



FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n and NFC

MODEL NUMBER: LG-D725, D725, LGD725

FCC ID: ZNFD725

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Prepared for

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.
EUT DESCRIPTION: GSM/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n and NFC
MODEL: LG-D725, D725, LGD725
SERIAL NUMBER: 403KPVH000431 (Conducted); 403KPXV000426 (Radiated)
DATE TESTED: APRIL 17 – 24, 2014

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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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.4-2009

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
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/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n and NFC.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5180-5240	802.11a	9.79	9.53
5180-5240	802.11n HT20	9.4	8.71
5190-5230	802.11n HT40	10.66	11.64
5260-5320	802.11a	9.42	8.75
5260-5320	802.11n HT20	9.32	8.55
5270-5310	802.11n HT40	10.2	10.47
5500-5700	802.11a	9.87	9.71
5500-5700	802.11n HT20	9.87	9.71
5510-5670	802.11n HT40	10.49	11.19

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIF antenna, with a maximum gain of 0.3 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.

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

802.11a mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT40mode: MCS0

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG Electronics	MCS-01WD	DB3Y0094683	N/A
Earphone	LG Electronics	N/A	N/A	N/A

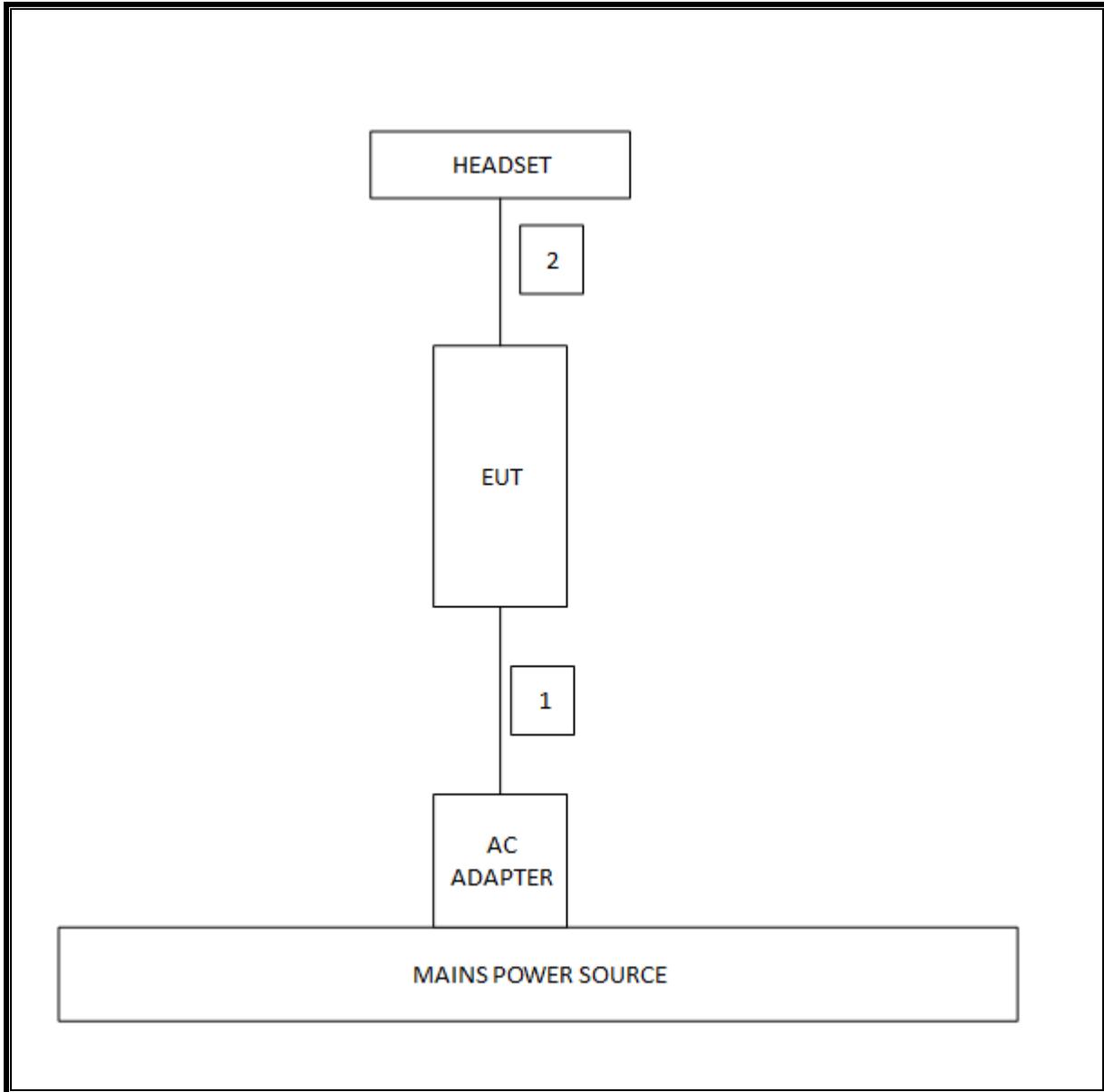
I/O CABLES

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	12/20/14
Spectrum Analyzer,9KHz-40GHz	HP	8564E	C00986	04/01/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/14
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/14
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/14
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/14
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/15
Antenna, Horn,18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/14
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/14
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/14
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/14
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/14
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/14
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/14
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/14

7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)	Occupied Band width (26dB)	N/A	Conducted	Pass	45.7 dBm
15.407 (a)(1)	TX Cond. Power 5.15-2.25	<17dBm or 4+10Log(OBW)		Pass	10.66 dBm
15.407 (a)(2)	TX Cond. Power 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	10.49 dBm
15.407 (a)(5)	PSD	<4dBm for 5.2 and <8dBm for 5.3/5.5		Pass	-0.14 dBm
15.407 (a)(6)	Peak Excursion Ratio	13dB		Pass	9.22 dBm
15.207 (a)	AC Power Line conducted emissions	Section 10		Radiated	Pass
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m	Pass		46 dBuV/m
15.407 (h)(2)	Dynamic Frequency Selection	N/A	Radiated / Condcuted	Pass	N/A

8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

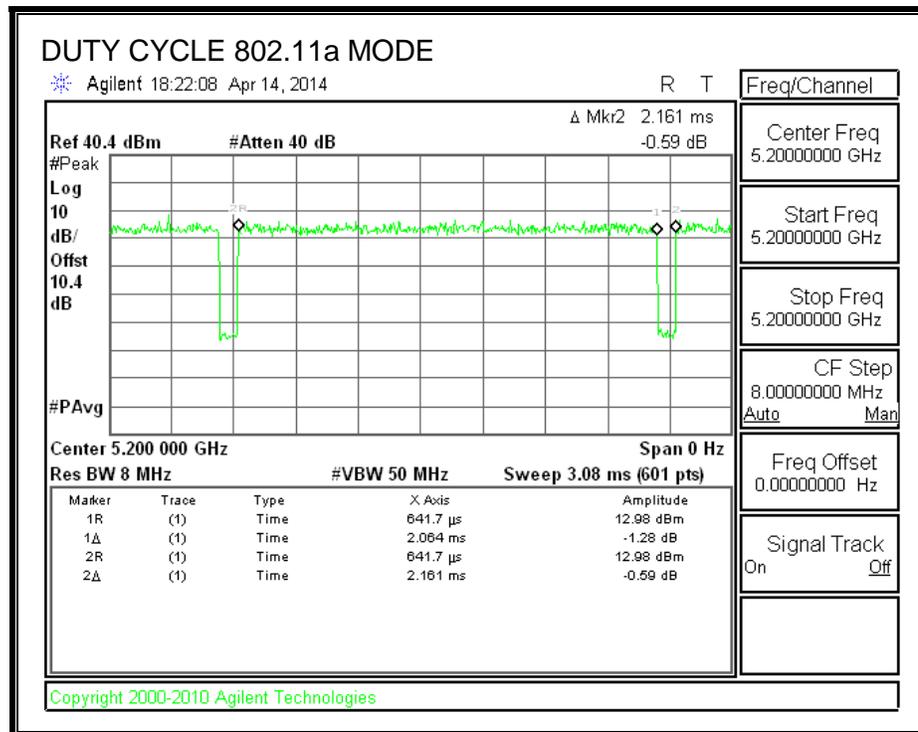
PROCEDURE

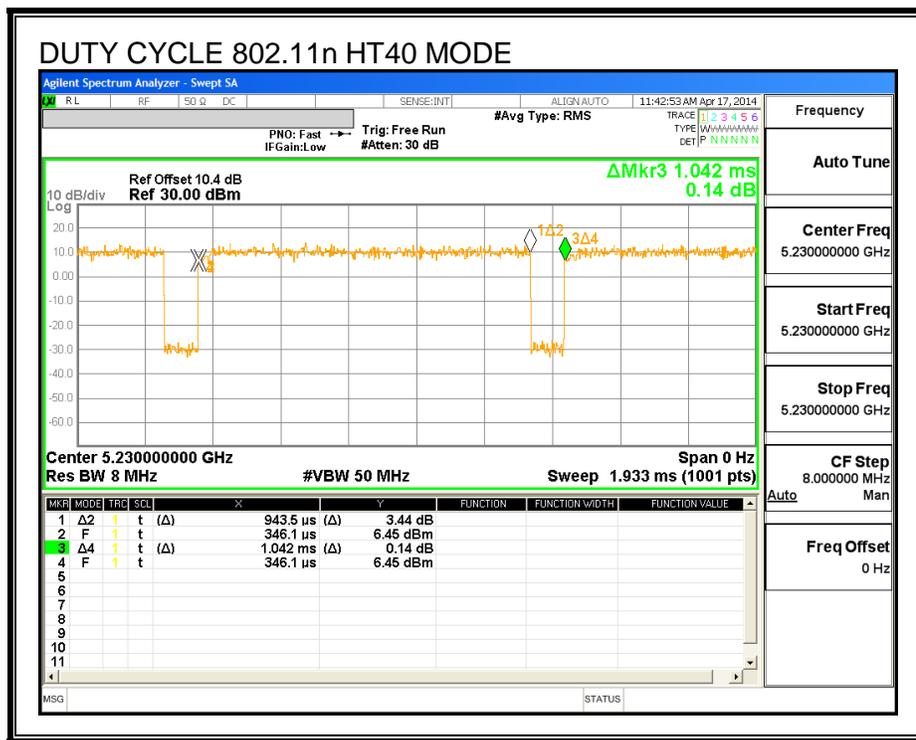
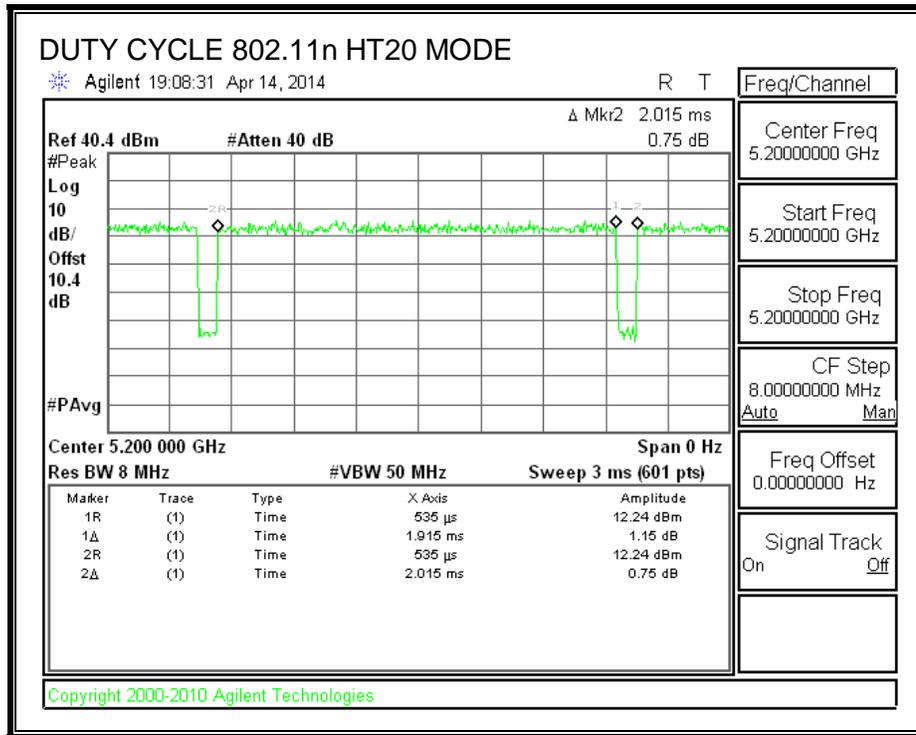
KDB 789033 Zero-Span Spectrum Analyzer Method.

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	2.06	2.16	0.955	95.5%	0.20	0.484
802.11n HT20	1.92	2.02	0.950	95.0%	0.22	0.522
802.11n HT40	0.94	1.04	0.905	90.5%	0.43	1.060

8.2. DUTY CYCLE PLOTS





9. MEASUREMENT METHOD

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. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.1.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	19.10
Mid	5200	19.00
High	5240	19.15
Worst		19.15

10.1.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	19.35
Mid	5200	19.45
High	5240	19.40
Worst		19.45

10.1.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	45.300
Mid	5230	45.600
Worst		45.600

10.1.1. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	18.90
Mid	5300	18.93
High	5320	18.84
Worst		18.93

10.1.1. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	19.20
Mid	5300	19.26
High	5320	19.20
Worst		19.26

10.1.2. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	45.7
High	5310	44.8
Worst		45.7

10.1.3. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	18.870
Mid	5580	18.900
High	5700	18.840
Worst		18.900

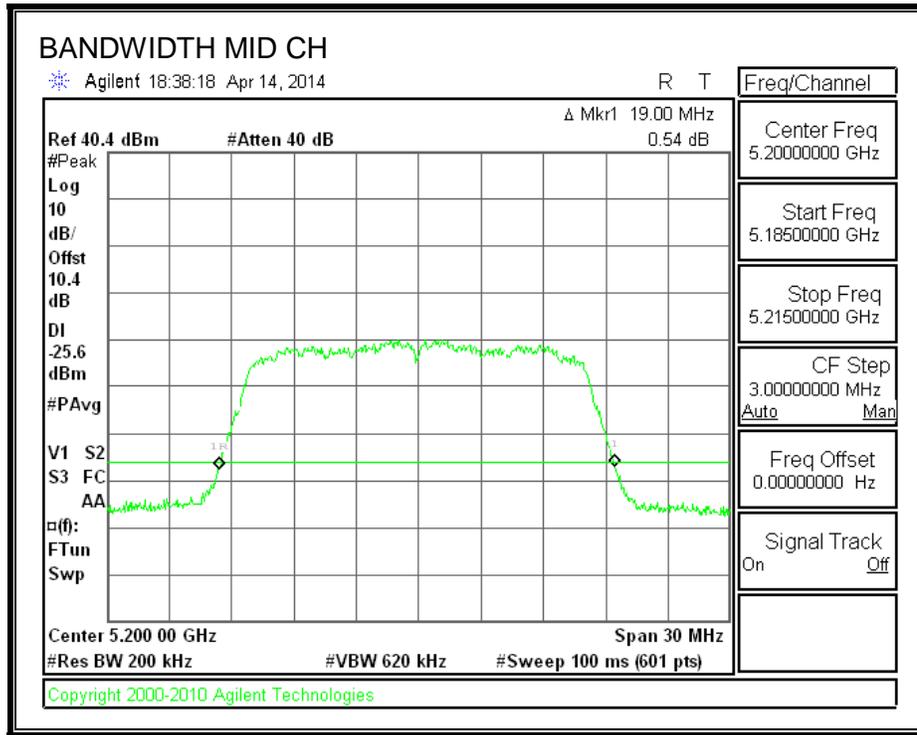
10.1.4. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	19.140
Mid	5580	19.230
High	5700	19.230
Worst		19.230

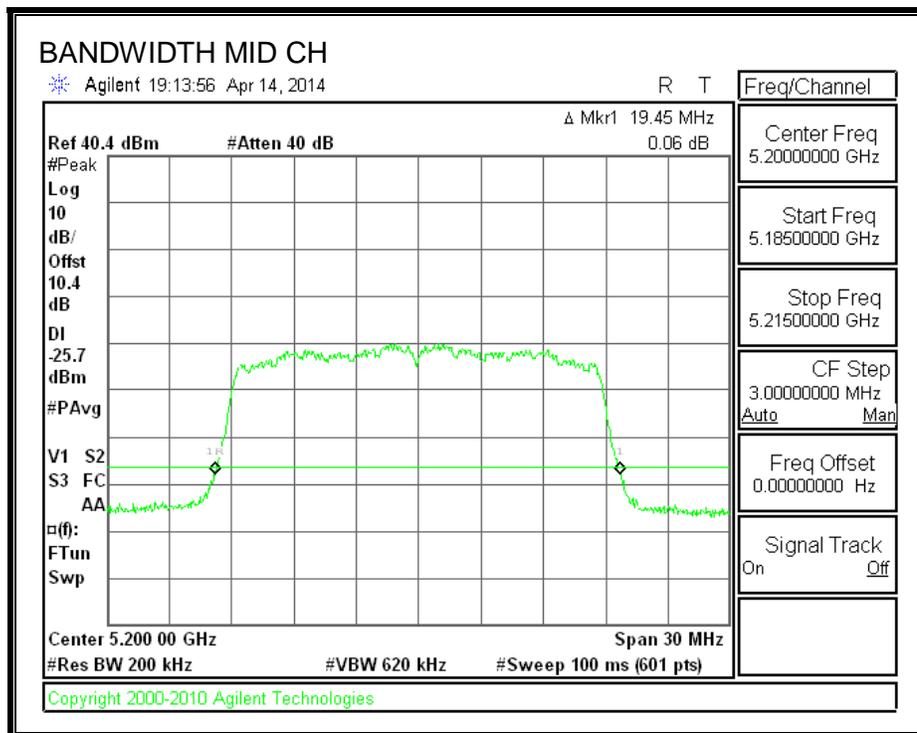
10.1.5. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	44.5
Mid	5550	44.7
High	5670	44.9
Worst		44.9

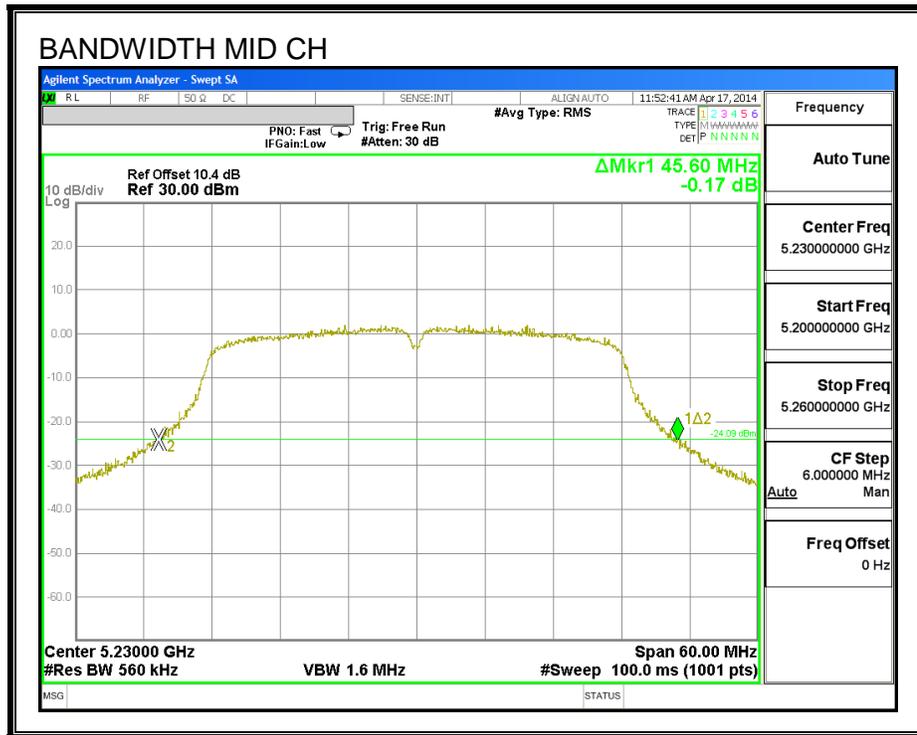
802.11a 5.2G 26 dB BANDWIDTH



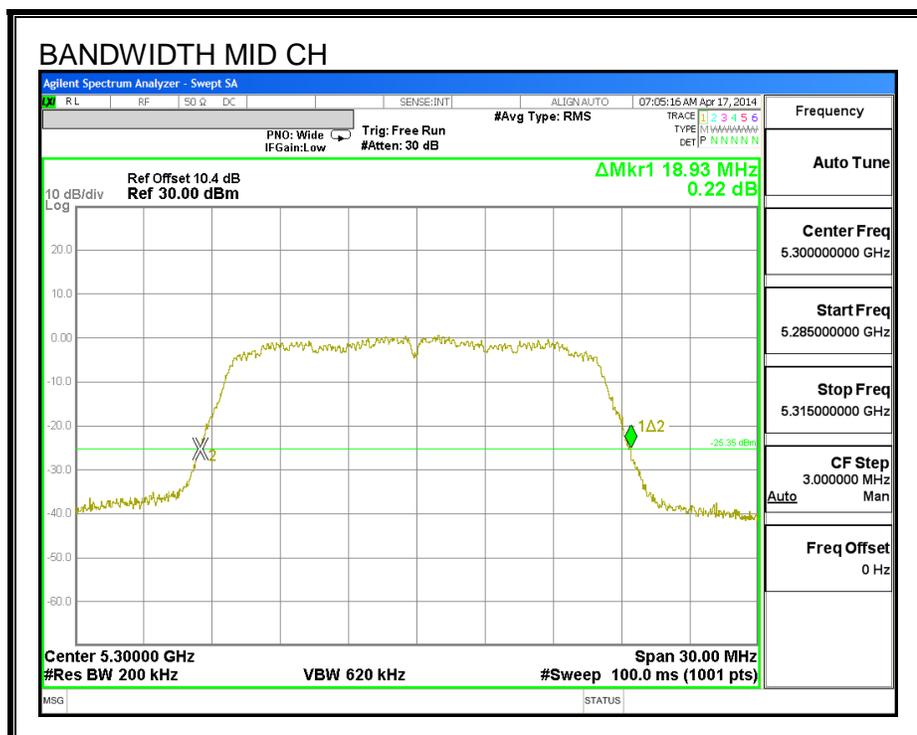
802.11n HT20 5.2G 26 dB BANDWIDTH



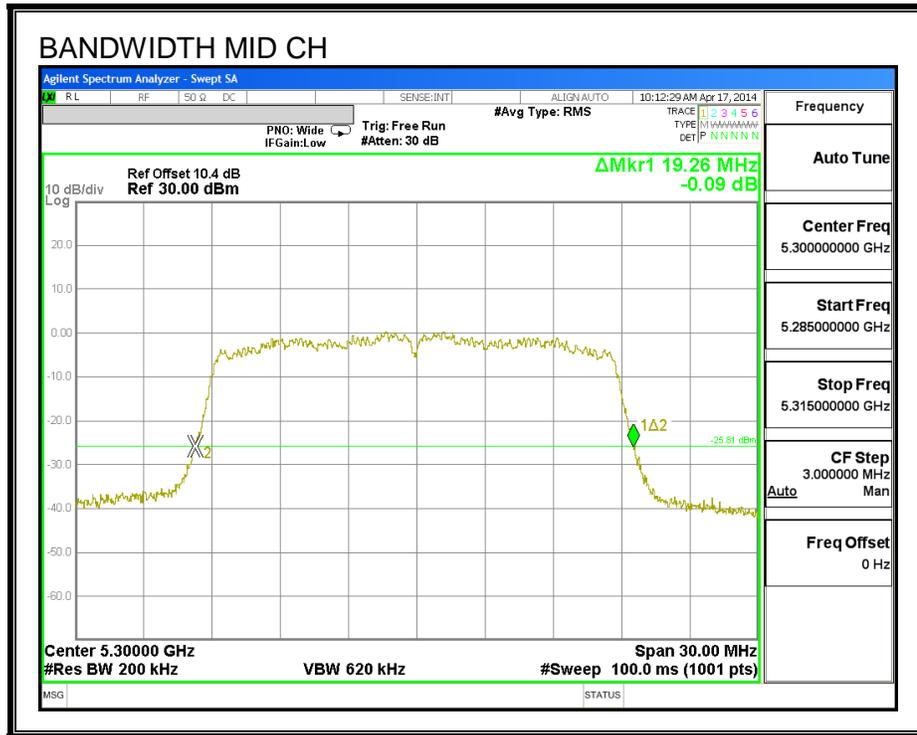
802.11n HT40 5.2G 26 dB BANDWIDTH



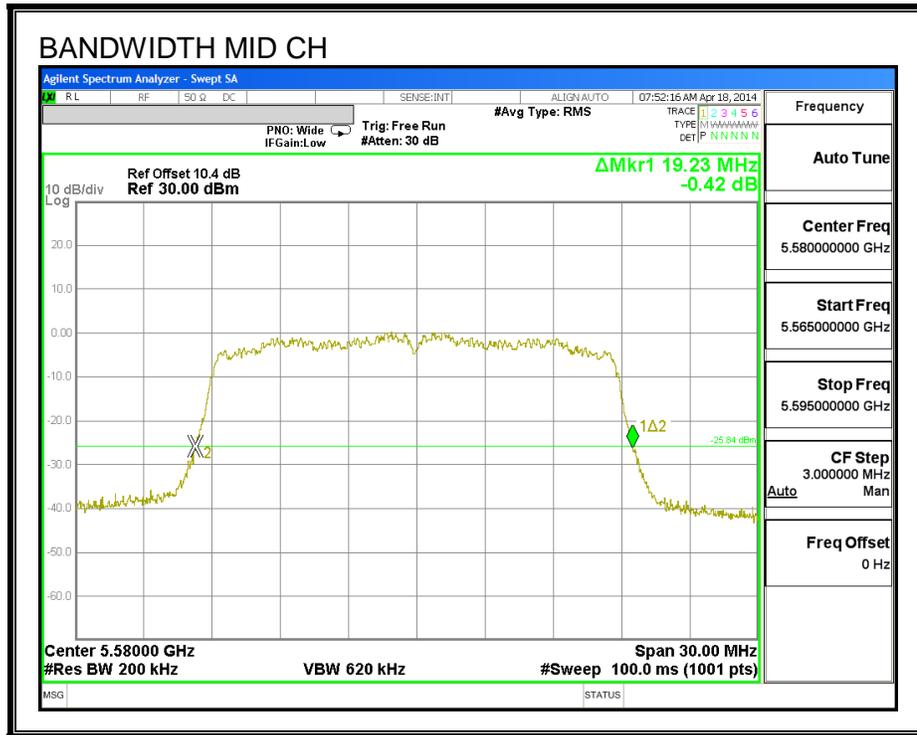
802.11a 5.3G 26 dB BANDWIDTH



802.11n HT20 5.3G 26 dB BANDWIDTH



802.11n HT20 5.5G 26 dB BANDWIDTH



10.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	16.46
Mid	5200	16.45
High	5240	16.45
Worst		16.46

