FCC 47 CFR PART 15 SUBPART E
INDUSTRY CANADA RSS-247 ISSUE 1

CERTIFICATION TEST REPORT

FOR

WIRELESS INPUT DEVICE

MODEL NUMBER: 1708

FCC ID: C3K1708
IC: 3048A-1708

REPORT NUMBER: R11040094-E2

ISSUE DATE: 2016-06-09

Prepared for
MICROSOFT CORPORATION
ONE MICROSOFT WAY
REDMOND, WA, 98052, USA

Prepared by
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NVLAP Lab code: 200246-0

Revision History

Ver.	Issue Date	Revisions	Revised By
1	2016-03-24	Initial Issue	Ron Reichard
2	2016-05-10	Revised measurement methods on page 17, added duty cycle correction for above 1GHz spurious plots, added below 30 MHz data, added Line Conducted data and revised measurement equipment accordingly.	Jeff Moser
3	2016-06-06	Added below 30 MHz limits on page 143	Jeff Moser
4	2016-06-9	Updated sections 5.1 and 5.4	Grace Rincand

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: MICROSOFT CORPORATION
ONE MICROSOFT WAY
REDMOND, WA, 98052, USA

EUT DESCRIPTION: WIRELESS INPUT DEVICE

MODEL: 1708

SERIAL NUMBER: Radiated: EV3-A2-973 (02980009986543), EV3-A2-116
Conducted: EV3- A2- 1016 (02980010526543)

DATE TESTED: 2015-12-21 to 2016-03-24, 2016-05-05 to 2016-05-10

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	Pass
INDUSTRY CANADA RSS-247 Issue 1	Pass
INDUSTRY CANADA RSS-GEN Issue 4	Pass

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

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

Approved & Released
For UL LLC By:

Jeff Moser
EMC Program Manager
UL – Consumer Technology Division

Prepared By:

Ron Reichard
EMC Project lead
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 1.

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 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 Industry 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
Total RF power, conducted	+/- 0.45
RF power density, conducted	+/- 1.50
Spurious emissions, conducted	+/- 2.94
All emissions, radiated up to 18 GHz	+/- 5.36
Temperature	+/- 0.07
Humidity	+/- 2.26
DC and low frequency voltages	+/- 1.27

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

Model 1708 is a wireless input device that contains an 802.11a/g/n and Bluetooth transceiver. The EUT can be powered by battery or USB.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5180 - 5240	802.11a	8.34	6.82
5180 - 5240	802.11n HT20	8.32	6.79
5260 - 5320	802.11a	8.53	7.13
5260 - 5320	802.11n HT20	8.33	6.81
5500 - 5700	802.11a	8.49	7.06
5500 - 5700	802.11n HT20	8.57	7.19
5725 - 5850	802.11a	8.14	6.52
5725 - 5850	802.11n HT20	8.01	6.32

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an integral antenna, with a maximum gain as follows:

Band	Gain (dBi)
UNII 1 (5180 MHz)	3.46
UNII 2A (5220 MHz)	3.03
UNII 2C (5580 MHz)	3.03
UNII 3 (5785 MHz)	1.24

5.4. SOFTWARE AND FIRMWARE

The HQA UART Tool version used was: Ind_SW_v.1.22

The EUT firmware used with the EUT during testing was 3.1.703.0 and Radio Firmware was 1.0.107.0.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined the following orientations were worst-case orientation:

Band	Orientation
UNII 1 (5200 MHz)	Z
UNII 2A (5300MHz)	Y
UNII 2C (5580 MHz)	Z
UNII 3 (5785 MHz)	Z

Therefore, all final radiated testing was performed with the EUT in above orientations for the appropriate UNII band.

Worst-case data rates as provided by the manufacturer:

802.11a mode: 6 Mbps
802.11n HT20mode: MCS0

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	Lenovo	T440	Not available	TP00050A
AC/DC Adapter	Lenovo	ADLX65NLC2A	Not available	N/A
Laptop	Lenovo	X1 Carbon	Not available	Not available
AC/DC Adapter	Lenovo	PA-1650-71	Not available	N/A
External DC Source	Circuit Specialist	CS13005X5	Not available	N/A

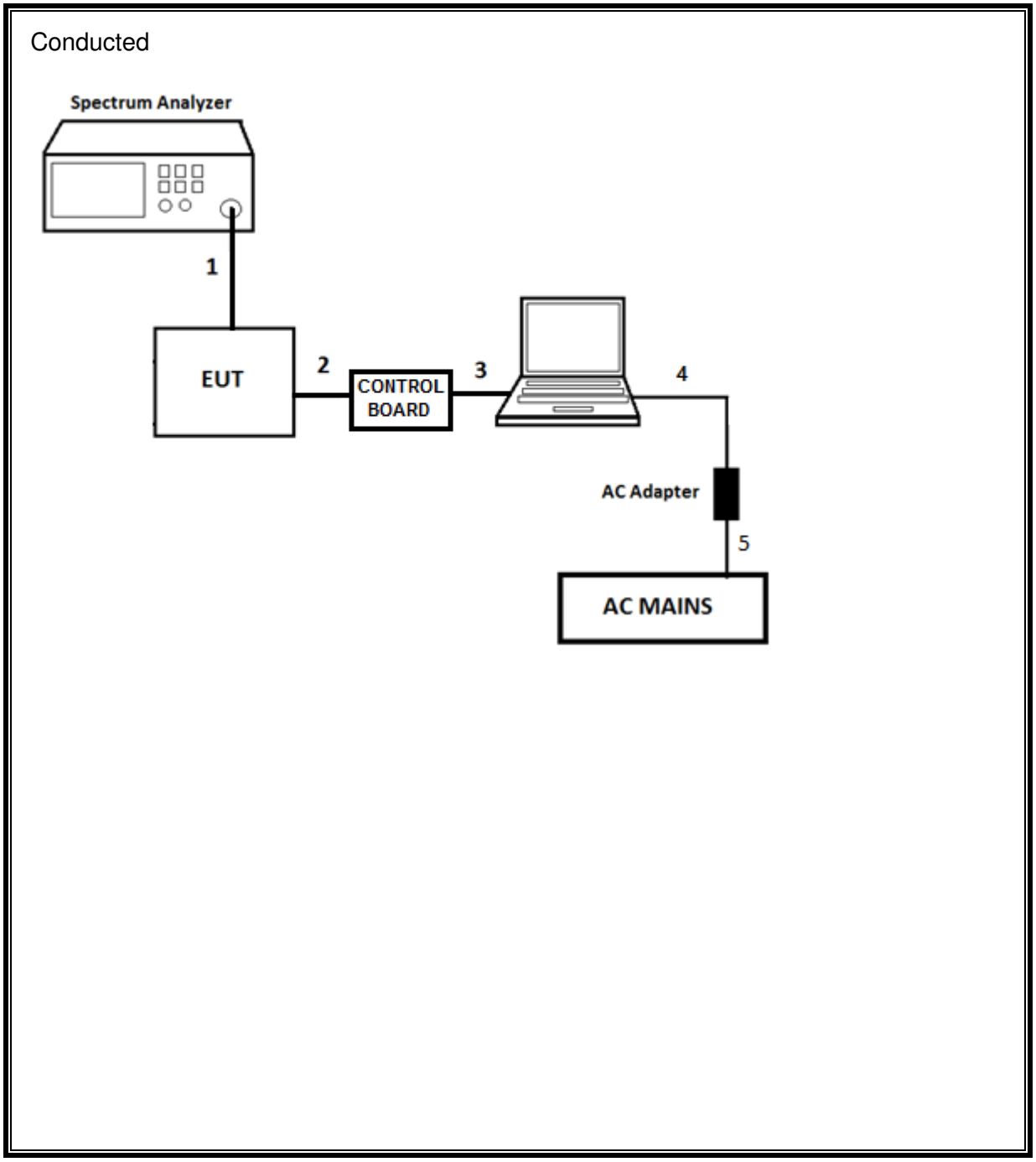
I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	Antenna	1	SMA	Un-Shielded	0.5	SMA To SMA cable.
2	EUT Data Port	1	Custom	Un-Shielded	0.2	Control Board to EUT
3	USB	1	USB to micro USB	Shielded	0.8	From PC to Control Board
4	DC	1	DC	Un-Shielded	0.8	N/A
5	AC	1	2 Prong	Un-Shielded	1.5	N/A

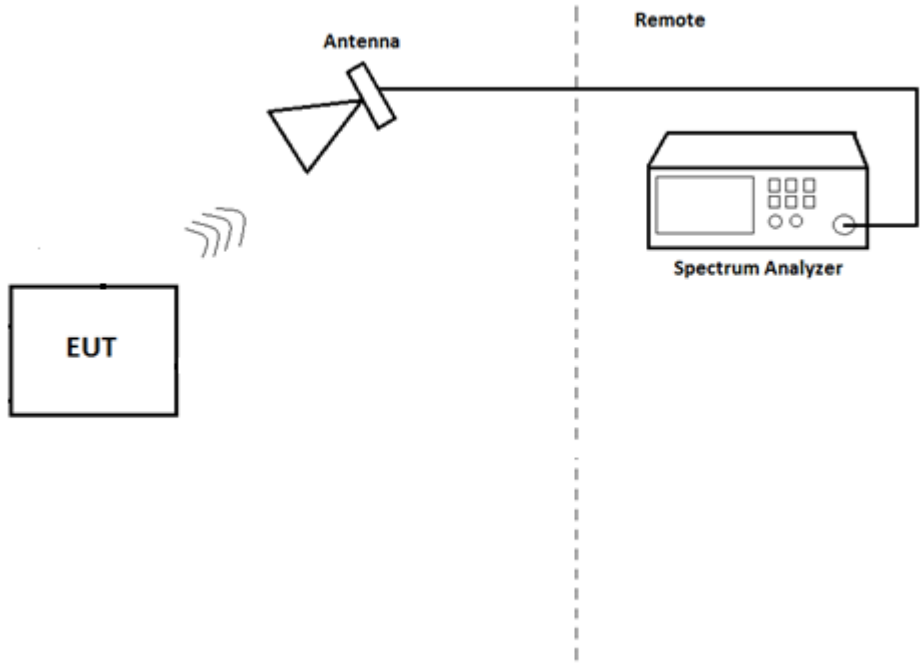
TEST SETUP

The EUT was configured as table top equipment during the tests. During Conducted Emissions testing, the EUT was connected to a laptop via a control board to change modes/channels and the EUT was powered via the control board. During Radiated testing, the EUT was tested as a stand-alone device. The EUT was set for the proper channel/mode, then the laptop was removed from the test site. Test software exercised the radio card.

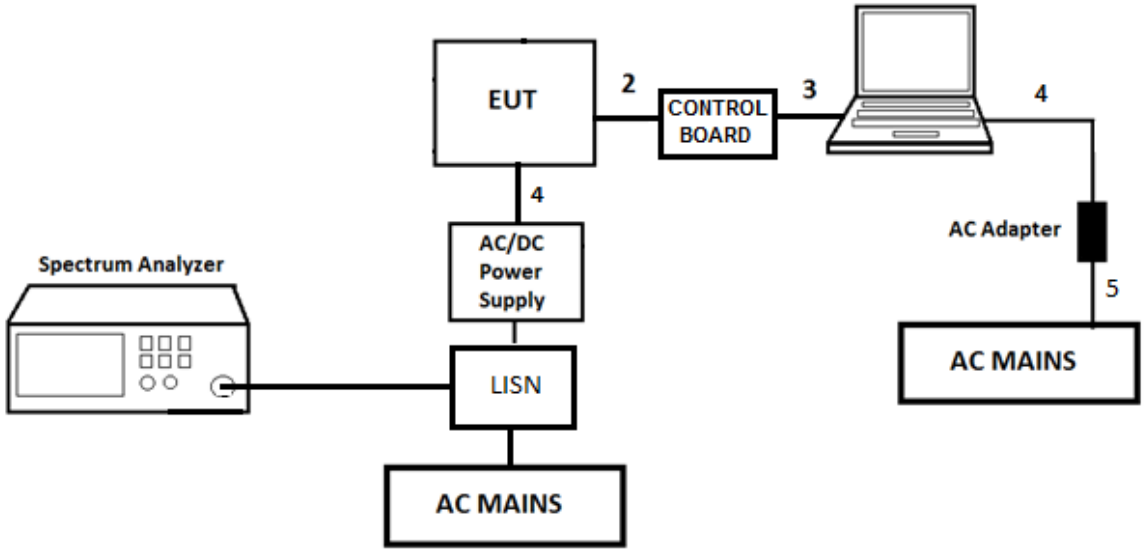
SETUP DIAGRAM FOR TESTS



Radiated



Line Conducted Emissions



Note – Control support gear was removed from the EUT once the EUT was set (mode/channel, etc.).

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 Range				
AT0073	Hybrid Broadband Antenna, 30-1000MHz	Sunol Sciences Corp.	JB3	2015-06-10	2016-06-30
	1-18 GHz				
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2015-02-17	2016-02-29
	Gain-Loss Chains				
N-SAC02	Gain-loss string: 30-1000MHz	Various	Various	2015-06-04	2016-06-30
N-SAC03	Gain-loss string: 1-18GHz	Various	Various	2015-09-29	2016-09-30
	Receiver & Software				
SA0026	Spectrum Analyzer	Agilent	N9030A	2015-03-27	2016-03-31
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
HI0079	Temp/Humid/Pressure Meter	Springfield Precision	PreciseTemp	2015-07-01	2016-07-31

Note – All testing in this chamber performed prior to 2016-02-29.

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.)**			
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2015-12-08	2016-12-31
	30-1000 MHz Range				
AT0074	Hybrid Broadband Antenna, 30-1000MHz	Sunol Sciences Corp.	JB3	2015-06-10	2016-06-30
	1-18 GHz				
AT0069 (Prior to 2/28/2016)	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2015-02-17	2016-02-29
AT0067 (02/28-03/17/2016)				2015-03-12	2016-03-31
AT0069 (As of 03/18/2016)				2016-03-07	2017-03-31
	Gain-Loss Chains				
S-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2015-10-07	2016-10-31
S-SAC02	Gain-loss string: 30-1000MHz	Various	Various	2015-06-09	2016-06-30
S-SAC03	Gain-loss string: 1-18GHz	Various	Various	2015-08-22	2016-08-31
	Receiver & Software				
SA0025	Spectrum Analyzer	Keysight	N9030A	2015-03-27, 2016-03-17	2016-03-31, 2017-03-31
SA0018	Spectrum Analyzer	Agilent	N9030A	2015-11-07	2016-11-30
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
HI0050	Temp/Humid/Pressure Meter	Cole-Parmer	99760-00	2015-07-01	2016-07-31

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (RTP – C Chamber)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	18-40GHz				
AT0063	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2015-08-27	2016-08-31
AT0061	Horn Antenna, 26-40GHz	ARA	MWH-2640/B	2015-08-27	2016-08-31
	Gain-Loss Chains				
C-SAC02	Gain-loss string: 1-18GHz	Various	Various	2015-02-01	2016-02-29
C-SAC03	Gain-loss string: 18-40GHz	Various	Various	2015-09-27	2016-09-30
	Receiver & Software				
SA0016	Spectrum Analyzer	Agilent	PXA N9030A	2015-08-26	2016-08-31
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
	Additional Equipment used				
HI0034	Temp/Humid/Pressure Meter	Cole-Parmer	99760-00	2015-03-23	2016-03-31

Note – All testing in this chamber performed prior to 2016-02-29.

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Conducted Room 1				
SA0019	Spectrum Analyzer	Agilent Technologies	E4446A	2015-09-02	2016-09-30
PWM004	RF Power Meter	Keysight Technologies	N1911A	2015-06-08	2017-06-08
PWS004	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2015-06-05	2016-06-05
HI0079	Temp/Humid/Pressure Meter	Springfield	PreciseTemp	2015-07-1	2016-07-31
MM0167	True RMS Multimeter	Agilent	U1232A	2015-08-17	2016-08-31
76022	DC Regulated Power Supply	CircuitSpecialists.Com	CSI3005X5	NA	NA
	Conducted Room 2				
SA0020	Spectrum Analyzer	Agilent Technologies	E4446A	2015-02-26	2016-02-29
PWM003	RF Power Meter	Keysight Technologies	N1911A	2015-06-08	2017-06-08
PWS003	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2015-06-05	2016-06-05
1100502	Temp/Humid Chamber	Cincinnati Sub-Zero	ZPH-8-3.5-SCT/AC	2015-05-13	2016-05-31
43733	Temp/Humid/Pressure Meter	Cole-Parmer	99760-00	2014-03-24	2016-03-24
MM0168	True RMS Multimeter	Agilent	U1232A	2015-08-17	2016-08-31
76021	DC Regulated Power Supply	CircuitSpecialists.Com	CSI3005X5	NA	NA

Note – All testing in these rooms performed prior to 2016-02-29.

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

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL077	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3476-240	2015-10-29	2016-10-31
HI0079	Temp/Humid/Pressure Meter	Springfield Precision	PreciseTemp	2015-07-01	2016-07-31
LISN003	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2015-08-24	2016-08-31
LISN008	LISN, 50-ohm/50-uH, 2-conductor, 25A (For support gear only.)	Solar Electronics	8012-50-R-24-BNC	2015-09-03	2016-09-30
MM0167	Multi-meter	Agilent	U1232A	2015-08-17	2016-08-31
PRE0101521 (75141)	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2015-08-26	2016-08-31
TL001	Transient Limiter, 0.009-30MHz	Com-Power	LIT-930A	2015-05-22	2016-05-31
PS214	AC Power Source	Elgar	CW2501M (s/n 1523A02396)	NA	NA
PS215	AC Power Source	Elgar	CW2501M (s/n 1523A02397)	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA

7. MEASUREMENT METHODS

26 dB Emission BW: KDB 789033 D02 v01r02, Section C.

99% Occupied BW: KDB 789033 D02 v01r02, Section D.

Conducted Output Power: KDB 789033 D02 v01r02, Section E.3.a (Method PM).

Power Spectral Density: KDB 789033 D02 v01r02, Section F (Method SA-2).

Unwanted emissions in restricted bands: KDB 789033 D02 v01r02, Sections G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v01r02, Sections G.3, G.4, and G.5.

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

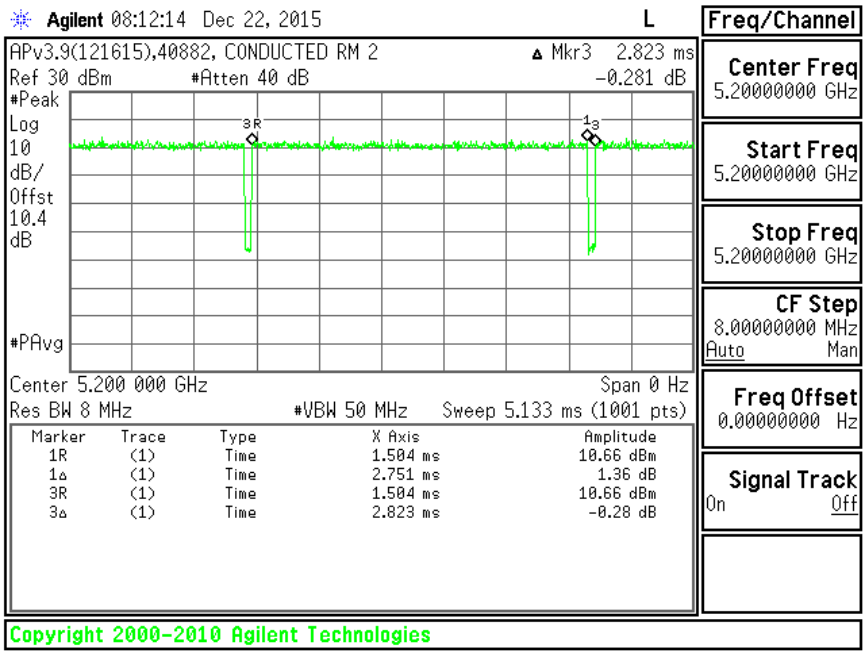
KDB 789033 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

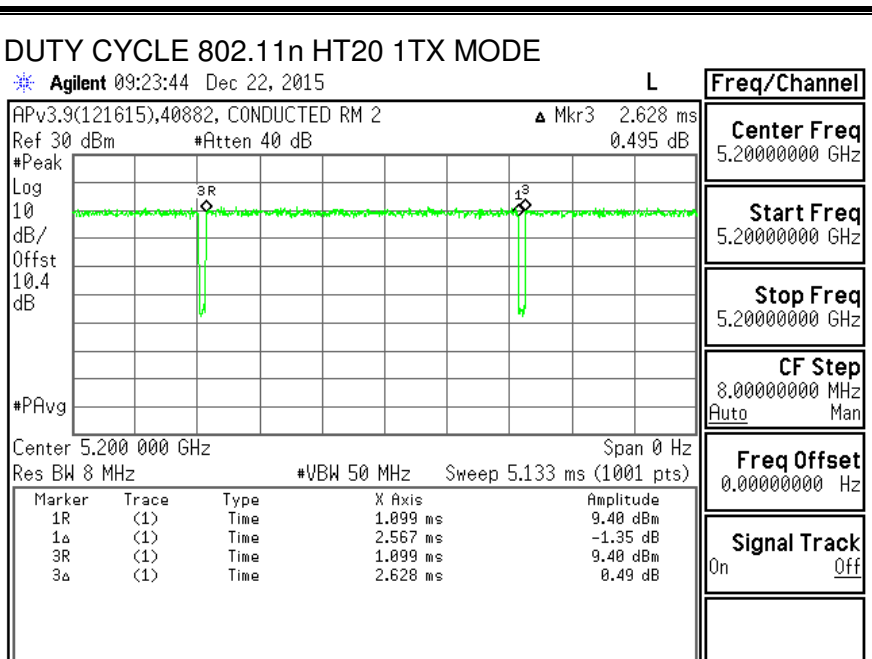
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
5.2GHz Band						
802.11a 1TX	2.751	2.823	0.974	97.45%	0.11	0.364
802.11n HT20 1TX	2.567	2.628	0.977	97.68%	0.10	0.390
5.3GHz Band						
802.11a 1TX	2.751	2.813	0.978	97.80%	0.10	0.364
802.11n HT20 1TX	2.562	2.623	0.977	97.67%	0.10	0.390
5.6GHz Band						
802.11a 1TX	2.757	2.823	0.977	97.66%	0.10	0.363
802.11n HT20 1TX	2.572	2.633	0.977	97.68%	0.10	0.389
5.8GHz Band						
802.11a 1TX	2.762	2.823	0.978	97.84%	0.09	0.362
802.11n HT20 1TX	2.567	2.628	0.977	97.68%	0.10	0.390

5.2 GHz DUTY CYCLE PLOTS

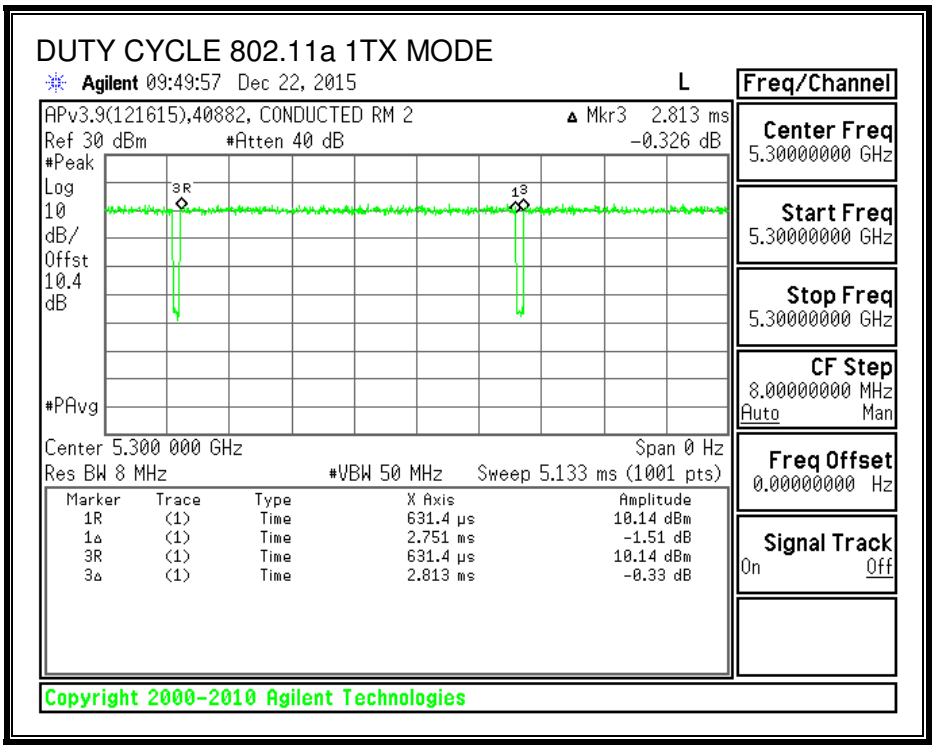
DUTY CYCLE 802.11a 1TX MODE

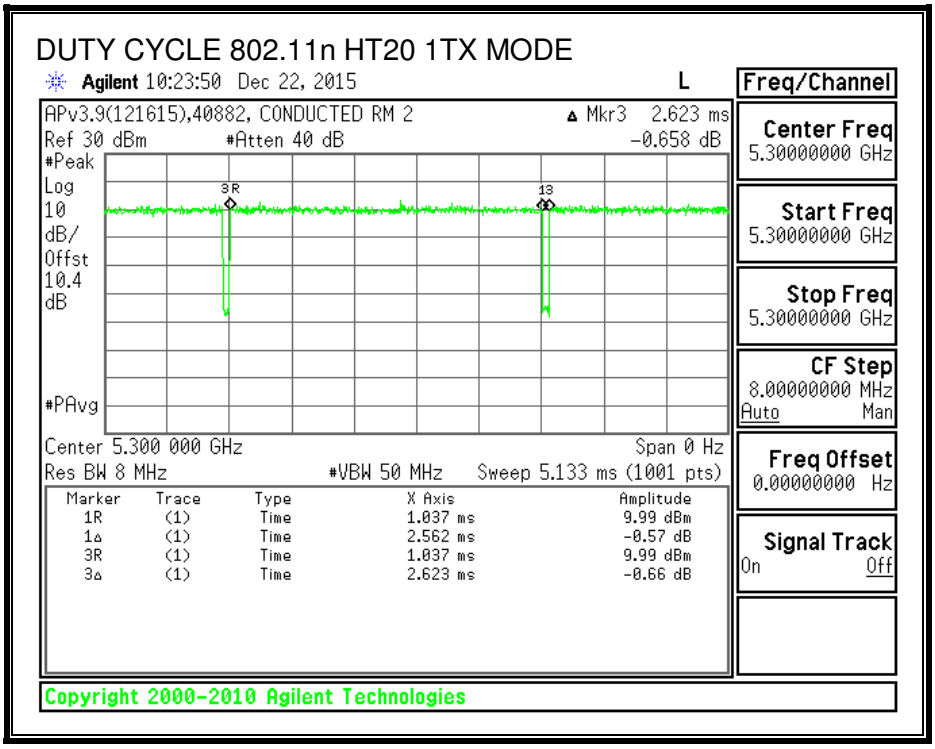


DUTY CYCLE 802.11n HT20 1TX MODE

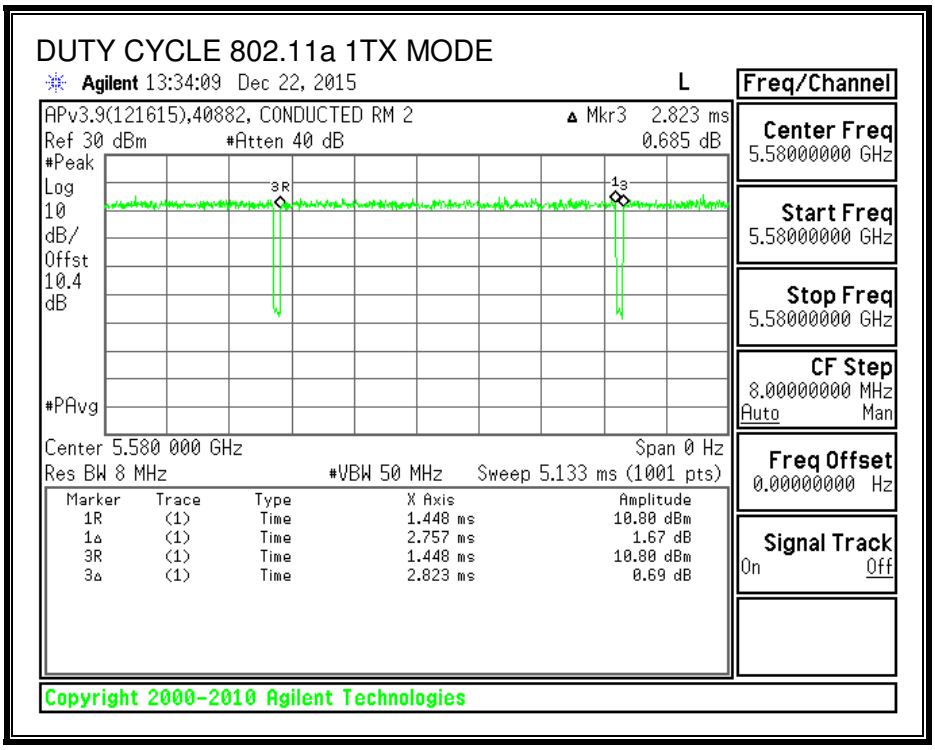


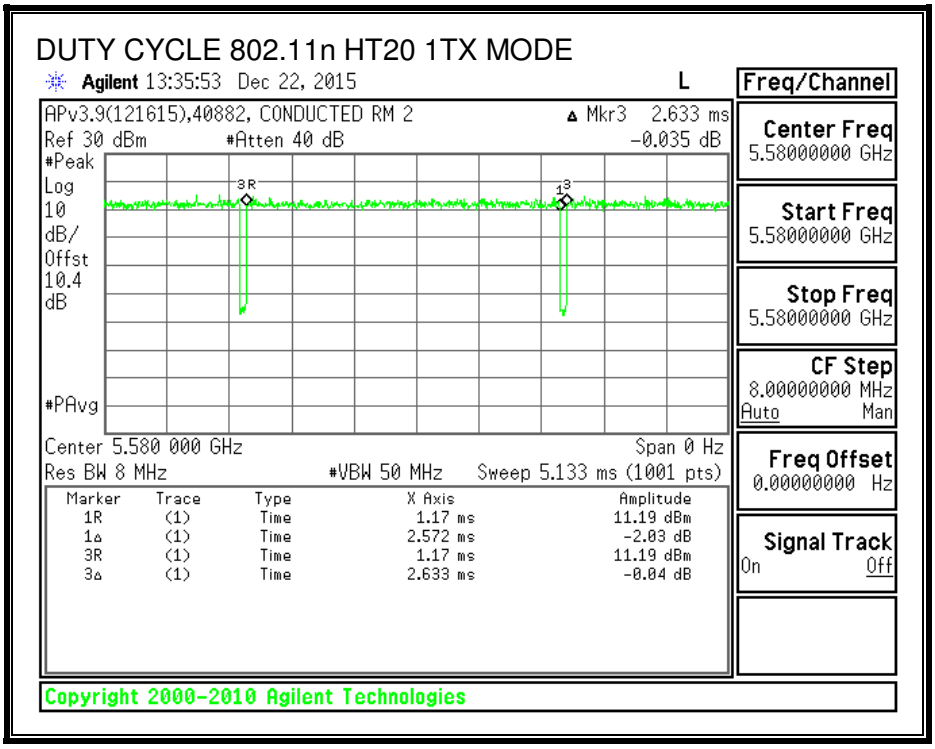
5.3 GHz DUTY CYCLE PLOTS



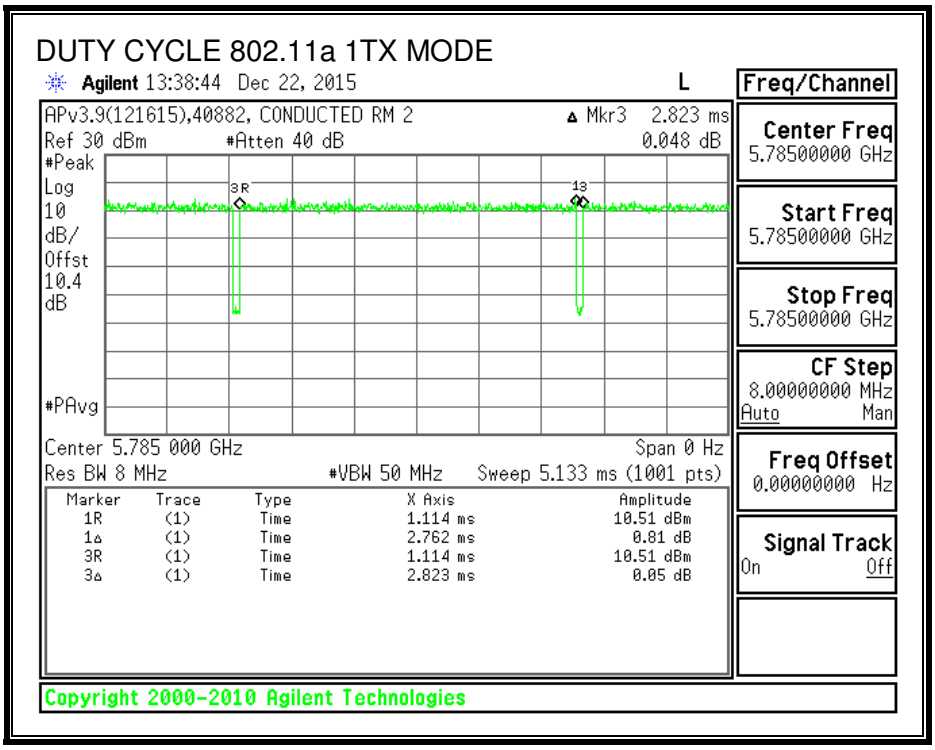


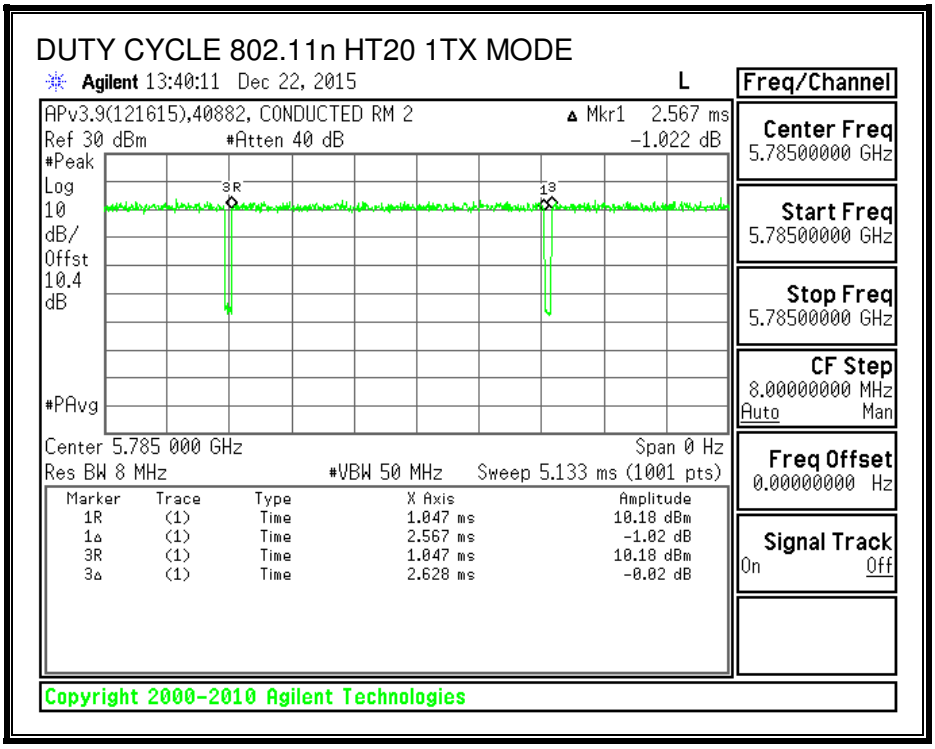
5.6 GHz DUTY CYCLE PLOTS





5.8 GHz DUTY CYCLE PLOTS





8.2. 802.11a MODE IN THE 5.2 GHz BAND

8.2.1. 26 dB BANDWIDTH

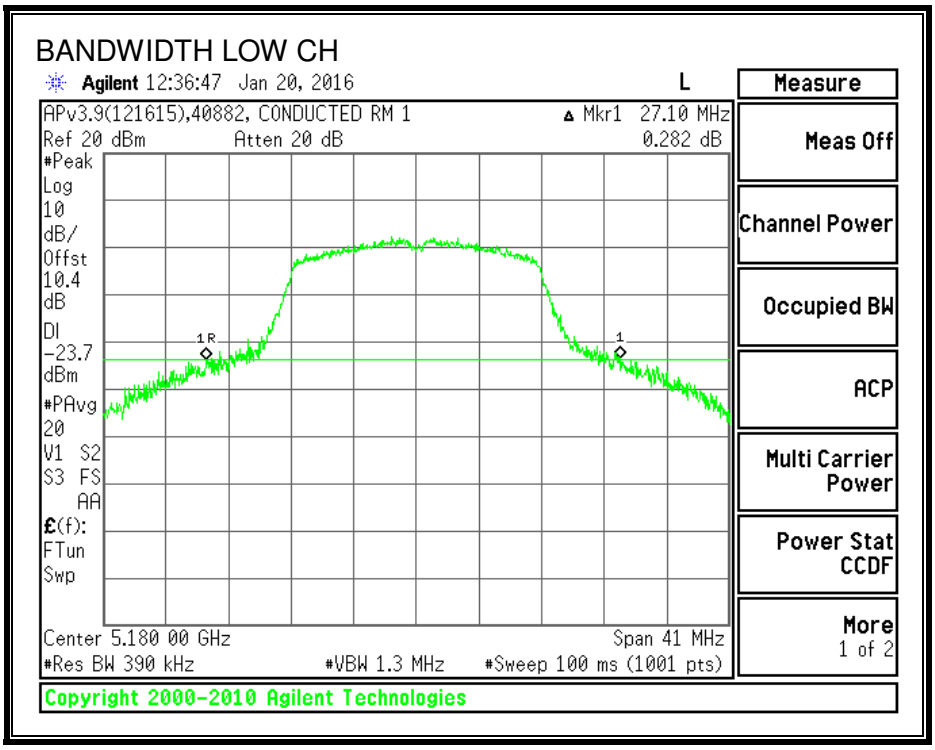
LIMITS

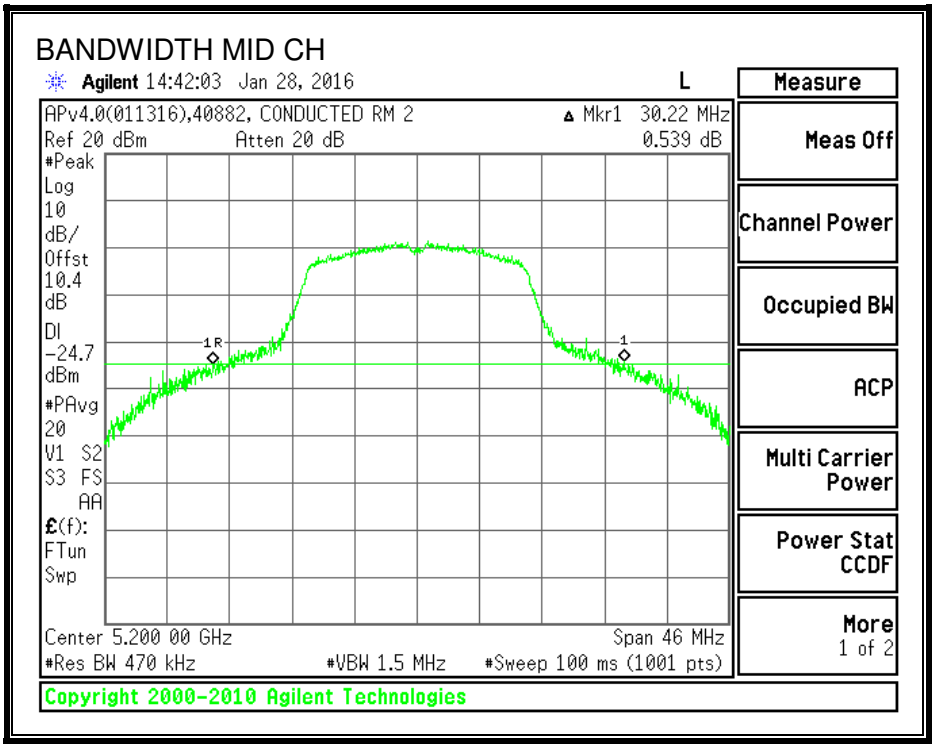
None; for reporting purposes only.

RESULTS

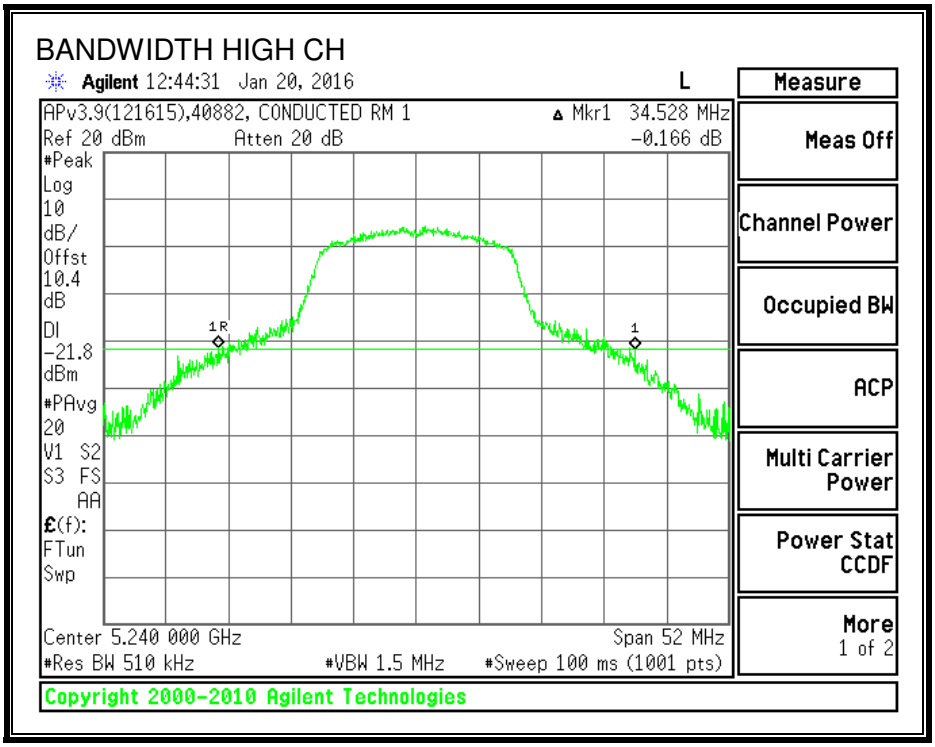
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	27.10
Mid	5200	30.22
High	5240	34.53

26 dB BANDWIDTH





BANDWIDTH HIGH CH



8.2.2. 99% BANDWIDTH

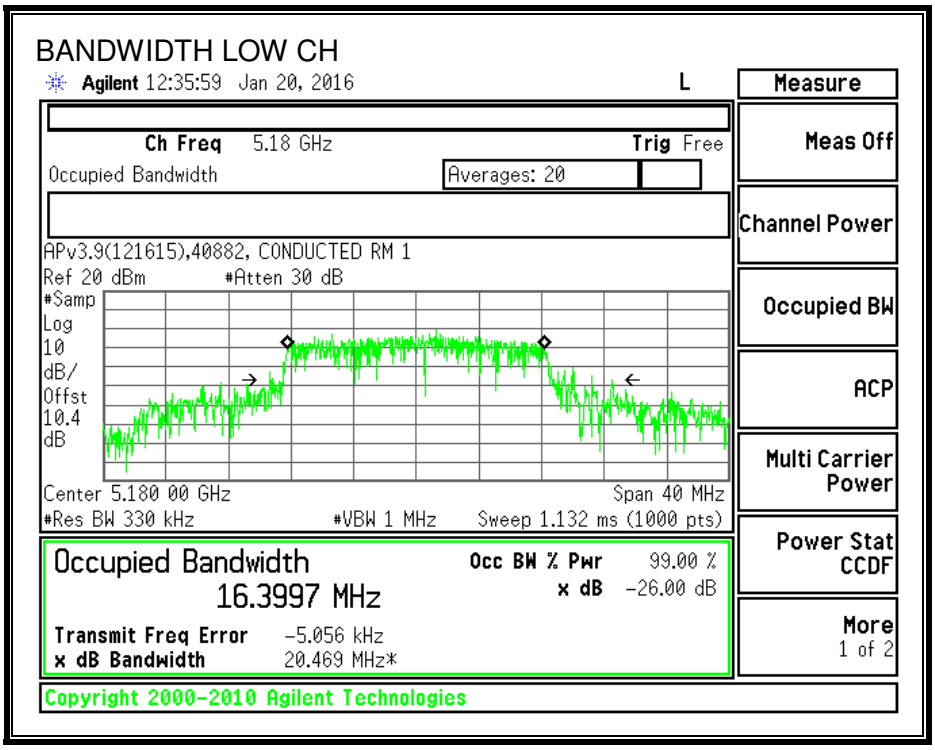
LIMITS

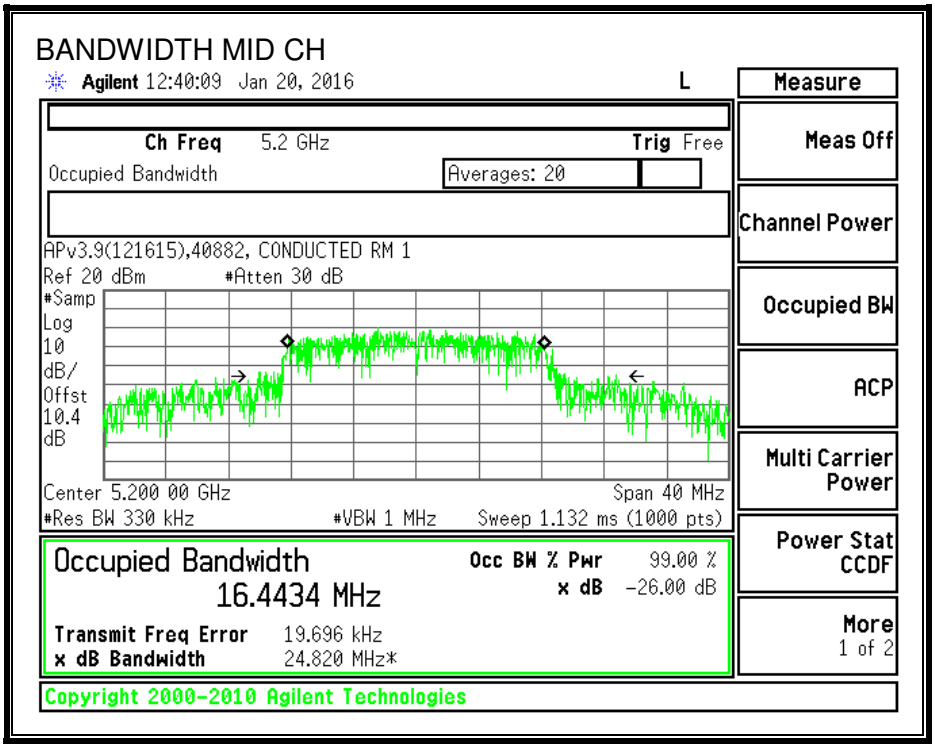
None; for reporting purposes only.

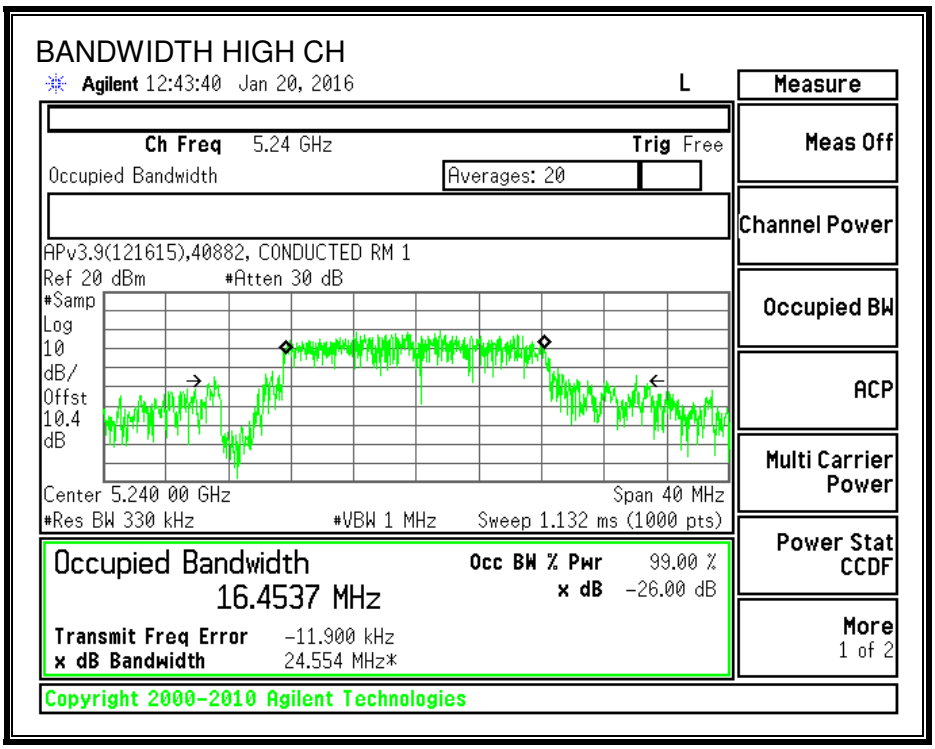
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	16.3997
Mid	5200	16.4434
High	5240	16.4537

99% BANDWIDTH







8.2.3. OUTPUT POWER AND PSD (FCC)

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. 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 mobile and portable 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

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	3.46	3.46	24.00	11.00
Mid	5200	3.46	3.46	24.00	11.00
High	5240	3.46	3.46	24.00	11.00

Duty Cycle CF (dB)	0.11	Included in Calculations of Corr'd Power & PSD

Output Power Results

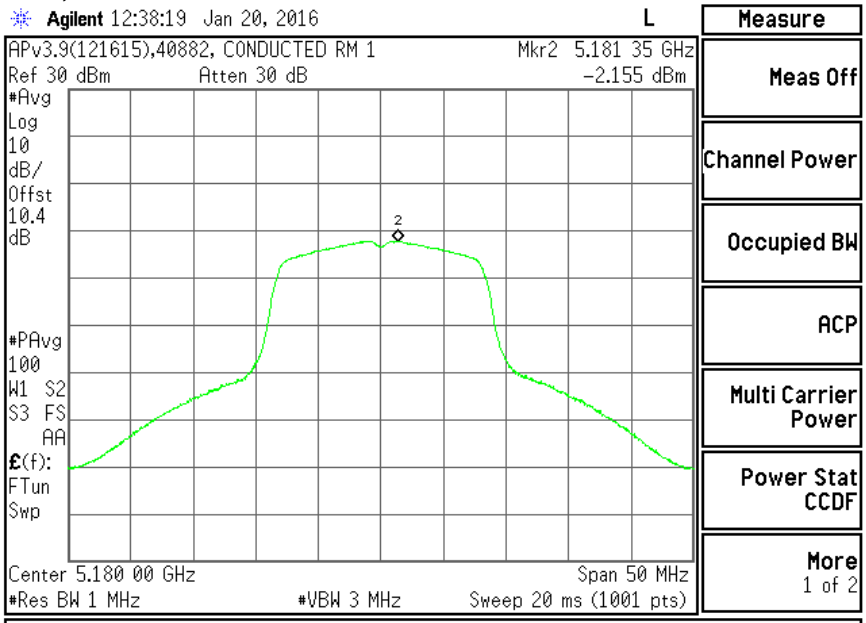
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	7.65	7.76	24.00	-16.24
Mid	5200	8.23	8.34	24.00	-15.66
High	5240	7.74	7.85	24.00	-16.15

PSD Results

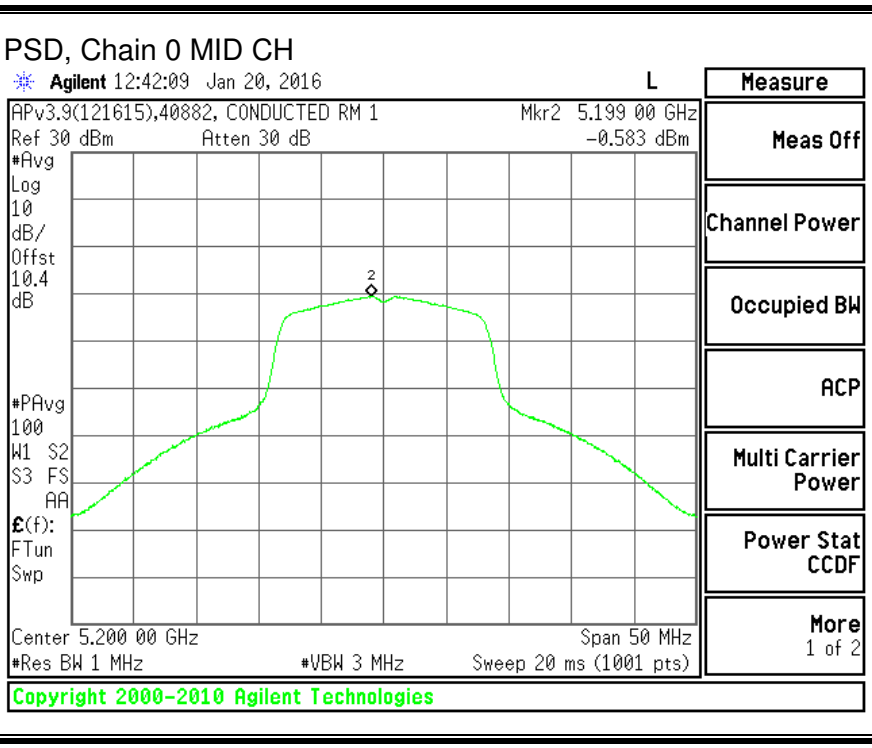
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	-2.16	-2.05	11.00	-13.05
Mid	5200	-0.58	-0.47	11.00	-11.47
High	5240	-0.80	-0.69	11.00	-11.69

PSD, Chain 0

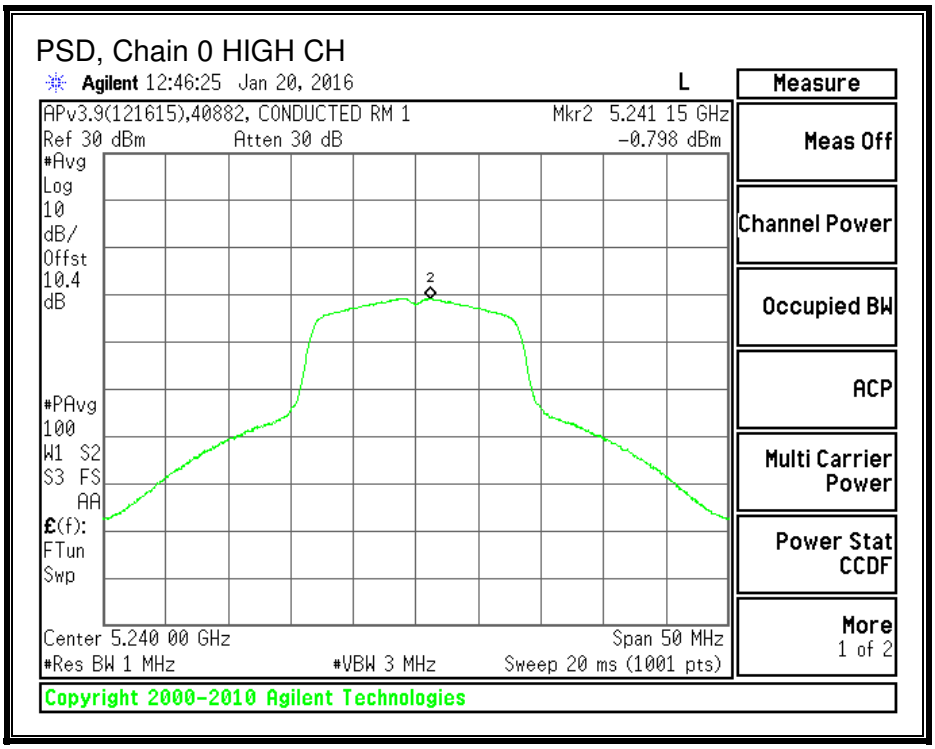
PSD, Chain 0 LOW CH



PSD, Chain 0 MID CH



PSD, Chain 0 HIGH CH



8.2.4. OUTPUT POWER AND PPSD (IC)

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

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

RESULTS - 802.11a, 5.2 GHz band

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5180	16.3997	3.46	3.46
Mid	5200	16.4434	3.46	3.46
High	5240	16.4537	3.46	3.46

Limits

Channel	Frequency (MHz)	IC EIRP Limit (dBm)	IC eirp PSD Limit (dBm)
Low	5180	22.15	10.00
Mid	5200	22.16	10.00
High	5240	22.16	10.00

Duty Cycle CF (dB)	0.11	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	7.65	7.76	18.69	-10.93
Mid	5200	8.23	8.34	18.70	-10.36
High	5240	7.74	7.85	18.70	-10.85

Note: Limit corrected by antenna gain.

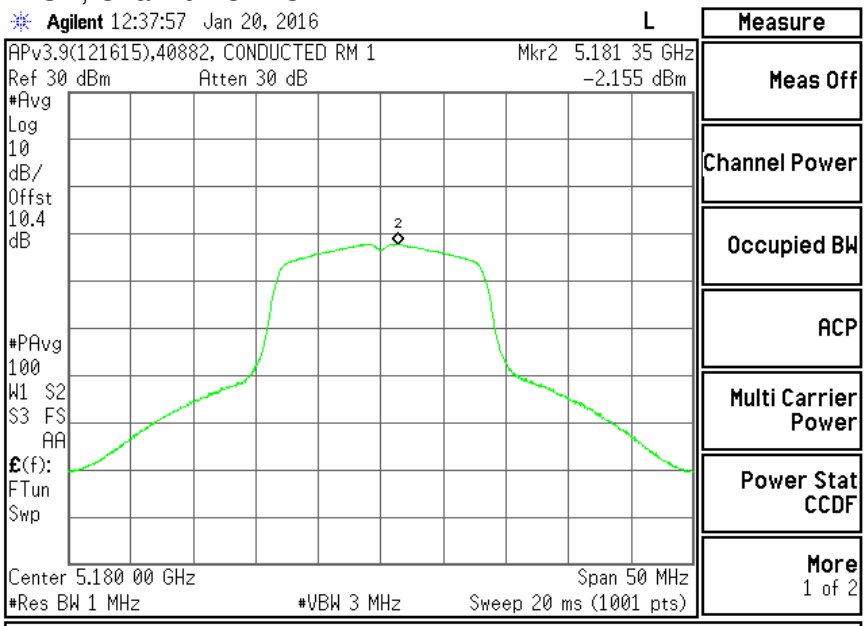
PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-2.16	-2.05	6.54	-8.59
Mid	5200	-0.58	-0.47	6.54	-7.01
High	5240	-0.80	-0.69	6.54	-7.23

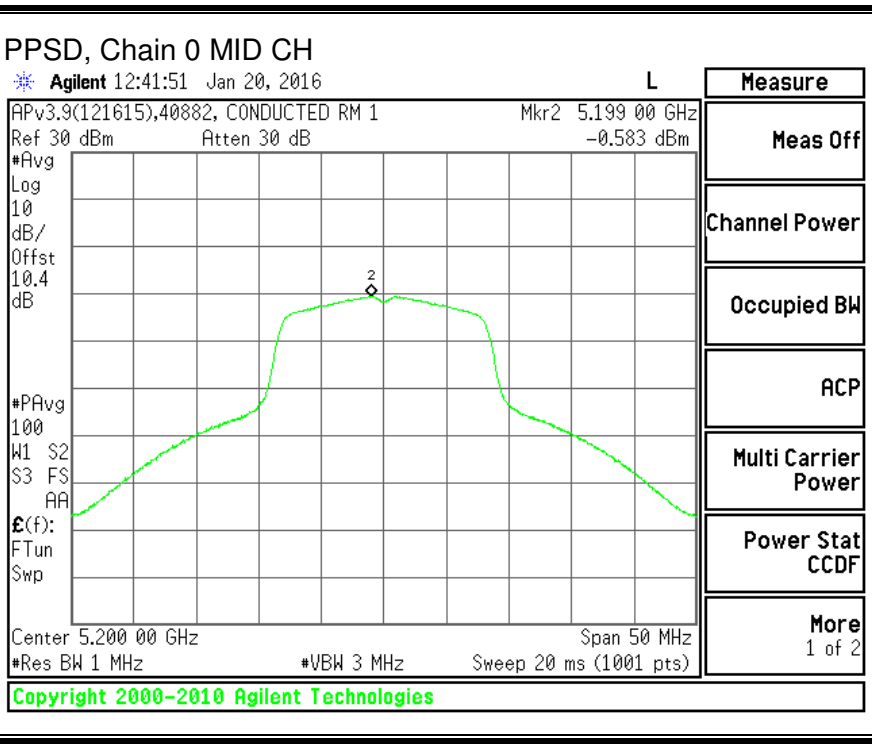
Note: Limit corrected by antenna gain.

