



FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: LG-VS986, VS986, LGVS986, LG-AS986, AS986, LGAS986

FCC ID: ZNFVS986

REPORT NUMBER: 15I20402-E5

ISSUE DATE: APRIL 16, 2015

Prepared for

**LG ELECTRONICS MOBILECOMM U.S.A., INC
1000 SYLVAN AVENUE
ENGLEWOOD CLIFFS,
NEW JERSEY, 07632, U.S.A**

Prepared by

**UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888**

Revision History

Issue			
Rev.	Date	Revisions	Revised By
-	04/16/15	Initial Issue	P. ZHANG

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	6
2. TEST METHODOLOGY	7
3. FACILITIES AND ACCREDITATION	7
4. CALIBRATION AND UNCERTAINTY	7
4.1. MEASURING INSTRUMENT CALIBRATION	7
4.2. SAMPLE CALCULATION	7
4.3. MEASUREMENT UNCERTAINTY	8
5. EQUIPMENT UNDER TEST	9
5.1. DESCRIPTION OF EUT	9
5.2. MAXIMUM OUTPUT POWER.....	9
5.3. DESCRIPTION OF AVAILABLE ANTENNAS	13
5.4. WORST-CASE CONFIGURATION AND MODE	13
5.5. DESCRIPTION OF TEST SETUP.....	14
6. TEST AND MEASUREMENT EQUIPMENT	16
7. SUMMARY TABLE	17
8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS	18
8.1. ON TIME AND DUTY CYCLE RESULTS.....	18
8.2. DUTY CYCLE PLOTS	19
9. MEASUREMENT METHOD.....	23
10. ANTENNA PORT TEST RESULTS	24
10.1. 6 dB BANDWIDTH	24
10.1.1. 802.11a MODE IN THE 5.8 GHz BAND	25
10.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND	25
10.1.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND	25
10.1.4. 802.11ac HT80 MODE IN THE 5.8 GHz BAND	25
10.1.5. 802.11a MODE STRADDLE CHANNEL 144.....	26
10.1.6. 802.11n MODE STRADDLE CHANNEL 144.....	26
10.1.1. 802.11n HT40 MODE STRADDLE CHANNEL 142.....	26
10.1.1. 802.11ac80 MODE STRADDLE CHANNEL 138.....	26
10.1.2. 6 dB BANDWIDTH MID CH PLOTS.....	27
10.2. 26 dB BANDWIDTH	29
10.2.1. 802.11a MODE IN THE 5.2 GHz BAND	29

10.2.2.	802.11n HT20 MODE IN THE 5.2 GHz BAND	29
10.2.3.	802.11n HT40 MODE IN THE 5.2 GHz BAND	29
10.2.4.	802.11ac HT80 MODE IN THE 5.2 GHz BAND	29
10.2.1.	802.11a MODE IN THE 5.3 GHz BAND	30
10.2.1.	802.11n HT20 MODE IN THE 5.3 GHz BAND	30
10.2.2.	802.11n HT40 MODE IN THE 5.3 GHz BAND	30
10.2.3.	802.11ac HT80 MODE IN THE 5.3 GHz BAND	30
10.2.4.	802.11a MODE IN THE 5.5 GHz BAND	31
10.2.5.	802.11n HT20 MODE IN THE 5.5 GHz BAND	31
10.2.6.	802.11n HT40 MODE IN THE 5.5 GHz BAND	31
10.2.7.	802.11ac HT80 MODE IN THE 5.5 GHz BAND	31
10.2.8.	802.11a MODE IN THE 5.8 GHz BAND	32
10.2.9.	802.11n HT20 MODE IN THE 5.8 GHz BAND	32
10.2.10.	802.11n HT40 MODE IN THE 5.8 GHz BAND	32
10.2.11.	802.11ac HT80 MODE IN THE 5.8 GHz BAND	32
10.2.1.	26 dB BANDWIDTH PLOTS	33
10.3.	99% BANDWIDTH	37
10.3.1.	802.11a MODE IN THE 5.2 GHz BAND	37
10.3.2.	802.11n HT20 MODE IN THE 5.2 GHz BAND	37
10.3.3.	802.11n HT40 MODE IN THE 5.2 GHz BAND	37
10.3.4.	802.11ac HT80 MODE IN THE 5.2 GHz BAND	37
10.3.5.	802.11a MODE IN THE 5.3 GHz BAND	38
10.3.6.	802.11n HT20 MODE IN THE 5.3 GHz BAND	38
10.3.7.	802.11n HT40 MODE IN THE 5.3 GHz BAND	38
10.3.8.	802.11ac HT80 MODE IN THE 5.3 GHz BAND	38
10.3.9.	802.11a MODE IN THE 5.5 GHz BAND	39
10.3.10.	802.11n HT20 MODE IN THE 5.5 GHz BAND	39
10.3.11.	802.11n HT40 MODE IN THE 5.5 GHz BAND	39
10.3.12.	802.11ac HT80 MODE IN THE 5.5 GHz BAND	39
10.3.13.	802.11a MODE IN THE 5.8 GHz BAND	40
10.3.14.	802.11n HT20 MODE IN THE 5.8 GHz BAND	40
10.3.15.	802.11n HT40 MODE IN THE 5.8 GHz BAND	40
10.3.16.	802.11ac HT80 MODE IN THE 5.8 GHz BAND	40
10.3.1.	99% BANDWIDTH PLOTS	41
10.4.	OUTPUT POWER AND PPSD	45
10.4.1.	802.11a MODE IN THE 5.2 GHz BAND	46
10.4.2.	802.11n HT20 MODE IN THE 5.2 GHz BAND	47
10.4.3.	802.11n HT40 MODE IN THE 5.2 GHz BAND	48
10.4.4.	802.11ac HT80 MODE IN THE 5.2 GHz BAND	49
10.4.5.	802.11a MODE IN THE 5.3 GHz BAND	50
10.4.6.	802.11n HT20 MODE IN THE 5.3 GHz BAND	51
10.4.7.	802.11n HT40 MODE IN THE 5.3 GHz BAND	52
10.4.8.	802.11ac HT80 MODE IN THE 5.3 GHz BAND	53
10.4.9.	802.11a MODE IN THE 5.5 GHz BAND	54
10.4.10.	802.11n HT20 MODE IN THE 5.5 GHz BAND	55
10.4.11.	802.11n HT40 MODE IN THE 5.5 GHz BAND	56
10.4.12.	802.11ac HT80 MODE IN THE 5.5 GHz BAND	57
10.4.13.	802.11a MODE STRADDLE CHANNEL 144	58

10.4.14. 802.11n HT20 MODE STRADDLE CHANNEL 144	61
10.4.15. 802.11n HT40 MODE STRADDLE CHANNEL 142	64
10.4.16. 802.11ac HT80 MODE STRADDLE CHANNEL 138	67
10.4.17. 802.11a MODE IN THE 5.8 GHz BAND	70
10.4.18. 802.11n HT20 MODE IN THE 5.8 GHz BAND	71
10.4.19. 802.11n HT40 MODE IN THE 5.8 GHz BAND	72
10.4.20. 802.11ac HT80 MODE IN THE 5.8 GHz BAND	73
10.4.1. OUTPUT POWER AND PPSD PLOTS, Chain 0	74
11. TRANSMITTER ABOVE 1 GHz.....	81
11.1. 5.2 GHz	82
11.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND	82
11.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND.....	93
11.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND.....	104
11.1.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.2 GHz BAND.....	112
11.2. 5.3 GHz	117
11.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND	117
11.2.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND.....	128
11.2.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND.....	139
11.2.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.3 GHz BAND.....	147
11.3. 5.5-5.6 GHz	152
11.3.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.5 GHz BAND	152
11.3.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.5 GHz BAND.....	165
11.3.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.5 GHz BAND.....	178
11.3.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.5 GHz BAND.....	191
11.4. 5.8 GHz	198
11.4.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND	198
11.4.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND.....	211
11.4.3. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.8 GHz BAND.....	234
11.5. ADDITIONAL TESTS (Phone with Smart Case and Dock)	241
11.5.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND	241
12. WORST-CASE BELOW 1 GHz (in the 5.3 GHz Band).....	244
13. AC POWER LINE CONDUCTED EMISSIONS	249
14. SETUP PHOTOS.....	254

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC
EUT DESCRIPTION: GSM/CDMA/WCDMA/LTE Phone + BLUETOOTH, DTS/UNII a/b/g/n/ac & NFC
MODEL: LG-VS986, VS986, LGVS986, LG-AS986, AS986, LGAS986
SERIAL NUMBER: 0298-0469 (Conducted), 0298-0454 (Radiated)
DATE TESTED: MARCH 26 – APRIL 16, 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.

Approved & Released For
UL Verification Services Inc. By:



PENG ZHANG
CONSUMER TECHNOLOGY DIVISION
PROJECT LEAD
UL VERIFICATION SERVICES INC

Tested By:



CHARLES VERGONIO
CONSUMER TECHNOLOGY DIVISION
LAB ENGINEER
UL VERIFICATION SERVICES INC

2. 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.

Deviation -Radiated spurious emission above 1GHz EUT height is 1.5m not 0.8m.

3. 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>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 18000 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/CDMA/WCDMA/LTE Phone + BLUETOOTH, 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	13.31	21.43
5180 - 5240	802.11n HT20	13.33	21.53
5190 - 5230	802.11n HT40	10.93	12.39
5210 - 5210	802.11ac HT80	10.87	12.22
5260 - 5320	802.11a	13.12	20.51
5260 - 5320	802.11n HT20	13.05	20.18
5270 - 5310	802.11n HT40	11.18	13.12
5290 - 5290	802.11ac HT80	10.95	12.45
5500 - 5700	802.11a	14.19	26.24
5500 - 5700	802.11n HT20	13.89	24.49
5510 - 5670	802.11n HT40	11.72	14.86
5530 - 5690	802.11ac HT80	11.45	13.96
5745 - 5825	802.11a	14.30	26.92
5745 - 5825	802.11n HT20	14.19	26.24
5755 - 5795	802.11n HT40	11.82	15.21
5775 - 5775	802.11ac HT80	11.53	14.22

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	12.8
			40	5200	12.9
			44	5220	12.9
			48	5240	12.9
	802.11n (HT20)	6.5 Mbps	36	5180	12.9
			40	5200	12.9
			44	5220	12.9
			48	5240	12.7
	802.11n (HT40)	13.5 Mbps	38	5190	10.6
			46	5230	10.4
	802.11ac (VHT20)	6.5 Mbps	36	5180	13.1
			40	5200	12.8
			44	5220	12.9
			48	5240	12.9
	802.11ac (VHT40)	13.5 Mbps	38	5190	10.5
			46	5230	10.7
	802.11ac (VHT80)	29.3 Mbps	42	5210	10.5
UNII-2A	802.11a	6 Mbps	52	5260	13.1
			56	5280	13.0
			60	5300	13.2
			64	5320	12.9
	802.11n (HT20)	6.5 Mbps	52	5260	12.8
			56	5280	12.9
			60	5300	12.7
			64	5320	12.7
	802.11n (HT40)	13.5 Mbps	54	5270	10.6
			62	5310	10.4
	802.11ac (VHT20)	6.5 Mbps	52	5260	12.8
			56	5280	12.8
			60	5300	13.0
			64	5320	12.8
	802.11ac (VHT40)	13.5 Mbps	54	5270	10.5
			62	5310	10.3
	802.11ac (VHT80)	29.3 Mbps	58	5290	10.2

UNII-2C	802.11a	6 Mbps	100	5500	13.3
			104	5520	13.4
			108	5540	13.3
			112	5560	13.5
			116	5580	13.5
			132	5660	13.6
			136	5680	13.5
			140	5700	13.5
	802.11n (HT20)	6.5 Mbps	100	5500	13.2
			104	5520	13.1
			108	5540	13.1
			112	5560	13.4
			116	5580	13.4
			132	5660	13.3
			136	5680	13.5
			140	5700	13.3
	802.11n (HT40)	13.5 Mbps	102	5510	11.1
			110	5550	11.1
			134	5670	11.3
	802.11ac (VHT20)	6.5 Mbps	100	5500	12.3
			104	5520	12.3
			108	5540	12.3
			112	5560	12.4
			116	5580	12.3
			132	5660	12.5
			136	5680	12.5
			140	5700	12.4

	802.11ac (VHT40)	13.5 Mbps	102	5510	11.2
			110	5550	11.1
			134	5670	11.3
	802.11ac (VHT80)	29.3 Mbps	106	5530	10.7
UNII-3 or §15.247	802.11a	6 Mbps	149	5745	13.8
			153	5765	13.6
			157	5785	13.6
			161	5805	13.7
			165	5825	13.6
	802.11n (HT20)	6.5 Mbps	149	5745	13.5
			153	5765	13.5
			157	5785	13.4
			161	5805	13.5
			165	5825	13.5
	802.11n (HT40)	13.5 Mbps	151	5755	11.2
			159	5795	11.0
	802.11ac (VHT20)	6.5 Mbps	149	5745	12.5
			153	5765	12.5
			157	5785	12.5
			161	5805	12.4
			165	5825	12.5
	802.11ac (VHT40)	13.5 Mbps	151	5755	11.2
			159	5795	11.1
	802.11ac (VHT80)	29.3 Mbps	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

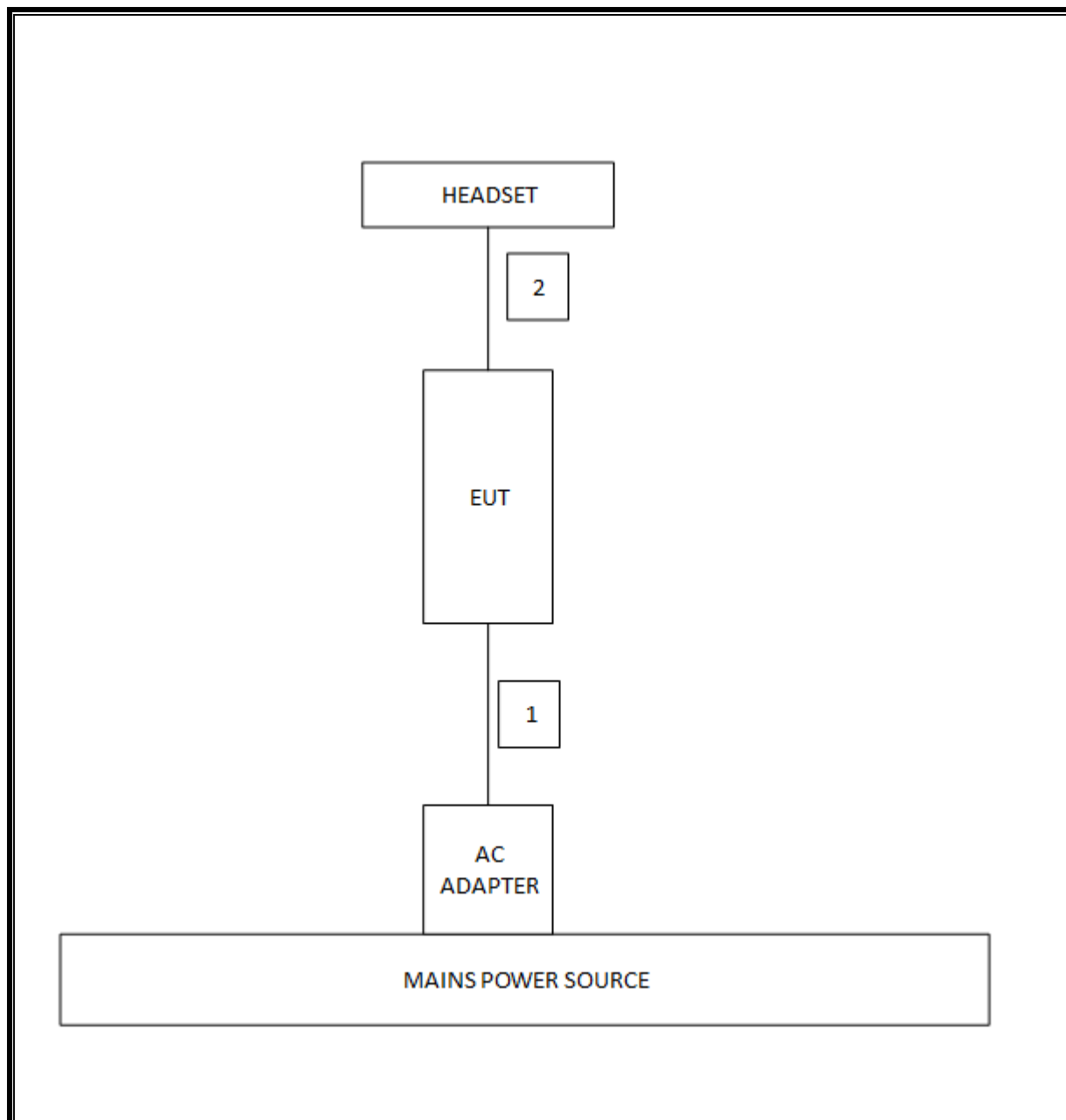
I/O CABLES

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	82.28 MHz
15.407	6dB Band width (5.8Ghz)	500KHz		Pass	3.125 MHz
15.407 (a)(2)	TX Cond. Power 5.15-2.25, 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	14.19 dBm
15.407 (a)(3)	TX Cond. Power 5.725-5.825	< 30dBm or 17+10Log(OBW)		Pass	14.30 dBm
15.407 (a)(5)	PSD (5.2,5.3,5.5GHz)	<11dBm		Pass	2.62 dBm
15.407 (a)(5)	PSD (5.8GHz)	30dBm per 500kHz		Pass	-0.11 dBm
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	51.28 dBuV (PK)
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	49.20 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.

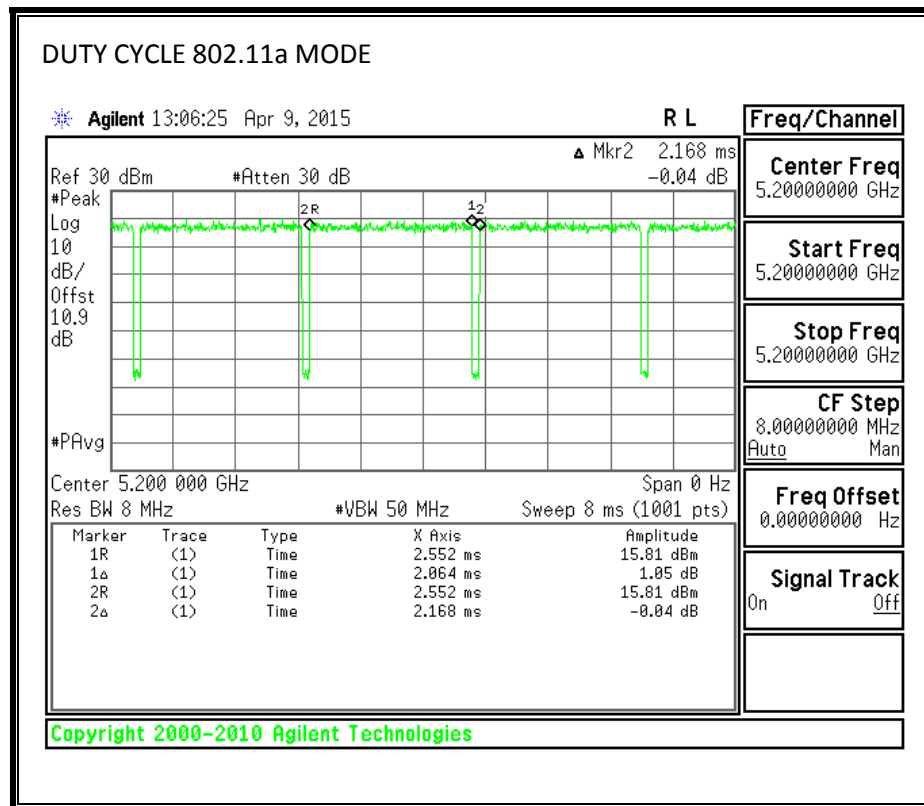
PROCEDURE

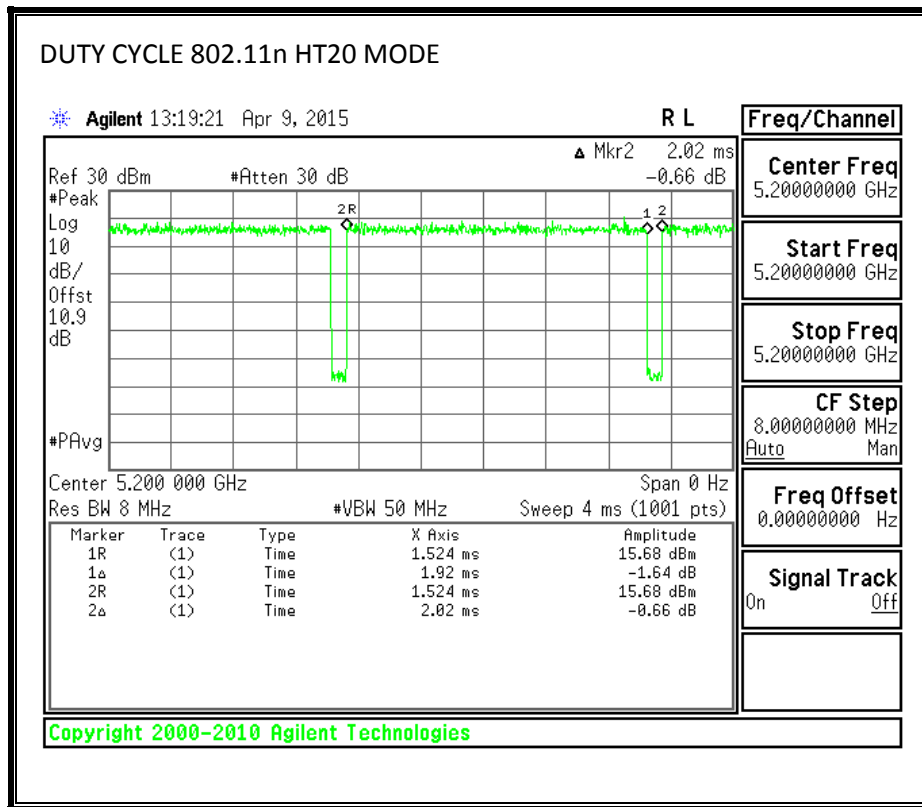
KDB 789033 Zero-Span Spectrum Analyzer Method.

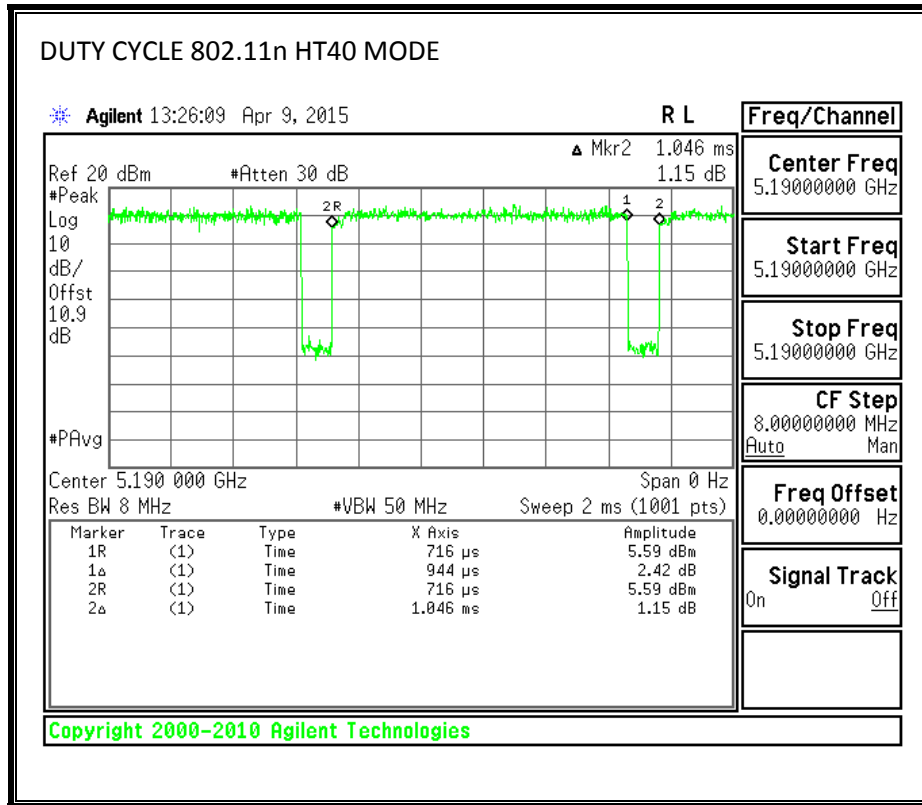
8.1. ON TIME AND DUTY CYCLE RESULTS

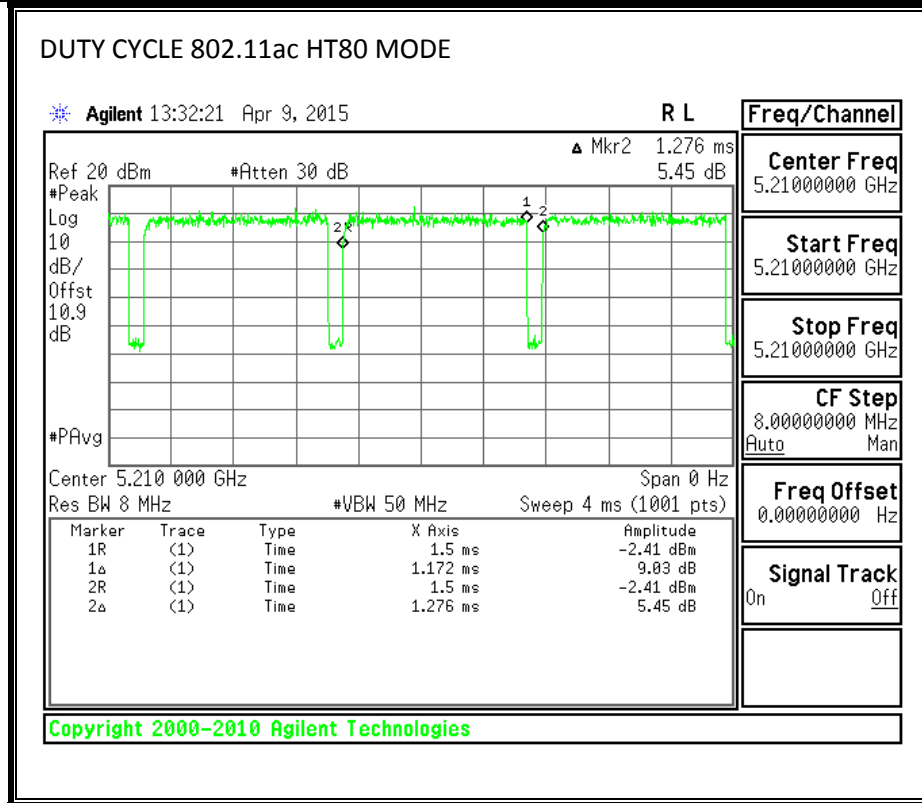
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.064	2.168	0.952	95.2%	0.21	0.484
802.11ac HT80	1.172	1.276	0.918	91.8%	0.37	0.853
802.11n HT20	1.920	2.020	0.950	95.0%	0.22	0.521
802.11n HT40	0.944	1.046	0.902	90.2%	0.45	1.059

