FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/CDMA/LTE PHONE + BLUETOOTH, with DTS/UNII a/b/g/n/ac & NFC

MODEL NUMBER: LG-US991, US991, LGUS991

FCC ID: ZNFUS991

REPORT NUMBER: 15I20405-E5

ISSUE DATE: APRIL 21, 2015

Prepared for

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Revision History

Rev.	Issue Date	Revisions	Revised By
-	04/21/15	Initial Issue	P. ZHANG

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	LG ELECTRONICS MOBILECOMM U.S.A., INC
EUT DESCRIPTION:	GSM/WCDMA/CDMA/LTE PHONE + BLUETOOTH, with DTS/UNII a/b/g/n/ac & NFC
MODEL:	LG-US991, US991, LGUS991
SERIAL NUMBER:	0699-0243 (Radiated); 0699-0249 (Conducted)
DATE TESTED:	MARCH 27 – APRIL 21, 2015

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

UL Verification Services Inc. 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 Verification Services Inc. 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 Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, and ANSI C63.10-2009, 789033 D02 General UNII Test Procedures New Rules v01.

2. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☒ Chamber A(IC: 2324B-1)	☐ Chamber D(IC: 2324B-4)
☒ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 2324B-5)
☒ Chamber C(IC: 2324B-3)	☐ Chamber F(IC: 2324B-6)
	☐ Chamber G(IC: 2324B-7)
	☐ Chamber H(IC: 2324B-8)

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/2000650.htm.

3. CALIBRATION AND UNCERTAINTY

3.1. 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.

3.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

3.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 40000 MHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/CDMA/LTE PHONE + BLUETOOTH, with DTS/UNII a/b/g/n/ac & NFC.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Total Output Power (dBm)	Total Output Power (mW)
5180 - 5240	802.11a	12.81	19.10
5180 - 5240	802.11n HT20	12.69	18.58
5190 - 5230	802.11n HT40	11.45	13.96
5210 - 5210	802.11ac HT80	11.47	14.03
5260 - 5320	802.11a	12.90	19.50
5260 - 5320	802.11n HT20	12.66	18.45
5270 - 5310	802.11n HT40	11.63	14.55
5290 - 5290	802.11ac HT80	12.66	18.45
5500 - 5700	802.11a	13.09	20.37
5500 - 5700	802.11n HT20	12.83	19.19
5510 - 5670	802.11n HT40	11.75	14.96
5530 - 5690	802.11ac HT80	11.56	14.32
5745 - 5825	802.11a	13.23	21.04
5745 - 5825	802.11n HT20	13.29	21.33
5755 - 5795	802.11n HT40	11.77	15.03
5775 - 5775	802.11ac HT80	11.60	14.45

The transmitter has average conducted output power (measured by power meter) as follows:

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Avg Pwr (dBm)
UNII-1	802.11a	6 Mbps	36	5180	13.2
			40	5200	13.2
			44	5220	13.1
			48	5240	13.1
	802.11n (HT20)	6.5 Mbps	36	5180	13.1
			40	5200	13.1
			44	5220	13.0
			48	5240	13.0
	802.11n (HT40)	13.5 Mbps	38	5190	11.2
			46	5230	11.0
	802.11ac (VHT20)	6.5 Mbps	36	5180	13.2
			40	5200	13.1
			44	5220	13.2
			48	5240	13.2
	802.11ac (VHT40)	13.5 Mbps	38	5190	11.1
			46	5230	11.0
	802.11ac (VHT80)	29.3 Mbps	42	5210	11.0
UNII-2A	802.11a	6 Mbps	52	5260	13.2
			56	5280	13.2
			60	5300	13.2
			64	5320	13.1
	802.11n (HT20)	6.5 Mbps	52	5260	13.0
			56	5280	13.0
			60	5300	13.0
			64	5320	13.0
	802.11n (HT40)	13.5 Mbps	54	5270	11.2
			62	5310	11.0
	802.11ac (VHT20)	6.5 Mbps	52	5260	13.1
			56	5280	13.2
			60	5300	13.1
			64	5320	13.0
	802.11ac (VHT40)	13.5 Mbps	54	5270	11.1
			62	5310	11.0
	802.11ac (VHT80)	29.3 Mbps	58	5290	11.7
UNII-2C	802.11a	6 Mbps	100	5500	13.5

			112	5560	13.5
			116	5580	13.5
	802.11n (HT20)	6.5 Mbps	100	5500	13.5
			112	5560	13.5
			116	5580	13.5
	802.11n (HT40)	13.5 Mbps	102	5510	11.2
			110	5550	11.2
	802.11ac (VHT20)	6.5 Mbps	100	5500	13.5
			112	5560	13.5
			116	5580	13.5
	802.11ac (VHT40)	13.5 Mbps	102	5510	11.2
			110	5550	11.1
	802.11ac (VHT80)	29.3 Mbps	106	5530	10.8
UNII-3	802.11a	6 Mbps	132	5660	13.6
			149	5745	13.6
			161	5808	13.6
			165	5825	13.6
	802.11n (HT20)	6.5 Mbps	132	5660	13.4
			149	5745	13.5
			161	5808	13.5
			165	5825	13.5
	802.11n (HT40)	13.5 Mbps	134	5670	11.0
			142	5710	11.1
			151	5755	11.2
			159	5795	11.1
	802.11ac (VHT20)	6.5 Mbps	132	5660	13.4
			149	5745	13.4
			161	5808	13.5
			165	5825	13.6
	802.11ac (VHT40)	13.5 Mbps	134	5670	11.0
			142	5710	11.0
			151	5755	11.1
			159	5795	11.2
	802.11ac (VHT80)	29.3 Mbps	138	5790	10.7
			155	5775	10.7

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of 2.35 dBi.

5.4. WORST-CASE CONFIGURATION AND MODE

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

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

Spots check also performed on SMART COVER and CHARGING DOCK station.

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 HT80mode: MCS0

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	LG	MCS-04WD2	EAY62991904	N/A
Smart Case Cover	LG	LG-P1	DK0227	N/A
Wireless Charger	LG	WCD-110	LF1212625283010049	N/A
Earphone	LG	N/A	N/A	N/A

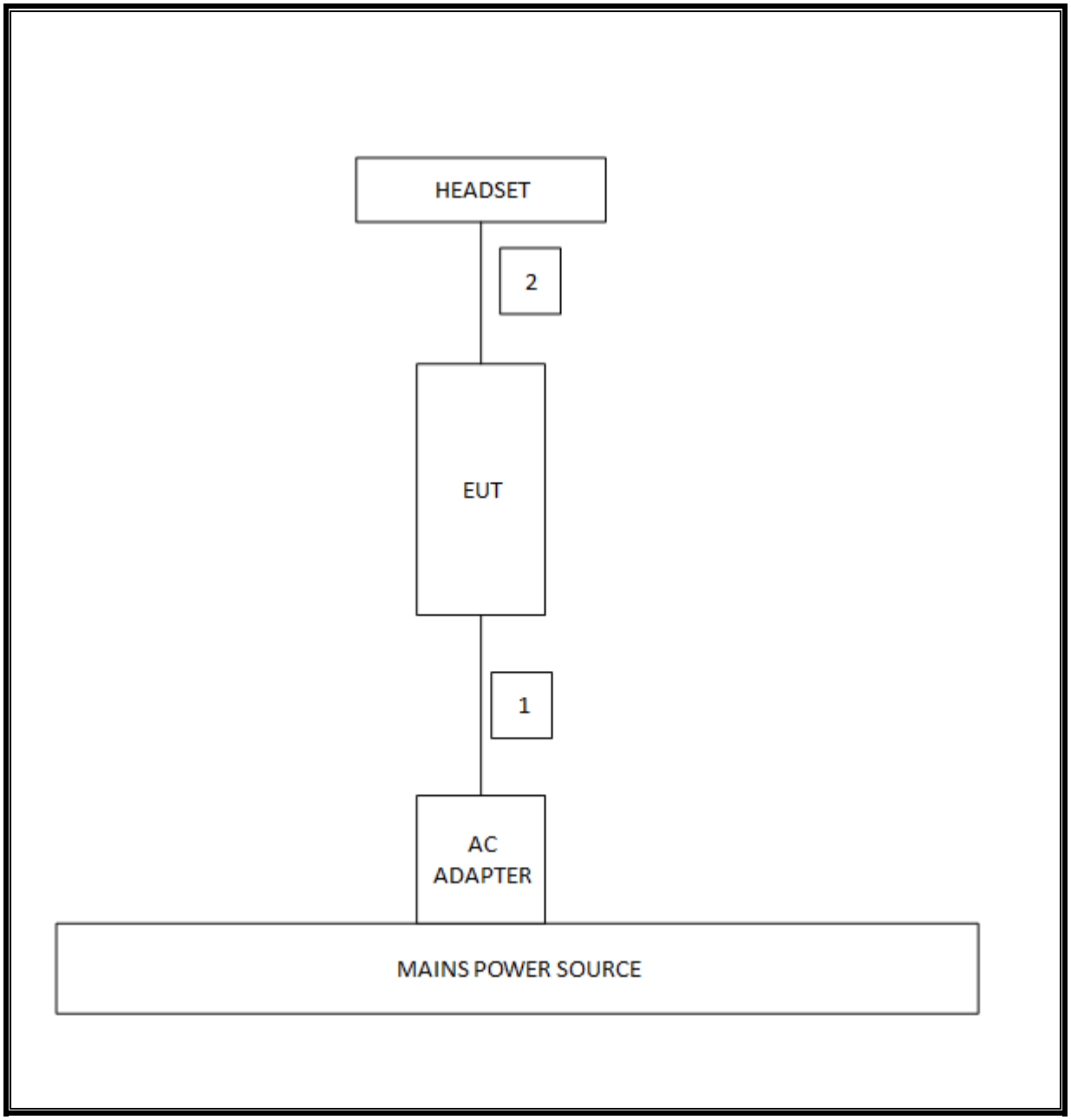
I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1.0m	N/A

TEST SETUP

The EUT is setup as a stand-alone device.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	100773	08/15/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn,18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/15
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	12/08/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 18GHz	Miteq	AFS42-00101800-25-S-42	1818466	05/09/15
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/15
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/15
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/15

Test Software List			
Description	**Manufacturer**	**Model**	**Version**
Radiated Software	UL	UL EMC	Version 9.5, 07/22/14
Conducted Software	UL	UL EMC	Version 9.5, 05/17/14
CLT Software	UL	UL RF	Version 1.0, 02/02/15
Antenna Port Software	UL	UL RF	Version 2.1.1.1, 1/20/15

7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.407 (a)	Occupied Band width (26dB)	N/A	Conducted	Pass	82.41 MHz
15.407	6dB Band width (5.8Ghz)	500KHz		Pass	3.25MHz
15.407 (a)(2)	TX Cond. Power5.15-2.25, 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	13.09 dBm
15.407 (a)(3)	TX Cond. Power 5.725-5.825	< 30dBm or 17+10Log(OBW)		Pass	13.29 dBm
15.407 (a)(5)	PSD (5.2,5.3,5.5GHz)	<11dBm		Pass	1.52 dBm
15.407 (a)(5)	PSD (5.8GHz)	30dBm per 500kHz			-1.13 dBm
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	48.57 dBuV (PK)
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	49.46 dBuV/m
15.407 (h)(2)	Dynamic Frequency Selection	N/A	Radiated / Conducted	Pass	N/A

8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

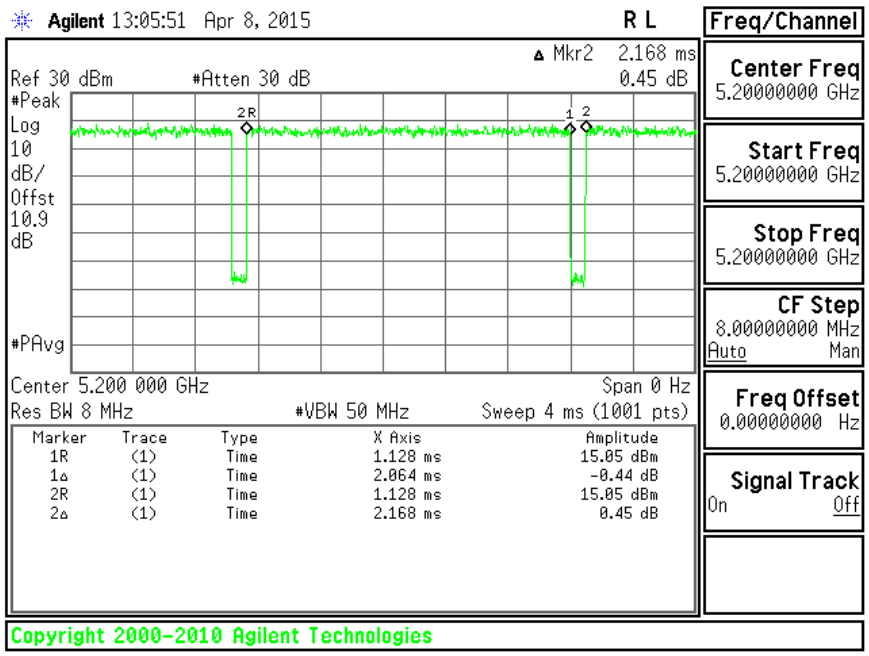
KDB 789033 Zero-Span Spectrum Analyzer Method.

8.1. ON TIME AND DUTY CYCLE RESULTS

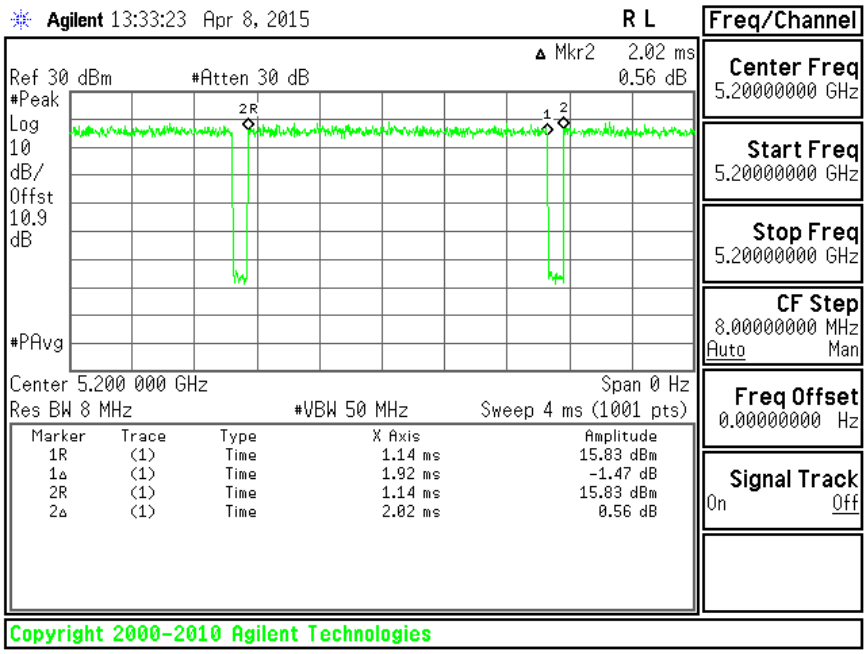
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.064	2.168	0.952	95.2%	0.21	0.484
802.11ac HT80	1.170	1.272	0.920	92.0%	0.36	0.855
802.11n HT20	1.920	2.020	0.950	95.0%	0.22	0.521
802.11n HT40	0.942	1.048	0.899	89.9%	0.46	1.062

8.2. DUTY CYCLE PLOTS

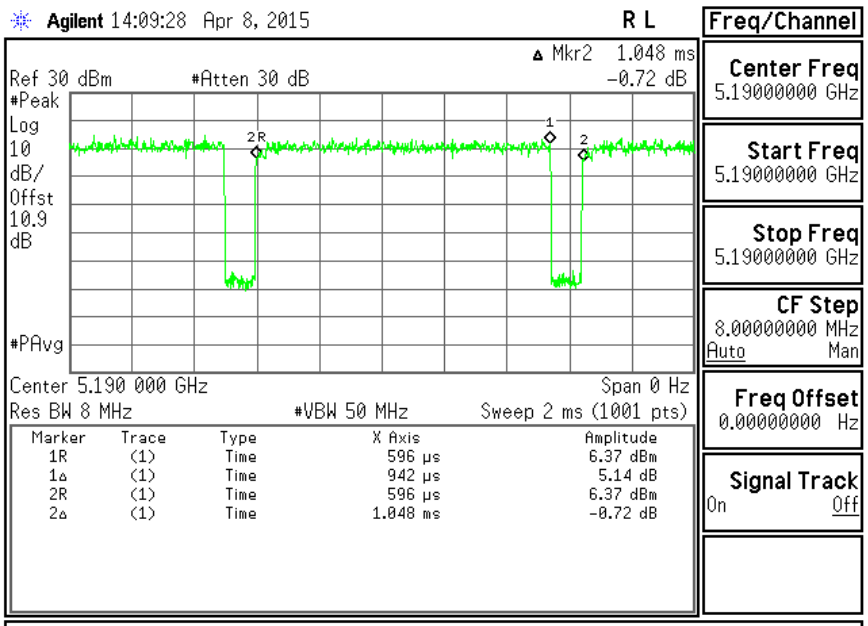
DUTY CYCLE 802.11a MODE



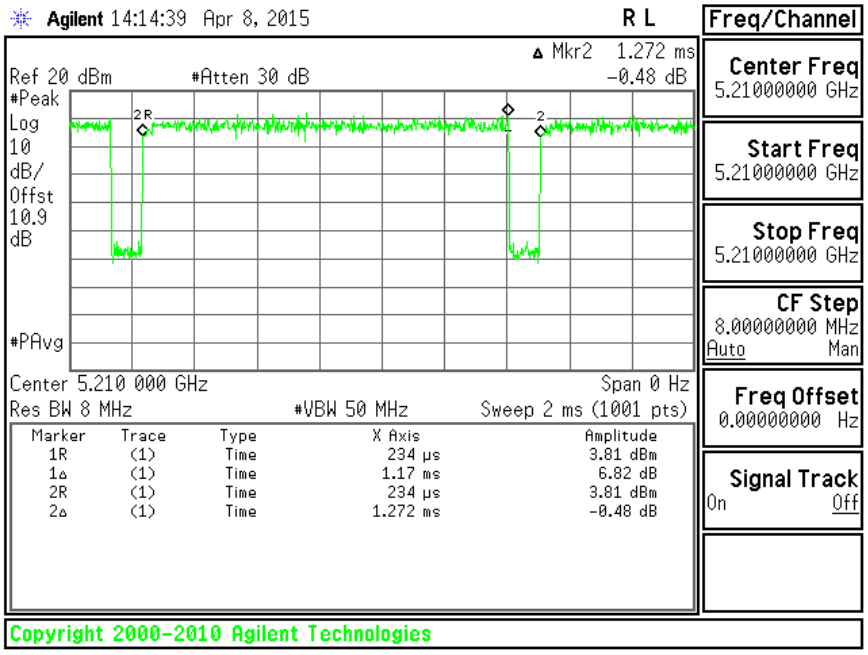
DUTY CYCLE 802.11n HT20 MODE



DUTY CYCLE 802.11n HT40 MODE



DUTY CYCLE 802.11ac HT80 MODE



9. MEASUREMENT METHOD

789033 D02 General UNII Test Procedures New Rules v01

The Duty Cycle is less than 98% and consistent therefore KDB 789033 Method SA-2 is used for .power and PPSD

The Duty Cycle is less than 98% and consistent, KDB 789033 Method AD with Power RMS Averaging and duty cycle correction is used.

10. ANTENNA PORT TEST RESULTS

10.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407

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

TEST PROCEDURE

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW set to100KHz, the VBW >= 3 x RBW, peak detector and max hold.

RESULTS

10.1.1. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	16.350	0.5
Mid	5785	16.425	0.5
High	5825	16.375	0.5
Worst		16.425	

10.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	17.685	0.5
Mid	5785	17.550	0.5
High	5825	17.712	0.5
Worst		17.712	

10.1.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5755	36.135	0.5
High	5795	36.355	0.5
Worst		36.355	

10.1.4. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5775	75.670	0.5
Worst		75.670	

10.1.1. 802.11a MODE STRADDLE CHANNEL 144

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5720	3.250	0.5
Worst		3.250	

10.1.2. 802.11n MODE STRADDLE CHANNEL 144

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5720	3.843	0.5
Worst		3.843	

10.1.3. 802.11n HT40 MODE STRADDLE CHANNEL 142

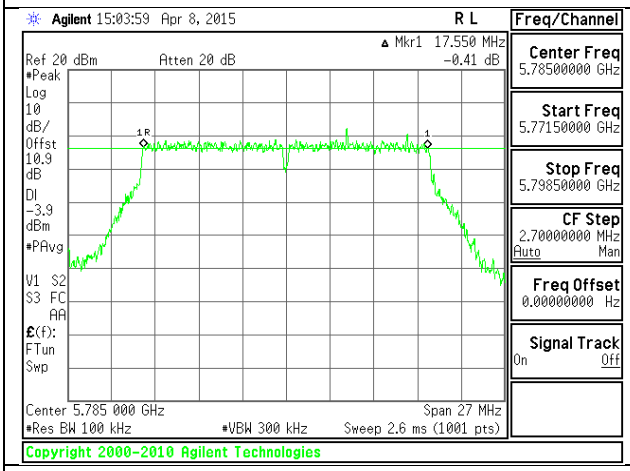
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5710	3.260	0.5
Worst		3.260	

10.1.4. 802.11ac80 MODE STRADDLE CHANNEL 138

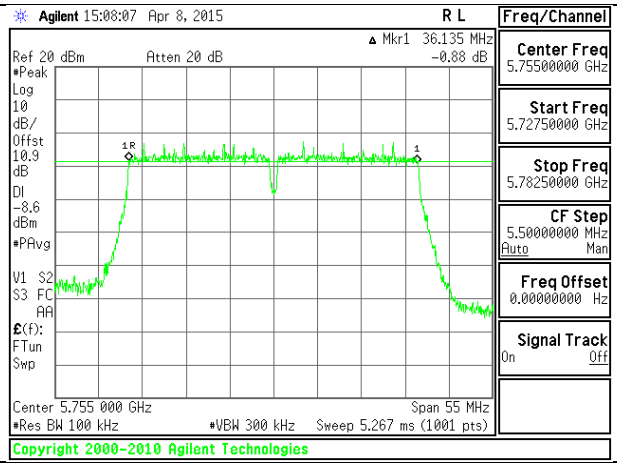
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5690	3.250	0.5
Worst		3.250	

10.1.5. 6 dB BANDWIDTH MID CH PLOTS

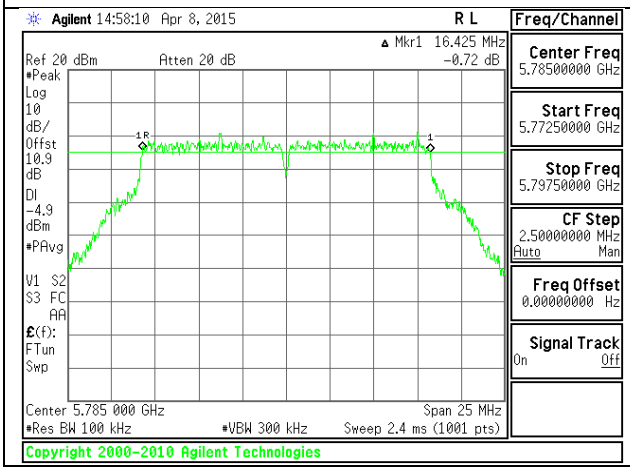
11n HT20 5.8 Mid Ch



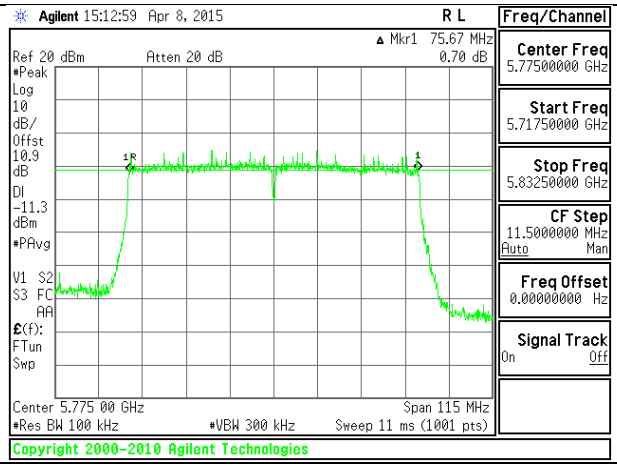
11n HT40 5.8 Low Ch



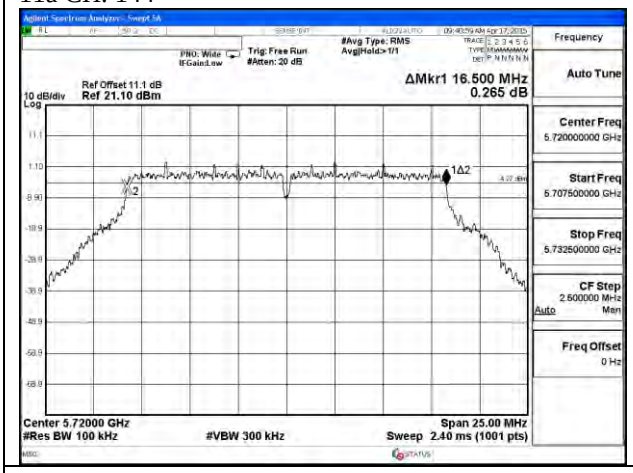
11a 5.8 Mid Ch



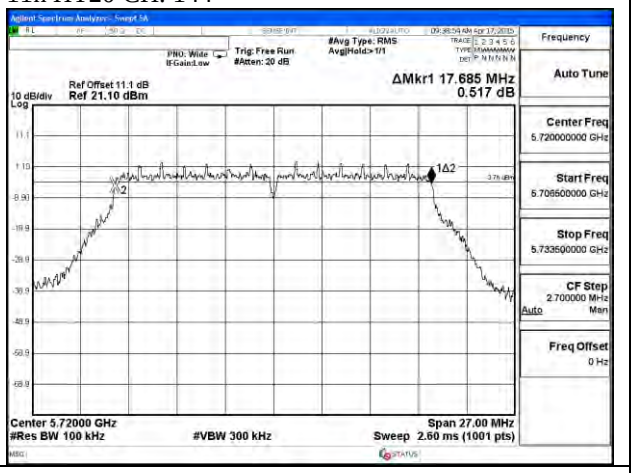
11ac HT80 5.8 Low Ch



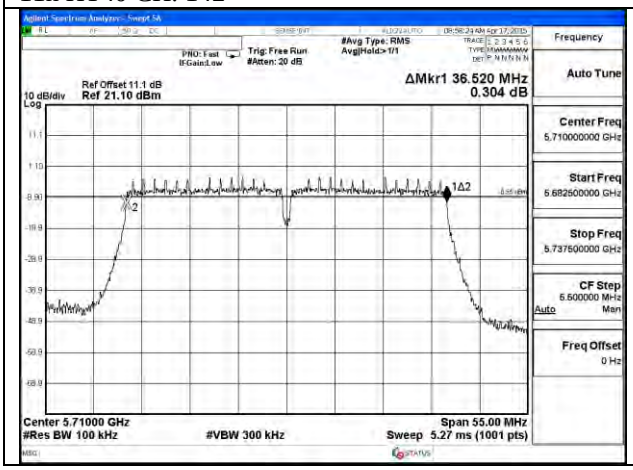
11a CH. 144



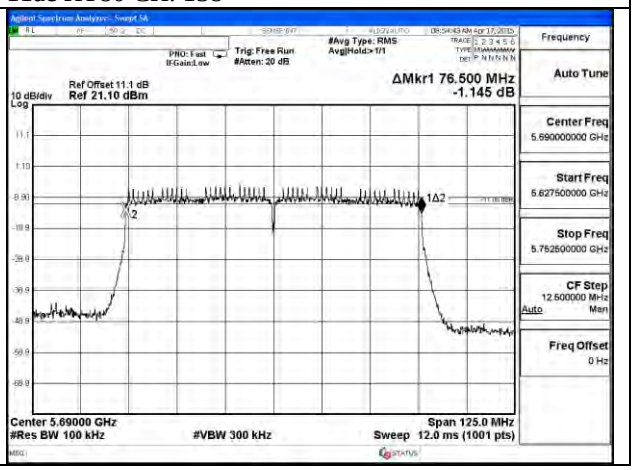
11n HT20 CH. 144



11n HT40 CH. 142



11ac HT80 CH. 138



Note: 6dB for straddling channel: (6dB BW of total BE)/2 – (5725MHz – Center Frequency)

10.2. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	21.71
Mid	5200	21.63
High	5240	21.61
Worst		21.71

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	22.10
Mid	5200	21.97
High	5240	21.92
Worst		22.10

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
Low	5190	40.06
Mid	5230	40.30
Worst		40.30

10.2.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5210	82.28

10.2.1. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	21.63
Mid	5300	21.68
High	5320	21.74
Worst		21.74

10.2.1. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	21.76
Mid	5300	21.94
High	5320	22.00
Worst		22.00

10.2.2. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	40.06
High	5310	40.30
Worst		40.30

10.2.3. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5290	82.14

10.2.4. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	21.71
Mid	5580	21.68
High	5700	21.74
144	5720	21.63
Worst		21.74

10.2.5. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	21.92
Mid	5580	21.97
High	5700	21.97
144	5720	22.00
Worst		22.00

10.2.6. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	40.12
Mid	5550	40.42
High	5670	40.42
142	5710	40.18
Worst		40.42

10.2.7. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5530	82.41
138	5690	82.14
Worst		82.41

10.2.8. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	21.68
Mid	5785	21.81
High	5825	21.79
Worst		21.81

10.2.9. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	22.07
Mid	5785	22.02
High	5825	21.94
Worst		22.07

10.2.10. 802.11n HT40 MODE IN THE 5.8 GHz BAND

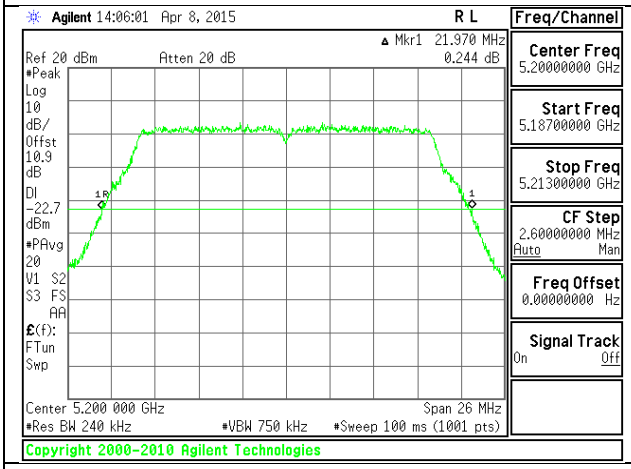
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5755	40.06
High	5795	40.12
Worst		40.12

10.2.11. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

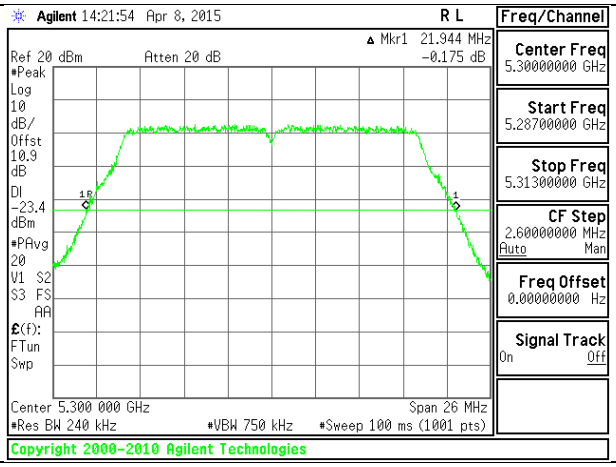
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5775	82.14