PPSD

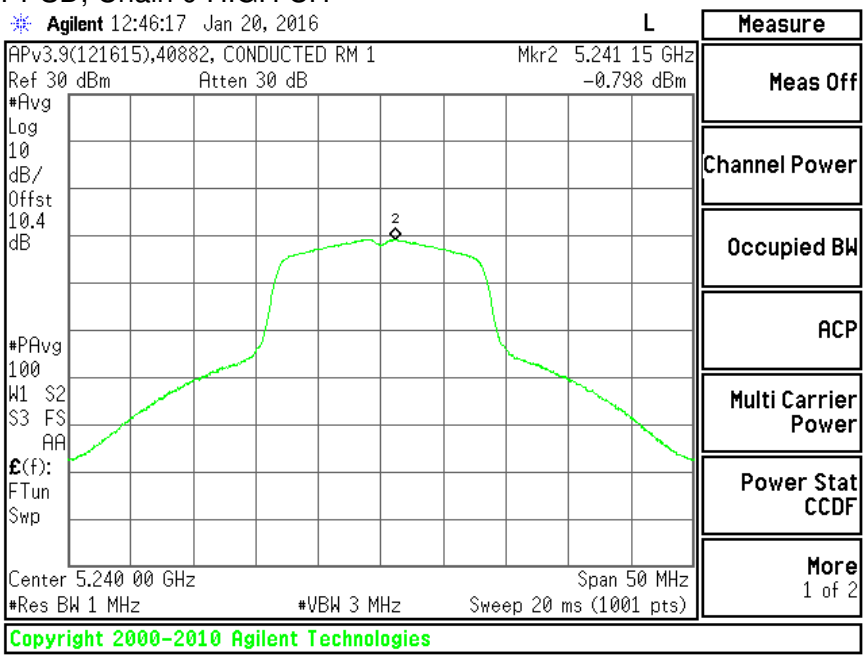
PPSD, Chain 0 LOW CH



PPSD, Chain 0 MID CH



PPSD, Chain 0 HIGH CH



8.3. 802.11n HT20 MODE IN THE 5.2 GHz BAND

8.3.1. 26 dB BANDWIDTH

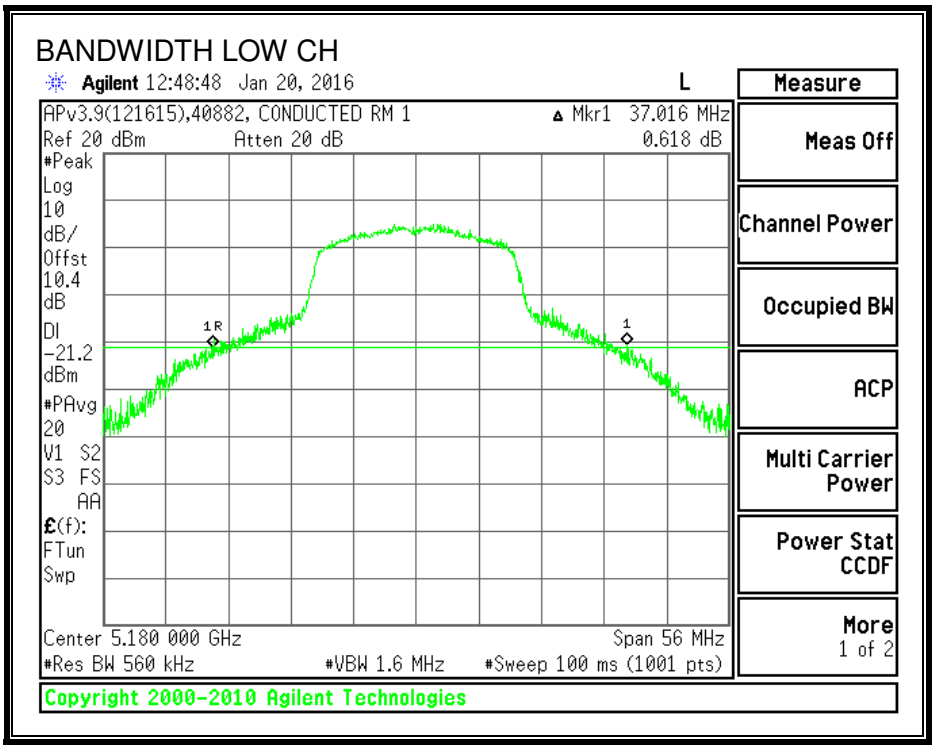
LIMITS

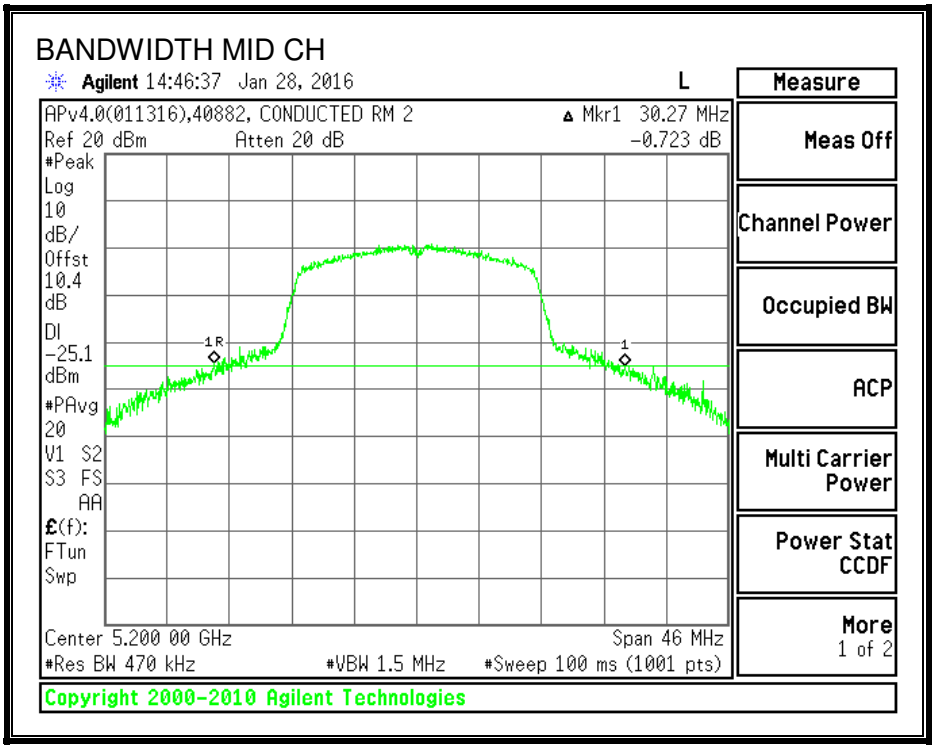
None; for reporting purposes only.

RESULTS

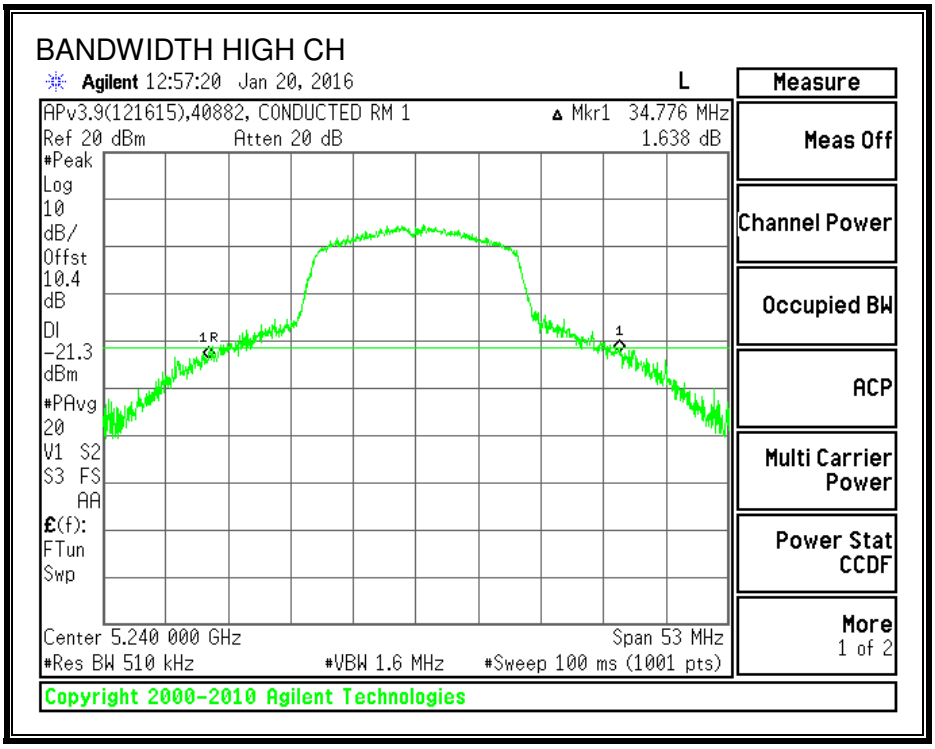
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	37.02
Mid	5200	30.27
High	5240	34.78

26 dB BANDWIDTH





BANDWIDTH HIGH CH



8.3.2. 99% BANDWIDTH

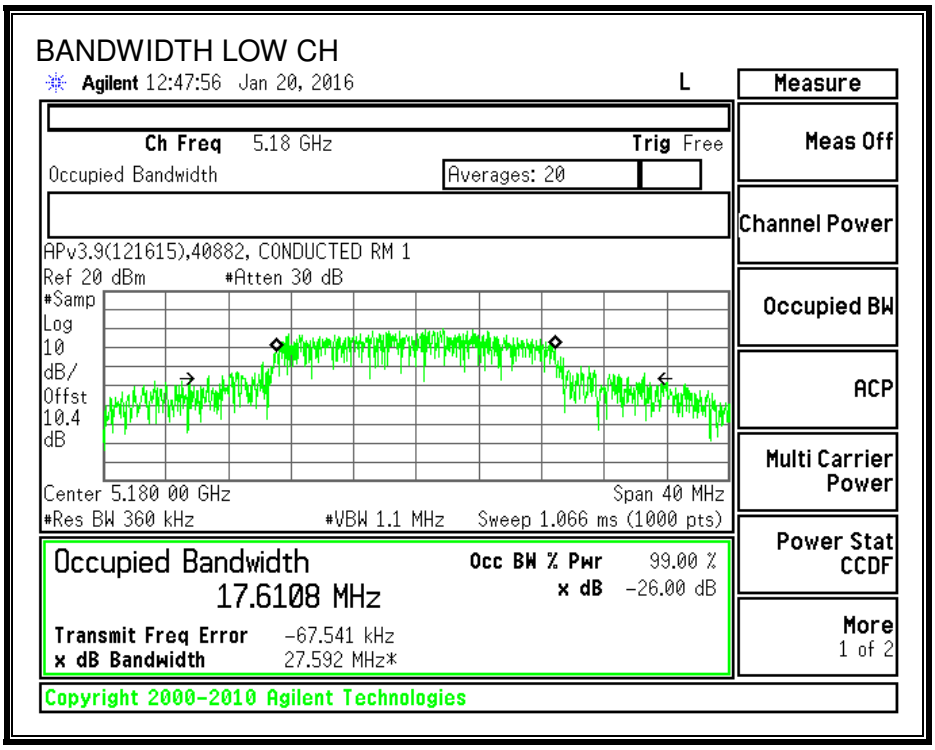
LIMITS

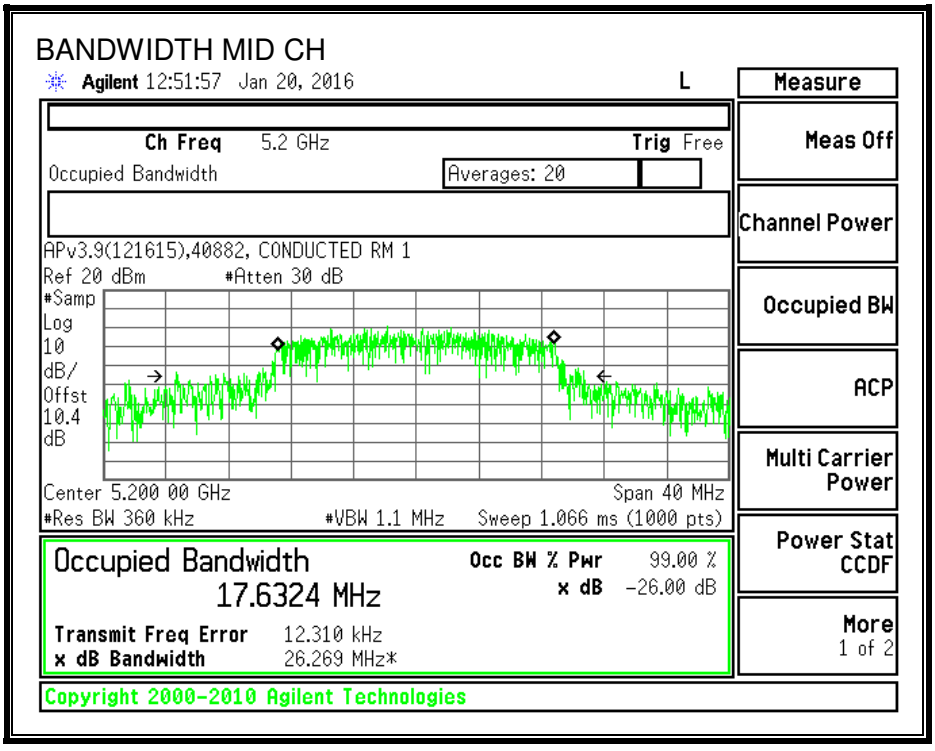
None; for reporting purposes only.

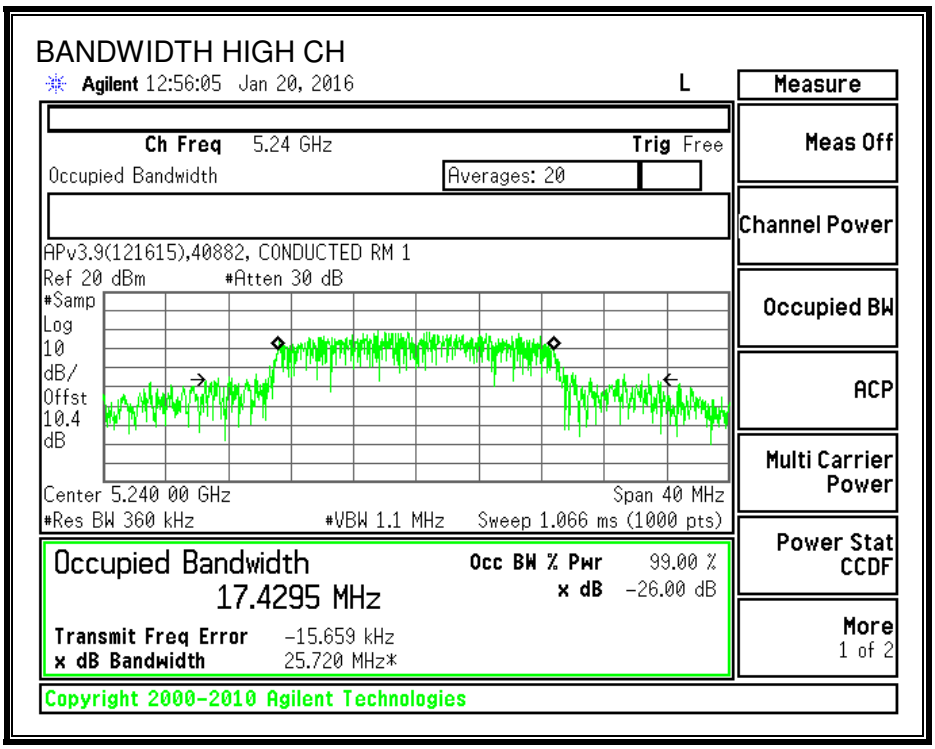
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.6108
Mid	5200	17.6324
High	5240	17.4295

99% BANDWIDTH







8.3.3. OUTPUT POWER AND PSD (FCC)

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. 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 mobile and portable 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

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	3.46	3.46	24.00	11.00
Mid	5200	3.46	3.46	24.00	11.00
High	5240	3.46	3.46	24.00	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PSD

Output Power Results

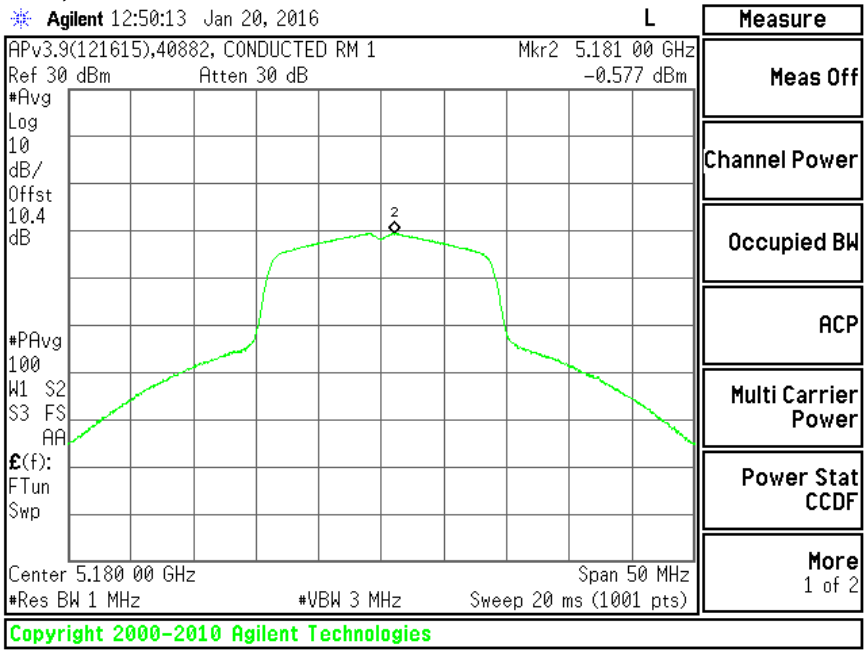
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	8.22	8.32	24.00	-15.68
Mid	5200	8.02	8.12	24.00	-15.88
High	5240	7.81	7.91	24.00	-16.09

PSD Results

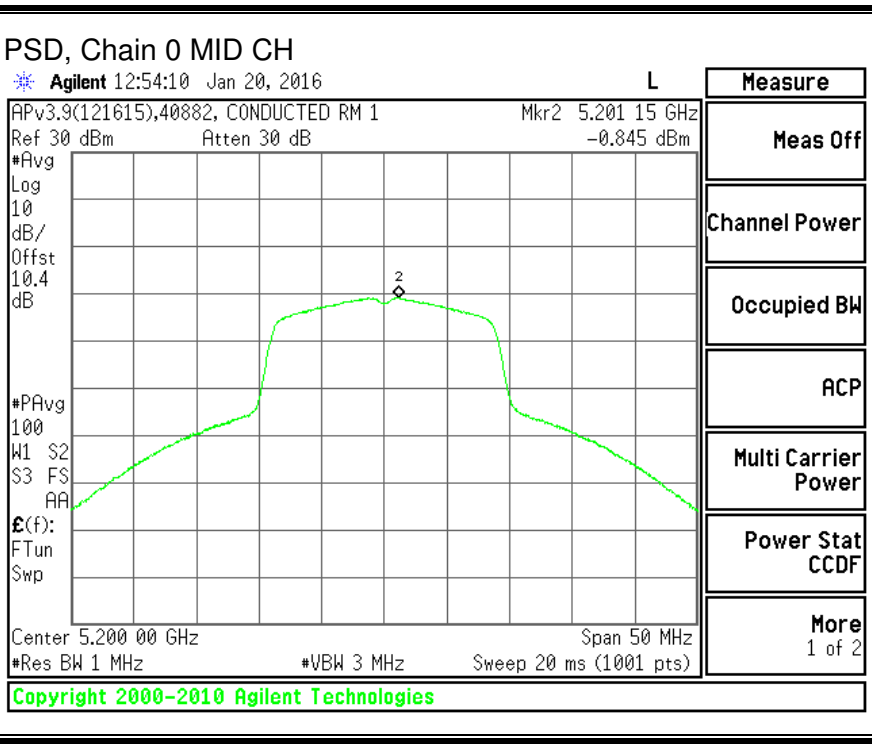
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	-0.58	-0.48	11.00	-11.48
Mid	5200	-0.85	-0.75	11.00	-11.75
High	5240	-1.12	-1.02	11.00	-12.02

PSD, Chain 0

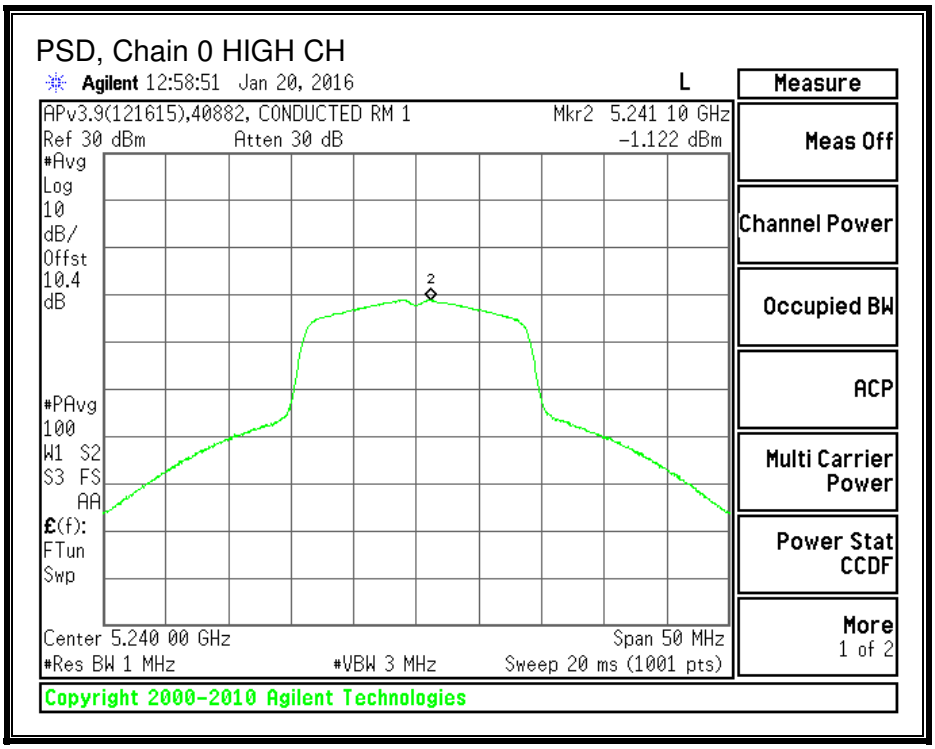
PSD, Chain 0 LOW CH



PSD, Chain 0 MID CH



PSD, Chain 0 HIGH CH



8.3.4. OUTPUT POWER AND PPSD (IC)

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

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

RESULTS - 802.11n, 5.2 GHz band

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5180	17.6108	3.46	3.46
Mid	5200	17.6324	3.46	3.46
High	5240	17.4296	3.46	3.46

Limits

Channel	Frequency (MHz)	IC EIRP Limit (dBm)	IC eirp PSD Limit (dBm)
Low	5180	22.46	10.00
Mid	5200	22.46	10.00
High	5240	22.41	10.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	8.22	8.32	19.00	-10.68
Mid	5200	8.02	8.12	19.00	-10.88
High	5240	7.81	7.91	18.95	-11.04

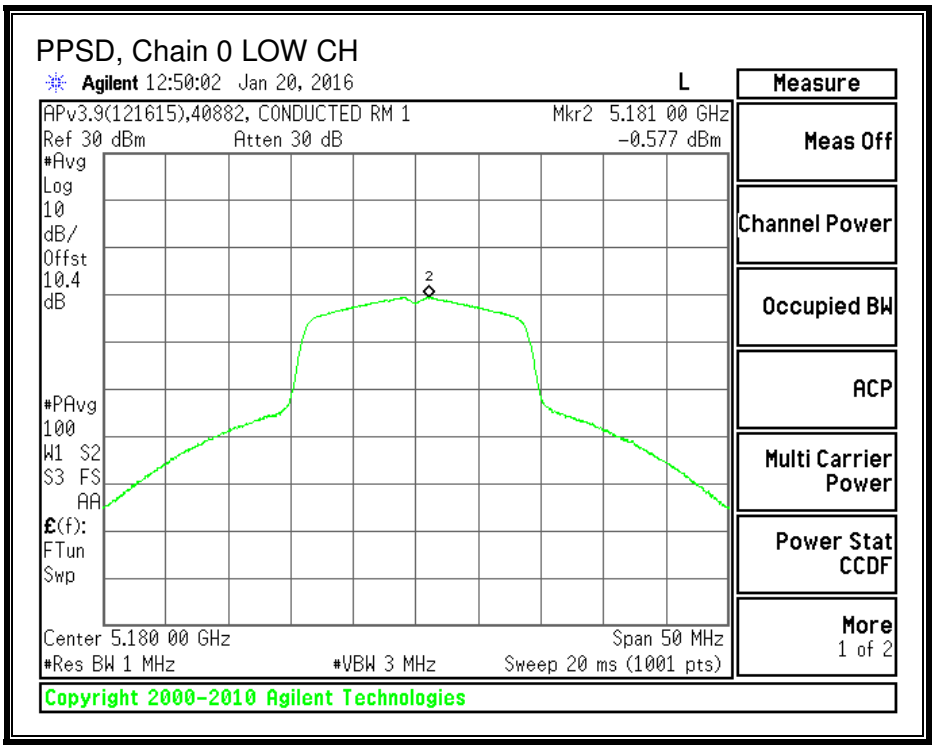
Note: Limit corrected by antenna gain.

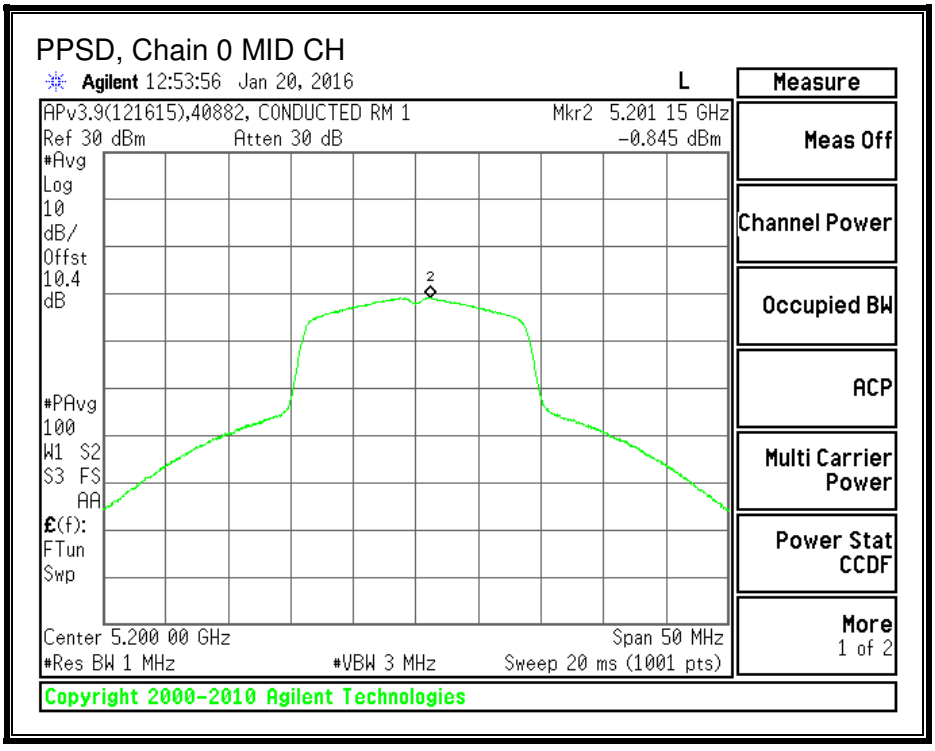
PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-0.58	-0.48	6.54	-7.02
Mid	5200	-0.85	-0.75	6.54	-7.29
High	5240	-1.12	-1.02	6.54	-7.56

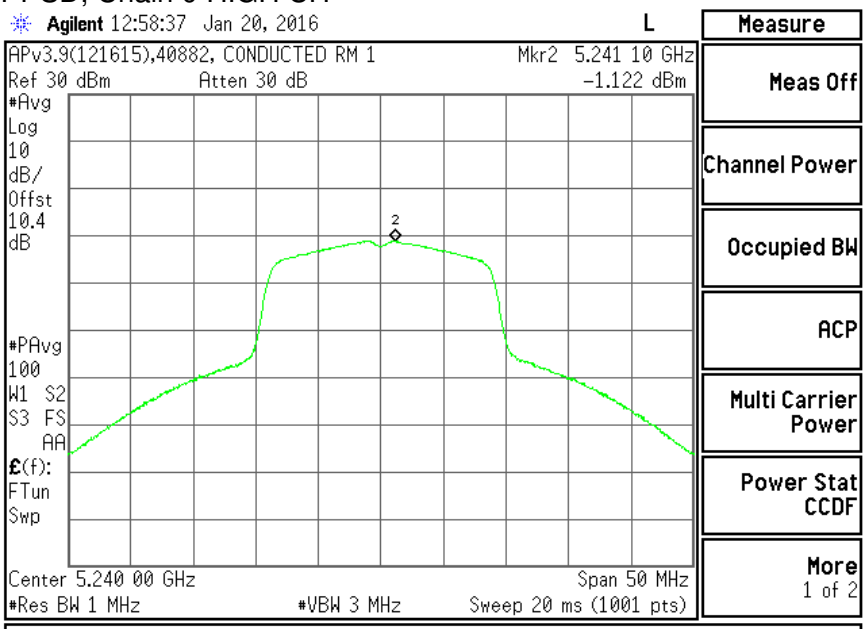
Note: Limit corrected by antenna gain.

PPSD





PPSD, Chain 0 HIGH CH



8.4. 802.11a MODE IN THE 5.3 GHz BAND

8.4.1. 26 dB BANDWIDTH

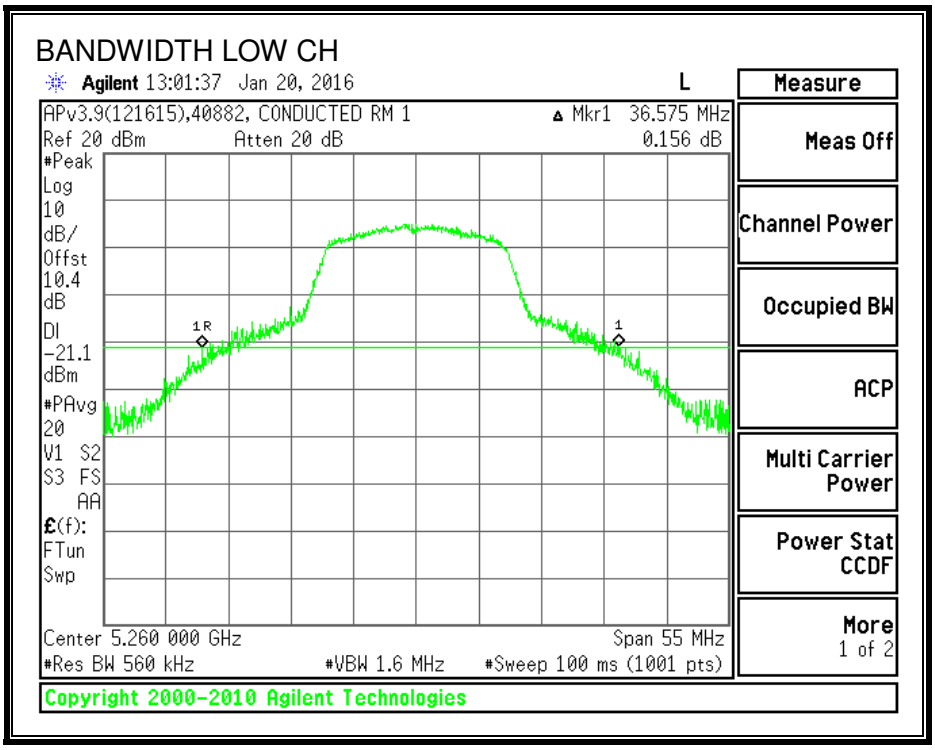
LIMITS

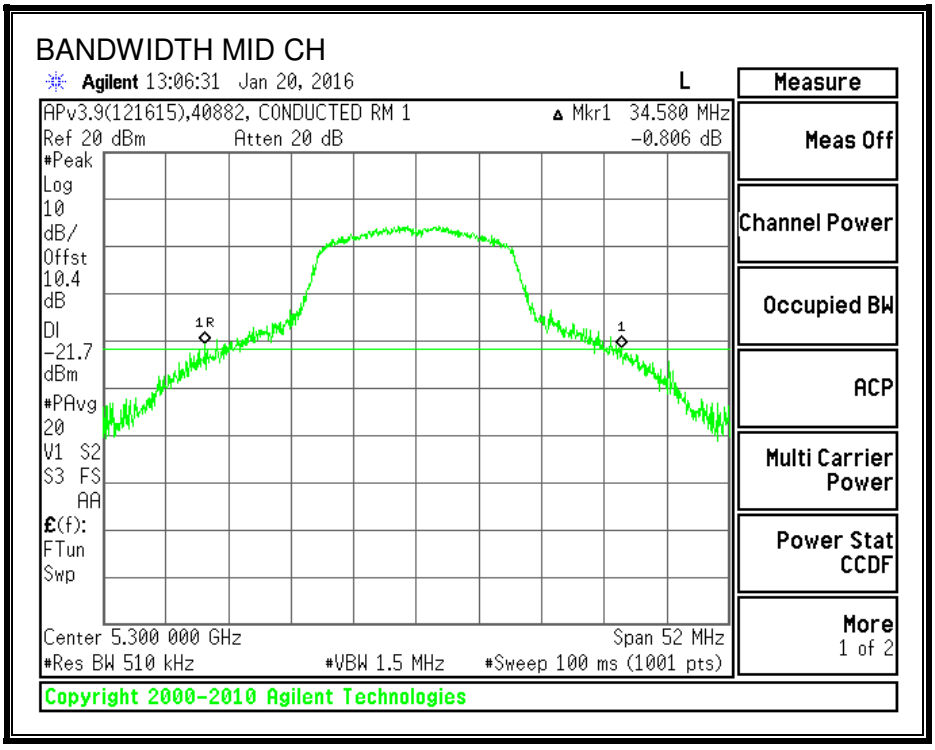
None; for reporting purposes only.

RESULTS

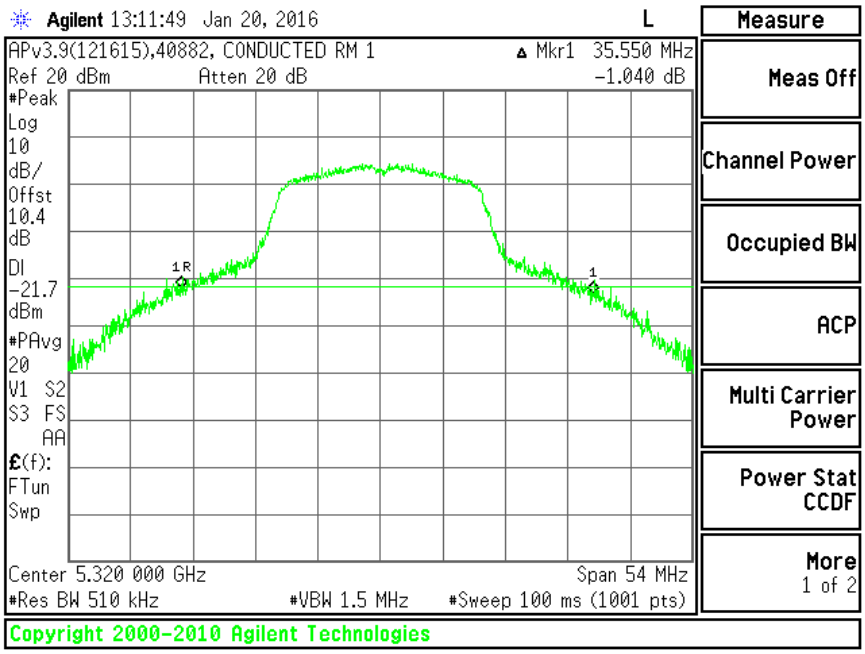
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	36.58
Mid	5300	34.58
High	5320	35.55

26 dB BANDWIDTH





BANDWIDTH HIGH CH



8.4.2. 99% BANDWIDTH

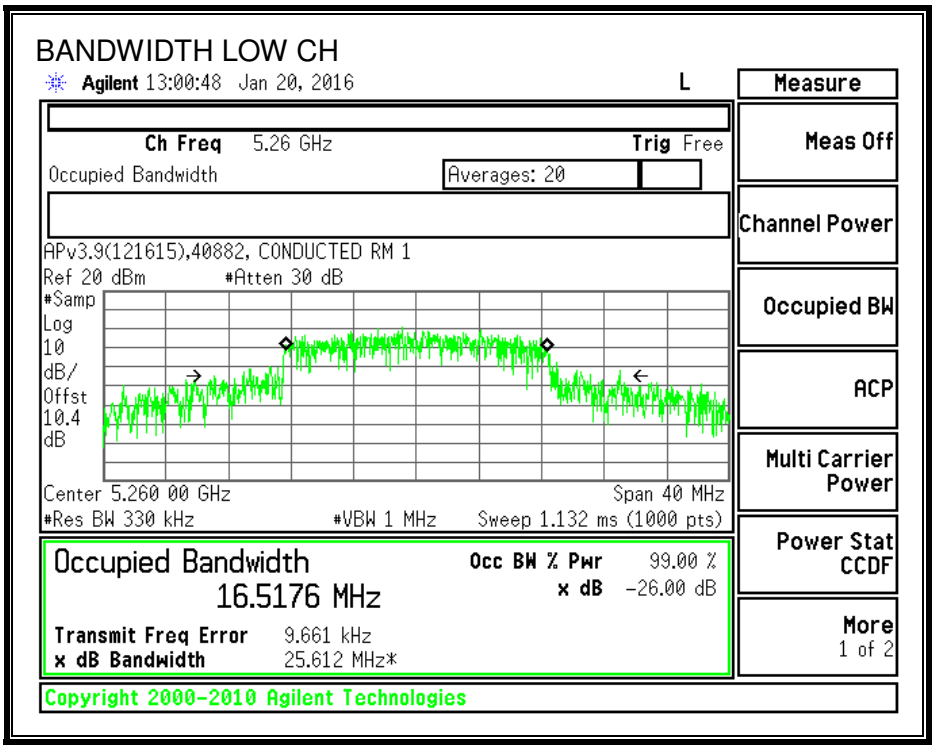
LIMITS

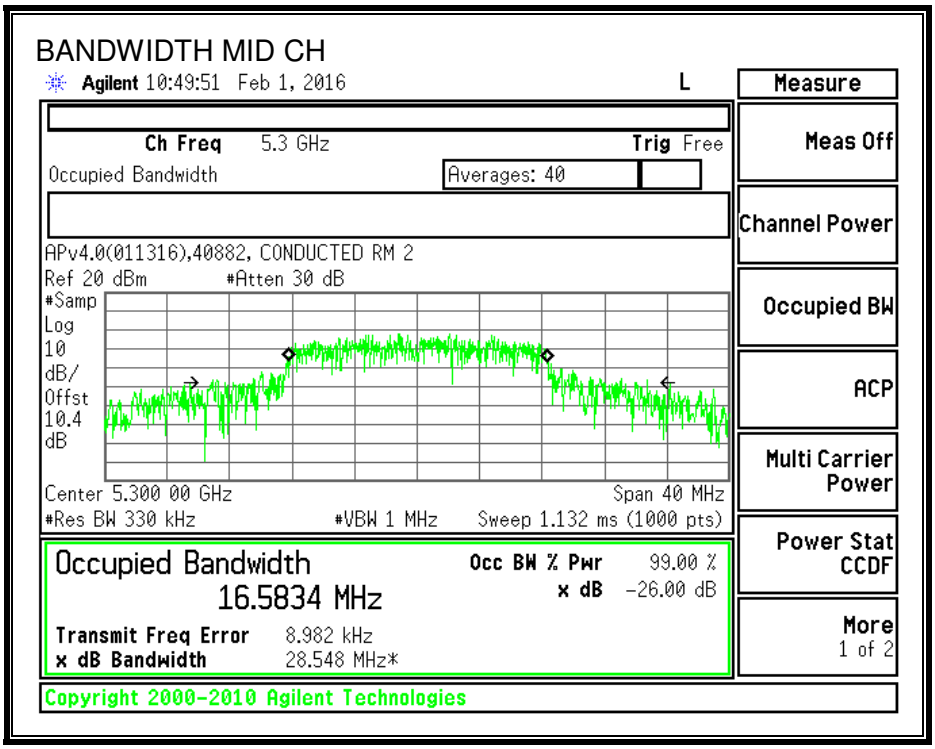
None; for reporting purposes only.

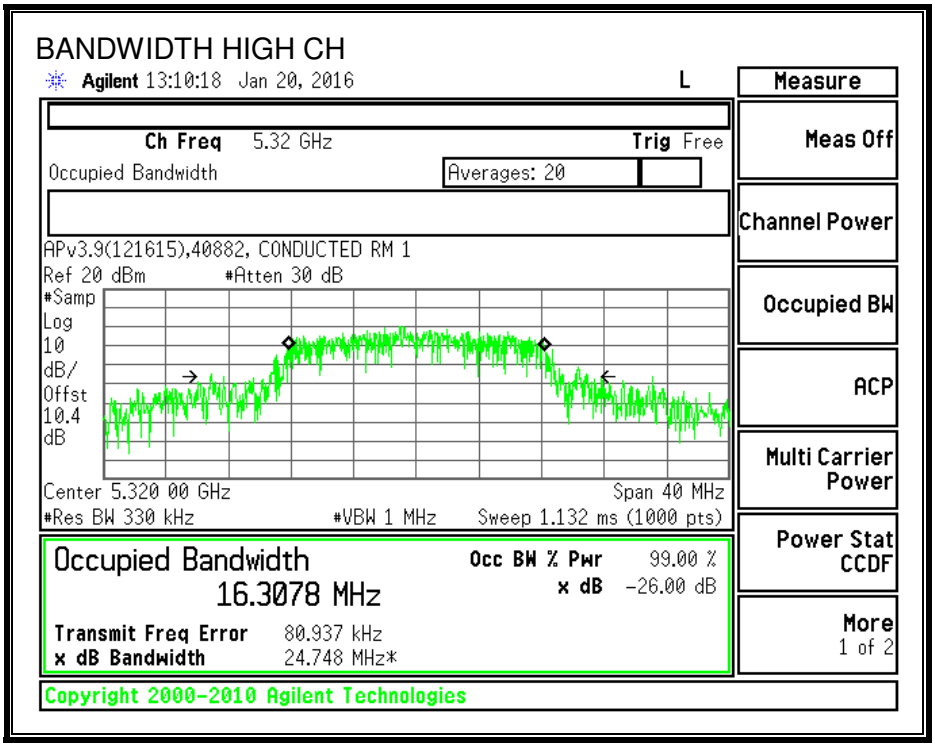
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	16.5176
Mid	5300	16.5834
High	5320	16.3078

99% BANDWIDTH







8.4.3. OUTPUT POWER AND PSD (FCC)

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak 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

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5260	36.58	3.03	24.00	11.00
Mid	5300	34.58	3.03	24.00	11.00
High	5320	35.55	3.03	24.00	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PSD

Output Power Results

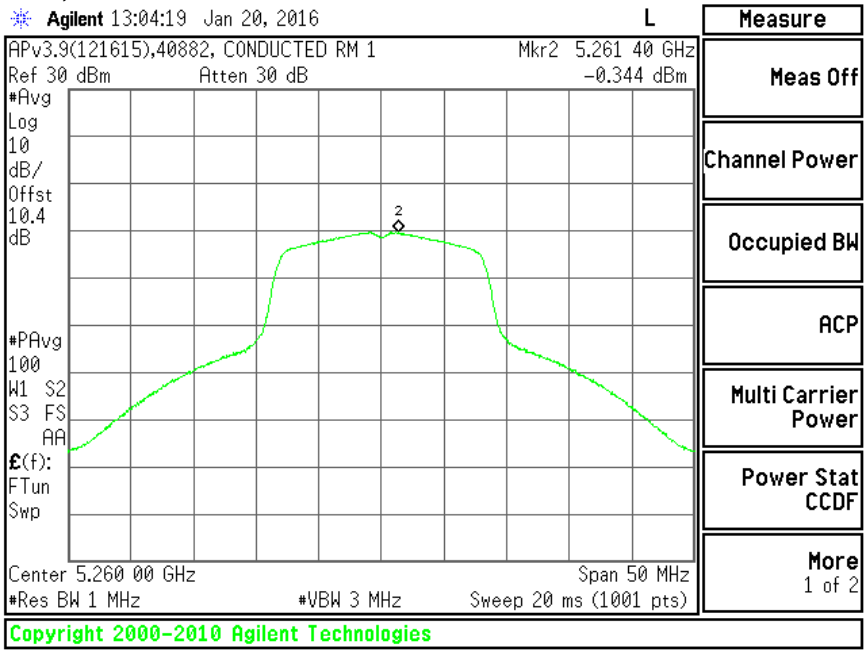
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	8.43	8.53	24.00	-15.47
Mid	5300	7.87	7.97	24.00	-16.03
High	5320	8.08	8.18	24.00	-15.82

PSD Results

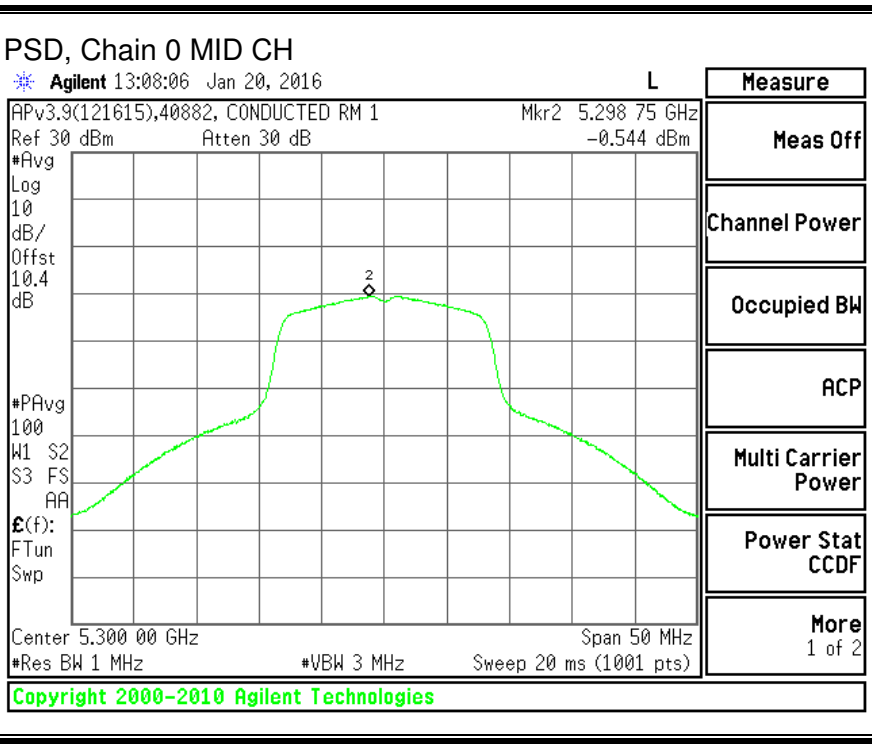
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	-0.34	-0.24	11.00	-11.24
Mid	5300	-0.54	-0.44	11.00	-11.44
High	5320	-0.70	-0.60	11.00	-11.60

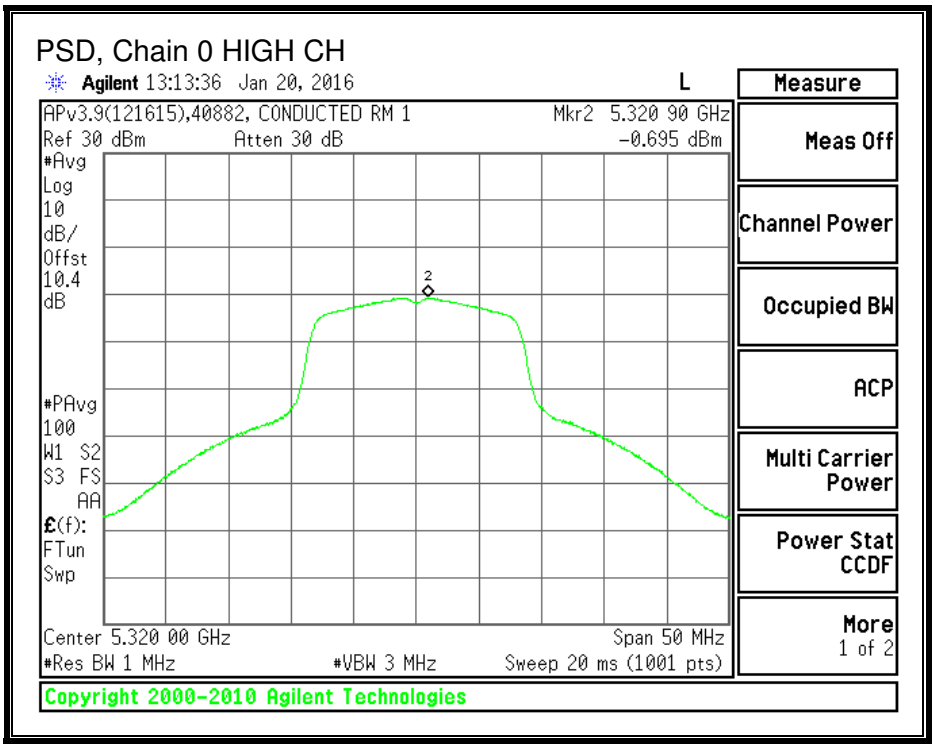
PSD, Chain 0

PSD, Chain 0 LOW CH



PSD, Chain 0 MID CH





8.4.4. OUTPUT POWER AND PPSD (IC)

LIMITS

IC RSS-247 6.2.2 (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10 B, dBm, whichever power is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

RESULTS - 802.11a, 5.3 GHz band

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5260	16.5176	3.03	3.03
Mid	5300	16.5834	3.03	3.03
High	5320	16.3078	3.03	3.03

Limits

Channel	Frequency (MHz)	IC EIRP Limit (dBm)	IC eirp PSD Limit (dBm)	IC Output Power Limit (dBm)
Low	5260	29.18	11.00	23.18
Mid	5300	29.20	11.00	23.20
High	5320	29.12	11.00	23.12

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	EIRP Limit (dBm)	Power Margin (dB)	Power Limit (dBm)	Power Margin (dB)
Low	5260	8.43	8.53	26.15	-17.62	23.18	-14.65
Mid	5300	7.87	7.97	26.17	-18.20	23.20	-15.23
High	5320	8.08	8.18	26.09	-17.91	23.12	-14.94

Note: EIRP Limit corrected by antenna gain.

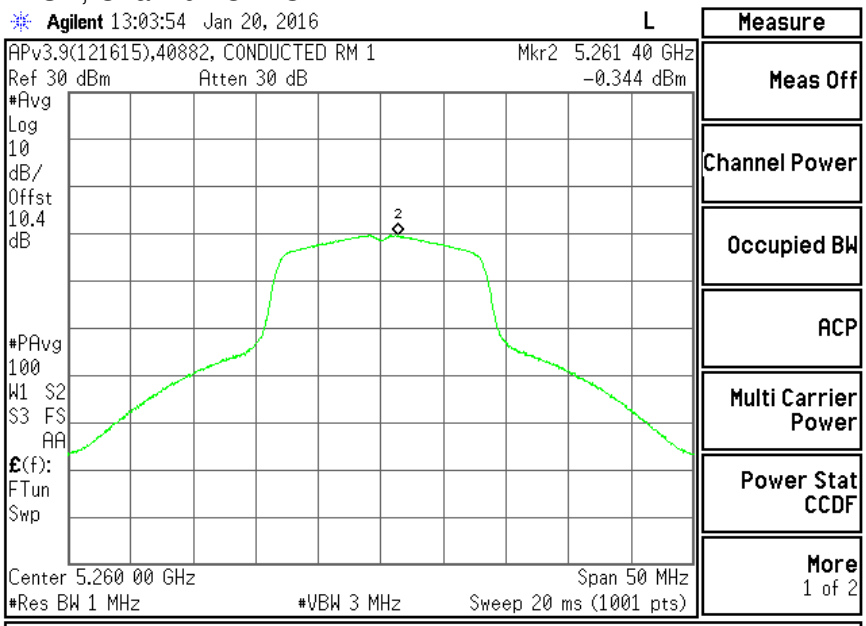
PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	-0.34	-0.24	7.97	-8.21
Mid	5300	-0.54	-0.44	7.97	-8.41
High	5320	-0.70	-0.60	7.97	-8.57

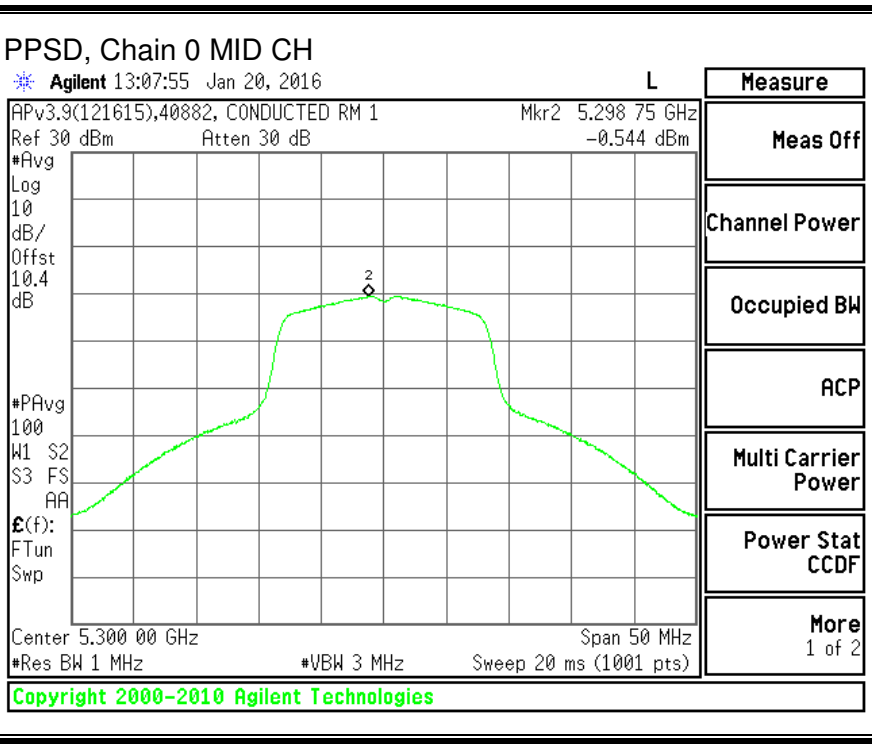
Note: Limit corrected by antenna gain.

PPSD, Chain 0

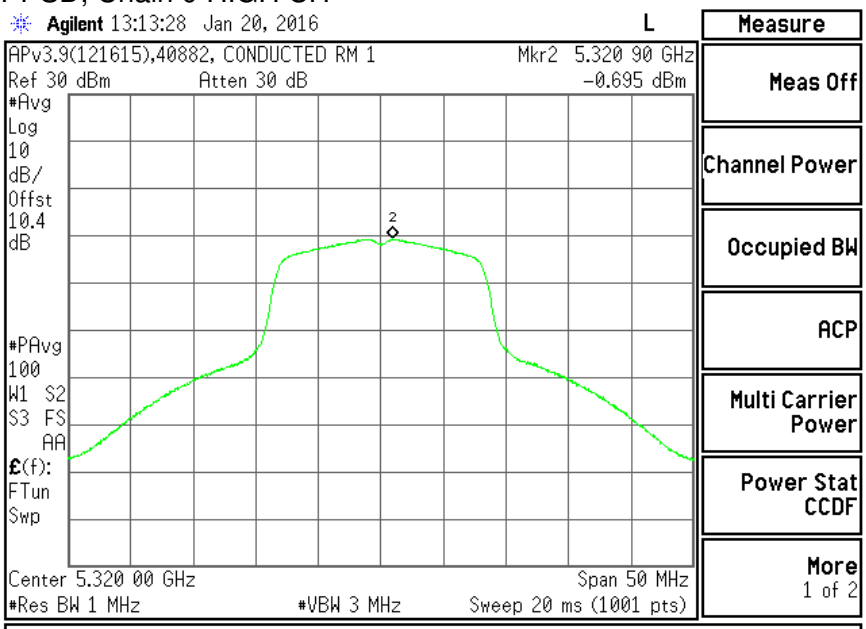
PPSD, Chain 0 LOW CH



PPSD, Chain 0 MID CH



PPSD, Chain 0 HIGH CH



8.4.5. TPC POWER

LIMITS

FCC §15.407 (h) (1)

IC RSS-247 6.2.2 (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5260	24	3.03	20.97
Mid	5300	24	3.03	20.97
High	5320	24	3.03	20.97

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power

TPC Output Power Results

Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Cond Limit (dBm)	Margin (dB)
Low	5260	8.43	8.53	20.97	-12.44
Mid	5300	7.87	7.97	20.97	-13.00
High	5320	8.08	8.18	20.97	-12.79

8.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

8.5.1. 26 dB BANDWIDTH

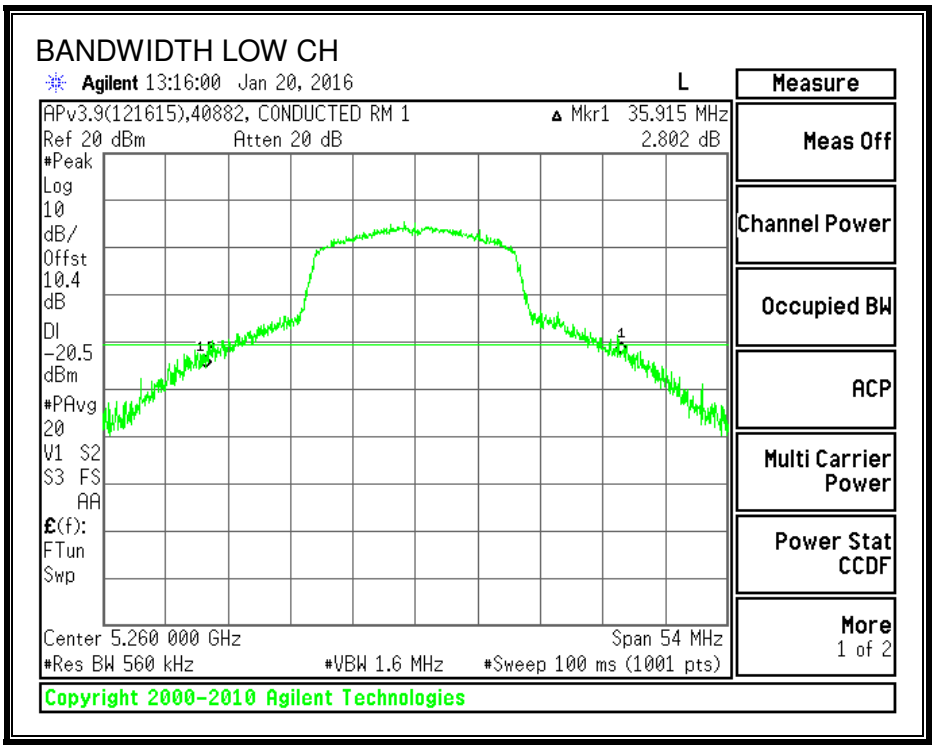
LIMITS

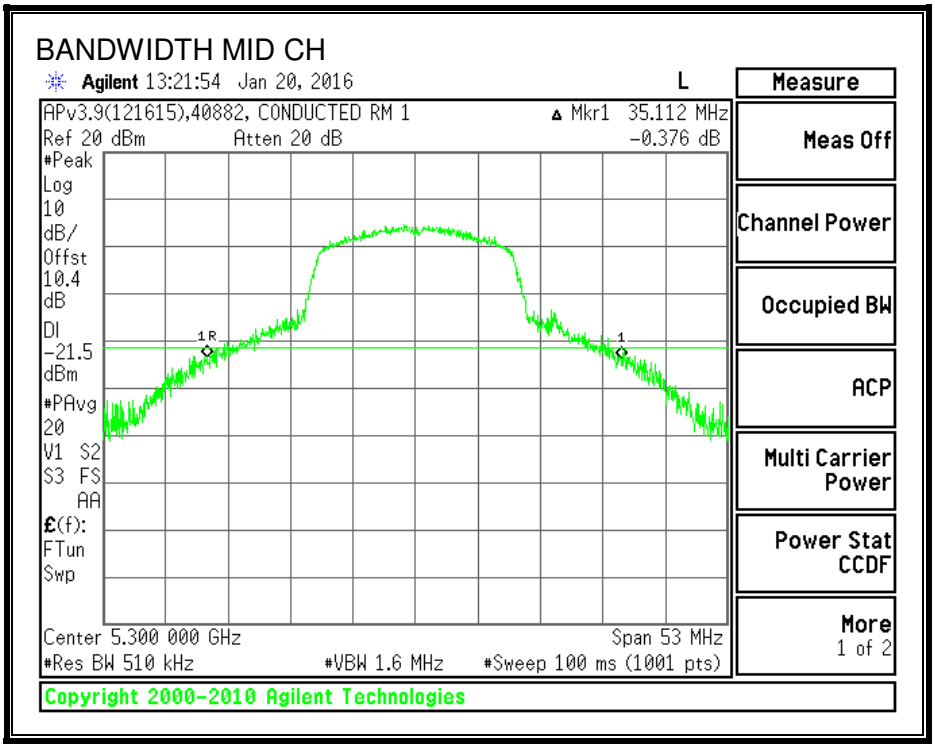
None; for reporting purposes only.