8.2. DUTY CYCLE PLOTS









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 to 100 kHz, the VBW $\geq 3 \times$ 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	16.370	0.5
Mid	5785	16.375	0.5
High	5825	16.375	0.5
Worst		16.375	

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	17.766	0.5
Mid	5785	17.604	0.5
High	5825	17.604	0.5
Worst		17.766	

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	36.410	0.5
High	5795	36.288	0.5
Worst		36.410	

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	75.580	0.5
Worst		75.580	

10.1.5. 802.11a MODE STRADDLE CHANNEL 144

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5720	3.225	0.5
Worst		3.225	

10.1.6. 802.11n MODE STRADDLE CHANNEL 144

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5720	3.850	0.5
Worst		3.850	

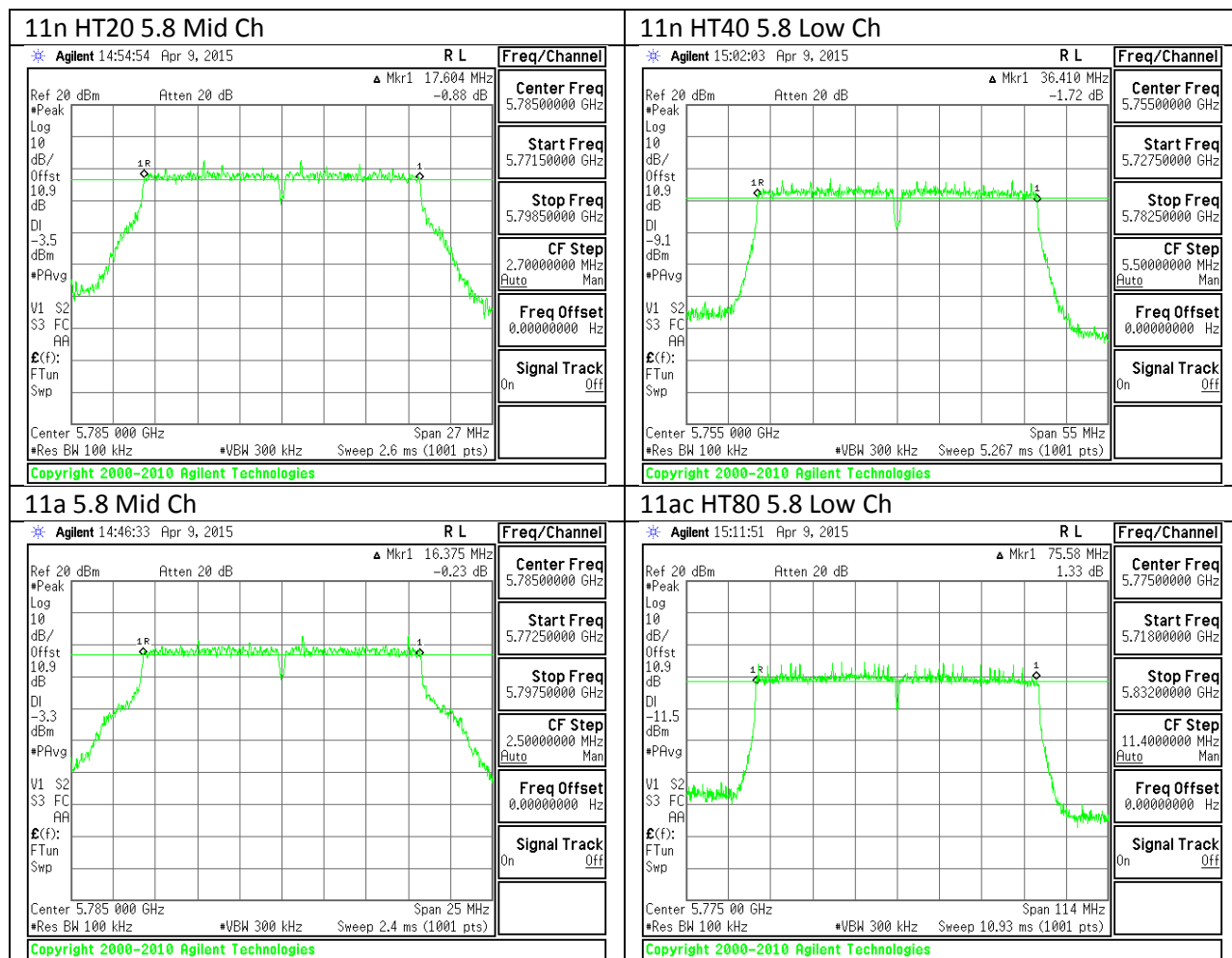
10.1.1. 802.11n HT40 MODE STRADDLE CHANNEL 142

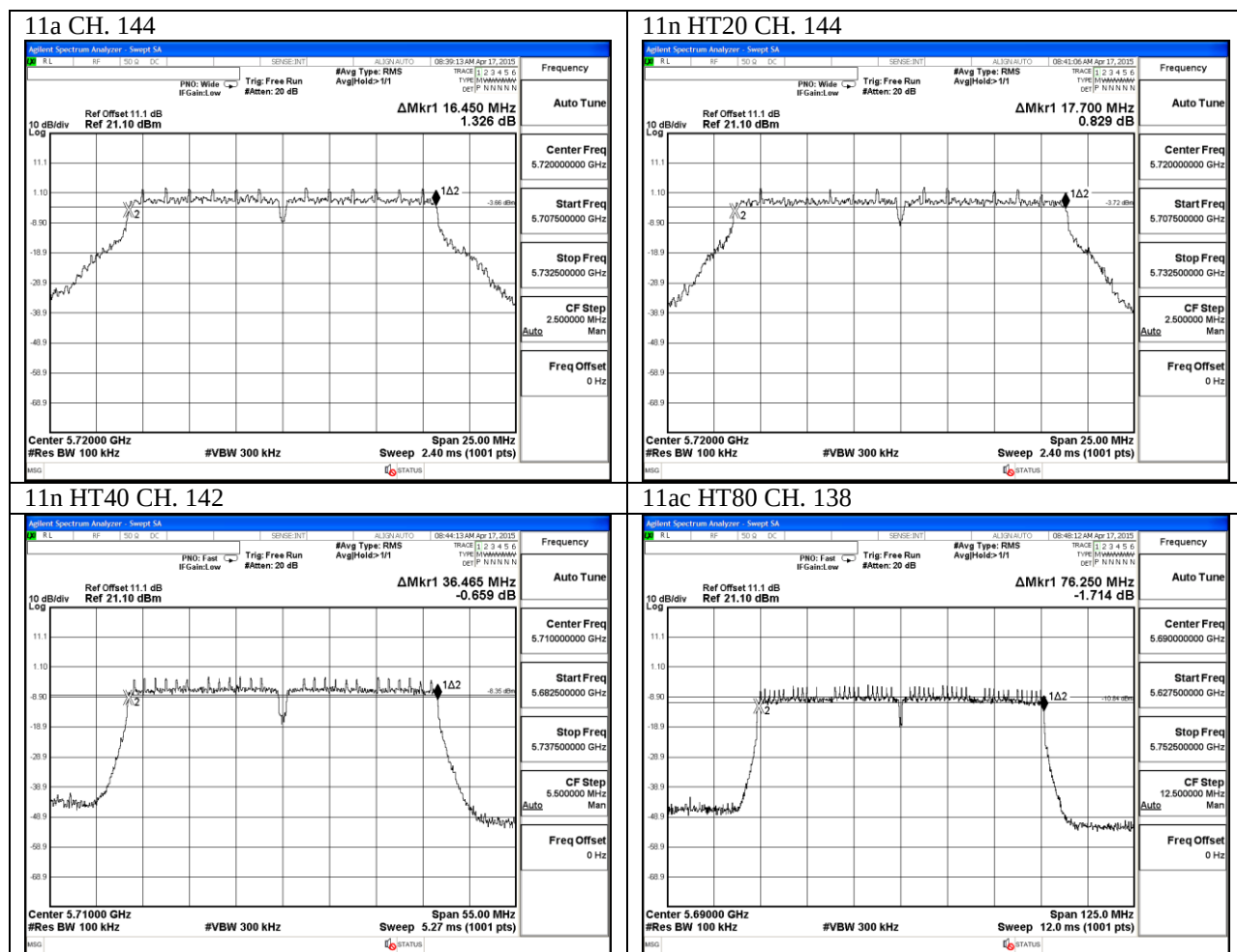
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5710	3.235	0.5
Worst		3.235	

10.1.1. 802.11ac80 MODE STRADDLE CHANNEL 138

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5690	3.125	0.5
Worst		3.125	

10.1.2. 6 dB BANDWIDTH MID CH PLOTS





Note: 6dB for straddling channel: $(6\text{dB BW of total BE})/2 - (5725\text{MHz} - \text{Center Frequency})$

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	21.68
High	5240	21.71
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	21.94
Mid	5200	22.00
High	5240	21.89
Worst		22.00

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
Low	5190	40.24
Mid	5230	40.18
Worst		40.24

10.2.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5210	82.01

10.2.1. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	21.68
Mid	5300	21.66
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	21.97
Mid	5300	21.94
High	5320	22.05
Worst		22.05

10.2.2. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	40.30
High	5310	40.18
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	82.28

10.2.4. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	21.74
Mid	5580	21.81
High	5700	21.66
144	5720	21.79
Worst		21.81

10.2.5. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	21.81
Mid	5580	21.94
High	5700	21.97
144	5720	22.02
Worst		22.02

10.2.6. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	40.24
Mid	5550	40.12
High	5670	40.36
142	5710	40.24
Worst		40.36

10.2.7. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5530	82.28
138	5690	82.14
Worst		82.28

10.2.8. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	21.87
Mid	5785	21.76
High	5825	21.68
Worst		21.87

10.2.9. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	21.97
Mid	5785	21.89
High	5825	21.94
Worst		21.97

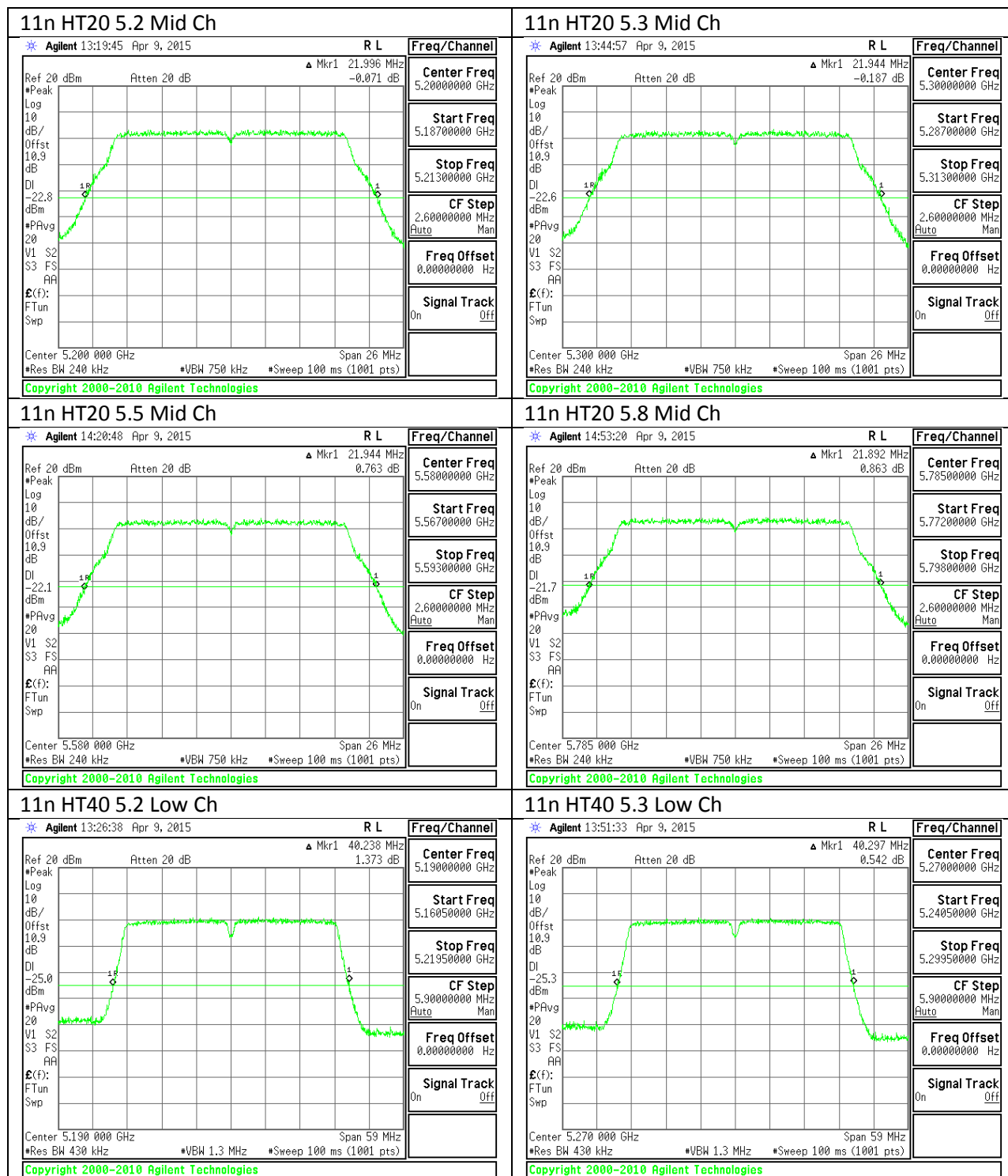
10.2.10. 802.11n HT40 MODE IN THE 5.8 GHz BAND

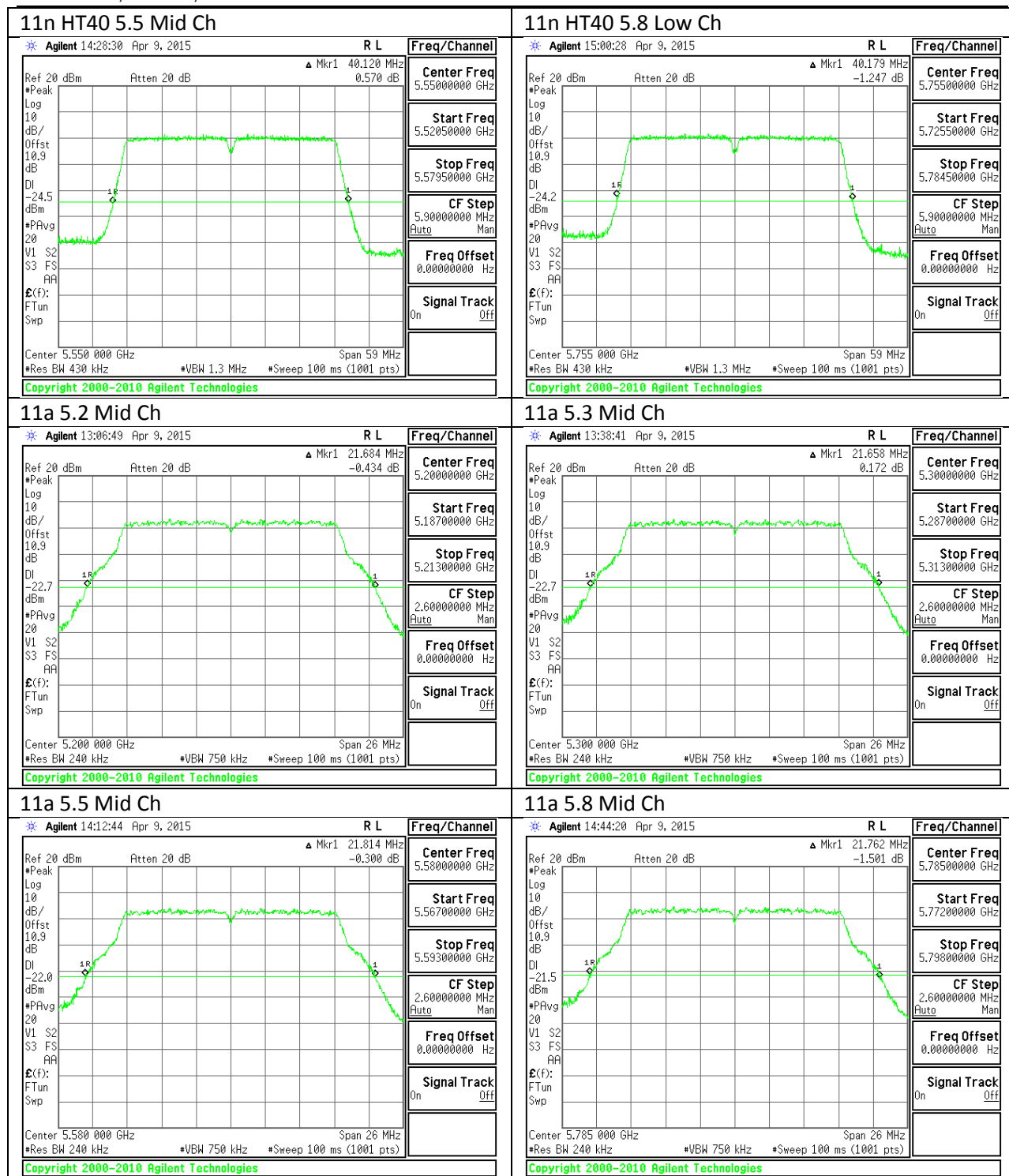
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5755	40.18
High	5795	40.06
Worst		40.18

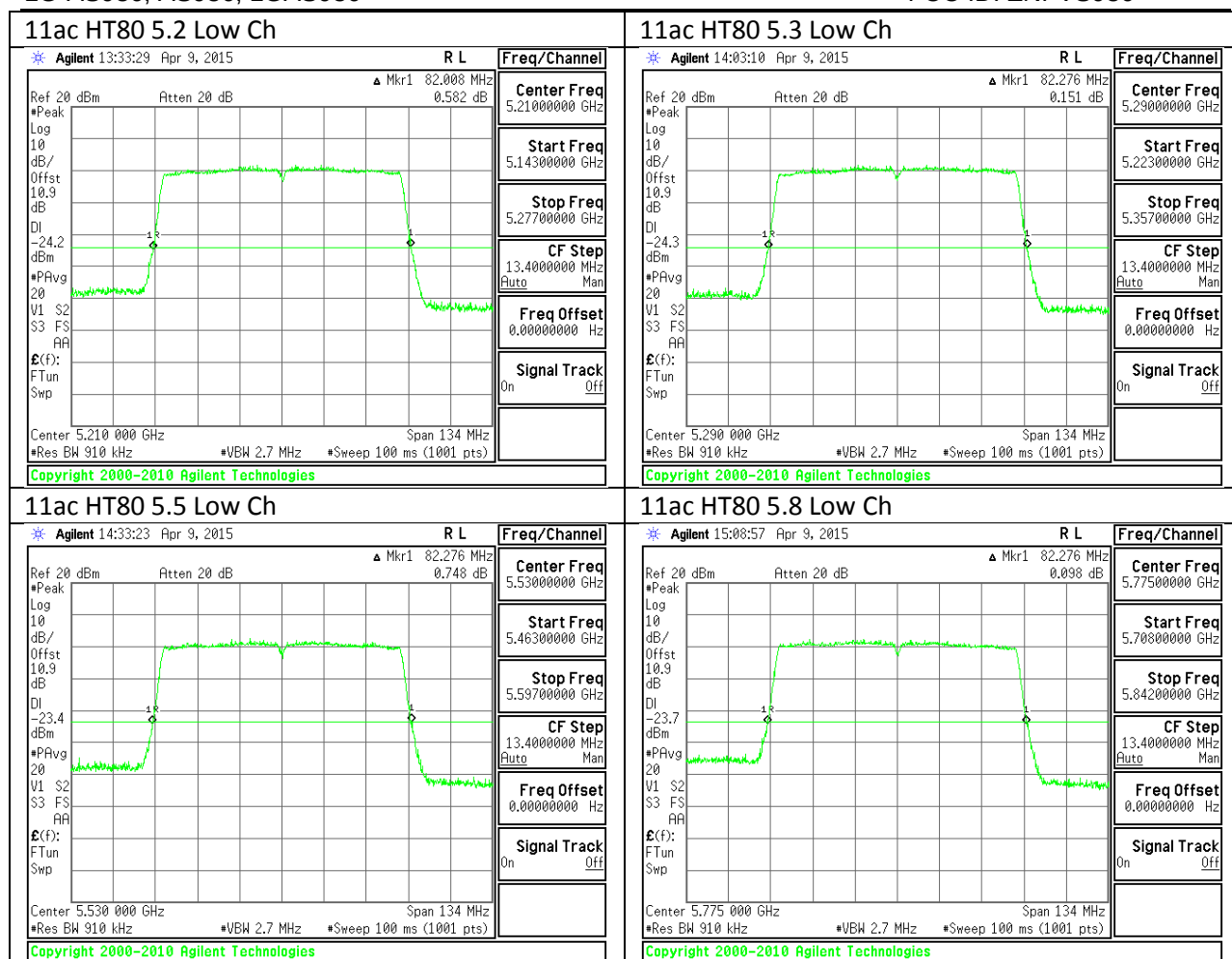
10.2.11. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5775	82.28

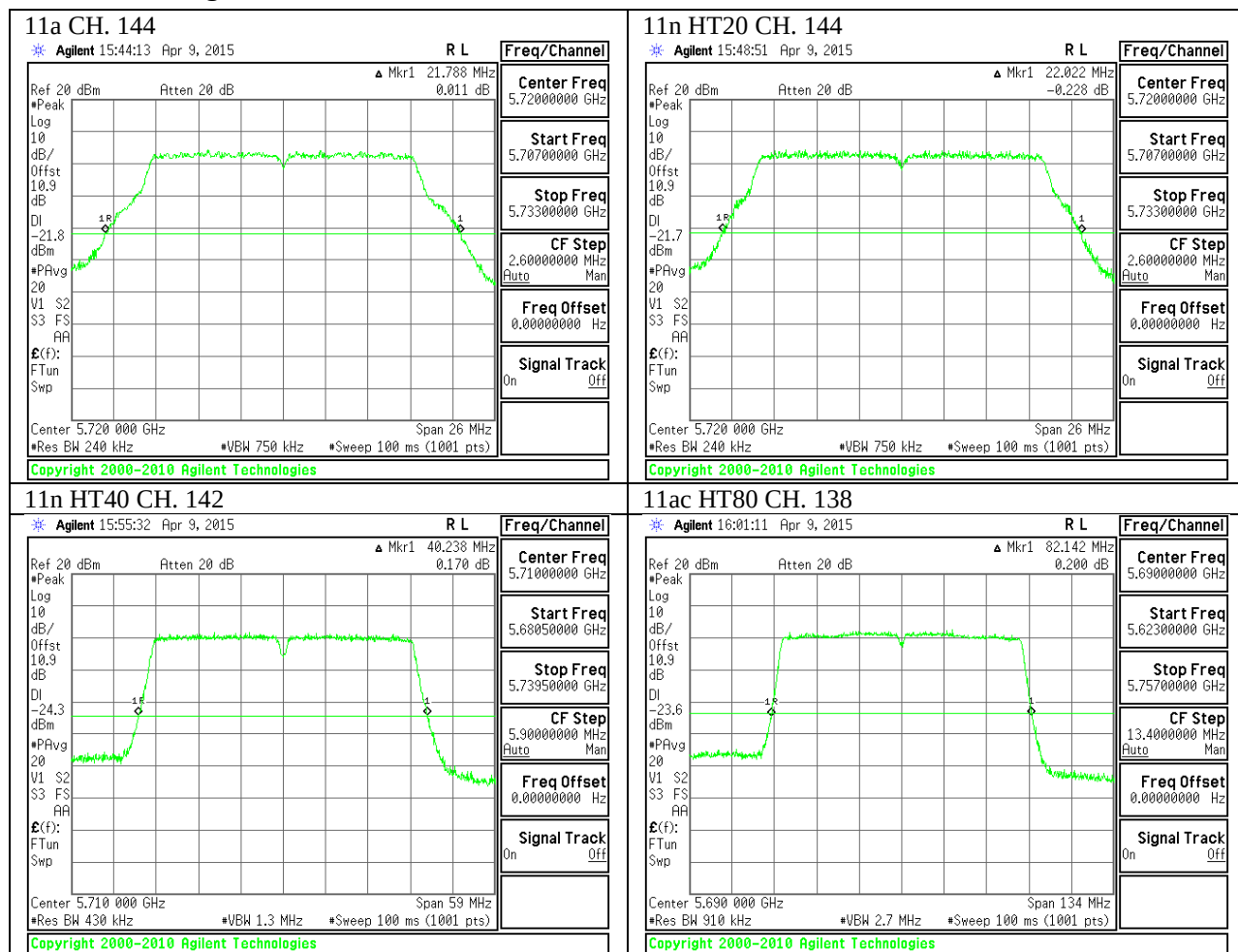
10.2.1. 26 dB BANDWIDTH PLOTS







UNII Straddling Channels



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	17.19
Mid	5200	17.21
High	5240	17.23
Worst		17.23

10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	18.27
Mid	5200	18.32
High	5240	18.31
Worst		18.32

10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	36.61
Mid	5230	36.61
Worst		36.61

10.3.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5210	75.78

10.3.5. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	17.22
Mid	5300	17.21
High	5320	17.22
Worst		17.22

10.3.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	18.31
Mid	5300	18.28
High	5320	18.30
Worst		18.31

10.3.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	36.58
High	5310	36.63
Worst		36.63

10.3.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5290	75.79

10.3.9. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.22
Mid	5580	17.19
High	5700	17.21
144	5720	17.24
Worst		17.24

10.3.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	18.32
Mid	5580	18.33
High	5700	18.33
144	5720	18.32
Worst		18.33

10.3.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5510	36.60
Mid	5550	36.61
High	5670	36.64
142	5710	36.60
Worst		36.64

10.3.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5530	75.83
138	5690	75.82
Worst		75.83

10.3.13. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.24
Mid	5785	17.22
High	5825	17.24
Worst		17.24

