	0-360	On

Pk - Peak detector

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

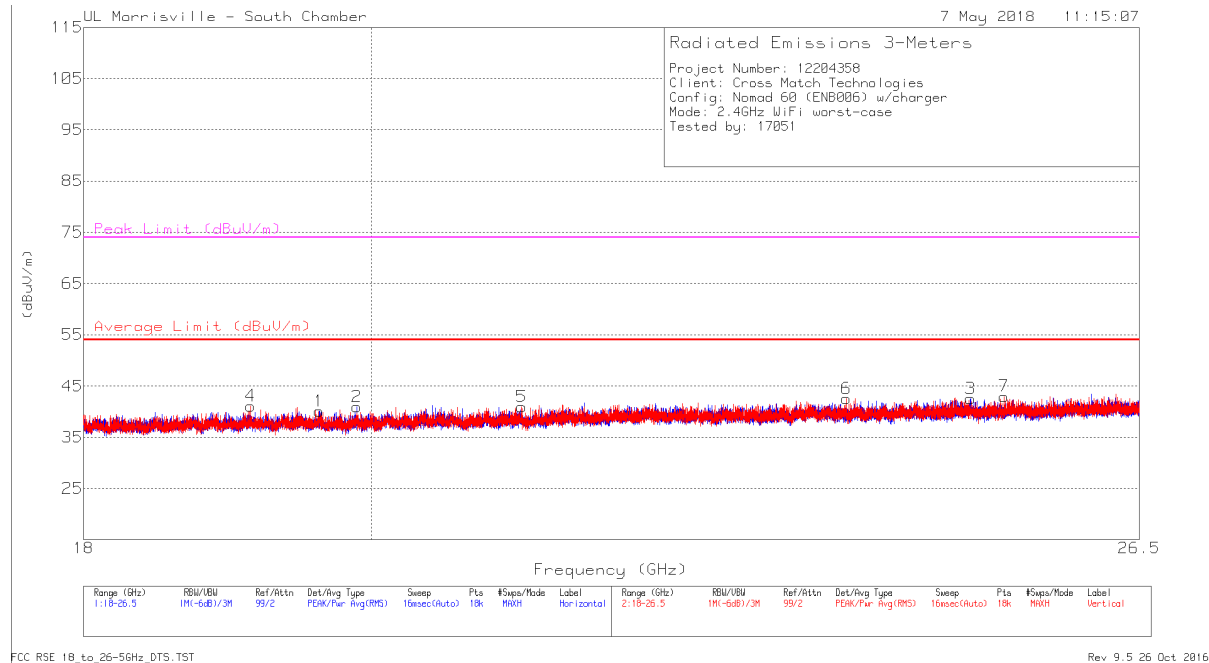


Markers	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0073 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 263.7213	48.19	Qp	18.3	-29.7	36.79	46.02	-9.23	217	288	H
3	* 335.3898	50.49	Qp	19.5	-29.3	40.69	46.02	-5.33	27	116	H
6	* 990.0301	44.27	Qp	28.5	-25.2	47.57	53.97	-6.4	121	138	H
4	* 73.8774	54.52	Qp	13.2	-31.2	36.52	40	-3.48	0	101	V
5	* 124.9557	48.13	Qp	19.1	-30.7	36.53	43.52	-6.99	273	103	V
8	* 274.5679	46.3	Qp	18.8	-29.5	35.6	46.02	-10.42	126	105	V
2	* 335.3815	47.8	Qp	19.5	-29.3	38	46.02	-8.02	115	129	V
7	* 990.0171	41.16	Qp	28.5	-25.2	44.46	53.97	-9.51	31	103	V