RESULTS

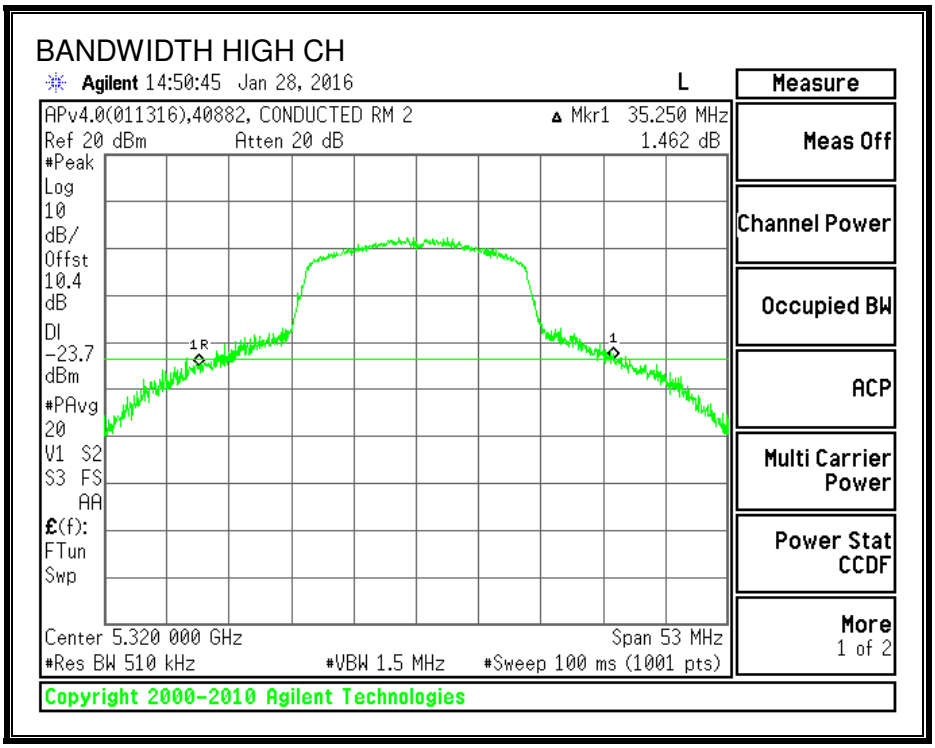
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	35.92
Mid	5300	35.11
High	5320	35.25

26 dB BANDWIDTH





BANDWIDTH HIGH CH



8.5.2. 99% BANDWIDTH

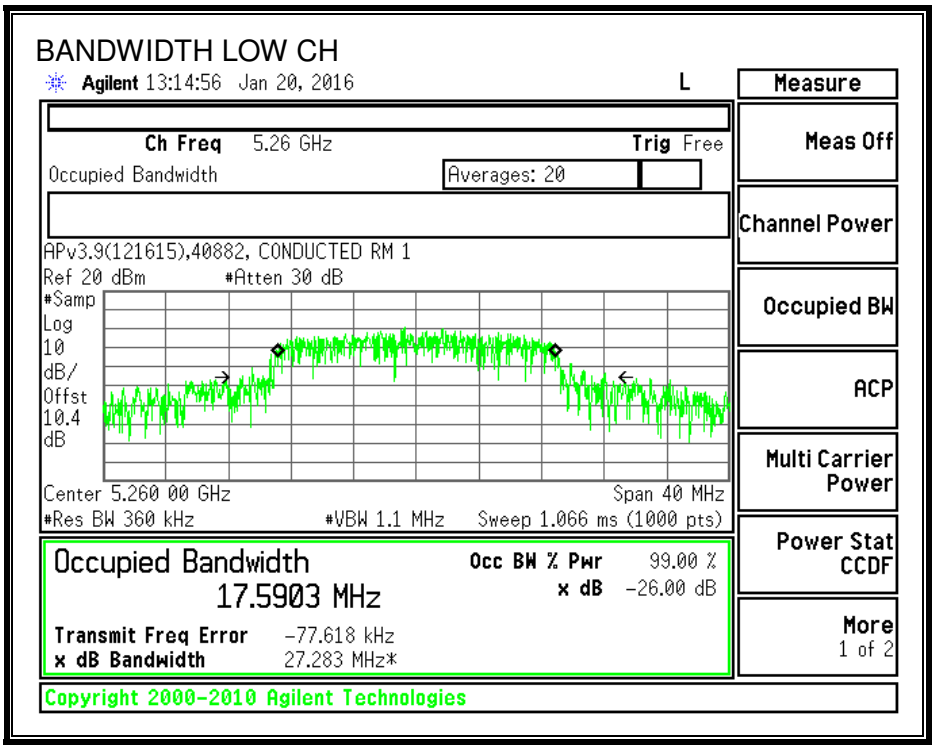
LIMITS

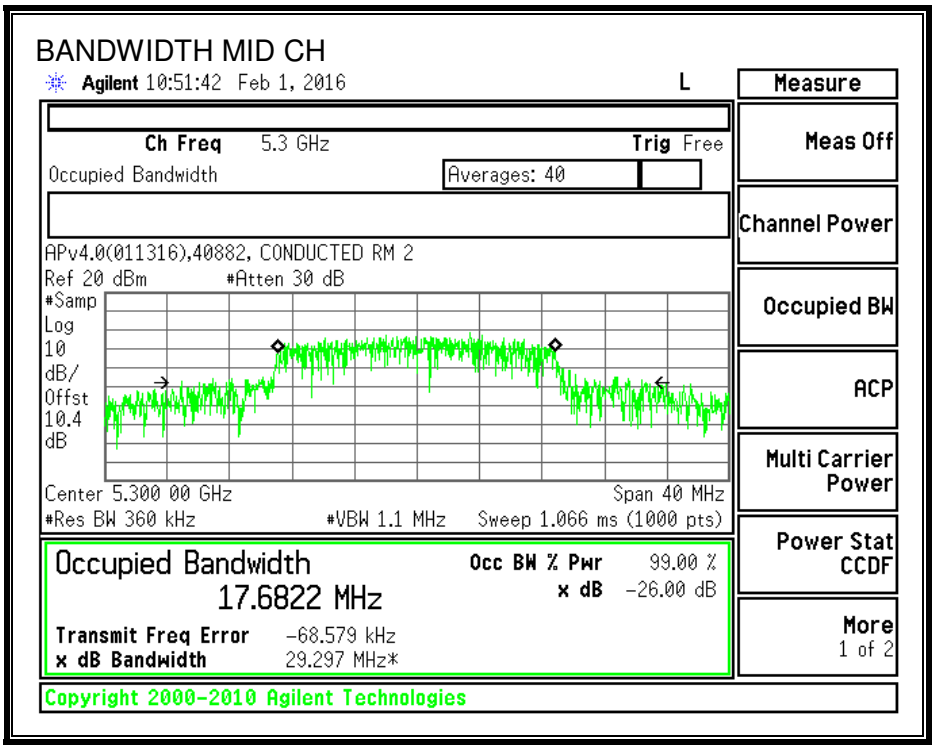
None; for reporting purposes only.

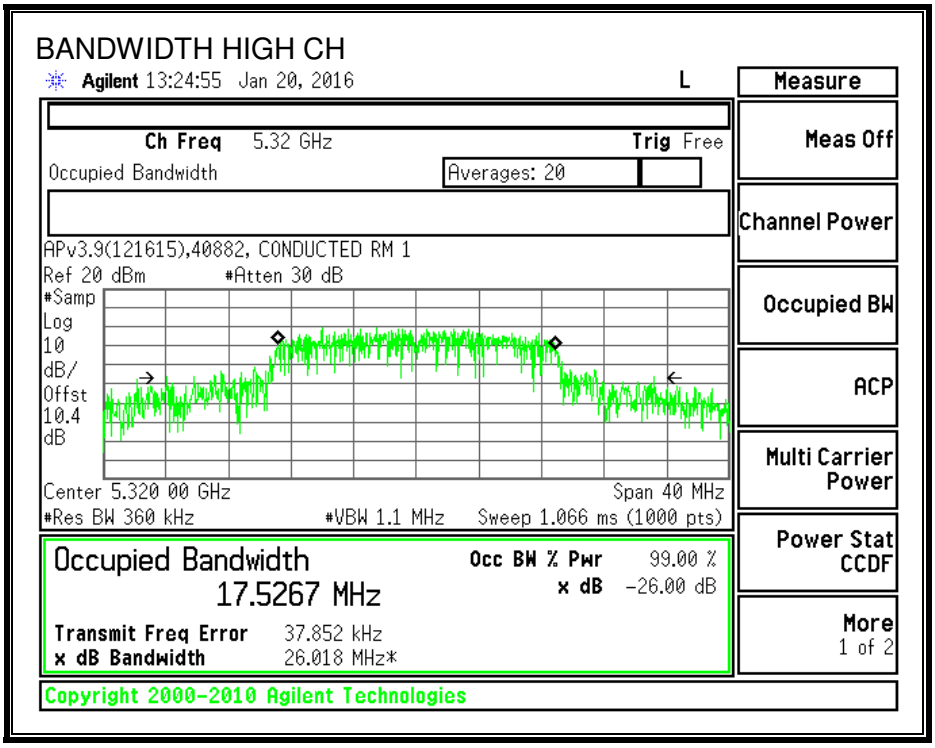
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	17.5903
Mid	5300	17.6822
High	5320	17.5267

99% BANDWIDTH







8.5.3. OUTPUT POWER AND PSD (FCC)

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak 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

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5260	35.92	3.03	24.00	11.00
Mid	5300	35.11	3.03	24.00	11.00
High	5320	35.25	3.03	24.00	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PSD

Output Power Results

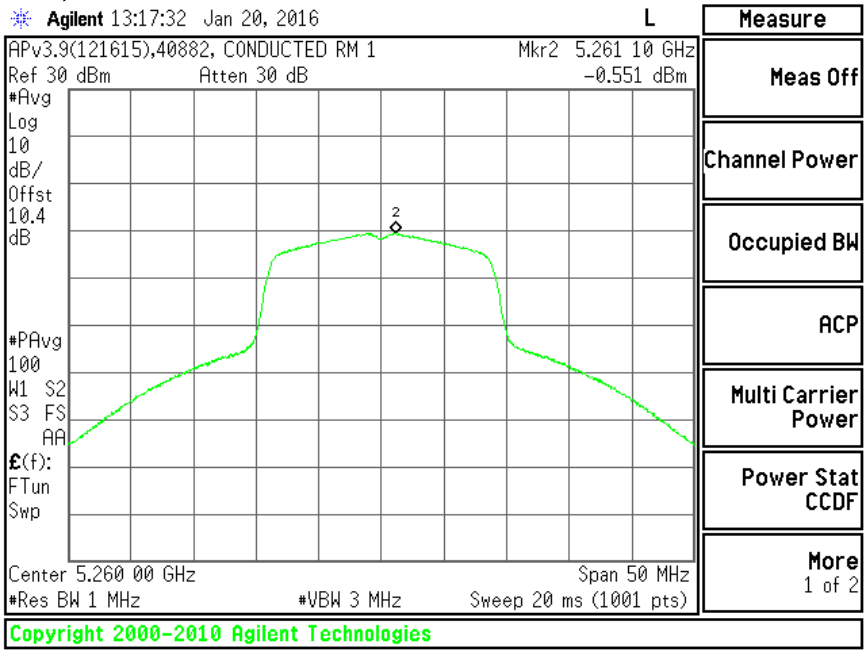
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	8.23	8.33	24.00	-15.67
Mid	5300	8.02	8.12	24.00	-15.88
High	5320	8.05	8.15	24.00	-15.85

PSD Results

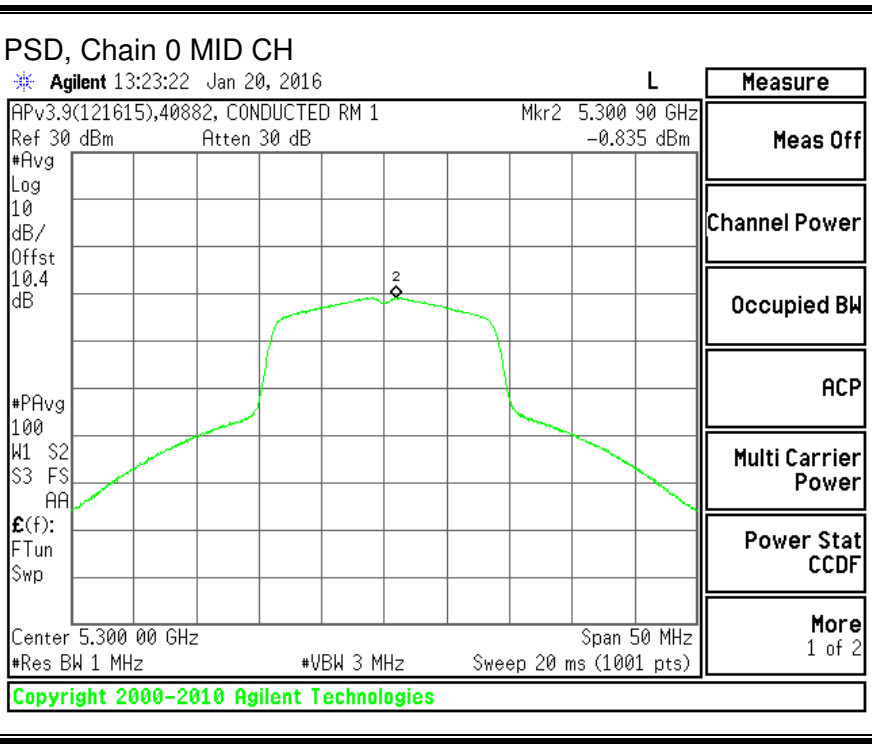
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	-0.55	-0.45	11.00	-11.45
Mid	5300	-0.84	-0.74	11.00	-11.74
High	5320	-1.00	-0.90	11.00	-11.90

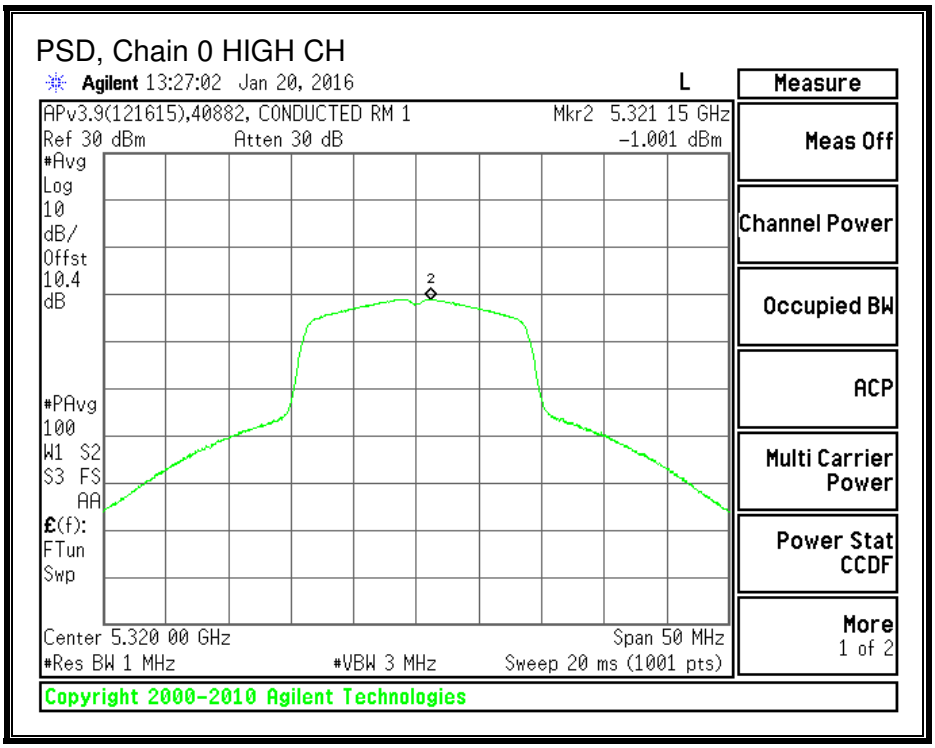
PSD, Chain 0

PSD, Chain 0 LOW CH



PSD, Chain 0 MID CH





8.5.4. OUTPUT POWER AND PPSD (IC)

LIMITS

IC RSS-247 6.2.2 (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10 B, dBm, whichever power is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

RESULTS - 802.11n 5.3 GHz band

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5260	17.5903	3.03	3.03
Mid	5300	17.6822	3.03	3.03
High	5320	17.5267	3.03	3.03

Limits

Channel	Frequency (MHz)	IC EIRP Limit (dBm)	IC eirp PSD Limit (dBm)	IC Output Power Limit (dBm)
Low	5260	29.45	11.00	23.45
Mid	5300	29.48	11.00	23.48
High	5320	29.44	11.00	23.44

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	EIRP Limit (dBm)	Power Margin (dB)	Power Limit (dBm)	Power Margin (dB)
Low	5260	8.23	8.33	26.42	-18.09	23.45	-15.12
Mid	5300	8.02	8.12	26.45	-18.33	23.48	-15.36
High	5320	8.05	8.15	26.41	-18.26	23.44	-15.29

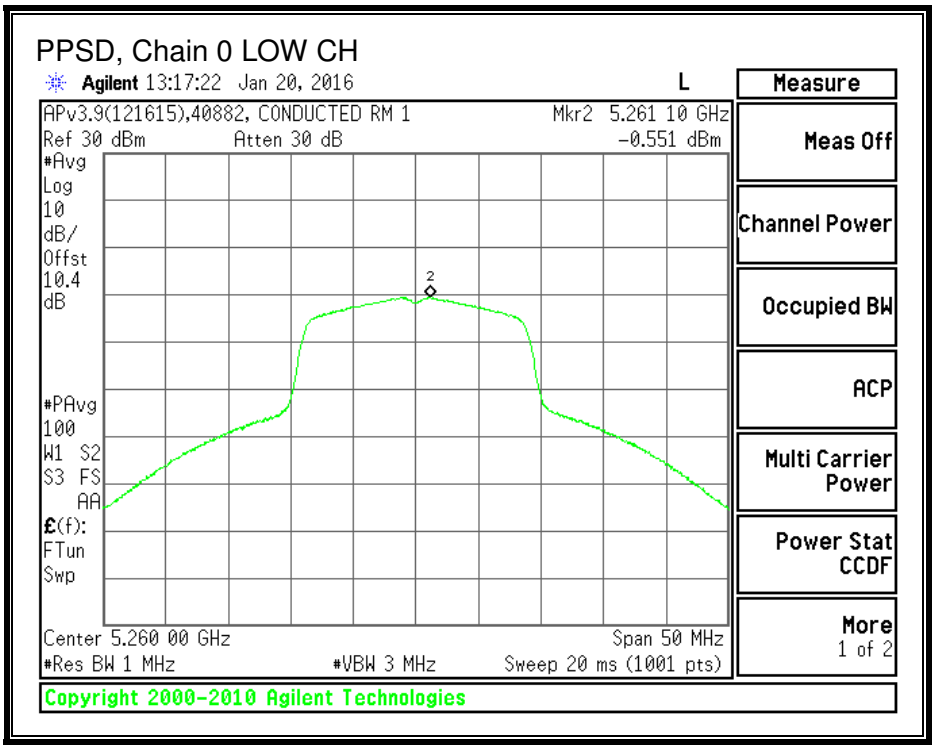
Note: EIRP Limit corrected by antenna gain.

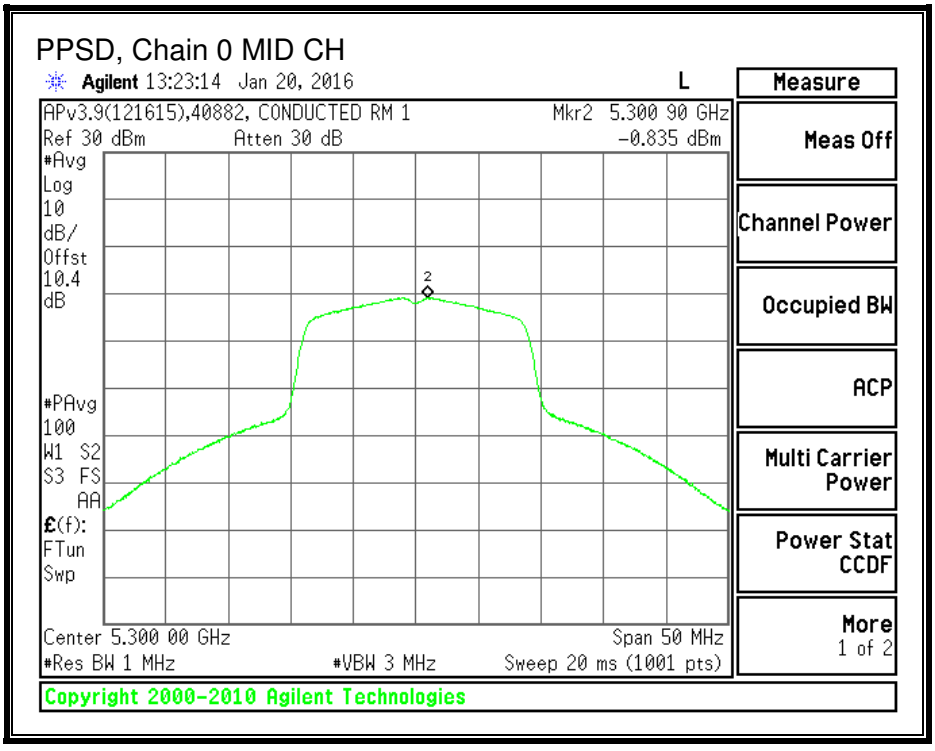
PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	-0.55	-0.45	7.97	-8.42
Mid	5300	-0.84	-0.74	7.97	-8.71
High	5320	-1.00	-0.90	7.97	-8.87

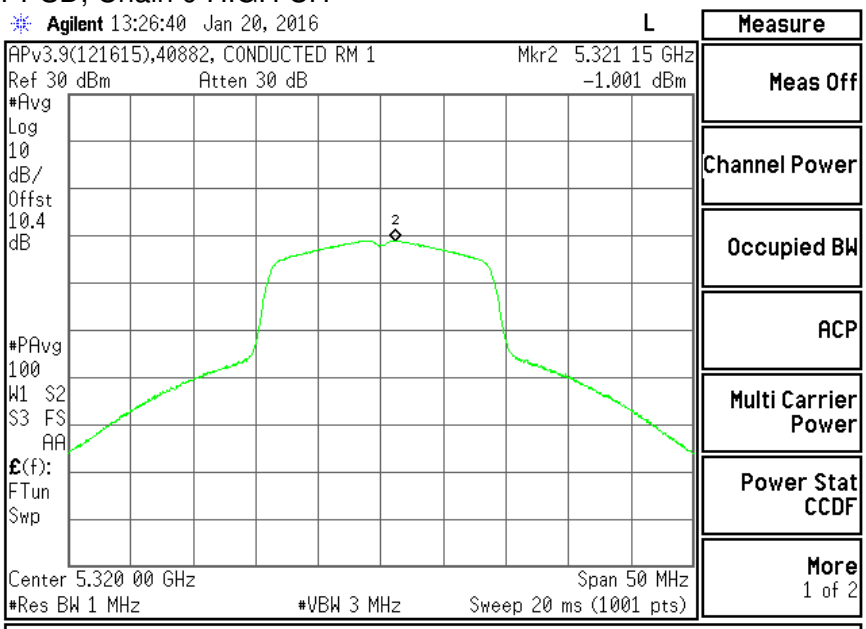
Note: Limit corrected by antenna gain.

PPSD, Chain 0





PPSD, Chain 0 HIGH CH



8.5.5. TPC POWER

LIMITS

FCC §15.407 (h) (1)

IC RSS-247 6.2.2 (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5260	24	3.03	20.97
Mid	5300	24	3.03	20.97
High	5320	24	3.03	20.97

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power

TPC Output Power Results

Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Cond Limit (dBm)	Margin (dB)
Low	5260	8.23	8.33	20.97	-12.64
Mid	5300	8.02	8.12	20.97	-12.85
High	5320	8.05	8.15	20.97	-12.82

8.6. 802.11a MODE IN THE 5.6 GHz BAND

8.6.1. 26 dB BANDWIDTH

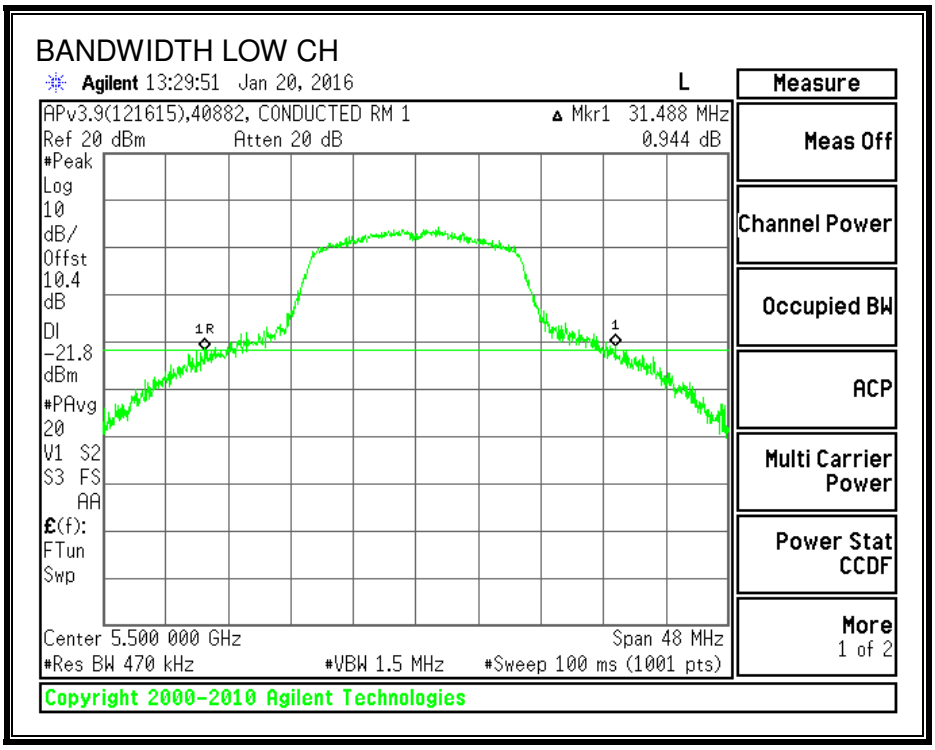
LIMITS

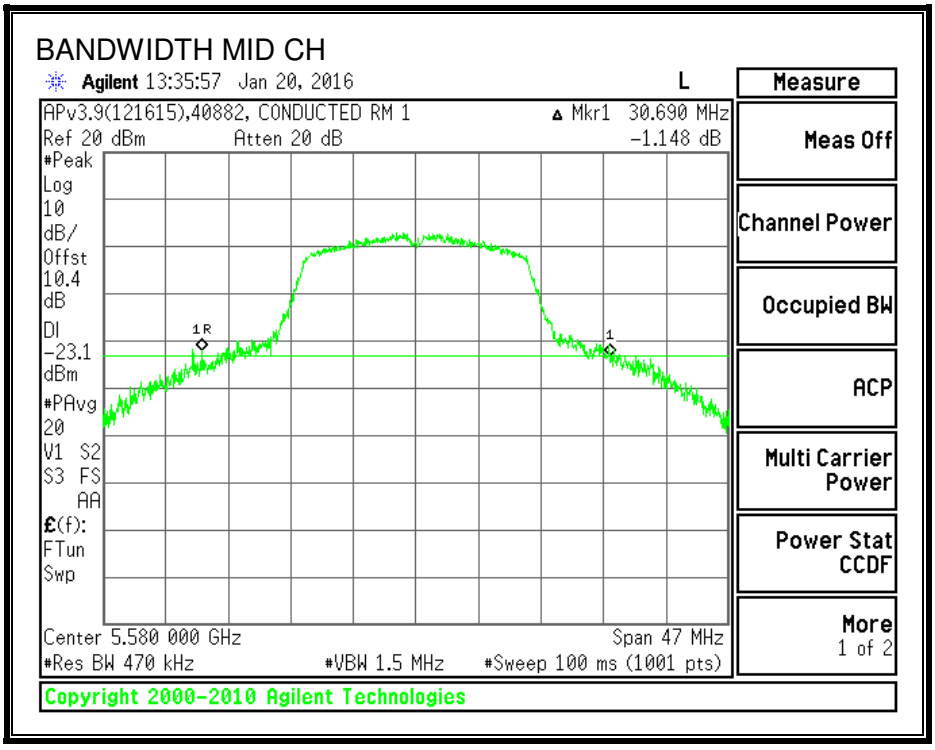
None; for reporting purposes only.

RESULTS

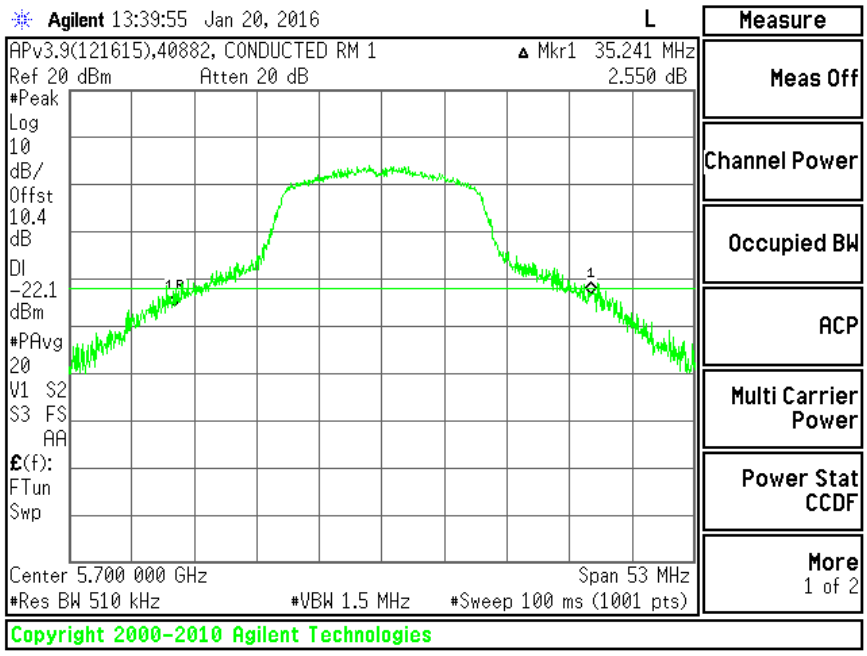
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	31.49
Mid	5580	30.69
High	5700	35.24

26 dB BANDWIDTH





BANDWIDTH HIGH CH



8.6.2. 99% BANDWIDTH

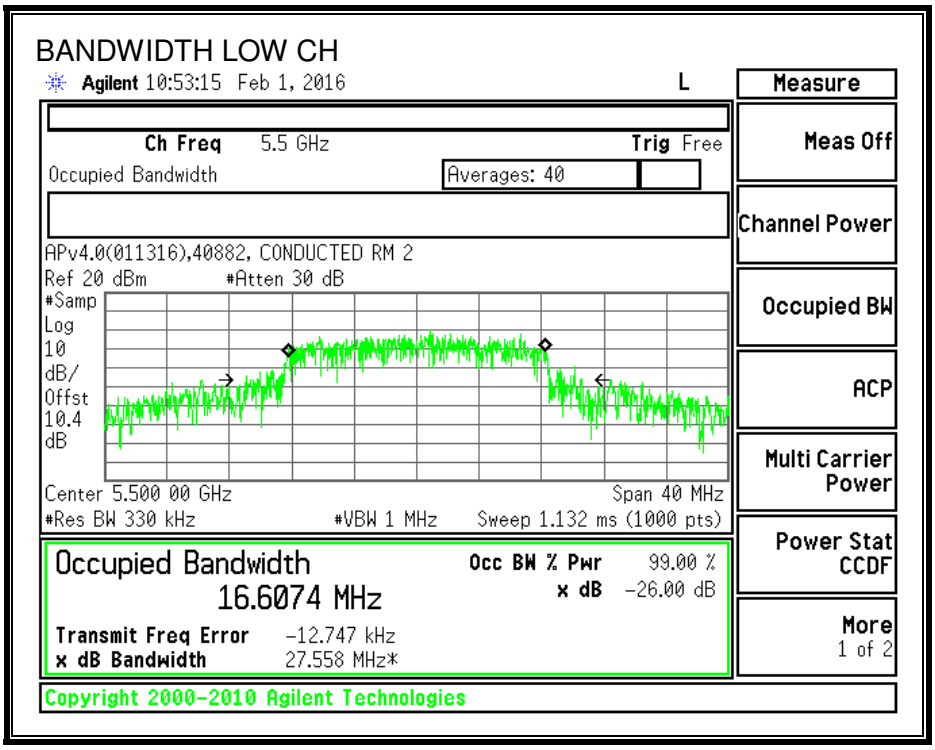
LIMITS

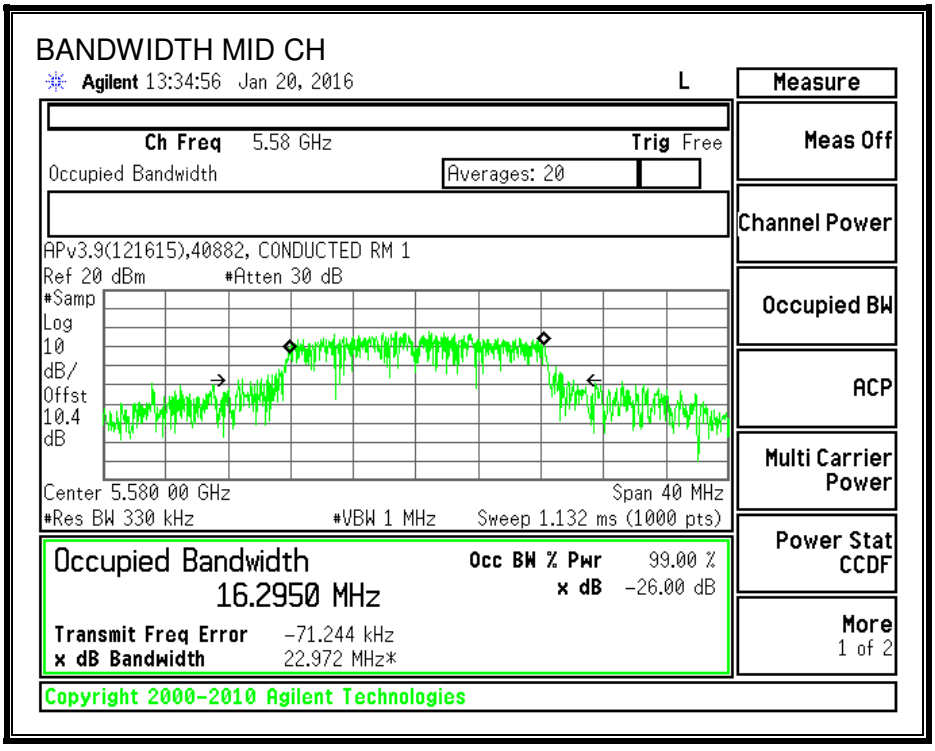
None; for reporting purposes only.

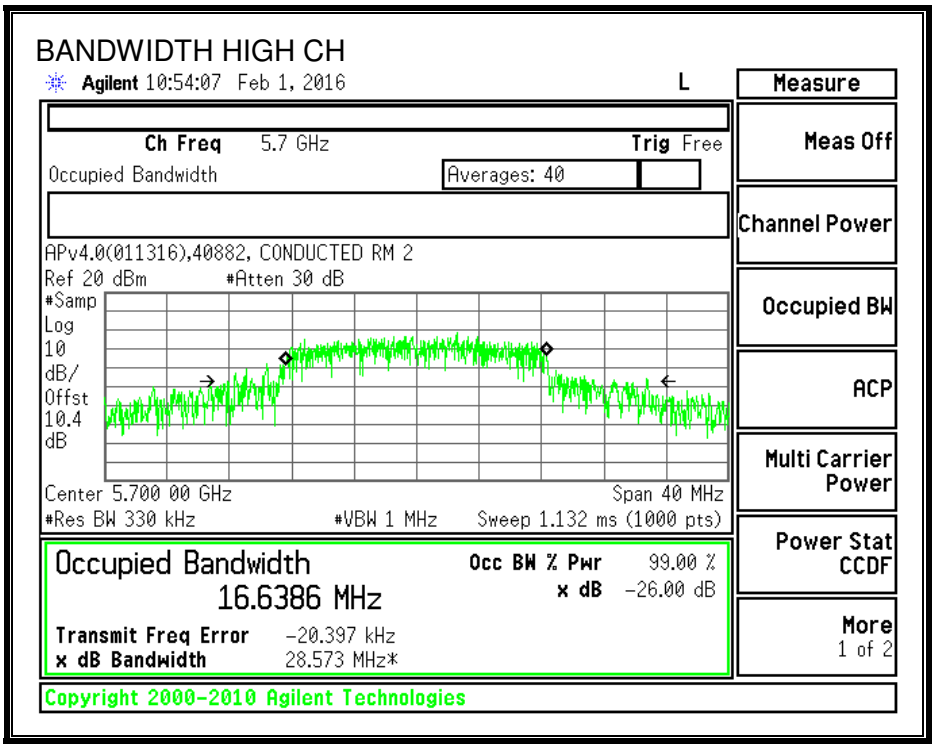
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	16.6074
Mid	5600	16.2950
High	5700	16.6386

99% BANDWIDTH







8.6.3. OUTPUT POWER AND PSD (FCC)

LIMITS

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak 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

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5500	31.49	3.03	24.00	11.00
Mid	5600	30.69	3.03	24.00	11.00
High	5700	35.24	3.03	24.00	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PSD

Output Power Results

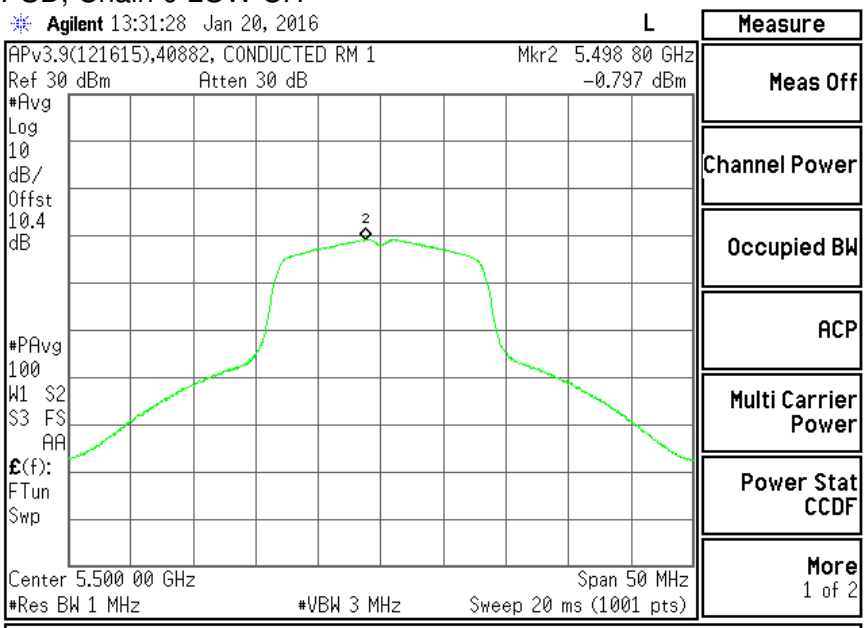
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	8.35	8.45	24.00	-15.55
Mid	5600	7.77	7.87	24.00	-16.13
High	5700	8.39	8.49	24.00	-15.51

PSD Results

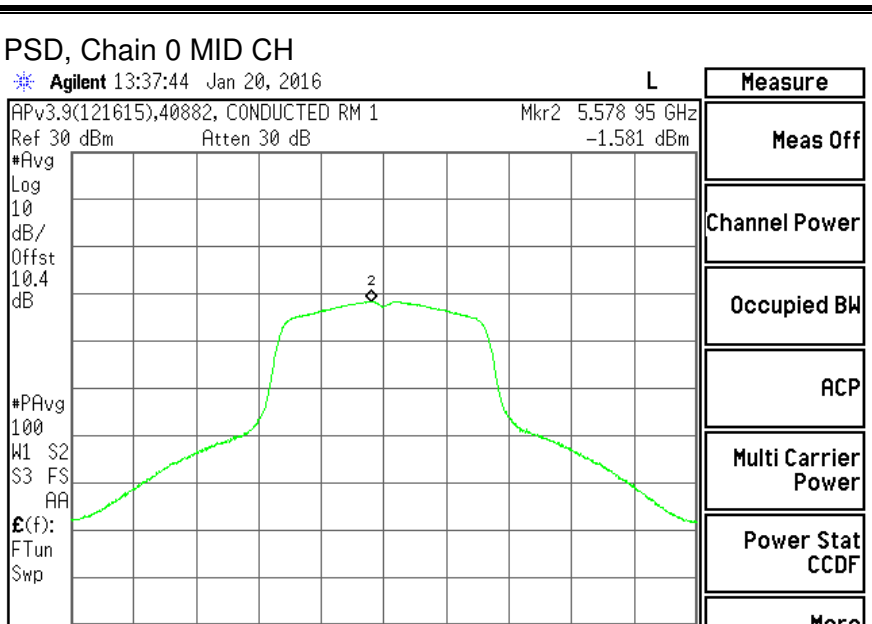
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5500	-0.80	-0.70	11.00	-11.70
Mid	5600	-1.58	-1.48	11.00	-12.48
High	5700	-1.29	-1.19	11.00	-12.19

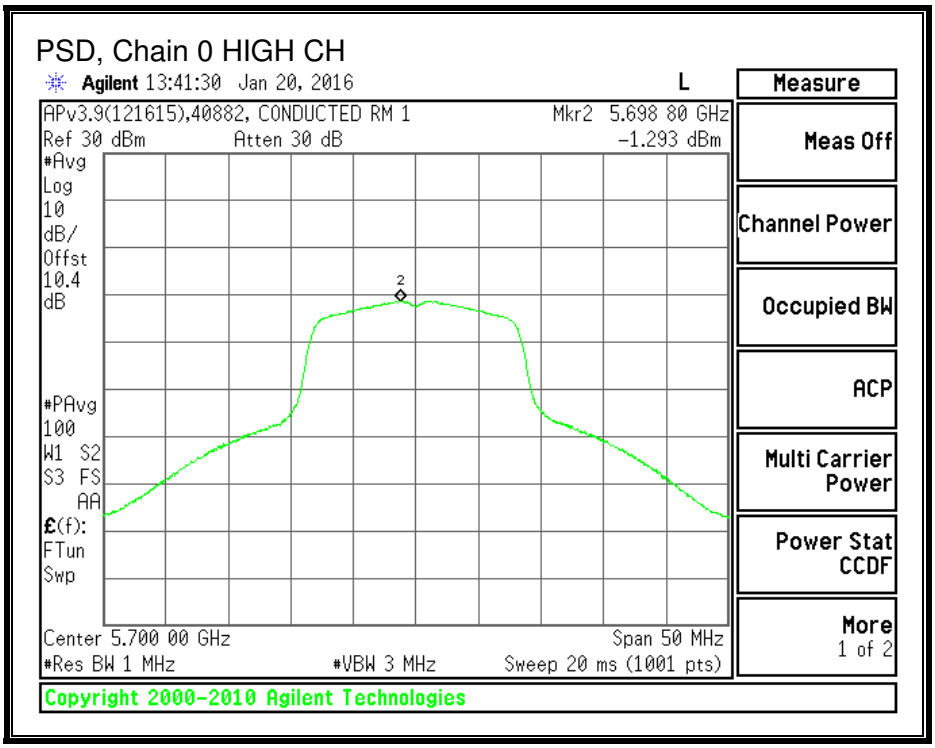
OUTPUT POWER AND PSD, Chain 0

PSD, Chain 0 LOW CH



PSD, Chain 0 MID CH





8.6.4. OUTPUT POWER AND PPSD (IC)

LIMITS

IC RSS-247 6.2.3 (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10 B, dBm, whichever power is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

RESULTS - 802.11a, 5.6 GHz band

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5500	16.6074	3.03	3.03
Mid	5580	16.2950	3.03	3.03
High	5700	16.6386	3.03	3.03

Limits

Channel	Frequency (MHz)	IC EIRP Limit (dBm)	IC eirp PSD Limit (dBm)	IC Output Power Limit (dBm)
Low	5500	29.20	11.00	23.20
Mid	5580	29.12	11.00	23.12
High	5700	29.21	11.00	23.21

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	EIRP Limit (dBm)	Power Margin (dB)	Power Limit (dBm)	Power Margin (dB)
Low	5500	8.35	8.45	26.17	-17.72	23.20	-14.75
Mid	5580	7.77	7.87	26.09	-18.22	23.12	-15.25
High	5700	8.39	8.49	26.18	-17.69	23.21	-14.72

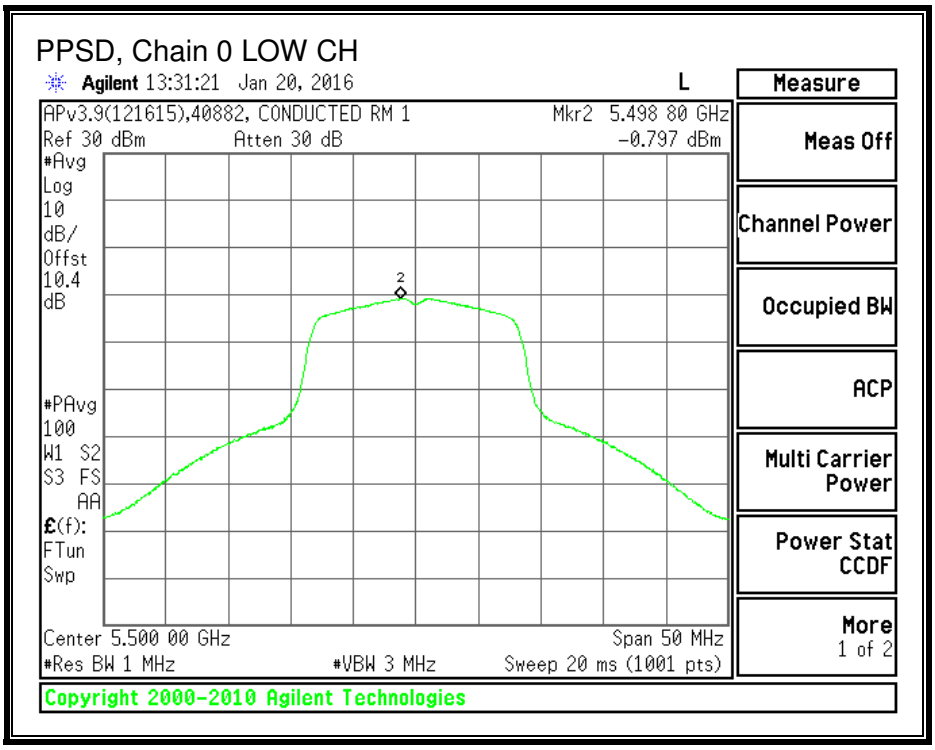
Note: EIRP Limit corrected by antenna gain.

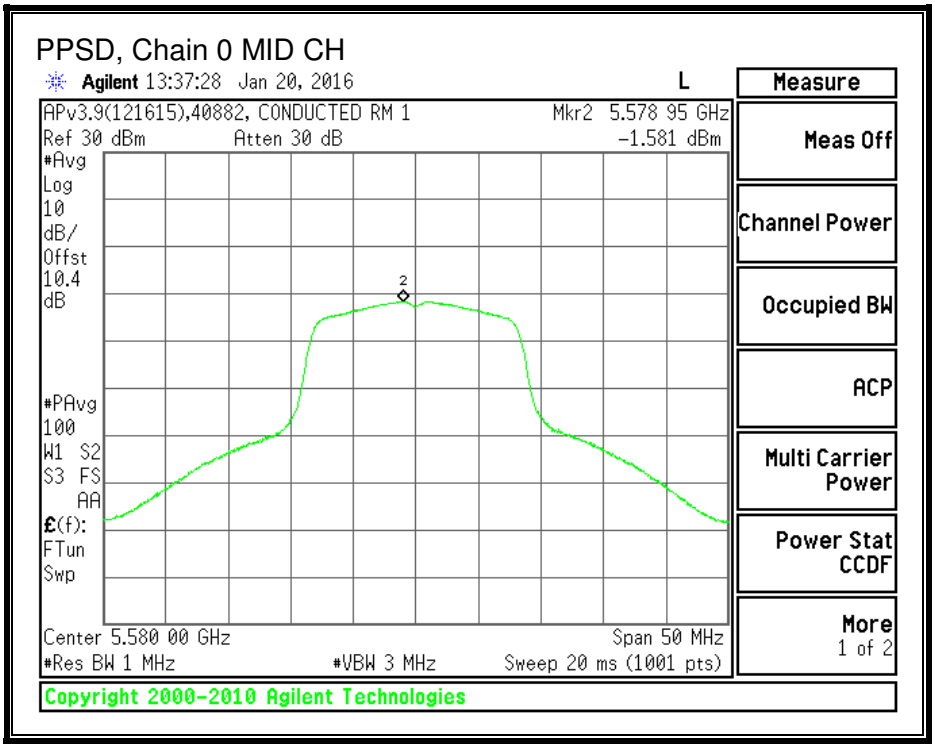
PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-0.80	-0.70	7.97	-8.67
Mid	5580	-1.58	-1.48	7.97	-9.45
High	5700	-1.29	-1.19	7.97	-9.16

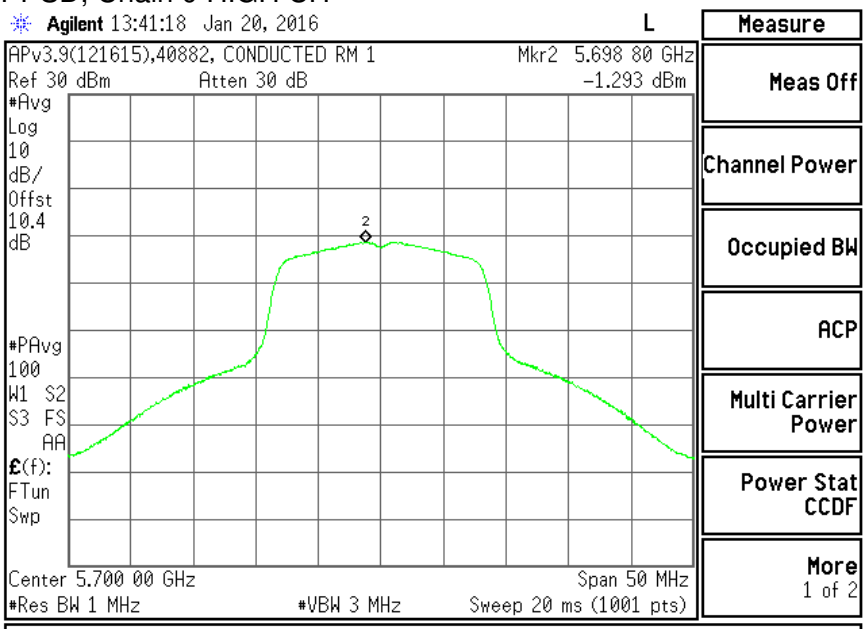
Note: Limit corrected by antenna gain.

PPSD, Chain 0





PPSD, Chain 0 HIGH CH



8.6.5. TPC POWER

LIMITS

FCC §15.407 (h) (1)

IC RSS-247 6.2.3 (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5500	24	3.03	20.97
Mid	5600	24	3.03	20.97
High	5700	24	3.03	20.97

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power

TPC Output Power Results

Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Cond Limit (dBm)	Margin (dB)
Low	5500	8.35	8.45	20.97	-12.52
Mid	5600	7.77	7.87	20.97	-13.10
High	5700	8.39	8.49	20.97	-12.48

8.7. 802.11n HT20 MODE IN THE 5.6 GHz BAND

8.7.1. 26 dB BANDWIDTH

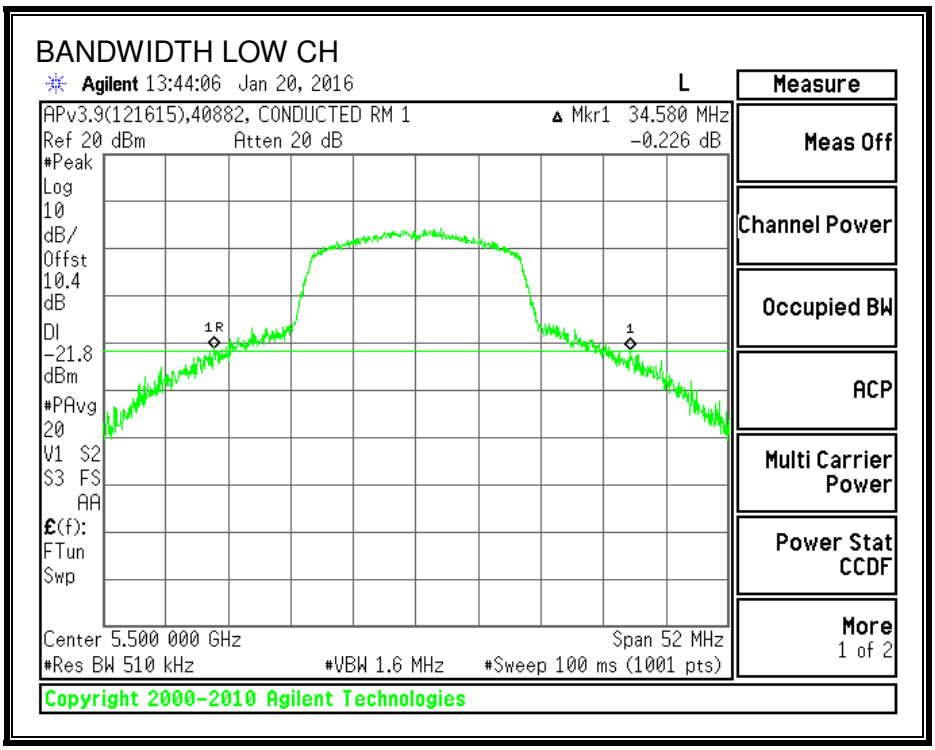
LIMITS

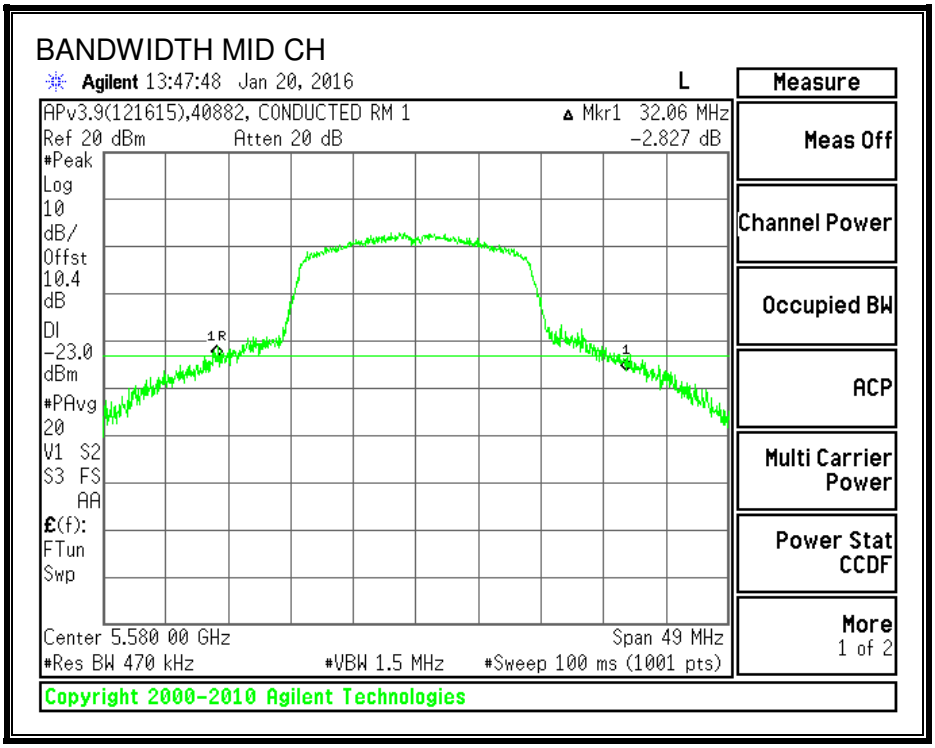
None; for reporting purposes only.