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.63
Mid	5200	17.64
High	5240	17.62
Worst		17.64

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	35.96
Mid	5230	36.29
Worst		36.29

10.2.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	16.38
Mid	5300	16.57
High	5320	16.53
Worst		16.57

10.2.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	17.66
Mid	5300	17.68
High	5320	17.69
Worst		17.69

10.2.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	36.16
High	5310	35.79
Worst		36.16

10.2.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	16.46
Mid	5580	16.53
High	5700	16.51
Worst		16.53

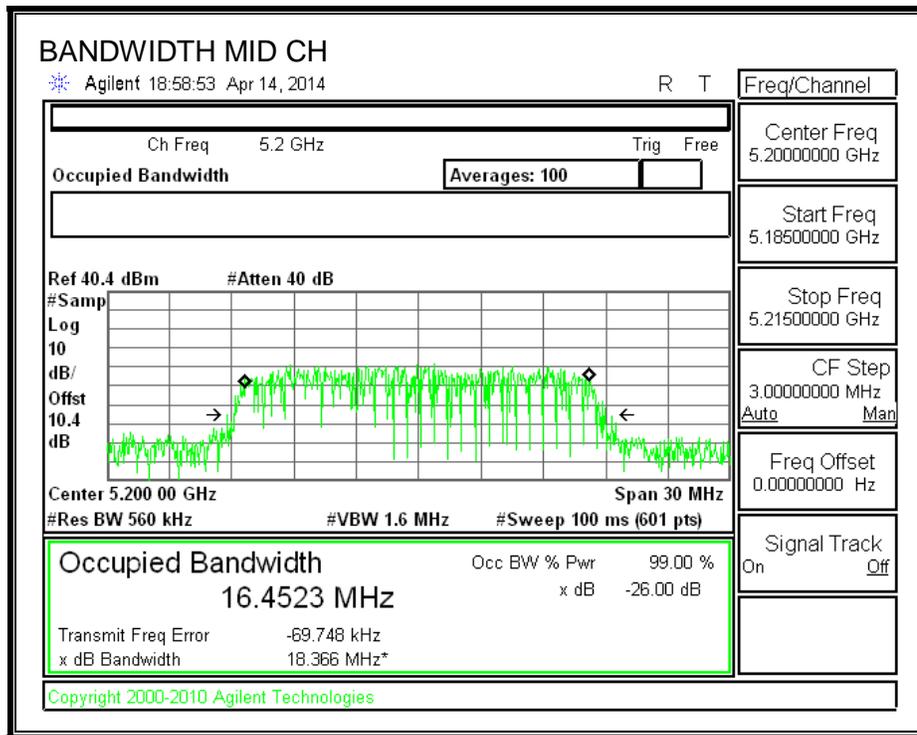
10.2.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.66
Mid	5580	17.66
High	5700	17.64
Worst		17.66

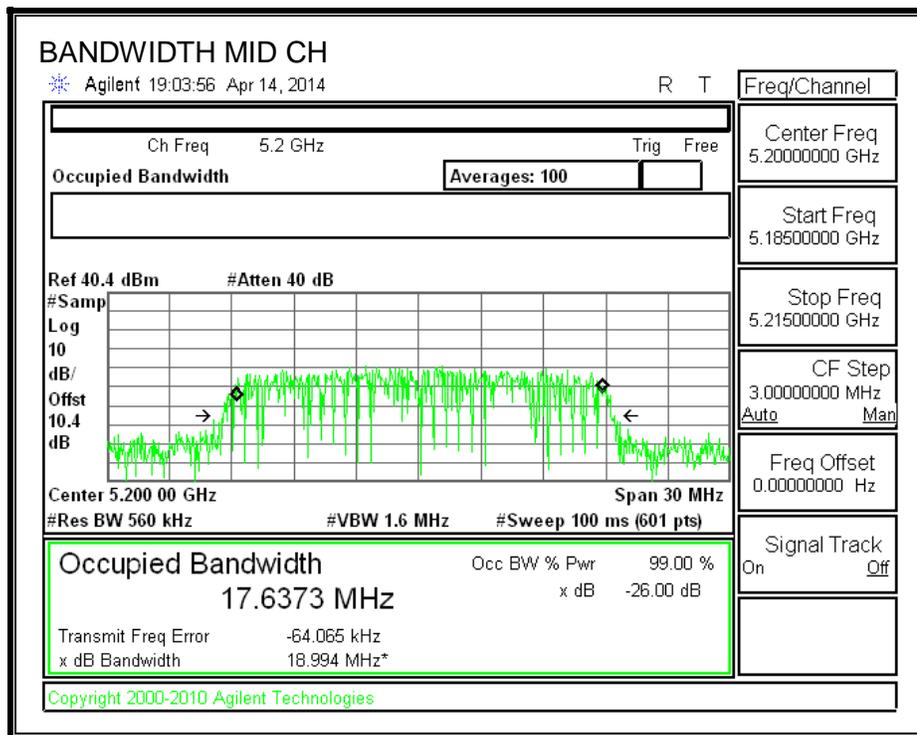
10.2.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5510	36.20
Mid	5550	36.03
High	5670	36.11
Worst		36.20

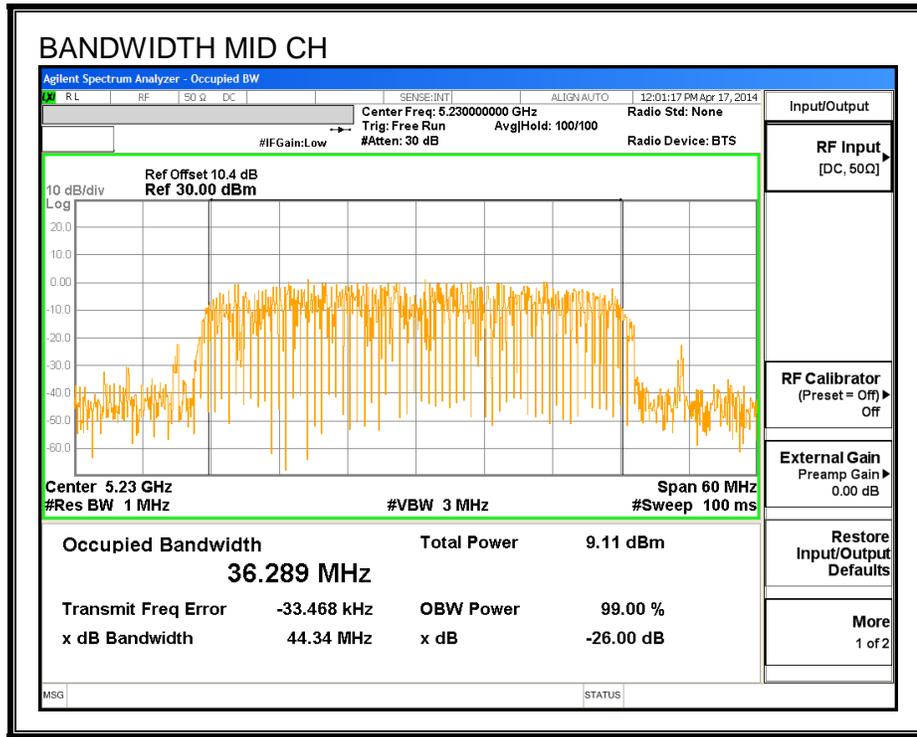
802.11a 5.2G 99% BANDWIDTH



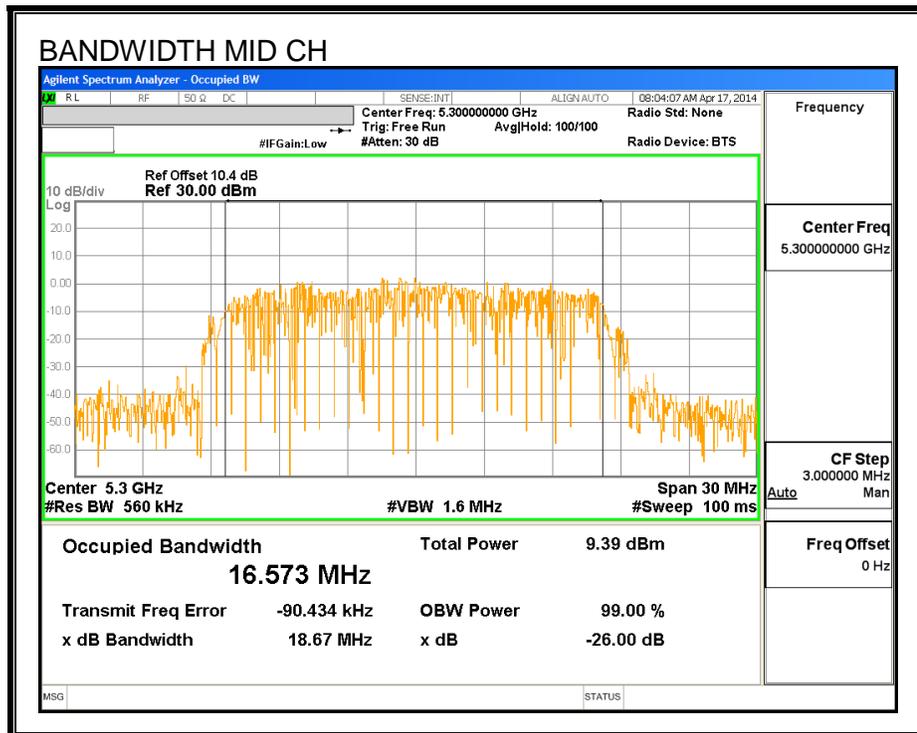
802.11n HT20 5.2G 99% BANDWIDTH



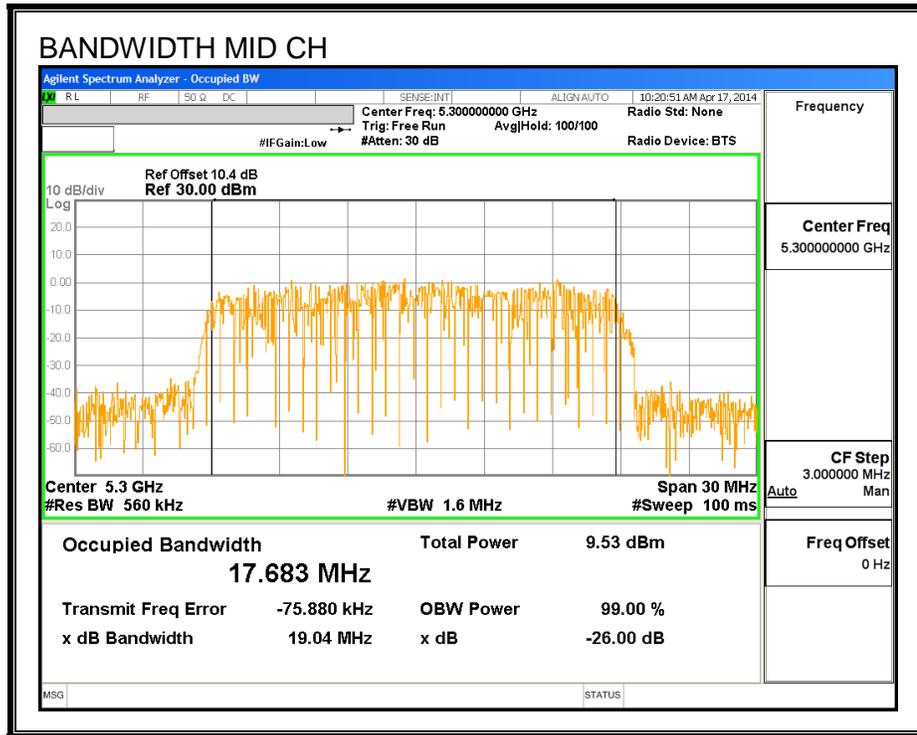
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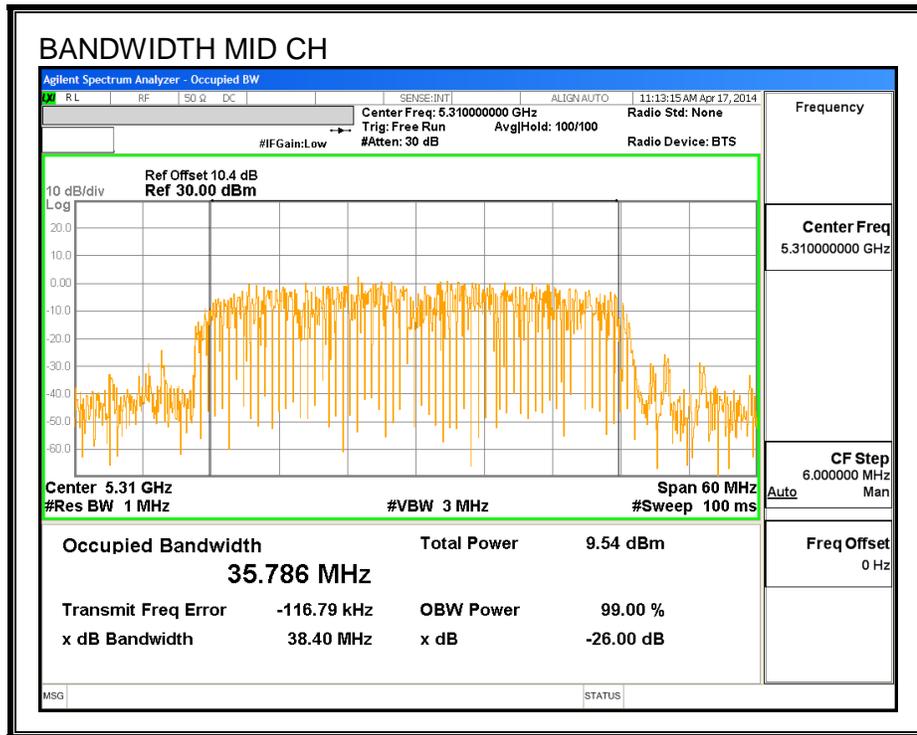
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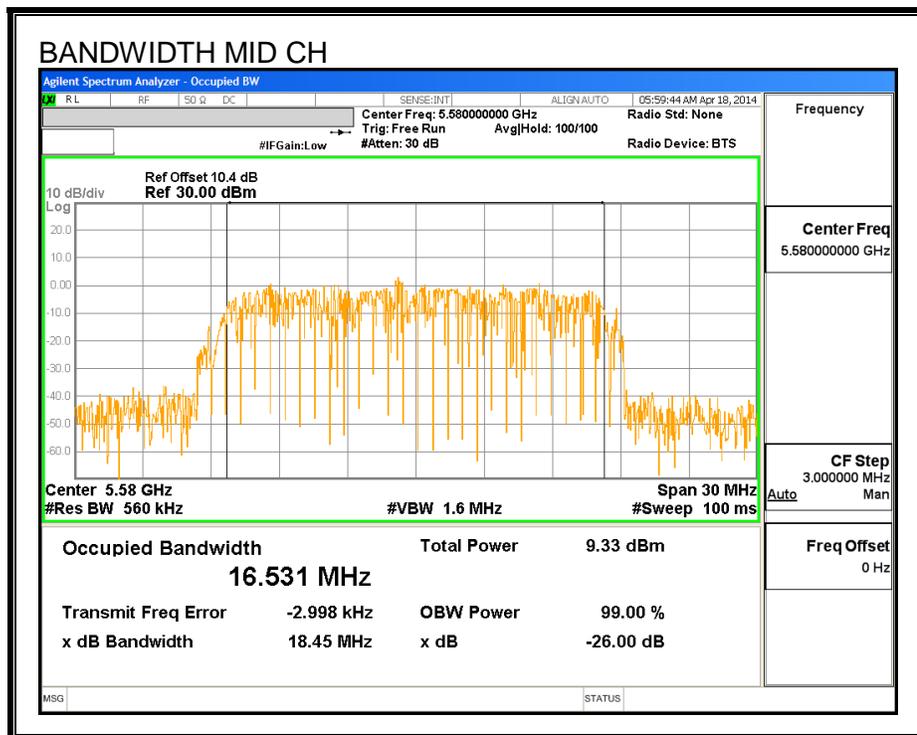
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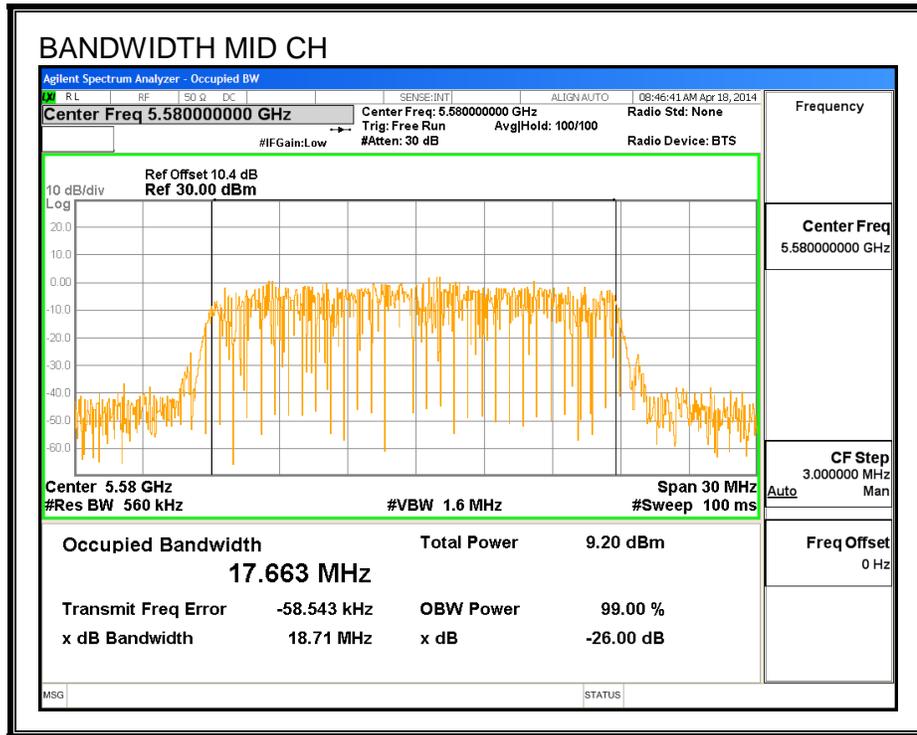
802.11n HT40 5.3G 99% BANDWIDTH



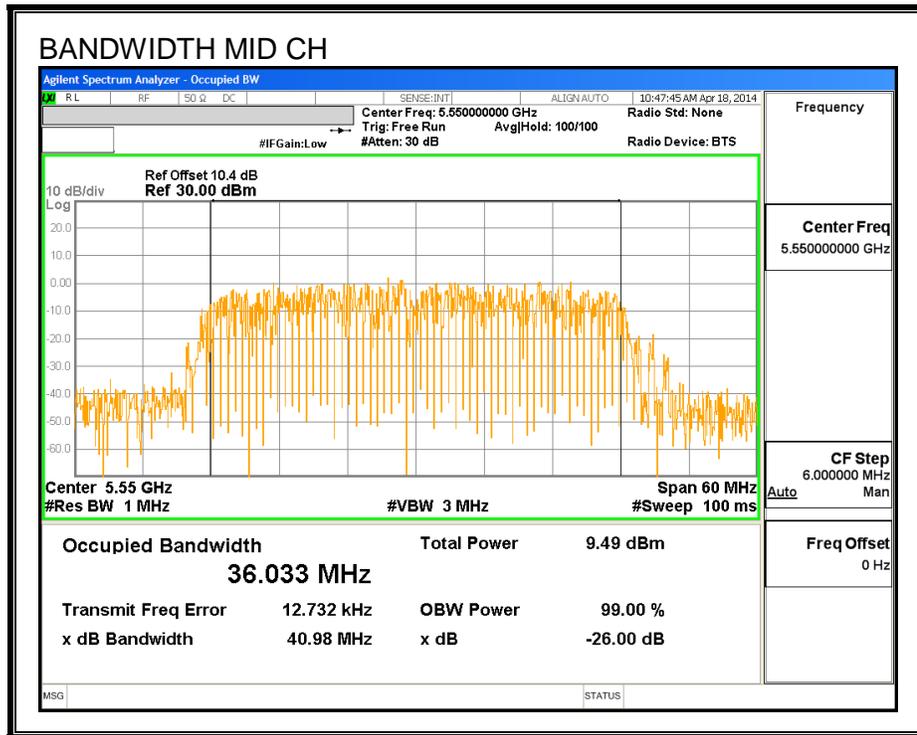
802.11a 5.5G 99% BANDWIDTH



802.11n HT20 5.5G 99% BANDWIDTH



802.11n HT40 5.5G 99% BANDWIDTH



10.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

10.3.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5180	9.30
Mid	5200	9.30
High	5240	9.30
Worst		9.30

10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5180	9.20
Mid	5200	9.00
High	5240	9.20
Worst		9.20

10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5190	9.40
Mid	5230	9.40
Worst		9.40

10.3.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	9.50
Mid	5300	9.40
High	5320	9.50
Worst		9.50

10.3.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	9.30
Mid	5300	9.30
High	5320	9.30
Worst		9.30

10.3.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5270	9.50
High	5310	9.60
Worst		9.60

10.3.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	9.20
Mid	5580	9.30
High	5700	9.40
Worst		9.40

10.3.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	9.00
Mid	5580	9.20
High	5700	9.30
Worst		9.30

10.3.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5510	9.40
Mid	5550	9.40
High	5670	9.50
Worst		9.50

10.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

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 50 mW or $4 \text{ dBm} + 10 \log B$, 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.