10.3.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	18.30
Mid	5785	18.32
High	5825	18.27
Worst		18.32

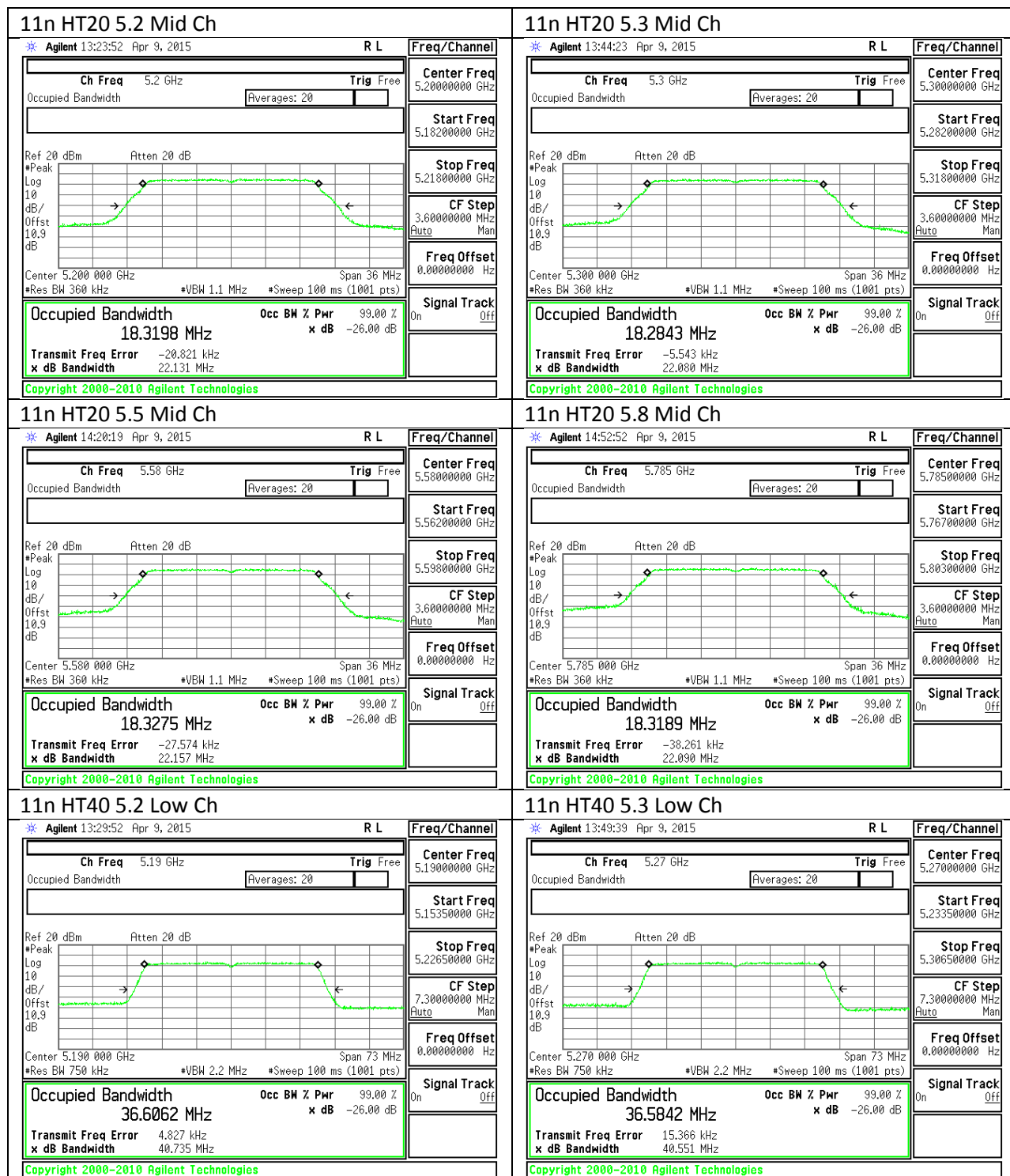
10.3.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

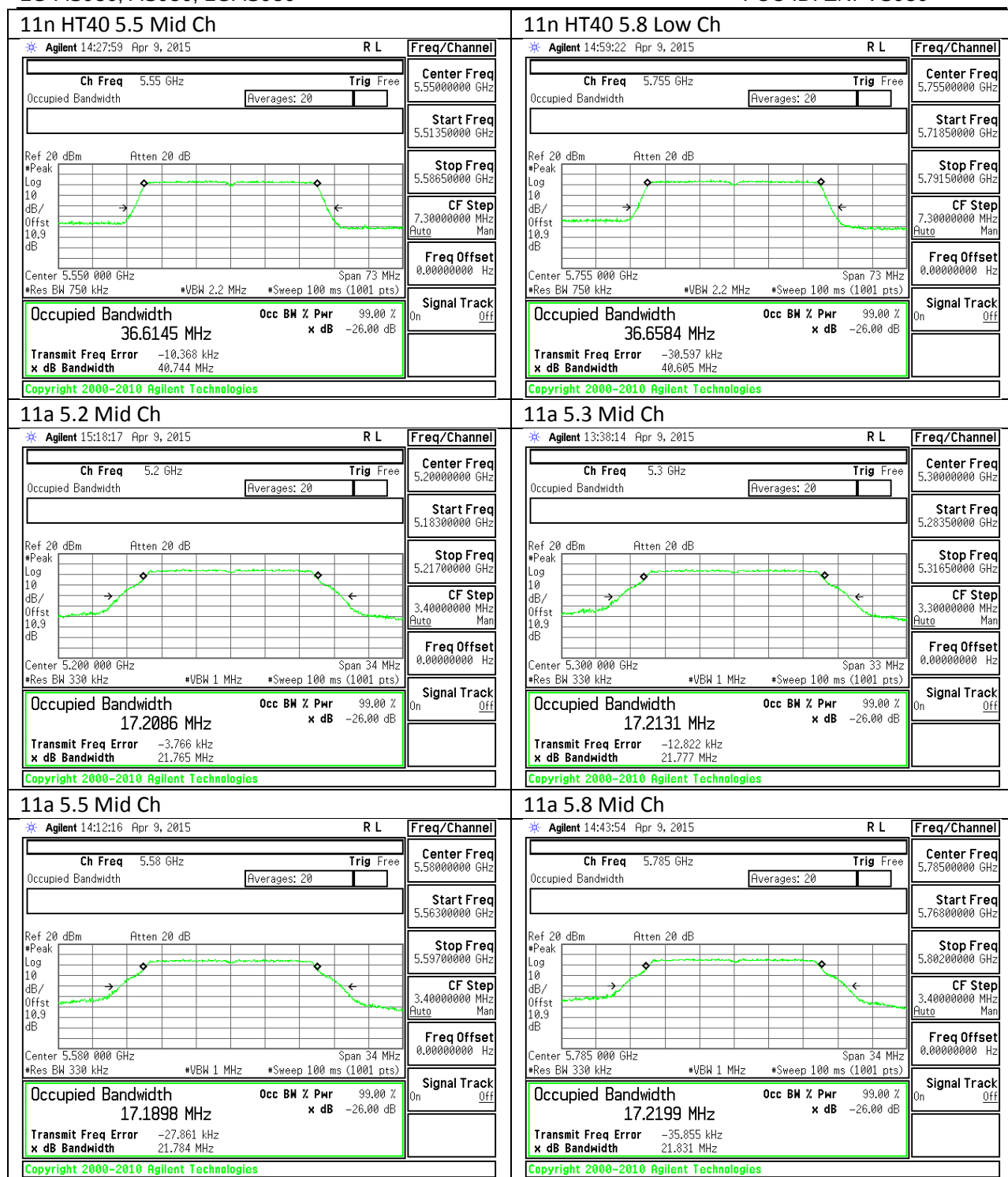
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	36.66
High	5795	36.60
Worst		36.66

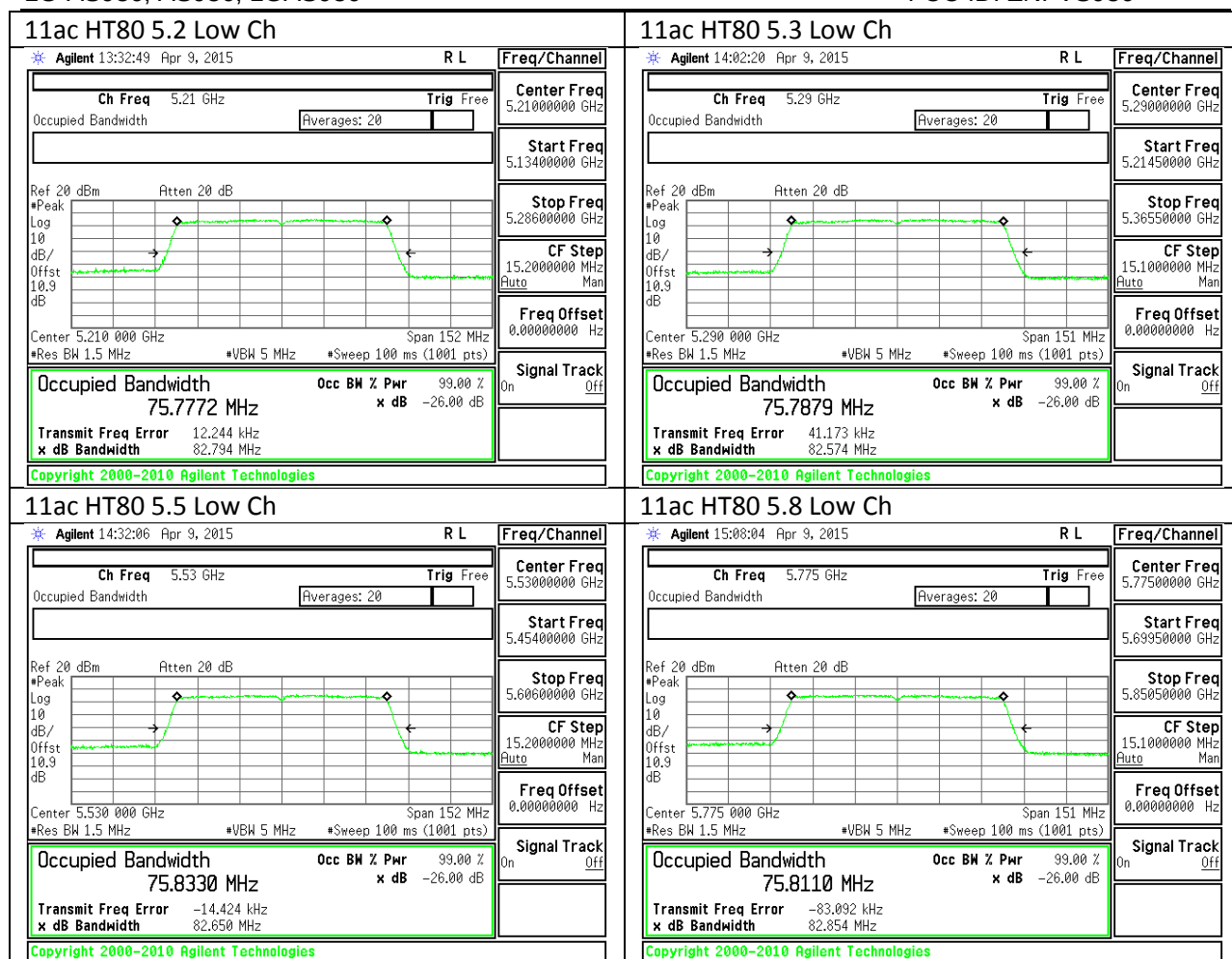
10.3.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5775	75.81

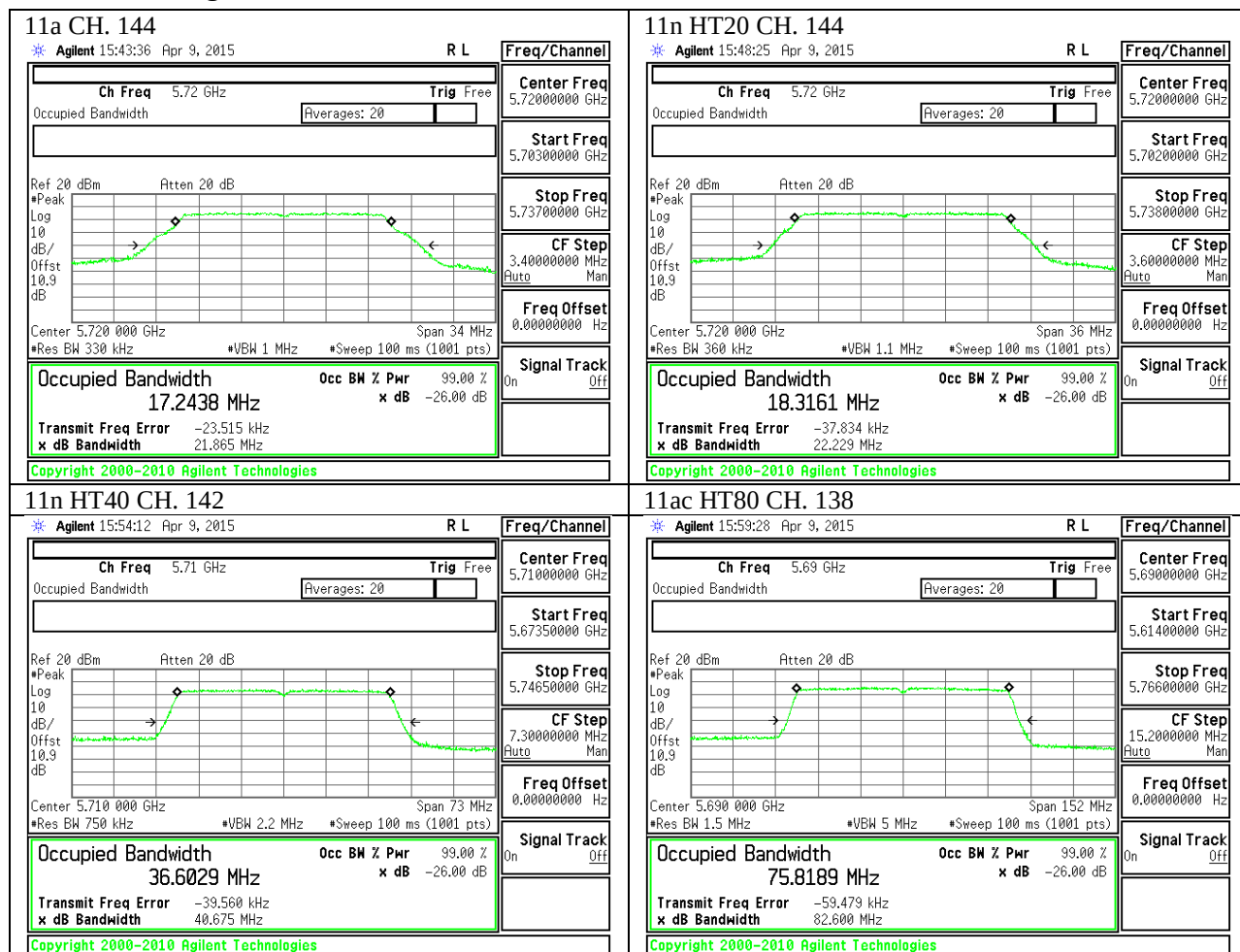
10.3.1. 99% BANDWIDTH PLOTS







UNII Straddling Channels



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 $11 \text{ dBm} + 10 \log B$, 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 $11 \text{ dBm} + 10 \log B$, 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	17.19	2.35
Mid	5200	21.68	17.21	2.35
High	5240	21.71	17.23	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	22.35	20.00	20.00	11.00	10.00	10.00
Mid	5200	24.00	22.36	20.01	20.01	11.00	10.00	10.00
High	5240	24.00	22.36	20.01	20.01	11.00	10.00	10.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	13.100	13.31	20.00	-6.69
Mid	5200	12.950	13.16	20.01	-6.85
High	5240	12.920	13.13	20.01	-6.88

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	1.550	1.76	11.00	-9.24
Mid	5200	1.380	1.59	11.00	-9.41
High	5240	1.350	1.56	11.00	-9.44

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	21.94	18.27	2.35
Mid	5200	22.00	18.32	2.35
High	5240	21.89	18.31	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	22.62	20.27	20.27	11.00	10.00	10.00
Mid	5200	24.00	22.63	20.28	20.28	11.00	10.00	10.00
High	5240	24.00	22.63	20.28	20.28	11.00	10.00	10.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.854	13.07	20.27	-7.19
Mid	5200	13.108	13.33	20.28	-6.95
High	5240	12.891	13.11	20.28	-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	0.950	1.17	11.00	-9.83
Mid	5200	1.220	1.44	11.00	-9.56
High	5240	1.000	1.22	11.00	-9.78

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	40.24	36.61	2.35
Mid	5230	40.18	36.61	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)		0.45	Included in Calculations of Corr'd Power & PPSP					

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	10.483	10.93	23.00	-12.07
Mid	5230	10.408	10.86	20.65	-9.79

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-4.290	-3.84	11.00	-14.84
Mid	5230	-4.350	-3.90	11.00	-14.90

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	82.008	75.78	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)		0.37	Included in Calculations of Corr'd Power & PPSP					

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5210	10.496	10.87	20.65	-9.78

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5210	-7.290	-6.92	11.00	-17.92

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	21.68	17.22	2.35
Mid	5300	21.66	17.21	2.35
High	5320	21.74	17.22	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	23.36	29.36	23.36	11.00	11.00	11.00
Mid	5300	24.00	23.36	29.36	23.36	11.00	11.00	11.00
High	5320	24.00	23.36	29.36	23.36	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	12.890	13.10	23.36	-10.26
Mid	5300	12.912	13.12	23.36	-10.24
High	5320	12.879	13.09	23.36	-10.27

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	1.320	1.53	11.00	-9.47
Mid	5300	1.280	1.49	11.00	-9.51
High	5320	1.220	1.43	11.00	-9.57

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	21.97	18.31	2.35
Mid	5300	21.94	18.28	2.35
High	5320	22.04	18.30	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	23.63	29.63	23.63	11.00	11.00	11.00
Mid	5300	24.00	23.62	29.62	23.62	11.00	11.00	11.00
High	5320	24.00	23.62	29.62	23.62	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	12.829	13.05	23.63	-10.58
Mid	5300	12.748	12.97	23.62	-10.65
High	5320	12.692	12.91	23.62	-10.71

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	0.940	1.16	11.00	-9.84
Mid	5300	0.870	1.09	11.00	-9.91
High	5320	0.770	0.99	11.00	-10.01

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	40.30	36.58	2.35
High	5310	40.18	36.62	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)	0.45	Included in Calculations of Corr'd Power & PSD
--------------------	------	--

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	10.73	11.18	24.00	-12.83
High	5310	10.36	10.81	24.00	-13.19

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-4.09	-3.64	11.00	-14.64
High	5310	-4.43	-3.98	11.00	-14.98

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	82.3	75.8	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)	0.37	Included in Calculations of Corr'd Power & PPSP
--------------------	------	---

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5290	10.58	10.95	24.00	-13.05

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5290	-7.02	-6.65	11.00	-17.65

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	21.74	17.22	2.35
Mid	5580	21.81	17.19	2.35
High	5700	21.66	17.21	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	23.36	29.36	23.36	11.00	11.00	11.00
Mid	5580	24.00	23.35	29.35	23.35	11.00	11.00	11.00
High	5700	24.00	23.36	29.36	23.36	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	13.551	13.76	23.36	-9.60
Mid	5580	13.596	13.81	23.35	-9.55
High	5700	13.975	14.19	23.36	-9.17

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	1.910	2.12	11.00	-8.88
Mid	5580	2.040	2.25	11.00	-8.75
High	5700	2.410	2.62	11.00	-8.38

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	21.81	18.32	2.35
Mid	5580	21.94	18.32	2.35
High	5700	21.97	18.30	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	23.63	29.63	23.63	11.00	11.00	11.00
Mid	5580	24.00	23.63	29.63	23.63	11.00	11.00	11.00
High	5700	24.00	23.62	29.62	23.62	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	13.387	13.61	23.63	-10.02
Mid	5580	13.534	13.75	23.63	-9.88
High	5700	13.673	13.89	23.62	-9.73

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	1.460	1.68	11.00	-9.32
Mid	5580	1.650	1.87	11.00	-9.13
High	5700	1.830	2.05	11.00	-8.95

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	40.24	36.60	2.35
Mid	5550	40.12	36.61	2.35
High	5670	40.36	36.65	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)	0.45	Included in Calculations of Corr'd Power & PSD
--------------------	------	--

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	11.228	11.68	24.00	-12.32
Mid	5550	11.048	11.50	24.00	-12.50
High	5670	11.271	11.72	24.00	-12.28

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-3.570	-3.12	11.00	-14.12
Mid	5550	-3.700	-3.25	11.00	-14.25
High	5670	-3.530	-3.08	11.00	-14.08

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	82.27	75.83	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)	0.37	Included in Calculations of Corr'd Power & PPSP
--------------------	------	---

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	11.075	11.45	24.00	-12.56

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5530	-6.750	-6.38	11.00	-17.38

10.4.13. 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	21.79	17.24	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	23.37	29.37	23.37	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	12.710	12.92	23.37	-10.45

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	2.010	2.22	11.00	-8.78

UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
144	5720	21.79	17.24	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	23.37	29.37	23.37	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	6.521	6.73	23.37	-16.63

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	-0.990	-0.78	11.00	-11.78

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)	12.71	18.66
5720 (UNII-3 portion)	6.52	4.49
5720 (Whole signal)	13.65	23.17

10.4.14. 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	22.02	18.32	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	23.63	29.63	23.63	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	12.570	12.79	23.63	-10.84

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	1.740	1.96	11.00	-9.04

UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
144	5720	22.02	18.32	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	23.63	29.63	23.63	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	6.932	7.15	23.63	-16.48

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	-1.310	-1.09	11.00	-12.09

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)	12.57	18.07
5720 (UNII-3 portion)	6.93	4.93
5720 (Whole signal)	13.62	23.01

10.4.15. 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	40.24	36.60	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)	0.45	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	10.850	11.30	24.00	-12.70

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
142	5710	-3.490	-3.04	11.00	-14.04

UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
142	5710	40.24	36.60	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)	0.45	Included in Calculations of Corr'd Power & PPSP
--------------------	------	---

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	0.340	0.79	24.00	-23.21

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
142	5710	-6.910	-6.46	11.00	-17.46

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)	10.85	12.16
5710 (UNII-3 portion)	0.35	1.08
5710 (Whole signal)	11.22	13.24

10.4.16. 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)	0.37	Included in Calculations of Corr'd Power & PSD
---------------------------	------	--

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.080	11.45	24.00	-12.55

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
138	5690	-6.470	-6.10	11.00	-17.10

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)	0.37	Included in Calculations of Corr'd Power & PPSP
--------------------	------	---

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-3.460	-3.09	24.00	-27.09

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
138	5690	-10.760	-10.39	11.00	-21.39

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)	11.08	12.82
5690 (UNII-3 portion)	-3.46	0.45
5690 (Whole signal)	11.23	13.27

10.4.17. 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	21.87	17.24	2.35
Mid	5785	21.76	17.22	2.35
High	5825	21.68	17.24	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	29.37	35.37	29.37	30.00	17.00	17.00
Mid	5785	30.00	29.36	35.36	29.36	30.00	17.00	17.00
High	5825	30.00	29.37	35.37	29.37	30.00	17.00	17.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	14.07	14.28	29.37	-15.08
Mid	5785	14.09	14.30	29.36	-15.06
High	5825	14.04	14.25	29.37	-15.12

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	-0.37	-0.16	17.00	-17.16
Mid	5785	-0.32	-0.11	17.00	-17.11
High	5825	-0.41	-0.20	17.00	-17.20

10.4.18. 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	21.97	18.30	2.35
Mid	5785	21.89	18.32	2.35
High	5825	21.94	18.27	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	5745	30.00	29.62	35.62	29.62	30.00	17.00	17.00
Mid	5785	30.00	29.63	35.63	29.63	30.00	17.00	17.00
High	5825	30.00	29.62	35.62	29.62	30.00	17.00	17.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	13.90	14.12	29.62	-15.51
Mid	5785	13.97	14.19	29.63	-15.44
High	5825	13.94	14.16	29.62	-15.46

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	-0.76	-0.54	17.00	-17.54
Mid	5785	-0.78	-0.56	17.00	-17.56
High	5825	-0.78	-0.56	17.00	-17.56

10.4.19. 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	40.18	36.66	2.35
High	5795	40.06	36.60	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)	0.45	Included in Calculations of Corr'd Power & PSD
--------------------	------	--

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	11.37	11.82	30.00	-18.18
High	5795	11.36	11.81	30.00	-18.19

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5755	-6.27	-5.82	17.00	-22.82
High	5795	-6.23	-5.78	17.00	-22.78

10.4.20. 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	75.6	75.8	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)	0.37	Included in Calculations of Corr'd Power & PPSP
--------------------	------	---