10.2.1. 26 dB BANDWIDTH PLOTS

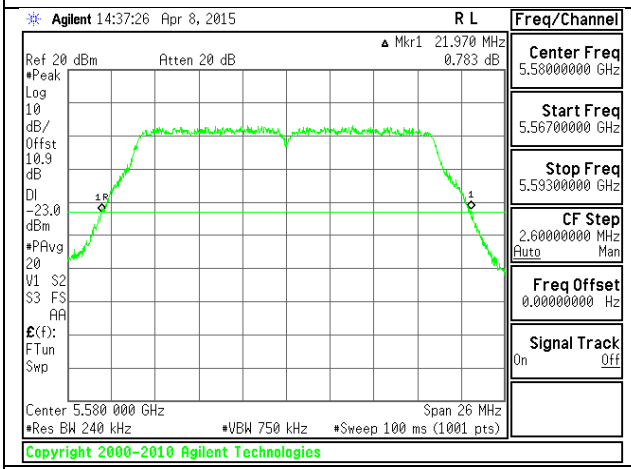
11n HT20 5.2 Mid Ch



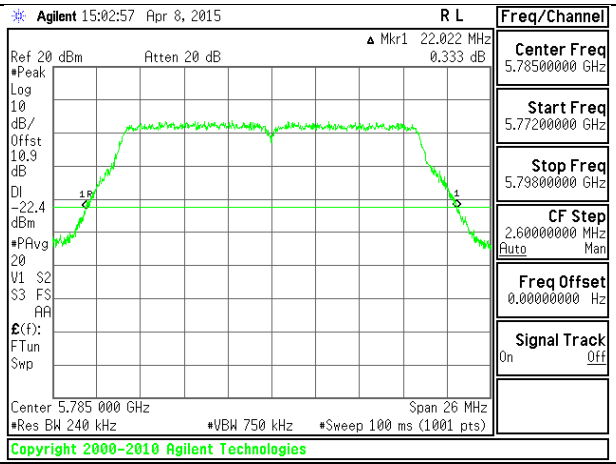
11n HT20 5.3 Mid Ch



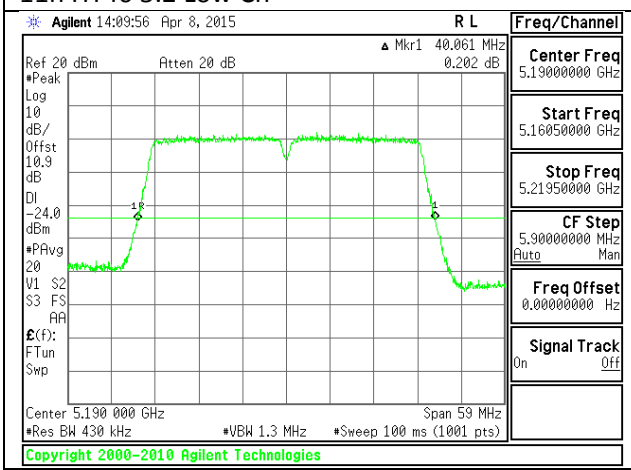
11n HT20 5.5 Mid Ch



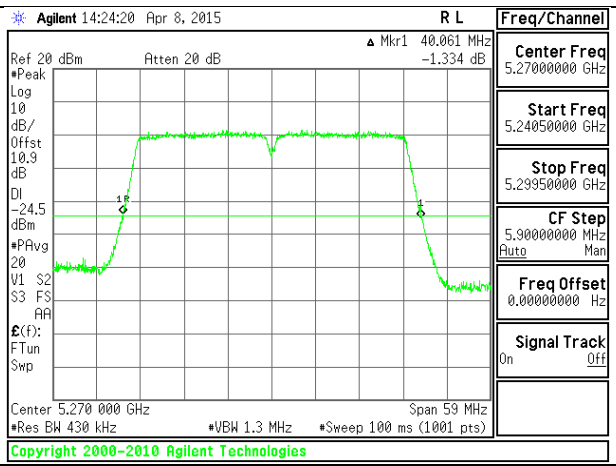
11n HT20 5.8 Mid Ch



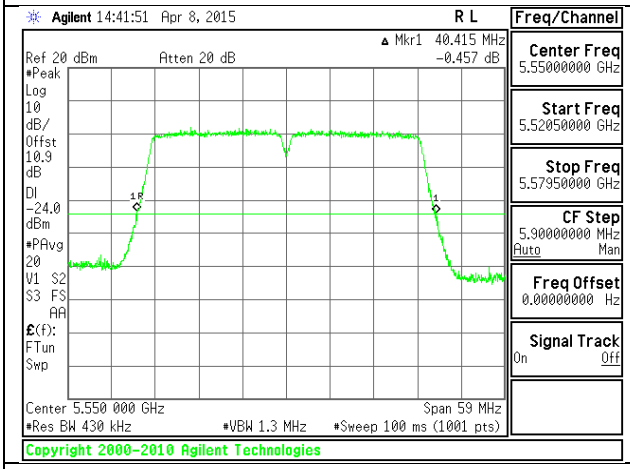
11n HT40 5.2 Low Ch



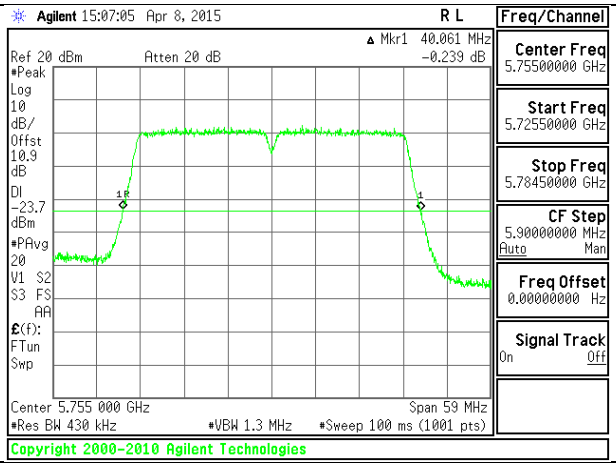
11n HT40 5.3 Low Ch



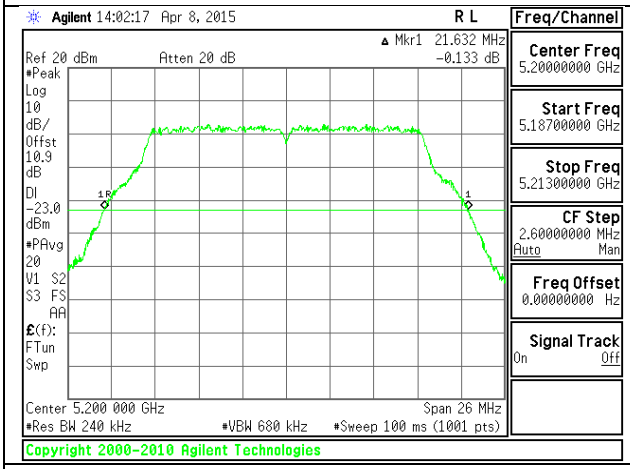
11n HT40 5.5 Mid Ch



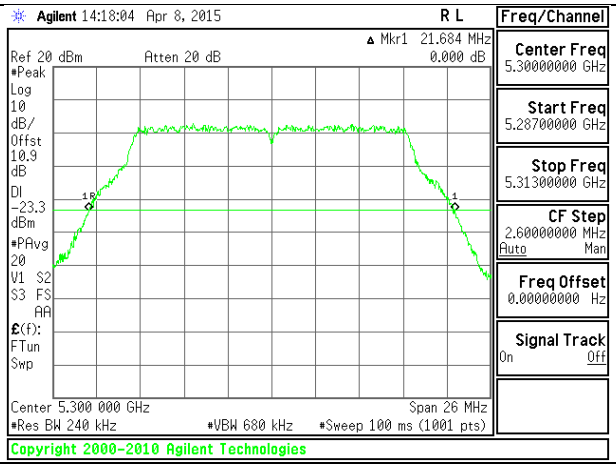
11n HT40 5.8 Low Ch



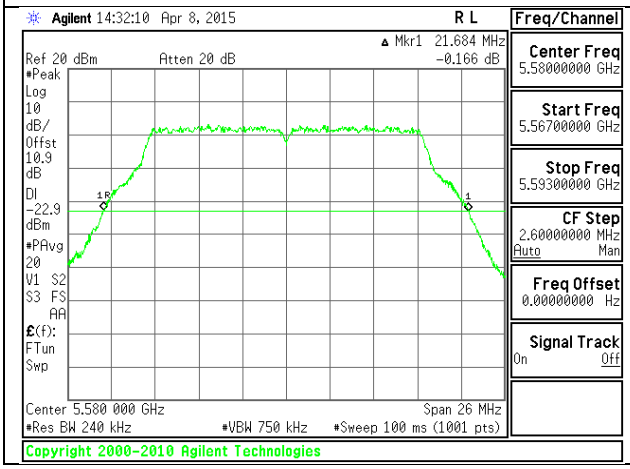
11a 5.2 Mid Ch



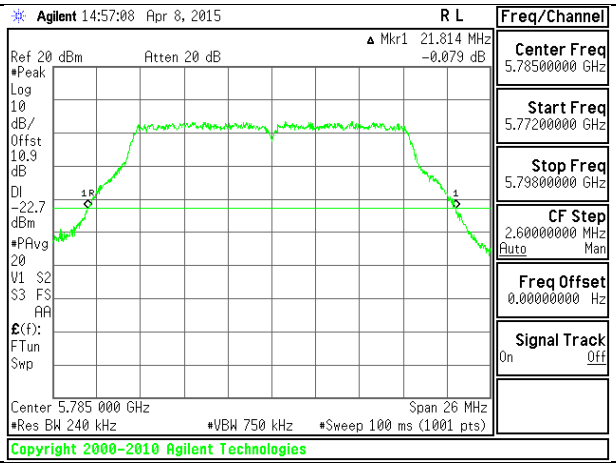
11a 5.3 Mid Ch



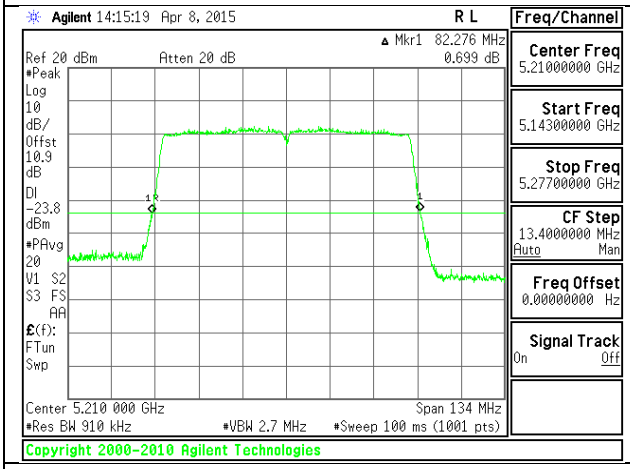
11a 5.5 Mid Ch



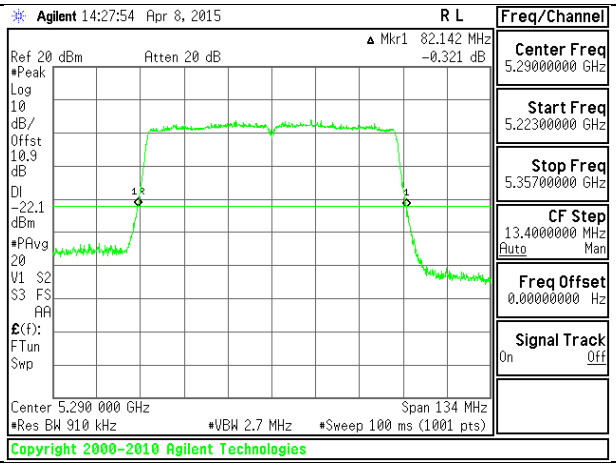
11a 5.8 Mid Ch



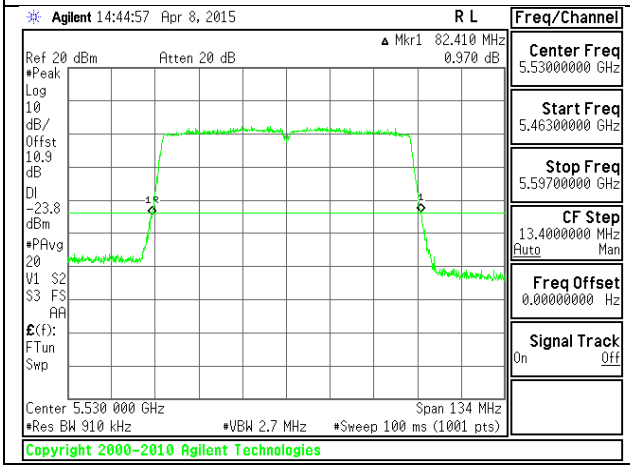
11ac HT80 5.2 Low Ch



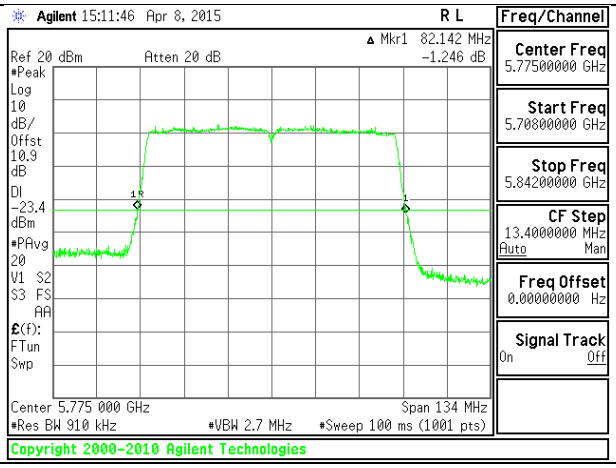
11ac HT80 5.3 Low Ch



11ac HT80 5.5 Low Ch

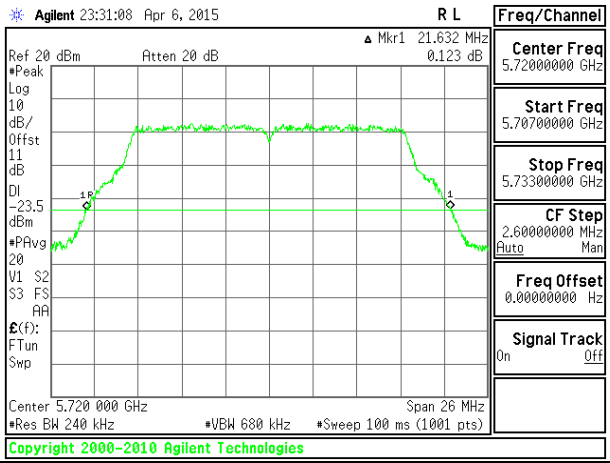


11ac HT80 5.8 Low Ch

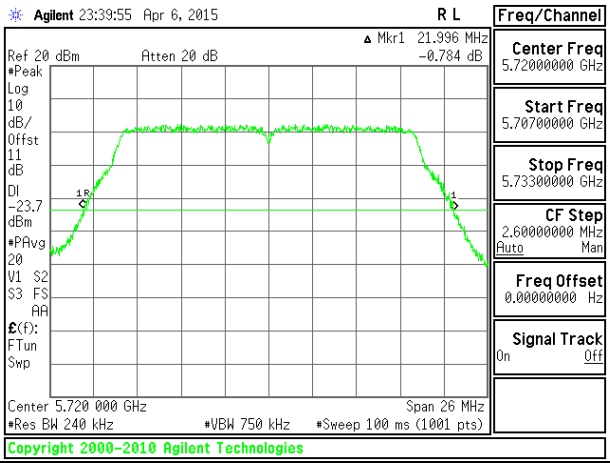


UNII Straddling Channels

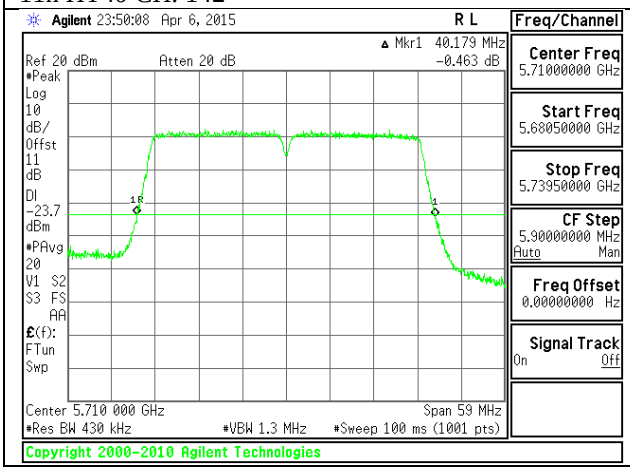
11a CH. 144



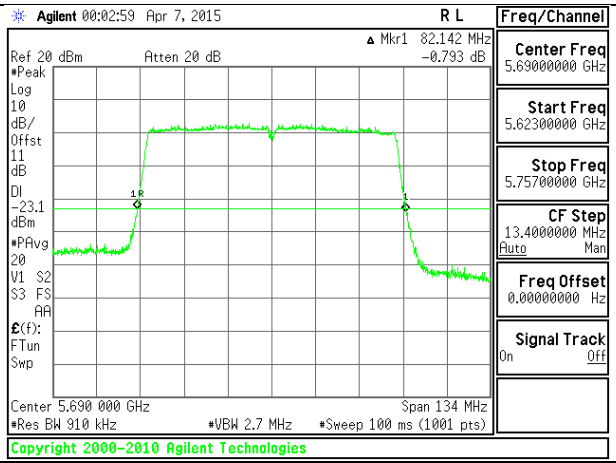
11n HT20 CH. 144



11n HT40 CH. 142



11ac HT80 CH. 138



10.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.3.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	16.59
Mid	5200	16.59
High	5240	16.57
Worst		16.59

10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.78
Mid	5200	17.76
High	5240	17.78
Worst		17.78

10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	36.26
Mid	5230	36.26
Worst		36.26

10.3.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5210	75.69

10.3.5. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	16.57
Mid	5300	16.57
High	5320	16.57
Worst		16.57

10.3.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	17.76
Mid	5300	17.76
High	5320	17.77
Worst		17.77

10.3.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	36.26
High	5310	36.26
Worst		36.26

10.3.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5290	75.68

10.3.9. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	16.55
Mid	5580	16.58
High	5700	16.57
144	5720	16.59
Worst		16.59

10.3.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.76
Mid	5580	17.76
High	5700	17.76
144	5720	17.81
Worst		17.81

10.3.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5510	36.30
Mid	5550	36.26
High	5670	36.27
142	5710	36.35
Worst		36.35

10.3.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5530	75.66
138	5690	75.82
Worst		75.82

10.3.13. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	16.56
Mid	5785	16.57
High	5825	16.56
Worst		16.57

10.3.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.77
Mid	5785	17.76
High	5825	17.77
Worst		17.77

10.3.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

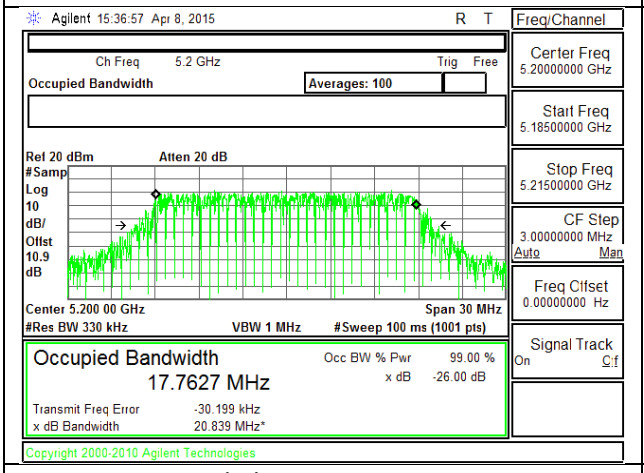
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	36.26
High	5795	36.25
Worst		36.26

10.3.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

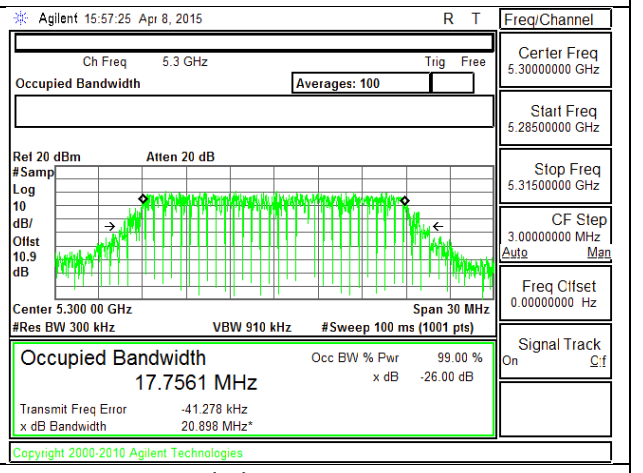
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5775	75.73

10.3.1. 99% BANDWIDTH PLOTS

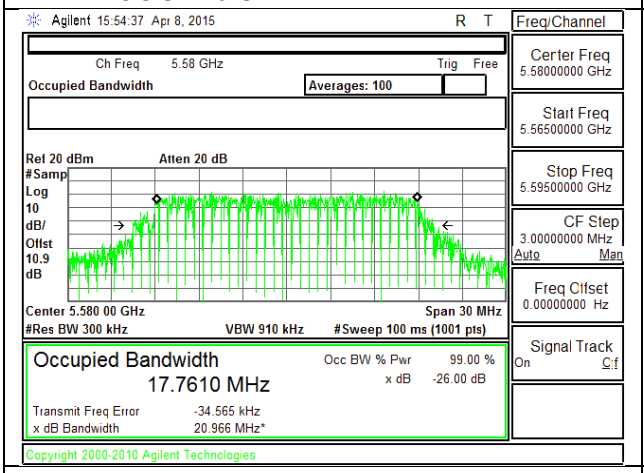
11n HT20 5.2 Mid Ch



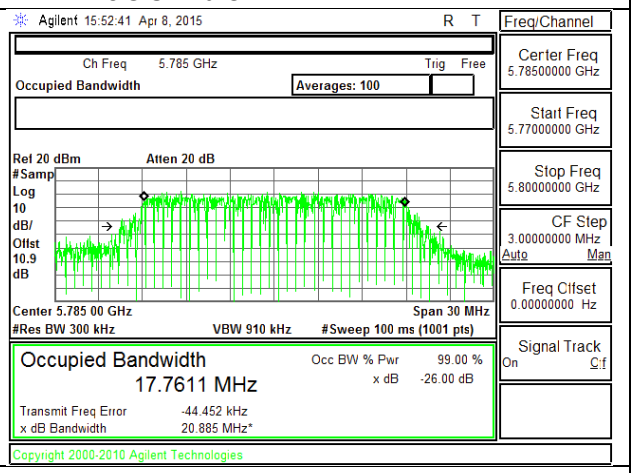
11n HT20 5.3 Mid Ch



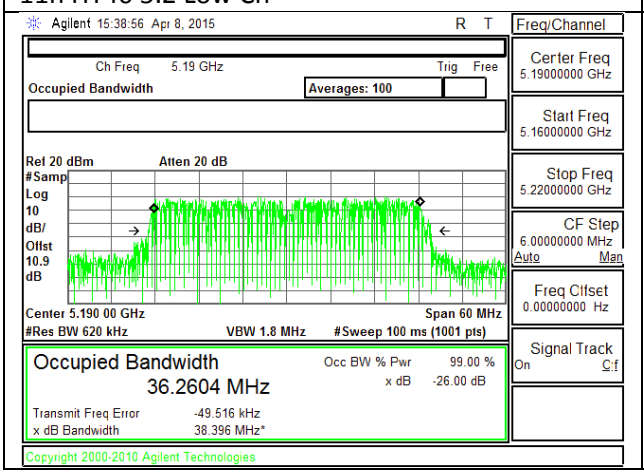
11n HT20 5.5 Mid Ch



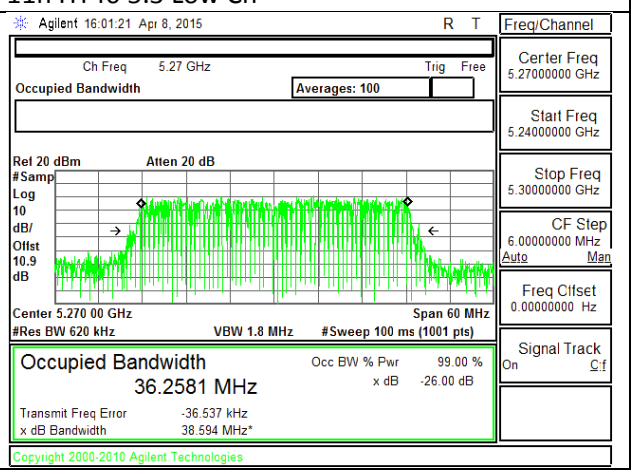
11n HT20 5.8 Mid Ch



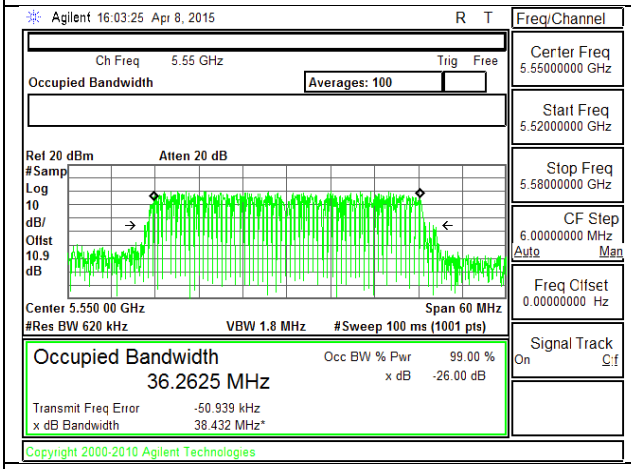
11n HT40 5.2 Low Ch



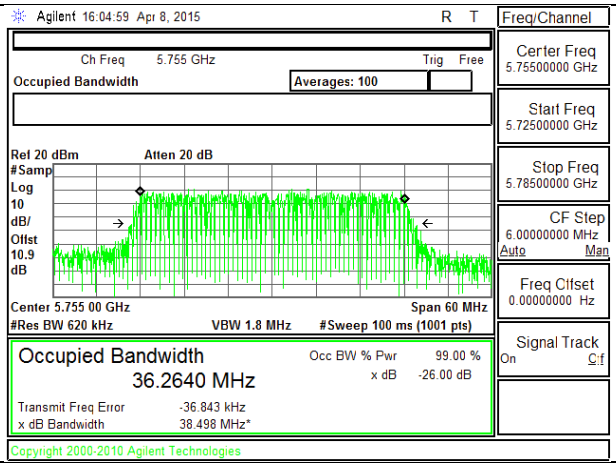
11n HT40 5.3 Low Ch



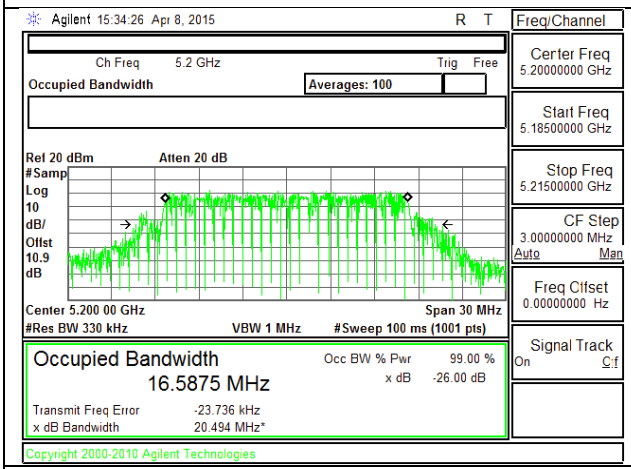
11n HT40 5.5 Mid Ch



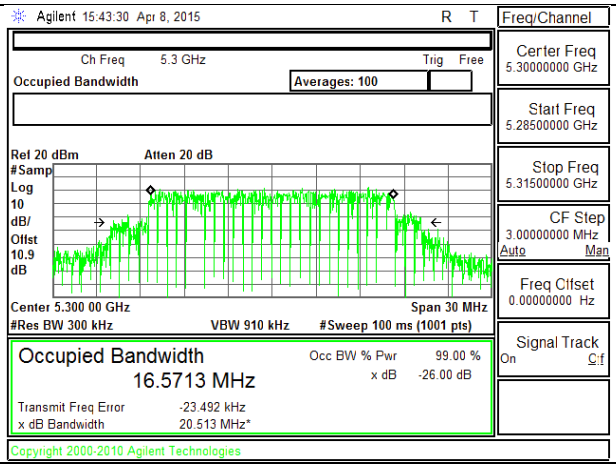
11n HT40 5.8 Low Ch



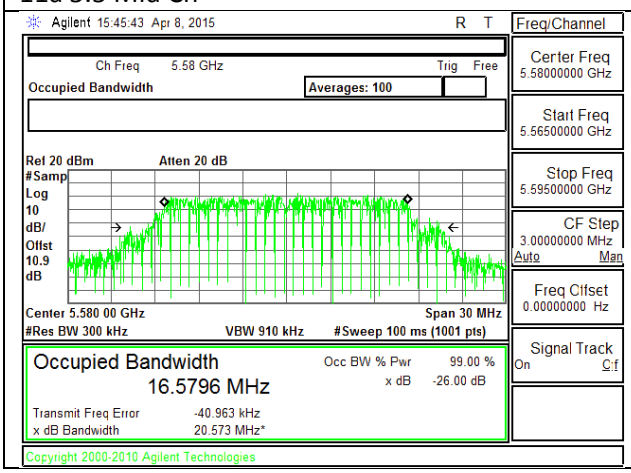
11a 5.2 Mid Ch



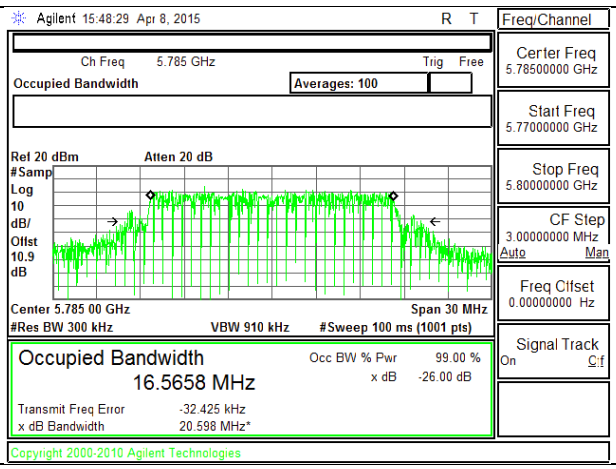
11a 5.3 Mid Ch



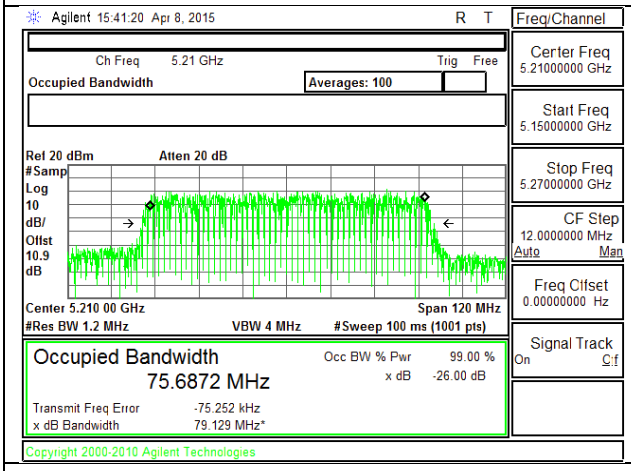
11a 5.5 Mid Ch



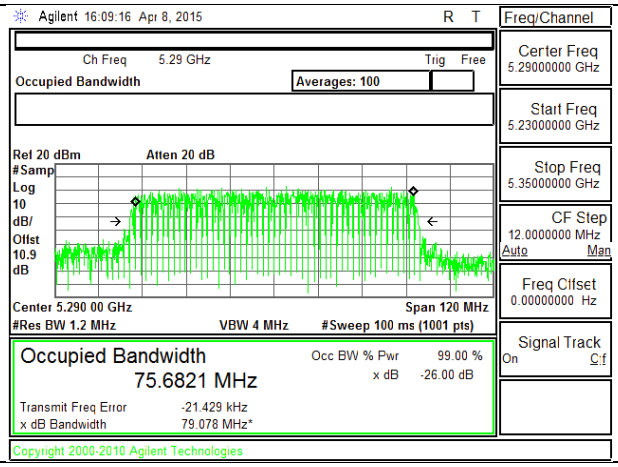
11a 5.8 Mid Ch



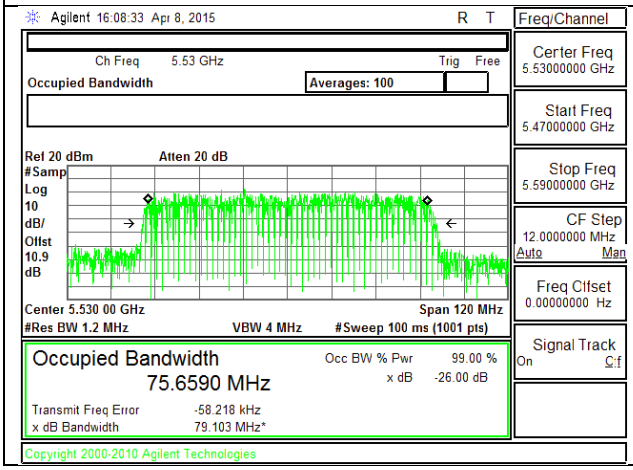
11ac HT80 5.2 Low Ch



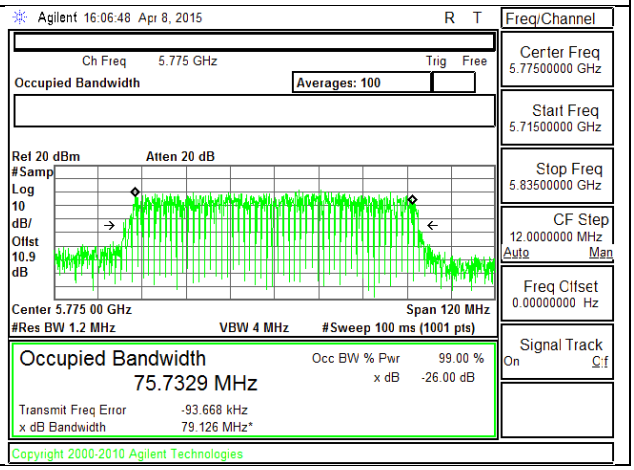
11ac HT80 5.3 Low Ch



11ac HT80 5.5 Low Ch

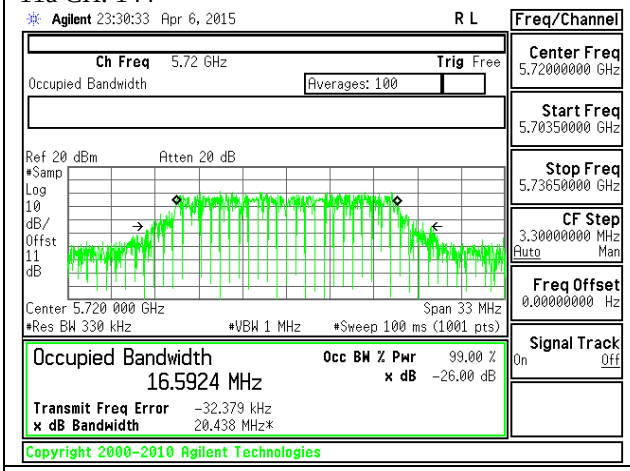


11ac HT80 5.8 Low Ch

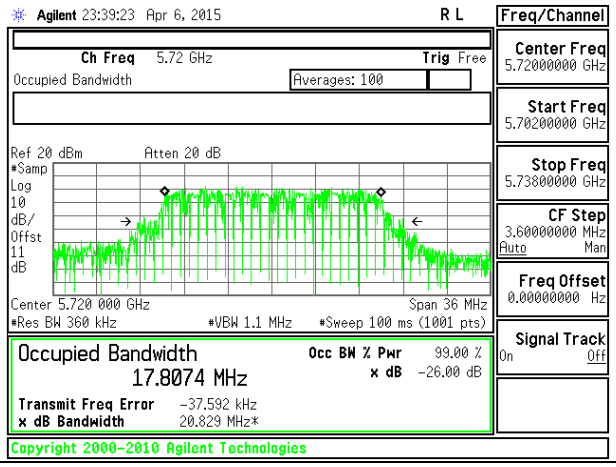


UNII Straddling Channels

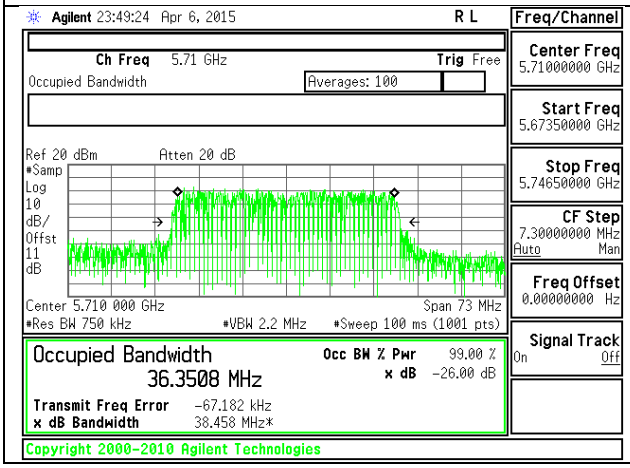
11a CH. 144



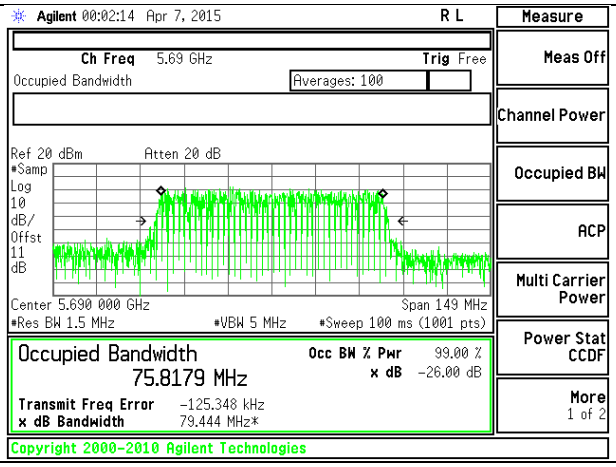
11n HT20 CH. 144



11n HT40 CH. 142



11ac HT80 CH. 138



10.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1) (2) (3)

For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. 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.