RESULTS

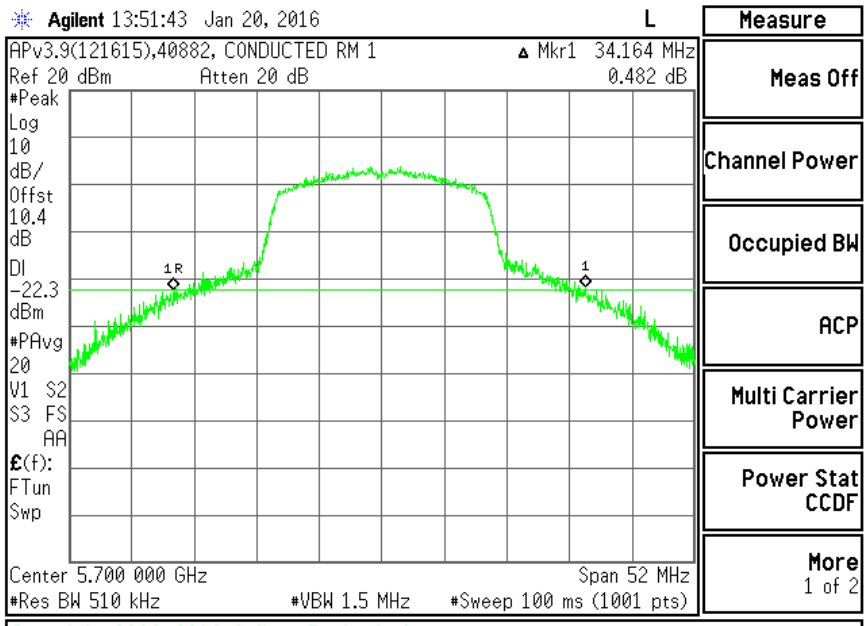
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	34.58
Mid	5580	32.06
High	5700	34.16

26 dB BANDWIDTH





BANDWIDTH HIGH CH



8.7.2. 99% BANDWIDTH

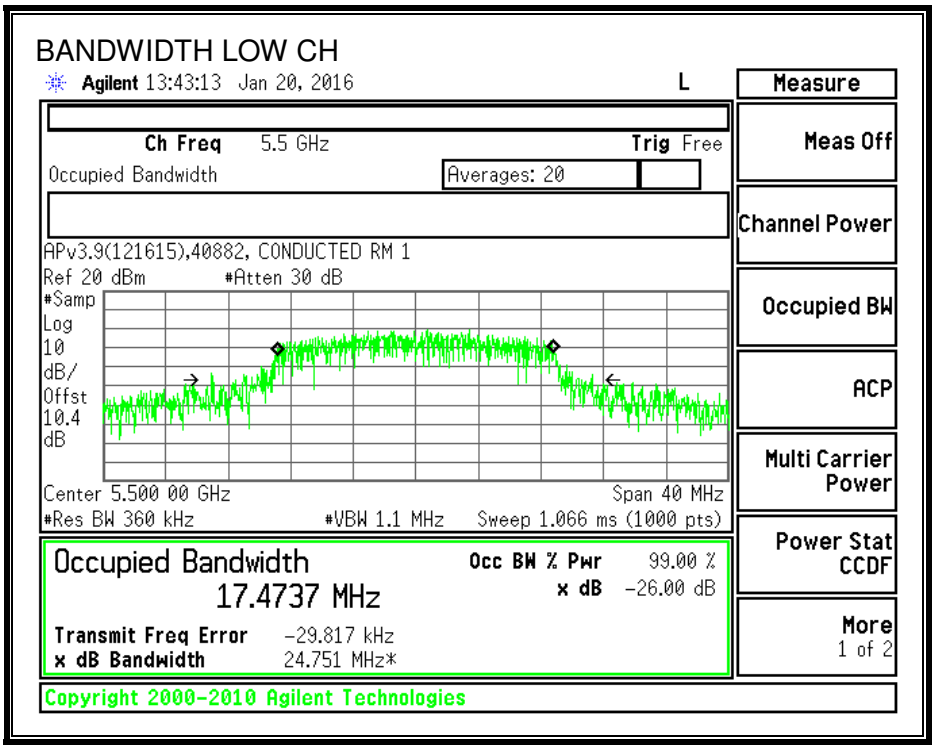
LIMITS

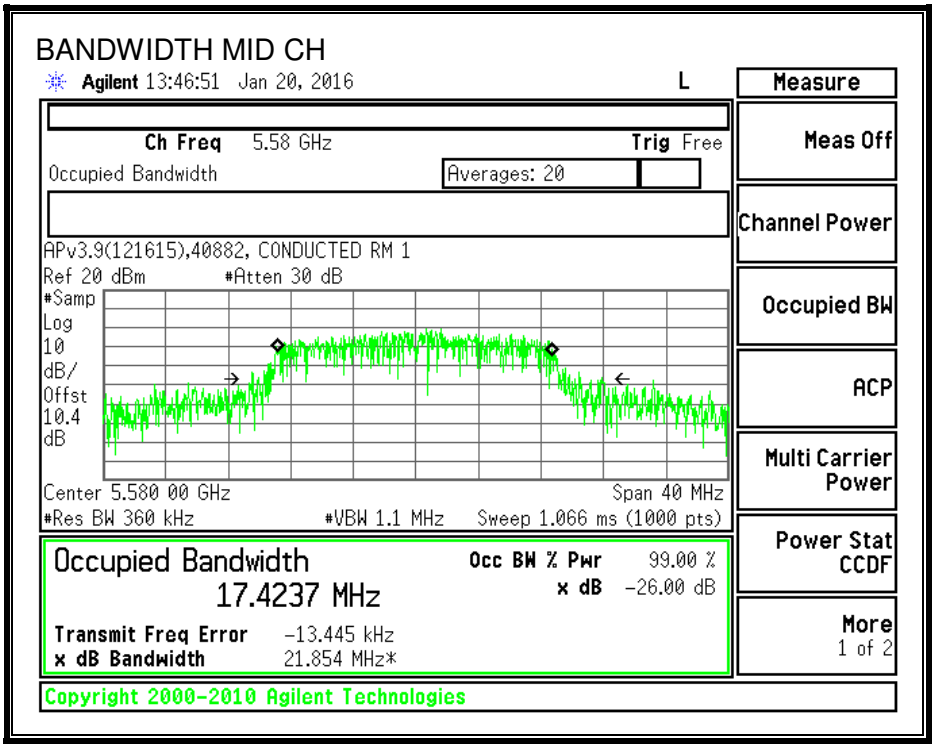
None; for reporting purposes only.

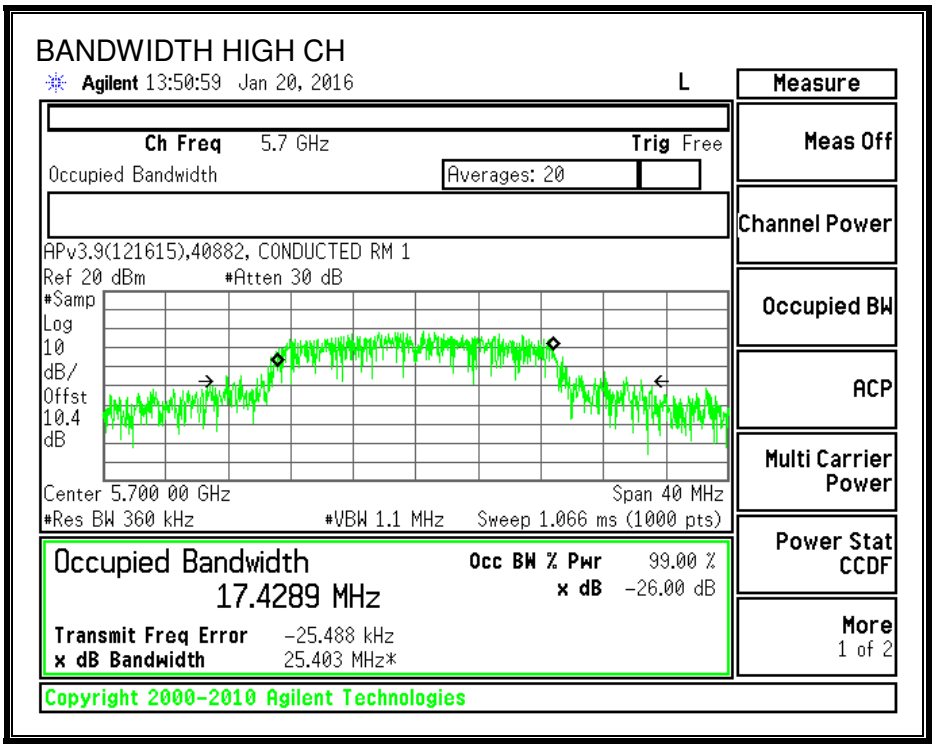
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.4737
Mid	5600	17.4237
High	5700	17.4289

99% BANDWIDTH







8.7.3. OUTPUT POWER AND PSD (FCC)

LIMITS

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak 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

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5500	34.58	3.03	24.00	11.00
Mid	5580	32.06	3.03	24.00	11.00
High	5700	34.16	3.03	24.00	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PSD

Output Power Results

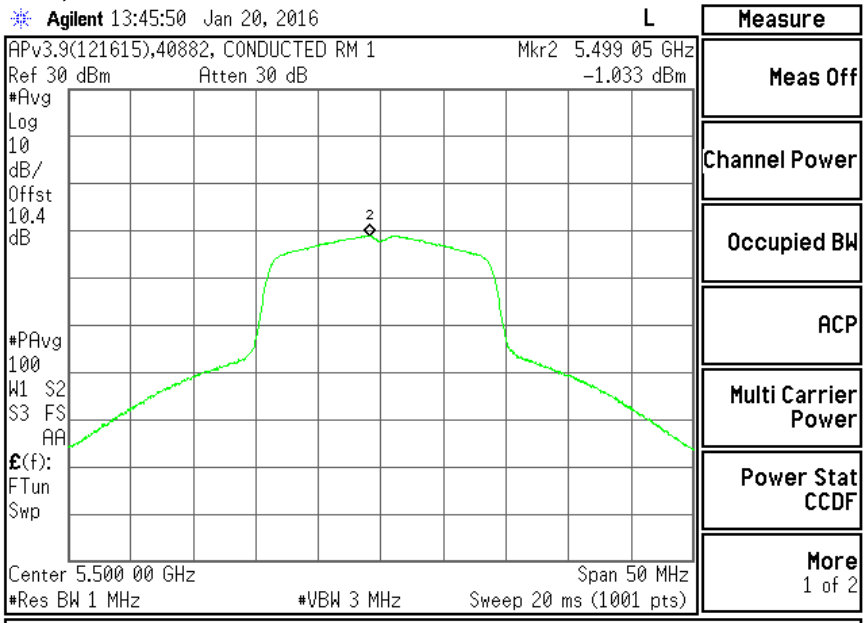
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	8.21	8.31	24.00	-15.69
Mid	5580	8.47	8.57	24.00	-15.43
High	5700	8.22	8.32	24.00	-15.68

PSD Results

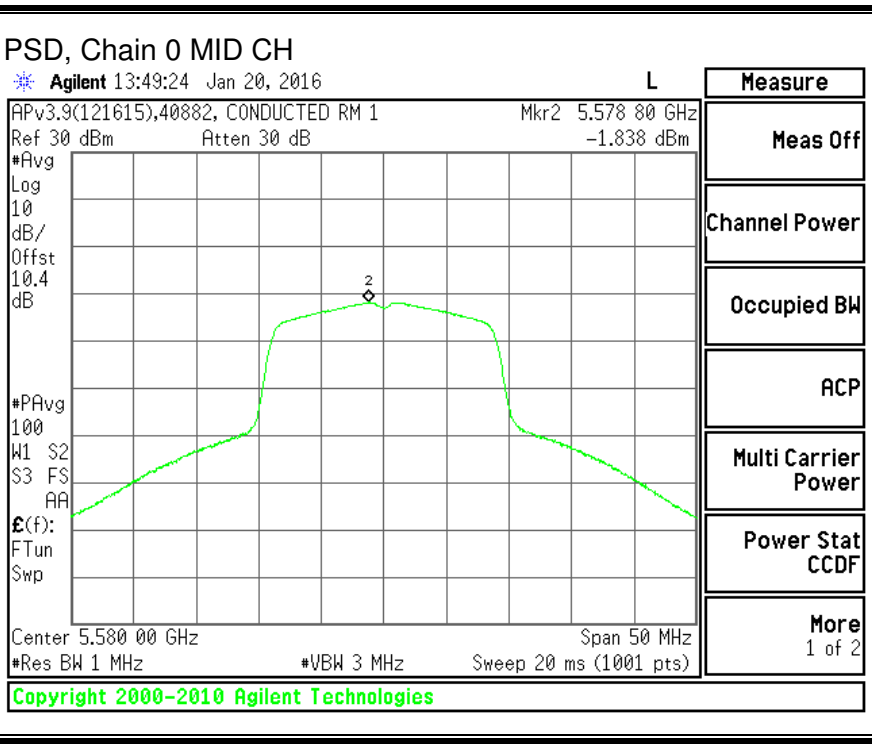
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5500	-1.03	-0.93	11.00	-11.93
Mid	5580	-1.84	-1.74	11.00	-12.74
High	5700	-1.61	-1.51	11.00	-12.51

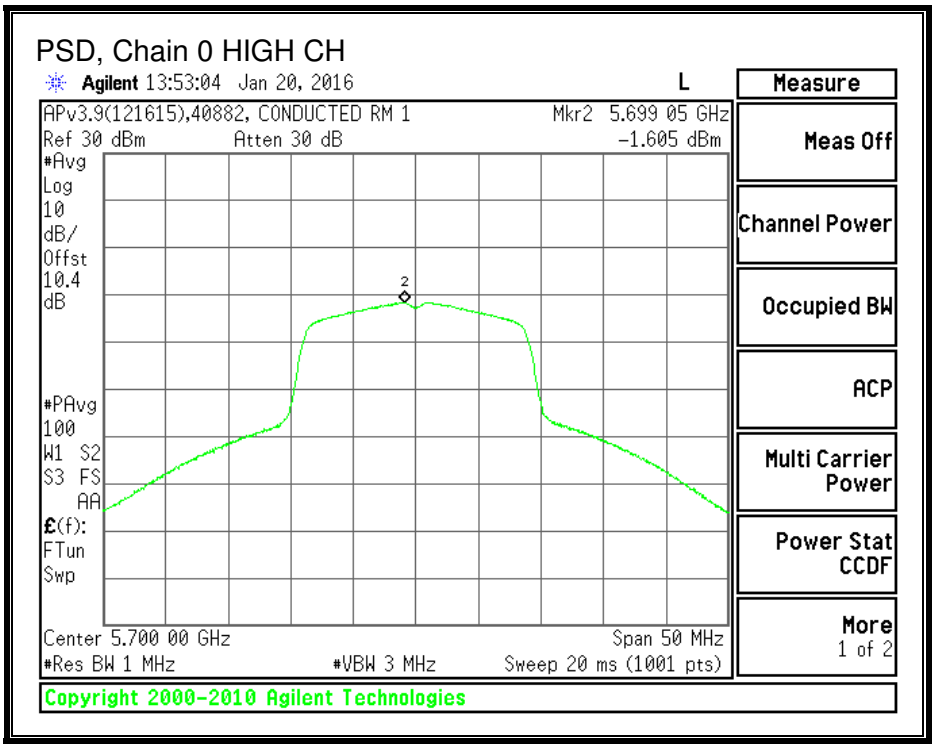
PSD, Chain 0

PSD, Chain 0 LOW CH



PSD, Chain 0 MID CH





8.7.4. OUTPUT POWER AND PPSD (IC)

LIMITS

IC RSS-247 6.2.3 (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10 B, dBm, whichever power is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

RESULTS - 802.11n, 5.6 GHz band

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5500	17.4737	3.03	3.03
Mid	5580	17.4237	3.03	3.03
High	5700	17.4289	3.03	3.03

Limits

Channel	Frequency (MHz)	IC EIRP Limit (dBm)	IC eirp PSD Limit (dBm)	IC Output Power Limit (dBm)
Low	5500	29.42	11.00	23.42
Mid	5580	29.41	11.00	23.41
High	5700	29.41	11.00	23.41

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	EIRP Limit (dBm)	Power Margin (dB)	Power Limit (dBm)	Power Margin (dB)
Low	5500	8.21	8.31	26.39	-18.08	23.42	-15.11
Mid	5580	8.47	8.57	26.38	-17.81	23.41	-14.84
High	5700	8.22	8.32	26.38	-18.06	23.41	-15.09

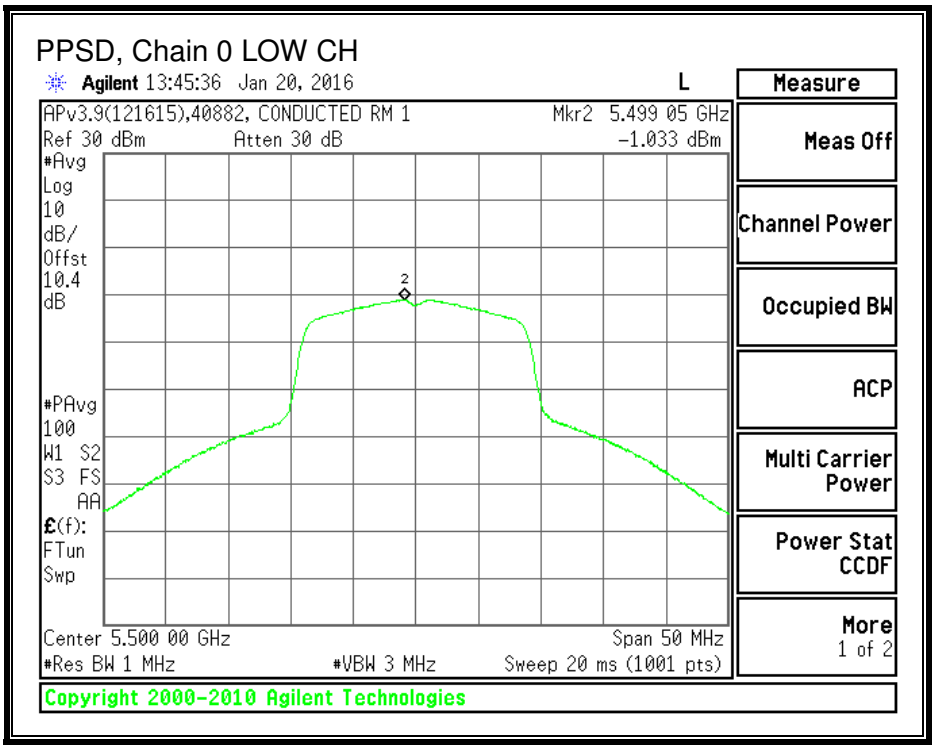
Note: EIRP Limit corrected by antenna gain.

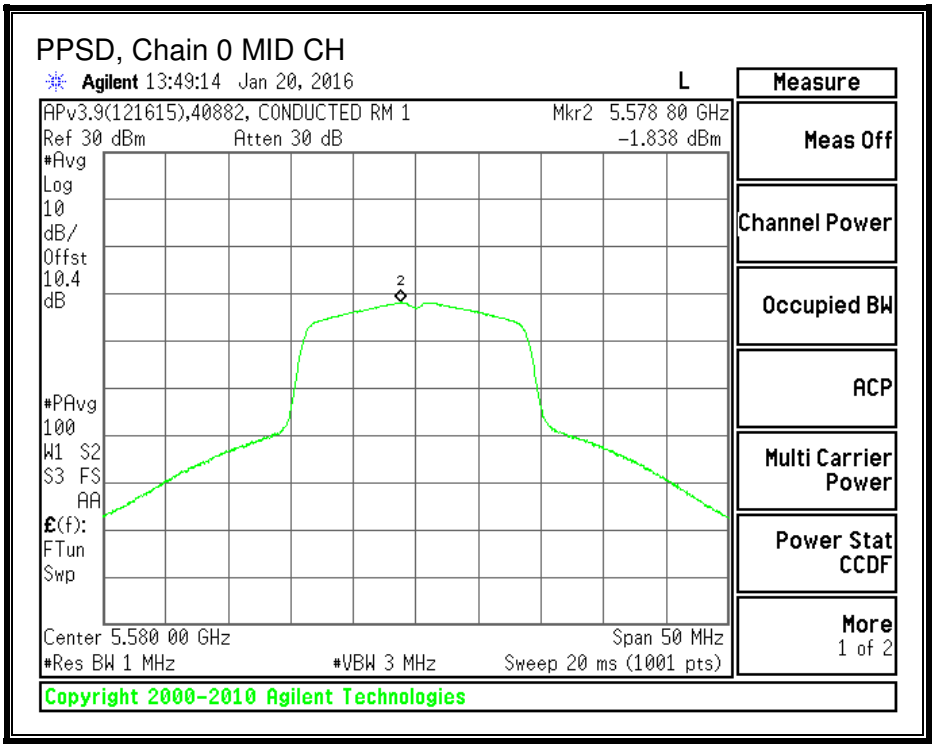
PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-1.03	-0.93	7.97	-8.90
Mid	5580	-1.84	-1.74	7.97	-9.71
High	5700	-1.61	-1.51	7.97	-9.48

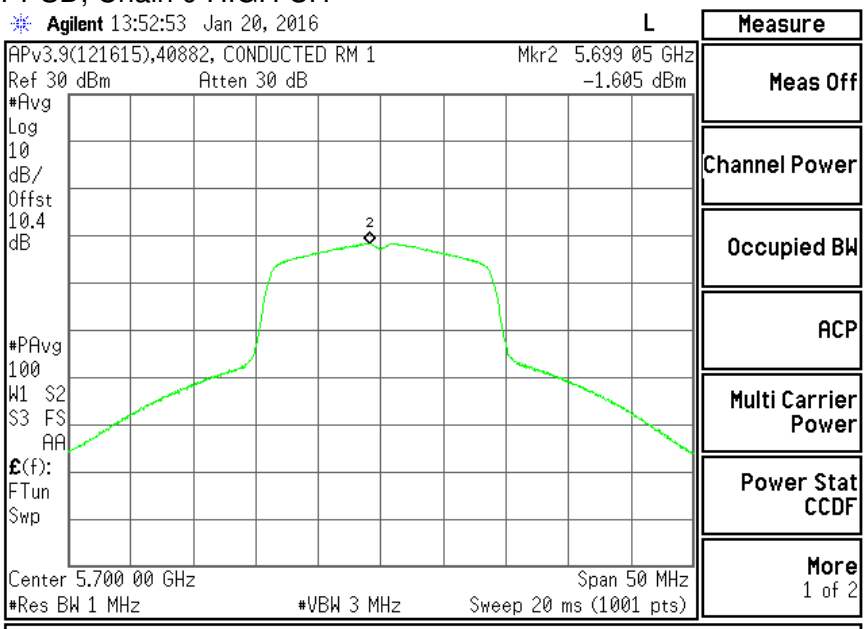
Note: Limit corrected by antenna gain.

PPSD, Chain 0





PPSD, Chain 0 HIGH CH



8.7.5. TPC POWER

LIMITS

FCC §15.407 (h) (1)

IC RSS-247 6.2.3 (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5500	24	3.03	20.97
Mid	5600	24	3.03	20.97
High	5700	24	3.03	20.97

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power

TPC Output Power Results

Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Cond Limit (dBm)	Margin (dB)
Low	5500	8.21	8.31	20.97	-12.66
Mid	5600	8.47	8.57	20.97	-12.40
High	5700	8.22	8.32	20.97	-12.65

8.8. 802.11a MODE IN THE 5.8 GHz BAND

8.8.1. 6 dB BANDWIDTH

LIMITS

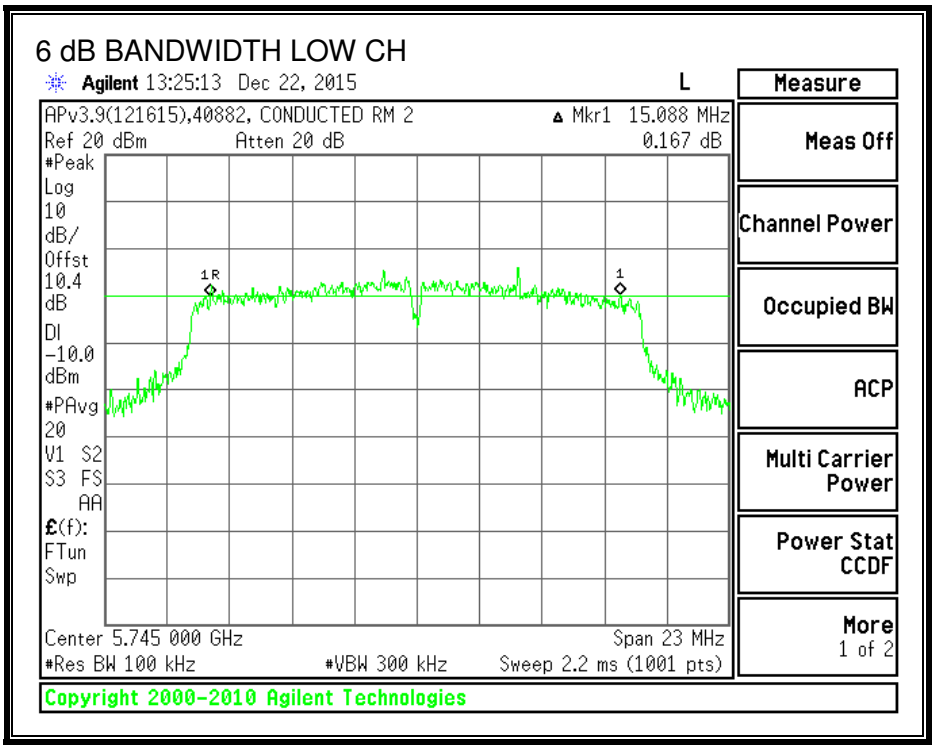
FCC §15.407 (e)

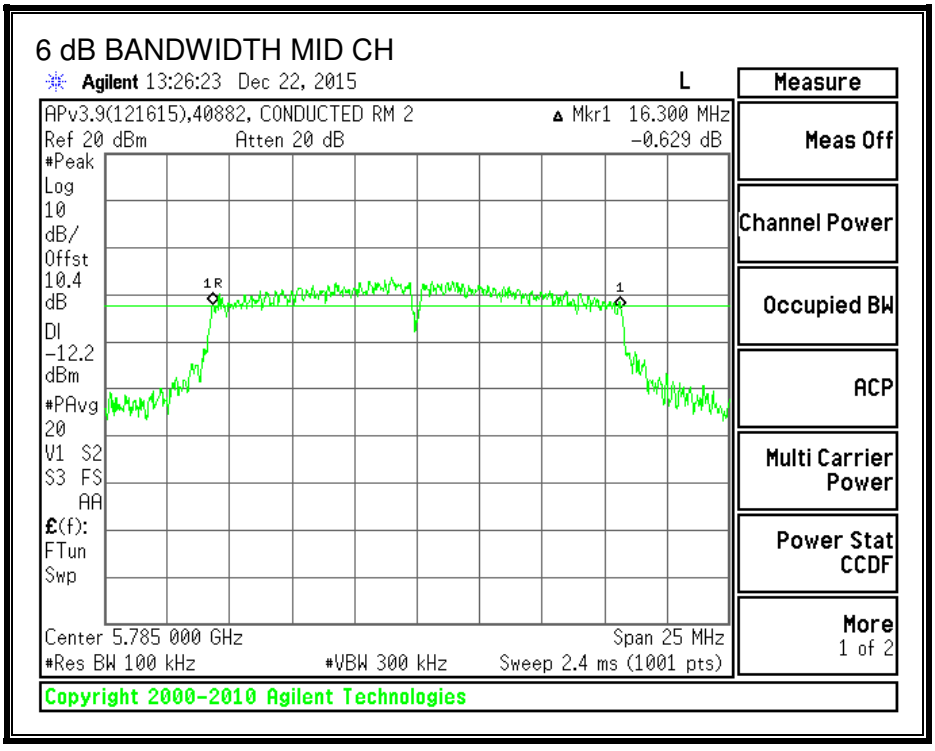
The minimum 6 dB bandwidth shall be at least 500 kHz.

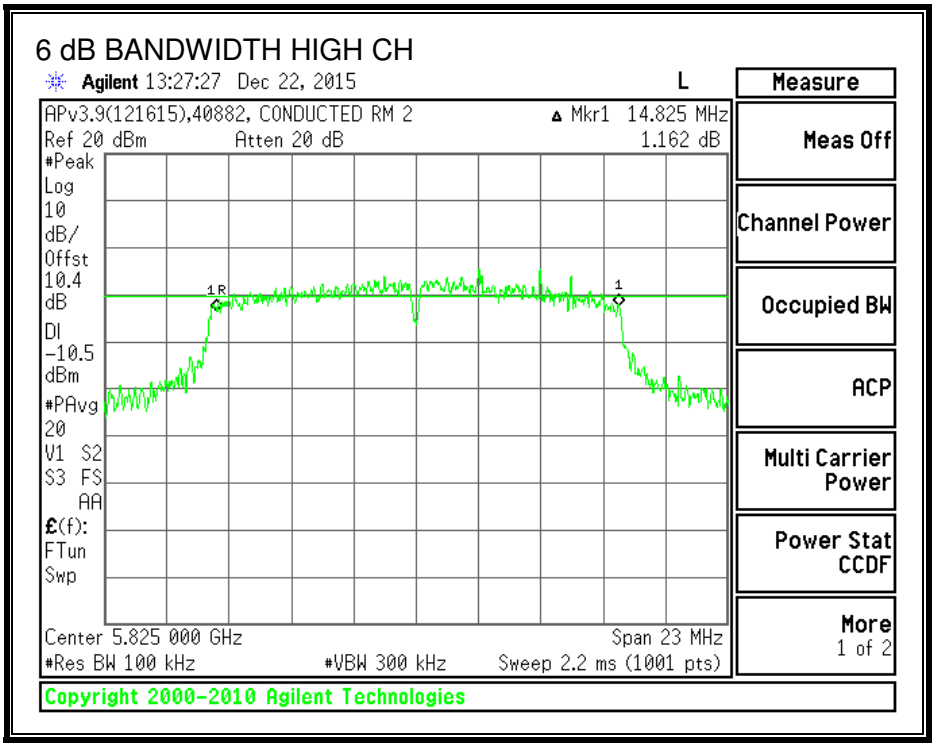
RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	15.0880	0.5
Mid	5785	16.3000	0.5
High	5825	14.8250	0.5

6 dB BANDWIDTH







8.8.2. 26 dB BANDWIDTH

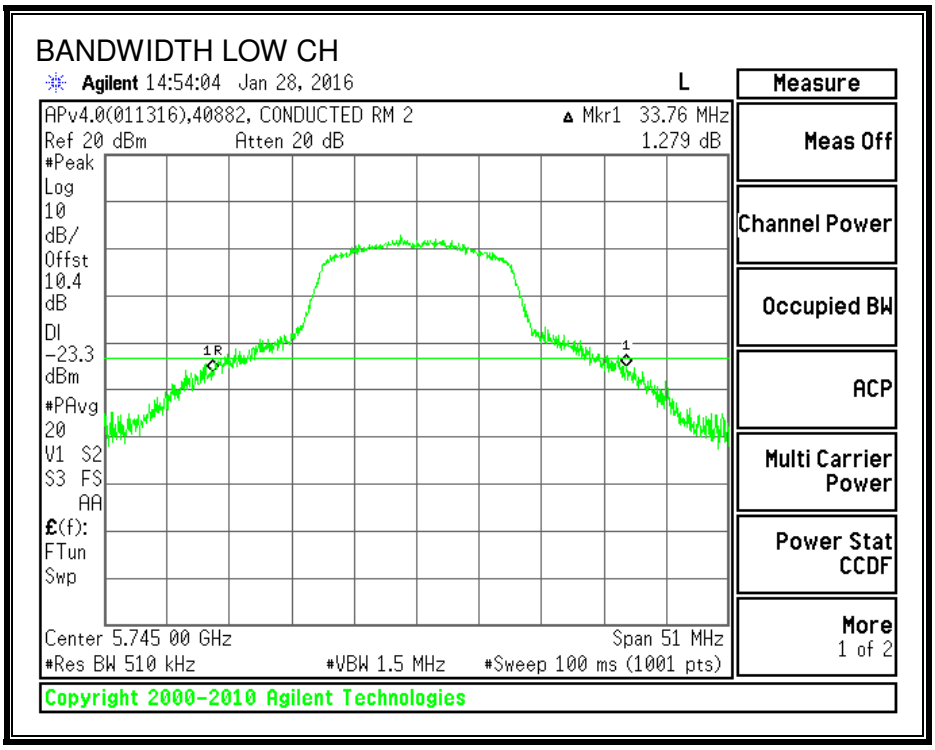
LIMITS

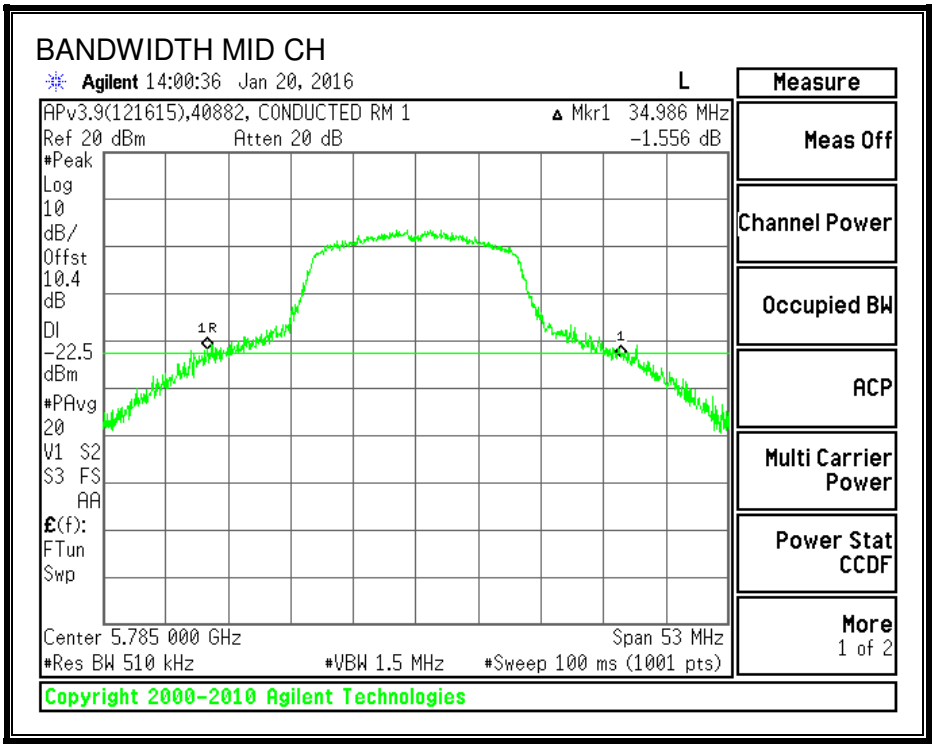
None; for reporting purposes only.

RESULTS

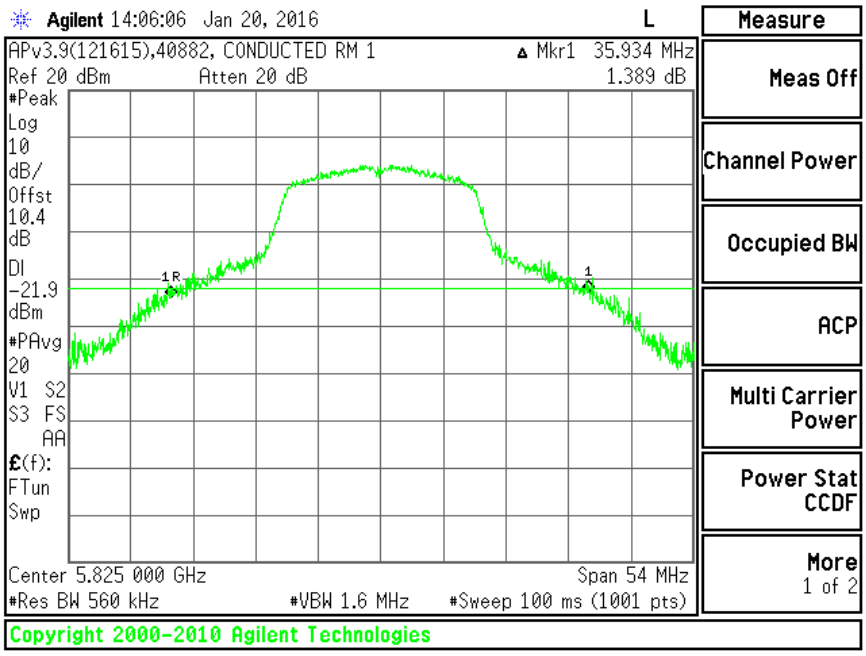
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	33.76
Mid	5785	34.99
High	5825	35.93

26 dB BANDWIDTH





BANDWIDTH HIGH CH



8.8.3. 99% BANDWIDTH

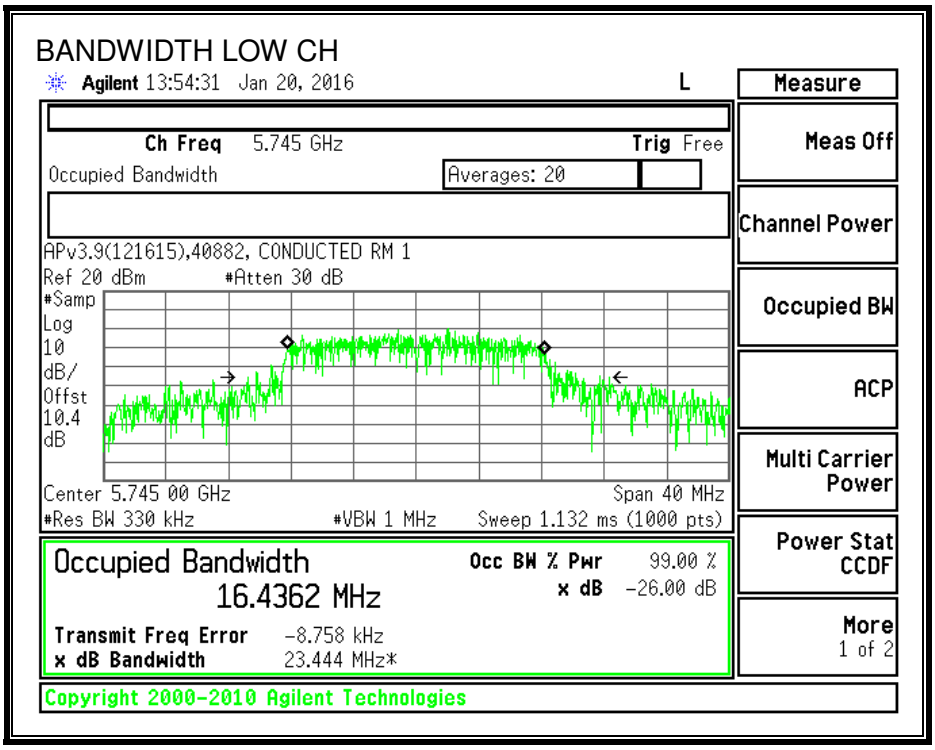
LIMITS

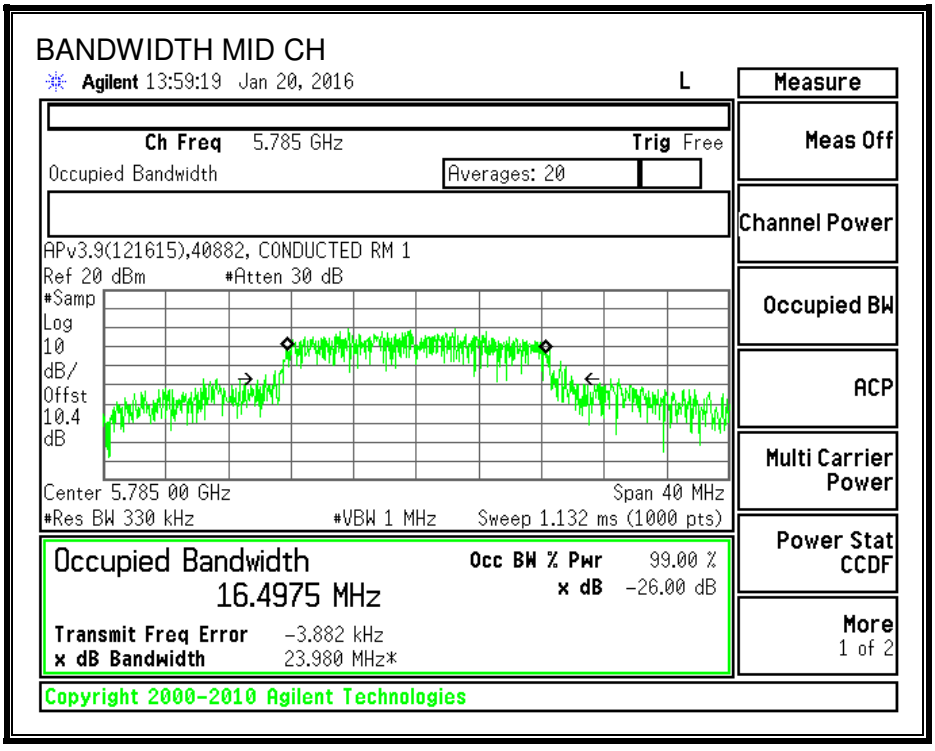
None; for reporting purposes only.

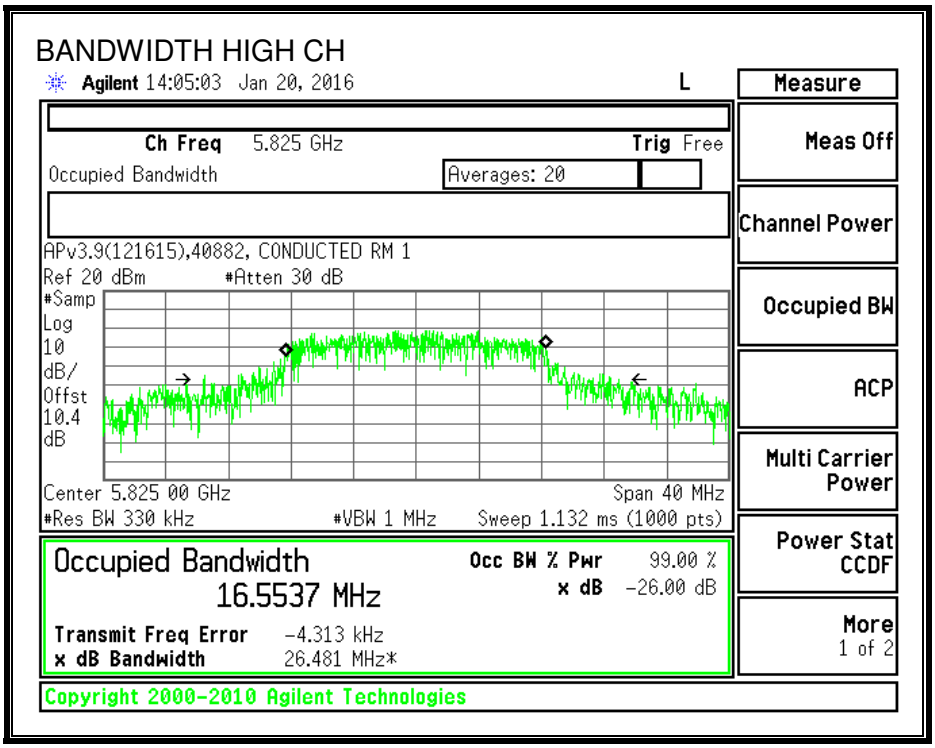
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	16.4362
Mid	5785	16.4975
High	5825	16.5537

99% BANDWIDTH







8.8.4. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

IC RSS-247 (6.2.4 [1])

For the band 5.725-5.85 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 30 dBm in any 500-kHz 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

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	1.24	30.00
Mid	5785	1.24	30.00
High	5825	1.24	30.00

Duty Cycle CF (dB)	0.09	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	5745	8.05	8.14	30.00	-21.86
Mid	5785	7.70	7.79	30.00	-22.21
High	5825	7.79	7.88	30.00	-22.12

8.8.5. Maximum Power Spectral Density (PSD)

LIMITS

FCC §15.407 (a) (3)

IC RSS-247 (6.2.4 [1])

For the band 5.725-5.85 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 30 dBm in any 500-kHz 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

Antenna Gain and Limits

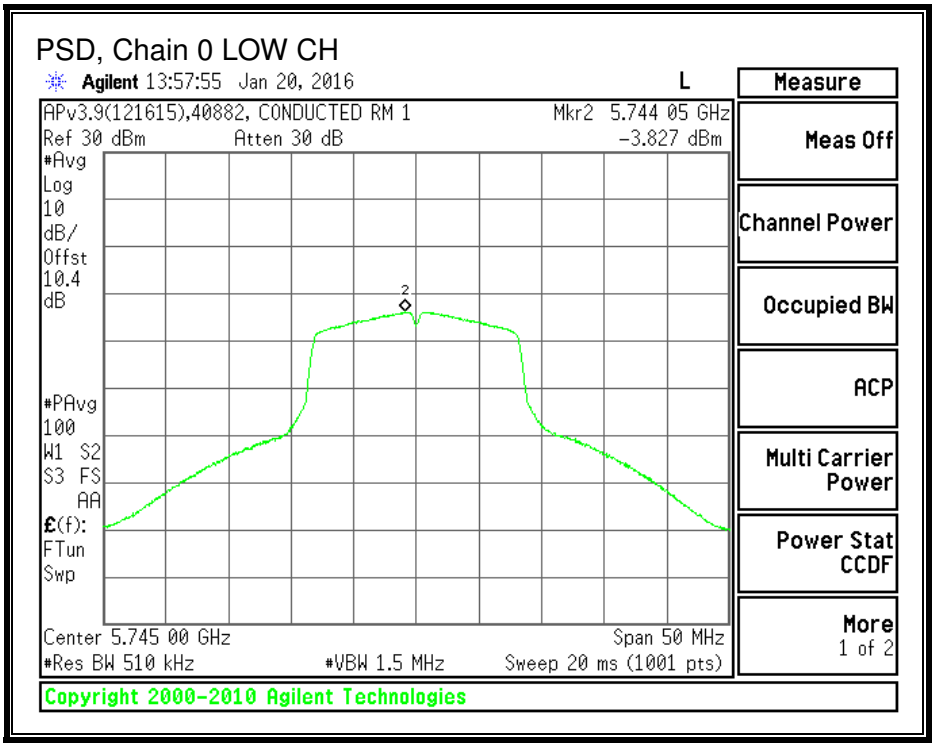
Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	1.24	30.00
Mid	5785	1.24	30.00
High	5825	1.24	30.00

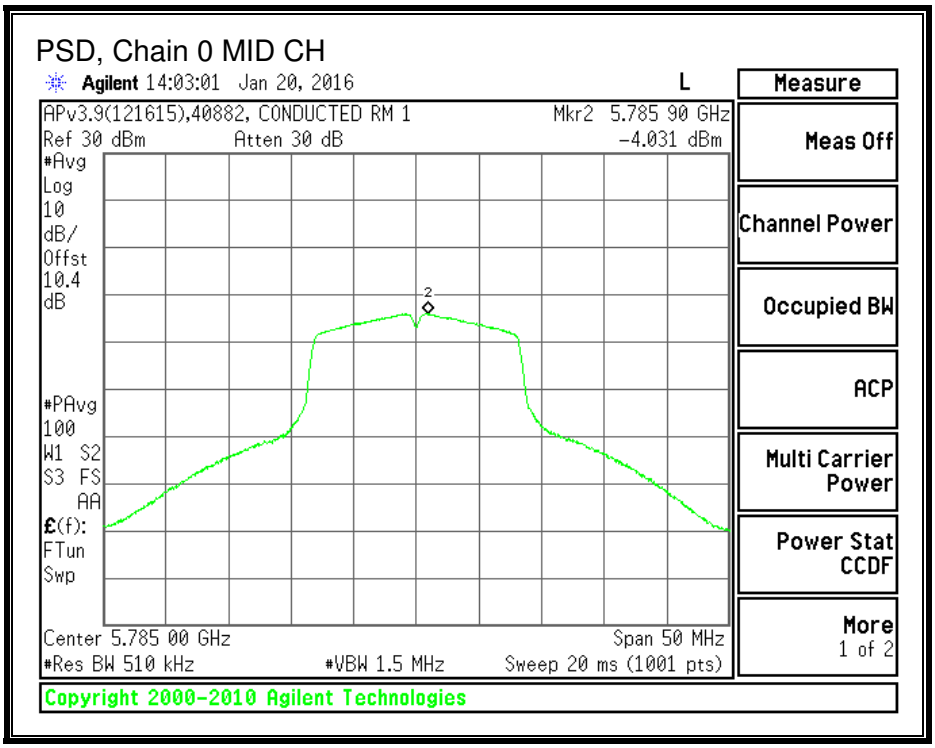
Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd PSD

PSD Results

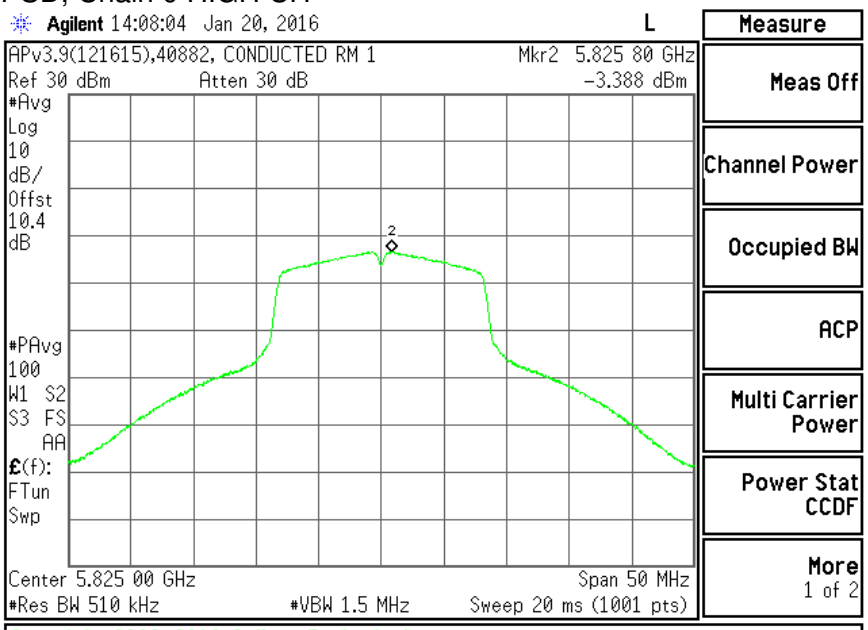
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	-3.83	-3.74	30.00	-33.74
Mid	5785	-4.03	-3.94	30.00	-33.94
High	5825	-3.39	-3.30	30.00	-33.30

PSD, Chain 0





PSD, Chain 0 HIGH CH



8.9. 802.11n HT20 MODE IN THE 5.8 GHz BAND

8.9.1. 6 dB BANDWIDTH

LIMITS

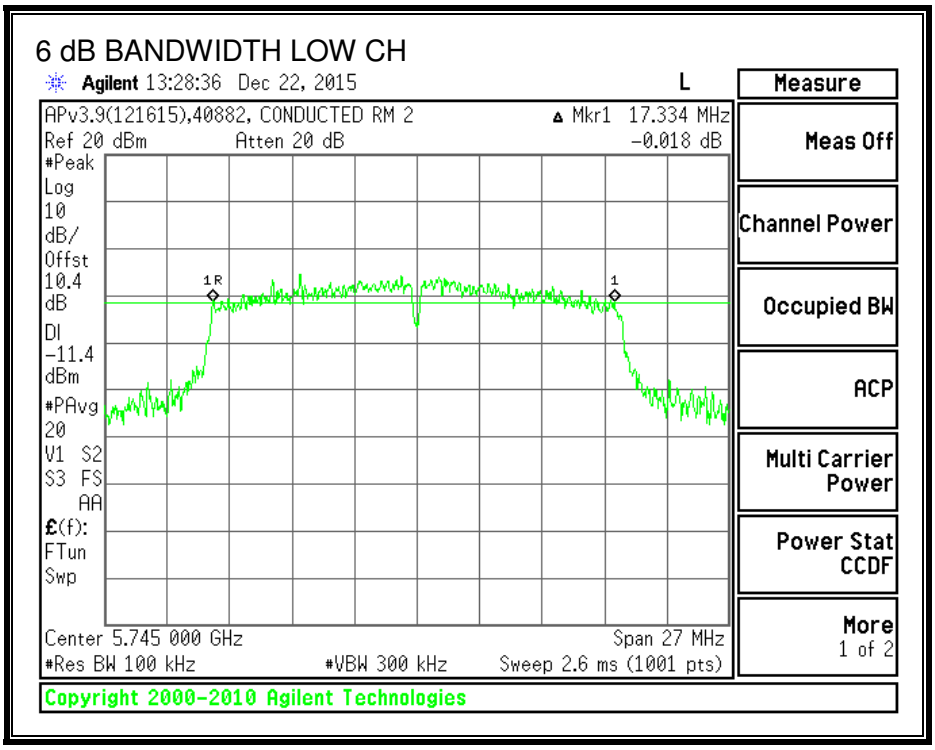
FCC §15.407 (e)

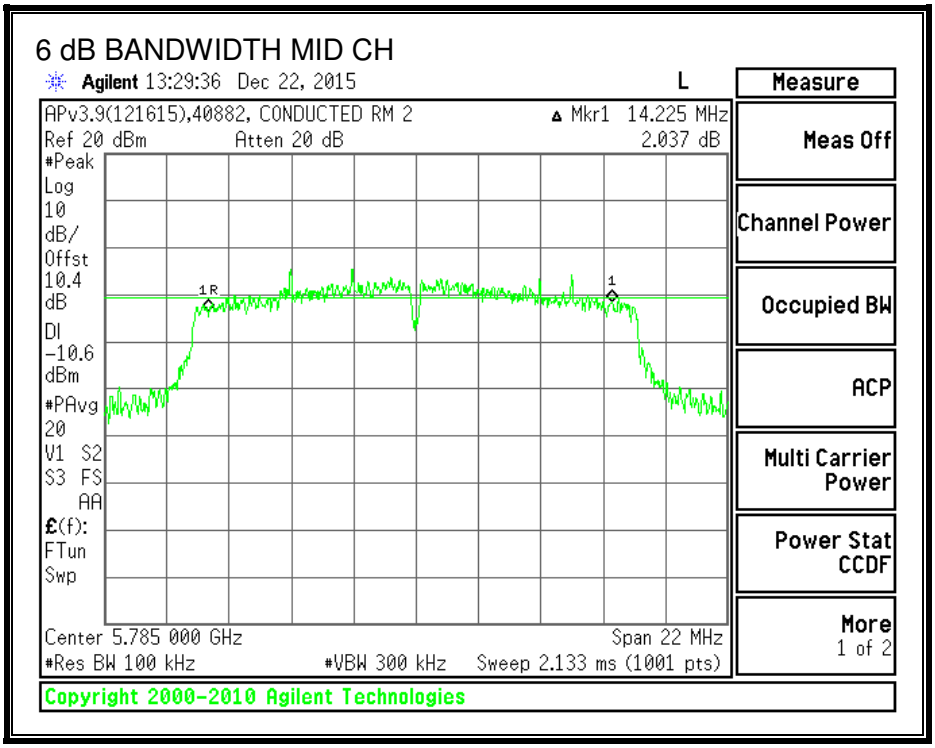
The minimum 6 dB bandwidth shall be at least 500 kHz.

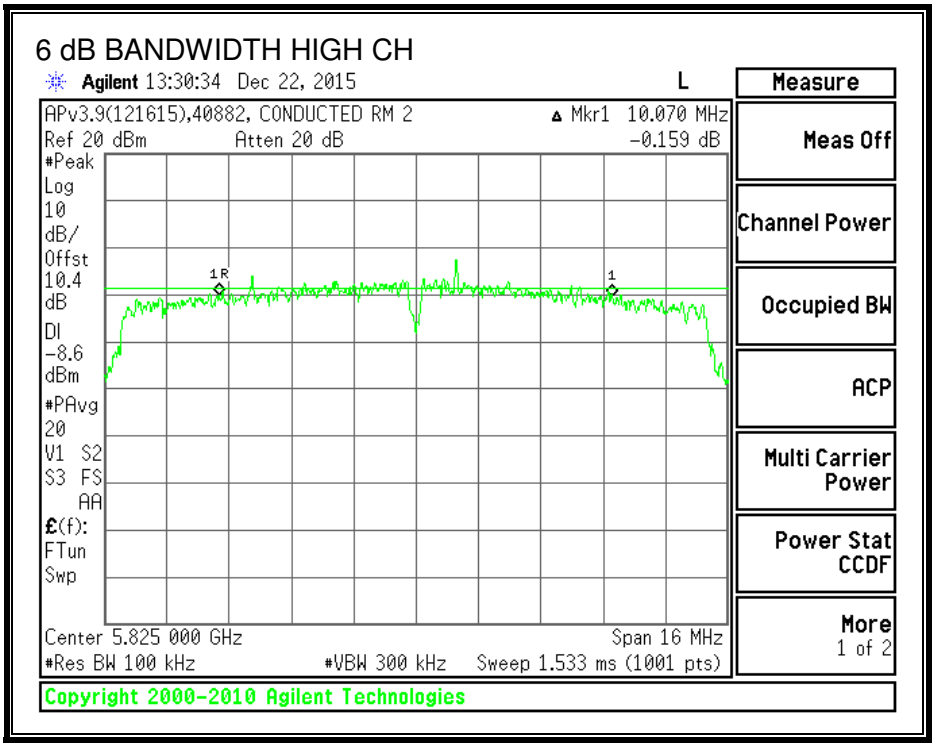
RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	17.3340	0.5
Mid	5785	14.2250	0.5
High	5825	10.0700	0.5

6 dB BANDWIDTH







8.9.2. 26 dB BANDWIDTH

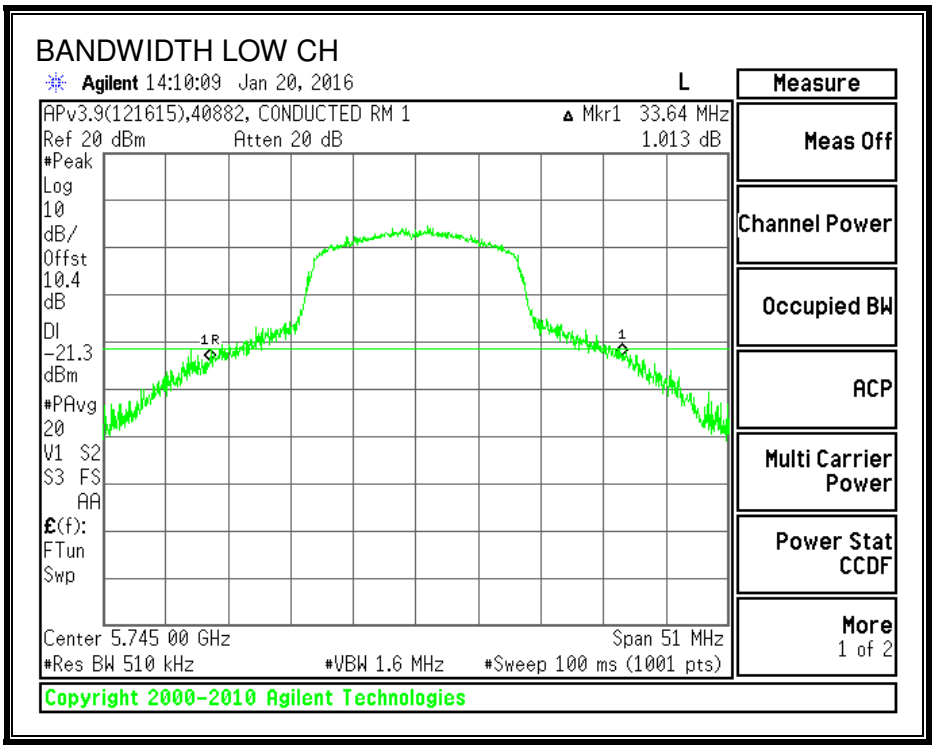
LIMITS

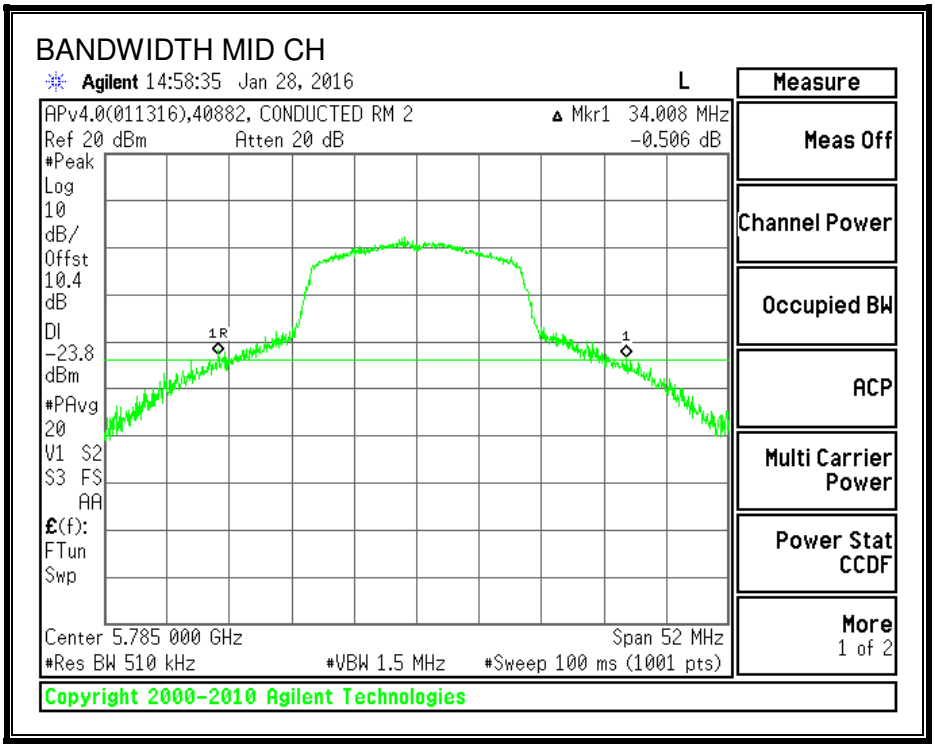
None; for reporting purposes only.

