



FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

SET TOP BOX

MODEL NUMBER: E76

FCC ID: DKN-PHX

REPORT NUMBER: R11893030-E3

ISSUE DATE: 2017-09-29

**Prepared for
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NVLAP LAB CODE 200246-0

Revision History

Ver.	Issue Date	Revisions	Revised By
1	2017-09-29	Initial Issue	Brian T. Kiewra
2	2017-10-03	Added 11ac in EUT description in Section 5.1. Added ANSI C63.10:2013 reference in Section 7.	Brian T. Kiewra
3	2017-10-05	Added KBD 662911 reference in Section 7.	Brian T. Kiewra
4	2017-10-06	Revised Section 5.5 to clarify worst-case testing. Added simultaneous transmission information to Section 5.5. Added conducted testing reference to Section 7. Revised Output Power and PSD directional gain explanation for clarity.	Brian T. Kiewra

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: EchoStar Technologies LLC
9601 Meridian Boulevard
Englewood, CO 80112, USA

EUT DESCRIPTION: Set top box

MODEL: E76

SERIAL NUMBER: Conducted Unit: P2-168
Radiated Unit: P2-184

DATE TESTED: 2017-09-01 to 2017-09-29

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Pass

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

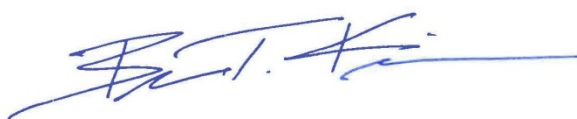
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this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

Approved & Released
For UL LLC By:



Jeffrey Moser
Operations Leader
UL – Consumer Technology Division

Prepared By:



Brian T. Kiewra
Project Engineer
UL – Consumer Technology Division

2. TEST METHODOLOGY

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

3. FACILITIES AND ACCREDITATION

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

12 Laboratory Dr., RTP, NC 27709
<input type="checkbox"/> Chamber A
<input type="checkbox"/> Chamber C

2800 Suite B Perimeter Park Dr., Morrisville, NC 27560
<input checked="" type="checkbox"/> Chamber NORTH
<input checked="" type="checkbox"/> Chamber SOUTH

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an STB with a 802.15.4 ZigBee and an 802.11a/b/g/n/ac transceiver.

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	19.34	85.90
5180 - 5240	802.11n HT20	18.36	68.55
5190 - 5230	802.11n HT40	12.15	16.41
5210	802.11ac VHT80	12.51	17.82
5745-5825	802.11a	19.5	89.13
5745-5825	802.11n HT20	21.06	127.64
5755-5795	802.11n HT40	21.11	129.12
5775	802.11ac VHT80	17.44	55.46

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two antennas, with a maximum gain of 3.05 dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was FCE2.

The EUT driver software installed during testing was BRDCM MFG Driver WL1.

The test utility software used during testing was MTOOL v3.0.0.3.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions, 0.009 -1000 MHz and 18-40 GHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. Radiated emissions 1-18GHz performed with the EUT set to transmit and low, middle and high channels.

The EUT is designed to operate in only one orientation; therefore all radiated testing done in the X-Axis orientation. EUT supports both MIMO and SISO, therefore all testing performed at CDD MIMO as worst-case.

For simultaneous transmission of multiple channels in the 2.4GHz ZigBee, 2.4GHz WLAN and 5GHz bands, tests were conducted for various configurations having the highest power. No noticeable new emission was found.

Based on the baseline scan, the worst-case data rates were:

- 802.11a mode: 6 Mbps
- 802.11n HT20mode: MCS0
- 802.11n HT40mode: MCS0
- 802.11ac VHT80mode: MCS0

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Broadband Modem	D-Link	EBR-2310	F311393000205	N/A
Solid state hard drive	WD Elements	DAADCA	WX51A1424754	N/A
Solid state hard drive	WD Elements	AAAFFA	WX81A31A3906	N/A
Laptop	Hewlett-Packard	EliteBook 740	5CG4382SLC	N/A
Laptop	Hewlett-Packard	EliteBook 8470P	CNU342CP7Y	N/A

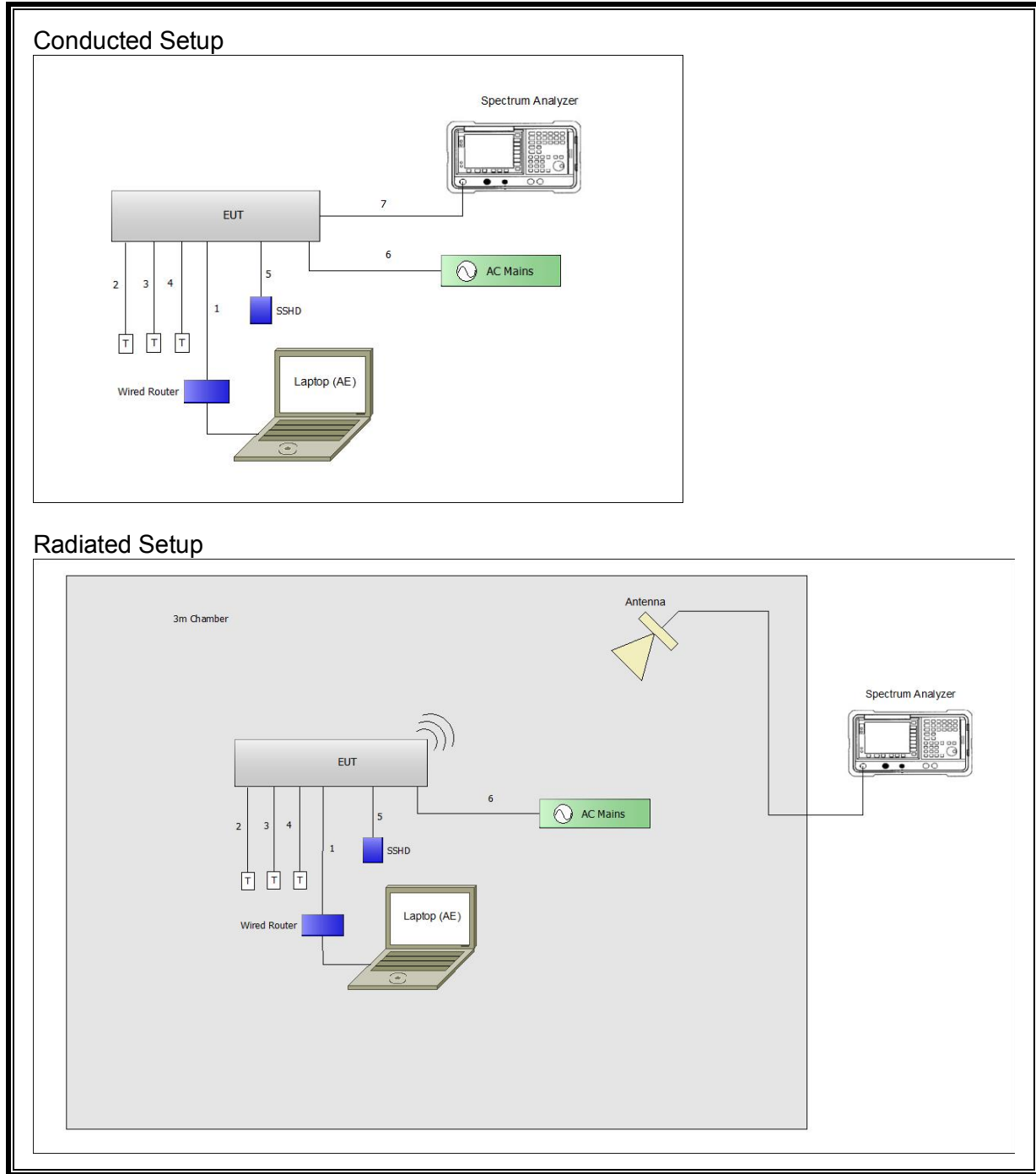
I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Ethernet	1	CAT-5	Communication	0.5m	Connected to wired router
2	Coax	1	RG-7	Communication	0.5m	Terminated
3	HDMI	1	Standard	Video	2m	Terminated
4	Component Video	1	RGB	Video	2m	Terminated
5	USB	2	Type A	Data	.25m	To SSD
6	AC	1	AC	AC Mains	>1m	None
7	Antenna	1	RF	RF	<1m	Antenna Port

TEST SETUP

The EUT is installed as a standalone unit.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment Used –Radiated Measurement Equipment (Morrisville – North Chamber)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
0.009-30MHz (Loop Ant.)					
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2016-12-28	2017-12-31
1-18 GHz					
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2017-04-05	2018-04-05
18-40 GHz					
AT0076	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2016-09-06	2017-09-30
AT0077	Horn Antenna, 26-40GHz	ARA	MWH-2640/B	2016-09-06	2017-09-30
Gain-Loss Chains					
N-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2017-09-15	2018-09-15
N-SAC04	Gain-loss string: 18-40GHz	Various	Various	2017-03-03	2018-03-03
Receiver & Software					
SA0027	Spectrum Analyzer	Agilent	N9030A	2017-03-16	2018-03-16
SA0026 (18-40GHz RSE)	Spectrum Analyzer	Agilent	N9030A	2017-02-17	2018-02-28
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
Additional Equipment Used					
s/n 161024690	Environmental Meter	Fisher Scientific	15-077-963	2016-12-21	2018-12-21

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

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
30-1000 MHz					
AT0074	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2017-06-15	2018-06-15
1-18 GHz					
AT0069	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2017-04-05	2018-04-05
Gain-Loss Chains					
S-SAC02	Gain-loss string: 30-1000MHz	Various	Various	2017-06-11	2018-06-11
S-SAC03	Gain-loss string: 1-18GHz	Various	Various	2017-08-18	2018-08-18
Receiver & Software					
SA0025	Spectrum Analyzer	Agilent	N9030A	2017-04-10	2018-04-10
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
Additional Equipment used					
s/n 161024887	Environmental Meter	Fisher Scientific	15-077-963	2016-12-23	2018-12-23

Test Equipment Used - Line Conducted Measurement Equipment (RTP)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
Equipment – Ground Plane E					
85496	EMI Test Receiver 9kHz-3.6GHz	Rohde & Schwarz	ESR3	2017-08-22	2018-08-22
ATA509	Coaxial cable, 20 ft., BNC-male to BNC-male	UL	RG-223	2017-08-23	2018-08-23
HI0085	Temp/Humid/Pressure Meter	Extech	SD700	2017-02-27	2018-02-27
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
ATA508	Transient Limiter, 0.009 to 100 MHz	Electro-Metrics	EM 7600	2017-08-23	2018-08-23
LISN002	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2017-08-22	2018-08-22

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
SA0020	Spectrum Analyzer	Agilent Technologies	E4446A	2017-04-25	2018-04-25
SA0026	Spectrum Analyzer	Agilent	N9030A	2017-02-17	2018-02-28
PWM001	RF Power Meter	Keysight Technologies	N1911A	2017-05-18	2018-05-18
PWS001	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2017-05-18	2018-05-18
15557603	Temp/Humidity Sensor	Fisher Scientific	14-650-118	2016-11-02	2018-11-02

7. MEASUREMENT METHODS

Duty Cycle: KDB 789033 D02 v01r04, Section B.

26 dB Emission BW: KDB 789033 D02 v01r04, Section C.

Conducted Output Power: KDB 789033 D02 v01r04, Section E.3.b (Method PM-G).
KDB 5662911 D01 Multiple Transmitter Output v02r01

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

Output Power: KDB 5662911 D01 Multiple Transmitter Output v02r01

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

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

General Radiated Emissions: ANSI C63.10:2013

General Conducted Emissions: ANSI C63.10:2013 Section 6.7

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

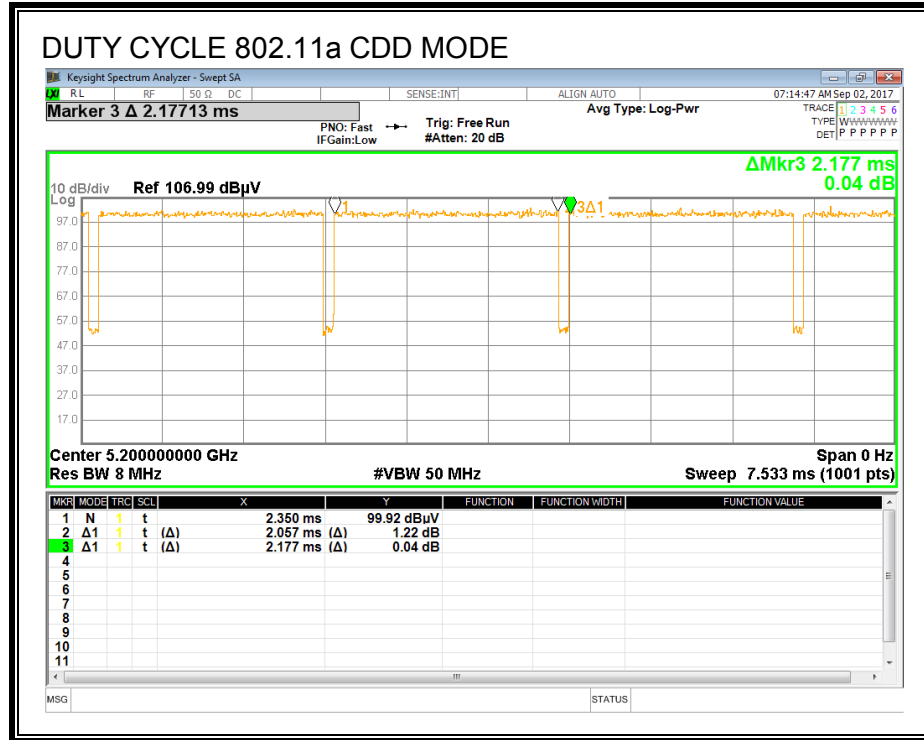
PROCEDURE

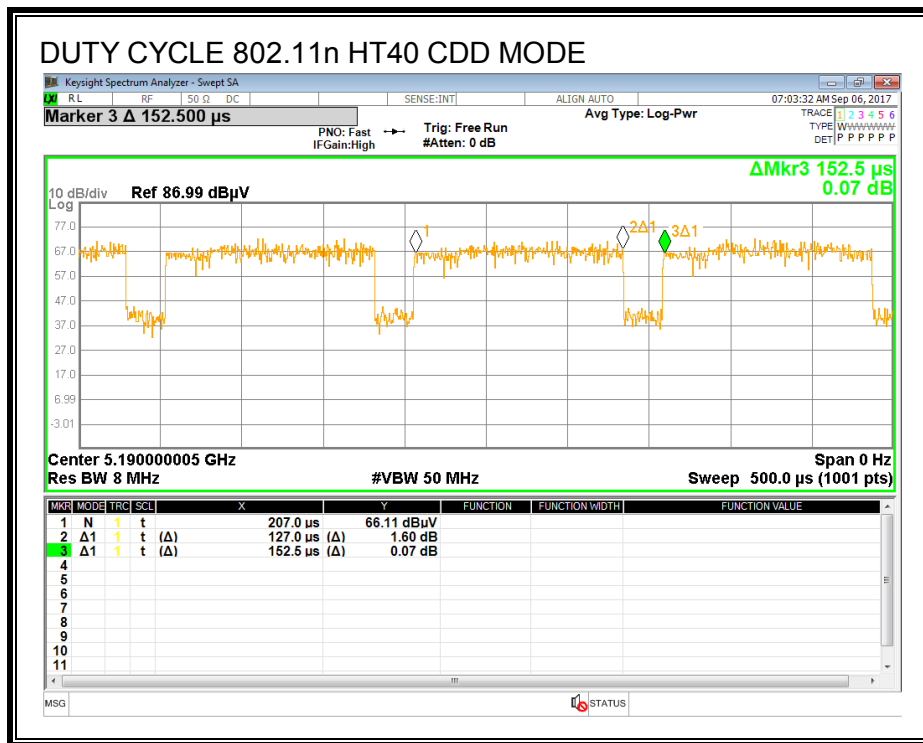
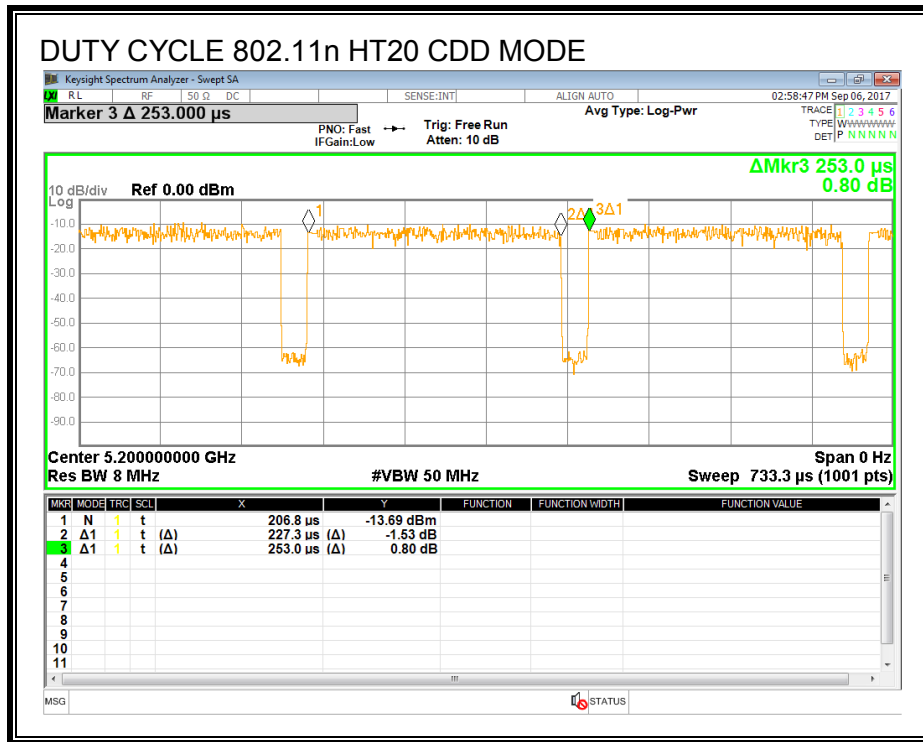
KDB 789033 Zero-Span Spectrum Analyzer Method.

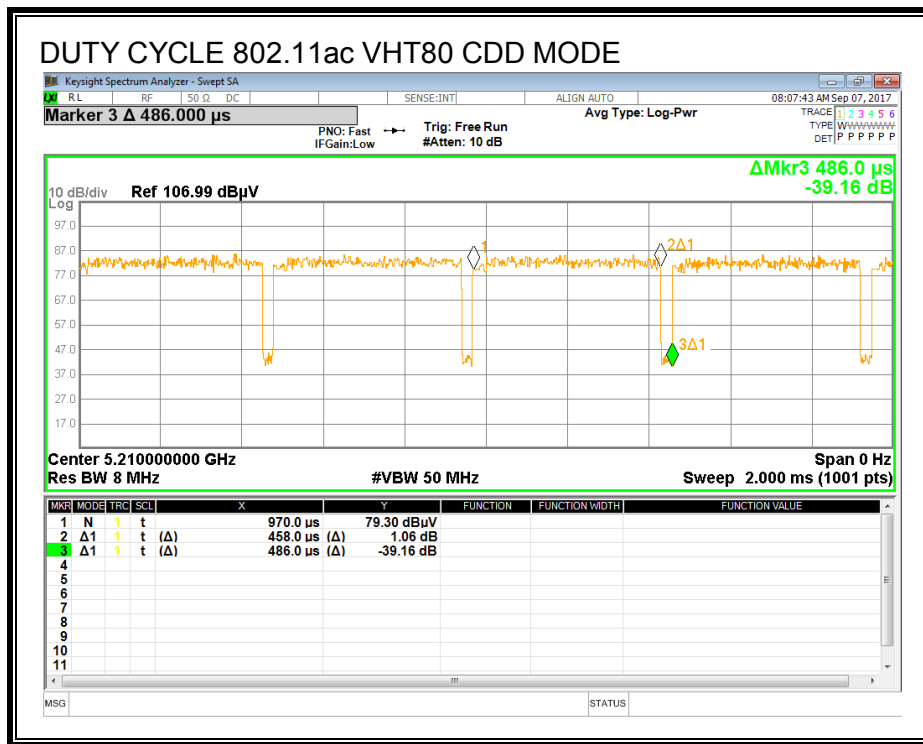
ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11a CDD	2.057	2.177	0.945	94.49%	0.25	0.486
802.11n HT20 CDD	0.227	0.253	0.897	89.72%	0.47	4.405
802.11n HT40 CDD	0.1270	0.1525	0.833	83.28%	0.79	7.874
802.11ac VHT80 CDD	0.4580	0.4860	0.942	94.24%	0.26	2.183

DUTY CYCLE PLOTS







Test Information

Date: 2017-09-02 to 2017-09-07
 Project: 11893030
 Tester: John Manser

8.2. 802.11a MODE IN THE 5.2 GHz BAND

8.2.1. 26 dB BANDWIDTH

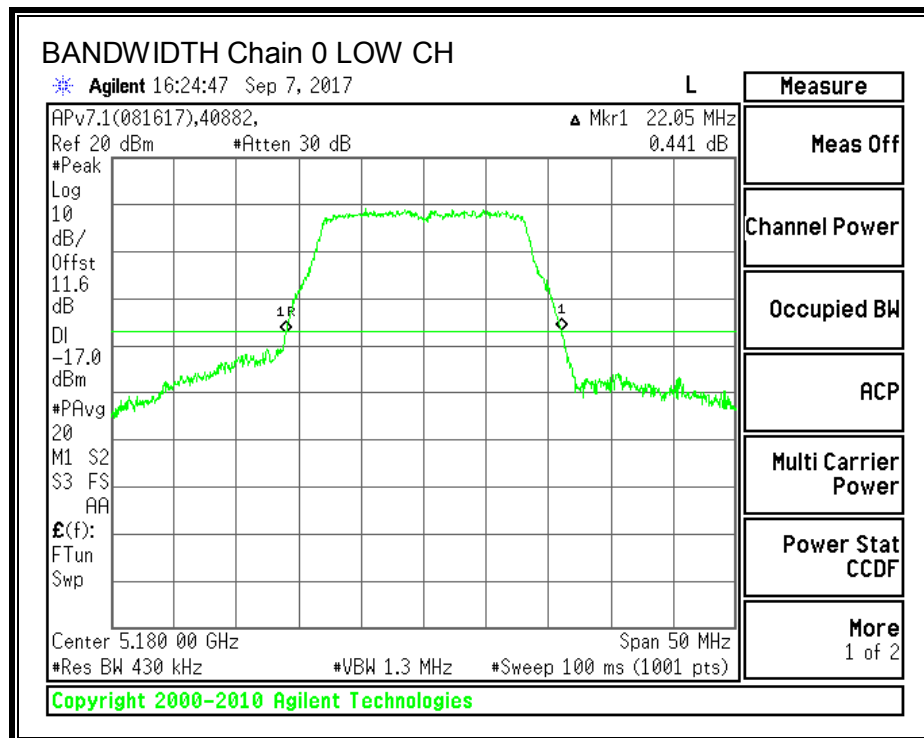
LIMITS

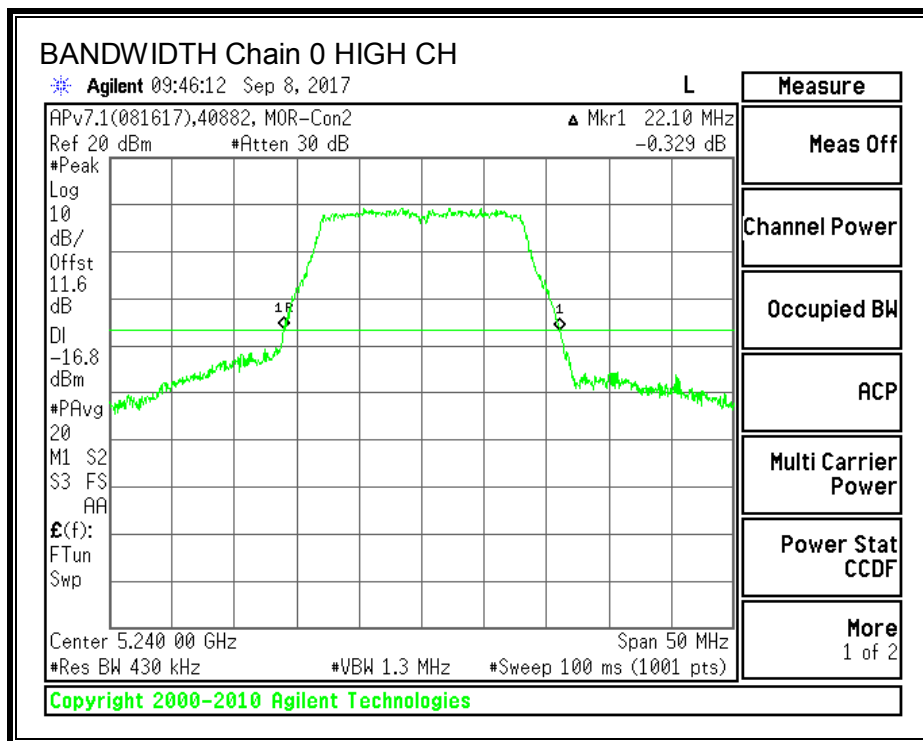
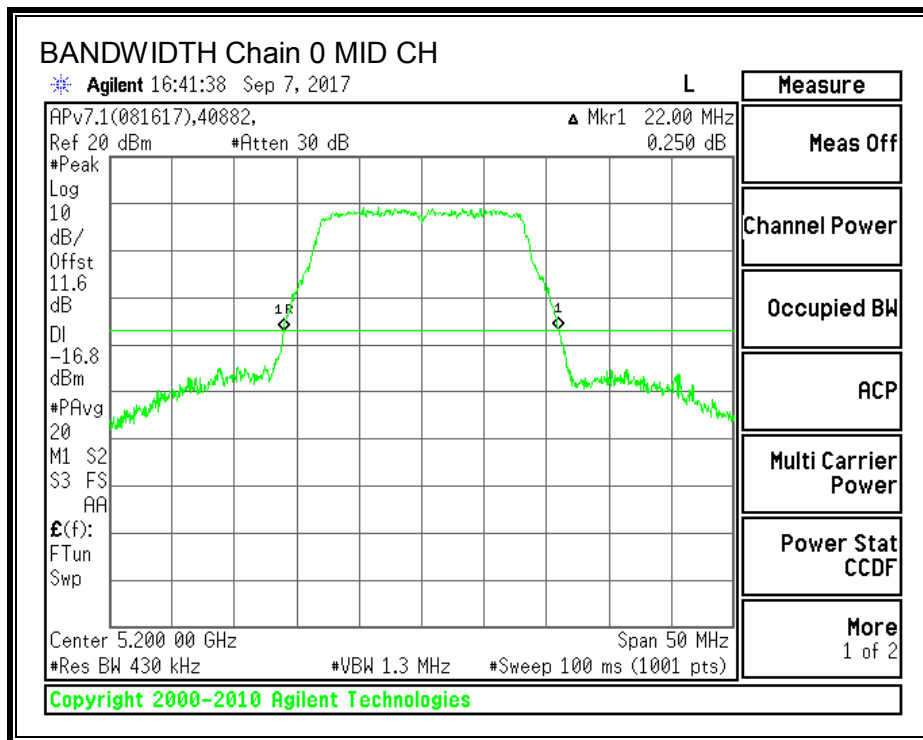
None; for reporting purposes only.

RESULTS

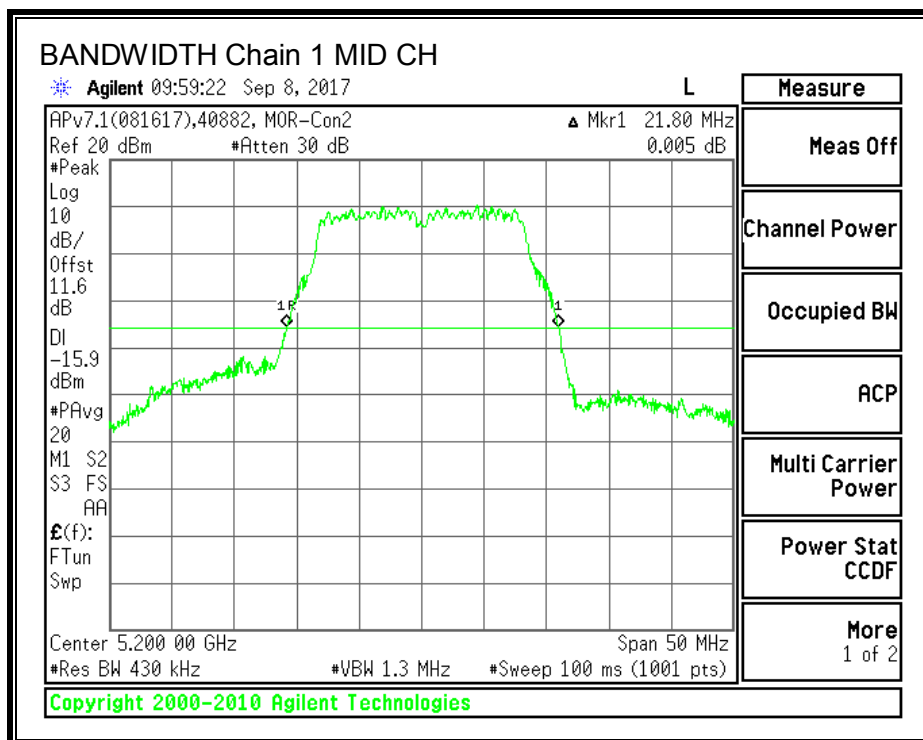
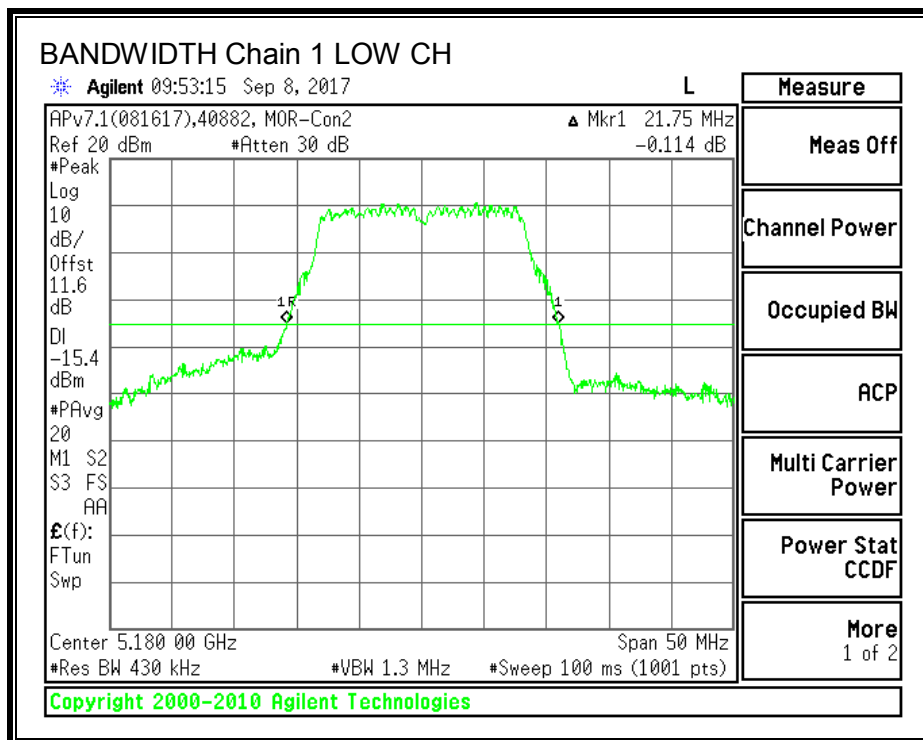
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	22.05	21.75
Mid	5200	22.00	21.80
High	5240	22.10	21.75

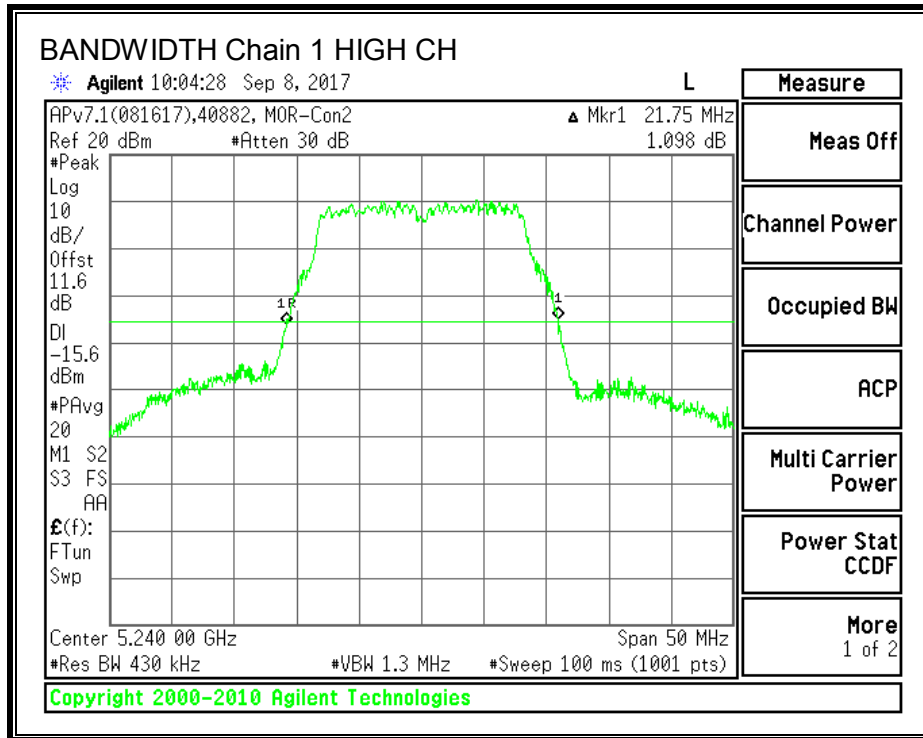
26 dB BANDWIDTH, Chain 0





26 dB BANDWIDTH, Chain 1





Test Information

Date: 2017-09-07 and 2017-09-08
Project: 11893030
Tester: Jeffrey Cabrera

8.2.2. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (1)

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

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

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. 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

This EUT mode is 802.11a. No beamforming but cyclic delay diversity operation is assumed for this mode. However, acc. to KDB 662911, with Nant <= 4 the array gain is zero. Total directional gain is equal to single antenna gain. The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

Output Power

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Directional Gain (dBi)
3.05	3.05	3.05

The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

PSD

Antenna Gain (dBi)	10 * Log (2 chains) (dB)	Correlated Chains Directional Gain (dBi)
3.05	3.01	6.06

RESULTS

Note: Power was gated; therefore DCCF not used in calculation of corrected power.

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	3.05	6.06	30.00	16.94
Mid	5200	3.05	6.06	30.00	16.94
High	5240	3.05	6.06	30.00	16.94

Duty Cycle CF (dB)	0.25	Included in Calculations of PSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	16.51	15.97	19.26	30.00	-10.74
Mid	5200	16.28	15.93	19.12	30.00	-10.88
High	5240	16.43	16.22	19.34	30.00	-10.66

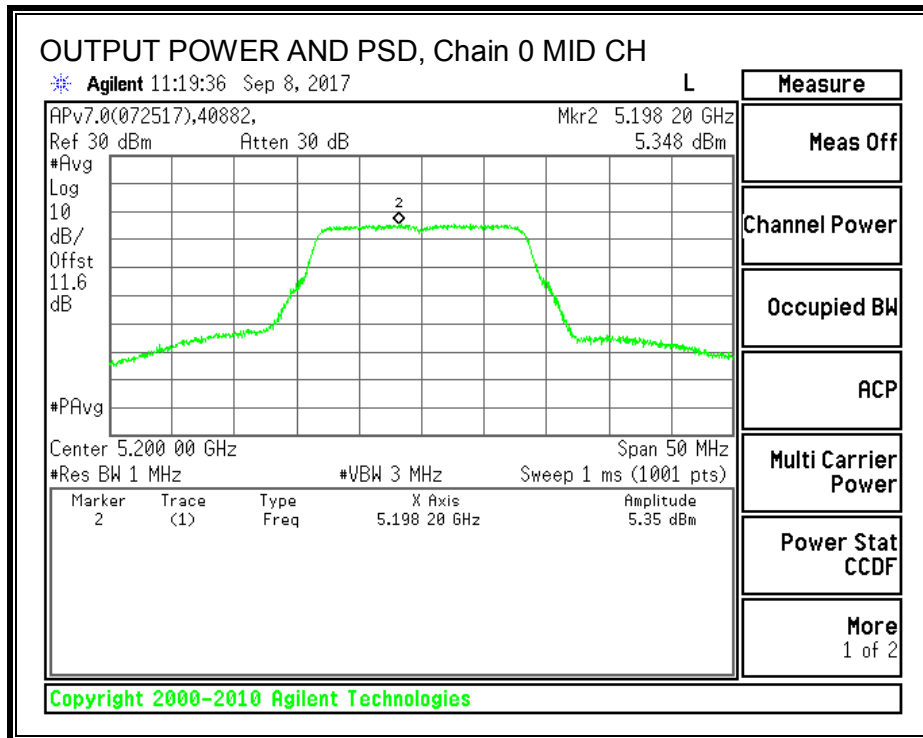
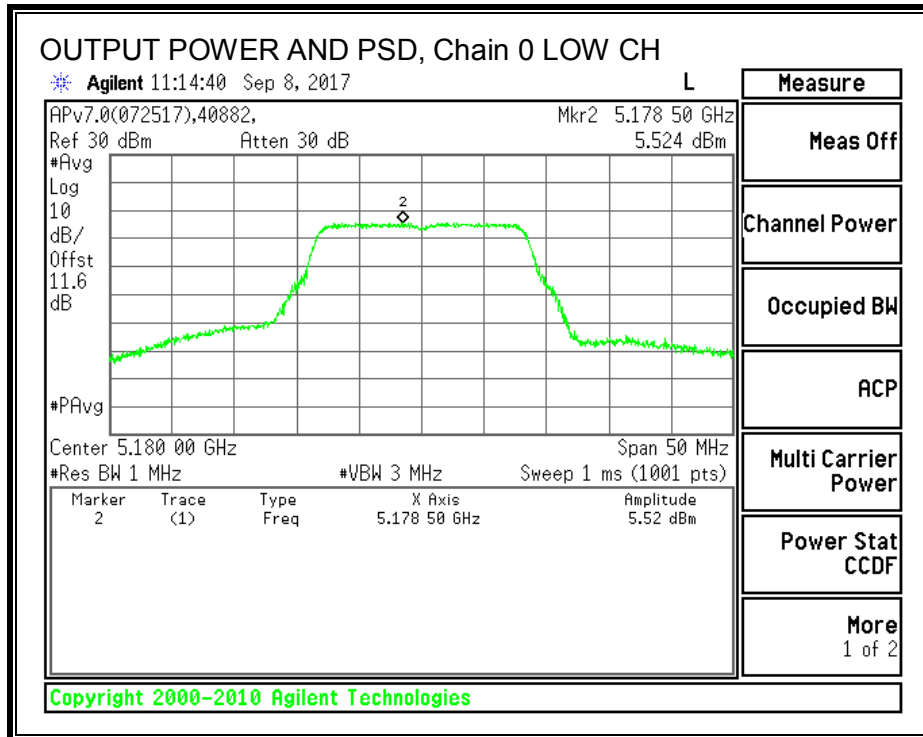
PSD Results

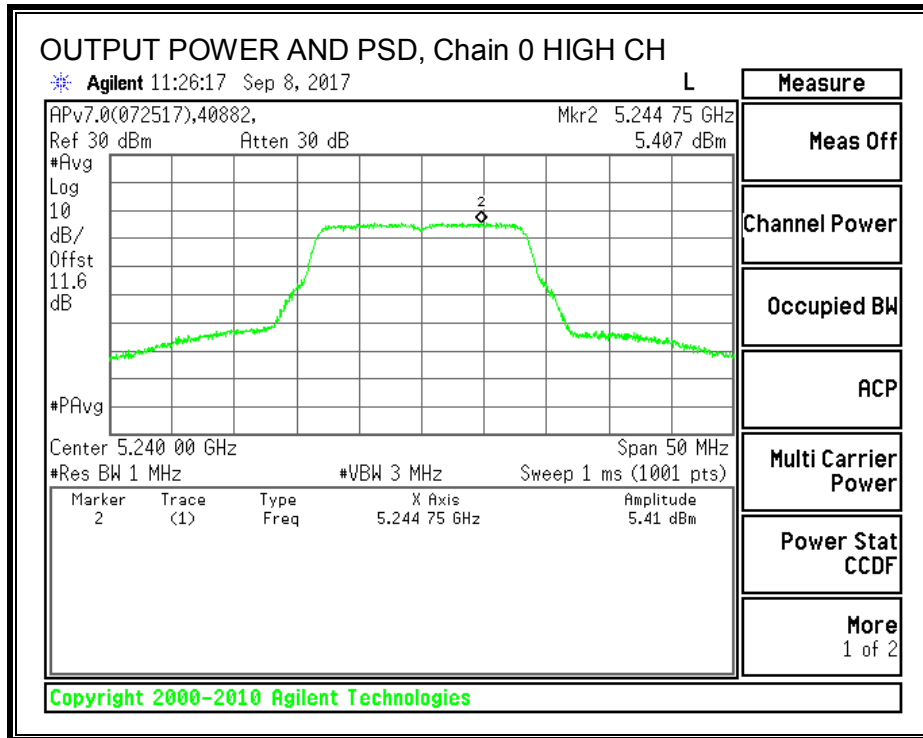
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	5.52	5.91	8.98	16.94	-7.96
Mid	5200	5.35	5.53	8.70	16.94	-8.24
High	5240	5.41	5.59	8.76	16.94	-8.18

Test Information

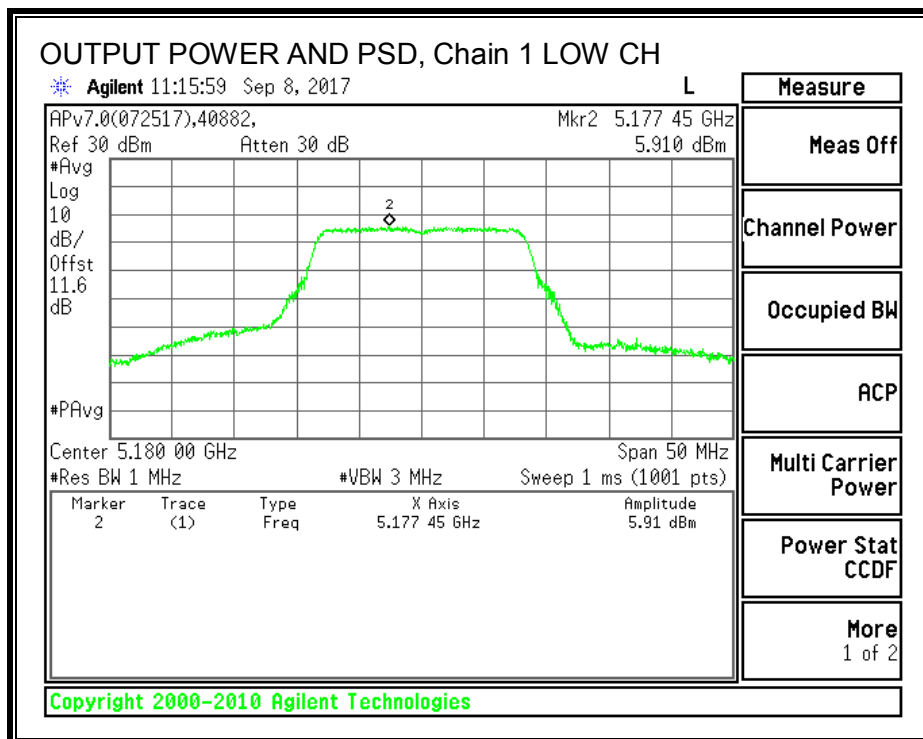
Date: 2017-09-08
Project: 11893030
Tester: Jeffrey Cabrera

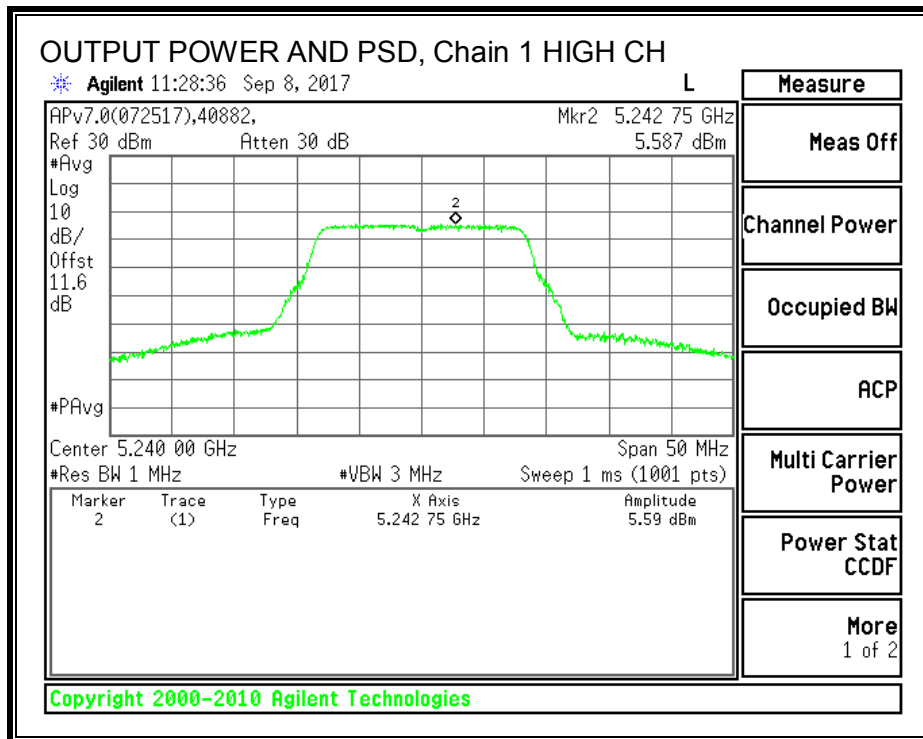
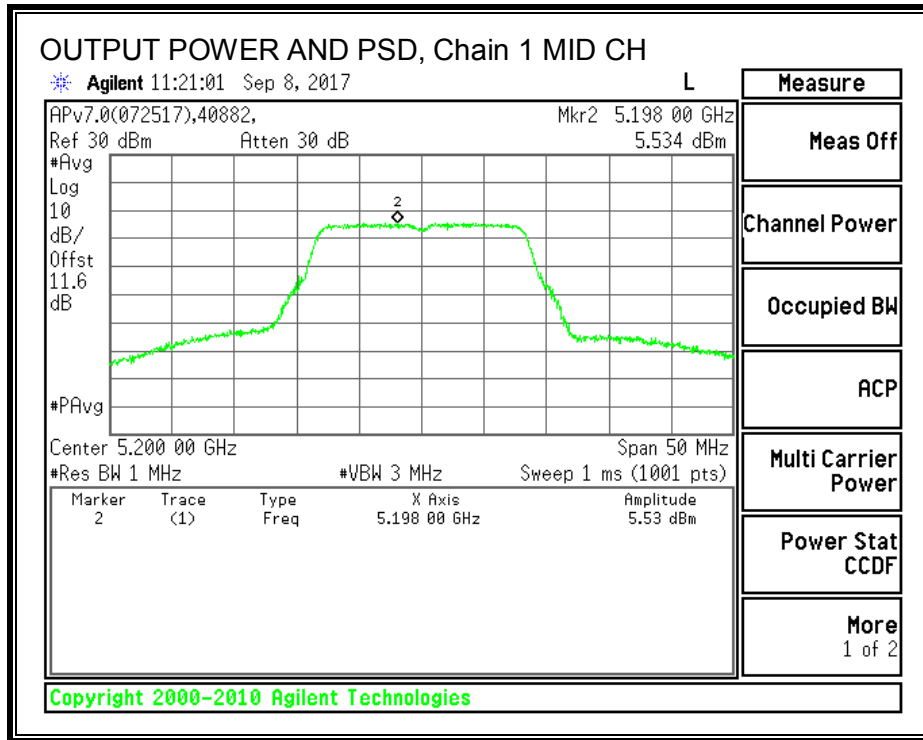
PSD, Chain 0





PSD, Chain 1





8.3. 802.11n HT20 MODE IN THE 5.2 GHz BAND

8.3.1. 26 dB BANDWIDTH

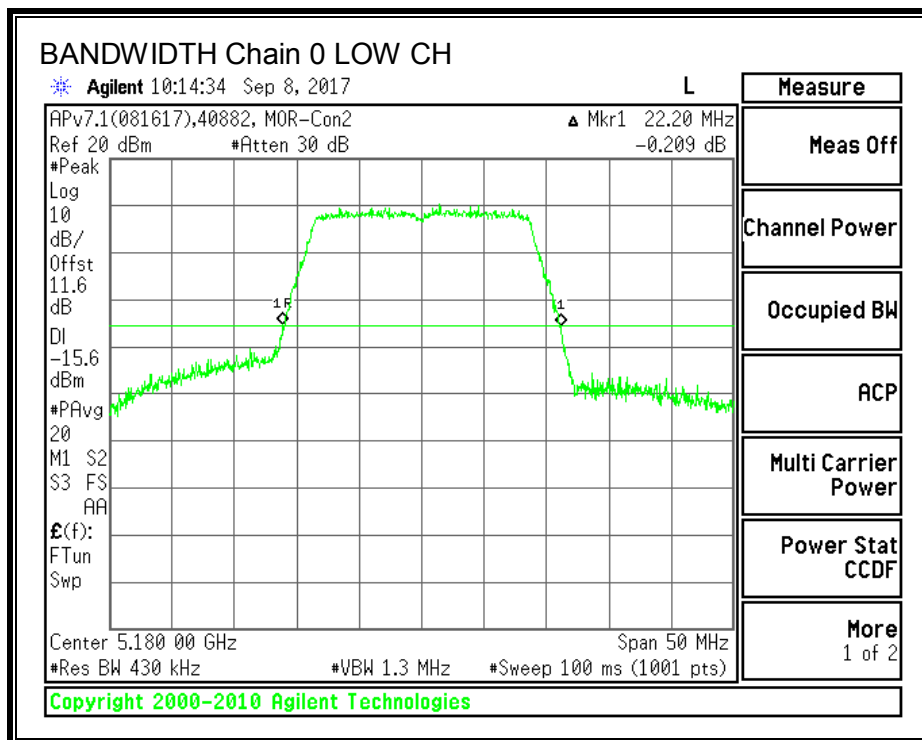
LIMITS

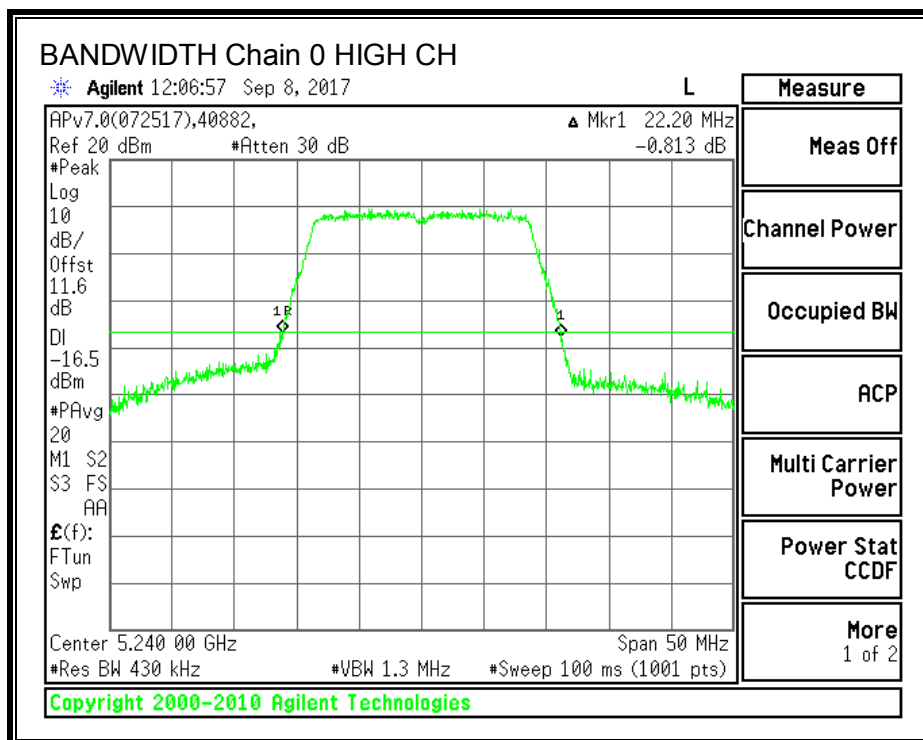
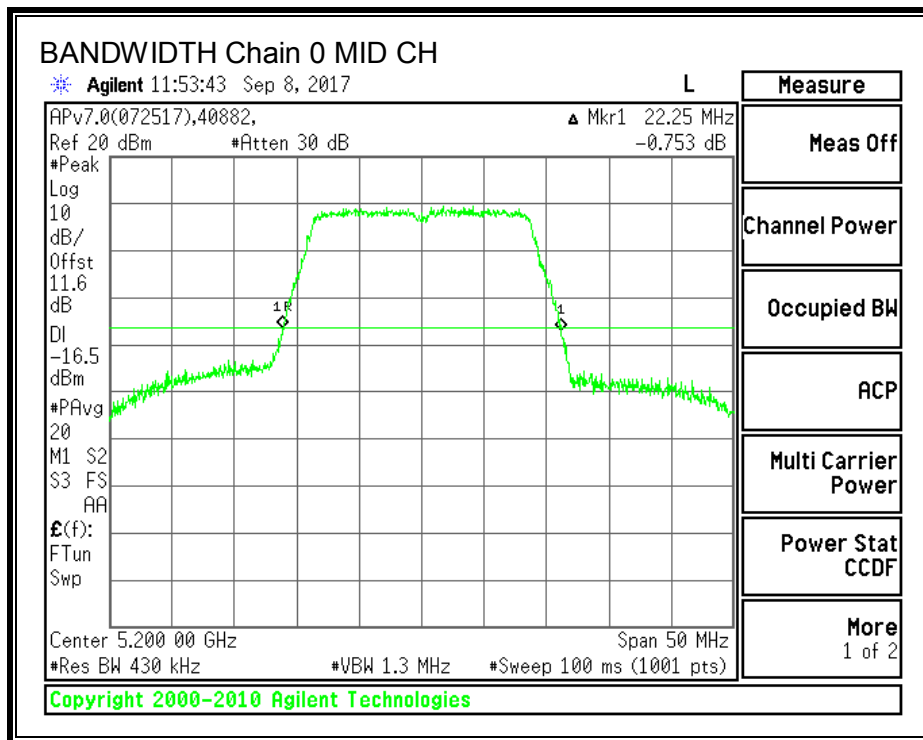
None; for reporting purposes only.

