FCC 47 CFR PART 15 SUBPART E
RSS 247 ISSUE 2
RSS GEN ISSUE 5

CERTIFICATION TEST REPORT

FOR

TOUCHSCREEN DISPLAY

MODEL NUMBER: C4-WALL7-XX, C4-WALL10-XX (XX either BL or WH depending on color)

FCC ID: R33C4WALL5G
IC: 7848A-C4LGWM

REPORT NUMBER: R12077761-E1

ISSUE DATE: 2018-09-18

Prepared for
CONTROL 4 CORPORATION
11734 S. ELECTION ROAD
SALT LAKE CITY, UT 84020, USA

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NVLAP TESTING
NVLAP LAB CODE 200246-0

Revision History

Ver.	Issue Date	Revisions	Revised By
1	2018-03-28	Initial Issue	Brian T. Kiewra
2	2018-04-23	Corrected FCC and IC IDs	Brian T. Kiewra
3	2018-05-29	Clarified model number in Sections 1, 5.1, and cover page. Clarified chamber test site numbers used in Section 3. Revised output power table to include EIRP for ISED in Section 5.2. Revised antenna gain and type in Section 5.3. Revised KDB 798033 version in Section 7. Revised RSS-GEN reference in Section 10.	Brian T. Kiewra
4	2018-06-21	Revised RSS GEN references to Issue 5.	Niklas Haydon
5	2018-09-18	Revised antenna gain in Sections 5.3, 8.2.3, 8.2.4, 8.3.3, and 8.3.4	Brian T. Kiewra

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Control 4 Corporation
11734 S. Election Road
Salt Lake City, UT 84020, USA

EUT DESCRIPTION: Touchscreen Display

MODEL: C4-WALL7-XX, C4-WALL10-XX (XX either BL or WH depending on color).

SERIAL NUMBER: C4-WALL7 Radiated: 000FFF80ACD4
Conducted: 000FFF80AB7C

C4-WALL10 Radiated: 000FFF8193E7

DATE TESTED: 2017-12-19 to 2018-01-25

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	Compliant
RSS 247 ISSUE 2	Compliant
RSS GEN ISSUE 5	Compliant

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 T. Kiewra
Project Engineer
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 5, RSS-247 Issue 2, KDB 789033.

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 Drive, Suite B, Morrisville, NC 27560.

12 Laboratory Dr., RTP, NC 27709
☐ Chamber A (2180-1)
☐ Chamber C (2180-2)

2800 Suite B Perimeter Park Dr., Morrisville, NC 27560
☒ Chamber NORTH (2180-3)
☒ Chamber SOUTH (2180-4)

The onsite chambers are covered under Industry (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 C4-WALL7-XX and C4-WALL10-XX (XX either BL or WH depending on color) are capacitive touchscreen displays with an 802.11a/b/g/n transceiver for use in Control4 home automation and security systems. The 802.11 a/b/g/n radio operates in the 2.4/5.2 GHz bands and only supports up to 20 MHz channel bandwidths.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

C4-WALL7-XX

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)	EIRP (dBm)	EIRP (mW)
5180 - 5240	802.11a	12.91	19.54	11.63	14.55
5180 - 5240	802.11n HT20	11.41	13.84	10.13	10.30

C4-WALL10-XX

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)	EIRP (dBm)	EIRP (mW)
5180 - 5240	802.11a	10.07	10.16	15.77	37.76
5180 - 5240	802.11n HT20	8.75	7.50	14.45	27.86

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPC Trace antenna, with a maximum gain of -1.28dBi for C4-WALL7-XX and 5.70 dBi for C4-WALL10-XX.

5.4. SOFTWARE AND FIRMWARE

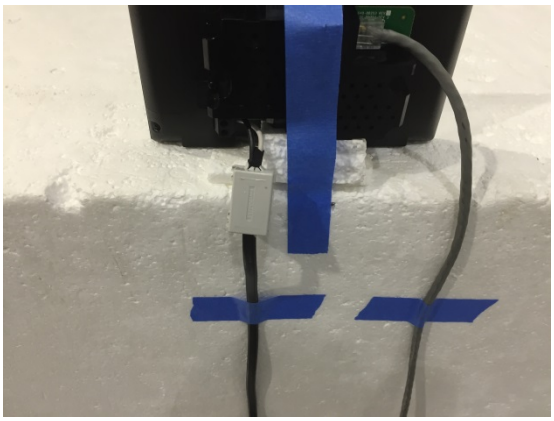
The firmware installed in the EUT during testing was 2.10.0.540110
The test utility software used during testing was Ampak RFTest Tool Ver 4.7

5.5. MANUFACTURER'S DESCRIPTION OF MODEL DIFFERENCES

Both models are identical with the exception of the C4-WALL7-XX has a 7" display and the C4-WALL10-XX has a 10" display.

5.6. MANUFACTURER'S MODIFICATIONS FOR COMPLIANCE

The following changes were necessary for compliance of WALL7 to Radiated Emissions 30-1000 MHz. A Ferrishield SS2037 was attached to the ac mains on the C4-WALL7-XX as seen below:



5.7. WORST-CASE CONFIGURATION AND MODE

Radiated emissions (0.009 to 1000MHz and 18-40GHz) and power line conducted emissions were performed with the EUT set to transmit on the mode and channel with highest output power as a worst-case scenario.

The fundamental of both the WALL7 and WALL10 was investigated in three orthogonal orientations X,Y, and Z, it was determined that Y orientation was worst-case orientation for both units; therefore, all final radiated testing was performed with the EUT in Y orientation.

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

802.11a mode: 6 Mbps
802.11n HT20mode: MCS0

Note –C4-WALL7-XX's conducted data represents C4-WALL10-XX. Both C4-WALL7-XX and C4-WALL10-XX was tested for Radiated.

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	Lenovo	T450s	PC-0A2UQS	NA

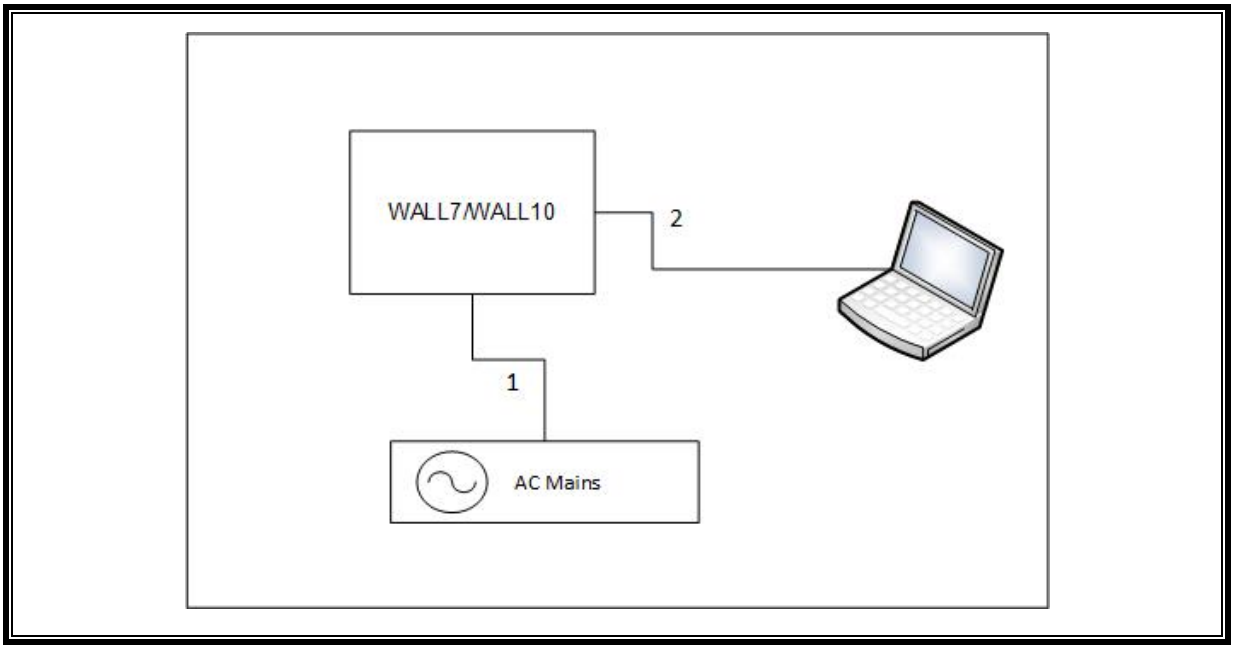
I/O CABLES

I/O Cable List						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	1	AC	AC	<3m	None
2	ENET	1	RJ45	ENET	<3m	None

TEST SETUP

The EUT is installed as a standalone device.

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.
30-1000 MHz					
AT0073	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2017-07-18	2018-07-31
1-18 GHz					
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2017-04-05	2018-04-05
18-40 GHz					
AT0076	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2017-10-10	2018-10-10
AT0077	Horn Antenna, 26-40GHz	ARA	MWH-2640/B	2017-10-10	2018-10-10
Gain-Loss Chains					
N-SAC02	Gain-loss string: 30-1000MHz	Various	Various	2017-06-11	2018-06-11
N-SAC03	Gain-loss string: 1-18GHz	Various	Various	2017-08-18	2018-08-18
N-SAC04	Gain-loss string: 18-40GHz	Various	Various	2017-03-03	2018-03-03
Receiver & Software					
SA0027	Spectrum Analyzer	Agilent	N9030A	2017-03-16	2018-03-16
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 161024690	Environmental Meter	Fisher Scientific	15-077-963	2016-12-21	2018-12-21

Test Equipment Used - Wireless Conducted Measurement Equipment (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
72822 (SA0019)	Spectrum Analyzer	Agilent Technologies	E4446A	2017-08-21	2018-08-21
PWM001	RF Power Meter	Keysight Technologies	N1911A	2017-05-23	2018-05-23
PWS006	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2017-05-18	2018-05-18
SN 161024885	Environmental Meter	Fisher Scientific	15-077-963	2016-12-23	2018-12-23
MM0168	True RMS Multimeter	Agilent	U1232A	2017-08-25	2018-08-25

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

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
0.009-30MHz (Loop Ant.)					
AT0059	Active Loop Antenna	ETS-Lindgren	6502	2017-06-05	2018-06-05
1-18 GHz					
AT0069	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2017-04-05	2018-04-05
Gain-Loss Chains					
S-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2017-09-15	2018-09-15
S-SAC03	Gain-loss string: 1-18GHz	Various	Various	2017-08-18	2018-08-18
Receiver & Software					
SA0025	Spectrum Analyzer	Agilent	N9030A	2017-04-10	2018-04-10
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

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
LISN008	LISN, 50-ohm/50-uH, 2-conductor, 25A (For support gear only.)	Solar Electronics	8012-50-R-24-BNC	2017-08-22	2018-08-22

7. MEASUREMENT METHODS

On Time and Duty Cycle: KDB 789033 D02 v01r04, Section B.

26 dB and 6 dB Emission BW: KDB 789033 D02 v01r04, Section C.1 and C.2.

99% Occupied BW: KDB 789033 D02 v01r04, Section D.

Conducted Output Power: KDB 789033 D02 v01r04, Section E.3.b (Method PM-G).

Power Spectral Density: KDB 789033 D02 v01r04, Section F.

Unwanted emissions in restricted bands: KDB 789033 D02 v01r04, Sections G.1, G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v01r04, Sections G.2, G.3, G.4, and G.5.

AC Mains: ANSI C63.10:2013 Section 6.2

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

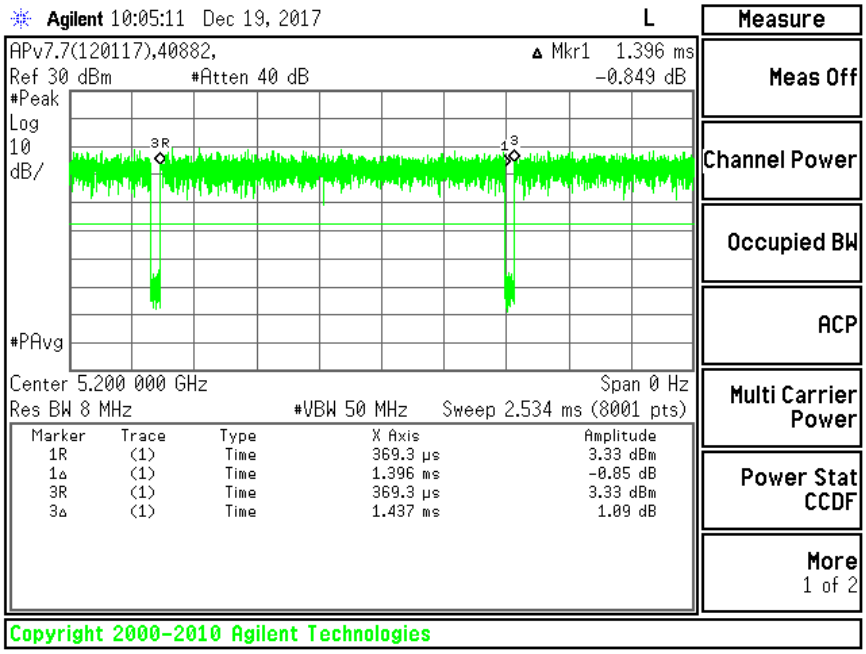
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11a 1TX	1.396	1.437	0.971	97.15%	0.13	0.716
802.11n HT20 1TX	1.308	1.348	0.970	97.03%	0.13	0.765

TEST INFORMATION

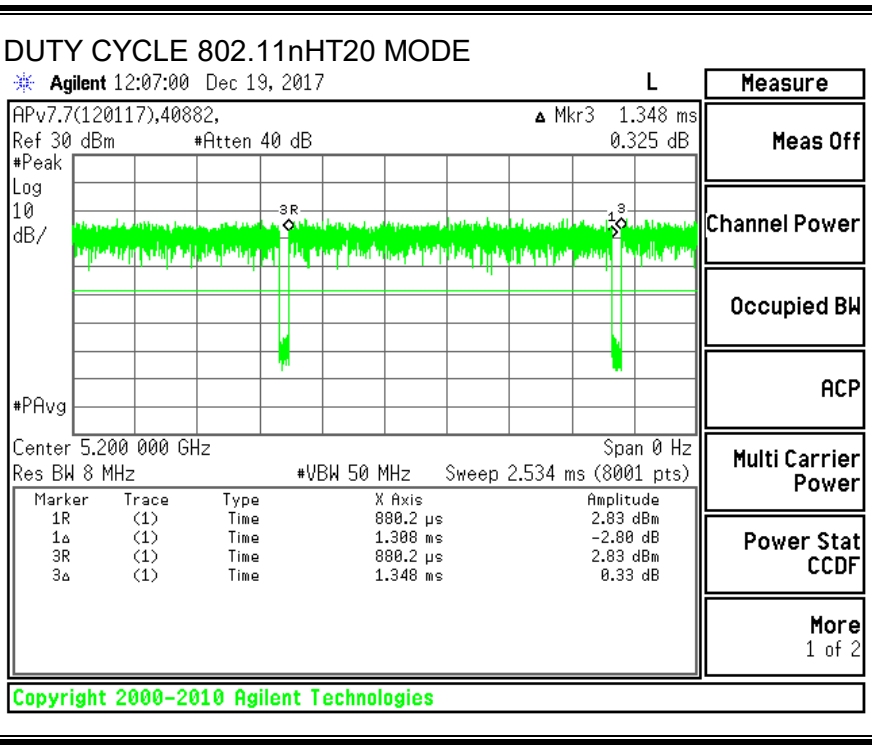
Test Date: 2017-12-19
Tested By: Jeffrey Cabrera

DUTY CYCLE PLOTS

DUTY CYCLE 802.11a MODE



DUTY CYCLE 802.11nHT20 MODE



8.2. 802.11a MODE IN THE 5.2 GHz BAND

8.2.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

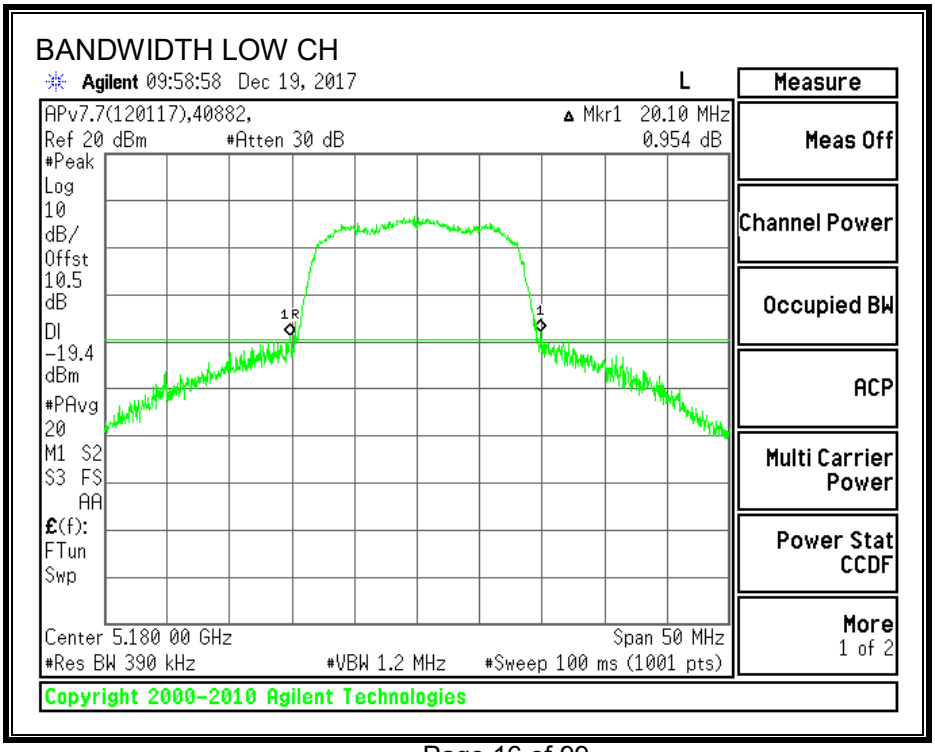
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	20.10
Mid	5200	20.90
High	5240	20.05

Note: Refer to Section 8.2.2 for UNII-2A (5250-5350MHz) check.

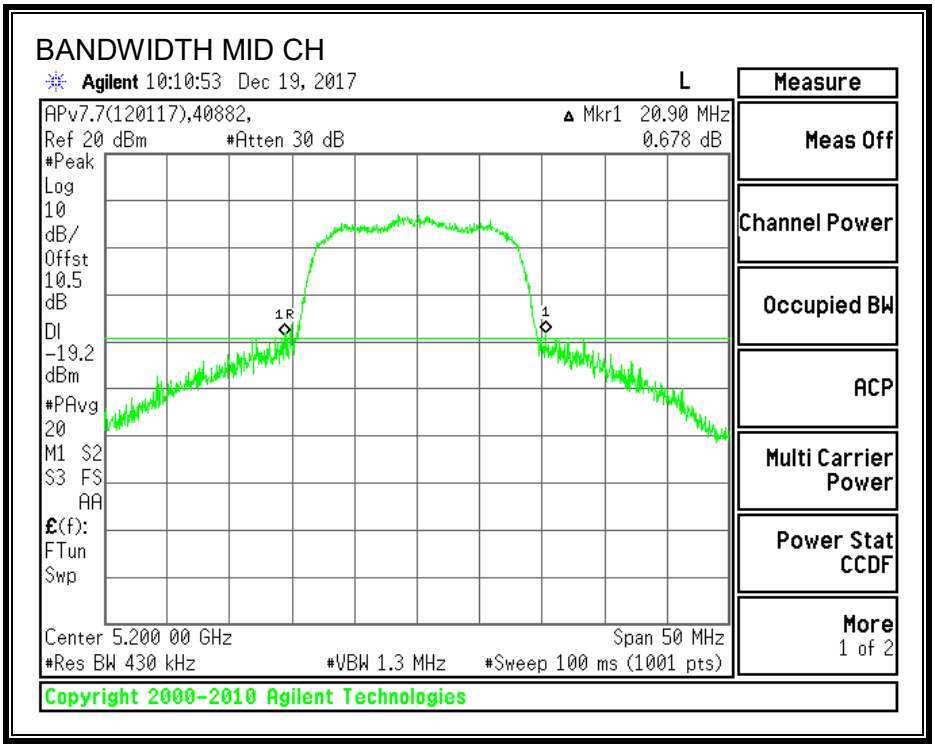
TEST INFORMATION

Test Date: 2017-12-19
Tested By: Jeffrey Cabrera

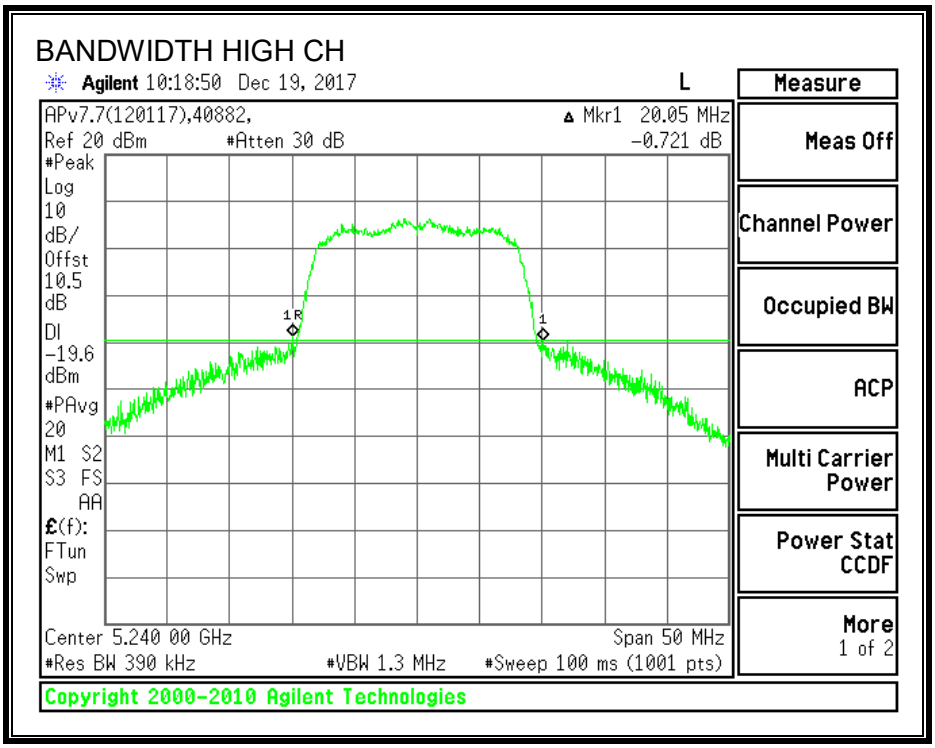
26 dB BANDWIDTH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.2.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

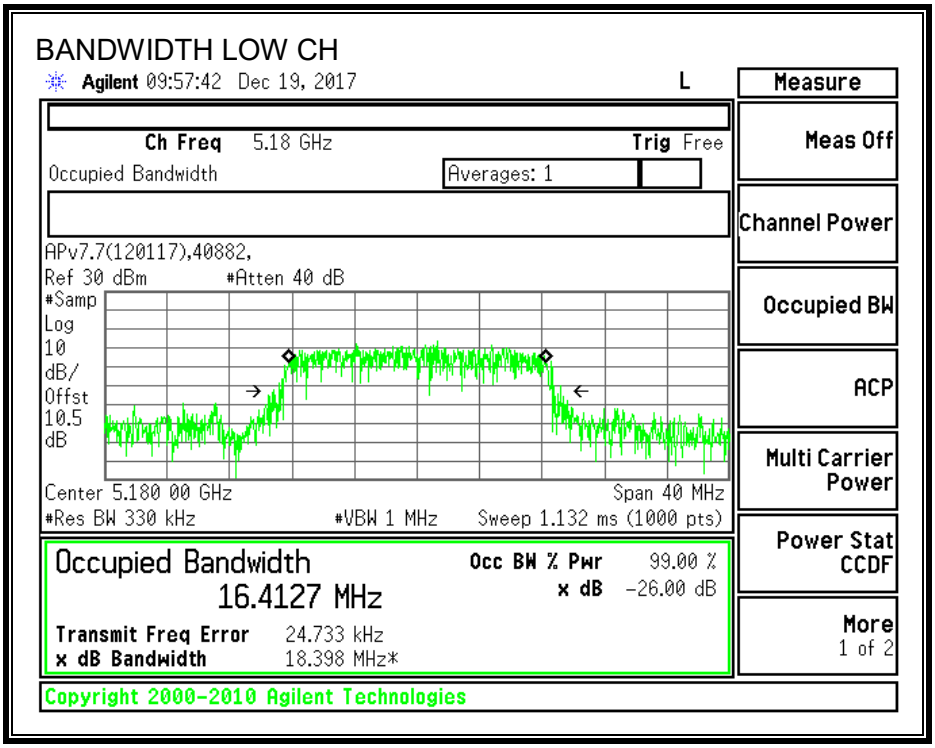
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	16.4127
Mid	5200	16.3143
High	5240	16.3089

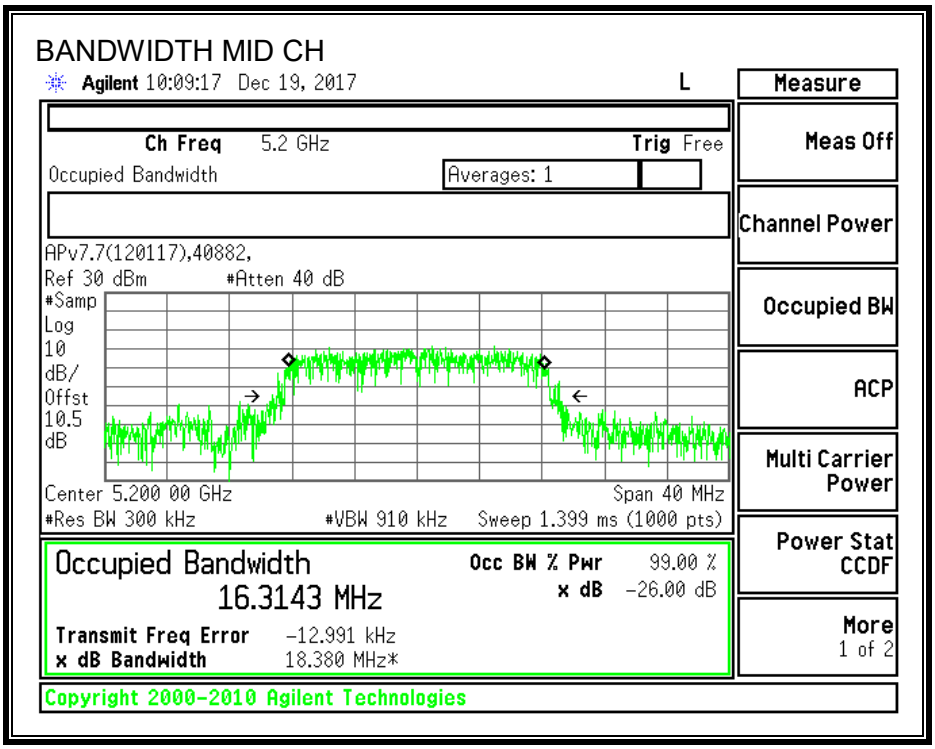
Channel	Frequency (MHz)	99% Bandwidth (MHz)	Does Ch. Freq. Fall in UNII 2A? Y/N
Low	5180	16.4127	N
Mid	5200	16.3143	N
High	5240	16.3089	N

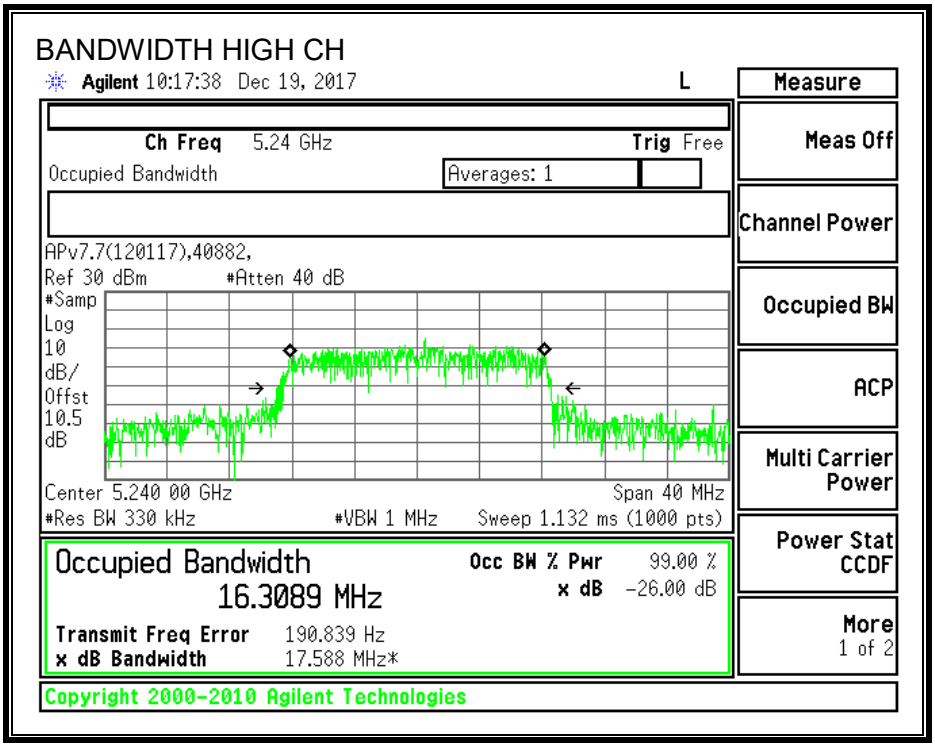
Test Information

Test Date: 2017-12-19
Tested By: Jeffrey Cabrera

99% BANDWIDTH







8.2.3. FCC OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (1)

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density 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 C4-WALL7-XX

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5180	-1.28	-1.28	24.00	11.00
Mid	5200	-1.28	-1.28	24.00	11.00
High	5240	-1.28	-1.28	24.00	11.00
Duty Cycle CF (dB)		0.13	**Included in Calculations of Corr'd PSD**		

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.85	12.85	24.00	-11.15
Mid	5200	12.80	12.80	24.00	-11.20
High	5240	12.91	12.91	24.00	-11.09

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	2.68	2.81	11.00	-8.19
Mid	5200	2.70	2.83	11.00	-8.17
High	5240	2.74	2.87	11.00	-8.13

Note: Power measurement is gated AVG measurement.