RESULTS

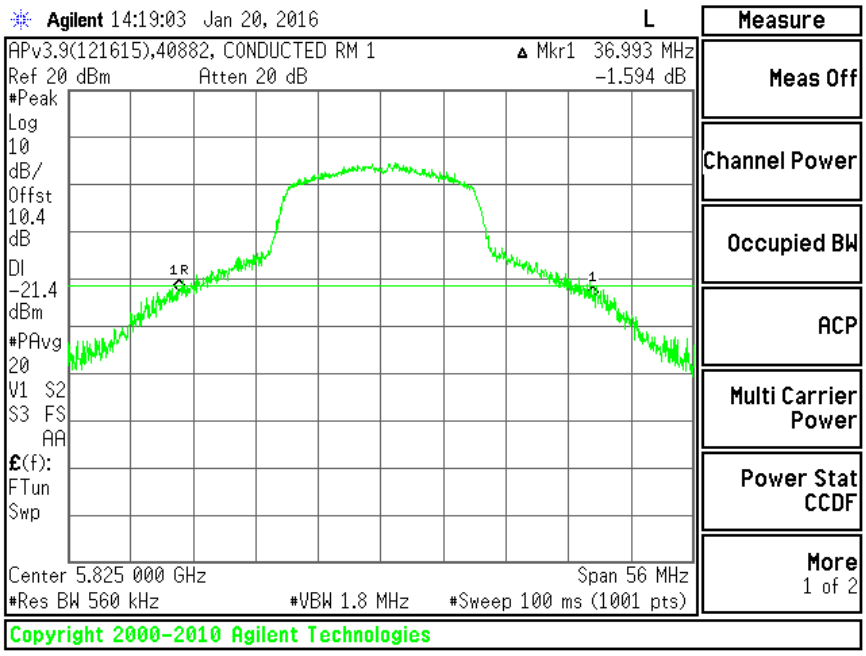
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	33.64
Mid	5785	34.01
High	5825	36.99

26 dB BANDWIDTH





BANDWIDTH HIGH CH



8.9.3. 99% BANDWIDTH

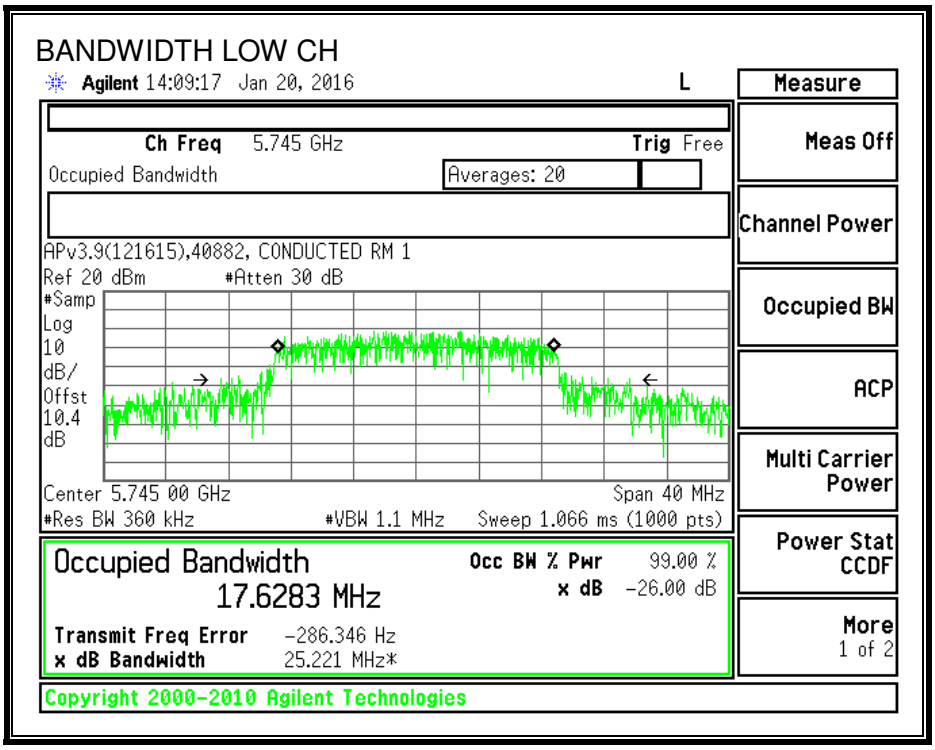
LIMITS

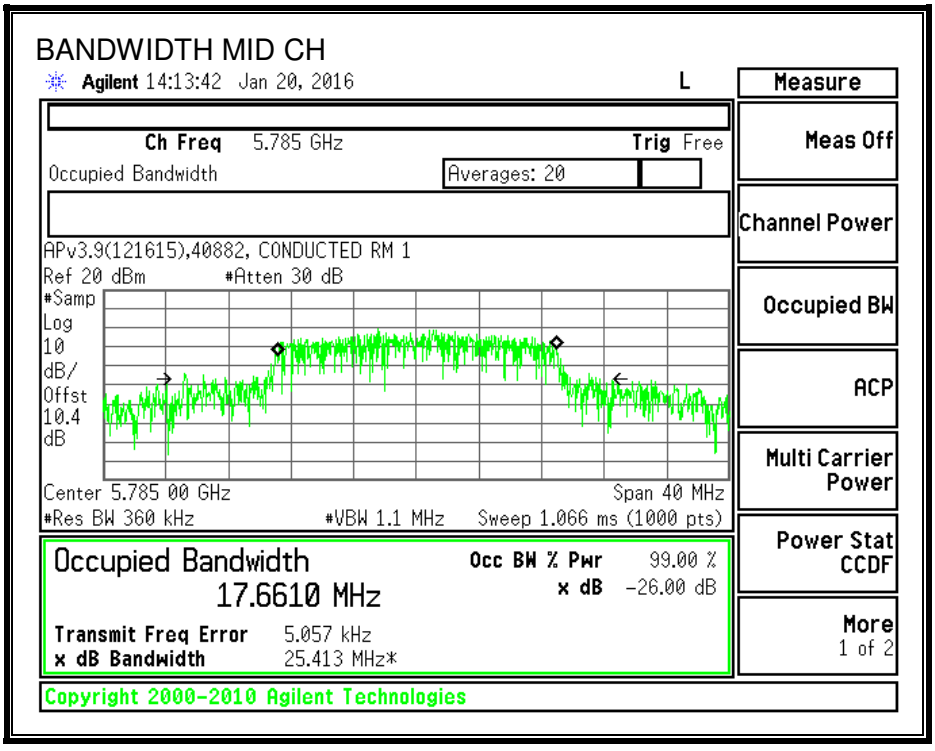
None; for reporting purposes only.

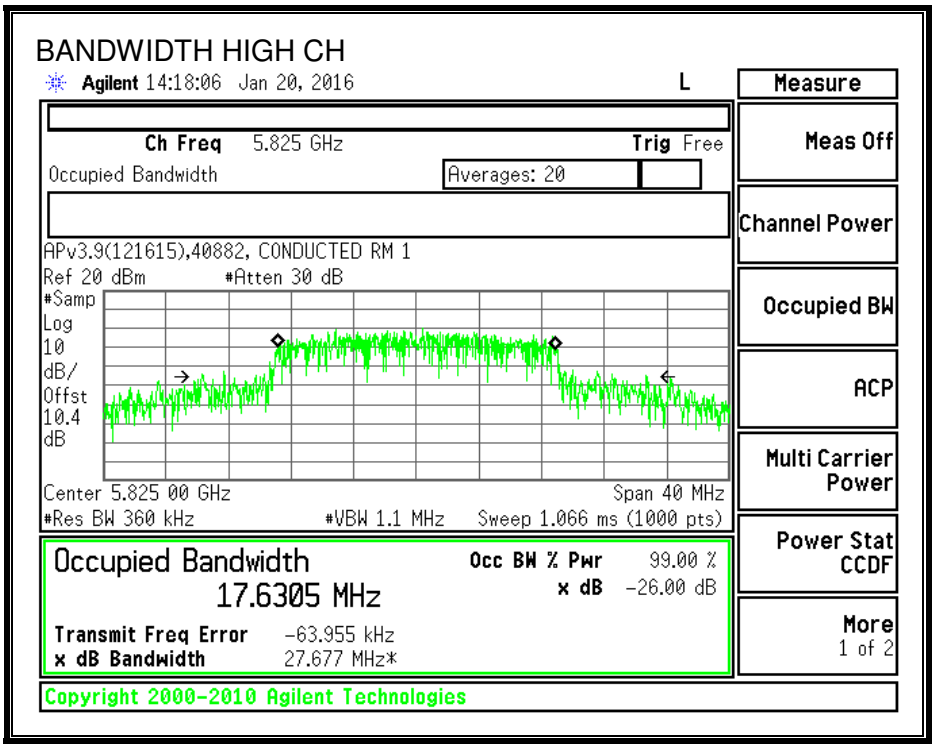
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.6283
Mid	5785	17.6610
High	5825	17.6305

99% BANDWIDTH







8.9.4. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

IC RSS-247 (6.2.4 [1])

For the band 5.725-5.85 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 30 dBm in any 500-kHz 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

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	1.24	30.00
Mid	5785	1.24	30.00
High	5825	1.24	30.00

Duty Cycle CF (dB)	0.10	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	5745	7.91	8.01	30.00	-21.99
Mid	5785	7.49	7.59	30.00	-22.41
High	5825	7.70	7.80	30.00	-22.20

8.9.5. Maximum Power Spectral Density (PSD)

LIMITS

FCC §15.407 (a) (3)

IC RSS-247 (6.2.4 [1])

For the band 5.725-5.85 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 30 dBm in any 500-kHz 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

Antenna Gain and Limits

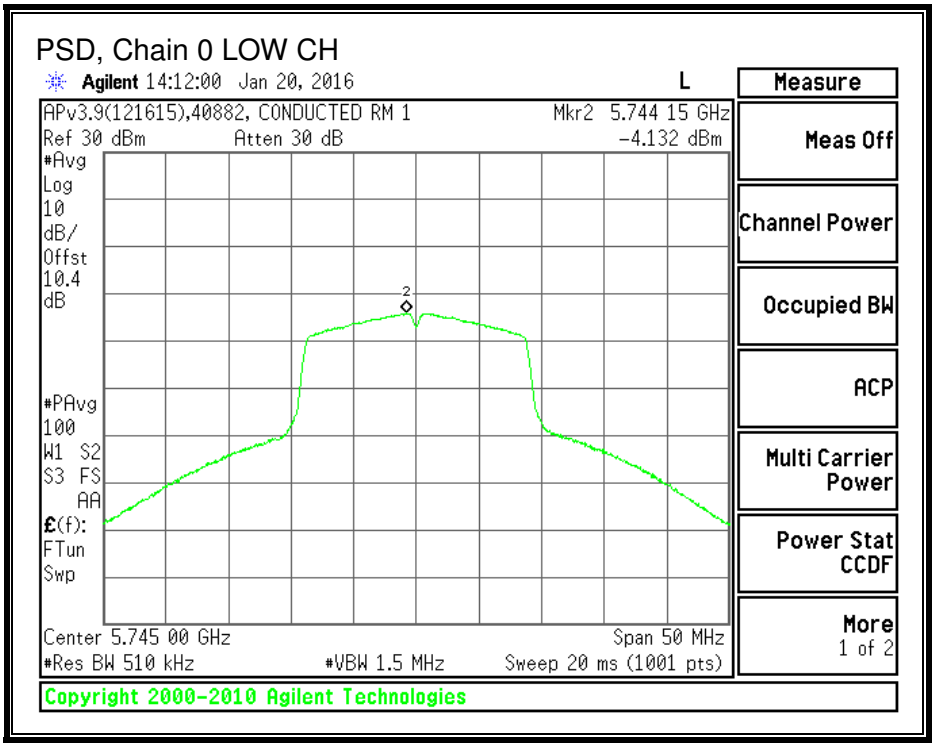
Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	1.24	30.00
Mid	5785	1.24	30.00
High	5825	1.24	30.00

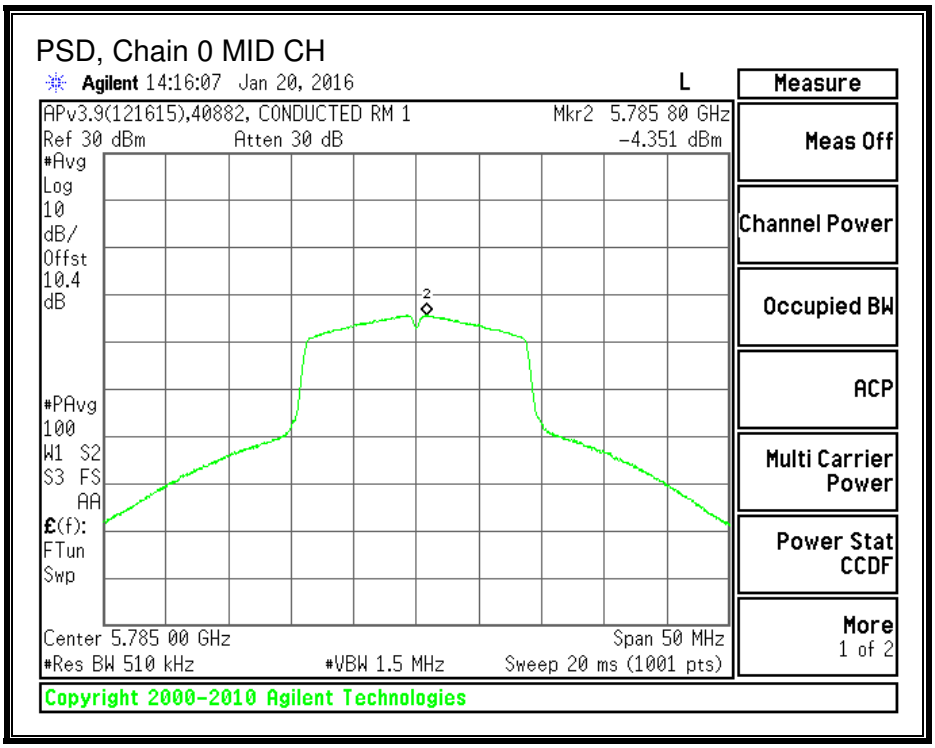
Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd PSD

PSD Results

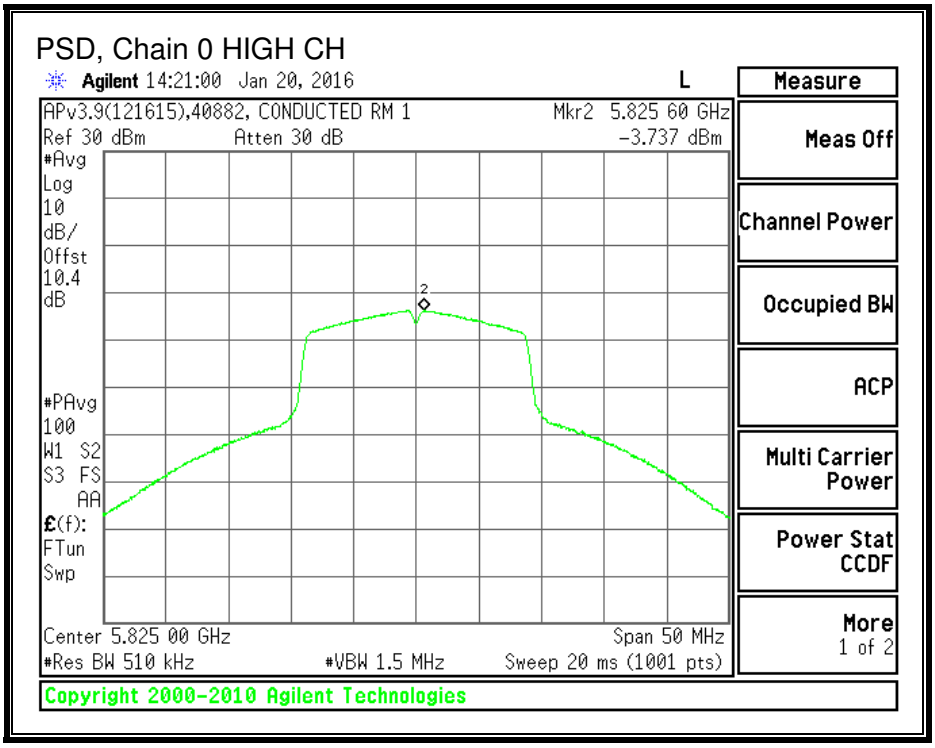
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	-4.13	-4.03	30.00	-34.03
Mid	5785	-4.35	-4.25	30.00	-34.25
High	5825	-3.74	-3.64	30.00	-33.64

PSD, Chain 0





PSD, Chain 0 HIGH CH



9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-GEN Clause 8.9 (Transmitter)

IC RSS-GEN Clause 7.1.2 (Receiver)

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

TEST PROCEDURE

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

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

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements. For this evaluation, RMS Power Averaging was used and the resolution/video bandwidth settings were 1MHz/3MHz.

The spectrum from 9 kHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

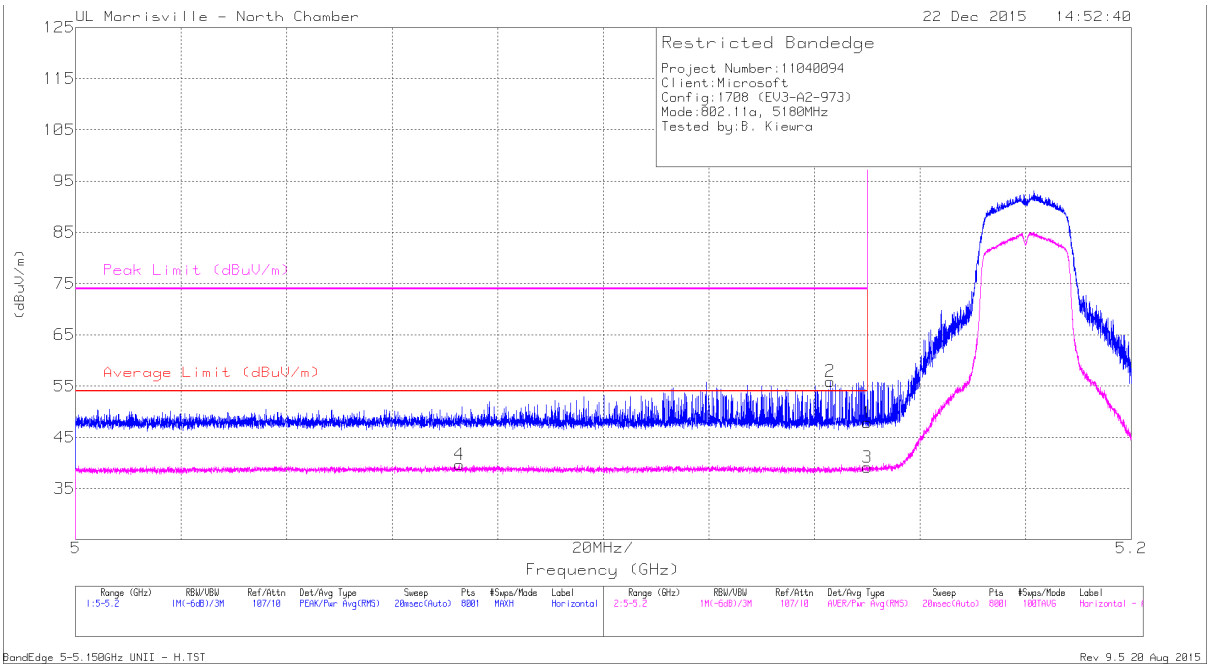
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

9.2. TRANSMITTER 1-18 GHz

9.2.1. TX 1-18 GHz 802.11a MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, HORIZONTAL

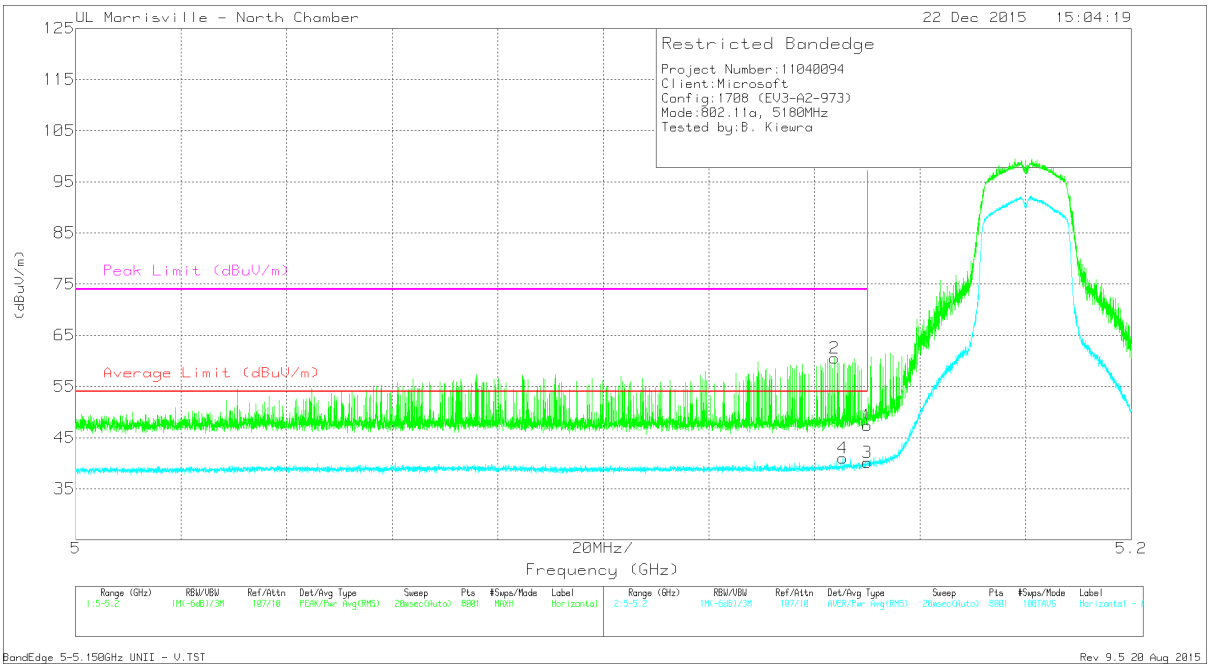


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.143	44.93	Pk	34.3	-23.3	0	55.93	-	-	74	-18.07	30	147	H
4	* 5.073	28.4	RMS	34.2	-23	.11	39.71	54	-14.29	-	-	30	147	H
1	5.15	36.97	Pk	34.3	-23.4	0	47.87	-	-	74	-26.13	30	147	H
3	5.15	28.12	RMS	34.3	-23.4	.11	39.13	54	-14.87	-	-	30	147	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection
BandEdge 5-5.150GHz UNII - H.TST
Rev 9.5 20 Aug 2015

LOW CHANNEL RESTRICTED, VERTICAL



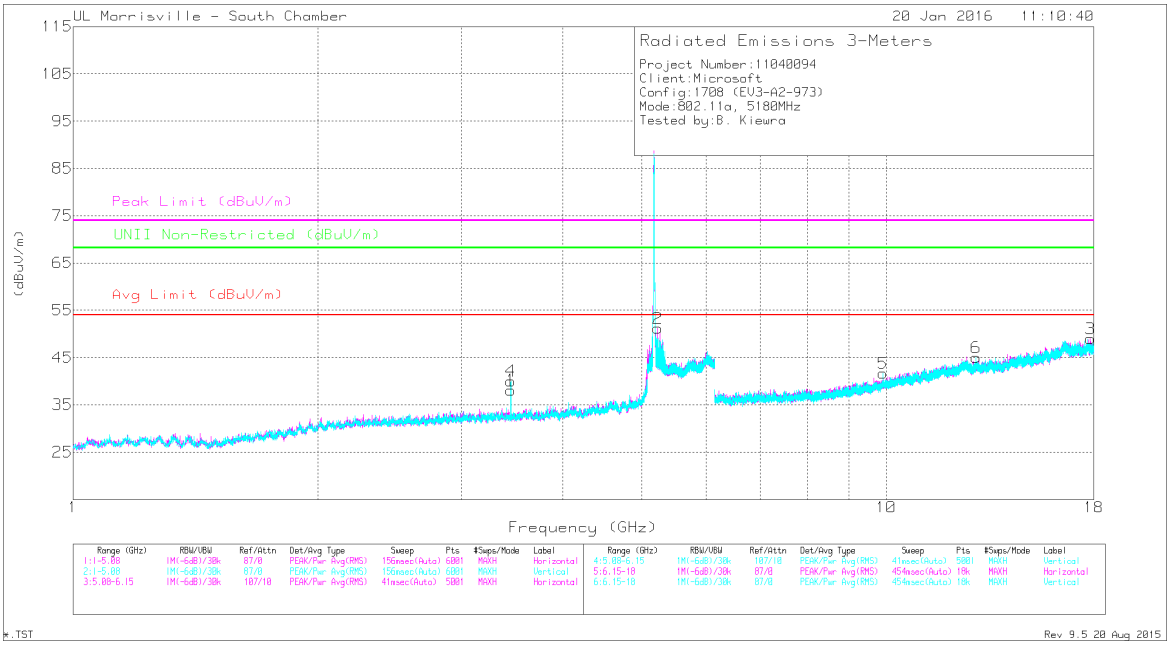
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.144	49.54	Pk	34.3	-23.3	0	60.54	-	-	74	-13.46	37	382	V
4	* 5.145	29.88	RMS	34.3	-23.3	.11	40.99	54	-13.01	-	-	37	382	V
1	5.15	36.5	Pk	34.3	-23.4	0	47.4	-	-	74	-26.6	37	382	V
3	5.15	29.13	RMS	34.3	-23.4	.11	40.14	54	-13.86	-	-	37	382	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection
BandEdge 5-5.150GHz UNII - V.TST
Rev 9.5 20 Aug 2015

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL PLOT

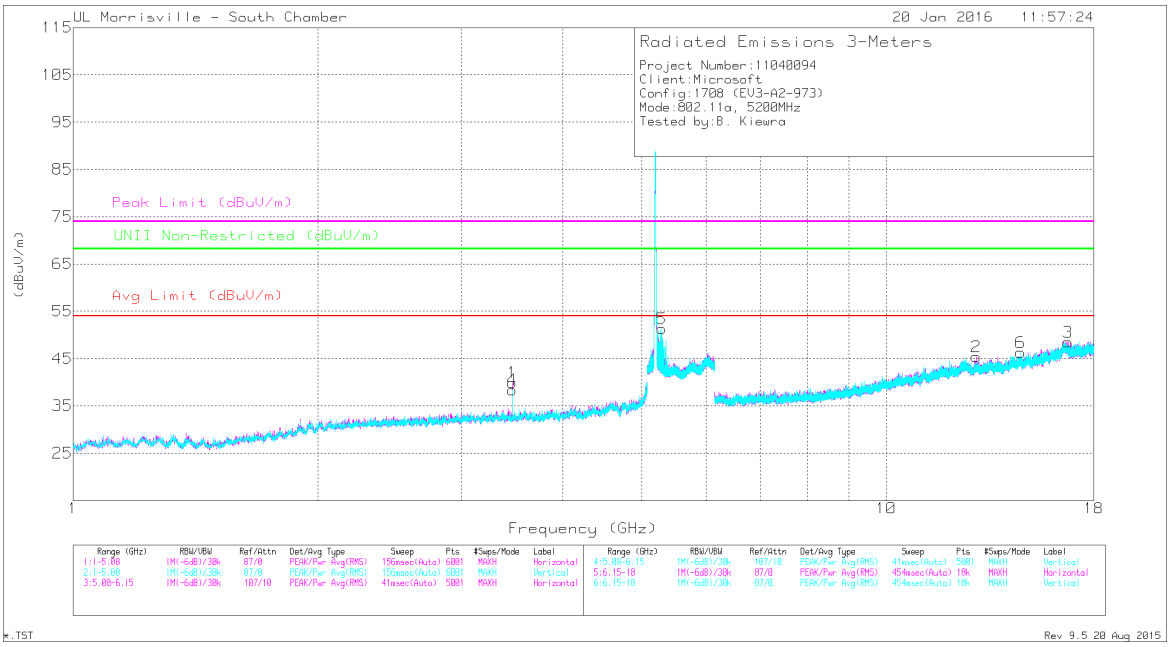


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 17.826	36.57	PK-U	41.6	-24	0	54.17	-	-	74	-19.83	-	-	19	324	H
	* 17.826	24.75	ADR	41.6	-24	0.11	42.46	54	-11.54	-	-	-	-	19	324	H
1	3.453	44.33	PK-U	32.9	-33.8	0	43.43	-	-	-	-	68.2	-24.77	196	103	H
4	3.453	45.28	PK-U	32.9	-33.8	0	44.38	-	-	-	-	68.2	-23.82	217	143	V
2	5.234	46.54	PK-U	34.4	-23	0	57.94	-	-	-	-	68.2	-10.26	57	131	H
5	9.912	36.33	PK-U	37.1	-26.9	0	46.53	-	-	-	-	68.2	-21.67	273	338	V
6	12.899	37.24	PK-U	39.2	-25.7	0	50.74	-	-	-	-	68.2	-17.46	323	109	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

MID CHANNEL PLOT

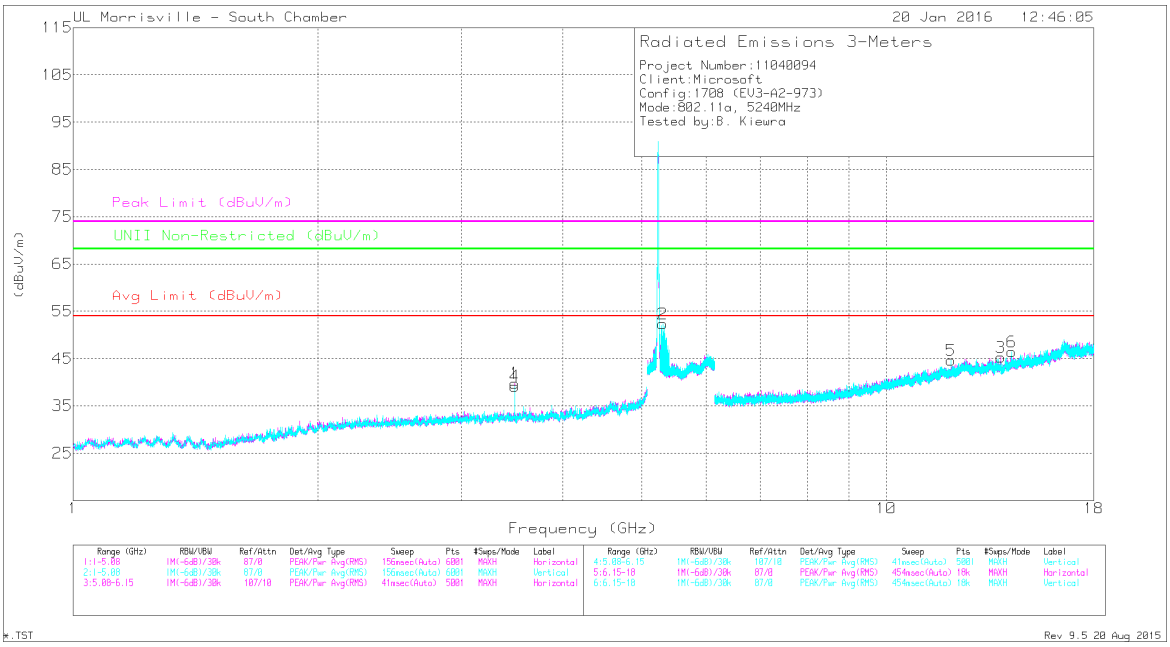


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	3.466	44.47	PK-U	32.9	-33.7	0	43.67	-	-	-	-	68.2	-24.53	205	129	H
4	3.467	43.36	PK-U	32.9	-33.7	0	42.56	-	-	-	-	68.2	-25.64	82	122	V
5	5.295	51.02	PK-U	34.4	-23.2	0	62.22	-	-	-	-	68.2	-5.98	113	374	V
2	12.902	36.36	PK-U	39.2	-25.7	0	49.86	-	-	-	-	68.2	-18.34	169	382	H
6	14.629	36.06	PK-U	39.7	-24.2	0	51.56	-	-	-	-	68.2	-16.64	152	294	V
3	16.727	37.44	PK-U	42.1	-25.9	0	53.64	-	-	-	-	68.2	-14.56	0	300	H

PK-U - U-NII: Maximum Peak

HIGH CHANNEL PLOT



DATA

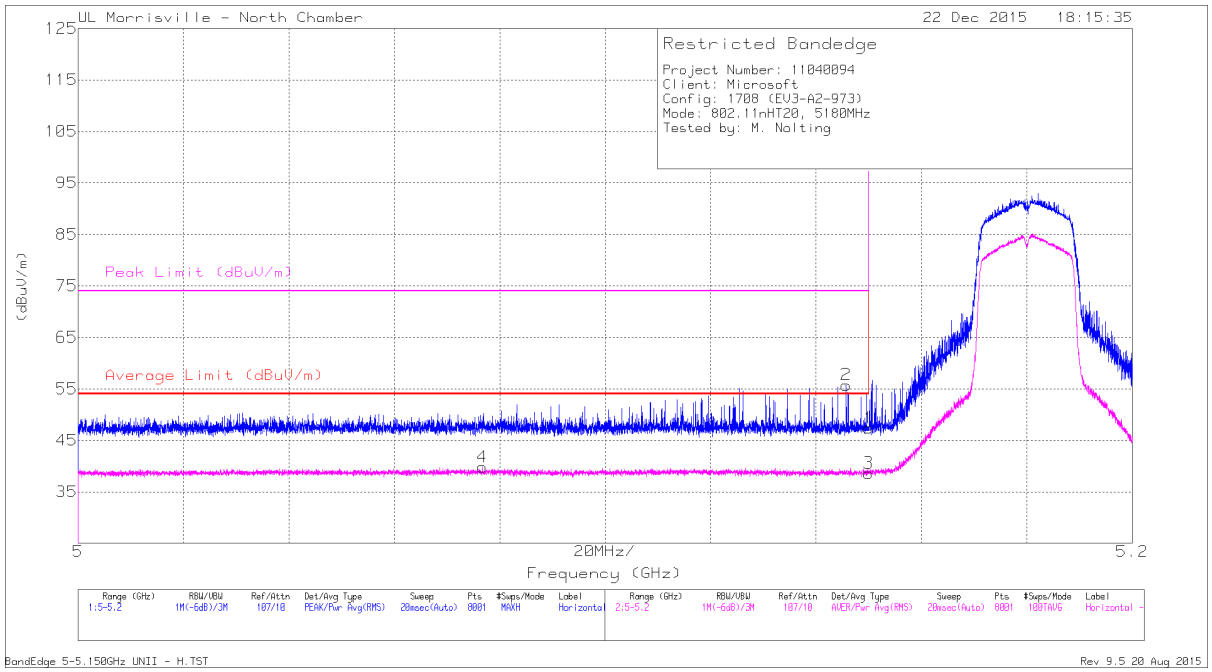
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 12.019	36.05	PK-U	38.8	-25.7	0	49.15	-	-	74	-24.85	-	-	331	221	V
	* 12.017	24.61	ADR	38.8	-25.7	0.11	37.82	54	-16.18	-	-	-	-	331	221	V
1	3.494	41.01	PK-U	32.9	-33.9	0	40.01	-	-	-	-	68.2	-28.19	265	223	H
4	3.494	41.46	PK-U	32.9	-33.9	0	40.46	-	-	-	-	68.2	-27.74	335	185	V
2	5.31	38.59	PK-U	34.4	-23.2	0	49.79	-	-	-	-	68.2	-18.41	175	246	V
3	13.83	36.88	PK-U	39	-25.6	0	50.28	-	-	-	-	68.2	-17.92	320	157	H
6	14.27	35.54	PK-U	39.3	-24	0	50.84	-	-	-	-	68.2	-17.36	304	227	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

9.2.2. TX 1-18 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.146	44.76	Pk	34.3	-23.3	0	55.76	-	-	74	-18.24	34	133	H
4	* 5.077	28.51	RMS	34.2	-23	.1	39.81	54	-14.19	-	-	34	133	H
1	5.15	36.49	Pk	34.3	-23.4	0	47.39	-	-	74	-26.61	34	133	H
3	5.15	27.63	RMS	34.3	-23.4	.1	38.63	54	-15.37	-	-	34	133	H

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

Pk - Peak detector

RMS - RMS detection

BandEdge 5-5.150GHz UNII - H.TST

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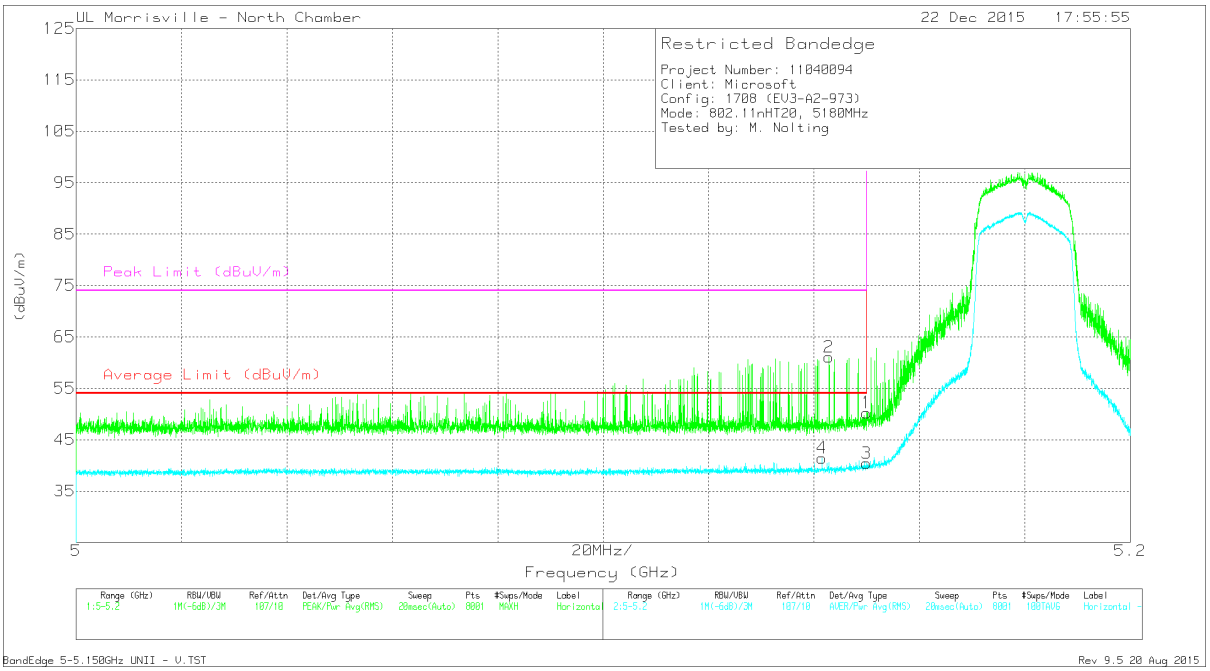
LOW CHANNEL RESTRICTED, VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.143	50.07	Pk	34.3	-23.3	0	61.07	-	-	74	-12.93	37	385	V
4	* 5.142	30.43	RMS	34.3	-23.3	.1	41.53	54	-12.47	-	-	37	385	V
1	5.15	39.35	Pk	34.3	-23.4	0	50.25	-	-	74	-23.75	37	385	V
3	5.15	29.51	RMS	34.3	-23.4	.1	40.51	54	-13.49	-	-	37	385	V

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

Pk - Peak detector

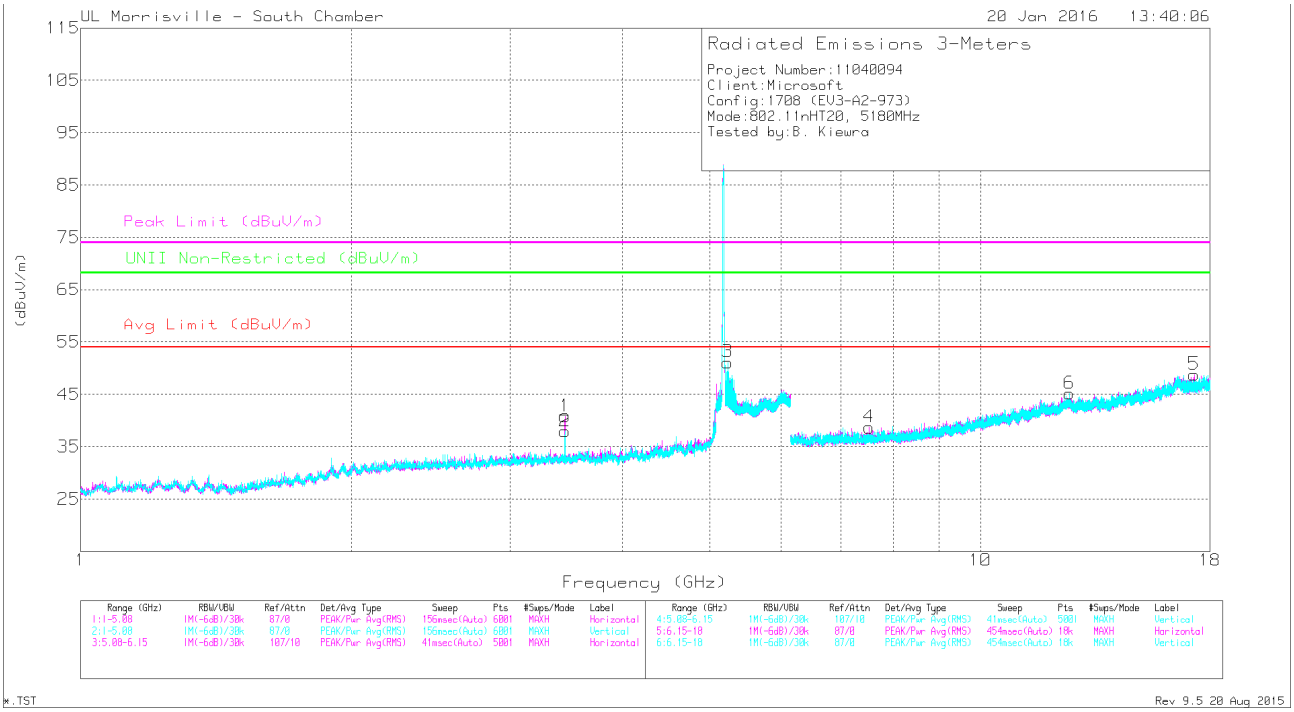
RMS - RMS detection

BandEdge 5-5.150GHz UNII - V.TST

Rev 9.5 20 Aug 2015

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL PLOT

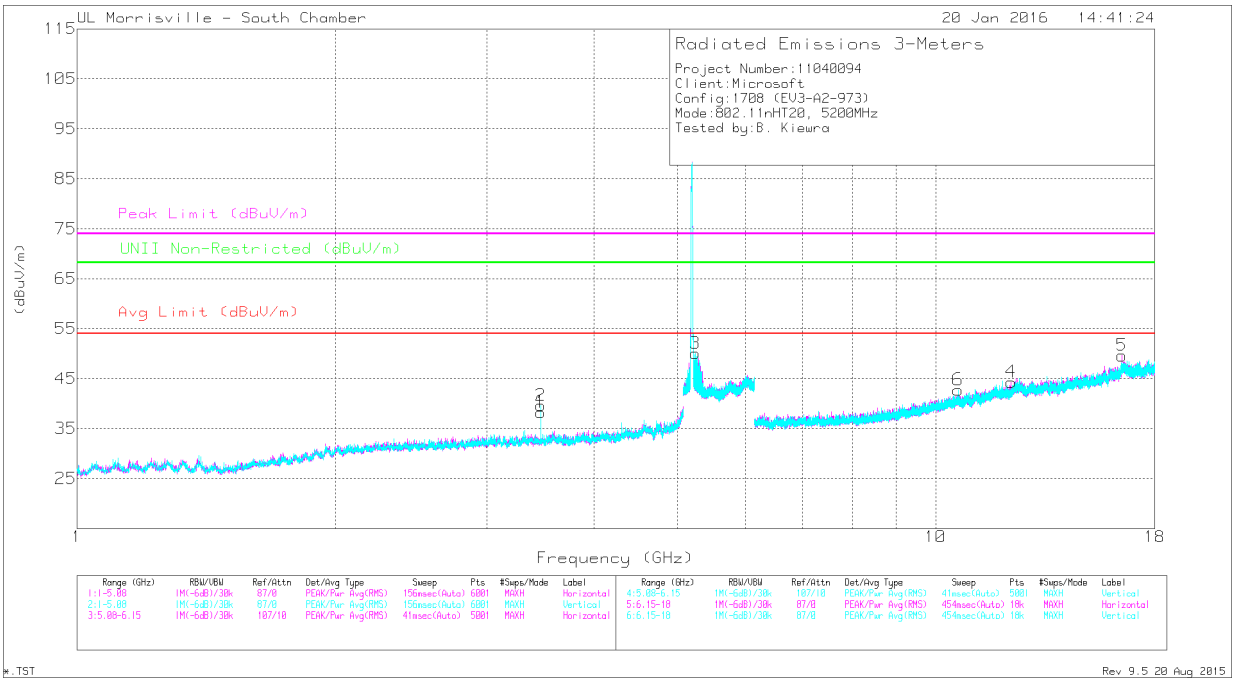


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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
4	* 7.521	36.93	PK-U	35.6	-28.7	0	43.83	-	-	74	-30.17	-	-	253	121	H
	* 7.521	25.26	ADR	35.6	-28.7	0.1	32.26	54	-21.74	-	-	-	-	253	121	H
6	* 12.565	37.31	PK-U	39.1	-25.5	0	50.91	-	-	74	-23.09	-	-	10	358	V
	* 12.567	25.17	ADR	39.1	-25.5	0.1	38.87	54	-15.13	-	-	-	-	10	358	V
1	3.453	45.62	PK-U	32.9	-33.8	0	44.72	-	-	-	-	68.2	-23.48	220	106	H
2	3.453	43.64	PK-U	32.9	-33.8	0	42.74	-	-	-	-	68.2	-25.46	66	116	V
3	5.235	52.95	PK-U	34.4	-23	0	64.35	-	-	-	-	68.2	-3.85	125	389	V
5	17.282	36.07	PK-U	41.6	-24.5	0	53.17	-	-	-	-	68.2	-15.03	254	301	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

MID CHANNEL PLOT

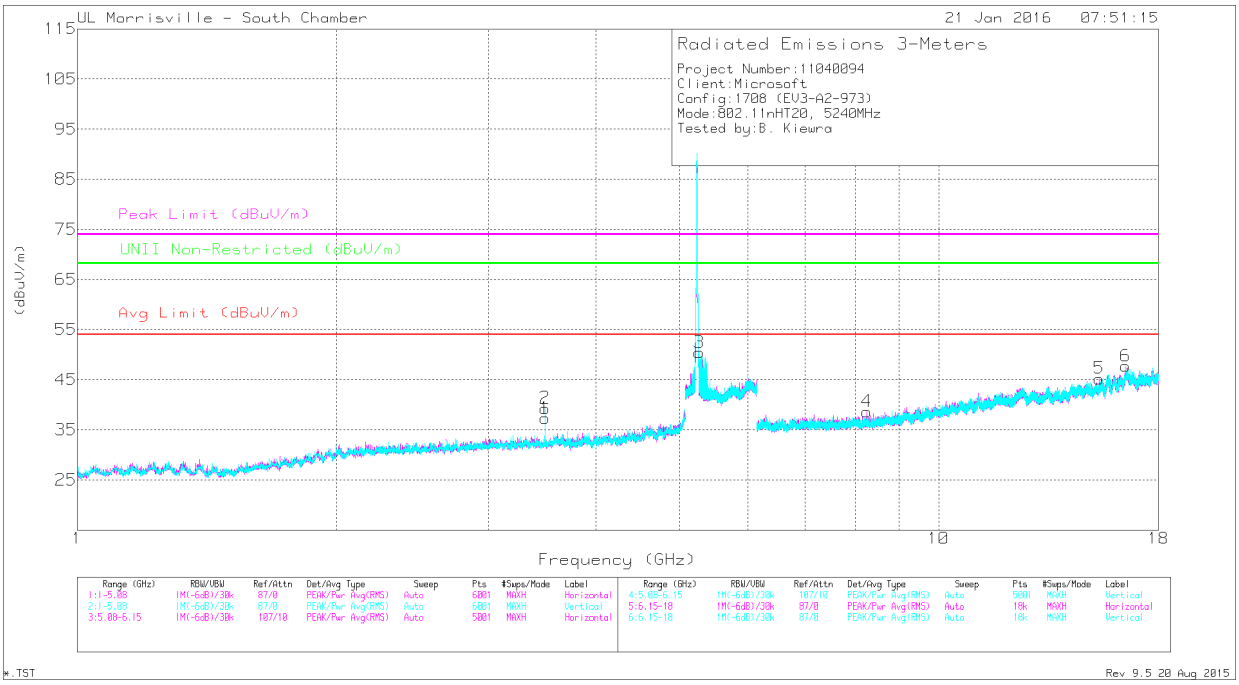


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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
4	* 12.249	36.38	PK-U	39	-25.7	0	49.68	-	-	74	-24.32	-	-	244	285	H
	* 12.251	24.49	ADR	39	-25.7	0.1	37.89	54	-16.11	-	-	-	-	244	285	H
6	* 10.621	36.43	PK-U	37.6	-26	0	48.03	-	-	74	-25.97	-	-	200	179	V
	* 10.622	24.36	ADR	37.6	-26	0.1	36.06	54	-17.94	-	-	-	-	200	179	V
1	3.467	44.42	PK-U	32.9	-33.7	0	43.62	-	-	-	-	68.2	-24.58	159	113	H
2	3.467	45.38	PK-U	32.9	-33.7	0	44.58	-	-	-	-	68.2	-23.62	27	106	V
3	5.248	51.08	PK-U	34.4	-23.1	0	62.38	-	-	-	-	68.2	-5.82	98	381	V
5	16.485	37.95	PK-U	41.6	-24.7	0	54.85	-	-	-	-	68.2	-13.35	106	287	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

HIGH CHANNEL PLOT



DATA

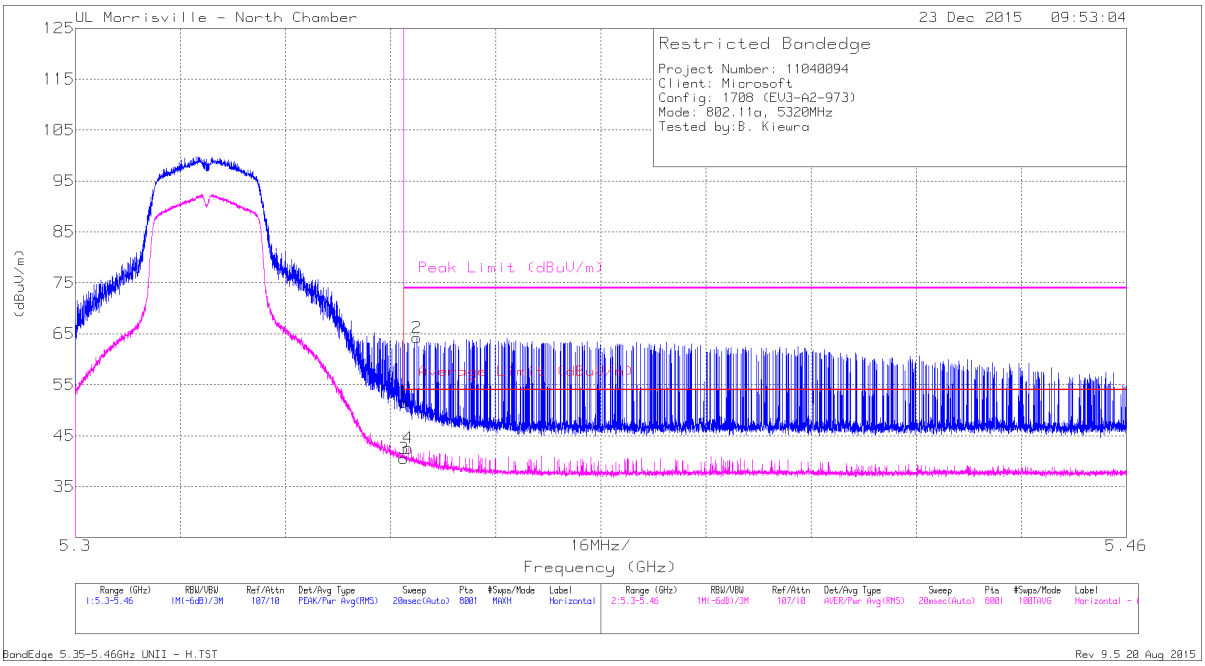
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 8.255	36.76	PK-U	35.7	-28.5	0	43.96	-	-	74	-30.04	-	-	193	338	H
	* 8.254	24.94	ADR	35.7	-28.5	0.1	32.24	54	-21.76	-	-	-	-	193	338	H
5	* 15.356	36.4	PK-U	40.1	-24.2	0	52.3	-	-	74	-21.7	-	-	137	127	H
	* 15.353	24.22	ADR	40.1	-24.3	0.1	40.12	54	-13.88	-	-	-	-	137	127	H
1	3.493	44.71	PK-U	32.9	-33.9	0	43.71	-	-	-	-	68.2	-24.49	63	251	H
2	3.493	45.66	PK-U	32.9	-33.9	0	44.66	-	-	-	-	68.2	-23.54	184	159	V
3	5.273	49.75	PK-U	34.4	-23.2	0	60.95	-	-	-	-	68.2	-7.25	55	378	V
6	16.473	37.48	PK-U	41.6	-25.2	0	53.88	-	-	-	-	68.2	-14.32	235	231	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

9.2.3. TX 1-18 GHz 802.11a MODE IN THE 5.3 GHz BAND

AUTHORIZED BANDEDGE (HIGH CHANNEL)

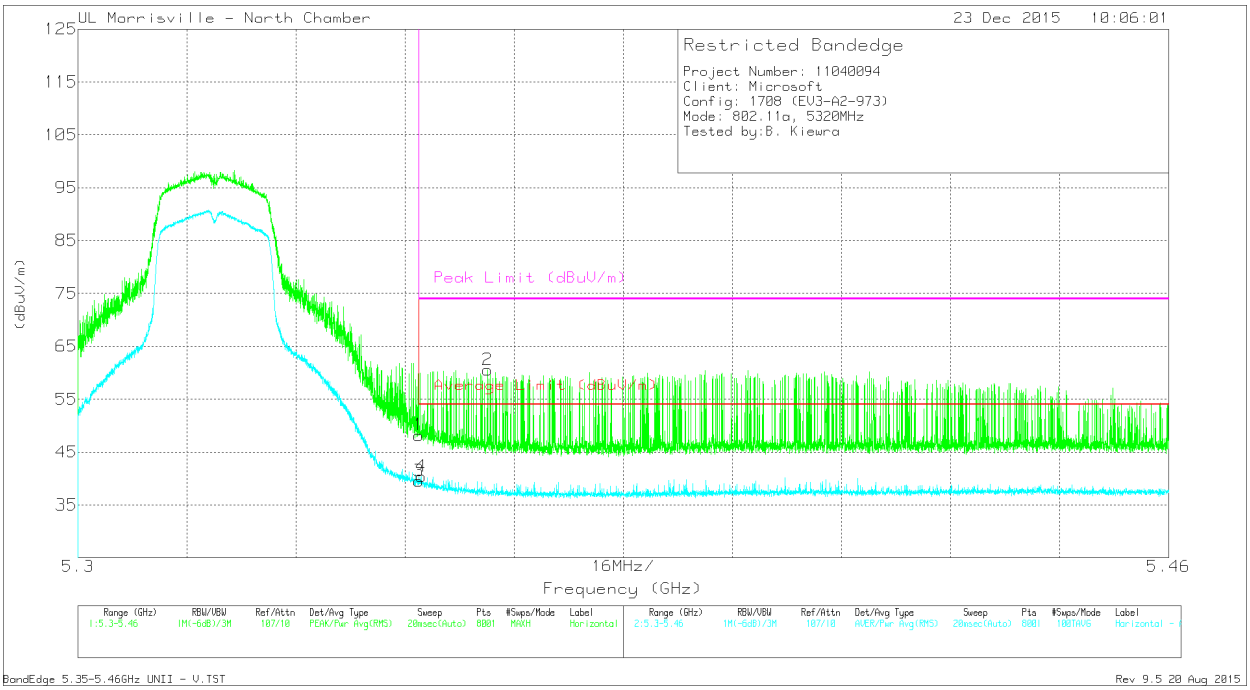
HIGH CHANNEL BANDEDGE, HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (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	40.66	Pk	34.5	-23.6	0	51.56	-	-	74	-22.44	267	209	H
2	* 5.352	53.34	Pk	34.5	-23.6	0	64.24	-	-	74	-9.76	267	209	H
3	* 5.35	29.49	RMS	34.5	-23.6	.1	40.49	54	-13.51	-	-	267	209	H
4	* 5.351	31.55	RMS	34.5	-23.6	.1	42.55	54	-11.45	-	-	267	209	H