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.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

10.4.1. 802.11a MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5180	21.71	16.59	2.35
Mid	5200	21.63	16.59	2.35
High	5240	21.61	16.57	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5180	24.00	22.20	19.85	19.85	11.00	10.00	10.00
Mid	5200	24.00	22.20	19.85	19.85	11.00	10.00	10.00
High	5240	24.00	22.19	19.84	19.84	11.00	10.00	10.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.602	12.81	19.85	-7.04
Mid	5200	12.572	12.78	19.85	-7.07
High	5240	12.471	12.68	19.84	-7.16

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	0.970	1.18	11.00	-9.82
Mid	5200	1.020	1.23	11.00	-9.77
High	5240	0.880	1.09	11.00	-9.91

10.4.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5180	22.10	17.78	2.35
Mid	5200	21.97	17.76	2.35
High	5240	21.92	17.79	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5180	24.00	22.50	20.15	20.15	11.00	10.00	10.00
Mid	5200	24.00	22.49	20.14	20.14	11.00	10.00	10.00
High	5240	24.00	22.50	20.15	20.15	11.00	10.00	10.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.460	12.68	20.15	-7.47
Mid	5200	12.468	12.69	20.14	-7.46
High	5240	12.365	12.59	20.15	-7.57

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	0.550	0.77	11.00	-10.23
Mid	5200	0.570	0.79	11.00	-10.21
High	5240	0.480	0.70	11.00	-10.30

10.4.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5190	40.06	36.26	2.35
Mid	5230	40.30	36.26	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5190	24.00	23.00	23.00	23.00	11.00	10.00	10.00
Mid	5230	24.00	23.00	20.65	20.65	11.00	10.00	10.00
Duty Cycle CF (dB)		0.46	Included in Calculations of Corr'd Power & PPSD					

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	10.990	11.45	23.00	-11.55
Mid	5230	10.740	11.20	20.65	-9.45

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-3.750	-3.29	11.00	-14.29
Mid	5230	-4.100	-3.64	11.00	-14.64

10.4.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5210	82.28	75.69	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5210	24.00	23.00	20.65	20.65	11.00	10.00	7.65
Duty Cycle CF (dB)		0.36	Included in Calculations of Corr'd Power & PPSD					

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5210	11.111	11.47	20.65	-9.18

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5210	-6.630	-6.27	11.00	-17.27

10.4.5. 802.11a MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5260	21.63	16.57	2.35
Mid	5300	21.68	16.57	2.35
High	5320	21.74	16.57	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.19	29.19	23.19	11.00	11.00	11.00
Mid	5300	24.00	23.19	29.19	23.19	11.00	11.00	11.00
High	5320	24.00	23.19	29.19	23.19	11.00	11.00	11.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	12.669	12.88	23.19	-10.31
Mid	5300	12.687	12.90	23.19	-10.30
High	5320	12.431	12.64	23.19	-10.55

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	1.060	1.27	11.00	-9.73
Mid	5300	1.100	1.31	11.00	-9.69
High	5320	0.840	1.05	11.00	-9.95

10.4.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5260	21.76	17.76	2.35
Mid	5300	21.94	17.76	2.35
High	5320	22.00	17.77	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.49	29.49	23.49	11.00	11.00	11.00
Mid	5300	24.00	23.49	29.49	23.49	11.00	11.00	11.00
High	5320	24.00	23.50	29.50	23.50	11.00	11.00	11.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	12.442	12.66	23.49	-10.83
Mid	5300	12.366	12.59	23.49	-10.91
High	5320	12.210	12.43	23.50	-11.07

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	0.570	0.79	11.00	-10.21
Mid	5300	0.490	0.71	11.00	-10.29
High	5320	0.310	0.53	11.00	-10.47

10.4.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5270	40.06	36.26	2.35
High	5310	40.30	36.26	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5270	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5310	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	11.14	11.60	24.00	-12.40
High	5310	11.17	11.63	24.00	-12.37

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-3.39	-2.93	11.00	-13.93
High	5310	-3.63	-3.17	11.00	-14.17

10.4.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5290	82.1	75.7	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5290	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.36	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5290	12.30	12.66	24.00	-11.35

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5290	-5.44	-5.08	11.00	-16.08

10.4.9. 802.11a MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5500	21.71	16.55	2.35
Mid	5580	21.68	16.58	2.35
High	5700	21.74	16.57	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5500	24.00	23.19	29.19	23.19	11.00	11.00	11.00
Mid	5580	24.00	23.20	29.20	23.20	11.00	11.00	11.00
High	5700	24.00	23.19	29.19	23.19	11.00	11.00	11.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	12.692	12.90	23.19	-10.29
Mid	5580	12.738	12.95	23.20	-10.25
High	5700	12.881	13.09	23.19	-10.10

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	1.080	1.29	11.00	-9.71
Mid	5580	1.170	1.38	11.00	-9.62
High	5700	1.310	1.52	11.00	-9.48

10.4.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5500	21.92	17.76	2.35
Mid	5580	21.97	17.76	2.35
High	5700	21.97	17.76	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5500	24.00	23.49	29.49	23.49	11.00	11.00	11.00
Mid	5580	24.00	23.49	29.49	23.49	11.00	11.00	11.00
High	5700	24.00	23.49	29.49	23.49	11.00	11.00	11.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	12.586	12.81	23.49	-10.69
Mid	5580	12.606	12.83	23.49	-10.67
High	5700	12.514	12.73	23.49	-10.76

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	0.750	0.97	11.00	-10.03
Mid	5580	0.720	0.94	11.00	-10.06
High	5700	0.680	0.90	11.00	-10.10

10.4.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5510	40.12	36.30	2.35
Mid	5550	40.42	36.26	2.35
High	5670	40.42	36.27	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5510	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Mid	5550	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5670	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	11.285	11.75	24.00	-12.26
Mid	5550	11.150	11.61	24.00	-12.39
High	5670	11.163	11.62	24.00	-12.38

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-3.430	-2.97	11.00	-13.97
Mid	5550	-3.600	-3.14	11.00	-14.14
High	5670	-3.570	-3.11	11.00	-14.11

10.4.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5530	82.41	75.66	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5530	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.36	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	11.196	11.56	24.00	-12.44

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5530	-6.530	-6.17	11.00	-17.17

10.4.1. 802.11a MODE STRADDLE CHANNEL 144

UNII-2C BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
144	5720	21.63	16.59	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
144	5720	24.00	23.20	29.20	23.20	11.00	11.00	11.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	11.140	11.35	23.20	-11.85

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	0.430	0.64	11.00	-10.36

UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
144	5720	21.63	16.59	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
144	5720	24.00	23.20	29.20	23.20	11.00	11.00	11.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	4.991	5.20	23.20	-18.00

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	-2.560	-2.35	11.00	-13.35

AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL)

Results

Frequency	Power, Chain 0 (dBm)	Output Power (mW)
5.6 GHz band, 2TX (Channels overlapping UNII-2 and UNII-3 bands)		
5720 (UNII-2 portion)	11.35	13.65
5720 (UNII-3 portion)	5.20	3.31
5720 (Whole signal)	12.29	16.94

10.4.2. 802.11n HT20 MODE STRADDLE CHANNEL 144

UNII-2C BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
144	5720	22.00	17.81	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
144	5720	24.00	23.51	29.51	23.51	11.00	11.00	11.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	11.030	11.25	23.51	-12.26

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	0.170	0.39	11.00	-10.61

UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
144	5720	22.00	17.81	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
144	5720	24.00	23.51	29.51	23.51	11.00	11.00	11.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	5.423	5.64	23.51	-17.86

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	-2.820	-2.60	11.00	-13.60

AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL)

Results

Frequency	Power, Chain 0 (dBm)	Output Power (mW)
5.6 GHz band, 2TX (Channels overlapping UNII-2 and UNII-3 bands)		
5720 (UNII-2 portion)	11.25	13.34
5720 (UNII-3 portion)	5.64	3.66
5720 (Whole signal)	12.30	16.98

10.4.3. 802.11n HT40 MODE STRADDLE CHANNEL 142

UNII-2C BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
142	5710	40.18	36.35	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
142	5710	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	11.440	11.90	24.00	-12.10

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
142	5710	-2.910	-2.45	11.00	-13.45

UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
142	5710	40.18	36.35	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
142	5710	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	0.800	1.26	24.00	-22.74

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
142	5710	-6.500	-6.04	11.00	-17.04

AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL)

Results

Frequency	Power, Chain 0 (dBm)	Output Power (mW)
5.6 GHz band, 2TX (Channels overlapping UNII-2 and UNII-3 bands)		
5710 (UNII-2 portion)	11.90	15.49
5710 (UNII-3 portion)	1.26	1.34
5710 (Whole signal)	12.26	16.83

10.4.4. 802.11ac HT80 MODE STRADDLE CHANNEL 138

UNII-2C BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
138	5690	82.14	75.82	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
138	5690	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.36	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.400	11.76	24.00	-12.24

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
138	5690	-6.110	-5.75	11.00	-16.75

UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
138	5690	82.14	75.82	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
138	5690	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.36	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-3.290	-2.93	24.00	-26.93

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
138	5690	-10.610	-10.25	11.00	-21.25

AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL)

Results

Frequency	Power, Chain 0 (dBm)	Output Power (mW)
5.6 GHz band, 2TX (Channels overlapping UNII-2 and UNII-3 bands)		
5690 (UNII-2 portion)	11.76	15.00
5690 (UNII-3 portion)	-2.93	0.51
5690 (Whole signal)	11.91	15.52

10.4.5. 802.11a MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5745	21.68	16.56	2.35
Mid	5785	21.81	16.57	2.35
High	5825	21.79	16.56	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5745	30.00	29.19	35.19	29.19	30.00	17.00	17.00
Mid	5785	30.00	29.19	35.19	29.19	30.00	17.00	17.00
High	5825	30.00	29.19	35.19	29.19	30.00	17.00	17.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	12.94	13.15	29.19	-16.04
Mid	5785	12.91	13.12	29.19	-16.07
High	5825	13.02	13.23	29.19	-15.96

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	-1.51	-1.30	17.00	-18.30
Mid	5785	-1.43	-1.22	17.00	-18.22
High	5825	-1.34	-1.13	17.00	-18.13

10.4.6. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5745	22.07	17.77	2.35
Mid	5785	22.02	17.76	2.35
High	5825	21.94	17.77	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5745	30.00	29.50	35.50	29.50	30.00	17.00	17.00
Mid	5785	30.00	29.49	35.49	29.49	30.00	17.00	17.00
High	5825	30.00	29.50	35.50	29.50	30.00	17.00	17.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	12.84	13.06	29.50	-16.44
Mid	5785	13.07	13.29	29.49	-16.21
High	5825	12.81	13.03	29.50	-16.47

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	-1.88	-1.66	17.00	-18.66
Mid	5785	-1.60	-1.38	17.00	-18.38
High	5825	-1.81	-1.59	17.00	-18.59

10.4.7. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5755	40.06	36.26	2.35
High	5795	40.12	36.25	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5755	30.00	30.00	36.00	30.00	30.00	17.00	17.00
High	5795	30.00	30.00	36.00	30.00	30.00	17.00	17.00

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	11.31	11.77	30.00	-18.23
High	5795	11.18	11.64	30.00	-18.37

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5755	-6.31	-5.85	17.00	-22.85
High	5795	-6.29	-5.83	17.00	-22.83

10.4.8. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5775	82.1	75.7	2.35

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5775	30.00	30.00	36.00	30.00	30.00	17.00	17.00

Duty Cycle CF (dB)	0.36	Included in Calculations of Corr'd Power & PPSD

Output Power Results

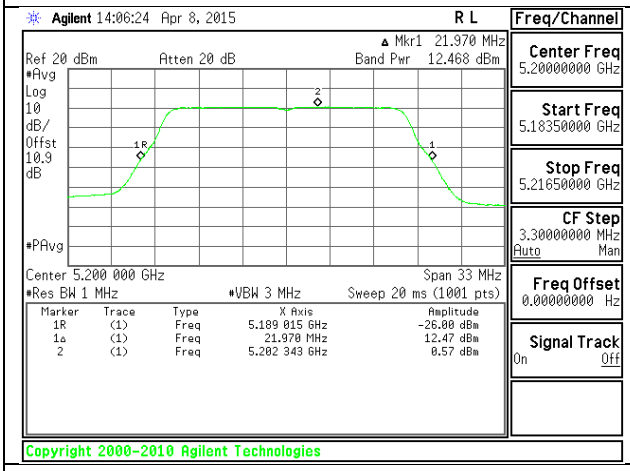
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5775	11.24	11.60	30.00	-18.41

PPSD Results

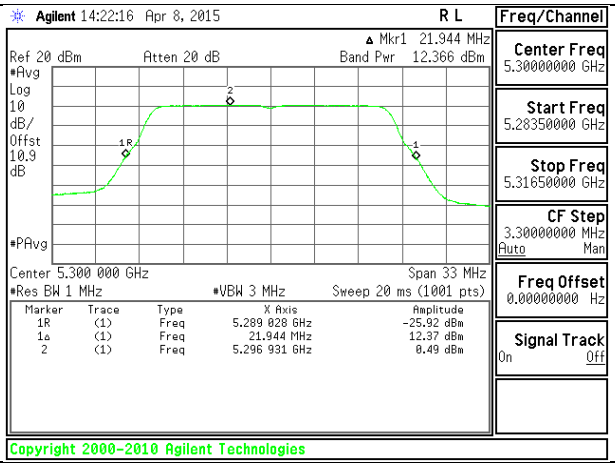
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5775	-9.27	-8.91	17.00	-25.91

10.4.1. OUTPUT POWER AND PPSD PLOTS, Chain 0

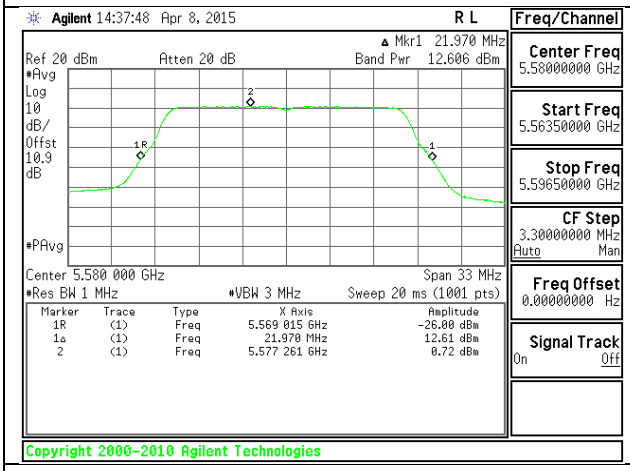
11n HT20 5.2 Mid Ch



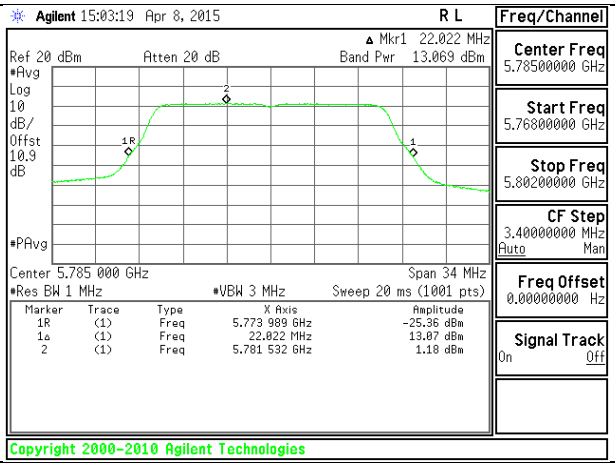
11n HT20 5.3 Mid Ch



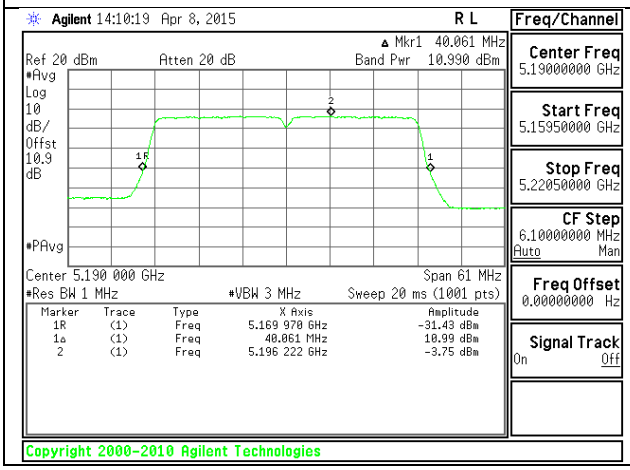
11n HT20 5.5 Mid Ch



11n HT20 5.8 Mid Ch



11n HT40 5.2 Low Ch



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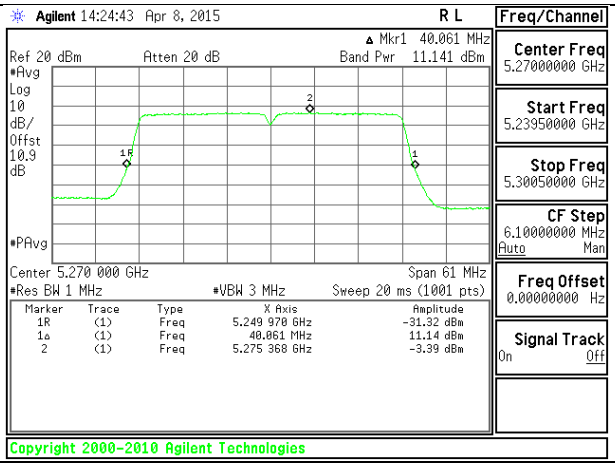

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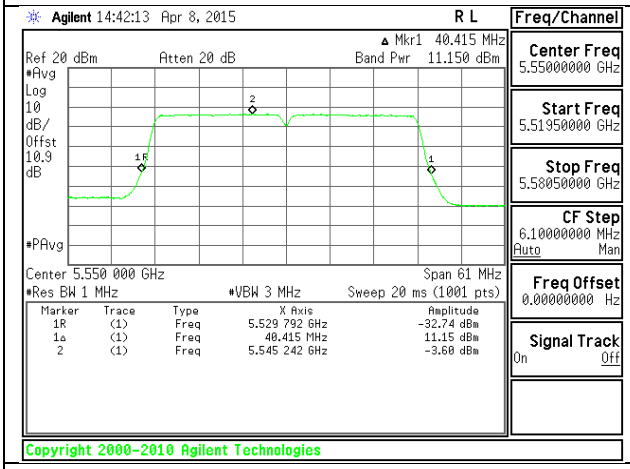

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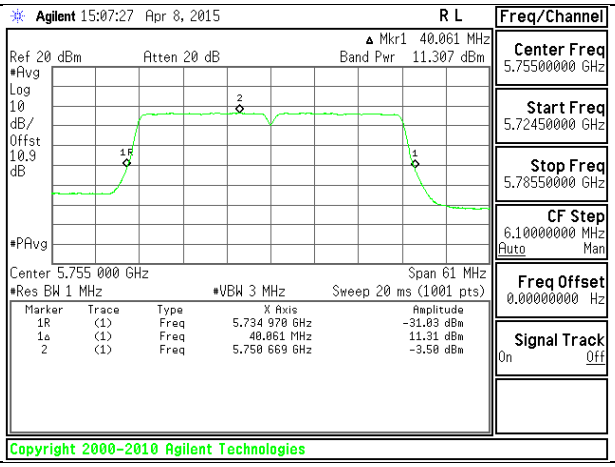
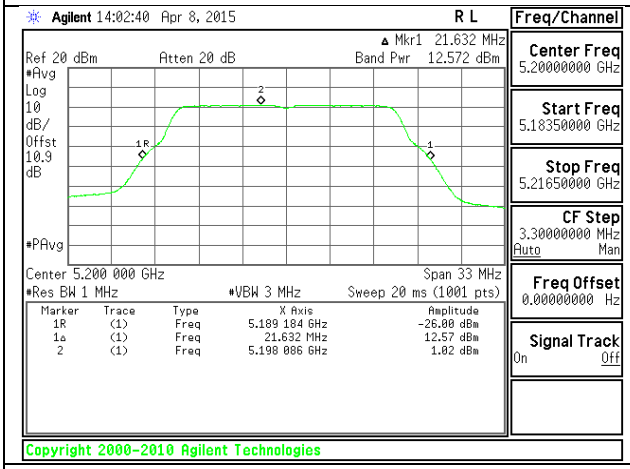


11a 5.2 Mid Ch



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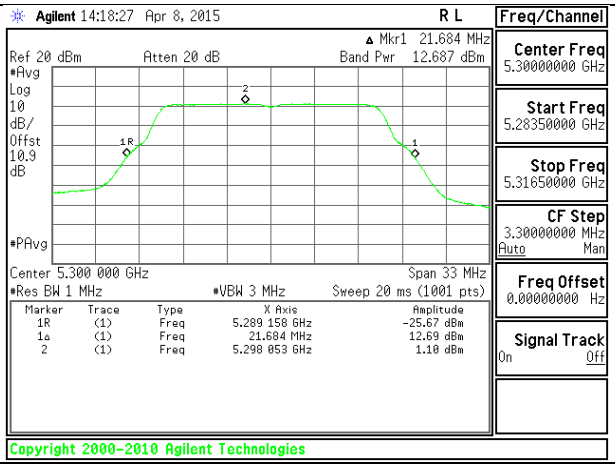

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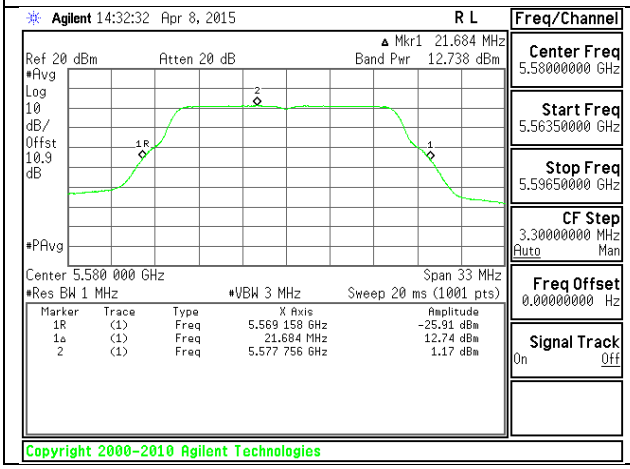

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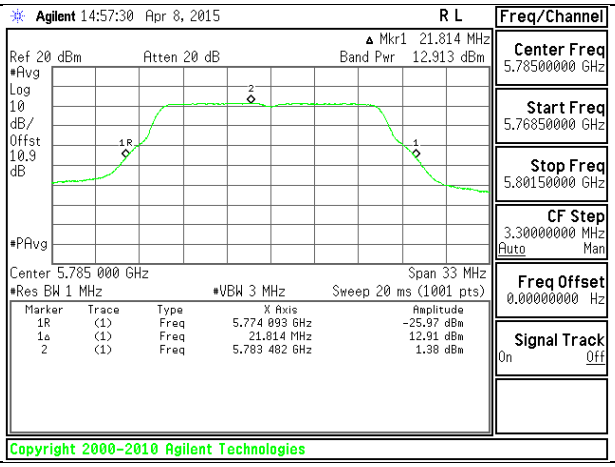
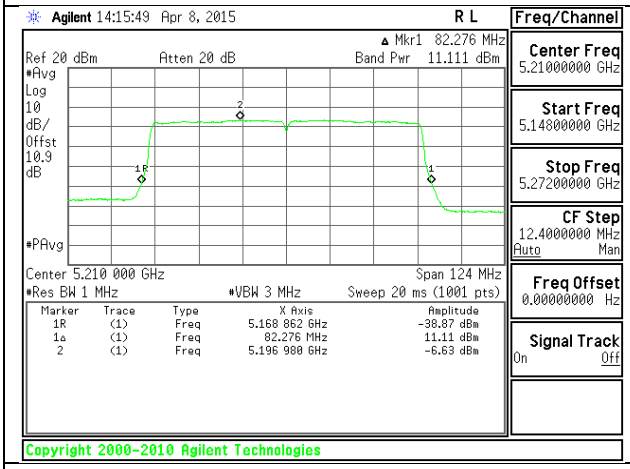


11ac HT80 5.2 Low Ch



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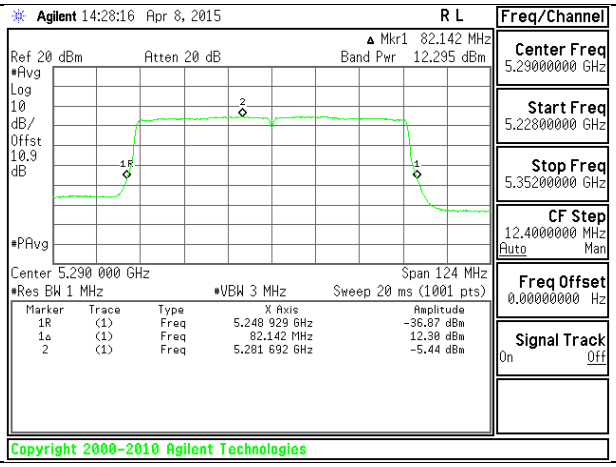
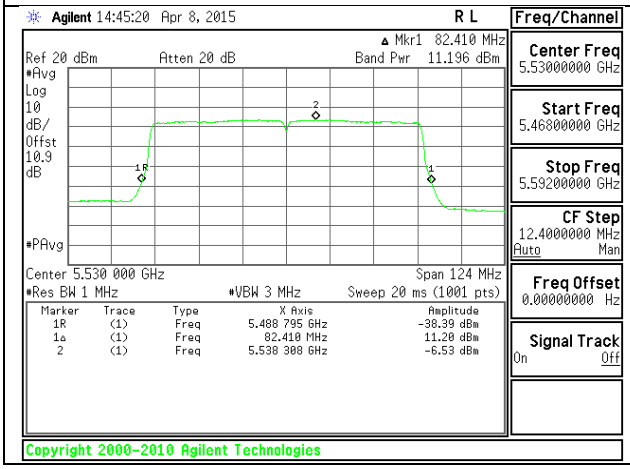
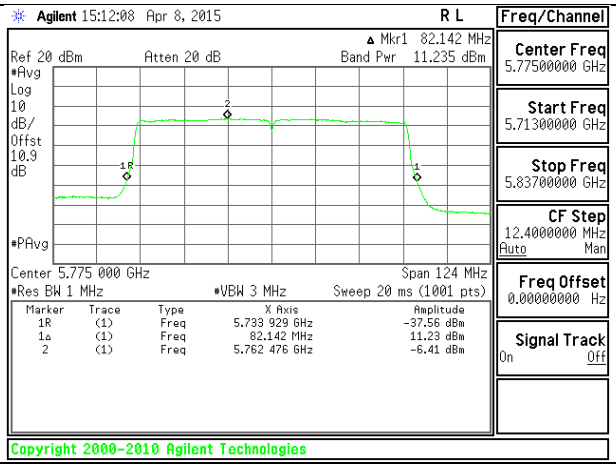