RESULTS C4-WALL10-XX

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)
Low	5180	5.32	5.32	24.00
Mid	5200	5.32	5.32	24.00
High	5240	5.32	5.32	24.00
Duty Cycle CF (dB)		0.00	**Included in Calculations of Corr'd Power**	

Output Power Results

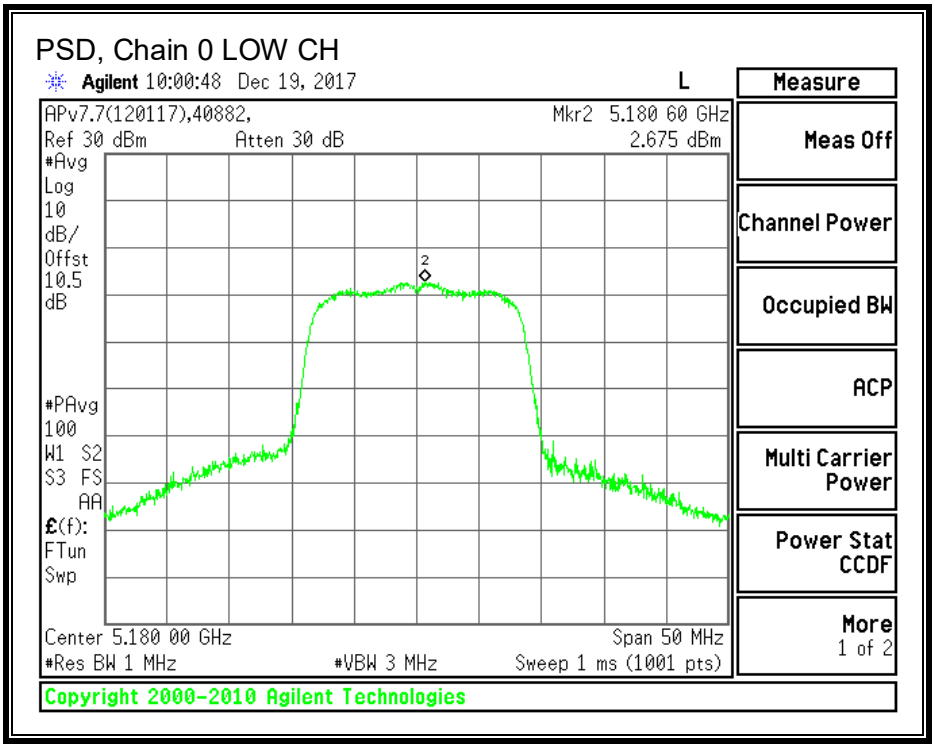
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	9.10	9.10	24.00	-14.90
Mid	5200	9.36	9.36	24.00	-14.64
High	5240	10.07	10.07	24.00	-13.93

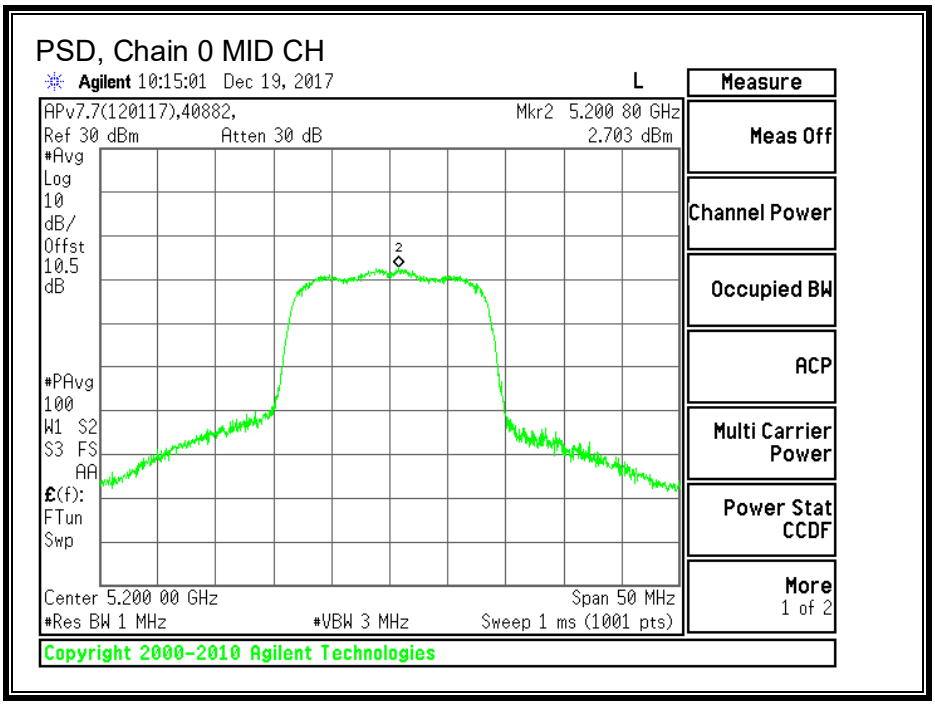
PSD Results

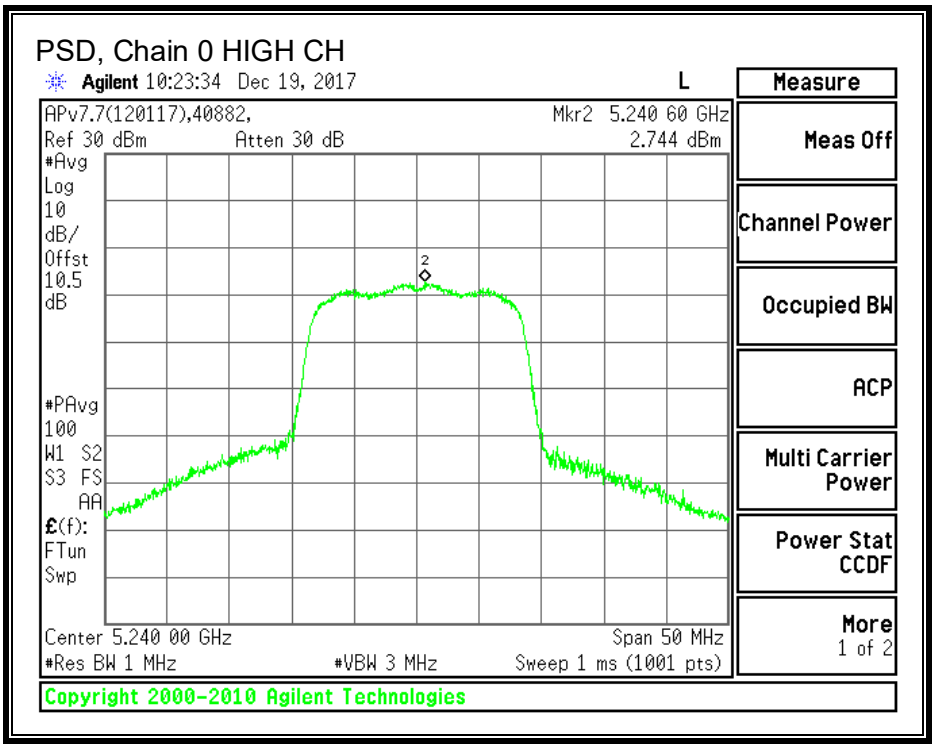
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	2.68	2.68	11.00	-8.32
Mid	5200	2.70	2.70	11.00	-8.30
High	5240	2.74	2.74	11.00	-8.26

Note: Power measurement is gated AVG measurement. WALL7 PSD data represents WALL10.

PSD PLOTS







TEST INFORMATION

Test Date: 2017-12-19
Tested By: Jeffrey Cabrera

8.2.4. IC OUTPUT POWER AND PSD

LIMITS

IC RSS-247 (6.2.1 [1])

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS C4-WALL7-XX

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5180	16.4127	-1.28	-1.29
Mid	5200	16.3143	-1.28	-1.29
High	5240	16.3089	-1.28	-1.29

Limits

Channel	Frequency (MHz)	IC EIRP Limit (dBm)	IC eirp PSD Limit (dBm)
Low	5180	22.15	10.00
Mid	5200	22.13	10.00
High	5240	22.12	10.00

Duty Cycle CF (dB)	0.13	Included in Calculations of Corr'd PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Power Margin (dB)
Low	5180	12.85	11.57	22.15	-10.58
Mid	5200	12.80	11.52	22.13	-10.61
High	5240	12.91	11.63	22.12	-10.49

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	EIRP PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	2.68	1.52	10.00	-8.49
Mid	5200	2.70	1.54	10.00	-8.46
High	5240	2.74	1.58	10.00	-8.42

Note: Power measurement is gated AVG measurement.

RESULTS C4-WALL10-XX

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)
Low	5180	16.4127	5.70
Mid	5200	16.3143	5.70
High	5240	16.3089	5.70

Limits

Channel	Frequency (MHz)	IC EIRP Limit (dBm)
Low	5180	22.15
Mid	5200	22.13
High	5240	22.12

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power

Output Power Results

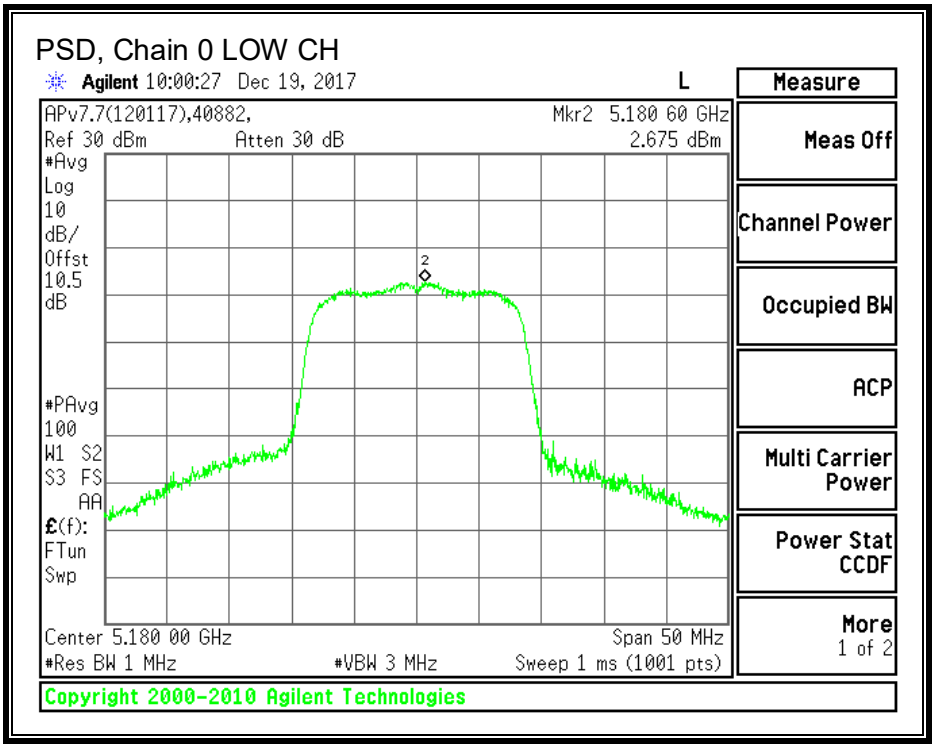
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	5180	9.10	14.80	22.15	-7.35
Mid	5200	9.36	15.06	22.13	-7.07
High	5240	10.07	15.77	22.12	-6.35

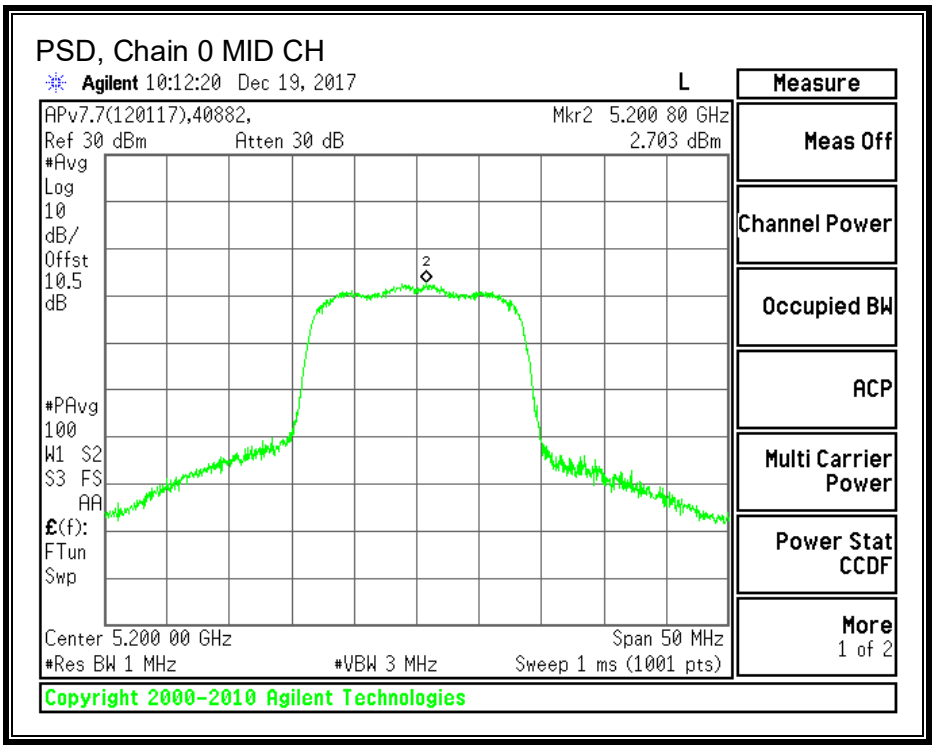
PPSD Results

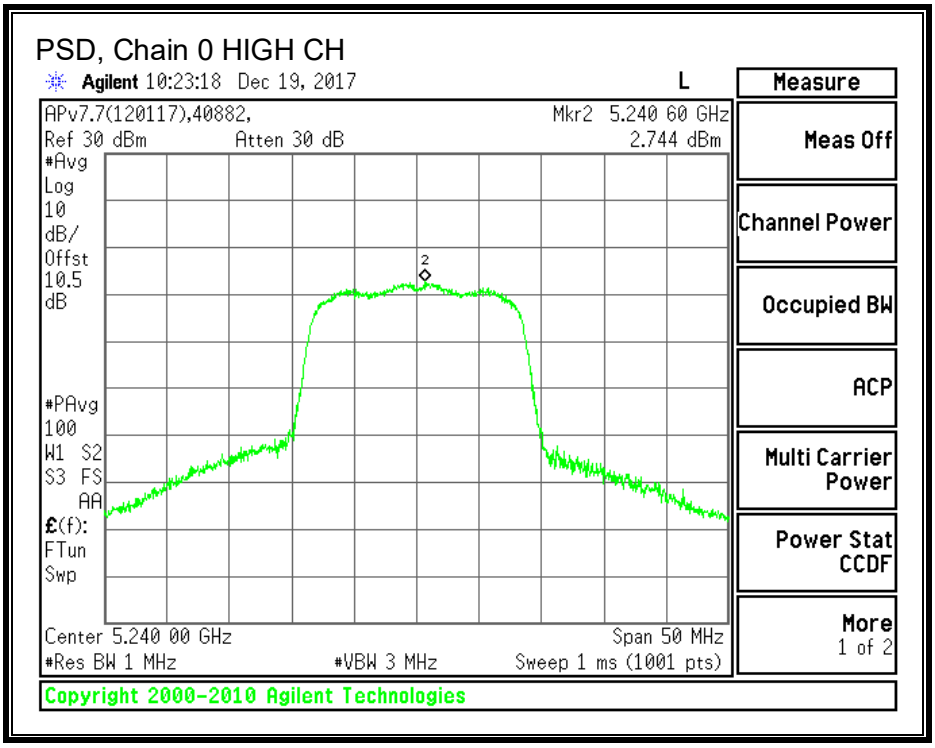
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	EIRP PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	2.68	8.38	10.00	-1.63
Mid	5200	2.70	8.40	10.00	-1.60
High	5240	2.74	8.44	10.00	-1.56

Note: Power measurement is gated AVG measurement. WALL7 PSD data represents WALL10.

PSD PLOTS







TEST INFORMATION

Test Date: 2017-12-19
Tested By: Jeffrey Cabrera

8.3. 802.11n HT20 MODE IN THE 5.2 GHz BAND

8.3.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

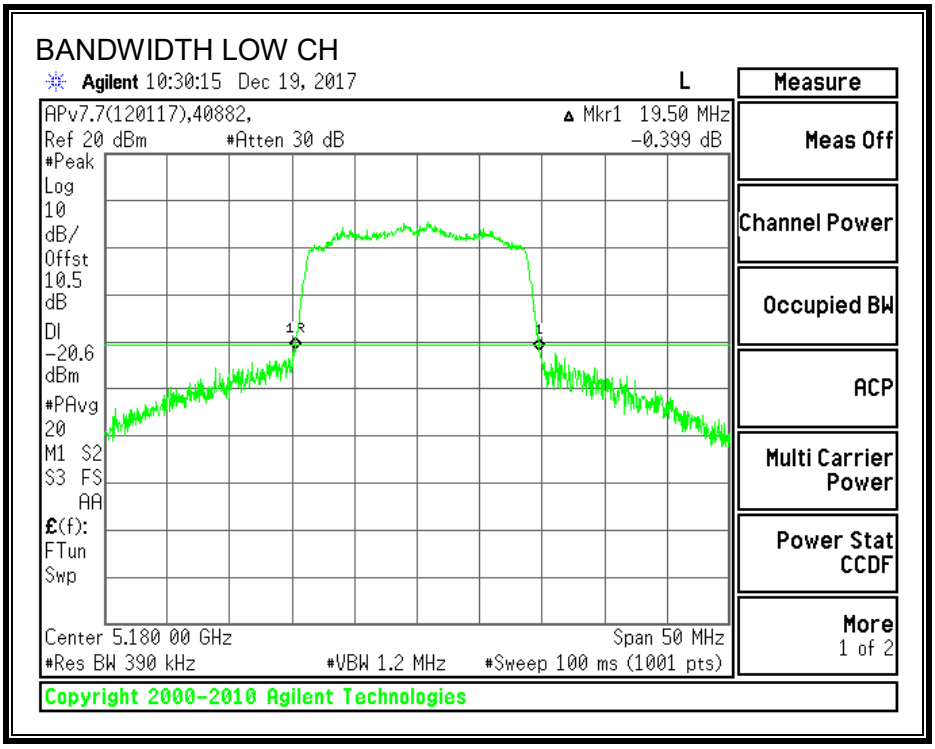
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	19.50
Mid	5200	19.60
High	5240	19.55

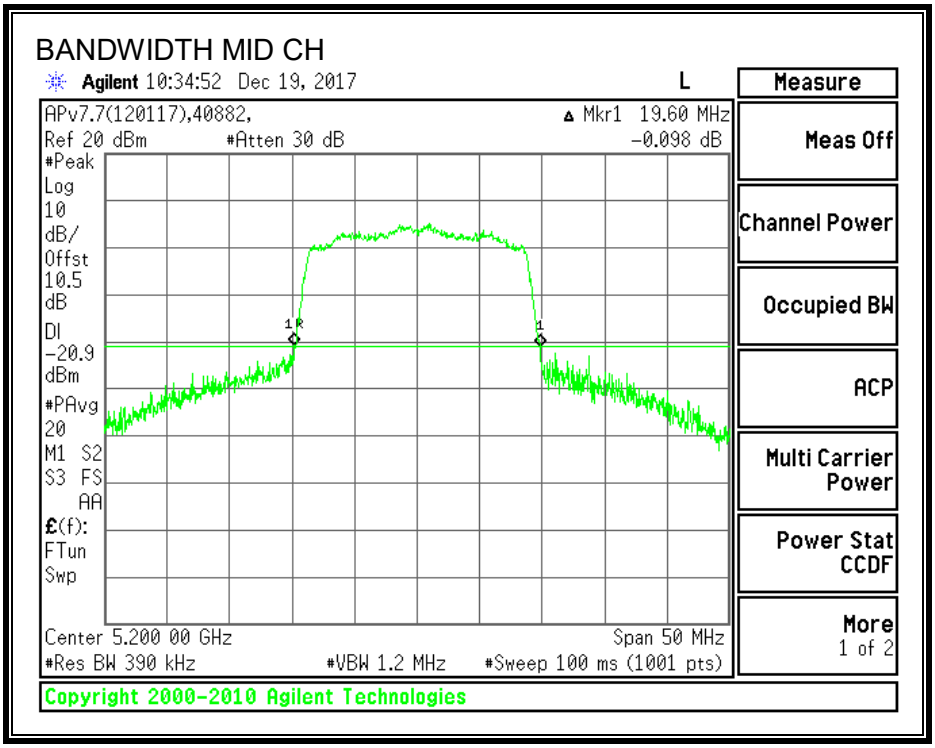
Note: Refer to Section 8.3.2 for UNII-2A (5250-5350MHz) check.

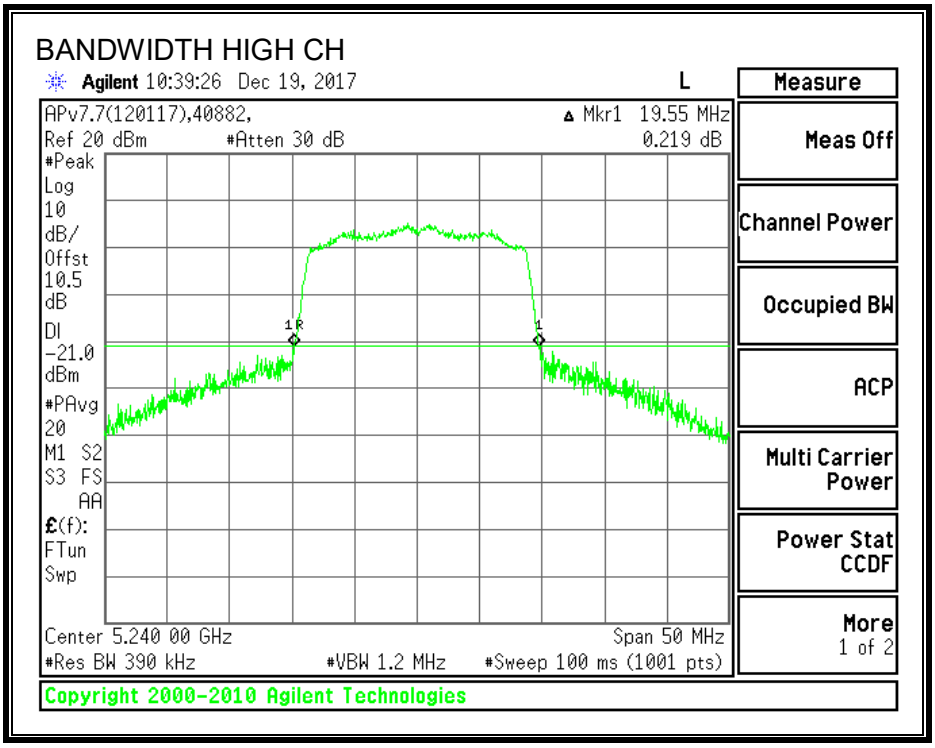
TEST INFORMATION

Test Date: 2017-12-19
Teste By: Jeffrey Cabrera

26 dB BANDWIDTH







8.3.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

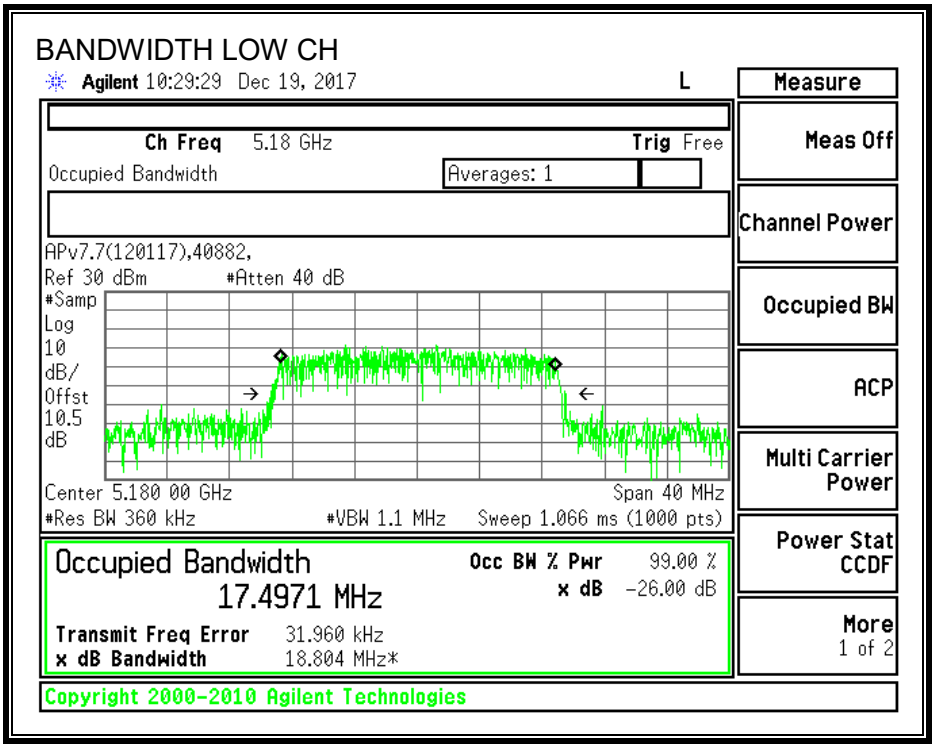
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.4971
Mid	5200	17.5875
High	5240	17.5809

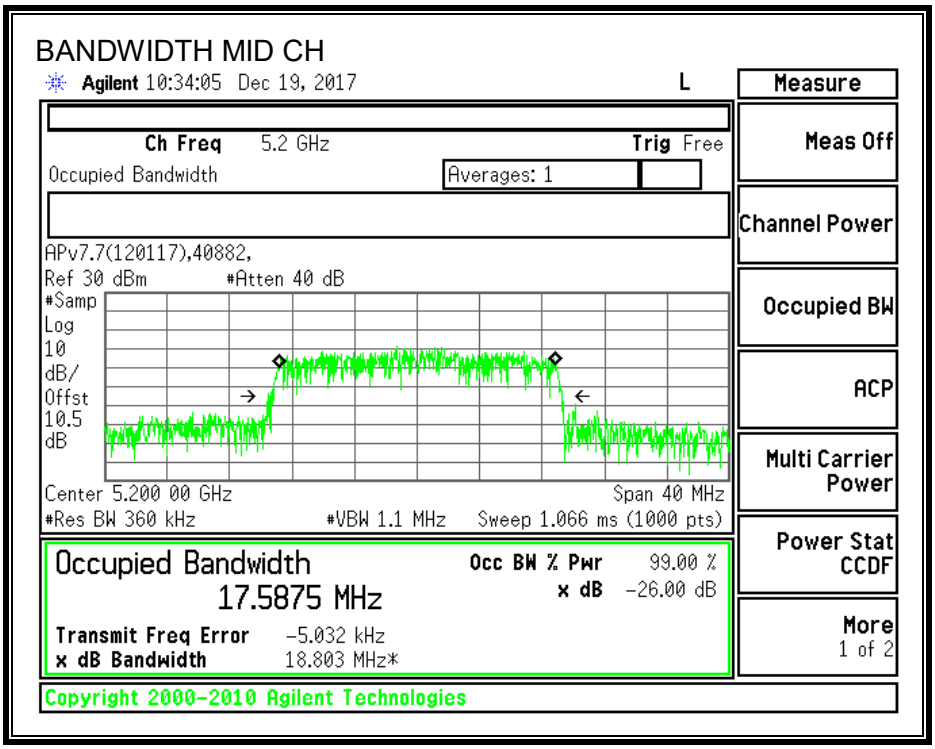
Channel	Frequency (MHz)	99% Bandwidth (MHz)	Does Ch. Freq. Fall in UNII 2A? Y/N
Low	5180	17.4971	N
Mid	5200	17.5875	N
High	5240	17.5809	N

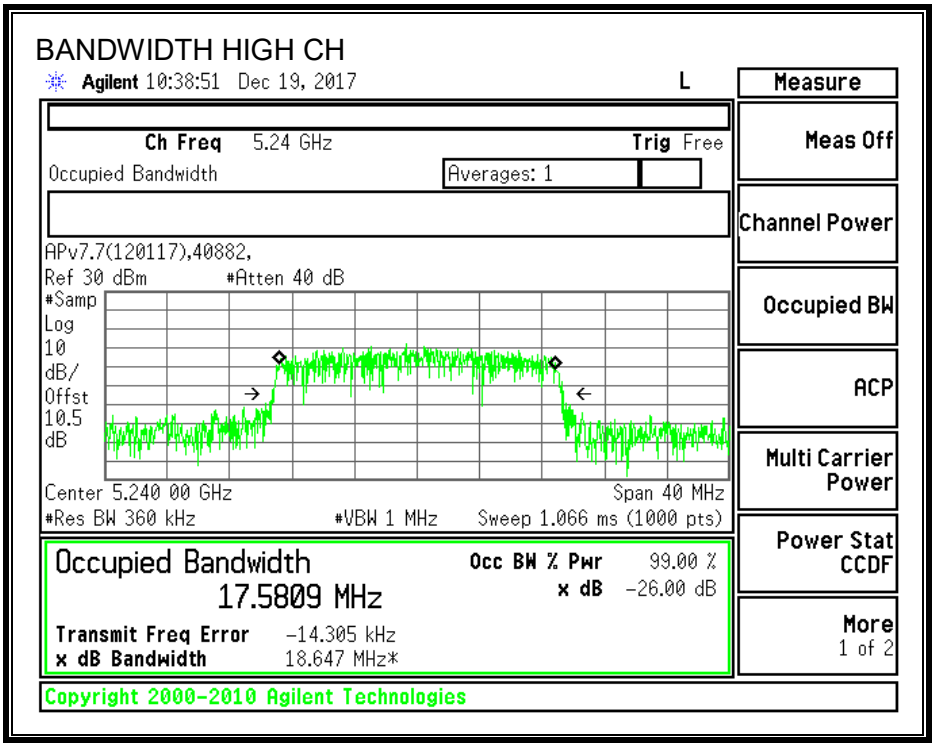
TEST INFORMATION

Test Date: 2017-12-19
Tested By: Jeffrey Cabrera

99% BANDWIDTH PLOTS







8.3.3. FCC OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (1)

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density 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 C4-WALL7-XX

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5180	-1.28	-1.28	24.00	11.00
Mid	5200	-1.28	-1.28	24.00	11.00
High	5240	-1.28	-1.28	24.00	11.00

Duty Cycle CF (dB)	0.13	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	11.35	11.35	24.00	-12.65
Mid	5200	11.38	11.38	24.00	-12.62
High	5240	11.41	11.41	24.00	-12.59

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	1.16	1.29	11.00	-9.72
Mid	5200	1.02	1.15	11.00	-9.86
High	5240	1.42	1.55	11.00	-9.45

Note: Power measurement is gated AVG measurement.

RESULTS C4-WALL10-XX

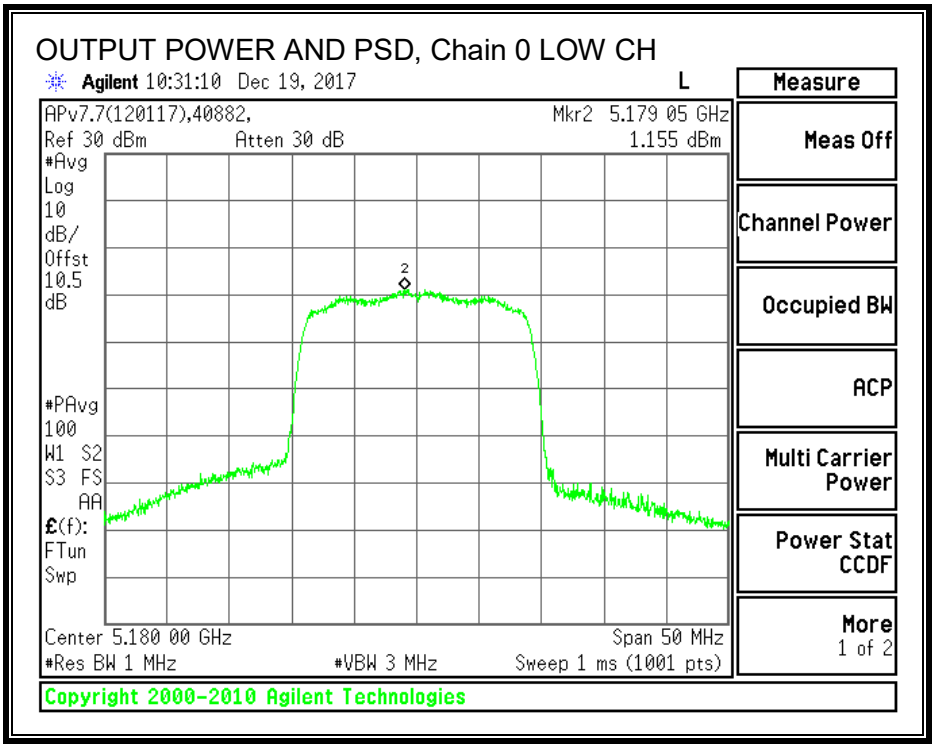
Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)
Low	5180	0.37	0.37	24.00
Mid	5200	0.37	0.37	24.00
High	5240	0.37	0.37	24.00

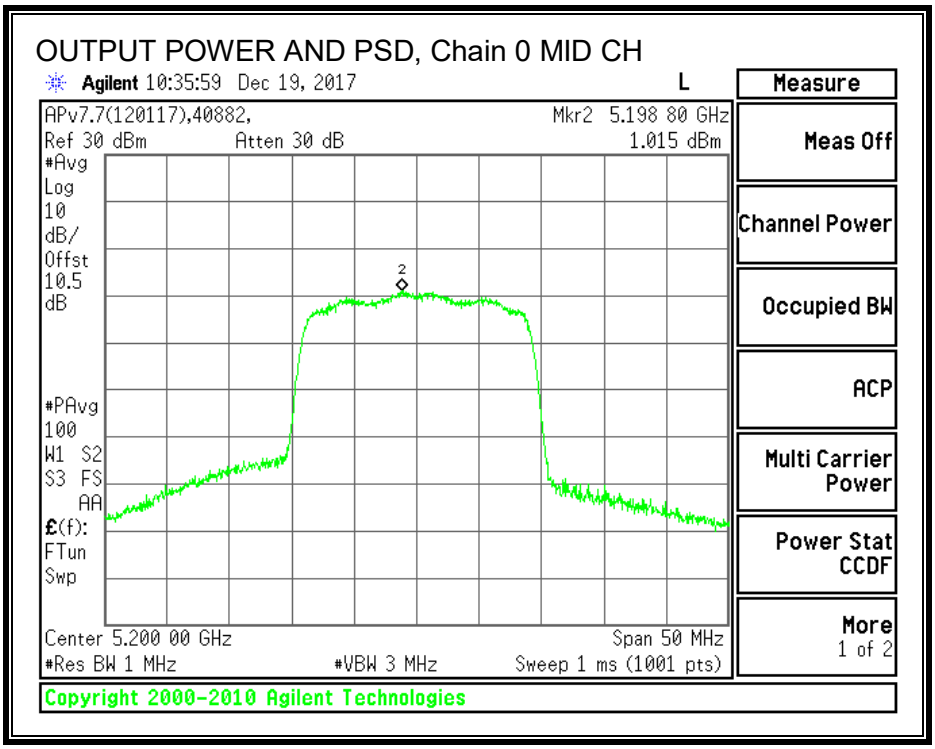
Output Power Results

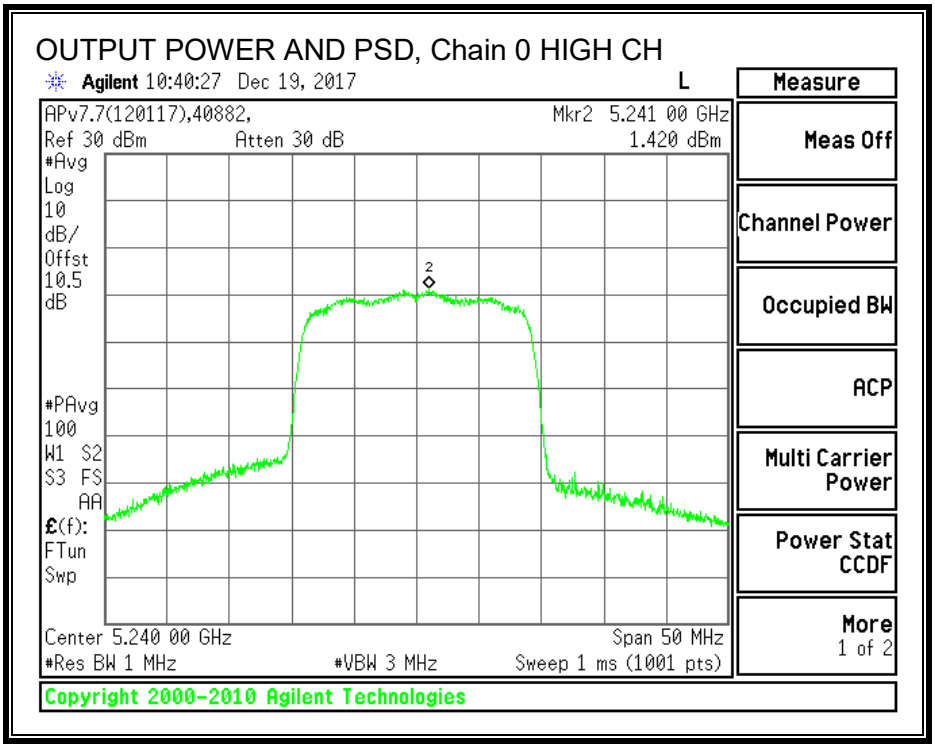
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	7.60	7.60	24.00	-16.40
Mid	5200	8.04	8.04	24.00	-15.96
High	5240	8.75	8.75	24.00	-15.25

Note: Power measurement is gated AVG measurement. WALL7 PSD data represents WALL10.