RESULTS

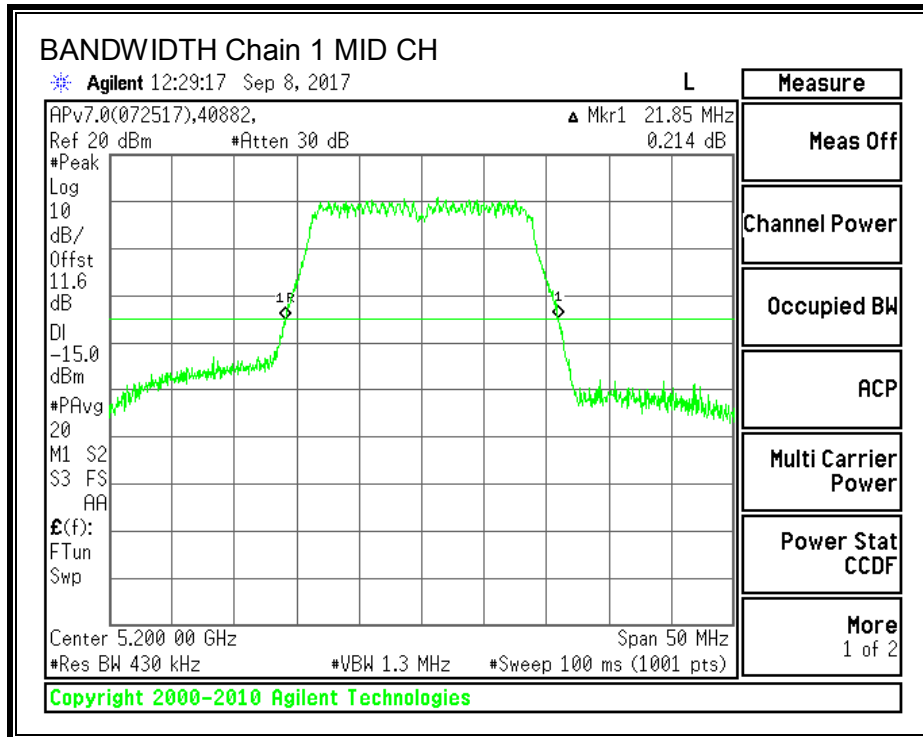
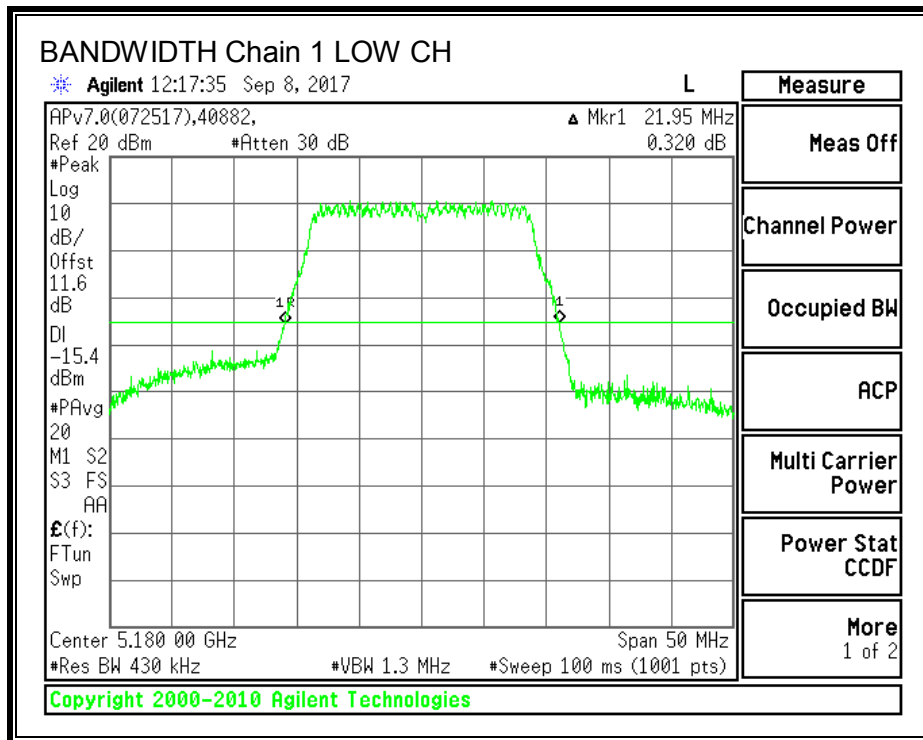
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	22.20	21.95
Mid	5200	22.25	21.85
High	5240	22.20	21.85

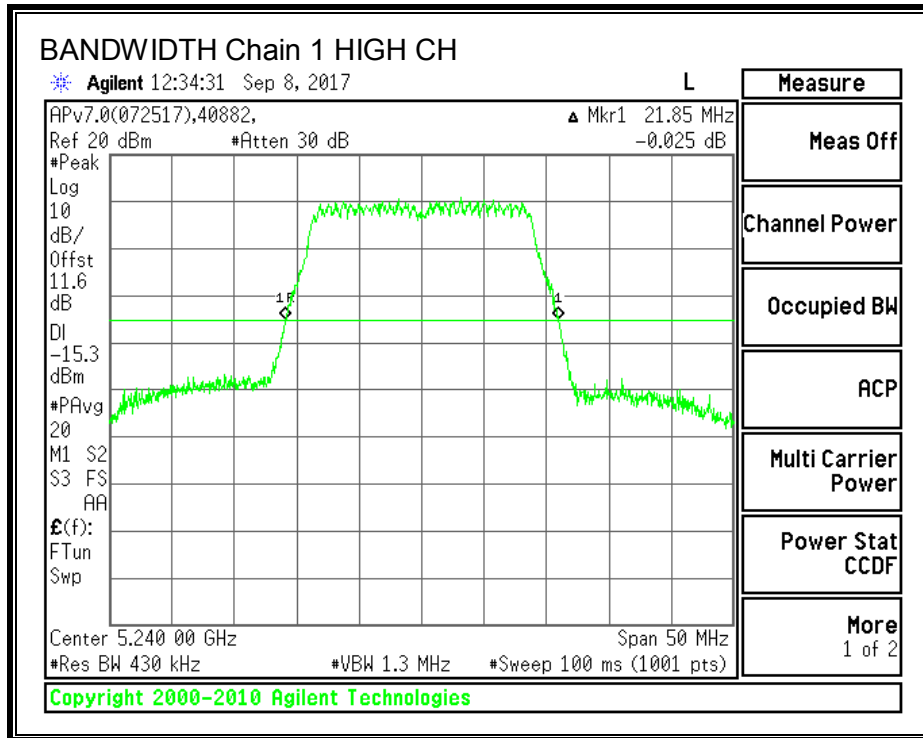
26 dB BANDWIDTH, Chain 0





26 dB BANDWIDTH, Chain 1





Test Information

Date: 2017-09-08
Project: 11893030
Tester: Jeffrey Cabrera

8.3.2. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (1)

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

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

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. 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 colocated 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

This EUT mode is 802.11nHT20. According to KDB 662911, with Nant <= 4 the array gain is zero. Total directional gain is equal to single antenna gain. The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

Output Power

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Directional Gain (dBi)
3.05	3.05	3.05

The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

PSD

Antenna Gain (dBi)	10 * Log (2 chains) (dB)	Correlated Chains Directional Gain (dBi)
3.05	3.01	6.06

RESULTS

Note: Power was gated; therefore DCCF not used in calculation of corrected power.

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	3.05	6.06	30.00	16.94
Mid	5200	3.05	6.06	30.00	16.94
High	5240	3.05	6.06	30.00	16.94

Duty Cycle CF (dB)	0.47	Included in Calculations of PSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	15.62	14.76	18.22	30.00	-11.78
Mid	5200	15.56	15.13	18.36	30.00	-11.64
High	5240	15.25	15.12	18.20	30.00	-11.80

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	5.52	5.17	8.83	16.94	-8.11
Mid	5200	4.96	4.86	8.39	16.94	-8.55
High	5240	5.06	4.80	8.41	16.94	-8.53

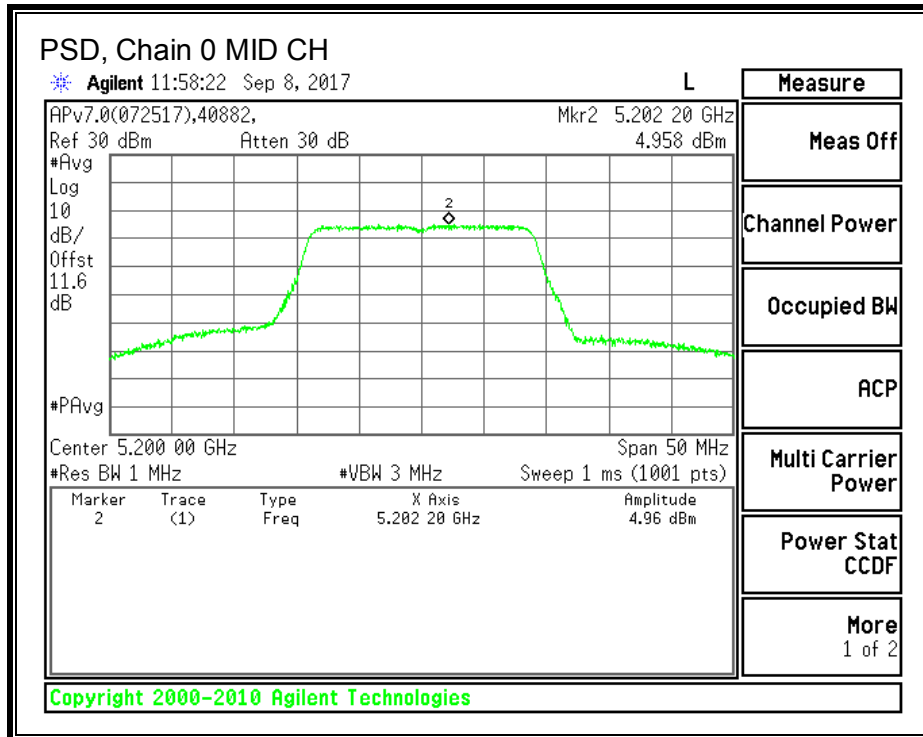
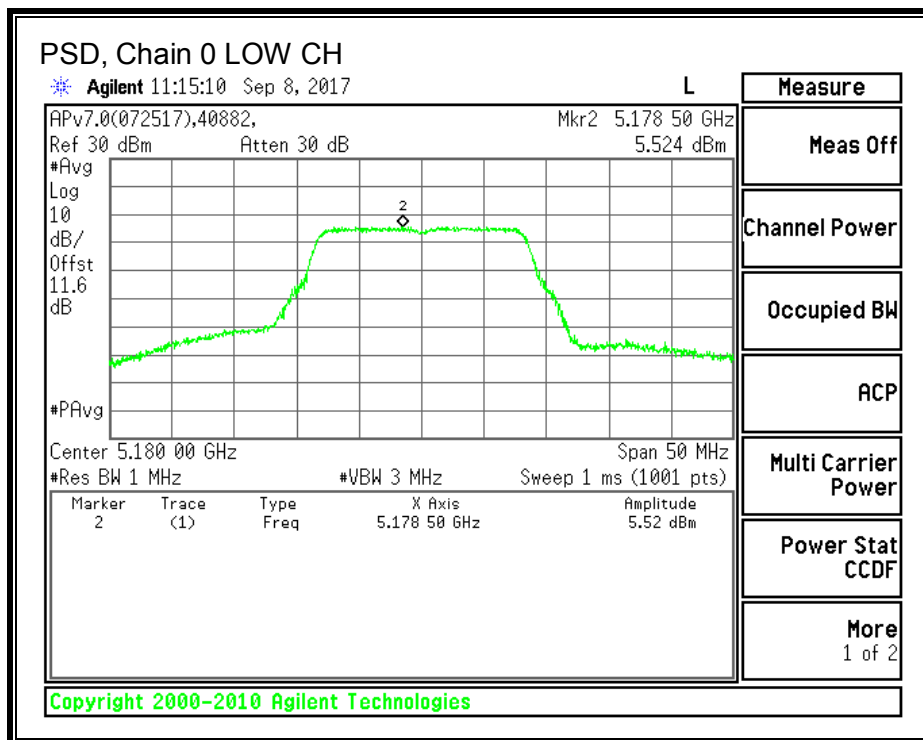
Test Information

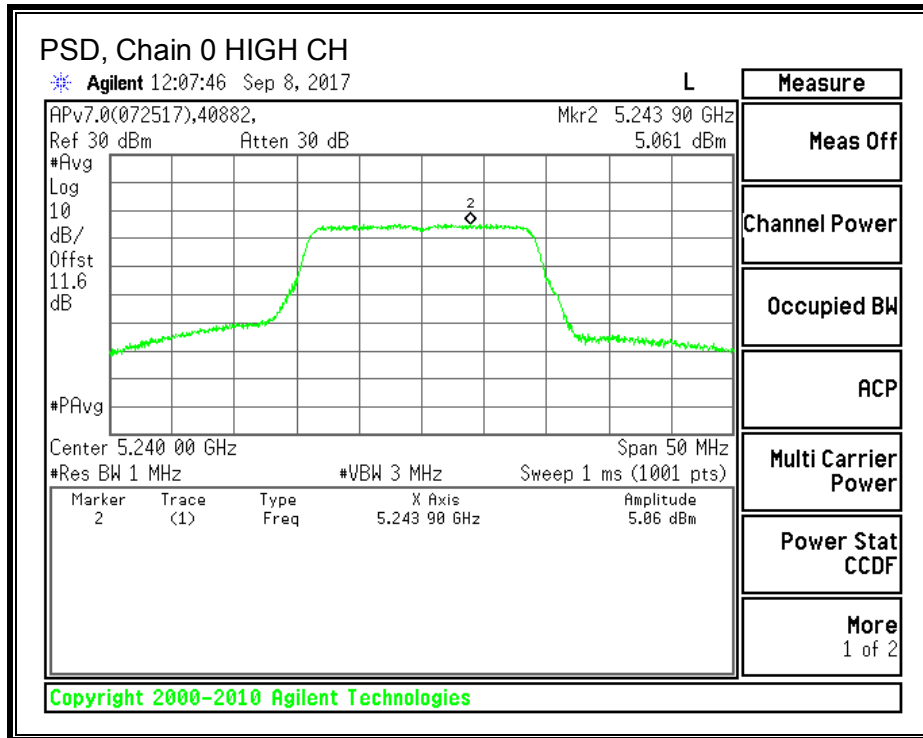
Date: 2017-09-08 and 2017 09-11

Project: 11893030

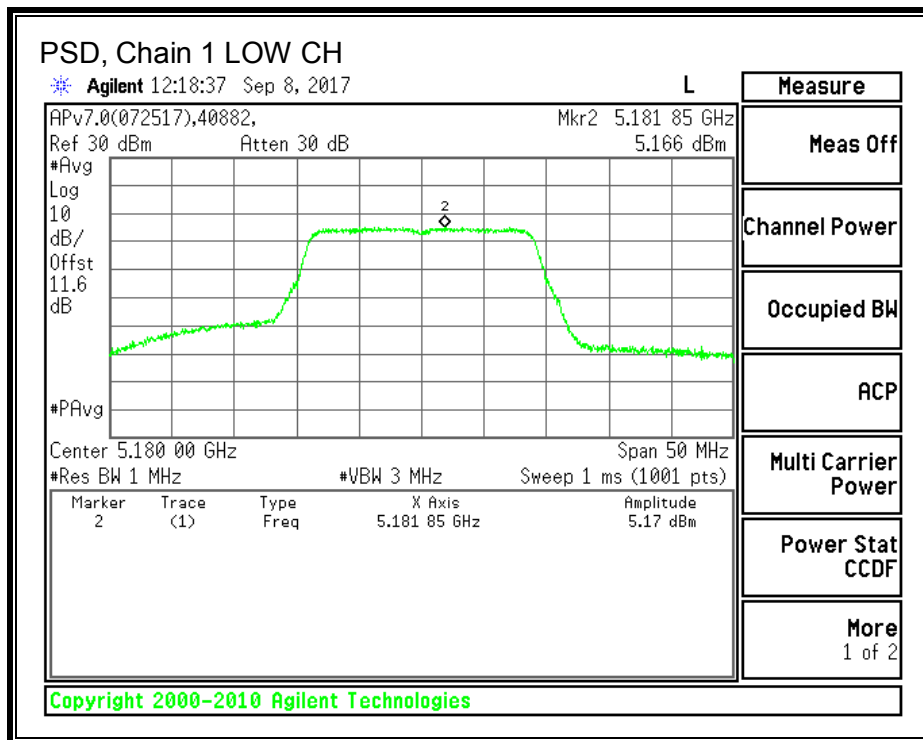
Tester: Jeffrey Cabrera

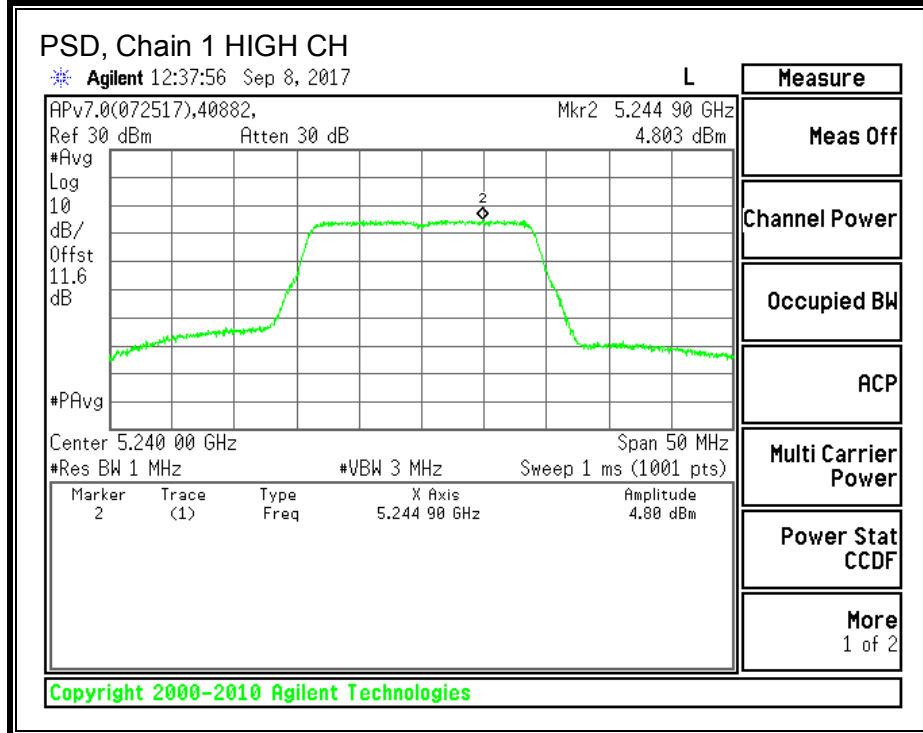
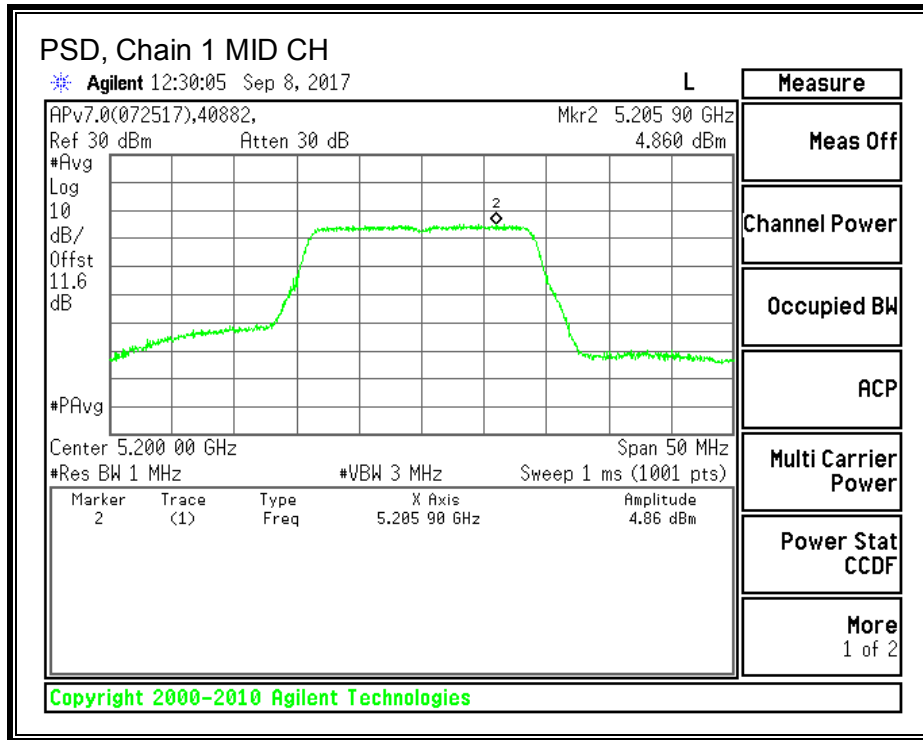
PSD, Chain 0





PSD, Chain 1





8.4. 802.11n HT40 MODE IN THE 5.2 GHz BAND

8.4.1. 26 dB BANDWIDTH

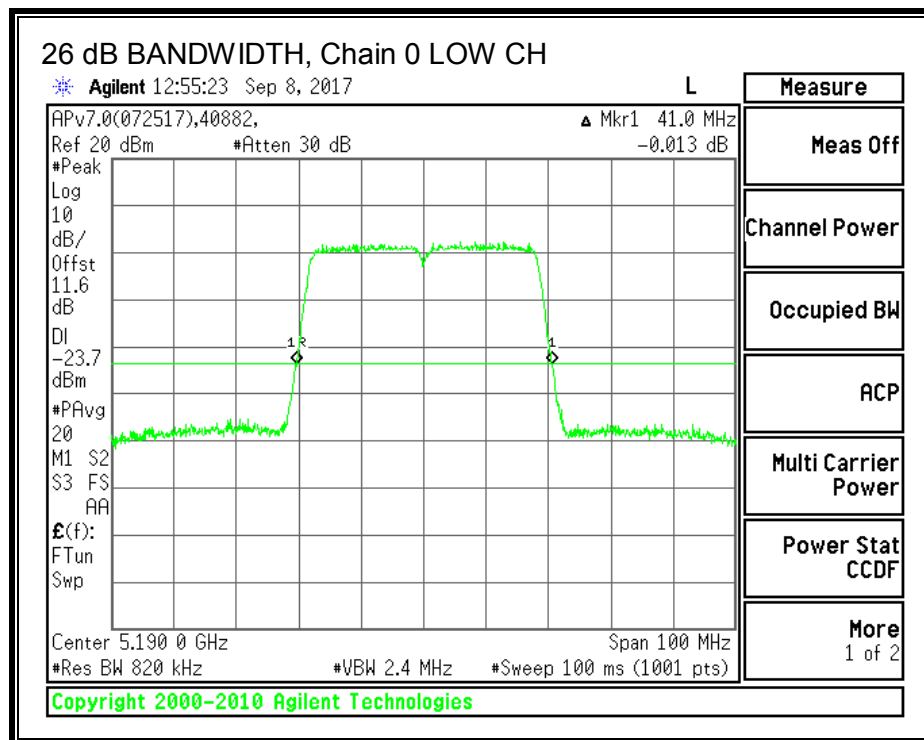
LIMITS

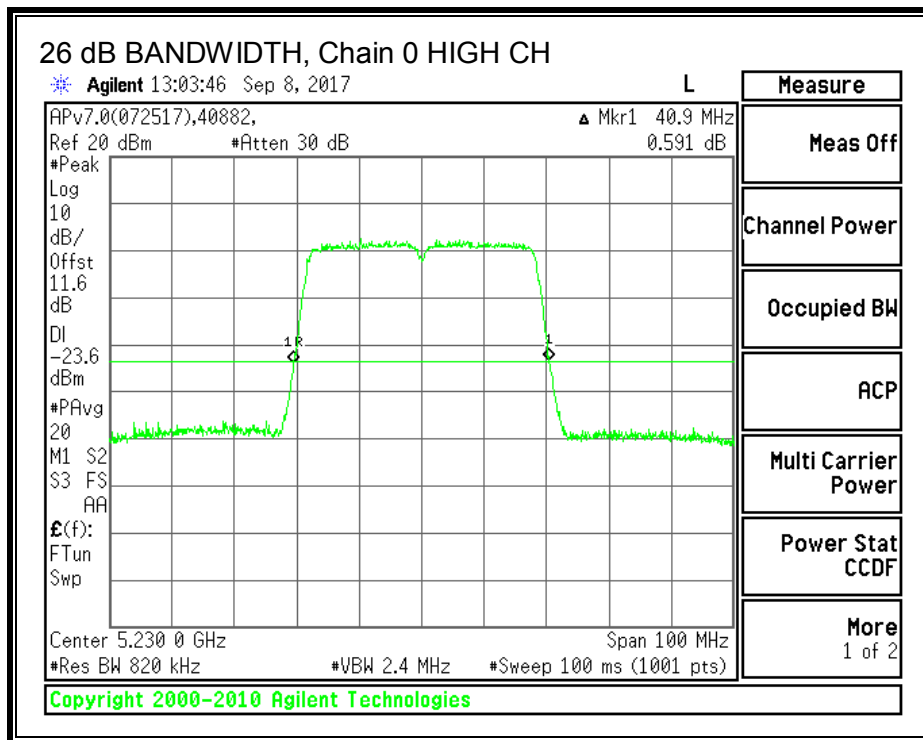
None; for reporting purposes only.

RESULTS

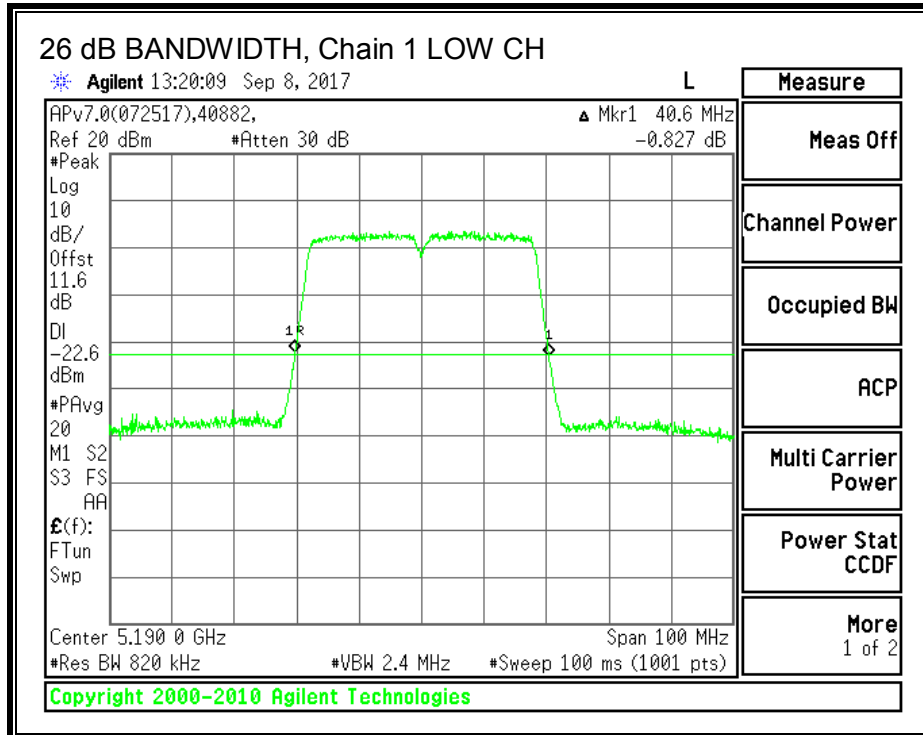
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5190	41.00	40.60
High	5230	40.90	40.50

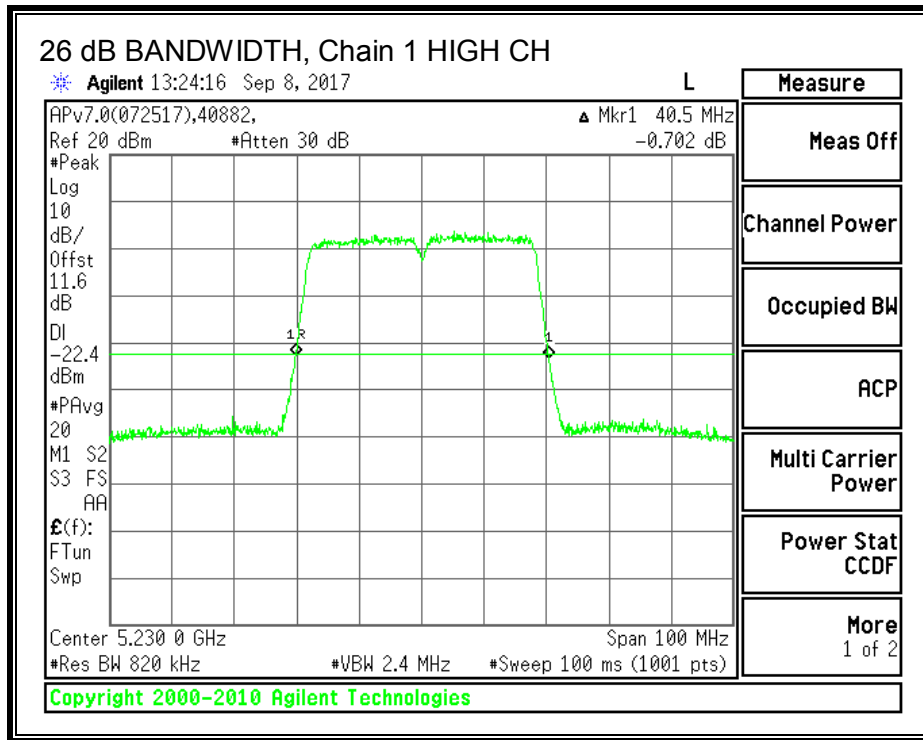
26 dB BANDWIDTH, Chain 0





26 dB BANDWIDTH, Chain 1





Test Information

Date: 2017-09-08
Project: 11893030
Tester: Jeffrey Cabrera

8.4.2. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (1)

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

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

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. 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

This EUT mode is 802.11a. No beamforming but cyclic delay diversity operation is assumed for this mode. However, acc. to KDB 662911, with Nant <= 4 the array gain is zero. Total directional gain is equal to single antenna gain. The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

Output Power

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Directional Gain (dBi)
3.05	3.05	3.05

The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

PSD

Antenna Gain (dBi)	10 * Log (2 chains) (dB)	Correlated Chains Directional Gain (dBi)
3.05	3.01	6.06

RESULTS

Note: Power was gated; therefore DCCF not used in calculation of corrected power.

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5190	3.05	6.06	30.00	16.94
High	5230	3.05	6.06	30.00	16.94

Duty Cycle CF (dB)	0.79	Included in Calculations PSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	9.40	8.87	12.15	30.00	-17.85
High	5230	8.77	8.43	11.61	30.00	-18.39

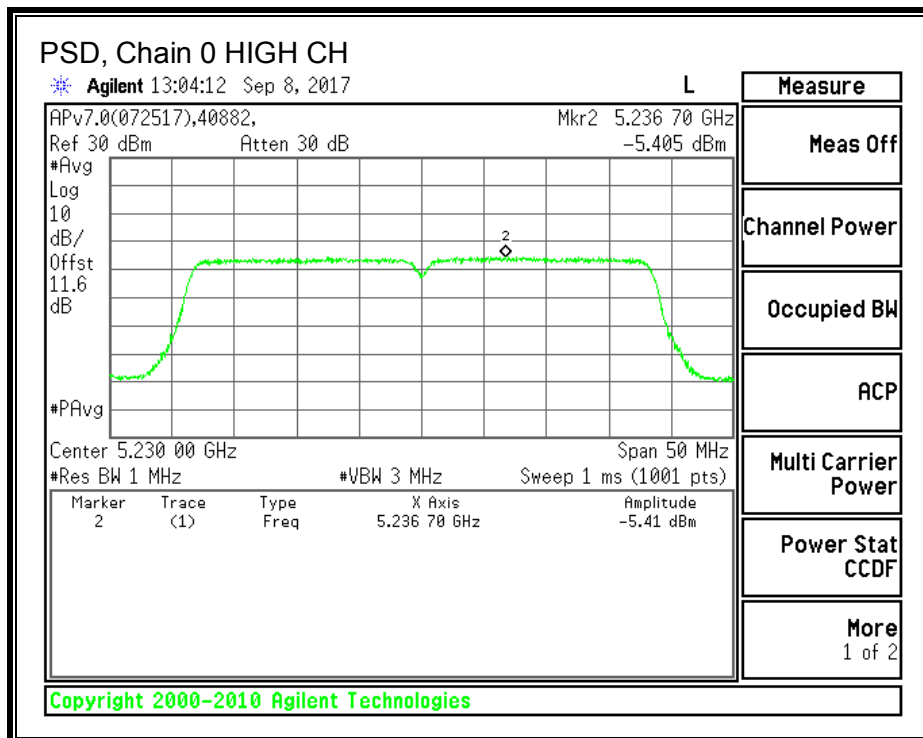
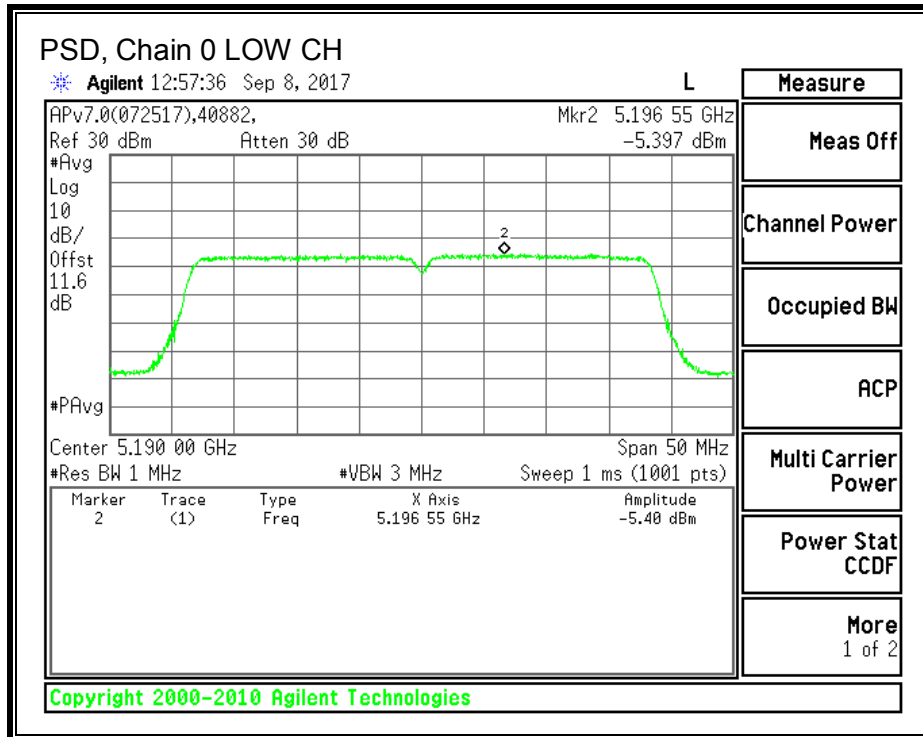
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5190	-5.40	-5.45	-1.63	16.94	-18.57
High	5230	-5.41	-5.52	-1.66	16.94	-18.60

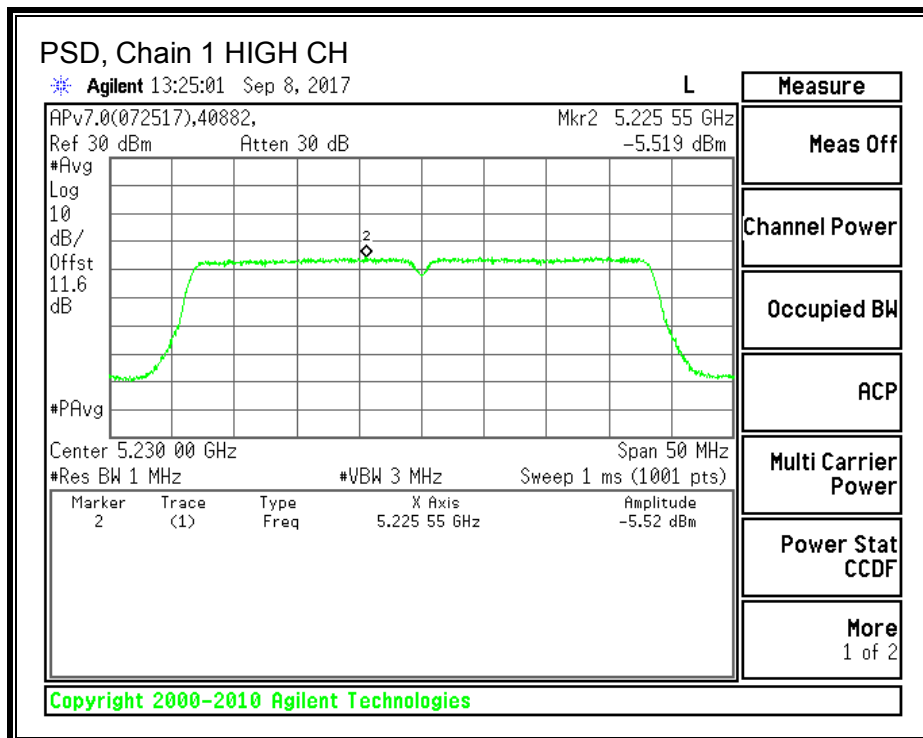
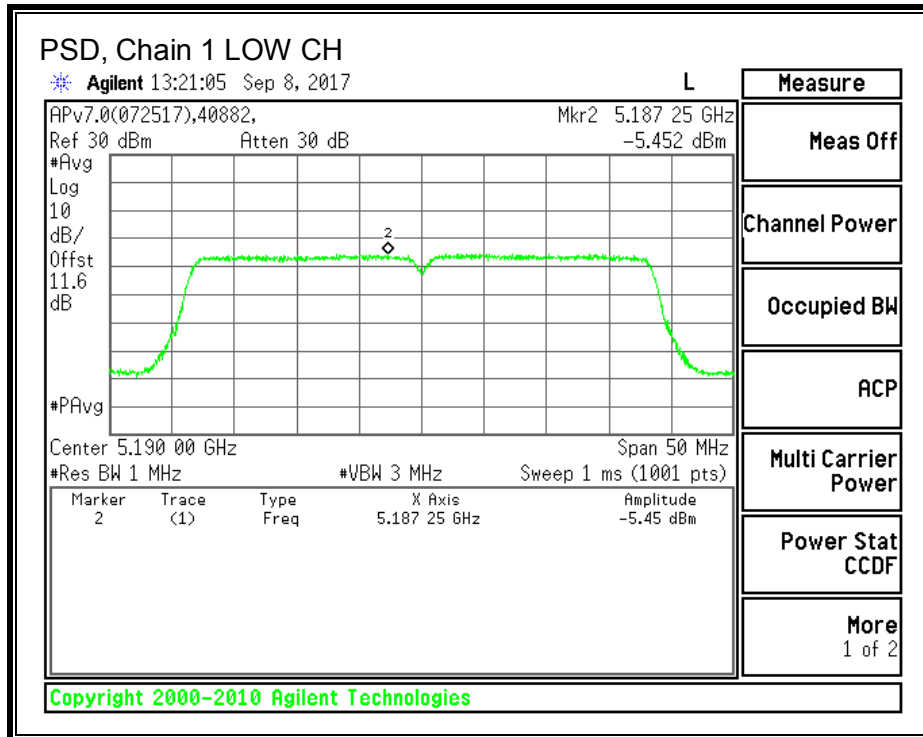
Test Information

Date: 2017-09-08
Project: 11893030
Tester: Jeffrey Cabrera

PSD, Chain 0



PSD, Chain 1



8.5. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

8.5.1. 26 dB BANDWIDTH

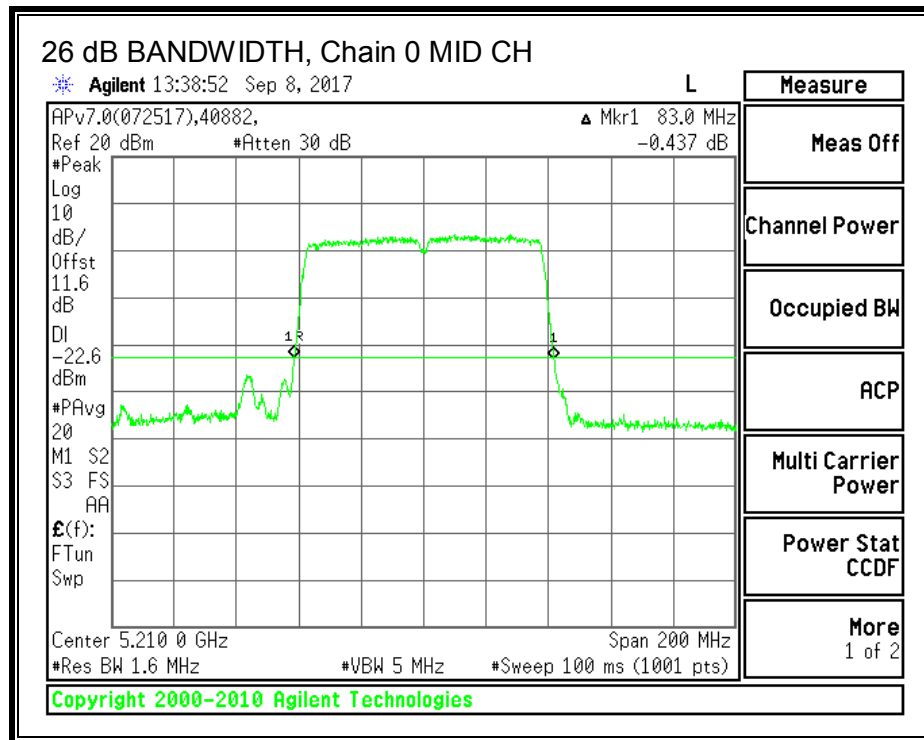
LIMITS

None; for reporting purposes only.

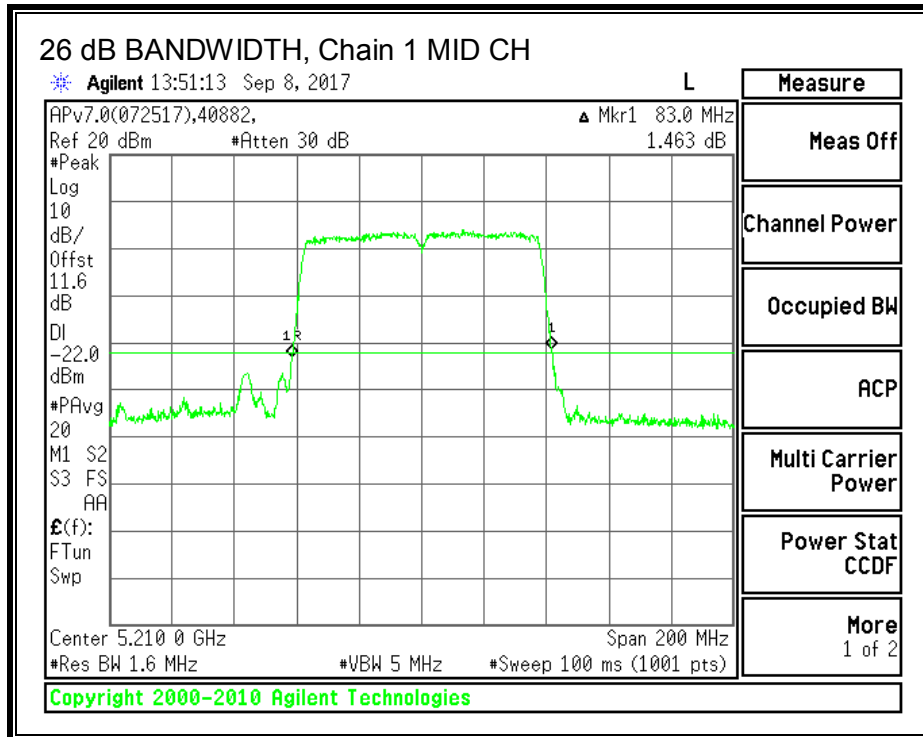
RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Mid	5210	83.00	83.00

26 dB BANDWIDTH, Chain 0



26 dB BANDWIDTH, Chain 1



Test Information

Date: 2017-09-08
 Project: 11893030
 Tester: Jeffrey Cabrera

8.5.2. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (1)

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

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

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. 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

This EUT mode is 802.11a. No beamforming but cyclic delay diversity operation is assumed for this mode. However, acc. to KDB 662911, with Nant <= 4 the array gain is zero. Total directional gain is equal to single antenna gain. The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

Output Power

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Directional Gain (dBi)
3.05	3.05	3.05

The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

PSD

Antenna Gain (dBi)	10 * Log (2 chains) (dB)	Correlated Chains Directional Gain (dBi)
3.05	3.01	6.06

RESULTS

Note: Power was gated; therefore DCCF not used in calculation of corrected power.