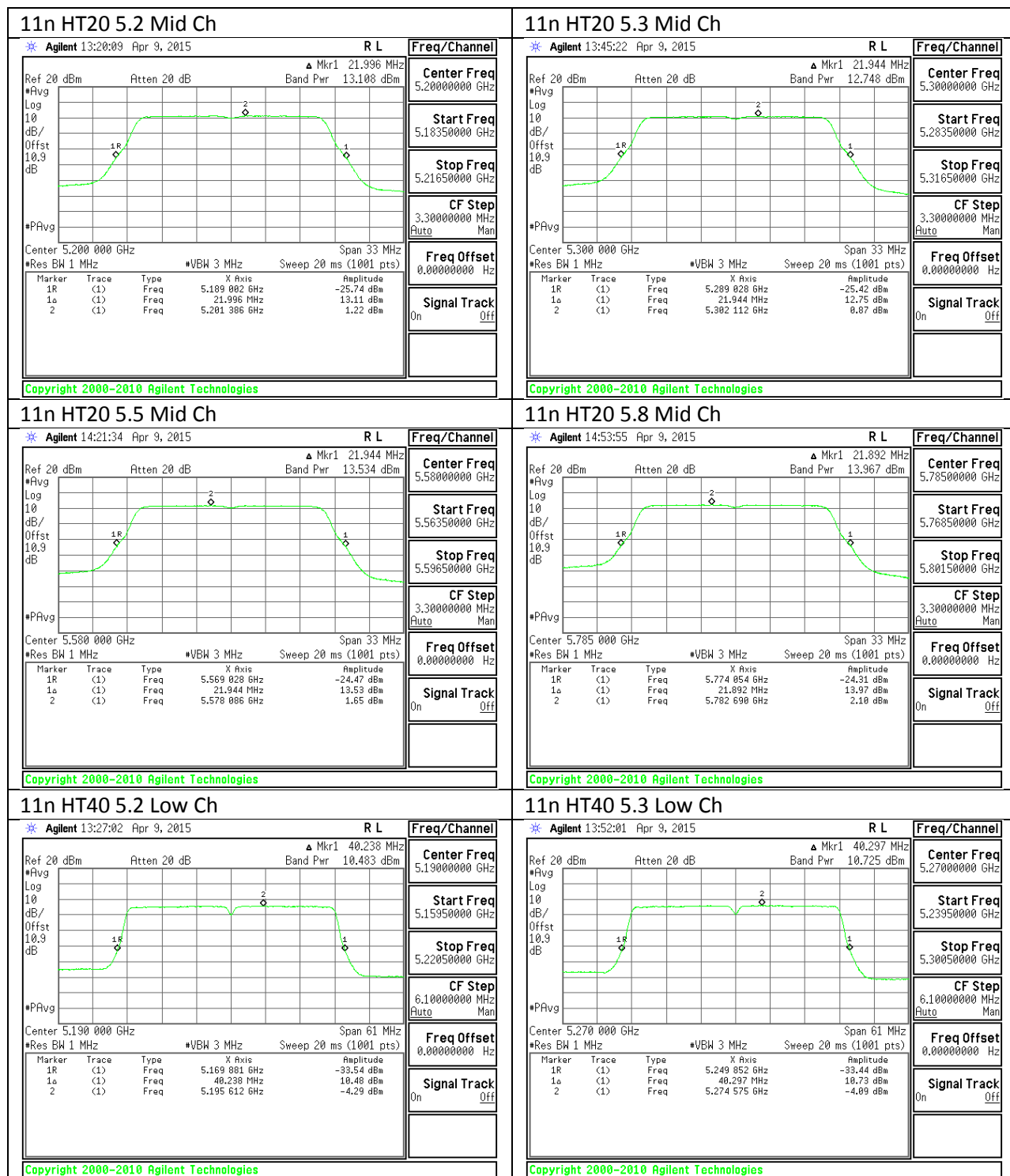
Output Power Results

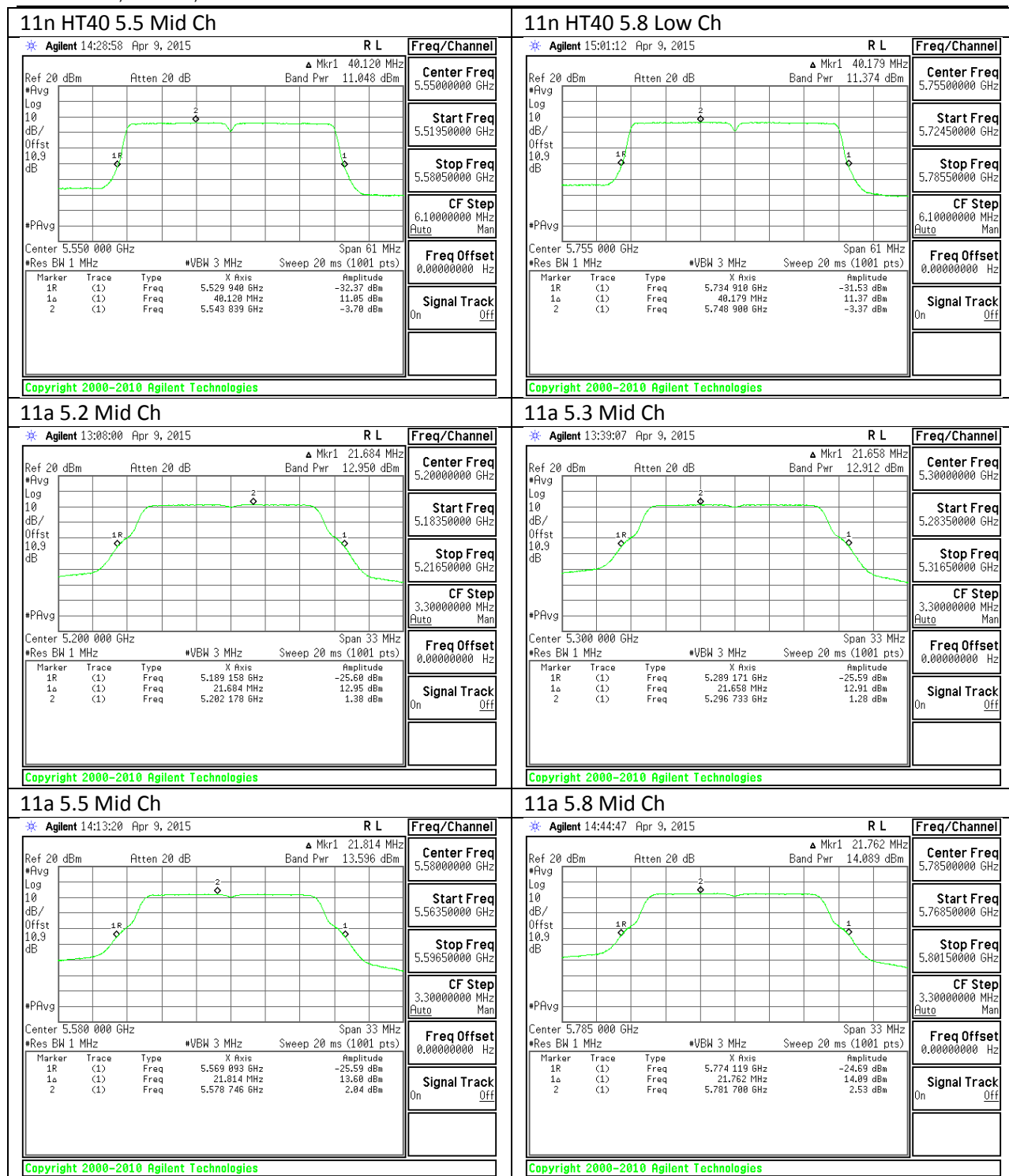
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5775	11.16	11.53	30.00	-18.47

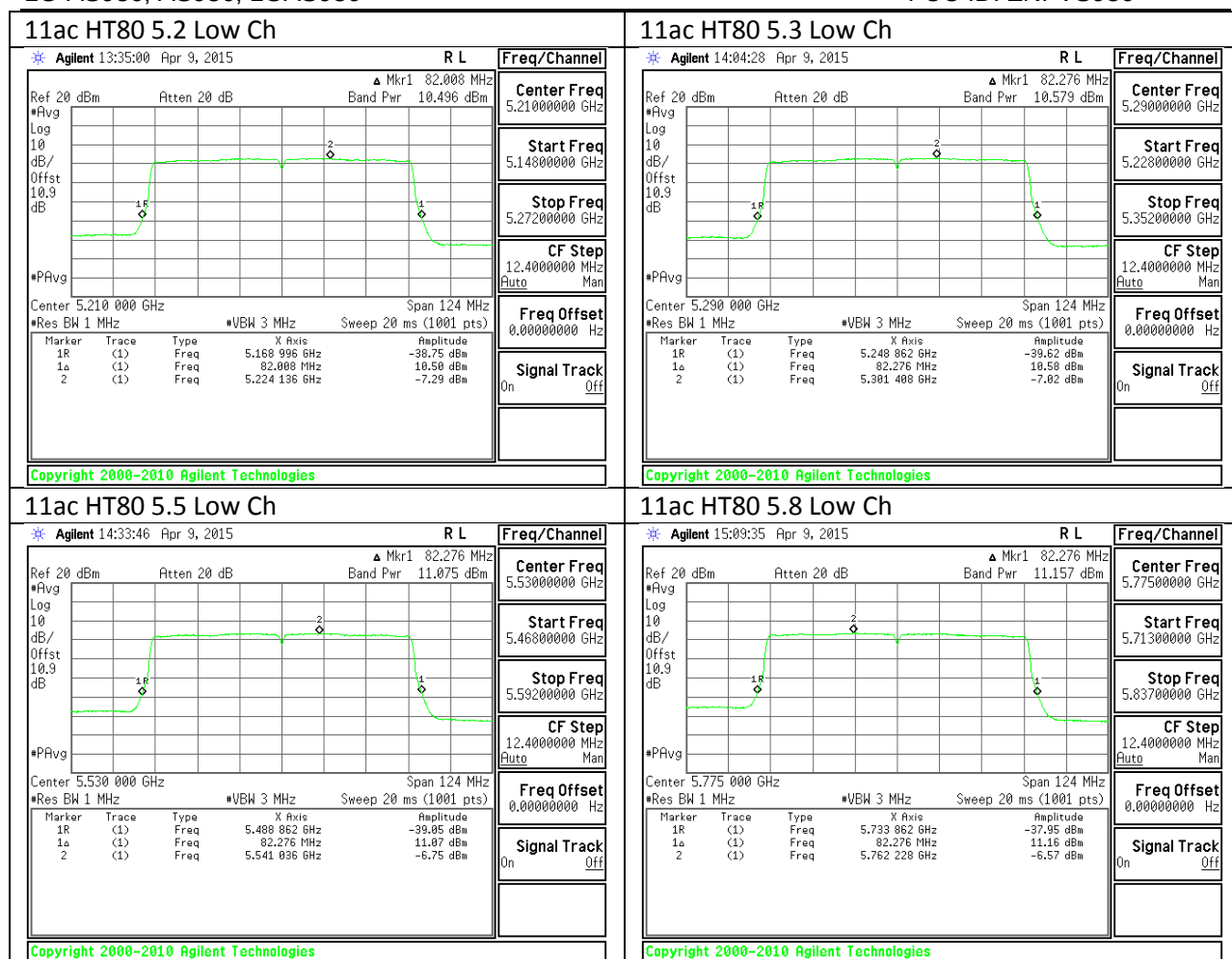
PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5775	-9.42	-9.05	17.00	-26.05

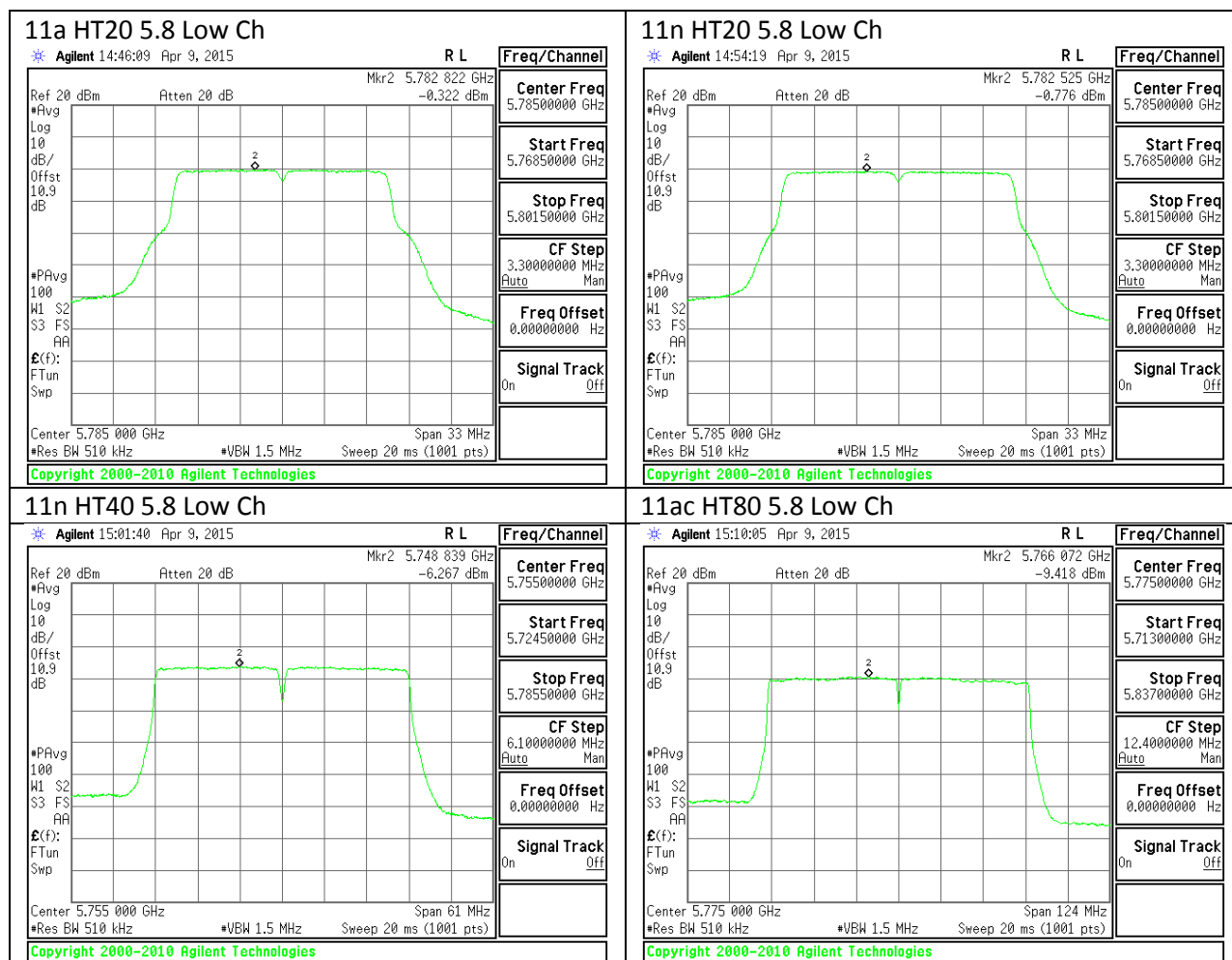
10.4.1. OUTPUT POWER AND PPSD PLOTS, Chain 0





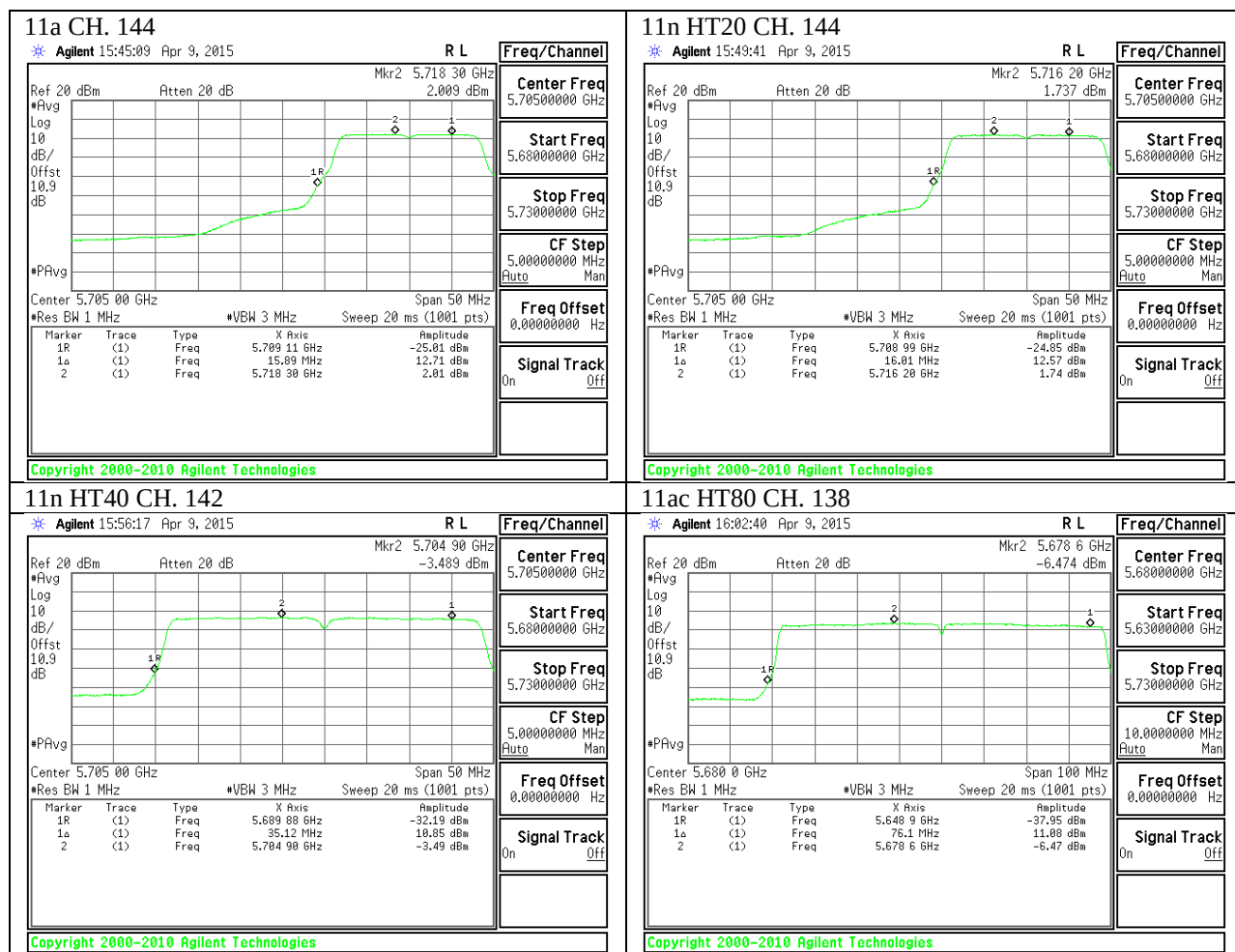


UNII 5.8 PSD

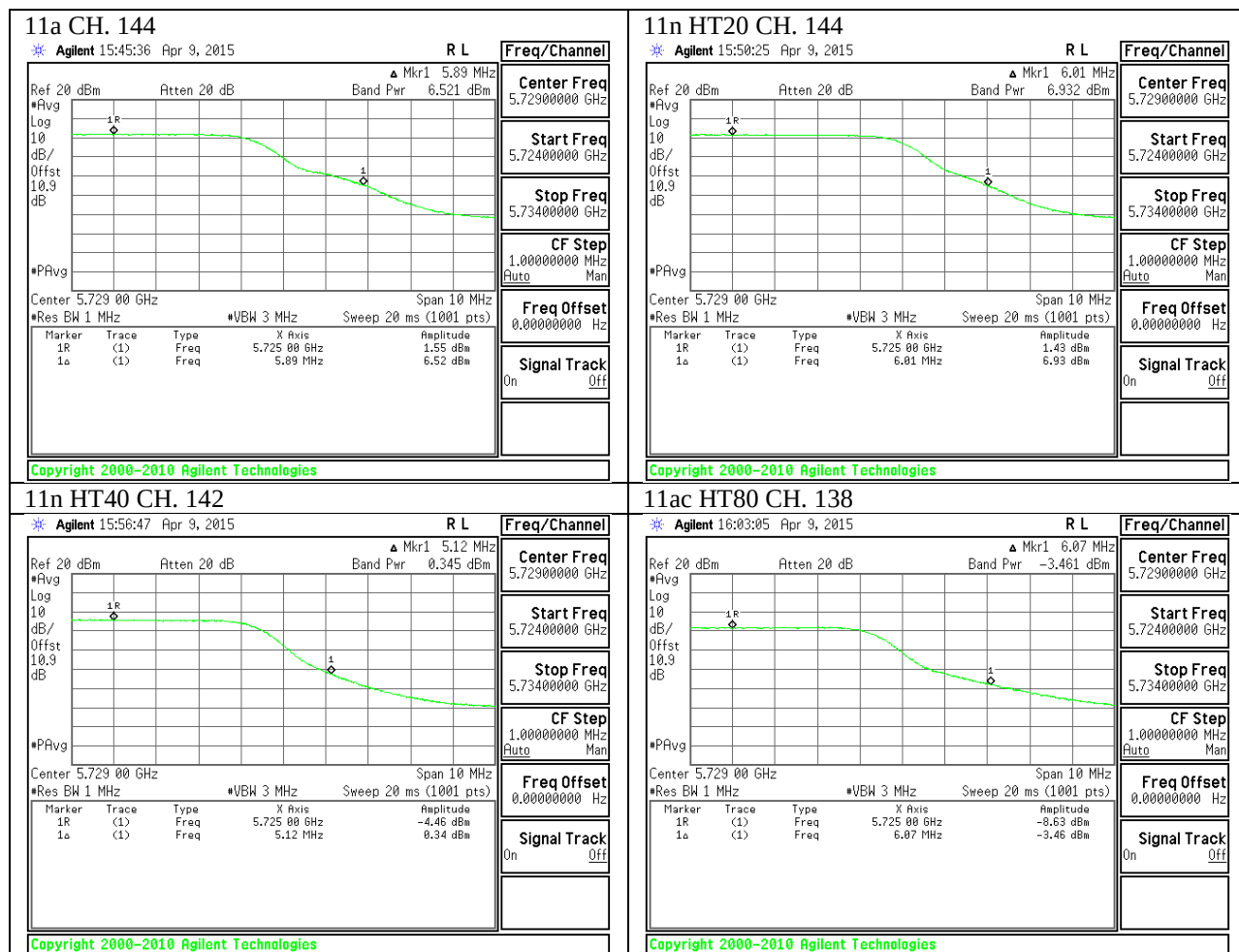


UNII Straddling Channels

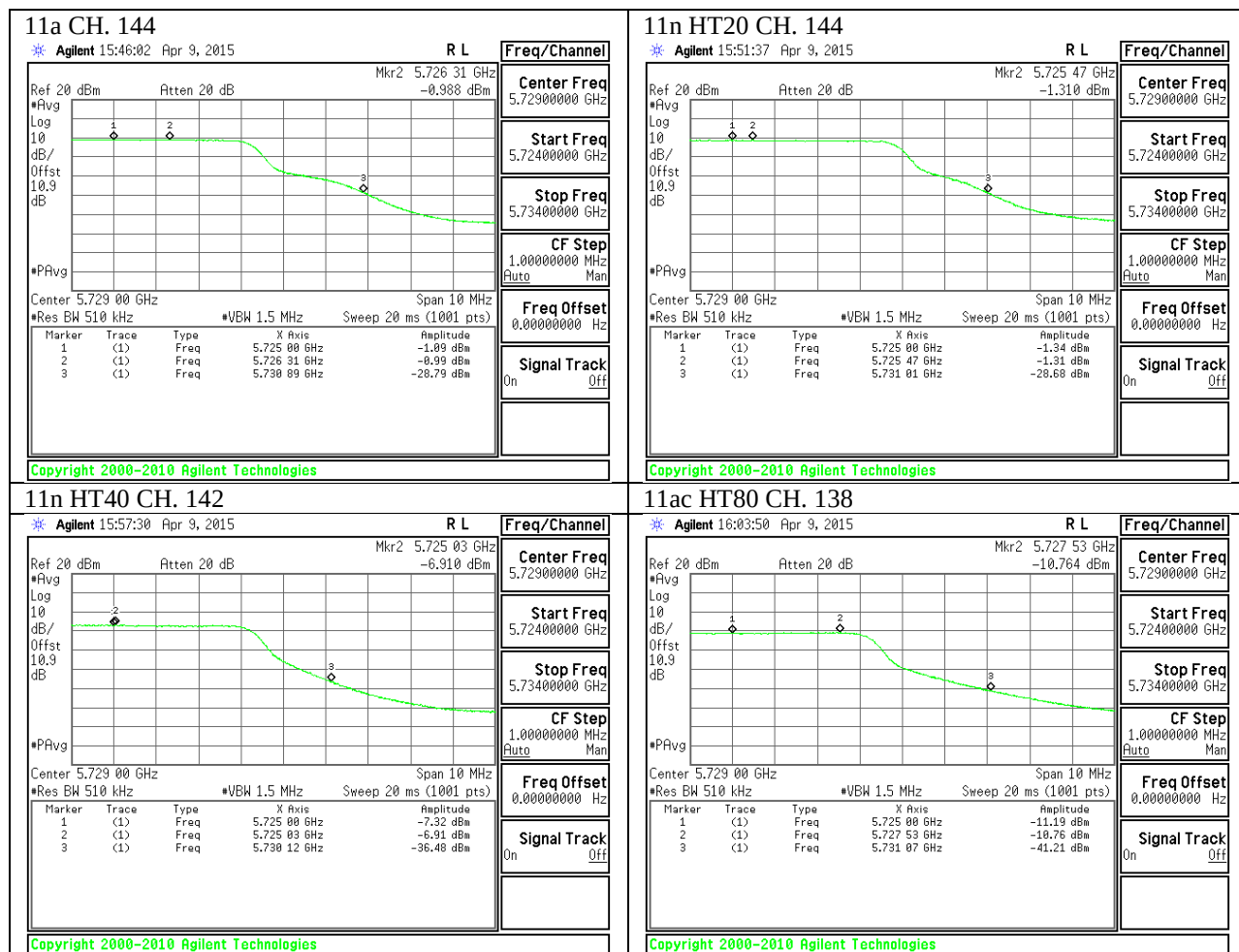
UNII-2C BAND



UNII-3 BAND



UNII-3 BAND PSD



11. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit ($\mu\text{V}/\text{m}$) at 3 m	Field Strength Limit (dB $\mu\text{V}/\text{m}$) 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.