IC RSS-210 A9.2 (1)

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

DIRECTIONAL ANTENNA GAIN

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

Test Methodology

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	19.10	16.46	0.30
Mid	5200	19.00	16.45	0.30
High	5240	19.15	16.45	0.30

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	16.81	22.16	21.86	16.81	4.00	10.00	4.00
Mid	5200	16.79	22.16	21.86	16.79	4.00	10.00	4.00
High	5240	16.82	22.16	21.86	16.82	4.00	10.00	4.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	9.26	9.46	16.81	-7.35
Mid	5200	9.46	9.66	16.79	-7.13
High	5240	9.59	9.79	16.82	-7.03

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-0.72	-0.52	4.00	-4.52
Mid	5200	-0.75	-0.55	4.00	-4.55
High	5240	-0.34	-0.14	4.00	-4.14

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	19.35	17.63	0.30
Mid	5200	19.45	17.64	0.30
High	5240	19.40	17.62	0.30

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	16.87	22.46	22.16	16.87	4.00	10.00	4.00
Mid	5200	16.89	22.46	22.16	16.89	4.00	10.00	4.00
High	5240	16.88	22.46	22.16	16.88	4.00	10.00	4.00

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

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	9.07	9.29	16.87	-7.58
Mid	5200	9.18	9.40	16.89	-7.49
High	5240	9.18	9.40	16.88	-7.48

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-1.21	-0.99	4.00	-4.99
Mid	5200	-1.27	-1.05	4.00	-5.05
High	5240	-1.27	-1.05	4.00	-5.05

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	45.30	35.96	0.30
Mid	5230	45.60	36.29	0.30

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	17.00	23.00	22.70	17.00	4.00	10.00	4.00
Mid	5230	17.00	23.00	22.70	17.00	4.00	10.00	4.00
Duty Cycle CF (dB)		0.43	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	10.23	10.66	17.00	-6.34
Mid	5230	10.11	10.54	17.00	-6.46

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-3.15	-2.72	4.00	-6.72
Mid	5230	-3.50	-3.07	4.00	-7.07

10.4.4. 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	18.90	16.38	0.30
Mid	5300	18.93	16.57	0.30
High	5320	18.84	16.53	0.30

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	23.76	23.14	29.14	23.14	11.00	11.00	11.00
Mid	5300	23.77	23.19	29.19	23.19	11.00	11.00	11.00
High	5320	23.75	23.18	29.18	23.18	11.00	11.00	11.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	9.22	9.42	23.14	-13.72
Mid	5300	9.03	9.23	23.19	-13.96
High	5320	9.10	9.30	23.18	-13.88

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	-0.64	-0.44	11.00	-11.44
Mid	5300	-0.69	-0.49	11.00	-11.49
High	5320	-1.02	-0.82	11.00	-11.82

10.4.5. 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	19.20	17.66	0.30
Mid	5300	19.26	17.69	0.30
High	5320	19.20	17.69	0.30

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	23.83	23.47	29.47	23.47	11.00	11.00	11.00
Mid	5300	23.85	23.48	29.48	23.48	11.00	11.00	11.00
High	5320	23.83	23.48	29.48	23.48	11.00	11.00	11.00

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

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	9.07	9.29	23.47	-14.18
Mid	5300	9.06	9.28	23.48	-14.19
High	5320	9.10	9.32	23.48	-14.16

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	-1.06	-0.84	11.00	-11.84
Mid	5300	-1.19	-0.97	11.00	-11.97
High	5320	-0.97	-0.75	11.00	-11.75

10.4.6. 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	45.70	36.16	0.30
High	5310	44.80	35.79	0.30

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)	0.43	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	9.77	10.20	24.00	-13.81
High	5310	9.35	9.78	24.00	-14.22

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-3.91	-3.48	11.00	-14.48
High	5310	-4.30	-3.87	11.00	-14.87

10.4.7. 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	18.87	16.46	0.30
Mid	5580	18.90	16.53	0.30
High	5700	18.84	16.51	0.30

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	23.76	23.16	29.16	23.16	11.00	11.00	11.00
Mid	5580	23.76	23.18	29.18	23.18	11.00	11.00	11.00
High	5700	23.75	23.18	29.18	23.18	11.00	11.00	11.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	9.267	9.47	23.16	-13.70
Mid	5580	9.312	9.51	23.18	-13.67
High	5700	9.667	9.87	23.18	-13.31

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-0.808	-0.61	11.00	-11.61
Mid	5580	-0.821	-0.62	11.00	-11.62
High	5700	-0.396	-0.20	11.00	-11.20

10.4.8. 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	19.14	17.66	0.30
Mid	5580	19.23	17.66	0.30
High	5700	19.23	17.64	0.30

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	23.82	23.47	29.47	23.47	11.00	11.00	11.00
Mid	5580	23.84	23.47	29.47	23.47	11.00	11.00	11.00
High	5700	23.84	23.47	29.47	23.47	11.00	11.00	11.00

Duty Cycle CF (dB)	0.23	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	9.25	9.48	23.47	-13.99
Mid	5580	9.33	9.56	23.47	-13.91
High	5700	9.64	9.87	23.47	-13.60

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-0.91	-0.68	11.00	-11.68
Mid	5580	-0.99	-0.76	11.00	-11.76
High	5700	-0.52	-0.29	11.00	-11.29

10.4.9. 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	44.50	36.20	0.30
Mid	5550	44.70	36.03	0.30
High	5670	44.90	36.11	0.30

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)	0.43	Included in Calculations of Corr'd Power & PPSD
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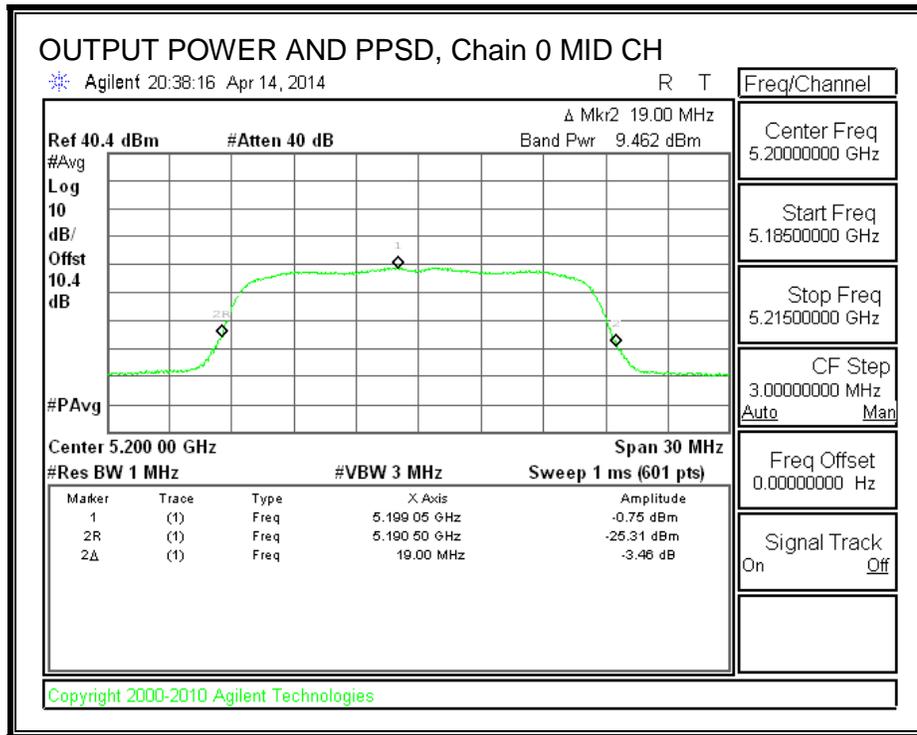
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	9.901	10.33	24.00	-13.67
Mid	5550	9.512	9.94	24.00	-14.06
High	5670	10.063	10.49	24.00	-13.51

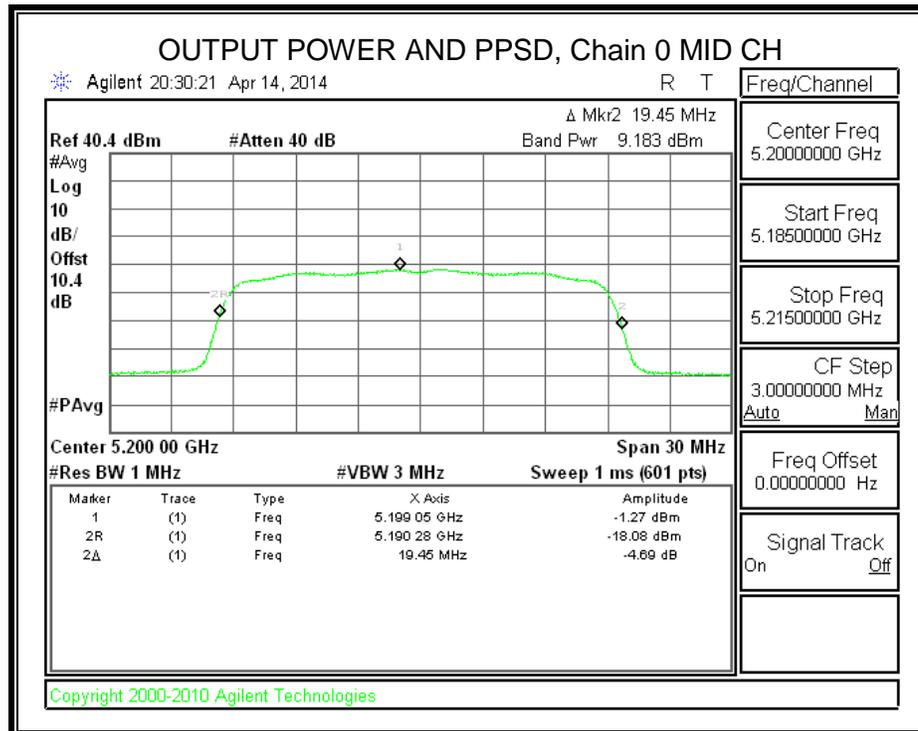
PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-3.764	-3.33	11.00	-14.33
Mid	5550	-4.039	-3.61	11.00	-14.61
High	5670	-3.386	-2.96	11.00	-13.96

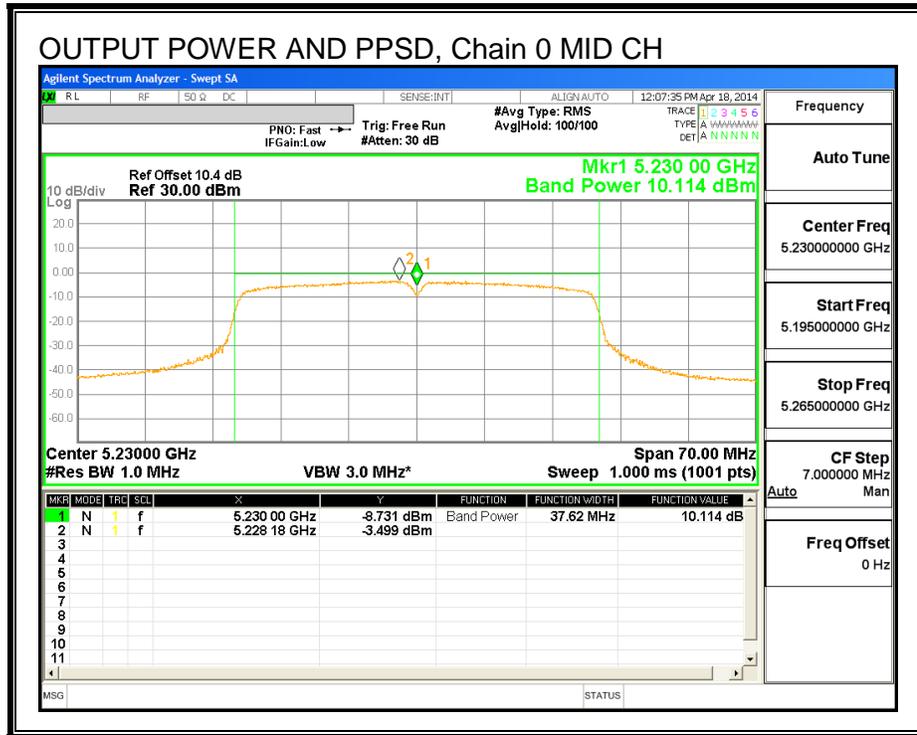
802.11a 5.2G OUTPUT POWER AND PPSD, Chain 0



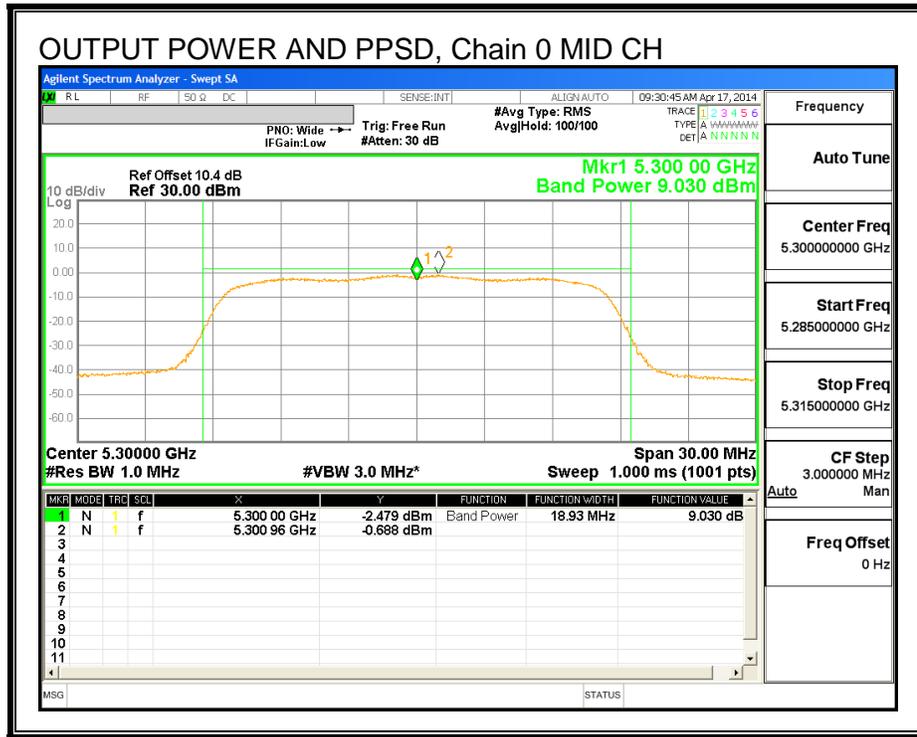
802.11n HT20 5.2G OUTPUT POWER AND PPSD, Chain 0



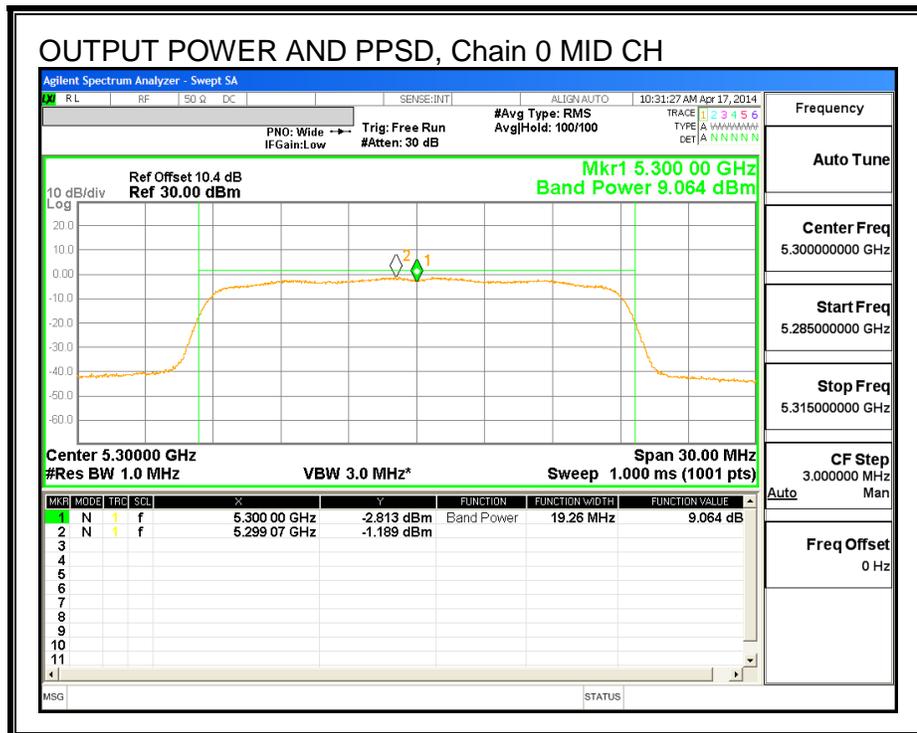
802.11n HT40 5.2G OUTPUT POWER AND PPSD, Chain 0



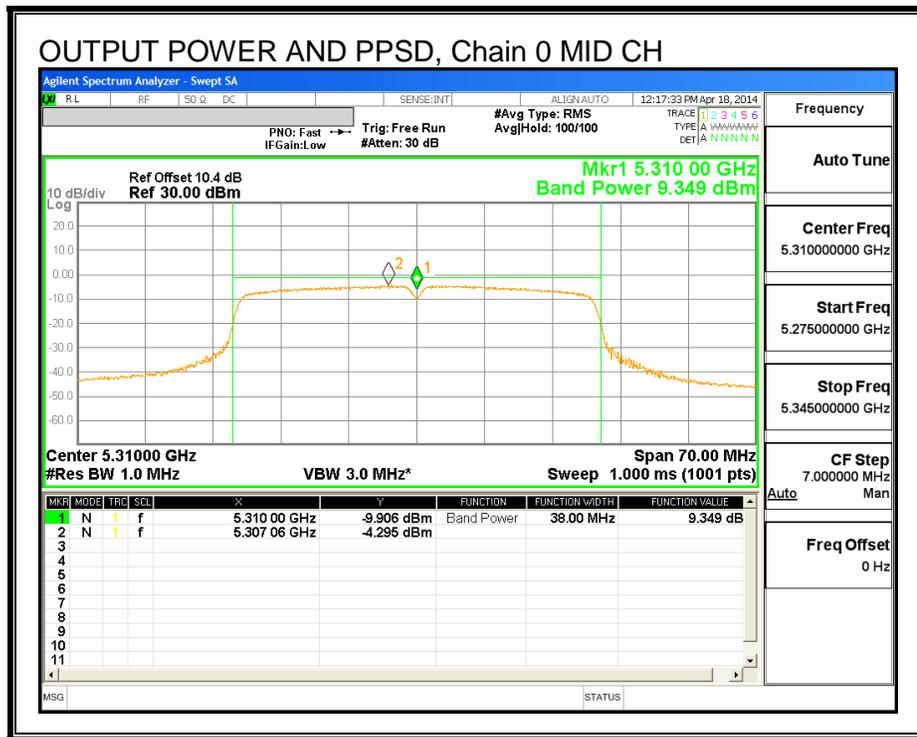
802.11a 5.3G OUTPUT POWER AND PPSD, Chain 0



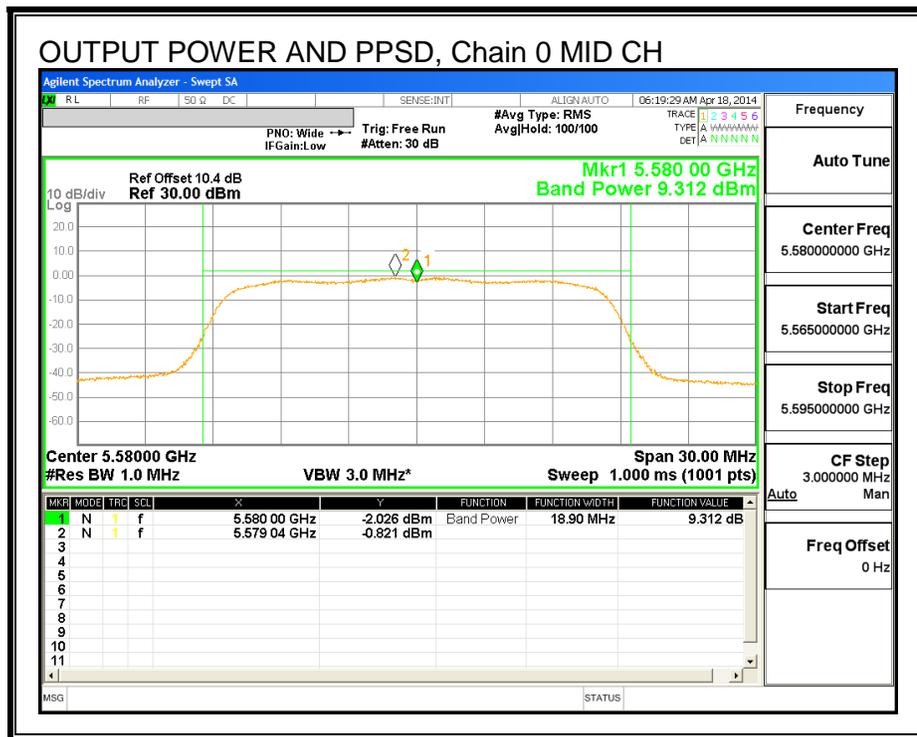
802.11n HT20 5.3G OUTPUT POWER AND PPSD, Chain 0



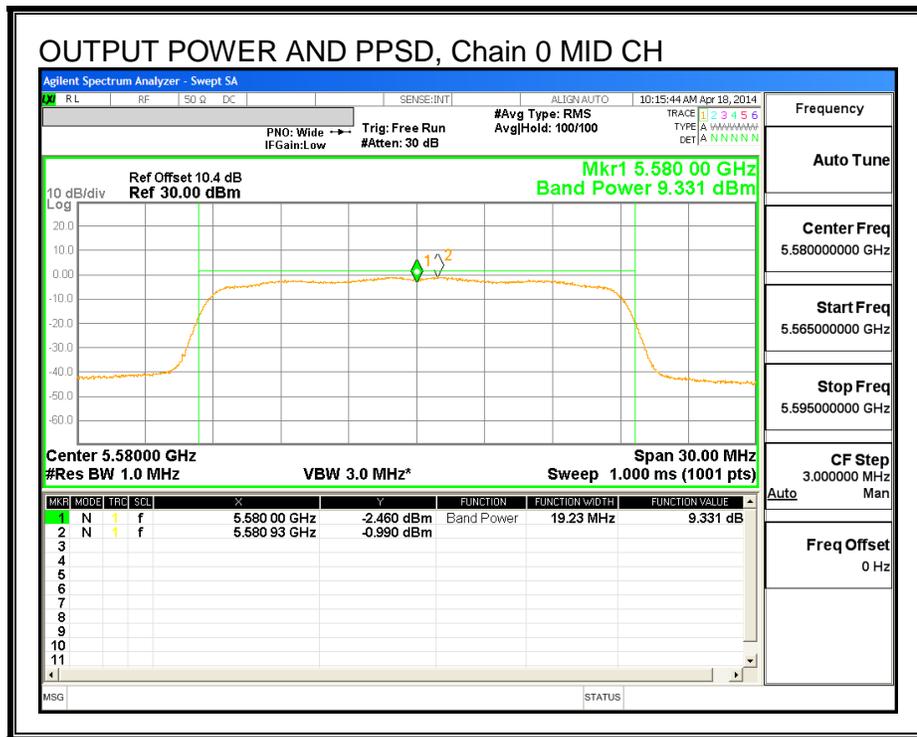
802.11n HT40 5.3G OUTPUT POWER AND PPSD, Chain 0



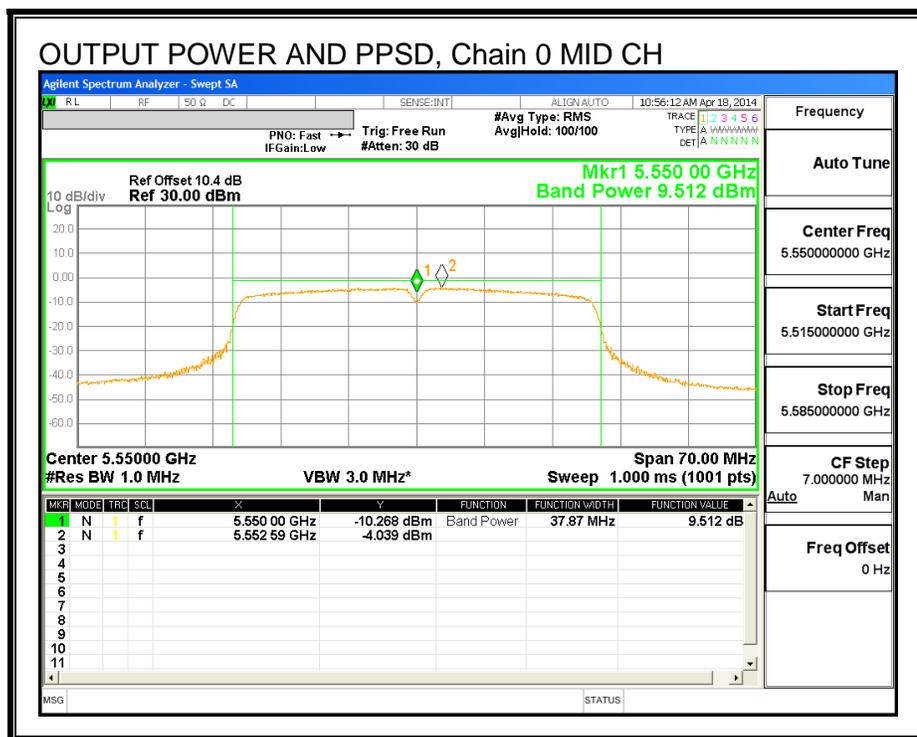
802.11a 5.5G OUTPUT POWER AND PPSD, Chain 0