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

HIGH CHANNEL BANDEDGE, VERTICAL

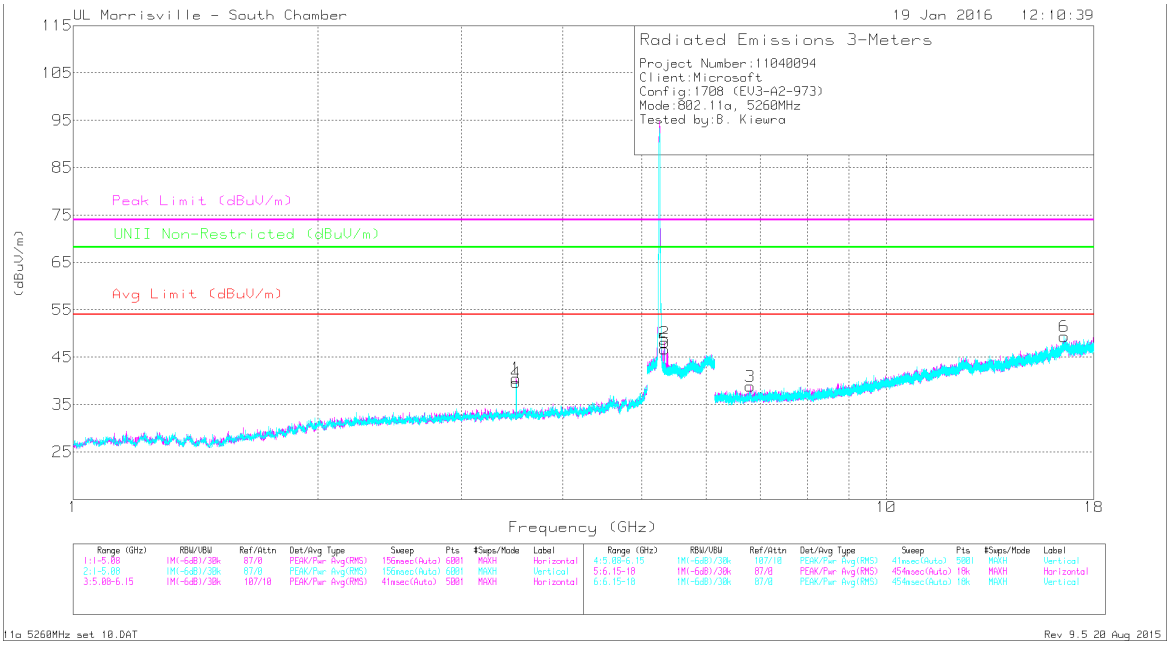


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl /Fltr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	37.29	Pk	34.5	-23.6	0	48.19	-	-	74	-25.81	235	398	V
2	* 5.36	49.67	Pk	34.5	-23.6	0	60.57	-	-	74	-13.43	235	398	V
3	* 5.35	28.65	RMS	34.5	-23.6	.1	39.65	54	-14.35	-	-	235	398	V
4	* 5.35	29.45	RMS	34.5	-23.6	.1	40.45	54	-13.55	-	-	235	398	V

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

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL PLOT

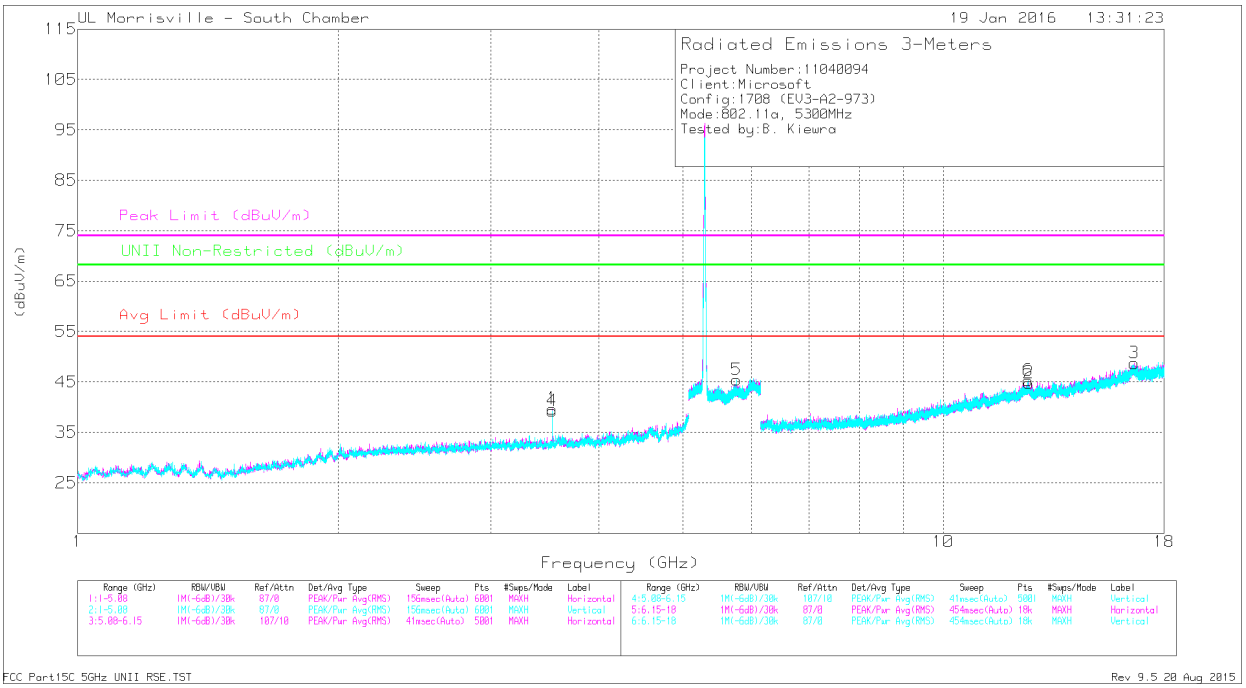


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.507	46.34	PK-U	32.9	-34	0	45.24	-	-	74	-28.76	-	-	154	109	H
	* 3.507	40.6	ADR	32.9	-34	0.1	39.6	54	-14.4	-	-	-	-	154	109	H
4	* 3.507	45.43	PK-U	32.9	-34	0	44.33	-	-	74	-29.67	-	-	66	108	V
	* 3.507	39.5	ADR	32.9	-34	0.1	38.5	54	-15.5	-	-	-	-	66	108	V
2	5.336	38.75	PK-U	34.4	-23.4	0	49.75	-	-	-	-	68.2	-18.45	7	227	H
5	5.338	38.17	PK-U	34.4	-23.4	0	49.17	-	-	-	-	68.2	-19.03	4	375	V
3	6.802	37.33	PK-U	35.5	-29.3	0	43.53	-	-	-	-	68.2	-24.67	105	329	H
6	16.553	37.71	PK-U	41.7	-23.9	0	55.51	-	-	-	-	68.2	-12.69	269	175	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

MID CHANNEL HORIZONTAL PLOT

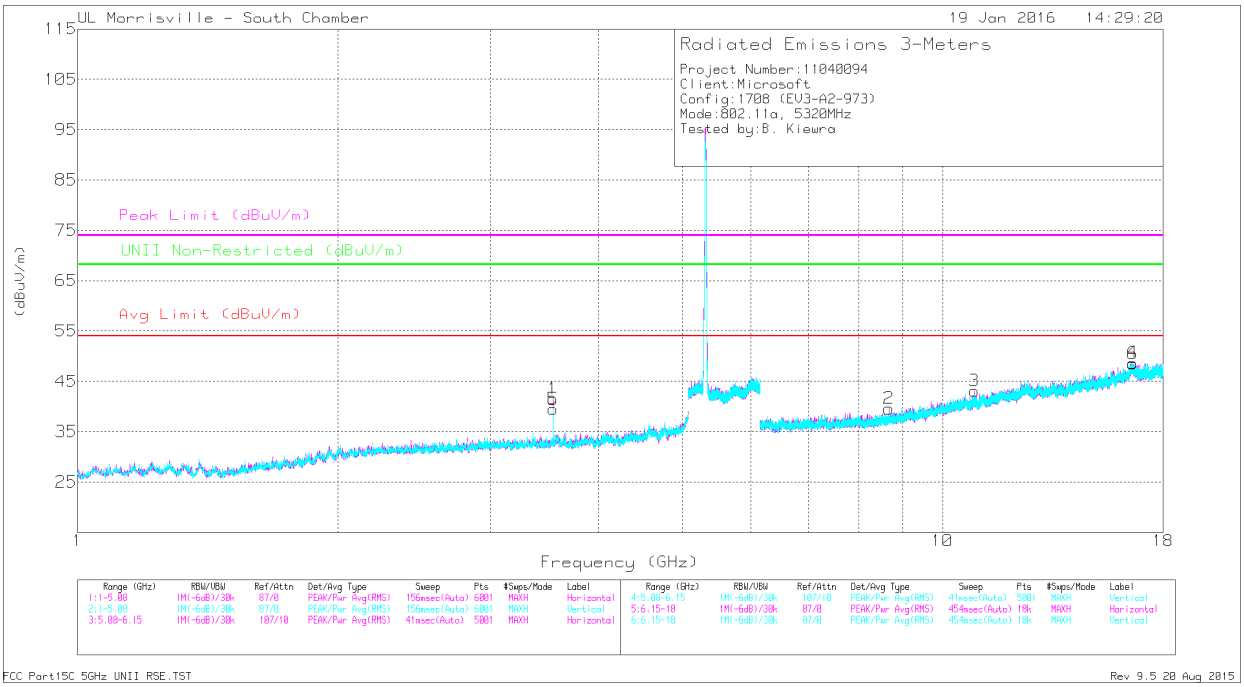


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.533	45.41	PK-U	32.9	-33.9	0	44.41	-	-	74	-29.59	-	-	53	235	H
	* 3.533	38.75	ADR	32.9	-33.9	0.1	37.85	54	-16.15	-	-	-	-	53	235	H
4	* 3.533	44.86	PK-U	32.9	-33.9	0	43.86	-	-	74	-30.14	-	-	71	132	V
	* 3.533	39.03	ADR	32.9	-33.9	0.1	38.13	54	-15.87	-	-	-	-	71	132	V
2	* 12.556	36.46	PK-U	39.1	-25.4	0	50.16	-	-	74	-23.84	-	-	210	155	H
	* 12.557	25.3	ADR	39.1	-25.4	0.1	39.1	54	-14.9	-	-	-	-	210	155	H
6	* 12.54	37.03	PK-U	39	-25.2	0	50.83	-	-	74	-23.17	-	-	296	393	V
	* 12.54	25.11	ADR	39	-25.2	0.1	39.01	54	-14.99	-	-	-	-	296	393	V
5	5.775	39.09	PK-U	34.6	-23.5	0	50.19	-	-	-	-	68.2	-18.01	340	192	V
3	16.617	36.53	PK-U	41.8	-24.4	0	53.93	-	-	-	-	68.2	-14.27	93	294	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

HIGH CHANNEL HORIZONTAL PLOT



DATA

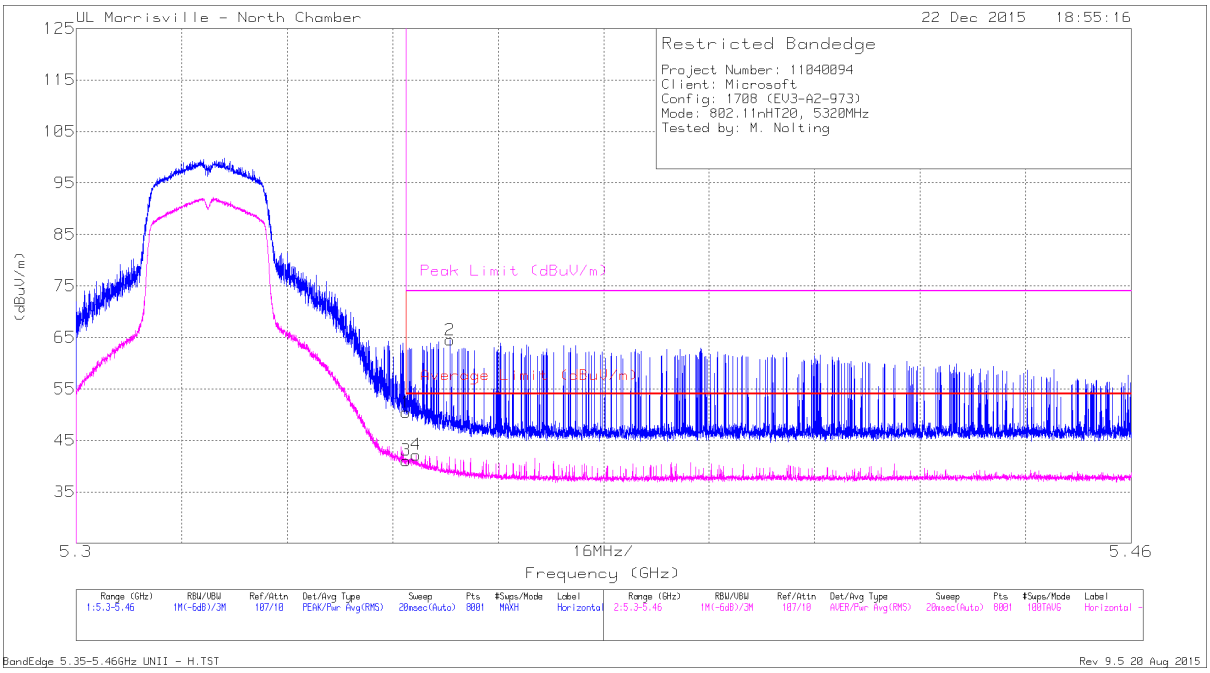
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.547	46.48	PK-U	32.9	-33.9	0	45.48	-	-	74	-28.52	-	-	163	106	H
	* 3.547	40.67	ADR	32.9	-33.9	0.1	39.77	54	-14.23	-	-	-	-	163	106	H
5	* 3.547	45.94	PK-U	32.9	-33.9	0	44.94	-	-	74	-29.06	-	-	67	154	V
	* 3.547	39.83	ADR	32.9	-33.9	0.1	38.93	54	-15.07	-	-	-	-	67	154	V
3	* 10.889	36.14	PK-U	37.8	-25.7	0	48.24	-	-	74	-25.76	-	-	291	126	H
	* 10.887	24.39	ADR	37.8	-25.7	0.1	36.59	54	-17.41	-	-	-	-	291	126	H
2	8.67	36.5	PK-U	35.9	-27.8	0	44.6	-	-	-	-	68.2	-23.6	354	227	H
4	16.603	36.77	PK-U	41.8	-24.3	0	54.27	-	-	-	-	68.2	-13.93	342	391	H
6	16.607	36.96	PK-U	41.8	-24.3	0	54.46	-	-	-	-	68.2	-13.74	99	168	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

9.2.4. TX 1-18 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND

AUTHORIZED BANDEDGE (HIGH CHANNEL)

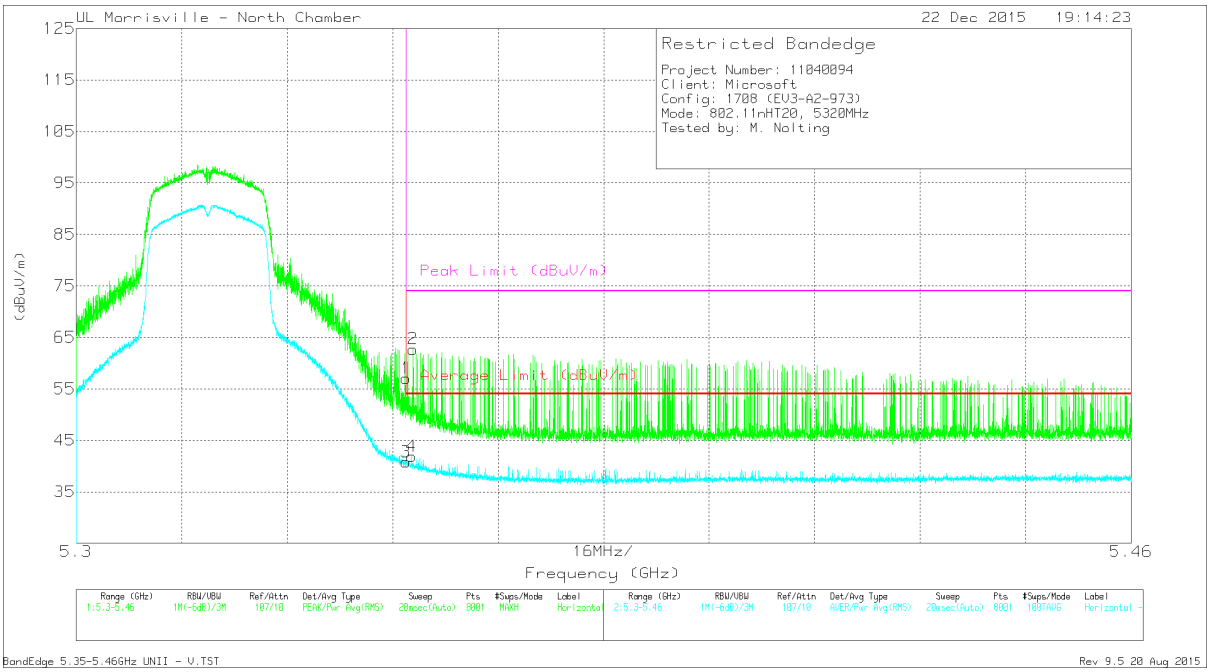
HIGH CHANNEL BANDEDGE, HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (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	39.54	Pk	34.5	-23.6	0	50.44	-	-	74	-23.56	270	214	H
3	* 5.35	30.1	RMS	34.5	-23.6	.1	41.1	54	-12.9	-	-	270	214	H
4	* 5.352	31.2	RMS	34.5	-23.6	.1	42.2	54	-11.8	-	-	270	214	H
2	* 5.357	53.61	Pk	34.5	-23.6	0	64.51	-	-	74	-9.49	270	214	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection
BandEdge 5.35-5.46GHz UNII - H.TST
Rev 9.5 20 Aug 2015

HIGH CHANNEL BANDEDGE, VERTICAL

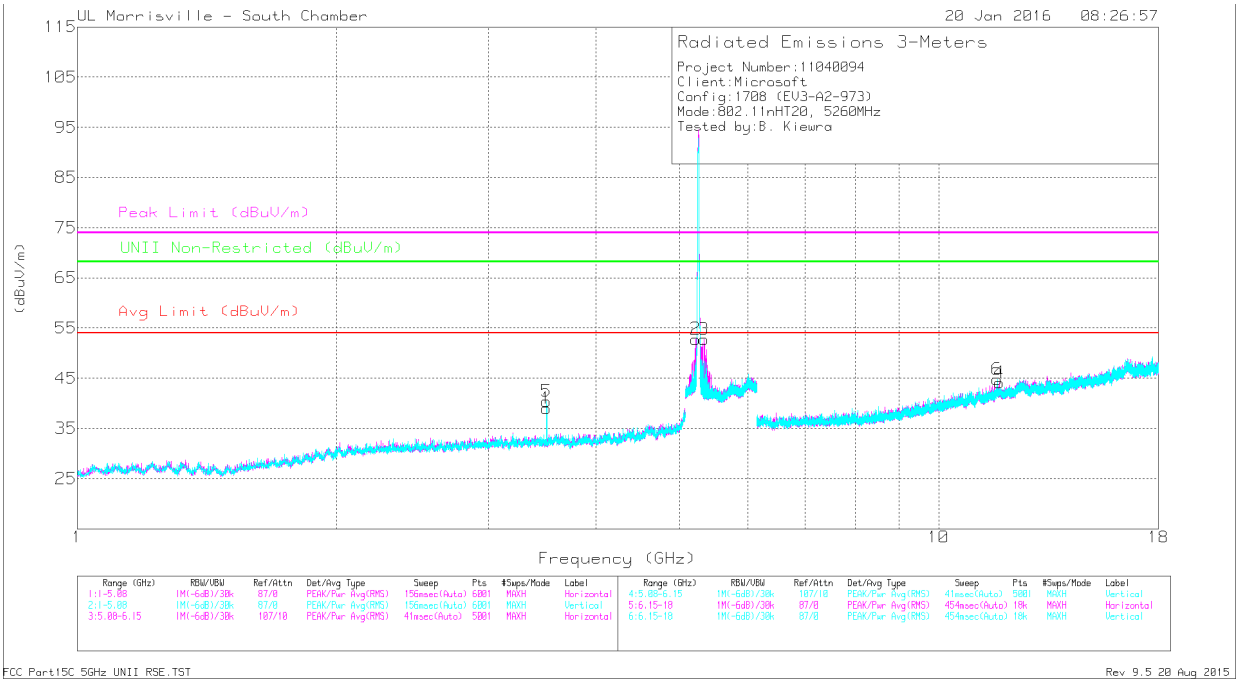


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	46.16	Pk	34.5	-23.6	0	57.06	-	-	74	-16.94	258	274	V
3	* 5.35	29.78	RMS	34.5	-23.6	.1	40.78	54	-13.22	-	-	258	274	V
2	* 5.351	51.82	Pk	34.5	-23.6	0	62.72	-	-	74	-11.28	258	274	V
4	* 5.351	30.89	RMS	34.5	-23.6	.1	41.89	54	-12.11	-	-	258	274	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection
BandEdge 5.35-5.46GHz UNII - V.TST
Rev 9.5 20 Aug 2015

HARMONICS AND SPURIOUS EMISSIONS (1-18 GHz)

LOW CHANNEL PLOT

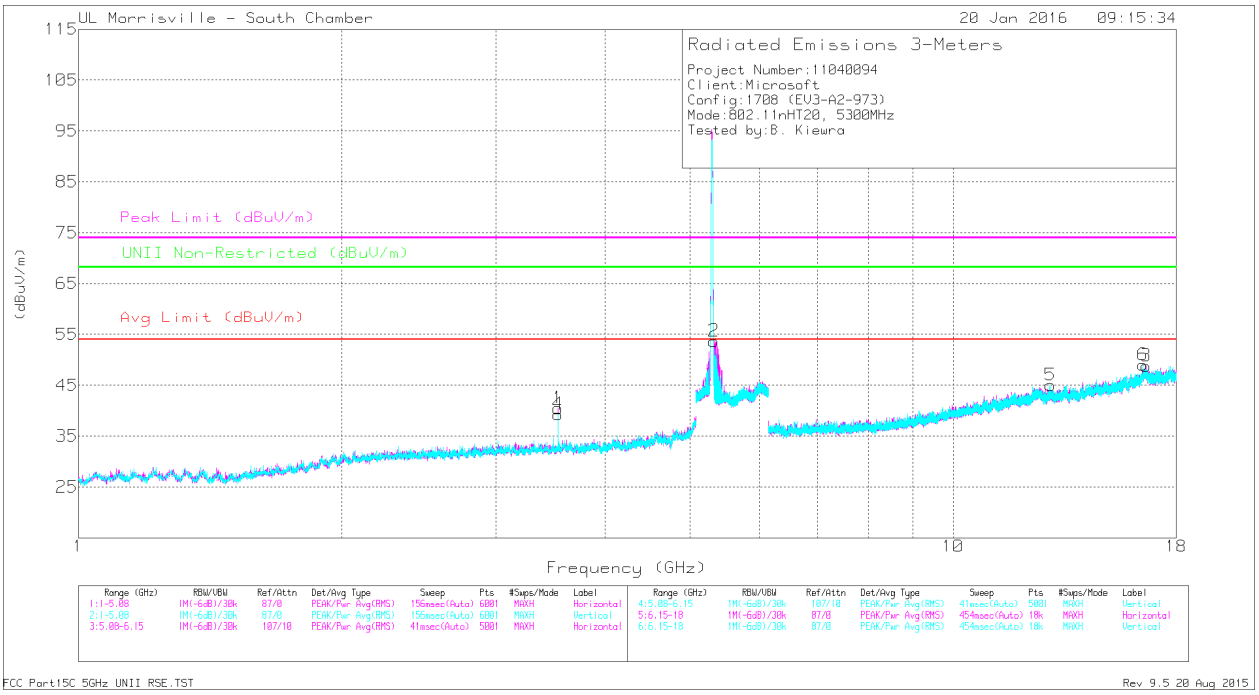


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.507	44.79	PK-U	32.9	-34	0	43.69	-	-	74	-30.31	-	-	261	299	H
	* 3.507	38.66	ADR	32.9	-34	0.1	37.66	54	-16.34	-	-	-	-	261	299	H
5	* 3.507	44.31	PK-U	32.9	-34	0	43.21	-	-	74	-30.79	-	-	3	171	V
	* 3.507	38.21	ADR	32.9	-34	0.1	37.21	54	-16.79	-	-	-	-	3	171	V
4	* 11.763	35.59	PK-U	38.6	-25.4	0	48.79	-	-	74	-25.21	-	-	138	161	H
	* 11.764	24.32	ADR	38.6	-25.4	0.1	37.62	54	-16.38	-	-	-	-	138	161	H
6	* 11.696	36.93	PK-U	38.5	-25.3	0	50.13	-	-	74	-23.87	-	-	278	369	V
	* 11.694	24.43	ADR	38.5	-25.3	0.1	37.73	54	-16.27	-	-	-	-	278	369	V
2	5.223	49.99	PK-U	34.3	-23	0	61.29	-	-	-	-	68.2	-6.91	334	178	H
3	5.343	50.94	PK-U	34.4	-23.5	0	61.84	-	-	-	-	68.2	-6.36	330	190	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

MID CHANNEL PLOT

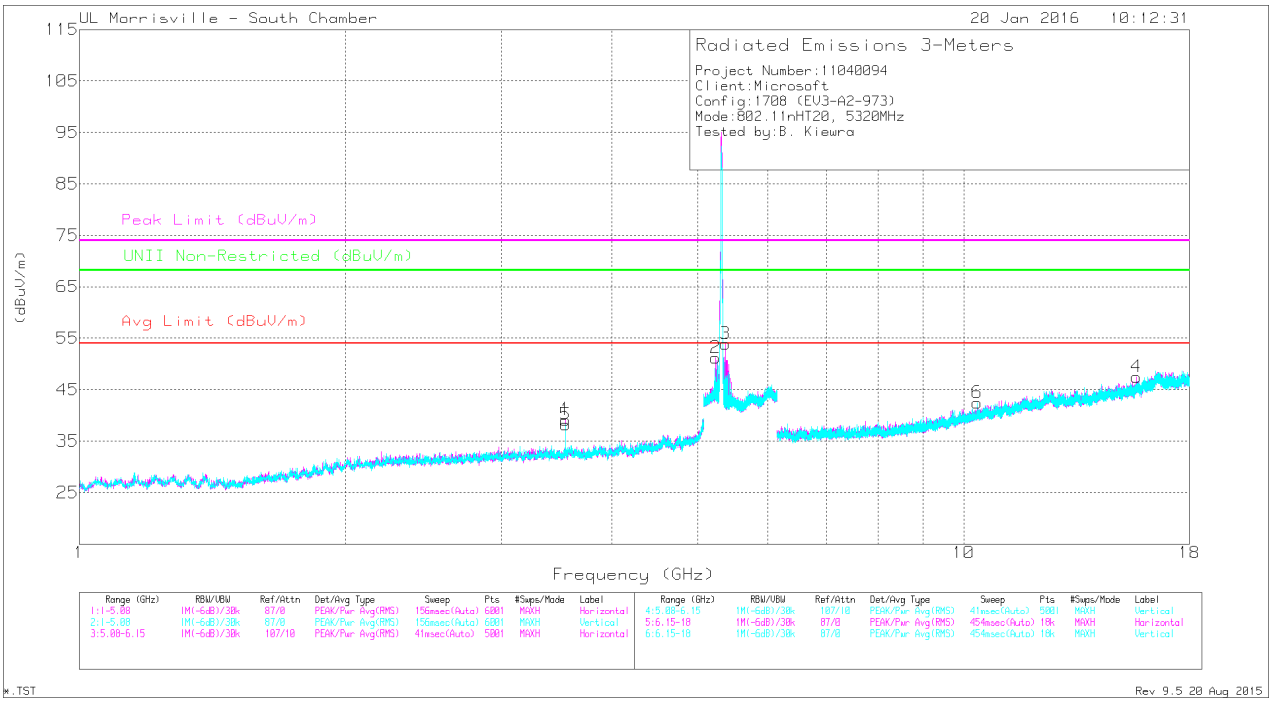


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.533	46.58	PK-U	32.9	-33.9	0	45.58	-	-	74	-28.42	-	-	59	247	H
	* 3.533	41.32	ADR	32.9	-33.9	0.1	40.42	54	-13.58	-	-	-	-	59	247	H
4	* 3.533	44.97	PK-U	32.9	-33.9	0	43.97	-	-	74	-30.03	-	-	0	150	V
	* 3.533	38.95	ADR	32.9	-33.9	0.1	38.05	54	-15.95	-	-	-	-	0	150	V
2	5.327	51.98	PK-U	34.4	-23.2	0	63.18	-	-	-	-	68.2	-5.02	328	223	H
5	12.924	36.39	PK-U	39.2	-25.6	0	49.99	-	-	-	-	68.2	-18.21	172	139	V
6	16.485	37.07	PK-U	41.6	-24.7	0	53.97	-	-	-	-	68.2	-14.23	225	349	V
3	16.623	36.81	PK-U	41.8	-24.5	0	54.11	-	-	-	-	68.2	-14.09	162	261	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

HIGH CHANNEL PLOT



DATA

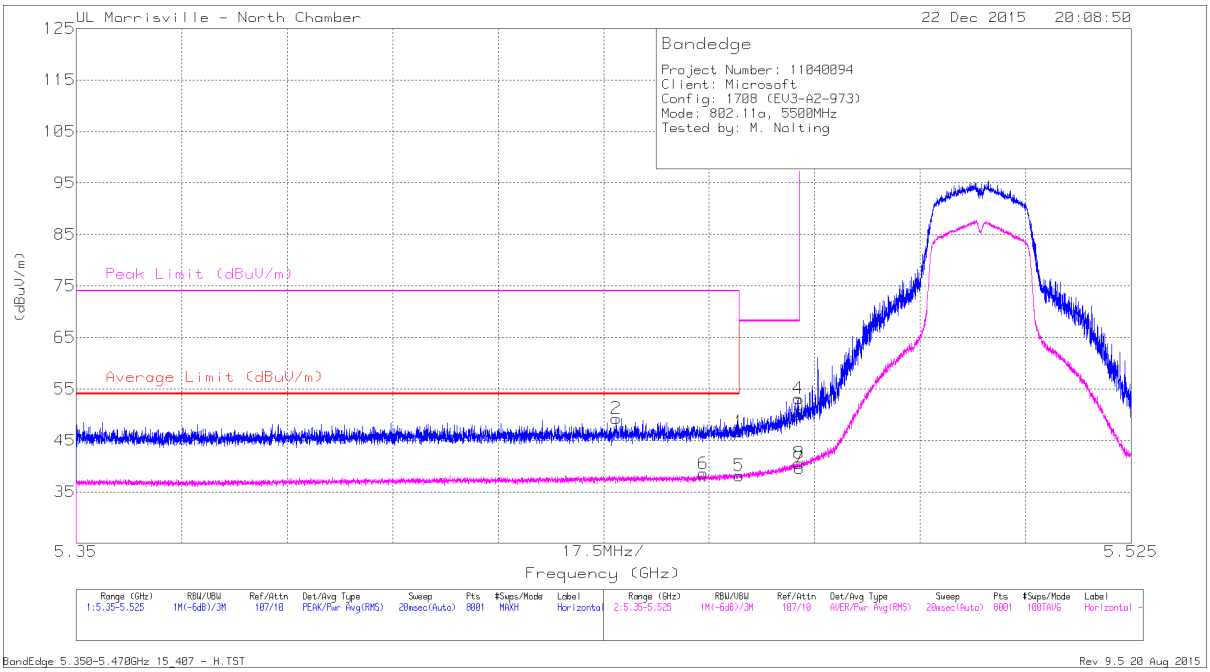
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.547	45.3	PK-U	32.9	-33.9	0	44.3	-	-	74	-29.7	-	-	66	203	H
	* 3.547	38.82	ADR	32.9	-33.9	0.1	37.92	54	-16.08	-	-	-	-	66	203	H
5	* 3.547	44.42	PK-U	32.9	-33.9	0	43.42	-	-	74	-30.58	-	-	57	205	V
	* 3.547	37.48	ADR	32.9	-33.9	0.1	36.58	54	-17.42	-	-	-	-	57	205	V
3	* 5.379	53.13	PK-U	34.5	-23.5	0	64.13	-	-	74	-9.87	-	-	342	214	H
	* 5.379	28.48	ADR	34.5	-23.5	0.1	39.58	54	-14.42	-	-	-	-	342	214	H
4	* 15.681	36.42	PK-U	40.5	-24.5	0	52.42	-	-	74	-21.58	-	-	331	163	H
	* 15.678	24.92	ADR	40.5	-24.5	0.1	41.02	54	-12.98	-	-	-	-	331	163	H
2	5.24	46.3	PK-U	34.4	-23.1	0	57.6	-	-	-	-	68.2	-10.6	172	273	H
6	10.364	36.25	PK-U	37.4	-25.9	0	47.75	-	-	-	-	68.2	-20.45	119	211	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

9.2.5. TX 1-18 GHz 802.11a MODE IN THE 5.6 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.44	38.16	Pk	34.5	-23.4	0	49.26	-	-	74	-24.74	19	101	H
6	* 5.454	27.56	RMS	34.5	-23.6	.1	38.56	54	-15.44	-	-	19	101	H
1	* 5.46	35.78	Pk	34.5	-23.6	0	46.68	-	-	74	-27.32	19	101	H
5	* 5.46	27.16	RMS	34.5	-23.6	.1	38.16	54	-15.84	-	-	19	101	H
3	5.47	39.04	Pk	34.5	-23.6	0	49.94	-	-	68.2	-18.26	19	101	H
4	5.47	42.25	Pk	34.5	-23.6	0	53.15	-	-	68.2	-15.05	19	101	H
7	5.47	28.65	RMS	34.5	-23.6	.1	39.65	-	-	-	-	19	101	H
8	5.47	29.6	RMS	34.5	-23.6	.1	40.6	-	-	-	-	19	101	H

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

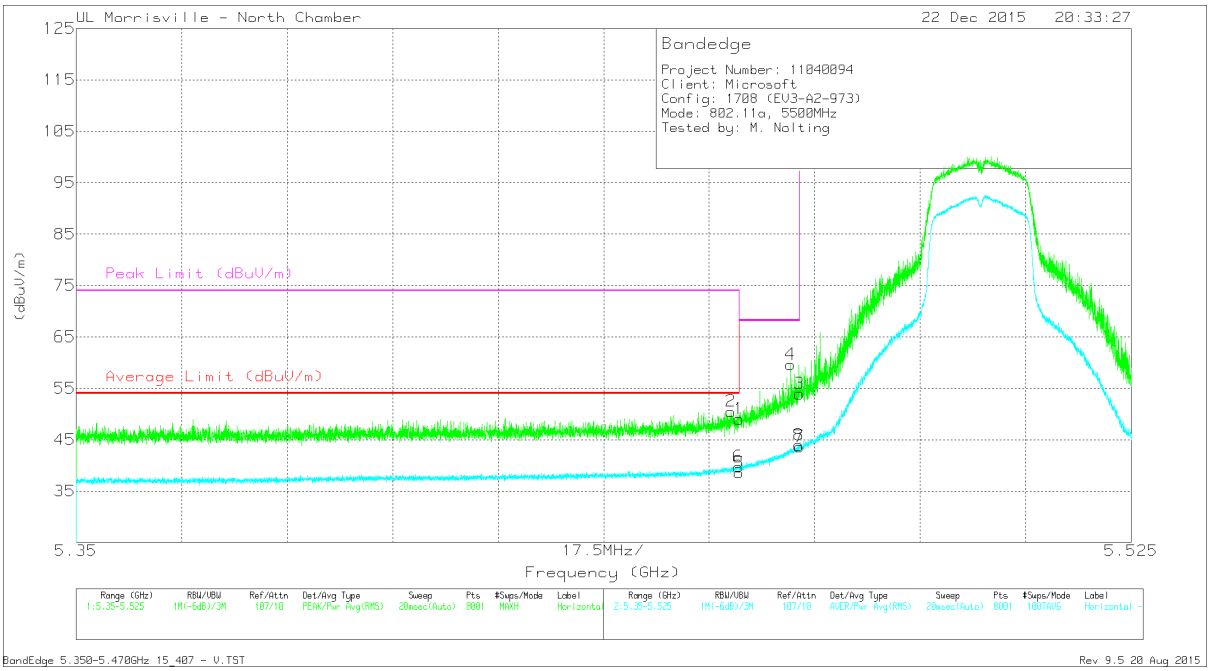
Pk - Peak detector

RMS - RMS detection

BandEdge 5.350-5.470GHz 15_407 - H.TST

Rev 9.5 20 Aug 2015

LOW CHANNEL RESTRICTED, VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.459	39.61	Pk	34.5	-23.6	0	50.51	-	-	74	-23.49	40	116	V
1	* 5.46	38.17	Pk	34.5	-23.6	0	49.07	-	-	74	-24.93	40	116	V
5	* 5.46	27.58	RMS	34.5	-23.6	.1	38.58	54	-15.42	-	-	40	116	V
6	* 5.46	28.72	RMS	34.5	-23.6	.1	39.72	54	-14.28	-	-	40	116	V
4	5.469	48.75	Pk	34.5	-23.6	0	59.65	-	-	68.2	-8.55	40	116	V
3	5.47	43.05	Pk	34.5	-23.6	0	53.95	-	-	68.2	-14.25	40	116	V
7	5.47	32.64	RMS	34.5	-23.6	.1	43.64	-	-	-	-	40	116	V
8	5.47	32.93	RMS	34.5	-23.6	.1	43.93	-	-	-	-	40	116	V

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

Pk - Peak detector

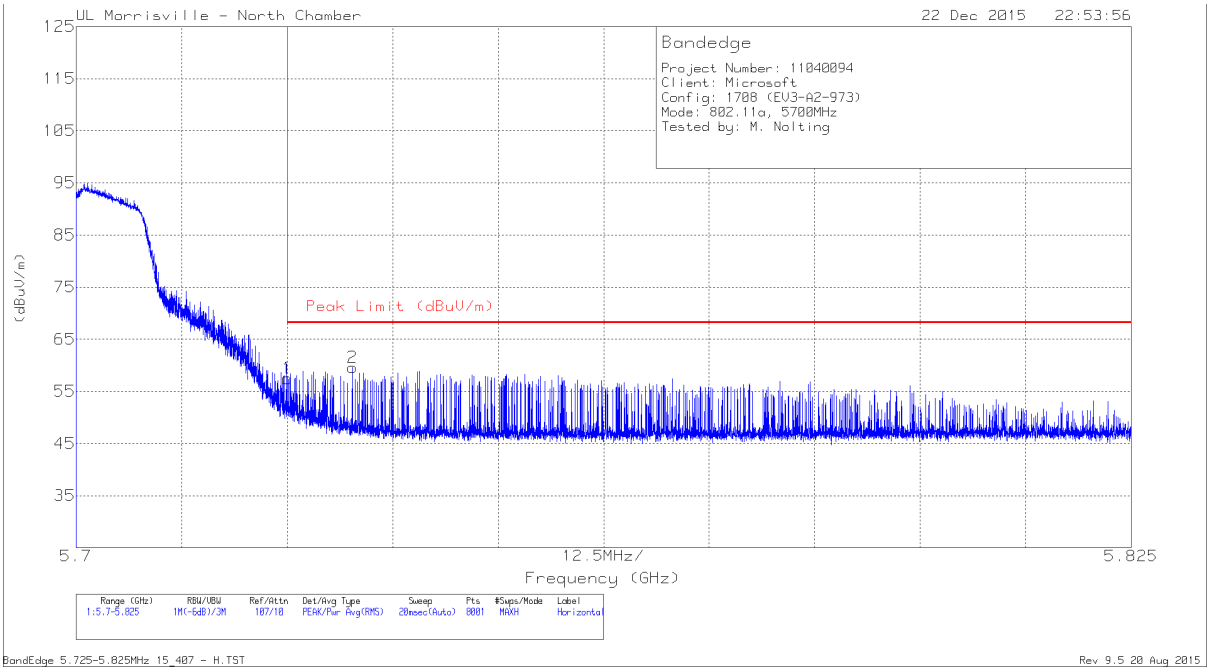
RMS - RMS detection

BandEdge 5.350-5.470GHz 15_407 - V.TST

Rev 9.5 20 Aug 2015

AUTHORIZED BANDEDGE (HIGH CHANNEL)

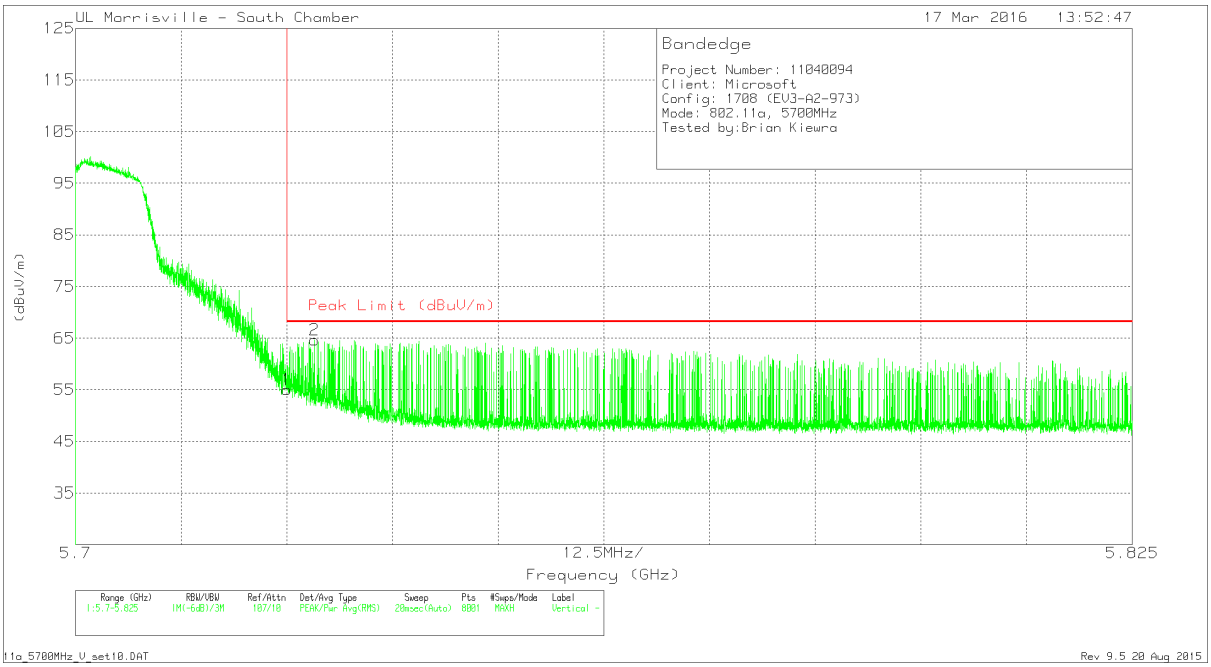
HIGH CHANNEL BANDEDGE, HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	46.39	Pk	34.7	-23.6	57.49	68.2	-10.71	1	101	H
2	5.733	48.5	Pk	34.7	-23.6	59.6	68.2	-8.6	1	101	H

Pk - Peak detector
BandEdge 5.725-5.825MHz 15_407 - H.TST
Rev 9.5 20 Aug 2015

HIGH CHANNEL BANDEDGE, VERTICAL



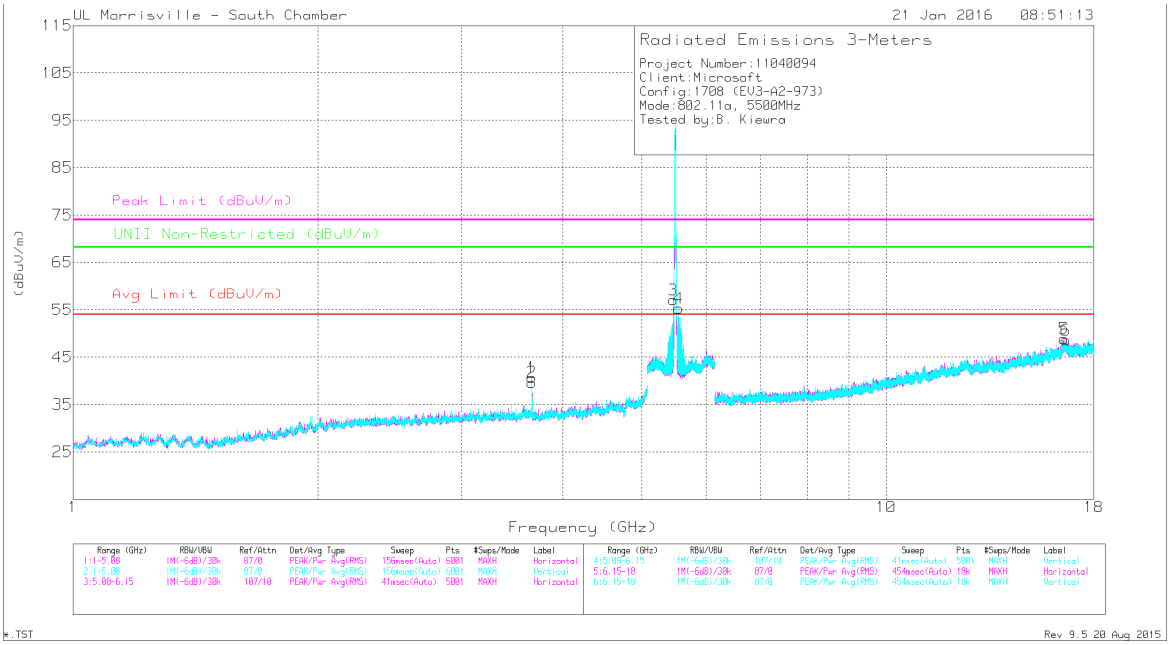
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	43.96	Pk	34.7	-23.6	55.06	68.2	-13.14	90	133	V
2	5.728	53.56	Pk	34.7	-23.6	64.66	68.2	-3.54	90	133	V

Pk - Peak detector
11a_5700MHz_V_set10.DAT
Rev 9.5 20 Aug 2015

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL PLOT

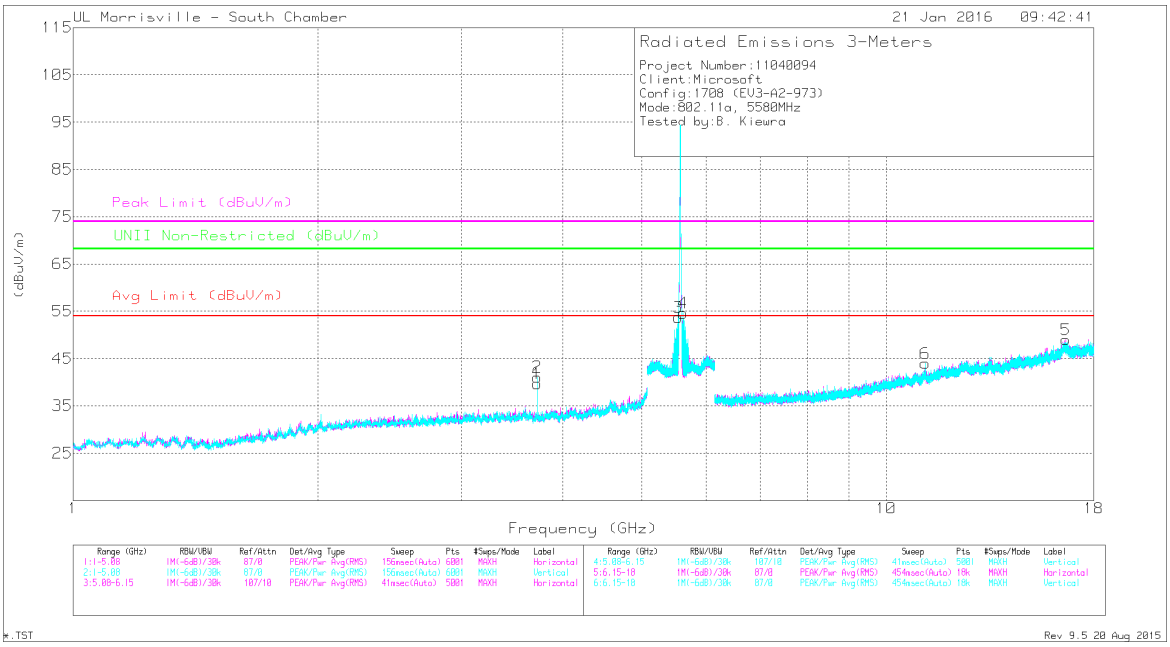


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.667	44.37	PK-U	33	-32.9	0	44.47	-	-	74	-29.53	-	-	237	161	H
	* 3.667	38.38	ADR	33	-32.9	0.1	38.58	54	-15.42	-	-	-	-	237	161	H
2	* 3.667	44.2	PK-U	33	-32.9	0	44.3	-	-	74	-29.7	-	-	128	124	V
	* 3.667	38.17	ADR	33	-32.9	0.1	38.37	54	-15.63	-	-	-	-	128	124	V
3	5.474	53.87	PK-U	34.5	-23.8	0	64.57	-	-	-	-	68.2	-3.63	105	352	V
4	5.554	52.78	PK-U	34.5	-23.7	0	63.58	-	-	-	-	68.2	-4.62	112	127	V
5	16.537	37.29	PK-U	41.7	-24.1	0	54.89	-	-	-	-	68.2	-13.31	37	323	H
6	16.625	36.81	PK-U	41.8	-24.5	0	54.11	-	-	-	-	68.2	-14.09	42	140	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

MID CHANNEL PLOT

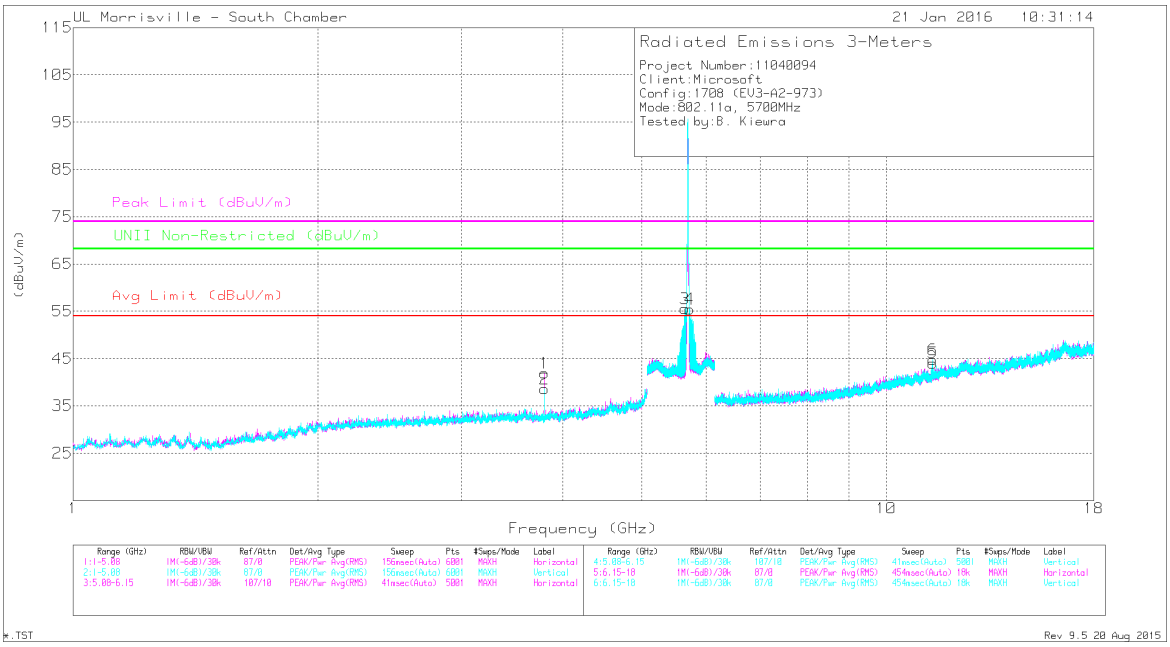


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.72	44.67	PK-U	33.1	-32.9	0	44.87	-	-	74	-29.13	-	-	255	101	H
	* 3.72	39.32	ADR	33.1	-32.9	0.1	39.62	54	-14.38	-	-	-	-	255	101	H
2	* 3.72	43.87	PK-U	33.1	-32.9	0	44.07	-	-	74	-29.93	-	-	25	132	V
	* 3.72	37.51	ADR	33.1	-32.9	0.1	37.81	54	-16.19	-	-	-	-	25	132	V
6	* 11.164	36.05	PK-U	38	-25.6	0	48.45	-	-	74	-25.55	-	-	353	205	V
	* 11.164	24.42	ADR	38	-25.6	0.1	36.92	54	-17.08	-	-	-	-	353	205	V
3	5.543	49.61	PK-U	34.5	-23.8	0	60.31	-	-	-	-	68.2	-7.89	55	158	H
4	5.625	51.43	PK-U	34.6	-23.7	0	62.33	-	-	-	-	68.2	-5.87	98	164	V
5	16.618	36.82	PK-U	41.8	-24.4	0	54.22	-	-	-	-	68.2	-13.98	107	115	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

HIGH CHANNEL PLOT



DATA

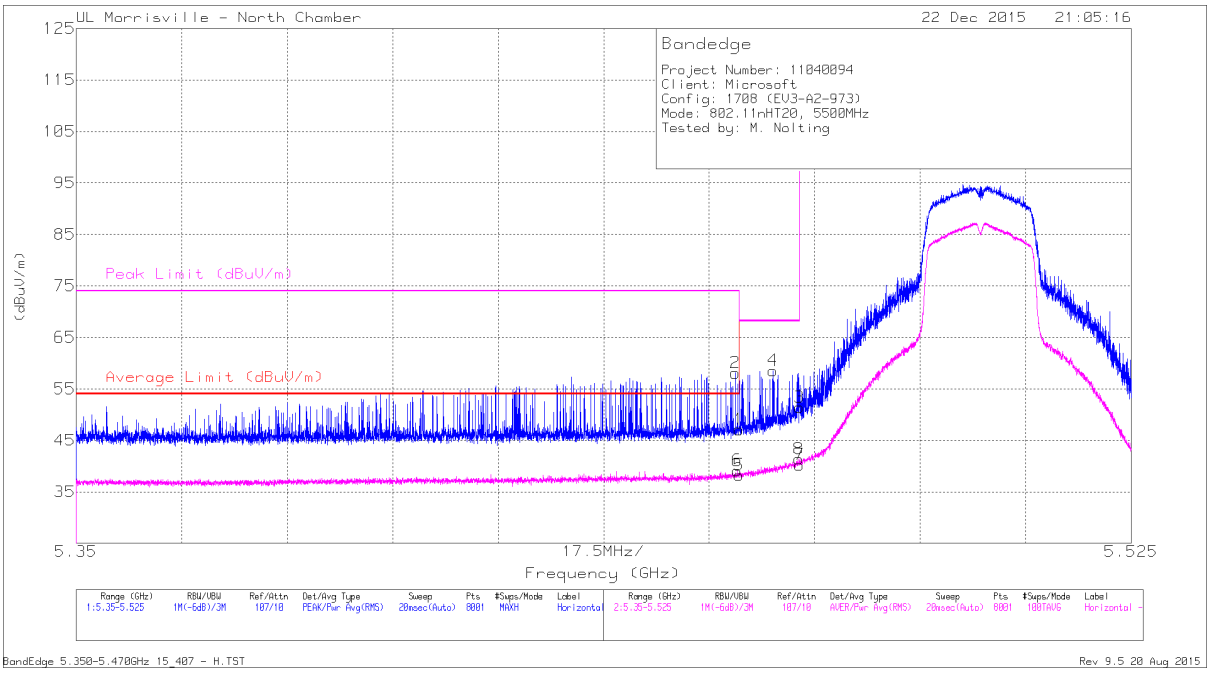
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.8	46.04	PK-U	33.1	-33.6	0	45.54	-	-	74	-28.46	-	-	285	119	H
	* 3.8	41.25	ADR	33.1	-33.6	0.1	40.85	54	-13.15	-	-	-	-	285	119	H
2	* 3.8	44.17	PK-U	33.1	-33.6	0	43.67	-	-	74	-30.33	-	-	125	130	V
	* 3.8	37.81	ADR	33.1	-33.6	0.1	37.41	54	-16.59	-	-	-	-	125	130	V
5	* 11.403	38.4	PK-U	38.2	-25.6	0	51	-	-	74	-23	-	-	184	293	H
	* 11.402	25.7	ADR	38.2	-25.6	0.1	38.4	54	-15.6	-	-	-	-	184	293	H
6	* 11.402	36.38	PK-U	38.2	-25.6	0	48.98	-	-	74	-25.02	-	-	1	279	V
	* 11.402	24.07	ADR	38.2	-25.6	0.1	36.77	54	-17.23	-	-	-	-	1	279	V
3	5.656	38.5	PK-U	34.6	-23.6	0	49.5	-	-	-	-	68.2	-18.7	88	119	V
4	5.735	39.58	PK-U	34.6	-23.7	0	50.48	-	-	-	-	68.2	-17.72	254	220	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

9.2.6. TX 1-18 GHz 802.11n HT20 MODE IN THE 5.6 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.459	47.21	Pk	34.5	-23.6	0	58.11	-	-	74	-15.89	22	101	H
1	* 5.46	36.2	Pk	34.5	-23.6	0	47.1	-	-	74	-26.9	22	101	H
5	* 5.46	27.25	RMS	34.5	-23.6	.1	38.25	54	-15.75	-	-	22	101	H
6	* 5.46	28.13	RMS	34.5	-23.6	.1	39.13	54	-14.87	-	-	22	101	H
4	5.466	47.66	Pk	34.5	-23.6	0	58.56	-	-	68.2	-9.64	22	101	H
3	5.47	40.51	Pk	34.5	-23.6	0	51.41	-	-	68.2	-16.79	22	101	H
7	5.47	29.24	RMS	34.5	-23.6	.1	40.24	-	-	-	-	22	101	H
8	5.47	30.42	RMS	34.5	-23.6	.1	41.42	-	-	-	-	22	101	H

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

Pk - Peak detector

RMS - RMS detection

BandEdge 5.350-5.470GHz 15_407 - H.TST

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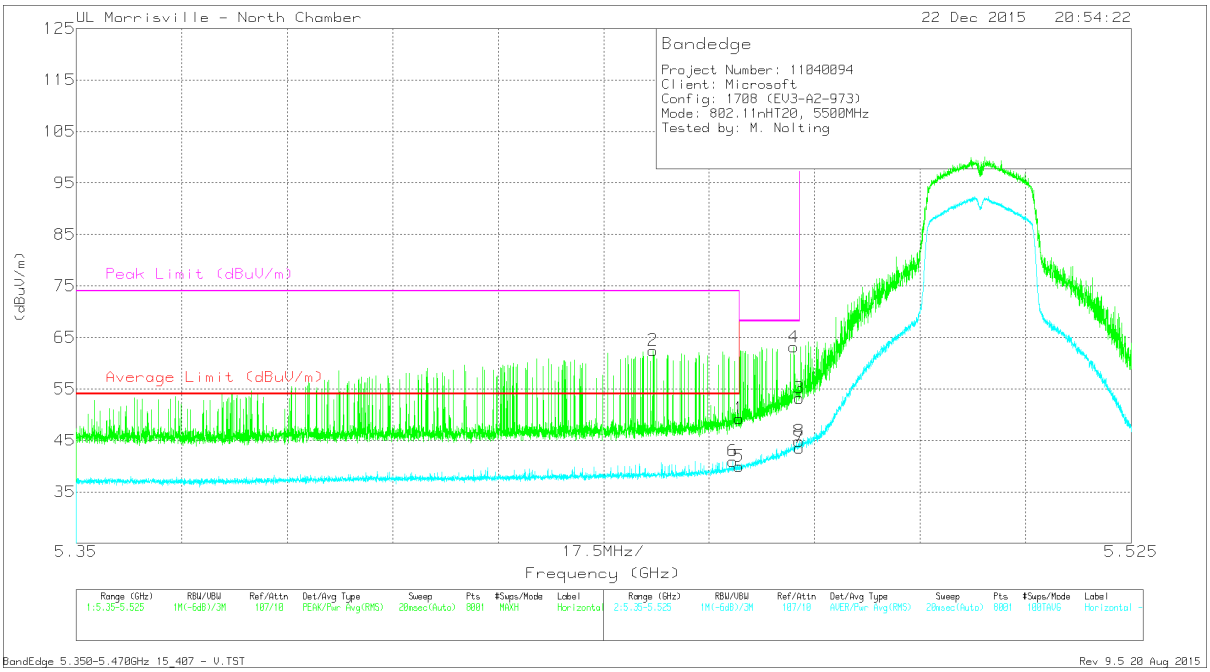
LOW CHANNEL RESTRICTED, VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.446	51.46	Pk	34.5	-23.5	0	62.46	-	-	74	-11.54	37	104	V
6	* 5.459	29.98	RMS	34.5	-23.6	.1	40.98	54	-13.02	-	-	37	104	V
1	* 5.46	38.36	Pk	34.5	-23.6	0	49.26	-	-	74	-24.74	37	104	V
5	* 5.46	28.98	RMS	34.5	-23.6	.1	39.98	54	-14.02	-	-	37	104	V
4	5.469	52.26	Pk	34.5	-23.6	0	63.16	-	-	68.2	-5.04	37	104	V
3	5.47	42.32	Pk	34.5	-23.6	0	53.22	-	-	68.2	-14.98	37	104	V
7	5.47	32.56	RMS	34.5	-23.6	.1	43.56	-	-	-	-	37	104	V
8	5.47	33.88	RMS	34.5	-23.6	.1	44.88	-	-	-	-	37	104	V