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5210	3.05	6.06	30.00	16.94

Duty Cycle CF (dB)	0.79	Included in Calculations PSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5210	9.79	9.18	12.51	30.00	-17.49

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5210	-8.55	-8.11	-4.52	16.94	-21.46

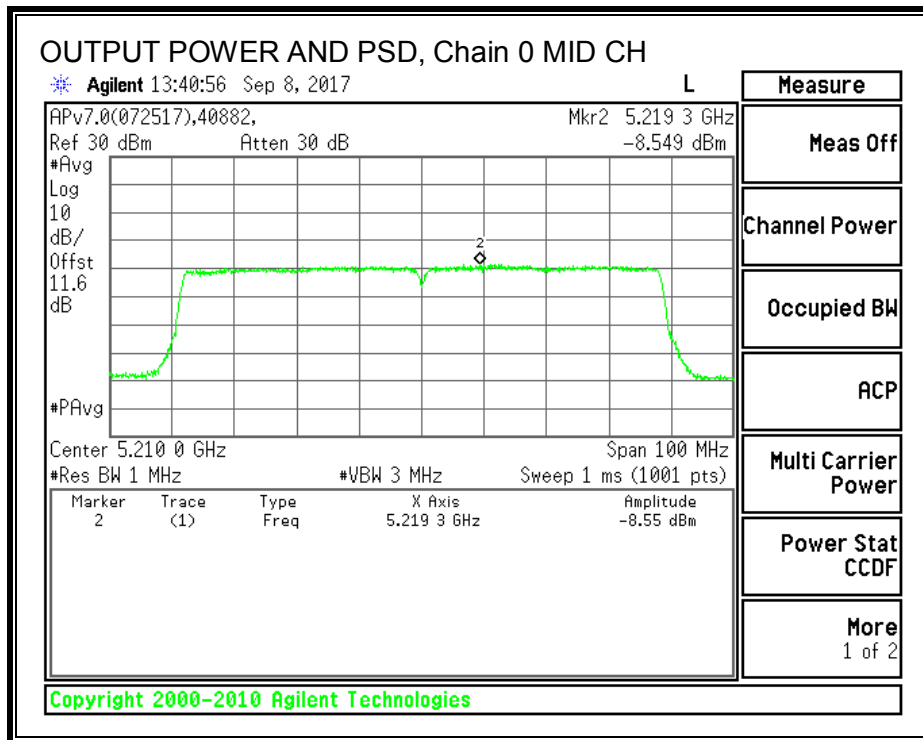
Test Information

Date: 2017-09-08 and 2017-09-11

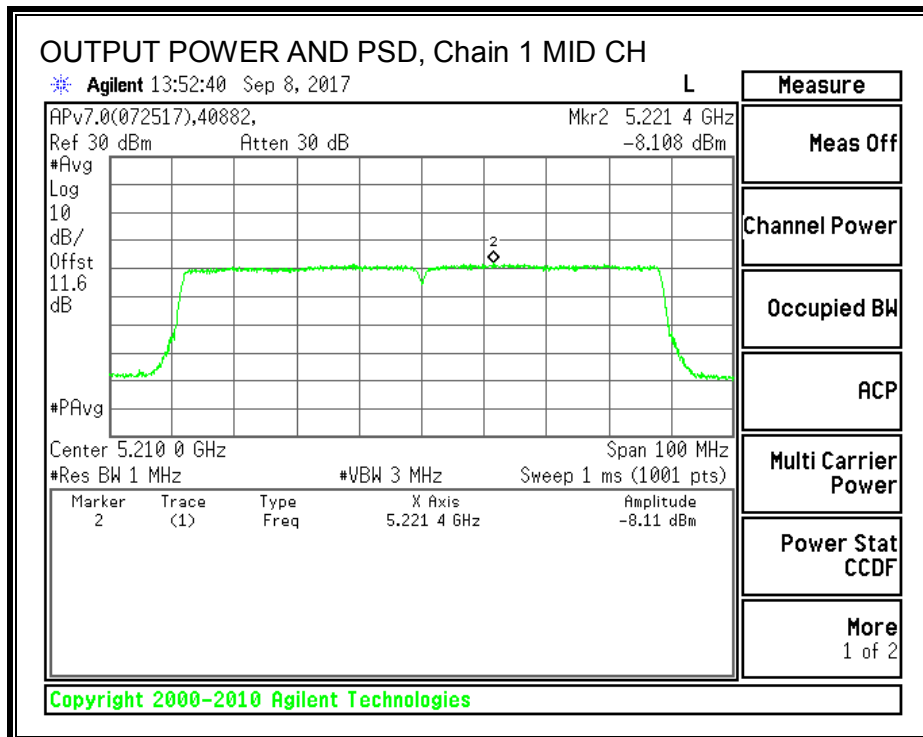
Project: 11893030

Tester: Jeffrey Cabrera

PSD, Chain 0



PSD, Chain 1



8.6. 802.11a MODE IN THE 5.8 GHz BAND

8.6.1. 6 dB BANDWIDTH

LIMITS

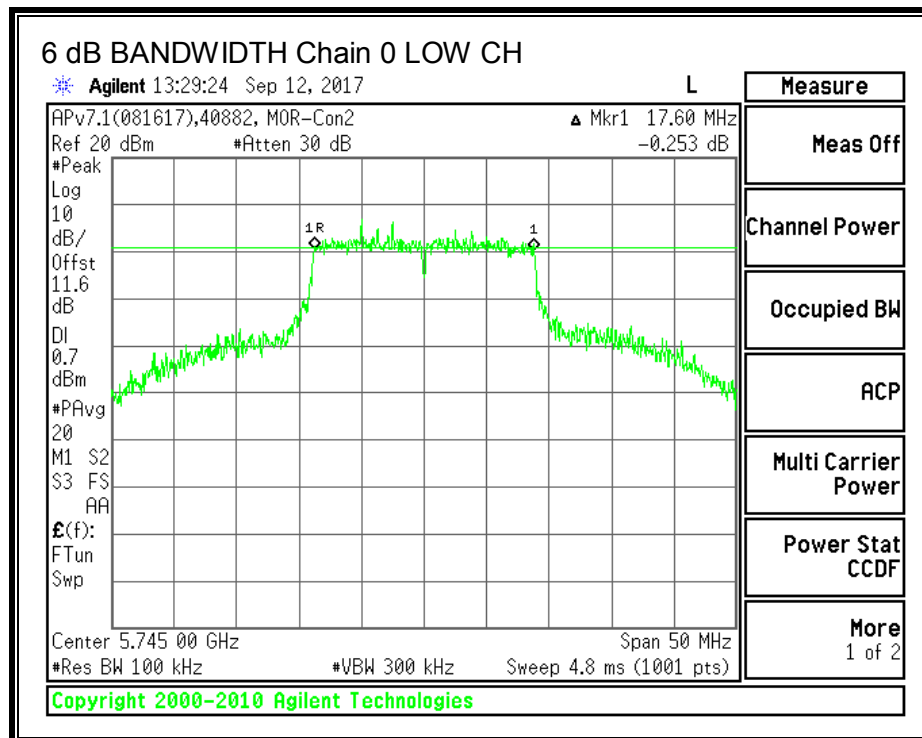
FCC §15.407 (e)

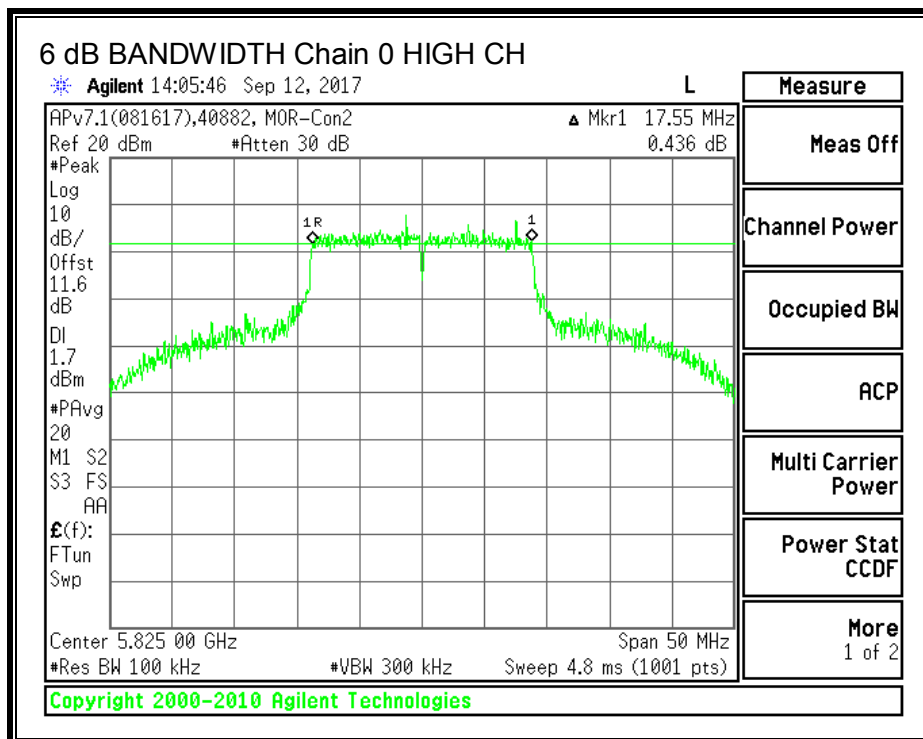
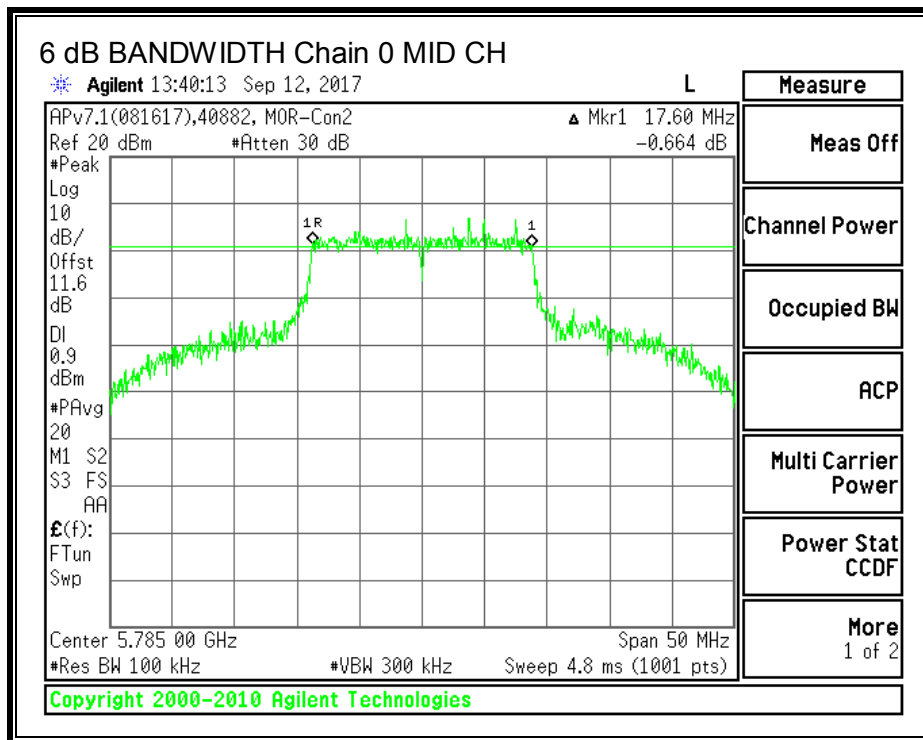
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

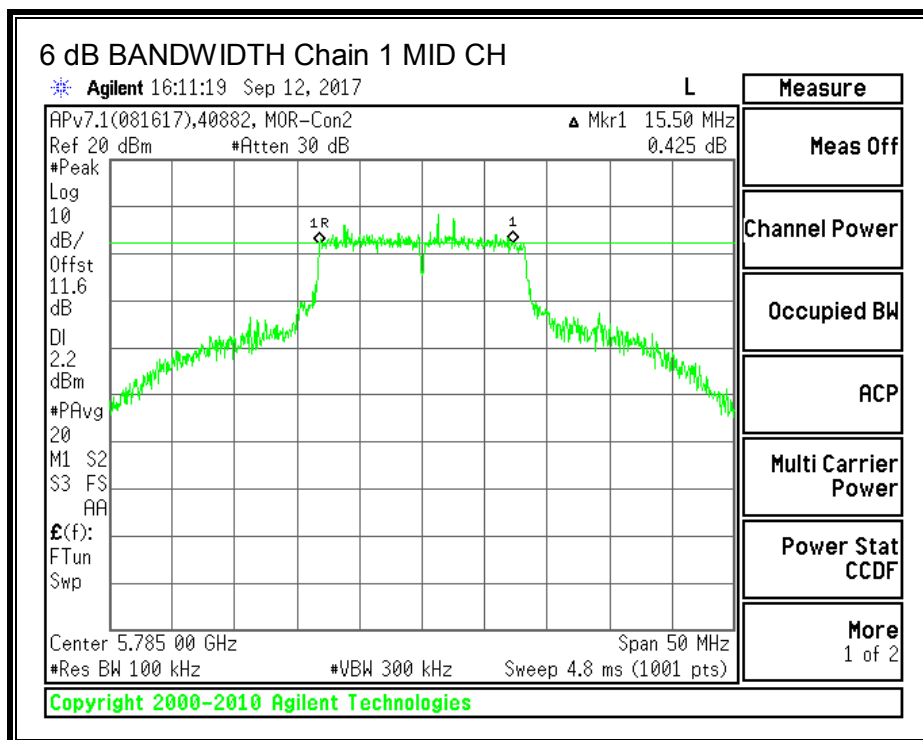
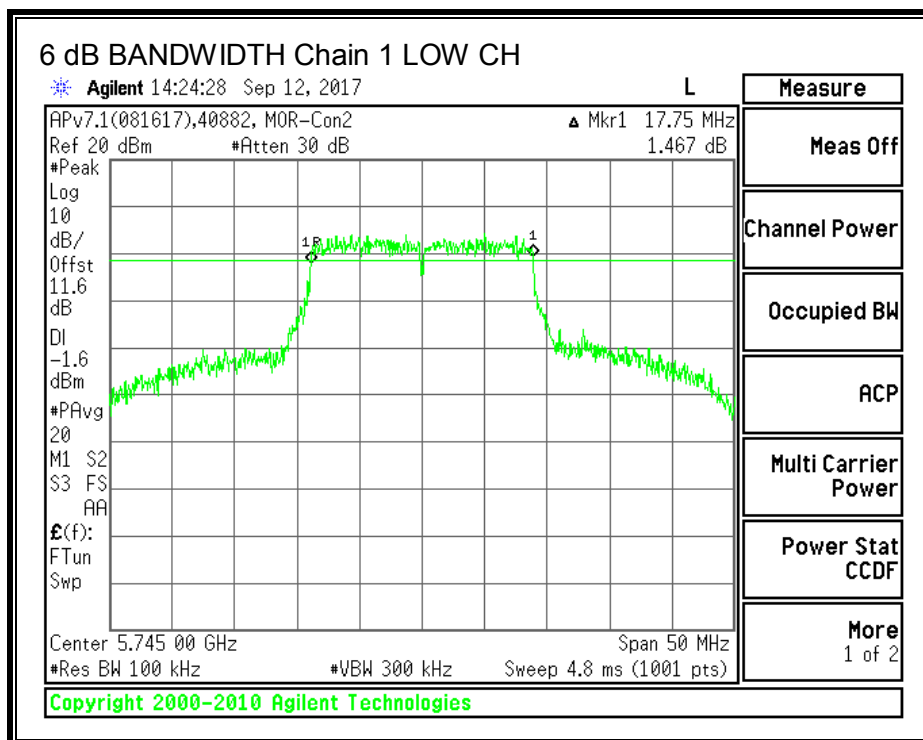
Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	17.6000	17.7500	0.5
Mid	5785	17.6000	15.5000	0.5
High	5825	17.5500	16.4000	0.5

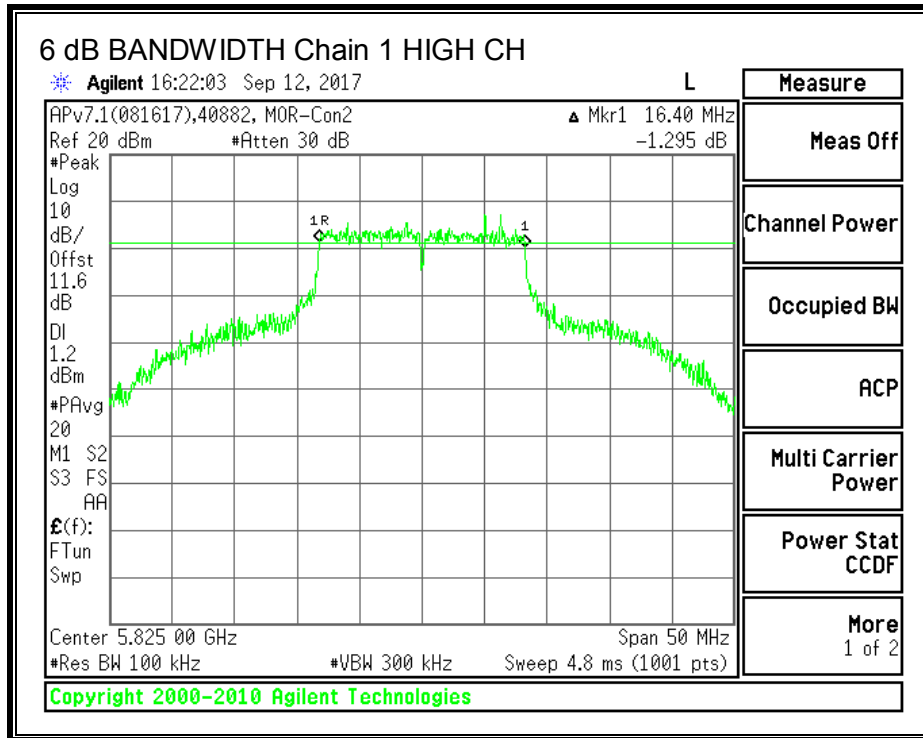
6 dB BANDWIDTH, Chain 0





6 dB BANDWIDTH, Chain 1





Test Information

Date: 2017-09-12
Project: 11893030
Tester: Jeffrey Cabrera

8.6.2. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

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

This EUT mode is 802.11a. No beamforming but cyclic delay diversity operation is assumed for this mode. However, acc. to KDB 662911, with Nant <= 4 the array gain is zero. Total directional gain is equal to single antenna gain. The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

Output Power

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Directional Gain (dBi)
3.05	3.05	3.05

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	3.05	30.00
Mid	5785	3.05	30.00
High	5825	3.05	30.00

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	16.15	16.23	19.20	30.00	-10.80
Mid	5785	16.19	16.25	19.23	30.00	-10.77
High	5825	16.46	16.51	19.50	30.00	-10.50

Test Information

Date: 2017-09-12
Project: 11893030
Tester: Jeffrey Cabrera

8.6.3. Maximum Power Spectral Density (PSD)

LIMITS

FCC §15.407 (a) (3)

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

The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

Antenna Gain (dBi)	10 * Log (2 chains) (dB)	Correlated Chains Directional Gain (dBi)
3.05	3.01	6.06

RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	6.06	29.94
Mid	5785	6.06	29.94
High	5825	6.06	29.94

Duty Cycle CF (dB)	0.25	Included in Calculations of Corr'd PSD
--------------------	------	--

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	3.32	3.89	6.87	29.94	-23.07
Mid	5785	3.59	4.38	7.26	29.94	-22.68
High	5825	4.22	4.51	7.62	29.94	-22.32

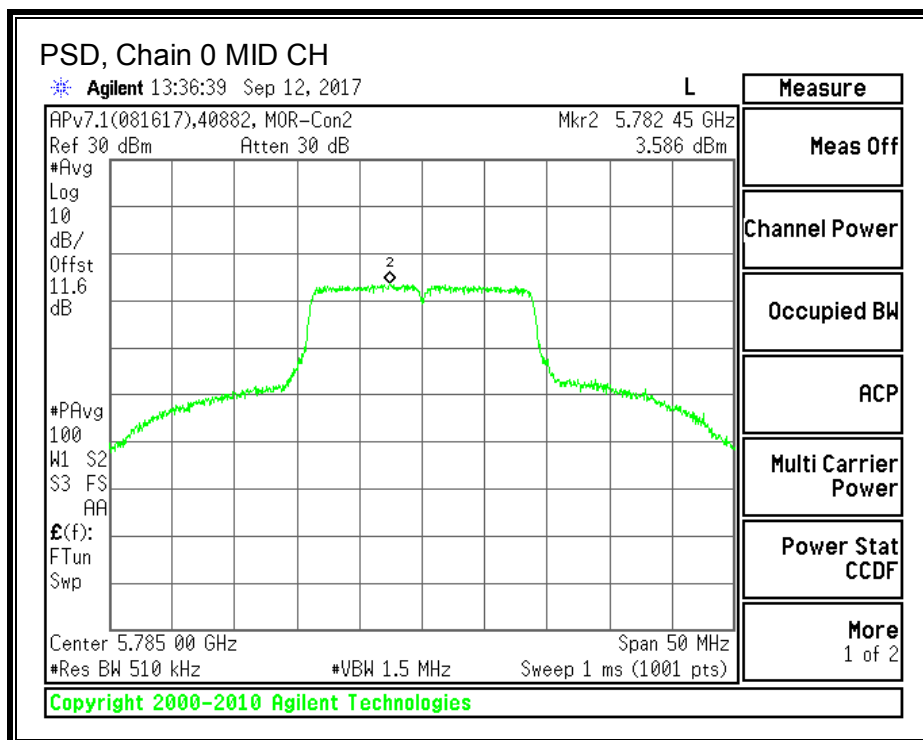
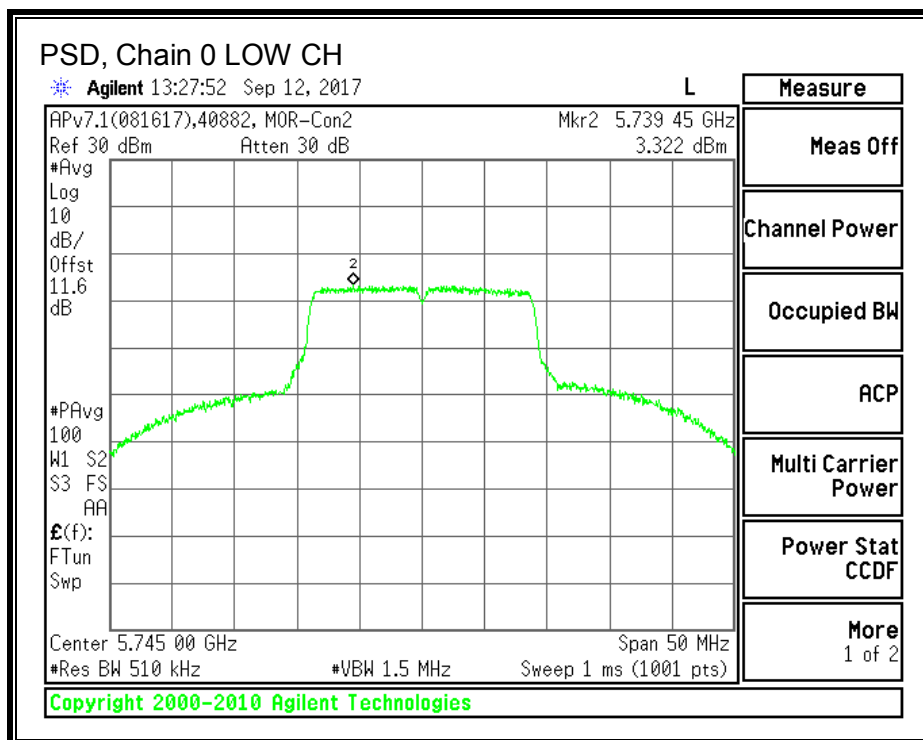
Test Information

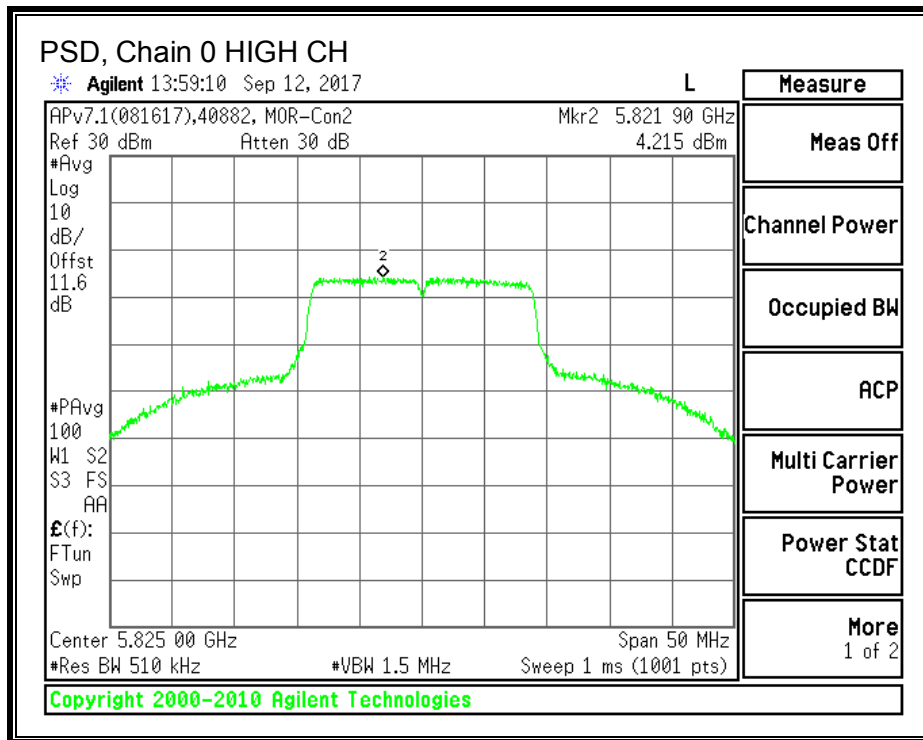
Date: 2017-09-12

Project: 11893030

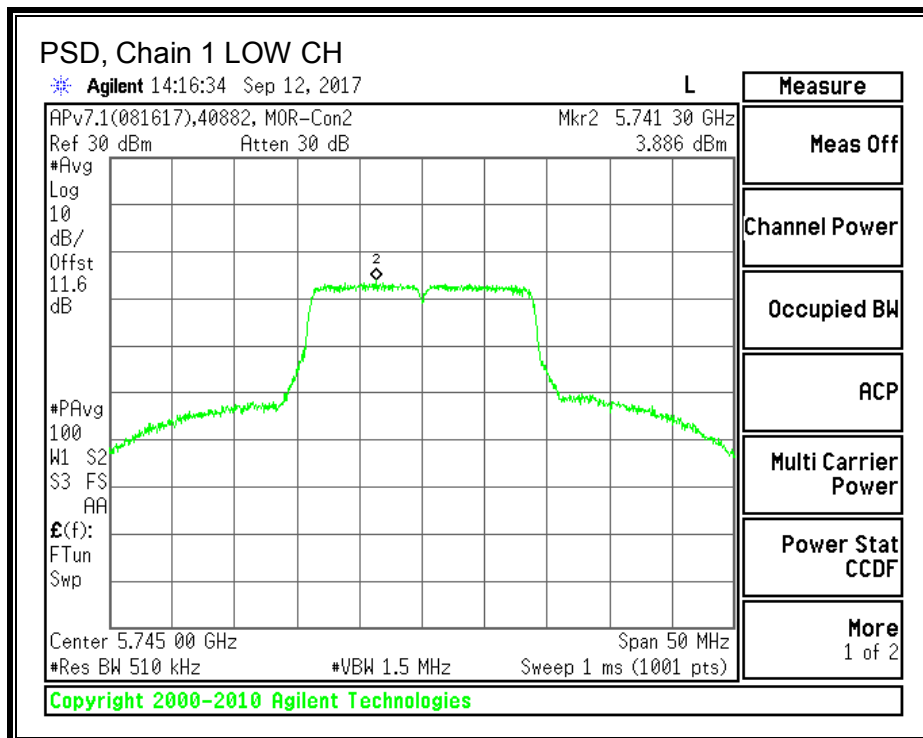
Tester: Jeffrey Cabrera

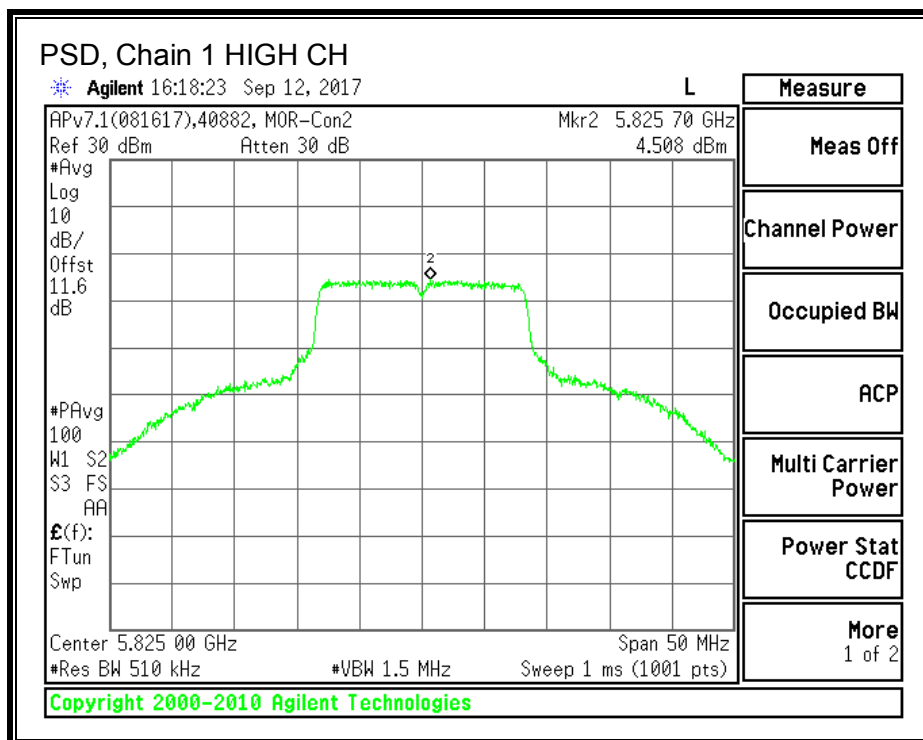
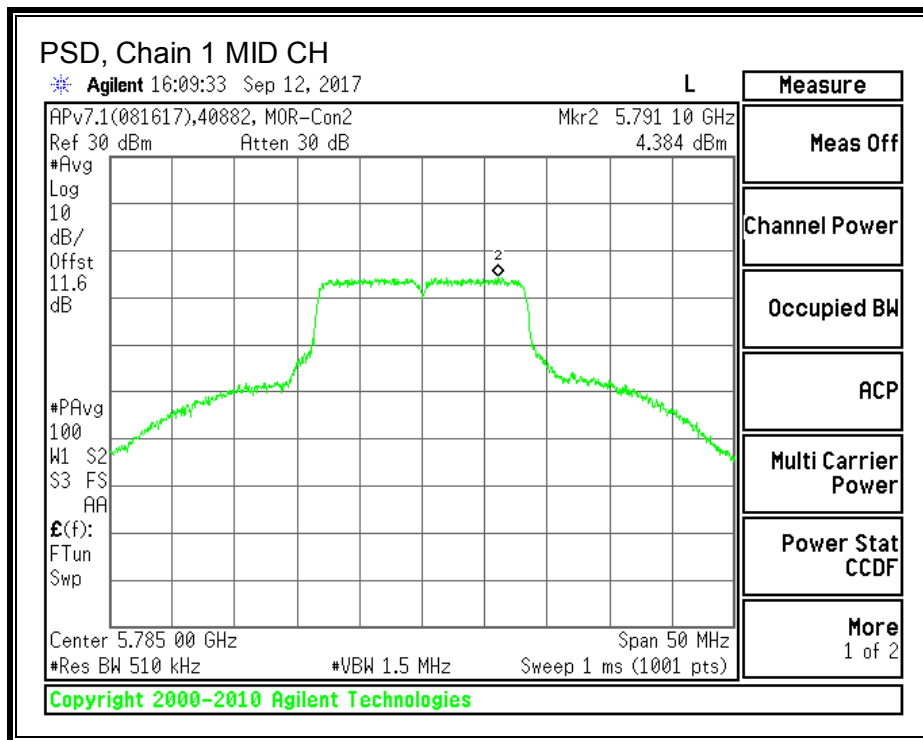
PSD, Chain 0





PSD, Chain 1





8.7. 802.11n HT20 MODE IN THE 5.8 GHz BAND

8.7.1. 6 dB BANDWIDTH

LIMITS

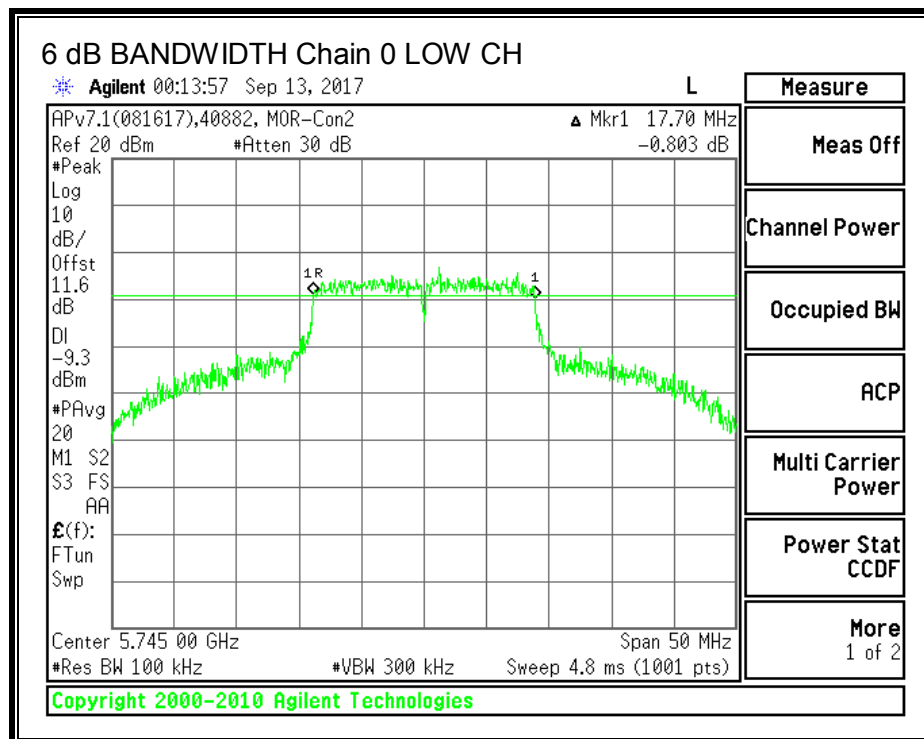
FCC §15.407 (e)

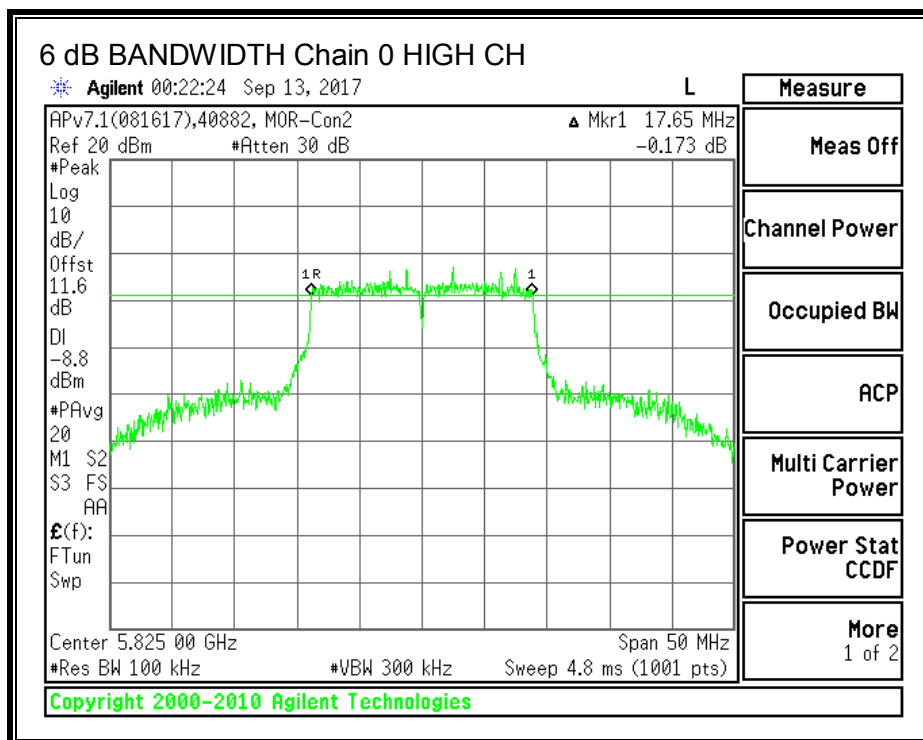
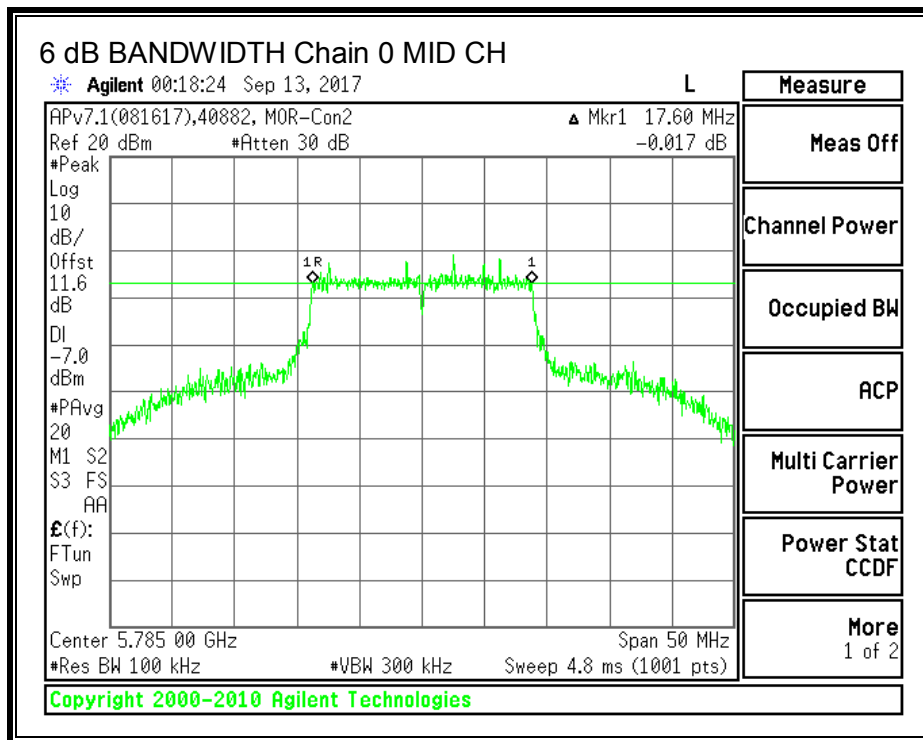
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

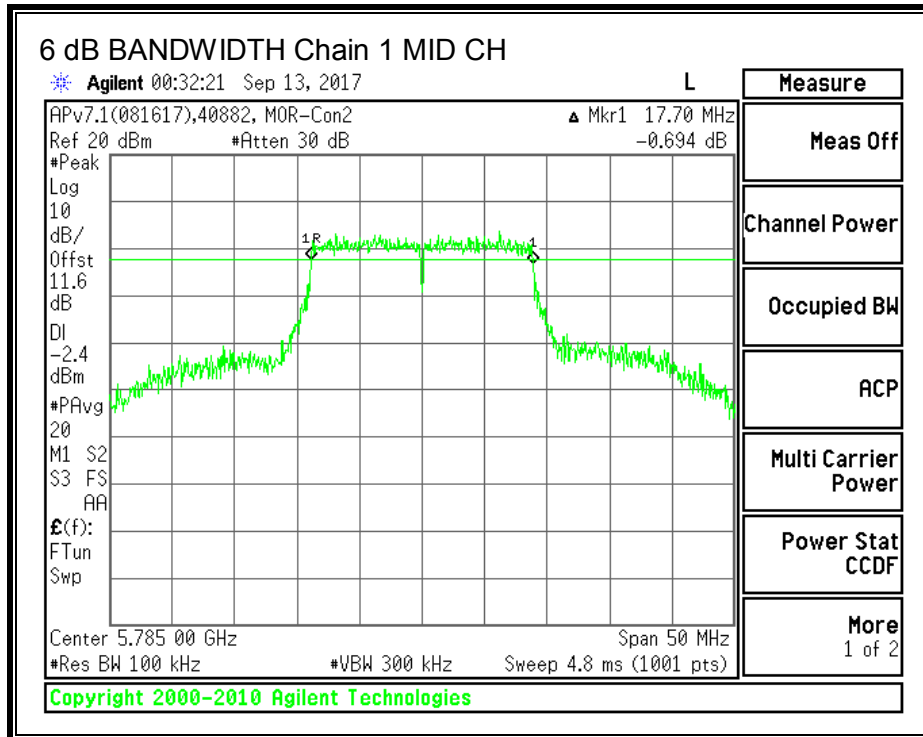
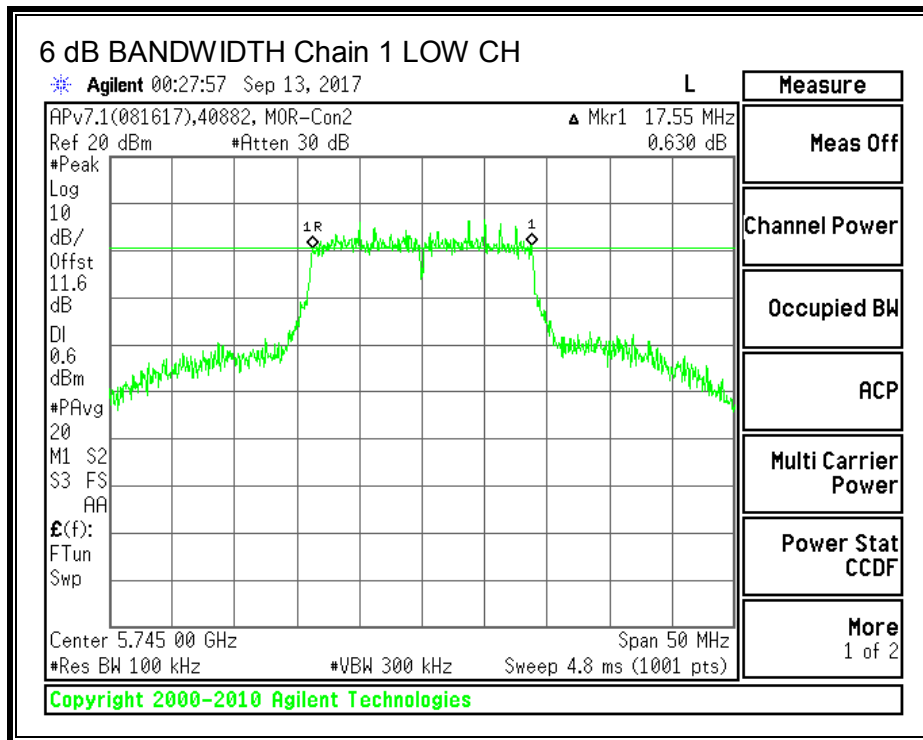
Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	17.7000	17.5500	0.5
Mid	5785	17.6000	17.7000	0.5
High	5825	17.6500	17.5500	0.5

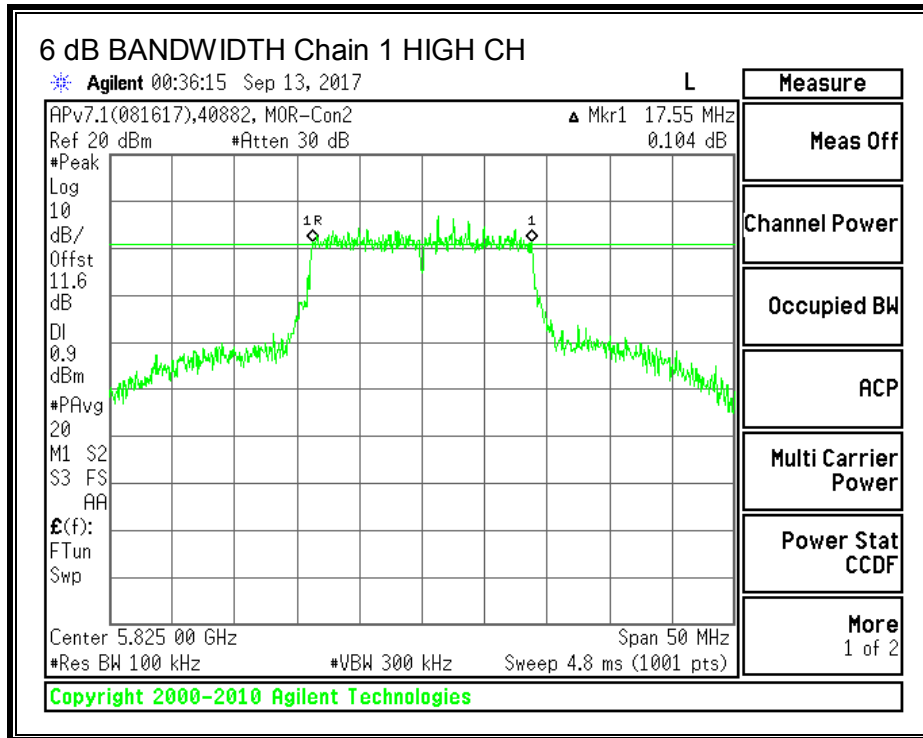
6 dB BANDWIDTH, Chain 0





6 dB BANDWIDTH, Chain 1





Test Information

Date: 2017-09-13
Project: 11893030
Tester: Jeffrey Cabrera

8.7.2. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

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

This EUT mode is 802.11nHT20. According to KDB 662911, with Nant <= 4 the array gain is zero. Total directional gain is equal to single antenna gain. The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Directional Gain (dBi)
3.05	3.05	3.05

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	3.05	30.00
Mid	5785	3.05	30.00
High	5825	3.05	30.00

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	17.67	17.71	20.70	30.00	-9.30
Mid	5785	17.94	17.31	20.65	30.00	-9.35
High	5825	18.44	17.62	21.06	30.00	-8.94

Test Information

Date: 2017-09-12

Project: 11893030

Tester: Jeffrey Cabrera

8.7.3. Maximum Power Spectral Density (PSD)

LIMITS

FCC §15.407 (a) (3)

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

The TX chains are correlated and the antenna gain is the same for each chain. The directional gain is:

Antenna Gain (dBi)	10 * Log (2 chains) (dB)	Correlated Chains Directional Gain (dBi)
3.05	3.01	6.06

RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	6.06	29.94
Mid	5785	6.06	29.94
High	5825	6.06	29.94

Duty Cycle CF (dB)	0.47	Included in Calculations of Corr'd PSD
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PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	3.22	3.76	6.98	29.94	-22.96
Mid	5785	3.62	3.54	7.06	29.94	-22.88
High	5825	3.72	3.68	7.18	29.94	-22.76

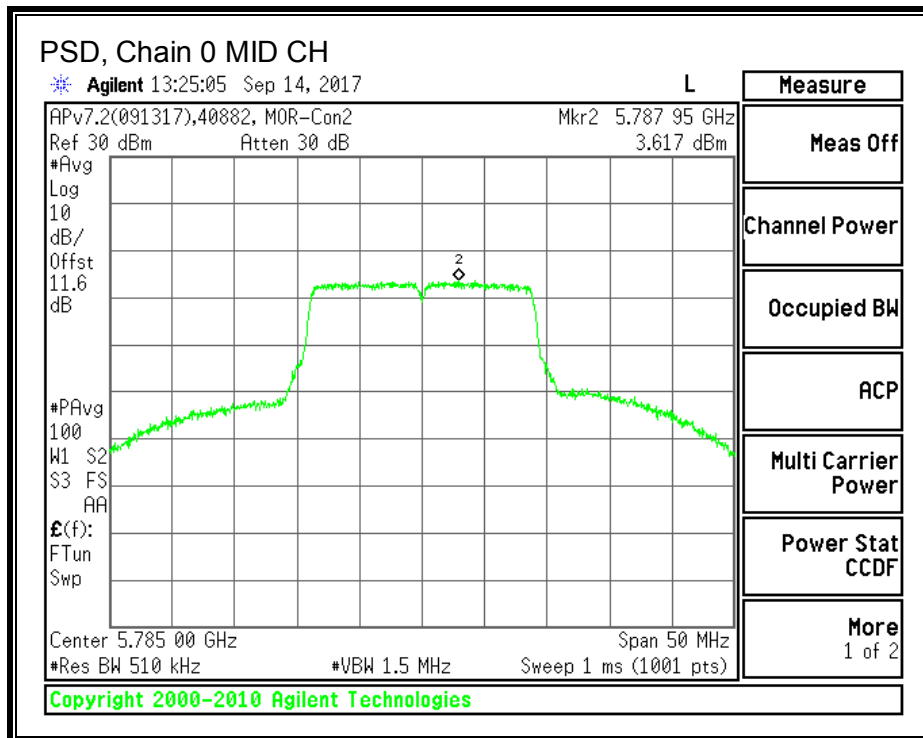
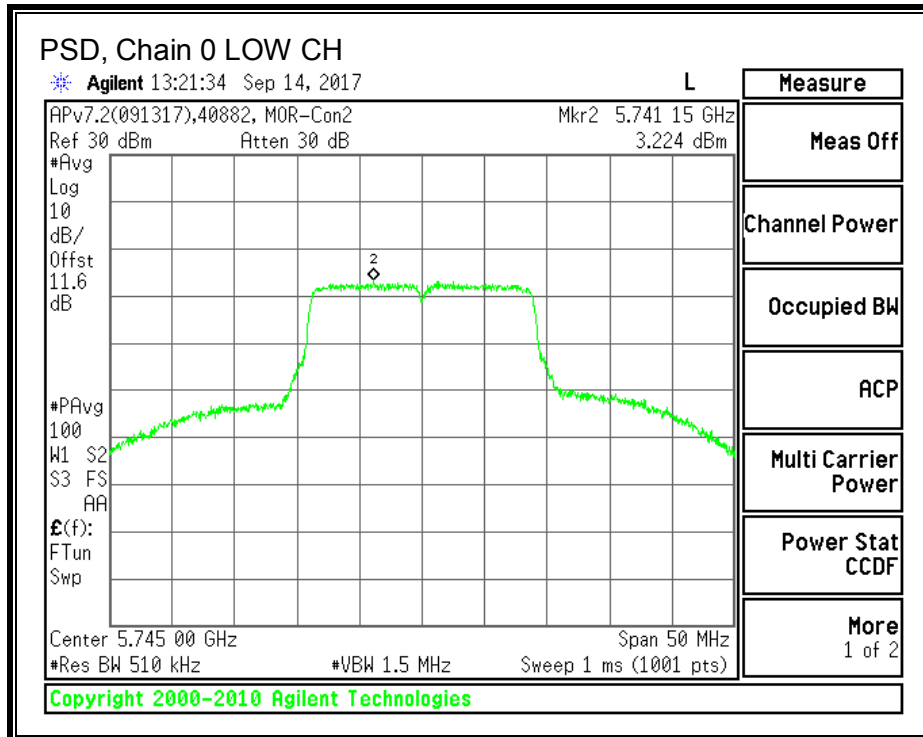
Test Information