PSD PLOTS







TEST INFORMATION

Test Date: 2017-12-19
Tested By: Jeffrey Cabrera

8.3.4. ISED OUTPUT POWER AND PPSD

LIMITS

IC RSS-247 (6.2.1 [1])

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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

RESULTS C4-WALL7-XX

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5180	17.4971	-1.28	-1.28
Mid	5200	17.5875	-1.28	-1.28
High	5240	17.5809	-1.28	-1.28

Limits

Channel	Frequency (MHz)	IC EIRP Limit (dBm)	IC eirp PSD Limit (dBm)
Low	5180	22.43	10.00
Mid	5200	22.45	10.00
High	5240	22.45	10.00

Duty Cycle CF (dB)	0.13	Included in Calculations of Corr'd PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	5180	11.35	10.07	22.43	-12.36
Mid	5200	11.38	10.10	22.45	-12.35
High	5240	11.41	10.13	22.45	-12.32

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	1.16	0.01	10.00	-9.99
Mid	5200	1.02	-0.13	10.00	-10.13
High	5240	1.42	0.27	10.00	-9.73

Note: Power measurement is gated AVG measurement.

RESULTS C4-WALL10-XX

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)
Low	5180	17.4971	5.70
Mid	5200	17.5875	5.70
High	5240	17.5809	5.70

Limits

Channel	Frequency (MHz)	IC EIRP Limit (dBm)
Low	5180	22.43
Mid	5200	22.45
High	5240	22.45

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power

Output Power Results

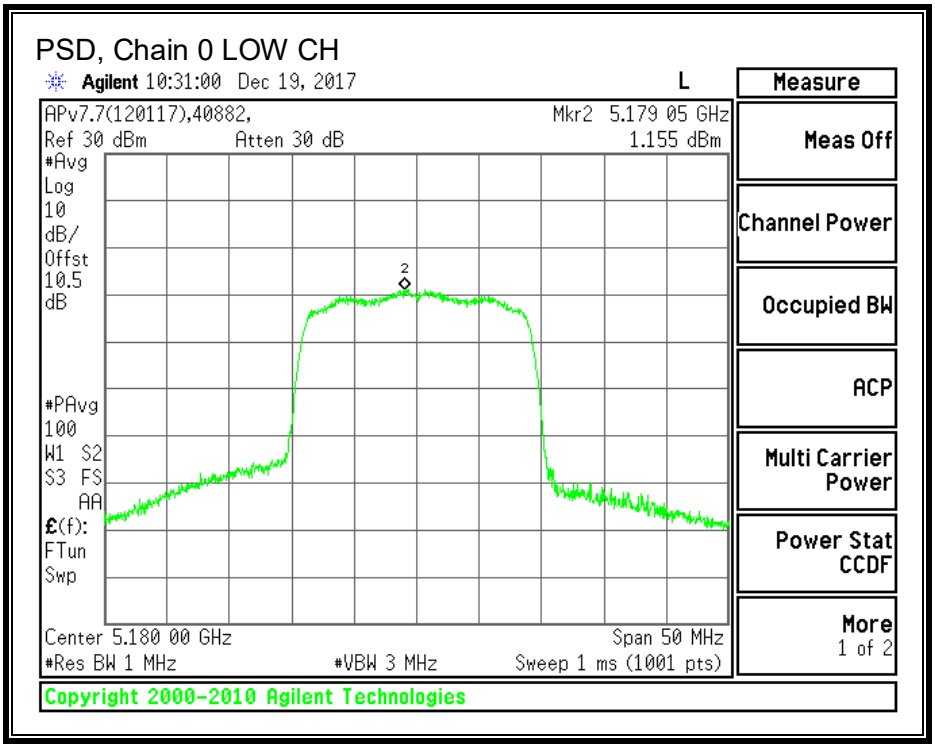
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	5180	7.60	13.30	22.43	-9.13
Mid	5200	8.04	13.74	22.45	-8.71
High	5240	8.75	14.45	22.45	-8.00

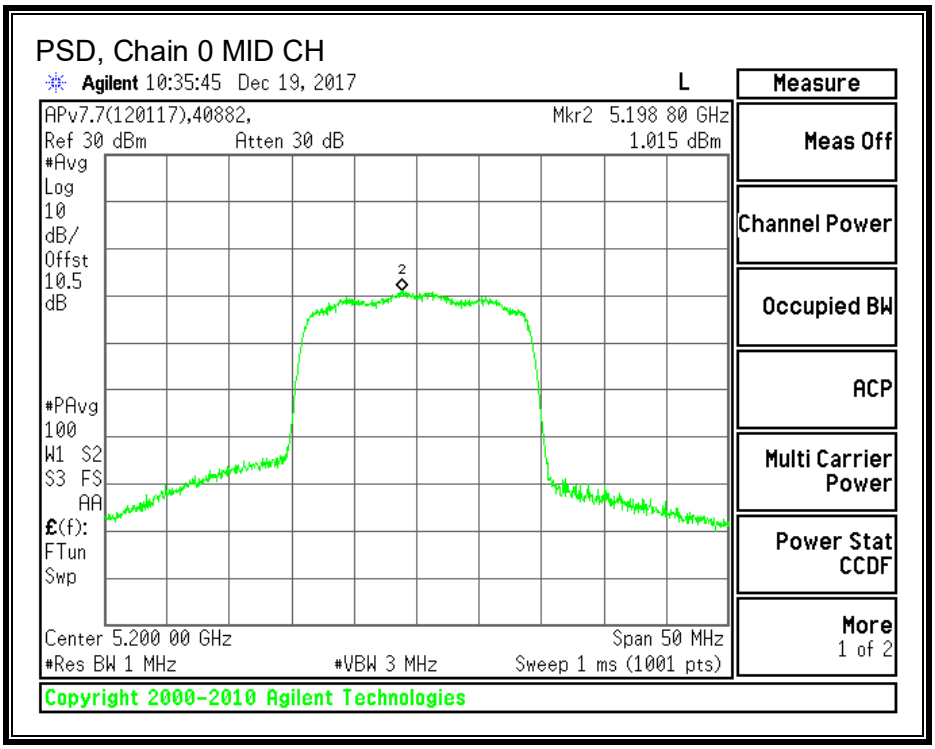
PPSD Results

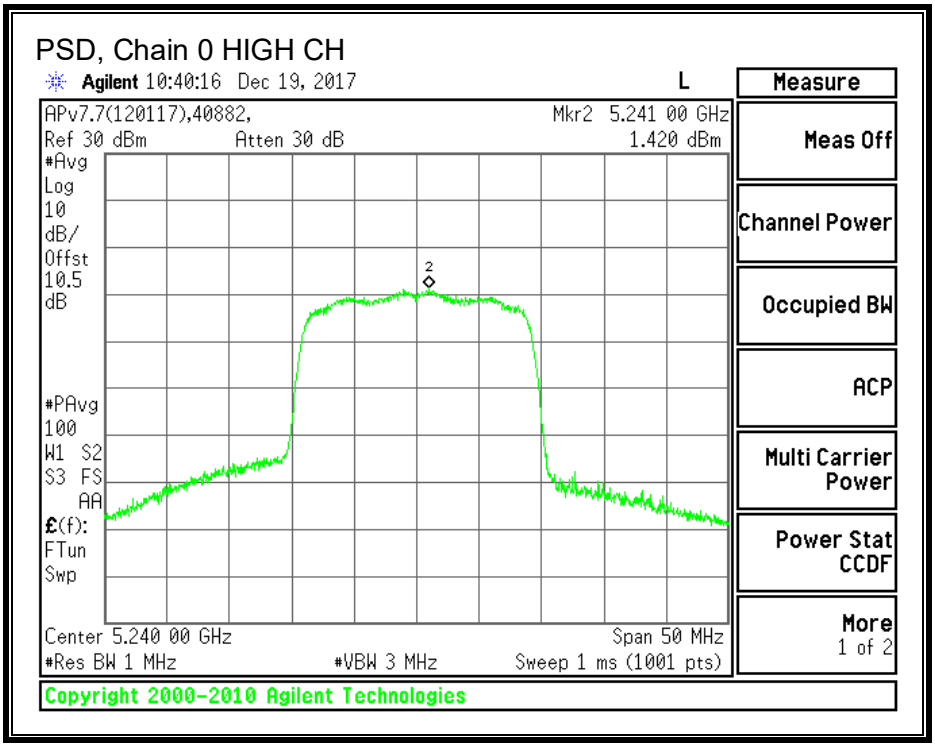
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	1.16	6.86	10.00	-3.14
Mid	5200	1.02	6.72	10.00	-3.28
High	5240	1.42	7.12	10.00	-2.88

Note: Power measurement is gated AVG measurement. Since WALL7 PSD data represents WALL10, added WALL10 antenna gain to WALL7 measurement.

PSD







TEST INFORMATION

Test Date: 2017-12-19
Tested By: Jeffrey Cabrera

9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205, §15.209, §15.407 (b) (6) (Res. bands) and §15.407 (b) (1 and 6) (Auth. bands)

RSS-GEN Section 8.9 (Res. Bands) and RSS 247 Issue 2 Sections 6.2.1.2 (Auth. bands)

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 RMS Averaging.

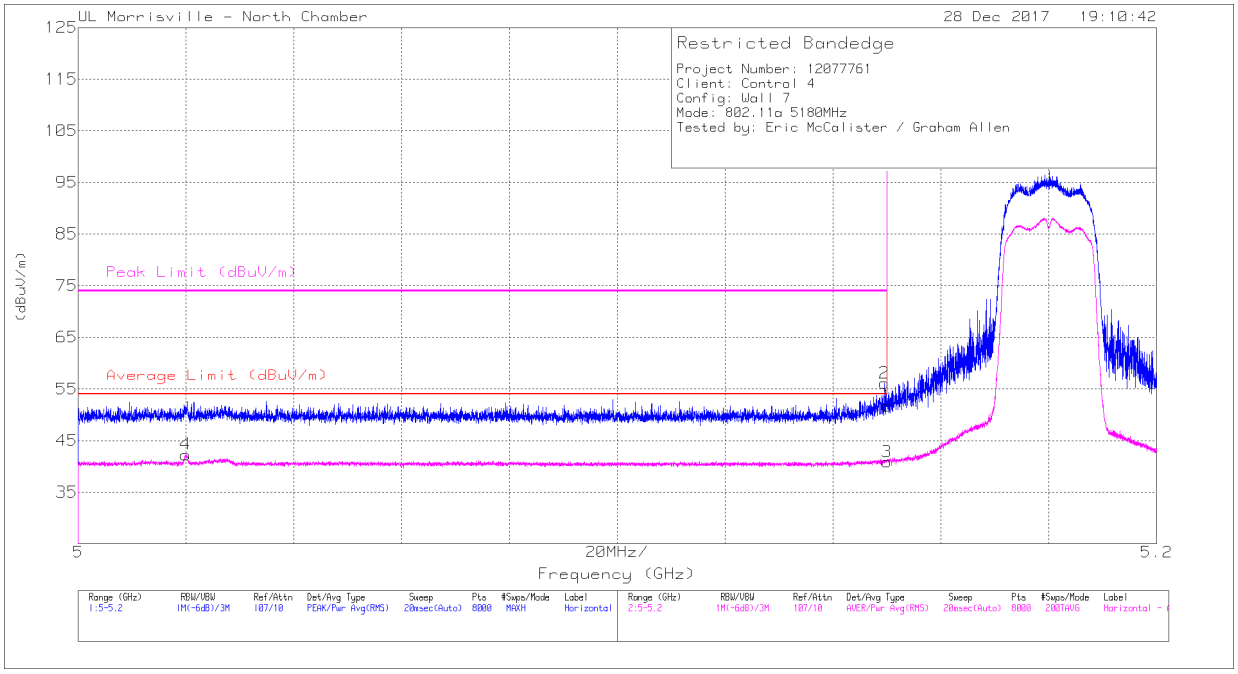
The spectrum from 1 to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. For below 1GHz and above 18 GHz, the worst-case channel was measured.

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.

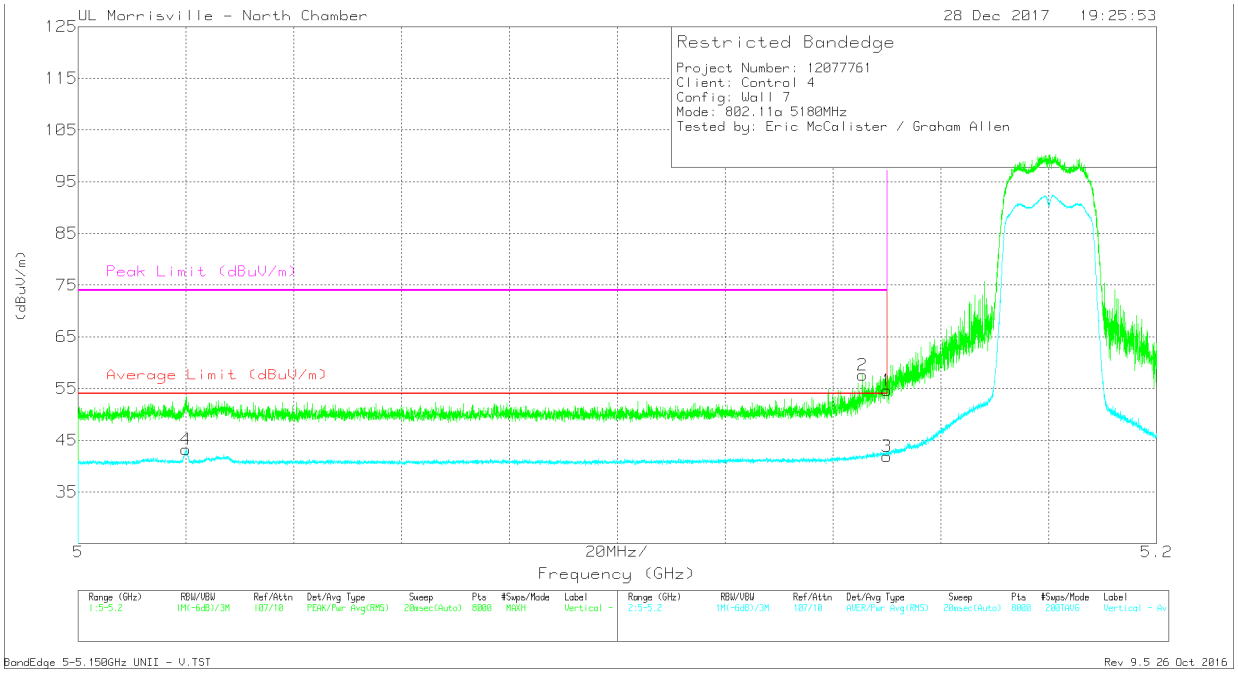
9.2. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL) – Wall 7



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	* 5.15	39.66	Pk	34.3	-22.3	0	51.66	-	-	74	-22.34	23	127	H
2	* 5.15	44.15	Pk	34.3	-22.3	0	56.15	-	-	74	-17.85	23	127	H
3	* 5.15	28.76	RMS	34.3	-22.3	.13	40.89	54	-13.11	-	-	23	127	H
4	* 5.02	29.76	RMS	34.1	-21.7	.13	42.29	54	-11.71	-	-	23	127	H

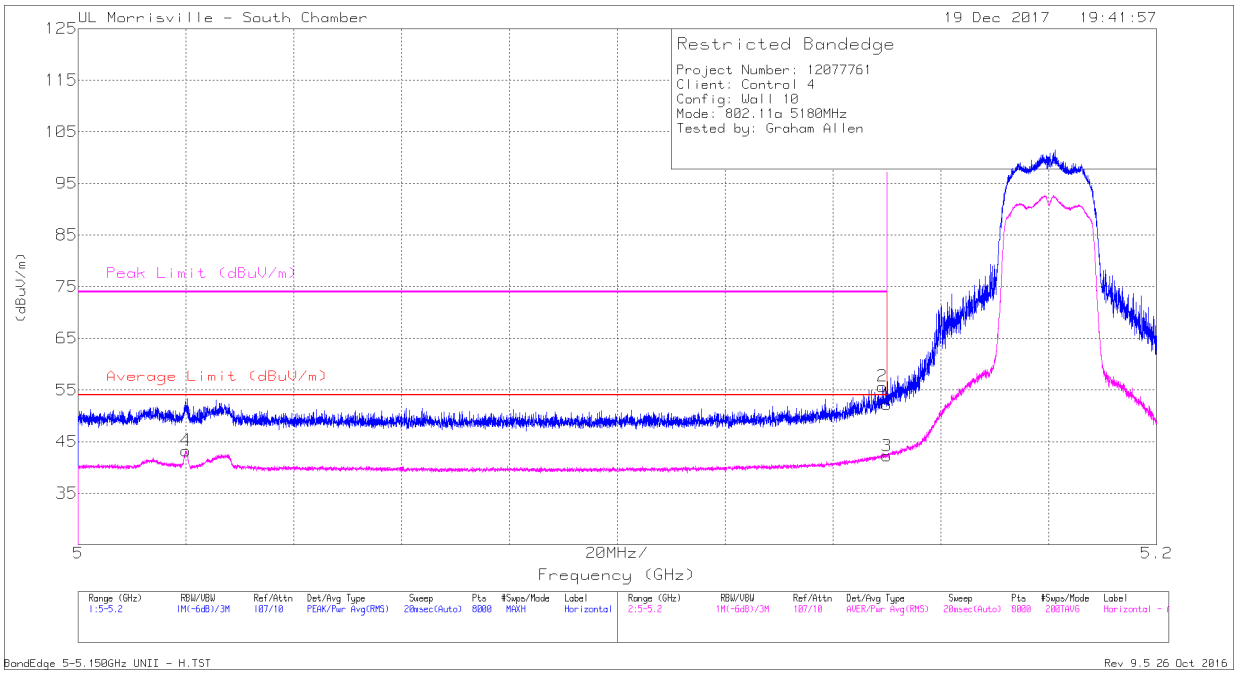
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection



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	* 5.15	42.65	Pk	34.3	-22.3	0	54.65	-	-	74	-19.35	0	107	V
2	* 5.145	45.59	Pk	34.3	-22.3	0	57.59	-	-	74	-16.41	0	107	V
3	* 5.15	29.71	RMS	34.3	-22.3	.13	41.84	54	-12.16	-	-	0	107	V
4	* 5.02	30.71	RMS	34.1	-21.7	.13	43.24	54	-10.76	-	-	0	107	V

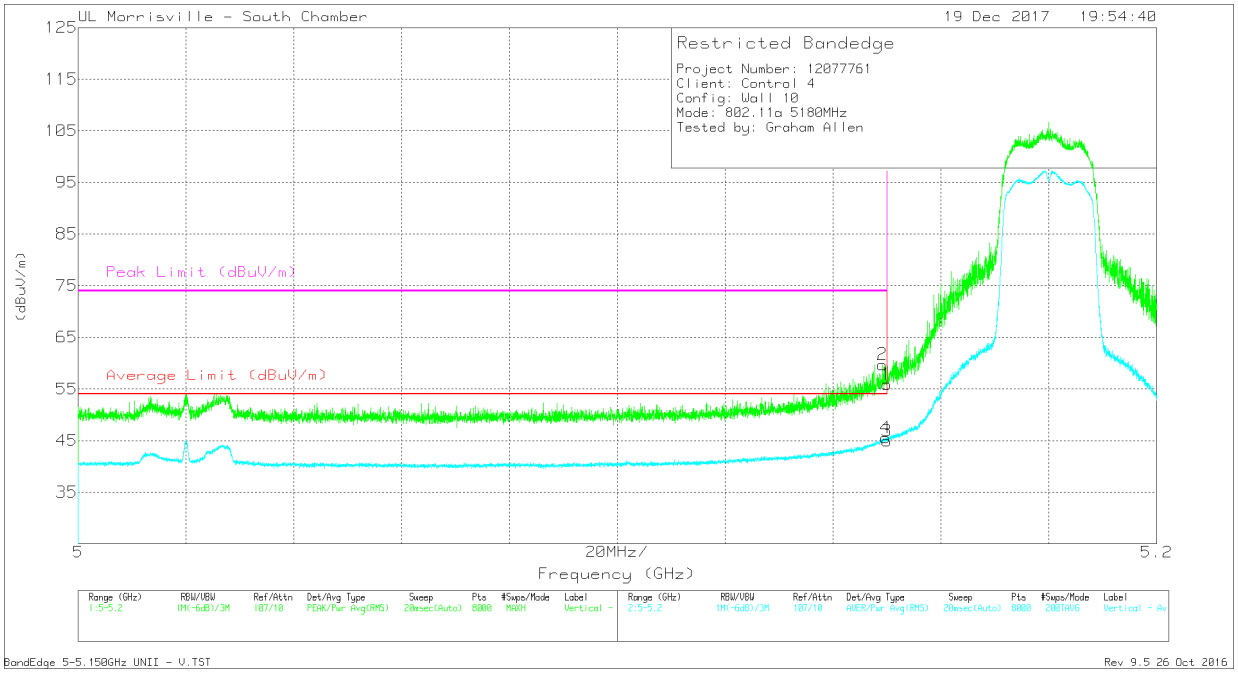
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (LOW CHANNEL) – Wall 10



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 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	* 5.15	40.65	Pk	34.1	-22.5	0	52.25	-	-	74	-21.75	220	284	H
2	* 5.149	44.09	Pk	34.1	-22.5	0	55.69	-	-	74	-18.31	220	284	H
3	* 5.15	30.47	RMS	34.1	-22.5	.13	42.2	54	-11.8	-	-	220	284	H
4	* 5.02	31.42	RMS	34	-22.3	.13	43.25	54	-10.75	-	-	220	284	H

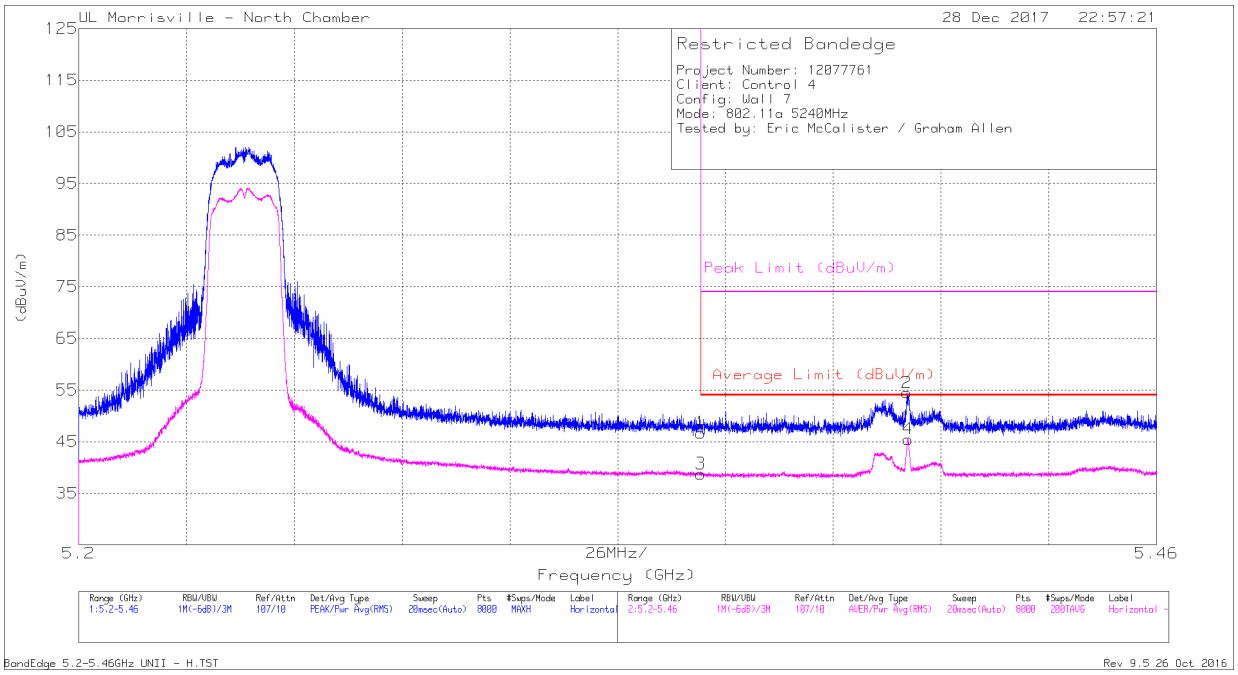
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 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	* 5.15	44.26	Pk	34.1	-22.5	0	55.86	-	-	74	-18.14	213	104	V
2	* 5.149	48.14	Pk	34.1	-22.5	0	59.74	-	-	74	-14.26	213	104	V
3	* 5.15	33.21	RMS	34.1	-22.5	.13	44.94	54	-9.06	-	-	213	104	V
4	* 5.15	33.78	RMS	34.1	-22.5	.13	45.51	54	-8.49	-	-	213	104	V

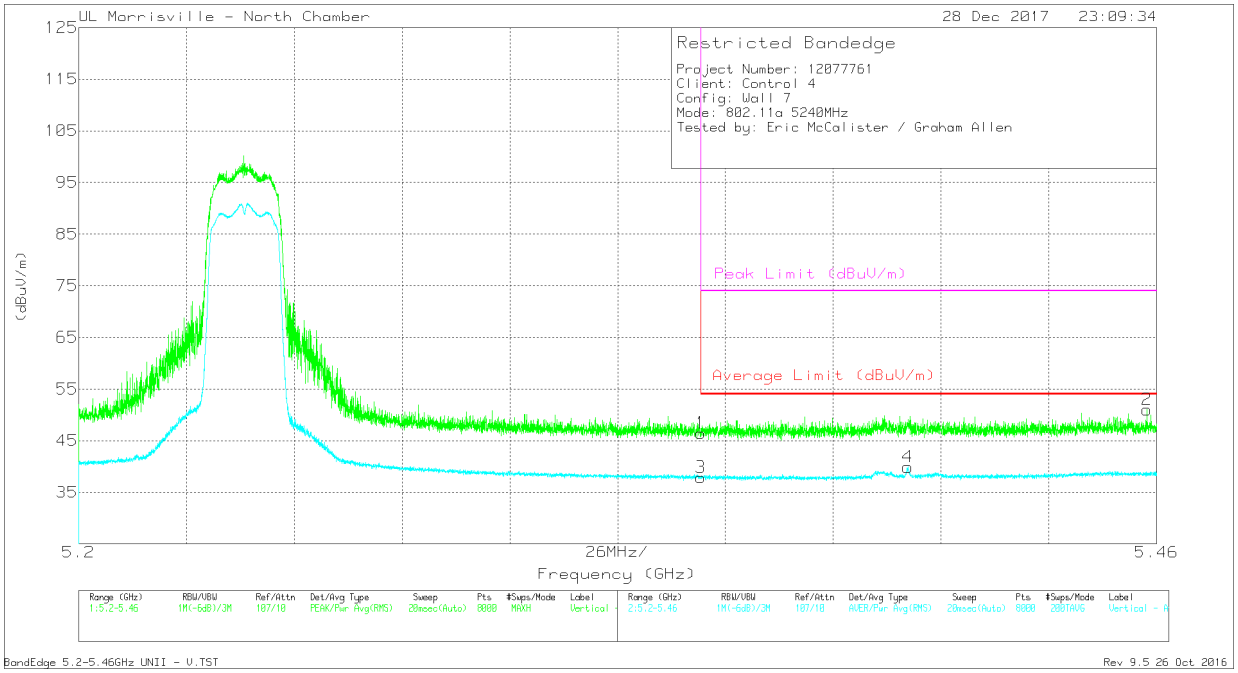
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL) – Wall 7



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	* 5.35	34.9	Pk	34.4	-22.6	0	46.7	-	-	74	-27.3	147	305	H
2	* 5.4	42.68	Pk	34.4	-22.6	0	54.48	-	-	74	-19.52	147	305	H
3	* 5.35	26.84	RMS	34.4	-22.6	.13	38.77	54	-15.23	-	-	147	305	H
4	* 5.4	33.57	RMS	34.4	-22.6	.13	45.5	54	-8.5	-	-	147	305	H

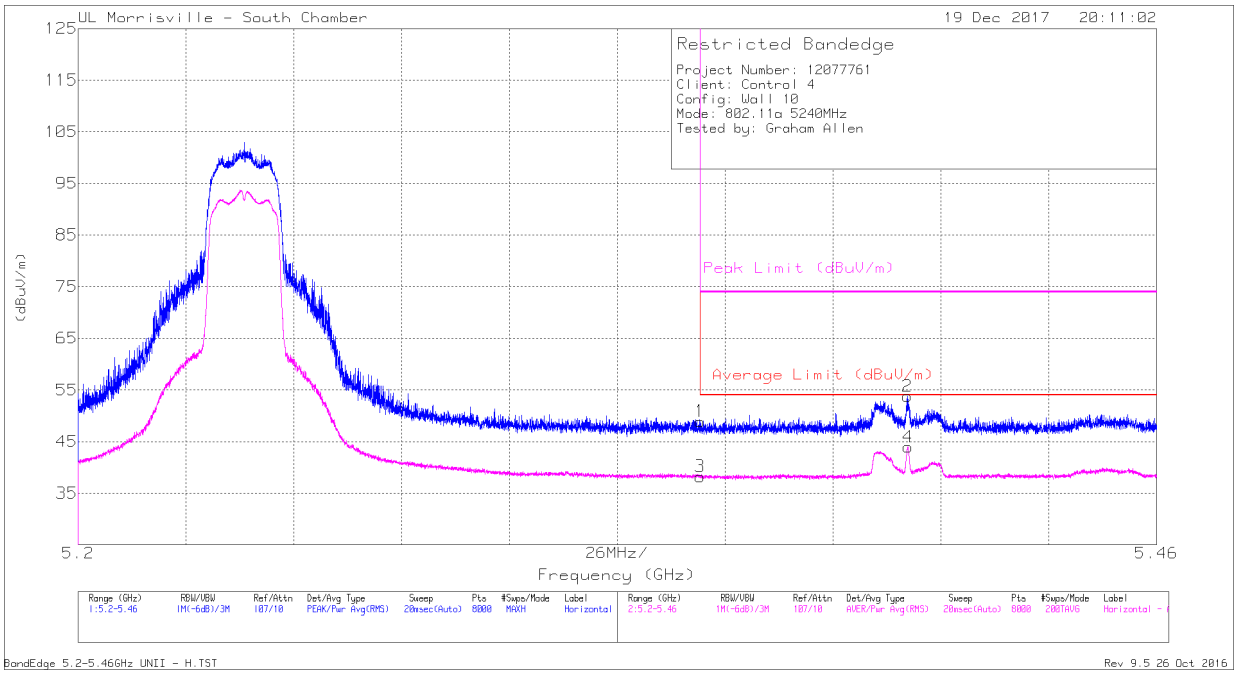
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection