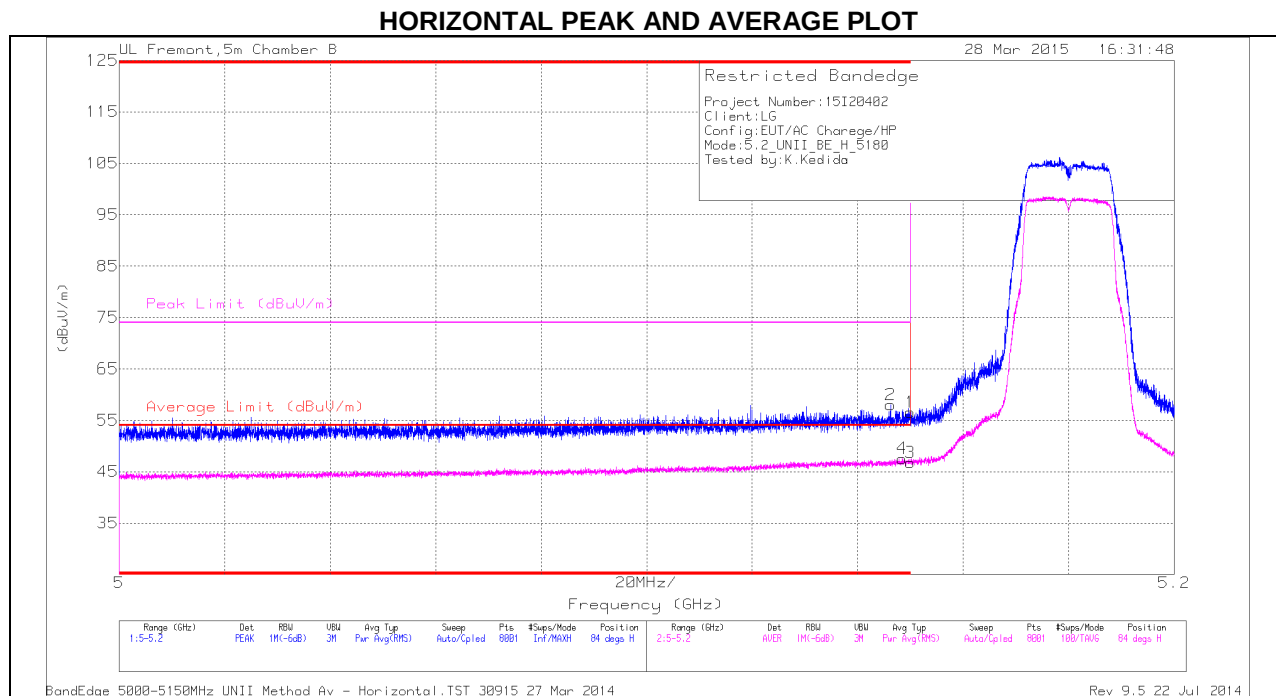
The spectrum from 1GHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

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 DATA

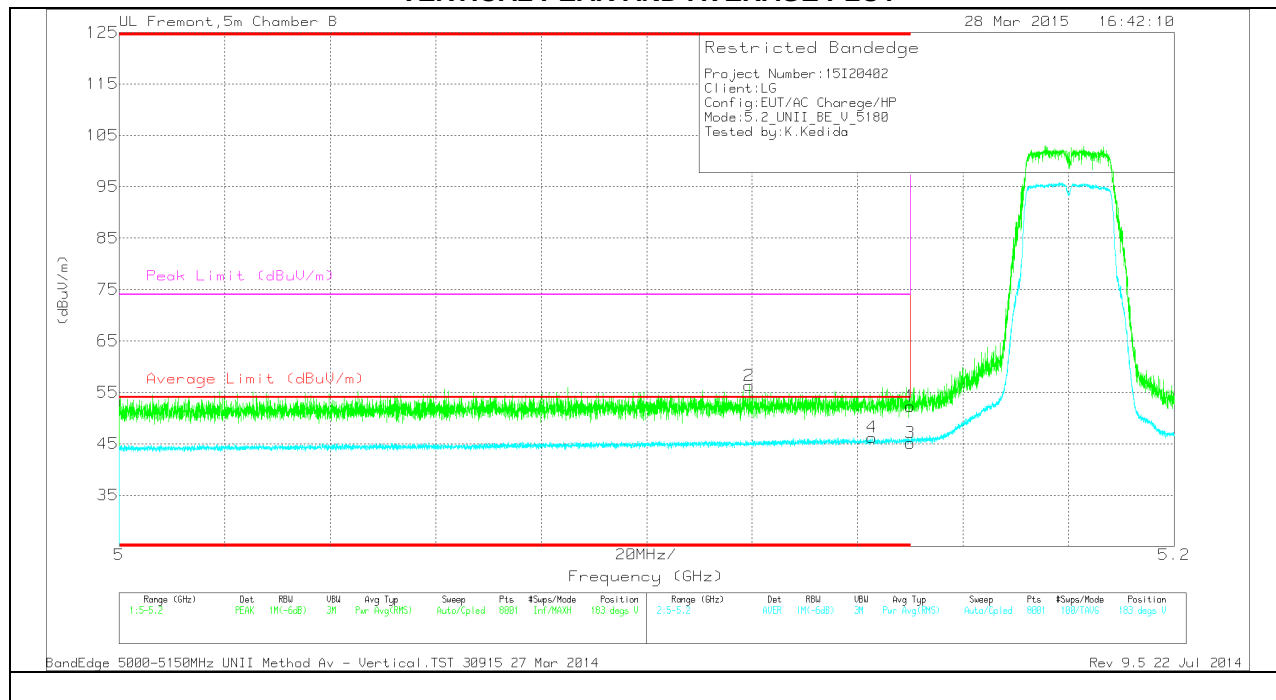
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.146	44.21	PK	34.1	-20.3	0	58.01	-	-	74	-15.99	84	235	H
4	* 5.148	33.48	RMS	34.1	-20.2	.21	47.6	54	-6.4	-	-	84	235	H
1	* 5.15	42.65	PK	34.1	-20.2	0	56.55	-	-	74	-17.45	84	235	H
3	* 5.15	32.71	RMS	34.1	-20.2	.21	46.83	54	-7.17	-	-	84	235	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 T345 (dB/m)	Amp/Cbl/Fitter/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	38.4	PK	34.1	-20.2	0	52.3	-	-	74	-21.7	183	290	V
2	* 5.119	42.51	PK	34	-20.2	0	56.31	-	-	74	-17.69	183	290	V
3	* 5.15	31.04	RMS	34.1	-20.2	.21	45.16	54	-8.84	-	-	183	290	V
4	* 5.143	32.21	RMS	34.1	-20.3	.21	46.23	54	-7.77	-	-	183	290	V

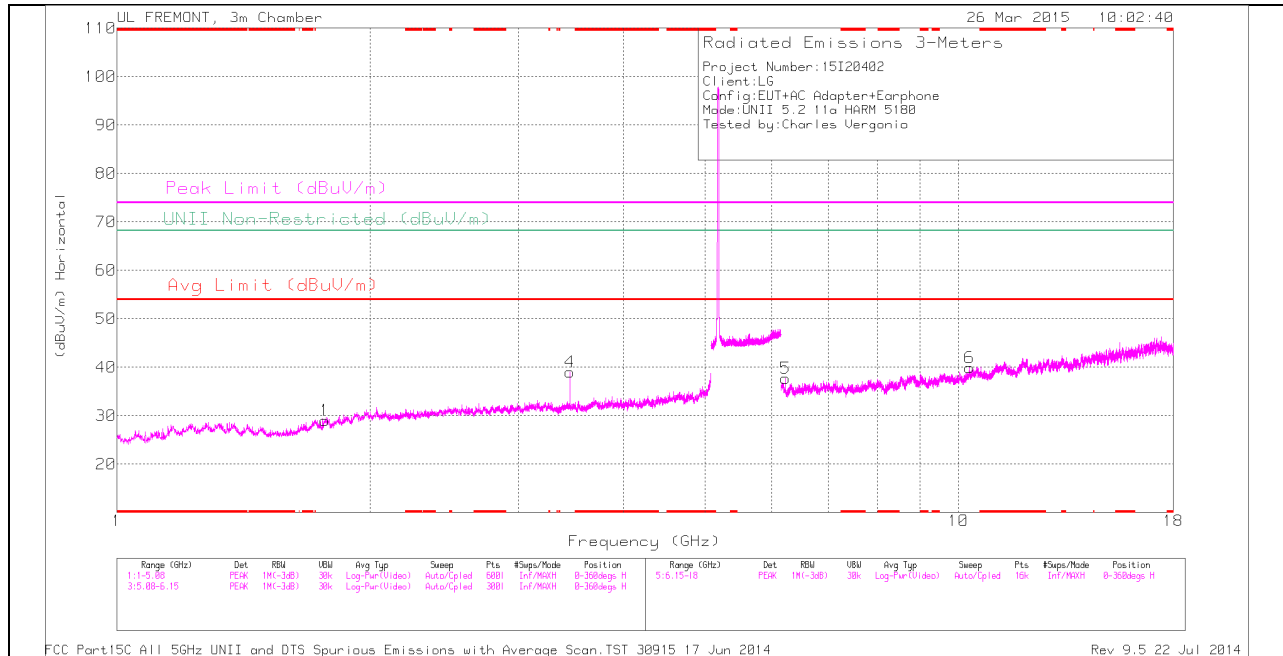
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

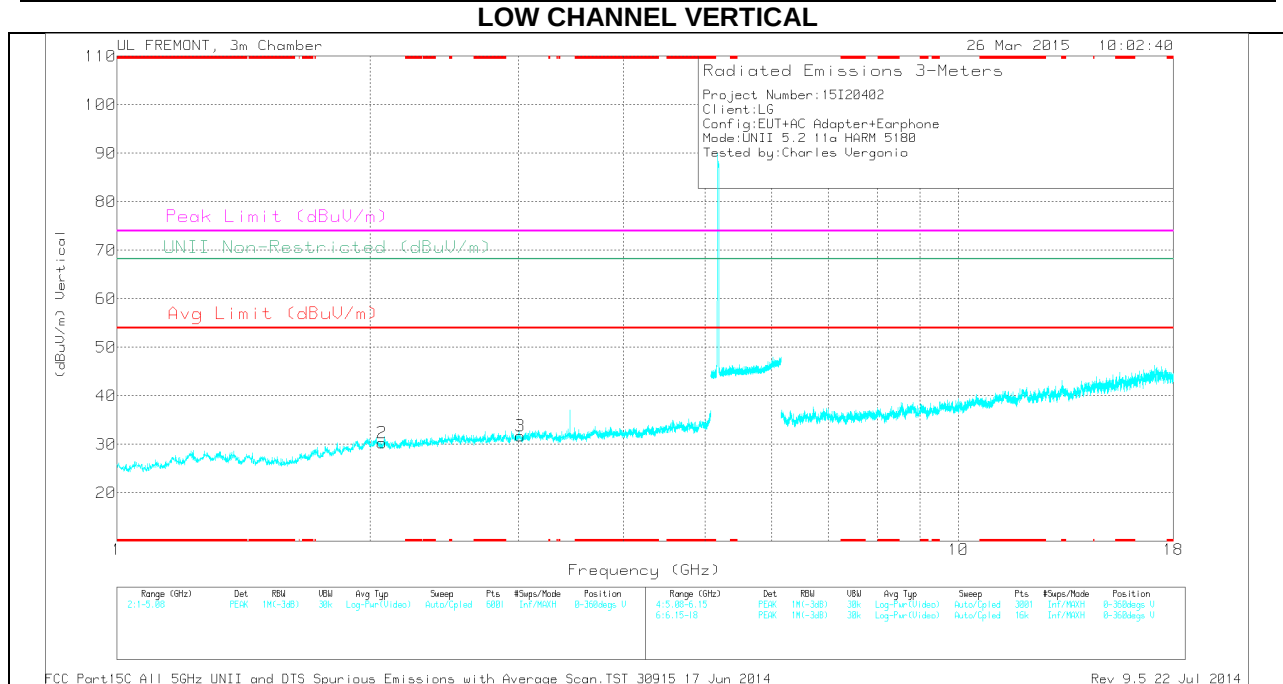
RMS - RMS detection

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.



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/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.765	31.59	PK	29.8	-32.4	0	28.99	-	-	-	-	68.2	-39.21	0-360	100	H
2	2.066	31.32	PK	31.5	-32.5	0	30.32	-	-	-	-	68.2	-37.88	0-360	100	V
3	3.016	30.95	PK	32.7	-31.9	0	31.75	-	-	-	-	68.2	-36.45	0-360	100	V
4	3.453	37.51	PK	32.8	-31.3	0	39.01	-	-	-	-	68.2	-29.19	0-360	200	H
5	6.226	31.76	PK	35.4	-29.5	0	37.66	-	-	-	-	68.2	-30.54	0-360	100	H
6	10.314	27.62	PK	37.1	-24.8	0	39.92	-	-	-	-	68.2	-28.28	0-360	100	H

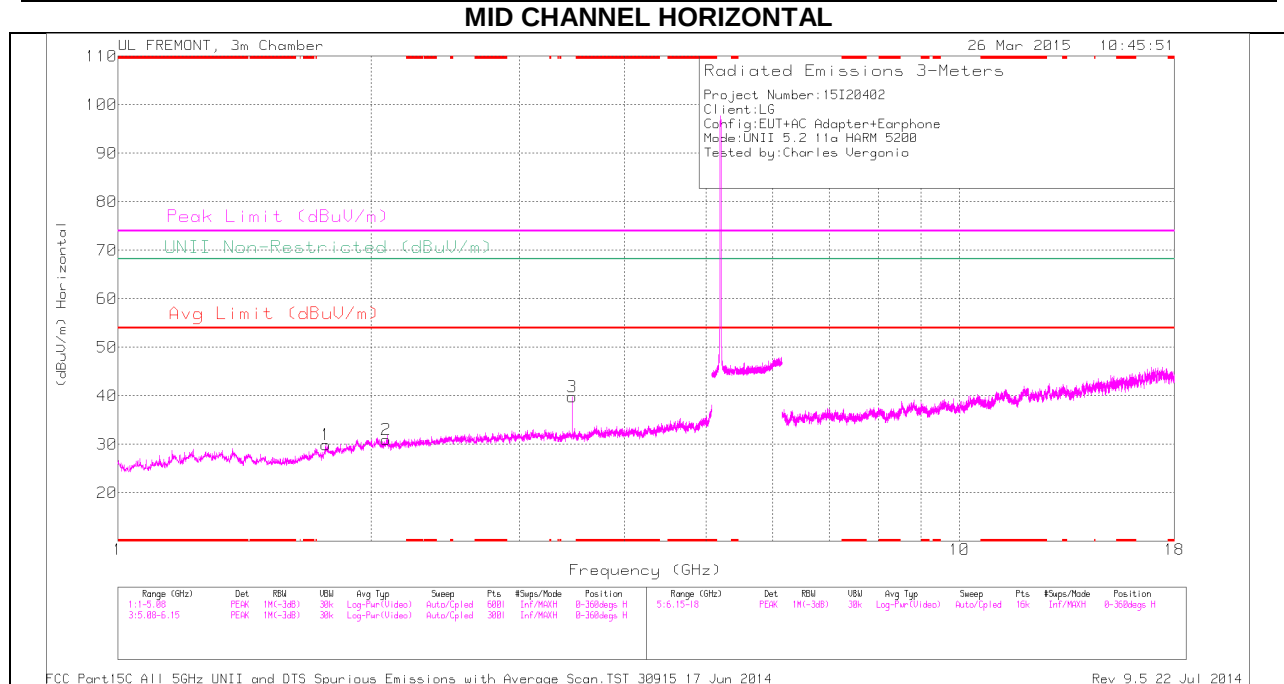
PK - Peak detector

Radiated Emissions

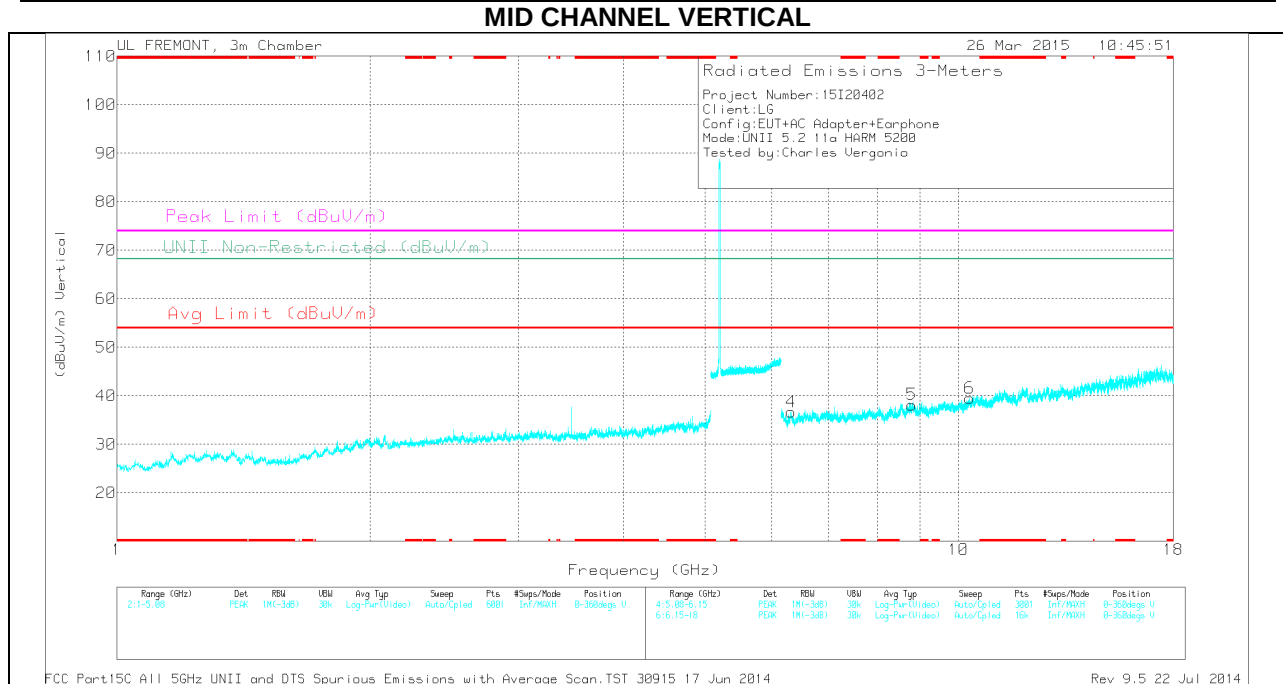
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.453	44.46	PK1	32.8	-31.3	0	45.96	-	-	-	-	68.2	-22.24	151	281	H
3.453	38.69	AD1	32.8	-31.3	.21	40.4	-	-	-	-	-	-	151	281	H

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average



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



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/ Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.765	32.57	PK	29.8	-32.4	0	29.97	-	-	-	-	68.2	-38.23	0-360	200	H
2	2.083	32.21	PK	31.5	-32.8	0	30.91	-	-	-	-	68.2	-37.29	0-360	200	H
3	3.466	38.25	PK	32.8	-31.2	0	39.85	-	-	-	-	68.2	-28.35	0-360	200	H
4	6.326	30.48	PK	35.4	-29.2	0	36.68	-	-	-	-	68.2	-31.52	0-360	100	V
5	8.795	28.17	PK	35.9	-25.9	0	38.17	-	-	-	-	68.2	-30.03	0-360	100	V
6	10.301	27.28	PK	37.1	-24.9	0	39.48	-	-	-	-	68.2	-28.72	0-360	200	V

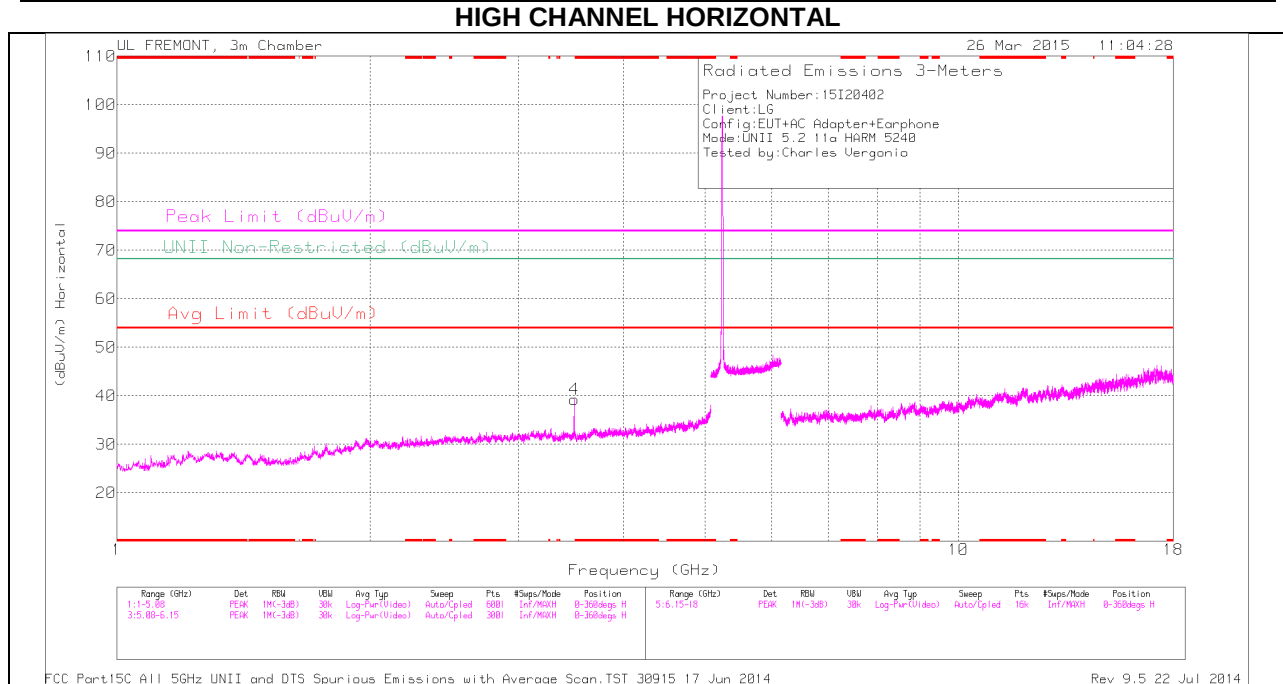
PK - Peak detector

Radiated Emissions

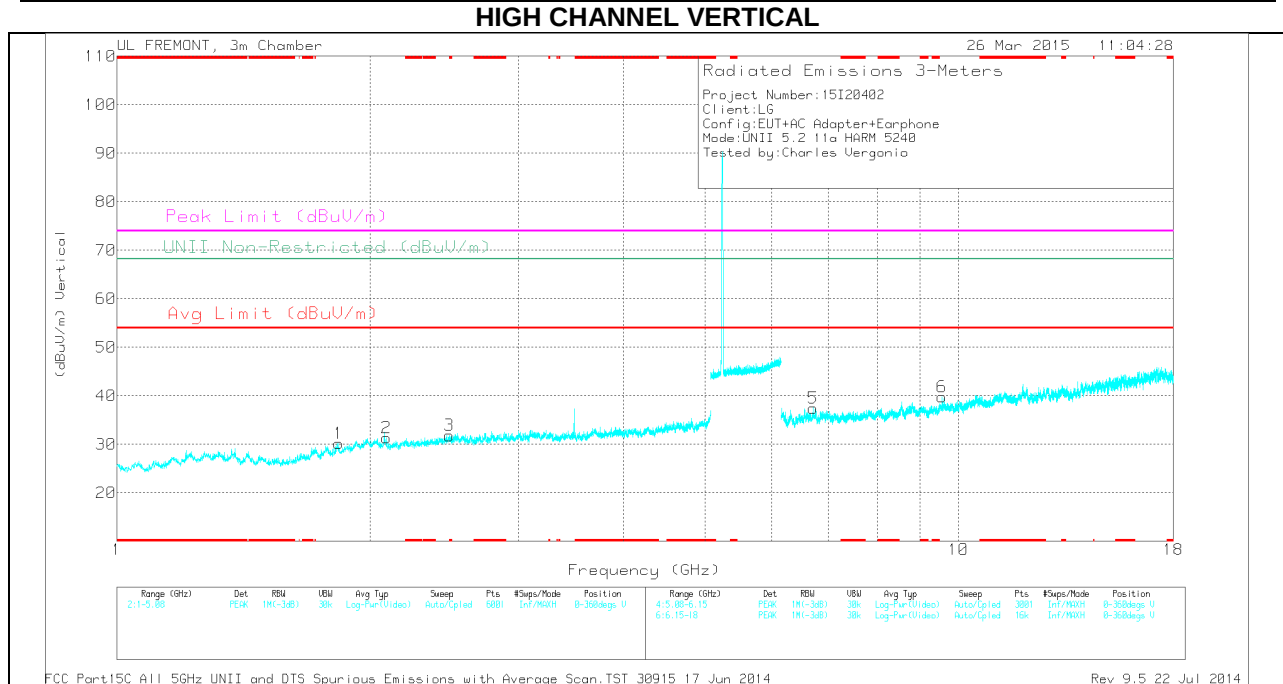
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.467	44.24	PK1	32.8	-31.3	0	45.74	-	-	-	-	68.2	-22.46	29	310	H
3.467	37.3	AD1	32.8	-31.3	.21	39.01	-	-	-	-	-	-	29	310	H

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average



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



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/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.836	32.94	PK	30.5	-33.2	0	30.24	-	-	-	-	68.2	-37.96	0-360	100	V
2	2.092	32.68	PK	31.5	-32.8	0	31.38	-	-	-	-	68.2	-36.82	0-360	200	V
3	2.483	31.71	PK	32.3	-32.2	0	31.81	-	-	-	-	68.2	-36.39	0-360	100	V
4	3.493	38.02	PK	32.8	-31.5	0	39.32	-	-	-	-	68.2	-28.88	0-360	200	H
5	6.714	31.09	PK	35.6	-29.2	0	37.49	-	-	-	-	68.2	-30.71	0-360	100	V
6	9.566	28.24	PK	36.7	-25.2	0	39.74	-	-	-	-	68.2	-28.46	0-360	200	V

PK - Peak detector

Radiated Emissions

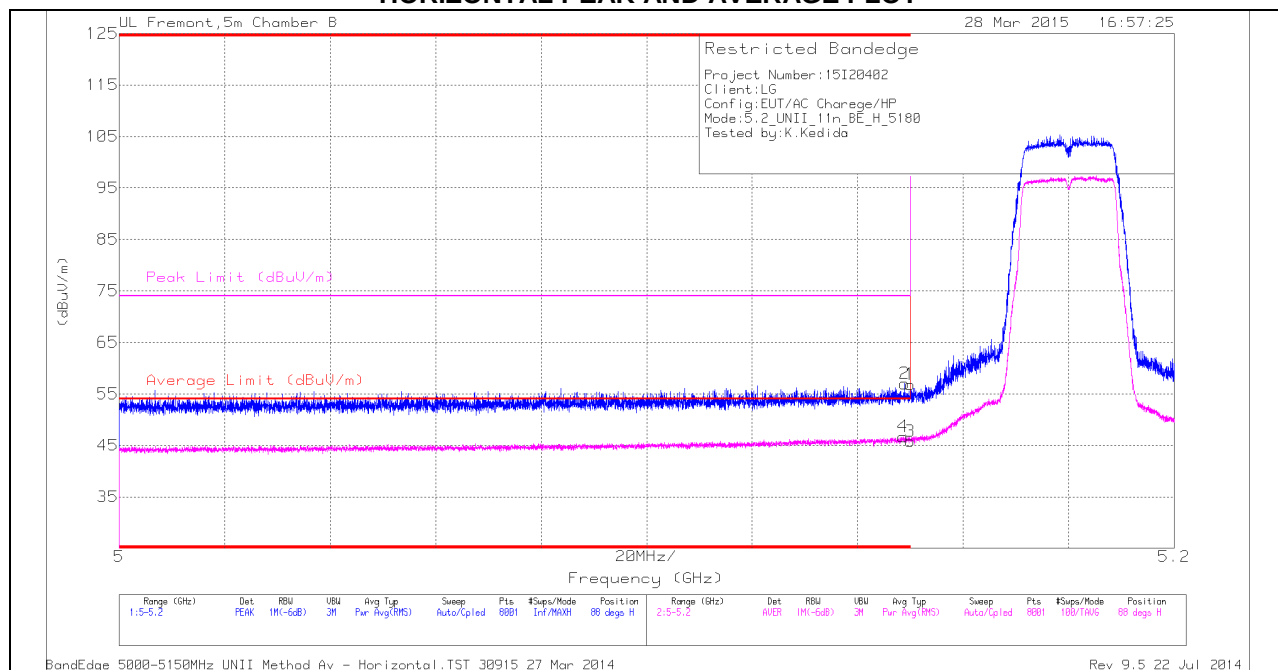
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.493	44.84	PK1	32.8	-31.5	0	46.14	-	-	-	-	68.2	-22.06	147	310	H
3.493	39.16	AD1	32.8	-31.5	.21	40.67	-	-	-	-	-	-	147	310	H