802.11n HT20 5.5G OUTPUT POWER AND PPSD, Chain 0



802.11n HT40 5.5G OUTPUT POWER AND PPSD, Chain 0



10.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

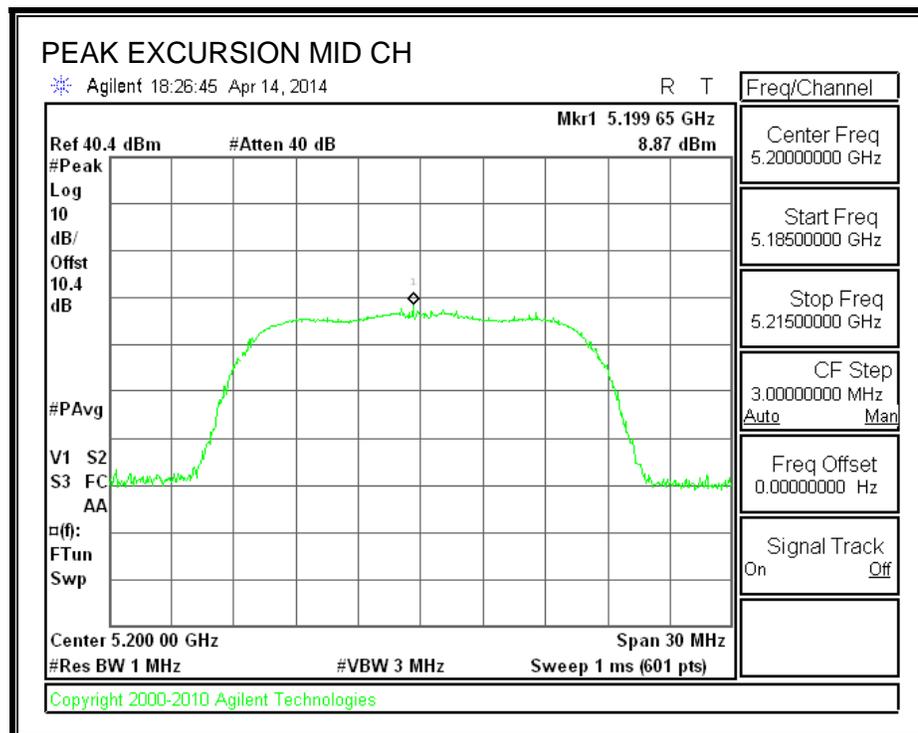
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

10.5.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	8.870	-0.55	0.20	9.22	13	-3.78

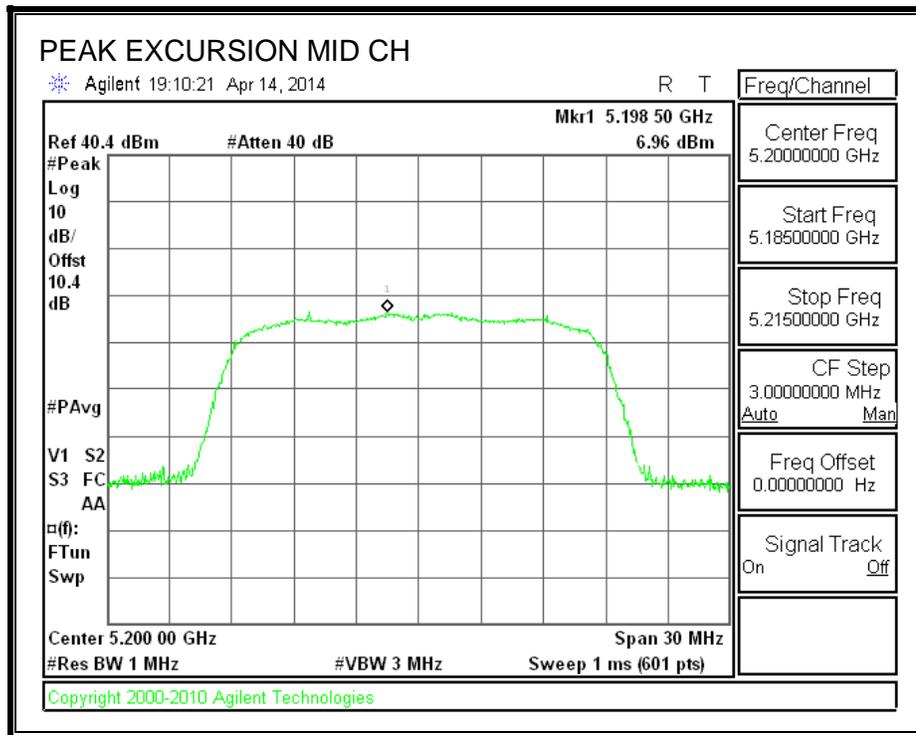
PEAK EXCURSION



10.5.1. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	6.960	-1.05	0.22	7.79	13	-5.21

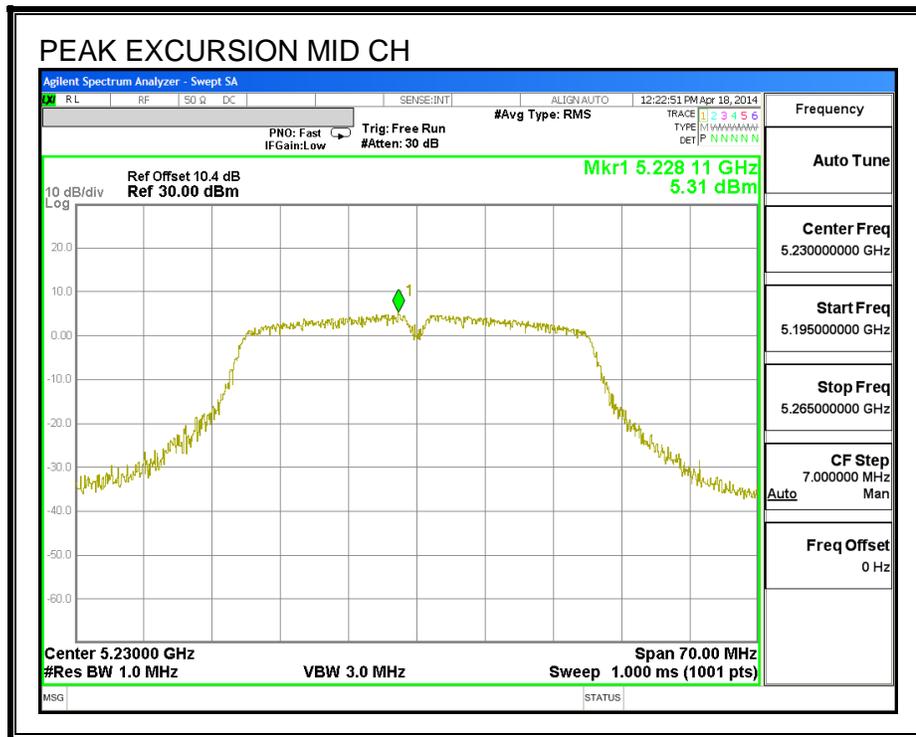
PEAK EXCURSION



10.5.1. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5230	5.310	-3.07	0.43	7.95	13	-5.05

PEAK EXCURSION



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 H) 6) d) Method VB:

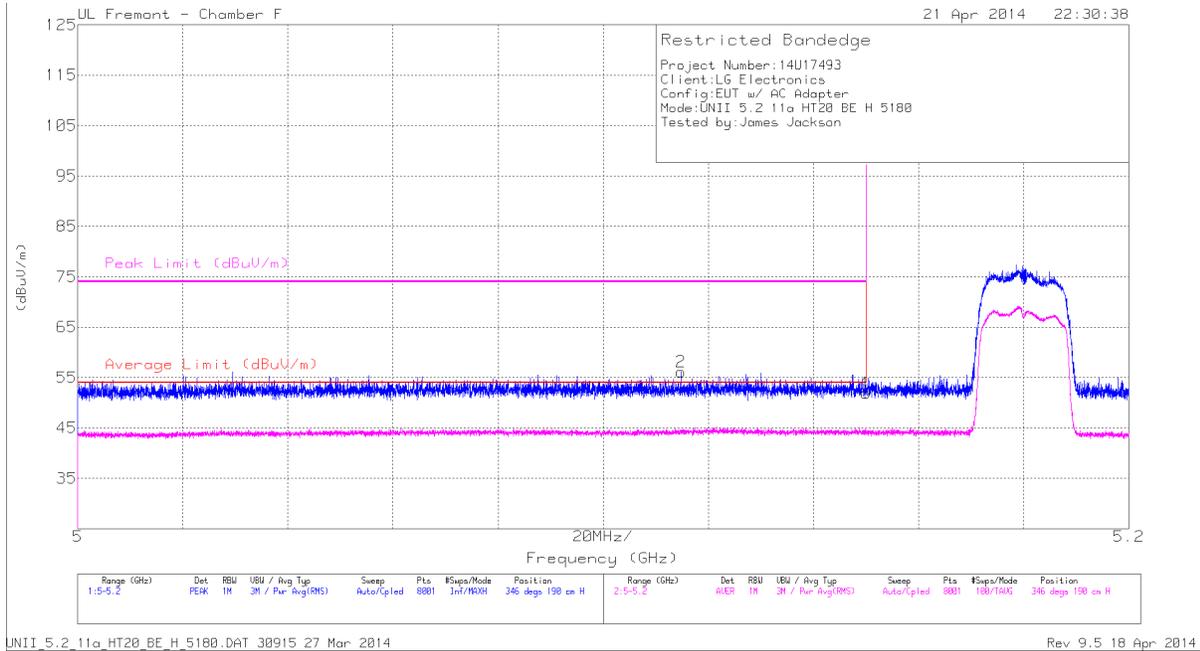
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

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)

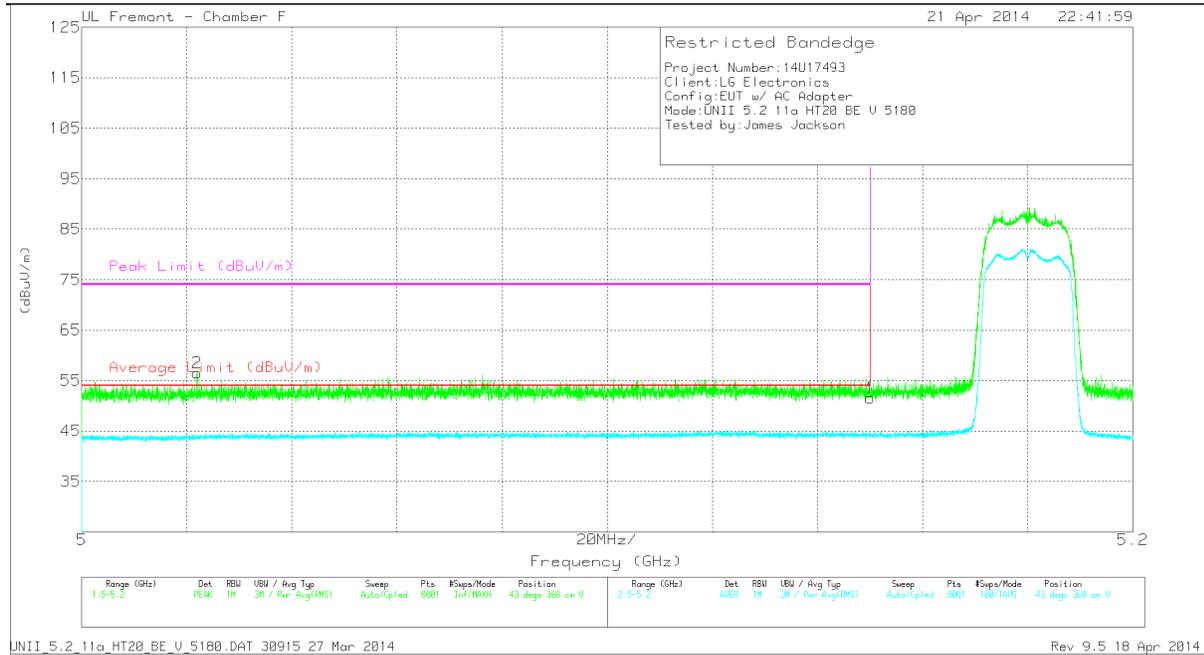


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	36.81	PK	34.4	-19.3	51.91	-	-	74	-22.09	346	190	H
2	* 5.115	41.31	PK	34.3	-19.5	56.11	-	-	74	-17.89	346	190	H
3	* 5.15	29.23	RMS	34.4	-19.3	44.33	54	-9.67	-	-	346	190	H
4	* 5.122	30.07	RMS	34.4	-19.3	45.17	54	-8.83	-	-	346	190	H

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

PK - Peak detector

RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Ftr/Pad (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	36.49	PK	34.4	-19.3	51.59	-	-	74	-22.41	43	368	V
2	* 5.022	42.35	PK	34.3	-20.2	56.45	-	-	74	-17.55	43	368	V
3	* 5.15	29.23	RMS	34.4	-19.3	44.33	54	-9.67	-	-	43	368	V
4	* 5.123	30.06	RMS	34.4	-19.3	45.16	54	-8.84	-	-	43	368	V

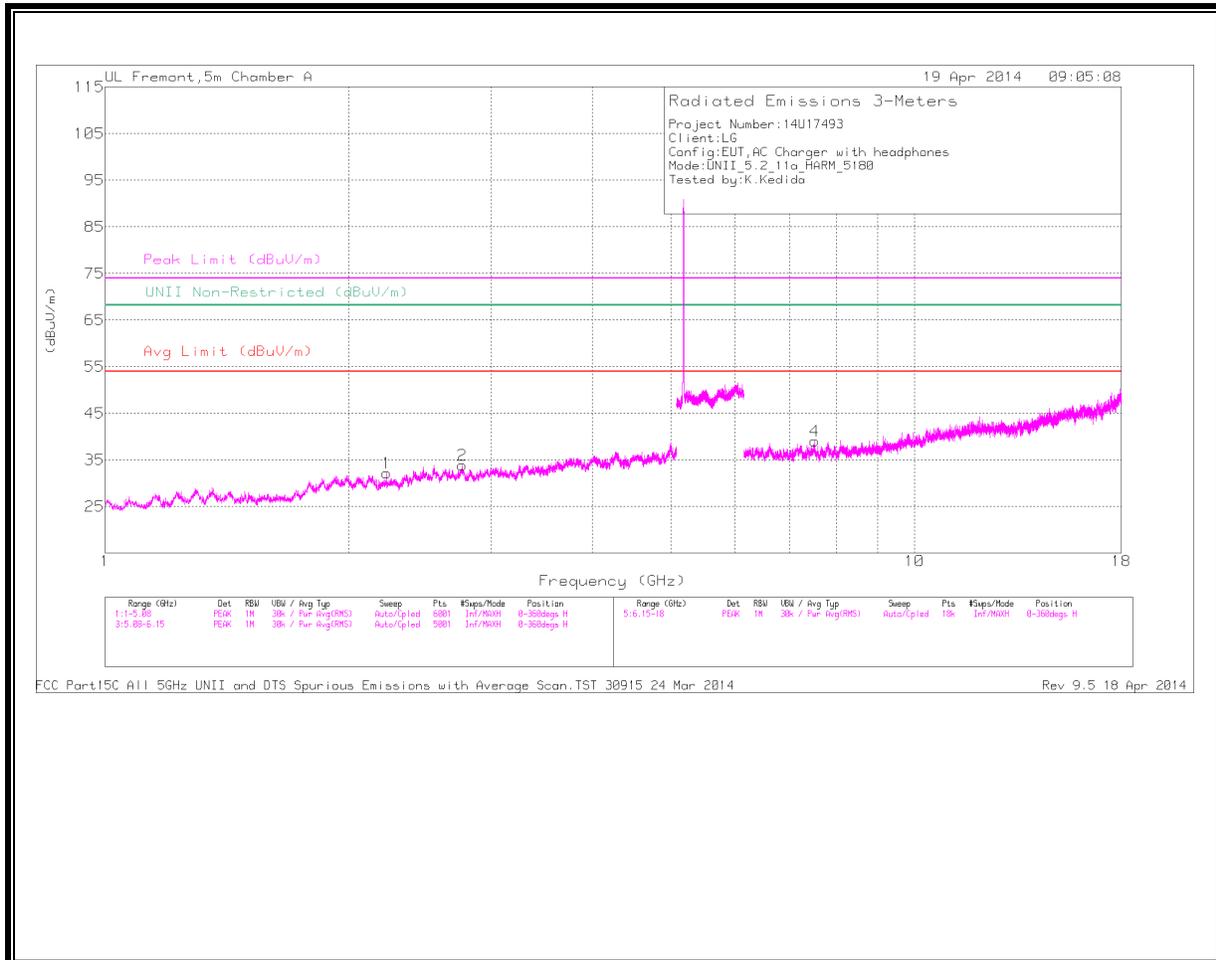
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

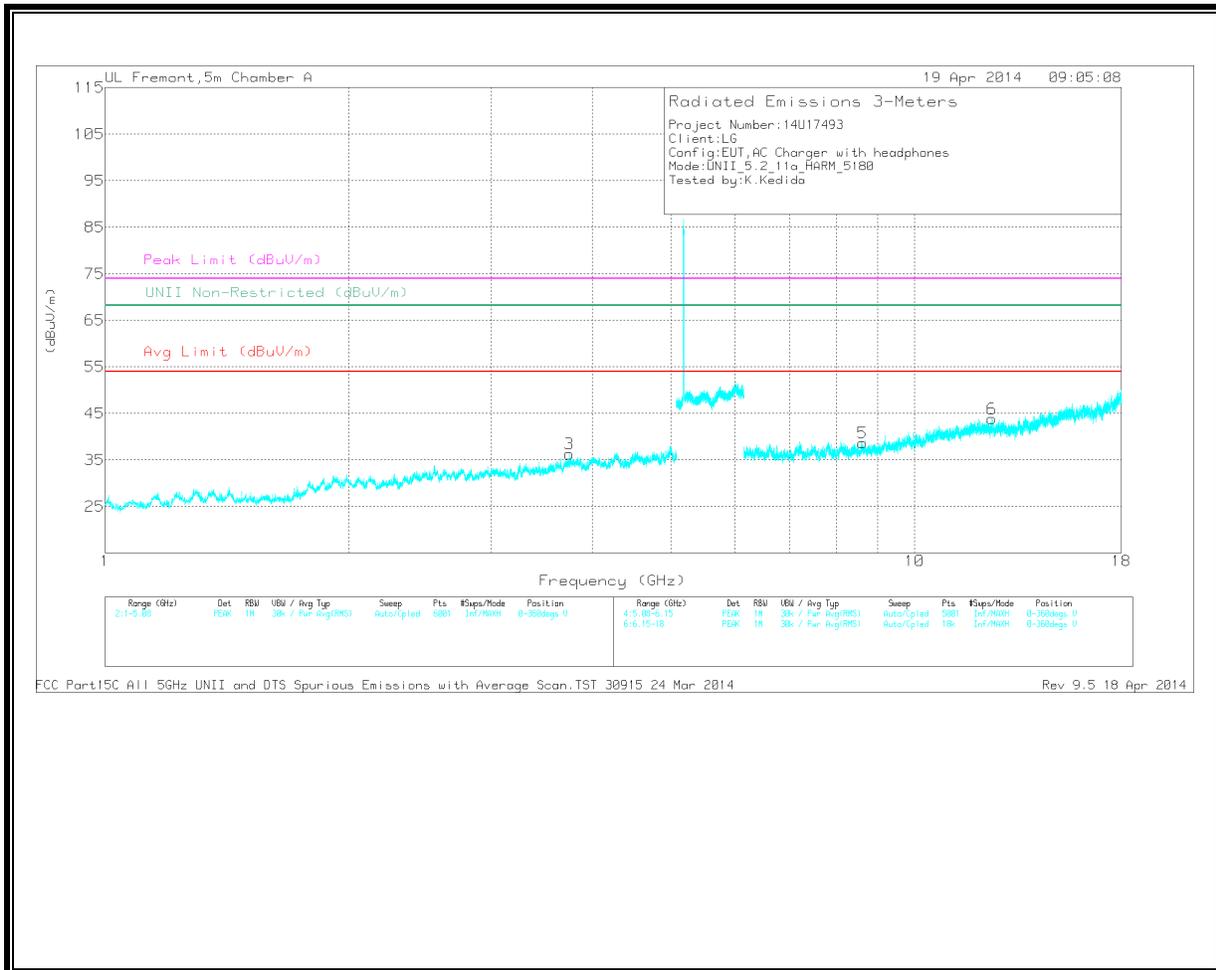
HARMONICS AND SPURIOUS EMISSIONS

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.

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/Fitr/Pad (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	* 2.227	34.37	PK	31.3	-33.5	32.17	-	-	74	-41.83	-	-	0-360	200	H
2	* 2.764	33.61	PK	32.7	-32.4	33.91	-	-	74	-40.09	-	-	0-360	200	H
3	* 3.747	32.99	PK	33.5	-30.2	36.29	-	-	74	-37.71	-	-	0-360	201	V
4	* 7.521	28.75	PK	35.3	-25	39.05	-	-	74	-34.95	-	-	0-360	200	H
6	* 12.46	27.2	PK	38.8	-22.1	43.9	-	-	74	-30.1	-	-	0-360	100	V
5	8.619	28.37	PK	35.7	-25.4	38.67	-	-	-	-	68.2	-29.53	0-360	100	V

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

PK - Peak detector

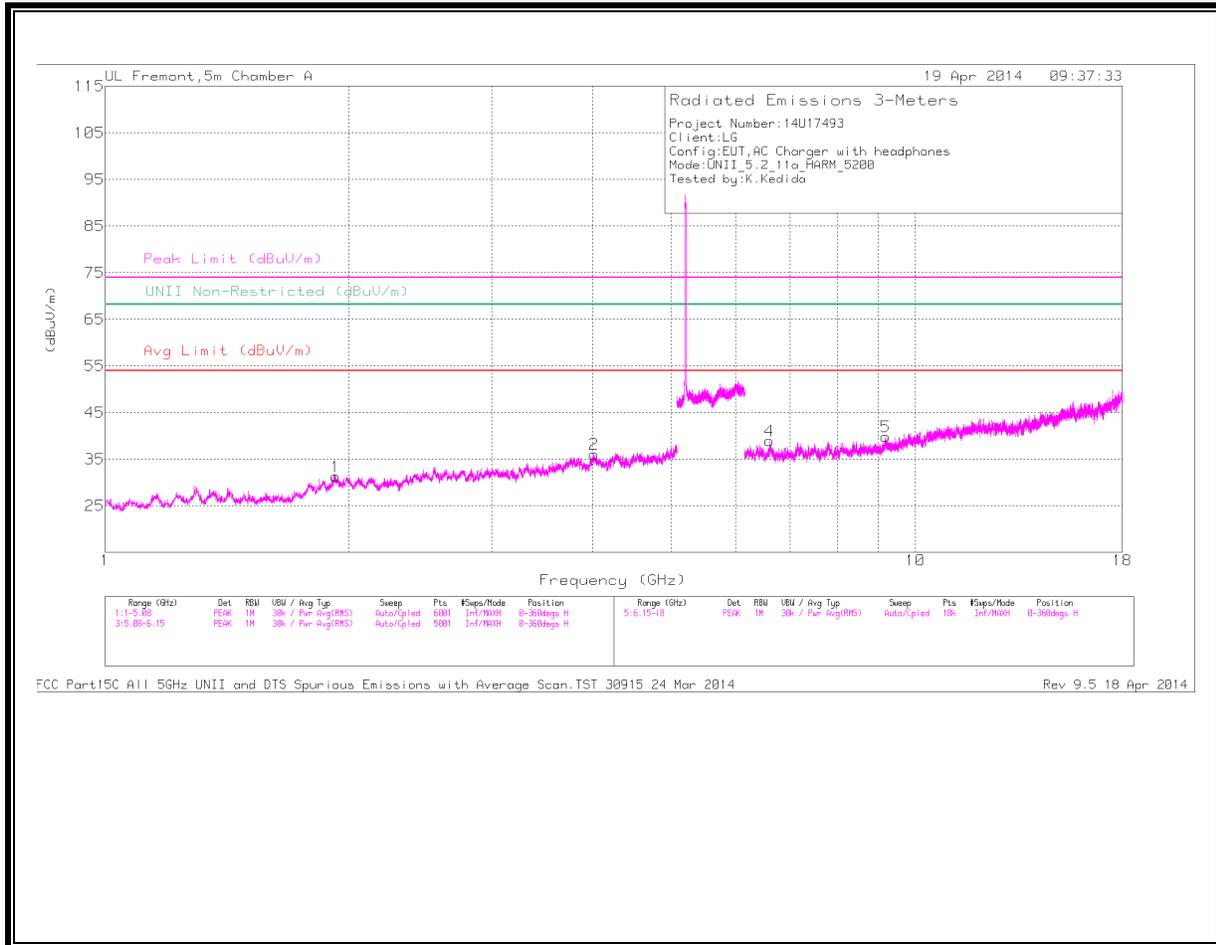
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr/Pad (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
* 2.227	40.95	PK1	31.3	-33.5	38.75	-	-	74	-35.25	-	-	359	100	H
* 2.764	40.79	PK1	32.7	-32.4	41.09	-	-	74	-32.91	-	-	359	100	H
* 3.747	40.31	PK1	33.5	-30.2	43.61	-	-	74	-30.39	-	-	359	100	V
* 7.521	36.48	PK1	35.3	-25	46.78	-	-	74	-27.22	-	-	359	100	H
* 12.46	34.65	PK1	38.8	-22.1	51.35	-	-	74	-22.65	-	-	359	100	V
8.62	36.42	PK1	35.7	-25.4	46.72	-	-	-	-	68.2	-21.48	359	100	V