11ac HT80 5.5 Low Ch

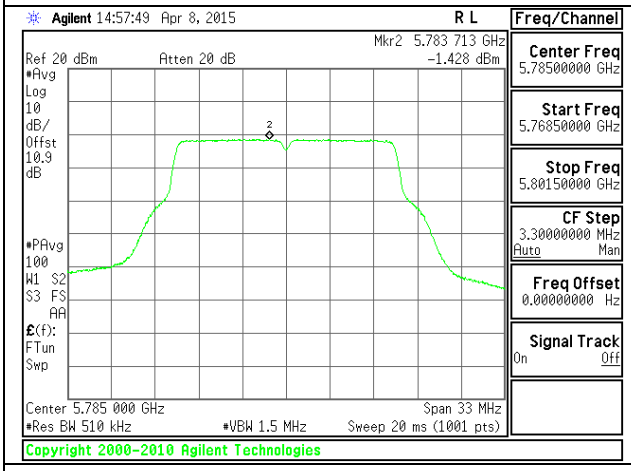


11ac HT80 5.8 Low Ch

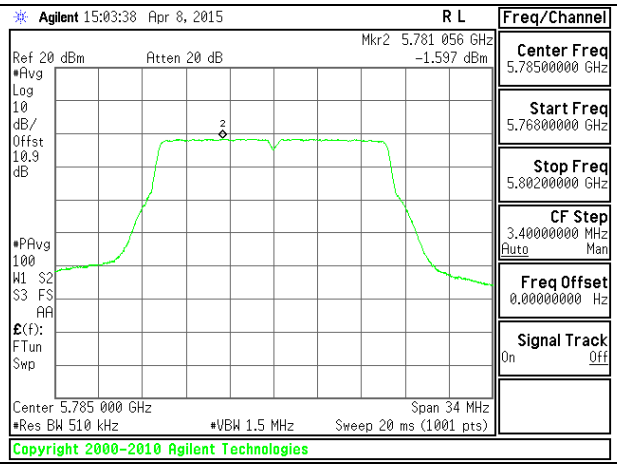


UNII 5.8 PSD

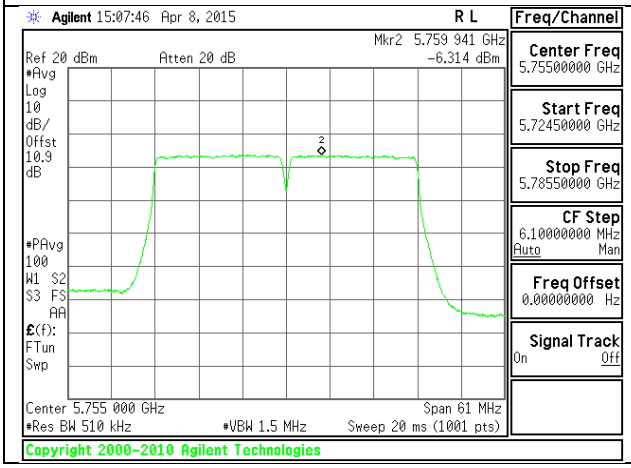
11a HT20 5.8 Mid Ch



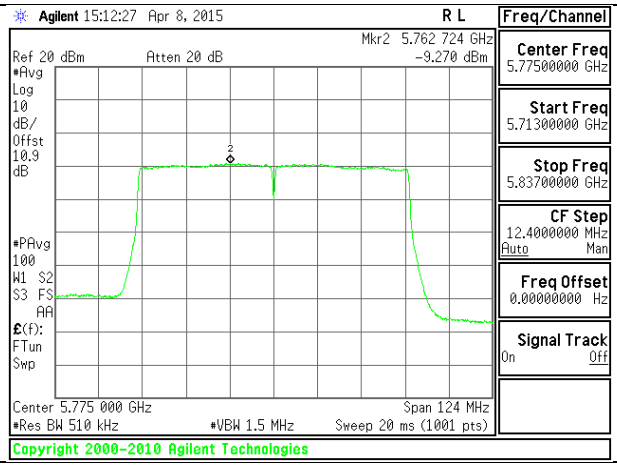
11n HT20 5.8 Mid Ch



11n HT40 5.8 Low Ch



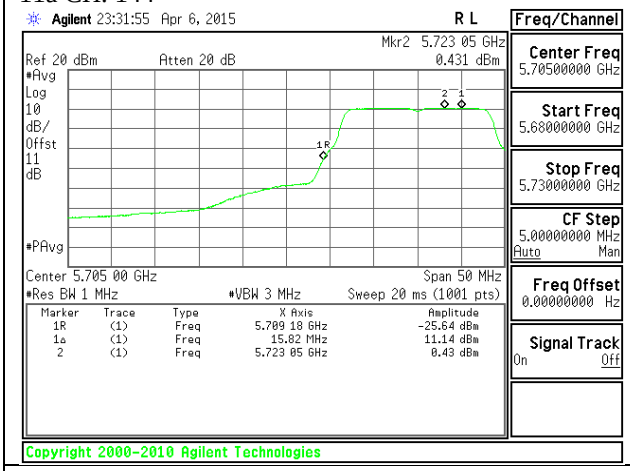
11ac HT80 5.8 Low Ch



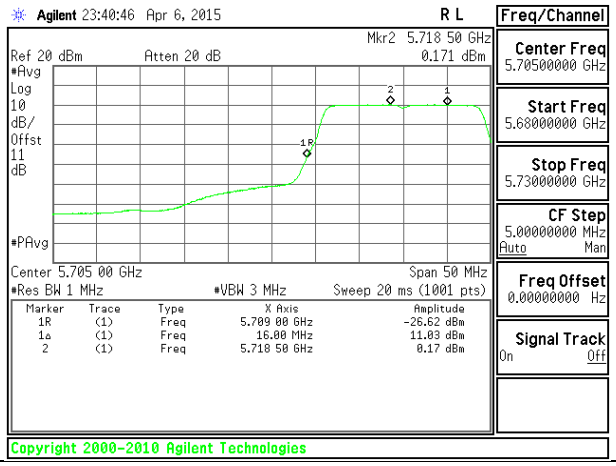
UNII Straddling Channels

UNII-2C BAND

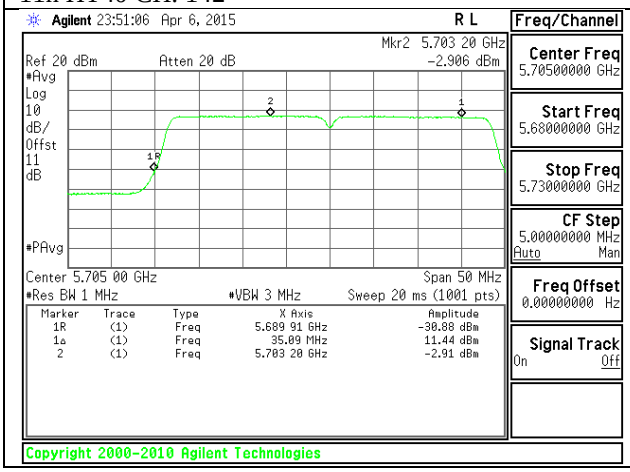
11a CH. 144



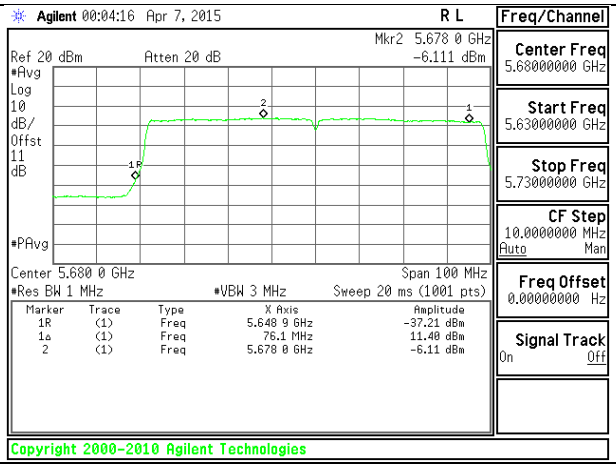
11n HT20 CH. 144



11n HT40 CH. 142

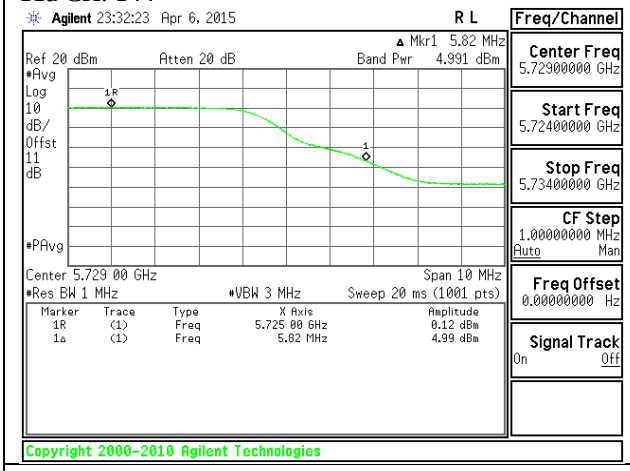


11ac HT80 CH. 138

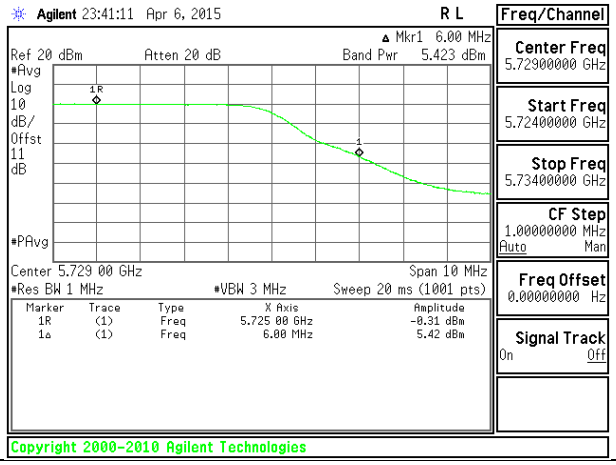


UNII-3 BAND

11a CH. 144



11n HT20 CH. 144



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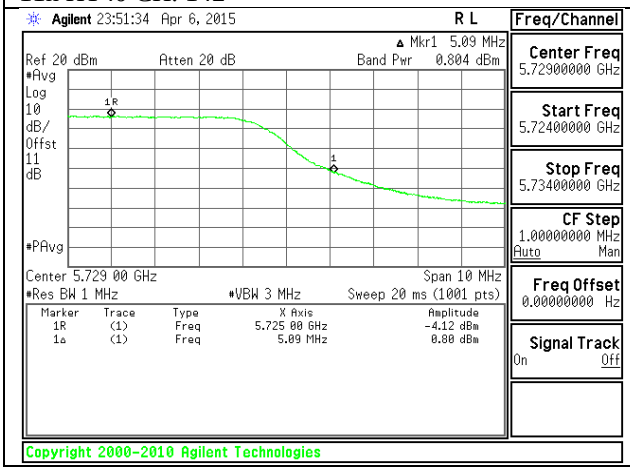
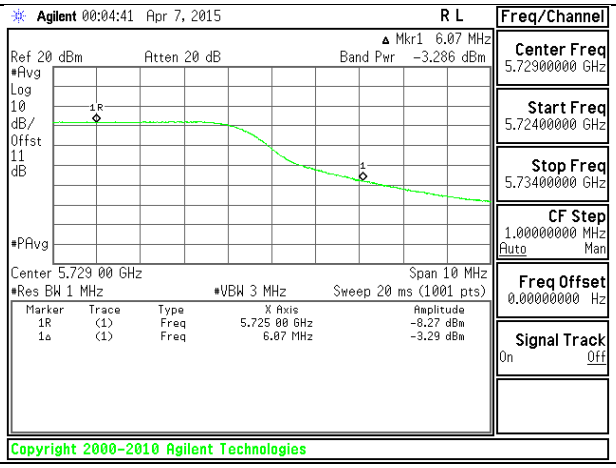
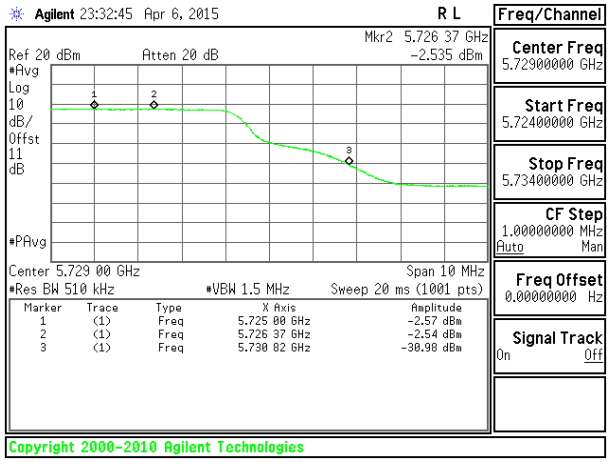


11ac HT80 CH. 138

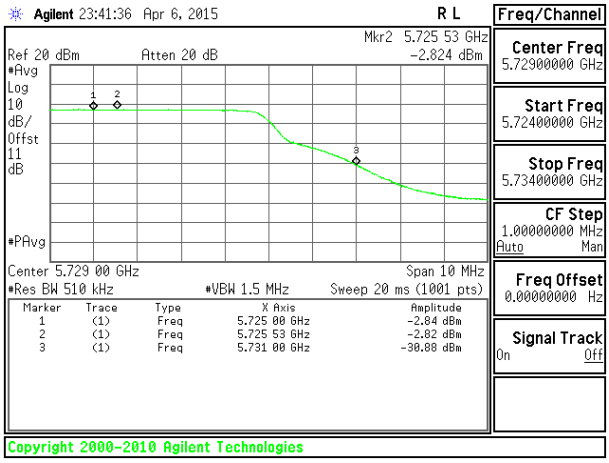


UNII-3 BAND PSD

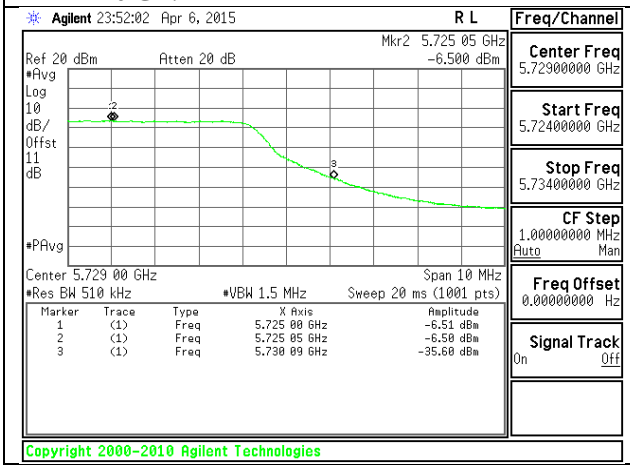
11a CH. 144



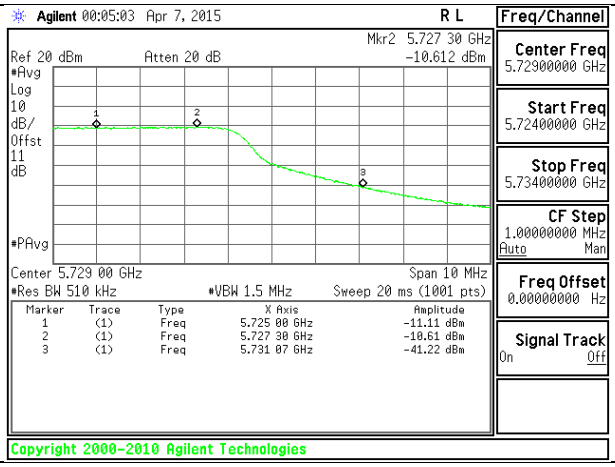
11n HT20 CH. 144



11n HT40 CH. 142



11ac HT80 CH. 138



11. TRANSMITTER ABOVE 1 GHz

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
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. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

Reference to KDB 789033 UNII part G) 6) d) Method AD:
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

The spectrum from 1GHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

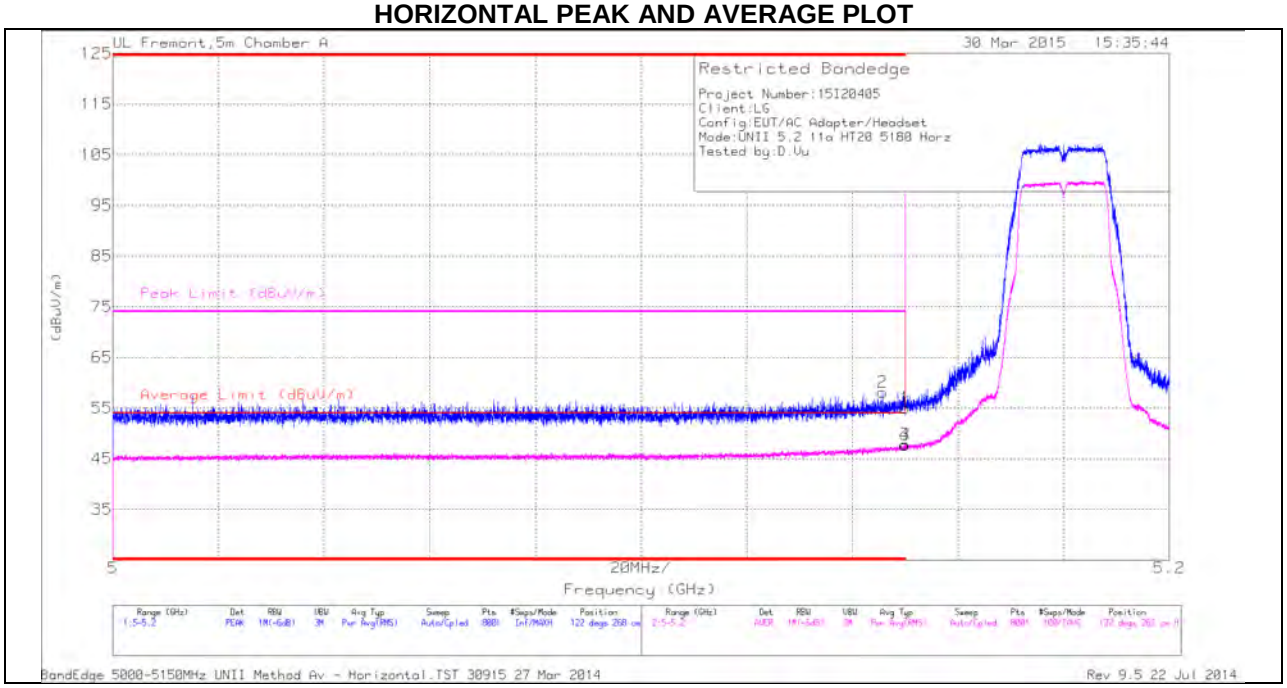
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

11.1. 5.2 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

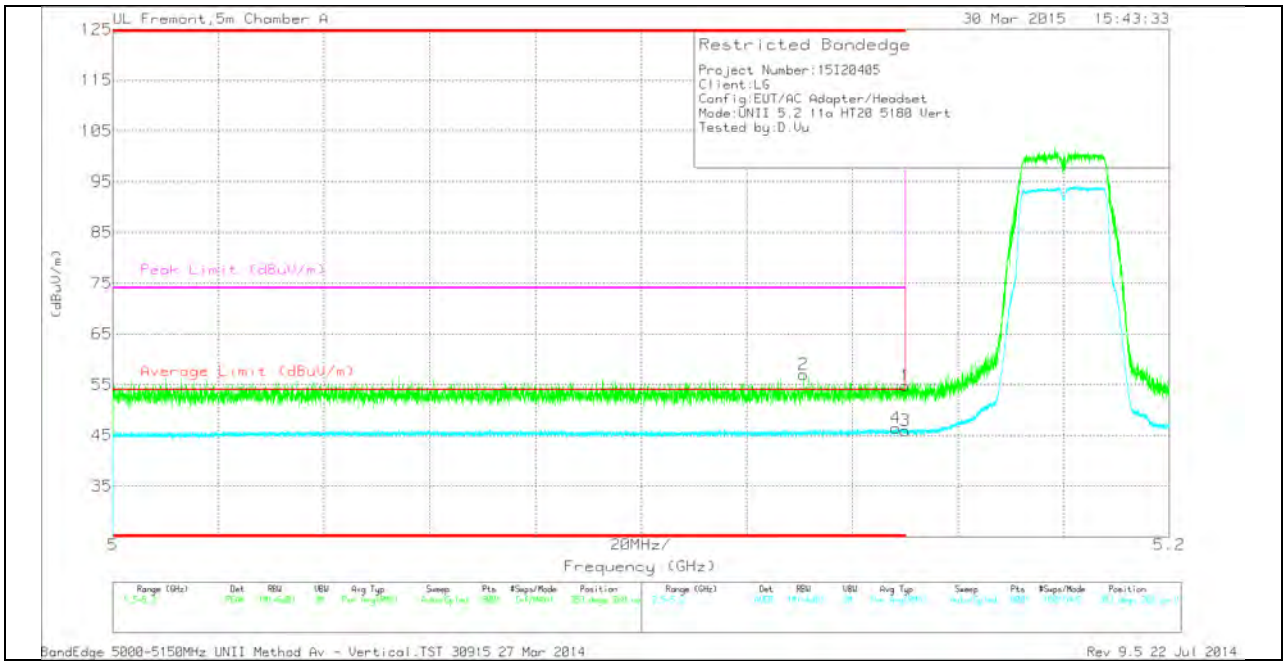
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	40.31	PK	34.2	-19.5	0	55.01	-	-	74	-18.99	122	268	H
2	* 5.146	43.22	PK	34.2	-19.3	0	58.12	-	-	74	-15.88	122	268	H
3	* 5.15	32.92	RMS	34.2	-19.5	.21	47.83	54	-6.17	-	-	122	268	H
4	* 5.15	32.65	RMS	34.2	-19.4	.21	47.66	54	-6.34	-	-	122	268	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT

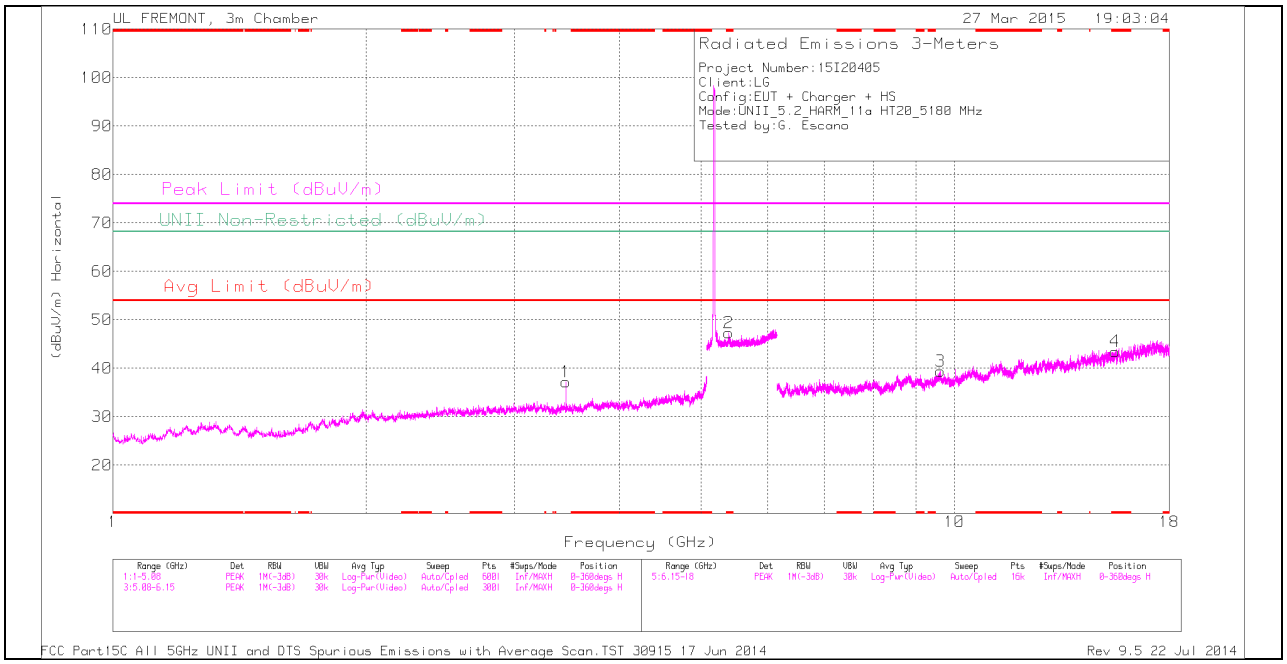


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	40.02	PK	34.2	-19.5	0	54.72	-	-	74	-19.28	353	268	V
2	* 5.131	42.08	PK	34.2	-19.3	0	56.98	-	-	74	-17.02	353	268	V
3	* 5.15	31.08	RMS	34.2	-19.5	.21	45.99	54	-8.01	-	-	353	268	V
4	* 5.148	31.38	RMS	34.2	-19.4	.21	46.39	54	-7.61	-	-	353	268	V

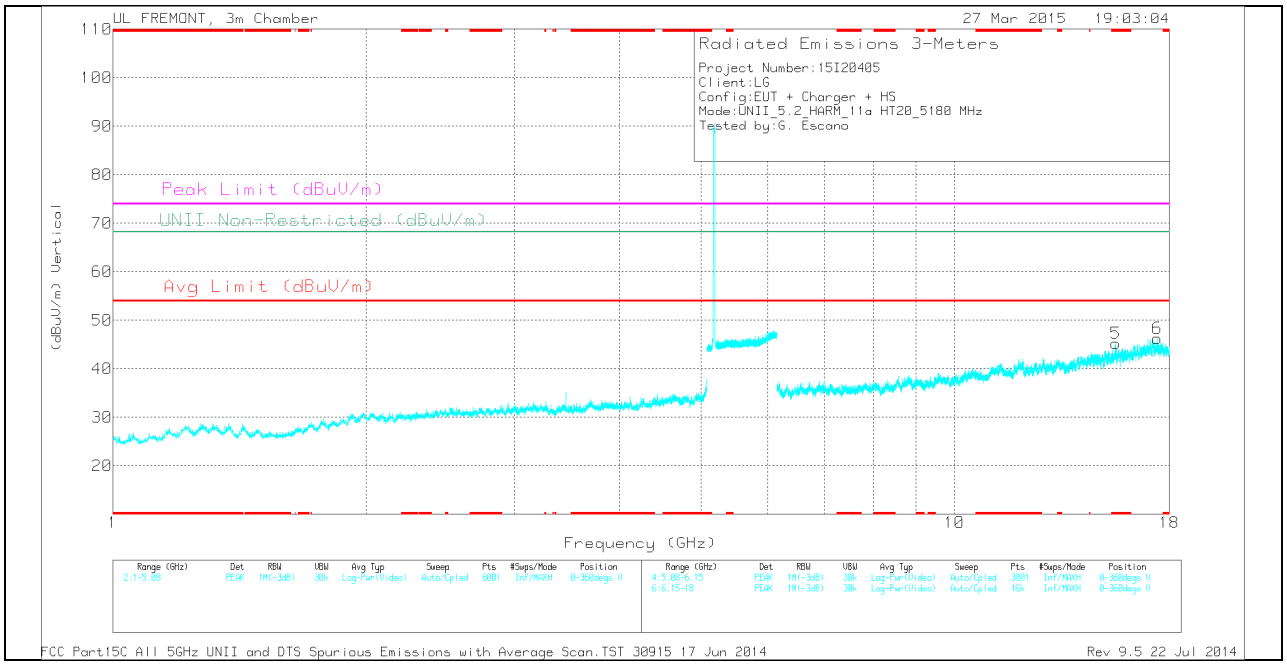
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.39	34.07	PK	34.6	-21.4	0	47.27	-	-	74	-26.73	-	-	0-360	100	H
4	* 15.532	30.09	PK	40.2	-26.8	0	43.49	-	-	74	-30.51	-	-	0-360	200	H
5	* 15.539	31.9	PK	40.2	-26.8	0	45.3	-	-	74	-28.7	-	-	0-360	200	V
1	3.453	35.71	PK	32.8	-31.3	0	37.21	-	-	-	-	68.2	-30.99	0-360	200	H
3	9.625	28.24	PK	36.7	-25.5	0	39.44	-	-	-	-	68.2	-28.76	0-360	100	H
6	17.417	27.14	PK	41.4	-22.3	0	46.24	-	-	-	-	68.2	-21.96	0-360	100	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

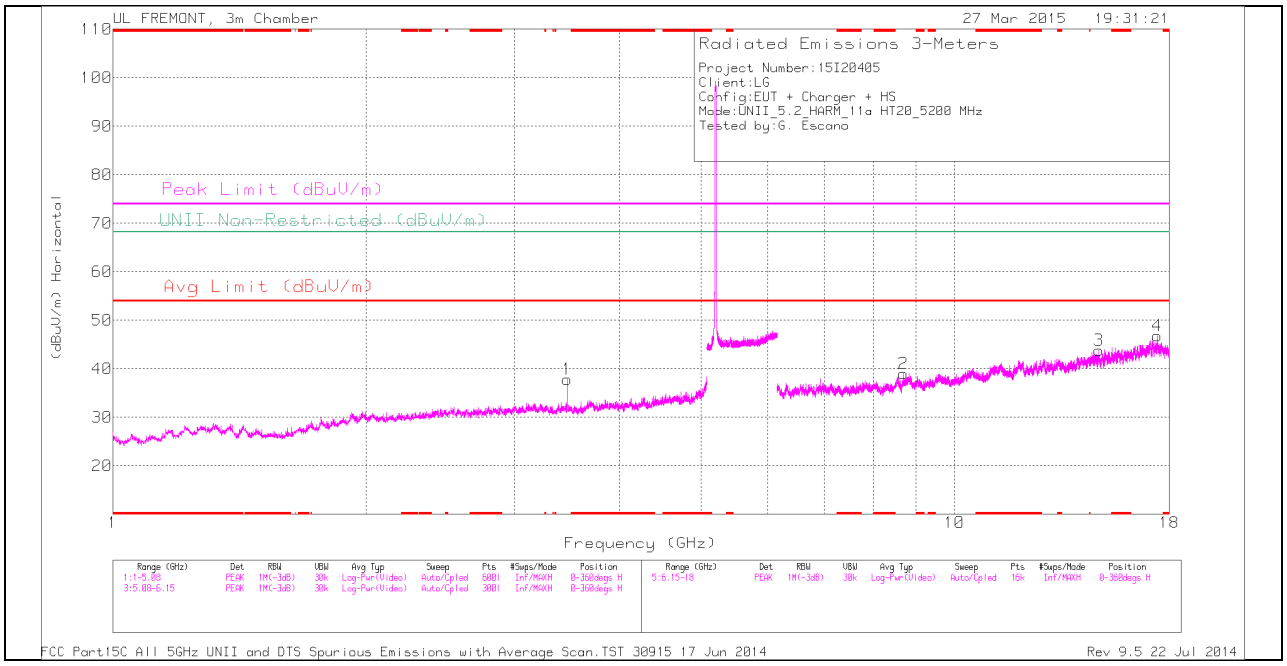
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 5.39	43.69	PK1	34.6	-21.4	0	56.89	-	-	74	-17.11	-	-	40	307	H
* 5.39	31.77	AD1	34.6	-21.4	.21	45.18	54	-8.82	-	-	-	-	40	307	H
* 15.537	41.23	PK1	40.2	-26.8	0	54.63	-	-	74	-19.37	-	-	295	214	H
* 15.537	28.98	AD1	40.2	-26.8	.21	42.59	54	-11.41	-	-	-	-	295	214	H
* 15.536	42.05	PK1	40.2	-26.8	0	55.45	-	-	74	-18.55	-	-	0	140	V
* 15.537	29.52	AD1	40.2	-26.8	.21	43.13	54	-10.87	-	-	-	-	0	140	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

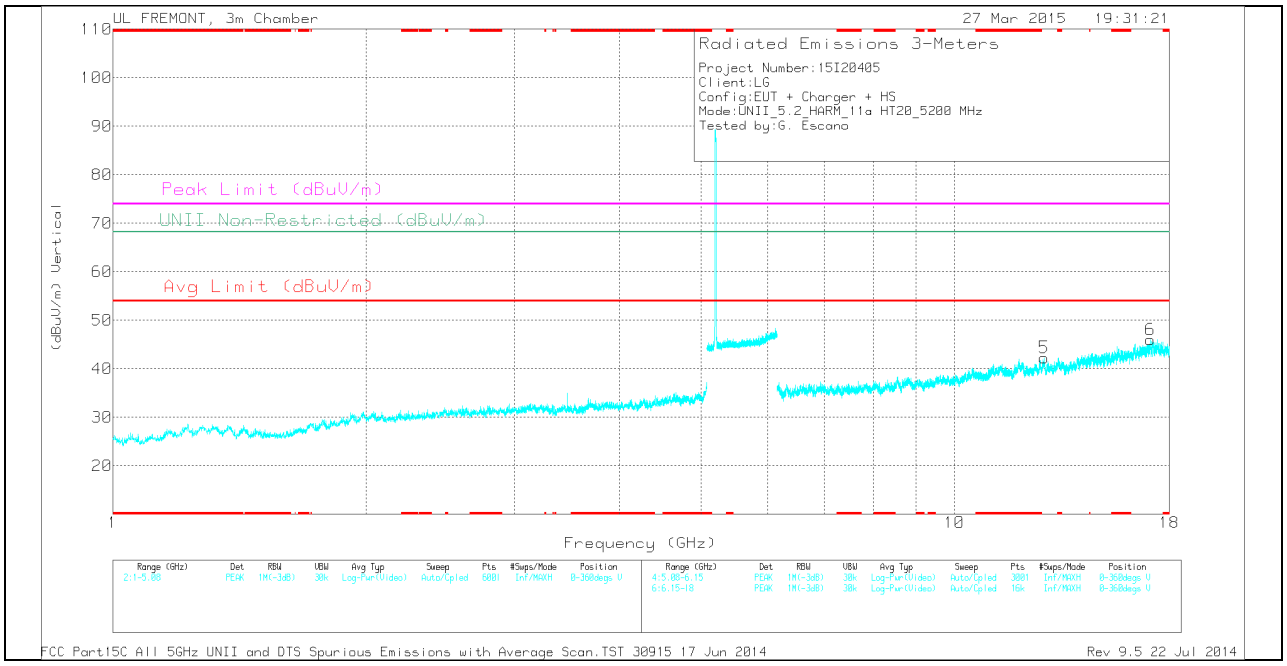
AD1 - KDB789033 Method: AD Primary Power Average

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

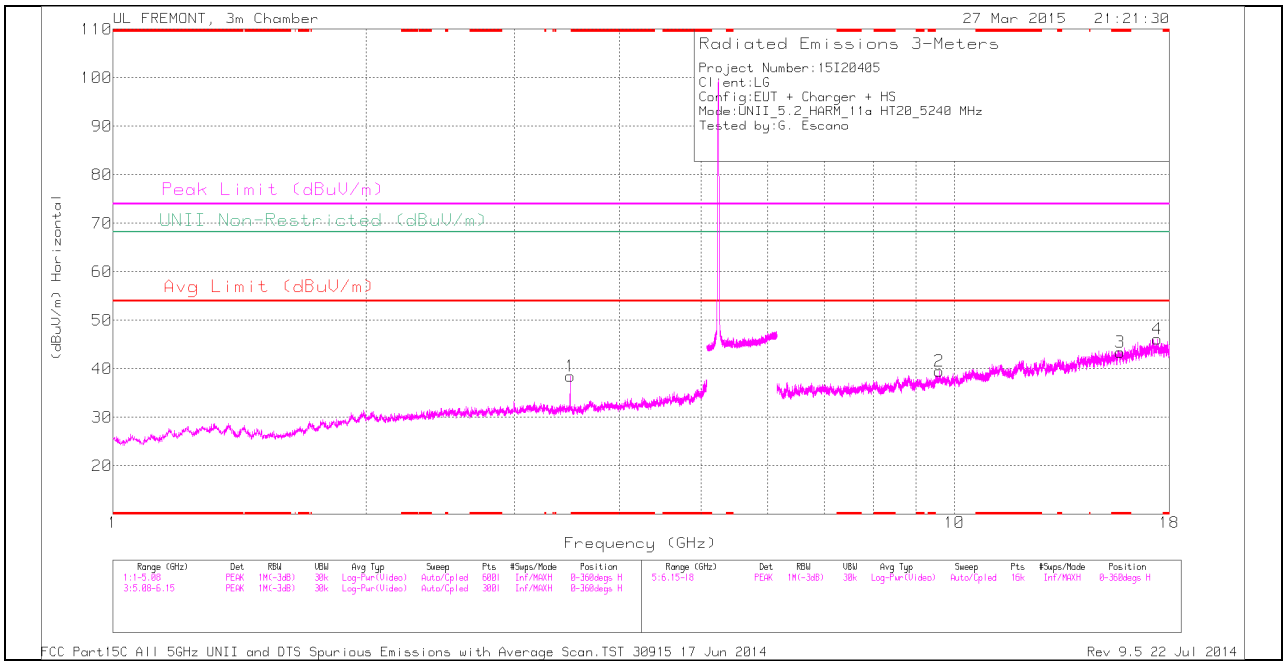
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3.467	36.36	PK	32.8	-31.3	0	37.86	-	-	-	-	68.2	-30.34	0-360	200	H
2	8.698	30.97	PK	35.9	-27.9	0	38.97	-	-	-	-	68.2	-29.23	0-360	100	H
5	12.771	29.22	PK	39.1	-26	0	42.32	-	-	-	-	68.2	-25.88	0-360	200	V
3	14.837	31.17	PK	39.8	-27.2	0	43.77	-	-	-	-	68.2	-24.43	0-360	100	H
6	17.082	28.31	PK	41.4	-23.7	0	46.01	-	-	-	-	68.2	-22.19	0-360	100	V
4	17.421	27.51	PK	41.4	-22.1	0	46.81	-	-	-	-	68.2	-21.39	0-360	200	H

PK - Peak detector

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 17 Jun 2014

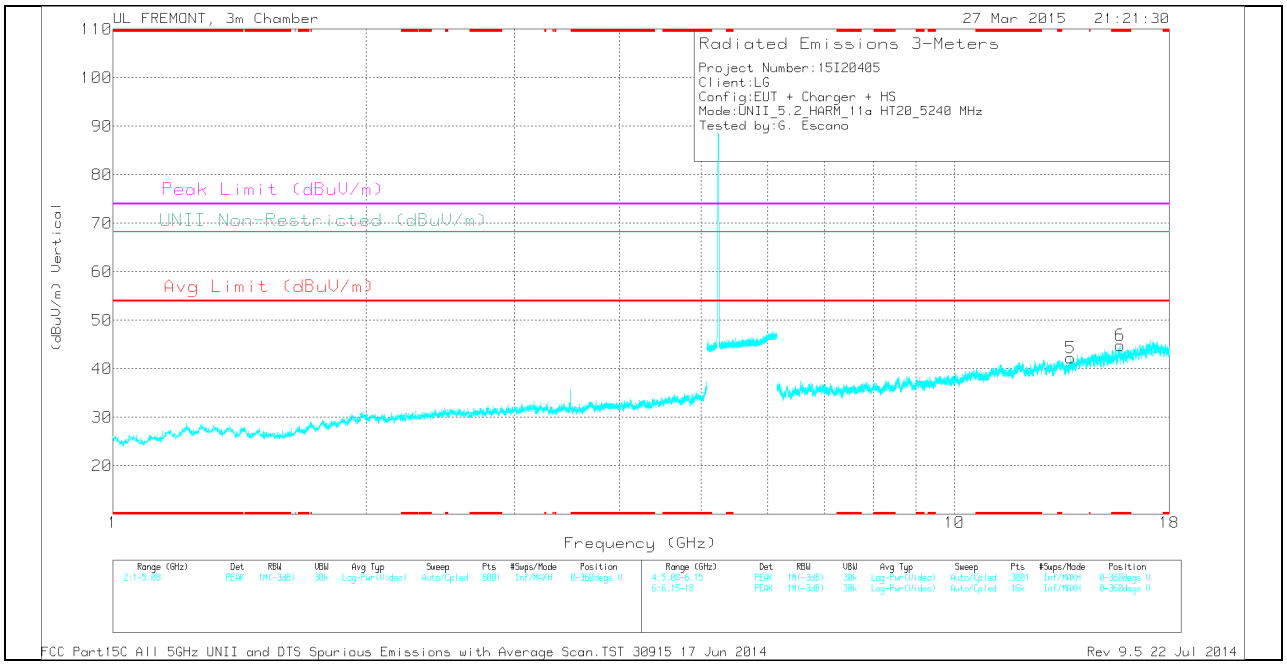
Rev 9.5 22 Jul 2014

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 15.727	29.78	PK	40.4	-26.8	0	43.38	-	-	74	-30.62	-	-	0-360	100	H
6	* 15.725	31.21	PK	40.4	-26.7	0	44.91	-	-	74	-29.09	-	-	0-360	200	V
1	3.494	37.22	PK	32.8	-31.5	0	38.52	-	-	-	-	68.2	-29.68	0-360	200	H
2	9.597	28.09	PK	36.7	-25.3	0	39.49	-	-	-	-	68.2	-28.71	0-360	100	H
5	13.731	30.61	PK	38.6	-27	0	42.21	-	-	-	-	68.2	-25.99	0-360	100	V
4	17.421	26.9	PK	41.4	-22.1	0	46.2	-	-	-	-	68.2	-22	0-360	100	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 15.723	40.23	PK1	40.4	-26.7	0	53.93	-	-	74	-20.07	-	-	0	131	H
* 15.722	28.11	AD1	40.4	-26.7	.21	42.02	54	-11.98	-	-	-	-	0	131	H
* 15.723	43.17	PK1	40.4	-26.7	0	56.87	-	-	74	-17.13	-	-	47	146	V
* 15.722	29.79	AD1	40.4	-26.7	.21	43.7	54	-10.3	-	-	-	-	47	146	V