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	* 5.35	34.64	Pk	34.4	-22.6	0	46.44	-	-	74	-27.56	345	125	V
2	* 5.458	39.02	Pk	34.5	-22.5	0	51.02	-	-	74	-22.98	345	125	V
3	* 5.35	25.95	RMS	34.4	-22.6	.13	37.88	54	-16.12	-	-	345	125	V
4	* 5.4	27.97	RMS	34.4	-22.6	.13	39.9	54	-14.1	-	-	345	125	V

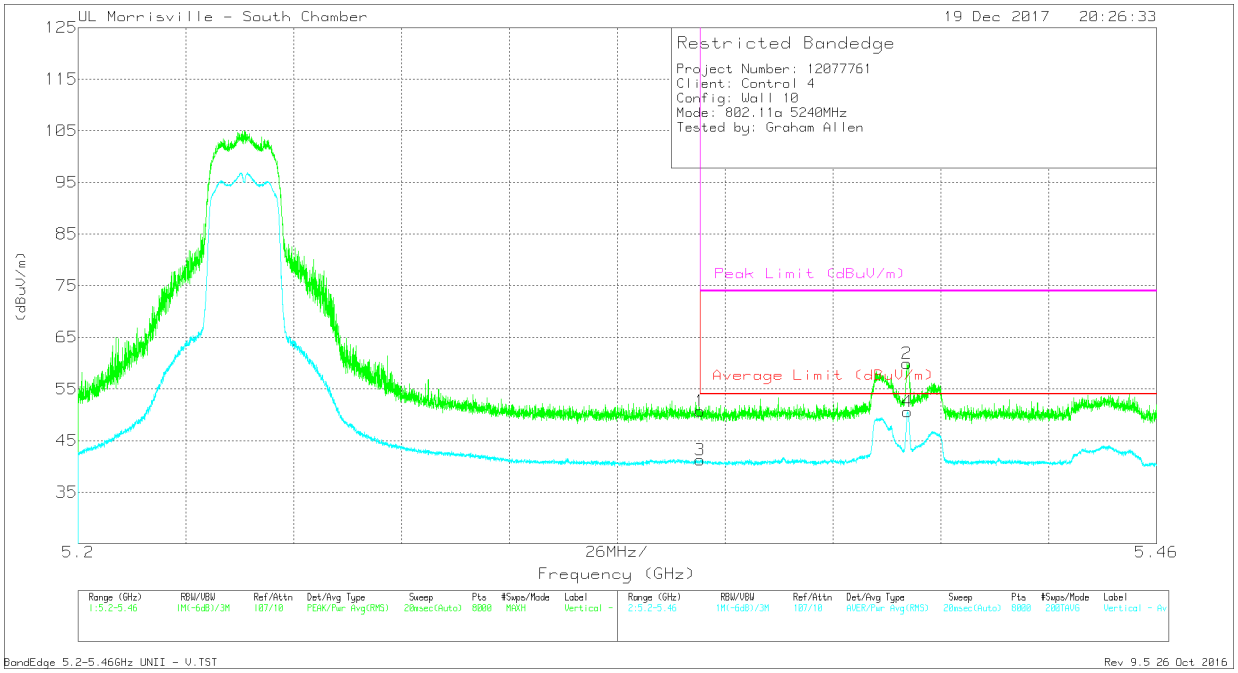
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL) – Wall 10



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 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	* 5.35	37.52	Pk	34.4	-23	0	48.92	-	-	74	-25.08	201	211	H
2	* 5.4	42.56	Pk	34.4	-23.2	0	53.76	-	-	74	-20.24	201	211	H
3	* 5.35	26.69	RMS	34.4	-23	.13	38.22	54	-15.78	-	-	201	211	H
4	* 5.4	32.6	RMS	34.4	-23.2	.13	43.93	54	-10.07	-	-	201	211	H

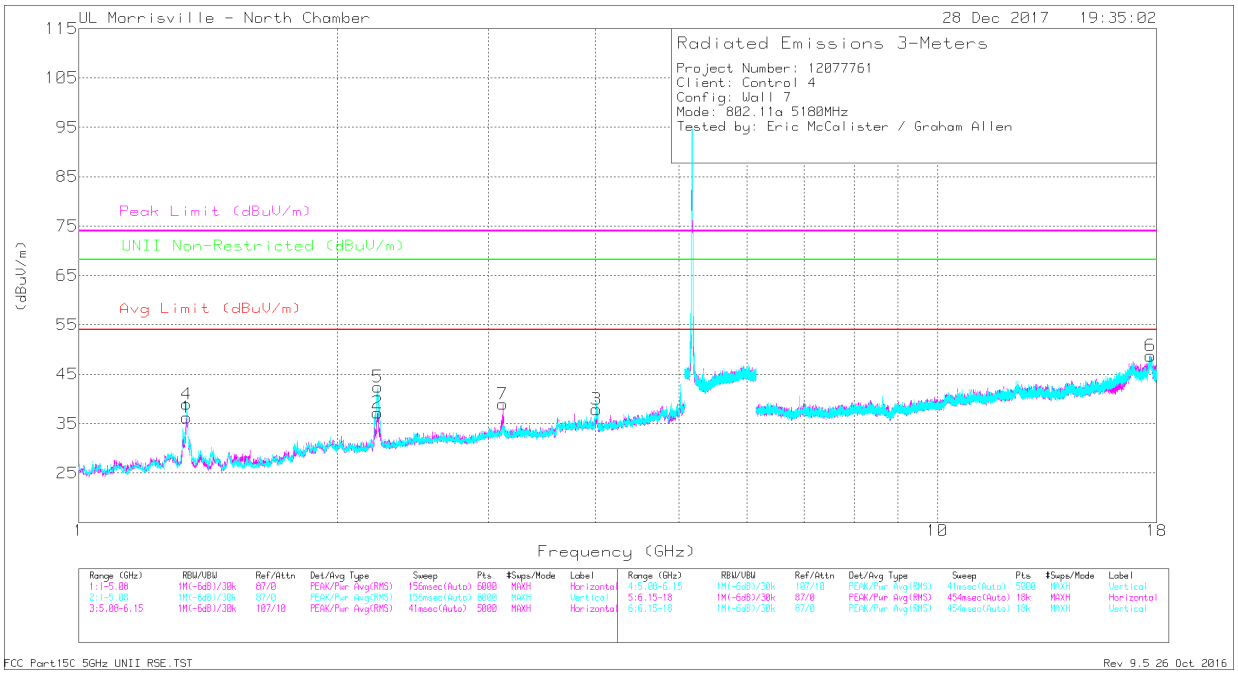
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 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	* 5.35	39.34	Pk	34.4	-23	0	50.74	-	-	74	-23.26	244	128	V
2	* 5.4	48.75	Pk	34.4	-23.2	0	59.95	-	-	74	-14.05	244	128	V
3	* 5.35	29.73	RMS	34.4	-23	.13	41.26	54	-12.74	-	-	244	128	V
4	* 5.4	39.26	RMS	34.4	-23.2	.13	50.59	54	-3.41	-	-	244	128	V

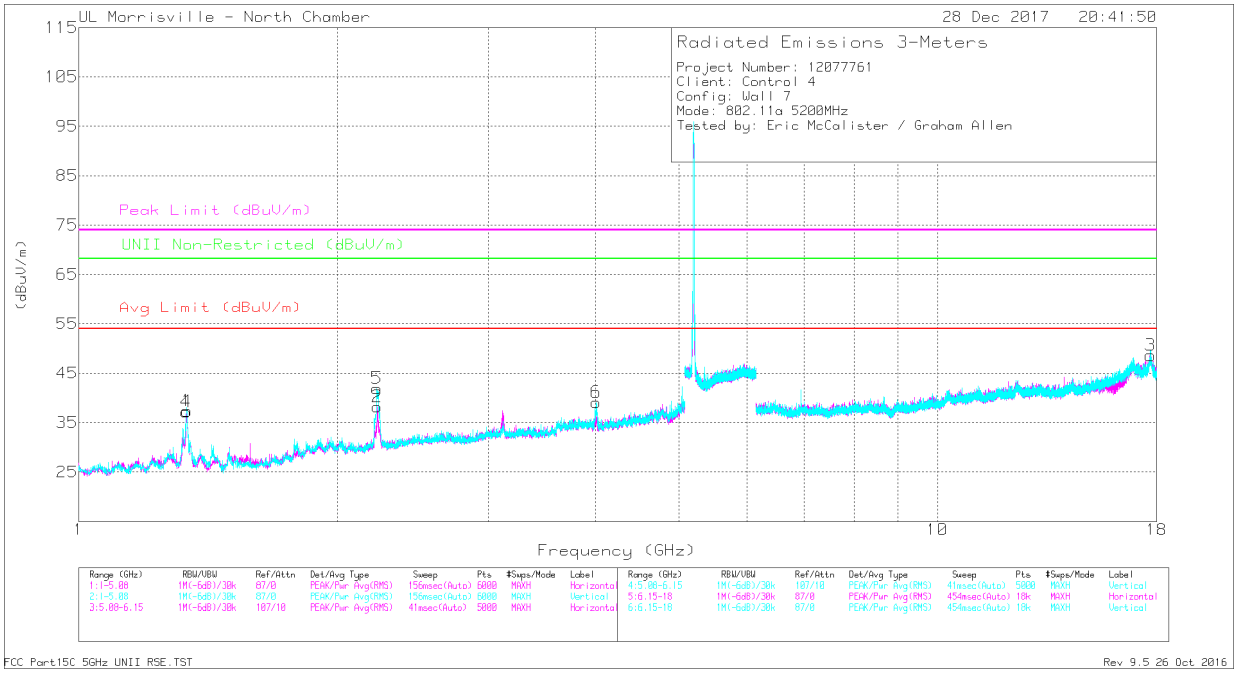
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS – Wall 7



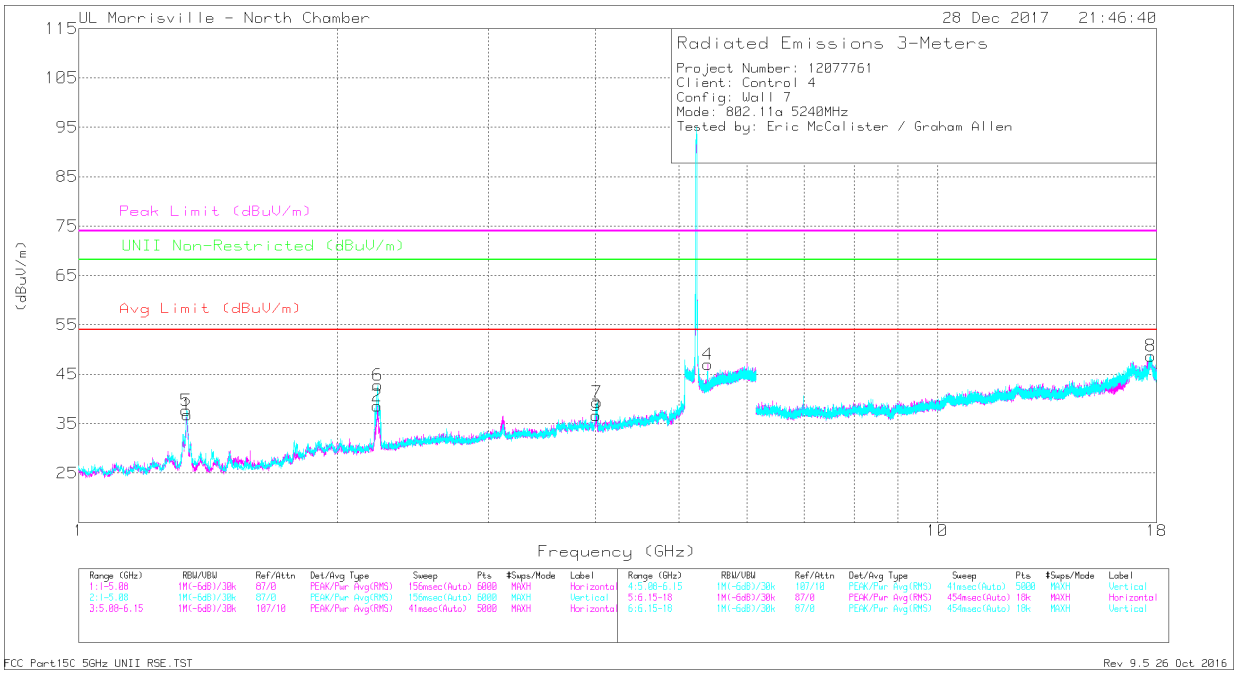
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.336	52.98	PK-U	28.9	-35.6	0	46.28	-	-	74	-27.72	-	-	102	163	H
	* 1.336	37.31	ADR	28.8	-35.6	.13	30.64	54	-23.36	-	-	-	-	102	163	H
2	* 2.226	50.03	PK-U	31.7	-34.1	0	47.63	-	-	74	-26.37	-	-	328	123	H
	* 2.228	33.79	ADR	31.8	-34.1	.13	31.62	54	-22.38	-	-	-	-	328	123	H
3	* 4.006	46.2	PK-U	33.4	-31.9	0	47.7	-	-	74	-26.3	-	-	69	256	H
	* 4.008	30.62	ADR	33.4	-31.9	.13	32.25	54	-21.75	-	-	-	-	69	256	H
4	* 1.336	53.99	PK-U	28.9	-35.6	0	47.29	-	-	74	-26.71	-	-	4	153	V
	* 1.336	38	ADR	28.8	-35.6	.13	31.33	54	-22.67	-	-	-	-	4	153	V
5	* 2.229	53.97	PK-U	31.8	-34.1	0	51.67	-	-	74	-22.33	-	-	345	157	V
	* 2.229	36.74	ADR	31.8	-34.1	.13	34.57	54	-19.43	-	-	-	-	345	157	V
6	* 17.704	33.66	PK-U	41.2	-19.9	0	54.96	-	-	74	-19.04	-	-	271	193	V
	* 17.704	22.25	ADR	41.2	-20	.13	43.58	54	-10.42	-	-	-	-	271	193	V
7	3.118	39.04	Pk	32.8	-32.9	0	38.94	-	-	-	-	68.2	-29.26	0-360	199	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, 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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.337	50.23	PK-U	28.8	-35.6	0	43.43	-	-	74	-30.57	-	-	82	111	H
	* 1.336	34.91	ADR	28.8	-35.6	.13	28.24	54	-25.76	-	-	-	-	82	111	H
2	* 2.23	49.49	PK-U	31.8	-34.1	0	47.19	-	-	74	-26.81	-	-	328	154	H
	* 2.228	33.58	ADR	31.8	-34.1	.13	31.41	54	-22.59	-	-	-	-	328	154	H
4	* 1.338	53.72	PK-U	28.8	-35.6	0	46.92	-	-	74	-27.08	-	-	4	148	V
	* 1.336	37.52	ADR	28.8	-35.6	.13	30.85	54	-23.15	-	-	-	-	4	148	V
5	* 2.228	53.16	PK-U	31.8	-34.1	0	50.86	-	-	74	-23.14	-	-	3	136	V
	* 2.227	36.99	ADR	31.8	-34.1	.13	34.82	54	-19.18	-	-	-	-	3	136	V
6	* 4.008	45.88	PK-U	33.4	-31.9	0	47.38	-	-	74	-26.62	-	-	197	104	V
	* 4.009	30.96	ADR	33.4	-31.9	.13	32.59	54	-21.41	-	-	-	-	197	104	V
3	* 17.705	33.55	PK-U	41.2	-20	0	54.75	-	-	74	-19.25	-	-	208	151	H
	* 17.705	22.31	ADR	41.2	-20	.13	43.64	54	-10.36	-	-	-	-	208	151	H

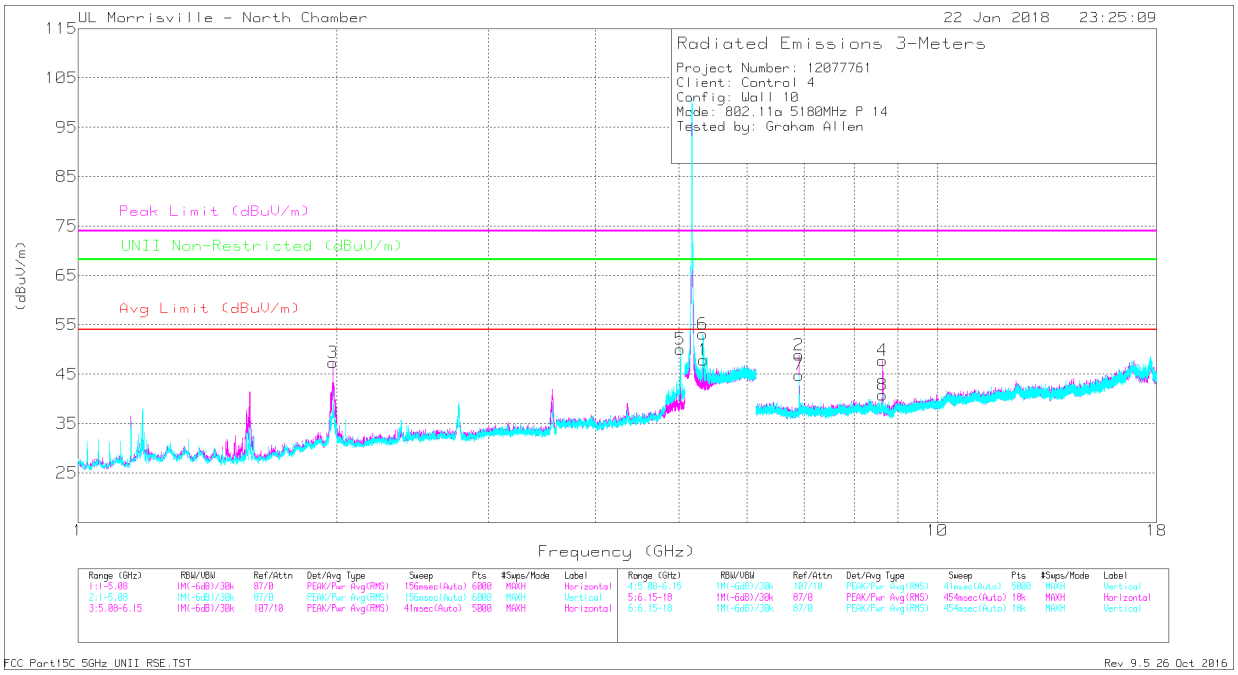
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average



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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.336	55.85	PK-U	28.9	-35.6	0	49.15	-	-	74	-24.85	-	-	0	188	H
	* 1.336	35.8	ADR	28.8	-35.6	.13	29.13	54	-24.87	-	-	-	-	0	188	H
2	* 2.228	48.96	PK-U	31.8	-34.1	0	46.66	-	-	74	-27.34	-	-	16	116	H
	* 2.228	33.4	ADR	31.8	-34.1	.13	31.23	54	-22.77	-	-	-	-	16	116	H
3	* 4.005	43.52	PK-U	33.4	-31.9	0	45.02	-	-	74	-28.98	-	-	103	112	H
	* 4.005	29.81	ADR	33.4	-31.9	.13	31.44	54	-22.56	-	-	-	-	103	112	H
5	* 1.336	53.12	PK-U	28.9	-35.6	0	46.42	-	-	74	-27.58	-	-	336	215	V
	* 1.337	37.32	ADR	28.8	-35.6	.13	30.65	54	-23.35	-	-	-	-	336	215	V
6	* 2.226	53.95	PK-U	31.7	-34.1	0	51.55	-	-	74	-22.45	-	-	0	127	V
	* 2.228	37.52	ADR	31.8	-34.1	.13	35.35	54	-18.65	-	-	-	-	0	127	V
7	* 4.016	46.16	PK-U	33.4	-32	0	47.56	-	-	74	-26.44	-	-	344	197	V
	* 4.014	31.12	ADR	33.4	-32	.13	32.65	54	-21.35	-	-	-	-	344	197	V
4	* 5.4	42.04	PK-U	34.4	-22.6	0	53.84	-	-	74	-20.16	-	-	309	114	H
	* 5.4	31.23	ADR	34.4	-22.6	.13	43.16	54	-10.84	-	-	-	-	309	114	H
8	* 17.706	34.08	PK-U	41.2	-20	0	55.28	-	-	74	-18.72	-	-	274	191	V
	* 17.705	22.26	ADR	41.2	-20	.13	43.59	54	-10.41	-	-	-	-	274	191	V

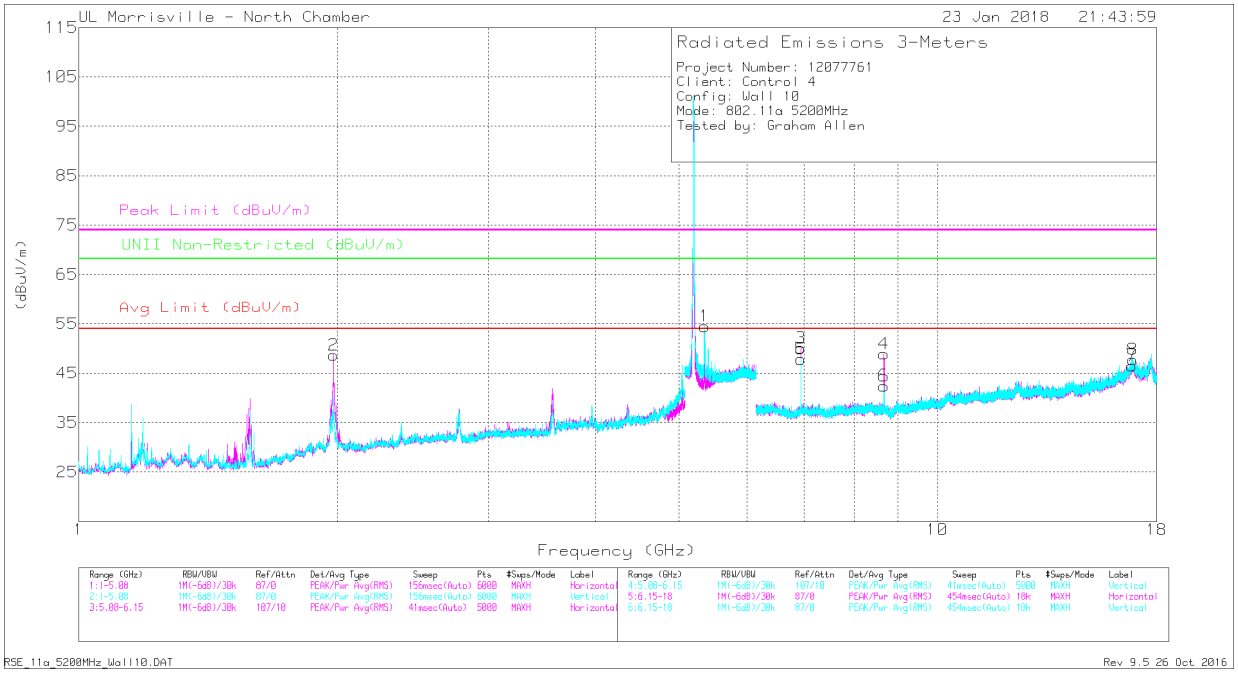
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HARMONICS AND SPURIOUS EMISSIONS – Wall 10



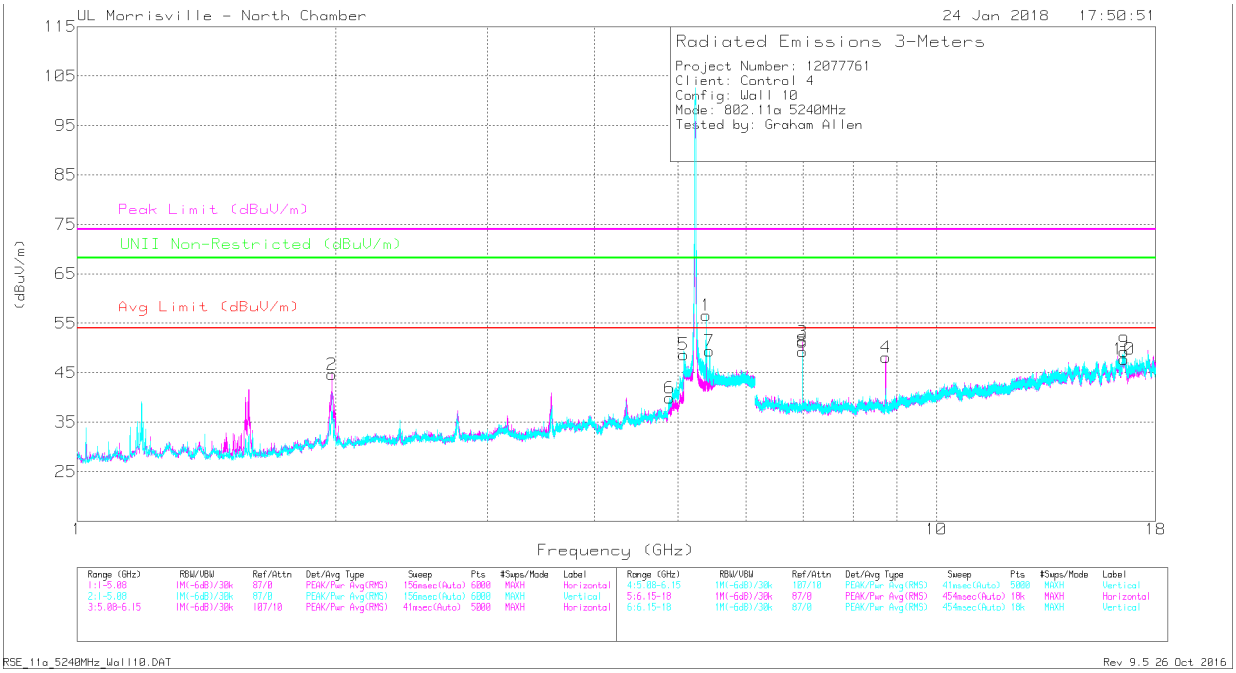
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	1.98	56.58	PK-U	31.5	-34.2	0	53.88	-	-	-	-	68.2	-14.32	190	198	H
	1.98	42.1	ADR	31.5	-34.2	.13	39.53	-	-	-	-	-	-	190	198	H
5	5.02*	50.64	PK-U	34.1	-30.4	0	54.34	-	-	74	-19.66	-	-	107	116	V
	5.02*	40.01	ADR	34.1	-30.4	.13	43.84	54	-10.16	-	-	-	-	107	116	V
6	5.333	47.95	PK-U	34.4	-22.7	0	59.65	-	-	-	-	68.2	-8.55	134	159	V
	5.333	37.68	ADR	34.4	-22.7	.13	49.51	-	-	-	-	-	-	134	159	V
1	5.34	44.79	PK-U	34.4	-22.7	0	56.49	-	-	-	-	68.2	-11.71	159	186	H
	5.34	33.74	ADR	34.4	-22.7	.13	45.57	-	-	-	-	-	-	159	186	H
2	6.907	45.94	PK-U	35.5	-29.1	0	52.34	-	-	-	-	68.2	-15.86	136	190	H
	6.907	40.99	ADR	35.5	-29.1	.13	47.52	-	-	-	-	-	-	136	190	H
7	6.907	45.08	PK-U	35.5	-29.1	0	51.48	-	-	-	-	68.2	-16.72	143	198	V
	6.907	38.49	ADR	35.5	-29.1	.13	45.02	-	-	-	-	-	-	143	198	V
4	8.632	29.31	ADR	36	-27.5	.13	37.94	-	-	-	-	-	-	76	161	V
	8.633	40.51	PK-U	36	-27.5	0	49.01	-	-	-	-	68.2	-19.19	76	161	V
8	8.634	46.92	PK-U	36	-27.6	0	55.32	-	-	-	-	68.2	-12.88	125	196	H
	8.634	37.35	ADR	36	-27.6	.13	45.88	-	-	-	-	-	-	125	196	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average



Markers	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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.36	51.9	PK-U	34.4	-22.6	0	63.7	-	-	74	-10.3	-	-	134	150	V
	* 5.36	41.3	ADR	34.4	-22.6	.13	53.23	54	-.77	-	-	-	-	134	150	V
2	1.98	53.91	PK-U	31.5	-34.2	0	51.21	-	-	-	-	68.2	-16.99	187	307	H
	1.98	40.69	ADR	31.5	-34.2	.13	38.12	-	-	-	-	-	-	187	307	H
3	6.933	46.94	PK-U	35.5	-28.8	0	53.64	-	-	-	-	68.2	-14.56	146	191	H
	6.933	42.95	ADR	35.5	-28.8	.13	49.78	-	-	-	-	-	-	146	191	H
5	6.933	45.11	PK-U	35.5	-28.8	0	51.81	-	-	-	-	68.2	-16.39	151	183	V
	6.933	39.85	ADR	35.5	-28.8	.13	46.68	-	-	-	-	-	-	151	183	V
4	8.665	47.81	PK-U	36	-27.6	0	56.21	-	-	-	-	68.2	-11.99	152	187	H
	8.665	38.54	ADR	36	-27.6	.13	47.07	-	-	-	-	-	-	152	187	H
6	8.665	41.54	PK-U	36	-27.6	0	49.94	-	-	-	-	68.2	-18.26	162	193	V
	8.665	30.44	ADR	36	-27.6	.13	38.97	-	-	-	-	-	-	162	193	V
7	16.845	35.52	PK-U	42.1	-23.4	0	54.22	-	-	-	-	68.2	-13.98	5	165	H
	16.845	23.45	ADR	42.1	-23.4	.13	42.28	-	-	-	-	-	-	5	165	H
8	16.889	36.01	PK-U	42	-23.5	0	54.51	-	-	-	-	68.2	-13.69	264	380	V
	16.89	23.45	ADR	42	-23.5	.13	42.08	-	-	-	-	-	-	264	380	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

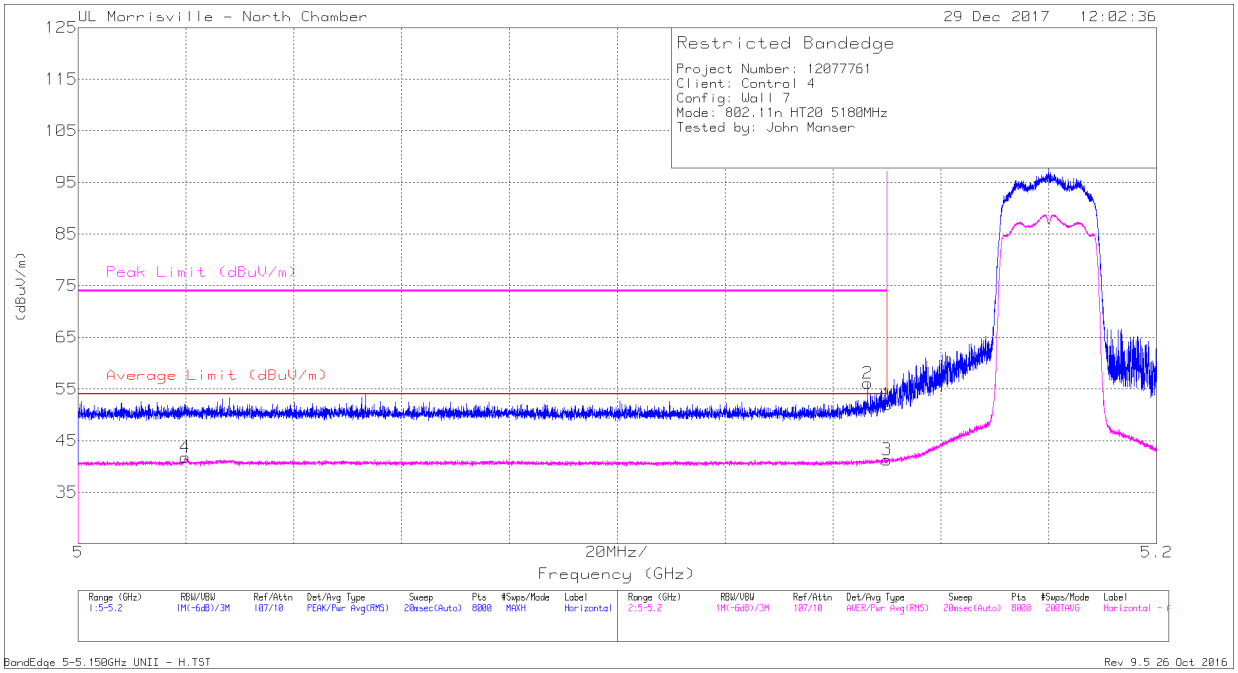


Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 5.08	51.4	PK-U	34.1	-28.4	0	57.1	-	-	74	-16.9	-	-	138	188	V
	* 5.08	41.36	ADR	34.1	-28.4	.13	47.19	54	-6.81	-	-	-	-	138	188	V
6	* 4.893	43.4	PK-U	34	-30.1	0	47.3	-	-	74	-26.7	-	-	135	186	V
	* 4.893	31.54	ADR	34	-30.1	.13	35.57	54	-18.43	-	-	-	-	135	186	V
1	* 5.4	52.35	PK-U	34.4	-23.2	0	63.55	-	-	74	-10.45	-	-	136	186	V
	* 5.4	41.97	ADR	34.4	-23.2	.13	53.3	54	-.7	-	-	-	-	136	186	V
7	* 5.447	45.42	PK-U	34.5	-23.4	0	56.52	-	-	74	-17.48	-	-	134	199	V
	* 5.447	34.68	ADR	34.5	-23.4	.13	45.91	54	-8.09	-	-	-	-	134	199	V
2	1.98	57.4	PK-U	31.1	-34.2	0	54.3	-	-	-	-	68.2	-13.9	203	239	H
	1.98	41.8	ADR	31.1	-34.2	.13	38.83	-	-	-	-	-	-	203	239	H
8	6.987	47.21	PK-U	35.5	-28.2	0	54.51	-	-	-	-	68.2	-13.69	136	201	H
	6.987	43.15	ADR	35.5	-28.2	.13	50.58	-	-	-	-	-	-	136	201	H
3	6.987	46.16	PK-U	35.5	-28.2	0	53.46	-	-	-	-	68.2	-14.74	147	211	V
	6.987	41.32	ADR	35.5	-28.2	.13	48.75	-	-	-	-	-	-	147	211	V
4	8.732	46.88	PK-U	36	-27.4	0	55.48	-	-	-	-	68.2	-12.72	174	168	H
	8.732	37.04	ADR	36	-27.4	.13	45.77	-	-	-	-	-	-	174	168	H
10	16.539	36.37	PK-U	41.2	-22.6	0	54.97	-	-	-	-	68.2	-13.23	121	278	H
	16.54	23.69	ADR	41.2	-22.6	.13	42.42	-	-	-	-	-	-	121	278	H
9	16.543	36.82	PK-U	41.2	-22.4	0	55.62	-	-	-	-	68.2	-12.58	272	352	V
	16.543	24.36	ADR	41.2	-22.4	.13	43.29	-	-	-	-	-	-	272	352	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