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

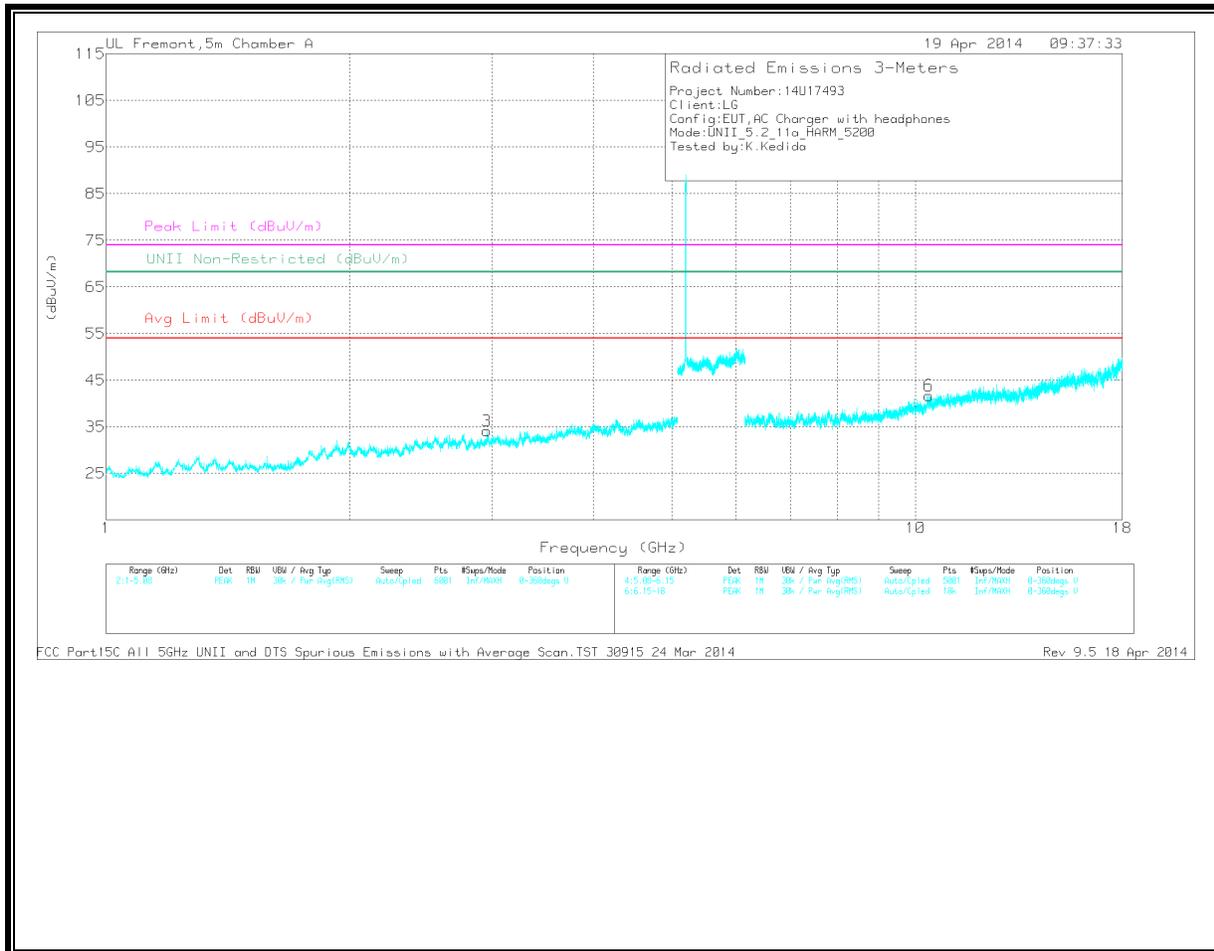
PK1 - KDB789033 Method: Peak

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.

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/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.01	32.08	PK	33.7	-29.7	0	36.08	-	-	74	-37.92	-	-	0-360	200	H
5	* 9.188	28.1	PK	36.1	-24.3	0	39.9	-	-	74	-34.1	-	-	0-360	200	H
1	1.925	34.06	PK	31.8	-34.6	0	31.26	-	-	-	-	68.2	-36.94	0-360	100	H
3	2.956	33.76	PK	32.7	-32.3	0	34.16	-	-	-	-	68.2	-34.04	0-360	200	V
4	6.607	29.37	PK	35.5	-25.9	0	38.97	-	-	-	-	68.2	-29.23	0-360	100	H
6	10.38	26.94	PK	37.3	-22.5	0	41.74	-	-	-	-	68.2	-26.46	0-360	100	V

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

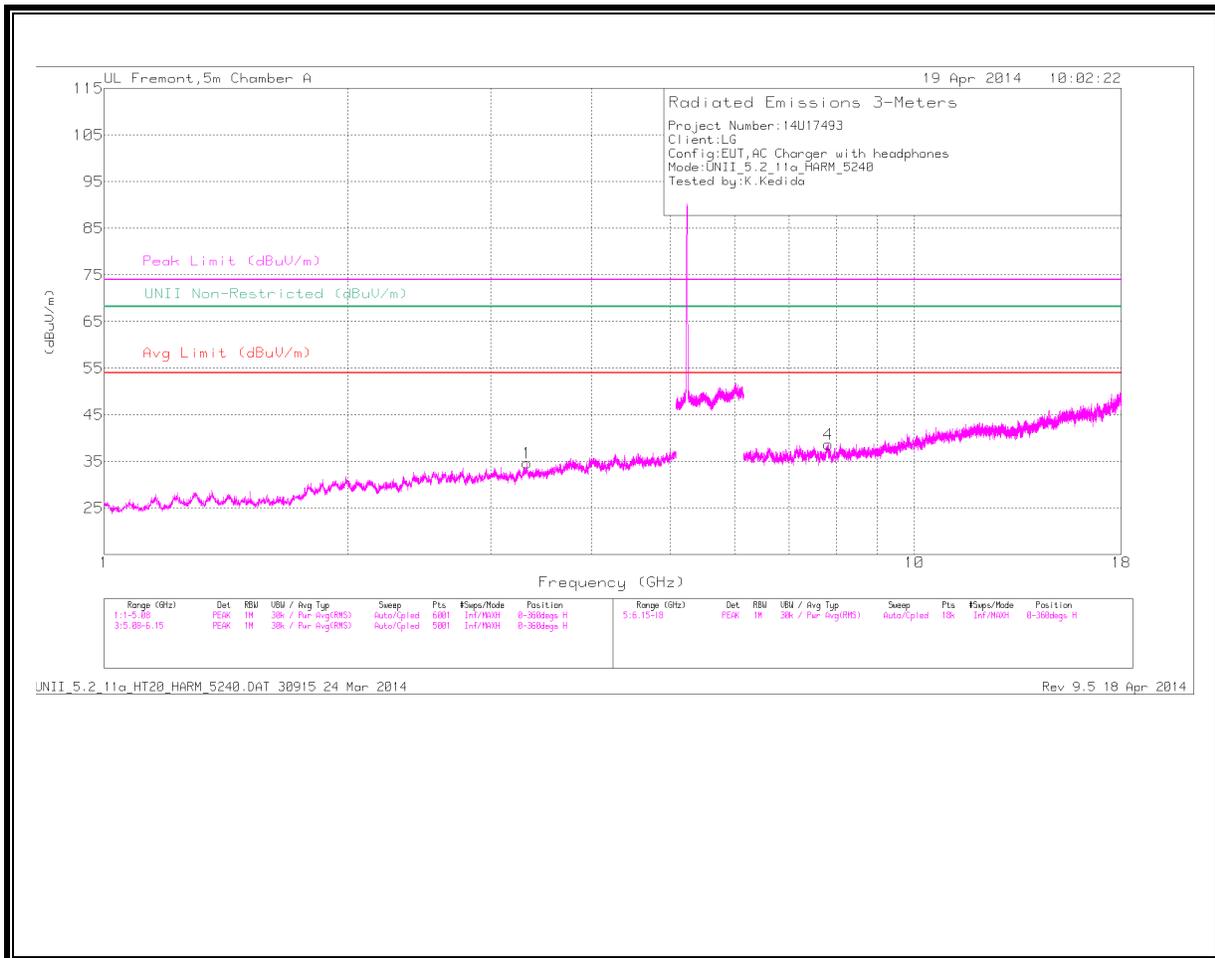
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.011	39.67	PK1	33.7	-29.7	0	43.67	-	-	74	-30.33	-	-	359	100	H
* 9.187	36.41	PK1	36.1	-24.3	0	48.21	-	-	74	-25.79	-	-	359	100	H
1.924	42.37	PK1	31.8	-34.6	0	39.57	-	-	-	-	68.2	-28.63	359	100	H
2.955	41.15	PK1	32.7	-32.3	0	41.55	-	-	-	-	68.2	-26.65	359	100	V
6.605	37.29	PK1	35.5	-26	0	46.79	-	-	-	-	68.2	-21.41	359	100	H
10.379	35.46	PK1	37.3	-22.6	0	50.16	-	-	-	-	68.2	-18.04	359	100	V

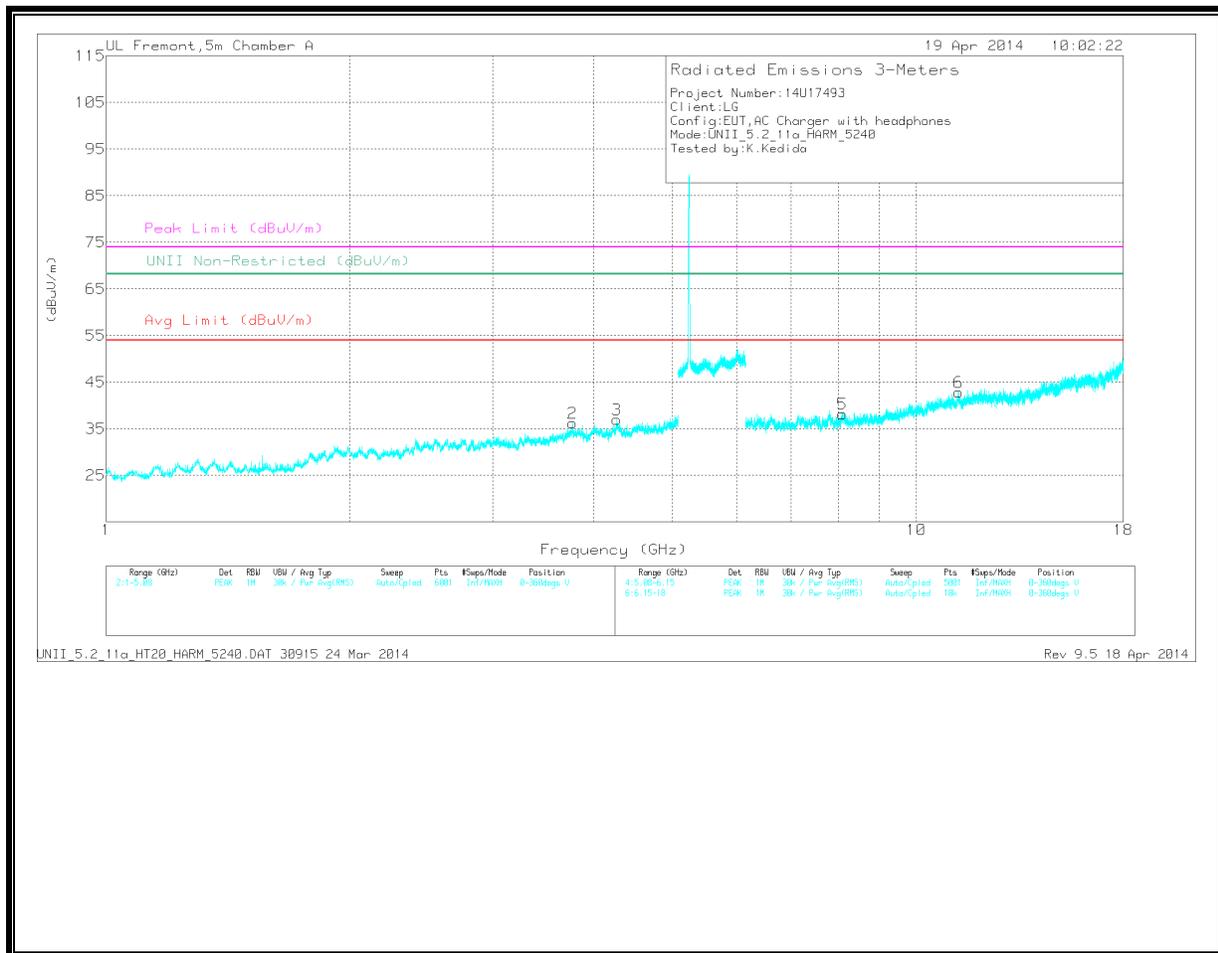
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak



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

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/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
2	* 3.762	32.36	PK	33.5	-29.6	0	36.26	-	-	74	-37.74	-	-	0-360	100	V
3	* 4.266	31.28	PK	34	-28.3	0	36.98	-	-	74	-37.02	-	-	0-360	100	V
5	* 8.108	27.62	PK	35.5	-24.9	0	38.22	-	-	74	-35.78	-	-	0-360	201	V
6	* 11.282	26.75	PK	37.9	-21.8	0	42.85	-	-	74	-31.15	-	-	0-360	100	V
1	3.328	32.81	PK	33	-31.2	0	34.61	-	-	-	-	68.2	-33.59	0-360	200	H
4	7.824	27.73	PK	35.5	-24.6	0	38.63	-	-	-	-	68.2	-29.57	0-360	100	H

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

PK - Peak detector

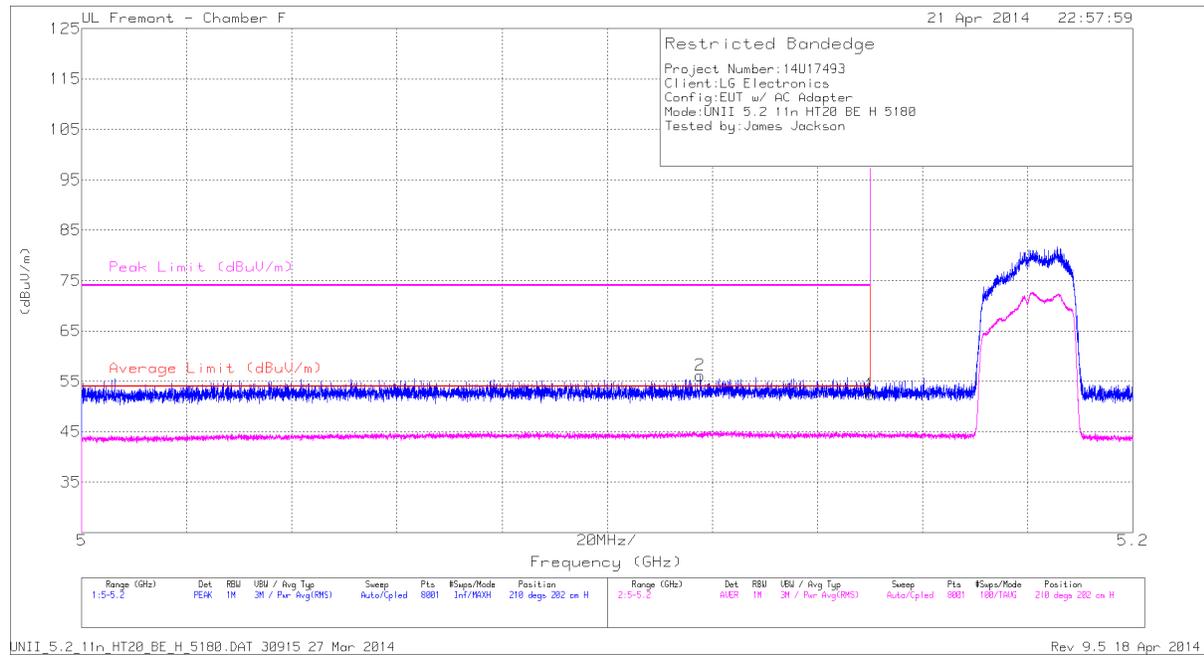
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 3.762	39.72	PK1	33.5	-29.6	0	43.62	-	-	74	-30.38	-	-	359	100	V
* 4.267	39.16	PK1	34	-28.3	0	44.86	-	-	74	-29.14	-	-	359	100	V
* 8.108	36.53	PK1	35.5	-24.9	0	47.13	-	-	74	-26.87	-	-	359	100	V
* 11.283	34.15	PK1	37.9	-21.8	0	50.25	-	-	74	-23.75	-	-	359	100	V
3.326	40.38	PK1	33	-31.1	0	42.28	-	-	-	-	68.2	-25.92	359	100	H
7.824	36.34	PK1	35.5	-24.6	0	47.24	-	-	-	-	68.2	-20.96	359	100	H

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

PK1 - KDB789033 Method: Peak

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

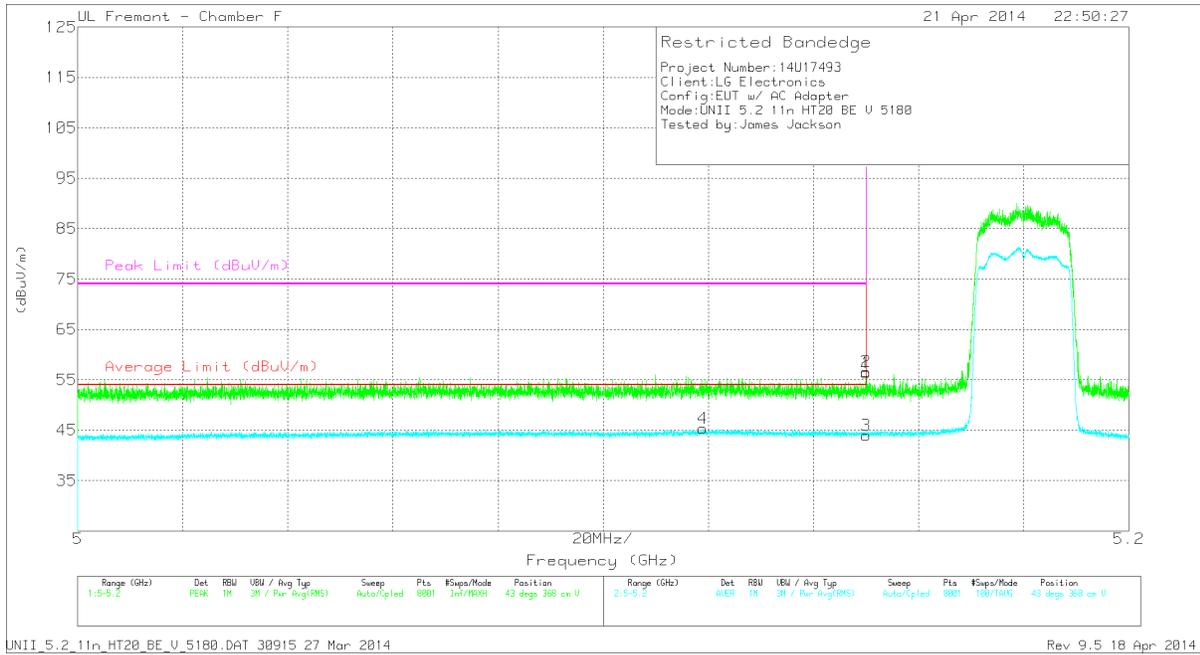


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.36	PK	34.4	-19.3	52.46	-	-	74	-21.54	210	202	H
2	* 5.118	41.19	PK	34.4	-19.4	56.19	-	-	74	-17.81	210	202	H
3	* 5.15	28.88	RMS	34.4	-19.3	43.98	54	-10.02	-	-	210	202	H
4	* 5.124	30.08	RMS	34.4	-19.3	45.18	54	-8.82	-	-	210	202	H

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

PK - Peak detector

RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Ftr/Pad (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	41.23	PK	34.4	-19.3	56.33	-	-	74	-17.67	43	368	V
2	* 5.15	41.57	PK	34.4	-19.3	56.67	-	-	74	-17.33	43	368	V
3	* 5.15	28.82	RMS	34.4	-19.3	43.92	54	-10.08	-	-	43	368	V
4	* 5.119	30.28	RMS	34.4	-19.4	45.28	54	-8.72	-	-	43	368	V

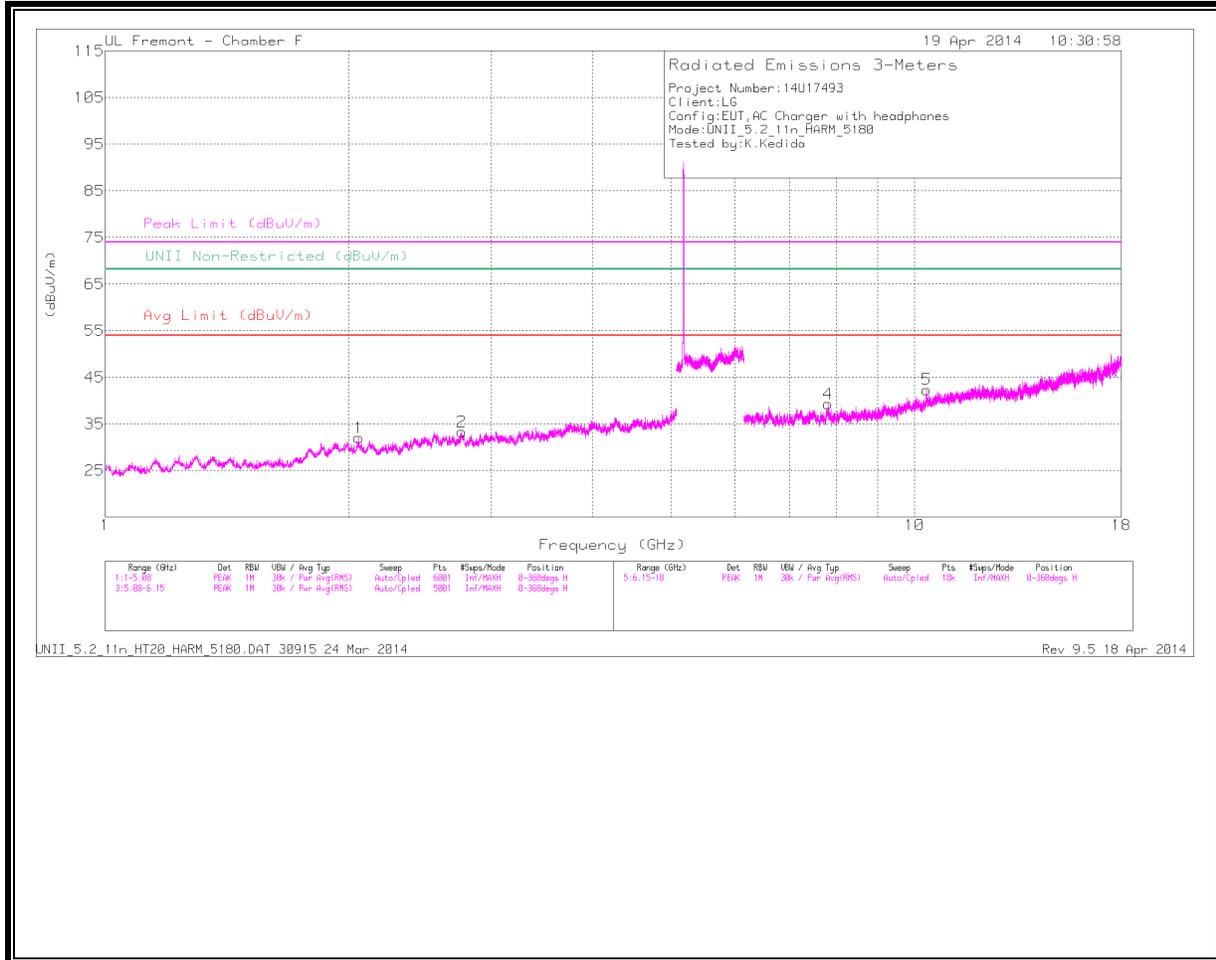
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