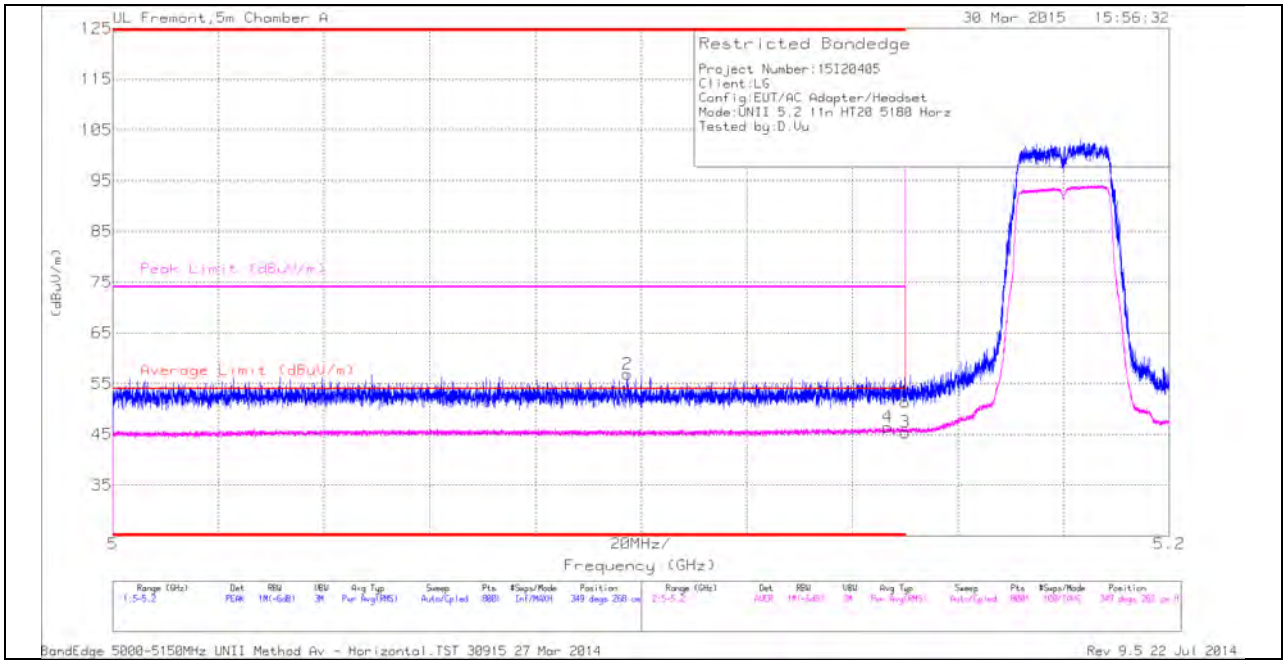
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

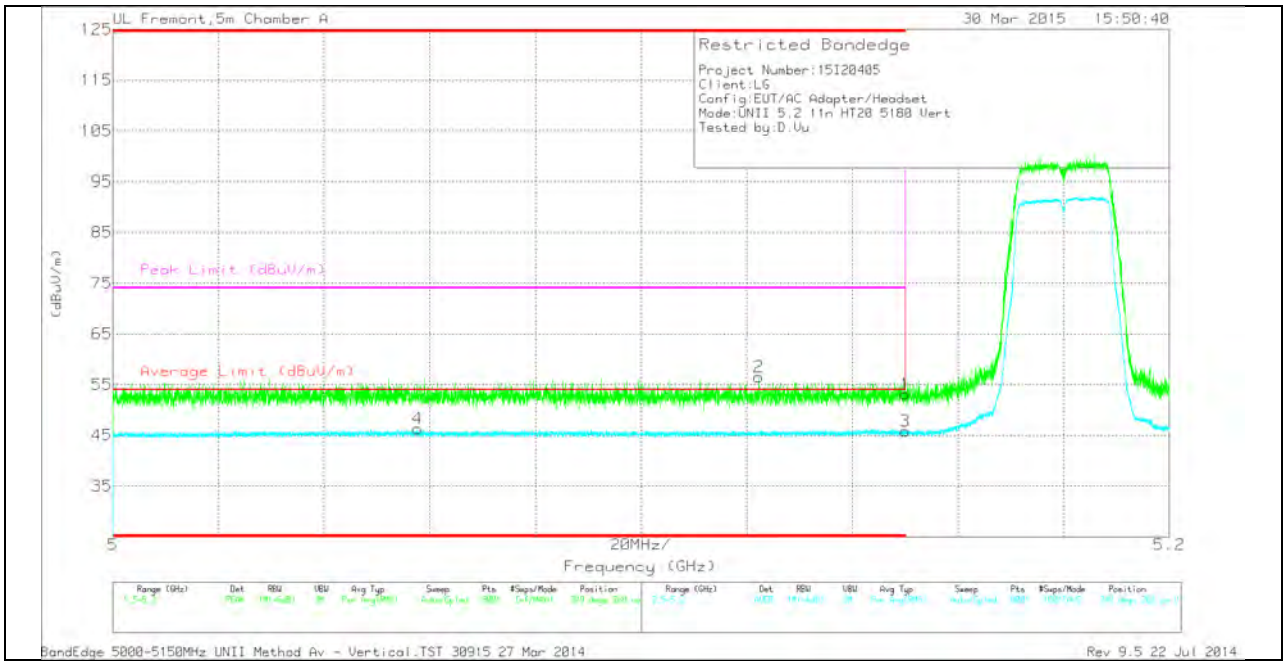
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	36.71	PK	34.2	-19.5	0	51.41	-	-	74	-22.59	349	268	H
2	* 5.097	42.26	PK	34.1	-19.5	0	56.86	-	-	74	-17.14	349	268	H
3	* 5.15	30.47	RMS	34.2	-19.5	.22	45.39	54	-8.61	-	-	349	268	H
4	* 5.147	31.41	RMS	34.2	-19.4	.22	46.43	54	-7.57	-	-	349	268	H

VERTICAL PEAK AND AVERAGE PLOT

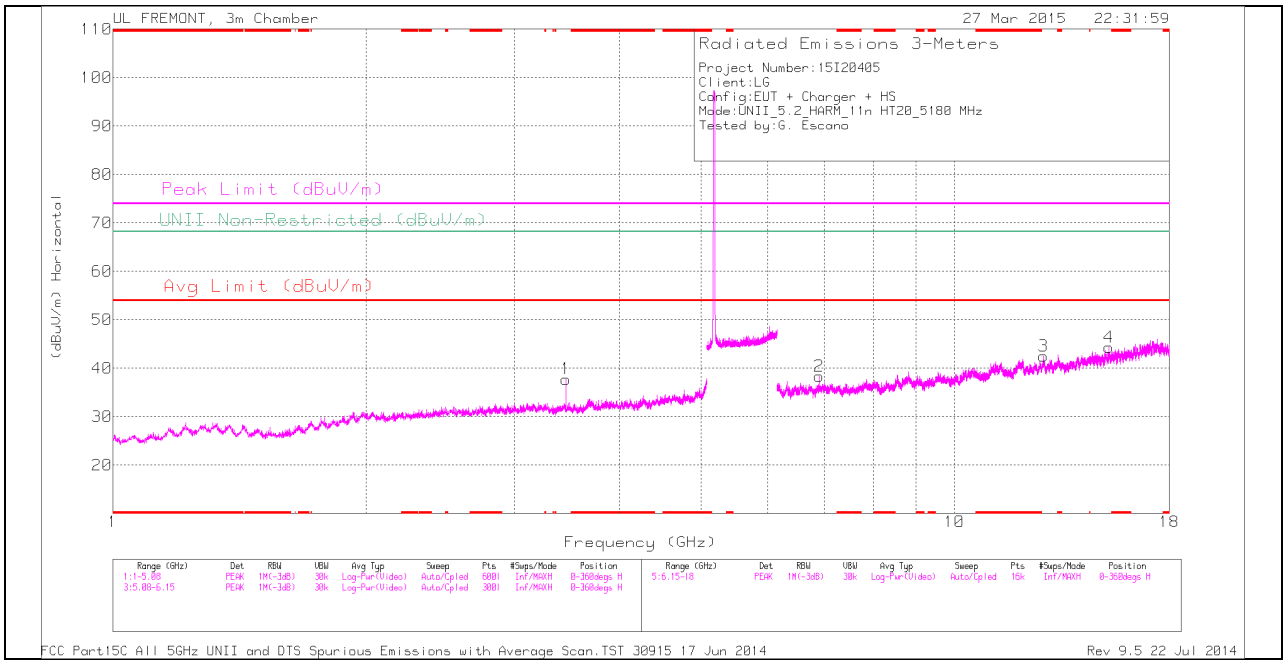


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.5	PK	34.2	-19.5	0	53.2	-	-	74	-20.8	349	268	V
2	* 5.122	41.98	PK	34.1	-19.6	0	56.48	-	-	74	-17.52	349	268	V
3	* 5.15	30.94	RMS	34.2	-19.5	.22	45.86	54	-8.14	-	-	349	268	V
4	* 5.058	31.5	RMS	34	-19.4	.22	46.32	54	-7.68	-	-	349	268	V

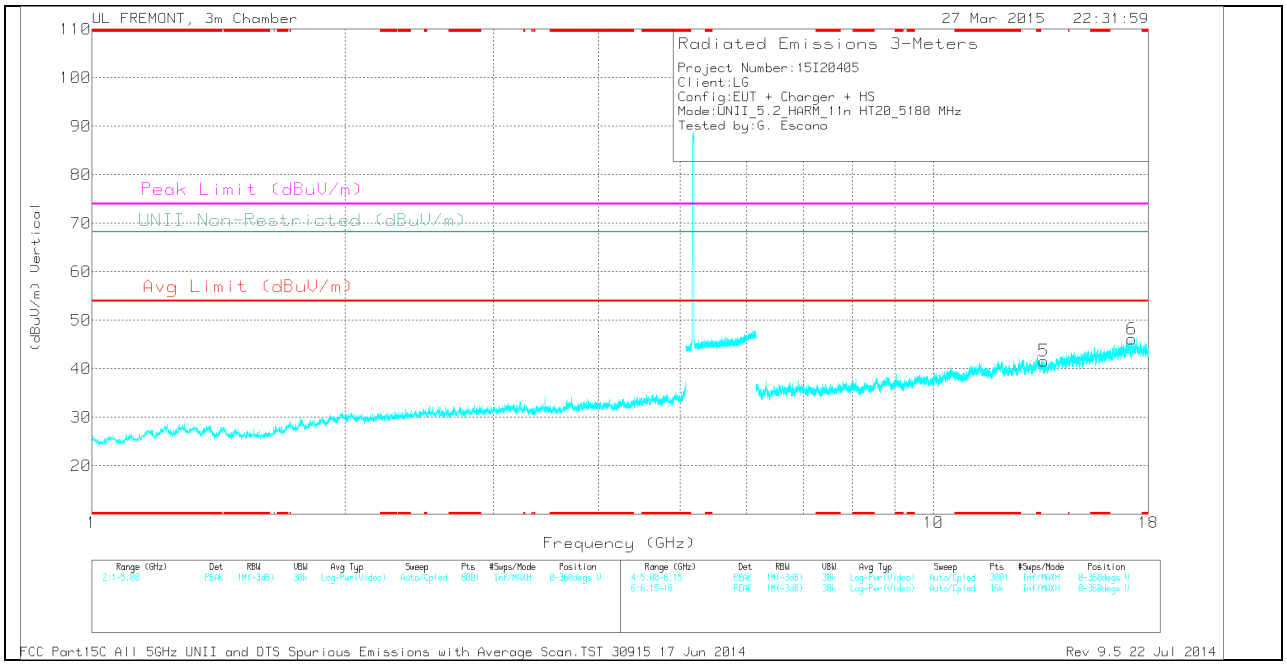
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

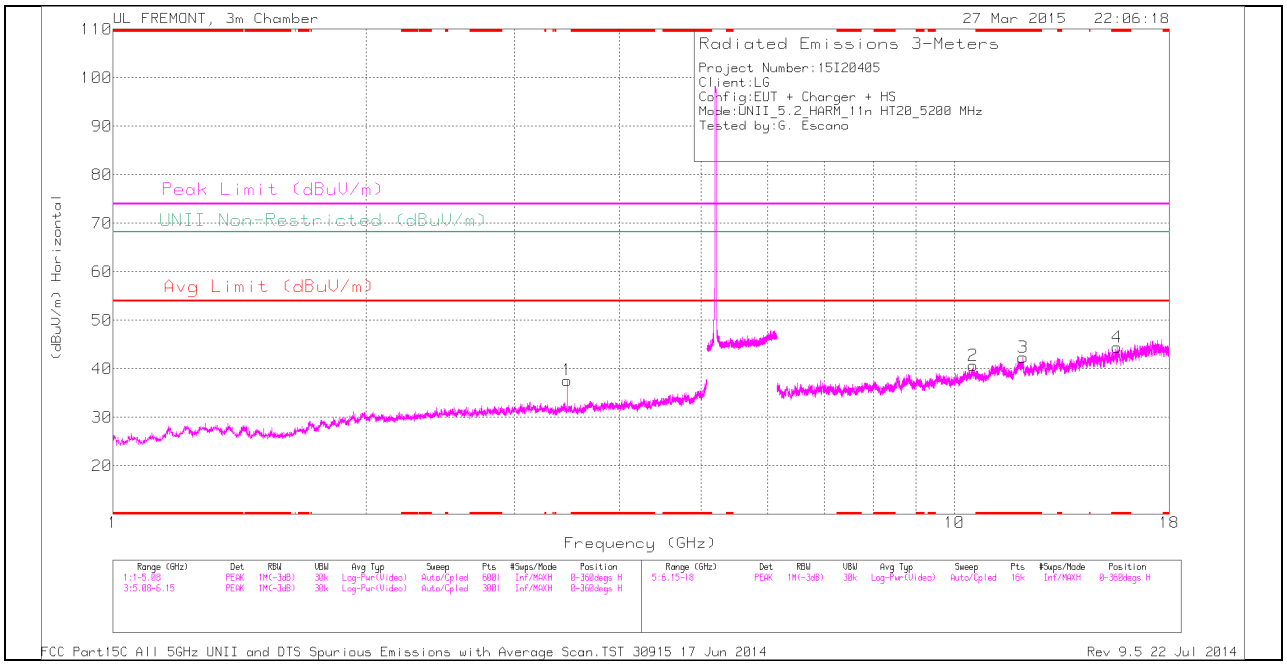
LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3.453	36.28	PK	32.8	-31.3	0	37.78	-	-	-	-	68.2	-30.42	0-360	200	H
2	6.907	32.01	PK	35.6	-29.2	0	38.41	-	-	-	-	68.2	-29.79	0-360	100	H
3	12.763	29.49	PK	39.1	-26.1	0	42.49	-	-	-	-	68.2	-25.71	0-360	100	H
5	13.528	30.27	PK	38.8	-27.4	0	41.67	-	-	-	-	68.2	-26.53	0-360	100	V
4	15.245	30.98	PK	39.9	-26.6	0	44.28	-	-	-	-	68.2	-23.92	0-360	100	H
6	17.205	27.76	PK	41.3	-22.9	0	46.16	-	-	-	-	68.2	-22.04	0-360	100	V

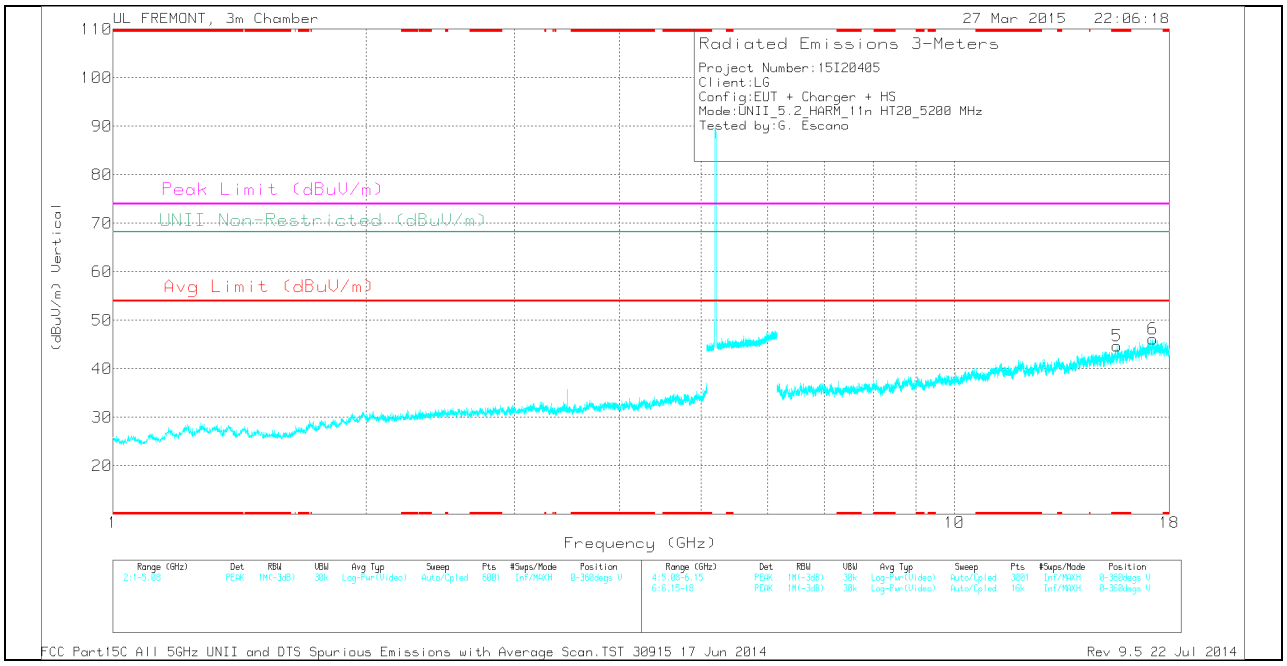
PK - Peak detector

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 12.065	29.74	PK	39	-26.4	0	42.34	-	-	74	-31.66	-	-	0-360	100	H
4	* 15.602	30.96	PK	40.3	-26.8	0	44.46	-	-	74	-29.54	-	-	0-360	200	H
5	* 15.606	31.28	PK	40.3	-26.8	0	44.78	-	-	74	-29.22	-	-	0-360	200	V
1	3.466	36.05	PK	32.8	-31.2	0	37.65	-	-	-	-	68.2	-30.55	0-360	200	H
2	10.519	28.2	PK	37.5	-25	0	40.7	-	-	-	-	68.2	-27.5	0-360	200	H
6	17.214	27.9	PK	41.3	-23.1	0	46.1	-	-	-	-	68.2	-22.1	0-360	100	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

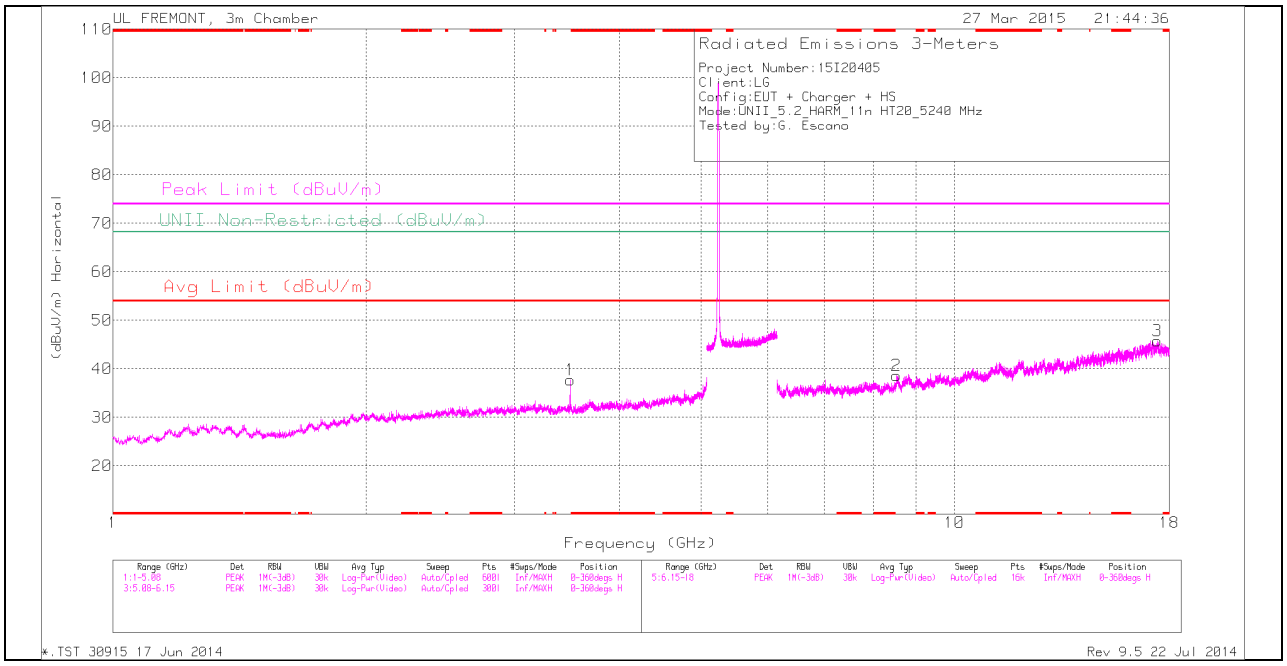
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 12.066	37.29	PK1	39	-26.5	0	49.79	-	-	74	-24.21	-	-	203	116	H
* 12.067	25.51	AD1	39	-26.5	.22	38.23	54	-15.77	-	-	-	-	203	116	H
* 15.603	41.36	PK1	40.3	-26.8	0	54.86	-	-	74	-19.14	-	-	294	251	H
* 15.602	28.87	AD1	40.3	-26.8	.22	42.59	54	-11.41	-	-	-	-	294	251	H
* 15.601	42.92	PK1	40.3	-26.8	0	56.42	-	-	74	-17.58	-	-	56	256	V
* 15.602	29.96	AD1	40.3	-26.8	.22	43.68	54	-10.32	-	-	-	-	56	256	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

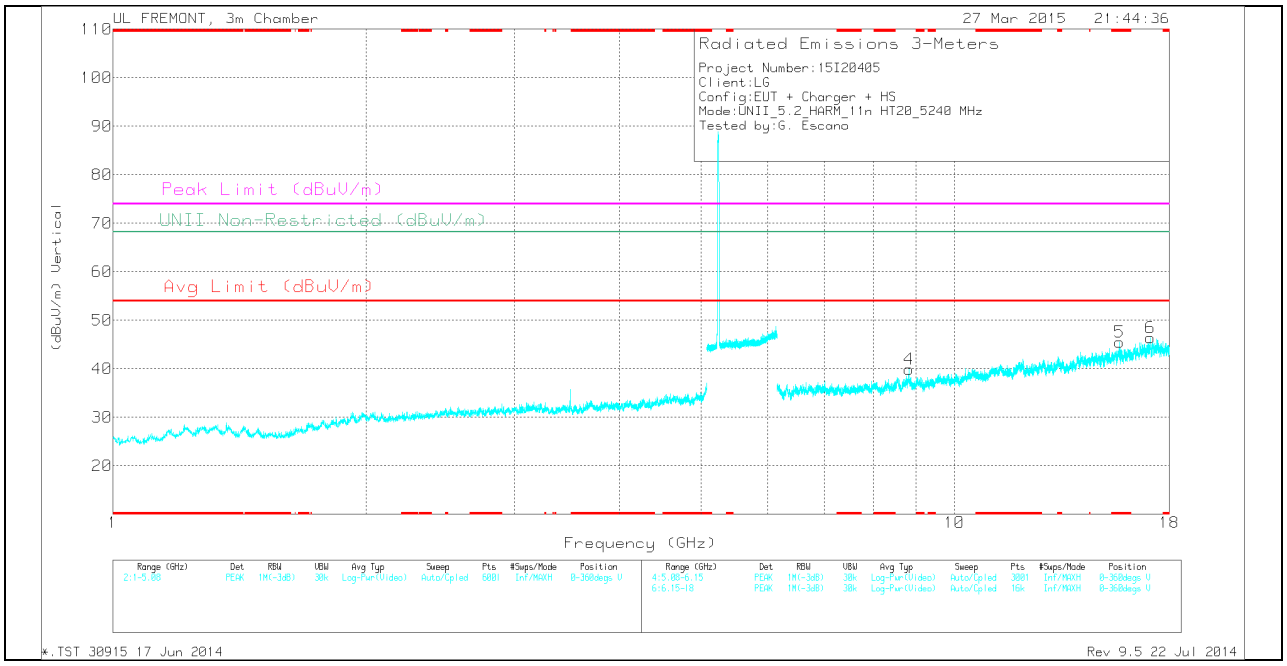
AD1 - KDB789033 Method: AD Primary Power Average

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 15.721	31.76	PK	40.4	-26.7	0	45.46	-	-	74	-28.54	-	-	0-360	200	V
1	3.494	36.45	PK	32.8	-31.5	0	37.75	-	-	-	-	68.2	-30.45	0-360	200	H
2	8.534	29.47	PK	35.8	-26.6	0	38.67	-	-	-	-	68.2	-29.53	0-360	100	H
4	8.831	30.04	PK	35.9	-26	0	39.94	-	-	-	-	68.2	-28.26	0-360	100	V
6	17.082	28.69	PK	41.4	-23.7	0	46.39	-	-	-	-	68.2	-21.81	0-360	100	V
3	17.41	26.78	PK	41.4	-22.4	0	45.78	-	-	-	-	68.2	-22.42	0-360	100	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 15.722	42.09	PK1	40.4	-26.7	0	55.79	-	-	74	-18.21	-	-	2	231	V
* 15.723	29.78	AD1	40.4	-26.7	.22	43.70	54	-10.30	-	-	-	-	2	231	V

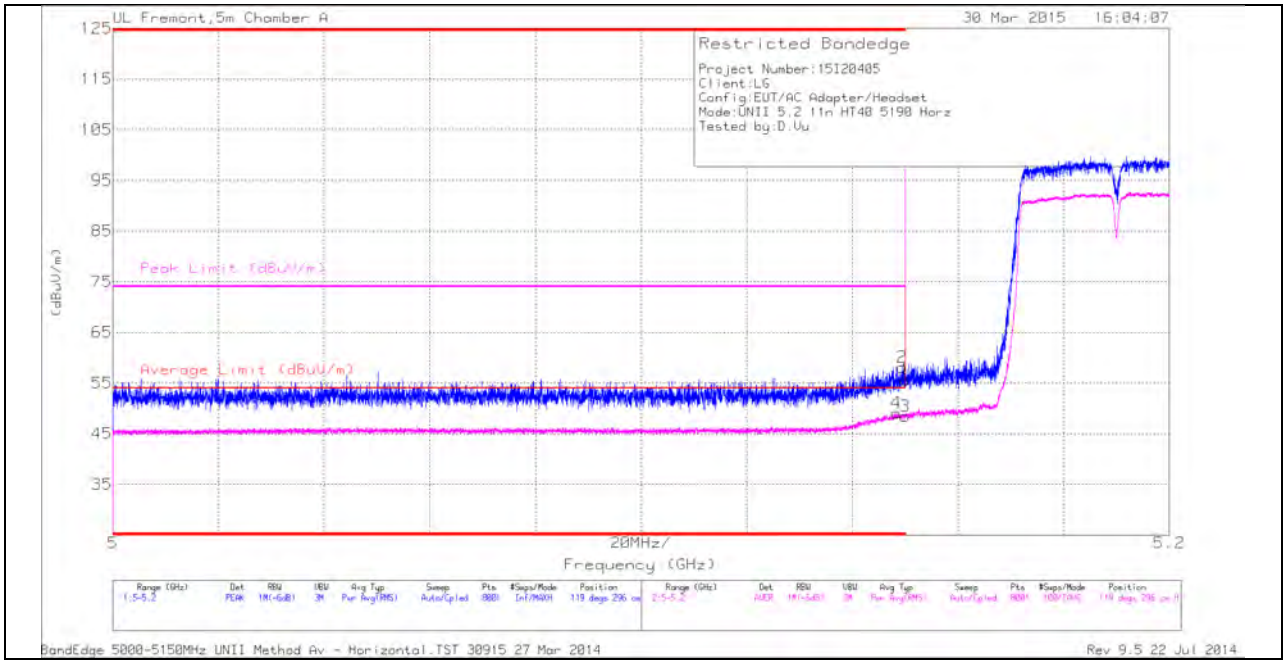
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

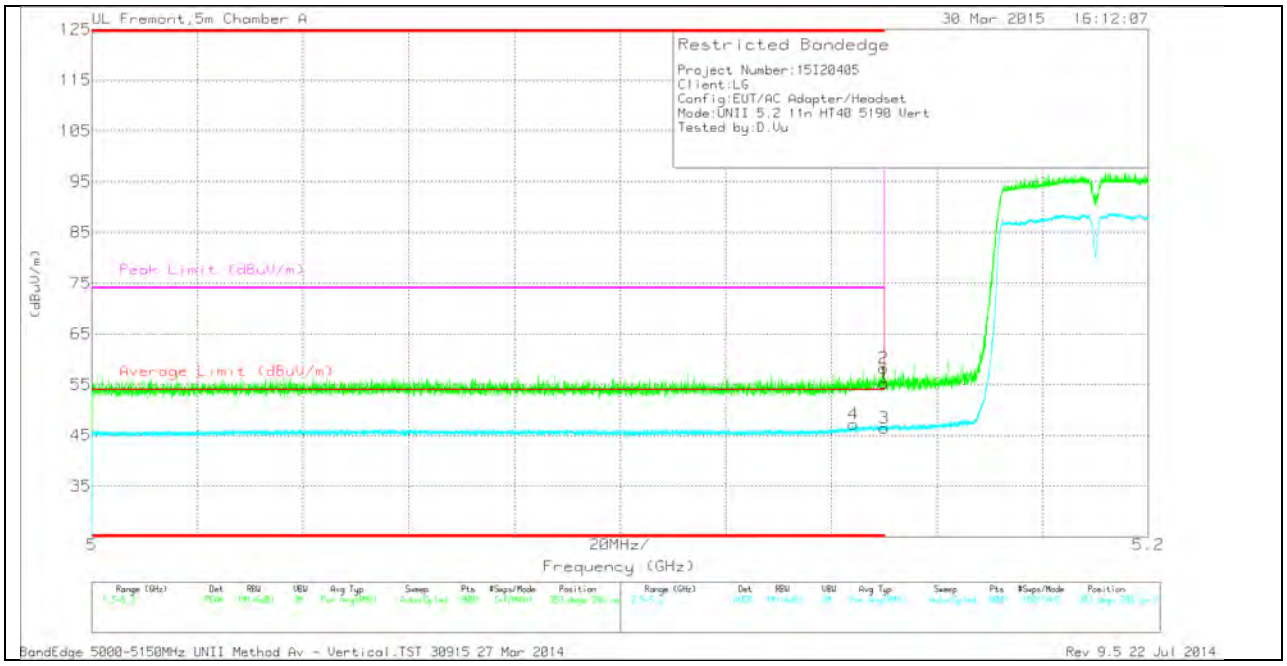
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	40.9	PK	34.2	-19.5	0	55.6	-	-	74	-18.4	119	296	H
2	* 5.149	43.32	PK	34.2	-19.4	0	58.12	-	-	74	-15.88	119	296	H
3	* 5.15	33.32	RMS	34.2	-19.5	.46	48.48	54	-5.52	-	-	119	296	H
4	* 5.148	33.85	RMS	34.2	-19.4	.46	49.11	54	-4.89	-	-	119	296	H

VERTICAL PEAK AND AVERAGE PLOT

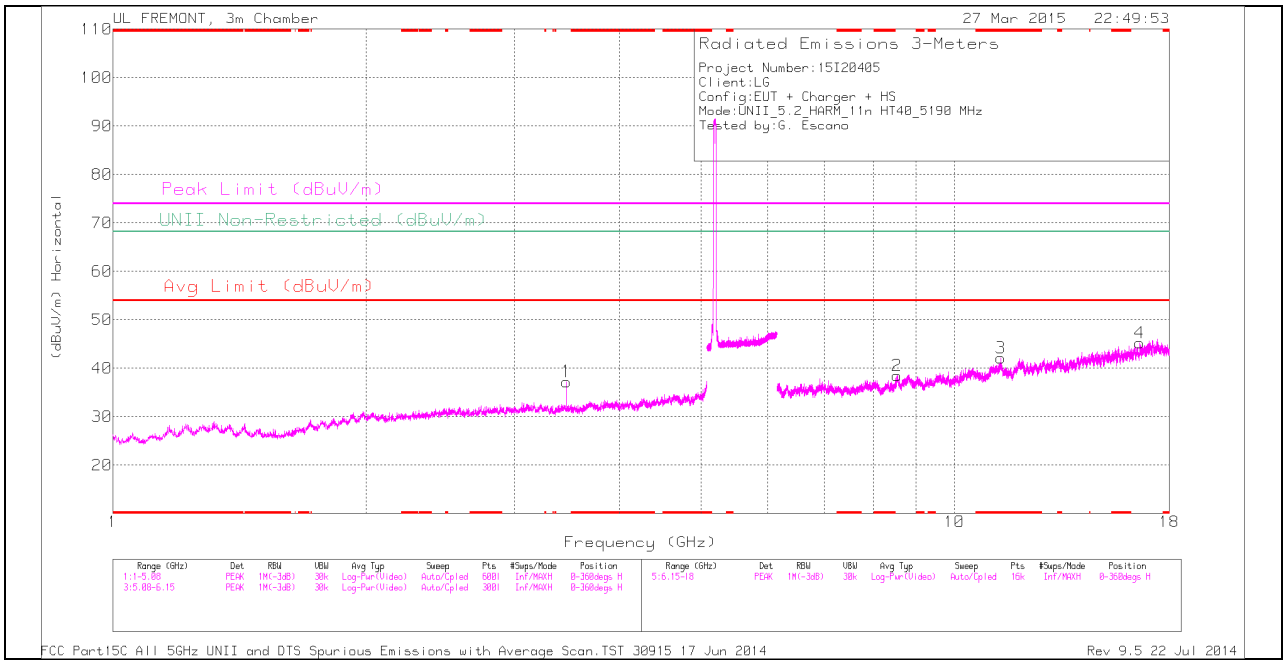


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	40.52	PK	34.2	-19.5	0	55.22	-	-	74	-18.78	353	296	V
2	* 5.15	43.45	PK	34.2	-19.4	0	58.25	-	-	74	-15.75	353	296	V
3	* 5.15	31.3	RMS	34.2	-19.5	.46	46.46	54	-7.54	-	-	353	296	V
4	* 5.144	31.78	RMS	34.2	-19.3	.46	47.14	54	-6.86	-	-	353	296	V