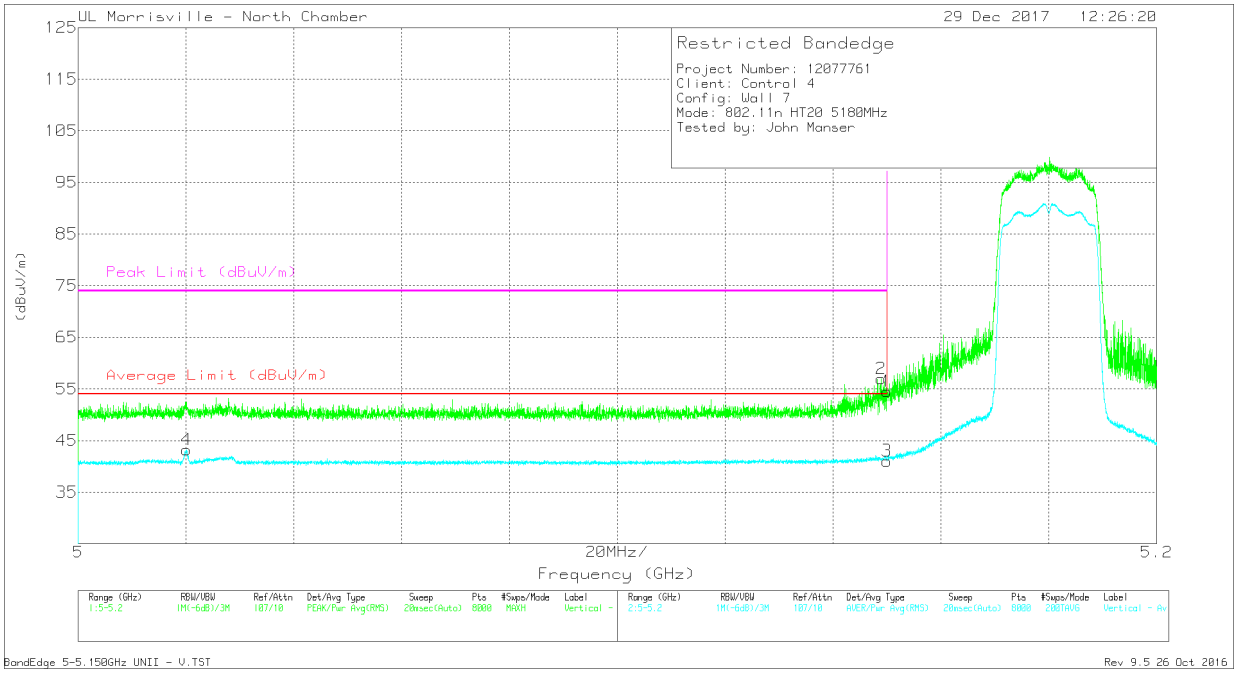
9.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL) – Wall 7



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	* 5.15	39.99	Pk	34.3	-22.3	0	51.99	-	-	74	-22.01	245	250	H
2	* 5.146	44.15	Pk	34.3	-22.3	0	56.15	-	-	74	-17.85	245	250	H
3	* 5.15	29.17	RMS	34.3	-22.3	.13	41.3	54	-12.7	-	-	245	250	H
4	* 5.02	29.25	RMS	34.1	-21.7	.13	41.78	54	-12.22	-	-	245	250	H

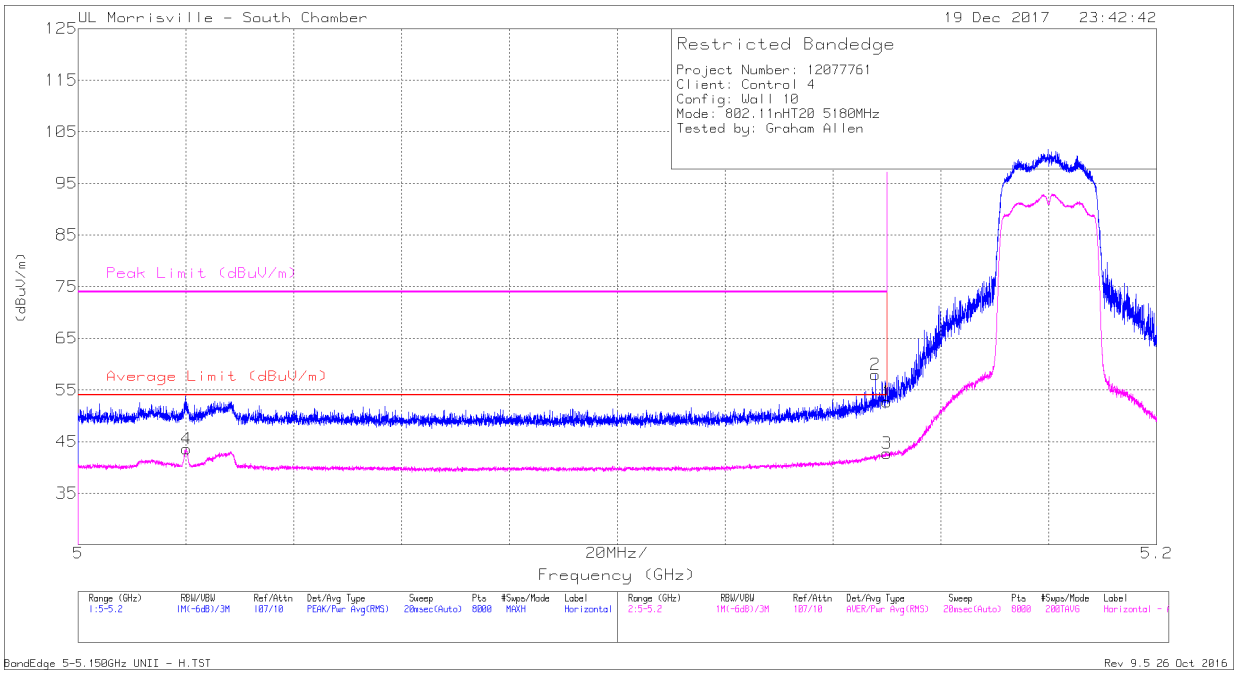
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection



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	* 5.15	42.49	Pk	34.3	-22.3	0	54.49	-	-	74	-19.51	12	237	V
2	* 5.149	44.94	Pk	34.3	-22.3	0	56.94	-	-	74	-17.06	12	237	V
3	* 5.15	28.91	RMS	34.3	-22.3	.13	41.04	54	-12.96	-	-	12	237	V
4	* 5.02	30.69	RMS	34.1	-21.7	.13	43.22	54	-10.78	-	-	12	237	V

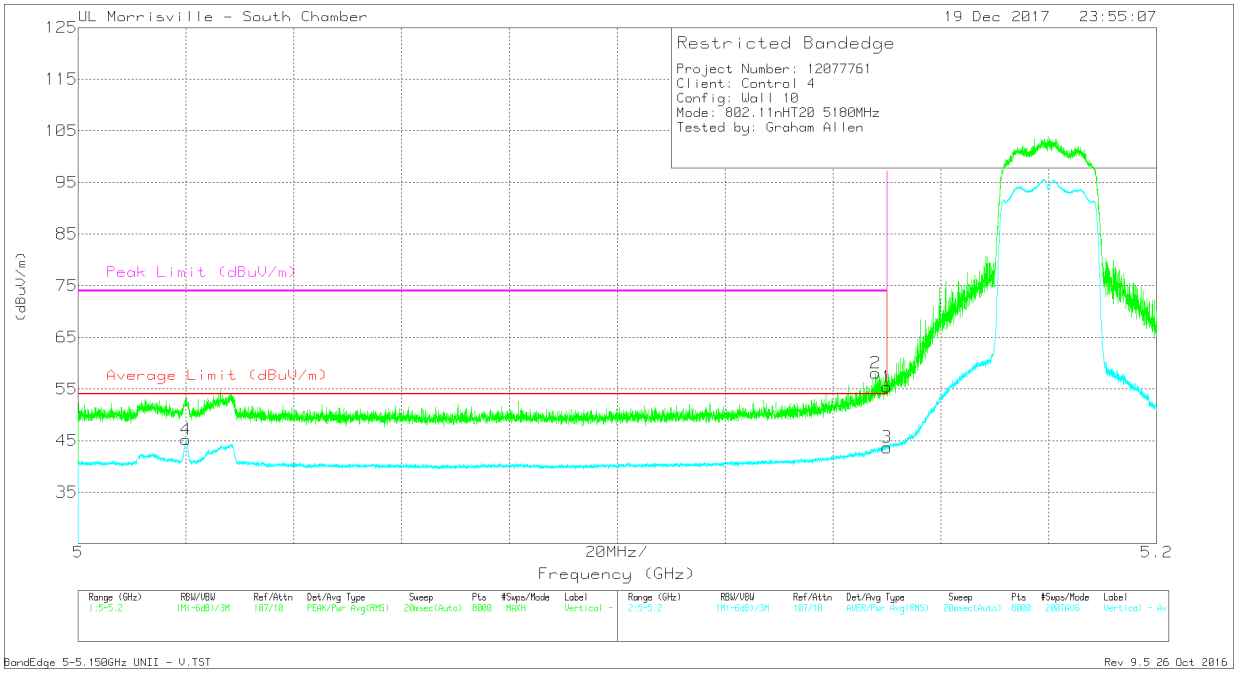
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (LOW CHANNEL) – Wall 10



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 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	* 5.15	41.06	Pk	34.1	-22.5	0	52.66	-	-	74	-21.34	226	272	H
2	* 5.148	46.36	Pk	34.1	-22.5	0	57.96	-	-	74	-16.04	226	272	H
3	* 5.15	30.98	RMS	34.1	-22.5	.13	42.71	54	-11.29	-	-	226	272	H
4	* 5.02	31.74	RMS	34	-22.3	.13	43.57	54	-10.43	-	-	226	272	H

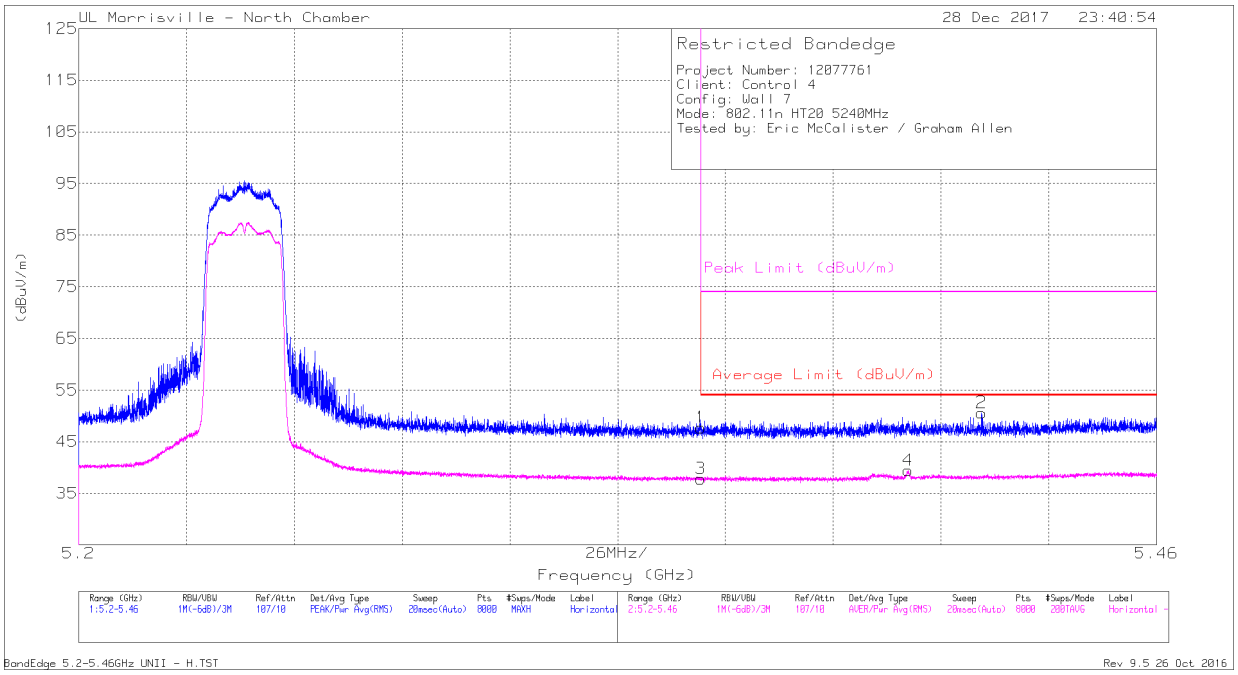
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 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	* 5.15	43.77	Pk	34.1	-22.5	0	55.37	-	-	74	-18.63	202	106	V
2	* 5.148	46.45	Pk	34.1	-22.5	0	58.05	-	-	74	-15.95	202	106	V
3	* 5.15	31.93	RMS	34.1	-22.5	.13	43.66	54	-10.34	-	-	202	106	V
4	* 5.02	33.35	RMS	34	-22.3	.13	45.18	54	-8.82	-	-	202	106	V

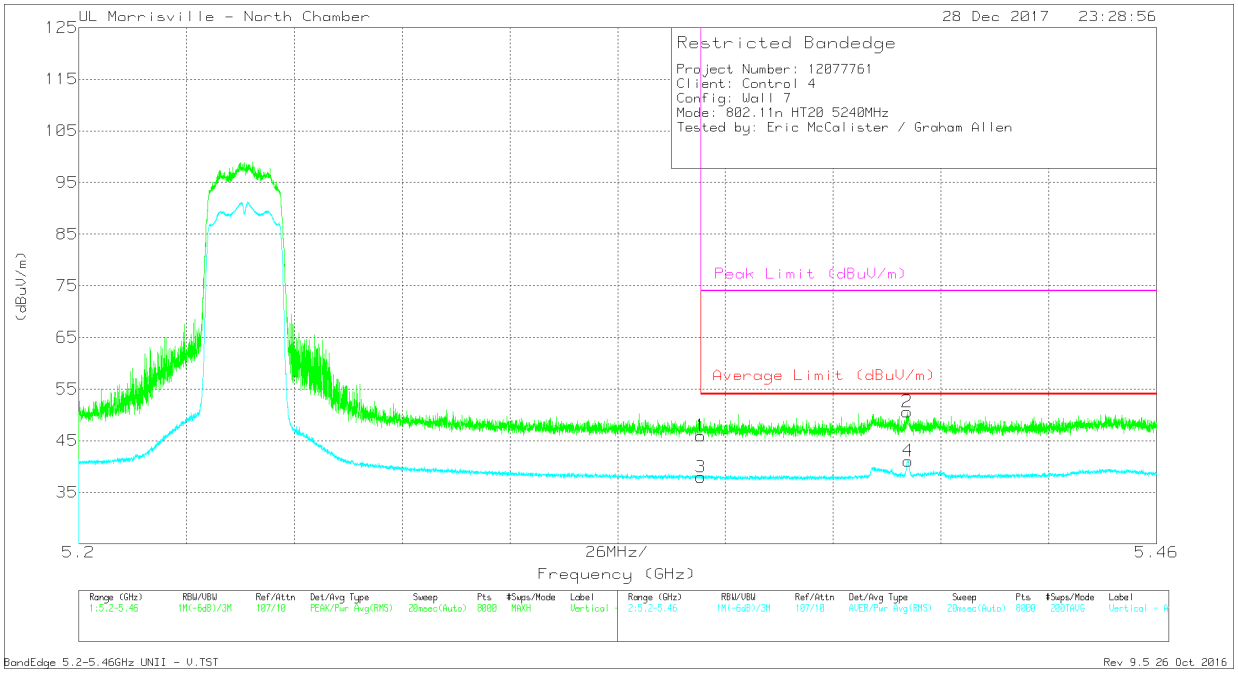
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL) – Wall 7



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	* 5.35	35.91	Pk	34.4	-22.6	0	47.71	-	-	74	-26.29	20	128	H
2	* 5.418	38.79	Pk	34.4	-22.6	0	50.59	-	-	74	-23.41	20	128	H
3	* 5.35	25.9	RMS	34.4	-22.6	.13	37.83	54	-16.17	-	-	20	128	H
4	* 5.4	27.52	RMS	34.4	-22.6	.13	39.45	54	-14.55	-	-	20	128	H

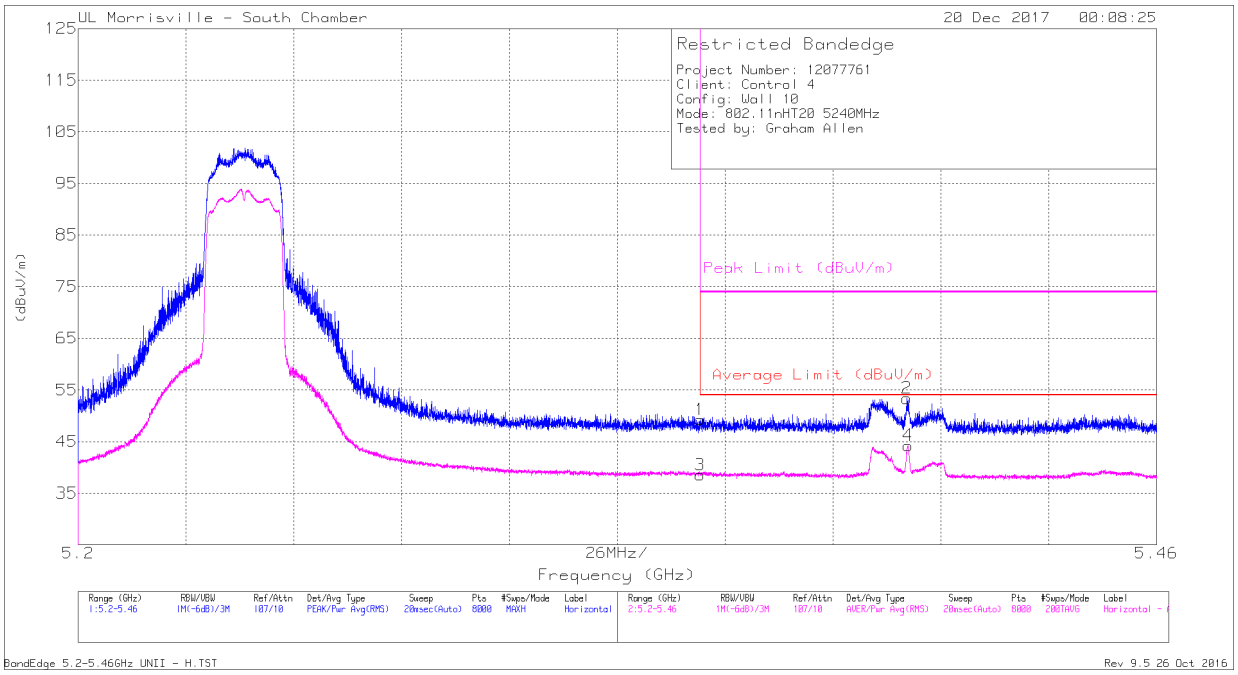
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection



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	* 5.35	34.16	Pk	34.4	-22.6	0	45.96	-	-	74	-28.04	14	104	V
2	* 5.4	38.8	Pk	34.4	-22.6	0	50.6	-	-	74	-23.4	14	104	V
3	* 5.35	26.02	RMS	34.4	-22.6	.13	37.95	54	-16.05	-	-	14	104	V
4	* 5.4	29.16	RMS	34.4	-22.6	.13	41.09	54	-12.91	-	-	14	104	V

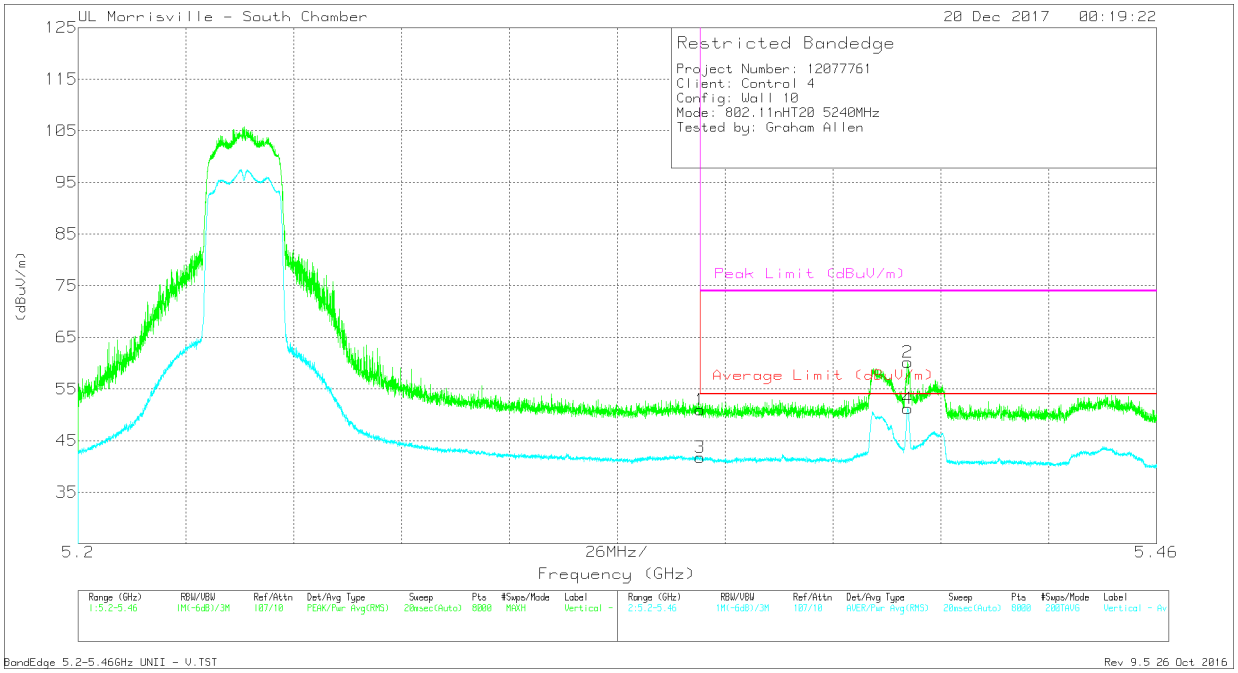
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL) – Wall 10



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 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	* 5.35	37.82	Pk	34.4	-23	0	49.22	-	-	74	-24.78	243	158	H
2	* 5.4	42.17	Pk	34.4	-23.2	0	53.37	-	-	74	-20.63	243	158	H
3	* 5.35	27.01	RMS	34.4	-23	.13	38.54	54	-15.46	-	-	243	158	H
4	* 5.4	32.9	RMS	34.4	-23.2	.13	44.23	54	-9.77	-	-	243	158	H

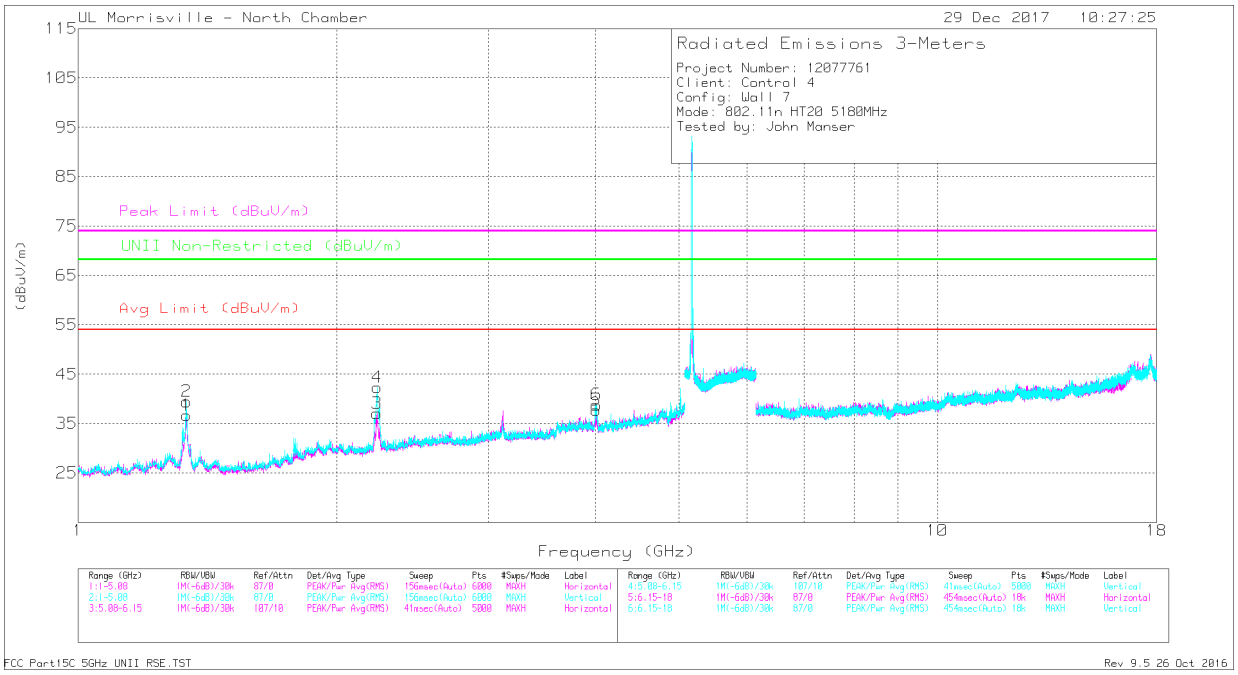
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 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	* 5.35	39.52	Pk	34.4	-23	0	50.92	-	-	74	-23.08	172	103	V
2	* 5.4	48.99	Pk	34.4	-23.2	0	60.19	-	-	74	-13.81	172	103	V
3	* 5.35	30.19	RMS	34.4	-23	.13	41.72	54	-12.28	-	-	172	103	V
4	* 5.4	39.89	RMS	34.4	-23.2	.13	51.22	54	-2.78	-	-	172	103	V

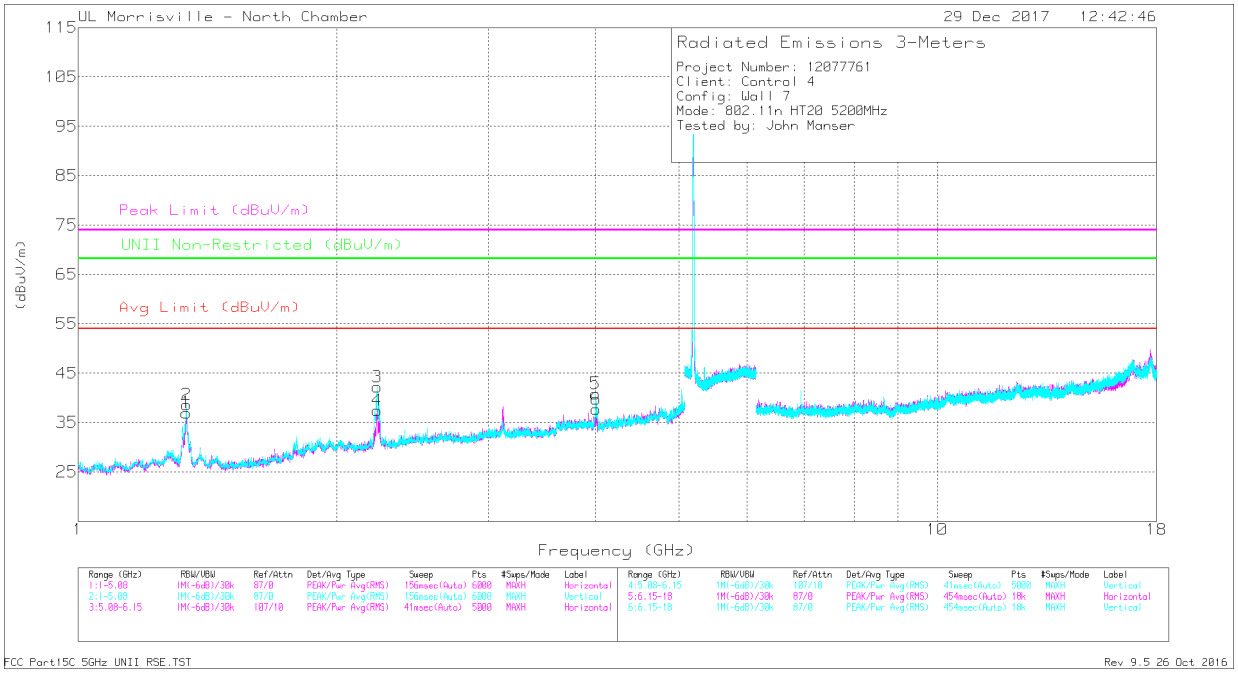
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS – Wall 7