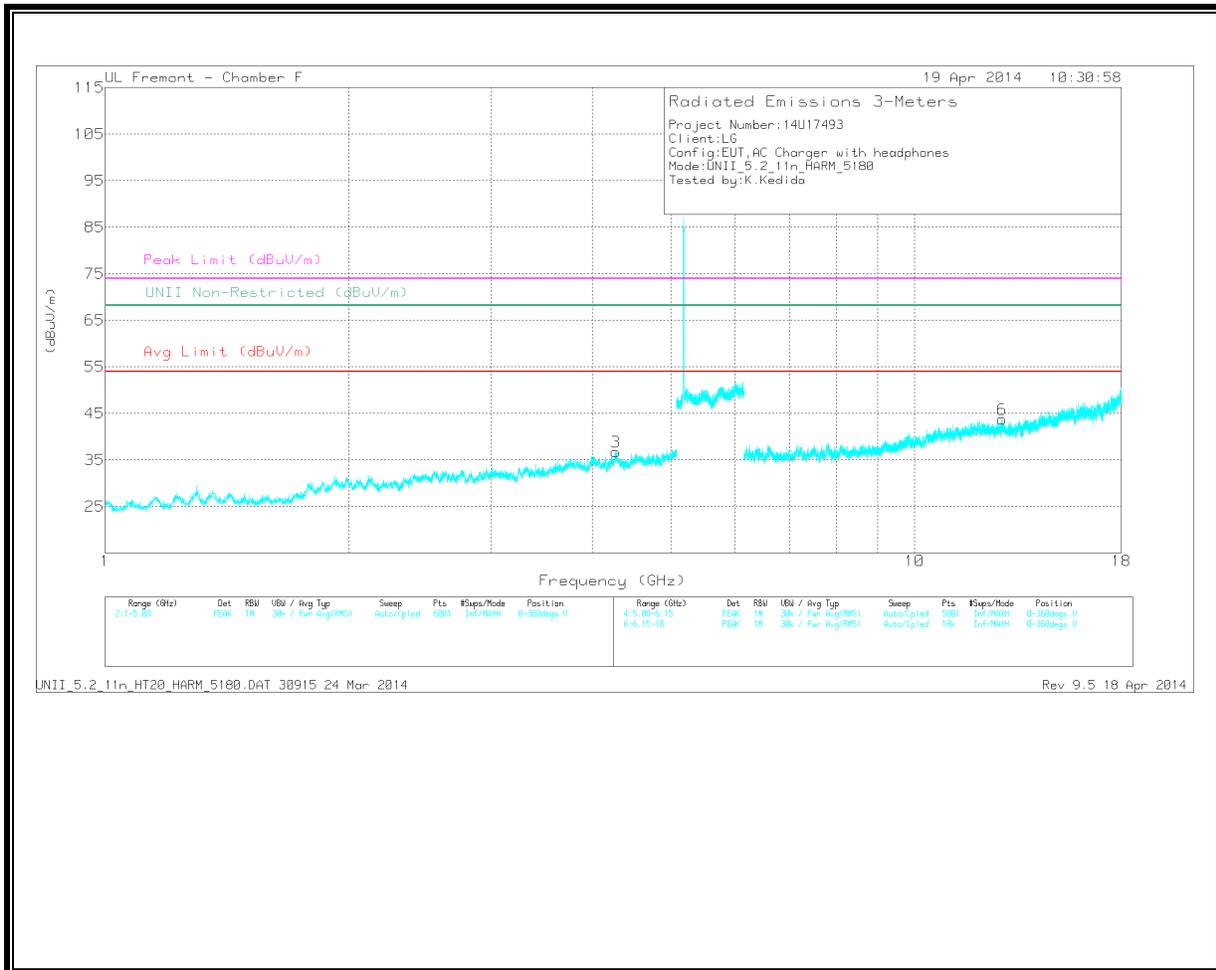
HARMONICS AND SPURIOUS EMISSIONS

**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.

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/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.057	35.06	PK	31.9	-34.9	0	32.06	-	-	-	-	68.2	-36.14	0-360	100	H
2	* 2.757	32.61	PK	32.7	-31.9	0	33.41	-	-	74	-40.59	-	-	0-360	100	H
3	* 4.271	31.49	PK	34	-28.7	0	36.79	-	-	74	-37.21	-	-	0-360	200	V
4	7.815	28.21	PK	35.5	-24.4	0	39.31	-	-	-	-	68.2	-28.89	0-360	100	H
5	10.342	27.29	PK	37.3	-22.2	0	42.39	-	-	-	-	68.2	-25.81	0-360	100	H
6	12.82	26.91	PK	39	-22.1	0	43.81	-	-	-	-	68.2	-24.39	0-360	100	V

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

PK - Peak detector

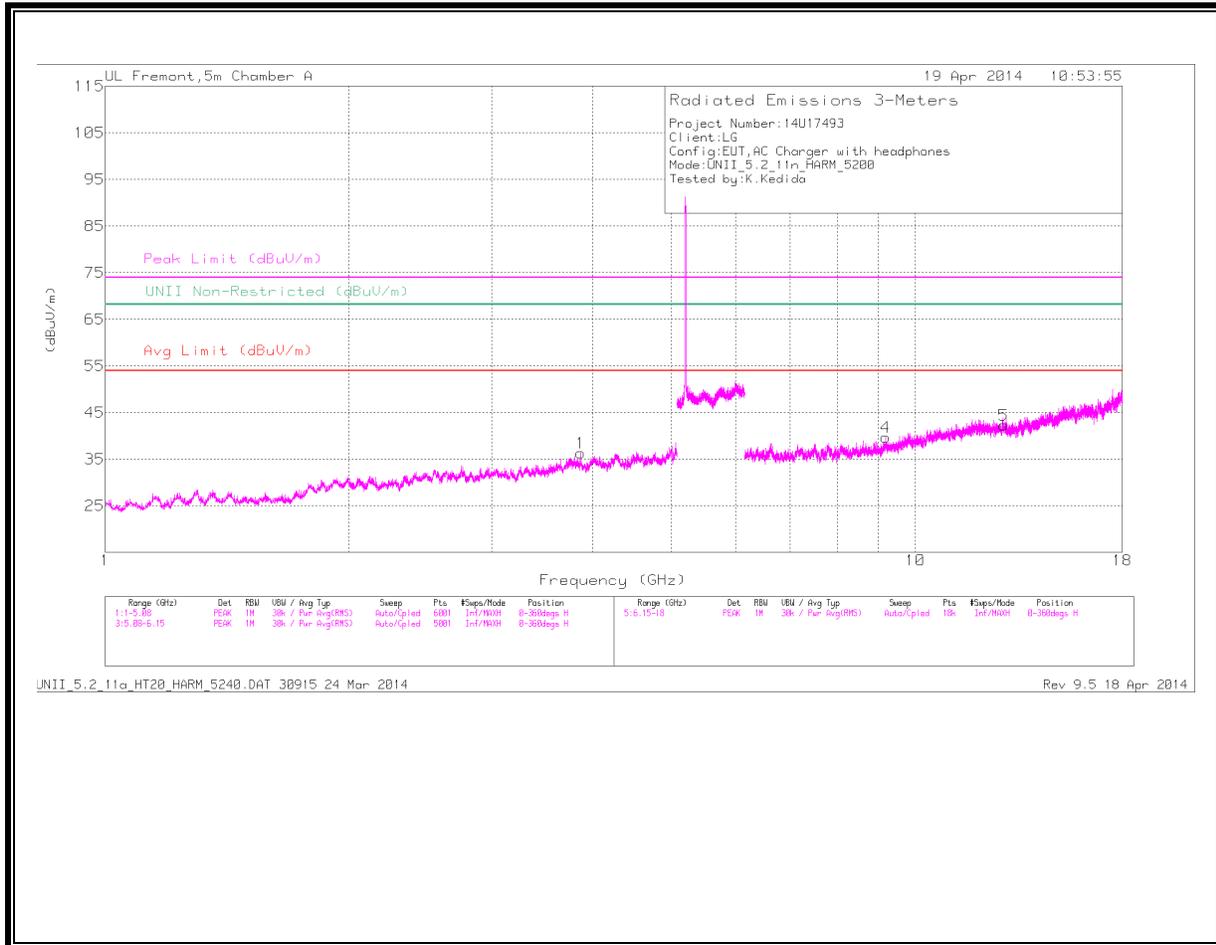
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.055	43.17	PK1	31.9	-34.9	0	40.17	-	-	-	-	68.2	-28.03	359	100	H
* 2.757	40.71	PK1	32.7	-31.9	0	41.51	-	-	74	-32.49	-	-	359	100	H
* 4.272	38.89	PK1	34	-28.7	0	44.19	-	-	74	-29.81	-	-	359	100	V
7.815	36.82	PK1	35.5	-24.4	0	47.92	-	-	-	-	68.2	-20.28	359	100	H
10.343	35.28	PK1	37.3	-22.2	0	50.38	-	-	-	-	68.2	-17.82	359	100	H
12.819	34.41	PK1	39	-22	0	51.41	-	-	-	-	68.2	-16.79	359	100	V

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

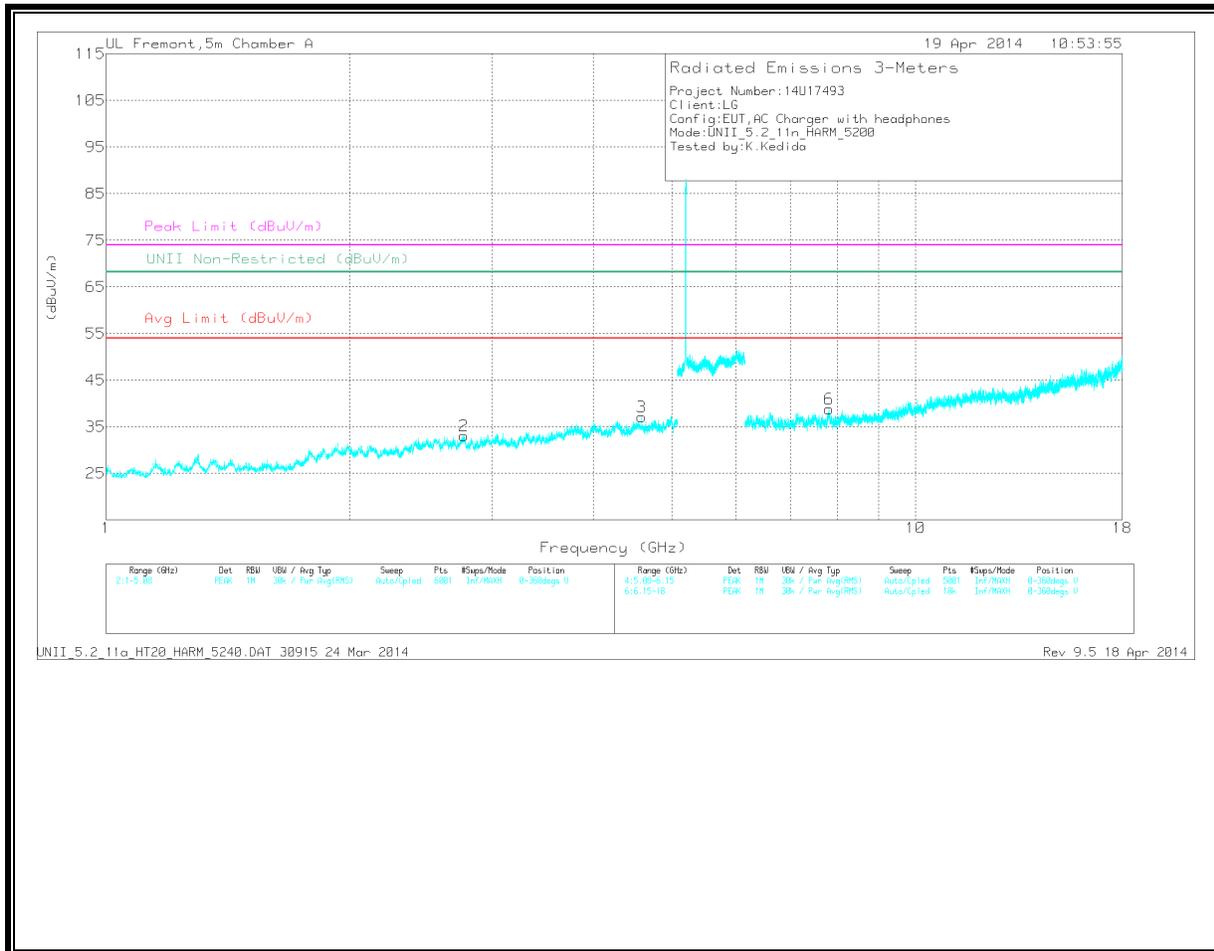
PK1 - KDB789033 Method: Peak

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.

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/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.861	33.58	PK	33.7	-30.9	0	36.38	-	-	74	-37.62	-	-	0-360	100	H
2	* 2.766	32.75	PK	32.7	-32.4	0	33.05	-	-	74	-40.95	-	-	0-360	100	V
3	* 4.586	32.81	PK	34	-29.7	0	37.11	-	-	74	-36.89	-	-	0-360	200	V
4	* 9.191	27.79	PK	36.1	-24.2	0	39.69	-	-	74	-34.31	-	-	0-360	100	H
6	7.82	27.6	PK	35.5	-24.3	0	38.8	-	-	-	-	68.2	-29.4	0-360	200	V
5	12.854	26.12	PK	39	-22.8	0	42.32	-	-	-	-	68.2	-25.88	0-360	100	H

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

PK - Peak detector

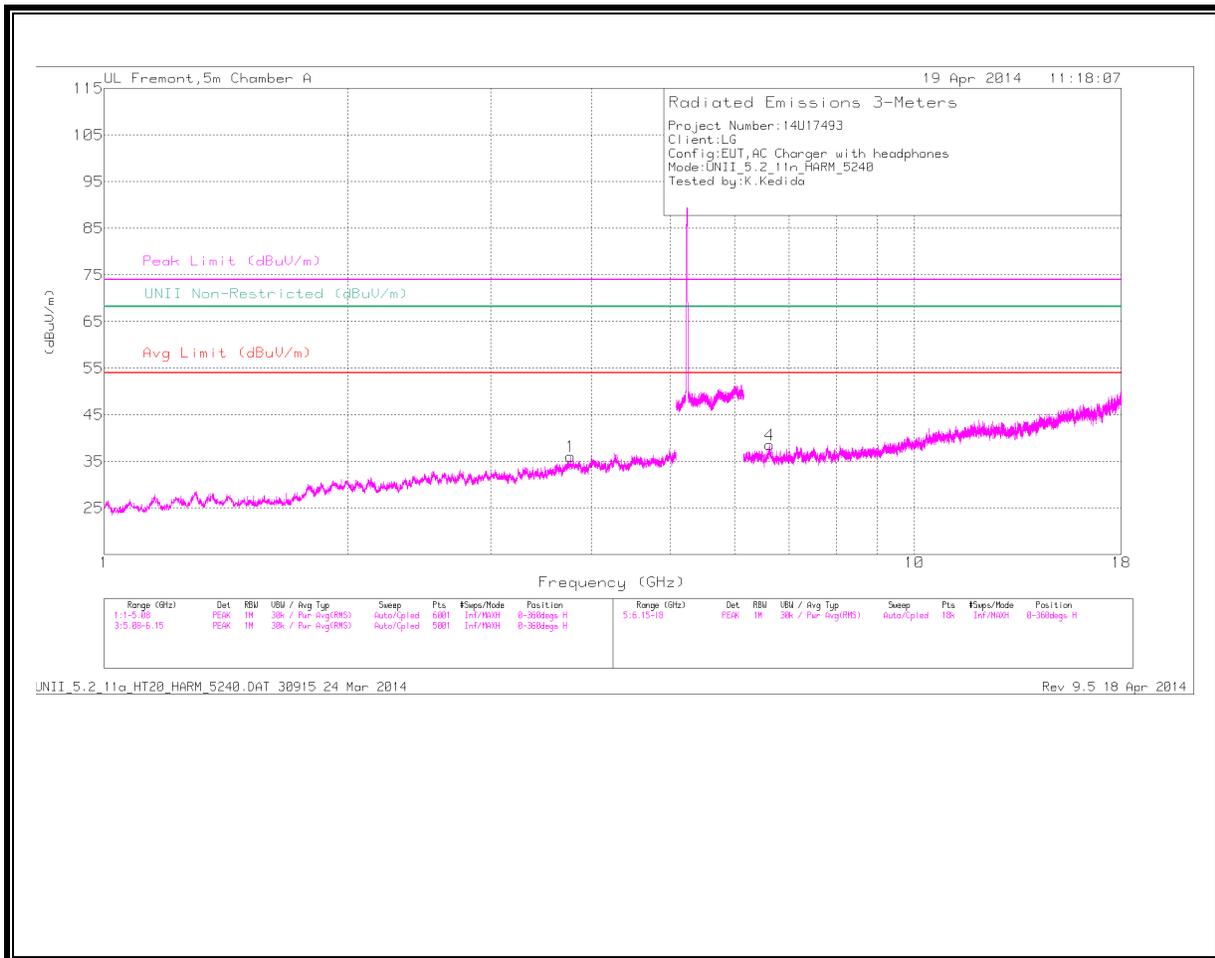
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.861	40.67	PK1	33.7	-30.9	0	43.47	-	-	74	-30.53	-	-	360	100	H
* 2.765	40.9	PK1	32.7	-32.4	0	41.2	-	-	74	-32.8	-	-	360	100	V
* 4.586	40.09	PK1	34	-29.7	0	44.39	-	-	74	-29.61	-	-	360	100	V
* 9.191	36.22	PK1	36.1	-24.2	0	48.12	-	-	74	-25.88	-	-	360	100	H
7.819	36.54	PK1	35.5	-24.3	0	47.74	-	-	-	-	68.2	-20.46	360	100	V
12.854	34.98	PK1	39	-22.8	0	51.18	-	-	-	-	68.2	-17.02	360	100	H

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

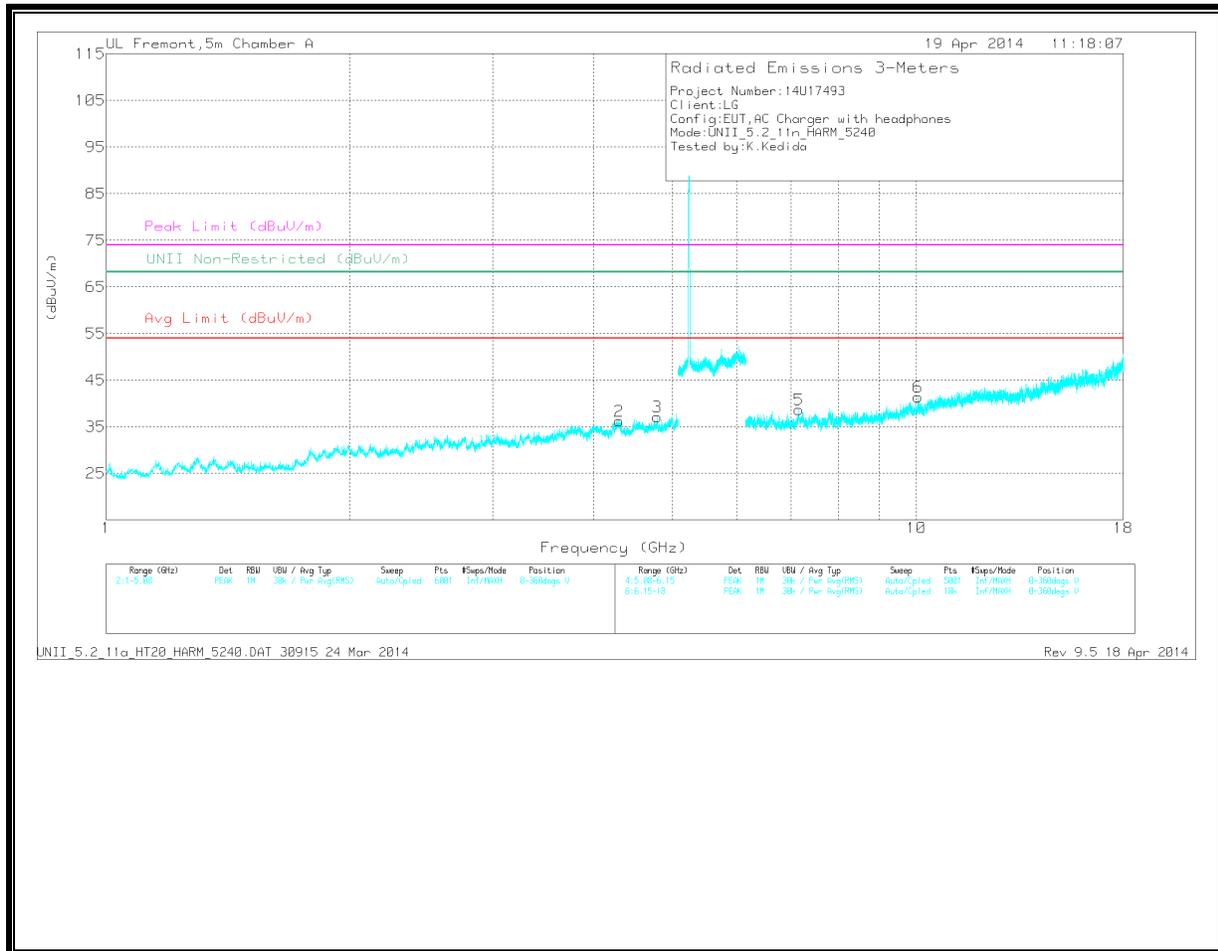
Avg - Video bandwidth < Resolution bandwidth

PK1 - KDB789033 Method: Peak



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

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/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.761	32.26	PK	33.5	-29.7	0	36.06	-	-	74	-37.94	-	-	0-360	200	H
2	* 4.295	31.77	PK	34	-29.6	0	36.17	-	-	74	-37.83	-	-	0-360	100	V
3	* 4.789	32.68	PK	34	-29.6	0	37.08	-	-	74	-36.92	-	-	0-360	200	V
4	6.63	28.9	PK	35.4	-25.8	0	38.5	-	-	-	-	68.2	-29.7	0-360	100	H
5	7.159	29.59	PK	35.3	-26.2	0	38.69	-	-	-	-	68.2	-29.51	0-360	200	V
6	10.053	27.46	PK	37.1	-23.1	0	41.46	-	-	-	-	68.2	-26.74	0-360	200	V

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

PK - Peak detector

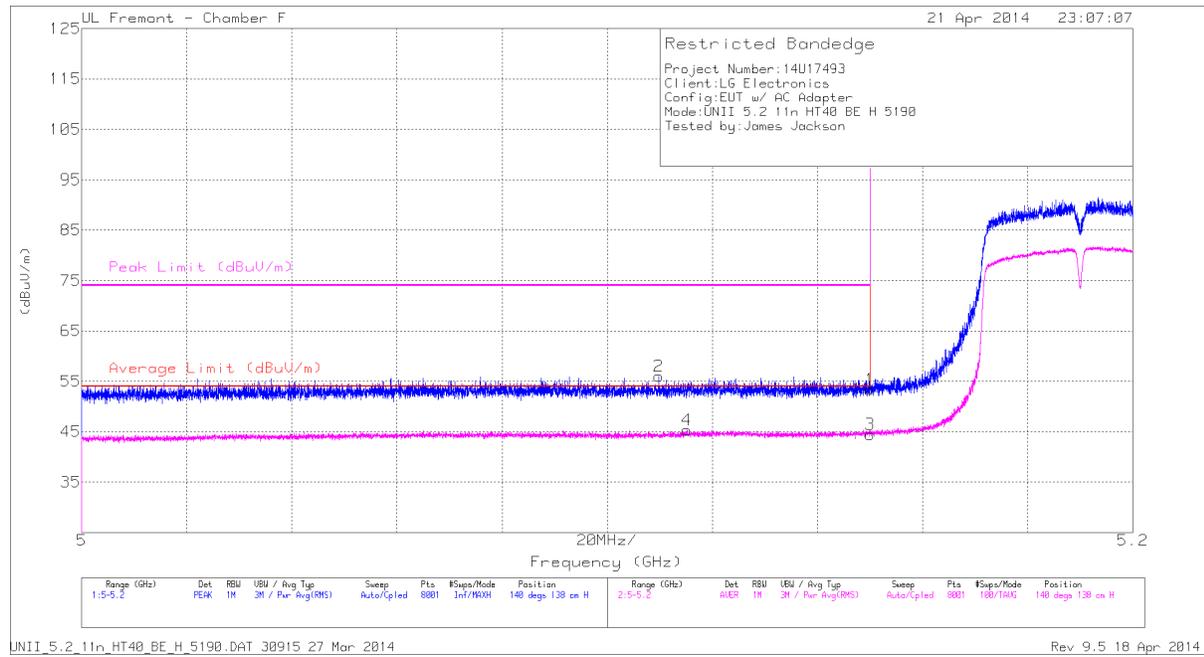
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.761	40.27	PK1	33.5	-29.7	0	44.07	-	-	74	-29.93	-	-	359	100	H
* 4.295	39.7	PK1	34	-29.6	0	44.1	-	-	74	-29.9	-	-	359	100	V
* 4.787	39.62	PK1	34	-29.6	0	44.02	-	-	74	-29.98	-	-	359	100	V
6.63	37.13	PK1	35.4	-25.8	0	46.73	-	-	-	-	68.2	-21.47	359	100	H
7.159	38.28	PK1	35.3	-26.2	0	47.38	-	-	-	-	68.2	-20.82	359	100	V
10.052	26.63	PK1	37.1	-23.1	0	40.63	-	-	-	-	68.2	-27.57	359	100	V