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

Qp - Quasi-Peak detector

SPURIOUS EMISSIONS 18 to 26.5GHz (WORST-CASE CONFIGURATION)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (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	* 19.622	47.02	Pk	32.7	-39.6	40.12	54	-13.88	74	-33.88	0-360	101	H
2	* 19.897	47.47	Pk	33	-39.5	40.97	54	-13.03	74	-33.03	0-360	299	H
4	* 19.136	48.32	Pk	32.7	-39.9	41.12	54	-12.88	74	-32.88	0-360	251	V
5	* 21.134	46.97	Pk	33	-39	40.97	54	-13.03	74	-33.03	0-360	251	V
6	* 23.804	46.74	Pk	34	-38.2	42.54	54	-11.46	74	-31.46	0-360	251	V
3	24.911	45.54	Pk	34.4	-37.4	42.54	-	-	74	-31.46	0-360	299	H
7	25.22	46.09	Pk	34.2	-37.3	42.99	-	-	74	-31.01	0-360	101	V

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

Pk - Peak detector

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

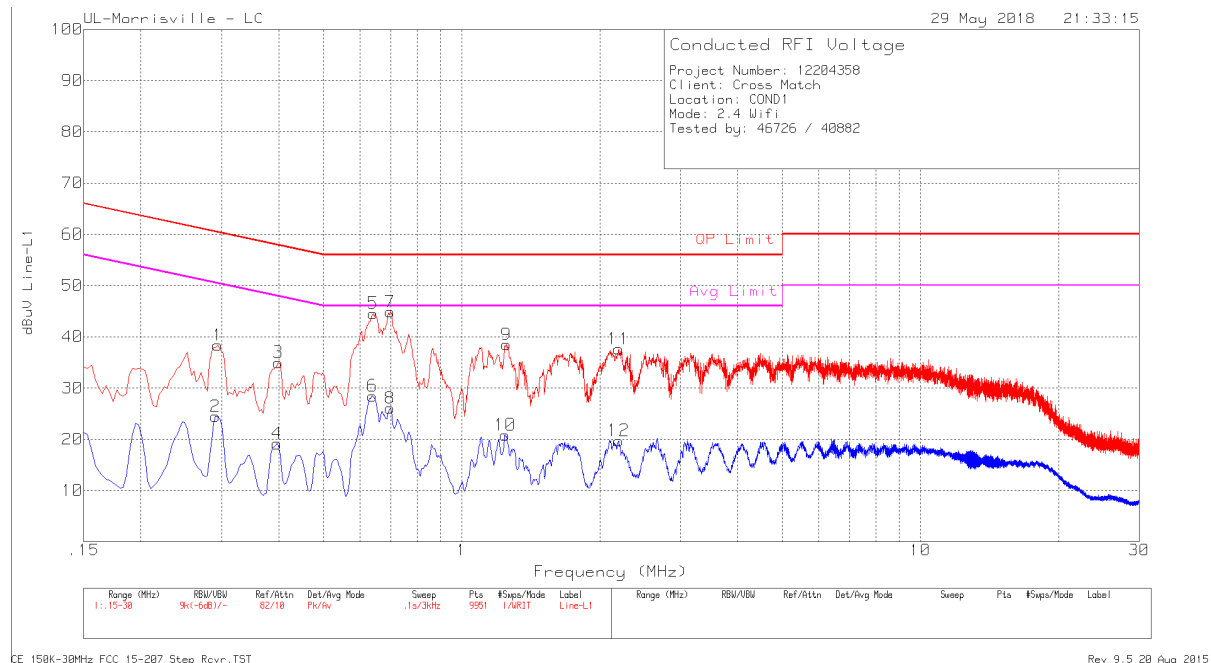
TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both lines.