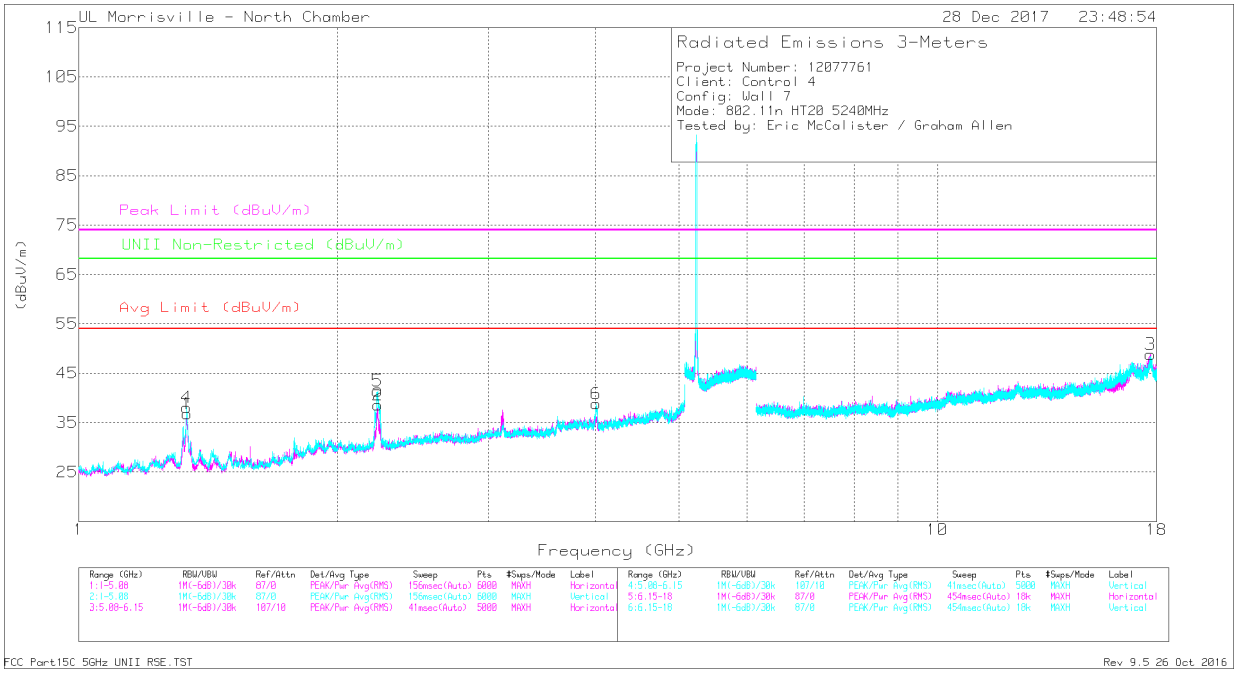
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.335	51.7	PK-U	28.9	-35.6	0	45	-	-	74	-29	-	-	289	127	H
	* 1.337	35.67	ADR	28.8	-35.6	.13	29	54	-25	-	-	-	-	289	127	H
3	* 2.227	49.09	PK-U	31.8	-34.1	0	46.79	-	-	74	-27.21	-	-	23	107	H
	* 2.229	33.06	ADR	31.8	-34.1	.13	30.89	54	-23.11	-	-	-	-	23	107	H
5	* 4.01	44.66	PK-U	33.4	-31.9	0	46.16	-	-	74	-27.84	-	-	73	193	H
	* 4.007	30.39	ADR	33.4	-31.9	.13	32.02	54	-21.98	-	-	-	-	73	193	H
2	* 1.337	51.01	PK-U	28.8	-35.6	0	44.21	-	-	74	-29.79	-	-	18	106	V
	* 1.337	35.71	ADR	28.8	-35.6	.13	29.04	54	-24.96	-	-	-	-	18	106	V
4	* 2.229	52.8	PK-U	31.8	-34.1	0	50.5	-	-	74	-23.5	-	-	353	124	V
	* 2.228	36.51	ADR	31.8	-34.1	.13	34.34	54	-19.66	-	-	-	-	353	124	V
6	* 4.009	47.75	PK-U	33.4	-31.9	0	49.25	-	-	74	-24.75	-	-	311	265	V
	* 4.009	32.32	ADR	33.4	-31.9	.13	33.95	54	-20.05	-	-	-	-	311	265	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, 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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.336	52.03	PK-U	28.9	-35.6	0	45.33	-	-	74	-28.67	-	-	290	119	H
	* 1.336	35.67	ADR	28.8	-35.6	.13	29	54	-25	-	-	-	-	290	119	H
4	* 2.226	48.2	PK-U	31.7	-34.1	0	45.8	-	-	74	-28.2	-	-	273	103	H
	* 2.228	32.87	ADR	31.8	-34.1	.13	30.7	54	-23.3	-	-	-	-	273	103	H
6	* 4.009	45.18	PK-U	33.4	-31.9	0	46.68	-	-	74	-27.32	-	-	69	118	H
	* 4.007	30.27	ADR	33.4	-31.9	.13	31.9	54	-22.1	-	-	-	-	69	118	H
2	* 1.336	50.96	PK-U	28.9	-35.6	0	44.26	-	-	74	-29.74	-	-	288	173	V
	* 1.336	35.91	ADR	28.8	-35.6	.13	29.24	54	-24.76	-	-	-	-	288	173	V
3	* 2.231	52.35	PK-U	31.8	-34.1	0	50.05	-	-	74	-23.95	-	-	4	138	V
	* 2.229	36.5	ADR	31.8	-34.1	.13	34.33	54	-19.67	-	-	-	-	4	138	V
5	* 3.998	49.44	PK-U	33.4	-32	0	50.84	-	-	74	-23.16	-	-	325	265	V
	* 4.007	32.54	ADR	33.4	-31.9	.13	34.17	54	-19.83	-	-	-	-	325	265	V

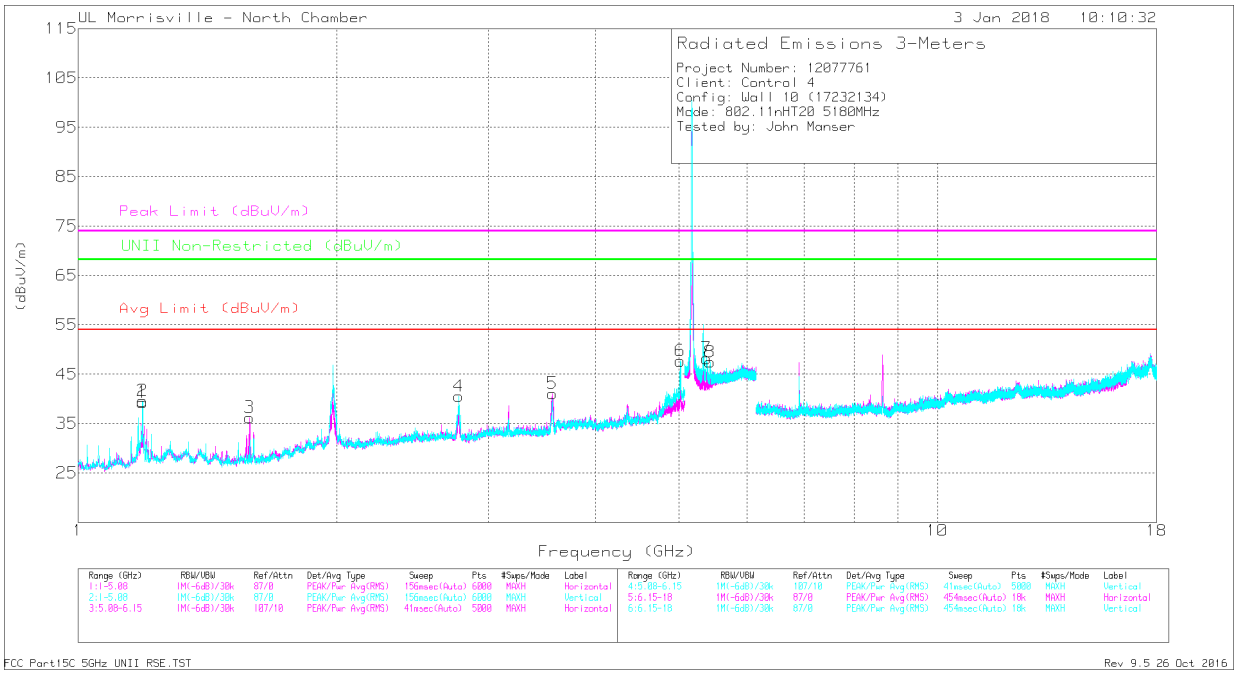
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average



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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.335	52.06	PK-U	28.9	-35.6	0	45.36	-	-	74	-28.64	-	-	100	129	H
	* 1.337	36.26	ADR	28.8	-35.6	.13	29.59	54	-24.41	-	-	-	-	100	129	H
2	* 2.23	48.18	PK-U	31.8	-34.1	0	45.88	-	-	74	-28.12	-	-	8	107	H
	* 2.228	33.19	ADR	31.8	-34.1	.13	31.02	54	-22.98	-	-	-	-	8	107	H
4	* 1.337	52.55	PK-U	28.8	-35.6	0	45.75	-	-	74	-28.25	-	-	327	259	V
	* 1.337	37.32	ADR	28.8	-35.6	.13	30.65	54	-23.35	-	-	-	-	327	259	V
5	* 2.229	53.18	PK-U	31.8	-34.1	0	50.88	-	-	74	-23.12	-	-	356	131	V
	* 2.228	37.51	ADR	31.8	-34.1	.13	35.34	54	-18.66	-	-	-	-	356	131	V
6	* 4.004	47.37	PK-U	33.4	-32	0	48.77	-	-	74	-25.23	-	-	281	194	V
	* 4.007	32.13	ADR	33.4	-31.9	.13	33.76	54	-20.24	-	-	-	-	281	194	V
3	* 17.707	33.1	PK-U	41.2	-20	0	54.3	-	-	74	-19.7	-	-	303	315	H
	* 17.705	21.91	ADR	41.2	-20	.13	43.24	54	-10.76	-	-	-	-	303	315	H

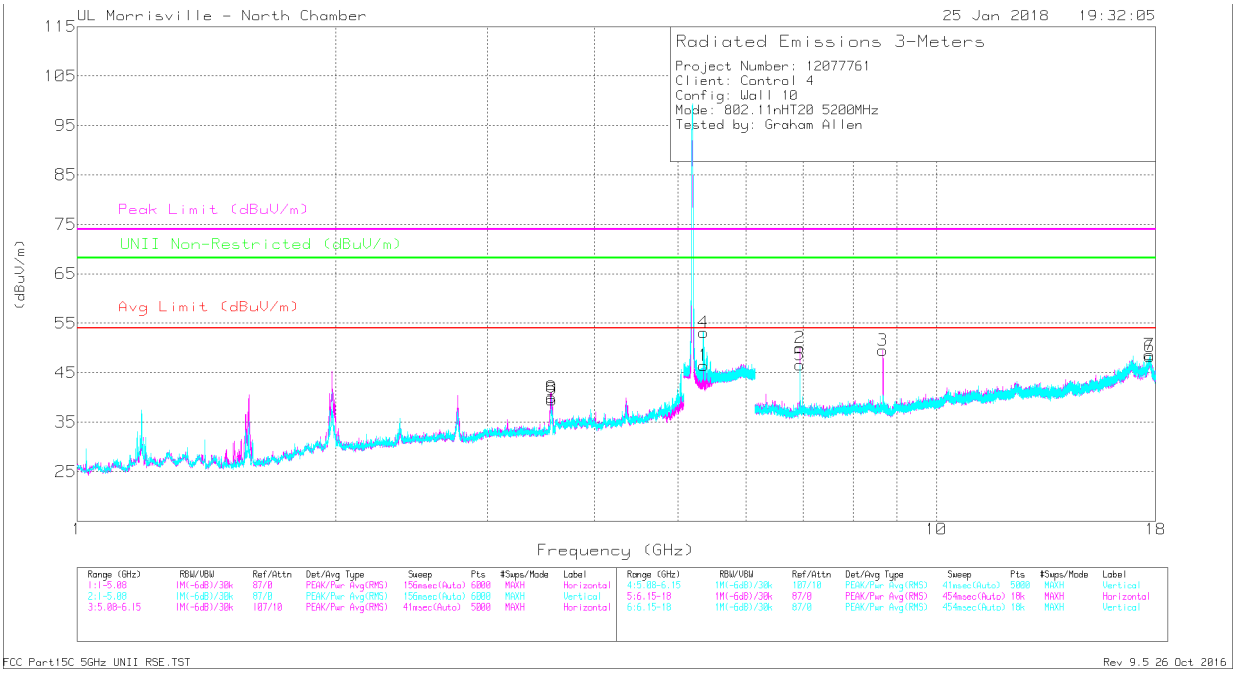
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HARMONICS AND SPURIOUS EMISSIONS – Wall 10



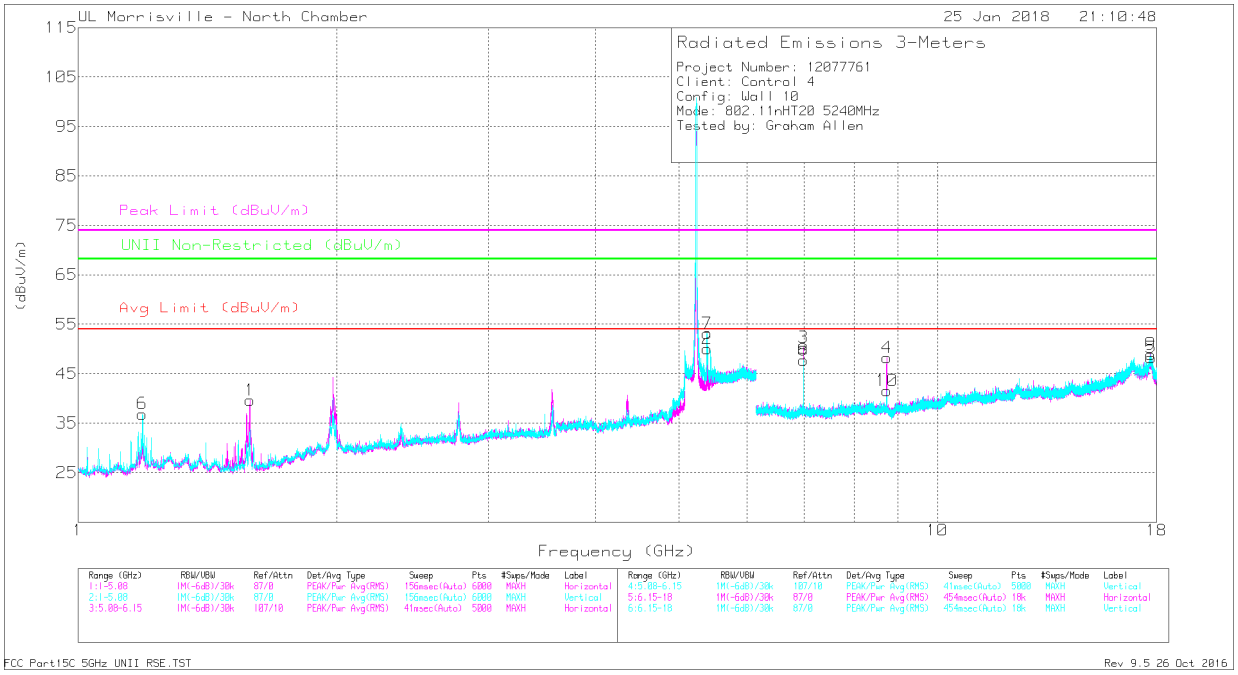
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.188	53.15	PK-U	28.4	-36.4	0	45.15	-	-	74	-28.85	-	-	97	208	H
	* 1.188	41.55	ADR	28.4	-36.4	.13	33.68	54	-20.32	-	-	-	-	97	208	H
3	* 1.584	51.18	PK-U	27.8	-35.2	0	43.78	-	-	74	-30.22	-	-	143	182	H
	* 1.584	38.4	ADR	27.8	-35.2	.13	31.13	54	-22.87	-	-	-	-	143	182	H
5	* 3.565	51.95	PK-U	32.9	-31.9	0	52.95	-	-	74	-21.05	-	-	128	185	H
	* 3.564	34.59	ADR	32.9	-31.9	.13	35.72	54	-18.28	-	-	-	-	128	185	H
2	* 1.188	49.99	PK-U	28.4	-36.4	0	41.99	-	-	74	-32.01	-	-	59	165	V
	* 1.188	38.17	ADR	28.4	-36.4	.13	30.3	54	-23.7	-	-	-	-	59	165	V
4	* 2.772	49.81	PK-U	32.2	-33.2	0	48.81	-	-	74	-25.19	-	-	341	233	V
	* 2.772	34.77	ADR	32.2	-33.2	.13	33.9	54	-20.1	-	-	-	-	341	233	V
6	* 5.02	51.94	PK-U	34.1	-30.4	0	55.64	-	-	74	-18.36	-	-	133	176	V
	* 5.02	42.16	ADR	34.1	-30.4	.13	45.99	54	-8.01	-	-	-	-	133	176	V
7	* 5.387	45.18	PK-U	34.4	-22.6	0	56.98	-	-	74	-17.02	-	-	140	173	V
	* 5.389	34.23	ADR	34.4	-22.6	.13	46.16	54	-7.84	-	-	-	-	140	173	V
8	* 5.44	42.55	PK-U	34.4	-22.4	0	54.55	-	-	74	-19.45	-	-	142	162	V
	* 5.439	31.31	ADR	34.4	-22.4	.13	43.44	54	-10.56	-	-	-	-	142	162	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average



Markers	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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9	* 3.569	48.77	PK-U	32.9	-31.8	0	49.87	-	-	74	-24.13	-	-	184	224	H
	* 3.569	33.05	ADR	32.9	-31.8	.13	34.28	54	-19.72	-	-	-	-	184	224	H
1	* 5.36	43.86	PK-U	34.4	-22.6	0	55.66	-	-	74	-18.34	-	-	134	192	H
	* 5.36	32.91	ADR	34.4	-22.6	.13	44.84	54	-9.16	-	-	-	-	134	192	H
6	* 17.71	33.36	PK-U	41.2	-20	0	54.56	-	-	74	-19.44	-	-	247	336	H
	* 17.71	21.67	ADR	41.2	-20	.13	43	54	-11	-	-	-	-	247	336	H
2	6.933	46.18	PK-U	35.5	-28.8	0	52.88	-	-	-	-	68.2	-15.32	147	113	H
	6.933	42.29	ADR	35.5	-28.8	.13	49.12	-	-	-	-	-	-	147	113	H
3	8.668	47.08	PK-U	36	-27.6	0	55.48	-	-	-	-	68.2	-12.72	151	147	H
	8.668	38.08	ADR	36	-27.6	.13	46.61	-	-	-	-	-	-	151	147	H
8	* 3.567	46.38	PK-U	32.9	-31.9	0	47.38	-	-	74	-26.62	-	-	342	211	V
	* 3.567	31.41	ADR	32.9	-31.9	.13	32.54	54	-21.46	-	-	-	-	342	211	V
4	* 5.36	50.87	PK-U	34.4	-22.6	0	62.67	-	-	74	-11.33	-	-	147	178	V
	* 5.36	40.53	ADR	34.4	-22.6	.13	52.46	54	-1.54	-	-	-	-	147	178	V
7	* 17.704	34.15	PK-U	41.2	-19.9	0	55.45	-	-	74	-18.55	-	-	285	121	V
	* 17.704	21.72	ADR	41.2	-19.9	.13	43.15	54	-10.85	-	-	-	-	285	121	V
5	6.933	44.73	PK-U	35.5	-28.8	0	51.43	-	-	-	-	68.2	-16.77	145	159	V
	6.933	39.54	ADR	35.5	-28.8	.13	46.37	-	-	-	-	-	-	145	159	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average



Markers	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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 1.584	57.4	PK-U	27.8	-35.2	0	50	-	-	74	-24	-	-	139	231	H
	* 1.584	44.24	ADR	27.8	-35.2	.13	36.97	54	-17.03	-	-	-	-	139	231	H
1	* 1.188	52.94	PK-U	28.4	-36.4	0	44.94	-	-	74	-29.06	-	-	27	131	V
	* 1.188	40.29	ADR	28.4	-36.4	.13	32.42	54	-21.58	-	-	-	-	27	131	V
9	* 5.4	43.89	PK-U	34.4	-22.6	0	55.69	-	-	74	-18.31	-	-	130	170	H
	* 5.4	32.83	ADR	34.4	-22.6	.13	44.76	54	-9.24	-	-	-	-	130	170	H
5	* 5.4	51.66	PK-U	34.4	-22.6	0	63.46	-	-	74	-10.54	-	-	142	183	V
	* 5.4	41.34	ADR	34.4	-22.6	.13	53.27	54	-.73	-	-	-	-	142	183	V
2	* 17.736	32.18	PK-U	41.2	-19.8	0	53.58	-	-	74	-20.42	-	-	315	229	H
	* 17.736	19.76	ADR	41.2	-19.8	.13	41.29	54	-12.71	-	-	-	-	315	229	H
7	* 17.716	34.05	PK-U	41.2	-20	0	55.25	-	-	74	-18.75	-	-	53	191	V
	* 17.716	21.51	ADR	41.2	-20	.13	42.84	54	-11.16	-	-	-	-	53	191	V
3	6.987	46.95	PK-U	35.6	-28.9	0	53.65	-	-	-	-	68.2	-14.55	141	201	H
	6.987	42.98	ADR	35.6	-28.9	.13	49.81	-	-	-	-	-	-	141	201	H
8	6.987	45.08	PK-U	35.6	-28.9	0	51.78	-	-	-	-	68.2	-16.42	129	180	V
	6.987	40.11	ADR	35.6	-28.9	.13	46.94	-	-	-	-	-	-	129	180	V
10	8.734	41.44	PK-U	36.1	-28.3	0	49.24	-	-	-	-	68.2	-18.96	163	200	V
	8.734	30.52	ADR	36.1	-28.3	.13	38.45	-	-	-	-	-	-	163	200	V
4	8.738	36.84	ADR	36.1	-28.3	.13	44.77	-	-	-	-	-	-	144	181	H
	8.739	46.98	PK-U	36.1	-28.3	0	54.78	-	-	-	-	68.2	-13.42	144	181	H

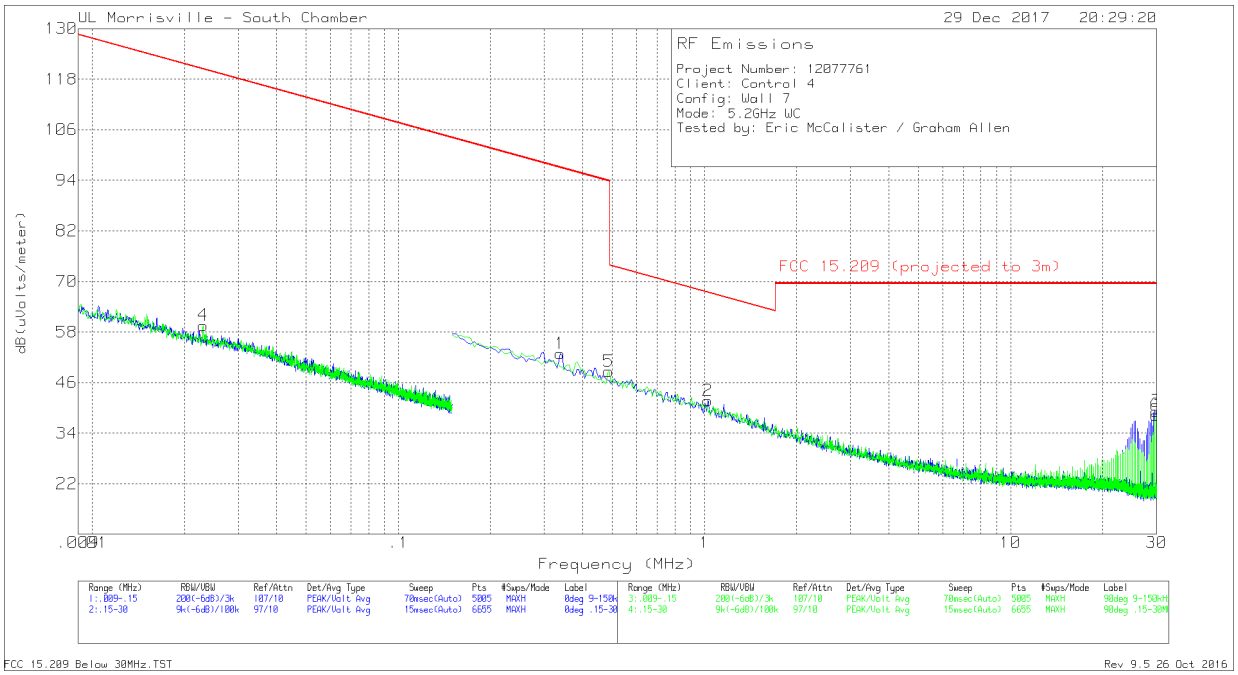
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

9.4. RADIATED WORST-CASE CONFIGURATION

SPURIOUS EMISSIONS 0.009 to 30 MHz (WORST-CASE CONFIGURATION) – Wall 7

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).

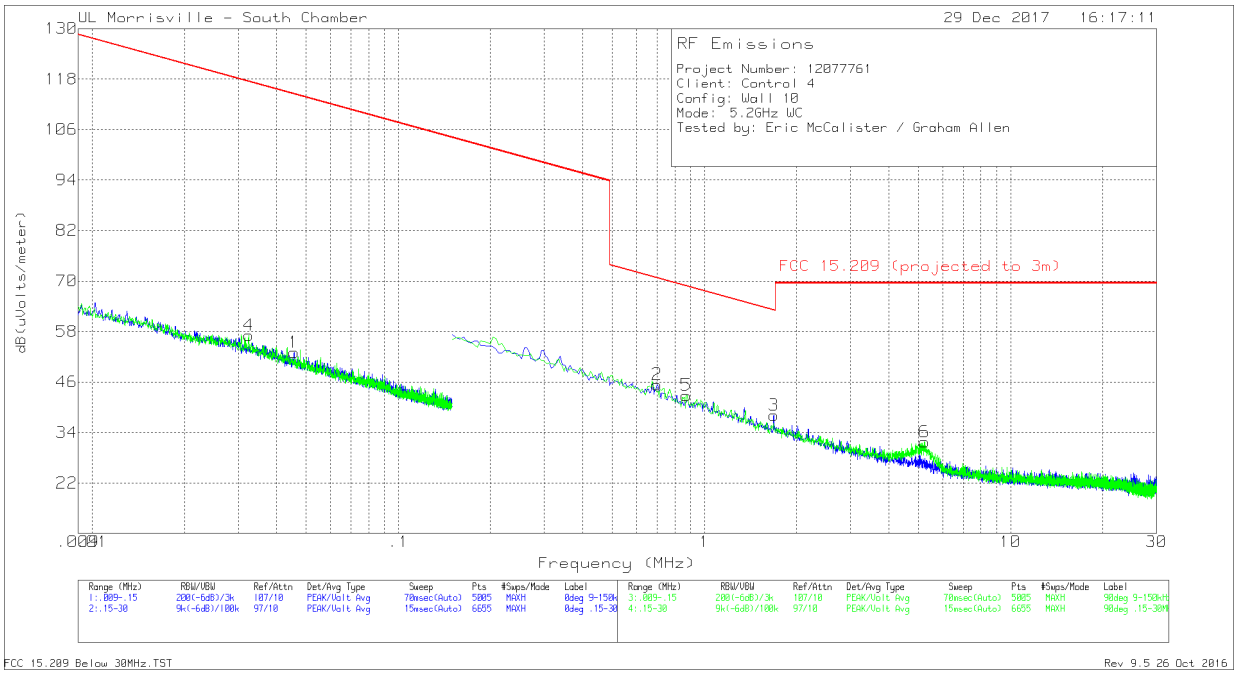
Although these tests were performed at a test site other than an open area test site, adequate comparison measurements were confirmed against an open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made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



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Cbl (dB)	Corrected Reading dB(uV/meter)	FCC 15.209 QP (projected to 3m)	QP Margin (dB)	FCC 15.209 AV (projected to 3m)	AV Margin (dB)	FCC 15.209 PK (projected to 3m)	PK Margin (dB)	Azimuth (Degs)
4	.02303	45.18	Pk	14.3	.1	59.58	-	-	120.36	-60.78	140.36	-80.78	0-360
1	.33841	42.47	Pk	10.3	.1	52.87	-	-	97.02	-44.15	117.02	-64.15	0-360
5	.48645	38.19	Pk	10.4	.1	48.69	-	-	93.86	-45.17	133.86	-65.17	0-360
2	1.02477	30.9	Pk	10.6	.2	41.7	67.39	-25.69	-	-	-	-	0-360
3	29.80246	30.32	Pk	8	.9	39.22	69.54	-30.32	-	-	-	-	0-360
6	29.80246	29.4	Pk	8	.9	38.3	69.54	-31.24	-	-	-	-	0-360

Pk - Peak detector

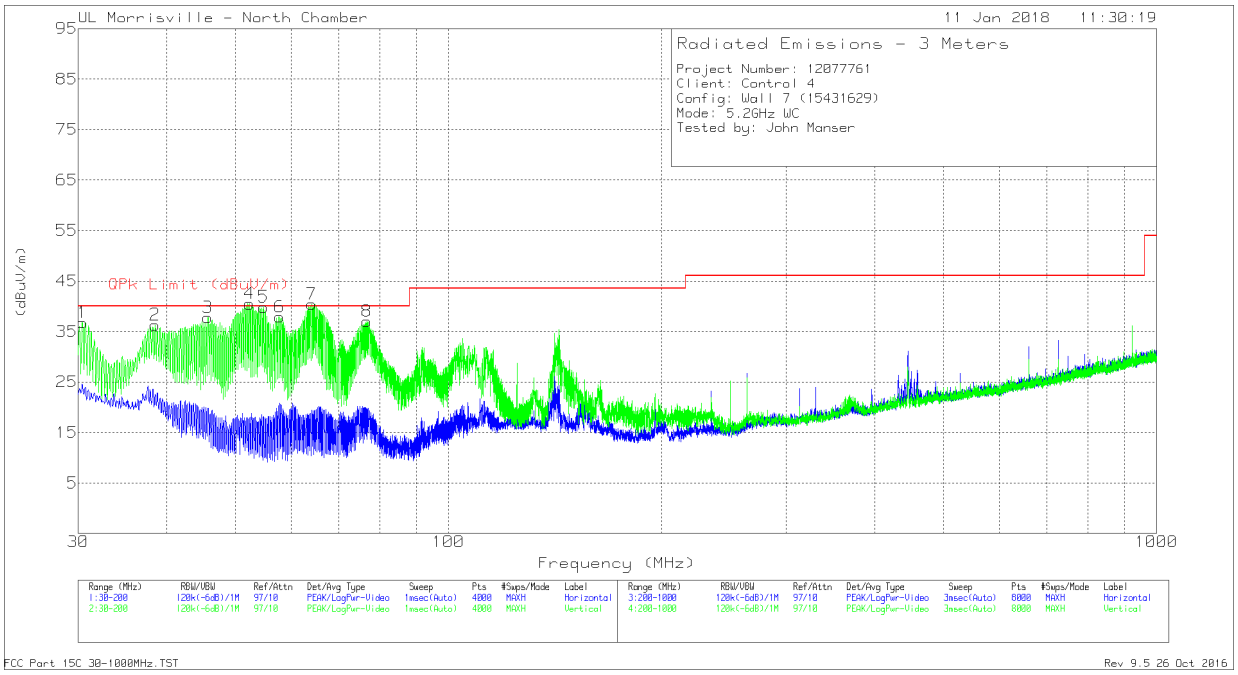
SPURIOUS EMISSIONS 0.009 to 30 MHz (WORST-CASE CONFIGURATION) – Wall 10



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Cbl (dB)	Corrected Reading dB(uV/meter)	FCC 15.209 QP (projected to 3m)	QP Margin (dB)	FCC 15.209 AV (projected to 3m)	AV Margin (dB)	FCC 15.209 PK (projected to 3m)	PK Margin (dB)	Azimuth (Degs)
4	.03244	43.63	Pk	13.4	.1	57.13	-	-	117.38	-60.25	137.38	-80.25	0-360
1	.04565	41.17	Pk	11.8	.1	53.07	-	-	114.42	-61.35	134.42	-81.35	0-360
2	.70178	34.89	Pk	10.4	.1	45.39	70.68	-25.29	-	-	-	-	0-360
5	.87225	32.24	Pk	10.5	.1	42.84	68.79	-25.95	-	-	-	-	0-360
3	1.68421	27.29	Pk	10.6	.2	38.09	63.08	-24.99	-	-	-	-	0-360
6	5.23264	20.69	Pk	10.7	.4	31.79	69.54	-37.75	-	-	-	-	0-360

Pk - Peak detector
QP – Quasi-Peak detector
AV - Average detector

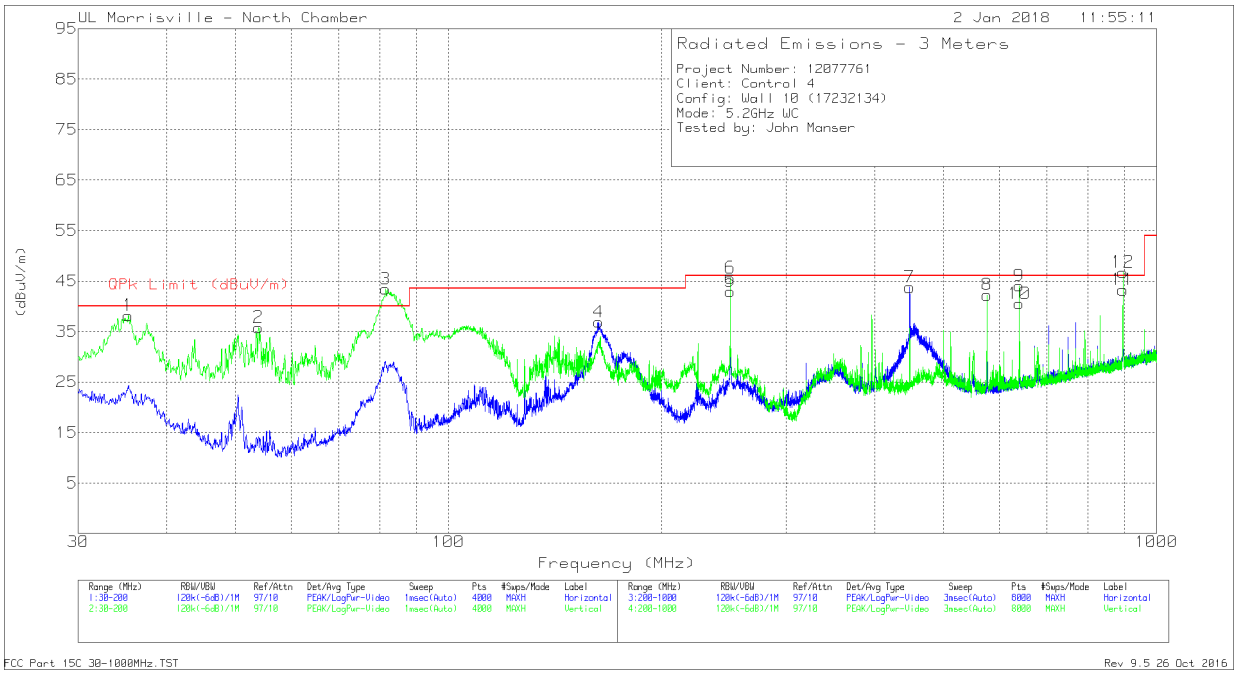
SPURIOUS EMISSIONS 30 to 1000 MHz (WORST-CASE CONFIGURATION) – Wall 7