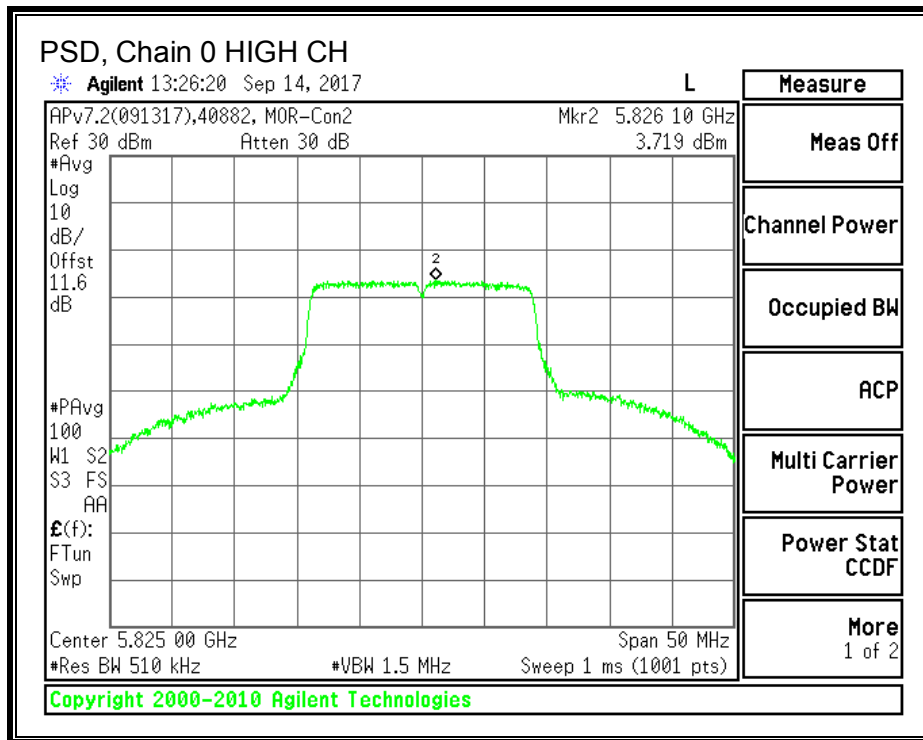
Date: 2017-09-12

Project: 11893030

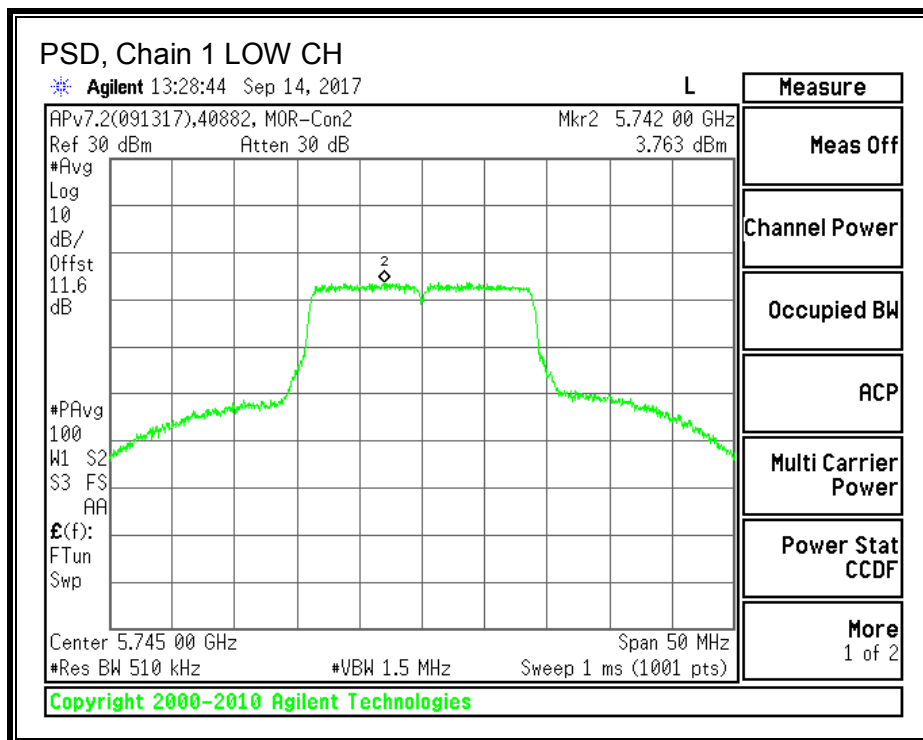
Tester: Jeffrey Cabrera

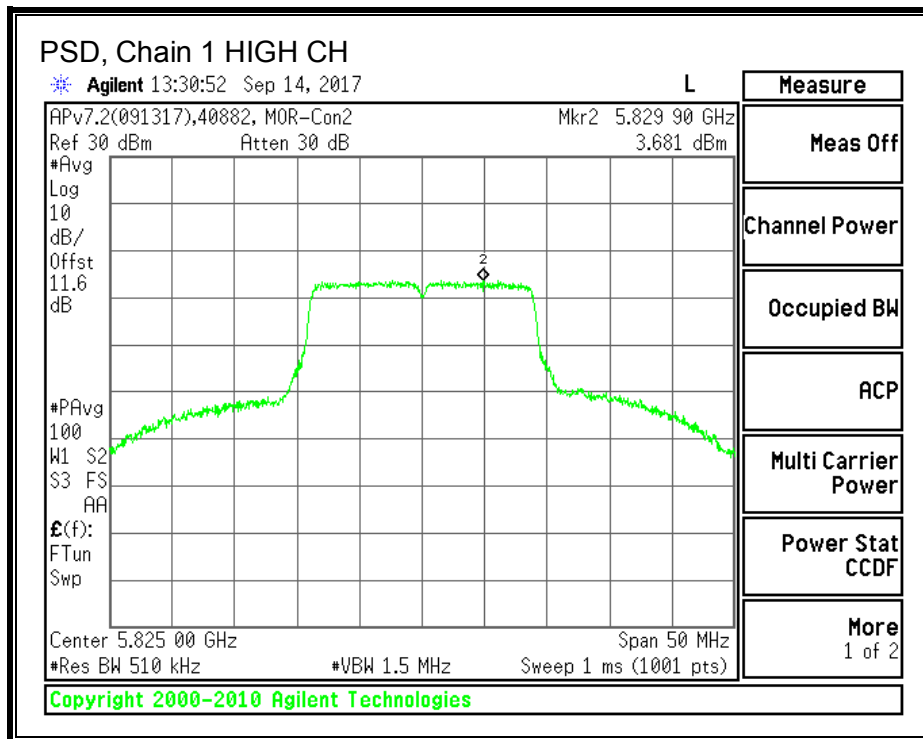
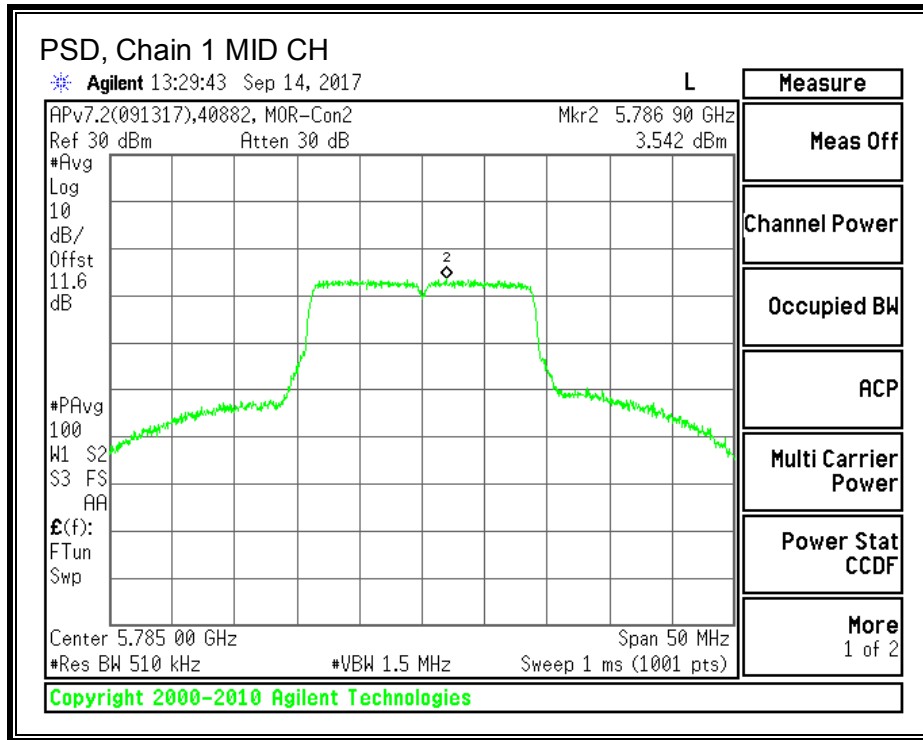
PSD, Chain 0





PSD, Chain 1





8.8. 802.11n HT40 MODE IN THE 5.8 GHz BAND

8.8.1. 6 dB BANDWIDTH

LIMITS

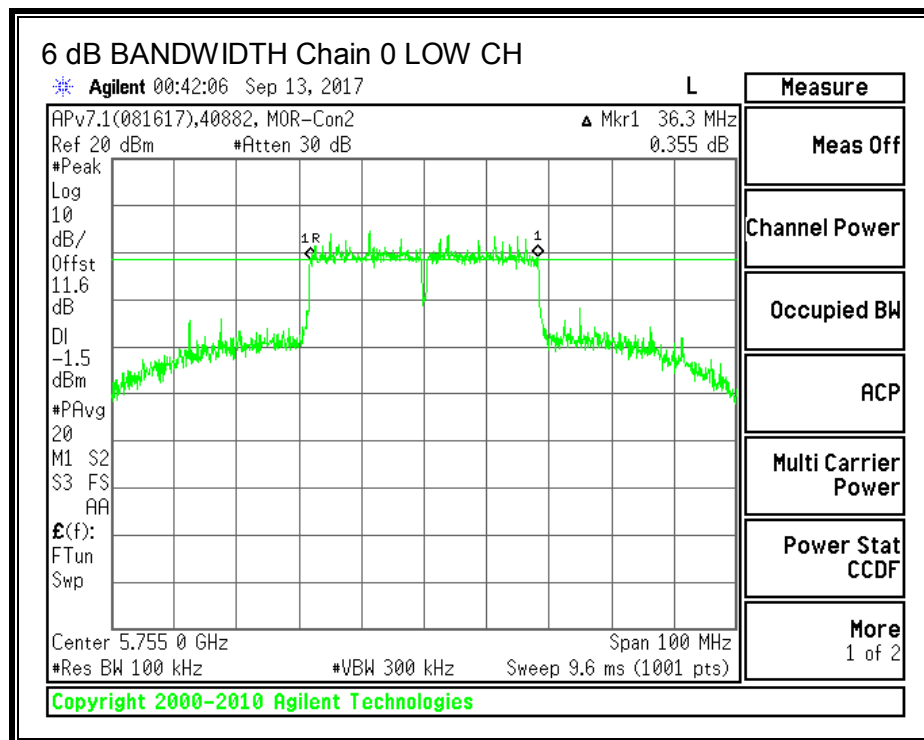
FCC §15.407 (e)

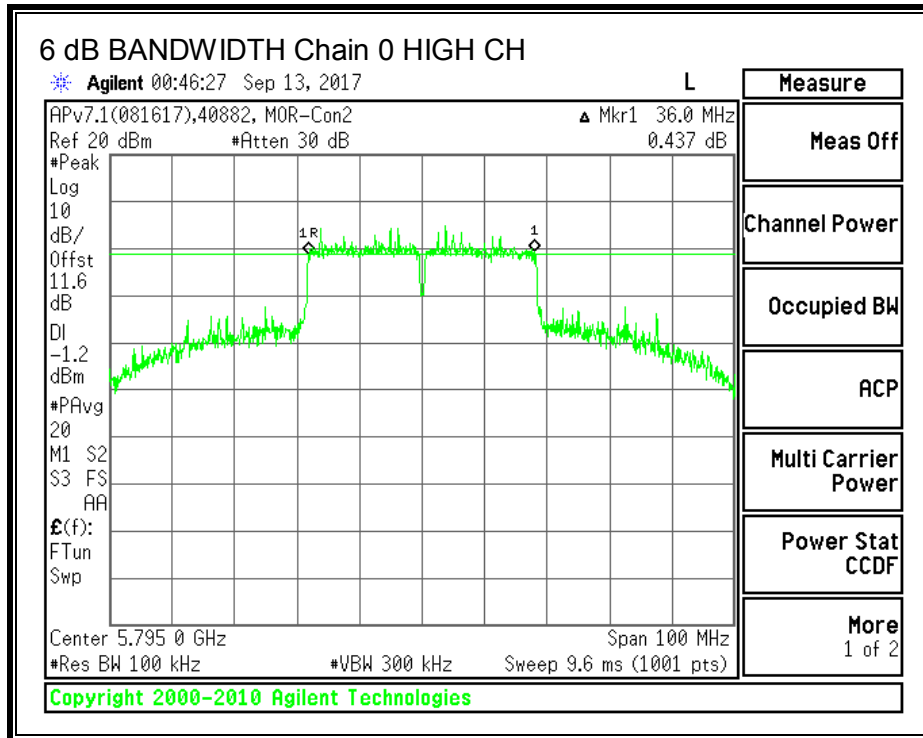
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

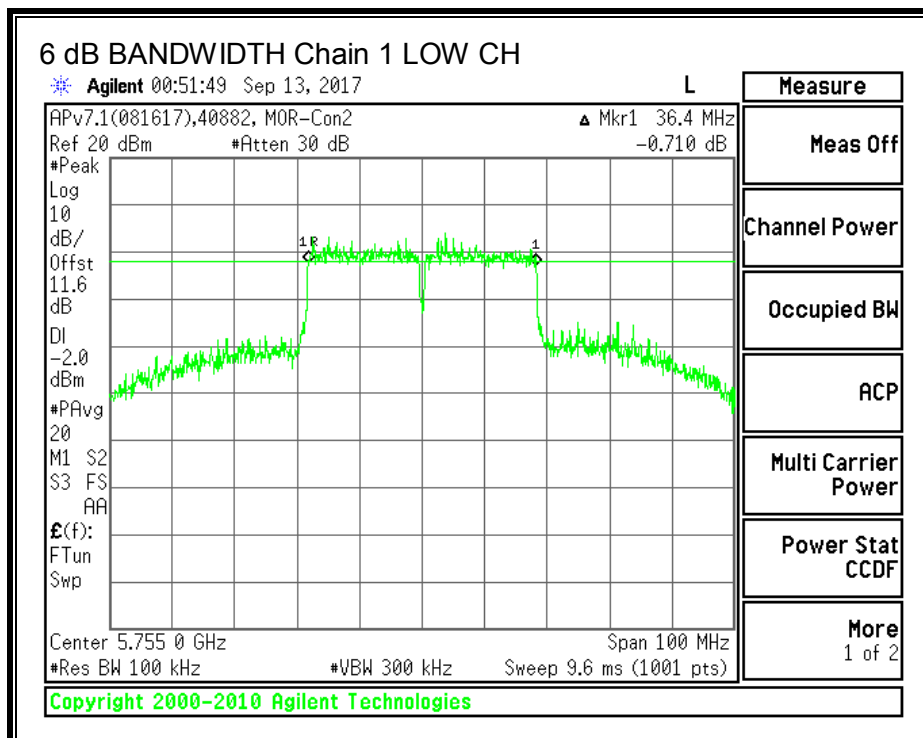
Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5755	36.3000	36.4000	0.5
High	5795	36.0000	36.4000	0.5

6 dB BANDWIDTH, Chain 0





6 dB BANDWIDTH, Chain 1



8.8.2. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

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

This EUT mode is 802.11nHT40. According to KDB 662911, with Nant <= 4 the array gain is zero. Total directional gain is equal to single antenna gain. The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Directional Gain (dBi)
3.05	3.05	3.05

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5755	3.05	30.00
High	5795	3.05	30.00

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	17.88	18.31	21.11	30.00	-8.89
High	5795	17.87	17.88	20.89	30.00	-9.11

Test Information

Date: 2017-09-12

Project: 11893030

Tester: Jeffrey Cabrera

8.8.3. Maximum Power Spectral Density (PSD)

LIMITS

FCC §15.407 (a) (3)

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

The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

Antenna Gain (dBi)	10 * Log (2 chains) (dB)	Correlated Chains Directional Gain (dBi)
3.05	3.01	6.06

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5755	6.06	29.94
High	5795	6.06	29.94

Duty Cycle CF (dB)	0.79	Included in Calculations of Corr'd PSD
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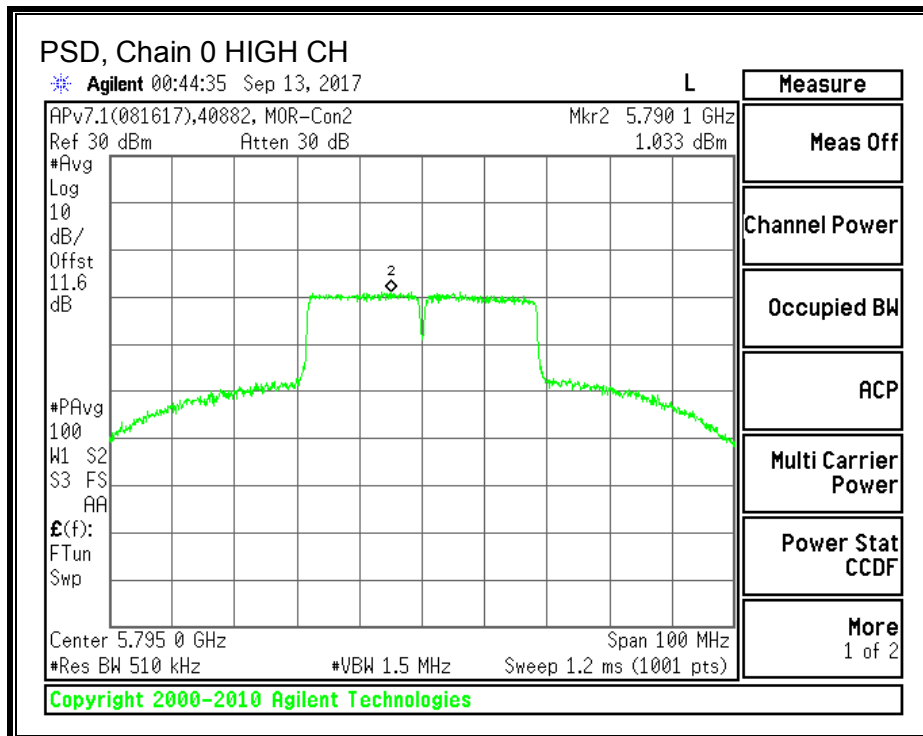
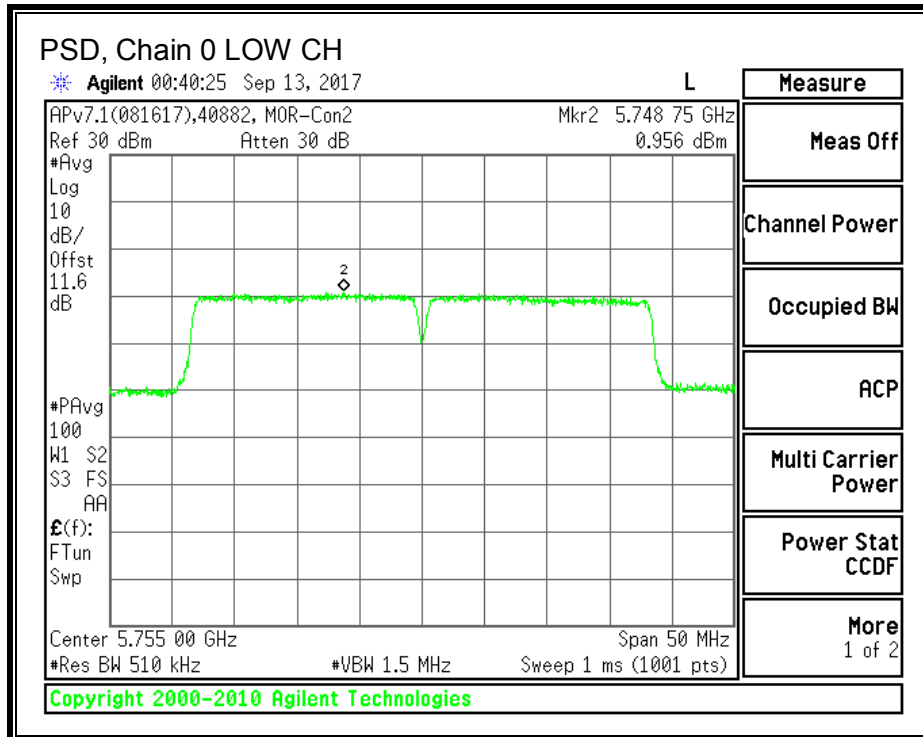
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	0.96	0.56	4.56	29.94	-25.38
High	5795	1.03	0.40	4.53	29.94	-25.41

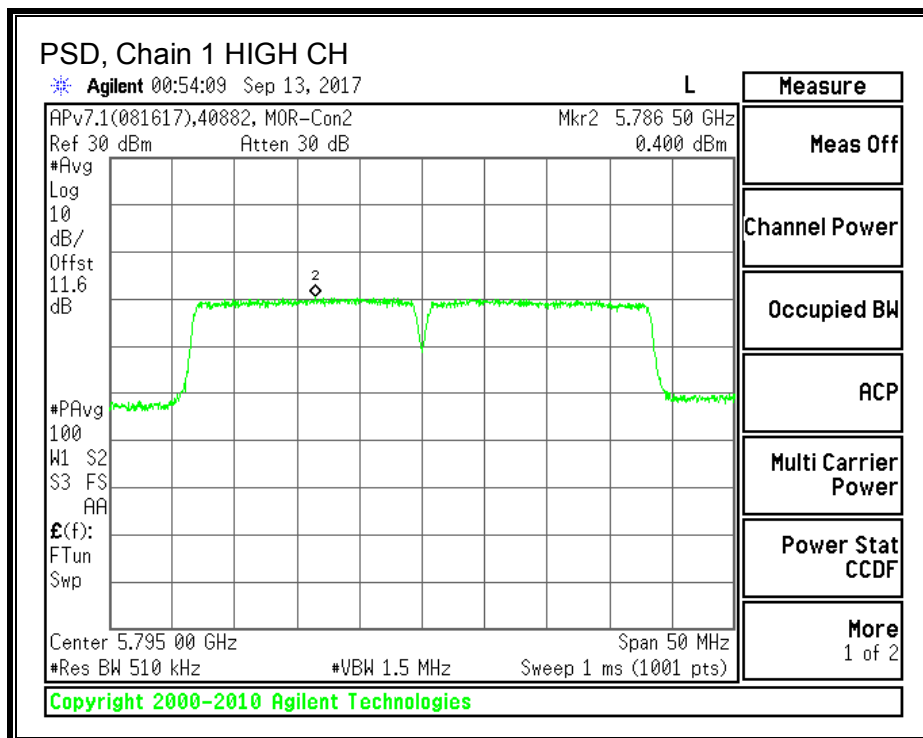
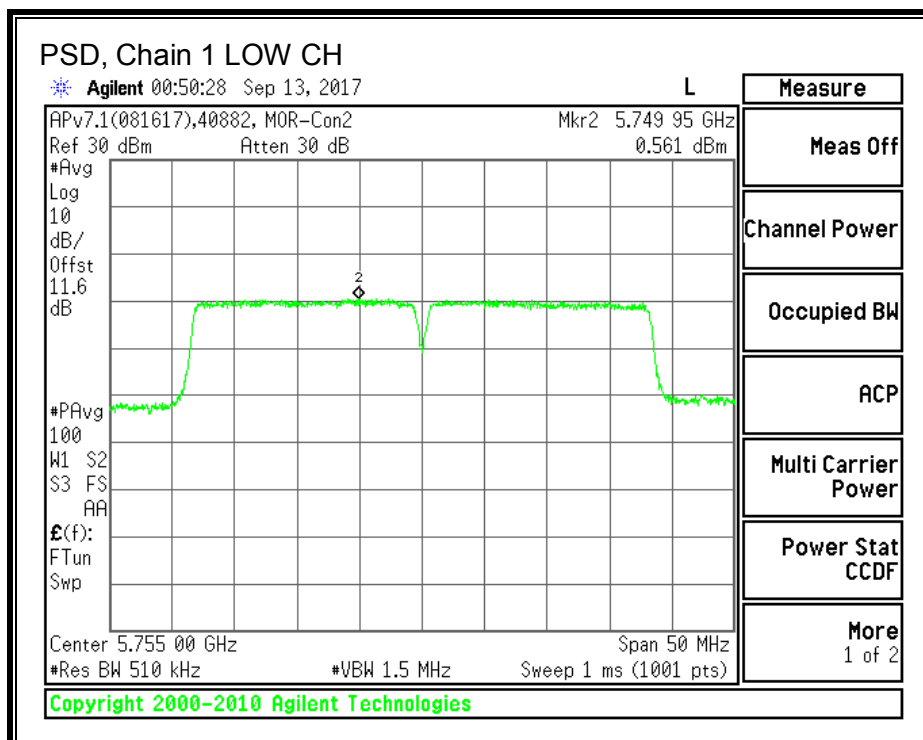
Test Information

Date: 2017-09-12
 Project: 11893030
 Tester: Jeffrey Cabrera

PSD, Chain 0



PSD, Chain 1



8.9. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

8.9.1. 6 dB BANDWIDTH

LIMITS

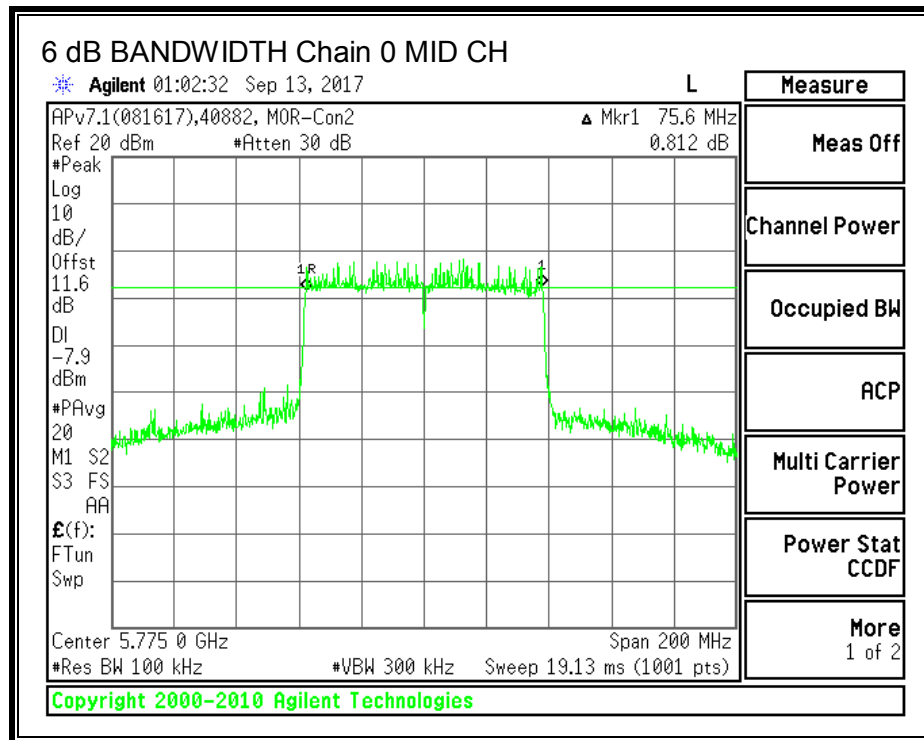
FCC §15.407 (e)

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

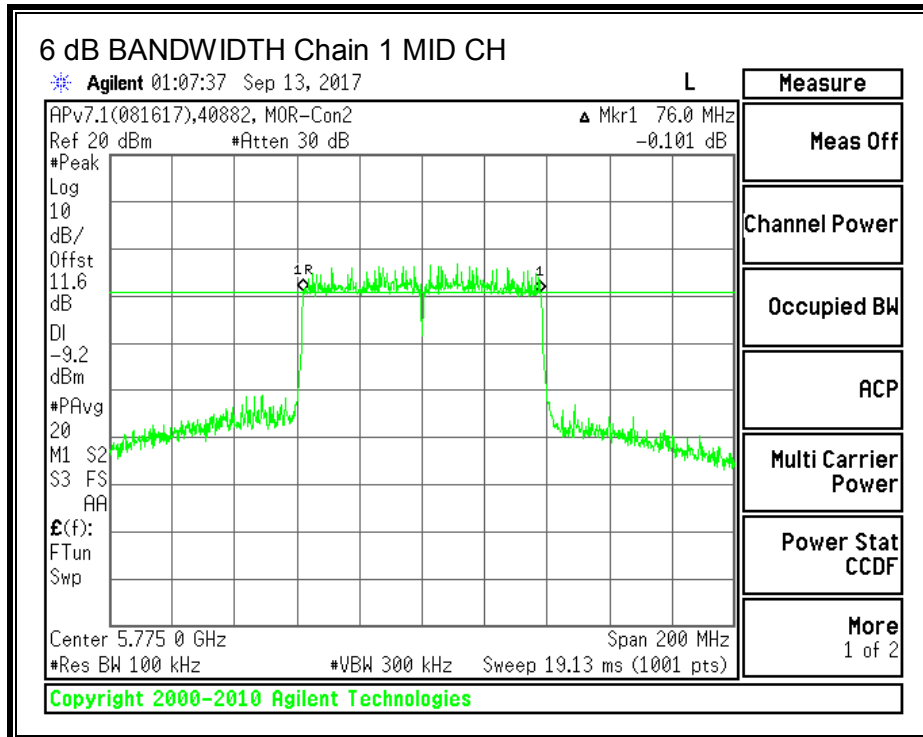
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Mid	5775	75.6000	76.0000	0.5

6 dB BANDWIDTH, Chain 0



6 dB BANDWIDTH, Chain 1



Test Information
Date: 2017-09-13
Project: 11893030
Tester: Jeffrey Cabrera

8.9.2. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

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

This EUT mode is 802.11acHT80. According to KDB 662911, with Nant <= 4 the array gain is zero. Total directional gain is equal to single antenna gain. The TX chains are correlated and the antenna gain is equal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Directional Gain (dBi)
3.05	3.05	3.05

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Mid	5775	3.05	30.00

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	14.44	14.42	17.44	30.00	-12.56

Test Information

Date: 2017-09-12

Project: 11893030

Tester: Jeffrey Cabrera

8.9.3. Maximum Power Spectral Density (PSD)

LIMITS

FCC §15.407 (a) (3)

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

The TX chains are correlated and the antenna gain is equal among the chains.. The directional gain is:

Antenna Gain (dBi)	10 * Log (2 chains) (dB)	Correlated Chains Directional Gain (dBi)
3.05	3.01	6.06

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Mid	5755	6.06	29.94

Duty Cycle CF (dB)	0.26	Included in Calculations of Corr'd PSD
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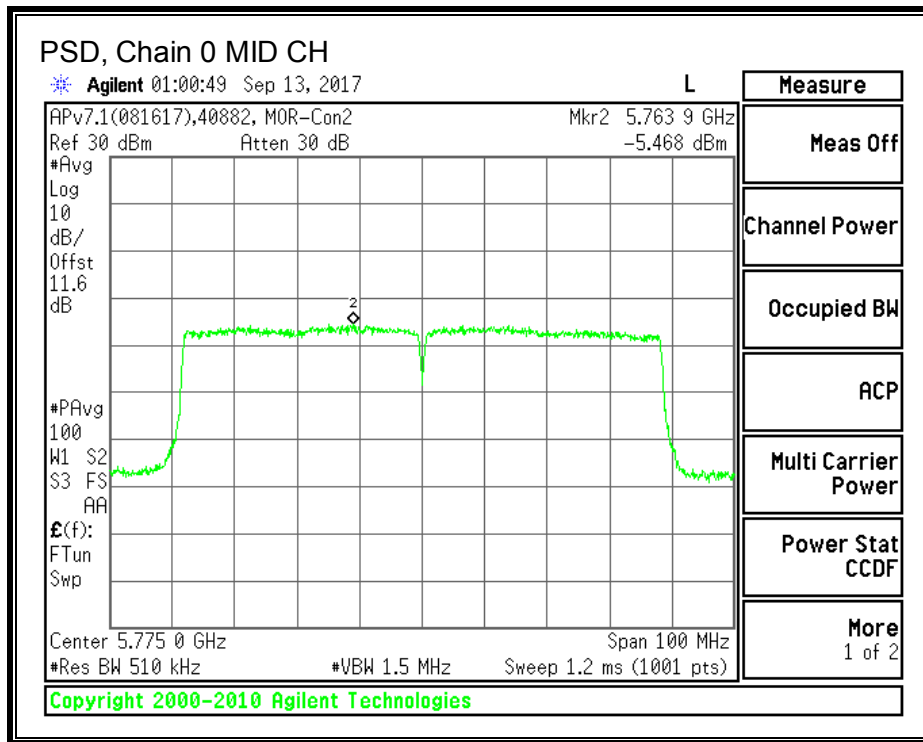
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5755	-5.47	-6.86	-2.84	29.94	-32.78

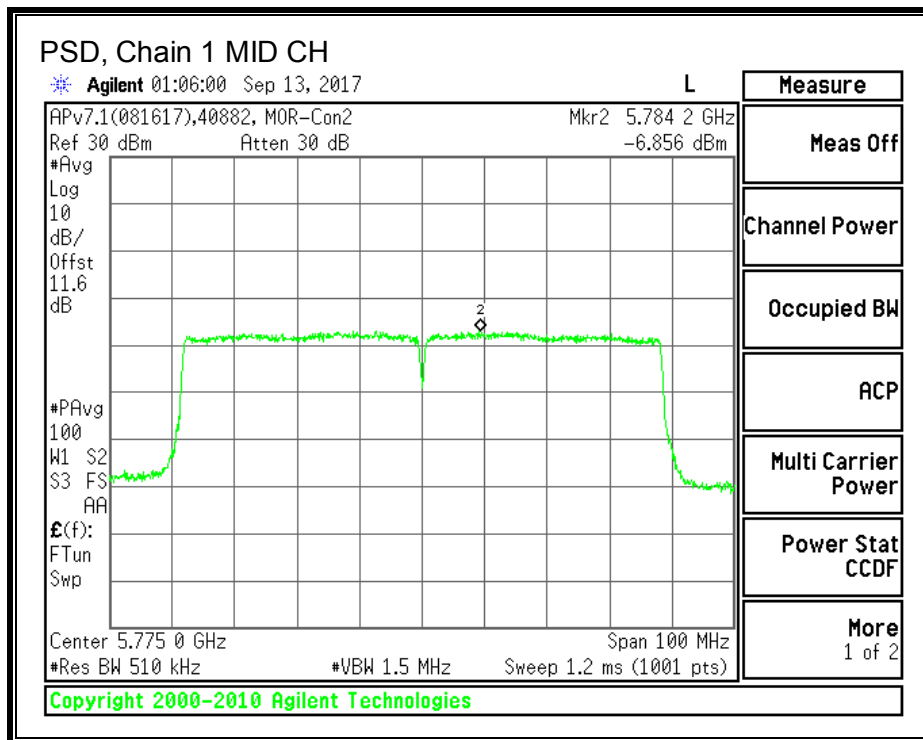
Test Information

Date: 2017-09-12
 Project: 11893030
 Tester: Jeffrey Cabrera

PSD, Chain 0



PSD, Chain 1



9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

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

TEST PROCEDURE

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

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

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

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

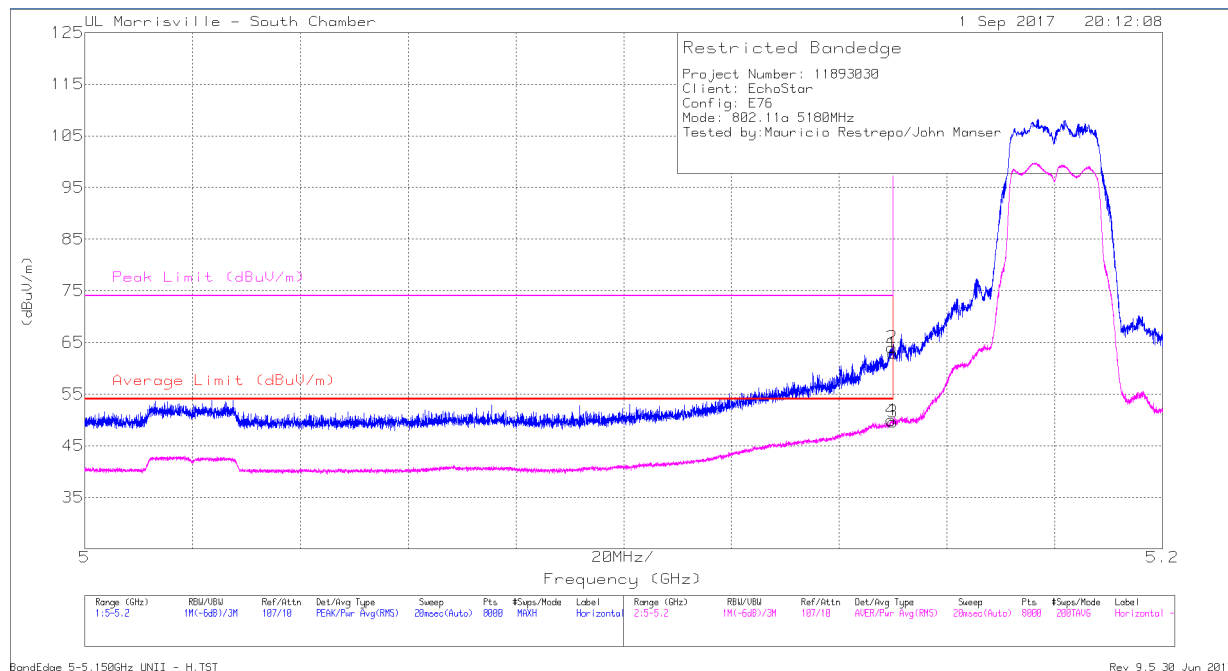
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

9.2. TRANSMITTER ABOVE 1 GHz

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

RESTRICTED BANDEDGE

LOW CHANNEL HORIZONTAL



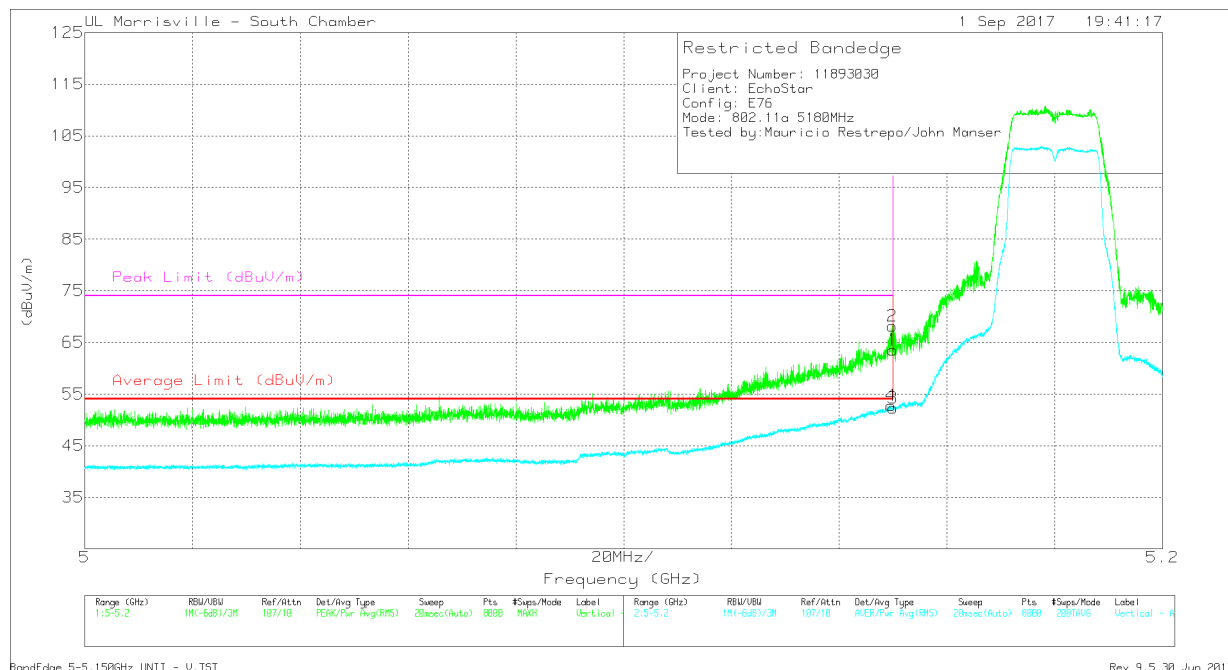
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	51.31	Pk	34.1	-22.5	0	62.91	-	-	74	-11.09	305	305	H
2	* 5.15	52.44	Pk	34.1	-22.5	0	64.04	-	-	74	-9.96	305	305	H
3	* 5.15	37.76	RMS	34.1	-22.5	0.25	49.61	54	-4.39	-	-	305	305	H
4	* 5.15	38.07	RMS	34.1	-22.5	0.25	49.92	54	-4.08	-	-	305	305	H

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

Pk - Peak detector

RMS - RMS detection

LOW CHANNEL VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	51.95	Pk	34.1	-22.5	0	63.55	-	-	74	-10.45	114	182	V
2	* 5.15	56.57	Pk	34.1	-22.5	0	68.17	-	-	74	-5.83	114	182	V
3	* 5.15	40.4	RMS	34.1	-22.5	0.25	52.25	54	-1.75	-	-	114	182	V
4	* 5.15	40.89	RMS	34.1	-22.5	0.25	52.74	54	-1.26	-	-	114	182	V

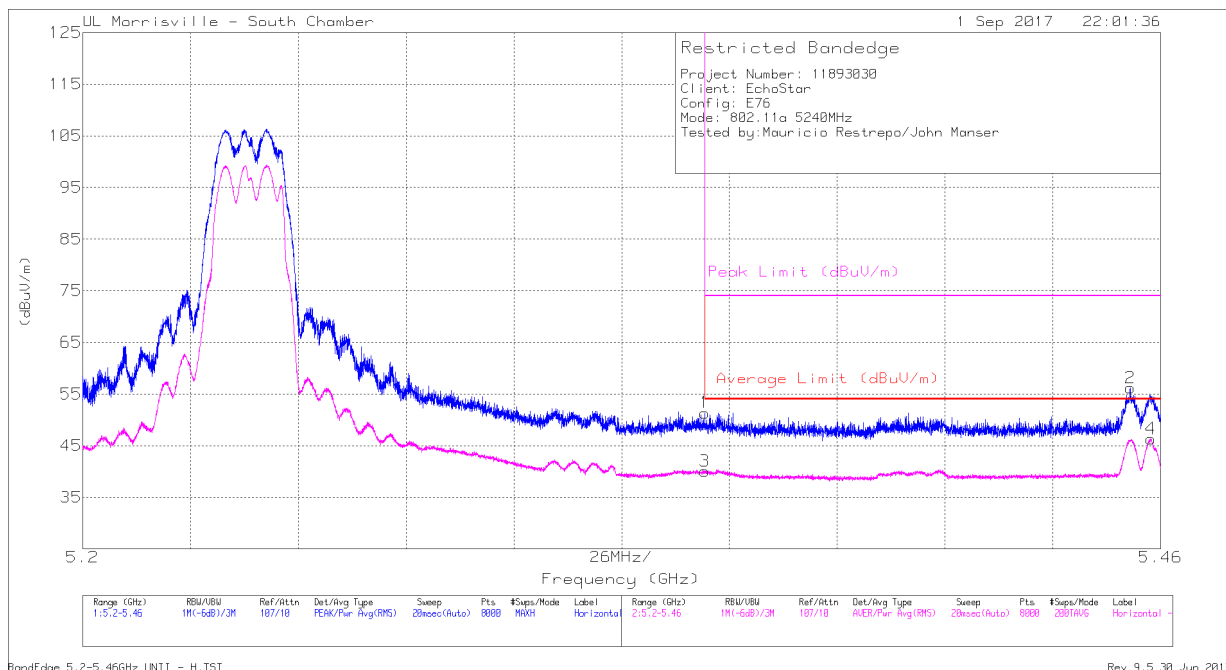
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE

HIGH CHANNEL HORIZONTAL



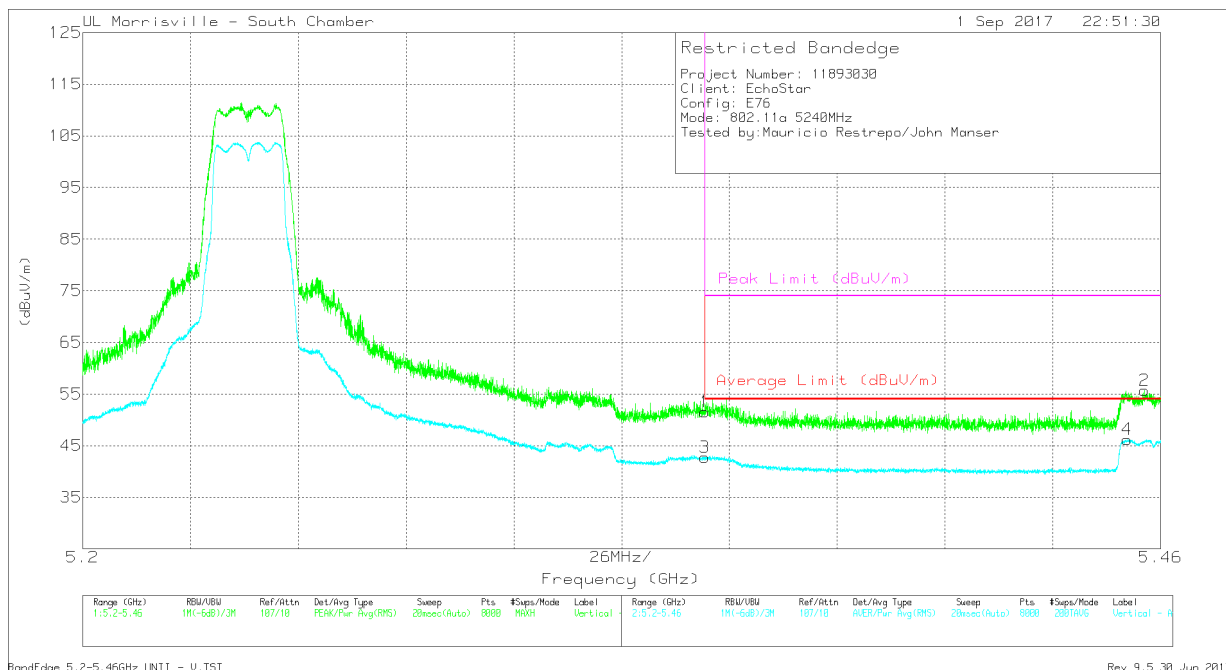
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	39.96	Pk	34.4	-23	0	51.36	-	-	74	-22.64	118	274	H
2	* 5.453	45.09	Pk	34.5	-23.4	0	56.19	-	-	74	-17.81	118	274	H
3	* 5.35	28.42	RMS	34.4	-23	0.25	40.07	54	-13.93	-	-	118	274	H
4	* 5.458	34.98	RMS	34.5	-23.4	0.25	46.33	54	-7.67	-	-	118	274	H

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

Pk - Peak detector

RMS - RMS detection

HIGH CHANNEL VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	40.12	Pk	34.4	-23	0	51.52	-	-	74	-22.48	118	218	V
2	* 5.456	44.6	Pk	34.5	-23.4	0	55.7	-	-	74	-18.3	118	218	V
3	* 5.35	31.1	RMS	34.4	-23	0.25	42.75	54	-11.25	-	-	118	218	V
4	* 5.452	34.85	RMS	34.5	-23.4	0.25	46.2	54	-7.8	-	-	118	218	V

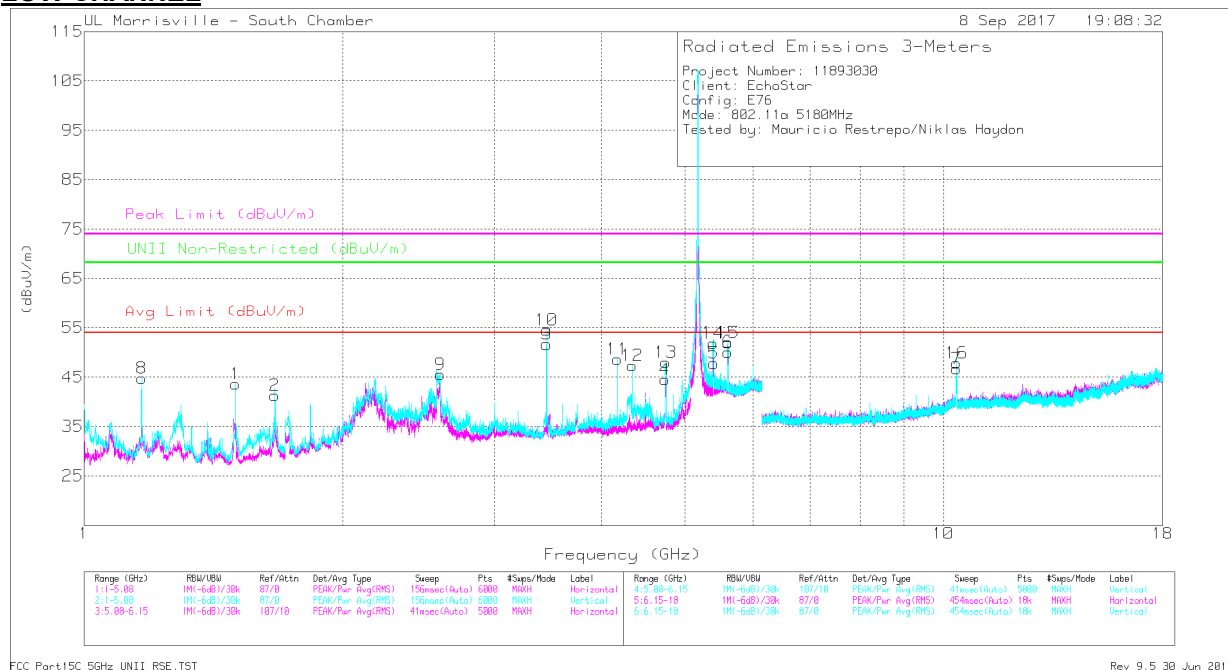
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