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

PK1 - KDB789033 Method: Peak

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

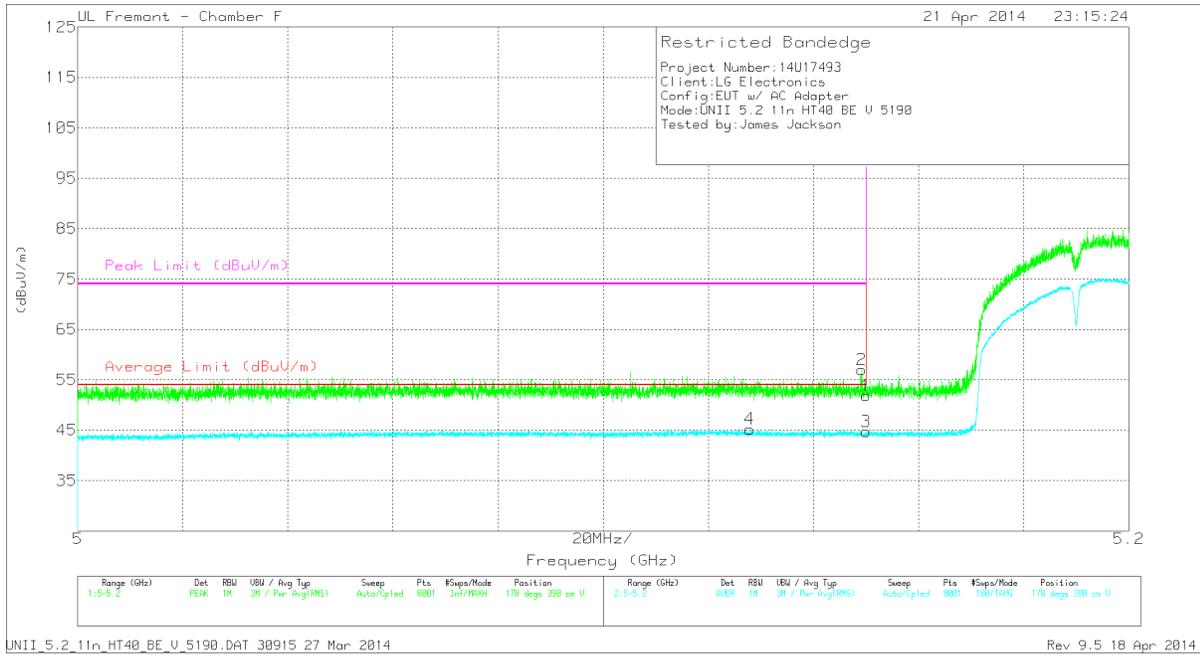


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.31	PK	34.4	-19.3	53.41	-	-	74	-20.59	140	138	H
2	* 5.11	41.28	PK	34.3	-19.6	55.98	-	-	74	-18.02	140	138	H
3	* 5.15	29.38	RMS	34.4	-19.3	44.48	54	-9.52	-	-	140	138	H
4	* 5.115	30.55	RMS	34.3	-19.5	45.35	54	-8.65	-	-	140	138	H

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

PK - Peak detector

RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Ftr/Pad (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	36.84	PK	34.4	-19.3	51.94	-	-	74	-22.06	178	390	V
2	* 5.149	41.86	PK	34.4	-19.3	56.96	-	-	74	-17.04	178	390	V
3	* 5.15	29.55	RMS	34.4	-19.3	44.65	54	-9.35	-	-	178	390	V
4	* 5.128	30.26	RMS	34.4	-19.4	45.26	54	-8.74	-	-	178	390	V

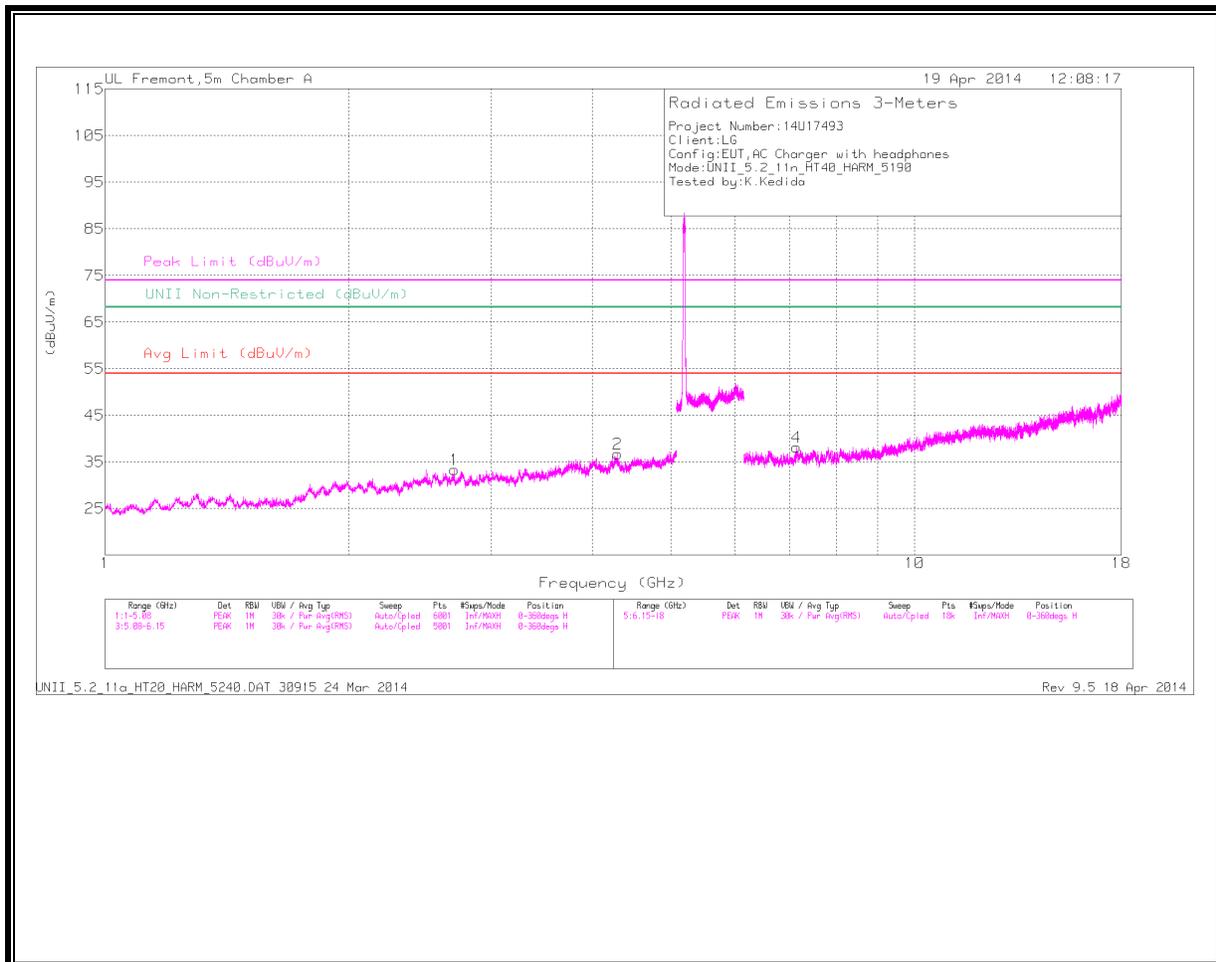
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

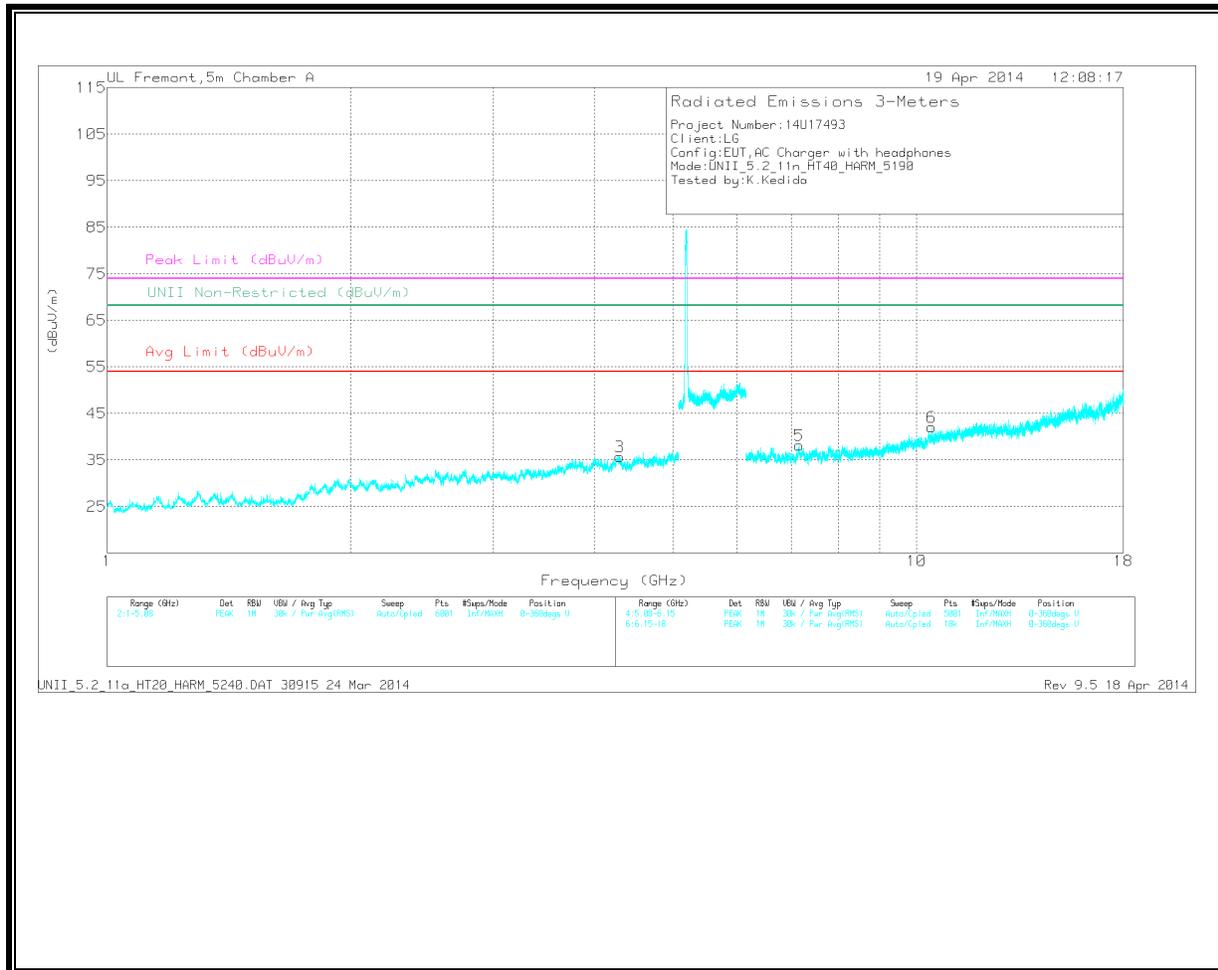
HARMONICS AND SPURIOUS EMISSIONS

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.

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/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.699	33.89	PK	32.7	-33.2	0	33.39	-	-	74	-40.61	-	-	0-360	200	H
2	* 4.295	32.38	PK	34	-29.6	0	36.78	-	-	74	-37.22	-	-	0-360	100	H
3	* 4.293	31.2	PK	34	-29.5	0	35.7	-	-	74	-38.3	-	-	0-360	100	V
4	7.147	29.37	PK	35.3	-26.5	0	38.17	-	-	-	-	68.2	-30.03	0-360	201	H
5	7.162	29	PK	35.3	-26.1	0	38.2	-	-	-	-	68.2	-30	0-360	201	V
6	10.426	26.37	PK	37.4	-21.7	0	42.07	-	-	-	-	68.2	-26.13	0-360	201	V

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

PK - Peak detector

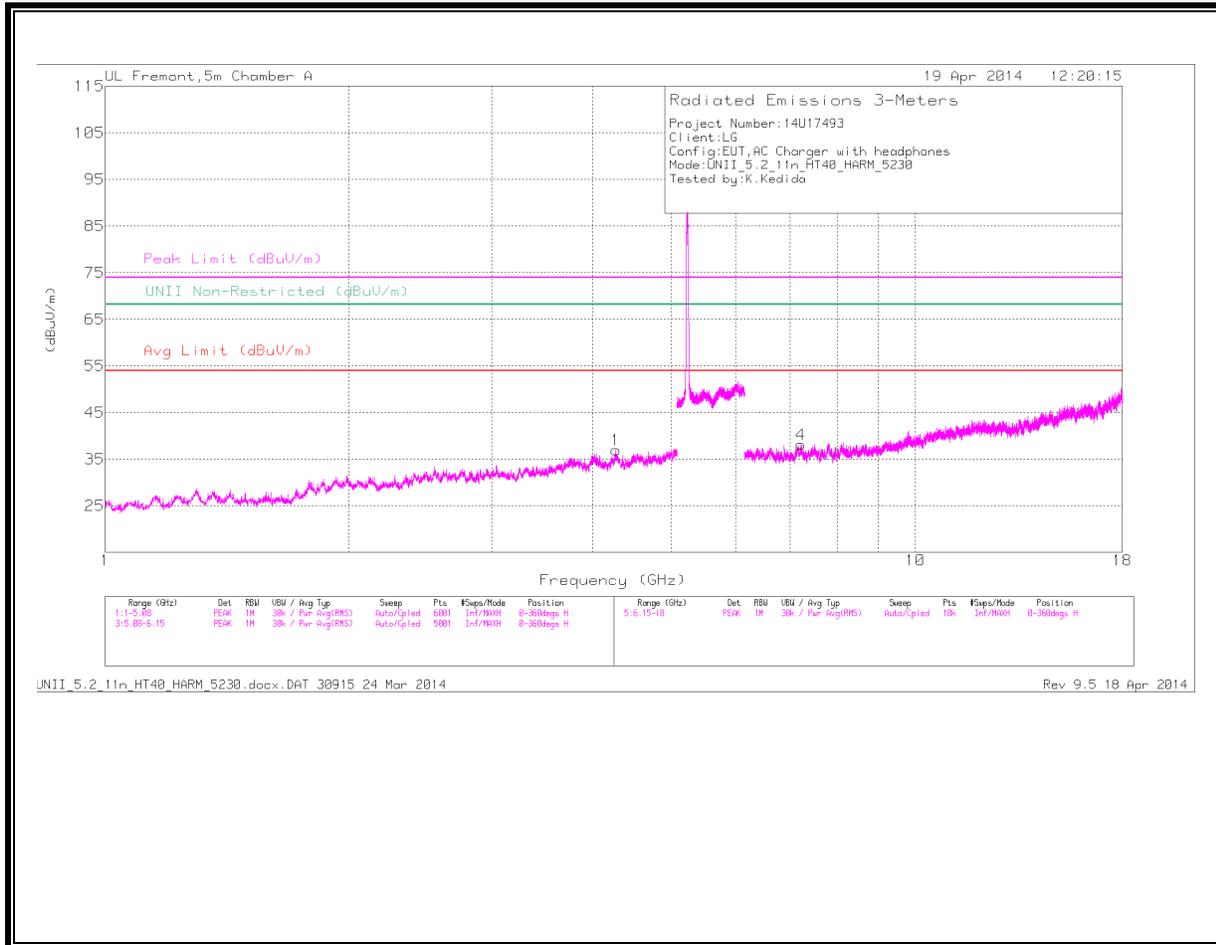
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.294	31.87	PK1	34	-29.6	0	36.27	-	-	74	-37.73	-	-	359	100	H
* 4.294	39.81	PK1	34	-29.6	0	44.21	-	-	74	-29.79	-	-	359	100	V
7.147	38.35	PK1	35.3	-26.5	0	47.15	-	-	-	-	68.2	-21.05	359	100	H
7.161	38.48	PK1	35.3	-26.1	0	47.68	-	-	-	-	68.2	-20.52	359	100	V
10.425	34.51	PK1	37.3	-21.6	0	50.21	-	-	-	-	68.2	-17.99	359	100	V

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

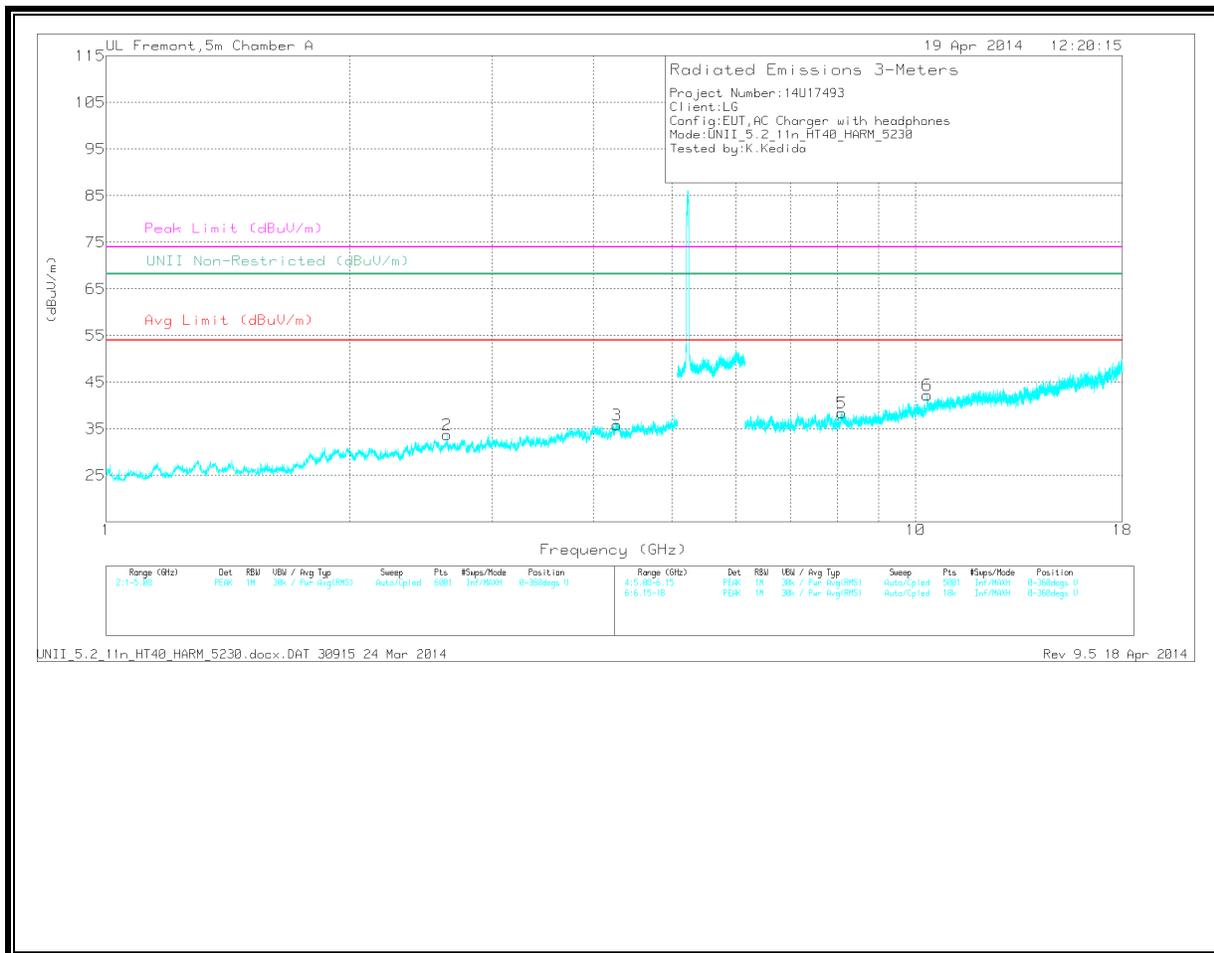
PK1 - KDB789033 Method: Peak

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.

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/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.271	31.64	PK	34	-28.6	0	37.04	-	-	74	-36.96	-	-	0-360	200	H
3	* 4.275	30.5	PK	34	-28.7	0	35.8	-	-	74	-38.2	-	-	0-360	201	V
5	* 8.107	27.87	PK	35.5	-24.9	0	38.47	-	-	74	-35.53	-	-	0-360	200	V
2	2.635	33.94	PK	32.9	-33.1	0	33.74	-	-	-	-	68.2	-34.46	0-360	201	V
4	7.224	28.42	PK	35.2	-25.5	0	38.12	-	-	-	-	68.2	-30.08	0-360	100	H
6	10.335	27.46	PK	37.3	-22.5	0	42.26	-	-	-	-	68.2	-25.94	0-360	200	V

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

PK - Peak detector

Radiated Emissions

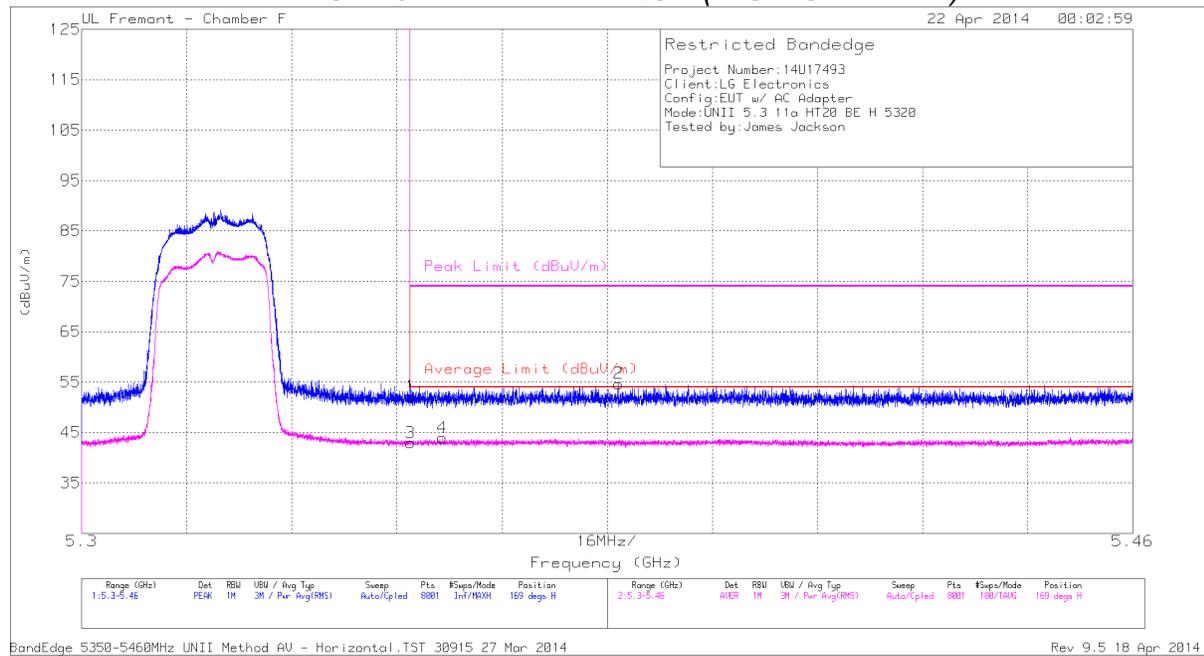
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.27	39.07	PK1	34	-28.6	0	44.47	-	-	74	-29.53	-	-	360	100	H
* 4.274	38.99	PK1	34	-28.7	0	44.29	-	-	74	-29.71	-	-	360	100	V
* 8.107	35.77	PK1	35.5	-24.9	0	46.37	-	-	74	-27.63	-	-	360	100	V
2.635	41.47	PK1	32.9	-33.1	0	41.27	-	-	-	-	68.2	-26.93	360	100	V
7.224	36.87	PK1	35.2	-25.5	0	46.57	-	-	-	-	68.2	-21.63	360	100	H
10.334	34.78	PK1	37.3	-22.6	0	49.48	-	-	-	-	68.2	-18.72	360	100	V