Marker	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	30.4059	40.42	Qp	26.7	-31.7	35.42	40	-4.58	11	105	V
2	38.5307	45.37	Qp	20.3	-31.6	34.07	40	-5.93	110	105	V
3	45.7695	53.04	Qp	15.2	-31.5	36.74	40	-3.26	268	114	V
4	52.3893	58.39	Qp	12.9	-31.5	39.79	40	-.21	22	103	V
5	54.7903	58.02	Qp	12.6	-31.4	39.22	40	-.78	24	103	V
6	57.8136	56.11	Qp	12.6	-31.4	37.31	40	-2.69	314	104	V
7	64.1294	57.59	Qp	12.9	-31.3	39.19	40	-.81	64	108	V
8	76.7873	53.45	Qp	13	-31.2	35.25	40	-4.75	199	104	V

Qp - Quasi-Peak detector

SPURIOUS EMISSIONS 30 to 1000 MHz (WORST-CASE CONFIGURATION) – Wall 10



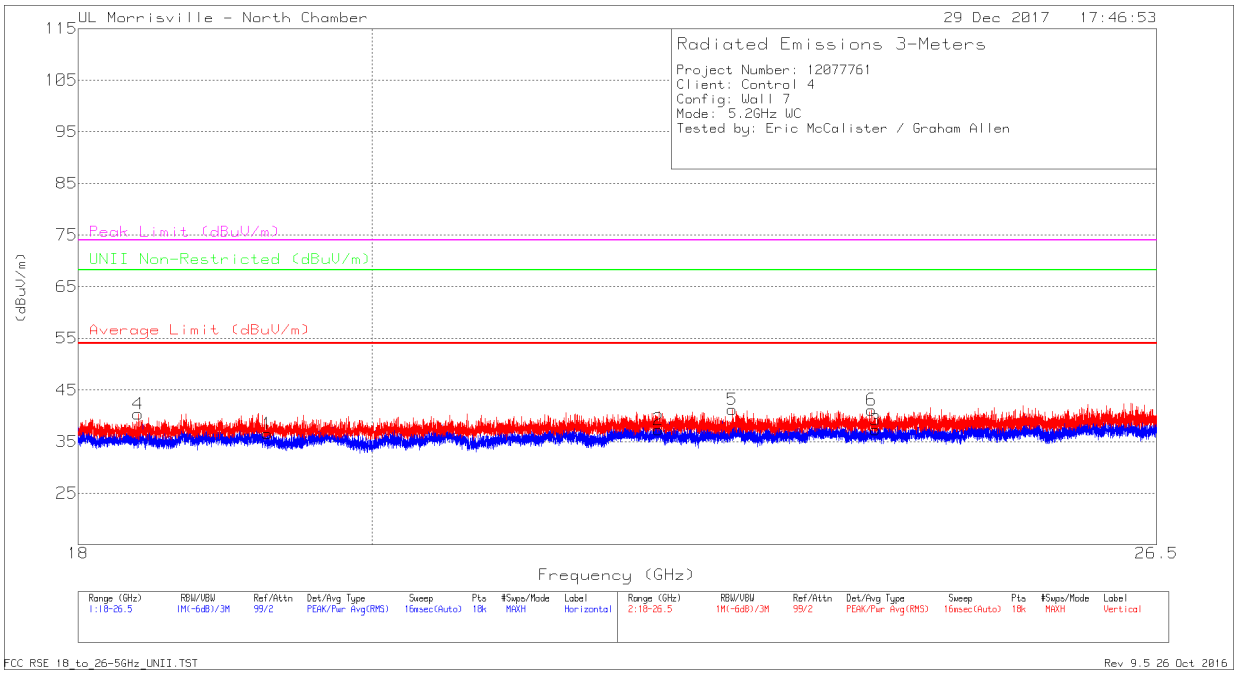
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0073 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 162.8469	49.81	Pk	17.5	-30.4	36.91	43.52	-6.61	0-360	199	H
5	* 250.0045	54.72	Qp	17.1	-29.8	42.02	46.02	-4	219	126	H
6	* 250.0041	57.69	Qp	17.1	-29.8	44.99	46.02	-1.03	242	200	V
1	35.3439	42.44	Qp	22.8	-31.7	33.54	40	-6.46	228	113	V
2	53.9427	51.04	Qp	12.7	-31.4	32.34	40	-7.66	315	153	V
3	83.0083	57.09	Qp	12.4	-31.1	38.39	40	-1.61	129	134	V
7	448.0231	42.92	Qp	21.8	-28.7	36.02	46.02	-10	16	191	H
8	576.0633	30.63	Qp	24	-28.3	26.33	46.02	-19.69	79	214	V
10	640.0385	36.72	Qp	24.9	-28.1	33.52	46.02	-12.5	180	123	H
9	640.047	37.79	Qp	24.9	-28.1	34.59	46.02	-11.43	40	103	V
11	896.0633	39.85	Qp	27.5	-26.4	40.95	46.02	-5.07	4	104	H
12	896.0535	43.52	Qp	27.5	-26.4	44.62	46.02	-1.4	95	110	V

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

Pk - Peak detector

Qp - Quasi-Peak detector

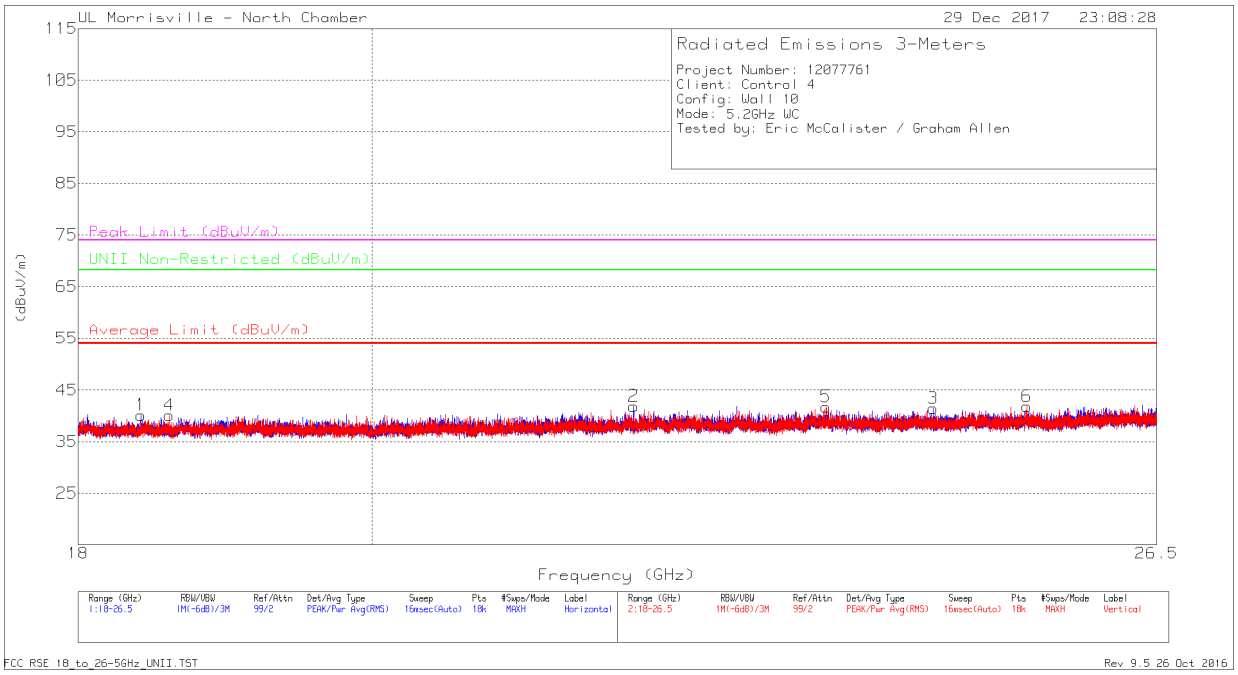
SPURIOUS EMISSIONS 18 to 26GHz (WORST-CASE CONFIGURATION) – Wall 7



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 19.264	45.14	Pk	32.6	-41.2	0	36.54	54	-17.46	74	-37.46	-	-	0-360	249	H
2	* 22.165	44.61	Pk	33.6	-40.9	0	37.31	54	-16.69	74	-36.69	-	-	0-360	299	H
3	* 23.956	43.79	Pk	34	-40.5	0	37.29	54	-16.71	74	-36.71	-	-	0-360	299	H
4	* 18.391	48.75	Pk	32.3	-40.7	0	40.35	54	-13.65	74	-33.65	-	-	0-360	102	V
5	* 22.758	48.33	Pk	33.7	-40.8	0	41.23	54	-12.77	74	-32.77	-	-	0-360	202	V
6	* 23.923	47.72	Pk	34	-40.6	0	41.12	54	-12.88	74	-32.88	-	-	0-360	152	V

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

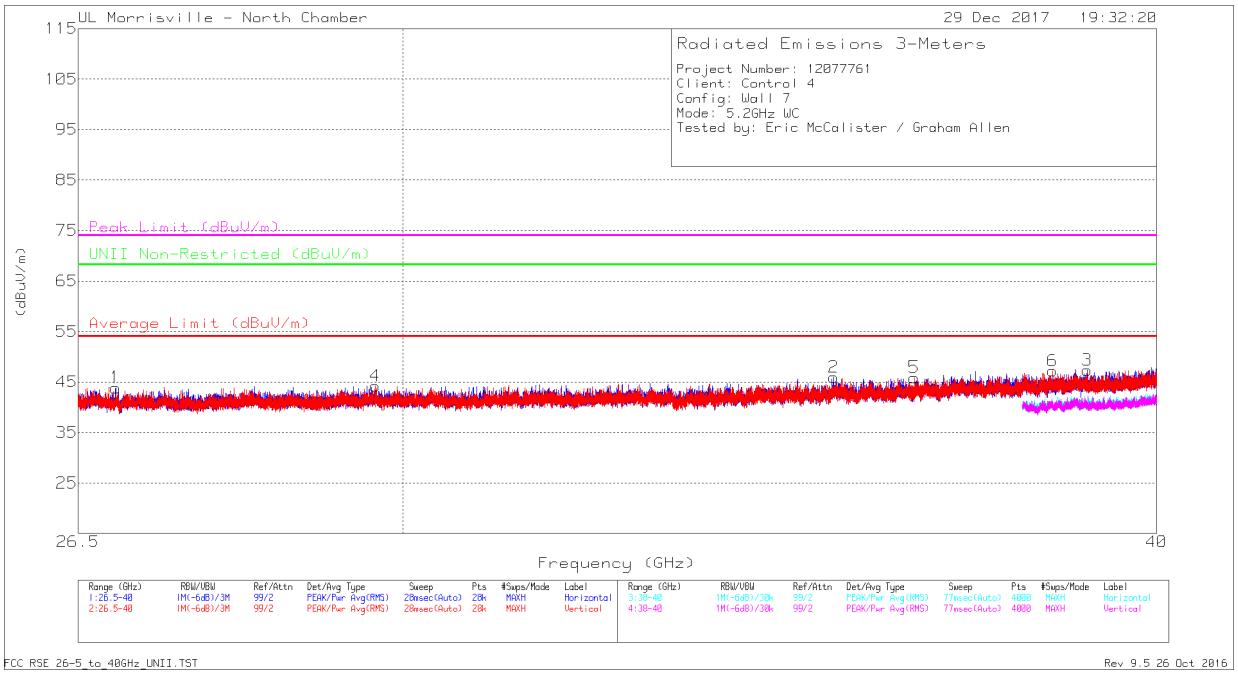
SPURIOUS EMISSIONS 18 to 26GHz (WORST-CASE CONFIGURATION) – Wall 10



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 18.411	48.25	Pk	32.3	-40.4	0	40.15	54	-13.85	74	-33.85	-	-	0-360	199	H
4	* 18.597	48.4	Pk	32.6	-40.9	0	40.1	54	-13.9	74	-33.9	-	-	0-360	102	V
2	21.968	49.16	Pk	33.6	-40.9	0	41.86	54	-12.14	74	-32.14	68.2	-26.34	0-360	102	H
5	23.539	48.24	Pk	34	-40.5	0	41.74	54	-12.26	74	-32.26	68.2	-26.46	0-360	102	V
3	24.458	47.51	Pk	34.1	-40.2	0	41.41	54	-12.59	74	-32.59	68.2	-26.79	0-360	249	H
6	25.296	47.22	Pk	34.4	-39.8	0	41.82	54	-12.18	74	-32.18	68.2	-26.38	0-360	202	V

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

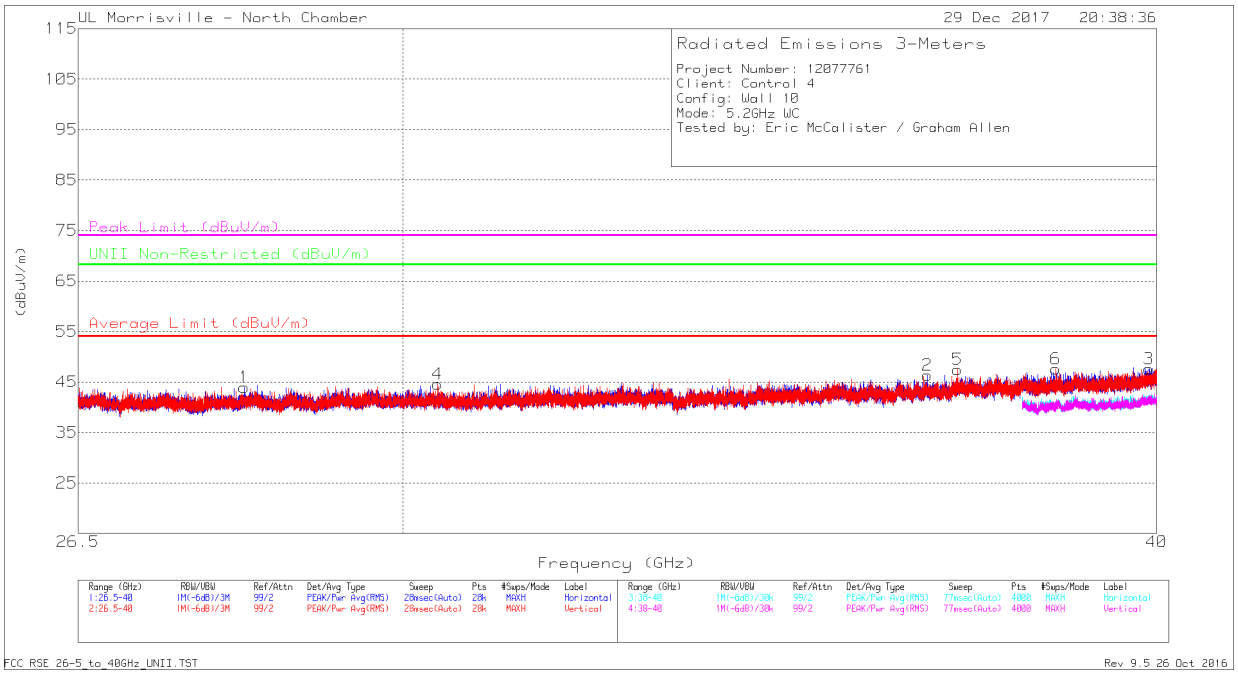
SPURIOUS EMISSIONS 26 to 40GHz (WORST-CASE CONFIGURATION) – Wall 7



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0077 AF (dB/m)	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 38.958	43.56	Pk	38.5	-34.7	0	47.36	54	-6.64	74	-26.64	-	-	0-360	102	H
5	* 36.464	44.87	Pk	37.7	-36.7	0	45.87	54	-8.13	74	-28.13	-	-	0-360	299	V
1	26.881	46.67	Pk	35.9	-38.7	0	43.87	54	-10.13	74	-30.13	68.2	-24.33	0-360	149	H
4	29.681	45.81	Pk	36.5	-38.1	0	44.21	54	-9.79	74	-29.79	68.2	-23.99	0-360	252	V
2	35.36	45.89	Pk	37.6	-37.5	0	45.99	54	-8.01	74	-28.01	68.2	-22.21	0-360	102	H
6	38.444	43.9	Pk	38.4	-35.1	0	47.2	54	-6.8	74	-26.8	68.2	-21	0-360	299	V

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

SPURIOUS EMISSIONS 26 to 40GHz (WORST-CASE CONFIGURATION) – Wall 10



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0077 AF (dB/m)	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 39.88	42.48	Pk	38.6	-33.5	0	47.58	54	-6.42	74	-26.42	-	-	0-360	249	H
1	28.232	45.91	Pk	36.3	-38.3	0	43.91	54	-10.09	74	-30.09	68.2	-24.29	0-360	198	H
4	30.4	46.09	Pk	36.4	-37.9	0	44.59	54	-9.41	74	-29.41	68.2	-23.61	0-360	102	V
2	36.645	44.65	Pk	37.7	-36	0	46.35	54	-7.65	74	-27.65	68.2	-21.85	0-360	198	H
5	37.076	45.17	Pk	38	-35.7	0	47.47	54	-6.53	74	-26.53	68.2	-20.73	0-360	152	V
6	38.492	44.41	Pk	38.4	-35.2	0	47.61	54	-6.39	74	-26.39	68.2	-20.59	0-360	102	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.

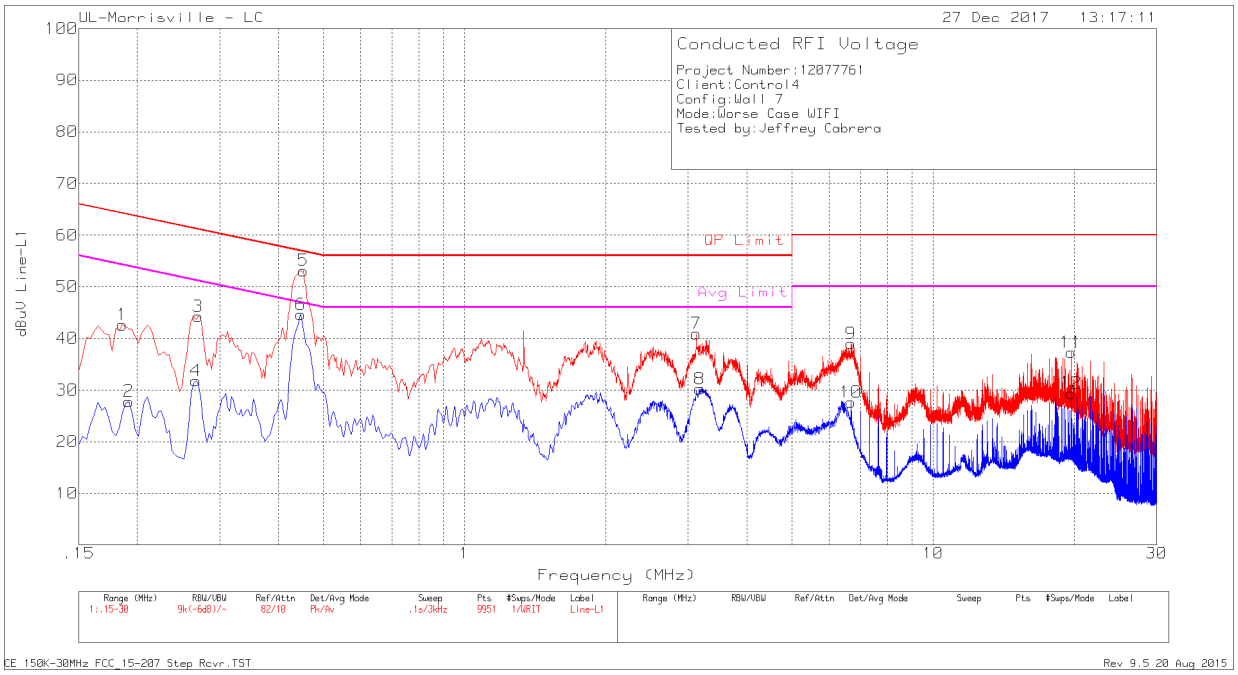
TEST PROCEDURE

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.

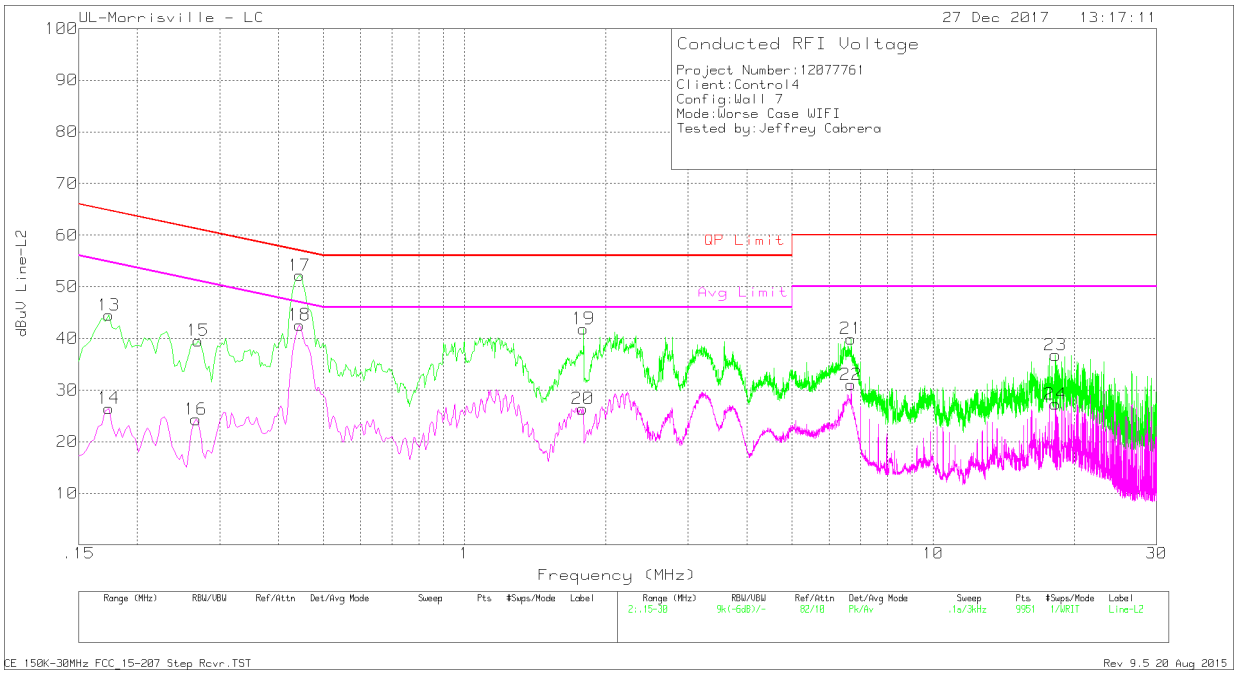
LINE 1 RESULTS – Wall 7



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	.186	32.43	Pk	.2	10	42.63	64.21	-21.58	-	-
2	.192	17.6	Av	.2	10	27.8	-	-	53.95	-26.15
3	.27	34.27	Pk	.1	9.9	44.27	61.12	-16.85	-	-
4	.267	21.79	Av	.1	9.9	31.79	-	-	51.21	-19.42
5	.453	36.97	Qp	0	9.9	46.87	56.82	-9.95	-	-
6	.447	34.61	Av	.1	9.9	44.61	-	-	46.93	-2.32
7	3.123	30.91	Pk	0	10	40.91	56	-15.09	-	-
8	3.177	20.18	Av	0	10	30.18	-	-	46	-15.82
9	6.681	28.88	Pk	.1	10	38.98	60	-21.02	-	-
10	6.684	17.54	Av	.1	10	27.64	-	-	50	-22.36
11	19.707	26.89	Pk	.2	10.2	37.29	60	-22.71	-	-
12	19.71	19	Av	.2	10.2	29.4	-	-	50	-20.6

Pk - Peak detector
Av - Average detection
Qp - Quasi-Peak detector

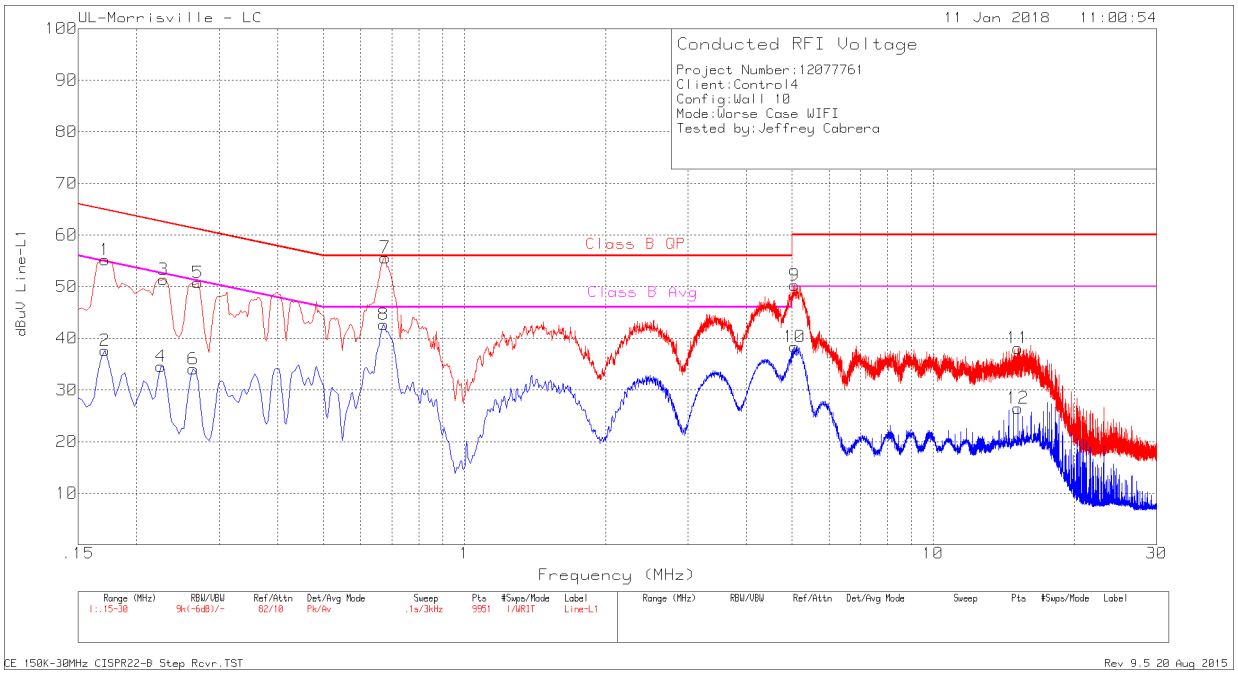
LINE 2 RESULTS – Wall 7



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	.174	34.29	Pk	.2	10	44.49	64.77	-20.28	-	-
14	.174	16.27	Av	.2	10	26.47	-	-	54.77	-28.3
15	.27	29.56	Pk	.1	9.9	39.56	61.12	-21.56	-	-
16	.267	14.31	Av	.1	9.9	24.31	-	-	51.21	-26.9
17	.444	39.75	Qp	.1	9.9	49.75	56.99	-7.24	-	-
18	.444	32.6	Av	.1	9.9	42.6	-	-	46.99	-4.39
19	1.794	31.86	Pk	0	10	41.86	56	-14.14	-	-
20	1.788	16.39	Av	0	10	26.39	-	-	46	-19.61
21	6.684	29.83	Pk	.1	10	39.93	60	-20.07	-	-
22	6.684	20.98	Av	.1	10	31.08	-	-	50	-18.92
23	18.243	26.47	Pk	.1	10.2	36.77	60	-23.23	-	-
24	18.243	16.99	Av	.1	10.2	27.29	-	-	50	-22.71

Pk - Peak detector
Av - Average detection
Qp - Quasi-Peak detector

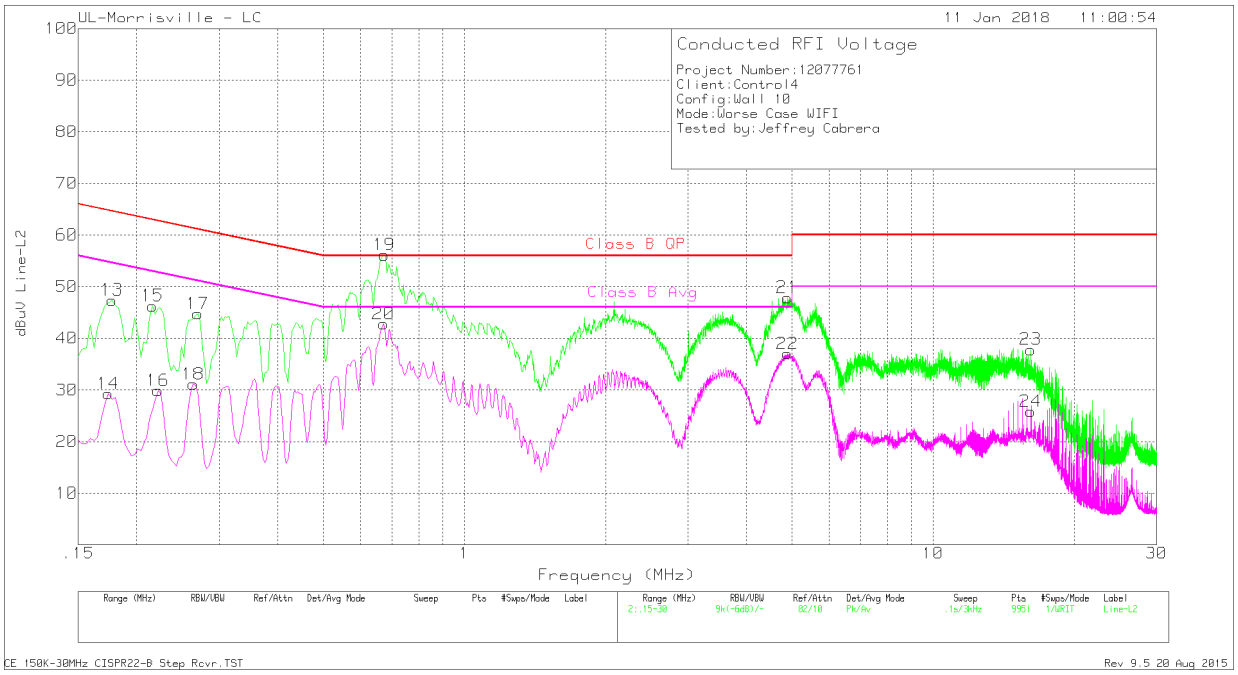
LINE 1 RESULTS – Wall 10



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	Class B QP	Margin (dB)	Class B Avg	Margin (dB)
1	.171	45.01	Pk	.2	10	55.21	64.91	-9.7	-	-
2	.171	27.41	Av	.2	10	37.61	-	-	54.91	-17.3
3	.228	41.36	Pk	.1	9.9	51.36	62.52	-11.16	-	-
4	.225	24.56	Av	.1	9.9	34.56	-	-	52.63	-18.07
5	.27	40.76	Pk	.1	9.9	50.76	61.12	-10.36	-	-
6	.264	24.07	Av	.1	9.9	34.07	-	-	51.3	-17.23
7	.678	42.46	Qp	0	9.9	52.36	56	-3.64	-	-
8	.672	32.78	Av	0	9.9	42.68	-	-	46	-3.32
9	5.064	40.22	Pk	.1	10	50.32	60	-9.68	-	-
10	5.061	28.25	Av	.1	10	38.35	-	-	50	-11.65
11	15.171	27.87	Pk	.1	10.1	38.07	60	-21.93	-	-
12	15.174	16.28	Av	.1	10.1	26.48	-	-	50	-23.52