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

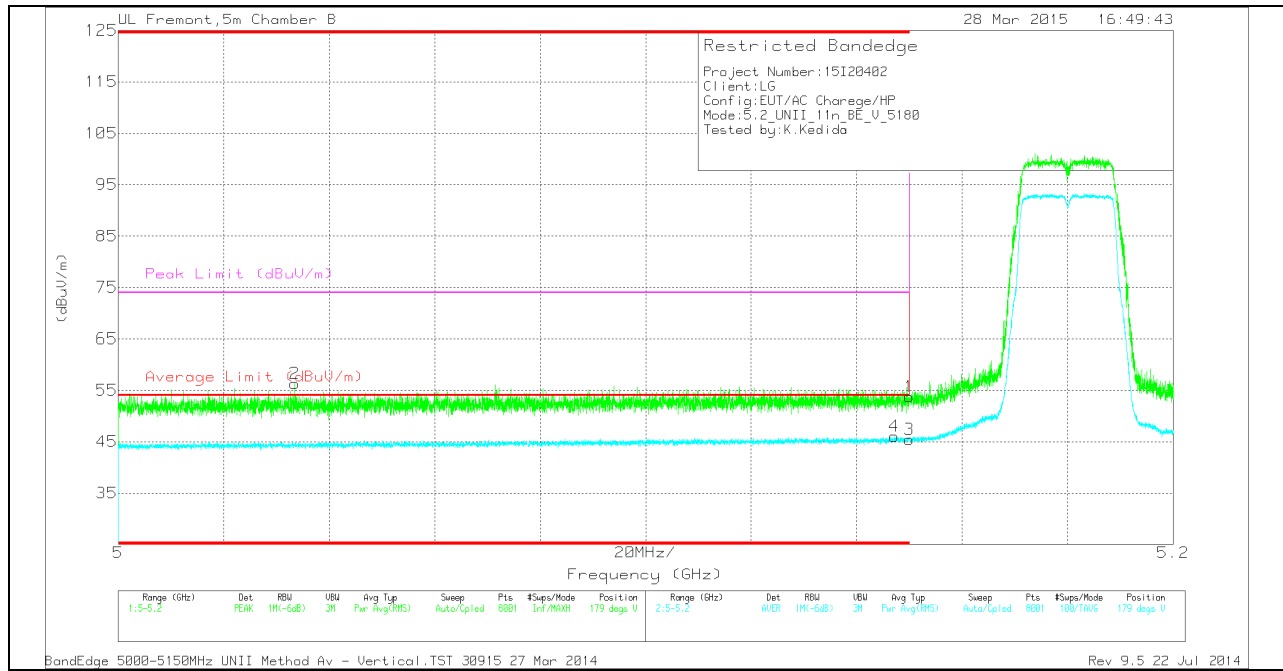
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.149	43.1	PK	34.1	-20.2	0	57	-	-	74	-17	88	230	H
4	* 5.149	32.59	RMS	34.1	-20.2	.22	46.71	54	-7.29	-	-	88	230	H
1	* 5.15	42.95	PK	34.1	-20.2	0	56.85	-	-	74	-17.15	88	230	H
3	* 5.15	31.68	RMS	34.1	-20.2	.22	45.8	54	-8.2	-	-	88	230	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 T345 (dB/m)	Amp/Cbl/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.034	42.69	PK	34	-20.4	0	56.29	-	-	74	-17.71	179	258	V
4	* 5.147	32.04	RMS	34.1	-20.3	.22	46.06	54	-7.94	-	-	179	258	V
1	* 5.15	39.84	PK	34.1	-20.2	0	53.74	-	-	74	-20.26	179	258	V
3	* 5.15	31.29	RMS	34.1	-20.2	.22	45.41	54	-8.59	-	-	179	258	V

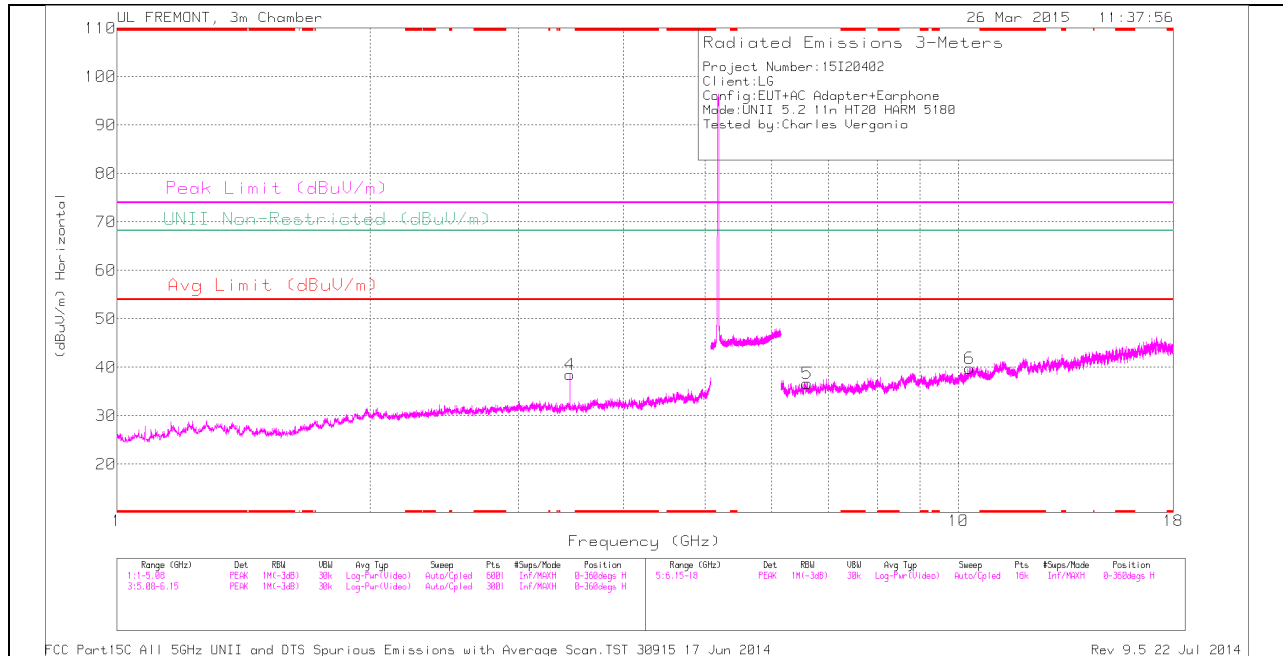
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

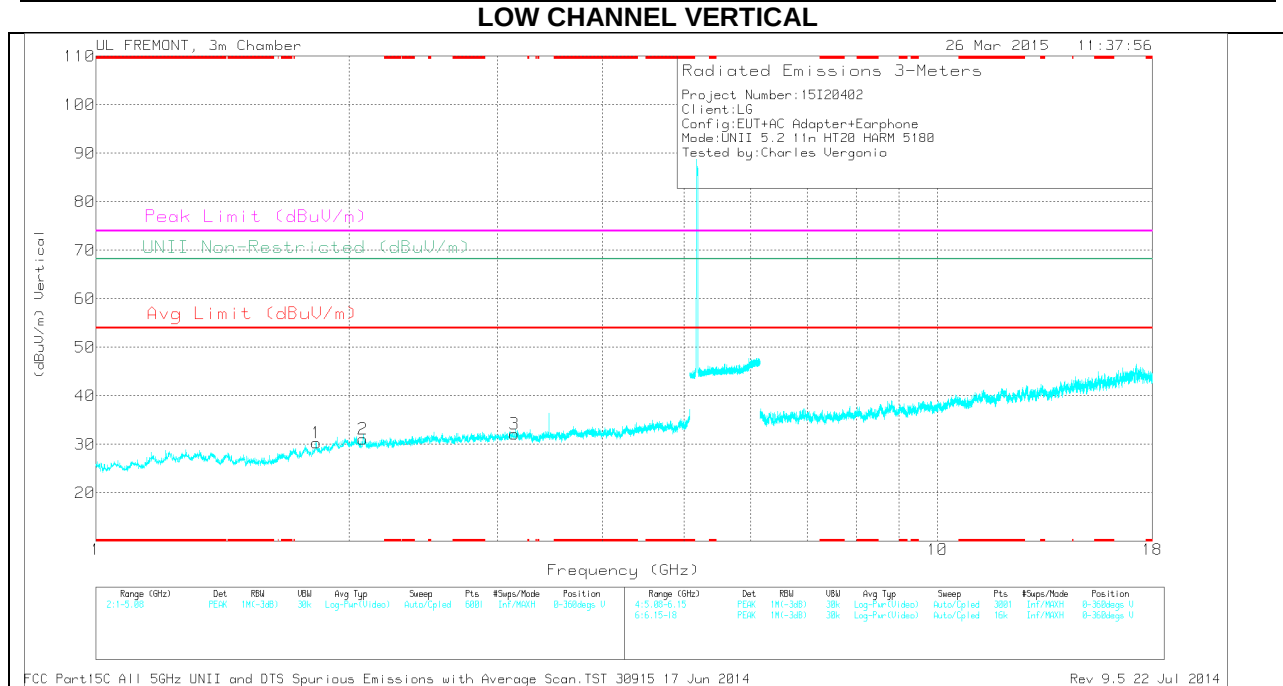
RMS - RMS detection

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.



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/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.827	32.98	PK	30.5	-33.2	0	30.28	-	-	-	-	68.2	-37.92	0-360	200	V
2	2.078	32.45	PK	31.5	-32.8	0	31.15	-	-	-	-	68.2	-37.05	0-360	200	V
3	3.143	31.19	PK	32.7	-31.7	0	32.19	-	-	-	-	68.2	-36.01	0-360	200	V
4	3.453	36.98	PK	32.8	-31.3	0	38.48	-	-	-	-	68.2	-29.72	0-360	200	H
5	6.61	30.67	PK	35.6	-29.6	0	36.67	-	-	-	-	68.2	-31.53	0-360	100	H
6	10.31	27.38	PK	37.1	-24.7	0	39.78	-	-	-	-	68.2	-28.42	0-360	200	H

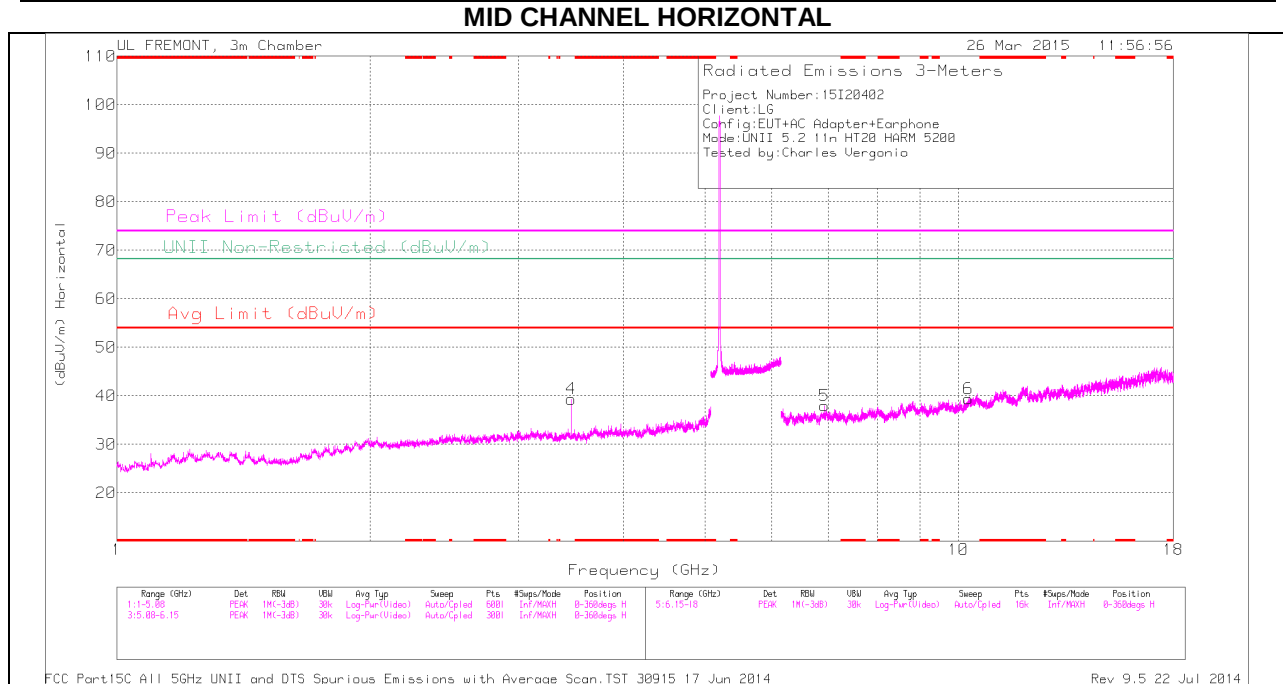
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/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
3.453	44.33	PK1	32.8	-31.3	0	45.83	-	-	-	-	68.2	-22.37	161	322	H
3.453	37.85	AD1	32.8	-31.3	.22	39.58	-	-	-	-	-	-	161	322	H

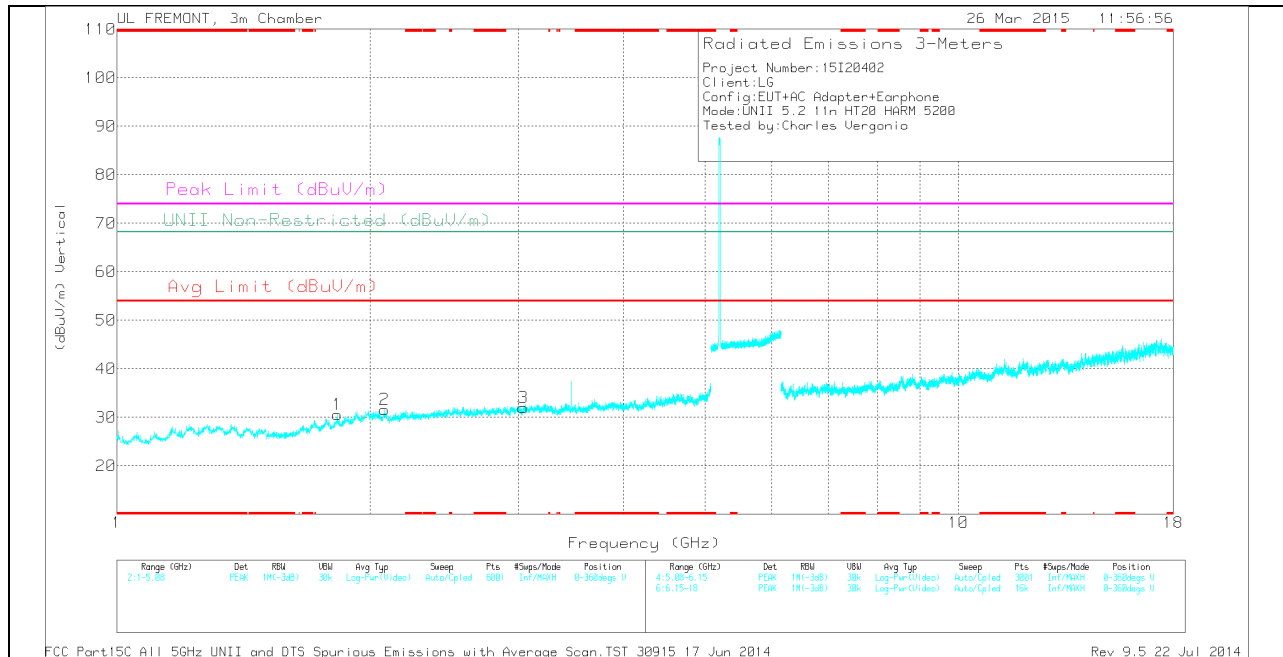
PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average



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/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.828	33.13	PK	30.5	-33.1	0	30.53	-	-	-	-	68.2	-37.67	0-360	200	V
2	2.081	32.92	PK	31.5	-32.8	0	31.62	-	-	-	-	68.2	-36.58	0-360	100	V
3	3.039	31.26	PK	32.7	-32	0	31.96	-	-	-	-	68.2	-36.24	0-360	200	V
4	3.466	37.74	PK	32.8	-31.2	0	39.34	-	-	-	-	68.2	-28.86	0-360	200	H
5	6.934	31.03	PK	35.6	-28.7	0	37.93	-	-	-	-	68.2	-30.27	0-360	100	H
6	10.266	27.84	PK	37.1	-25.5	0	39.44	-	-	-	-	68.2	-28.76	0-360	200	H

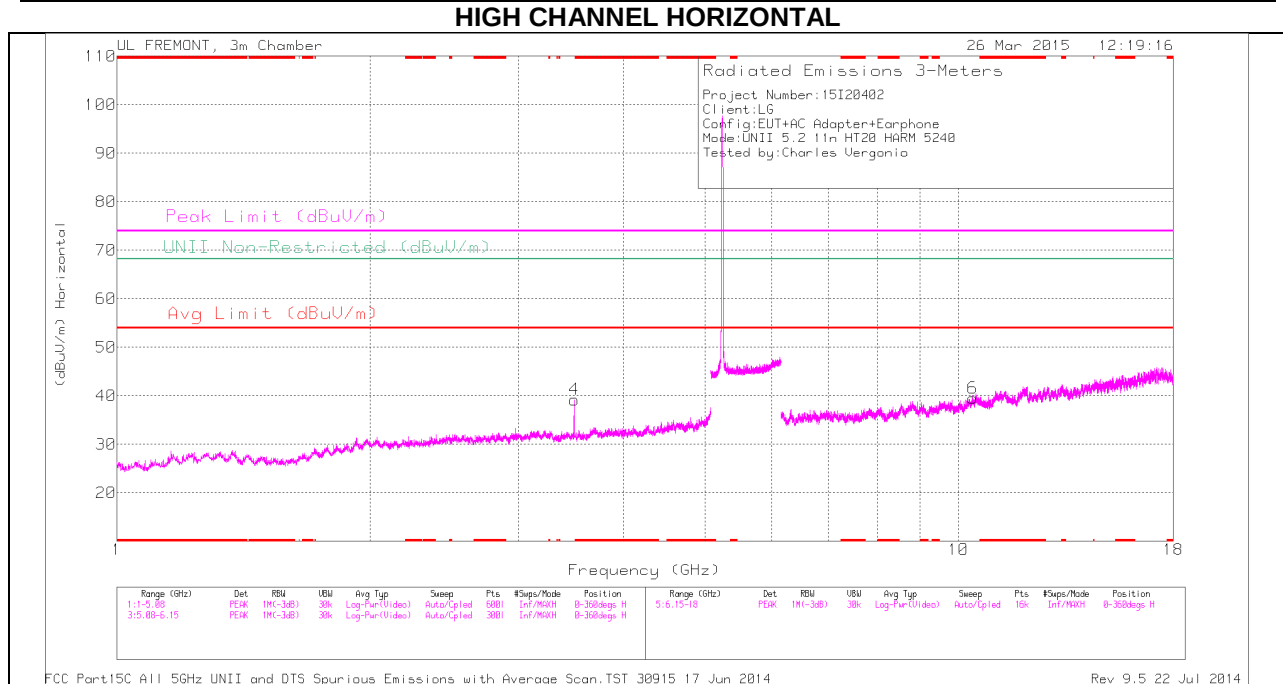
PK - Peak detector

Radiated Emissions

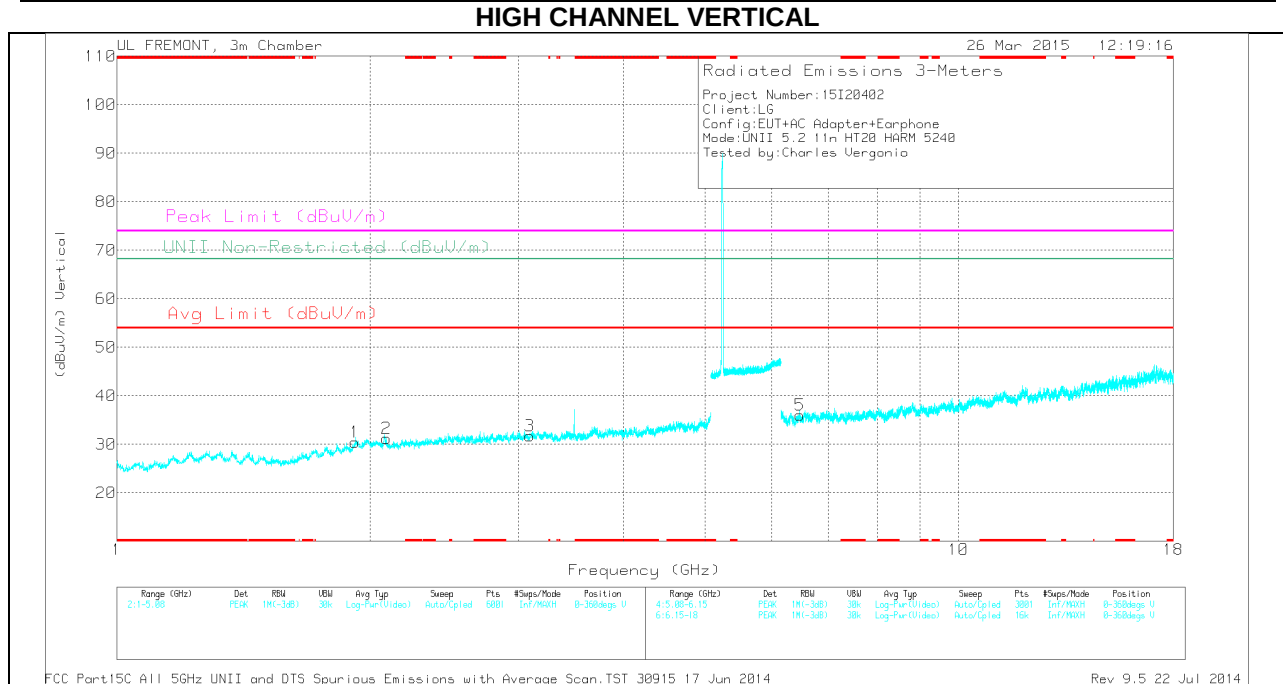
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.467	44.58	PK1	32.8	-31.3	0	46.08	-	-	-	-	68.2	-22.12	153	208	H
3.467	38.35	AD1	32.8	-31.3	.22	40.07	-	-	-	-	-	-	153	208	H

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average



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



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/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.917	31.89	PK	31.2	-32.7	0	30.39	-	-	-	-	68.2	-37.81	0-360	100	V
2	2.091	32.66	PK	31.5	-32.9	0	31.26	-	-	-	-	68.2	-36.94	0-360	200	V
3	3.094	31.1	PK	32.8	-32.1	0	31.8	-	-	-	-	68.2	-36.4	0-360	100	V
4	3.494	37.91	PK	32.8	-31.5	0	39.21	-	-	-	-	68.2	-28.99	0-360	200	H
5	6.48	29.91	PK	35.6	-29.5	0	36.01	-	-	-	-	68.2	-32.19	0-360	100	V
6	10.398	28	PK	37.3	-25.8	0	39.5	-	-	-	-	68.2	-28.7	0-360	100	H

PK - Peak detector

Radiated Emissions

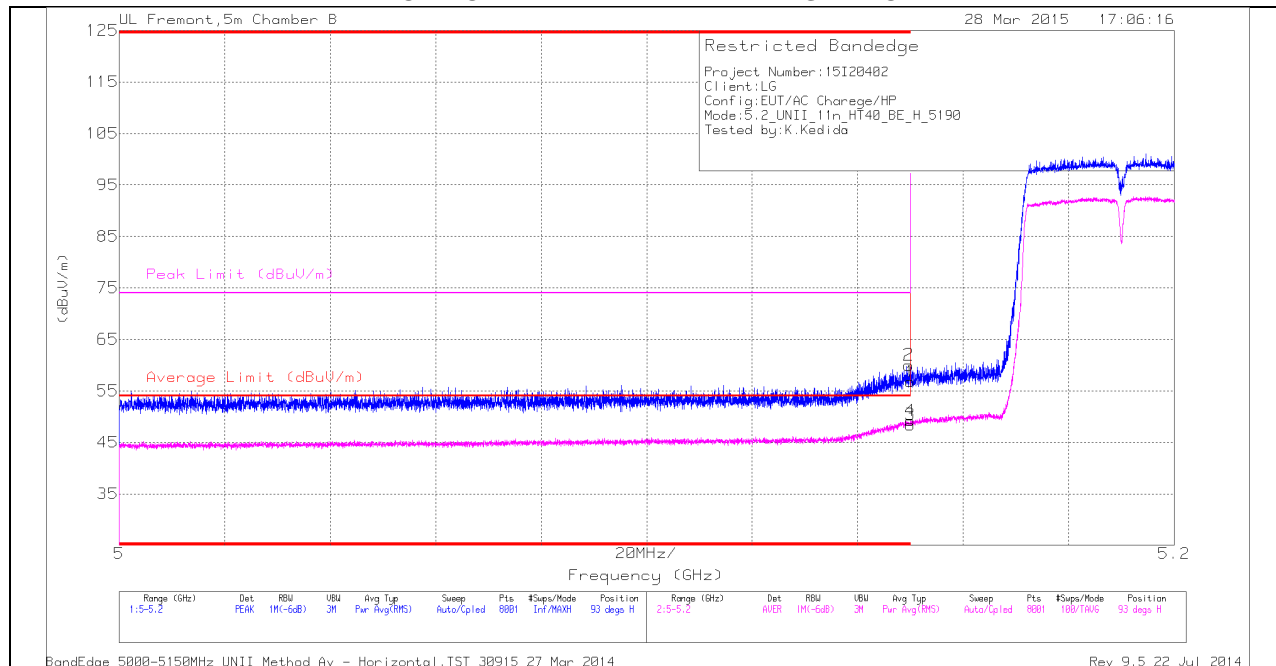
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.493	44.2	PK1	32.8	-31.5	0	45.5	-	-	-	-	68.2	-22.7	141	311	H
3.493	38.26	AD1	32.8	-31.5	.22	39.78	-	-	-	-	-	-	141	311	H