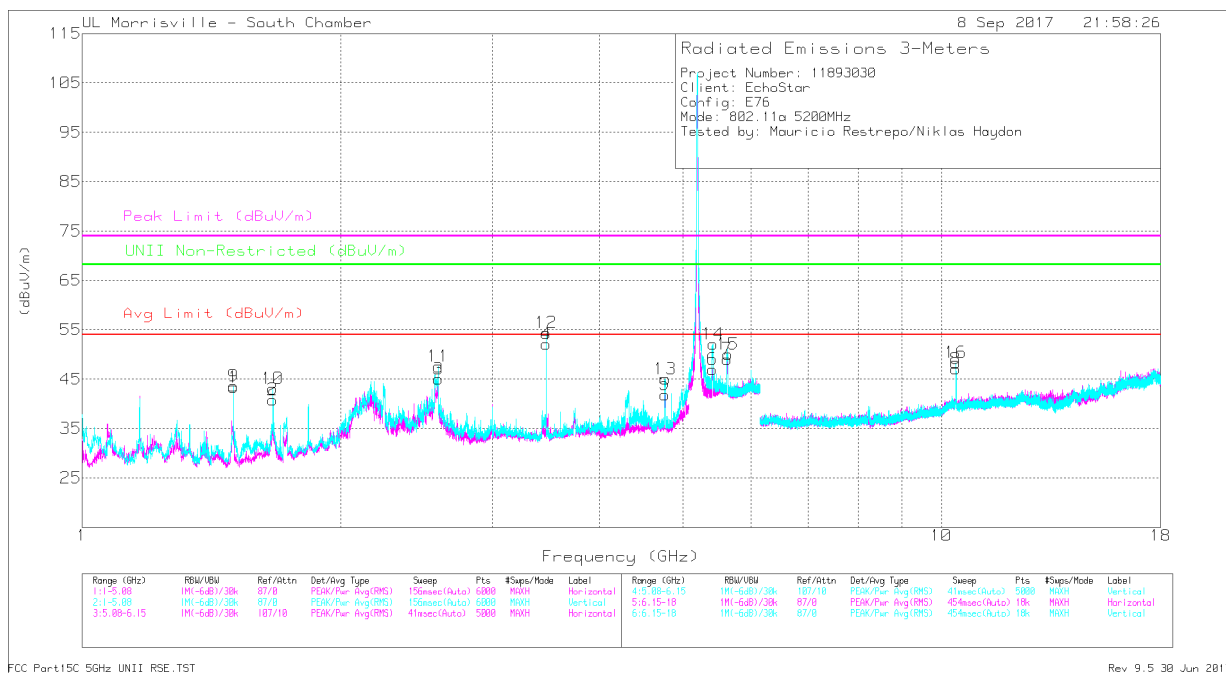
LOW CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.5	55.47	PK-U	27.9	-35	0	48.37	-	-	74	-25.63	-	-	57	338	H
	* 1.5	51.77	ADR	27.9	-35	0.25	44.92	54	-9.08	-	-	-	-	57	338	H
2	* 1.666	54.37	PK-U	28.7	-34.3	0	48.77	-	-	74	-25.23	-	-	335	103	H
	* 1.667	44.65	ADR	28.7	-34.3	0.25	39.3	54	-14.7	-	-	-	-	335	103	H
4	* 4.743	48.68	PK-U	34	-31.4	0	51.28	-	-	74	-22.72	-	-	146	109	H
	* 4.743	39.32	ADR	34	-31.4	0.25	42.17	54	-11.83	-	-	-	-	146	109	H
5	* 5.401	44.39	PK-U	34.4	-23.2	0	55.59	-	-	74	-18.41	-	-	282	336	H
	* 5.401	34.52	ADR	34.4	-23.2	0.25	45.97	54	-8.03	-	-	-	-	283	336	H
8	* 1.167	54.25	PK-U	27.9	-35.3	0	46.85	-	-	74	-27.15	-	-	320	128	V
	* 1.167	47.24	ADR	27.9	-35.3	0.25	40.09	54	-13.91	-	-	-	-	320	128	V
11	* 4.174	40.78	PK-U	33.3	-31.4	0	42.68	-	-	74	-31.32	-	-	11	164	V
	* 4.174	28.68	ADR	33.3	-31.4	0.25	30.83	54	-23.17	-	-	-	-	11	164	V
12	* 4.343	43.64	PK-U	33.5	-31.4	0	45.74	-	-	74	-28.26	-	-	3	103	V
	* 4.342	30.76	ADR	33.5	-31.4	0.25	33.11	54	-20.89	-	-	-	-	3	103	V
13	* 4.754	51.91	PK-U	34	-31.3	0	54.61	-	-	74	-19.39	-	-	290	120	V
	* 4.754	43.17	ADR	34	-31.3	0.25	46.12	54	-7.88	-	-	-	-	290	120	V
14	* 5.392	48.1	PK-U	34.4	-23.2	0	59.3	-	-	74	-14.7	-	-	111	120	V
	* 5.393	38.26	ADR	34.4	-23.2	0.25	49.71	54	-4.29	-	-	-	-	111	120	V
3	3.453	54.21	PK-U	32.7	-32.9	0	54.01	-	-	-	-	68.2	-14.19	321	119	H
6	5.614	43.96	PK-U	34.6	-23.3	0	55.26	-	-	-	-	68.2	-12.94	105	305	H
7	10.359	42.61	PK-U	37.4	-24.5	0	55.51	-	-	-	-	68.2	-12.69	121	124	H
9	2.592	55.93	PK-U	32.2	-33.9	0	54.23	-	-	-	-	68.2	-13.97	86	108	V
10	3.453	56.86	PK-U	32.7	-32.9	0	56.66	-	-	-	-	68.2	-11.54	12	124	V
15	5.618	47.19	PK-U	34.6	-23.3	0	58.49	-	-	-	-	68.2	-9.71	99	111	V
16	10.363	44.39	PK-U	37.4	-24.5	0	57.29	-	-	-	-	68.2	-10.91	18	118	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

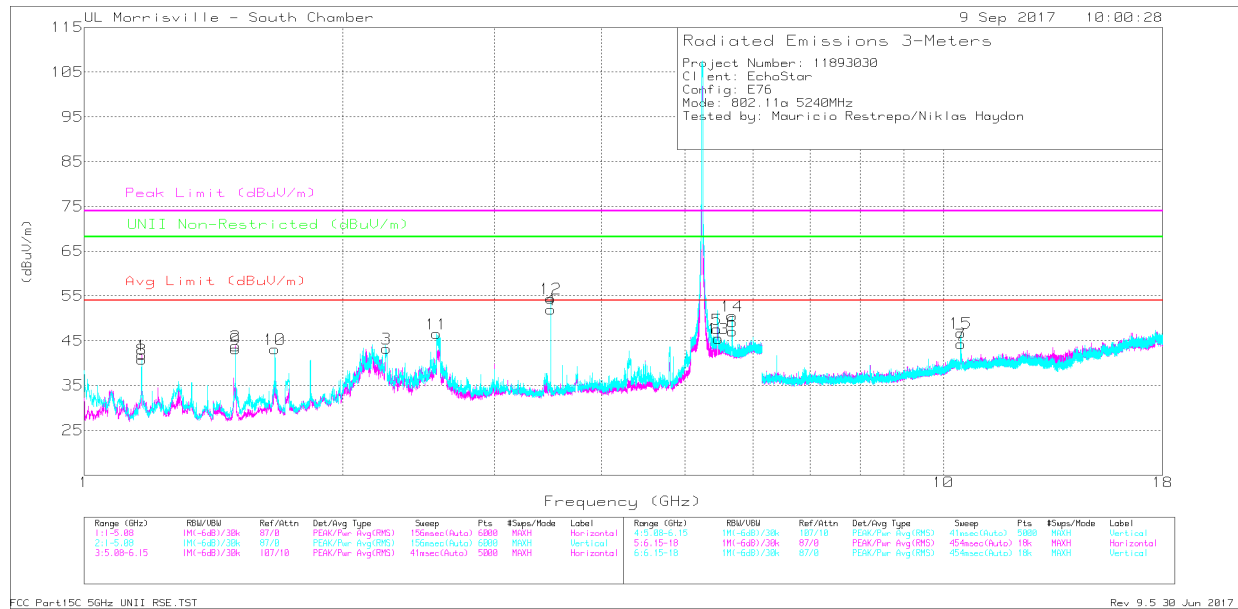
MID CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.5	55.11	PK-U	27.9	-35	0	48.01	-	-	74	-25.99	-	-	50	294	H
	* 1.5	51.32	ADR	27.9	-35	0.25	44.47	54	-9.53	-	-	-	-	50	294	H
2	* 1.666	53.54	PK-U	28.7	-34.3	0	47.94	-	-	74	-26.06	-	-	334	102	H
	* 1.667	44.56	ADR	28.7	-34.3	0.25	39.21	54	-14.79	-	-	-	-	334	102	H
5	* 4.769	45.85	PK-U	34	-31.3	0	48.55	-	-	74	-25.45	-	-	84	150	H
	* 4.77	36.17	ADR	34	-31.3	0.25	39.12	54	-14.88	-	-	-	-	84	150	H
6	* 5.418	43.89	PK-U	34.4	-23.3	0	54.99	-	-	74	-19.01	-	-	289	329	H
	* 5.417	33.91	ADR	34.4	-23.3	0.25	45.26	54	-8.74	-	-	-	-	289	329	H
9	* 1.5	57.34	PK-U	27.9	-35	0	50.24	-	-	74	-23.76	-	-	95	352	V
	* 1.5	51.44	ADR	27.9	-35	0.25	44.59	54	-9.41	-	-	-	-	95	352	V
10	* 1.667	55.08	PK-U	28.7	-34.3	0	49.48	-	-	74	-24.52	-	-	326	233	V
	* 1.667	47.76	ADR	28.7	-34.3	0.25	42.41	54	-11.59	-	-	-	-	326	233	V
13	* 4.773	49.91	PK-U	34	-31.2	0	52.71	-	-	74	-21.29	-	-	292	143	V
	* 4.772	40.54	ADR	34	-31.2	0.25	43.59	54	-10.41	-	-	-	-	292	143	V
14	* 5.423	48.19	PK-U	34.4	-23.4	0	59.19	-	-	74	-14.81	-	-	112	115	V
	* 5.423	38.79	ADR	34.4	-23.4	0.25	50.04	54	-3.96	-	-	-	-	112	115	V
3	2.595	54.63	PK-U	32.2	-33.9	0	52.93	-	-	-	-	68.2	-15.27	276	102	H
4	3.467	54.17	PK-U	32.7	-33	0	53.87	-	-	-	-	68.2	-14.33	317	199	H
7	5.634	44.14	PK-U	34.6	-23.4	0	55.34	-	-	-	-	68.2	-12.86	113	253	H
8	10.398	41.86	PK-U	37.5	-24.7	0	54.66	-	-	-	-	68.2	-13.54	337	110	H
11	2.598	55.56	PK-U	32.3	-33.9	0	53.96	-	-	-	-	68.2	-14.24	92	128	V
12	3.467	56.11	PK-U	32.7	-33	0	55.81	-	-	-	-	68.2	-12.39	13	118	V
15	5.639	46.42	PK-U	34.6	-23.4	0	57.62	-	-	-	-	68.2	-10.58	98	109	V
16	10.398	44.24	PK-U	37.5	-24.7	0	57.04	-	-	-	-	68.2	-11.16	16	105	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

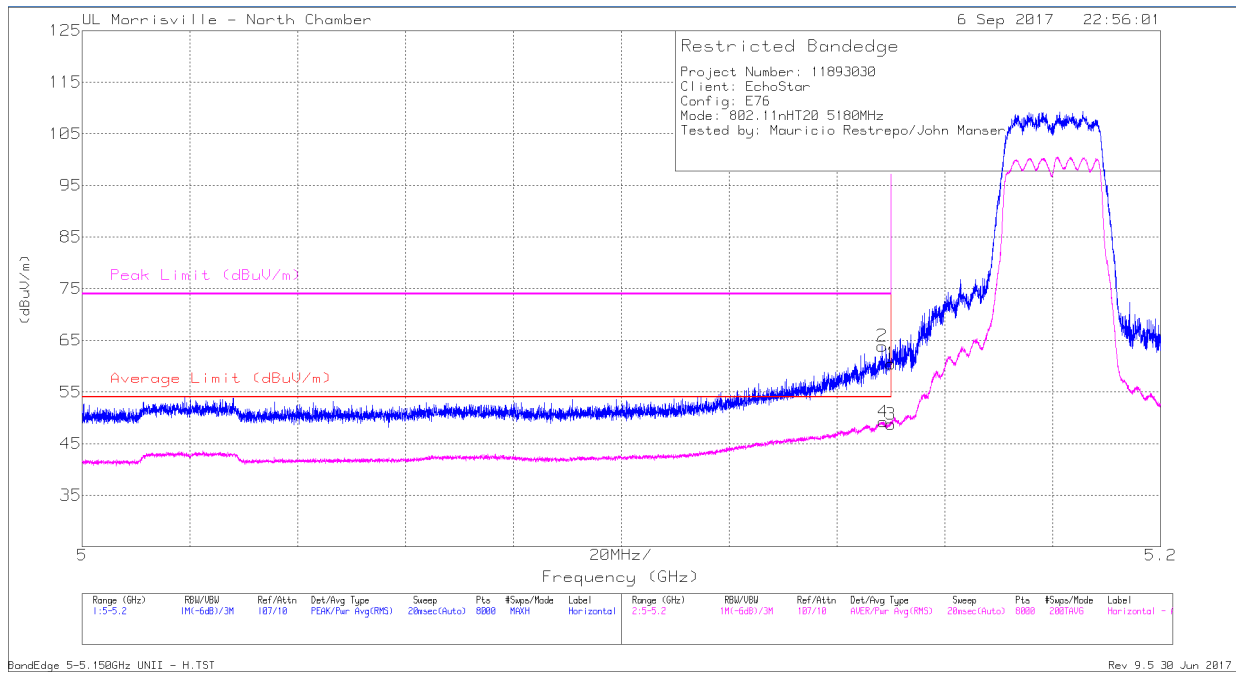
HIGH CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.167	53.8	PK-U	27.9	-35.3	0	46.4	-	-	74	-27.6	-	-	314	243	H
	* 1.167	48.69	ADR	27.9	-35.3	0.25	41.54	54	-12.46	-	-	-	-	314	243	H
2	* 1.5	55.36	PK-U	27.9	-35	0	48.26	-	-	74	-25.74	-	-	55	296	H
	* 1.5	51.72	ADR	27.9	-35	0.25	44.87	54	-9.13	-	-	-	-	55	296	H
3	* 2.25	54.64	PK-U	31.9	-33.9	0	52.64	-	-	74	-21.36	-	-	319	376	H
	* 2.248	40.22	ADR	31.9	-33.9	0.25	38.47	54	-15.53	-	-	-	-	319	376	H
5	* 5.452	44.03	PK-U	34.5	-23.4	0	55.13	-	-	74	-18.87	-	-	125	264	H
	* 5.452	33.76	ADR	34.5	-23.4	0.25	45.11	54	-8.89	-	-	-	-	125	264	H
8	* 1.167	53.38	PK-U	27.9	-35.3	0	45.98	-	-	74	-28.02	-	-	251	203	V
	* 1.167	47.3	ADR	27.9	-35.3	0.25	40.15	54	-13.85	-	-	-	-	251	203	V
9	* 1.5	57.05	PK-U	27.9	-35	0	49.95	-	-	74	-24.05	-	-	106	293	V
	* 1.5	51.08	ADR	27.9	-35	0.25	44.23	54	-9.77	-	-	-	-	106	293	V
10	* 1.667	55.67	PK-U	28.7	-34.3	0	50.07	-	-	74	-23.93	-	-	329	191	V
	* 1.667	47.58	ADR	28.7	-34.3	0.25	42.23	54	-11.77	-	-	-	-	329	191	V
11	2.572	55.89	PK-U	32.2	-33.9	0	54.19	-	-	-	-	68.2	-14.01	88	108	V
4	3.493	54.91	PK-U	32.7	-33.3	0	54.31	-	-	-	-	68.2	-13.89	314	197	H
6	5.681	43.31	PK-U	34.6	-23.4	0	54.51	-	-	-	-	68.2	-13.69	121	258	H
7	10.478	40.75	PK-U	37.5	-25	0	53.25	-	-	-	-	68.2	-14.95	330	112	H
12	3.493	56.52	PK-U	32.7	-33.3	0	55.92	-	-	-	-	68.2	-12.28	13	103	V
13	5.47	41.43	PK-U	34.5	-23.4	0	52.53	-	-	-	-	68.2	-15.67	125	188	V
14	5.676	44.81	PK-U	34.6	-23.4	0	56.01	-	-	-	-	68.2	-12.19	102	104	V
15	10.479	41.98	PK-U	37.5	-25	0	54.48	-	-	-	-	68.2	-13.72	28	113	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

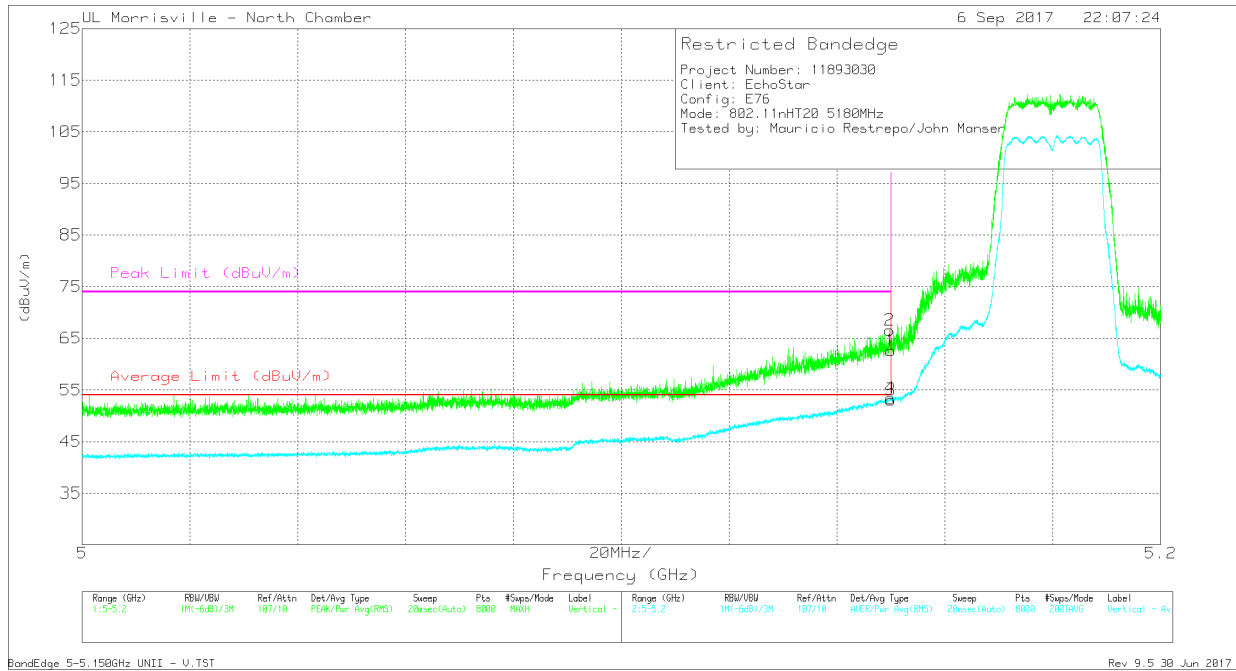
9.4. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND
RESTRICTED BANDEDGE
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	48.46	Pk	34.3	-22.3	0	60.46	-	-	74	-13.54	236	290	H
2	* 5.148	51.91	Pk	34.3	-22.3	0	63.91	-	-	74	-10.09	236	290	H
3	* 5.15	36.3	RMS	34.3	-22.3	.47	48.77	54	-5.23	-	-	236	290	H
4	* 5.149	36.77	RMS	34.3	-22.3	.47	49.24	54	-4.76	-	-	236	290	H

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

LOW CHANNEL VERTICAL

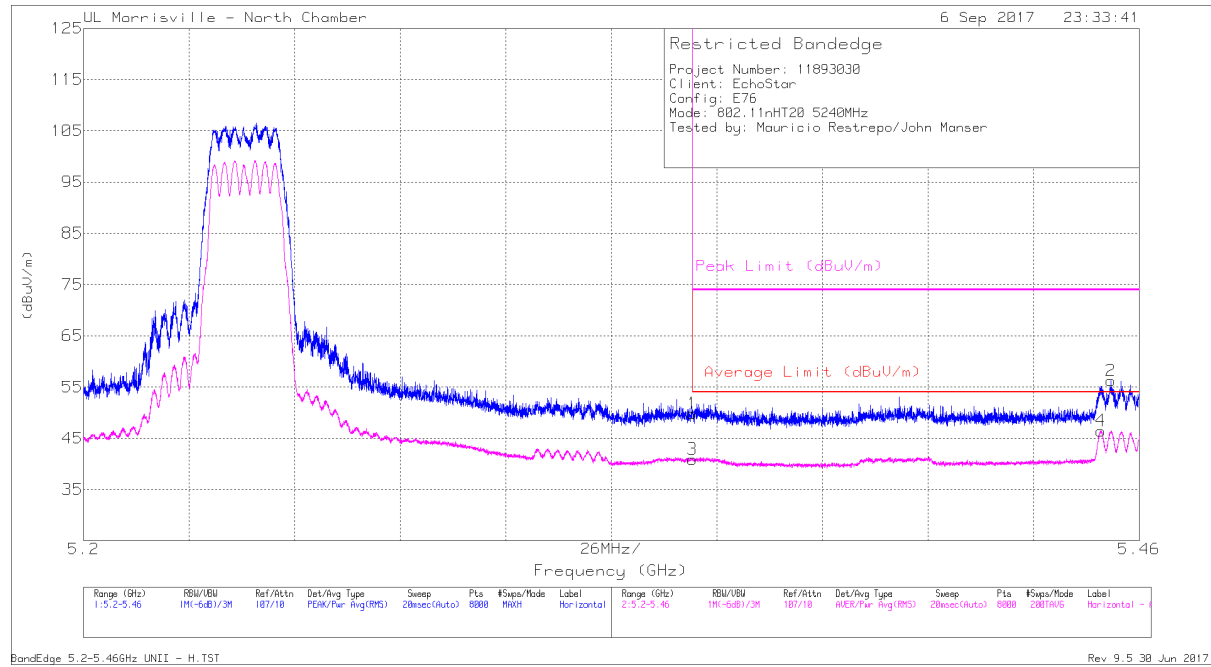


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	50.62	Pk	34.3	-22.3	0	62.62	-	-	74	-11.38	41	137	V
2	* 5.15	54.55	Pk	34.3	-22.3	0	66.55	-	-	74	-7.45	41	137	V
3	* 5.15	40.61	RMS	34.3	-22.3	.47	53.08	54	-92	-	-	41	137	V
4	* 5.15	40.89	RMS	34.3	-22.3	.47	53.36	54	-64	-	-	41	137	V

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

AUTHORIZED BANDEGE

HIGH CHANNEL HORIZONTAL



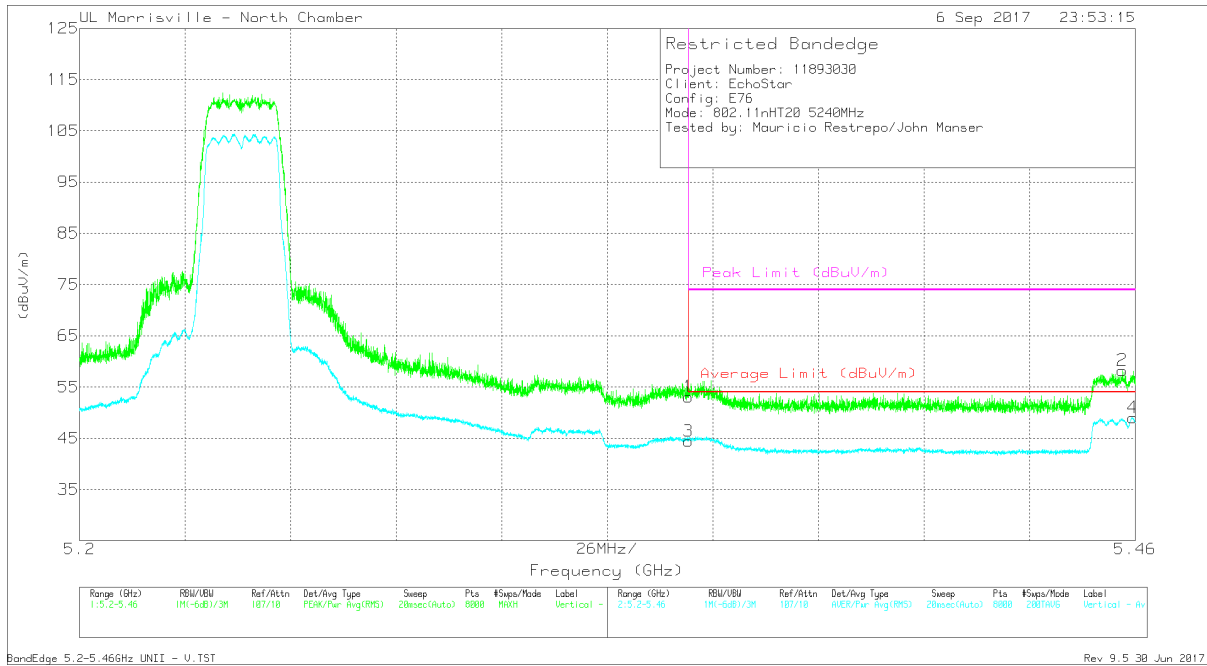
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	38.08	Pk	34.4	-22.6	0	49.88	-	-	74	-24.12	47	259	H
2	* 5.453	44.13	Pk	34.5	-22.4	0	56.23	-	-	74	-17.77	47	259	H
3	* 5.35	28.64	RMS	34.4	-22.6	.47	40.91	54	-13.09	-	-	47	259	H
4	* 5.451	33.99	RMS	34.4	-22.4	.47	46.46	54	-7.54	-	-	47	259	H

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

Pk - Peak detector

RMS - RMS detection

HIGH CHANNEL VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	41.31	Pk	34.4	-22.6	0	53.11	-	-	74	-20.89	45	119	V
2	* 5.457	46.26	Pk	34.5	-22.5	0	58.26	-	-	74	-15.74	45	119	V
3	* 5.35	32.17	RMS	34.4	-22.6	.47	44.44	54	-9.56	-	-	45	119	V
4	* 5.459	36.56	RMS	34.5	-22.5	.47	49.03	54	-4.97	-	-	45	119	V

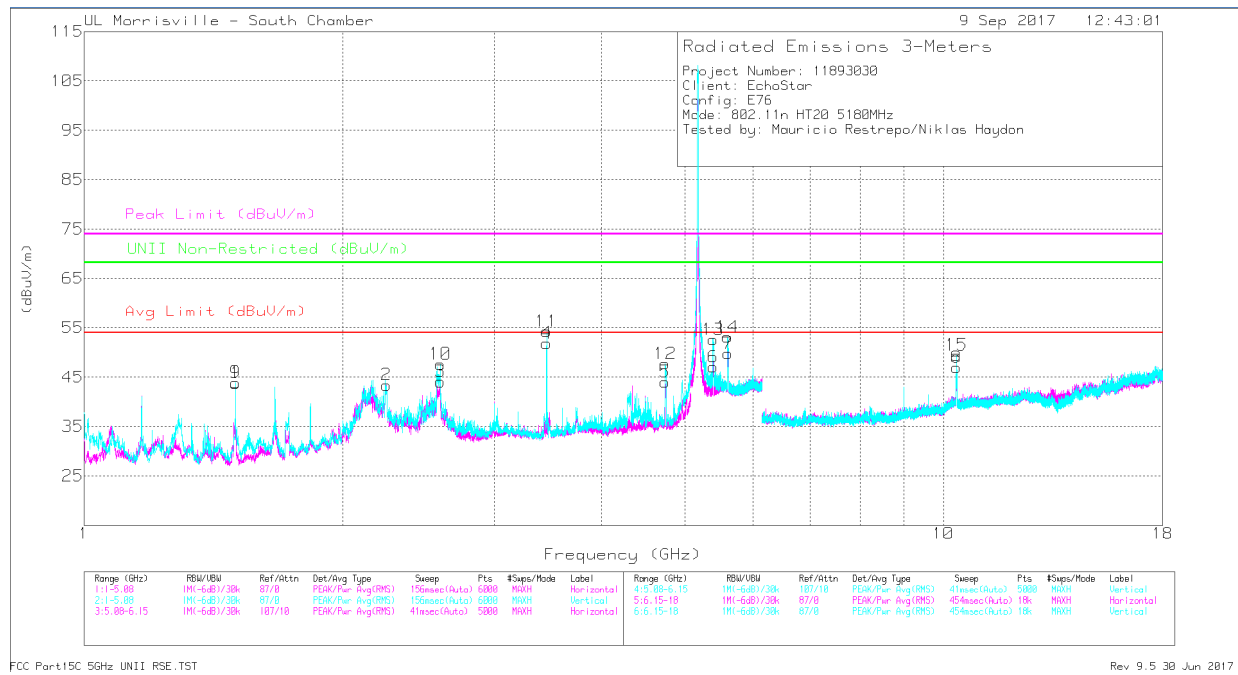
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

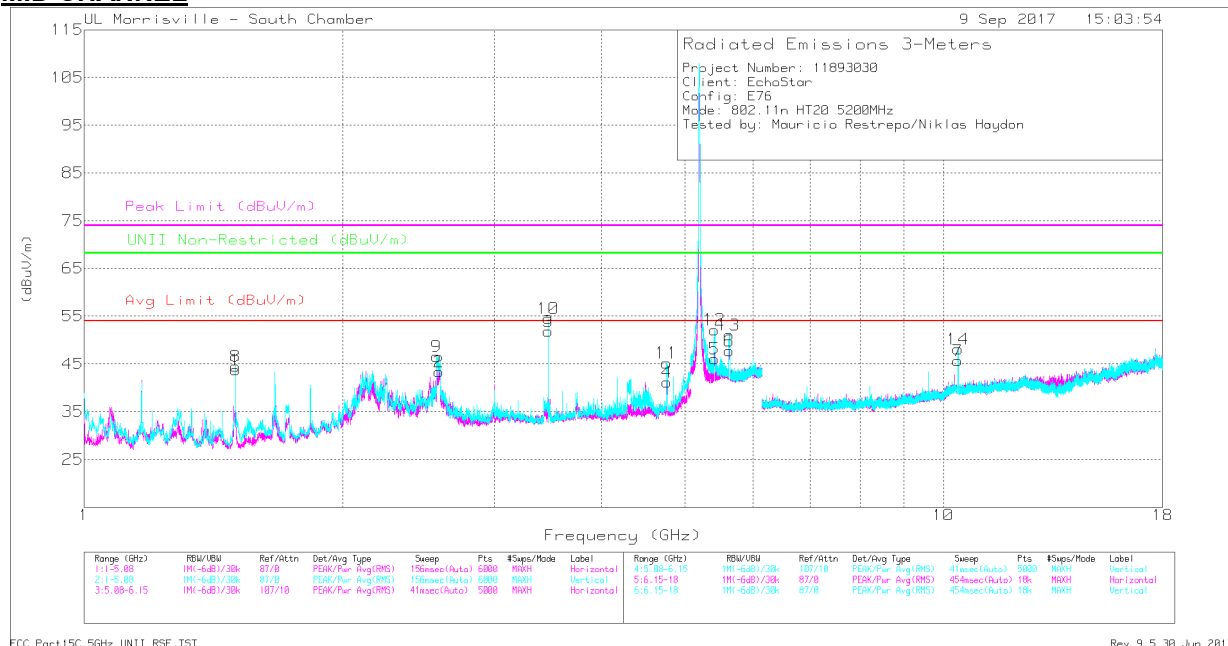
LOW CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.5	55.61	PK-U	27.9	-35	0	48.51	-	-	74	-25.49	-	-	59	339	H
	* 1.5	52.04	ADR	27.9	-35	.47	45.41	54	-8.59	-	-	-	-	59	339	H
2	* 2.25	53.19	PK-U	31.9	-33.9	0	51.19	-	-	74	-22.81	-	-	197	229	H
	* 2.249	40.07	ADR	31.9	-33.9	.47	38.54	54	-15.46	-	-	-	-	197	229	H
5	* 4.748	48.66	PK-U	34	-31.3	0	51.36	-	-	74	-22.64	-	-	105	232	H
	* 4.747	40.1	ADR	34	-31.3	.47	43.27	54	-10.73	-	-	-	-	105	232	H
6	* 5.395	44.01	PK-U	34.4	-23.2	0	55.21	-	-	74	-18.79	-	-	122	283	H
	* 5.395	33.97	ADR	34.4	-23.2	.47	45.64	54	-8.36	-	-	-	-	122	283	H
9	* 1.5	57.52	PK-U	27.9	-35	0	50.42	-	-	74	-23.58	-	-	87	359	V
	* 1.5	52.31	ADR	27.9	-35	.47	45.68	54	-8.32	-	-	-	-	87	359	V
12	* 4.743	52.94	PK-U	34	-31.4	0	55.54	-	-	74	-18.46	-	-	291	130	V
	* 4.744	43.53	ADR	34	-31.4	.47	46.6	54	-7.4	-	-	-	-	291	130	V
13	* 5.397	48.24	PK-U	34.4	-23.2	0	59.44	-	-	74	-14.56	-	-	114	111	V
3	2.598	52.15	PK-U	32.3	-33.9	0	50.55	-	-	-	-	68.2	-17.65	284	105	H
4	3.453	54.04	PK-U	32.7	-32.9	0	53.84	-	-	-	-	68.2	-14.36	321	120	H
7	5.613	46.35	PK-U	34.6	-23.3	0	57.65	-	-	-	-	68.2	-10.55	125	101	H
8	10.358	43.03	PK-U	37.4	-24.5	0	55.93	-	-	-	-	68.2	-12.27	143	113	H
10	2.598	56.37	PK-U	32.3	-33.9	0	54.77	-	-	-	-	68.2	-13.43	85	102	V
11	3.453	56.57	PK-U	32.7	-32.9	0	56.37	-	-	-	-	68.2	-11.83	14	120	V
14	5.608	47.78	PK-U	34.6	-23.3	0	59.08	-	-	-	-	68.2	-9.12	97	104	V
15	10.363	45.35	PK-U	37.4	-24.5	0	58.25	-	-	-	-	68.2	-9.95	19	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

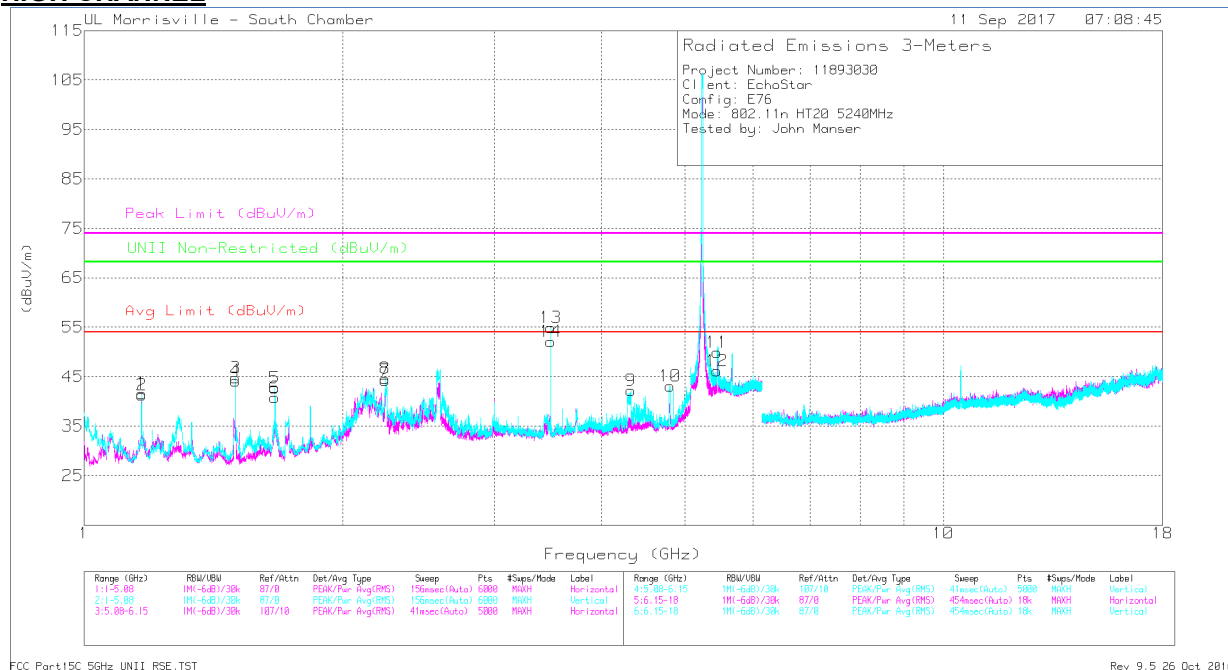
MID CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.5	55.47	PK-U	27.9	-35	0	48.37	-	-	74	-25.63	-	-	56	325	H
	* 1.5	51.8	ADR	27.9	-35	.47	45.17	54	-8.83	-	-	-	-	56	325	H
4	* 4.765	46.99	PK-U	34	-31.3	0	49.69	-	-	74	-24.31	-	-	106	238	H
	* 4.765	37.6	ADR	34	-31.3	.47	40.77	54	-13.23	-	-	-	-	106	238	H
5	* 5.412	44.07	PK-U	34.4	-23.2	0	55.27	-	-	74	-18.73	-	-	118	242	H
	* 5.411	34.45	ADR	34.4	-23.2	.47	46.12	54	-7.88	-	-	-	-	118	242	H
8	* 1.5	57.8	PK-U	27.9	-35	0	50.7	-	-	74	-23.3	-	-	77	354	V
	* 1.5	52	ADR	27.9	-35	.47	45.37	54	-8.63	-	-	-	-	77	354	V
11	* 4.762	50.02	PK-U	34	-31.3	0	52.72	-	-	74	-21.28	-	-	291	130	V
	* 4.762	40.7	ADR	34	-31.3	.47	43.87	54	-10.13	-	-	-	-	291	130	V
12	* 5.417	47.78	PK-U	34.4	-23.3	0	58.88	-	-	74	-15.12	-	-	115	109	V
	* 5.417	37.63	ADR	34.4	-23.3	.47	49.2	54	-4.8	-	-	-	-	115	109	V
9	2.573	56.1	PK-U	32.2	-33.9	0	54.4	-	-	-	-	68.2	-13.8	82	108	V
2	2.586	53.91	PK-U	32.2	-33.9	0	52.21	-	-	-	-	68.2	-15.99	271	109	H
3	3.467	54.68	PK-U	32.7	-33	0	54.38	-	-	-	-	68.2	-13.82	322	168	H
6	5.636	43.88	PK-U	34.6	-23.4	0	55.08	-	-	-	-	68.2	-13.12	37	102	H
7	10.399	39.98	PK-U	37.5	-24.7	0	52.78	-	-	-	-	68.2	-15.42	127	132	H
10	3.467	56.75	PK-U	32.7	-33	0	56.45	-	-	-	-	68.2	-11.75	9	127	V
13	5.629	46.8	PK-U	34.6	-23.4	0	58	-	-	-	-	68.2	-10.2	99	105	V
14	10.403	43.56	PK-U	37.5	-24.7	0	56.36	-	-	-	-	68.2	-11.84	17	126	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

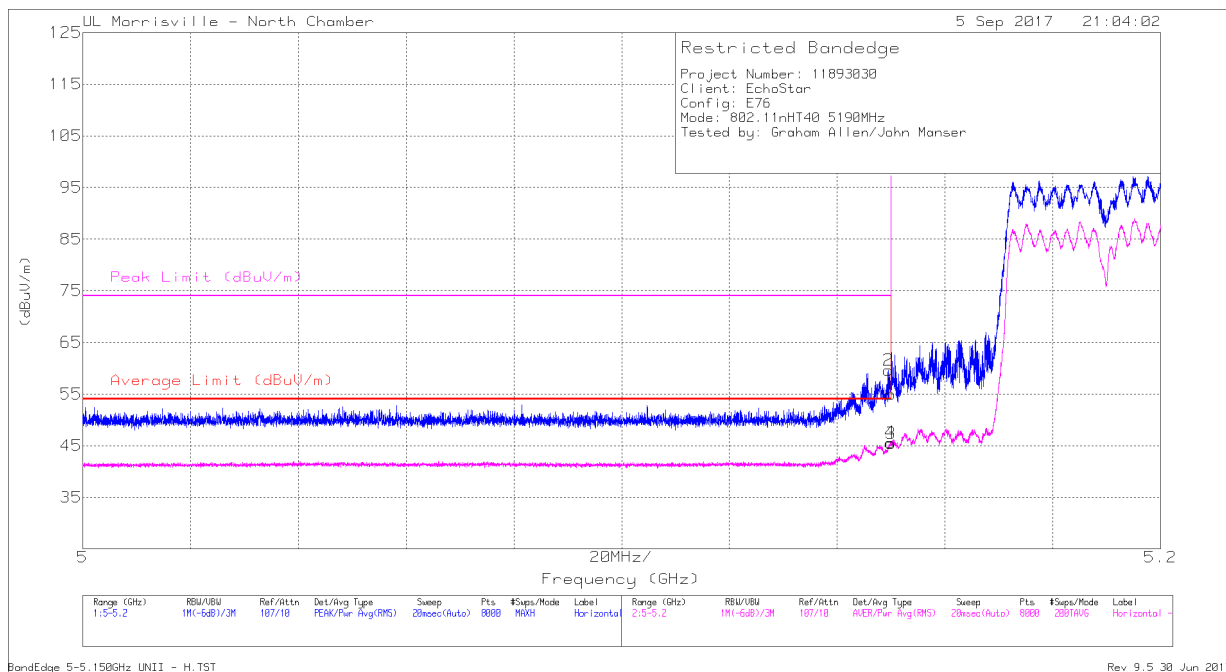
HIGH CHANNEL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.167	55.63	PK-U	27.9	-35.3	0	48.23	-	-	74	-25.77	-	-	315	218	H
	* 1.167	48.87	ADR	27.9	-35.3	.47	41.94	54	-12.06	-	-	-	-	315	218	H
4	* 1.5	55.66	PK-U	27.9	-35	0	48.56	-	-	74	-25.44	-	-	50	307	H
	* 1.5	51.89	ADR	27.9	-35	.47	45.26	54	-8.74	-	-	-	-	50	307	H
6	* 1.667	57.66	PK-U	28.7	-34.3	0	52.06	-	-	74	-21.94	-	-	247	357	H
	* 1.667	46.88	ADR	28.7	-34.3	.47	41.75	54	-12.25	-	-	-	-	247	357	H
7	* 2.241	52.98	PK-U	32	-33.9	0	51.08	-	-	74	-22.92	-	-	227	298	H
	* 2.24	39.17	ADR	32	-33.9	.47	37.74	54	-16.26	-	-	-	-	227	298	H
2	* 1.167	54.29	PK-U	27.9	-35.3	0	46.89	-	-	74	-27.11	-	-	281	323	V
	* 1.167	48.38	ADR	27.9	-35.3	.47	41.45	54	-12.55	-	-	-	-	281	323	V
3	* 1.5	57.01	PK-U	27.9	-35	0	49.91	-	-	74	-24.09	-	-	116	294	V
	* 1.5	52.91	ADR	27.9	-35	.47	46.28	54	-7.72	-	-	-	-	116	294	V
5	* 1.667	55.54	PK-U	28.7	-34.3	0	49.94	-	-	74	-24.06	-	-	319	208	V
	* 1.667	47.19	ADR	28.7	-34.3	.47	42.06	54	-11.94	-	-	-	-	319	208	V
8	* 2.24	53.17	PK-U	32	-33.9	0	51.27	-	-	74	-22.73	-	-	302	266	V
	* 2.24	39.29	ADR	32	-33.9	.47	37.86	54	-16.14	-	-	-	-	302	266	V
9	* 4.33	49.4	PK-U	33.5	-31.5	0	51.4	-	-	74	-22.6	-	-	359	127	V
	* 4.33	33.58	ADR	33.5	-31.5	.47	36.05	54	-17.95	-	-	-	-	359	127	V
10	* 4.809	47.2	PK-U	34	-30.8	0	50.4	-	-	74	-23.6	-	-	290	125	V
	* 4.809	37.33	ADR	34	-30.8	.47	41	54	-13	-	-	-	-	290	125	V
12	* 5.451	44.36	PK-U	34.5	-23.4	0	55.46	-	-	74	-18.54	-	-	119	253	H
	* 5.45	34.42	ADR	34.5	-23.4	.47	45.99	54	-8.01	-	-	-	-	119	253	H
11	* 5.452	46.69	PK-U	34.5	-23.4	0	57.79	-	-	74	-16.21	-	-	112	120	V
	* 5.452	36.62	ADR	34.5	-23.4	.47	48.19	54	-5.81	-	-	-	-	112	120	V
14	3.493	54.21	PK-U	32.7	-33.3	0	53.61	-	-	-	-	68.2	-14.59	314	198	H
13	3.493	56.09	PK-U	32.7	-33.3	0	55.49	-	-	-	-	68.2	-12.71	12	126	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

9.5. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND
RESTRICTED BANDEDGE
LOW CHANNEL HORIZONTAL



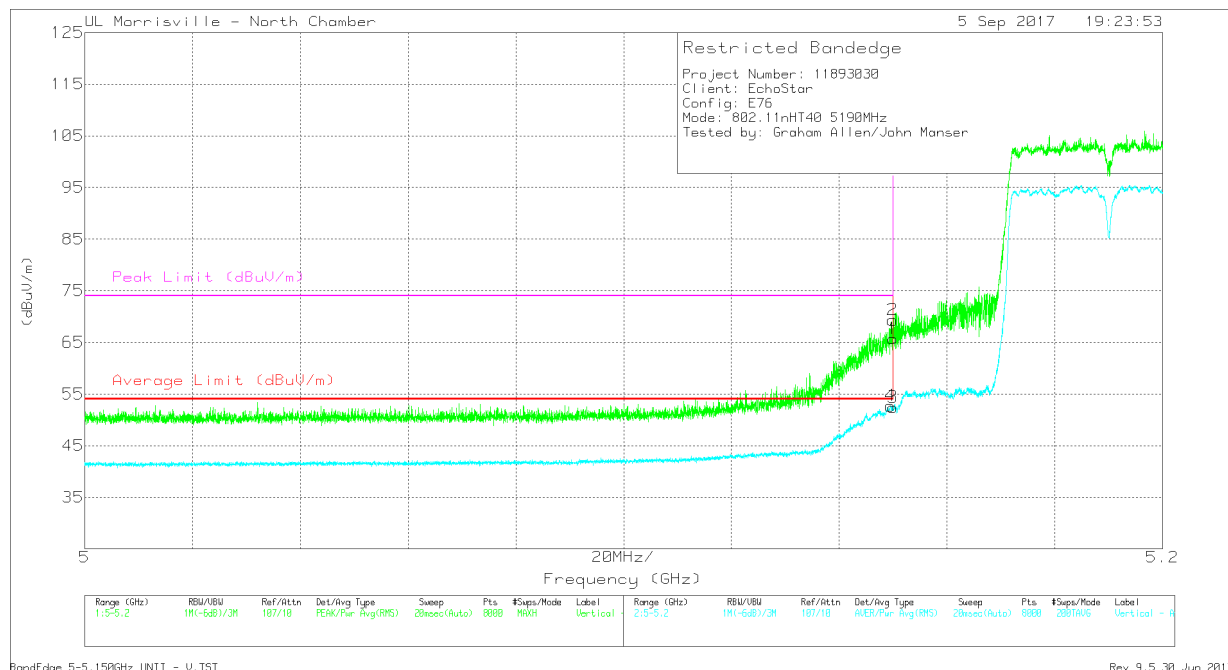
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	43.01	Pk	34.3	-22.3	0	55.01	-	-	74	-18.99	119	230	H
2	* 5.149	47.62	Pk	34.3	-22.3	0	59.62	-	-	74	-14.38	119	230	H
3	* 5.15	32.65	RMS	34.3	-22.3	.79	45.44	54	-8.56	-	-	119	230	H
4	* 5.15	32.8	RMS	34.3	-22.3	.79	45.59	54	-8.41	-	-	119	230	H

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

Pk - Peak detector

RMS - RMS detection

LOW CHANNEL VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	53.71	Pk	34.3	-22.3	0	65.71	-	-	74	-8.29	44	127	V
2	* 5.15	57.34	Pk	34.3	-22.3	0	69.34	-	-	74	-4.66	44	127	V
3	* 5.15	39.65	RMS	34.3	-22.3	.79	52.44	54	-1.56	-	-	44	127	V
4	* 5.15	39.93	RMS	34.3	-22.3	.79	52.72	54	-1.28	-	-	44	127	V