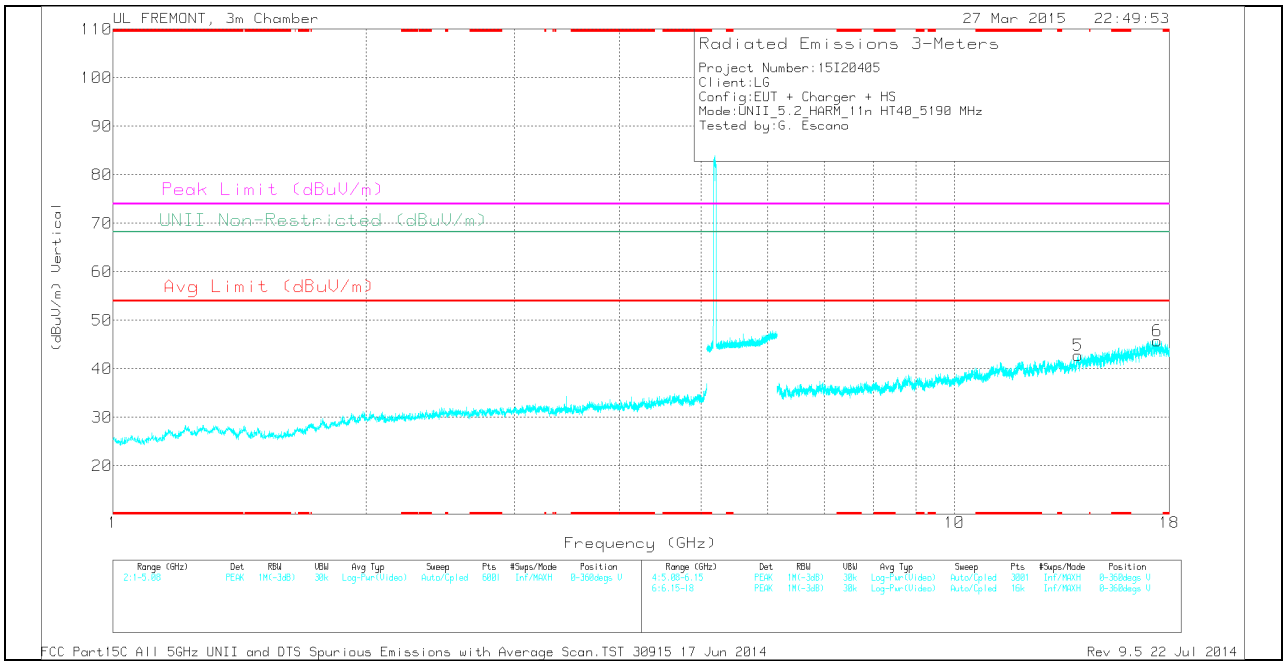
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 11.343	29.48	PK	38.1	-25.5	0	42.08	-	-	74	-31.92	-	-	0-360	100	H
1	3.46	35.76	PK	32.8	-31.3	0	37.26	-	-	-	-	68.2	-30.94	0-360	200	H
2	8.545	28.74	PK	35.8	-26	0	38.54	-	-	-	-	68.2	-29.66	0-360	100	H
5	14.013	31.61	PK	38.8	-27.6	0	42.81	-	-	-	-	68.2	-25.39	0-360	100	V
4	16.609	28.8	PK	41	-24.5	0	45.3	-	-	-	-	68.2	-22.9	0-360	100	H
6	17.421	26.46	PK	41.4	-22.1	0	45.76	-	-	-	-	68.2	-22.44	0-360	100	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

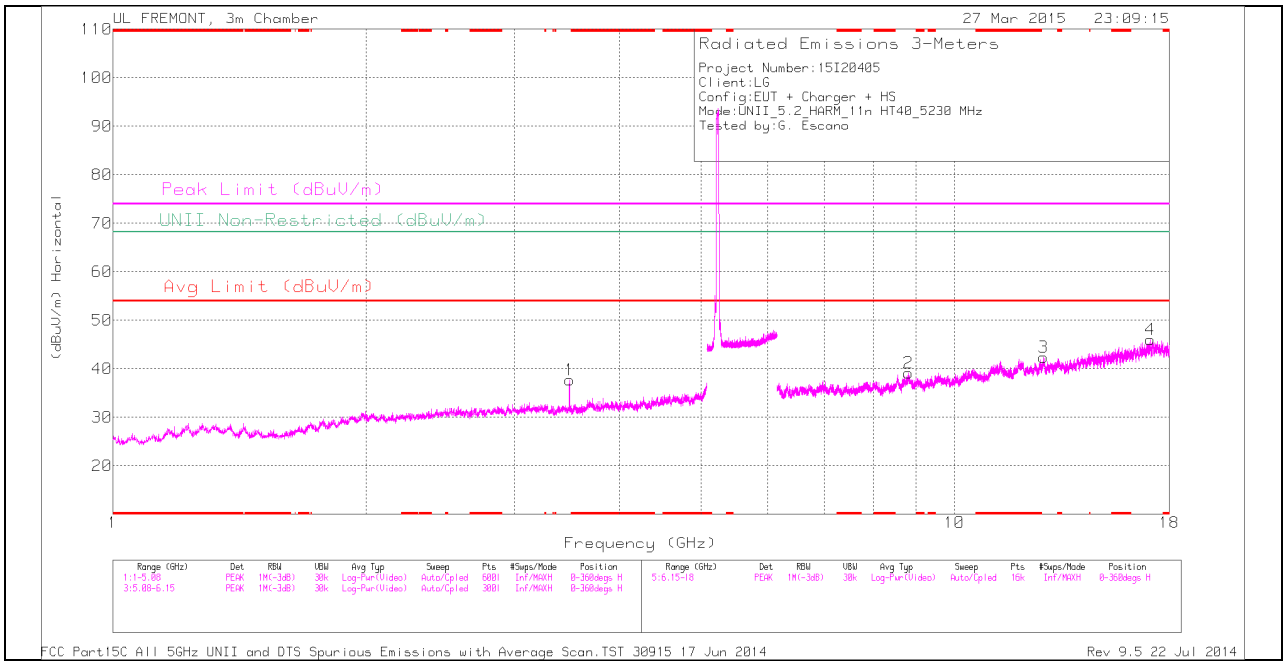
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.345	36.35	PK1	38.1	-25.6	0	48.85	-	-	74	-25.15	-	-	342	400	H
* 11.345	25.08	AD1	38.1	-25.6	.46	38.04	54	-15.96	-	-	-	-	342	400	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

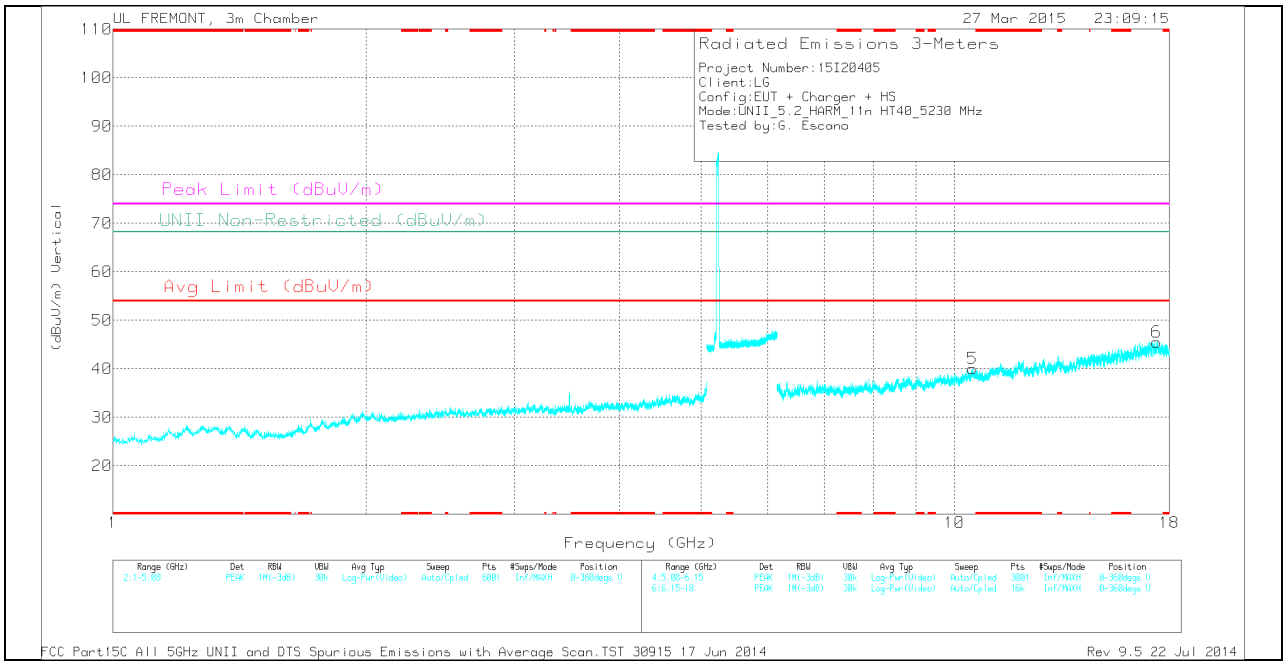
AD1 - KDB789033 Method: AD Primary Power Average

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

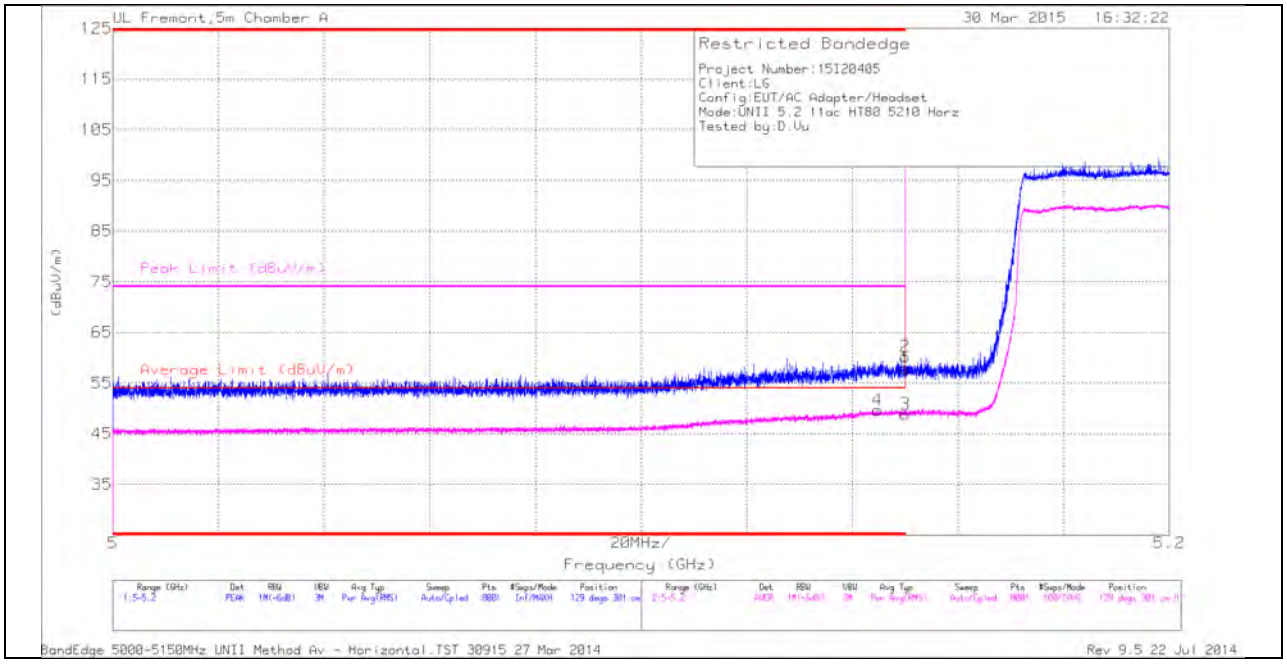
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3.487	36.46	PK	32.8	-31.5	0	37.76	-	-	-	-	68.2	-30.44	0-360	200	H
2	8.818	28.79	PK	35.9	-25.6	0	39.09	-	-	-	-	68.2	-29.11	0-360	100	H
5	10.505	27.89	PK	37.5	-25.3	0	40.09	-	-	-	-	68.2	-28.11	0-360	200	V
3	12.754	29.44	PK	39.1	-26.1	0	42.44	-	-	-	-	68.2	-25.76	0-360	100	H
4	17.086	28.01	PK	41.5	-23.5	0	46.01	-	-	-	-	68.2	-22.19	0-360	100	H
6	17.393	27.22	PK	41.4	-23.1	0	45.52	-	-	-	-	68.2	-22.68	0-360	200	V

PK - Peak detector

11.1.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



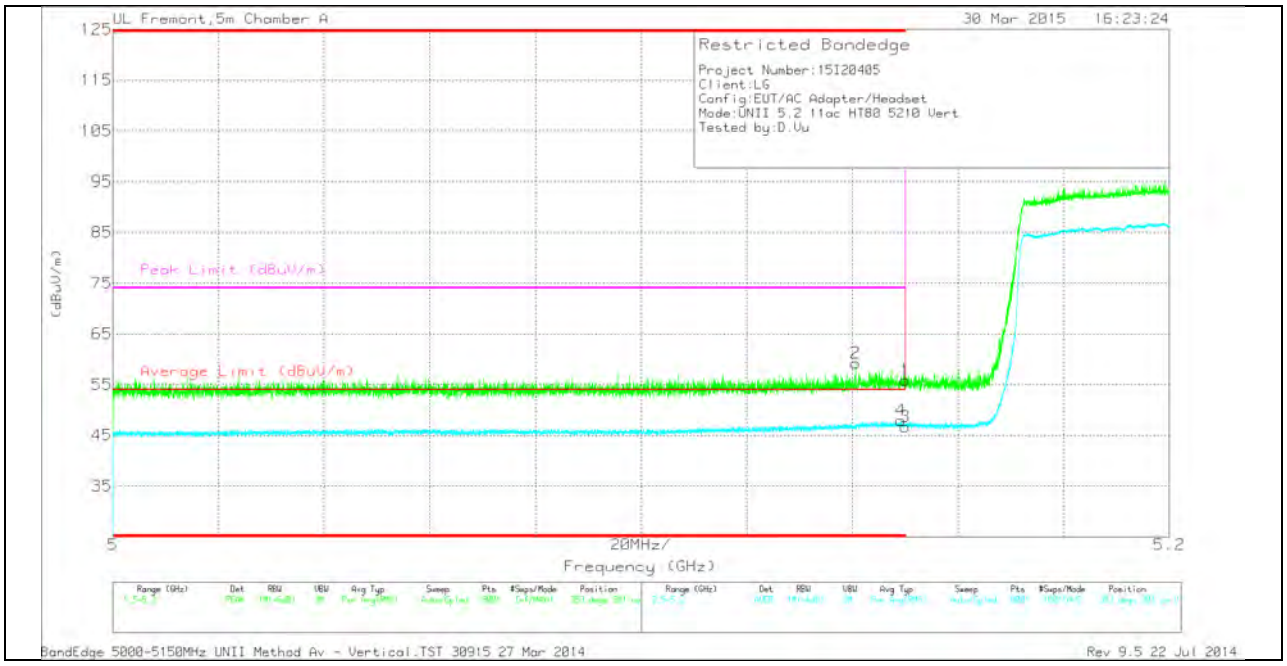
HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Flt r/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	43.17	PK	34.2	-19.5	0	57.87	-	-	74	-16.13	129	301	H
2	* 5.15	45.37	PK	34.2	-19.4	0	60.17	-	-	74	-13.83	129	301	H
3	* 5.15	33.6	RMS	34.2	-19.5	.36	48.66	54	-5.34	-	-	129	301	H
4	* 5.145	34.2	RMS	34.2	-19.3	.36	49.46	54	-4.54	-	-	129	301	H

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

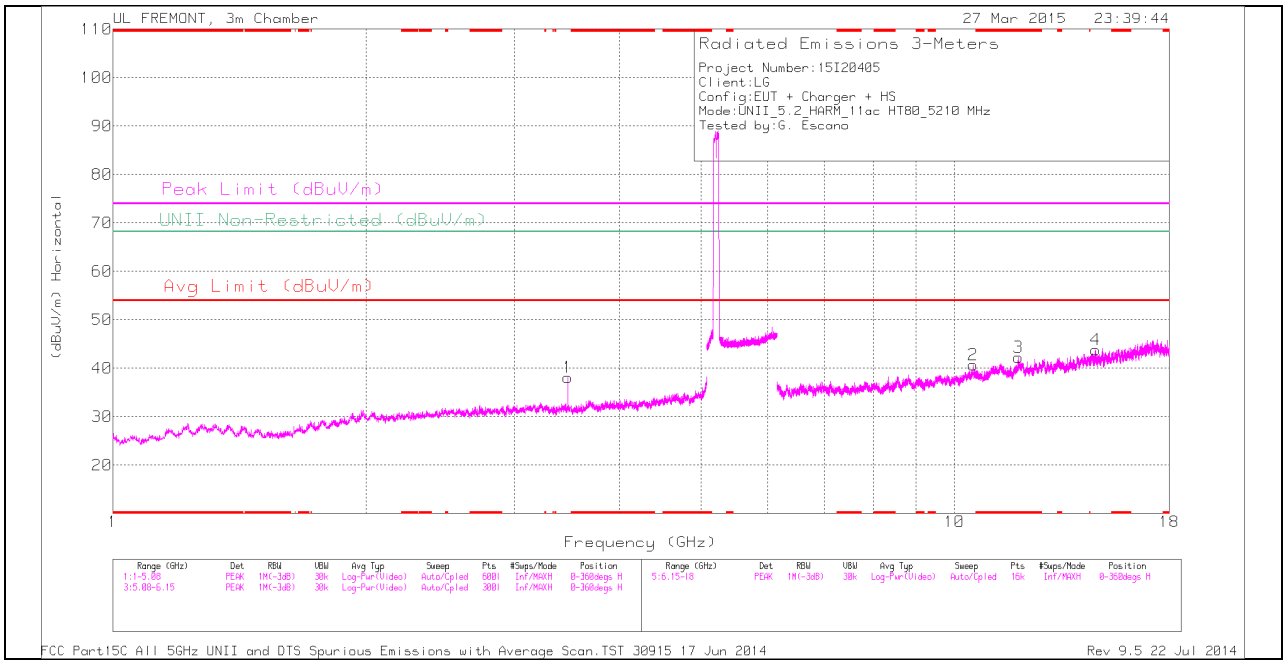
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	41.22	PK	34.2	-19.5	0	55.92	-	-	74	-18.08	353	301	V
2	* 5.141	44.31	PK	34.2	-19.3	0	59.21	-	-	74	-14.79	353	301	V
3	* 5.15	31.47	RMS	34.2	-19.5	.36	46.53	54	-7.47	-	-	353	301	V
4	* 5.149	32.58	RMS	34.2	-19.4	.36	47.74	54	-6.26	-	-	353	301	V

PK - Peak detector

RMS - RMS detection

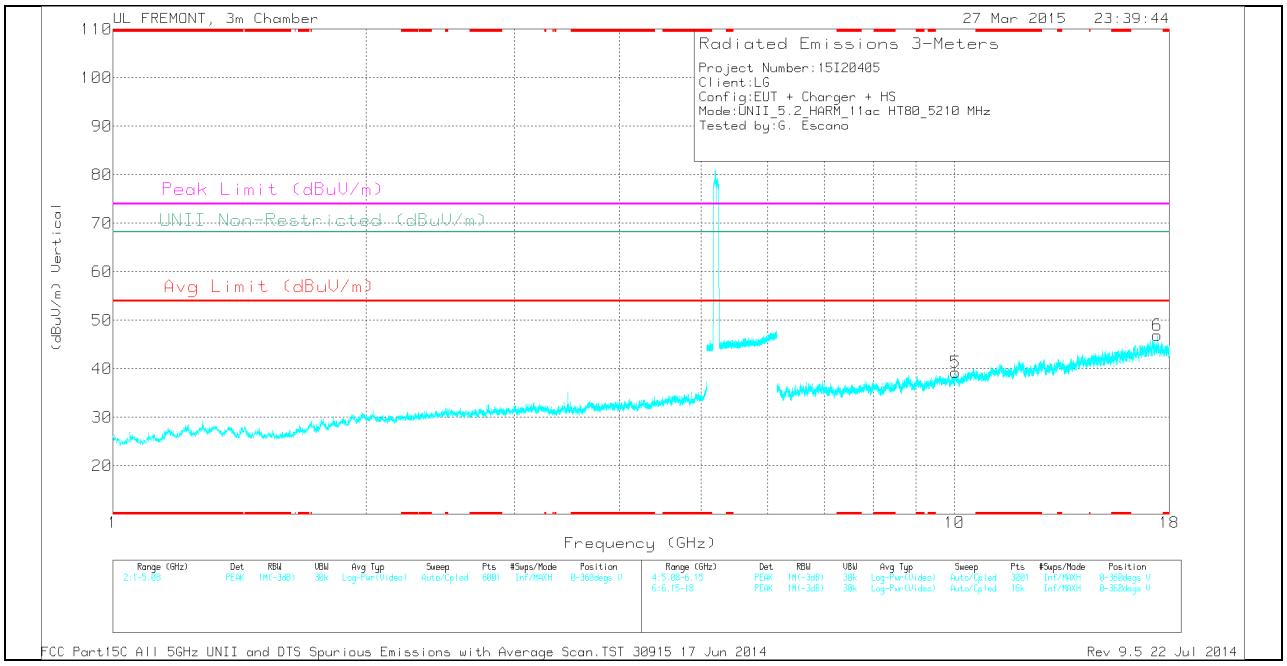
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 11.912	29.4	PK	39.1	-26.3	0	42.2	-	-	74	-31.8	-	-	0-360	100	H
1	3.473	36.7	PK	32.8	-31.4	0	38.1	-	-	-	-	68.2	-30.1	0-360	200	H
5	10.037	27.17	PK	36.9	-24.8	0	39.27	-	-	-	-	68.2	-28.93	0-360	200	V
2	10.522	28.17	PK	37.5	-25	0	40.67	-	-	-	-	68.2	-27.53	0-360	200	H
4	14.721	31.55	PK	39.8	-27.5	0	43.85	-	-	-	-	68.2	-24.35	0-360	100	H
6	17.421	27.61	PK	41.4	-22.1	0	46.91	-	-	-	-	68.2	-21.29	0-360	200	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.911	37.25	PK1	39.1	-26.3	0	50.05	-	-	74	-23.95	-	-	136	230	H
* 11.914	25.48	AD1	39.1	-26.3	.36	38.64	54	-15.36	-	-	-	-	136	230	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

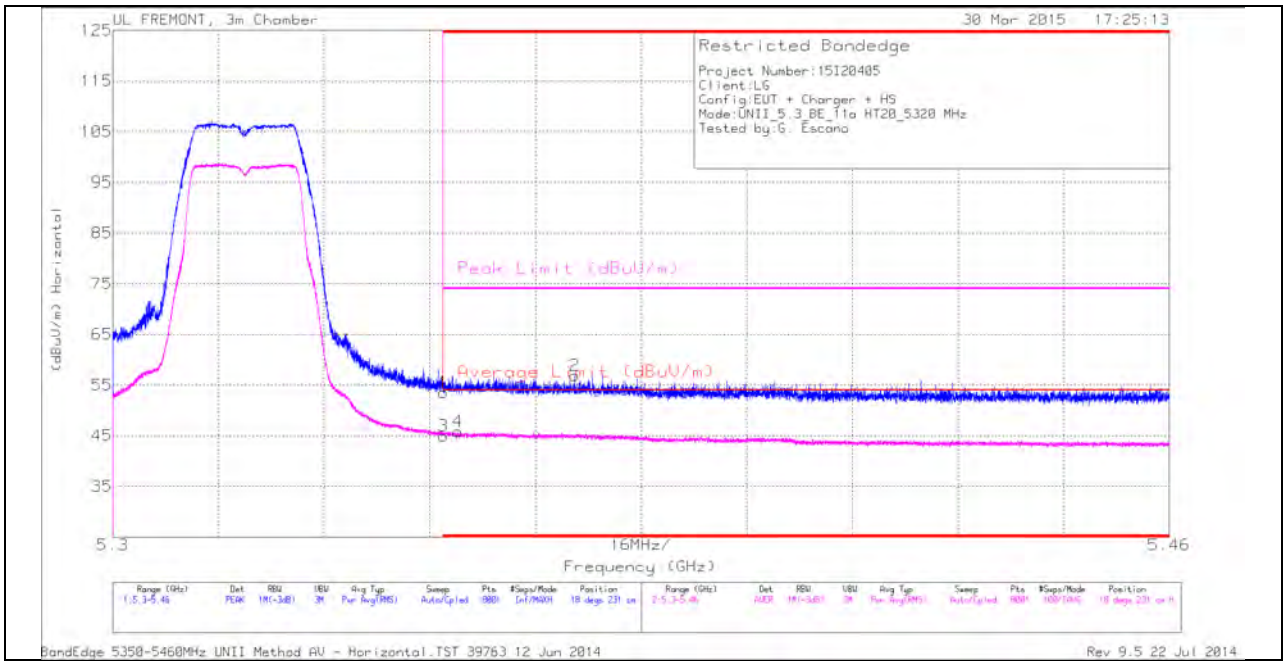
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.2. 5.3 GHz

11.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

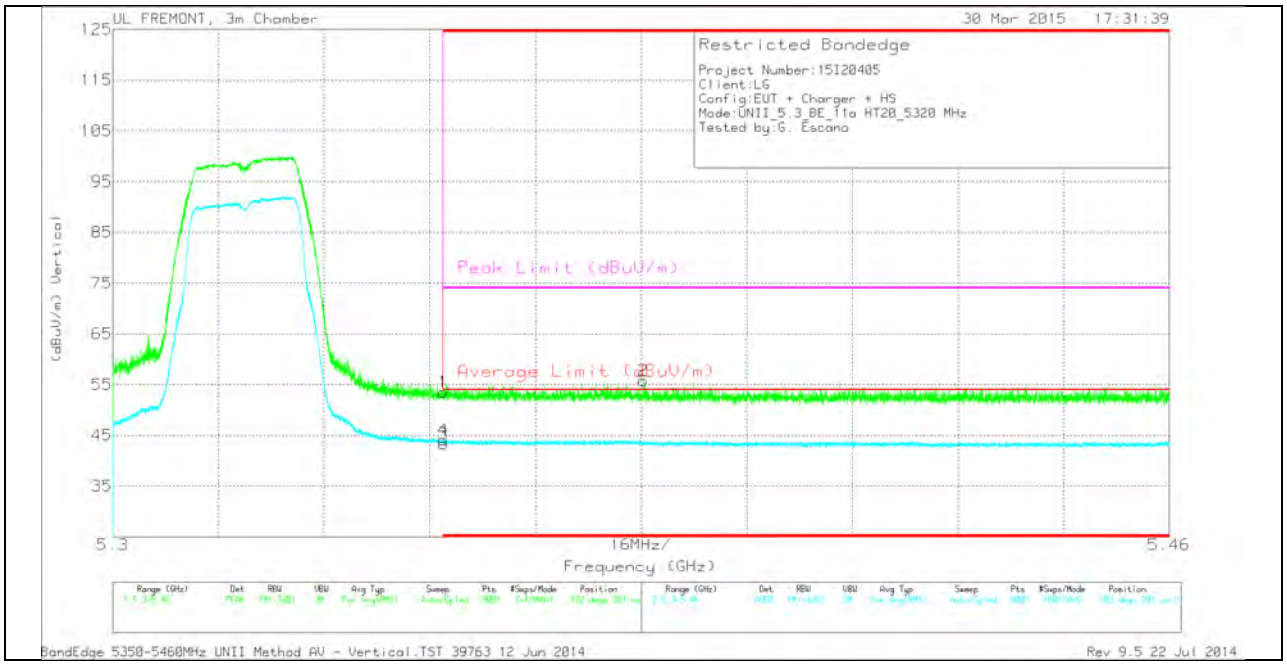
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	40.41	PK	34.5	-21.4	0	53.51	-	-	74	-20.49	18	231	H
2	* 5.37	43.76	PK	34.6	-21.5	0	56.86	-	-	74	-17.14	18	231	H
3	* 5.35	31.66	RMS	34.5	-21.4	.21	44.97	54	-9.03	-	-	18	231	H
4	* 5.352	32.46	RMS	34.5	-21.4	.21	45.77	54	-8.23	-	-	18	231	H

VERTICAL PEAK AND AVERAGE PLOT

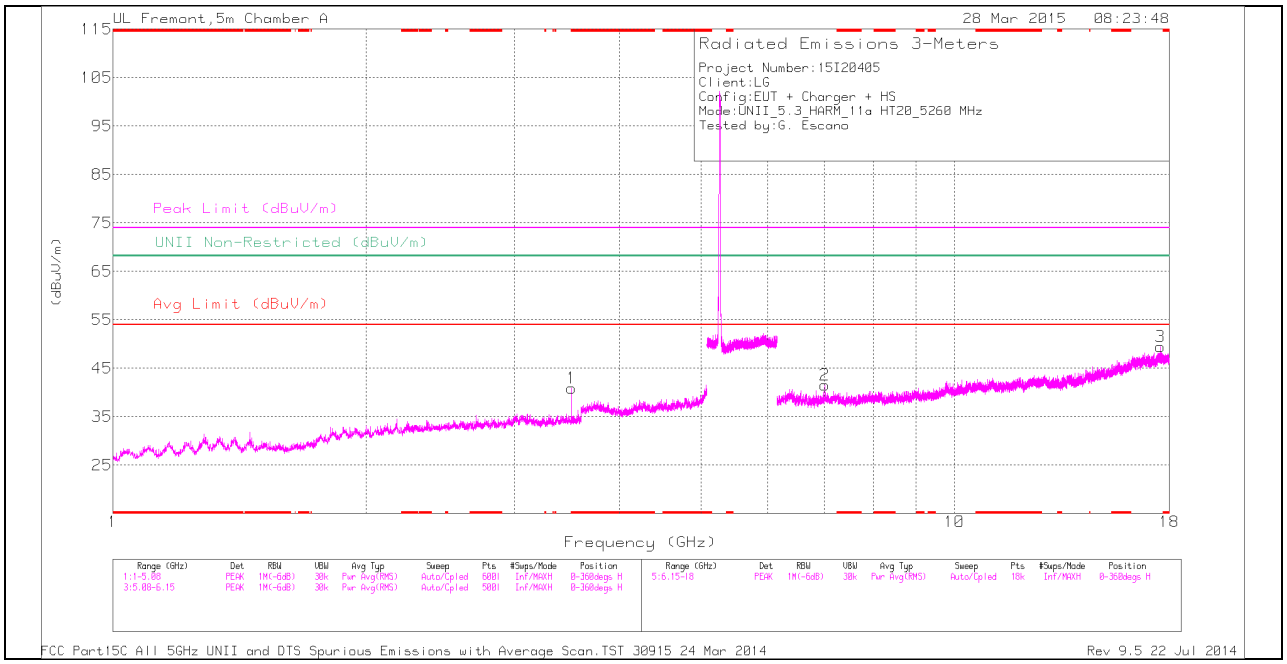


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	40.47	PK	34.5	-21.4	0	53.57	-	-	74	-20.43	102	281	V
3	* 5.35	30.26	RMS	34.5	-21.4	.21	43.57	54	-10.43	-	-	102	281	V
4	* 5.35	30.96	RMS	34.5	-21.4	.21	44.27	54	-9.73	-	-	102	281	V
2	* 5.38	42.5	PK	34.6	-21.4	0	55.7	-	-	74	-18.3	102	281	V

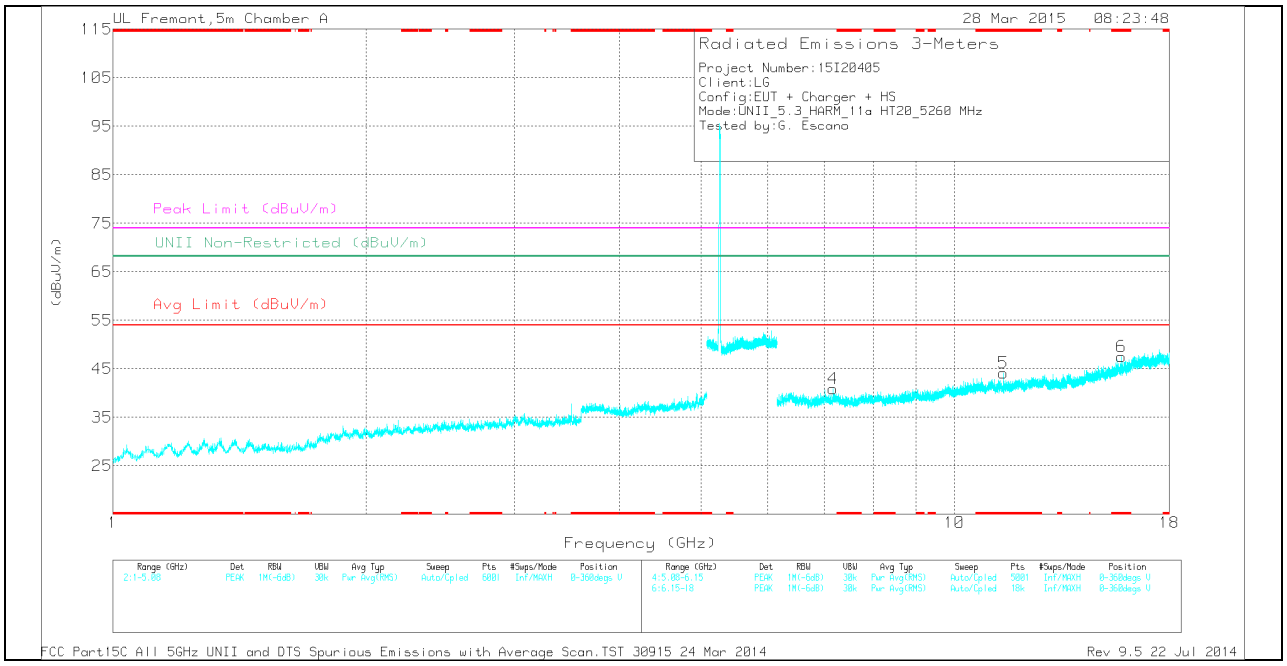
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.506	37.84	PK	33.1	-30.1	0	40.84	-	-	74	-33.16	-	-	0-360	201	H
5	* 11.424	28.29	PK	37.9	-22	0	44.19	-	-	74	-29.81	-	-	0-360	201	V
6	* 15.783	27.41	PK	40.4	-20.3	0	47.51	-	-	74	-26.49	-	-	0-360	201	V
2	7.013	31.46	PK	35.6	-25.5	0	41.56	-	-	-	-	68.2	-26.64	0-360	201	H
4	7.178	30.96	PK	35.5	-25.6	0	40.86	-	-	-	-	68.2	-27.34	0-360	100	V
3	17.556	25.72	PK	41.7	-18	0	49.42	-	-	-	-	68.2	-18.78	0-360	100	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