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

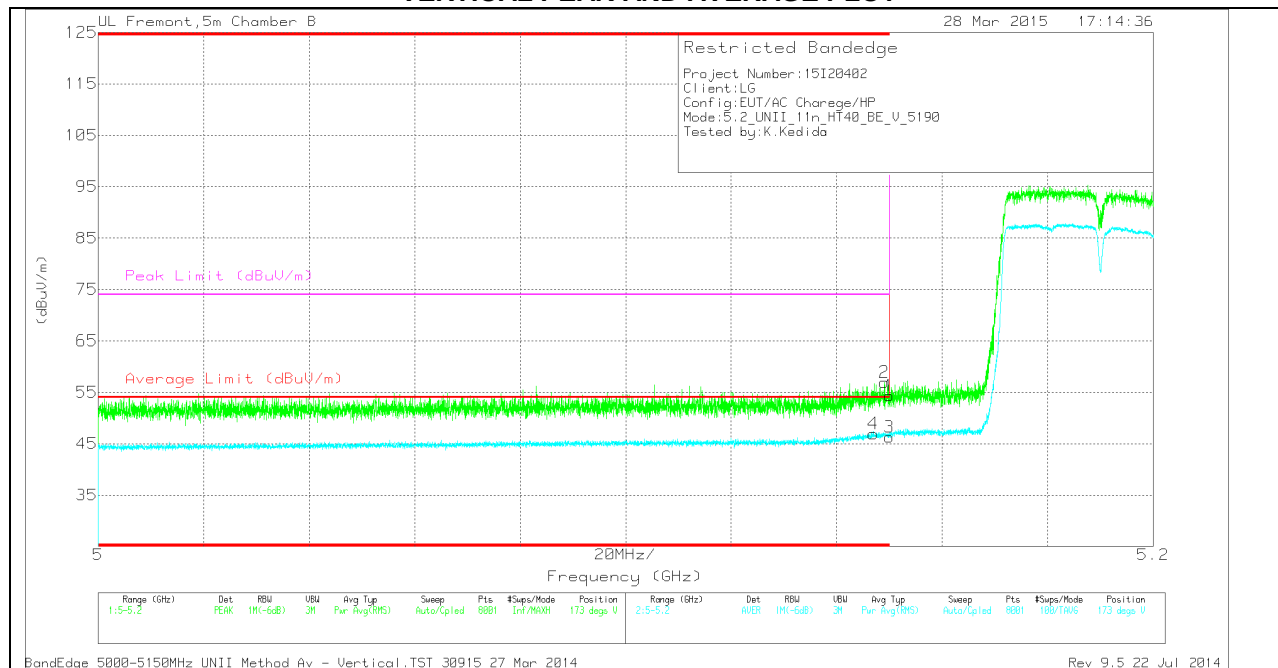
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	42.88	PK	34.1	-20.2	0	56.78	-	-	74	-17.22	93	230	H
2	* 5.15	46.13	PK	34.1	-20.2	0	60.03	-	-	74	-13.97	93	230	H
3	* 5.15	34.06	RMS	34.1	-20.2	.45	48.41	54	-5.59	-	-	93	230	H
4	* 5.15	34.85	RMS	34.1	-20.2	.45	49.20	54	-4.80	-	-	93	230	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 T345 (dB/m)	Amp/Cbl/Fitter/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	40.45	PK	34.1	-20.2	0	54.35	-	-	74	-19.65	173	262	V
2	* 5.149	43.04	PK	34.1	-20.2	0	56.94	-	-	74	-17.06	173	262	V
3	* 5.15	32.38	RMS	34.1	-20.2	.45	46.73	54	-7.27	-	-	173	262	V
4	* 5.147	33.14	RMS	34.1	-20.3	.45	47.39	54	-6.61	-	-	173	262	V

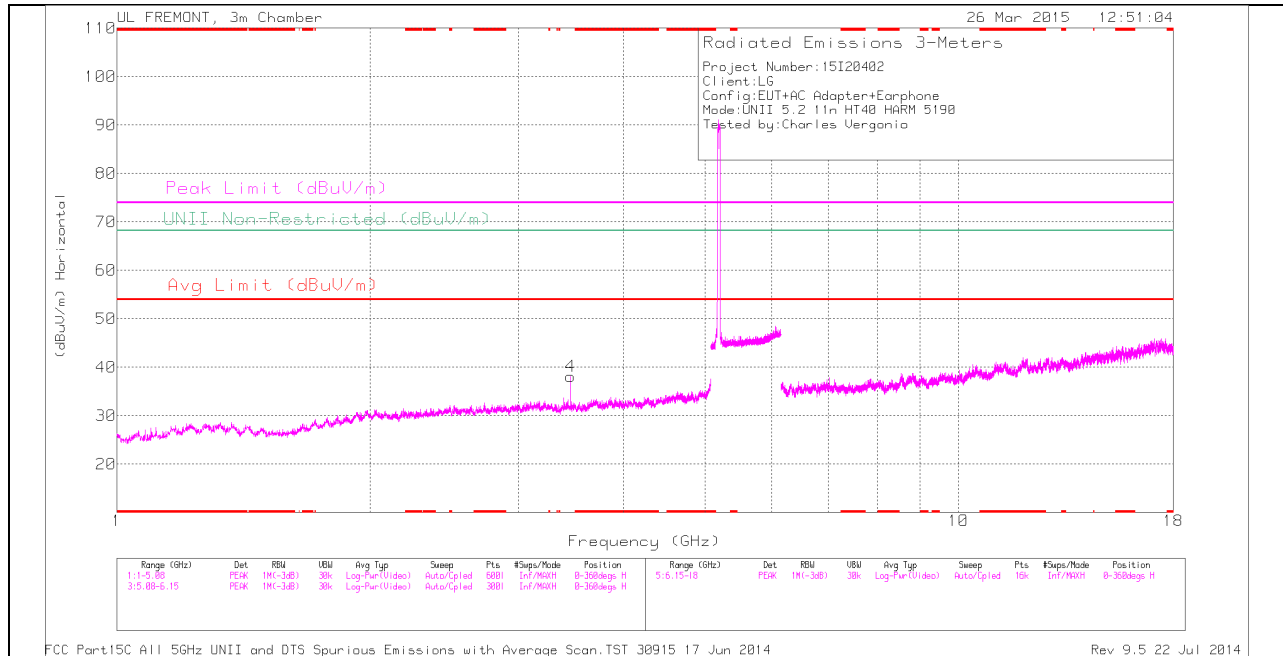
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

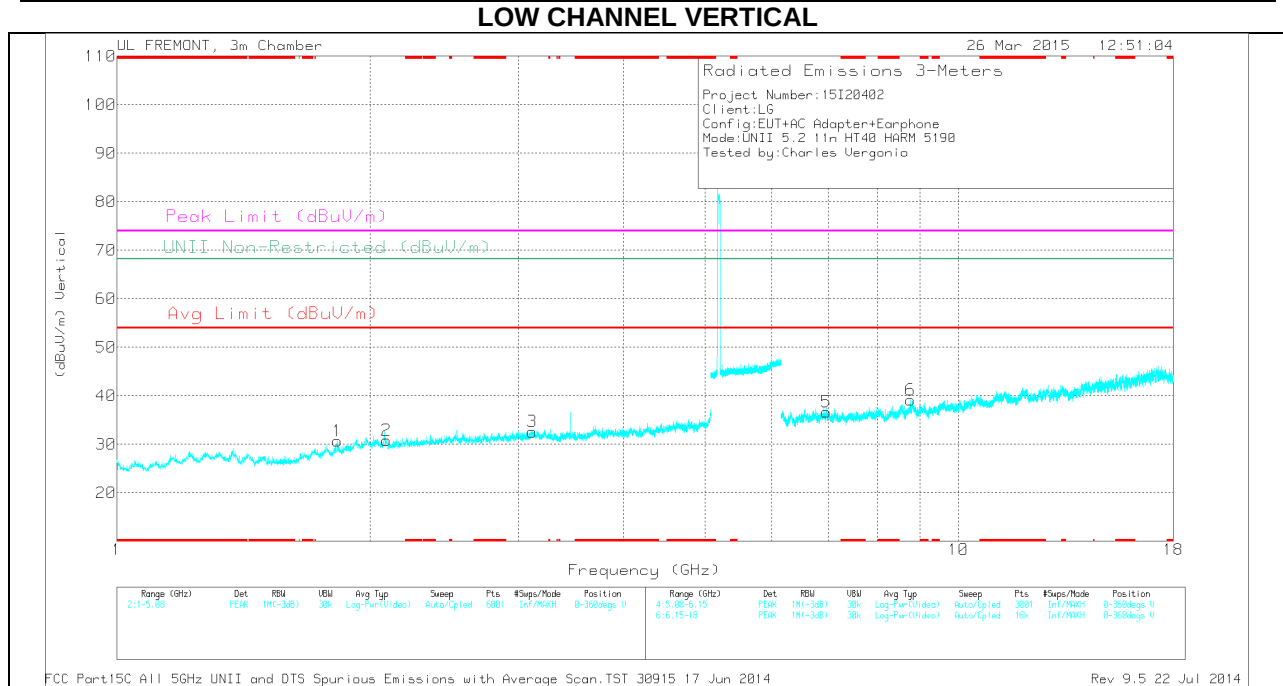
RMS - RMS detection

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.



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/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.828	33.3	PK	30.5	-33.1	0	30.7	-	-	-	-	68.2	-37.5	0-360	200	V
2	2.091	32.24	PK	31.5	-32.9	0	30.84	-	-	-	-	68.2	-37.36	0-360	100	V
3	3.113	31.99	PK	32.7	-32.1	0	32.59	-	-	-	-	68.2	-35.61	0-360	100	V
4	3.46	36.61	PK	32.8	-31.3	0	38.11	-	-	-	-	68.2	-30.09	0-360	200	H
5	6.962	29.62	PK	35.6	-28.5	0	36.72	-	-	-	-	68.2	-31.48	0-360	100	V
6	8.767	29.17	PK	35.9	-25.9	0	39.17	-	-	-	-	68.2	-29.03	0-360	100	V

PK - Peak detector

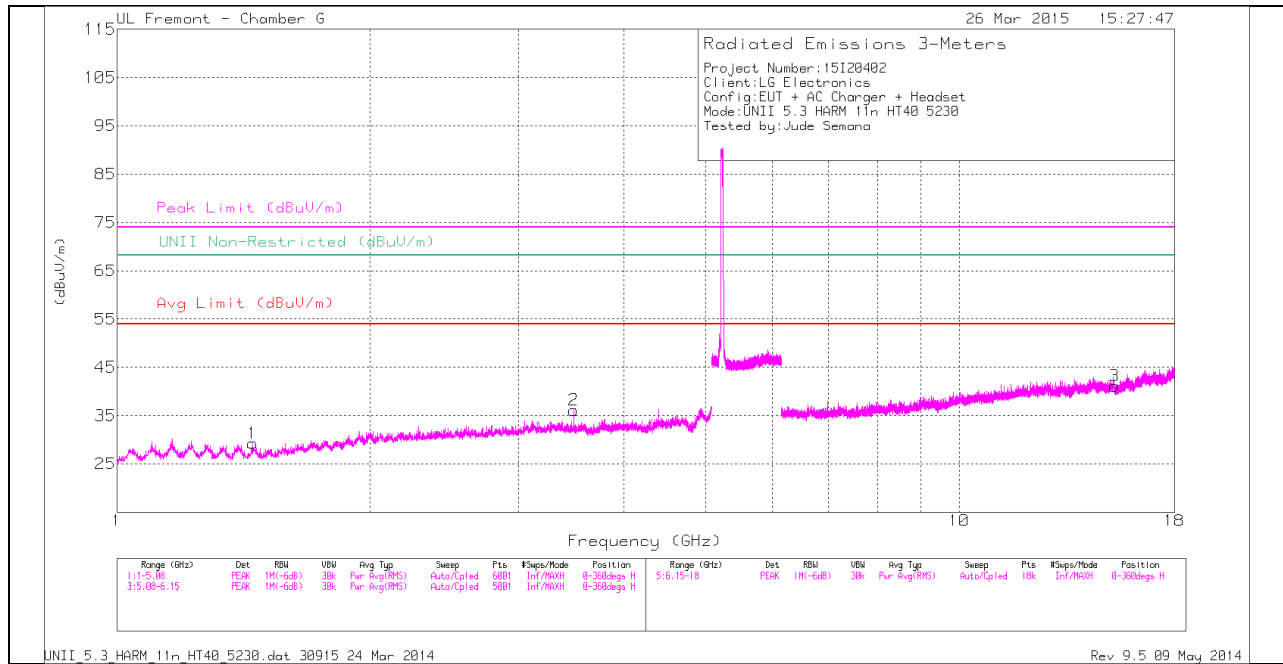
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/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
3.46	43.11	PK1	32.8	-31.3	0	44.61	-	-	-	-	68.2	-23.59	29	232	H
3.46	36.23	AD1	32.8	-31.3	.45	38.18	-	-	-	-	-	-	29	232	H

PK1 - KDB789033 Method: Peak

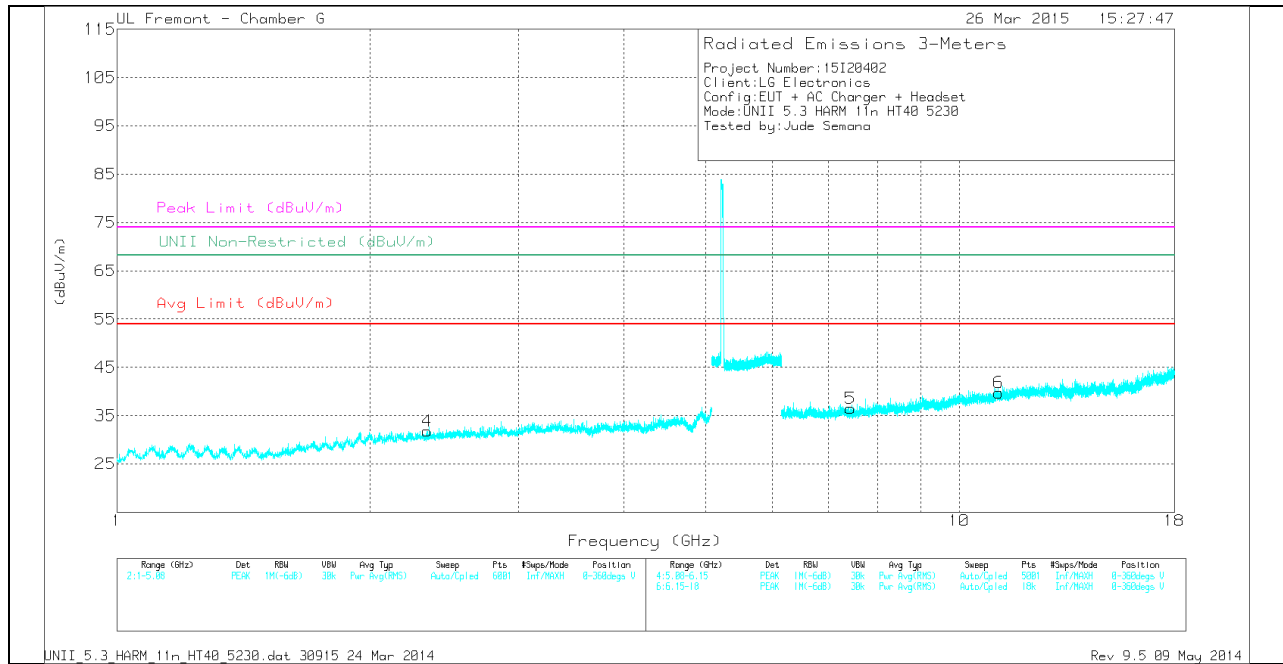
AD1 - KDB789033 Method: AD Primary Power Average

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

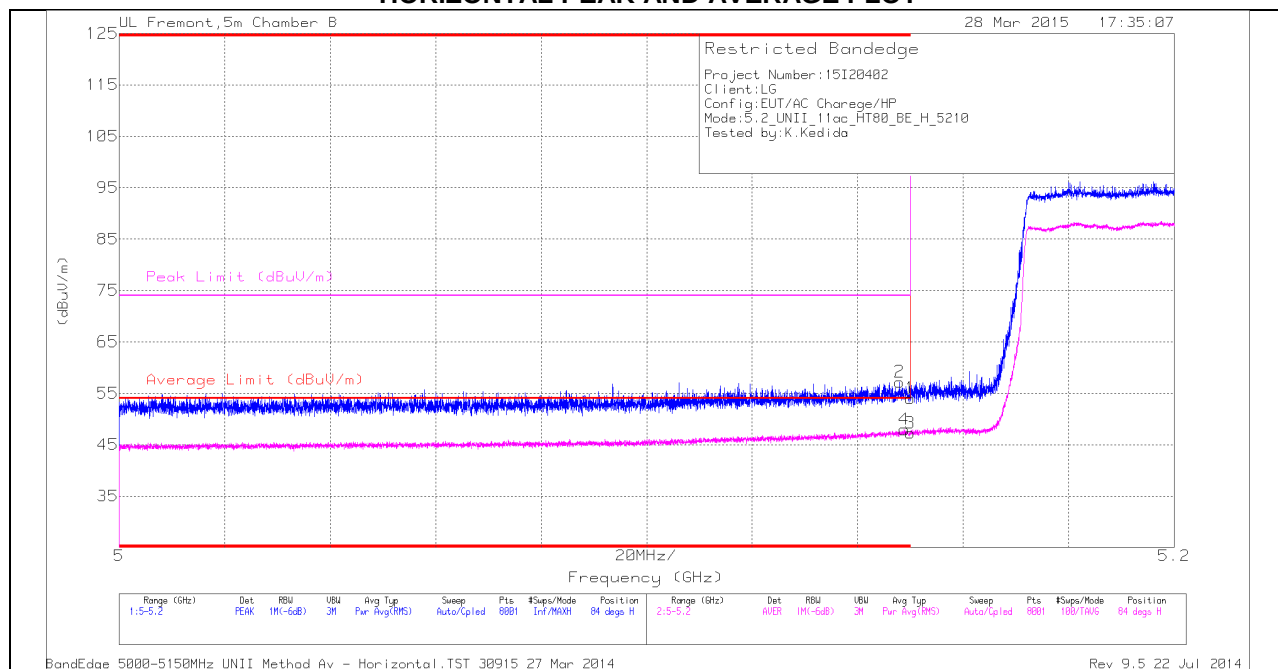
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non- Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.45	35.97	PK	28.2	-34.9	0	29.27	-	-	74	-44.73	-	-	0-360	201	H
4	* 2.337	34.61	PK	31.7	-34.5	0	31.81	-	-	74	-42.19	-	-	0-360	201	V
5	* 7.429	31.98	PK	35.6	-31.1	0	36.48	-	-	74	-37.52	-	-	0-360	101	V
6	* 11.146	28.95	PK	37.9	-27.1	0	39.75	-	-	74	-34.25	-	-	0-360	101	V
2	3.487	37.4	PK	32.8	-34.1	0	36.1	-	-	-	-	68.2	-32.1	0-360	101	H
3	15.291	28.55	PK	39.8	-27.2	0	41.15	-	-	-	-	68.2	-27.05	0-360	101	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

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

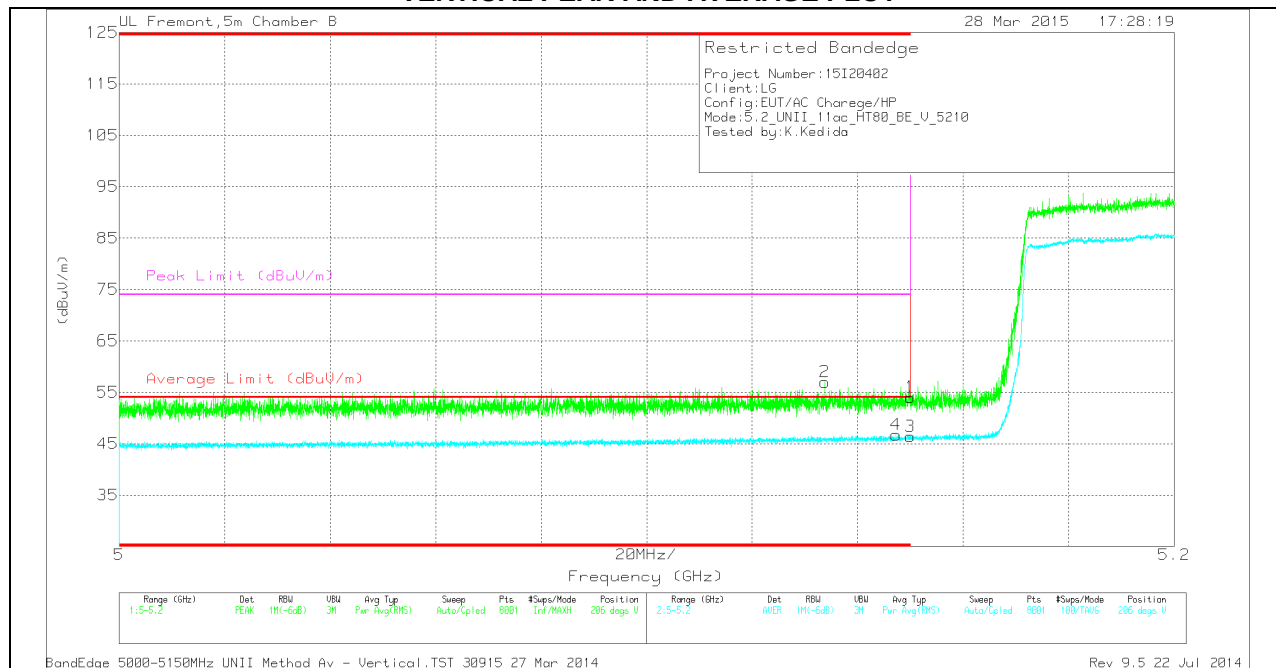
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.148	43.32	PK	34.1	-20.2	0	57.22	-	-	74	-16.78	84	253	H
4	* 5.149	33.35	RMS	34.1	-20.2	.37	47.62	54	-6.38	-	-	84	253	H
1	* 5.15	40.15	PK	34.1	-20.2	0	54.05	-	-	74	-19.95	84	253	H
3	* 5.15	32.65	RMS	34.1	-20.2	.37	46.92	54	-7.08	-	-	84	253	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 T345 (dB/m)	Amp/Cbl/Fitter/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	40.12	PK	34.1	-20.2	0	54.02	-	-	74	-19.98	206	260	V
2	* 5.134	43.1	PK	34.1	-20.2	0	57	-	-	74	-17	206	260	V
3	* 5.15	31.78	RMS	34.1	-20.2	.37	46.05	54	-7.95	-	-	206	260	V
4	* 5.147	32.23	RMS	34.1	-20.3	.37	46.4	54	-7.60	-	-	206	260	V

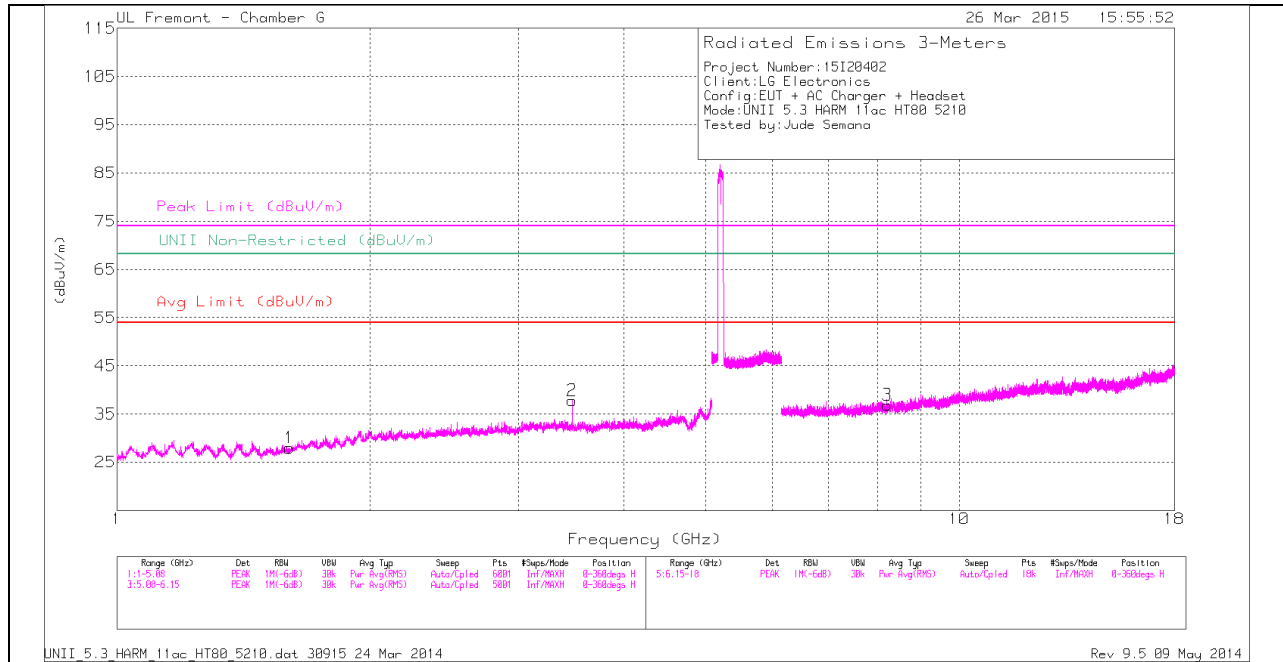
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