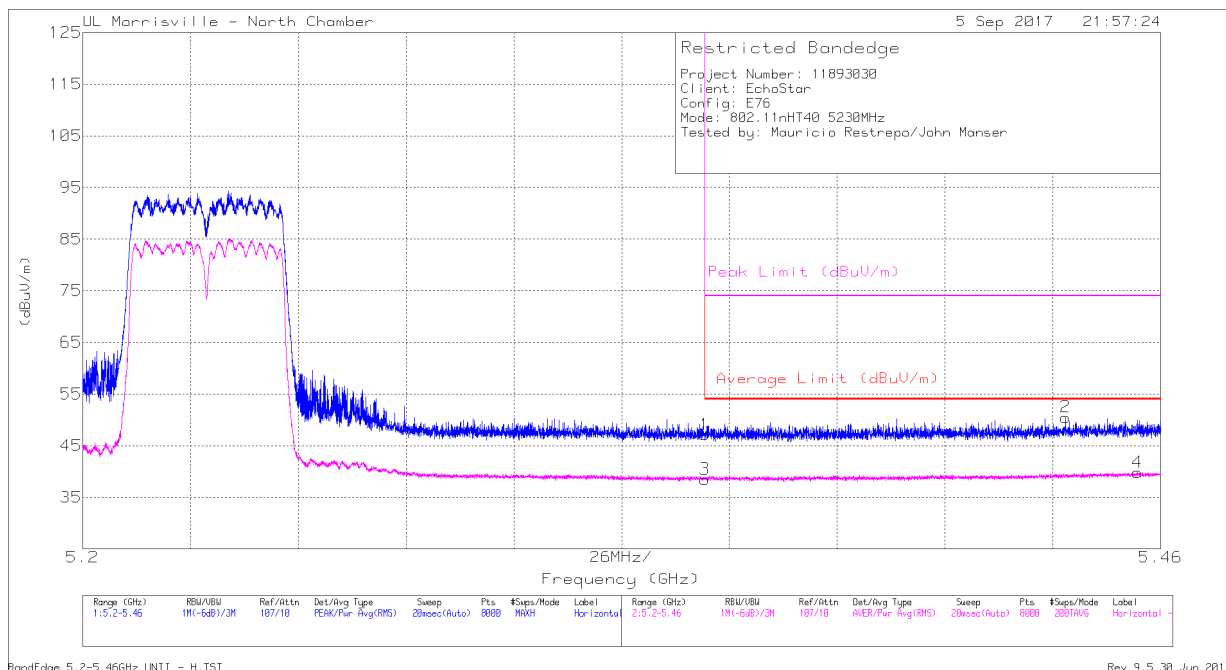
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE

HIGH CHANNEL HORIZONTAL



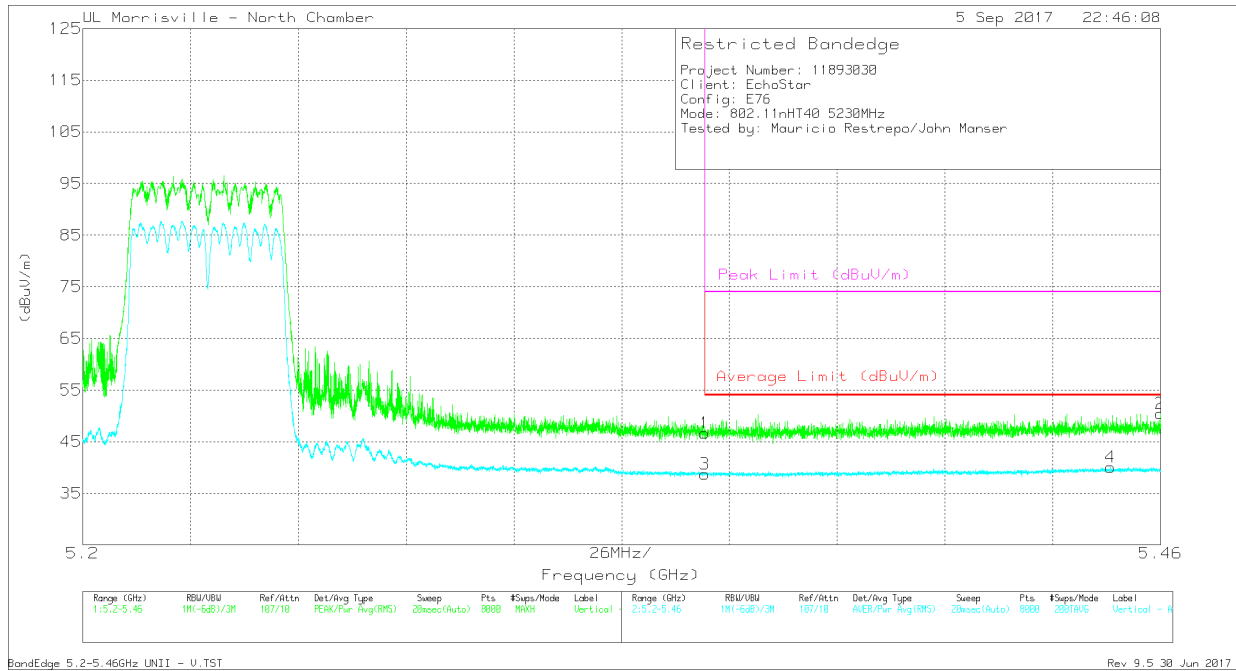
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.33	Pk	34.4	-22.6	0	47.13	-	-	74	-26.87	265	371	H
2	* 5.437	38.61	Pk	34.4	-22.5	0	50.51	-	-	74	-23.49	265	371	H
3	* 5.35	25.92	RMS	34.4	-22.6	.79	38.51	54	-15.49	-	-	265	371	H
4	* 5.454	27.04	RMS	34.5	-22.5	.79	39.83	54	-14.17	-	-	265	371	H

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

Pk - Peak detector

RMS - RMS detection

HIGH CHANNEL VERTICAL



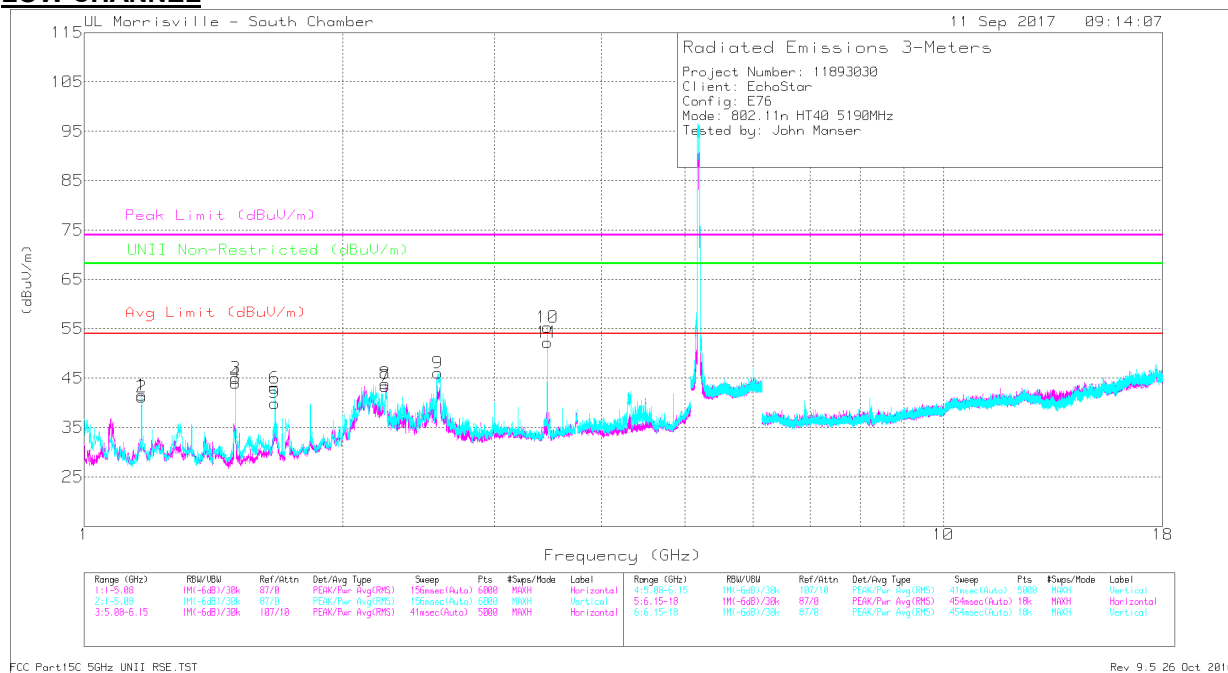
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	34.85	Pk	34.4	-22.6	0	46.65	-	-	74	-27.35	306	345	V
3	* 5.35	26.14	RMS	34.4	-22.6	.79	38.73	54	-15.27	-	-	306	345	V
4	* 5.448	27.24	RMS	34.4	-22.4	.79	40.03	54	-13.97	-	-	306	345	V
2	5.46	38.44	Pk	34.5	-22.5	0	50.44	-	-	74	-23.56	306	345	V

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

Pk - Peak detector

RMS - RMS detection

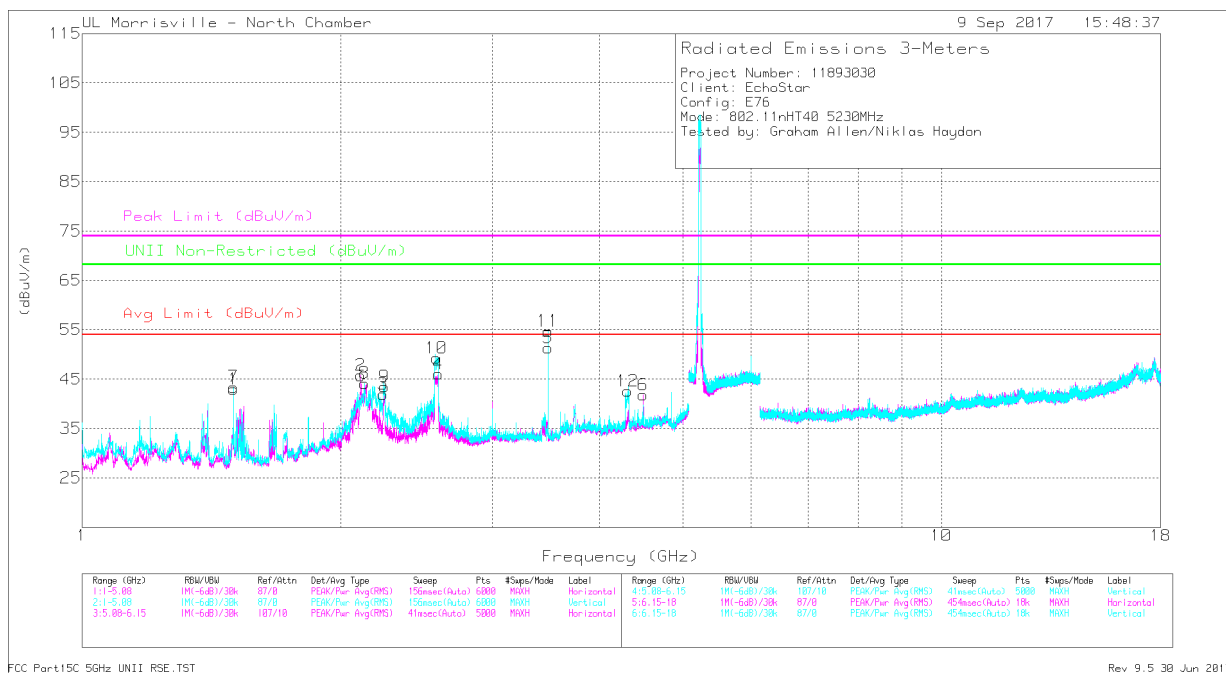
**HARMONICS AND SPURIOUS EMISSIONS
 LOW CHANNEL**



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.167	54.64	PK-U	27.9	-35.3	0	47.24	-	-	74	-26.76	-	-	317	240	H
	* 1.167	48.67	ADR	27.9	-35.3	.79	42.06	54	-11.94	-	-	-	-	317	240	H
4	* 1.5	55.51	PK-U	27.9	-35	0	48.41	-	-	74	-25.59	-	-	52	294	H
	* 1.5	52.07	ADR	27.9	-35	.79	45.76	54	-8.24	-	-	-	-	52	294	H
5	* 1.666	52.93	PK-U	28.7	-34.3	0	47.33	-	-	74	-26.67	-	-	330	102	H
	* 1.667	44.24	ADR	28.7	-34.3	.79	39.43	54	-14.57	-	-	-	-	330	102	H
8	* 2.239	52.62	PK-U	32	-33.9	0	50.72	-	-	74	-23.28	-	-	226	288	H
	* 2.24	39.01	ADR	32	-33.9	.79	37.9	54	-16.1	-	-	-	-	226	288	H
2	* 1.167	53.42	PK-U	27.9	-35.2	0	46.12	-	-	74	-27.88	-	-	253	345	V
	* 1.167	46.54	ADR	27.9	-35.3	.79	39.93	54	-14.07	-	-	-	-	253	345	V
3	* 1.5	56.78	PK-U	27.9	-35	0	49.68	-	-	74	-24.32	-	-	122	295	V
	* 1.5	52.49	ADR	27.9	-35	.79	46.18	54	-7.82	-	-	-	-	122	295	V
6	* 1.667	55.4	PK-U	28.7	-34.3	0	49.8	-	-	74	-24.2	-	-	325	293	V
	* 1.667	47.39	ADR	28.7	-34.3	.79	42.58	54	-11.42	-	-	-	-	325	293	V
7	* 2.239	53.05	PK-U	32	-33.9	0	51.15	-	-	74	-22.85	-	-	300	216	V
	* 2.24	40.46	ADR	32	-33.9	.79	39.35	54	-14.65	-	-	-	-	300	216	V
9	2.58	56.69	PK-U	32.2	-33.9	0	54.99	-	-	-	-	68.2	-13.21	82	107	V
11	3.46	54.35	PK-U	32.7	-33	0	54.05	-	-	-	-	68.2	-14.15	316	199	H
10	3.46	56.75	PK-U	32.7	-33	0	56.45	-	-	-	-	68.2	-11.75	5	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

HIGH CHANNEL



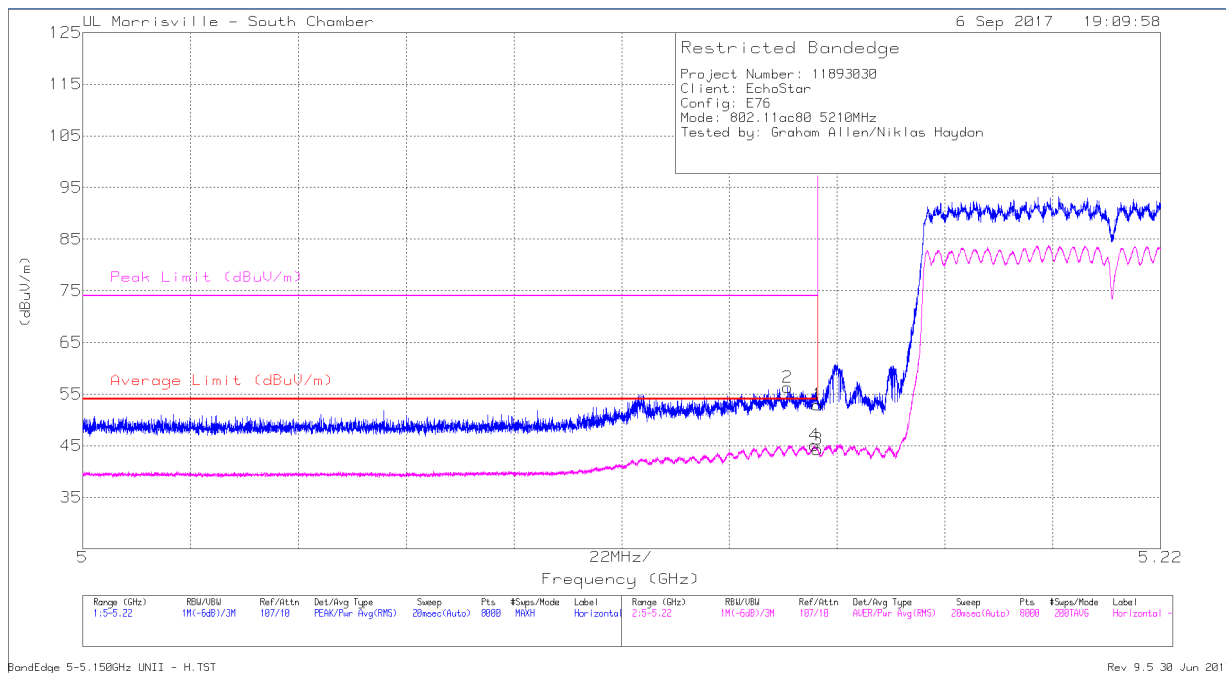
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.5	56.36	PK-U	27.8	-35.9	0	48.26	-	-	74	-25.74	-	-	344	296	H
	* 1.5	52.99	ADR	27.8	-35.9	.79	45.68	54	-8.32	-	-	-	-	344	296	H
3	* 2.239	52.68	PK-U	31.8	-34.1	0	50.38	-	-	74	-23.62	-	-	161	240	H
	* 2.239	37.86	ADR	31.8	-34.1	.79	36.35	54	-17.65	-	-	-	-	161	240	H
6	* 4.5	45.52	PK-U	33.9	-31.7	0	47.72	-	-	74	-26.28	-	-	123	242	H
	* 4.5	39.38	ADR	33.9	-31.7	.79	42.37	54	-11.63	-	-	-	-	123	242	H
7	* 1.5	56.65	PK-U	27.8	-35.9	0	48.55	-	-	74	-25.45	-	-	127	400	V
	* 1.5	53.39	ADR	27.8	-35.9	.79	46.08	54	-7.92	-	-	-	-	127	400	V
9	* 2.25	54.83	PK-U	31.7	-34	0	52.53	-	-	74	-21.47	-	-	143	248	V
	* 2.249	41.71	ADR	31.7	-34	.79	40.2	54	-13.8	-	-	-	-	143	248	V
12	* 4.328	48.69	PK-U	33.6	-31.5	0	50.79	-	-	74	-23.21	-	-	150	109	V
	* 4.328	32.93	ADR	33.6	-31.5	.79	35.82	54	-18.18	-	-	-	-	150	109	V
2	2.11	54.09	PK-U	31.1	-34.5	0	50.69	-	-	-	-	68.2	-17.51	289	104	H
4	2.596	55.01	PK-U	32.3	-33.6	0	53.71	-	-	-	-	68.2	-14.49	266	123	H
5	3.487	53.82	PK-U	32.8	-32.9	0	53.72	-	-	-	-	68.2	-14.48	261	202	H
8	2.131	56.16	PK-U	31	-34.5	0	52.66	-	-	-	-	68.2	-15.54	166	106	V
10	2.572	57.96	PK-U	32.3	-33.7	0	56.56	-	-	-	-	68.2	-11.64	22	126	V
11	3.487	56.44	PK-U	32.8	-32.9	0	56.34	-	-	-	-	68.2	-11.86	295	103	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

9.6. TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE

LOW CHANNEL HORIZONTAL



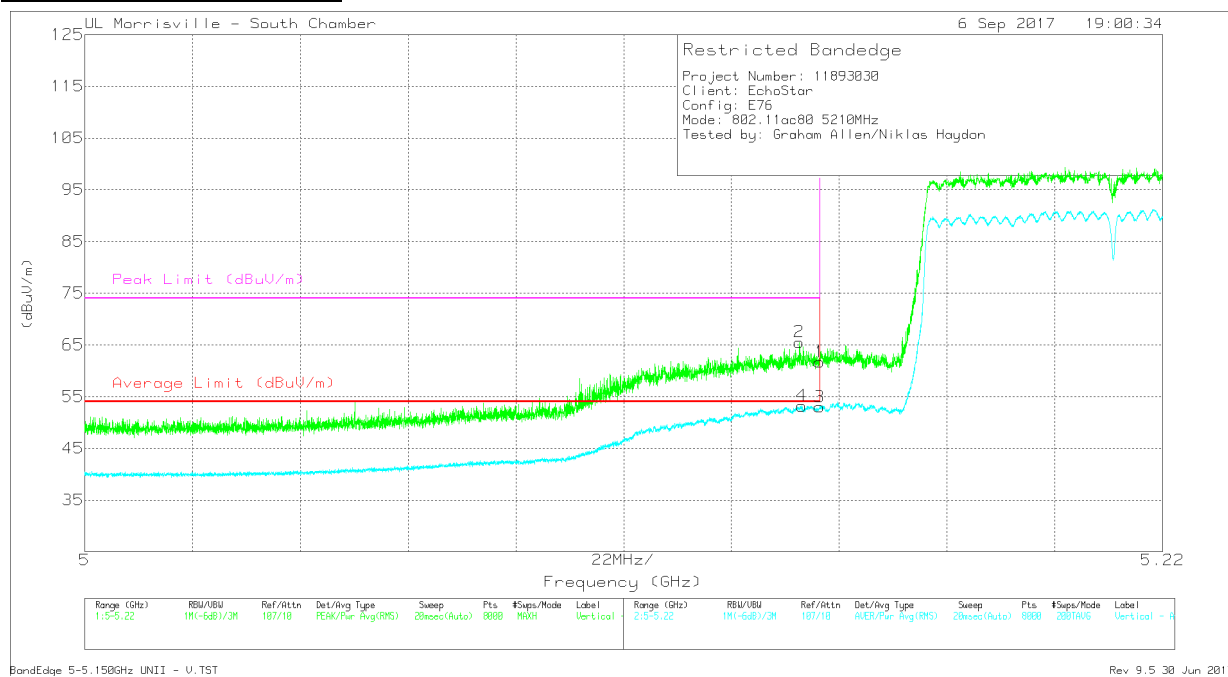
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	41.33	Pk	34.1	-22.5	0	52.93	-	-	74	-21.07	134	103	H
2	* 5.144	44.58	Pk	34.1	-22.4	0	56.28	-	-	74	-17.72	134	103	H
3	* 5.15	32.44	RMS	34.1	-22.5	.26	44.3	54	-9.7	-	-	134	103	H
4	* 5.149	33.23	RMS	34.1	-22.5	.26	45.09	54	-8.91	-	-	134	103	H

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

Pk - Peak detector

RMS - RMS detection

LOW CHANNEL VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	50.11	Pk	34.1	-22.5	0	61.71	-	-	74	-12.29	109	102	V
2	* 5.146	53.93	Pk	34.1	-22.5	0	65.53	-	-	74	-8.47	109	102	V
3	* 5.15	41.12	RMS	34.1	-22.5	.26	52.98	54	-1.02	-	-	109	102	V
4	* 5.146	41.35	RMS	34.1	-22.5	.26	53.21	54	-0.79	-	-	109	102	V

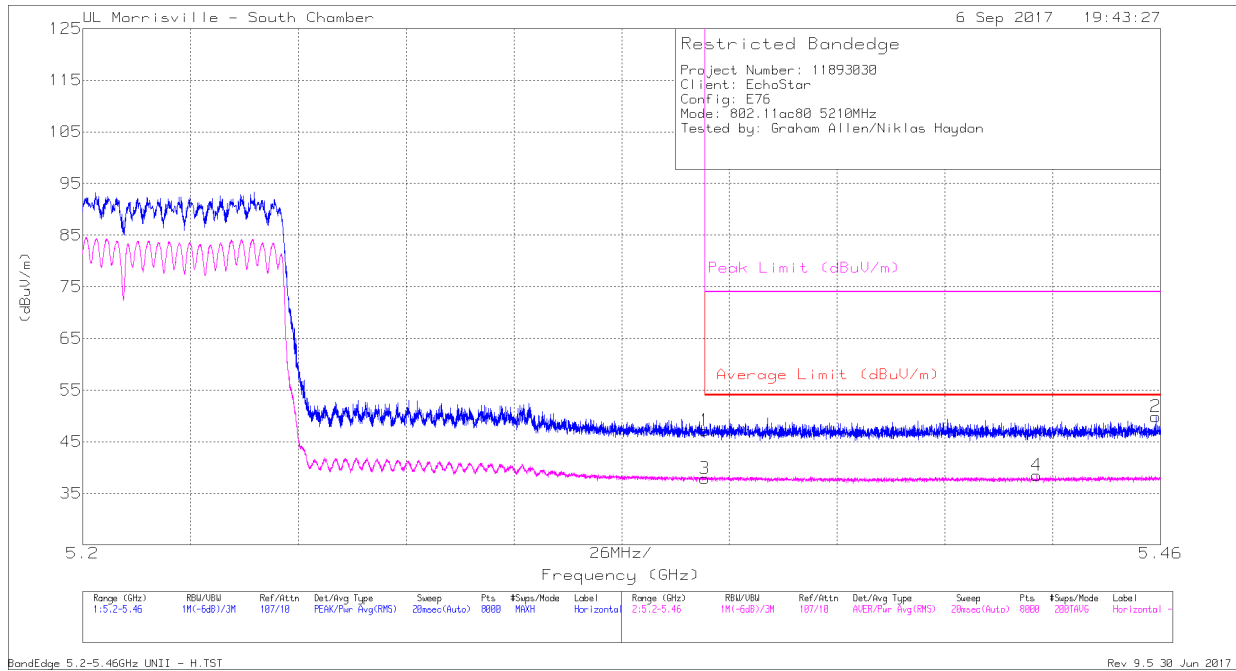
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE

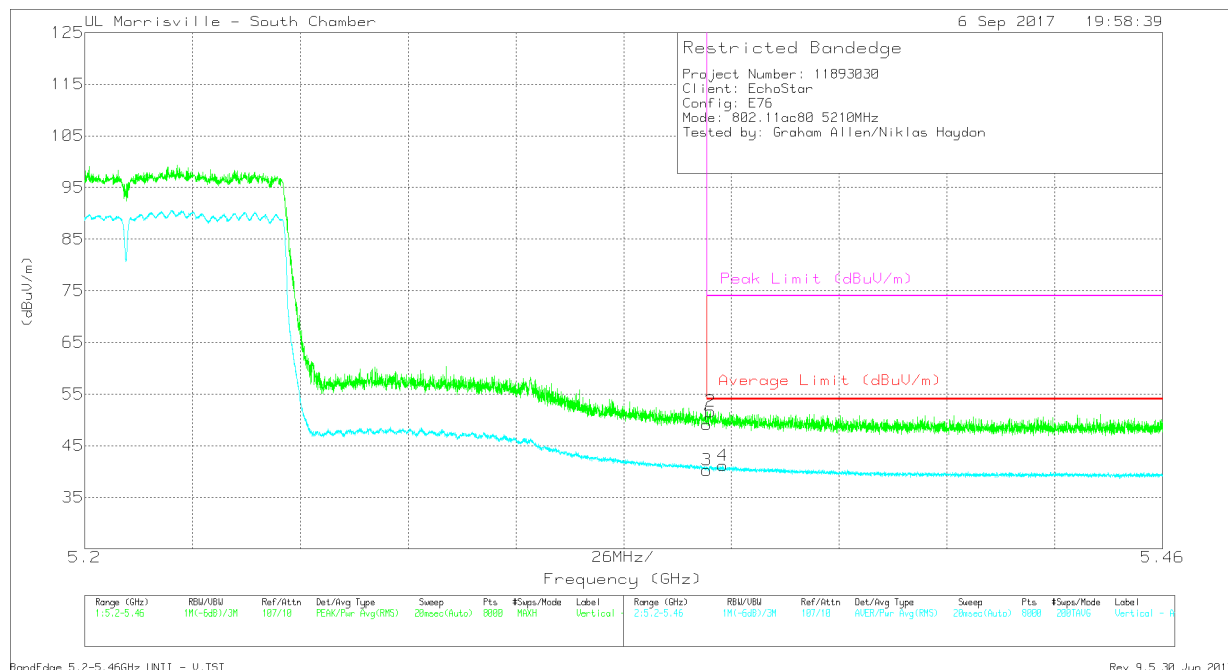
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.79	Pk	34.4	-23	0	47.19	-	-	74	-26.81	58	268	H
2	* 5.459	38.79	Pk	34.5	-23.4	0	49.89	-	-	74	-24.11	58	268	H
3	* 5.35	26.23	RMS	34.4	-23	.26	37.89	54	-16.11	-	-	58	268	H
4	* 5.43	27.25	RMS	34.4	-23.4	.26	38.51	54	-15.49	-	-	58	268	H

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

HIGH CHANNEL VERTICAL



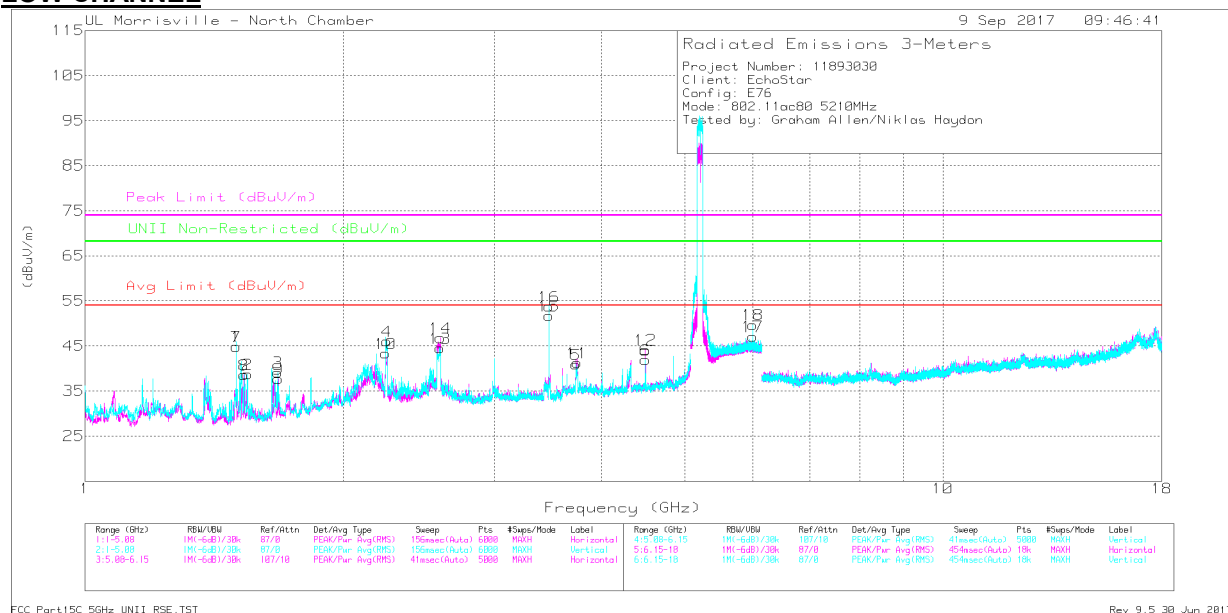
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	37.74	Pk	34.4	-23	0	49.14	-	-	74	-24.86	118	225	V
2	* 5.351	40.22	Pk	34.4	-23	0	51.62	-	-	74	-22.38	118	225	V
3	* 5.35	28.6	RMS	34.4	-23	.26	40.26	54	-13.74	-	-	118	225	V
4	* 5.354	29.57	RMS	34.4	-23.1	.26	41.13	54	-12.87	-	-	118	225	V

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

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS
LOW CHANNEL



Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.5	56.64	PK-U	27.8	-35.9	0	48.54	-	-	74	-25.46	-	-	145	366	H
	* 1.5	52.83	ADR	27.8	-35.9	.26	44.99	54	-9.01	-	-	-	-	145	366	H
7	* 1.5	56.06	PK-U	27.8	-35.9	0	47.96	-	-	74	-26.04	-	-	137	378	H
	* 1.5	52.58	ADR	27.8	-35.9	.26	44.74	54	-9.26	-	-	-	-	137	378	H
8	* 1.535	54.84	PK-U	27.9	-35.7	0	47.04	-	-	74	-26.96	-	-	271	228	H
	* 1.536	32.54	ADR	27.9	-35.6	.26	25.1	54	-28.9	-	-	-	-	271	228	H
9	* 1.68	52.51	PK-U	28.6	-34.8	0	46.31	-	-	74	-27.69	-	-	47	386	H
	* 1.68	32.38	ADR	28.6	-34.8	.26	26.44	54	-27.56	-	-	-	-	47	386	H
10	* 2.239	53.14	PK-U	31.8	-34.1	0	50.84	-	-	74	-23.16	-	-	193	384	H
	* 2.239	39.73	ADR	31.8	-34.1	.26	37.69	54	-16.31	-	-	-	-	193	384	H
11	* 3.75	49.14	PK-U	33.4	-32.4	0	50.14	-	-	74	-23.86	-	-	198	333	H
	* 3.75	33.95	ADR	33.4	-32.4	.26	35.21	54	-18.79	-	-	-	-	198	333	H
12	* 4.5	46.94	PK-U	33.9	-31.7	0	49.14	-	-	74	-24.86	-	-	100	381	H
	* 4.5	41.47	ADR	33.9	-31.7	.26	43.93	54	-10.07	-	-	-	-	100	381	H
2	* 1.545	55.98	PK-U	27.9	-35.6	0	48.28	-	-	74	-25.72	-	-	154	146	V
	* 1.545	33.29	ADR	27.9	-35.6	.26	25.85	54	-28.15	-	-	-	-	154	146	V
3	* 1.679	51.88	PK-U	28.6	-34.8	0	45.68	-	-	74	-28.32	-	-	126	130	V
	* 1.679	32.63	ADR	28.6	-34.8	.26	26.69	54	-27.31	-	-	-	-	126	130	V
4	* 2.249	55.48	PK-U	31.7	-34	0	53.18	-	-	74	-20.82	-	-	145	261	V
	* 2.249	41.12	ADR	31.7	-34	.26	39.08	54	-14.92	-	-	-	-	145	261	V
5	* 3.732	47.12	PK-U	33.3	-32.4	0	48.02	-	-	74	-25.98	-	-	119	326	V
	* 3.732	32.13	ADR	33.3	-32.4	.26	33.29	54	-20.71	-	-	-	-	119	326	V
6	* 4.5	45.5	PK-U	33.9	-31.7	0	47.7	-	-	74	-26.3	-	-	196	367	V
	* 4.5	38.82	ADR	33.9	-31.7	.26	41.28	54	-12.72	-	-	-	-	196	367	V
14	2.595	39.51	ADR	32.3	-33.6	0	38.21	-	-	-	-	68.2	-29.99	138	349	H
15	3.473	54.45	PK-U	32.8	-32.9	0	54.35	-	-	-	-	68.2	-13.85	217	391	H
17	6	40.59	PK-U	35.1	-21.4	0	54.29	-	-	-	-	68.2	-13.91	261	212	H
13	2.594	53.53	PK-U	32.3	-33.6	0	52.23	-	-	-	-	68.2	-15.97	160	243	V
16	3.473	56.02	PK-U	32.8	-32.9	0	55.92	-	-	-	-	68.2	-12.28	230	233	V
18	6	42.44	PK-U	35.1	-21.4	0	56.14	-	-	-	-	68.2	-12.06	79	263	V

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

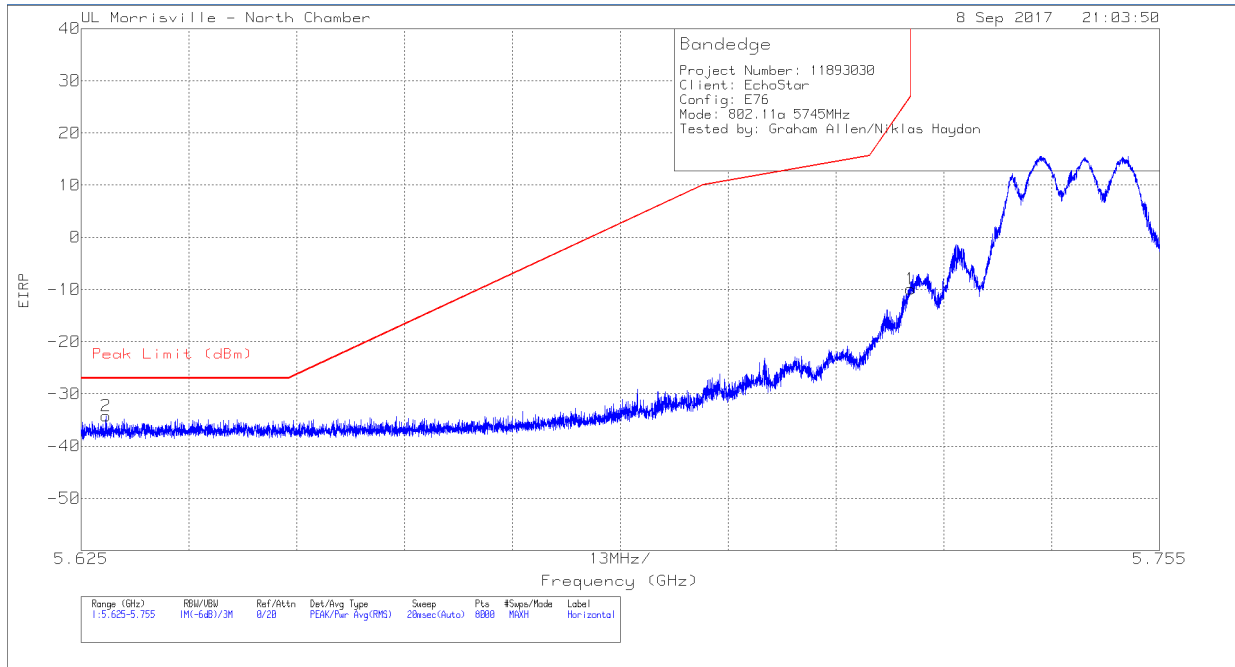
PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

9.7. TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE

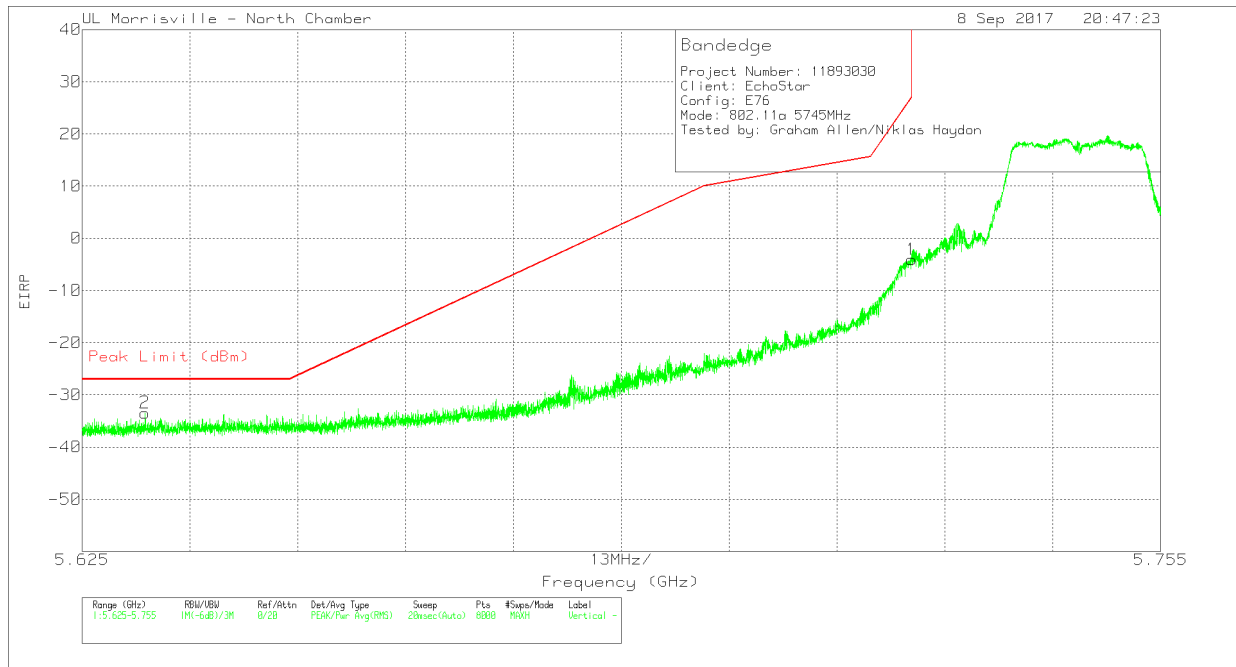
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.628	-58.03	Pk	34.6	-22.6	11.8	0	-34.23	-27	-7.23	72	214	H
1	5.725	-34.13	Pk	34.7	-22.3	11.8	0	-9.93	27	-36.93	72	214	H

Pk - Peak detector

LOW CHANNEL VERTICAL

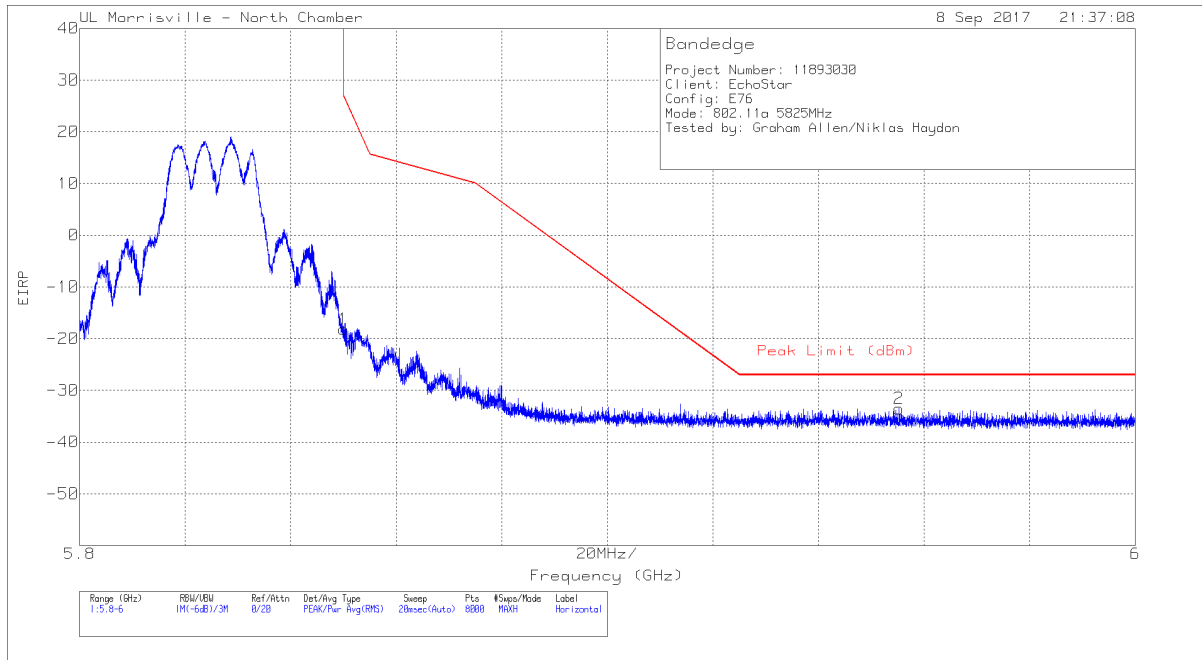


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.633	-57.33	Pk	34.6	-22.5	11.8	0	-33.43	-27	-6.43	28	155	V
1	5.725	-28.25	Pk	34.7	-22.3	11.8	0	-4.05	27	-31.05	28	155	V

Pk - Peak detector

AUTHORIZED BANDEDGE

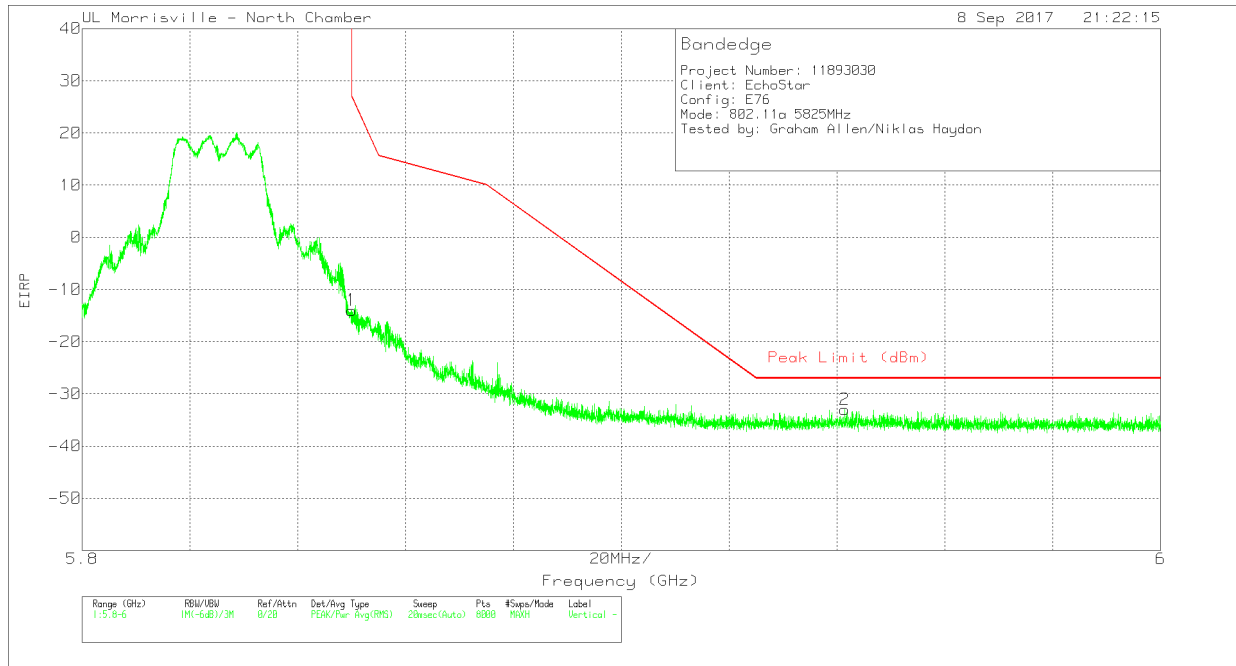
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/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	-42.98	Pk	34.9	-21.9	11.8	0	-18.18	26.99	-45.17	57	375	H
2	5.955	-58.73	Pk	34.9	-21.5	11.8	0	-33.53	-27	-6.53	57	375	H

Pk - Peak detector

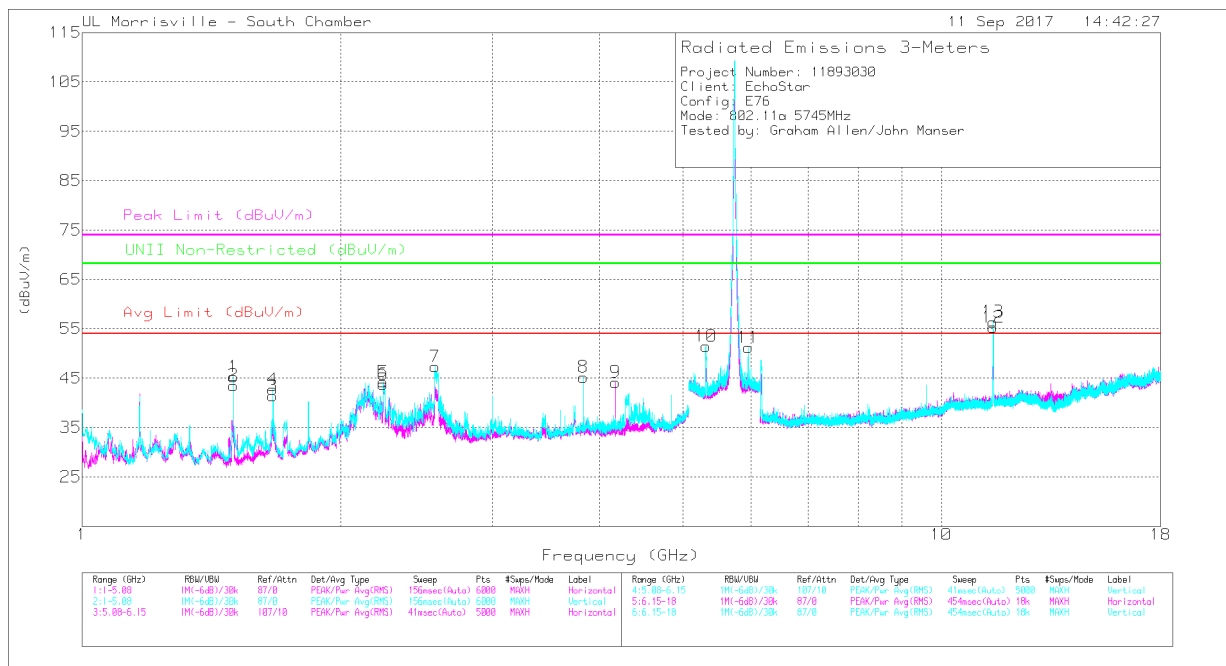
HIGH CHANNEL VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/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	-38.78	Pk	34.9	-21.9	11.8	0	-13.98	26.99	-40.97	303	226	V
2	5.941	-58.21	Pk	34.9	-21.5	11.8	0	-33.01	-27	-6.01	303	226	V