Pk - Peak detector
Av - Average detection
Qp - Quasi-Peak detector

LINE 2 RESULTS – Wall 10



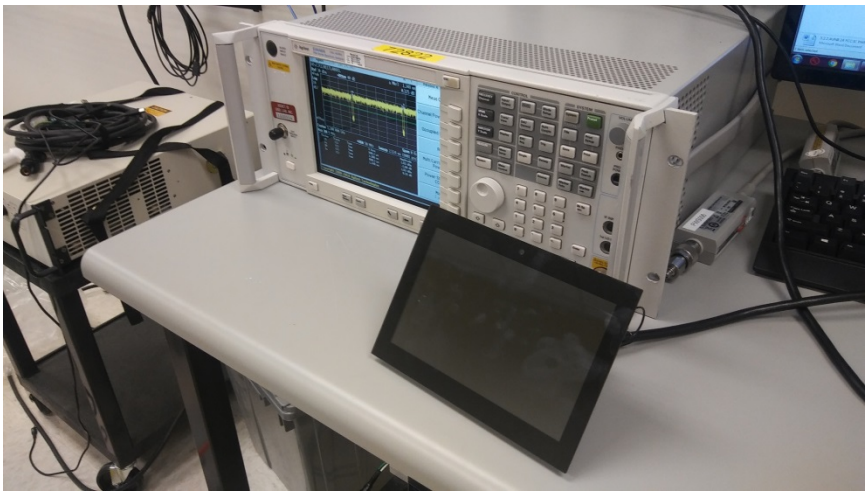
Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	Class B QP	Margin (dB)	Class B Avg	Margin (dB)
13	.177	37.2	Pk	.2	10	47.4	64.63	-17.23	-	-
14	.174	19.05	Av	.2	10	29.25	-	-	54.77	-25.52
15	.216	36.29	Pk	.1	9.9	46.29	62.97	-16.68	-	-
16	.222	19.89	Av	.1	9.9	29.89	-	-	52.74	-22.85
17	.27	34.73	Pk	.1	9.9	44.73	61.12	-16.39	-	-
18	.264	21.15	Av	.1	9.9	31.15	-	-	51.3	-20.15
19	.675	38.45	Qp	0	9.9	48.35	56	-7.65	-	-
20	.672	32.86	Av	0	9.9	42.76	-	-	46	-3.24
21	4.893	37.89	Pk	0	10	47.89	56	-8.11	-	-
22	4.893	27.04	Av	0	10	37.04	-	-	46	-8.96
23	16.167	27.62	Pk	.1	10.1	37.82	60	-22.18	-	-
24	16.167	15.65	Av	.1	10.1	25.85	-	-	50	-24.15

Pk - Peak detector
Av - Average detection
Qp - Quasi-Peak detector

11. SETUP PHOTOS

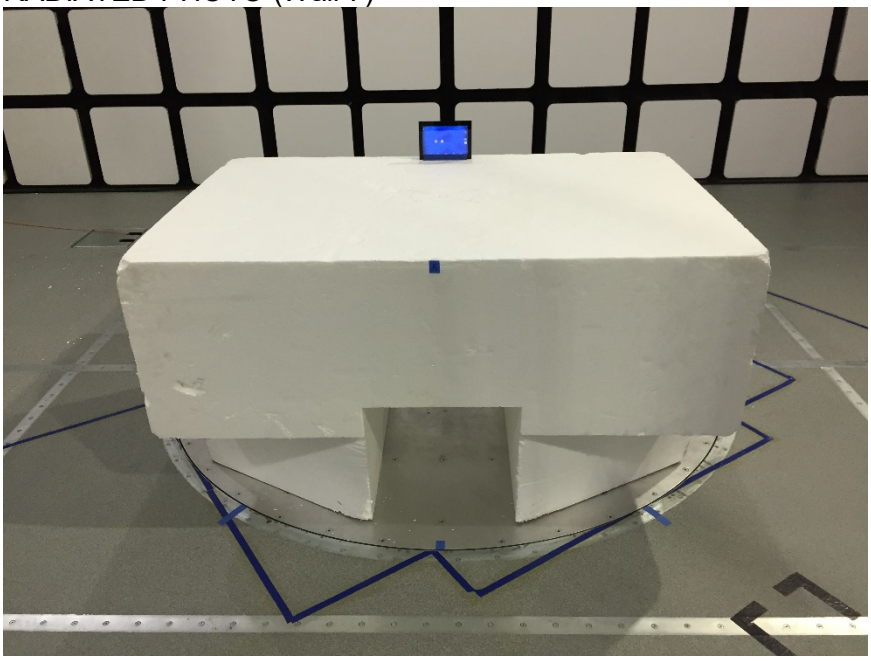
ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP

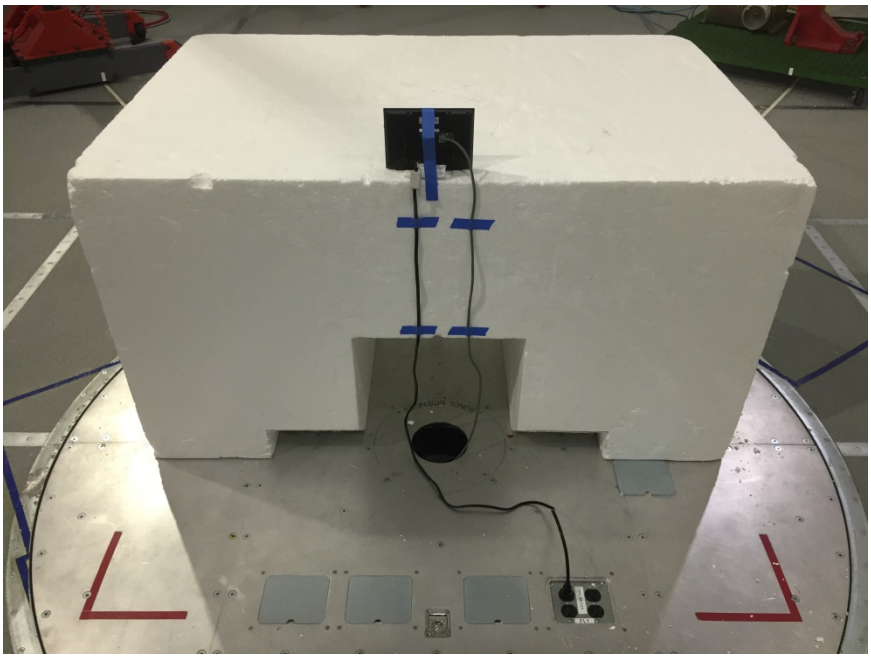
ANTENNA PORT CONDUCTED PHOTO



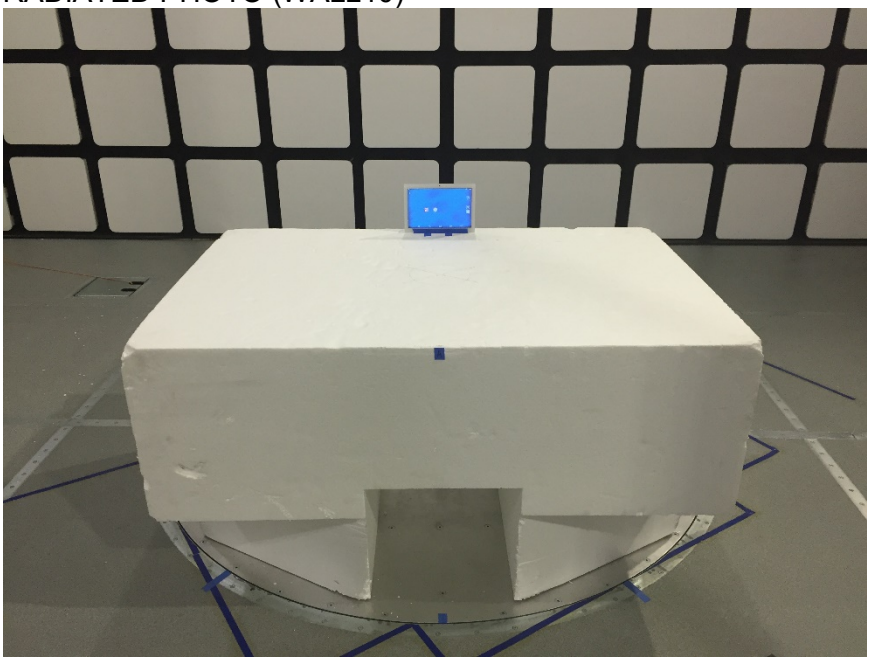
RADIATED RF MEASUREMENT SETUP (BELOW 1 GHz)

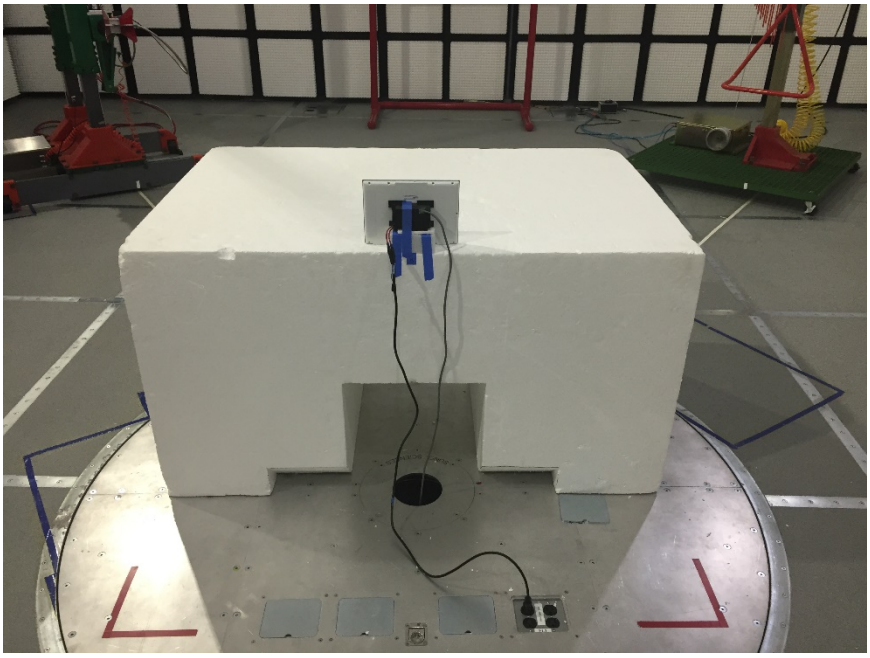
RADIATED PHOTO (Wall 7)





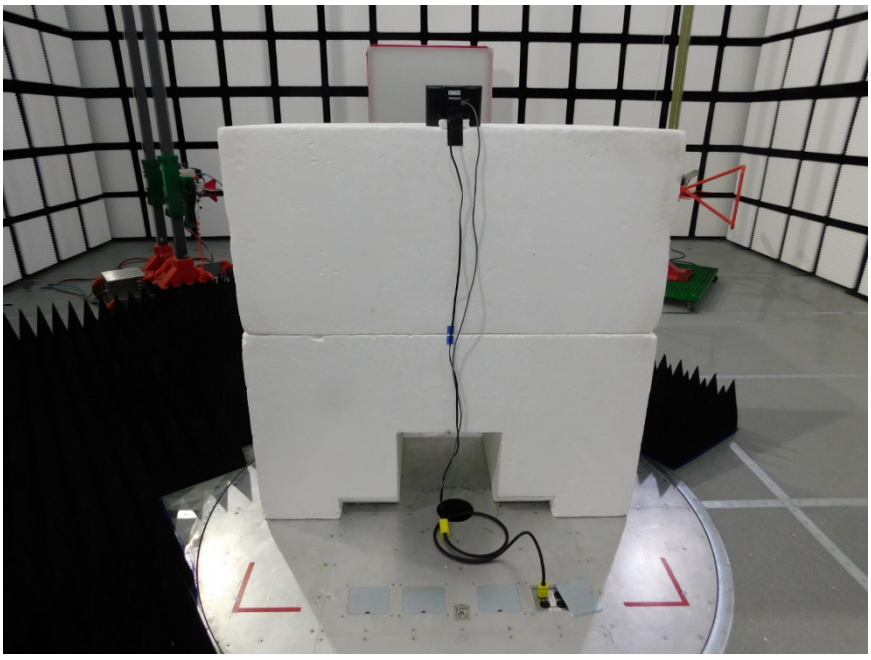
RADIATED PHOTO (WALL10)



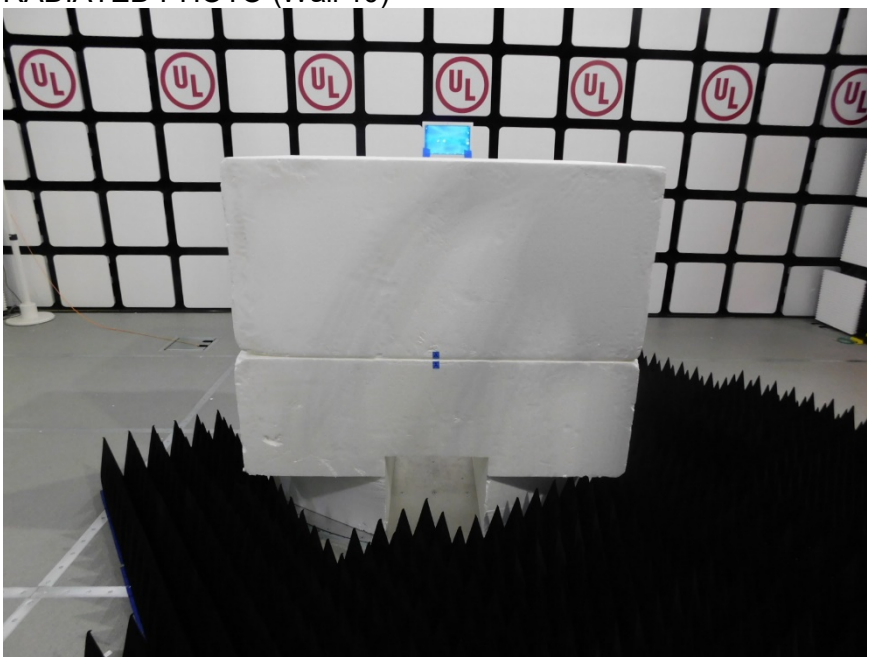


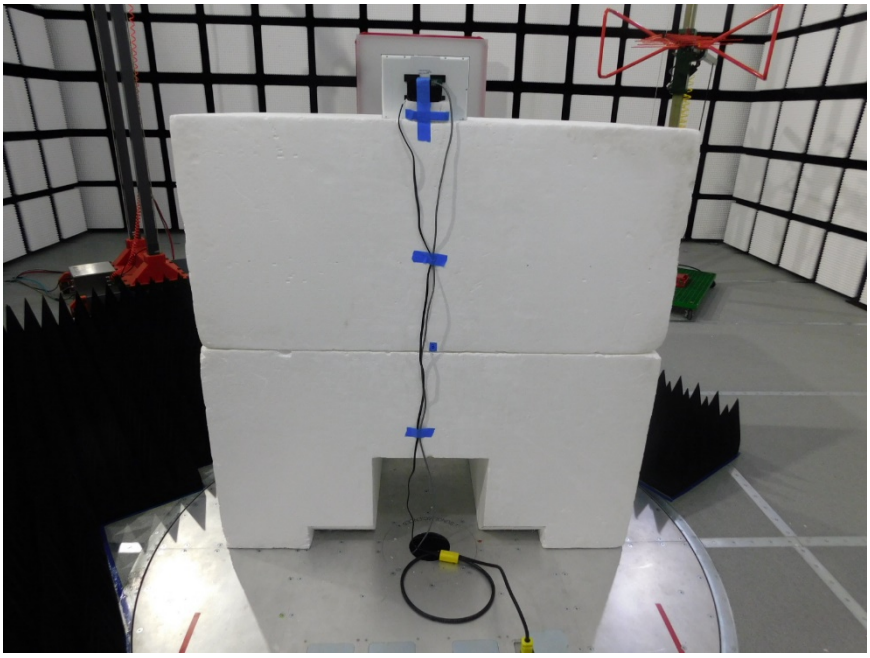
RADIATED RF MEASUREMENT SETUP (ABOVE 1 GHz)

RADIATED PHOTO (Wall 7)



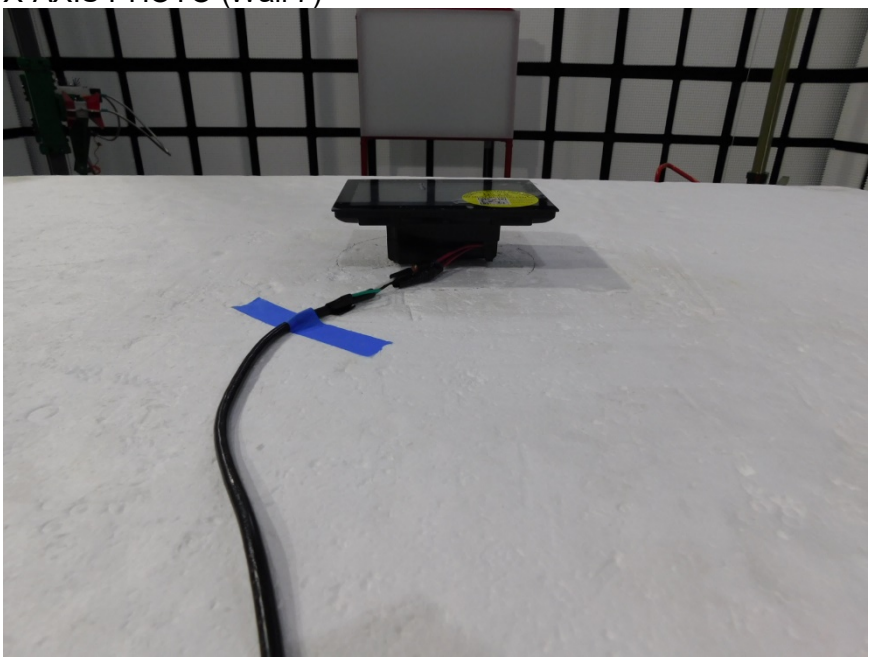
RADIATED PHOTO (Wall 10)



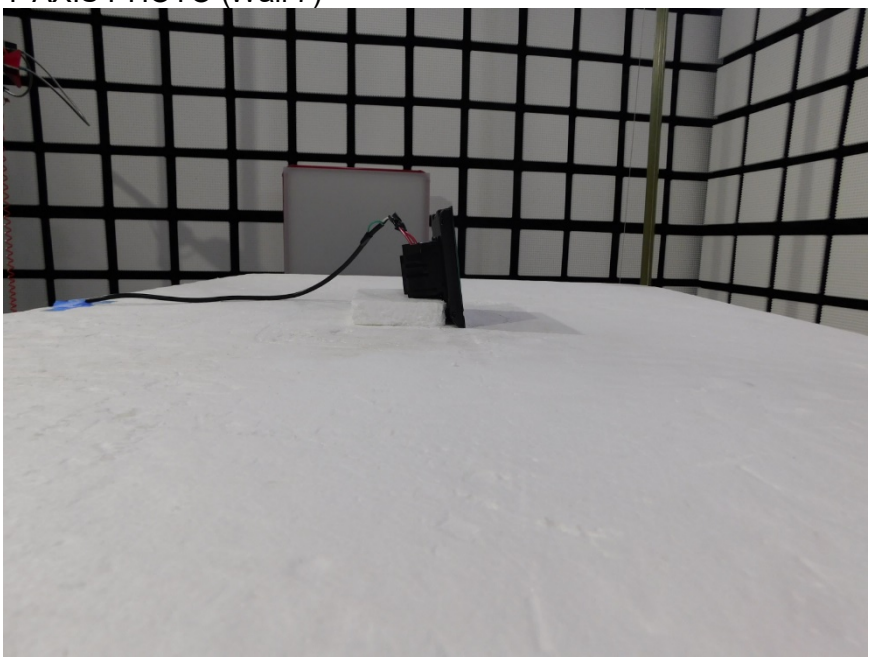


RADIATED RF MEASUREMENT SETUP FOR PORTABLE CONFIGURATION

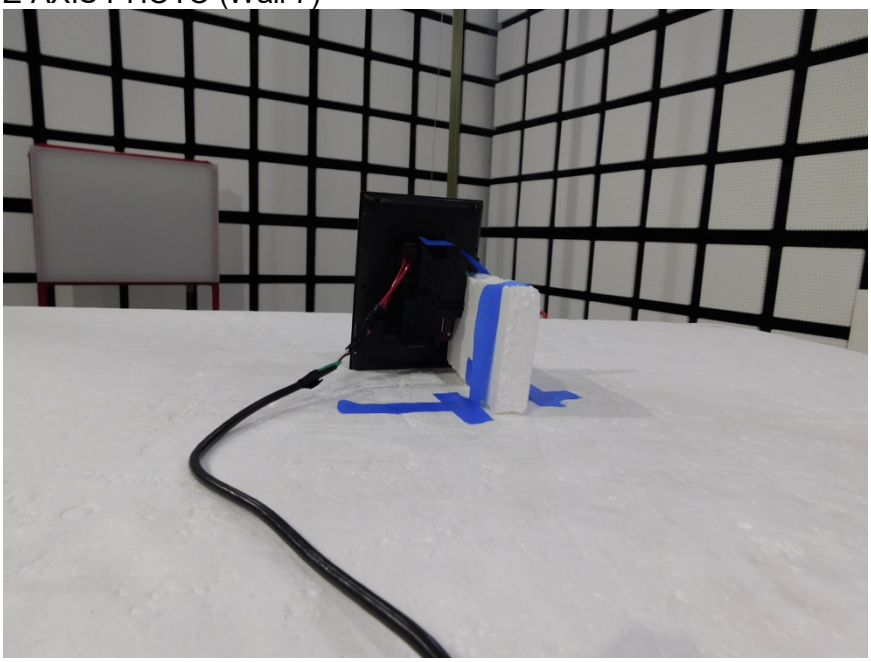
X-AXIS PHOTO (Wall 7)



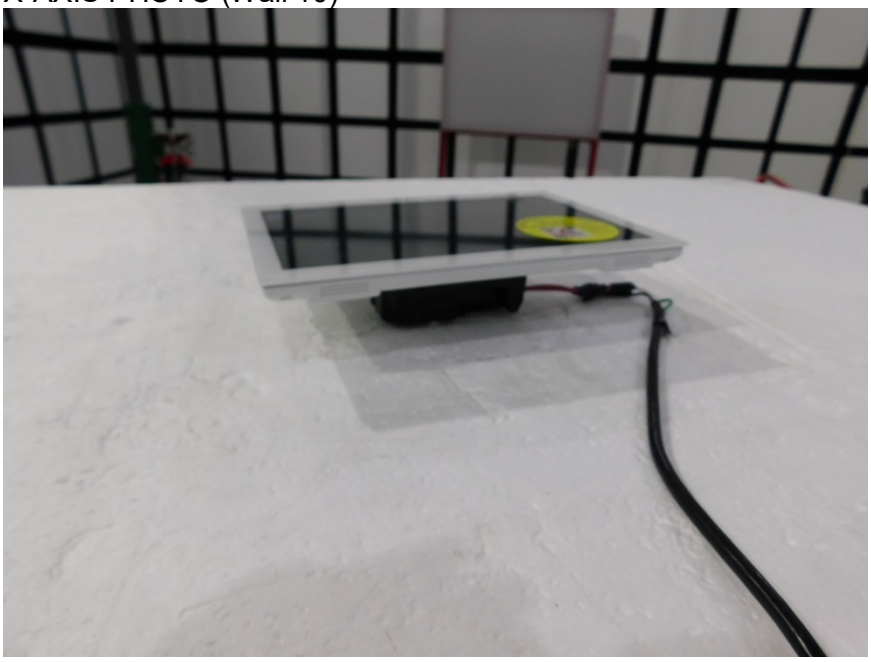
Y-AXIS PHOTO (Wall 7)



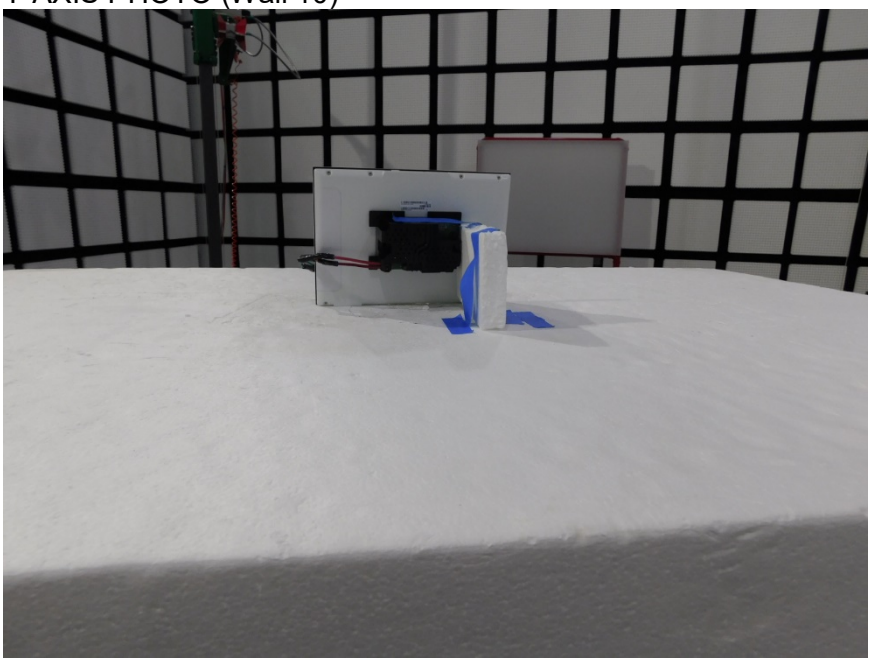
Z-AXIS PHOTO (Wall 7)



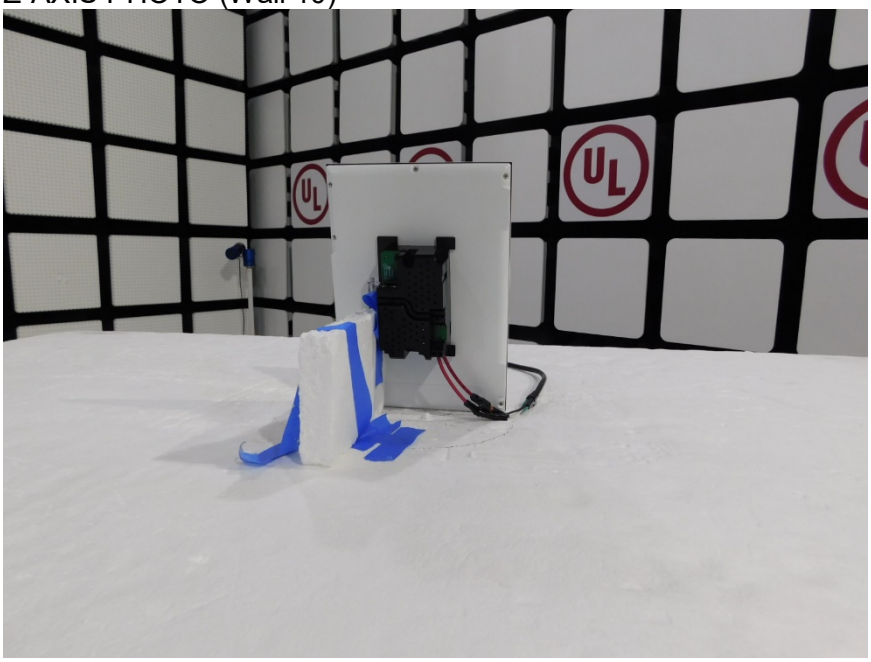
X-AXIS PHOTO (Wall 10)



Y-AXIS PHOTO (Wall 10)

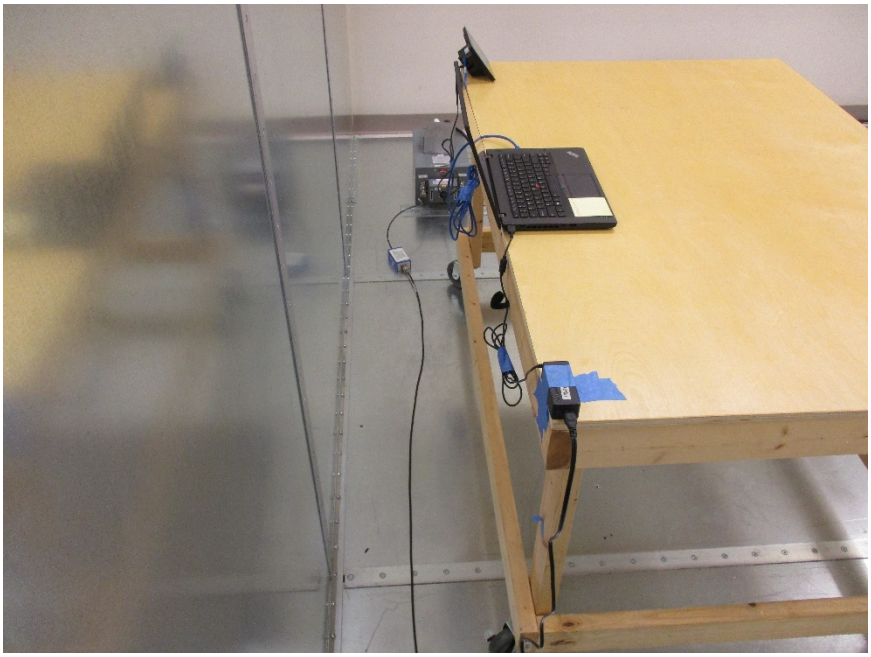


Z-AXIS PHOTO (Wall 10)

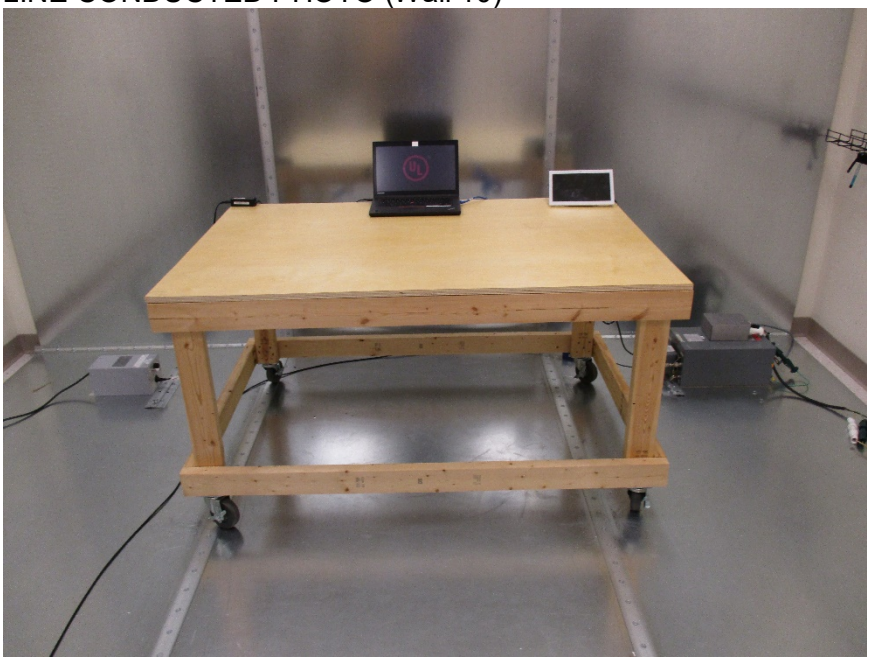


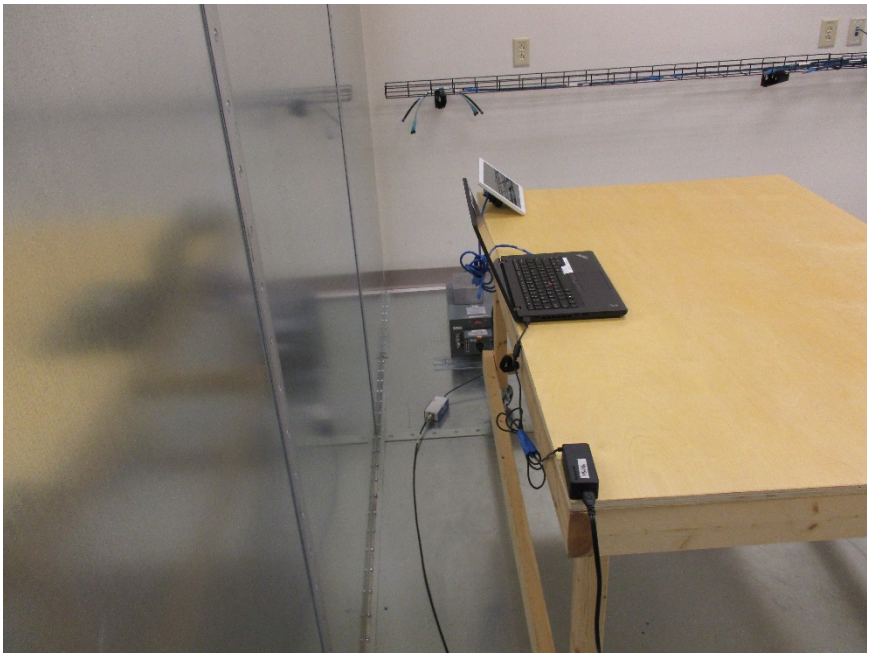
POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP

LINE CONDUCTED PHOTO (Wall 7)



LINE CONDUCTED PHOTO (Wall 10)





END OF REPORT