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

Pk - Peak detector

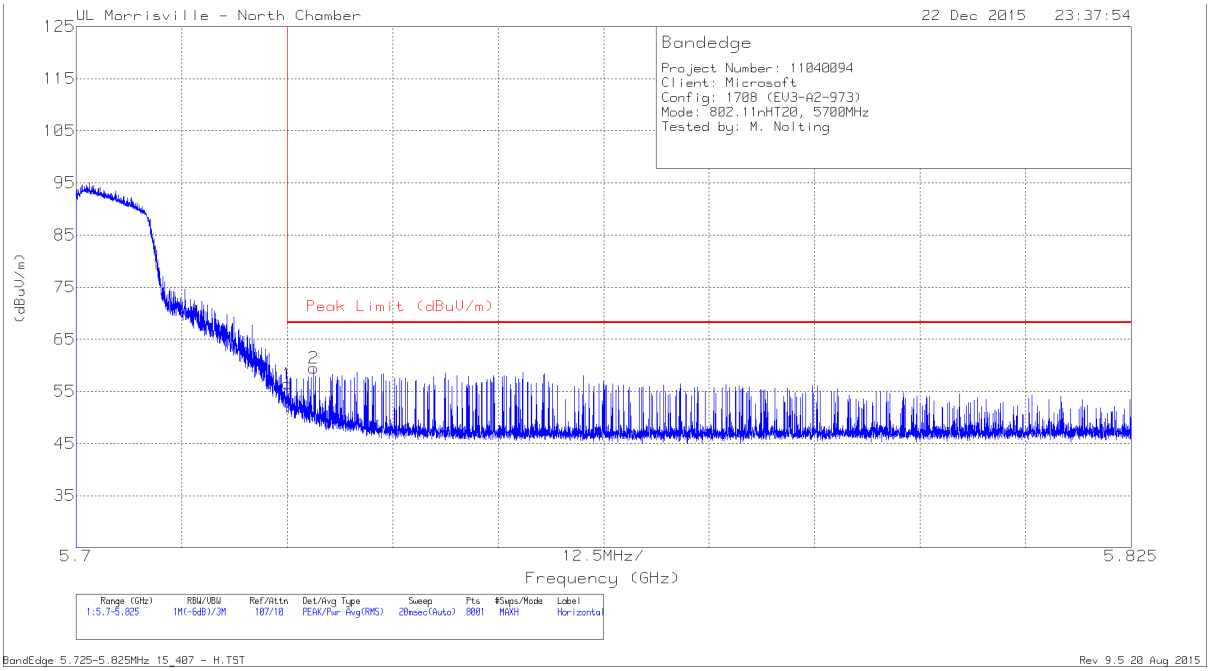
RMS - RMS detection

BandEdge 5.350-5.470GHz 15_407 - V.TST

Rev 9.5 20 Aug 2015

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	45.35	Pk	34.7	-23.6	56.45	68.2	-11.75	356	103	H
2	5.728	48.37	Pk	34.7	-23.6	59.47	68.2	-8.73	356	103	H

Pk - Peak detector

BandEdge 5.725-5.825MHz 15_407 - H.TST

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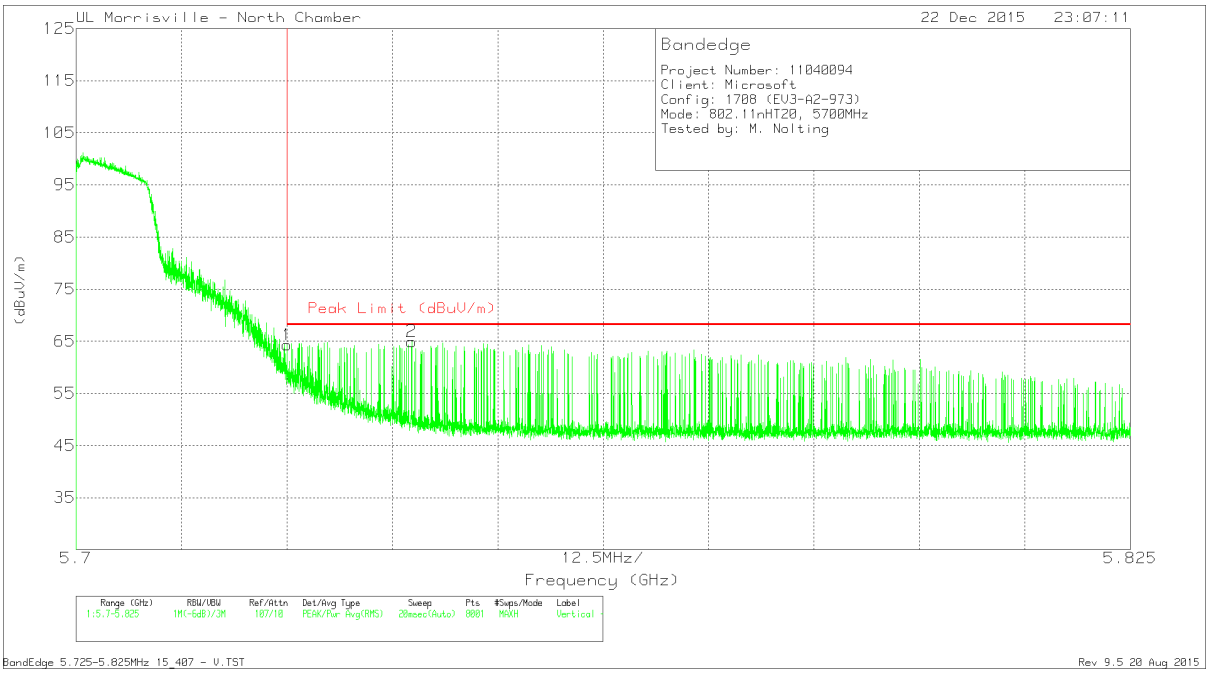
HIGH CHANNEL BANDEDGE, VERTICAL

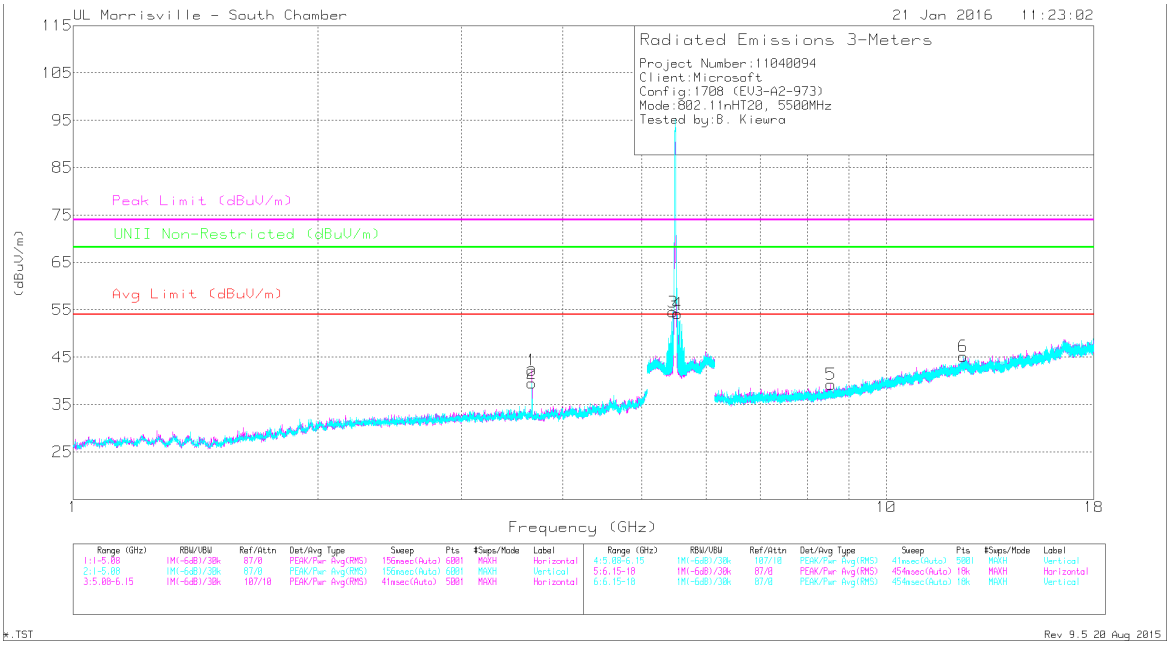


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	53.18	Pk	34.7	-23.6	64.28	68.2	-3.92	48	102	V
2	5.74	53.76	Pk	34.7	-23.5	64.96	68.2	-3.24	48	102	V

Pk - Peak detector
BandEdge 5.725-5.825MHz 15_407 - V.TST
Rev 9.5 20 Aug 2015

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL PLOT

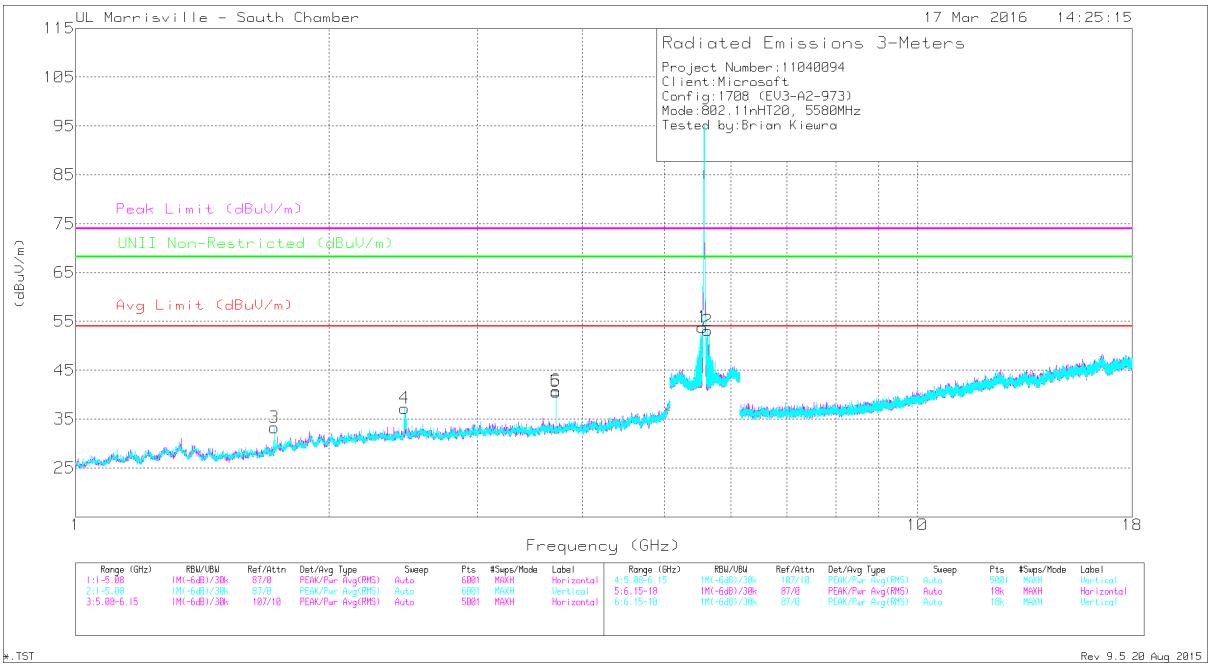


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.667	44.89	PK-U	33	-32.9	0	44.99	-	-	74	-29.01	-	-	264	106	H
	* 3.667	38.31	ADR	33	-32.9	0.1	38.51	54	-15.49	-	-	-	-	264	106	H
2	* 3.667	44.67	PK-U	33	-32.9	0	44.77	-	-	74	-29.23	-	-	131	127	V
	* 3.667	38.49	ADR	33	-32.9	0.1	38.69	54	-15.31	-	-	-	-	131	127	V
6	* 12.441	36.19	PK-U	39	-24.9	0	50.29	-	-	74	-23.71	-	-	173	210	V
	* 12.442	24.6	ADR	39	-24.8	0.1	38.9	54	-15.1	-	-	-	-	173	210	V
3	5.468	53.52	PK-U	34.5	-23.9	0	64.12	-	-	-	-	68.2	-4.08	111	102	V
4	5.534	53.89	PK-U	34.5	-23.8	0	64.59	-	-	-	-	68.2	-3.61	127	111	V
5	8.549	36.76	PK-U	35.8	-28.2	0	44.36	-	-	-	-	68.2	-23.84	306	136	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

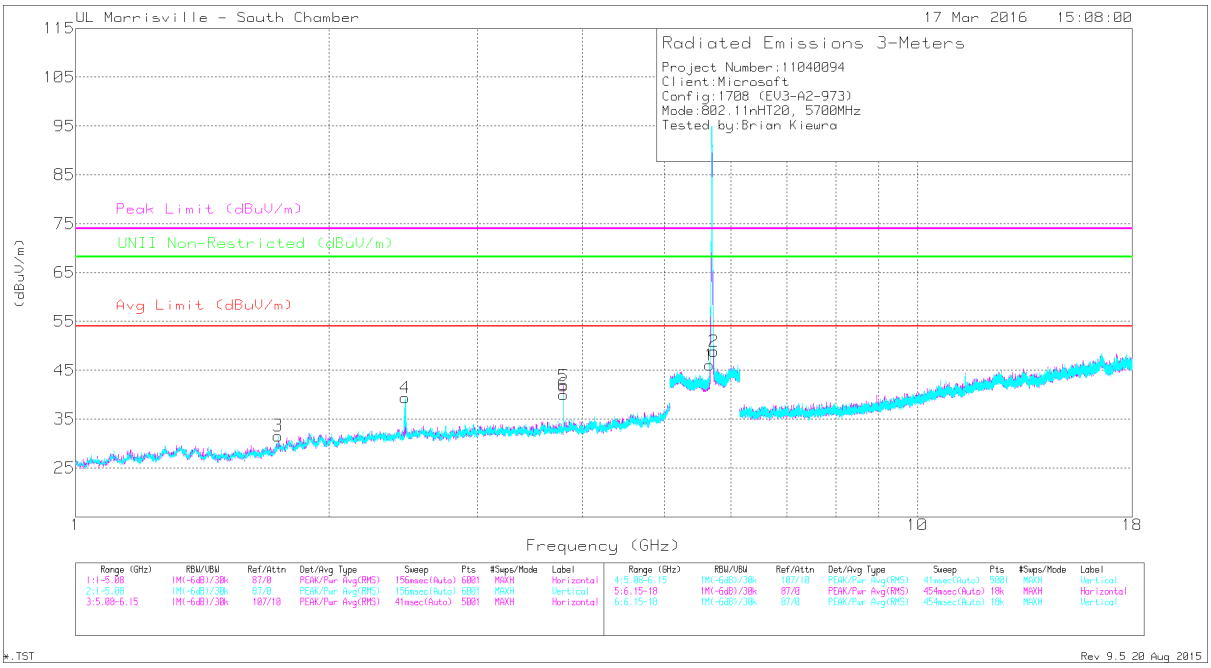
MID CHANNEL PLOT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0067 (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	* 3.72	43.74	PK-U	33.3	-32.9	0	44.14	-	-	74	-29.86	-	-	235	133	H
	* 3.72	37.38	ADR	33.3	-32.9	0.1	37.88	54	-16.12	-	-	-	-	235	133	H
3	* 1.721	41.92	PK-U	29.3	-35.1	0	36.12	-	-	74	-37.88	-	-	65	229	V
	* 1.721	30.06	ADR	29.3	-35.1	0.1	24.36	54	-29.64	-	-	-	-	65	229	V
5	* 3.72	44.64	PK-U	33.3	-32.9	0	45.04	-	-	74	-28.96	-	-	97	150	V
	* 3.72	39.27	ADR	33.3	-32.9	0.1	39.77	54	-14.23	-	-	-	-	97	150	V
4	2.462	48.21	PK-U	32.3	-34.6	0	45.91	-	-	-	-	68.2	-22.29	162	145	V
1	5.551	52.31	PK-U	34.5	-23.8	0	63.01	-	-	-	-	68.2	-5.19	40	307	V
2	5.629	53	PK-U	34.5	-23.7	0	63.8	-	-	-	-	68.2	-4.4	94	127	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

HIGH CHANNEL PLOT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0067 (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	* 3.8	46.07	PK-U	33.4	-33.6	0	45.87	-	-	74	-28.13	-	-	267	114	H
	* 3.8	41.34	ADR	33.4	-33.6	0.1	41.24	54	-12.76	-	-	-	-	267	114	H
6	* 3.8	44.08	PK-U	33.4	-33.6	0	43.88	-	-	74	-30.12	-	-	119	132	V
	* 3.8	37.84	ADR	33.4	-33.6	0.1	37.74	54	-16.26	-	-	-	-	119	132	V
3	1.737	42.23	PK-U	29.7	-35.1	0	36.83	-	-	-	-	68.2	-31.37	67	209	V
4	2.464	45.14	PK-U	32.3	-34.6	0	42.84	-	-	-	-	68.2	-25.36	91	148	V
1	5.663	42.37	PK-U	34.5	-23.9	0	52.97	-	-	-	-	68.2	-15.23	138	206	V
2	5.729	50.11	PK-U	34.6	-23.8	0	60.91	-	-	-	-	68.2	-7.29	123	112	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
*.TST
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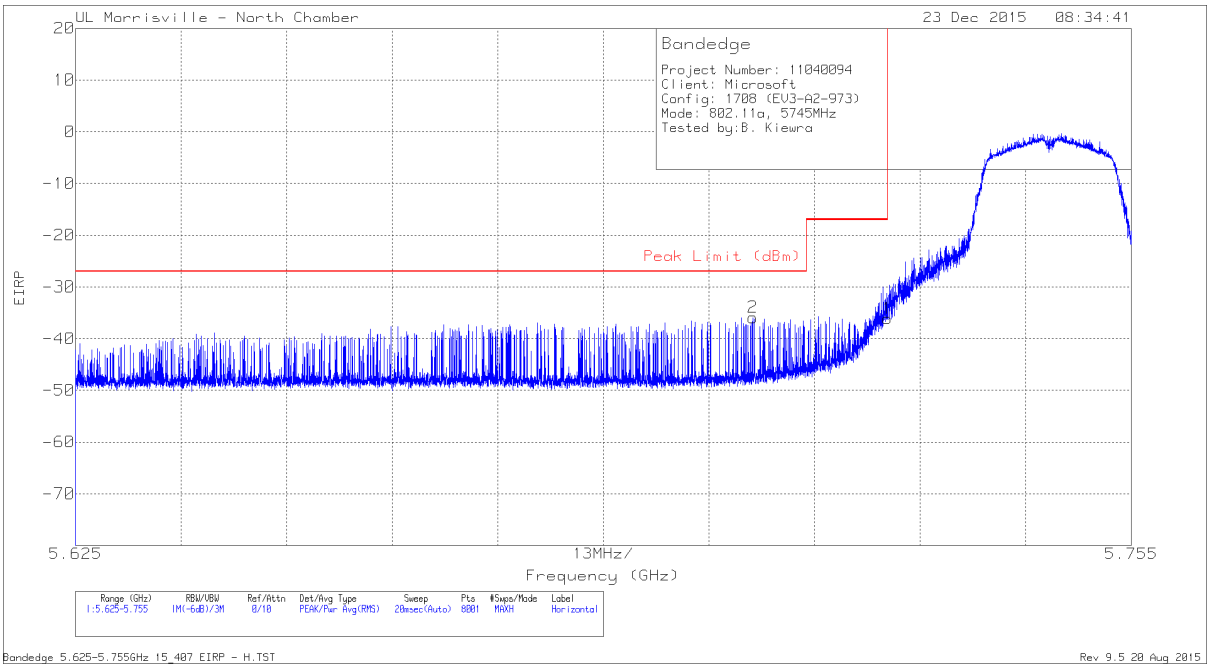
9.2.7. TX 1-18 GHz 802.11a MODE IN THE 5.8 GHz BAND

AUTHORIZED BANDEDGE (LOW CHANNEL)

LOW CHANNEL AUTHORIZED, HORIZONTAL

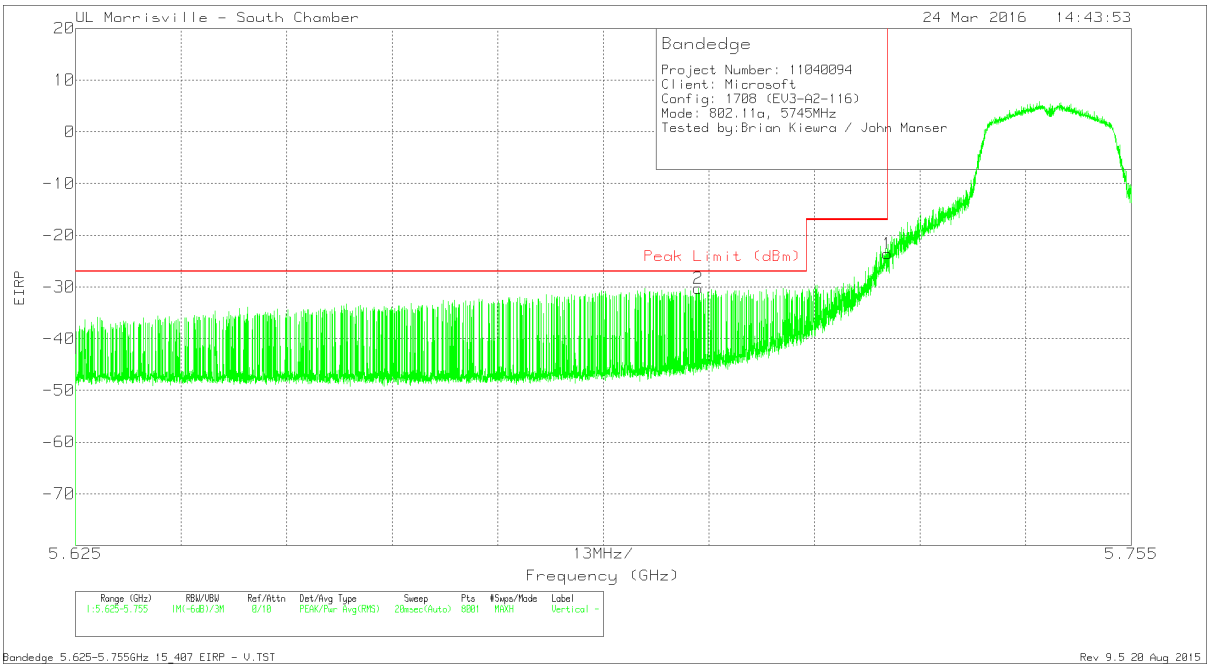


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF AT0072 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.708	-58.91	Pk	34.7	-23.5	11.8	0	-35.91	-27	-8.91	354	103	H
1	5.725	-59.04	Pk	34.7	-23.6	11.8	0	-36.14	-17	-19.14	354	103	H

Pk - Peak detector
Bandedge 5.625-5.755GHz 15_407 EIRP - H.TST
Rev 9.5 20 Aug 2015

LOW CHANNEL AUTHORIZED, VERTICAL



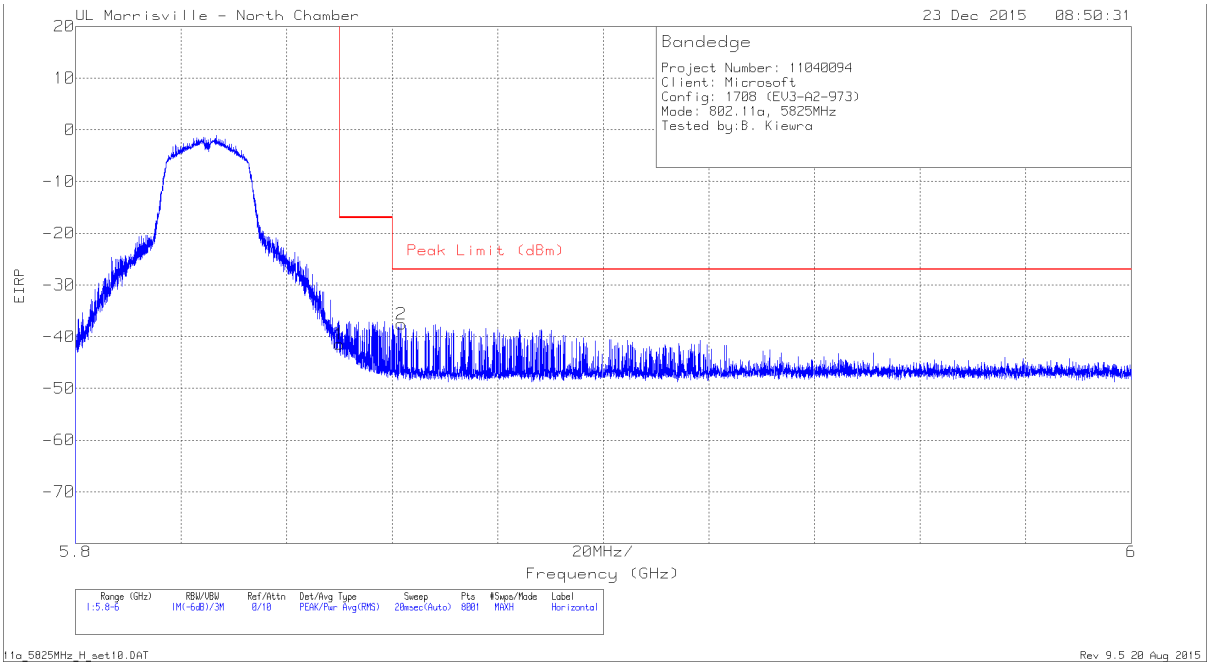
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF AT0069 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.702	-52.94	Pk	34.7	-23.8	11.8	-30.24	-27	-3.24	24	116	V
1	5.725	-46.2	Pk	34.7	-23.9	11.8	-23.6	-17	-6.6	24	116	V

Pk - Peak detector
Bandedge 5.625-5.755GHz 15_407 EIRP - V.TST
Rev 9.5 20 Aug 2015

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, HORIZONTAL

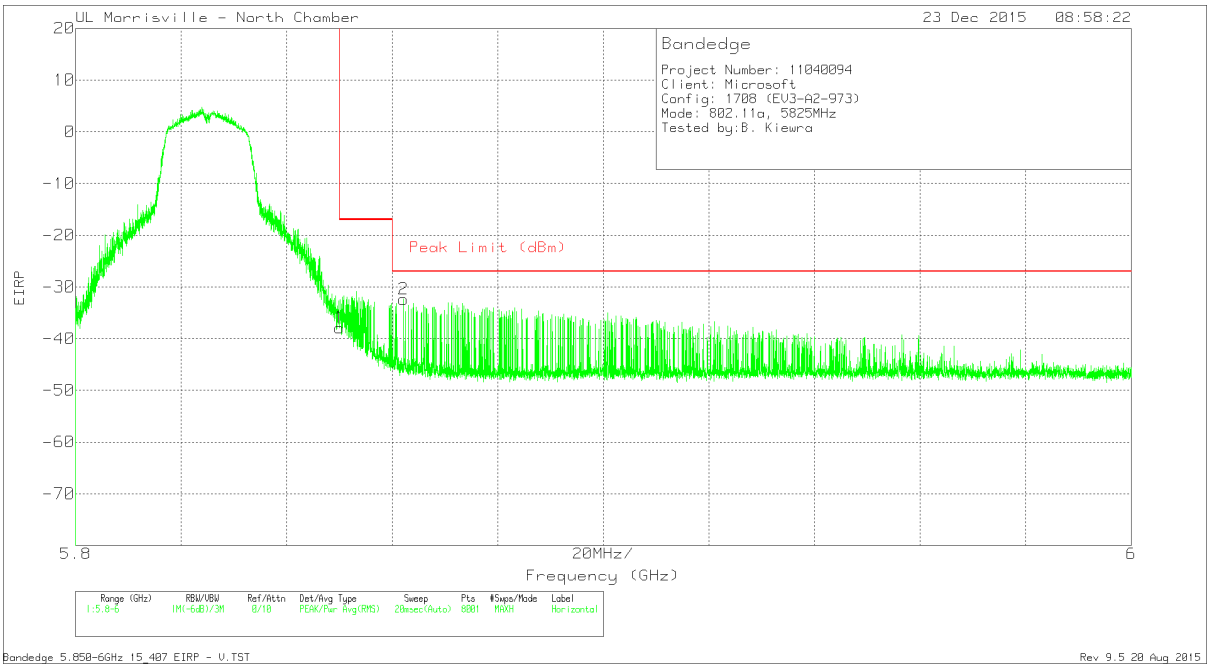


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-65.05	Pk	34.9	-23.1	11.8	0	-41.45	-17	-24.45	347	101	H
2	5.862	-61.13	Pk	34.9	-23.1	11.8	0	-37.53	-27	-10.53	347	101	H

Pk - Peak detector
Bandedge 5.850-6GHz 15_407 EIRP - H.TST
Rev 9.5 20 Aug 2015

HIGH CHANNEL BANDEDGE, VERTICAL



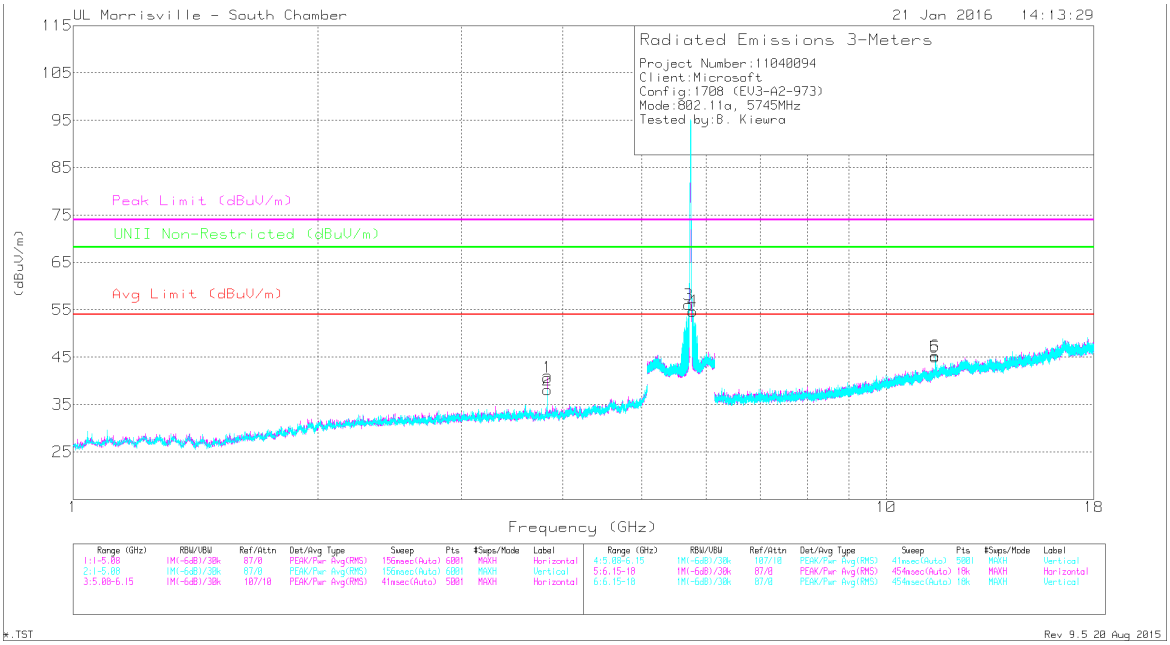
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-61.48	Pk	34.9	-23.1	11.8	-37.88	-17	-20.88	45	165	V
2	5.862	-55.98	Pk	34.9	-23.1	11.8	-32.38	-27	-5.38	45	165	V

Pk - Peak detector
Bandedge 5.850-6GHz 15_407 EIRP - V.TST
Rev 9.5 20 Aug 2015

HARMONICS AND SPURIOUS EMISSIONS (1-18 GHz)

LOW CHANNEL PLOT

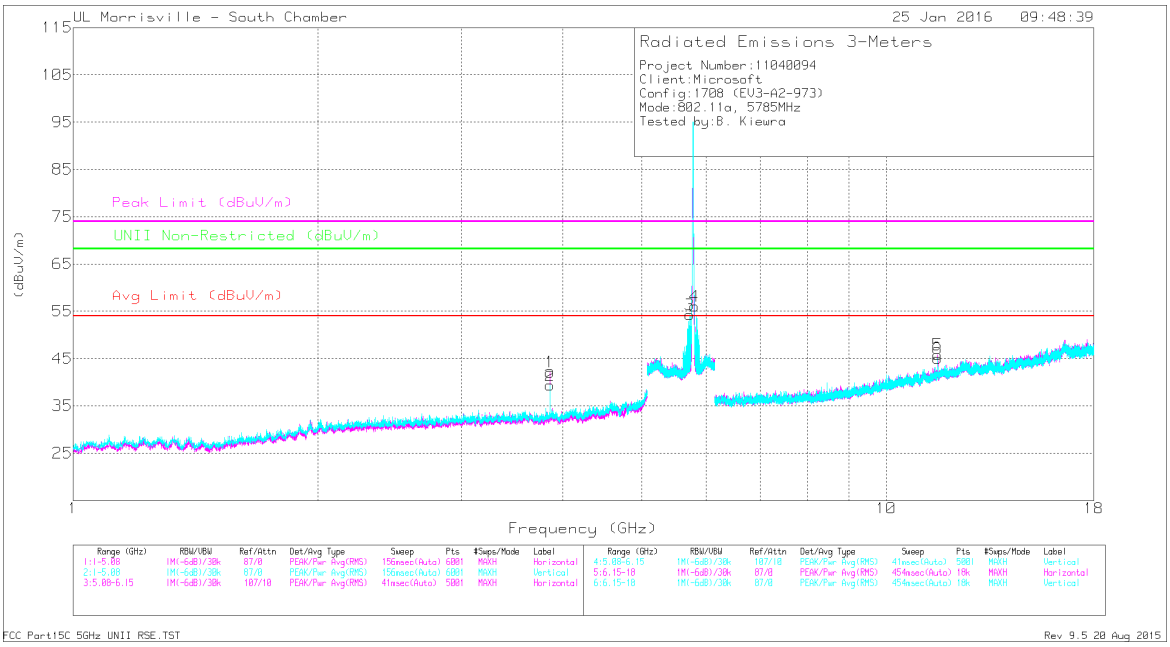


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.83	45.61	PK-U	33.2	-33.5	0	45.31	-	-	74	-28.69	-	-	257	135	H
	* 3.83	38.8	ADR	33.2	-33.5	.09	38.59	54	-15.41	-	-	-	-	257	135	H
2	* 3.83	44.27	PK-U	33.2	-33.5	0	43.97	-	-	74	-30.03	-	-	122	159	V
	* 3.83	37.55	ADR	33.2	-33.5	.09	37.34	54	-16.66	-	-	-	-	122	159	V
5	* 11.491	41.02	PK-U	38.3	-25.4	0	53.92	-	-	74	-20.08	-	-	175	119	H
	* 11.489	28.19	ADR	38.3	-25.4	.09	41.18	54	-12.82	-	-	-	-	175	119	H
6	* 11.491	40.65	PK-U	38.3	-25.4	0	53.55	-	-	74	-20.45	-	-	266	103	V
	* 11.49	28.09	ADR	38.3	-25.4	.09	41.08	54	-12.92	-	-	-	-	266	103	V
3	5.713	54.09	PK-U	34.6	-23.8	0	64.89	-	-	-	-	68.2	-3.31	128	122	V
4	5.782	54.05	PK-U	34.7	-23.6	0	65.15	-	-	-	-	68.2	-3.05	109	102	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

MID CHANNEL PLOT

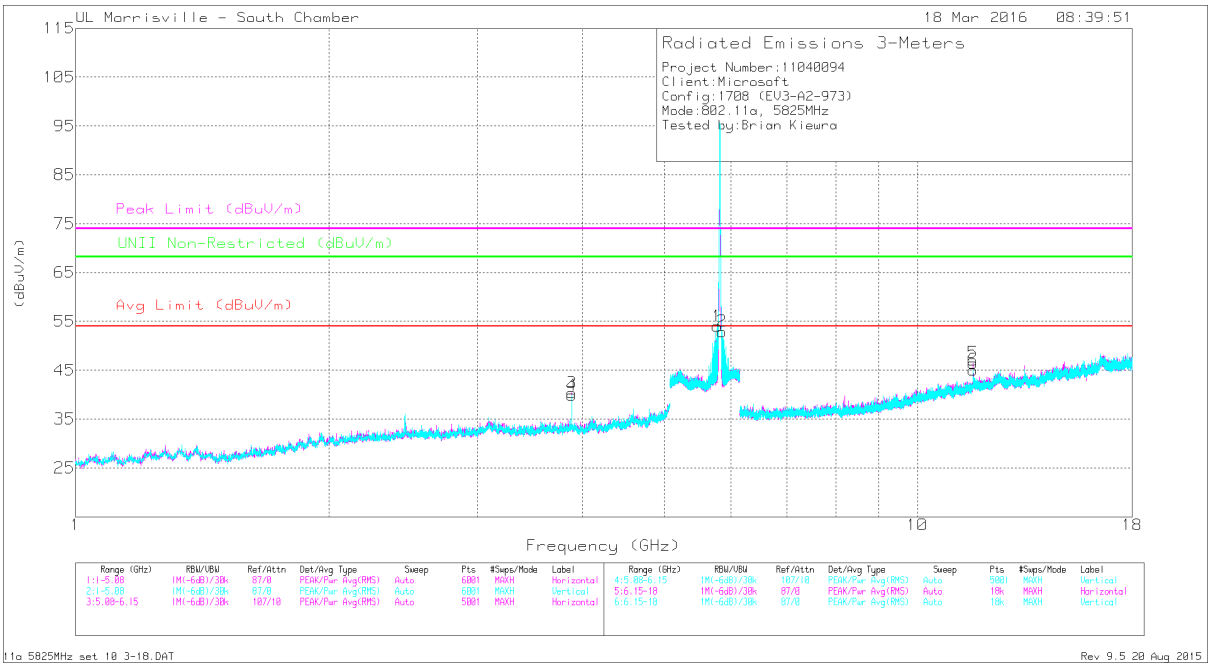


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.857	46.41	PK-U	33.2	-33.3	0	46.31	-	-	74	-27.69	-	-	265	104	H
	* 3.857	41.26	ADR	33.2	-33.3	.09	41.25	54	-12.75	-	-	-	-	265	104	H
2	* 3.857	43.82	PK-U	33.2	-33.3	0	43.72	-	-	74	-30.28	-	-	111	112	V
	* 3.857	37.01	ADR	33.2	-33.3	.09	37.00	54	-17.00	-	-	-	-	111	112	V
5	* 11.568	41.58	PK-U	38.4	-25.5	0	54.48	-	-	74	-19.52	-	-	180	102	H
	* 11.57	28.57	ADR	38.4	-25.6	.09	41.46	54	-12.54	-	-	-	-	180	102	H
6	* 11.573	39.03	PK-U	38.4	-25.6	0	51.83	-	-	74	-22.17	-	-	246	243	V
	* 11.57	26.78	ADR	38.4	-25.6	.09	39.67	54	-14.33	-	-	-	-	246	243	V
3	5.733	53.41	PK-U	34.6	-23.7	0	64.31	-	-	-	-	68.2	-3.89	107	103	V
4	5.811	52.84	PK-U	34.7	-23.7	0	63.84	-	-	-	-	68.2	-4.36	129	122	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

HIGH CHANNEL PLOT



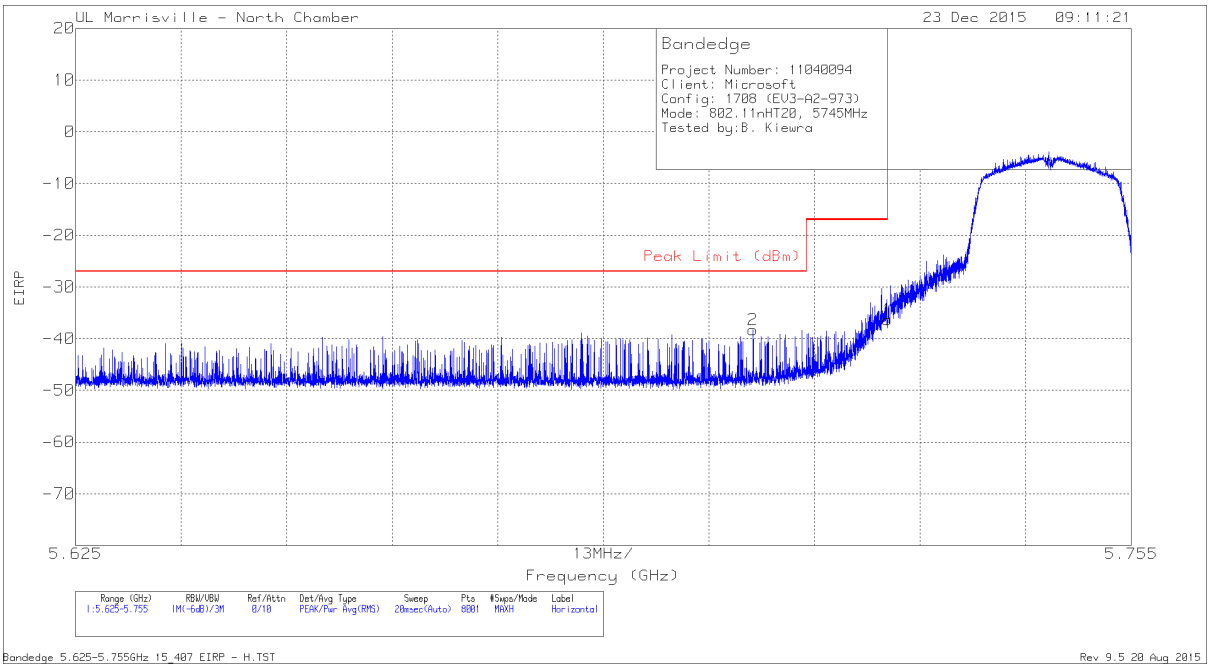
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.883	44.26	PK-U	33.4	-33.2	0	44.46	-	-	74	-29.54	-	-	189	107	H
	* 3.883	38.4	ADR	33.4	-33.2	.09	38.69	54	-15.31	-	-	-	-	189	107	H
4	* 3.883	43.97	PK-U	33.4	-33.2	0	44.17	-	-	74	-29.83	-	-	37	136	V
	* 3.883	37.53	ADR	33.4	-33.2	.09	37.82	54	-16.18	-	-	-	-	37	136	V
5	* 11.647	40.45	PK-U	38.5	-25.6	0	53.35	-	-	74	-20.65	-	-	78	101	H
	* 11.649	28.53	ADR	38.6	-25.6	.09	41.62	54	-12.38	-	-	-	-	78	101	H
6	* 11.648	39.82	PK-U	38.6	-25.6	0	52.82	-	-	74	-21.18	-	-	94	108	V
	* 11.648	27.52	ADR	38.5	-25.6	.09	40.51	54	-13.49	-	-	-	-	94	108	V
1	5.787	52.68	PK-U	34.6	-23.6	0	63.68	-	-	-	-	68.2	-4.52	12	163	V
2	5.861	51.46	PK-U	34.7	-23.5	0	62.66	-	-	-	-	68.2	-5.54	8	177	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
11a 5825MHz set 10 3-18.DAT
Rev 9.5 20 Aug 2015

9.2.8. TX 1-18 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED,HORIZONTAL

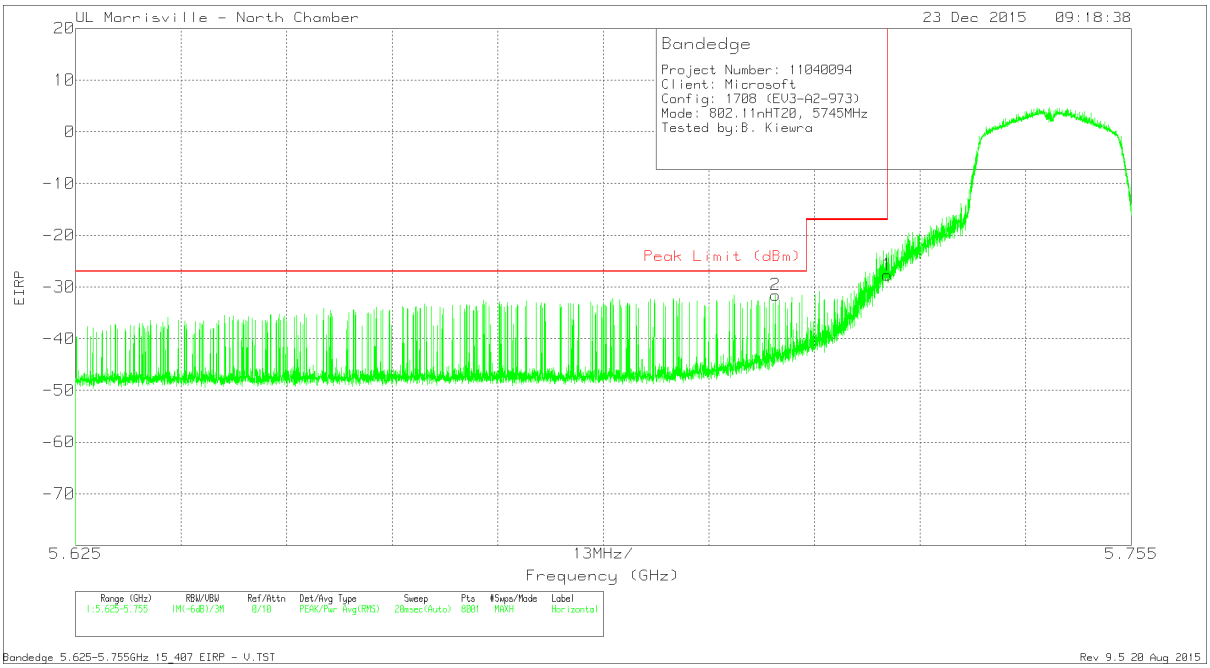


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.708	-61.26	Pk	34.7	-23.5	11.8	-38.26	-27	-11.26	203	197	H
1	5.725	-59.28	Pk	34.7	-23.6	11.8	-36.38	-17	-19.38	203	197	H

Pk - Peak detector

LOW CHANNEL RESTRICTED, VERTICAL

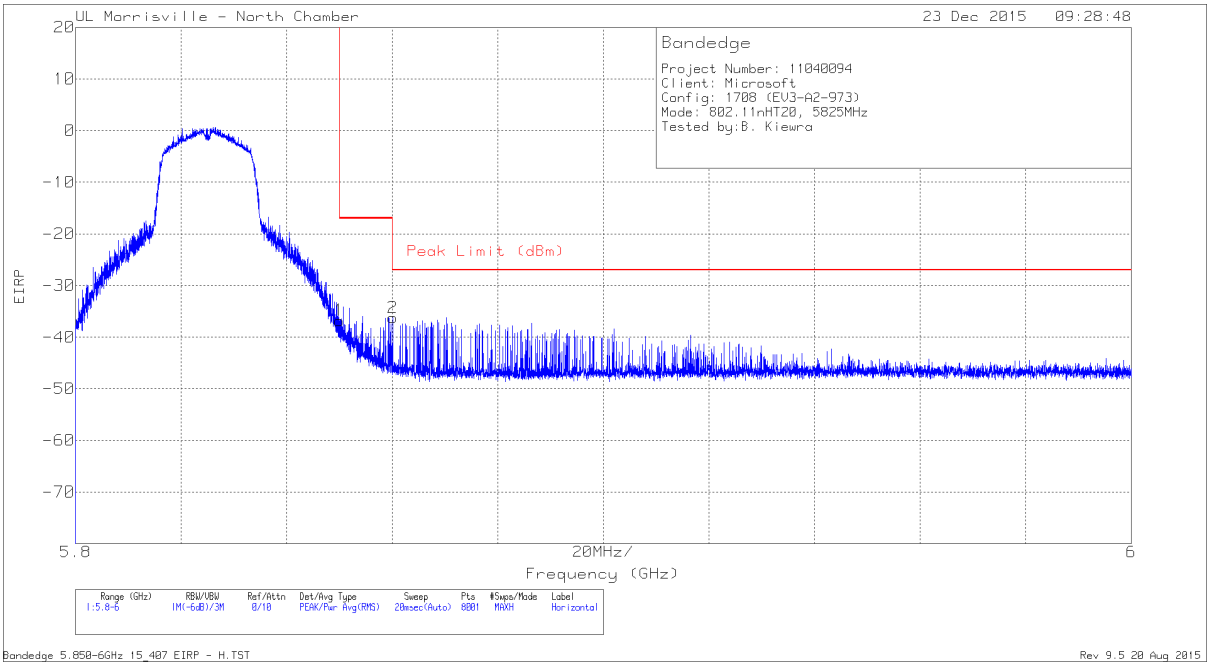


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.711	-54.54	Pk	34.7	-23.5	11.8	-31.54	-27	-4.54	31	114	V
1	5.725	-50.57	Pk	34.7	-23.6	11.8	-27.67	-17	-10.67	31	114	V

Pk - Peak detector

AUTHORIZED BANDEDGE (HIGH CHANNEL)

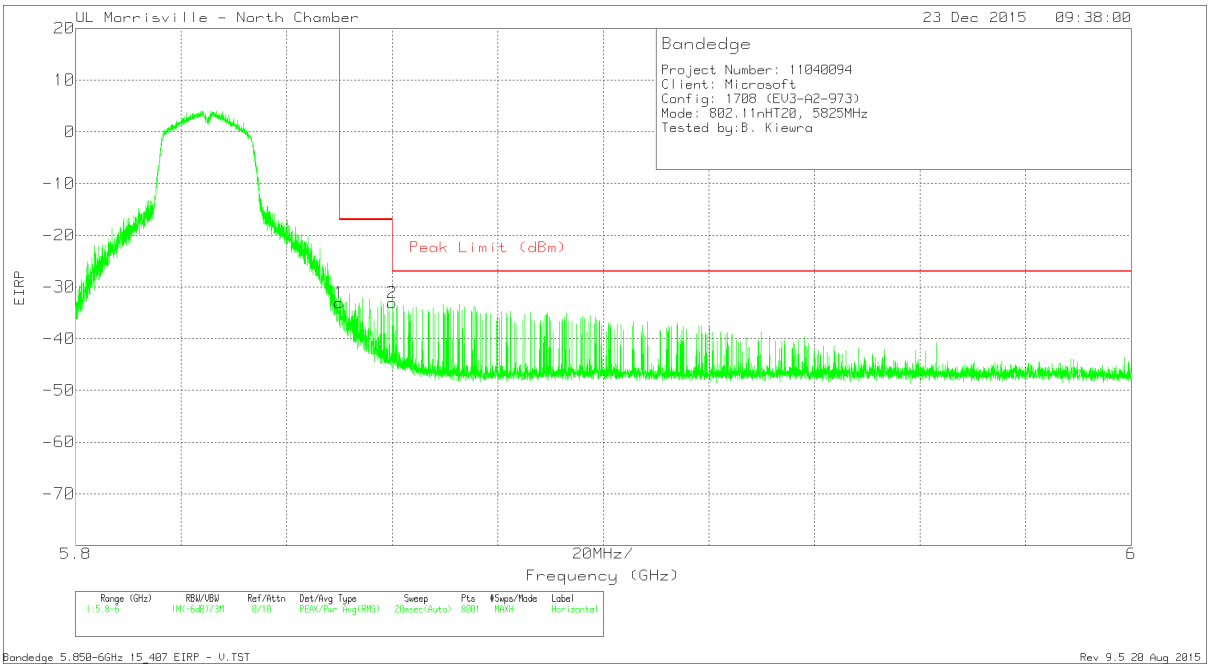
HIGH CHANNEL BANDEDGE, HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-60.37	Pk	34.9	-23.1	11.8	-36.77	-17	-19.77	343	114	H
2	5.86	-59.85	Pk	34.9	-23.1	11.8	-36.25	-27	-9.25	343	114	H

Pk - Peak detector

HIGH CHANNEL BANDEDGE, VERTICAL

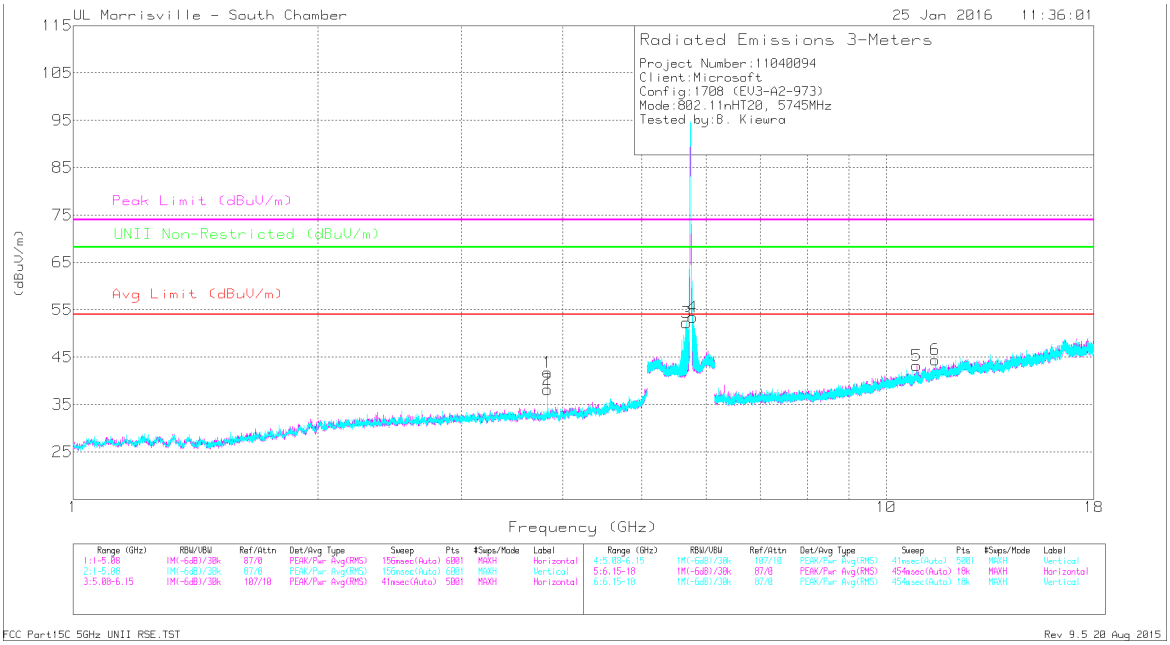


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF AT0072 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-56.66	Pk	34.9	-23.1	11.8	-33.06	-17	-16.06	52	108	V
2	5.86	-56.68	Pk	34.9	-23.1	11.8	-33.08	-27	-6.08	52	108	V

Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

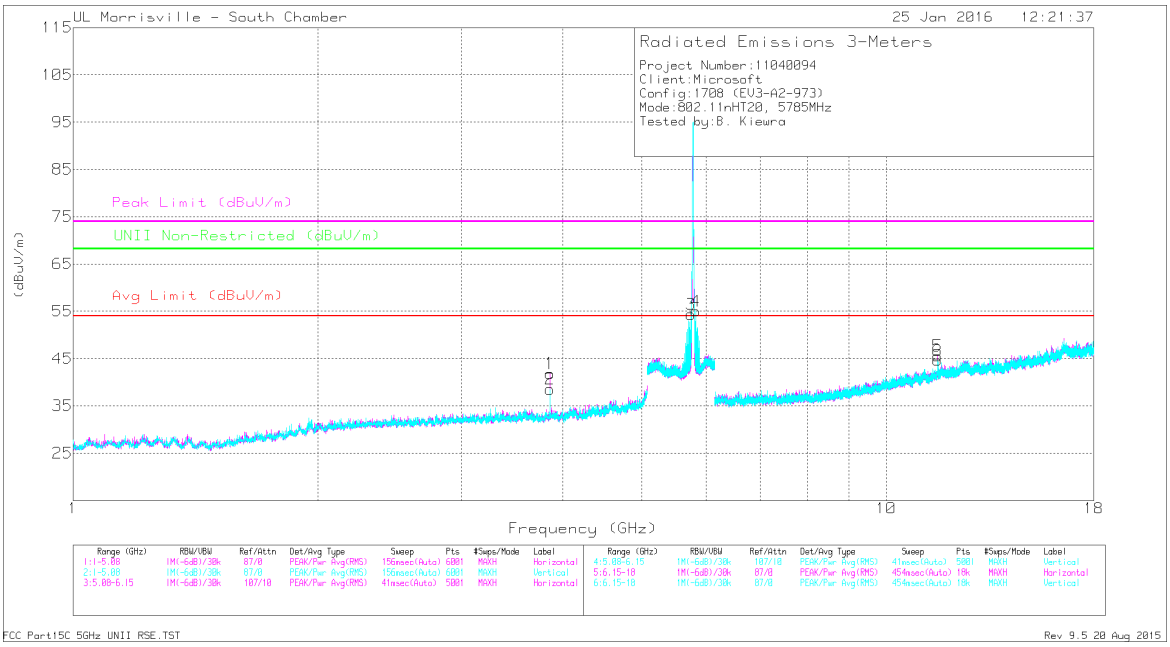
Low Channel



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.83	46.35	PK-U	33.2	-33.5	0	46.05	-	-	74	-27.95	-	-	267	105	H
	* 3.83	41.26	ADR	33.2	-33.5	0.1	41.06	54	-12.94	-	-	-	-	267	105	H
2	* 3.83	43.95	PK-U	33.2	-33.5	0	43.65	-	-	74	-30.35	-	-	124	162	V
	* 3.83	36.76	ADR	33.2	-33.5	0.1	36.56	54	-17.44	-	-	-	-	124	162	V
5	* 10.899	35.66	PK-U	37.8	-25.7	0	47.76	-	-	74	-26.24	-	-	322	240	H
	* 10.9	24.26	ADR	37.8	-25.7	0.1	36.46	54	-17.54	-	-	-	-	322	240	H
6	* 11.492	40.65	PK-U	38.3	-25.4	0	53.55	-	-	74	-20.45	-	-	229	108	V
	* 11.489	28.11	ADR	38.3	-25.4	0.1	41.11	54	-12.89	-	-	-	-	229	108	V
3	5.678	51.23	PK-U	34.6	-23.8	0	62.03	-	-	-	-	68.2	-6.17	125	131	V
4	5.784	51.42	PK-U	34.7	-23.6	0	62.52	-	-	-	-	68.2	-5.68	136	358	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