Pk - Peak detector

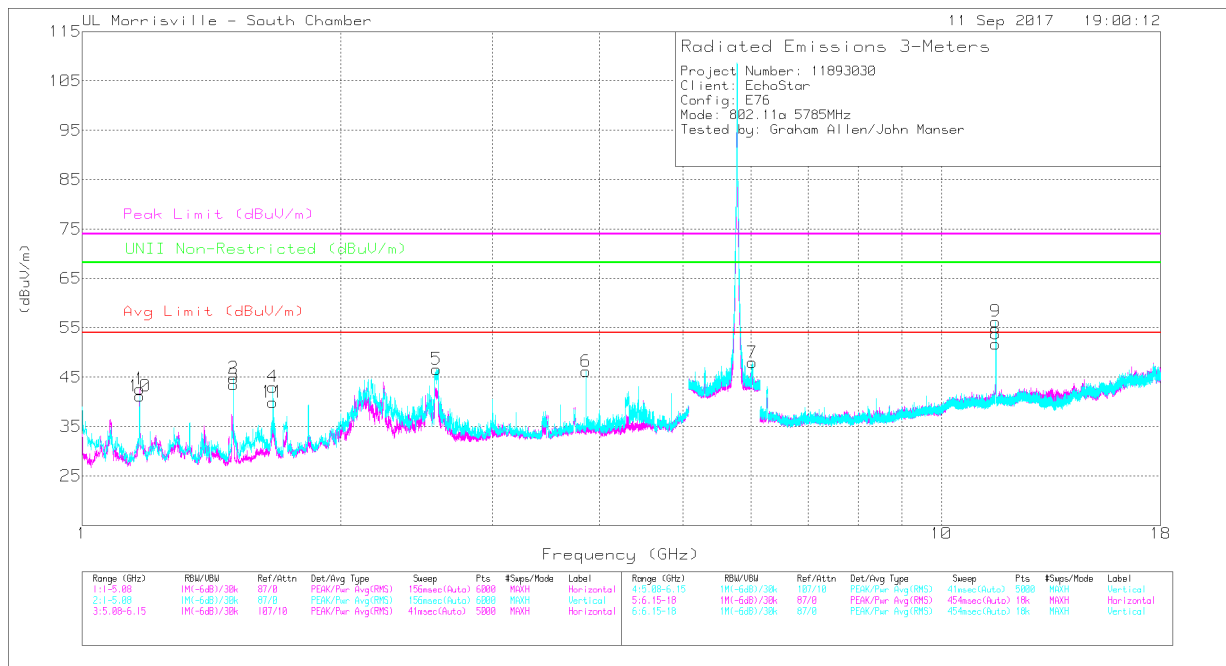
**HARMONICS AND SPURIOUS EMISSIONS
 LOW CHANNEL**



Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 1.5	55.4	PK-U	27.9	-35	0	48.3	-	-	74	-25.7	-	-	49	325	H
	* 1.5	52.07	ADR	27.9	-35	0.25	45.22	54	-8.78	-	-	-	-	49	325	H
3	* 1.667	53.65	PK-U	28.7	-34.3	0	48.05	-	-	74	-25.95	-	-	334	101	H
	* 1.667	44.14	ADR	28.7	-34.3	0.25	38.79	54	-15.21	-	-	-	-	334	101	H
6	* 2.239	52.24	PK-U	32	-33.9	0	50.34	-	-	74	-23.66	-	-	198	219	H
	* 2.24	39.12	ADR	32	-33.9	0.25	37.47	54	-16.53	-	-	-	-	198	219	H
9	* 4.174	43.38	PK-U	33.3	-31.4	0	45.28	-	-	74	-28.72	-	-	329	286	H
	* 4.174	27.75	ADR	33.3	-31.4	0.25	29.9	54	-24.1	-	-	-	-	329	286	H
1	* 1.5	57.93	PK-U	27.9	-35	0	50.83	-	-	74	-23.17	-	-	109	291	V
	* 1.5	53.4	ADR	27.9	-35	0.25	46.55	54	-7.45	-	-	-	-	109	291	V
4	* 1.667	55.2	PK-U	28.7	-34.3	0	49.6	-	-	74	-24.4	-	-	323	195	V
	* 1.667	47.41	ADR	28.7	-34.3	0.25	42.06	54	-11.94	-	-	-	-	323	195	V
5	* 2.239	53.45	PK-U	32	-33.9	0	51.55	-	-	74	-22.45	-	-	307	314	V
	* 2.239	40.39	ADR	32	-33.9	0.25	38.74	54	-15.26	-	-	-	-	307	314	V
8	* 3.83	48.73	PK-U	33.4	-32.8	0	49.33	-	-	74	-24.67	-	-	267	101	V
	* 3.83	44.47	ADR	33.4	-32.8	0.25	45.32	54	-8.68	-	-	-	-	267	101	V
12	* 11.492	48.59	PK-U	38.3	-24.6	0	62.29	-	-	74	-11.71	-	-	133	116	H
	* 11.492	37.13	ADR	38.3	-24.6	0.25	51.08	54	-2.92	-	-	-	-	133	116	H
13	* 11.491	49.72	PK-U	38.3	-24.6	0	63.42	-	-	74	-10.58	-	-	347	107	V
	* 11.491	38.37	ADR	38.3	-24.6	0.25	52.32	54	-1.68	-	-	-	-	347	107	V
7	2.577	56.81	PK-U	32.2	-33.9	0	55.11	-	-	-	-	68.2	-13.09	79	108	V
10	5.322	46.2	PK-U	34.4	-22.9	0	57.7	-	-	-	-	68.2	-10.5	105	107	V
11	5.964	46.17	PK-U	35	-22.7	0	58.47	-	-	-	-	68.2	-9.73	51	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

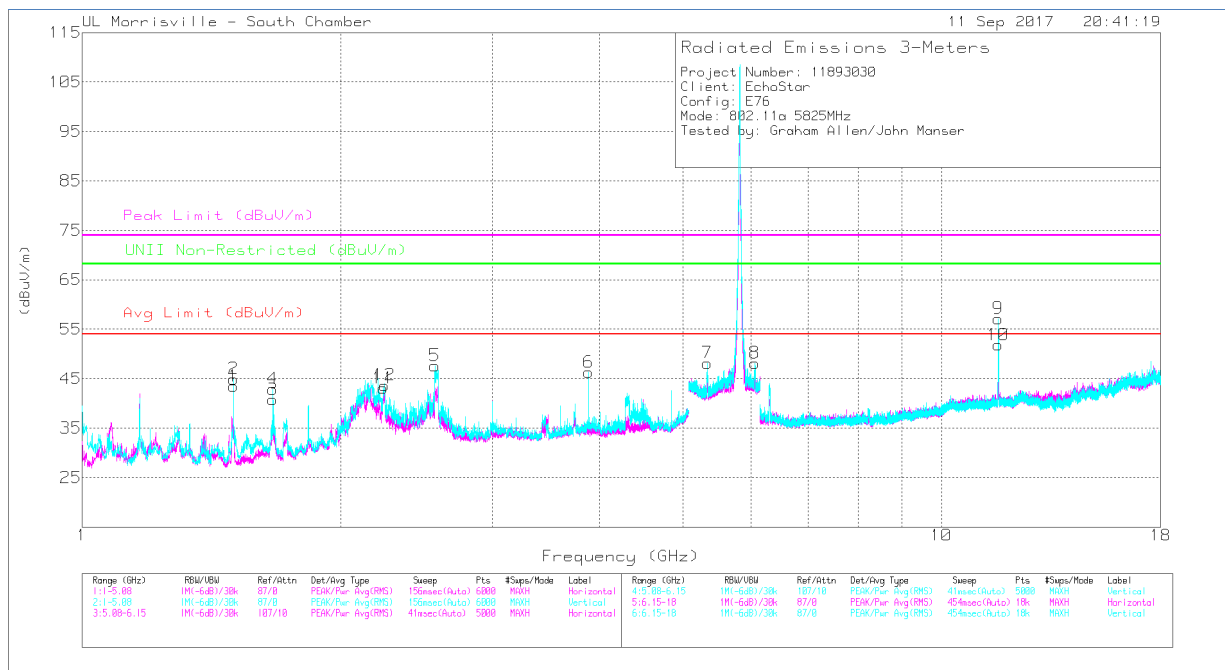
MID CHANNEL



Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.167	54.95	PK-U	27.9	-35.3	0	47.55	-	-	74	-26.45	-	-	315	243	H
	* 1.167	48.71	ADR	27.9	-35.3	0.25	41.56	54	-12.44	-	-	-	-	315	243	H
3	* 1.5	56.02	PK-U	27.9	-35	0	48.92	-	-	74	-25.08	-	-	51	339	H
	* 1.5	52.45	ADR	27.9	-35	0.25	45.6	54	-8.4	-	-	-	-	51	339	H
11	* 1.667	58.14	PK-U	28.7	-34.3	0	52.54	-	-	74	-21.46	-	-	246	355	H
	* 1.667	46.58	ADR	28.7	-34.3	0.25	41.23	54	-12.77	-	-	-	-	246	355	H
2	* 1.5	58.64	PK-U	27.9	-35	0	51.54	-	-	74	-22.46	-	-	114	294	V
	* 1.5	53.42	ADR	27.9	-35	0.25	46.57	54	-7.43	-	-	-	-	114	294	V
4	* 1.667	56.38	PK-U	28.7	-34.3	0	50.78	-	-	74	-23.22	-	-	324	194	V
	* 1.667	47.8	ADR	28.7	-34.3	0.25	42.45	54	-11.55	-	-	-	-	324	194	V
6	* 3.857	49.32	PK-U	33.3	-32.7	0	49.92	-	-	74	-24.08	-	-	268	102	V
	* 3.857	45.15	ADR	33.3	-32.7	0.25	46	54	-8	-	-	-	-	268	102	V
10	* 1.167	55.09	PK-U	27.9	-35.3	0	47.69	-	-	74	-26.31	-	-	317	183	V
	* 1.167	47.52	ADR	27.9	-35.3	0.25	40.37	54	-13.63	-	-	-	-	317	183	V
8	* 11.572	46.42	PK-U	38.3	-24.8	0	59.92	-	-	74	-14.08	-	-	135	111	H
	* 11.572	35.11	ADR	38.3	-24.8	0.25	48.86	54	-5.14	-	-	-	-	135	111	H
9	* 11.567	49.04	PK-U	38.3	-24.8	0	62.54	-	-	74	-11.46	-	-	13	102	V
	* 11.566	38.14	ADR	38.3	-24.8	0.25	51.89	54	-2.11	-	-	-	-	13	102	V
5	2.588	57.29	PK-U	32.2	-33.9	0	55.59	-	-	-	-	68.2	-12.61	84	104	V
7	6.025	42.46	PK-U	35.2	-22.8	0	54.86	-	-	-	-	68.2	-13.34	37	117	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



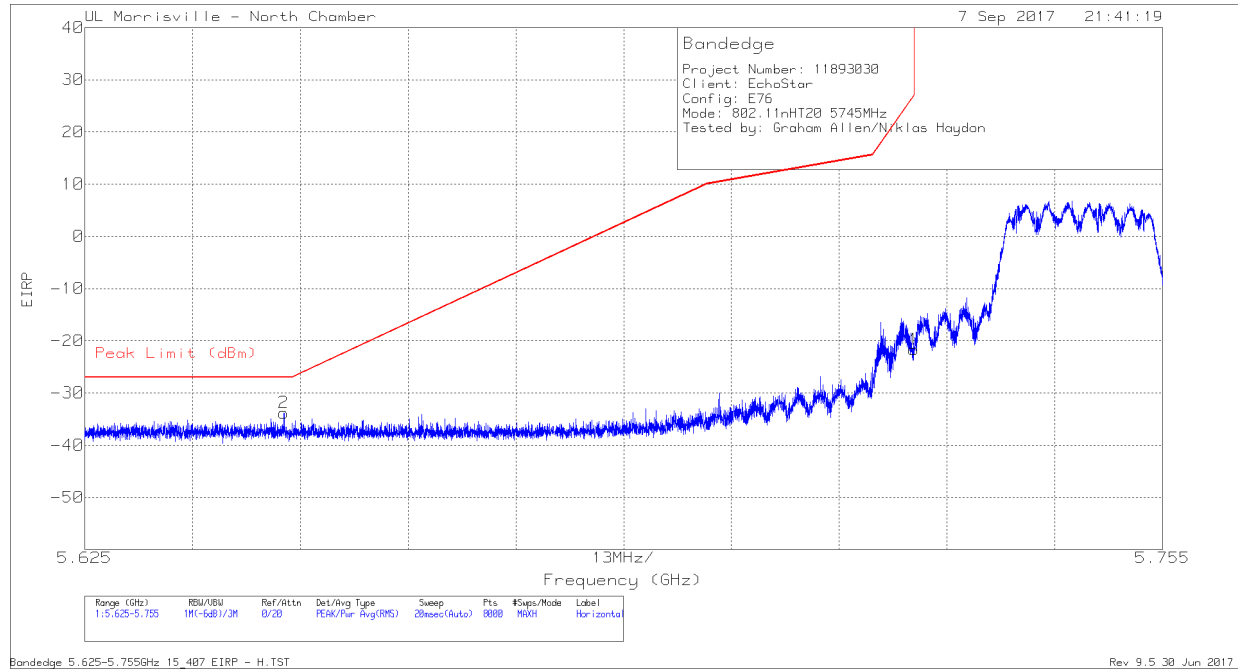
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11	* 2.239	53.26	PK-U	32	-33.9	0	51.36	-	-	74	-22.64	-	-	195	208	H
	* 2.239	38.37	ADR	32	-33.9	0.25	36.72	54	-17.28	-	-	-	-	195	208	H
3	* 1.667	57.54	PK-U	28.7	-34.3	0	51.94	-	-	74	-22.06	-	-	251	357	H
	* 1.667	47.1	ADR	28.7	-34.3	0.25	41.75	54	-12.25	-	-	-	-	251	357	H
1	* 1.5	56.05	PK-U	27.9	-35	0	48.95	-	-	74	-25.05	-	-	54	339	H
	* 1.5	52.46	ADR	27.9	-35	0.25	45.61	54	-8.39	-	-	-	-	54	339	H
12	* 2.25	53.46	PK-U	31.9	-33.9	0	51.46	-	-	74	-22.54	-	-	300	240	V
	* 2.249	40.71	ADR	31.9	-33.9	0.25	38.96	54	-15.04	-	-	-	-	300	240	V
6	* 3.883	49.42	PK-U	33.3	-32.5	0	50.22	-	-	74	-23.78	-	-	264	103	V
	* 3.883	45.31	ADR	33.3	-32.5	0.25	46.36	54	-7.64	-	-	-	-	264	103	V
4	* 1.667	56.55	PK-U	28.7	-34.3	0	50.95	-	-	74	-23.05	-	-	323	191	V
	* 1.667	47.68	ADR	28.7	-34.3	0.25	42.33	54	-11.67	-	-	-	-	323	191	V
2	* 1.5	58.13	PK-U	27.9	-35	0	51.03	-	-	74	-22.97	-	-	110	400	V
	* 1.5	53.97	ADR	27.9	-35	0.25	47.12	54	-6.88	-	-	-	-	110	400	V
10	* 11.647	45.8	PK-U	38.4	-24.8	0	59.4	-	-	74	-14.6	-	-	129	112	H
	* 11.647	34.73	ADR	38.4	-24.8	0.25	48.58	54	-5.42	-	-	-	-	129	112	H
9	* 11.651	49.78	PK-U	38.4	-24.8	0	63.38	-	-	74	-10.62	-	-	17	112	V
	* 11.651	39.15	ADR	38.4	-24.8	0.25	53	54	-1	-	-	-	-	17	112	V
5	2.572	55.87	PK-U	32.2	-33.9	0	54.17	-	-	-	-	68.2	-14.03	79	114	V
7	5.34	44.13	PK-U	34.4	-22.9	0	55.63	-	-	-	-	68.2	-12.57	115	103	V
8	6.069	42.93	PK-U	35.3	-22.8	0	55.43	-	-	-	-	68.2	-12.77	53	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

9.8. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE

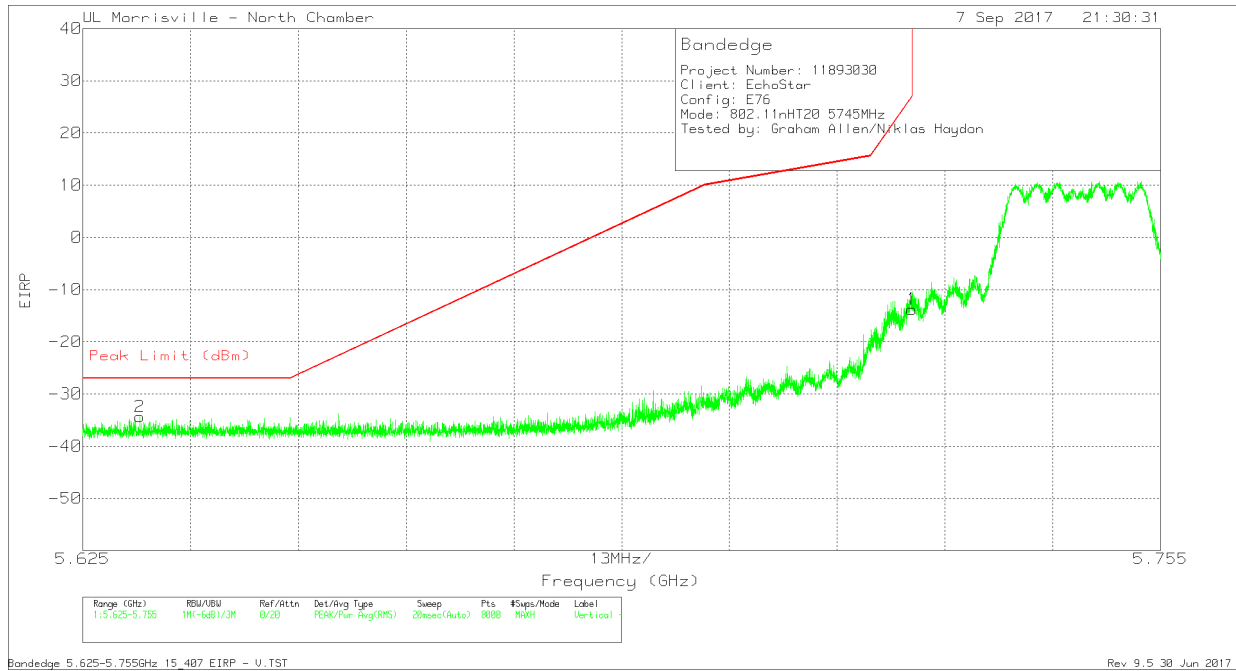
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.649	-57.7	Pk	34.6	-22.5	11.8	0	-33.8	-27	-6.8	41	135	H
1	5.725	-45.85	Pk	34.7	-22.3	11.8	0	-21.65	27	-48.65	41	135	H

Pk - Peak detector

LOW CHANNEL VERTICAL

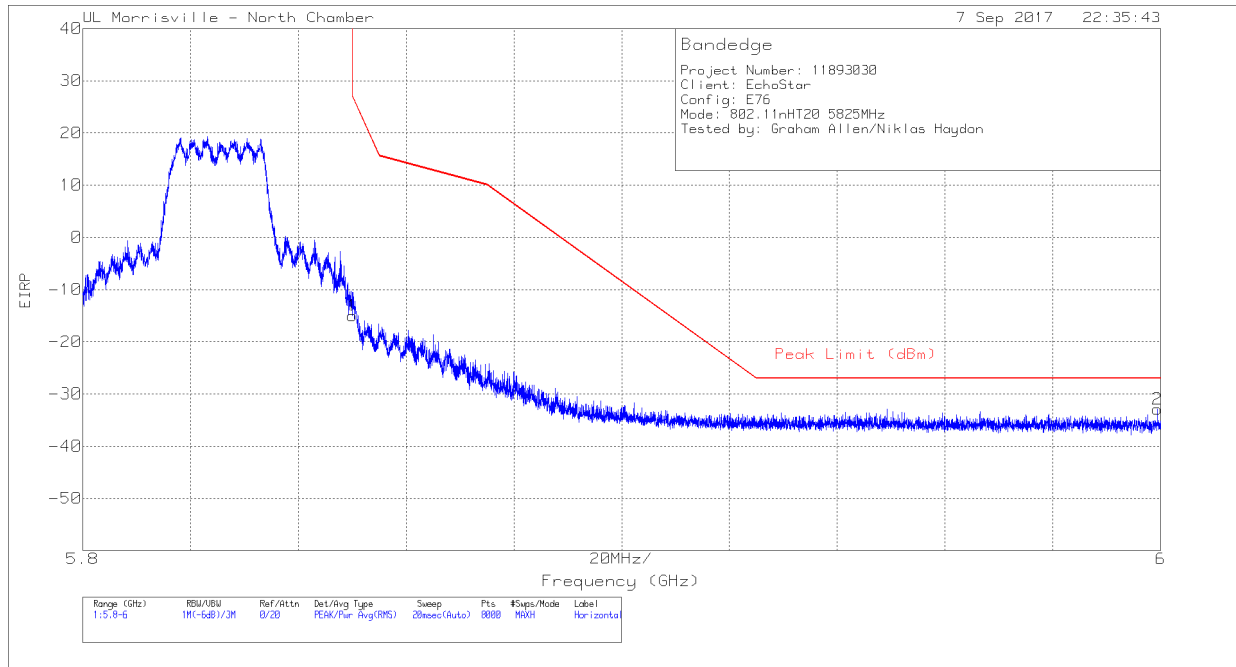


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.632	-58.24	Pk	34.6	-22.5	11.8	0	-34.34	-27	-7.34	344	108	V
1	5.725	-37.97	Pk	34.7	-22.3	11.8	0	-13.77	27	-40.77	344	108	V

Pk - Peak detector

AUTHORIZED BANDEGE

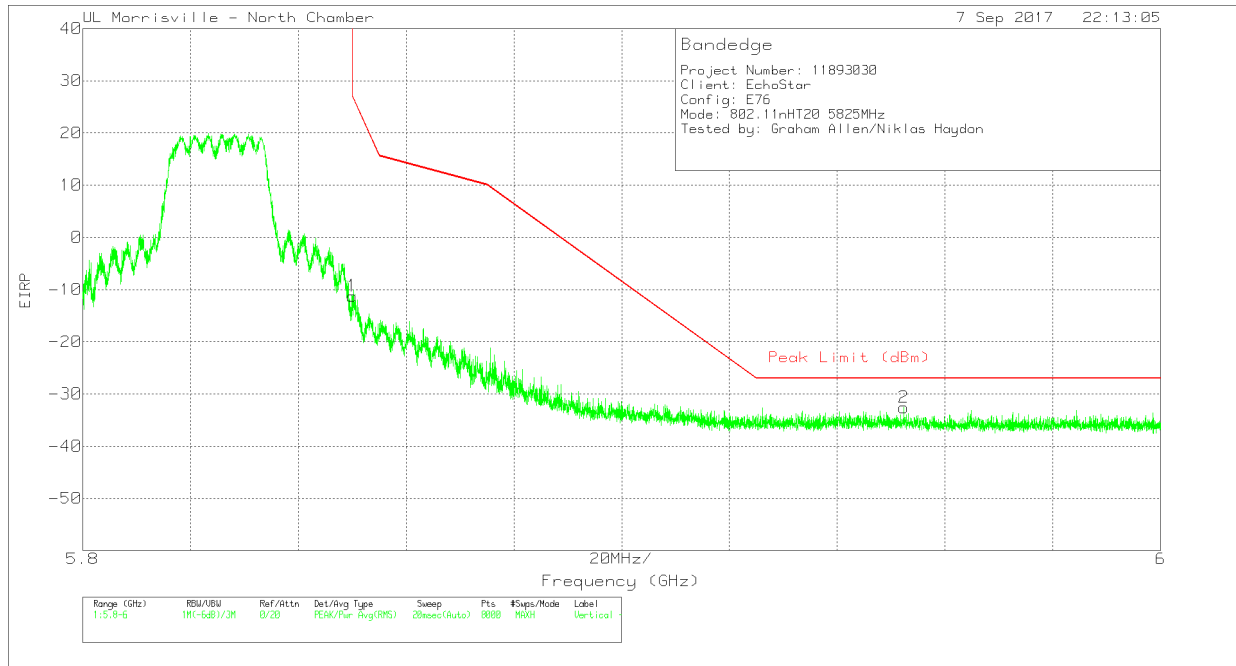
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/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	-39.84	Pk	34.9	-21.9	11.8	0	-15.04	26.99	-42.03	229	240	H
2	5.999	-58.39	Pk	35.1	-21.4	11.8	0	-32.89	-27	-5.89	229	240	H

Pk - Peak detector

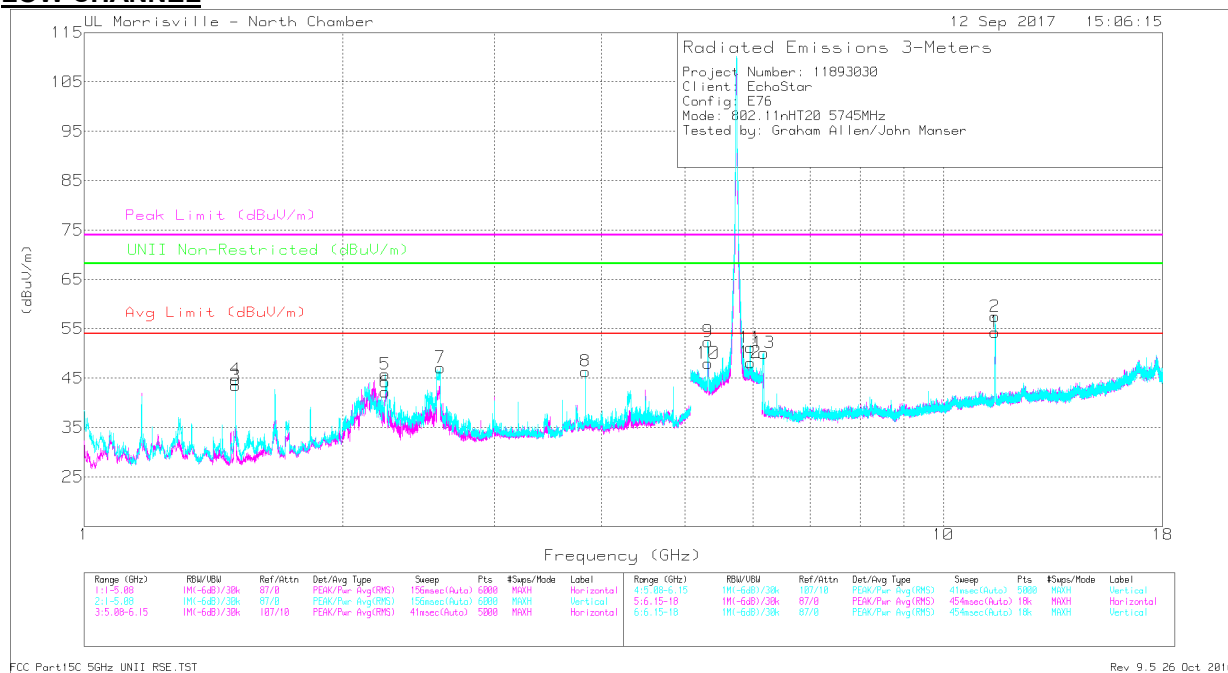
HIGH CHANNEL VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/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	-36.04	Pk	34.9	-21.9	11.8	0	-11.24	26.99	-38.23	336	107	V
2	5.952	-57.78	Pk	34.9	-21.5	11.8	0	-32.58	-27	-5.58	336	107	V

Pk - Peak detector

**HARMONICS AND SPURIOUS EMISSIONS
 LOW CHANNEL**



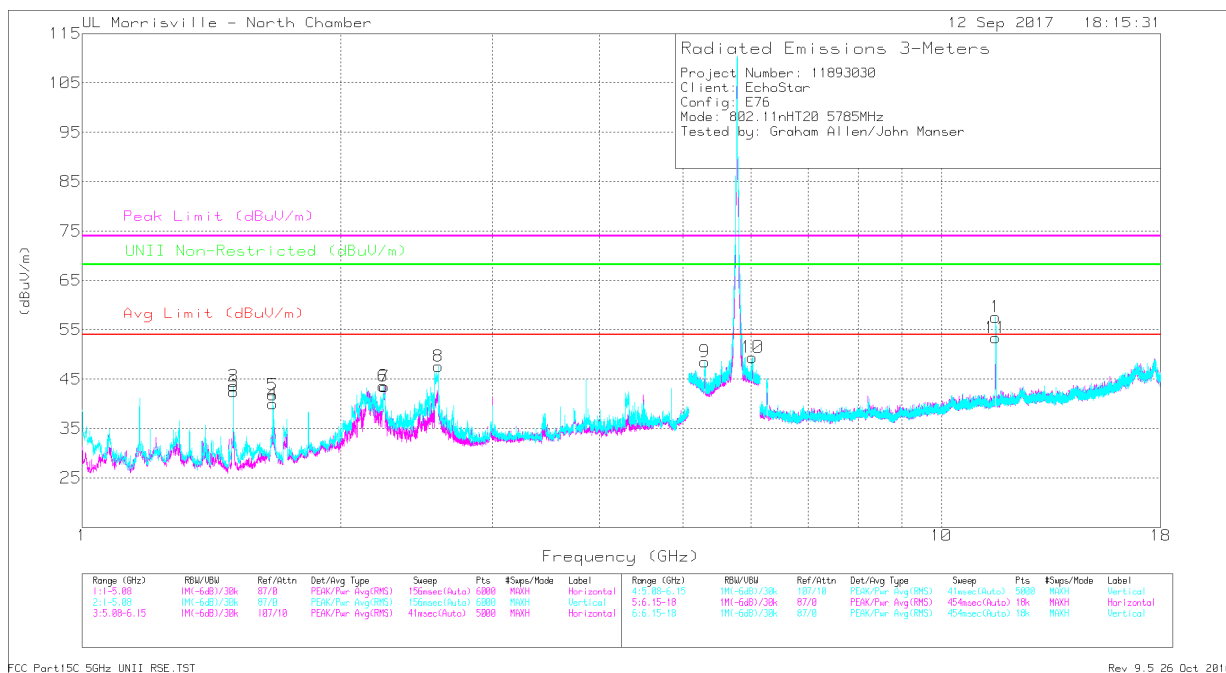
FCC Part15C 5GHz UNII RSE.TST

Rev 9.5 26 Oct 2016

Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 11.491	51.37	PK-U	38.2	-25.5	0	64.07	-	-	74	-9.93	-	-	64	112	H
	* 11.491	38.33	ADR	38.2	-25.5	0.47	51.5	54	-2.5	-	-	-	-	64	112	H
3	* 1.5	57	PK-U	27.8	-35.9	0	48.9	-	-	74	-25.1	-	-	347	294	H
	* 1.5	53.45	ADR	27.8	-35.9	0.47	45.82	54	-8.18	-	-	-	-	347	294	H
6	* 2.239	54.3	PK-U	31.8	-34.1	0	52	-	-	74	-22	-	-	126	233	H
	* 2.239	40.68	ADR	31.8	-34.1	0.47	38.85	54	-15.15	-	-	-	-	126	233	H
4	* 1.5	56.98	PK-U	27.8	-35.9	0	48.88	-	-	74	-25.12	-	-	323	148	V
	* 1.5	50.57	ADR	27.8	-35.9	0.47	42.94	54	-11.06	-	-	-	-	323	148	V
5	* 2.239	53.53	PK-U	31.8	-34.1	0	51.23	-	-	74	-22.77	-	-	220	244	V
	* 2.239	41.01	ADR	31.8	-34.1	0.47	39.18	54	-14.82	-	-	-	-	220	244	V
8	* 3.83	48.38	PK-U	33.4	-32.2	0	49.58	-	-	74	-24.42	-	-	187	102	V
	* 3.83	43.57	ADR	33.4	-32.2	0.47	45.24	54	-8.76	-	-	-	-	187	102	V
2	* 11.491	53.09	PK-U	38.2	-25.5	0	65.79	-	-	74	-8.21	-	-	297	104	V
	* 11.491	40.32	ADR	38.2	-25.5	0.47	53.49	54	-0.51	-	-	-	-	297	104	V
7	2.598	56.27	PK-U	32.4	-33.6	0	55.07	-	-	-	-	68.2	-13.13	19	112	V
10	5.324	47.49	PK-U	34.4	-22.6	0	59.29	-	-	-	-	68.2	-8.91	41	135	V
9	5.327	44.31	PK-U	34.4	-22.6	0	56.11	-	-	-	-	68.2	-12.09	214	312	H
12	5.966	43.47	PK-U	35	-21.5	0	56.97	-	-	-	-	68.2	-11.23	222	207	H
11	5.966	45.42	PK-U	35	-21.5	0	58.92	-	-	-	-	68.2	-9.28	345	105	V
13	6.178	51.11	PK-U	35.3	-30.8	0	55.61	-	-	-	-	68.2	-12.59	218	155	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

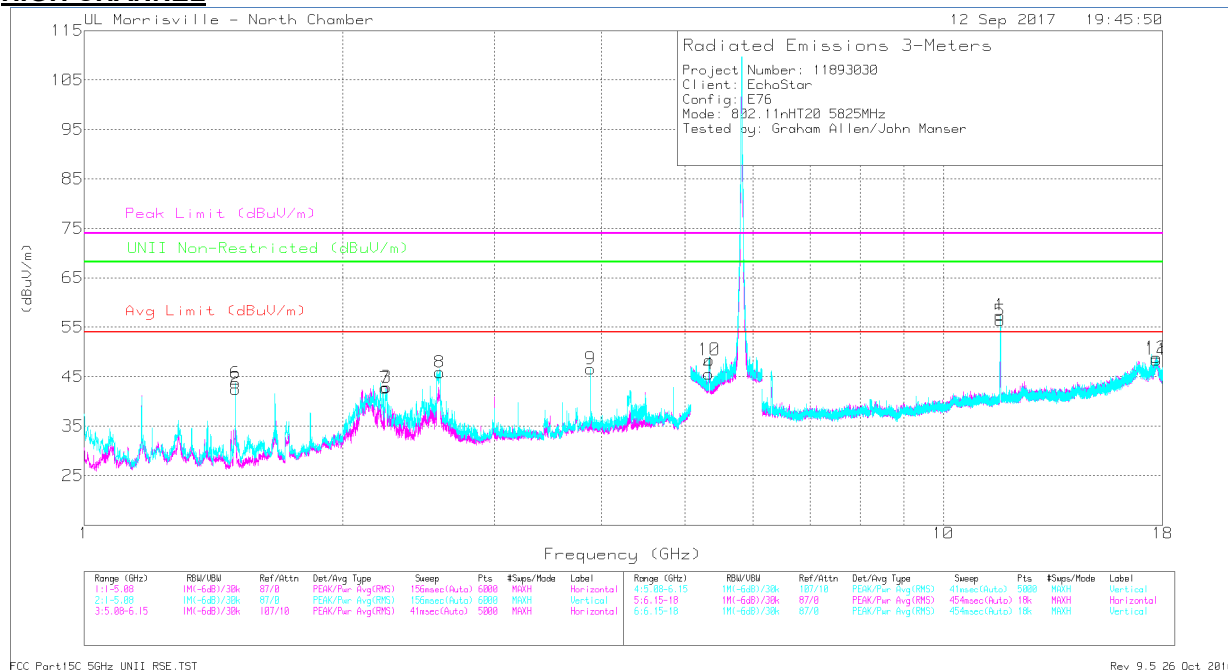
MID CHANNEL



Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 1.5	56.56	PK-U	27.8	-35.9	0	48.46	-	-	74	-25.54	-	-	351	294	H
	* 1.5	53.09	ADR	27.8	-35.9	0.47	45.46	54	-8.54	-	-	-	-	351	294	H
4	* 1.667	55.39	PK-U	28.5	-34.9	0	48.99	-	-	74	-25.01	-	-	168	244	H
	* 1.667	44.46	ADR	28.5	-34.9	0.47	38.53	54	-15.47	-	-	-	-	168	244	H
7	* 2.249	53.92	PK-U	31.7	-34	0	51.62	-	-	74	-22.38	-	-	125	259	H
	* 2.249	41.58	ADR	31.7	-34	0.47	39.75	54	-14.25	-	-	-	-	125	259	H
2	* 1.5	57.25	PK-U	27.8	-35.9	0	49.15	-	-	74	-24.85	-	-	323	156	V
	* 1.5	50.34	ADR	27.8	-35.9	0.47	42.71	54	-11.29	-	-	-	-	323	156	V
5	* 1.667	57.3	PK-U	28.5	-34.9	0	50.9	-	-	74	-23.1	-	-	253	253	V
	* 1.667	48.08	ADR	28.5	-34.9	0.47	42.15	54	-11.85	-	-	-	-	253	253	V
6	* 2.239	53.33	PK-U	31.8	-34.1	0	51.03	-	-	74	-22.97	-	-	227	306	V
	* 2.239	39.65	ADR	31.8	-34.1	0.47	37.82	54	-16.18	-	-	-	-	227	306	V
11	* 11.571	46.67	PK-U	38.3	-26.2	0	58.77	-	-	74	-15.23	-	-	3	201	H
	* 11.571	33.55	ADR	38.3	-26.2	0.47	46.12	54	-7.88	-	-	-	-	3	201	H
1	* 11.571	52.52	PK-U	38.3	-26.2	0	64.62	-	-	74	-9.38	-	-	304	107	V
	* 11.571	39.97	ADR	38.3	-26.2	0.47	52.54	54	-1.46	-	-	-	-	304	107	V
8	2.598	56.33	PK-U	32.4	-33.6	0	55.13	-	-	-	-	68.2	-13.07	21	106	V
9	5.303	44.28	PK-U	34.4	-22.6	0	56.08	-	-	-	-	68.2	-12.12	44	147	V
10	6.029	44.2	PK-U	35.1	-21.3	0	58	-	-	-	-	68.2	-10.2	347	106	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



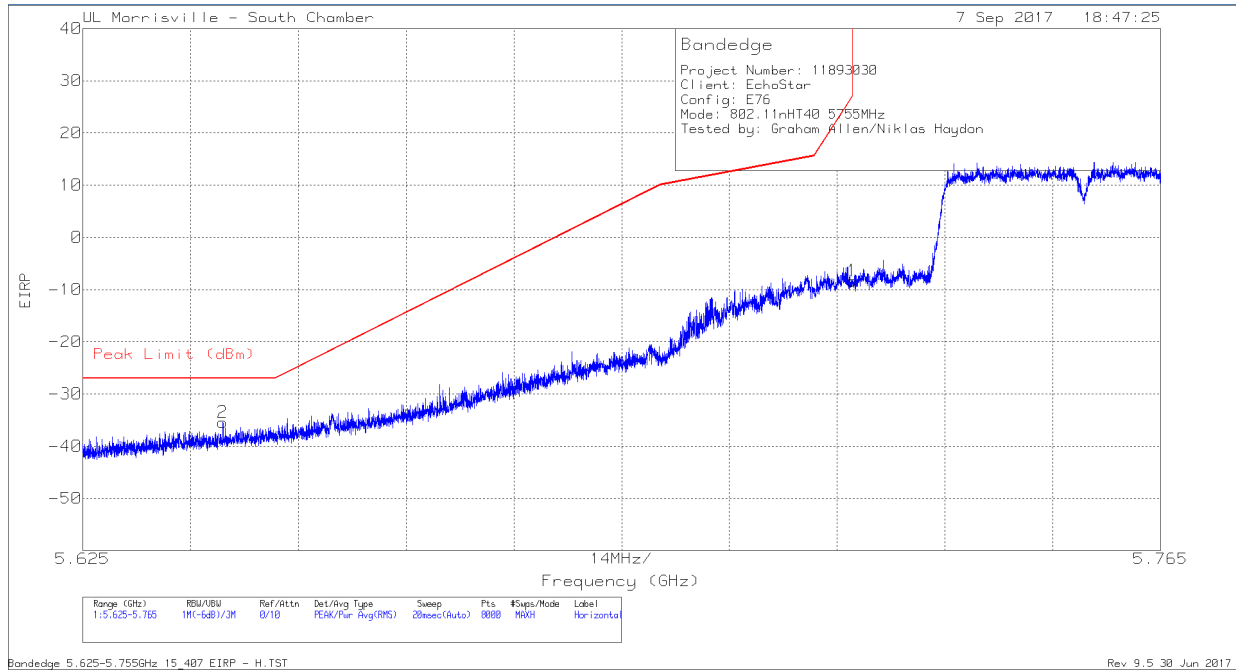
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 1.5	57.22	PK-U	27.8	-35.9	0	49.12	-	-	74	-24.88	-	-	342	295	H
	* 1.5	53.62	ADR	27.8	-35.9	0.47	45.99	54	-8.01	-	-	-	-	342	295	H
3	* 2.25	52.42	PK-U	31.7	-34	0	50.12	-	-	74	-23.88	-	-	158	263	H
	* 2.25	39.04	ADR	31.7	-34	0.47	37.21	54	-16.79	-	-	-	-	158	263	H
6	* 1.5	58.12	PK-U	27.8	-35.9	0	50.02	-	-	74	-23.98	-	-	51	283	V
	* 1.5	52.11	ADR	27.8	-35.9	0.47	44.48	54	-9.52	-	-	-	-	51	283	V
7	* 2.239	52.19	PK-U	31.8	-34.1	0	49.89	-	-	74	-24.11	-	-	222	204	V
	* 2.239	39.22	ADR	31.8	-34.1	0.47	37.39	54	-16.61	-	-	-	-	222	204	V
9	* 3.883	49.38	PK-U	33.4	-32.1	0	50.68	-	-	74	-23.32	-	-	188	102	V
	* 3.883	44.99	ADR	33.4	-32.1	0.47	46.76	54	-7.24	-	-	-	-	188	102	V
5	* 11.648	49.75	PK-U	38.3	-26.3	0	61.75	-	-	74	-12.25	-	-	60	124	H
	* 11.649	36.78	ADR	38.3	-26.3	0.47	49.25	54	-4.75	-	-	-	-	60	124	H
11	* 17.704	35.04	PK-U	41.2	-19.9	0	56.34	-	-	74	-17.66	-	-	32	137	H
	* 17.704	22.69	ADR	41.2	-19.9	0.47	44.46	54	-9.54	-	-	-	-	32	137	H
1	* 11.651	53.37	PK-U	38.3	-26.3	0	65.37	-	-	74	-8.63	-	-	303	109	V
	* 11.651	39.97	ADR	38.3	-26.3	0.47	52.44	54	-1.56	-	-	-	-	303	109	V
12	* 17.703	34.92	PK-U	41.2	-19.9	0	56.22	-	-	74	-17.78	-	-	341	137	V
	* 17.703	22.65	ADR	41.2	-19.9	0.47	44.42	54	-9.58	-	-	-	-	341	137	V
8	2.592	55.07	PK-U	32.3	-33.6	0	53.77	-	-	-	-	68.2	-14.43	12	108	V
4	5.335	42.9	PK-U	34.4	-22.7	0	54.6	-	-	-	-	68.2	-13.6	216	329	H
10	5.344	42.19	PK-U	34.4	-22.7	0	53.89	-	-	-	-	68.2	-14.31	216	104	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

9.9. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE

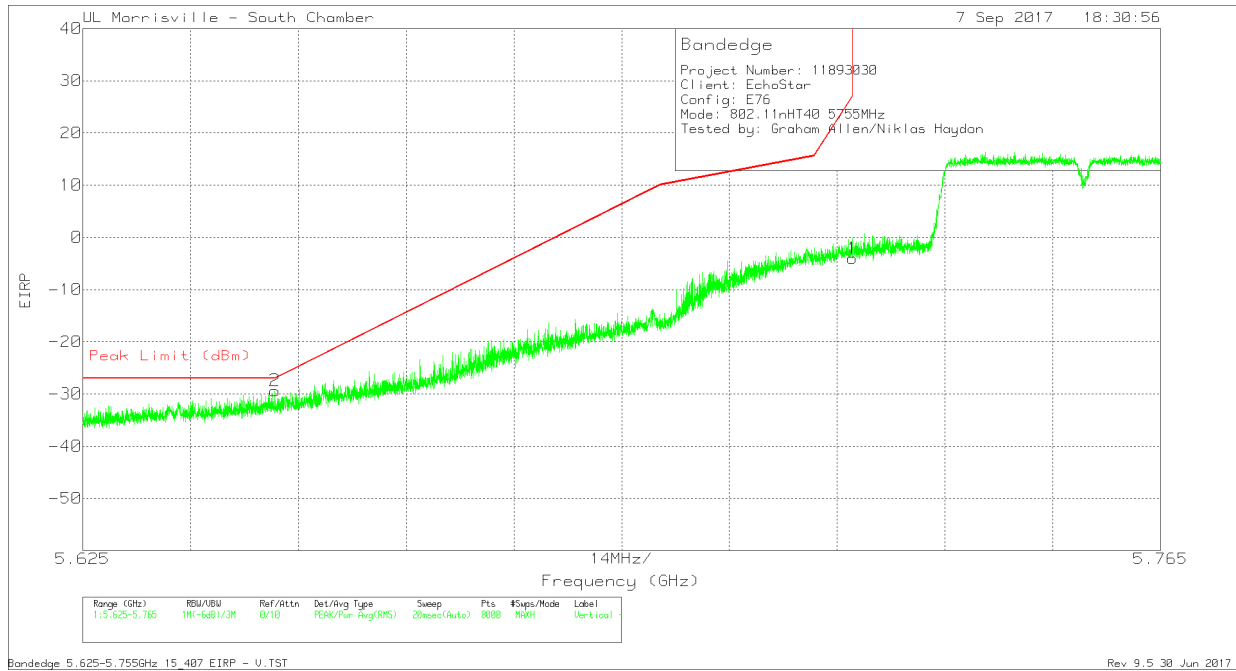
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.643	-58.42	Pk	34.6	-23.4	11.8	0	-35.42	-27	-8.42	304	278	H
1	5.725	-31.33	Pk	34.6	-23.4	11.8	0	-8.33	26.97	-35.3	304	278	H

Pk - Peak detector

LOW CHANNEL VERTICAL

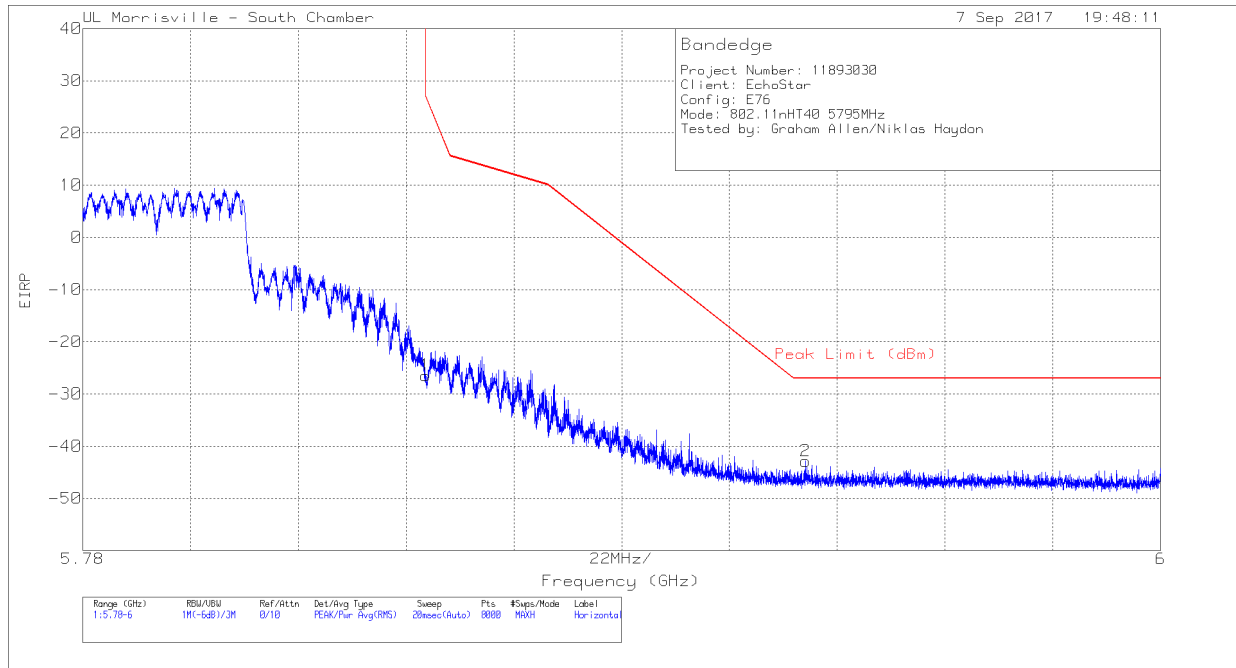


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.65	-52.47	Pk	34.6	-23.3	11.8	0	-29.37	-27	-2.37	123	199	V
1	5.725	-27.05	Pk	34.6	-23.4	11.8	0	-4.05	26.97	-31.02	123	199	V

Pk - Peak detector

AUTHORIZED BANDEGE

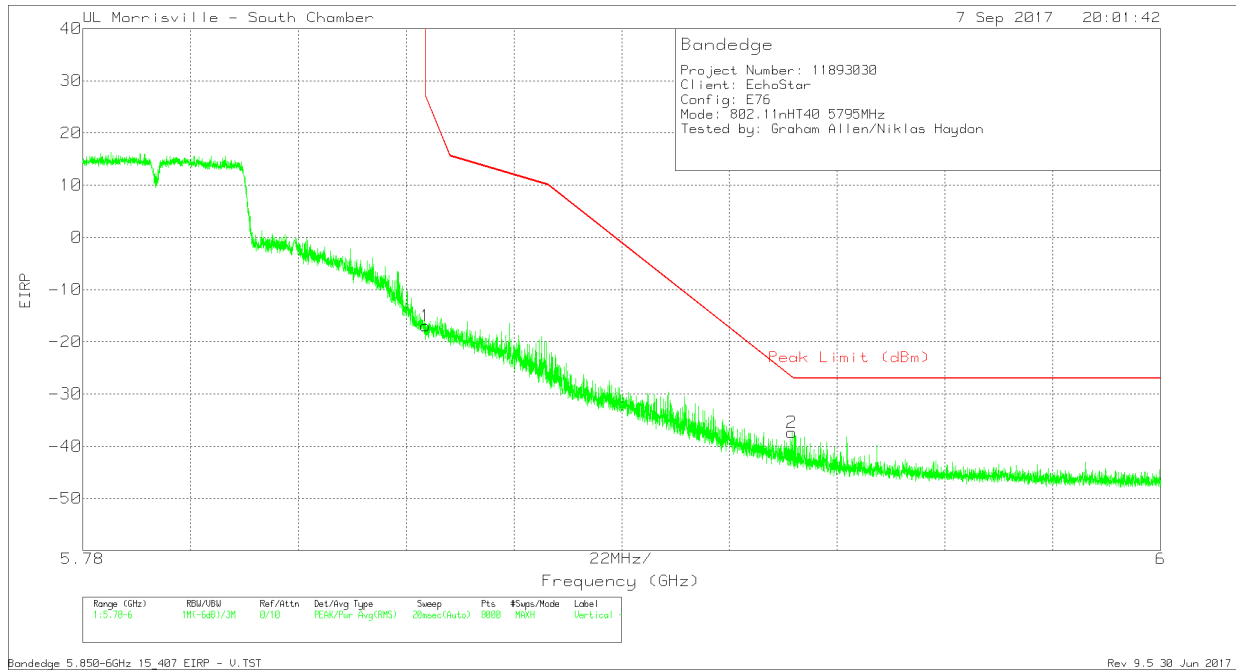
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/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	-49.93	Pk	34.8	-23.1	11.8	0	-26.43	26.95	-53.38	159	255	H
2	5.927	-66.75	Pk	34.9	-22.8	11.8	0	-42.85	-27	-15.85	159	255	H