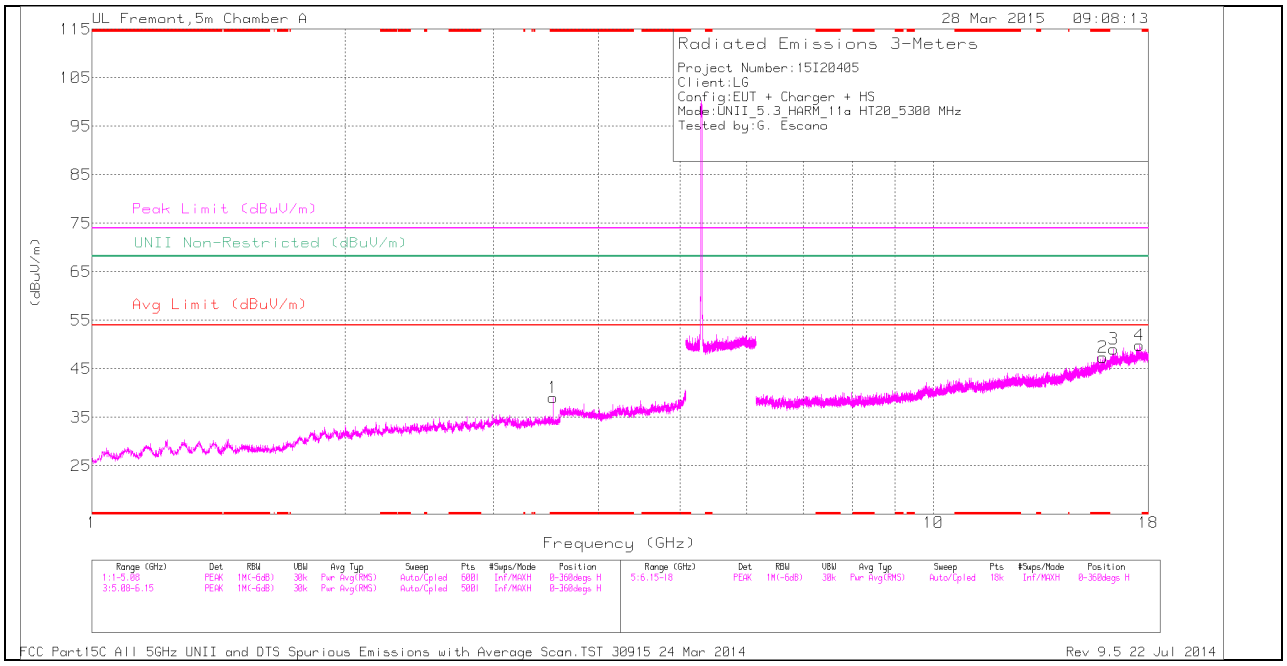
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.507	44.46	PK1	33.1	-30.1	0	47.46	-	-	74	-26.54	-	-	349	224	H
* 3.507	38.47	AD1	33.1	-30.1	.21	41.68	54	-12.32	-	-	-	-	349	224	H
* 11.425	34.5	PK1	37.9	-22	0	50.4	-	-	74	-23.6	-	-	145	307	V
* 11.423	22.17	AD1	37.9	-22	.21	38.28	54	-15.72	-	-	-	-	145	307	V
* 15.777	31.71	PK1	40.4	-20.4	0	51.71	-	-	74	-22.29	-	-	100	161	V
* 15.777	24.34	AD1	40.4	-20.4	.21	44.55	54	-9.45	-	-	-	-	100	161	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

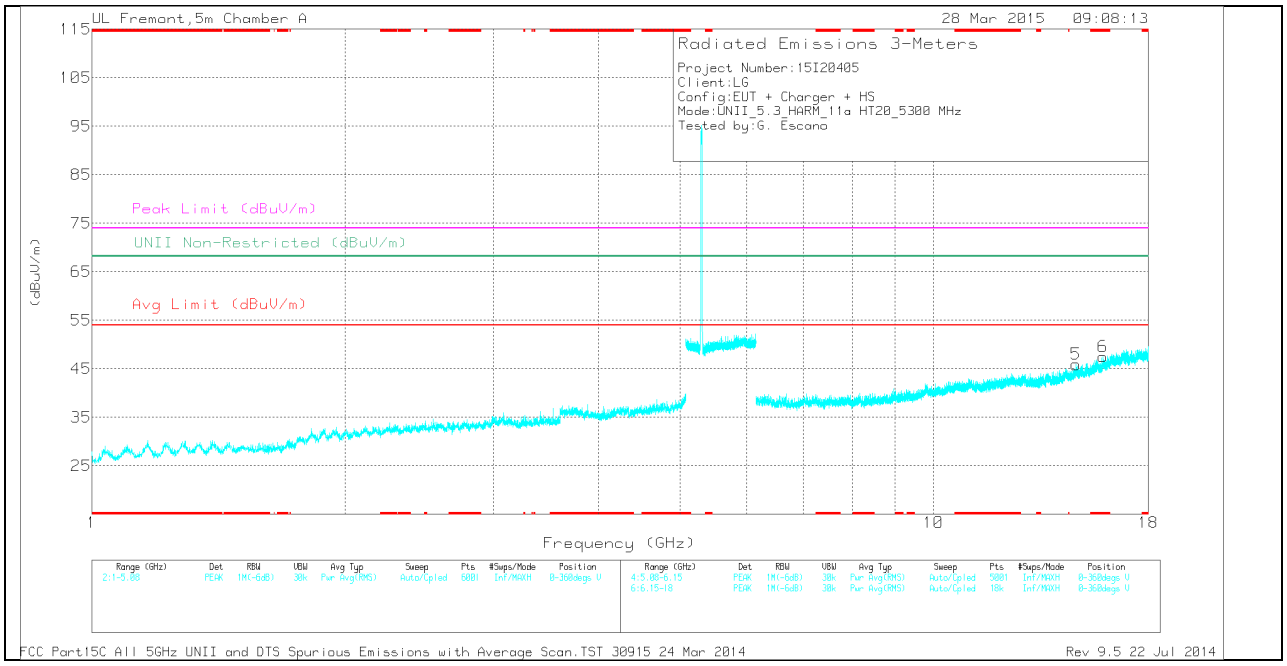
AD1 - KDB789033 Method: AD Primary Power Average

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.533	36.4	PK	33.1	-30.4	0	39.1	-	-	74	-34.9	-	-	0-360	201	H
2	* 15.895	26.43	PK	40.8	-19.9	0	47.33	-	-	74	-26.67	-	-	0-360	100	H
6	* 15.901	26.47	PK	40.8	-19.8	0	47.47	-	-	74	-26.53	-	-	0-360	201	V
5	14.772	27	PK	39.6	-20.7	0	45.9	-	-	-	-	68.2	-22.3	0-360	201	V
3	16.361	26.43	PK	41.4	-18.8	0	49.03	-	-	-	-	68.2	-19.17	0-360	201	H
4	17.569	26.33	PK	41.7	-18.2	0	49.83	-	-	-	-	68.2	-18.37	0-360	100	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

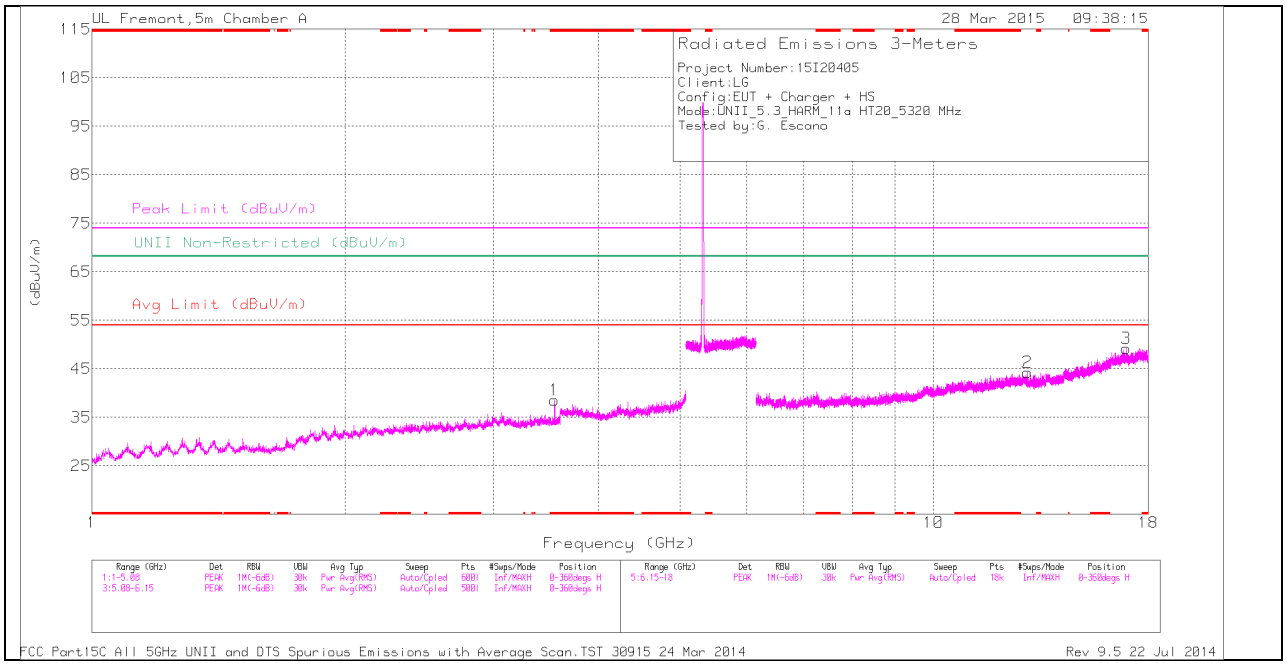
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.533	44.24	PK1	33.1	-30.4	0	46.94	-	-	74	-27.06	-	-	335	256	H
* 3.533	38.45	AD1	33.1	-30.4	.21	41.36	54	-12.64	-	-	-	-	335	256	H
* 15.896	33.69	PK1	40.8	-19.9	0	54.59	-	-	74	-19.41	-	-	151	348	H
* 15.897	22.27	AD1	40.8	-19.9	.21	43.38	54	-10.62	-	-	-	-	151	348	H
* 15.902	30.68	PK1	40.8	-19.8	0	51.68	-	-	74	-22.32	-	-	153	186	V
* 15.901	23.35	AD1	40.8	-19.8	.21	44.56	54	-9.44	-	-	-	-	153	186	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

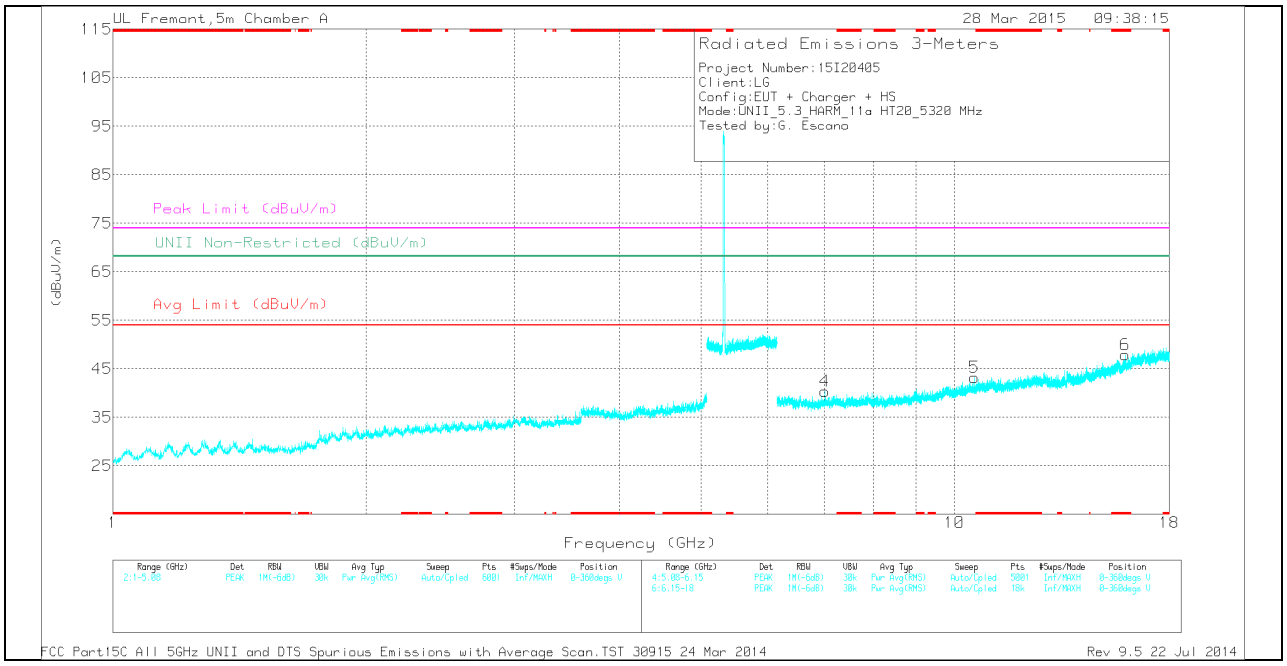
AD1 - KDB789033 Method: AD Primary Power Average

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.547	35.75	PK	33.1	-30.3	0	38.55	-	-	74	-35.45	-	-	0-360	100	H
6	* 15.965	26.83	PK	40.9	-19.8	0	47.93	-	-	74	-26.07	-	-	0-360	201	V
4	7.013	30.22	PK	35.6	-25.5	0	40.32	-	-	-	-	68.2	-27.88	0-360	201	V
5	10.567	27.84	PK	37.6	-22.2	0	43.24	-	-	-	-	68.2	-24.96	0-360	100	V
2	12.939	27.18	PK	39.2	-22.1	0	44.28	-	-	-	-	68.2	-23.92	0-360	100	H
3	16.957	26	PK	41.4	-18.2	0	49.2	-	-	-	-	68.2	-19	0-360	201	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.547	42.77	PK1	33.1	-30.3	0	45.57	-	-	74	-28.43	-	-	190	247	H
* 3.547	35.65	AD1	33.1	-30.3	.21	38.66	54	-15.34	-	-	-	-	190	247	H
* 15.965	30.85	PK1	40.9	-19.8	0	51.95	-	-	74	-22.05	-	-	155	186	V
* 15.963	23.6	AD1	40.9	-19.8	.21	44.91	54	-9.09	-	-	-	-	155	186	V

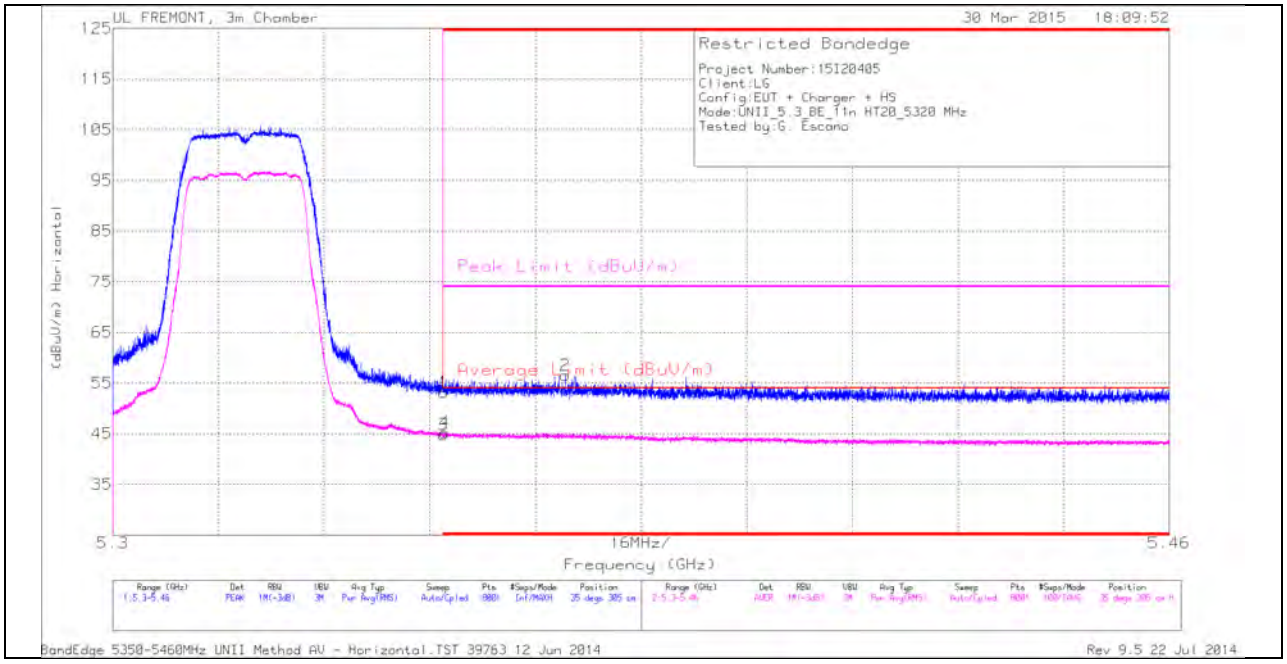
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.2.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

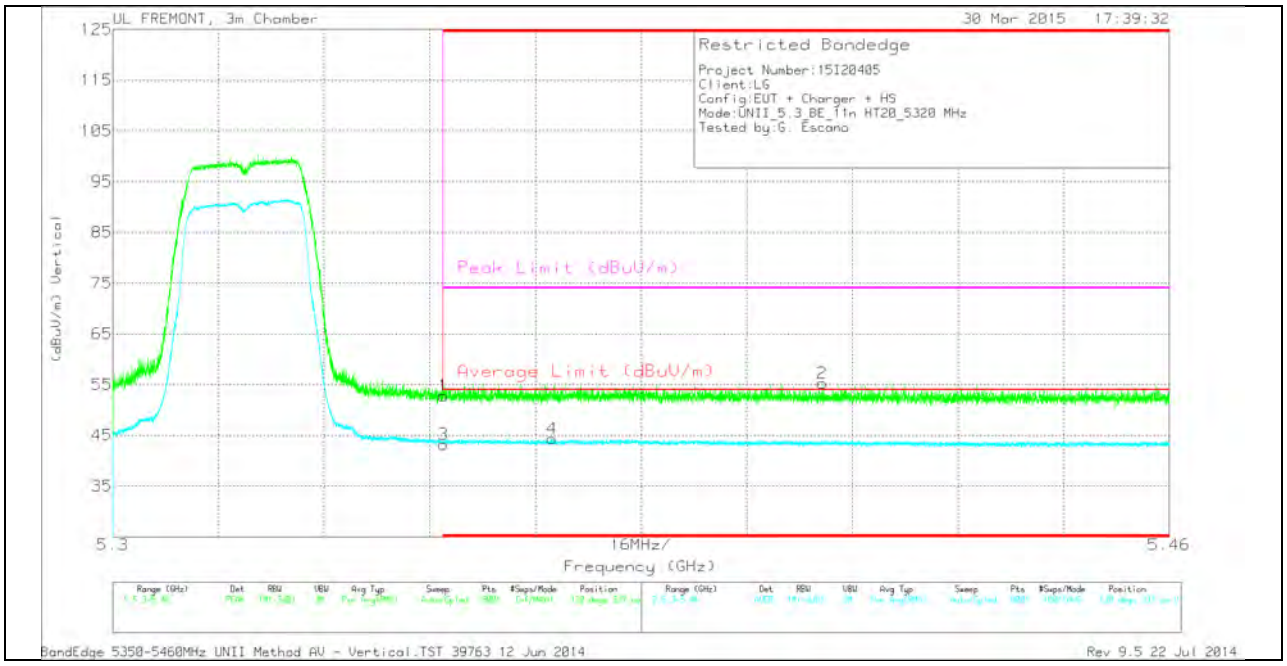
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	40.02	PK	34.5	-21.4	0	53.12	-	-	74	-20.88	35	305	H
3	* 5.35	31.53	RMS	34.5	-21.4	.22	44.85	54	-9.15	-	-	35	305	H
4	* 5.35	31.92	RMS	34.5	-21.4	.22	45.24	54	-8.76	-	-	35	305	H
2	* 5.369	43.49	PK	34.5	-21.5	0	56.49	-	-	74	-17.51	35	305	H

VERTICAL PEAK AND AVERAGE PLOT

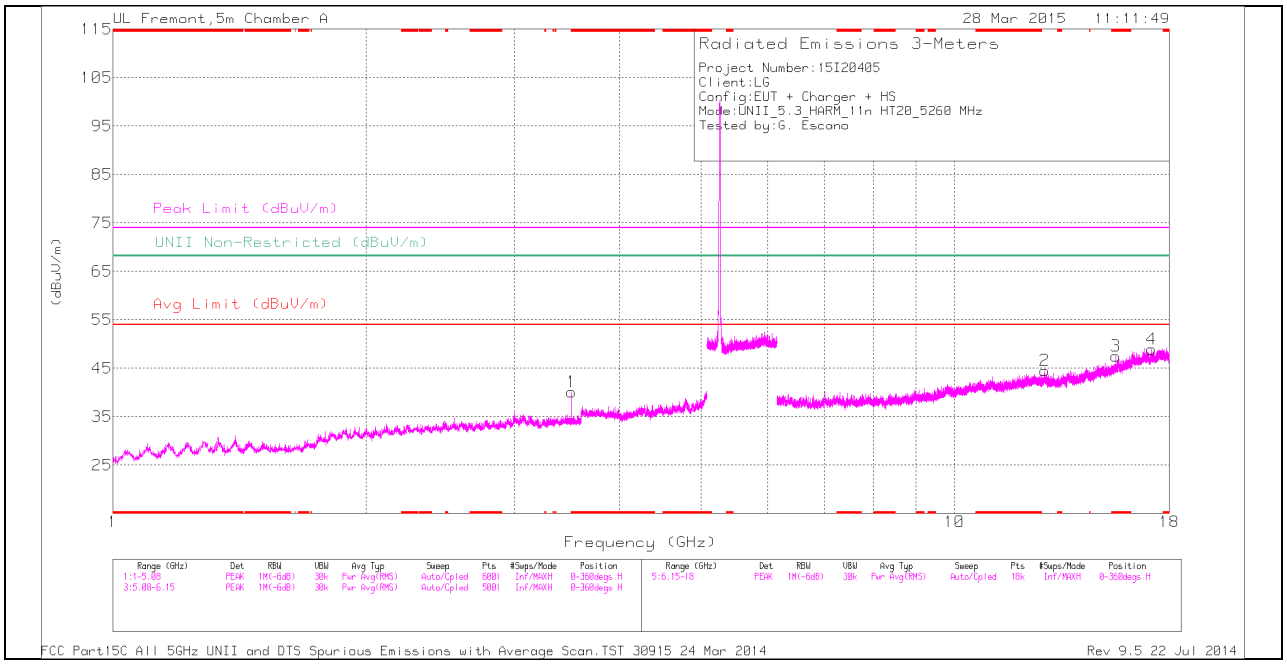


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	39.64	PK	34.5	-21.4	0	52.74	-	-	74	-21.26	130	337	V
3	* 5.35	29.83	RMS	34.5	-21.4	.22	43.15	54	-10.85	-	-	130	337	V
4	* 5.367	31.09	RMS	34.5	-21.5	.22	44.31	54	-9.69	-	-	130	337	V
2	* 5.407	42.09	PK	34.6	-21.4	0	55.29	-	-	74	-18.71	130	337	V

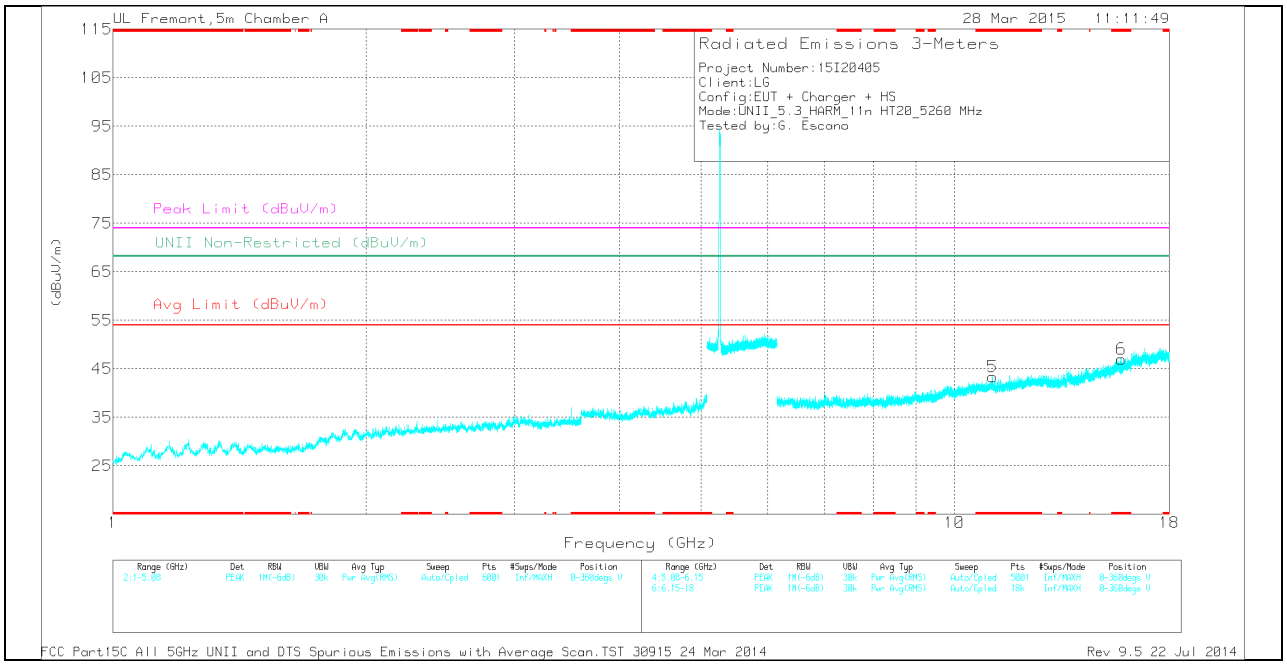
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.506	37.17	PK	33.1	-30.1	0	40.17	-	-	74	-33.83	-	-	0-360	201	H
3	* 15.542	27.63	PK	40.3	-20.4	0	47.53	-	-	74	-26.47	-	-	0-360	100	H
5	* 11.095	26.84	PK	37.9	-21.4	0	43.34	-	-	74	-30.66	-	-	0-360	100	V
6	* 15.802	26.83	PK	40.4	-20.2	0	47.03	-	-	74	-26.97	-	-	0-360	201	V
2	12.812	26.58	PK	39.2	-21.3	0	44.48	-	-	-	-	68.2	-23.72	0-360	201	H
4	17.141	26.13	PK	41.4	-18.6	0	48.93	-	-	-	-	68.2	-19.27	0-360	201	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

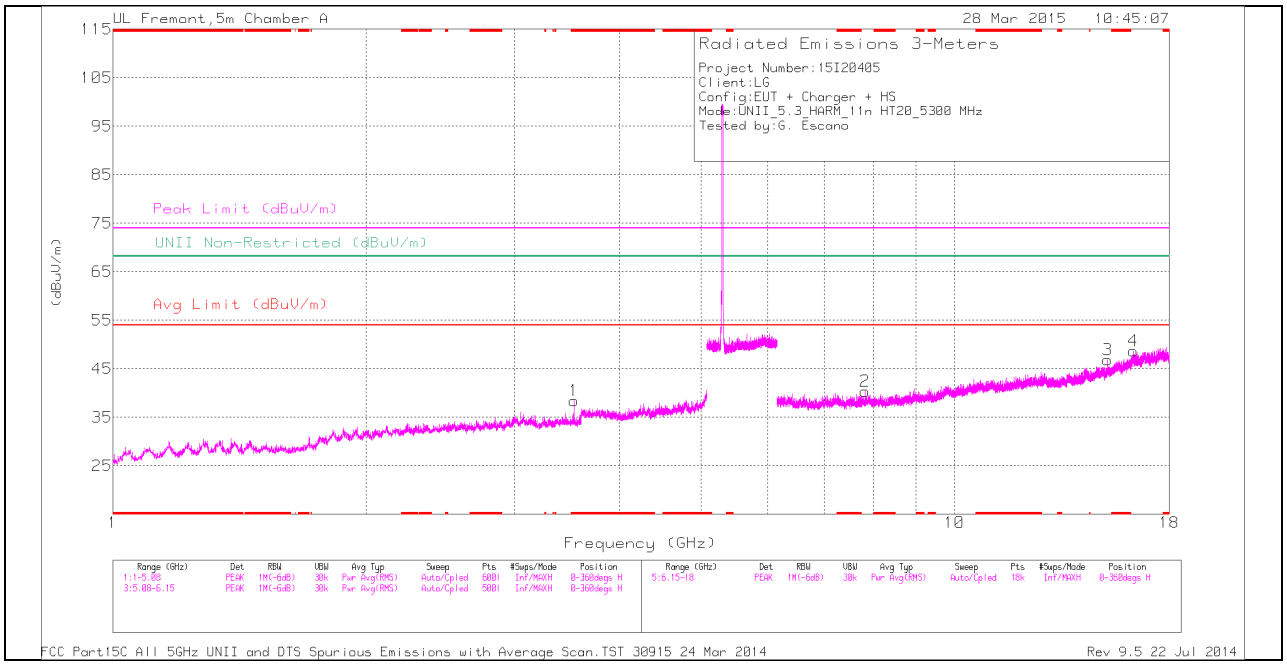
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.507	43.76	PK1	33.1	-30.1	0	46.76	-	-	74	-27.24	-	-	333	258	H
* 3.507	37.25	AD1	33.1	-30.1	.22	40.47	54	-13.53	-	-	-	-	333	258	H
* 15.546	29.38	PK1	40.3	-20.5	0	49.18	-	-	74	-24.82	-	-	18	186	H
* 15.545	22.08	AD1	40.3	-20.5	.22	42.10	54	-11.90	-	-	-	-	18	186	H
* 11.094	33.47	PK1	37.9	-21.4	0	49.97	-	-	74	-24.03	-	-	77	294	V
* 11.094	22.38	AD1	37.9	-21.4	.22	39.10	54	-14.90	-	-	-	-	77	294	V
* 15.78	30.58	PK1	40.4	-20.4	0	50.58	-	-	74	-23.42	-	-	99	172	V
* 15.78	23.48	AD1	40.4	-20.4	.22	43.70	54	-10.30	-	-	-	-	99	172	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

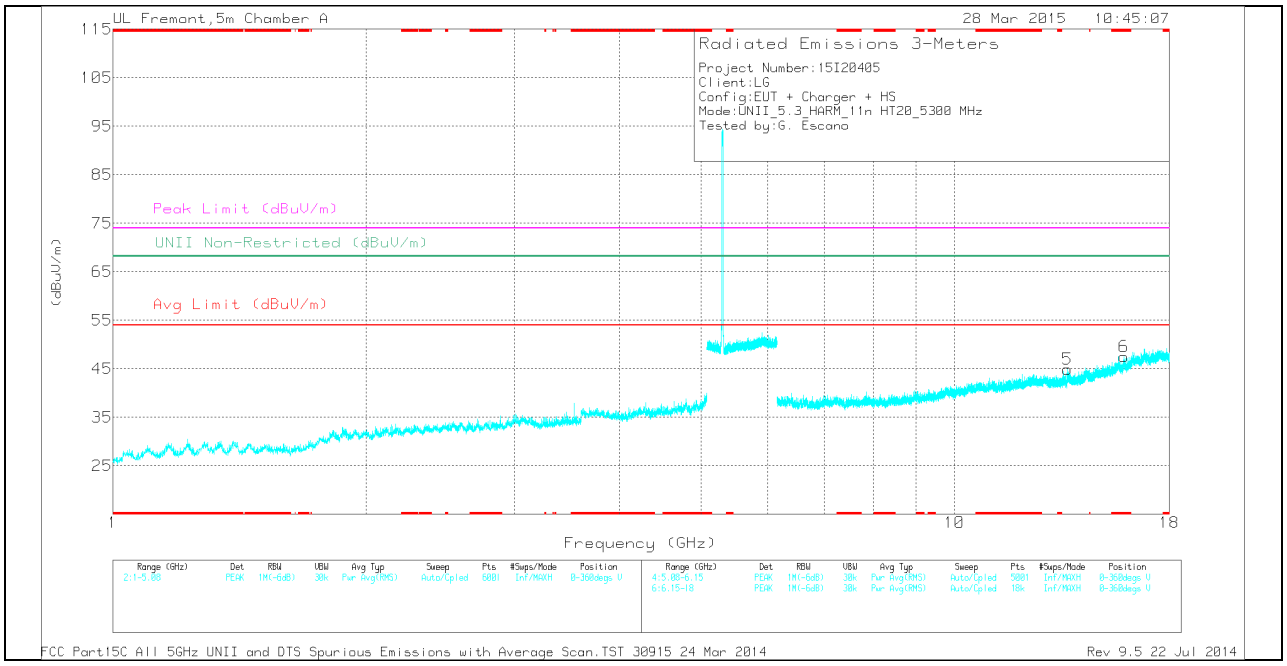
AD1 - KDB789033 Method: AD Primary Power Average