RMS - RMS detection

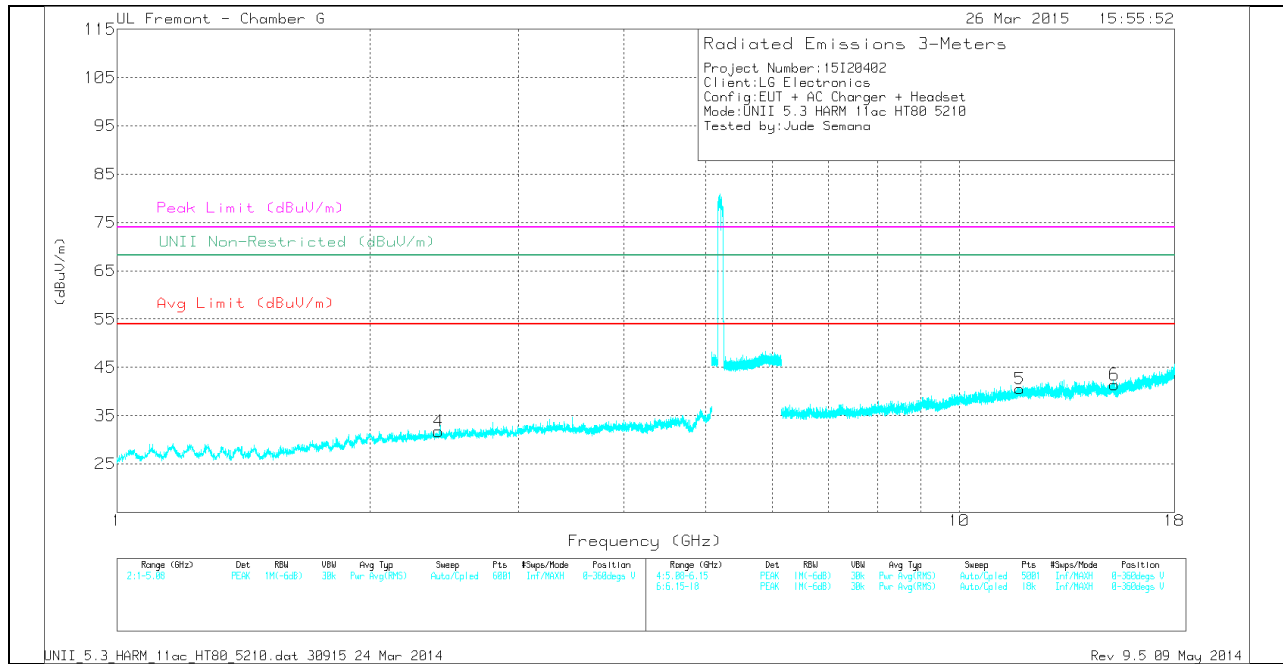
HARMONICS AND SPURIOUS EMISSIONS

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 T862 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.602	34.58	PK	28.6	-35.2	0	27.98	-	-	74	-46.02	-	-	0-360	201	H
3	* 8.218	31.47	PK	35.8	-30.4	0	36.87	-	-	74	-37.13	-	-	0-360	100	H
5	* 11.801	28.88	PK	38.7	-27	0	40.58	-	-	74	-33.42	-	-	0-360	101	V
4	2.41	34.45	PK	31.8	-34.5	0	31.75	-	-	-	-	68.2	-36.45	0-360	101	V
2	3.473	39.11	PK	32.8	-34.1	0	37.81	-	-	-	-	68.2	-30.39	0-360	101	H
6	15.29	28.81	PK	39.8	-27.2	0	41.41	-	-	-	-	68.2	-26.79	0-360	201	V

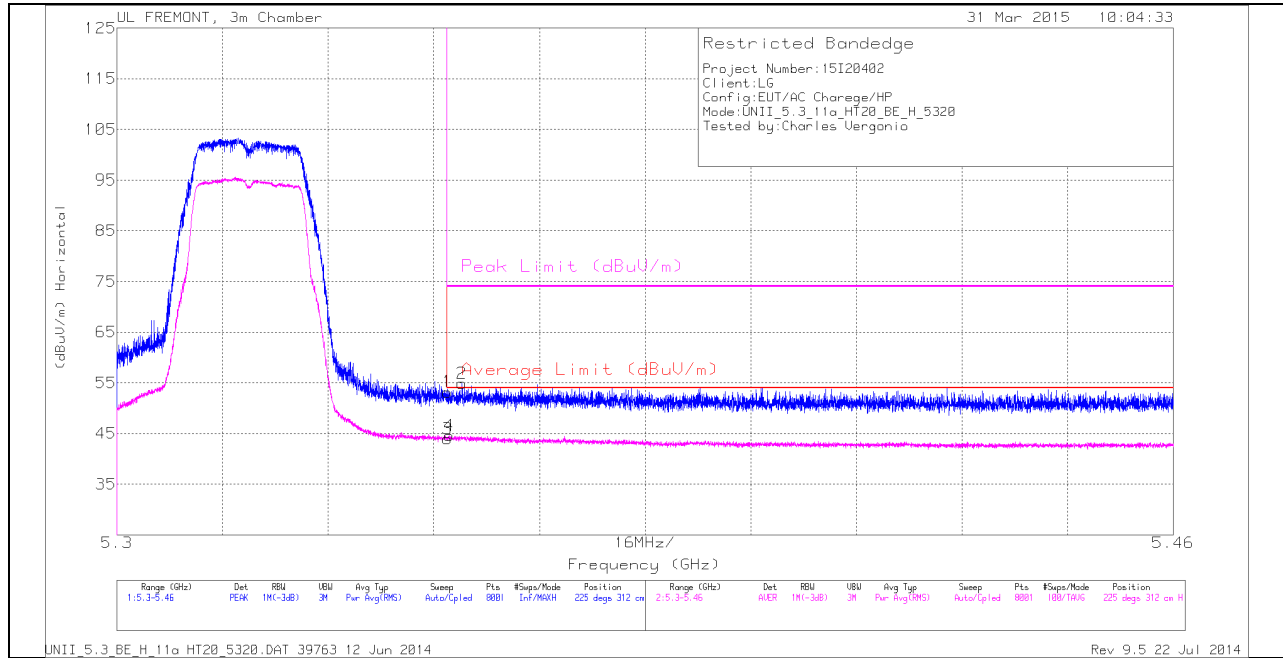
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

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)

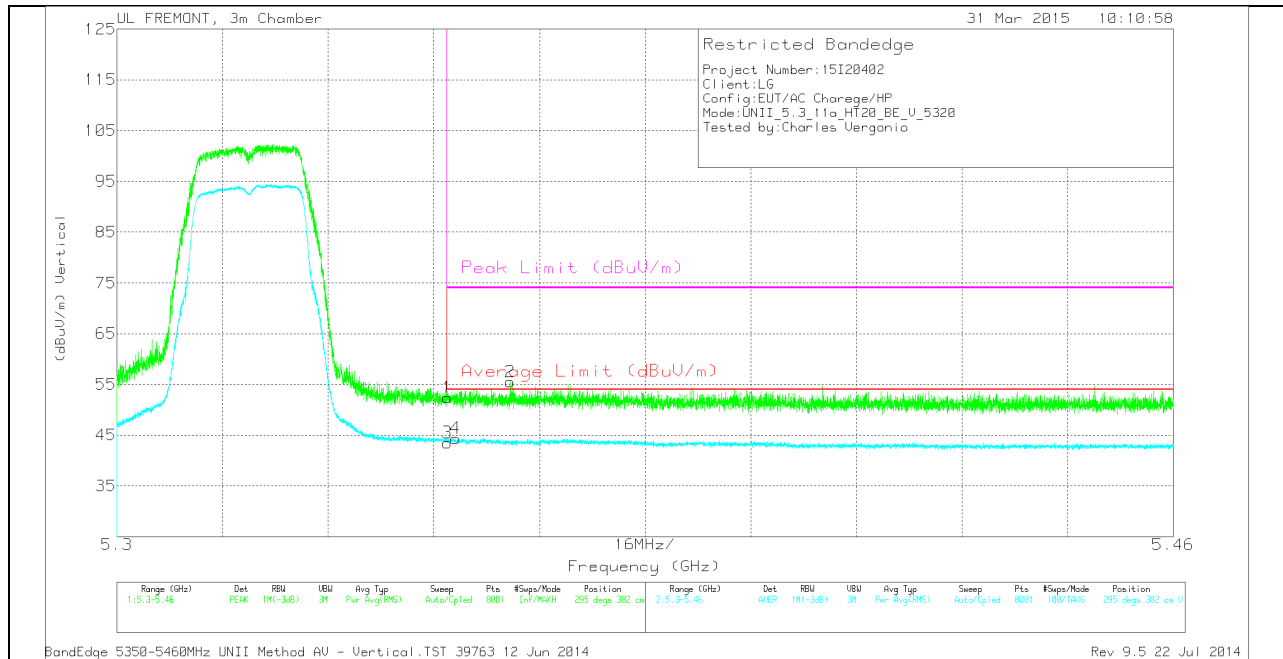
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitter/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	40.11	PK	34.5	-21.4	0	53.21	-	-	74	-20.79	225	312	H
3	5.35	30.69	RMS	34.5	-21.4	.21	44	54	-10	-	-	225	312	H
4	5.35	31.29	RMS	34.5	-21.4	.21	44.60	54	-9.40	-	-	225	312	H
2	5.352	41.84	PK	34.5	-21.4	0	54.94	-	-	74	-19.06	225	312	H

VERTICAL PEAK AND AVERAGE PLOT

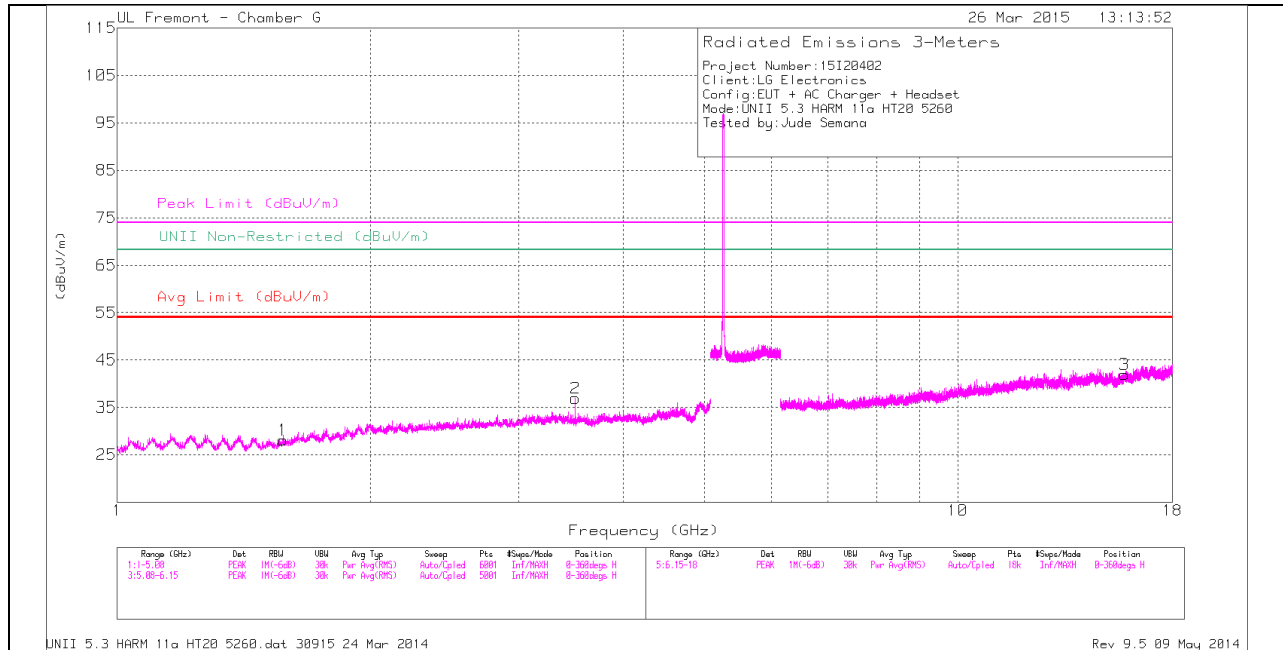


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Filter/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	39.27	PK	34.5	-21.4	0	52.37	-	-	74	-21.63	295	382	V
3	5.35	30.2	RMS	34.5	-21.4	.21	43.51	54	-10.49	-	-	295	382	V
4	5.351	31.07	RMS	34.5	-21.4	.21	44.38	54	-9.62	-	-	295	382	V
2	5.36	42.38	PK	34.5	-21.4	0	55.48	-	-	74	-18.52	295	382	V

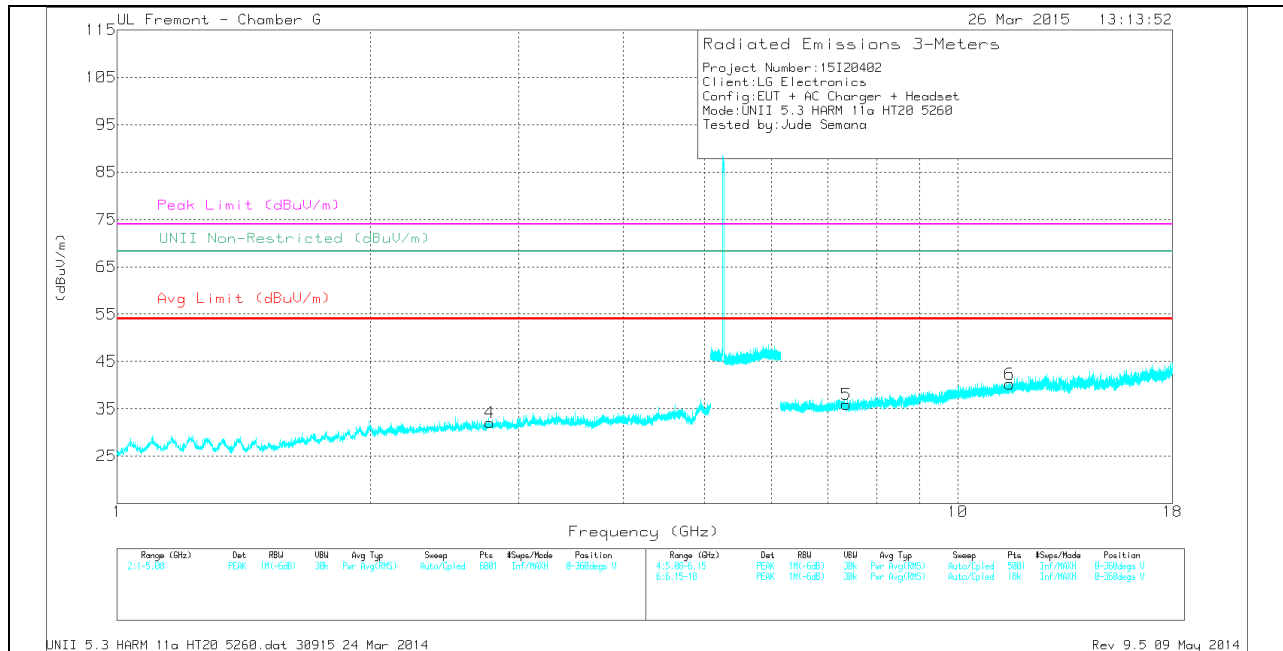
HARMONICS AND SPURIOUS EMISSIONS

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.

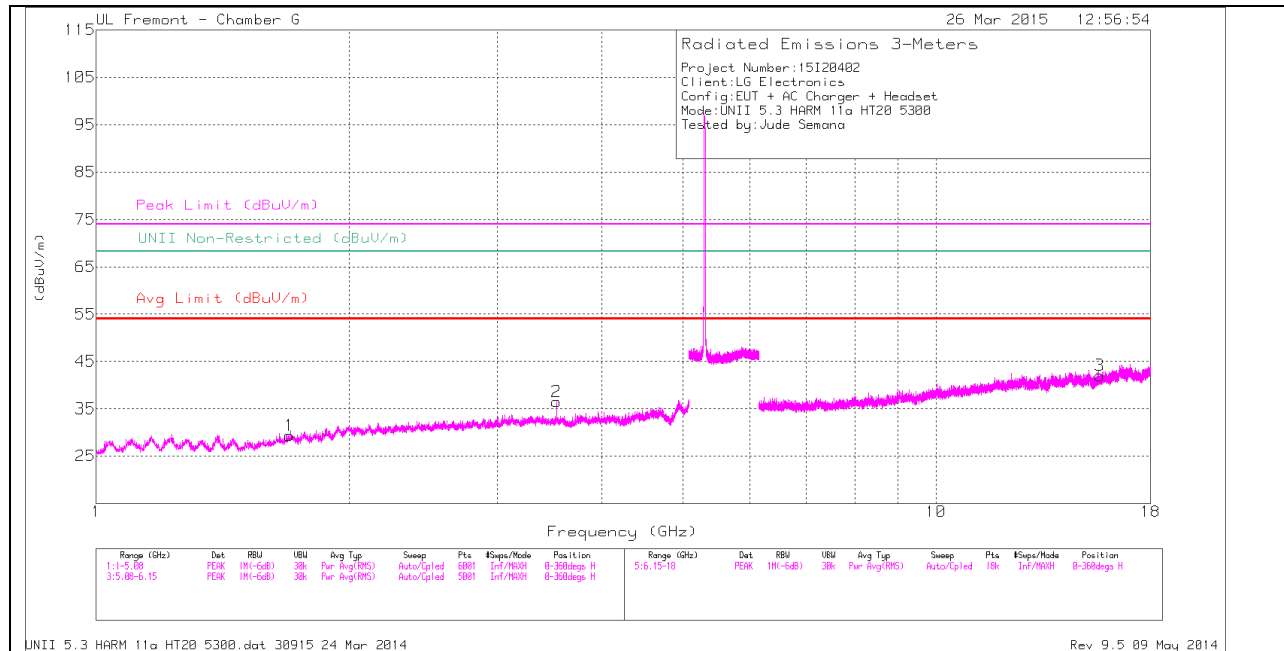
LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 1862 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.573	35.27	PK	28.4	-35.5	0	28.17	-	-	74	-45.83	-	-	0-360	101	H
2	* 3.506	37.93	PK	32.8	-33.8	0	36.93	-	-	74	-37.07	-	-	0-360	101	H
4	* 2.774	34.27	PK	32.2	-34.4	0	32.07	-	-	74	-41.93	-	-	0-360	201	V
3	* 15.779	28.64	PK	40.2	-26.9	0	41.94	-	-	74	-32.06	-	-	0-360	201	H
5	* 7.369	31.74	PK	35.6	-31.4	0	35.94	-	-	74	-38.06	-	-	0-360	201	V
6	* 11.529	28.56	PK	38.3	-26.6	0	40.26	-	-	74	-33.74	-	-	0-360	201	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

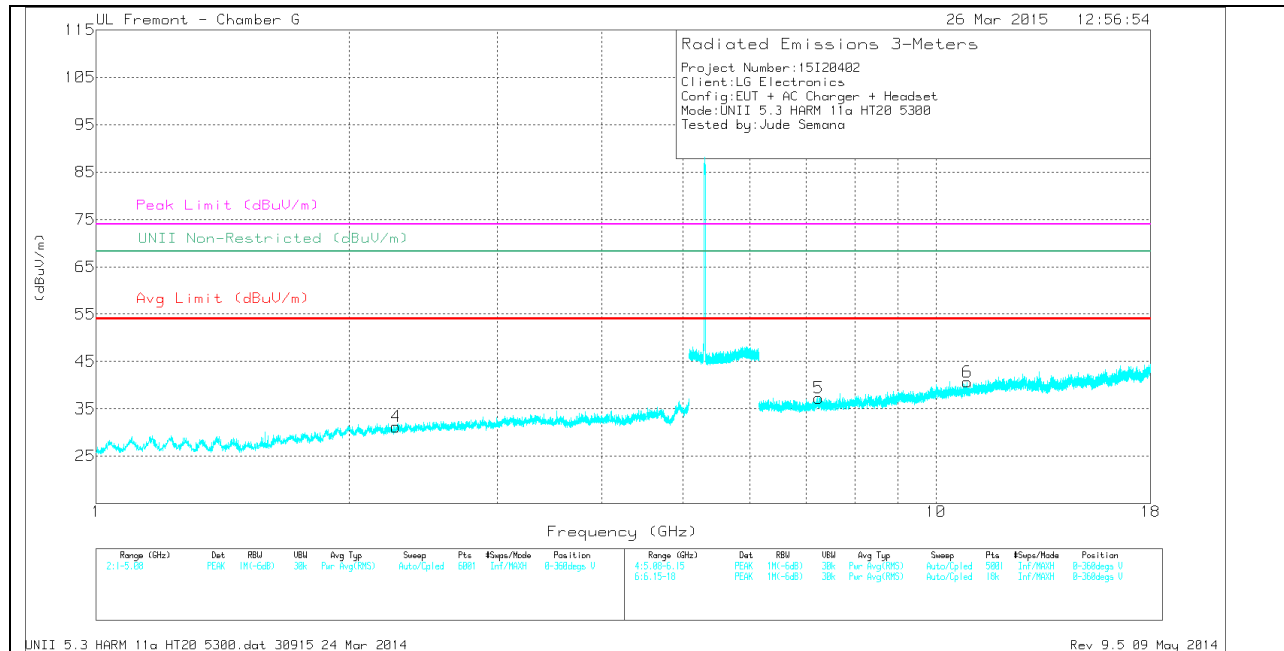
PK - Peak detector

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.

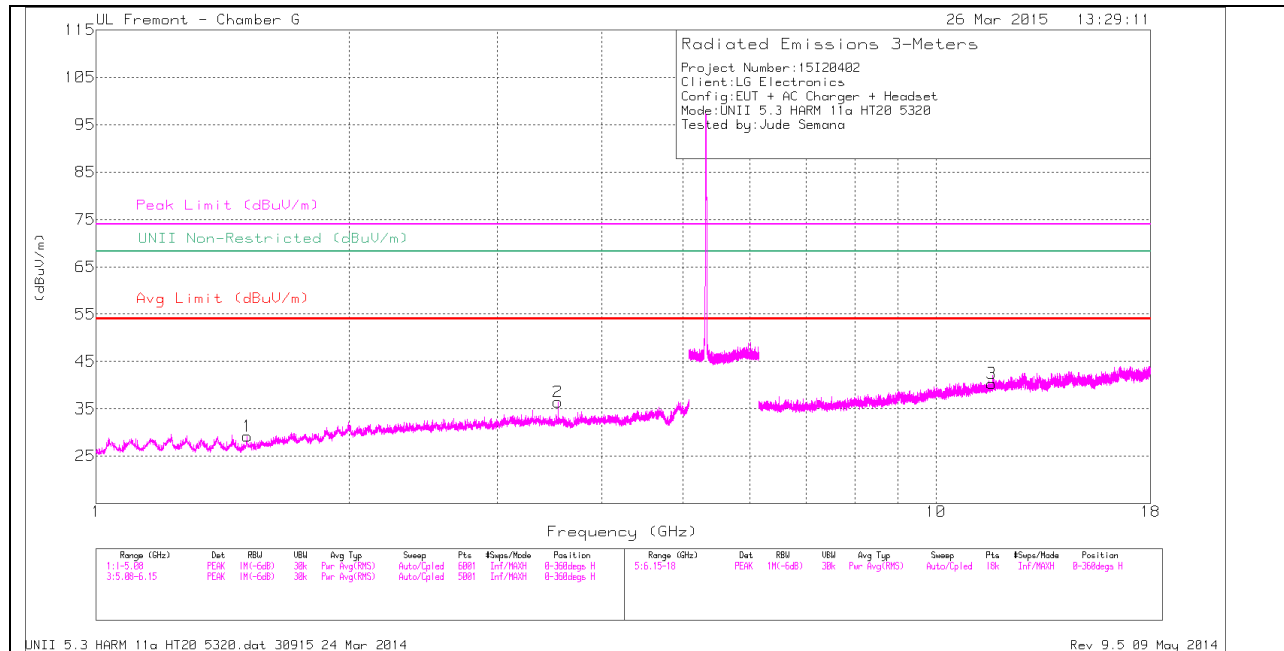
MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 1862 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.698	34.57	PK	29.2	-34.4	0	29.37	-	-	74	-44.63	-	-	0-360	201	H
2	* 3.533	37.22	PK	32.8	-33.5	0	36.52	-	-	74	-37.48	-	-	0-360	201	H
4	* 2.274	34.44	PK	31.5	-34.7	0	31.24	-	-	74	-42.76	-	-	0-360	101	V
3	* 15.666	29.53	PK	40.1	-27.6	0	42.03	-	-	74	-31.97	-	-	0-360	201	H
6	* 10.894	29.75	PK	37.8	-26.9	0	40.65	-	-	74	-33.35	-	-	0-360	101	V
5	7.248	32.56	PK	35.6	-30.9	0	37.26	-	-	-	-	68.2	-30.94	0-360	201	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

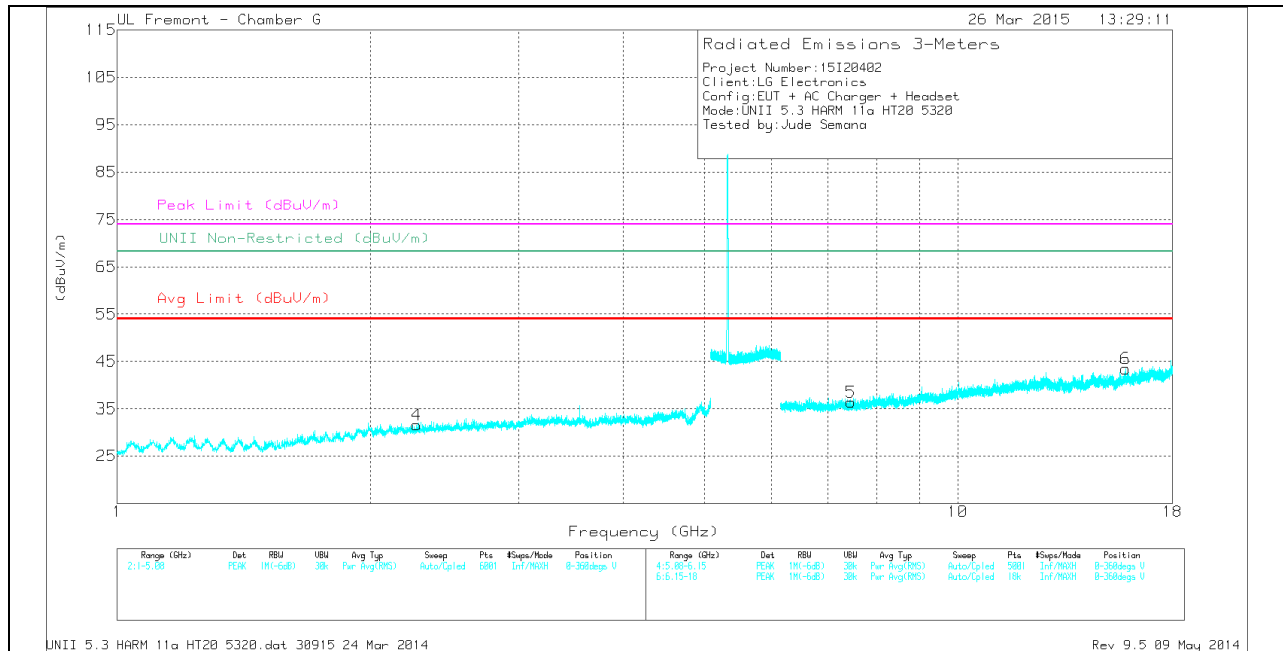
PK - Peak detector

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.