LINE 1 RESULTS

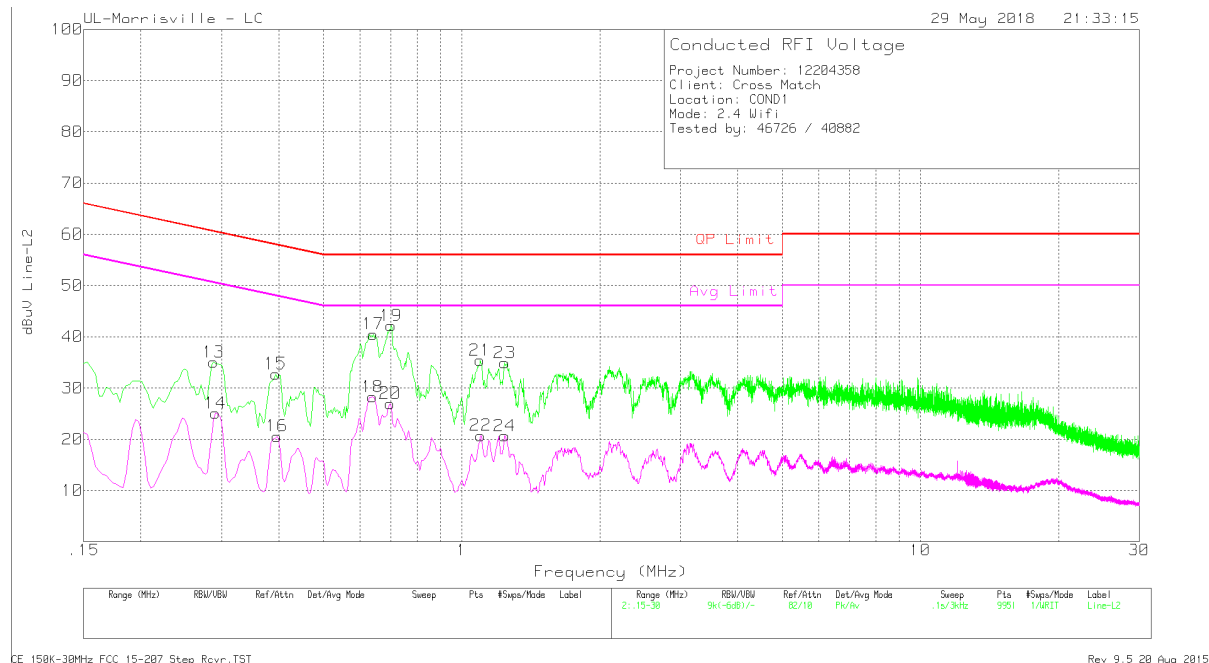


Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit	Margin (dB)	Avg Limit	Margin (dB)
1	.294	28.33	Pk	.1	9.9	38.33	60.41	-22.08	-	-
2	.291	14.49	Av	.1	9.9	24.49	-	-	50.5	-26.01
3	.399	24.98	Pk	.1	9.9	34.98	57.87	-22.89	-	-
4	.396	9.15	Av	.1	9.9	19.15	-	-	47.94	-28.79
5	.642	34.66	Pk	0	9.9	44.56	56	-11.44	-	-
6	.639	18.57	Av	0	9.9	28.47	-	-	46	-17.53
7	.699	34.97	Pk	0	9.9	44.87	56	-11.13	-	-
8	.699	16.18	Av	0	9.9	26.08	-	-	46	-19.92
9	1.251	28.51	Pk	0	10	38.51	56	-17.49	-	-
10	1.245	10.83	Av	0	10	20.83	-	-	46	-25.17
11	2.199	27.65	Pk	0	10	37.65	56	-18.35	-	-
12	2.199	9.74	Av	0	10	19.74	-	-	46	-26.26

Pk - Peak detector

Av - Average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit	Margin (dB)	Avg Limit	Margin (dB)
13	.288	25.06	Pk	.1	9.9	35.06	60.58	-25.52	-	-
14	.291	15.09	Av	.1	9.9	25.09	-	-	50.5	-25.41
15	.393	22.77	Pk	.1	9.9	32.77	58	-25.23	-	-
16	.396	10.61	Av	.1	9.9	20.61	-	-	47.94	-27.33
17	.642	30.62	Pk	0	9.9	40.52	56	-15.48	-	-
18	.639	18.4	Av	0	9.9	28.3	-	-	46	-17.7
19	.702	32.26	Pk	0	9.9	42.16	56	-13.84	-	-
20	.699	17.09	Av	0	9.9	26.99	-	-	46	-19.01
21	1.098	25.52	Pk	0	9.9	35.42	56	-20.58	-	-
22	1.101	10.83	Av	0	9.9	20.73	-	-	46	-25.27
23	1.242	24.92	Pk	0	10	34.92	56	-21.08	-	-
24	1.242	10.66	Av	0	10	20.66	-	-	46	-25.34

Pk - Peak detector

Av - Average detection