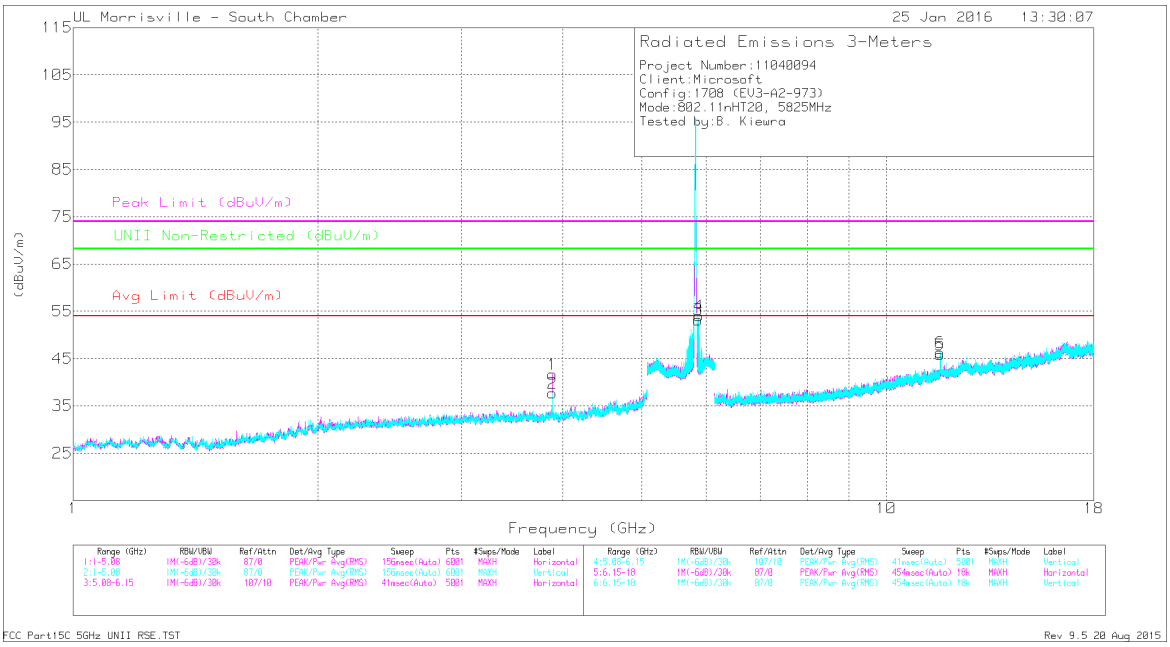
Mid Channel



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (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	* 3.857	45.81	PK-U	33.2	-33.3	0	45.71	-	-	74	-28.29	-	-	295	106	H
	* 3.857	40.91	ADR	33.2	-33.3	0.1	40.91	54	-13.09	-	-	-	-	295	106	H
2	* 3.856	43.45	PK-U	33.2	-33.3	0	43.35	-	-	74	-30.65	-	-	131	218	V
	* 3.857	36.8	ADR	33.2	-33.3	0.1	36.8	54	-17.2	-	-	-	-	131	218	V
5	* 11.569	40.58	PK-U	38.4	-25.5	0	53.48	-	-	74	-20.52	-	-	176	102	H
	* 11.569	28.11	ADR	38.4	-25.6	0.1	41.01	54	-12.99	-	-	-	-	176	102	H
6	* 11.564	38.17	PK-U	38.4	-25.4	0	51.17	-	-	74	-22.83	-	-	240	116	V
	* 11.565	26.22	ADR	38.4	-25.4	0.1	39.32	54	-14.68	-	-	-	-	240	116	V
3	5.751	52.2	PK-U	34.6	-23.7	0	63.1	-	-	-	-	68.2	-5.1	94	144	V
4	5.827	53.51	PK-U	34.7	-23.5	0	64.71	-	-	-	-	68.2	-3.49	112	111	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

High Channel



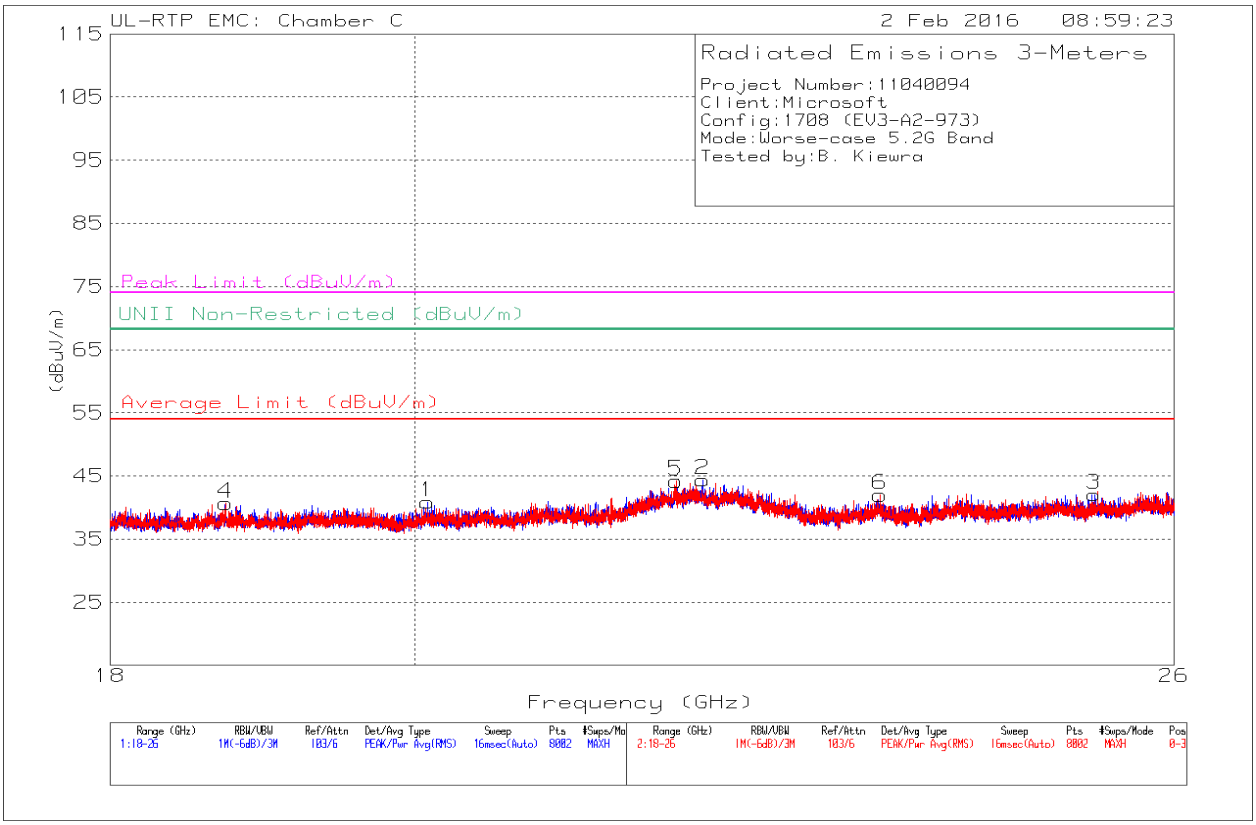
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.883	45.95	PK-U	33.2	-33.2	0	45.95	-	-	74	-28.05	-	-	280	109	H
	* 3.883	41.03	ADR	33.2	-33.2	0.1	41.13	54	-12.87	-	-	-	-	280	109	H
2	* 3.883	43.63	PK-U	33.2	-33.2	0	43.63	-	-	74	-30.37	-	-	127	234	V
	* 3.883	36.8	ADR	33.2	-33.2	0.1	36.9	54	-17.1	-	-	-	-	127	234	V
5	* 11.65	40.91	PK-U	38.5	-25.6	0	53.81	-	-	74	-20.19	-	-	181	137	H
	* 11.65	28.92	ADR	38.5	-25.6	0.1	41.92	54	-12.08	-	-	-	-	181	137	H
6	* 11.651	40.07	PK-U	38.5	-25.6	0	52.97	-	-	74	-21.03	-	-	250	221	V
	* 11.651	27.85	ADR	38.5	-25.6	0.1	40.85	54	-13.15	-	-	-	-	250	221	V
3	5.874	51.07	PK-U	34.8	-23.4	0	62.47	-	-	-	-	68.2	-5.73	124	102	V
4	5.88	50.33	PK-U	34.8	-23.4	0	61.73	-	-	-	-	68.2	-6.47	107	202	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. WORST-CASE ABOVE 18 GHz

9.3.1. SPURIOUS EMISSIONS 18 TO 26 GHz (5GHz WORST-CASE CONFIGURATIONS)

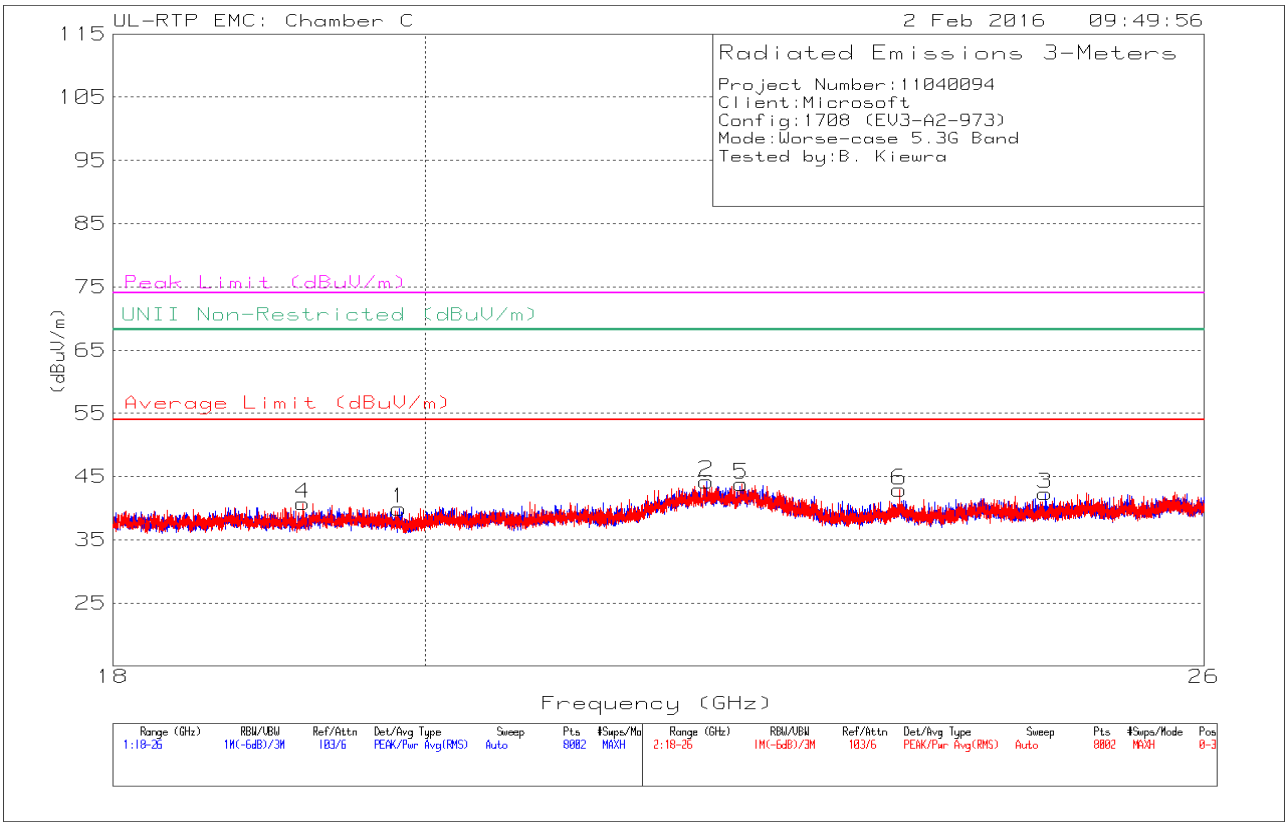
5.2G Worst-Case



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (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	* 20.087	48.87	PK-U	32.9	-41.1	40.67	54	-13.33	74	-33.33	-	-	129	256	H
2	* 22.094	48.16	PK-U	36.6	-40.7	44.06	54	-9.94	74	-29.94	-	-	126	331	H
4	* 18.734	48.38	PK-U	32.3	-40.8	39.88	54	-14.12	74	-34.12	-	-	256	344	V
5	21.89	49.04	PK-U	36	-40.7	44.34	-	-	-	-	68.2	-23.86	224	366	V
6	23.488	48.61	PK-U	33.9	-40.1	42.41	-	-	-	-	68.2	-25.79	98	162	V
3	25.295	47.32	PK-U	34.1	-38.3	43.12	-	-	-	-	68.2	-25.08	162	288	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

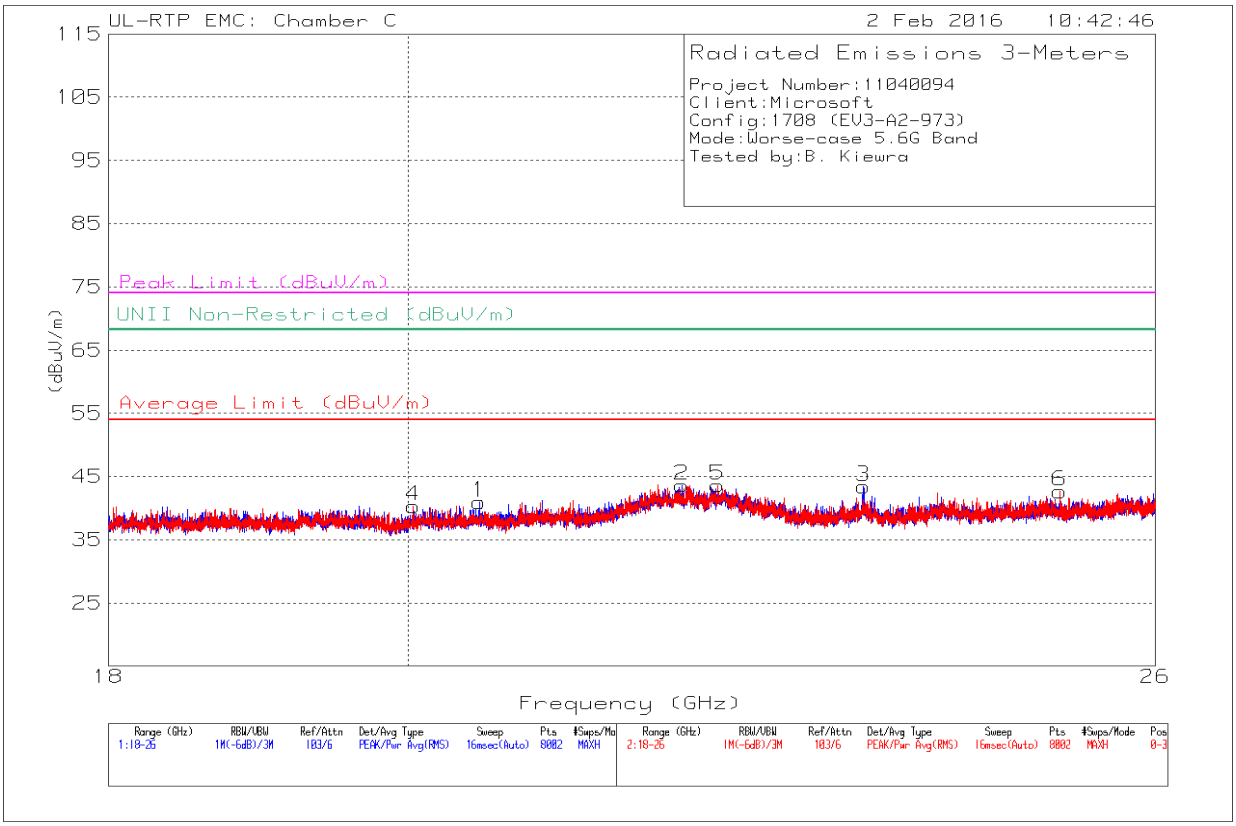
5.3G Worst-Case



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (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	* 19.825	48.13	PK-U	32.7	-40.9	39.93	54	-14.07	74	-34.07	-	-	88	177	H
4	* 19.19	48.84	PK-U	32.4	-40.6	40.64	54	-13.36	74	-33.36	-	-	344	182	V
5	* 22.246	48.89	PK-U	36.1	-40.5	44.49	54	-9.51	74	-29.51	-	-	42	182	V
2	21.988	49.15	PK-U	36.6	-40.7	45.05	-	-	-	-	68.2	-23.15	241	255	H
6	23.464	48.62	PK-U	33.9	-39.7	42.82	-	-	-	-	68.2	-25.38	85	283	V
3	24.643	48	PK-U	33.8	-39.2	42.6	-	-	-	-	68.2	-25.6	310	156	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

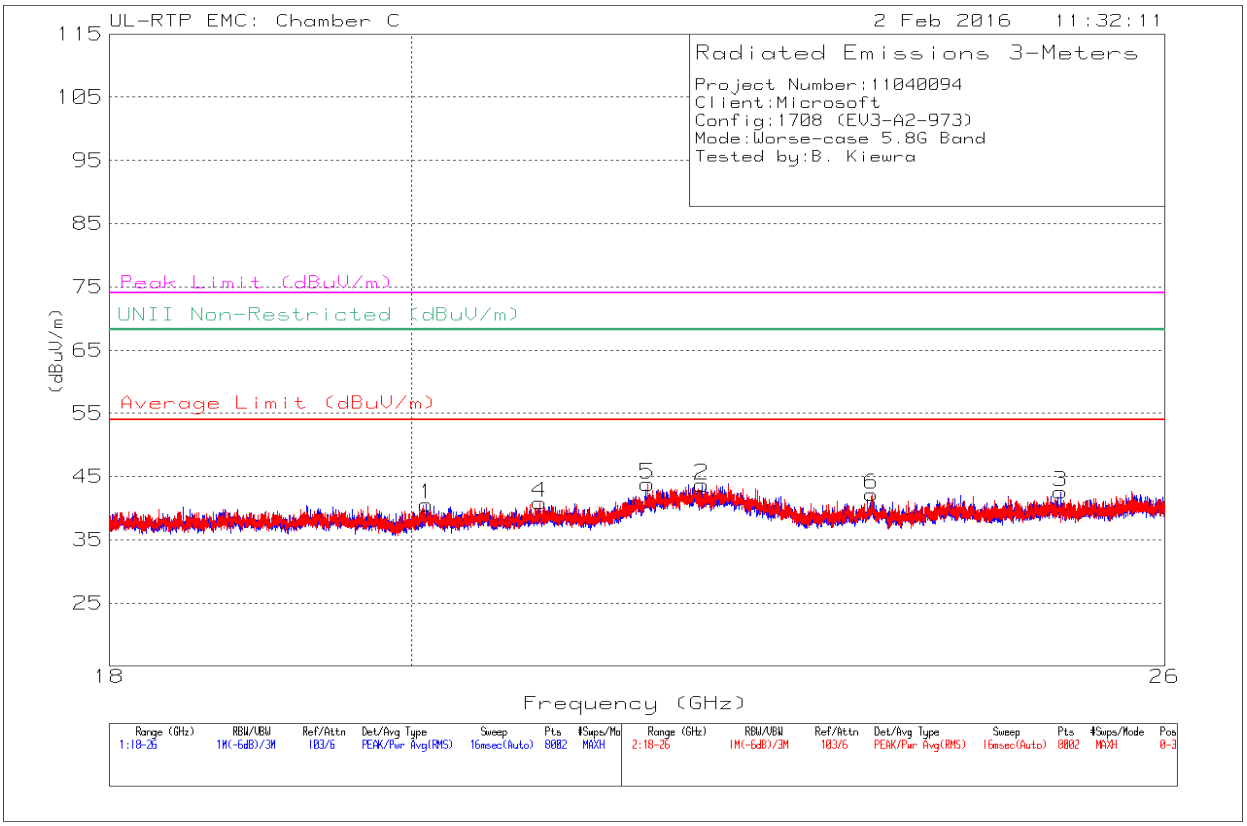
5.6G Worst-Case



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (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	* 20.502	48.68	PK-U	33.2	-41	40.88	54	-13.12	74	-33.12	-	-	67	341	H
2	* 22.017	47.85	PK-U	36.7	-40.4	44.15	54	-9.85	74	-29.85	-	-	103	128	H
4	* 20.034	48.48	PK-U	32.7	-40.9	40.28	54	-13.72	74	-33.72	-	-	193	354	V
5	* 22.298	48.68	PK-U	36.3	-40.5	44.48	54	-9.52	74	-29.52	-	-	141	159	V
3	23.468	48.46	PK-U	33.9	-39.7	42.66	-	-	-	-	68.2	-25.54	236	191	H
6	25.146	48.4	PK-U	33.7	-38.3	43.8	-	-	-	-	68.2	-24.4	47	239	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

5.8G Worst-Case

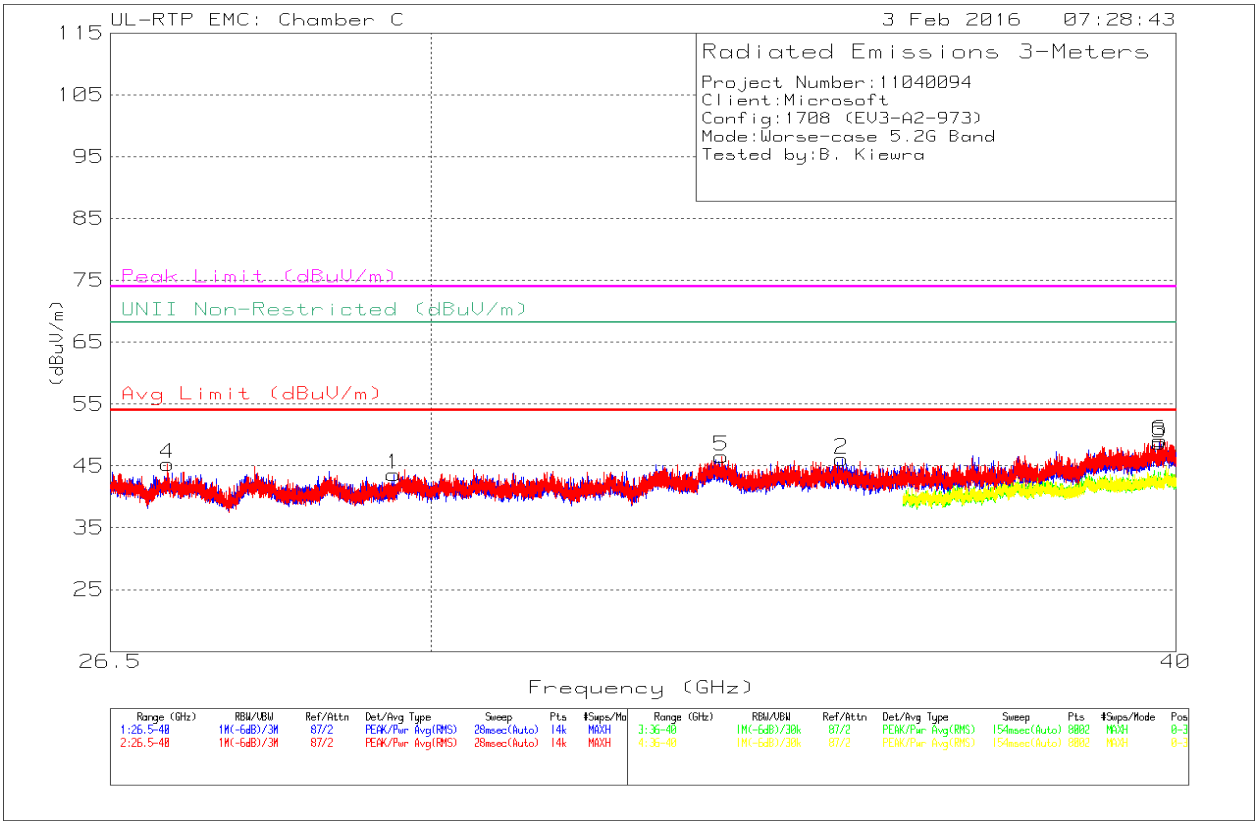


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 20.105	48.46	PK-U	32.9	-41	40.36	54	-13.64	74	-33.64	-	-	258	366	H
2	* 22.13	47.55	PK-U	36.4	-40.5	43.45	54	-10.55	74	-30.55	-	-	87	363	H
4	* 20.91	48.03	PK-U	33.2	-40.5	40.73	54	-13.27	74	-33.27	-	-	92	227	V
5	21.714	48.61	PK-U	35	-40.8	42.81	-	-	-	-	68.2	-25.39	199	247	V
6	23.478	48.07	PK-U	33.9	-39.9	42.07	-	-	-	-	68.2	-26.13	27	260	V
3	25.076	46.66	PK-U	33.9	-38.4	42.16	-	-	-	-	68.2	-26.04	90	391	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

9.3.2. SPURIOUS EMISSIONS 26 TO 40 GHz (5GHz WORST-CASE CONFIGURATIONS)

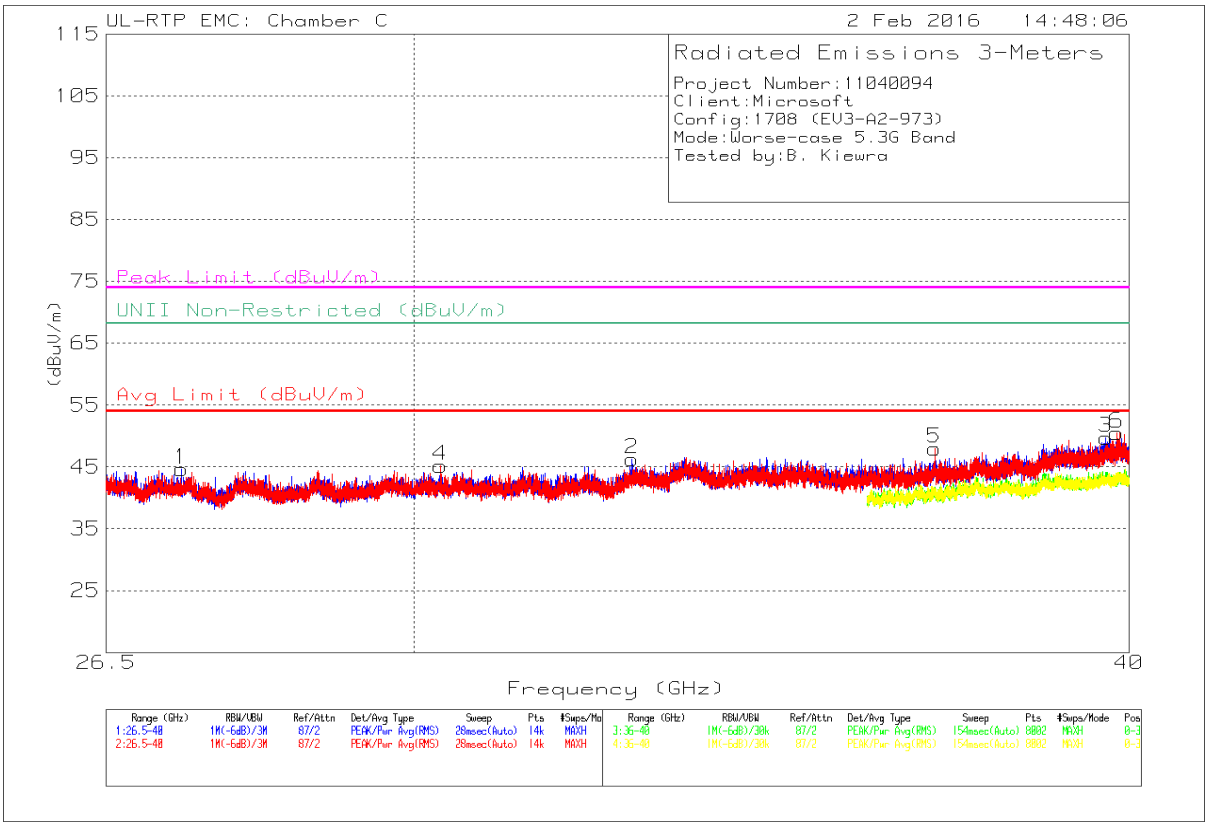
5.2G Worst-Case



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (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	* 39.745	43.33	PK-U	38.3	-31.8	0	49.83	-	-	74	-24.17	-	-	204	238	H
	* 39.745	31.76	ADR	38.3	-31.8	0.11	38.37	54	-15.63	-	-	-	-	204	238	H
6	* 39.755	43.59	PK-U	38.4	-31.7	0	50.29	-	-	74	-23.71	-	-	245	184	V
	* 39.756	31.73	ADR	38.4	-31.7	0.11	38.54	54	-15.46	-	-	-	-	245	184	V
1	29.567	44	PK-U	36.1	-36.1	0	44	-	-	-	-	68.2	-24.2	0	400	H
2	35.158	46.16	PK-U	37.3	-36	0	47.46	-	-	-	-	68.2	-20.74	102	136	H
4	27.094	45.53	PK-U	35.9	-37.4	0	44.03	-	-	-	-	68.2	-24.17	267	253	V
5	33.559	44.58	PK-U	37	-35.4	0	46.18	-	-	-	-	68.2	-22.02	312	193	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

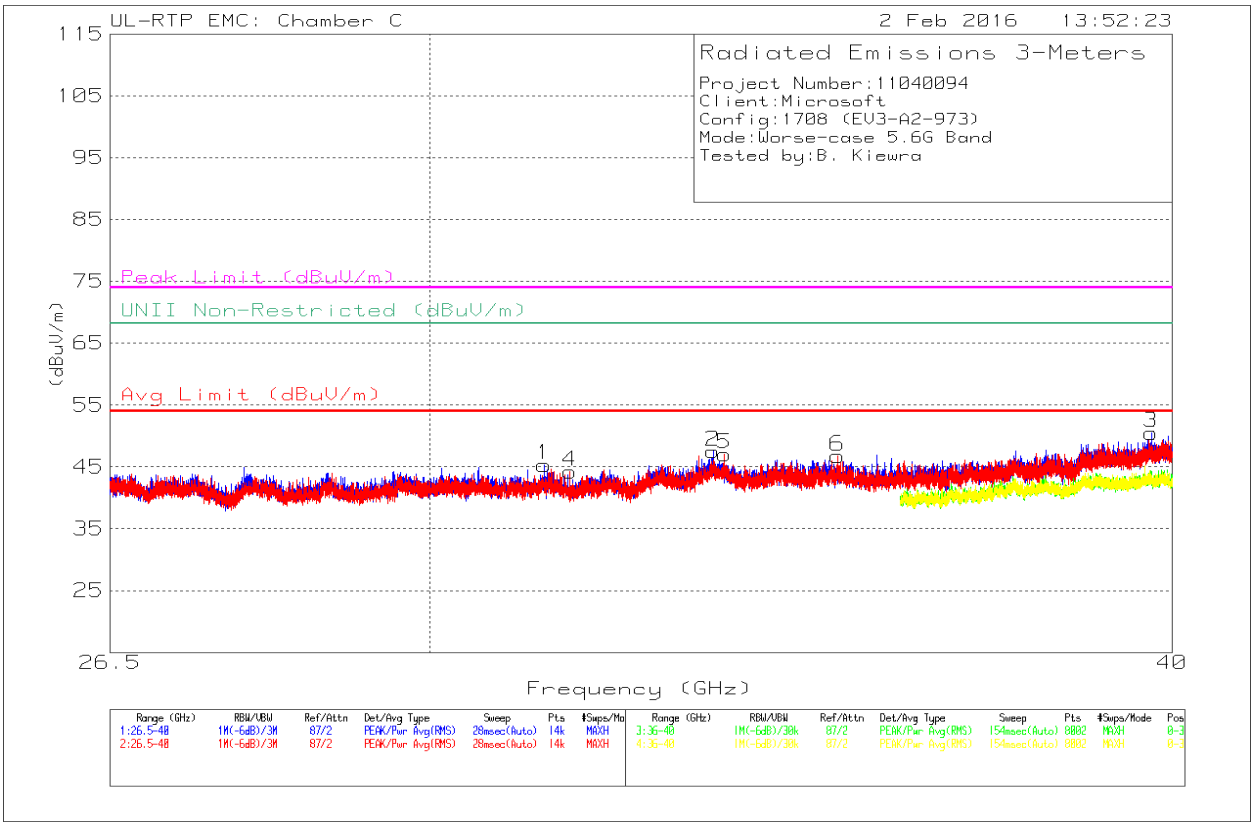
5.3G Worst-Case



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (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	* 39.626	43.41	PK-U	38.4	-32	0	49.81	-	-	74	-24.19	-	-	5	361	H
	* 39.627	32.36	ADR	38.4	-32	0.11	38.87	54	-15.13	-	-	-	-	5	361	H
6	* 39.803	43.9	PK-U	38.5	-31.9	0	50.5	-	-	74	-23.5	-	-	262	241	V
	* 39.805	31.94	ADR	38.5	-31.9	0.11	38.65	54	-15.35	-	-	-	-	262	241	V
1	27.318	45.76	PK-U	35.9	-37.3	0	44.36	-	-	-	-	68.2	-23.84	329	118	H
4	30.314	43.96	PK-U	36.5	-35.5	0	44.96	-	-	-	-	68.2	-23.24	358	191	V
2	32.749	44.18	PK-U	37	-34.9	0	46.28	-	-	-	-	68.2	-21.92	280	103	H
5	36.988	44.39	PK-U	37.8	-34.9	0	47.29	-	-	-	-	68.2	-20.91	239	119	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

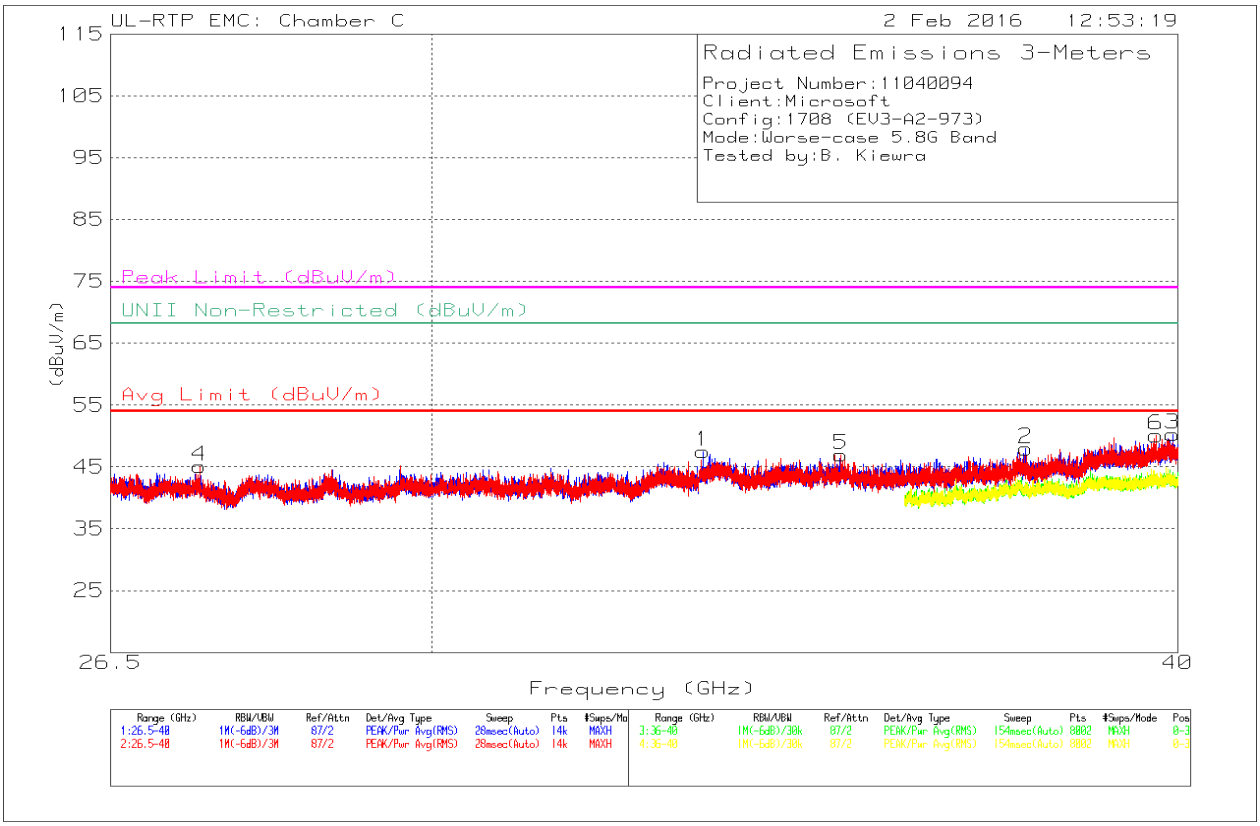
5.6G Worst-Case



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (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	* 31.36	43.85	PK-U	36.6	-35.3	0	45.15	-	-	74	-28.85	-	-	108	215	H
	* 31.358	32.19	ADR	36.6	-35.3	0.11	33.60	54	-20.40	-	-	-	-	108	215	H
3	* 39.677	43.32	PK-U	38.2	-31.7	0	49.82	-	-	74	-24.18	-	-	253	339	H
	* 39.677	32.21	ADR	38.2	-31.7	0.11	38.82	54	-15.18	-	-	-	-	253	339	H
4	* 31.674	42.71	PK-U	36.6	-35.3	0	44.01	-	-	74	-29.99	-	-	122	396	V
	* 31.673	31.43	ADR	36.6	-35.3	0.11	32.84	54	-21.16	-	-	-	-	122	396	V
2	33.477	45.21	PK-U	37	-35.3	0	46.91	-	-	-	-	68.2	-21.29	317	206	H
5	33.629	44.31	PK-U	37	-35	0	46.31	-	-	-	-	68.2	-21.89	71	144	V
6	35.131	45.42	PK-U	37.2	-35.7	0	46.92	-	-	-	-	68.2	-21.28	255	261	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

5.8G Worst-Case



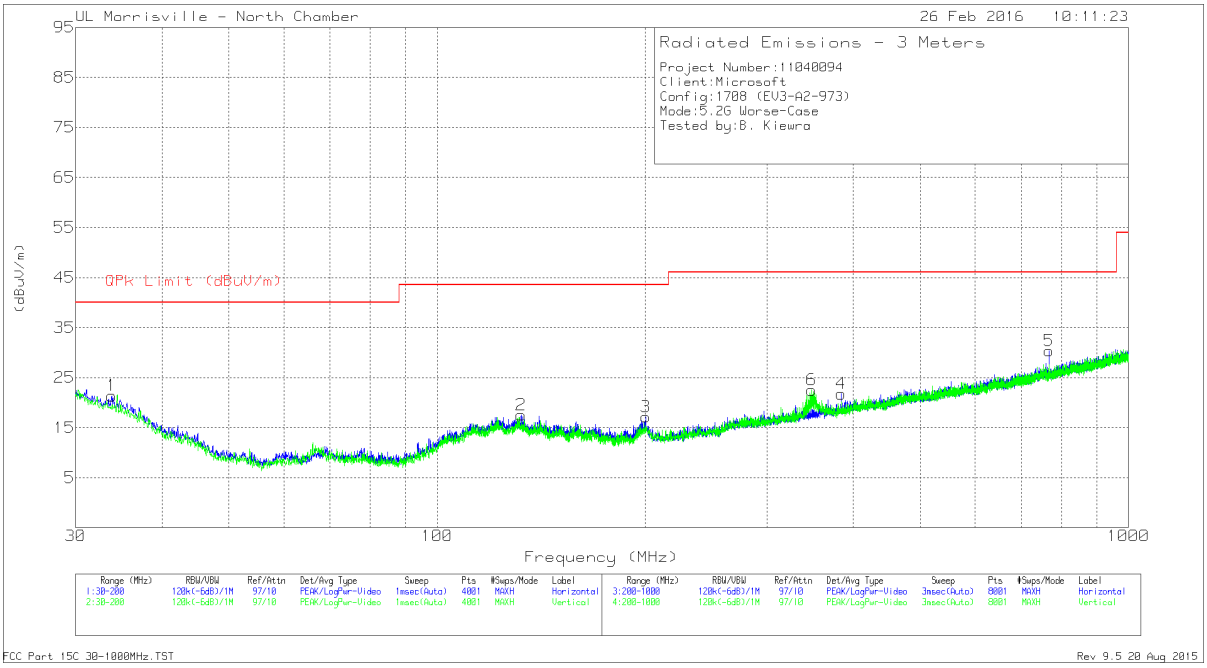
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 39.928	43.38	PK-U	38.5	-31.5	0	50.38	-	-	74	-23.62	-	-	128	362	H
	* 39.925	31.91	ADR	38.4	-31.6	0.11	38.82	54	-15.18	-	-	-	-	128	362	H
6	* 39.663	43.3	PK-U	38.3	-31.7	0	49.9	-	-	74	-24.1	-	-	147	351	V
	* 39.663	32.36	ADR	38.3	-31.7	0.11	39.07	54	-14.93	-	-	-	-	147	351	V
4	27.426	45.99	PK-U	35.9	-37.3	0	44.59	-	-	-	-	68.2	-23.61	334	153	V
1	33.308	43.43	PK-U	37.1	-35	0	45.53	-	-	-	-	68.2	-22.67	308	239	H
5	35.125	45.47	PK-U	37.2	-35.7	0	46.97	-	-	-	-	68.2	-21.23	245	191	V
2	37.722	44.75	PK-U	38	-34.7	0	48.05	-	-	-	-	68.2	-20.15	70	162	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. WORST-CASE BELOW 1 GHz

9.4.1. SPURIOUS EMISSIONS 30 TO 1000 MHz (5GHz WORST-CASE CONFIGURATIONS)

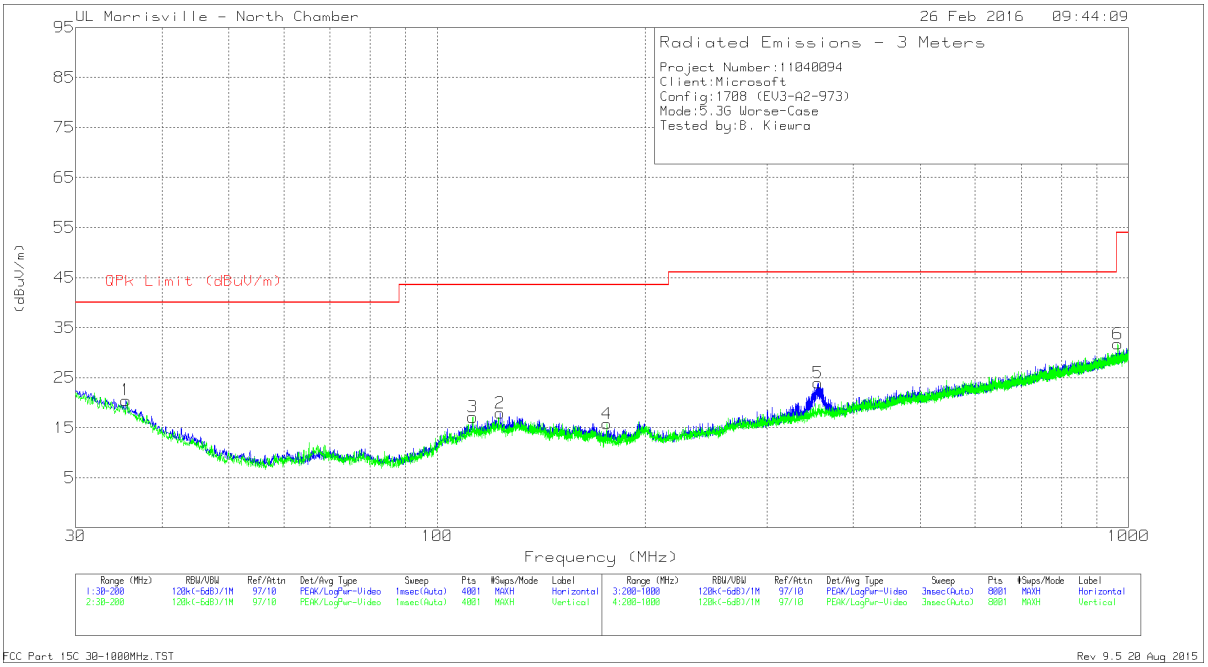
5.2G Worst-Case



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0073 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 132.2889	23.88	Qp	18.1	-30.6	11.38	43.52	-32.14	222	206	H
1	33.825	29.88	Pk	23.1	-31.6	21.38	40	-18.62	0-360	400	H
3	200.3	29.88	Pk	17.4	-30.1	17.18	43.52	-26.34	0-360	102	H
4	384	31.07	Pk	19.8	-29.1	21.77	46.02	-24.25	0-360	102	H
5	768	32.72	Pk	25.4	-27.8	30.32	46.02	-15.7	0-360	102	H
6	348	32.52	Pk	19.2	-29.2	22.52	46.02	-23.5	0-360	199	V

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

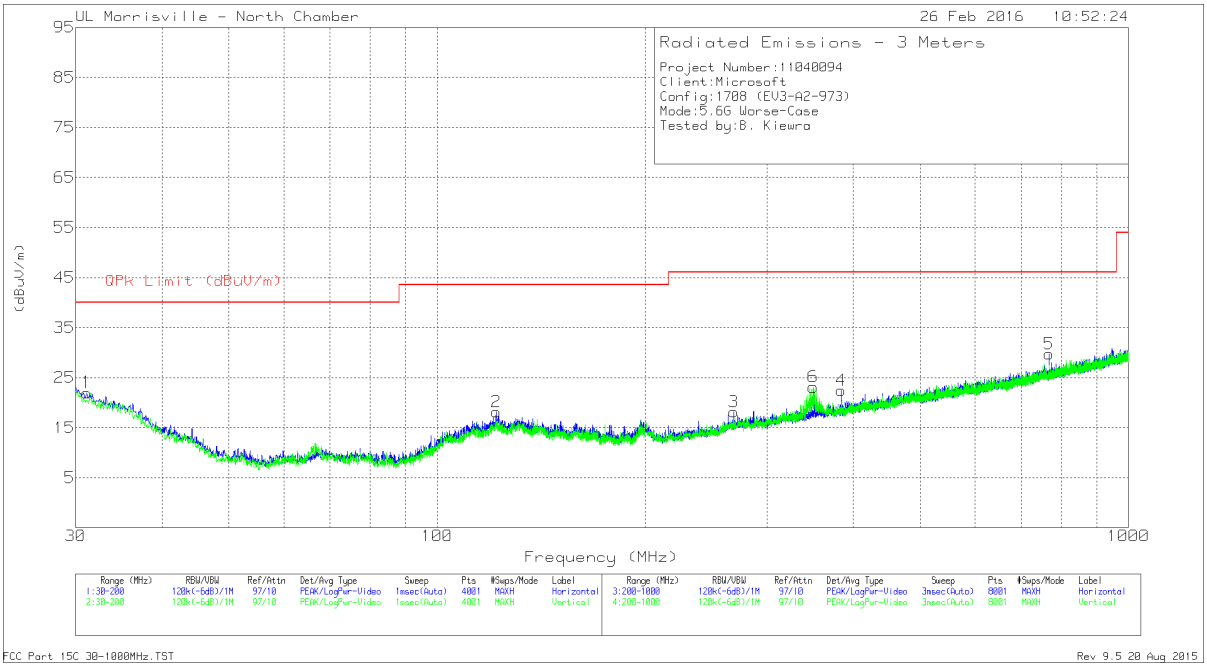
5.3G Worst-Case



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0073 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 123.2112	23.7	Qp	18.1	-30.6	11.2	43.52	-32.32	314	336	H
3	* 112.6925	23.89	Qp	17.3	-30.8	10.39	43.52	-33.13	300	113	V
6	* 965.3915	21.89	Qp	27.6	-25.8	23.69	53.97	-30.28	330	311	V
1	35.4825	30.2	Pk	21.9	-31.6	20.5	40	-19.5	0-360	299	H
5	355.3	33.61	Pk	19.5	-29.2	23.91	46.02	-22.11	0-360	102	H
4	175.9025	30.07	Pk	15.8	-30.1	15.77	43.52	-27.75	0-360	102	V

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

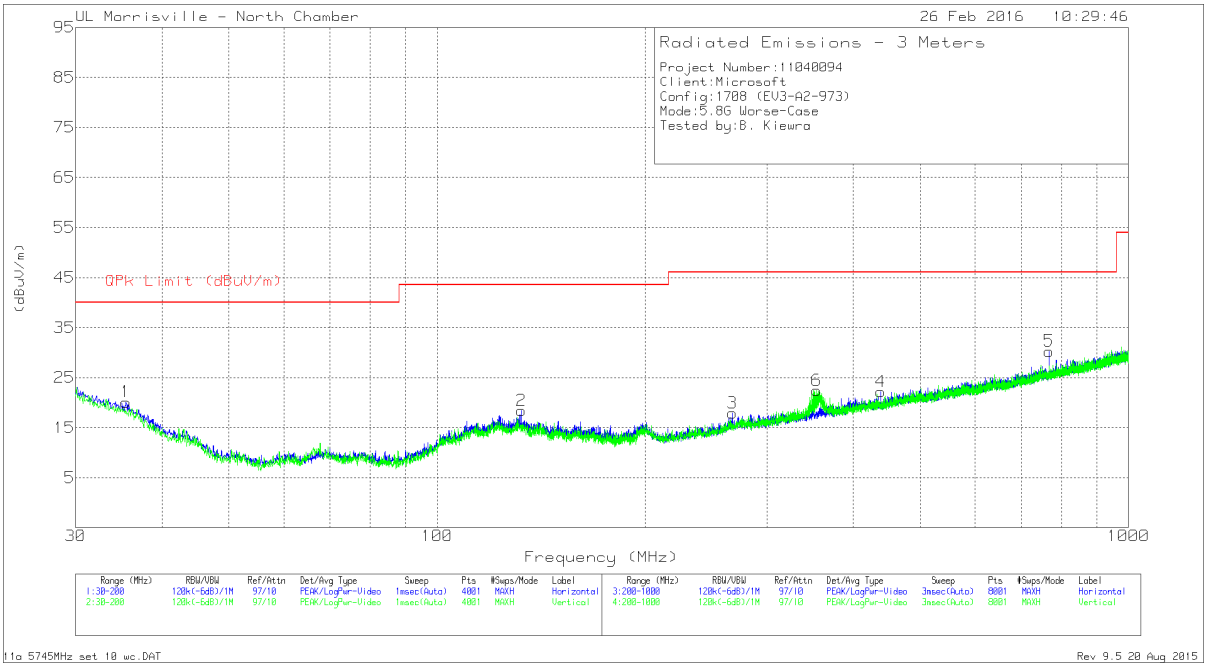
5.6G Worst-Case



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0073 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 121.7597	23.85	Qp	18.1	-30.6	11.35	43.52	-32.17	151	364	H
3	* 268.5368	22.86	Qp	17.6	-29.7	10.76	46.02	-35.26	75	166	H
1	31.1475	28.29	Pk	25.3	-31.6	21.99	40	-18.01	0-360	399	H
4	384	31.73	Pk	19.8	-29.1	22.43	46.02	-23.59	0-360	102	H
5	768	32.16	Pk	25.4	-27.8	29.76	46.02	-16.26	0-360	102	H
6	350	33.14	Pk	19.3	-29.3	23.14	46.02	-22.88	0-360	102	V

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

5.8G Worst-Case



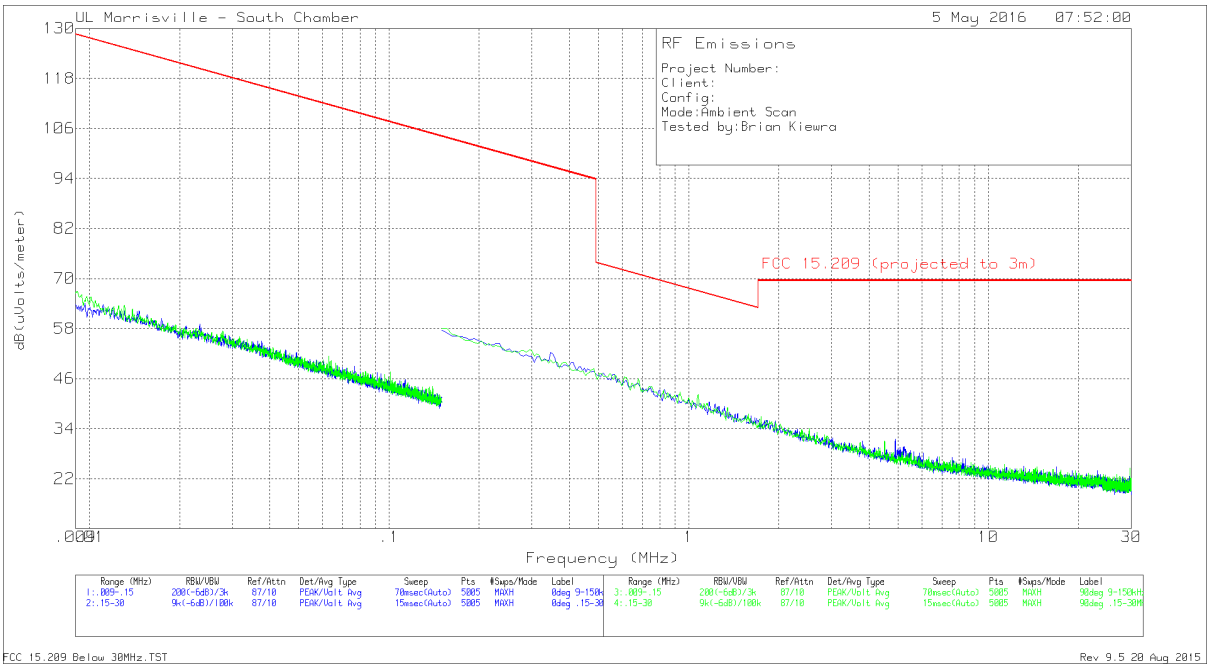
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0073 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 132.2599	23.84	Qp	18.1	-30.6	11.34	43.52	-32.18	149	360	H
3	* 267.4424	22.99	Qp	17.6	-29.7	10.89	46.02	-35.13	216	111	H
1	35.4825	29.82	Pk	21.9	-31.6	20.12	40	-19.88	0-360	399	H
4	437.9	30.2	Pk	20.9	-28.9	22.2	46.02	-23.82	0-360	102	H
5	768	32.69	Pk	25.4	-27.8	30.29	46.02	-15.73	0-360	102	H
6	354	32.17	Pk	19.5	-29.2	22.47	46.02	-23.55	0-360	199	V

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

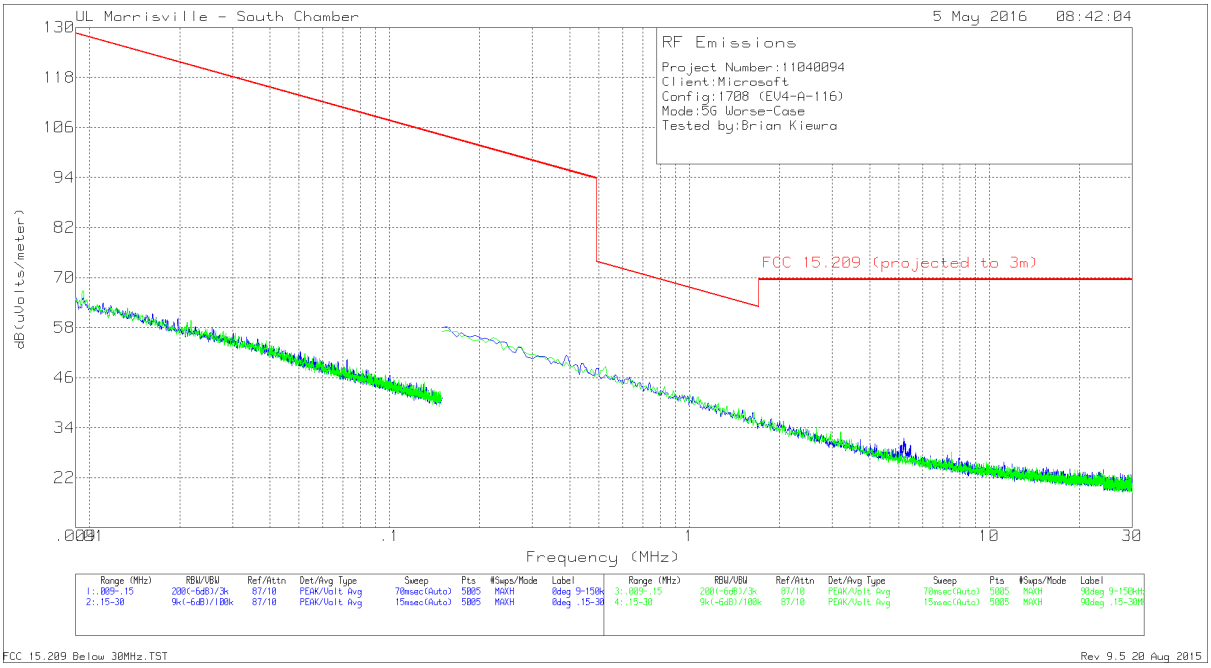
9.4.2. SPURIOUS EMISSIONS 9kHz-30 MHz (WORST-CASE CONFIGURATION)

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).

Ambient Scan



EUT Plot



The above plots demonstrate there were no EUT-related emissions of interest relative to the FCC 15.209 limit below 30MHz.

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

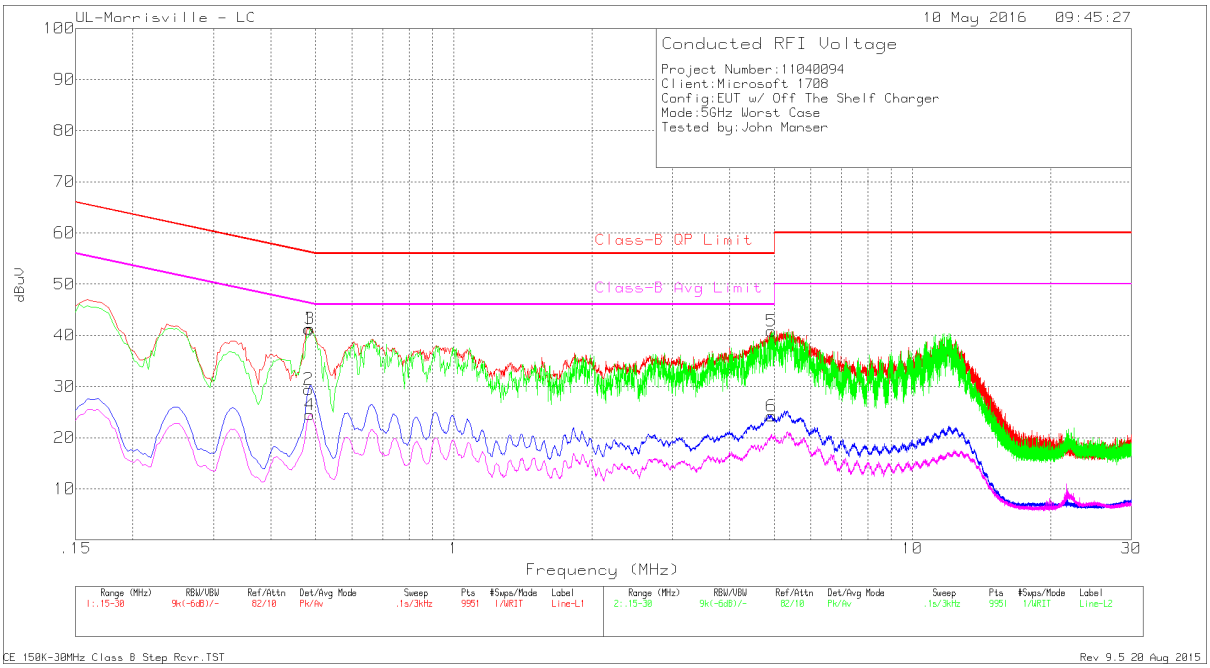
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

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 NEUTRAL and HOT lines.

RESULTS

LINE 1 and 2 RESULTS



6 WORST EMISSIONS

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF [dB]	Cbl/Limiter (dB)	Corrected Reading dBuV	Class-B QP Limit	Margin (dB)	Class-B Avg Limit	Margin (dB)
1	.483	31.14	Pk	.1	10	41.24	56.29	-15.05	-	-
2	.483	19.35	Av	.1	10	29.45	-	-	46.29	-16.84
3	.486	31.17	Pk	.1	10	41.27	56.24	-14.97	-	-
4	.486	14.38	Av	.1	10	24.48	-	-	46.24	-21.76
5	4.929	30.56	Pk	.1	10.2	40.86	56	-15.14	-	-
6	4.929	13.93	Av	.1	10.2	24.23	-	-	46	-21.77

Pk - Peak detector

Av - Average detection

CE 150K-30MHz Class B Step Rcvr.TST

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