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.534	35.77	PK	33.1	-30.4	0	38.47	-	-	74	-35.53	-	-	0-360	100	H
6	* 15.909	26.4	PK	40.8	-19.7	0	47.5	-	-	74	-26.5	-	-	0-360	201	V
2	7.828	29.67	PK	35.7	-25	0	40.37	-	-	-	-	68.2	-27.83	0-360	100	H
5	13.613	28	PK	38.9	-22	0	44.9	-	-	-	-	68.2	-23.3	0-360	100	V
3	15.204	27.01	PK	39.9	-20.1	0	46.81	-	-	-	-	68.2	-21.39	0-360	201	H
4	16.302	25.9	PK	41.3	-18.5	0	48.7	-	-	-	-	68.2	-19.5	0-360	100	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

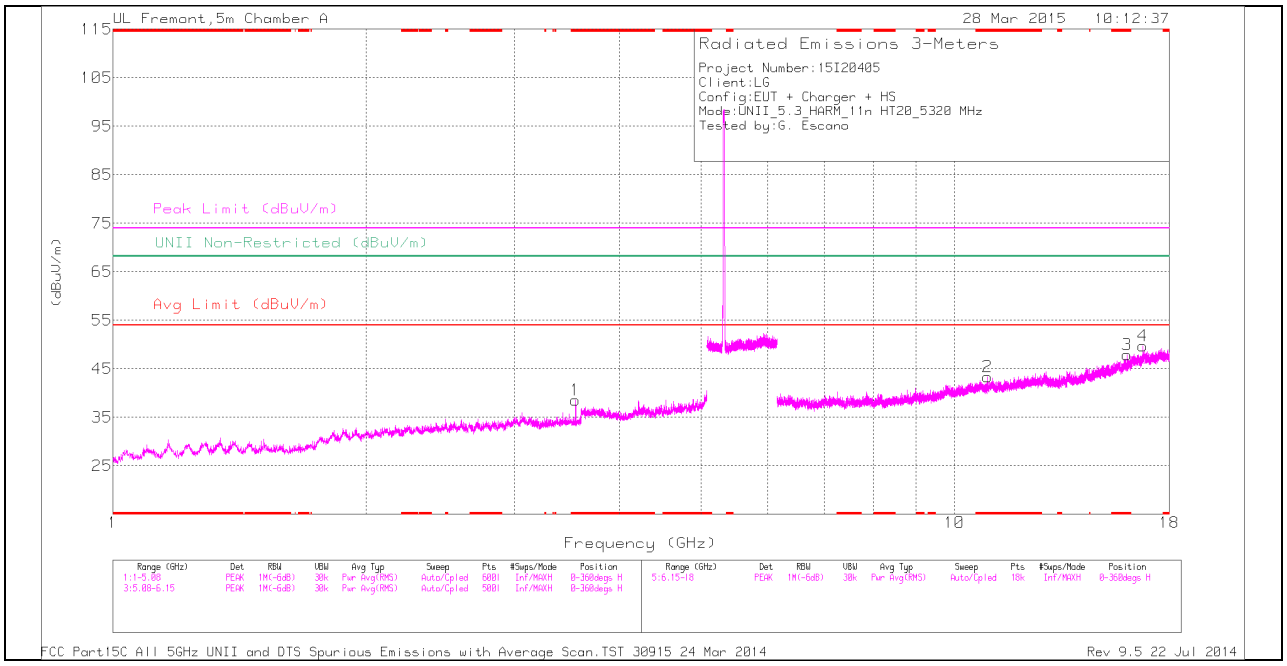
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.533	43.33	PK1	33.1	-30.4	0	46.03	-	-	74	-27.97	-	-	217	217	H
* 3.533	36.28	AD1	33.1	-30.4	.22	39.20	54	-14.80	-	-	-	-	217	217	H
* 15.902	30.55	PK1	40.8	-19.8	0	51.55	-	-	74	-22.45	-	-	144	199	V
* 15.902	23.27	AD1	40.8	-19.8	.22	44.49	54	-9.51	-	-	-	-	144	199	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

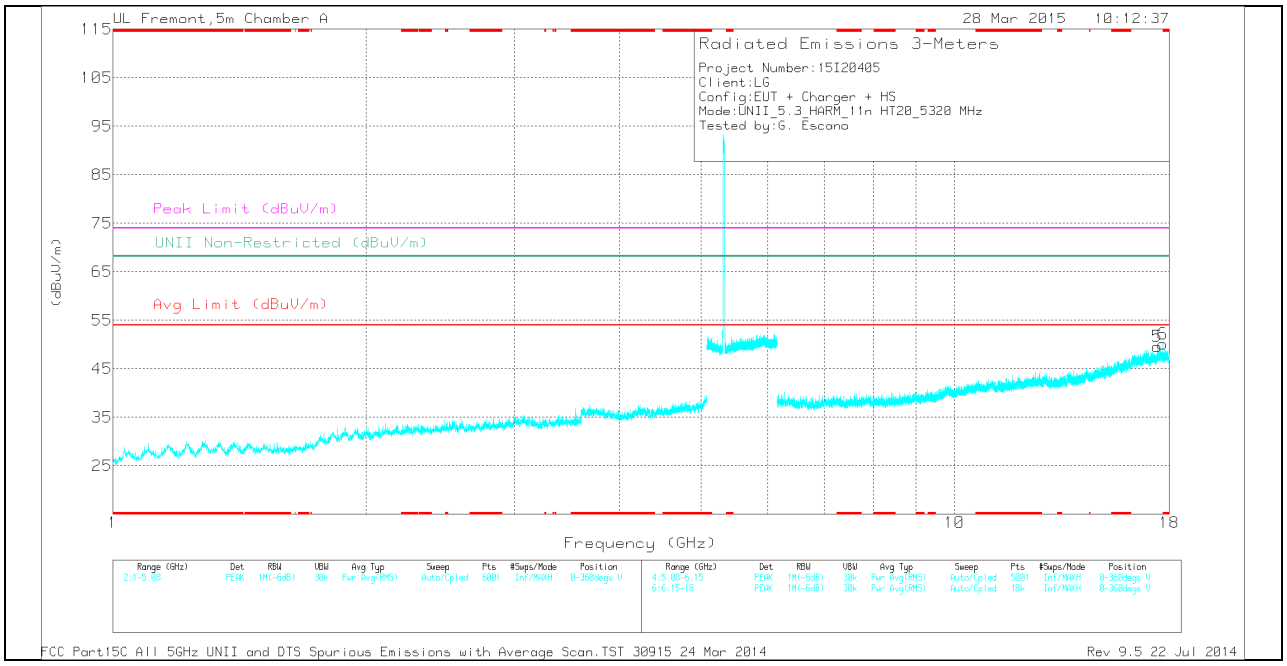
AD1 - KDB789033 Method: AD Primary Power Average

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.547	35.81	PK	33.1	-30.3	0	38.61	-	-	74	-35.39	-	-	0-360	100	H
2	* 10.948	27.52	PK	37.8	-21.9	0	43.42	-	-	74	-30.58	-	-	0-360	201	H
3	* 16.03	26.82	PK	41	-19.9	0	47.92	-	-	74	-26.08	-	-	0-360	100	H
4	16.739	27.02	PK	41.8	-19.1	0	49.72	-	-	-	-	68.2	-18.48	0-360	100	H
5	17.423	26.59	PK	41.4	-18.4	0	49.59	-	-	-	-	68.2	-18.61	0-360	100	V
6	17.674	26.87	PK	41.6	-18.4	0	50.07	-	-	-	-	68.2	-18.13	0-360	100	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.547	42.53	PK1	33.1	-30.3	0	45.33	-	-	74	-28.67	-	-	188	185	H
* 3.547	35.51	AD1	33.1	-30.3	.22	38.53	54	-15.47	-	-	-	-	188	185	H
* 10.948	34.48	PK1	37.8	-21.9	0	50.38	-	-	74	-23.62	-	-	359	371	H
* 10.948	22.31	AD1	37.8	-21.9	.22	38.43	54	-15.57	-	-	-	-	359	371	H
* 16.032	28.92	PK1	41	-19.8	0	50.12	-	-	74	-23.88	-	-	53	400	H
* 16.034	21.73	AD1	41	-19.8	.22	43.15	54	-10.85	-	-	-	-	53	400	H

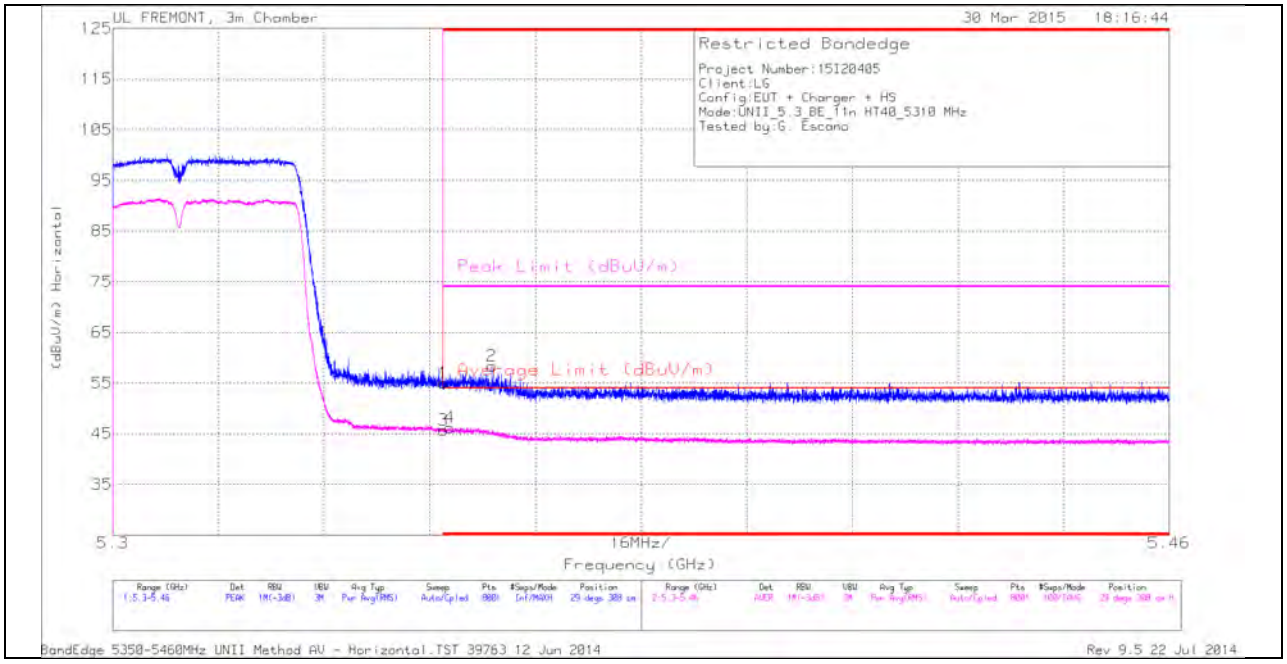
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.2.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

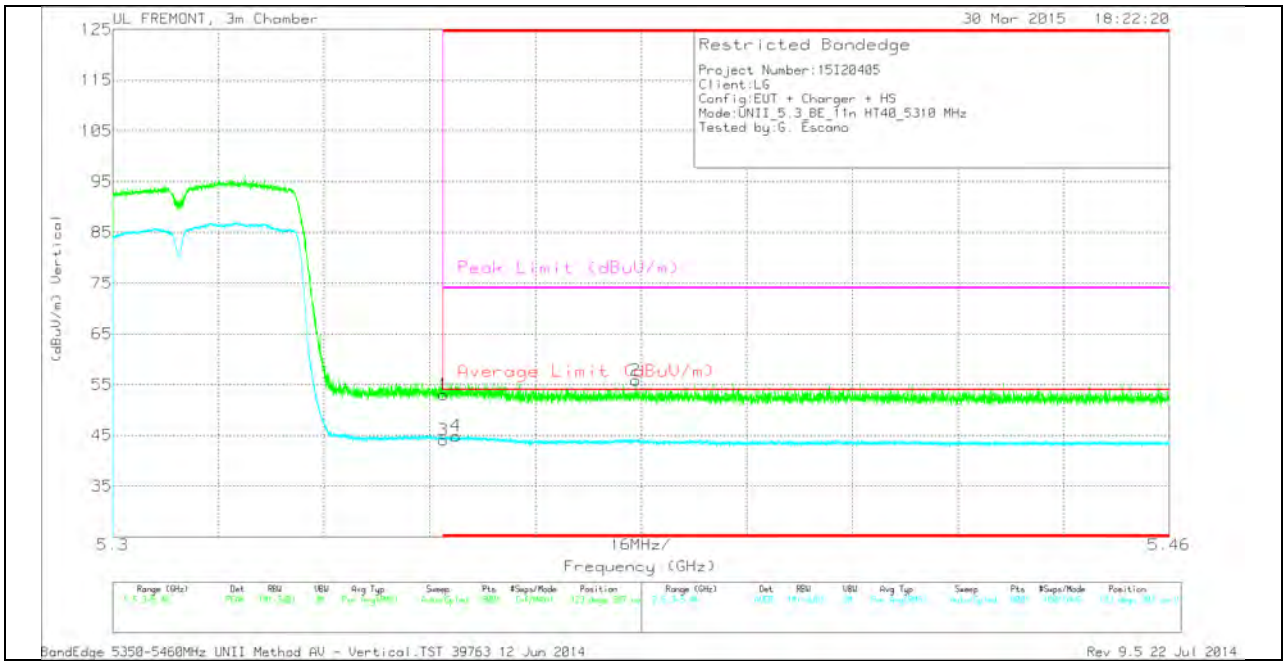
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	41.91	PK	34.5	-21.4	0	55.01	-	-	74	-18.99	29	308	H
3	* 5.35	32.19	RMS	34.5	-21.4	.46	45.75	54	-8.25	-	-	29	308	H
4	* 5.351	32.64	RMS	34.5	-21.4	.46	46.2	54	-7.8	-	-	29	308	H
2	* 5.357	45.37	PK	34.5	-21.5	0	58.37	-	-	74	-15.63	29	308	H

VERTICAL PEAK AND AVERAGE PLOT

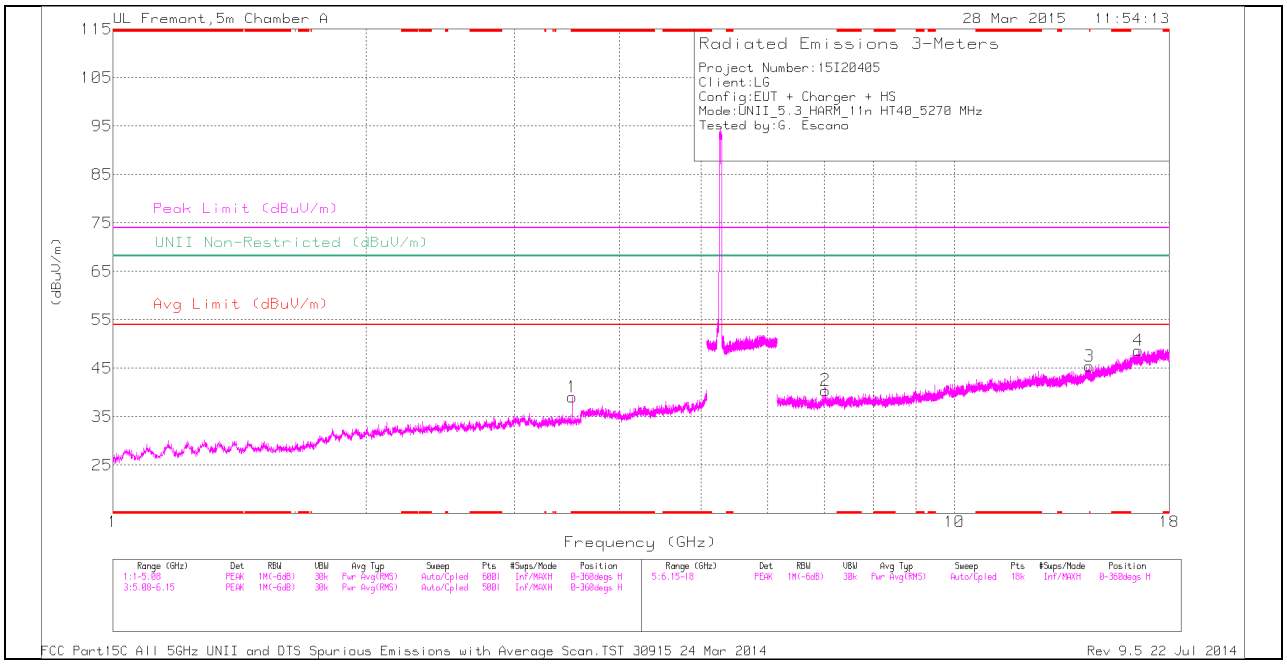


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	39.92	PK	34.5	-21.4	0	53.02	-	-	74	-20.98	123	307	V
3	* 5.35	30.53	RMS	34.5	-21.4	.46	44.09	54	-9.91	-	-	123	307	V
4	* 5.352	31.33	RMS	34.5	-21.4	.46	44.89	54	-9.11	-	-	123	307	V
2	* 5.379	42.55	PK	34.6	-21.3	0	55.85	-	-	74	-18.15	123	307	V

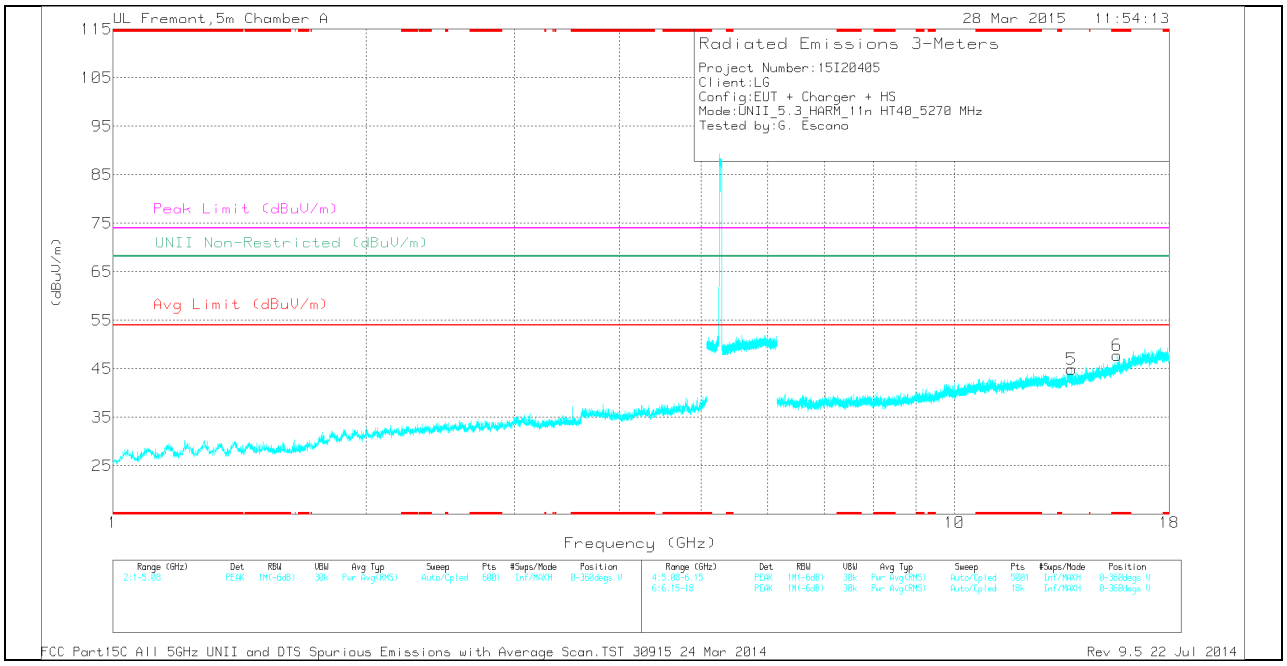
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.513	36.27	PK	33.1	-30.3	0	39.07	-	-	74	-34.93	-	-	0-360	100	H
6	* 15.61	26.9	PK	40.4	-19.5	0	47.8	-	-	74	-26.2	-	-	0-360	100	V
2	7.026	30.74	PK	35.6	-25.9	0	40.44	-	-	-	-	68.2	-27.76	0-360	201	H
5	13.773	28.1	PK	38.7	-21.9	0	44.9	-	-	-	-	68.2	-23.3	0-360	201	V
3	14.462	28.01	PK	39.2	-21.8	0	45.41	-	-	-	-	68.2	-22.79	0-360	100	H
4	16.536	26.22	PK	41.6	-19.1	0	48.72	-	-	-	-	68.2	-19.48	0-360	201	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

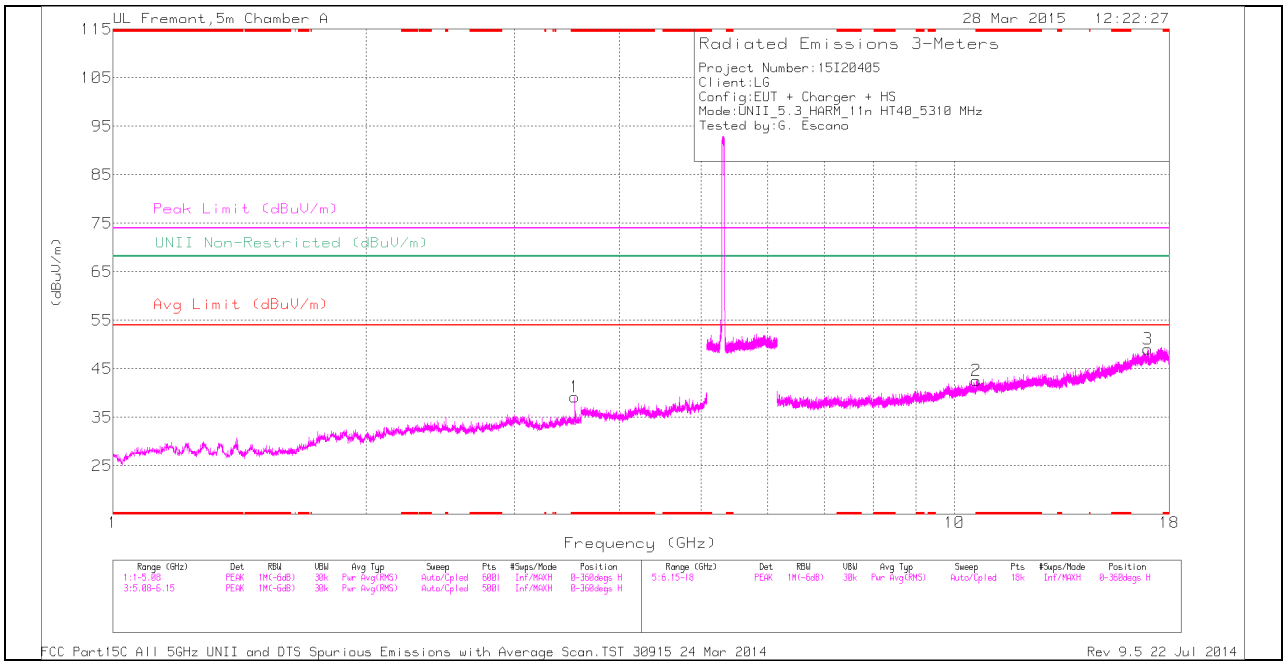
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.513	42.24	PK1	33.1	-30.3	0	45.04	-	-	74	-28.96	-	-	200	248	H
* 3.513	35.11	AD1	33.1	-30.3	.46	38.37	54	-15.63	-	-	-	-	200	248	H
* 15.609	33.28	PK1	40.4	-19.5	0	54.18	-	-	74	-19.82	-	-	29	271	V
* 15.609	21.84	AD1	40.4	-19.5	.46	43.2	54	-10.8	-	-	-	-	29	271	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

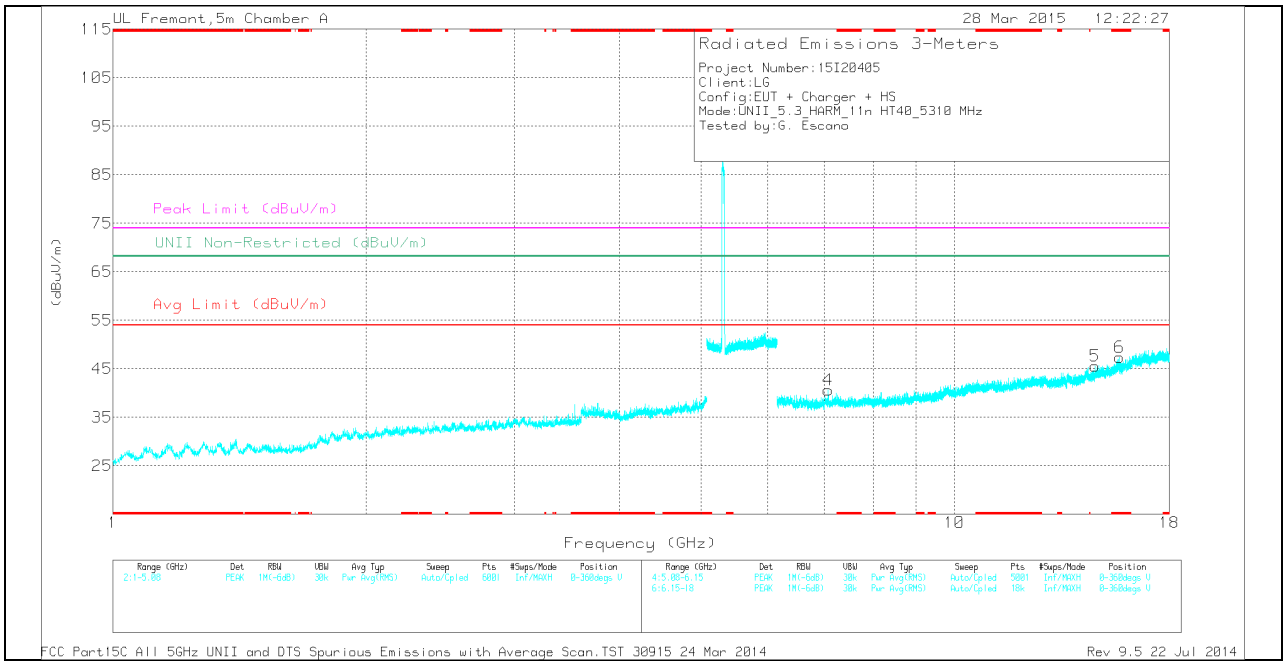
AD1 - KDB789033 Method: AD Primary Power Average

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.54	36.61	PK	33.1	-30.5	0	39.21	-	-	74	-34.79	-	-	0-360	201	H
2	* 10.622	26.78	PK	37.7	-21.9	0	42.58	-	-	74	-31.42	-	-	0-360	201	H
6	* 15.701	26.85	PK	40.4	-19.9	0	47.35	-	-	74	-26.65	-	-	0-360	201	V
4	7.08	31.63	PK	35.6	-26.6	0	40.63	-	-	-	-	68.2	-27.57	0-360	201	V
5	14.701	27.23	PK	39.5	-21.1	0	45.63	-	-	-	-	68.2	-22.57	0-360	100	V
3	16.963	25.97	PK	41.4	-18.3	0	49.07	-	-	-	-	68.2	-19.13	0-360	201	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.54	43.15	PK1	33.1	-30.5	0	45.75	-	-	74	-28.25	-	-	188	217	H
* 3.54	35.71	AD1	33.1	-30.5	.46	38.77	54	-15.23	-	-	-	-	188	217	H
* 10.623	29.31	PK1	37.7	-21.9	0	45.11	-	-	74	-28.89	-	-	120	227	H
* 10.621	22.17	AD1	37.7	-21.8	.46	38.53	54	-15.47	-	-	-	-	120	227	H
* 15.701	33.01	PK1	40.4	-19.9	0	53.51	-	-	74	-20.49	-	-	0	202	V
* 15.7	22.15	AD1	40.4	-19.9	.46	43.11	54	-10.89	-	-	-	-	0	202	V

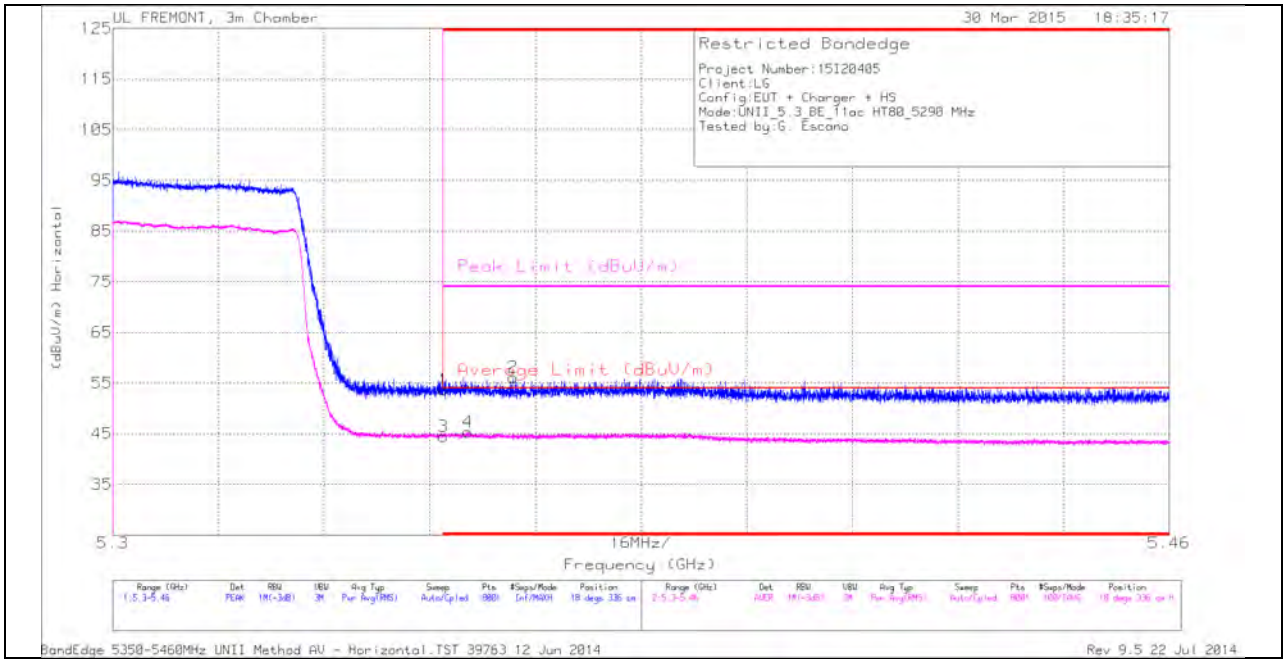
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

11.2.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



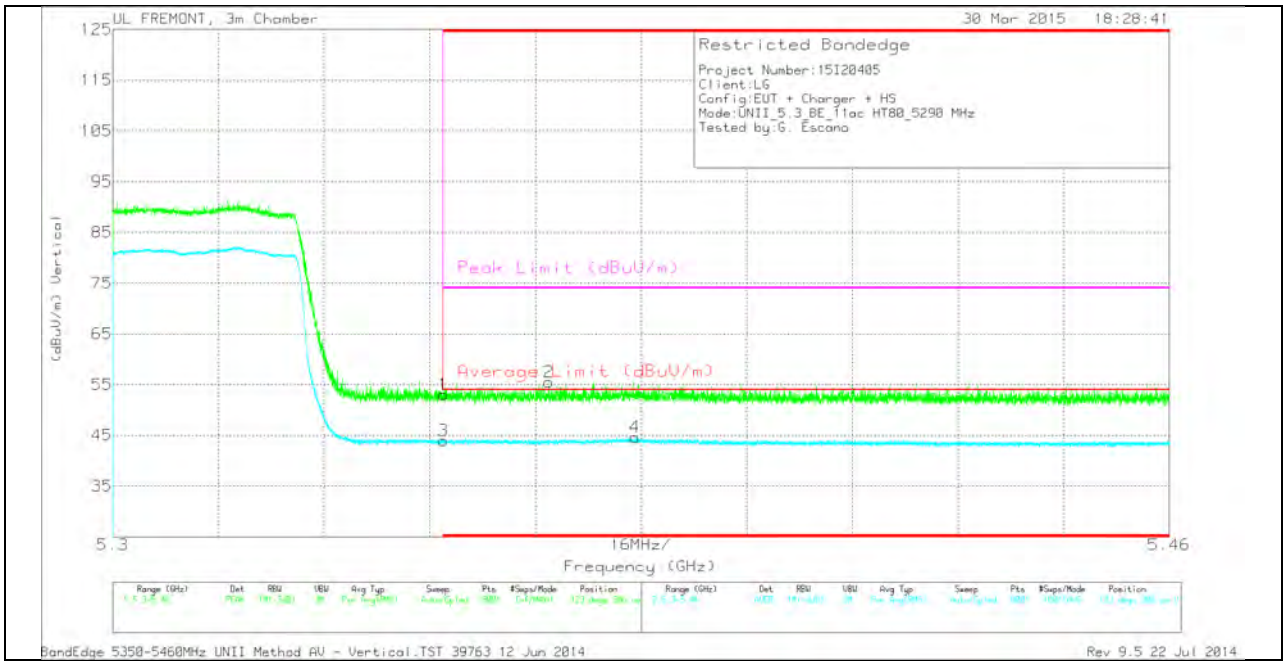
HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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	40.6	PK	34.5	-21.4	0	53.7	-	-	74	-20.3	18	336	H
3	* 5.35	30.97	RMS	34.5	-21.4	.36	44.43	54	-9.57	-	-	18	336	H
4	* 5.354	31.82	RMS	34.5	-21.4	.36	45.28	54	-8.72	-	-	18	336	H
2	* 5.361	43.04	PK	34.5	-21.4	0	56.14	-	-	74	-17.86	18	336	H

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	39.91	PK	34.5	-21.4	0	53.01	-	-	74	-20.99	123	306	V
3	* 5.35	30.5	RMS	34.5	-21.4	.36	43.96	54	-10.04	-	-	123	306	V
2	* 5.366	42.52	PK	34.5	-21.5	0	55.52	-	-	74	-18.48	123	306	V
4	* 5.379	30.97	RMS	34.6	-21.3	.36	44.63	54	-9.37	-	-	123	306	V

PK - Peak detector

RMS - RMS detection