Pk - Peak detector

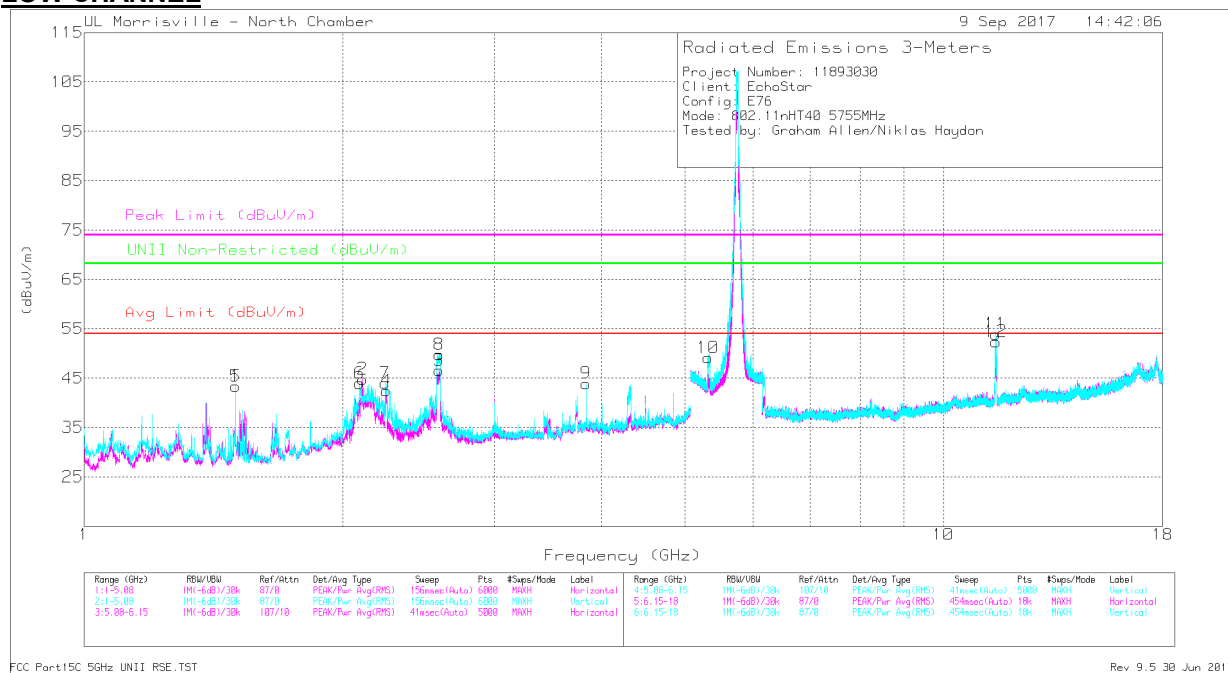
HIGH CHANNEL VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/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	-40.45	Pk	34.8	-23.1	11.8	0	-16.95	26.95	-43.9	121	212	V
2	5.925	-61.18	Pk	34.9	-22.9	11.8	0	-37.38	-26.79	-10.59	121	212	V

Pk - Peak detector

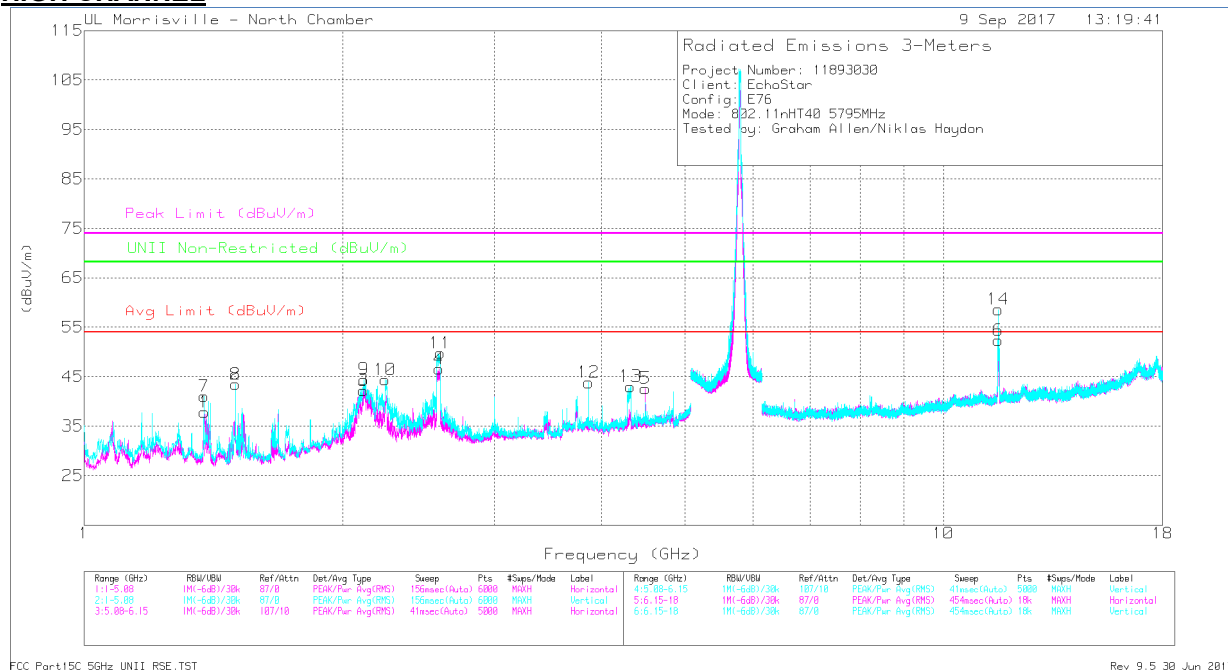
**HARMONICS AND SPURIOUS EMISSIONS
 LOW CHANNEL**



Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.5	56.36	PK-U	27.8	-35.9	0	48.26	-	-	74	-25.74	-	-	345	294	H
	* 1.5	53.02	ADR	27.8	-35.9	0.79	45.71	54	-8.29	-	-	-	-	345	294	H
4	* 2.25	53.7	PK-U	31.7	-34	0	51.4	-	-	74	-22.6	-	-	257	242	H
	* 2.25	38.26	ADR	31.7	-34	0.79	36.75	54	-17.25	-	-	-	-	257	242	H
5	* 11.516	48.77	PK-U	38.2	-25.7	0	61.27	-	-	74	-12.73	-	-	58	118	H
	* 11.516	35.81	ADR	38.2	-25.7	0.79	49.1	54	-4.9	-	-	-	-	58	118	H
12	* 1.5	57.79	PK-U	27.8	-35.9	0	49.69	-	-	74	-24.31	-	-	119	269	V
	* 1.5	53.07	ADR	27.8	-35.9	0.79	45.76	54	-8.24	-	-	-	-	119	269	V
2	* 2.239	56.45	PK-U	31.8	-34.1	0	54.15	-	-	74	-19.85	-	-	146	330	V
	* 2.239	42.47	ADR	31.8	-34.1	0.79	40.96	54	-13.04	-	-	-	-	146	330	V
3	* 3.837	47.36	PK-U	33.4	-32.1	0	48.66	-	-	74	-25.34	-	-	182	102	V
	* 3.837	41.87	ADR	33.4	-32.1	0.79	43.96	54	-10.04	-	-	-	-	182	102	V
9	2.108	45.16	PK-U	31.1	-34.5	0	41.76	-	-	-	-	68.2	-26.44	345	104	H
11	2.108	52.96	PK-U	31.1	-34.5	0	49.56	-	-	-	-	68.2	-18.64	291	108	H
8	2.591	55.63	PK-U	32.3	-33.6	0	54.33	-	-	-	-	68.2	-13.87	265	103	H
7	2.092	53.4	PK-U	31.3	-34.5	0	50.2	-	-	-	-	68.2	-18	159	110	V
6	2.59	58.51	PK-U	32.3	-33.6	0	57.21	-	-	-	-	68.2	-10.99	18	102	V
10	5.325	44.94	PK-U	34.4	-22.6	0	56.74	-	-	-	-	68.2	-11.46	49	167	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



FCC Part 15C 5GHz UNII RSE-TST

Rev 9.5 30 Jun 2017

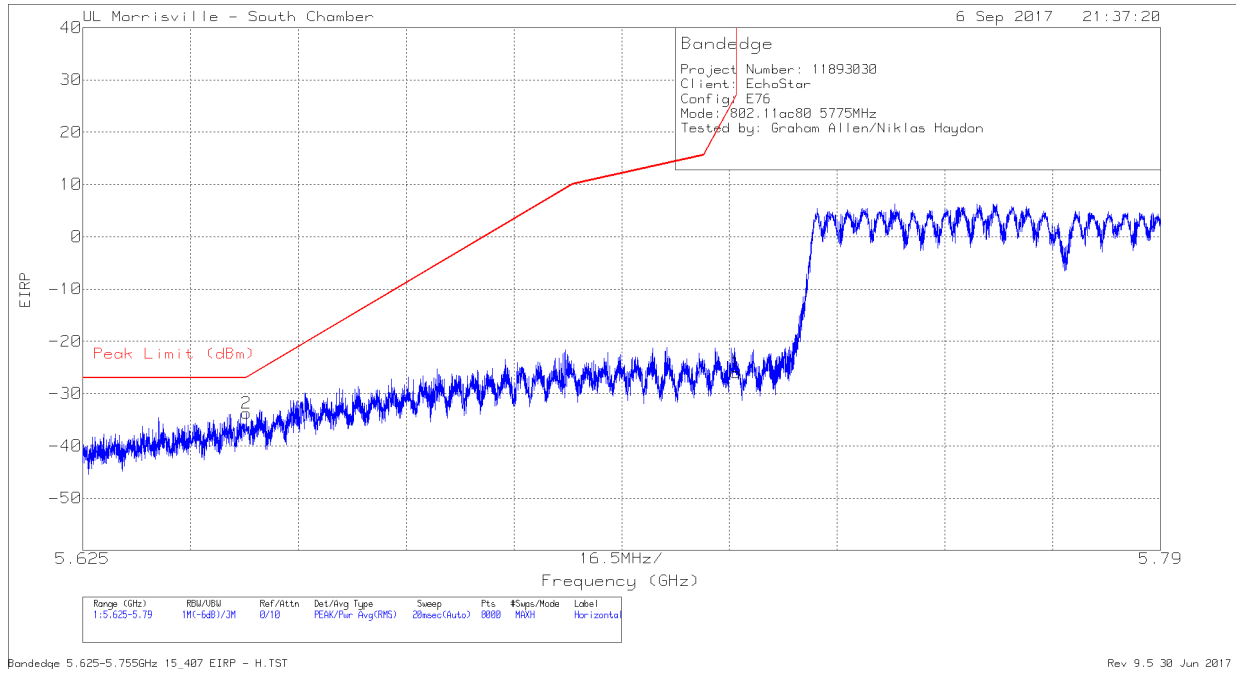
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.5	46.65	PK-U	33.9	-31.7	0	48.85	-	-	74	-25.15	-	-	98	381	H
	* 4.5	41.14	ADR	33.9	-31.7	0.79	44.13	54	-9.87	-	-	-	-	98	381	H
2	* 1.5	56.11	PK-U	27.8	-35.9	0	48.01	-	-	74	-25.99	-	-	340	292	H
	* 1.5	52.79	ADR	27.8	-35.9	0.79	45.48	54	-8.52	-	-	-	-	340	292	H
5	* 1.379	53.09	PK-U	29	-35.5	0	46.59	-	-	74	-27.41	-	-	73	223	H
	* 1.379	33.54	ADR	29	-35.5	0.79	27.83	54	-26.17	-	-	-	-	73	223	H
10	* 11.591	47.43	PK-U	38.3	-26.2	0	59.53	-	-	74	-14.47	-	-	51	120	H
	* 11.591	34.02	ADR	38.3	-26.2	0.79	46.91	54	-7.09	-	-	-	-	51	120	H
6	* 4.325	49.03	PK-U	33.6	-31.5	0	51.13	-	-	74	-22.87	-	-	170	116	V
	* 4.325	33.12	ADR	33.6	-31.5	0.79	36.01	54	-17.99	-	-	-	-	170	116	V
3	* 3.863	46.76	PK-U	33.4	-32.1	0	48.06	-	-	74	-25.94	-	-	300	141	V
	* 3.863	41.3	ADR	33.4	-32.1	0.79	43.39	54	-10.61	-	-	-	-	300	141	V
4	* 2.24	52.26	PK-U	31.8	-34.1	0	49.96	-	-	74	-24.04	-	-	226	202	V
	* 2.239	38.23	ADR	31.8	-34.1	0.79	36.72	54	-17.28	-	-	-	-	226	202	V
7	* 1.5	57.61	PK-U	27.8	-35.9	0	49.51	-	-	74	-24.49	-	-	127	267	V
	* 1.5	53.41	ADR	27.8	-35.9	0.79	46.1	54	-7.9	-	-	-	-	127	267	V
8	* 1.377	54.55	PK-U	29	-35.5	0	48.05	-	-	74	-25.95	-	-	112	259	V
	* 1.377	34.2	ADR	29	-35.5	0.79	28.49	54	-25.51	-	-	-	-	112	259	V
12	* 11.591	52.53	PK-U	38.3	-26.2	0	64.63	-	-	74	-9.37	-	-	277	113	V
	* 11.591	39.1	ADR	38.3	-26.2	0.79	51.99	54	-2.01	-	-	-	-	277	113	V
13	2.111	54.24	PK-U	31.1	-34.5	0	50.84	-	-	-	-	68.2	-17.36	284	156	H
9	2.589	55.45	PK-U	32.3	-33.6	0	54.15	-	-	-	-	68.2	-14.05	264	117	H
14	2.115	54.66	PK-U	31.1	-34.5	0	51.26	-	-	-	-	68.2	-16.94	4	274	V
11	2.598	57.91	PK-U	32.4	-33.6	0	56.71	-	-	-	-	68.2	-11.49	17	106	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

9.10. TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE

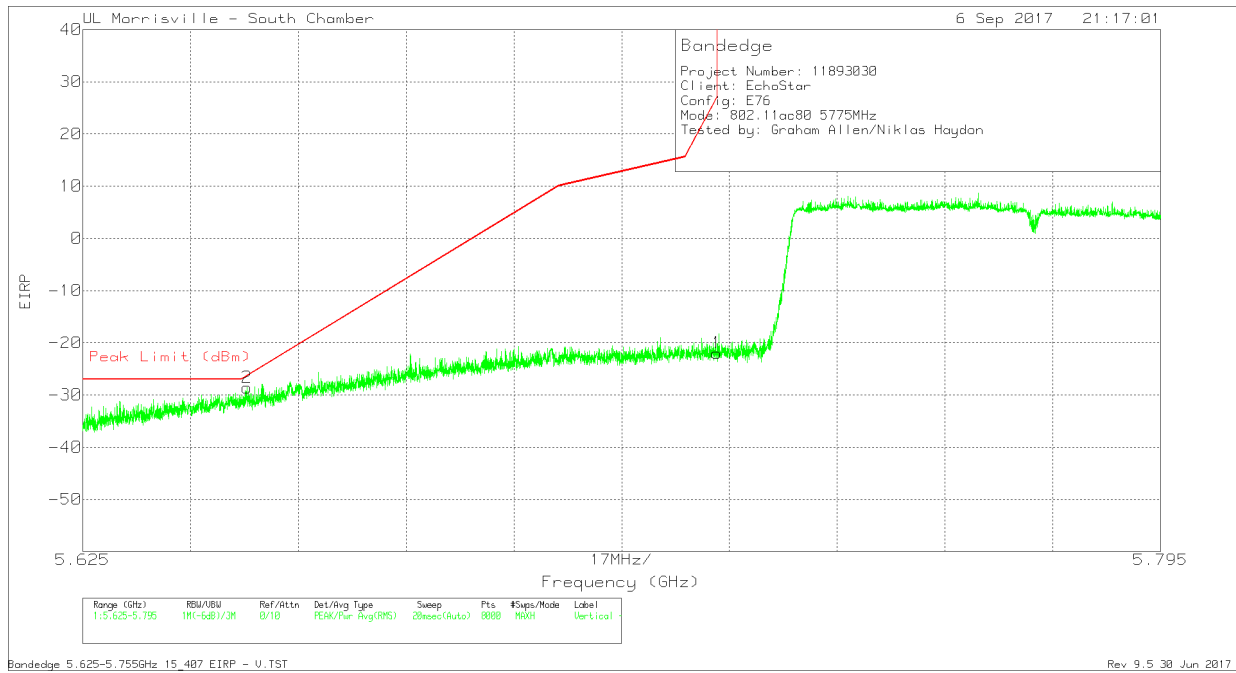
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.65	-56.87	Pk	34.6	-23.3	11.8	0	-33.77	-26.94	-6.83	122	325	H
1	5.725	-48.95	Pk	34.6	-23.4	11.8	0	-25.95	26.96	-52.91	122	325	H

Pk - Peak detector

LOW CHANNEL VERTICAL

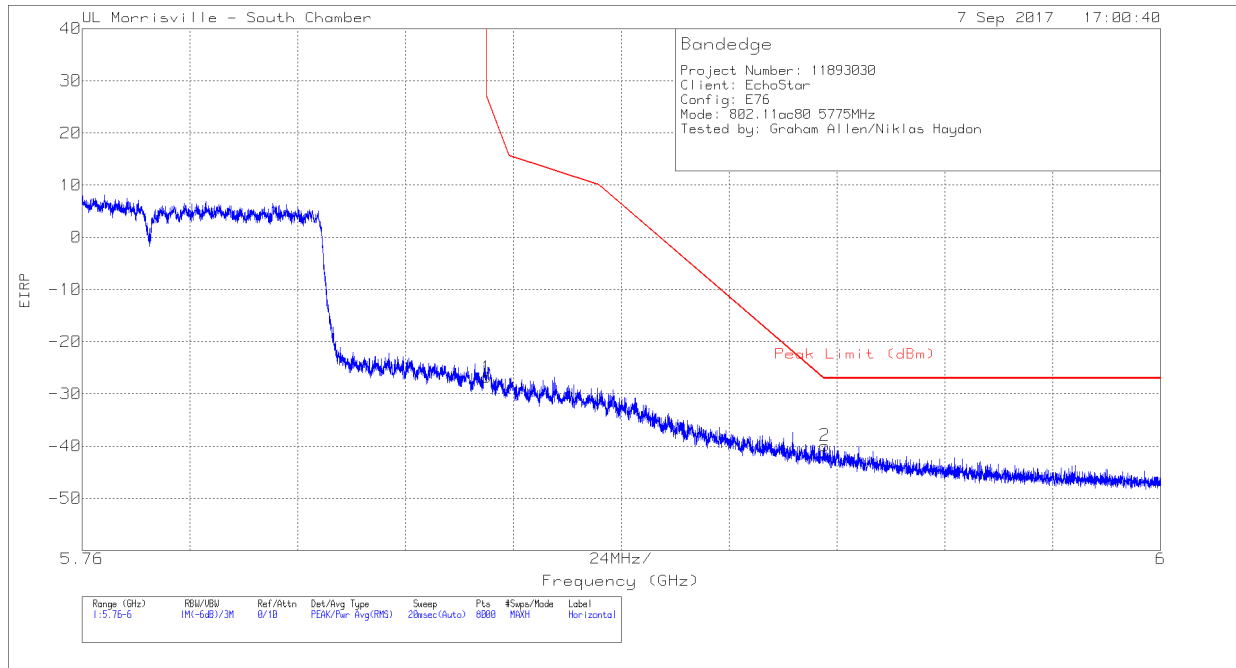


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.651	-51.69	Pk	34.6	-23.3	11.8	0	-28.59	-26.3	-2.29	135	178	V
1	5.725	-44.96	Pk	34.6	-23.4	11.8	0	-21.96	26.99	-48.95	135	178	V

Pk - Peak detector

AUTHORIZED BANDEGE

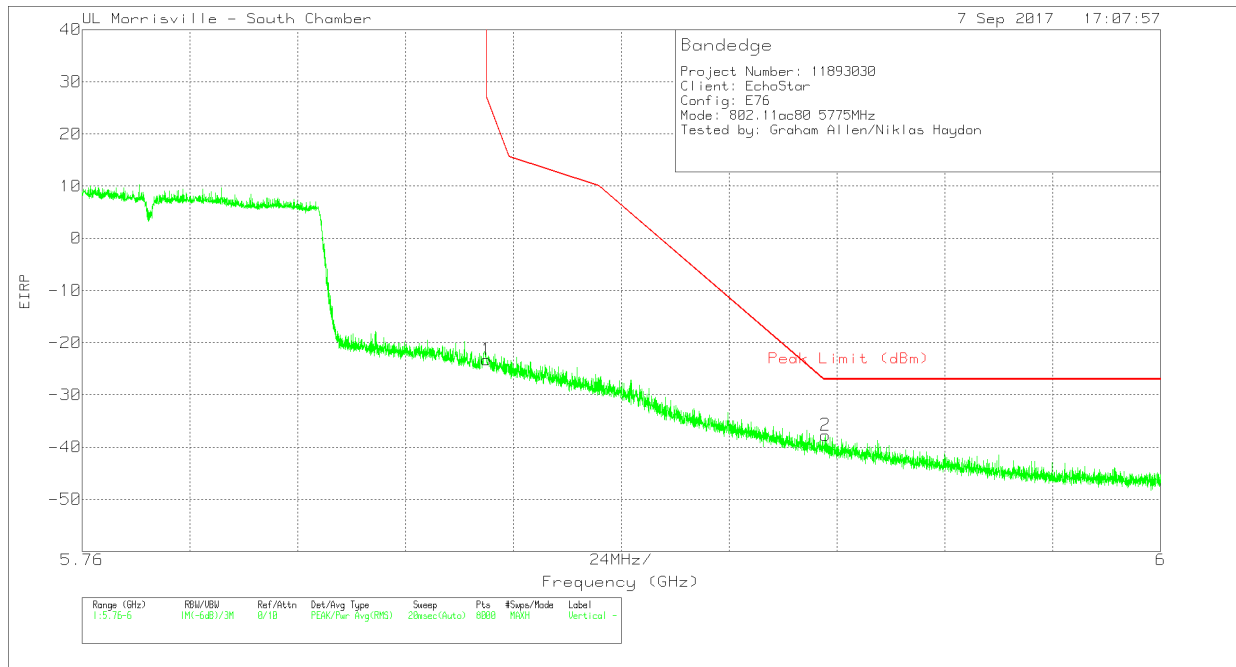
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/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	-50.27	Pk	34.8	-23.1	11.8	0	-26.77	26.97	-53.74	291	200	H
2	5.925	-63.69	Pk	34.9	-22.9	11.8	0	-39.89	-27	-12.89	291	200	H

Pk - Peak detector

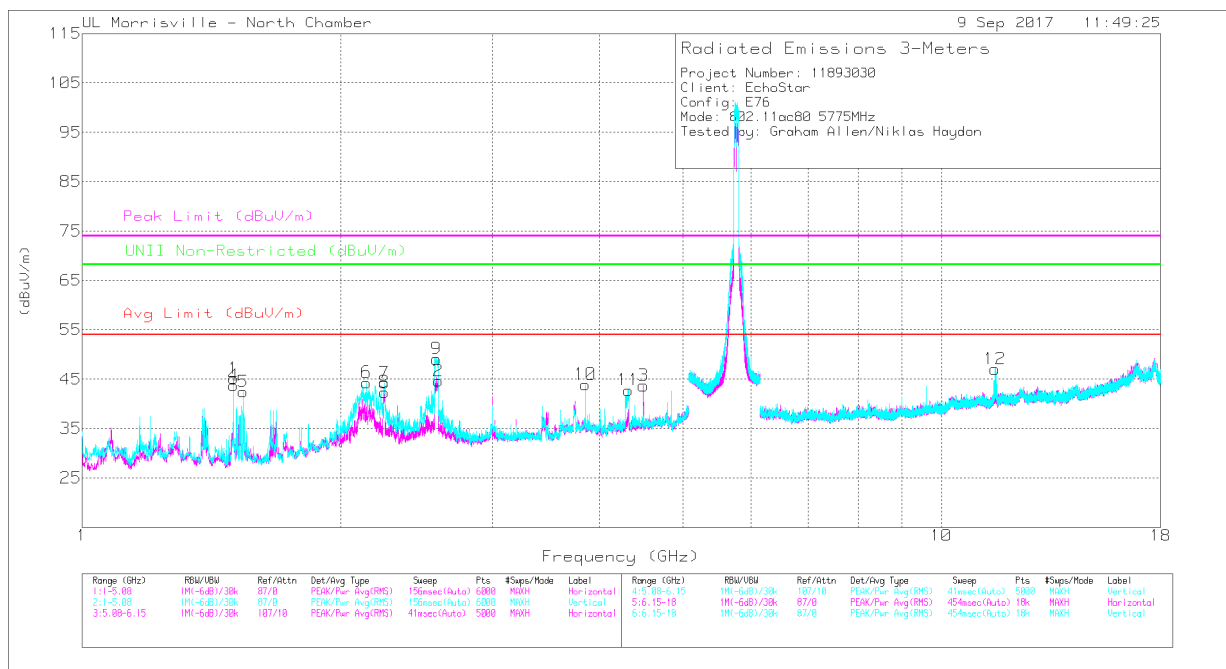
HIGH CHANNEL VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/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	-46.73	Pk	34.8	-23.1	11.8	0	-23.23	26.97	-50.2	118	140	V
2	5.925	-61.5	Pk	34.9	-22.9	11.8	0	-37.7	-27	-10.7	118	140	V

Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS



Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.5	56.46	PK-U	27.8	-35.9	0	48.36	-	-	74	-25.64	-	-	345	293	H
	* 1.5	53.14	ADR	27.8	-35.9	0.26	45.3	54	-8.7	-	-	-	-	345	293	H
3	* 4.5	46.14	PK-U	33.9	-31.7	0	48.34	-	-	74	-25.66	-	-	95	369	H
	* 4.5	40.29	ADR	33.9	-31.7	0.26	42.75	54	-11.25	-	-	-	-	95	369	H
8	* 2.25	52.67	PK-U	31.7	-34	0	50.37	-	-	74	-23.63	-	-	189	309	H
	* 2.25	40.2	ADR	31.7	-34	0.26	38.16	54	-15.84	-	-	-	-	189	309	H
4	* 1.5	58.35	PK-U	27.8	-35.9	0	50.25	-	-	74	-23.75	-	-	122	269	V
	* 1.5	53.56	ADR	27.8	-35.9	0.26	45.72	54	-8.28	-	-	-	-	122	269	V
5	* 1.538	59.31	PK-U	27.9	-35.6	0	51.61	-	-	74	-22.39	-	-	146	159	V
	* 1.539	33.53	ADR	27.9	-35.6	0.26	26.09	54	-27.91	-	-	-	-	146	159	V
7	* 2.25	51.92	PK-U	31.7	-34	0	49.62	-	-	74	-24.38	-	-	357	203	V
	* 2.249	36.72	ADR	31.7	-34	0.26	34.68	54	-19.32	-	-	-	-	357	203	V
10	* 3.85	46.53	PK-U	33.4	-32.1	0	47.83	-	-	74	-26.17	-	-	300	110	V
	* 3.85	40.92	ADR	33.4	-32.1	0.26	42.48	54	-11.52	-	-	-	-	300	110	V
11	* 4.324	49.47	PK-U	33.6	-31.5	0	51.57	-	-	74	-22.43	-	-	298	106	V
	* 4.324	33.95	ADR	33.6	-31.5	0.26	36.31	54	-17.69	-	-	-	-	298	106	V
12	* 11.548	39.6	PK-U	38.2	-25.9	0	51.9	-	-	74	-22.1	-	-	276	106	V
	* 11.548	26.7	ADR	38.2	-25.9	0.26	39.26	54	-14.74	-	-	-	-	276	106	V
2	2.597	54.67	PK-U	32.3	-33.6	0	53.37	-	-	-	-	68.2	-14.83	200	123	H
6	2.141	55.04	PK-U	31.1	-34.4	0	51.74	-	-	-	-	68.2	-16.46	310	129	V
9	2.584	58.12	PK-U	32.3	-33.6	0	56.82	-	-	-	-	68.2	-11.38	18	110	V

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

PK-U - U-NII: Maximum Peak

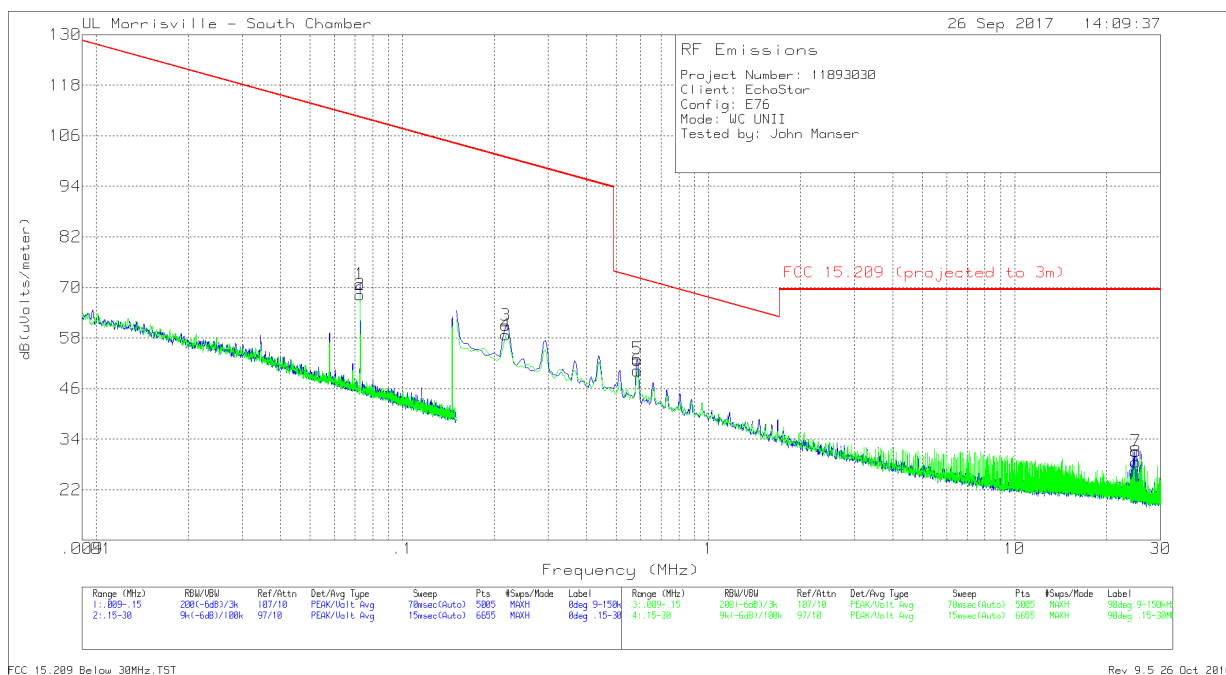
ADR - U-NII AD primary method, RMS average

9.11. WORST-CASE

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

Note: All measurements were made at a test distance of 3 m. The limits in the plots and tabular data are the FCC/IC limits extrapolated from the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to the measurement distance to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (specification distance / test distance) per FCC 15.31 (f) (2).

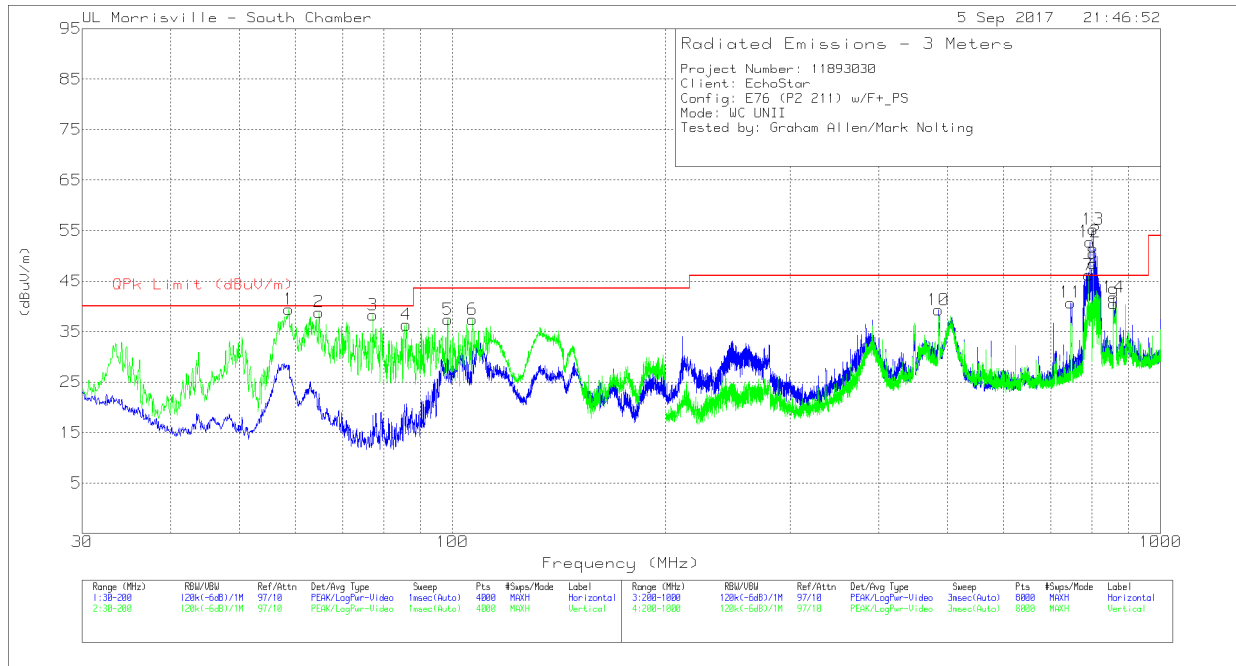
Although these tests were performed at a test site other than an open area test site, adequate comparison measurements were confirmed against an open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made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



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 AF (dB/m)	Cbl (dB)	DC Corr (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.209 (projected to 3m)	Margin (dB)	Azimuth (Degs)
1	.07278	59.54	Pk	11.2	.1	0	70.84	110.36	-39.52	0-360
2	.07278	56.99	Pk	11.2	.1	0	68.29	110.36	-42.07	0-360
3	.21729	50.21	Pk	10.7	.1	0	61.01	100.86	-39.85	0-360
4	.21729	48	Pk	10.7	.1	0	58.8	100.86	-42.06	0-360
5	.58514	42.18	Pk	10.8	.1	0	53.08	72.26	-19.18	0-360
6	.58514	39.36	Pk	10.8	.1	0	50.26	72.26	-22	0-360
7	24.90375	21.23	Pk	9.1	.8	0	31.13	69.54	-38.41	0-360
8	24.90375	18.66	Pk	9.1	.8	0	28.56	69.54	-40.98	0-360

Pk - Peak detector

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



Markers	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0074 AF (dB/m)	Cbl/Amp (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	QPK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
10	485.2526	40.83	Qp	22.2	-28.7	.25	34.58	46.02	-11.44	355	400	H
11	746.514	42.29	Qp	25.3	-28.2	.25	39.64	46.02	-6.38	274	203	H
12	794.9883	39.49	Qp	25.7	-28	.25	37.44	46.02	-8.58	111	185	H
13	803.3678	45.15	Qp	26	-27.7	.25	43.7	46.02	-2.32	108	129	H
9	858.0275	39.23	Qp	26.6	-27.4	.25	38.68	46.02	-7.34	196	103	H
1	58.748	55.97	Qp	11.8	-31.4	.25	36.62	40	-3.38	266	117	V
2	64.784	54.08	Qp	12.2	-31.4	.25	35.13	40	-4.87	242	201	V
3	77.1962	55.53	Qp	12.3	-31.3	.25	36.78	40	-3.22	250	110	V
4	86.0295	53.64	Qp	11.6	-31.1	.25	34.39	40	-5.61	222	153	V
5	98.457	53.32	Pk	13.9	-31	0	36.22	43.52	-7.3	246	119	V
6	106.6946	49.34	Qp	16.2	-31	.25	34.79	43.52	-8.73	192	104	V
7	791.6719	43.45	Qp	25.7	-27.8	.25	41.6	46.02	-4.42	295	137	V
8	803.4314	37.83	Qp	26	-27.7	.25	36.38	46.02	-9.64	39	109	V
14	857.6565	39.86	Qp	26.6	-27.4	.25	39.31	46.02	-6.71	292	137	V

Pk - Peak detector
 Qp - Quasi-Peak detector

PURIOUS EMISSIONS 18-26.5GHZ (WORST-CASE CONFIGURATION)

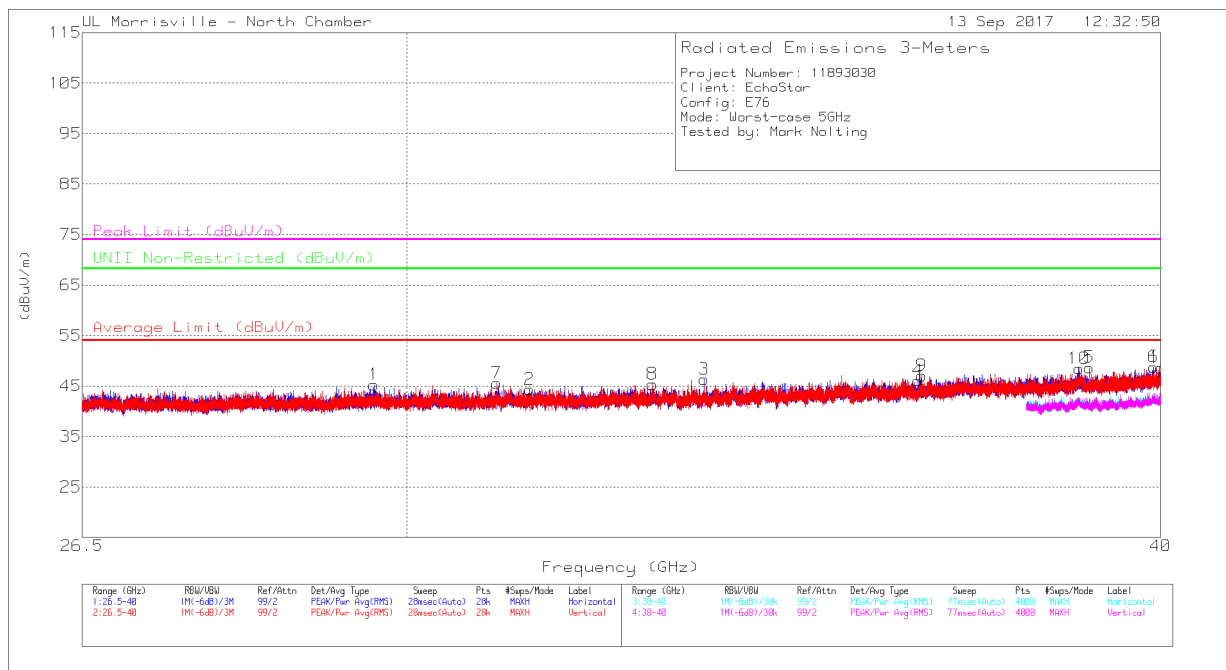


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0076 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 18.414	48.35	Pk	32.7	-40.3	40.75	54	-13.25	74	-33.25	-	-	0-360	149	H
2	* 21.029	48.66	Pk	33.2	-41.3	40.56	54	-13.44	74	-33.44	-	-	0-360	299	H
3	23.263	48.73	Pk	33.8	-40.7	41.83	-	-	-	-	68.2	-26.37	0-360	299	H
4	25.104	47.09	Pk	34.5	-39.9	41.69	-	-	-	-	68.2	-26.51	0-360	198	H
5	* 18.887	48.89	Pk	32.8	-41	40.69	54	-13.31	74	-33.31	-	-	0-360	251	V
6	* 21.314	48.83	Pk	33.2	-41.2	40.83	54	-13.17	74	-33.17	-	-	0-360	152	V
7	24.291	48.59	Pk	34.1	-40.3	42.39	-	-	-	-	68.2	-25.81	0-360	102	V

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

Pk - Peak detector

SPURIOUS EMISSIONS 26.5-40GHz(WORST-CASE CONFIGURATION)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0077 (dB/m)	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 31.436	45.16	Pk	37	-37.8	0	44.36	54	-9.64	74	-29.64	-	-	0-360	199	H
4	* 36.459	44.9	Pk	37.9	-36.7	0	46.1	54	-7.9	74	-27.9	-	-	0-360	249	H
5	* 38.916	44.32	PK-U	38.9	-34.8	0	48.42	-	-	74	-25.58	-	-	198	100	H
	* 38.916	32.55	ADR	38.9	-34.8	0.47	37.12	54	-16.88	-	-	-	-	198	100	H
6	* 39.888	43.54	PK-U	39	-33.4	0	49.14	-	-	74	-24.86	-	-	249	150	H
	* 39.882	32.04	ADR	39	-33.5	0.47	38.01	54	-15.99	-	-	-	-	249	150	H
10	* 38.767	44.72	PK-U	38.9	-34.9	0	48.72	-	-	74	-25.28	-	-	118	150	V
	* 38.77	33.27	ADR	38.9	-34.9	.22	37.49	54	-16.51	-	-	-	-	118	150	V
11	* 39.998	42.93	PK-U	39.1	-33.4	0	48.63	-	-	74	-25.37	-	-	311	150	V
	* 39.996	31.6	ADR	39.1	-33.4	.22	37.52	54	-16.48	-	-	-	-	311	150	V
1	29.622	46.67	Pk	36.6	-38	0	45.27	-	-	-	-	68.2	-22.93	0-360	199	H
3	33.601	47.56	Pk	37.1	-38.3	0	46.36	-	-	-	-	68.2	-21.84	0-360	102	H
7	31.042	46.49	Pk	36.8	-37.7	0	45.59	-	-	-	-	68.2	-22.61	0-360	152	V
8	32.946	45.88	Pk	37.2	-37.7	0	45.38	-	-	-	-	68.2	-22.82	0-360	251	V
9	36.513	45.24	Pk	38	-36.2	0	47.04	-	-	-	-	68.2	-21.16	0-360	102	V

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

Pk - Peak detector

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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

* Decreases with the logarithm of the frequency.

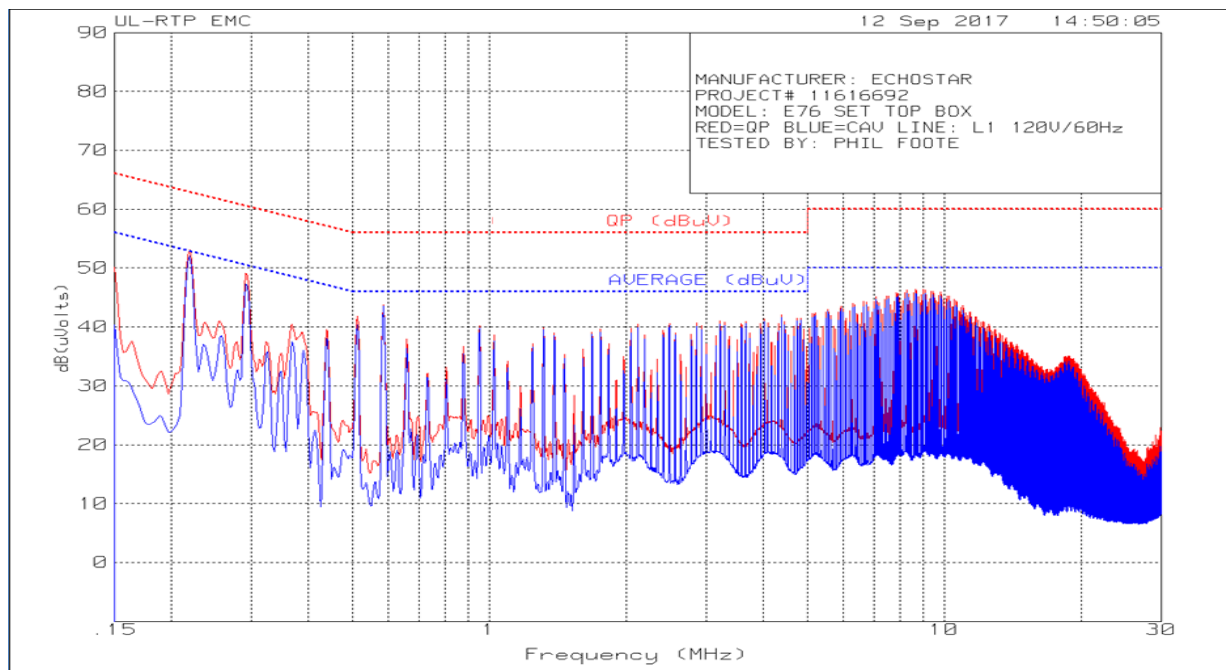
TEST PROCEDURE

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

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

Line conducted data is recorded for both lines.

LINE 1 RESULTS

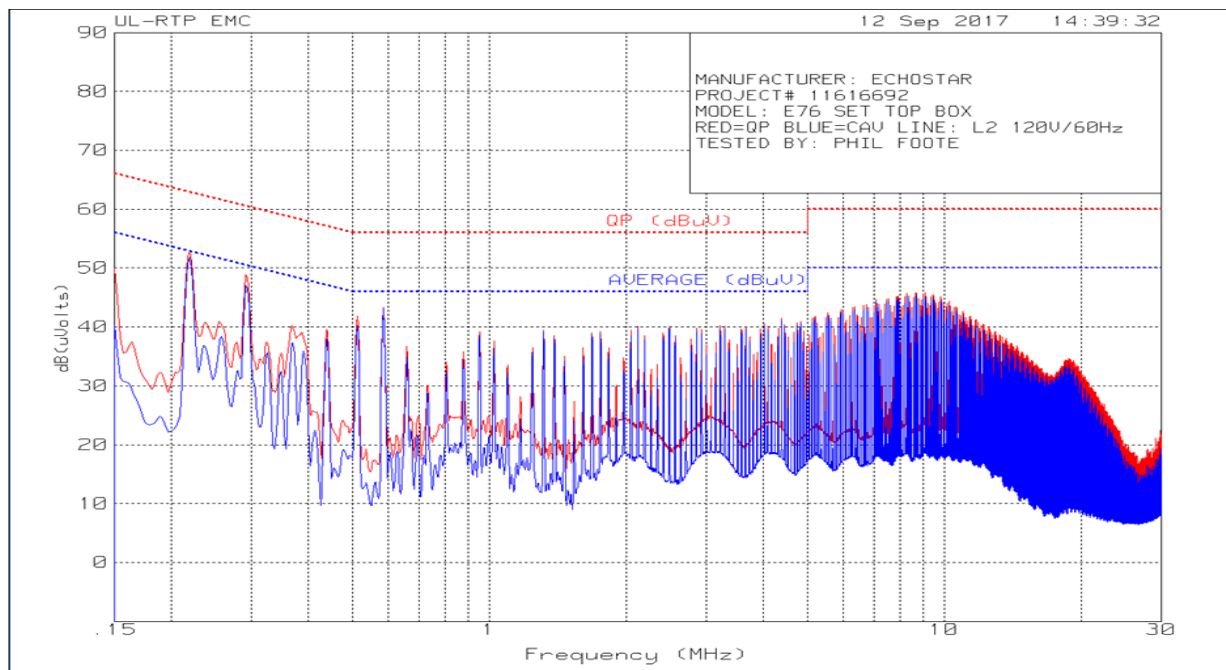


Frequency (MHz)	Meter Reading (dBuV)	Det	LISN002_DUE 2018-08-23	ATA508_509 DUE_2018-08-31	Corrected Reading dB(uVolts)	CLASS B QP (dBuV)	Margin (dB)	CLASS B AVERAGE (dBuV)	Margin (dB)
.21975	42.66	Ca	.2	9.2	52.06	-	-	52.83	-.77
.29175	38.04	Ca	.1	9.2	47.34	-	-	50.47	-3.13
.51225	31.03	Ca	.1	9.2	40.33	-	-	46	-5.67
.58425	34.26	Ca	.1	9.2	43.56	-	-	46	-2.44
4.389	32.36	Ca	0	9.3	41.66	-	-	46	-4.34
9.07125	36.25	Ca	.1	9.4	45.75	-	-	50	-4.25
.21975	43.75	Qp	.2	9.2	53.15	62.83	-9.68	-	-
.29175	39.86	Qp	.1	9.2	49.16	60.47	-11.31	-	-
.51225	32.57	Qp	.1	9.2	41.87	56	-14.13	-	-
.58425	34.5	Qp	.1	9.2	43.8	56	-12.2	-	-
4.389	32.79	Qp	0	9.3	42.09	56	-13.91	-	-
9.07125	36.83	Qp	.1	9.4	46.33	60	-13.67	-	-

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



Frequency (MHz)	Meter Reading (dBuV)	Det	LISN002_DUE 2018-08-23	ATA508_509 DUE_2018-08-31	Corrected Reading dB(uVolts)	CLASS B QP (dBuV)	Margin (dB)	CLASS B AVERAGE (dBuV)	Margin (dB)
.21975	42.46	Ca	.2	9.2	51.86	-	-	52.83	-0.97
.29175	37.74	Ca	.1	9.2	47.04	-	-	50.47	-3.43
.58425	33.8	Ca	.1	9.2	43.1	-	-	46	-2.9
1.31775	29.92	Ca	0	9.2	39.12	-	-	46	-6.88
4.389	31.7	Ca	0	9.3	41	-	-	46	-5
8.6325	35.65	Ca	.1	9.4	45.15	-	-	50	-4.85
.21975	43.5	Qp	.2	9.2	52.9	62.83	-9.93	-	-
.29175	39.56	Qp	.1	9.2	48.86	60.47	-11.61	-	-
.58425	34.06	Qp	.1	9.2	43.36	56	-12.64	-	-
1.31775	30.23	Qp	0	9.2	39.43	56	-16.57	-	-
4.389	32.18	Qp	0	9.3	41.48	56	-14.52	-	-
8.6325	36.29	Qp	.1	9.4	45.79	60	-14.21	-	-

Qp - Quasi-Peak detector

Ca - CISPR average detection