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

PK1 - KDB789033 Method: Peak

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)**

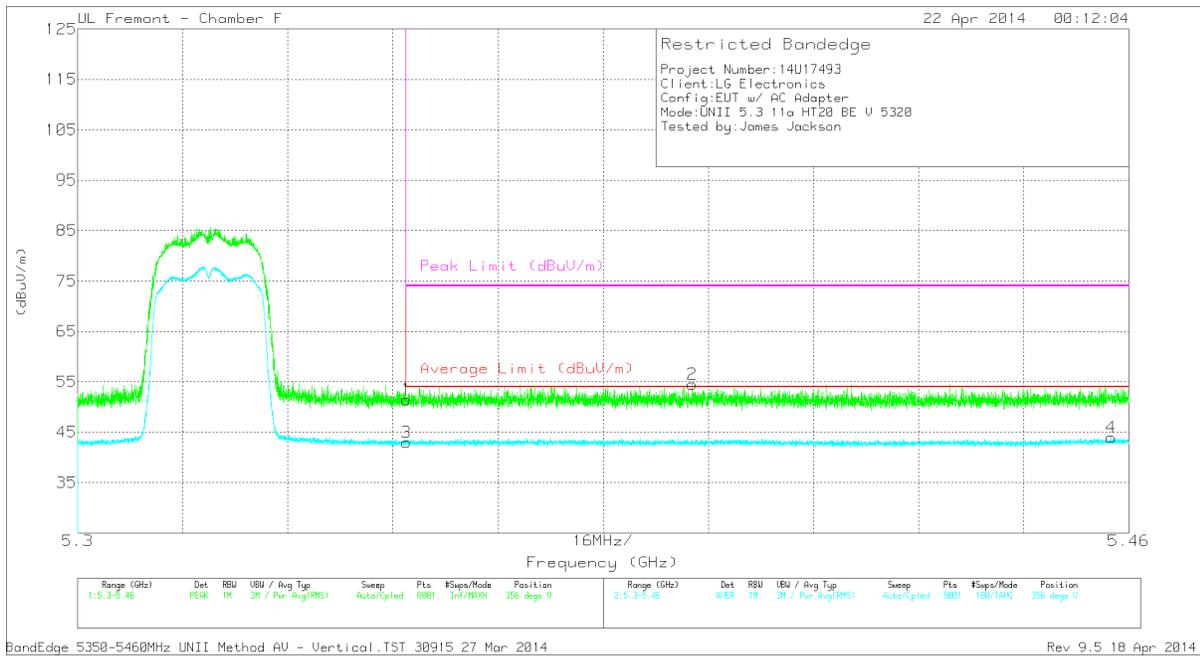


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	36.88	PK	34.5	-19.2	52.18	-	-	74	-21.82	169	401	H
2	* 5.382	39.6	PK	34.5	-19.4	54.7	-	-	74	-19.3	169	401	H
3	* 5.35	27.62	RMS	34.5	-19.2	42.92	54	-11.08	-	-	169	401	H
4	* 5.355	28.63	RMS	34.5	-19.2	43.93	54	-10.07	-	-	169	401	H

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

PK - Peak detector

RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Ftr/Pad (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	36.17	PK	34.5	-19.2	51.47	-	-	74	-22.53	356	224	V
2	* 5.394	39.42	PK	34.6	-19.5	54.52	-	-	74	-19.48	356	224	V
3	* 5.35	27.66	RMS	34.5	-19.2	42.96	54	-11.04	-	-	356	224	V
4	* 5.457	29.27	RMS	34.6	-19.9	43.97	54	-10.03	-	-	356	224	V

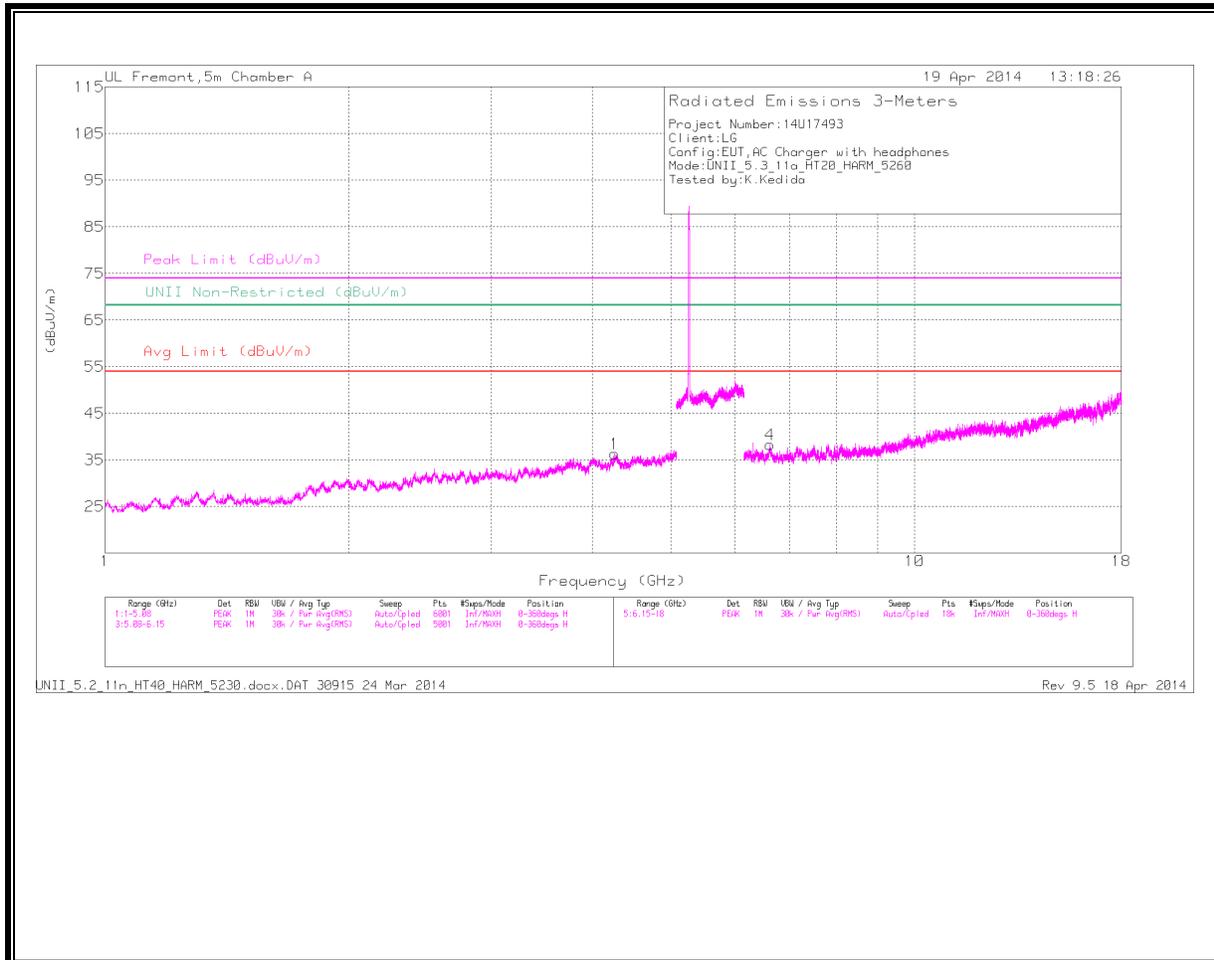
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

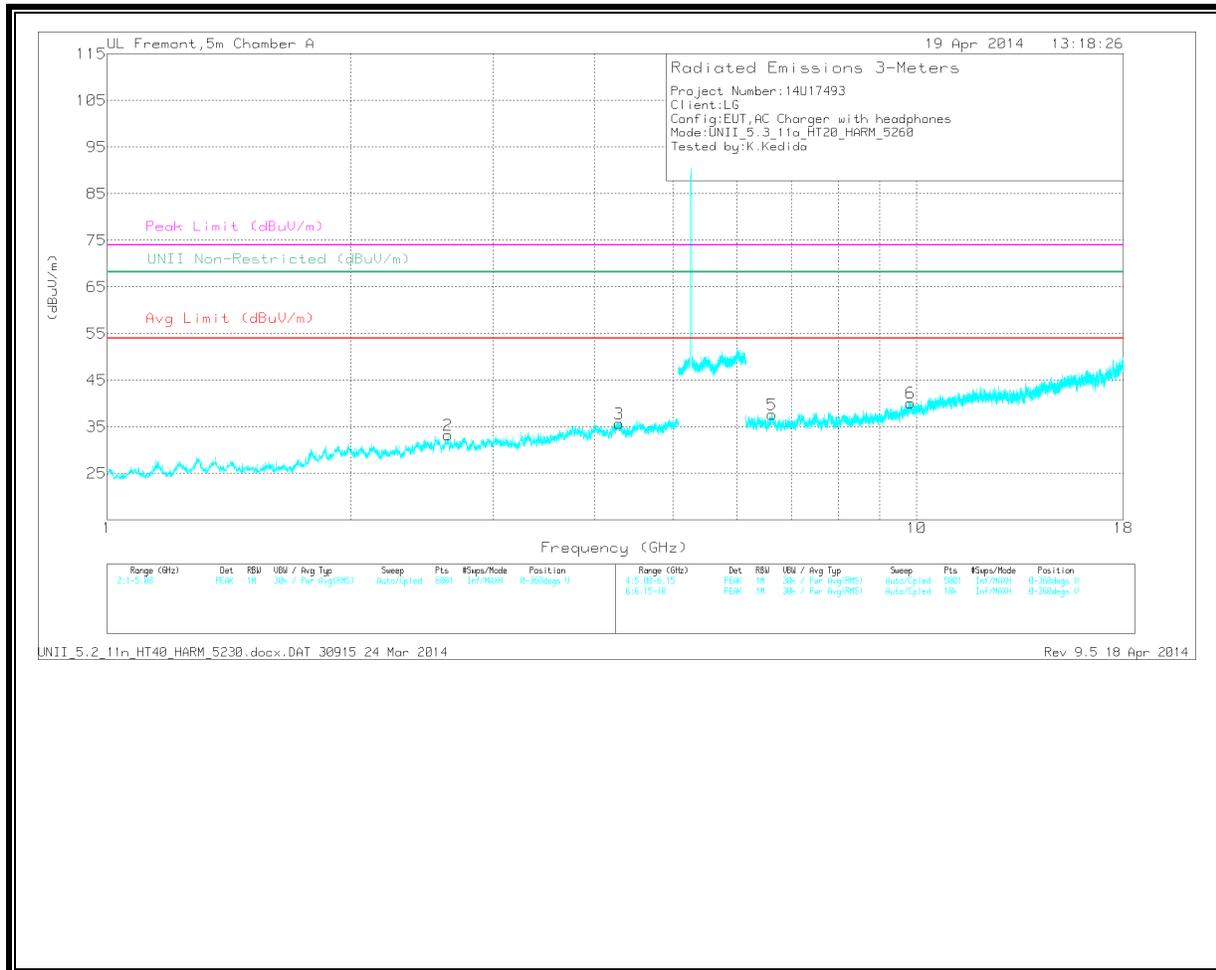
HARMONICS AND SPURIOUS EMISSIONS

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.

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/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.263	30.51	PK	34	-28.1	0	36.41	-	-	74	-37.59	-	-	0-360	100	H
3	* 4.286	30.66	PK	34	-28.9	0	35.76	-	-	74	-38.24	-	-	0-360	201	V
2	2.635	33.38	PK	32.9	-33.1	0	33.18	-	-	-	-	68.2	-35.02	0-360	100	V
4	6.627	28.7	PK	35.4	-25.8	0	38.3	-	-	-	-	68.2	-29.9	0-360	200	H
5	6.63	28	PK	35.4	-25.8	0	37.6	-	-	-	-	68.2	-30.6	0-360	201	V
6	9.825	26.57	PK	36.9	-23.4	0	40.07	-	-	-	-	68.2	-28.13	0-360	201	V

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

PK - Peak detector

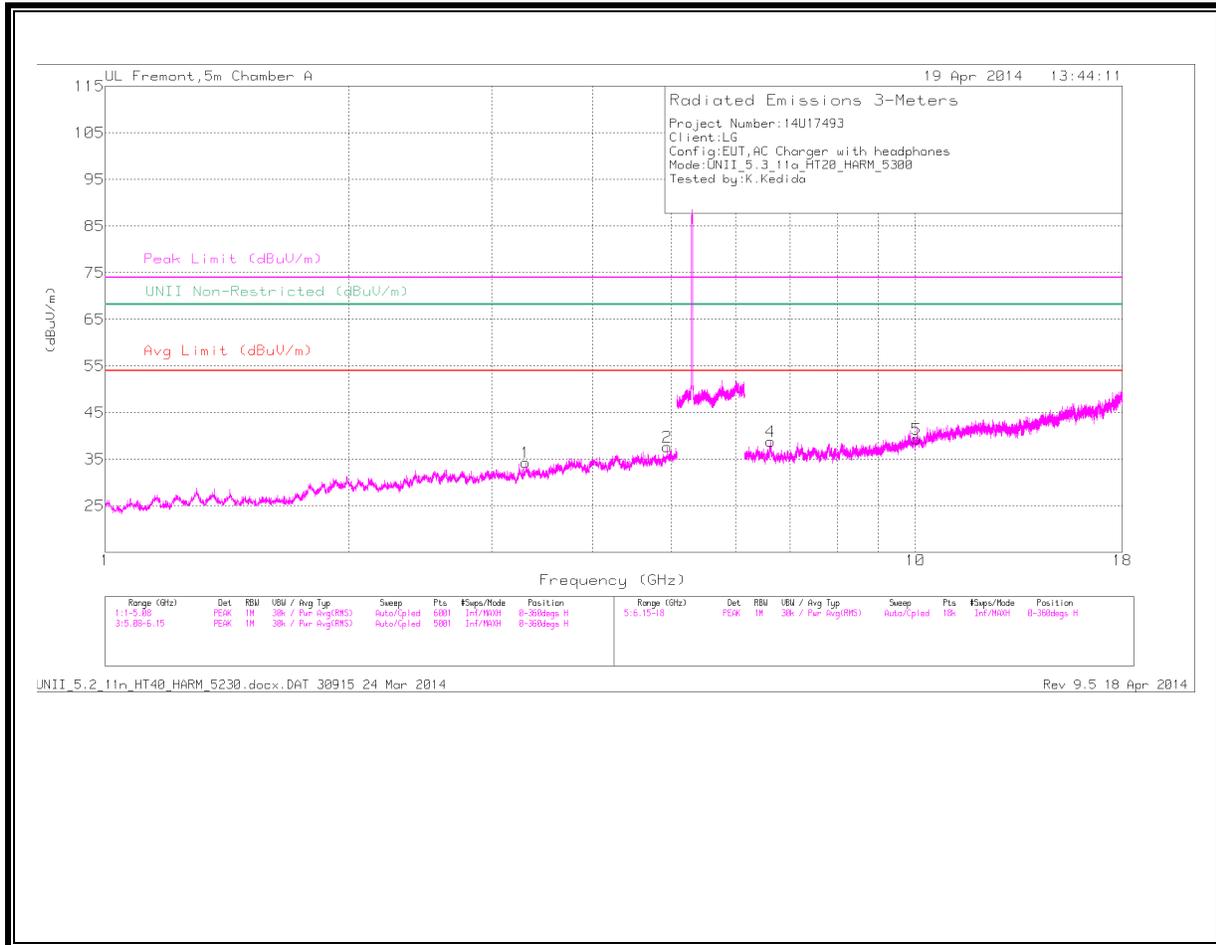
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.263	38.95	PK1	34	-28.1	0	44.85	-	-	74	-29.15	-	-	359	100	H
* 4.286	39.23	PK1	34	-28.9	0	44.33	-	-	74	-29.67	-	-	359	100	V
2.634	41.26	PK1	32.9	-33.1	0	41.06	-	-	-	-	68.2	-27.14	359	100	V
6.627	37.1	PK1	35.4	-25.8	0	46.7	-	-	-	-	68.2	-21.5	359	100	H
6.628	36.78	PK1	35.4	-25.8	0	46.38	-	-	-	-	68.2	-21.82	359	100	V
9.825	34.85	PK1	36.9	-23.4	0	48.35	-	-	-	-	68.2	-19.85	359	100	V

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

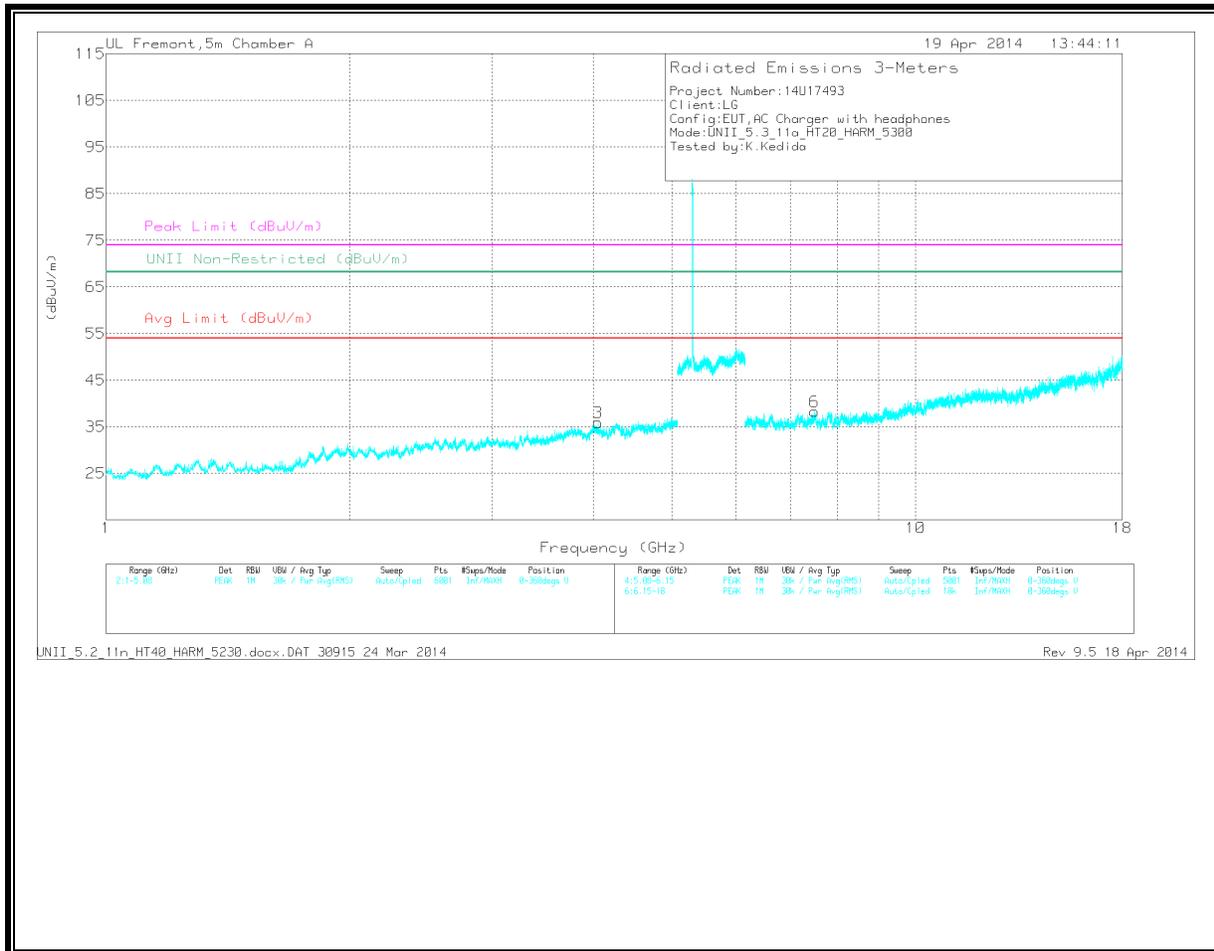
PK1 - KDB789033 Method: Peak

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.

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/Filt r/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	* 4.94	32.71	PK	33.9	-29	0	37.61	-	-	74	-36.39	-	-	0-360	200	H
3	* 4.056	33.2	PK	33.8	-31.1	0	35.9	-	-	74	-38.1	-	-	0-360	100	V
6	* 7.503	27.72	PK	35.3	-24.7	0	38.32	-	-	74	-35.68	-	-	0-360	201	V
1	3.303	32.27	PK	32.9	-30.9	0	34.27	-	-	-	-	68.2	-33.93	0-360	100	H
4	6.627	29.2	PK	35.4	-25.8	0	38.8	-	-	-	-	68.2	-29.4	0-360	100	H
5	10.033	25.54	PK	37.1	-23.3	0	39.34	-	-	-	-	68.2	-28.86	0-360	100	H

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

PK - Peak detector

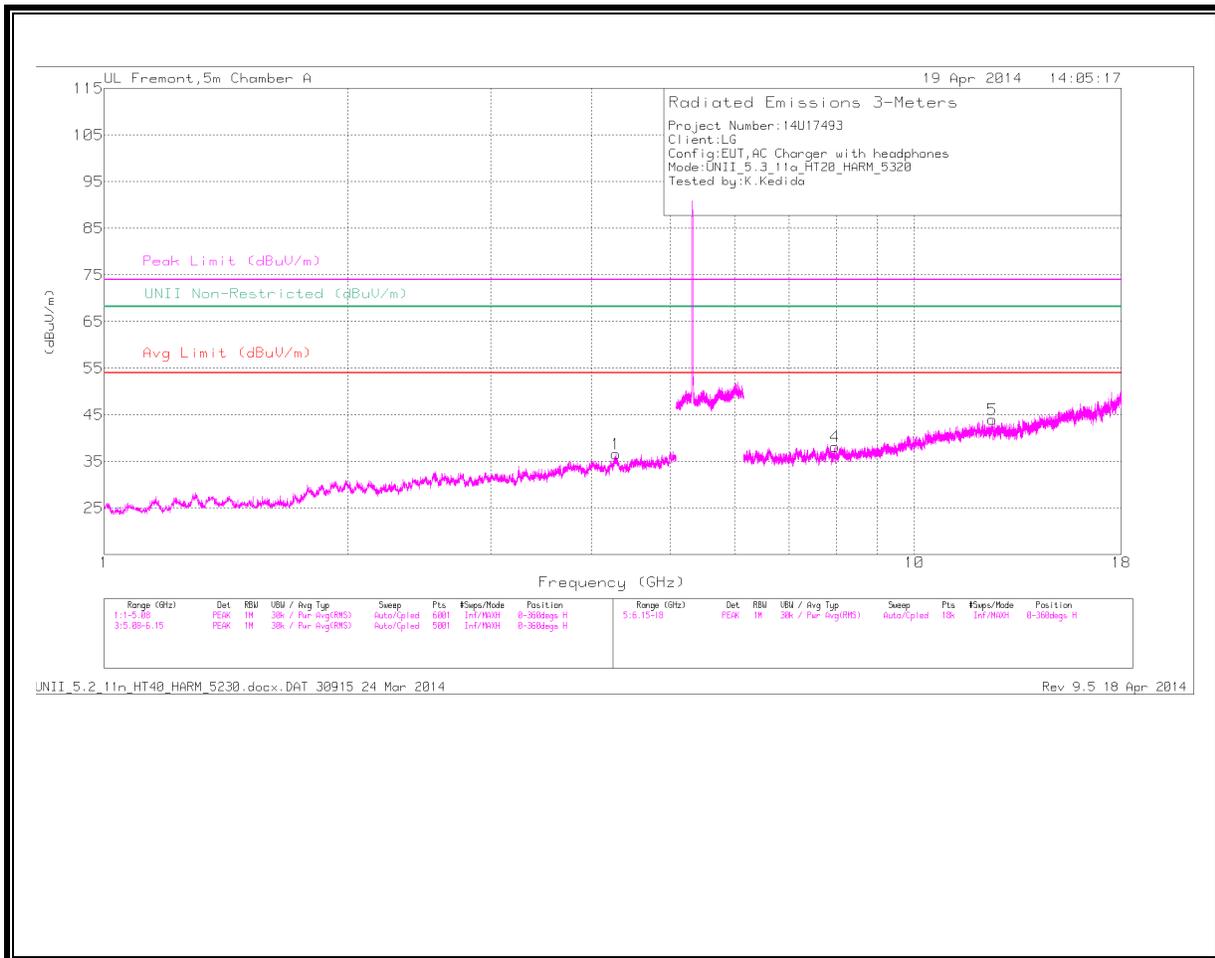
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.939	39.04	PK1	33.9	-29	0	43.94	-	-	74	-30.06	-	-	359	100	H
* 4.056	40.12	PK1	33.8	-31.2	0	42.72	-	-	74	-31.28	-	-	359	100	V
3.303	39.6	PK1	32.9	-30.9	0	41.6	-	-	-	-	68.2	-26.6	359	100	H
6.626	37.29	PK1	35.4	-25.8	0	46.89	-	-	-	-	68.2	-21.31	359	100	H
10.032	34.64	PK1	37.1	-23.3	0	48.44	-	-	-	-	68.2	-19.76	359	100	H

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

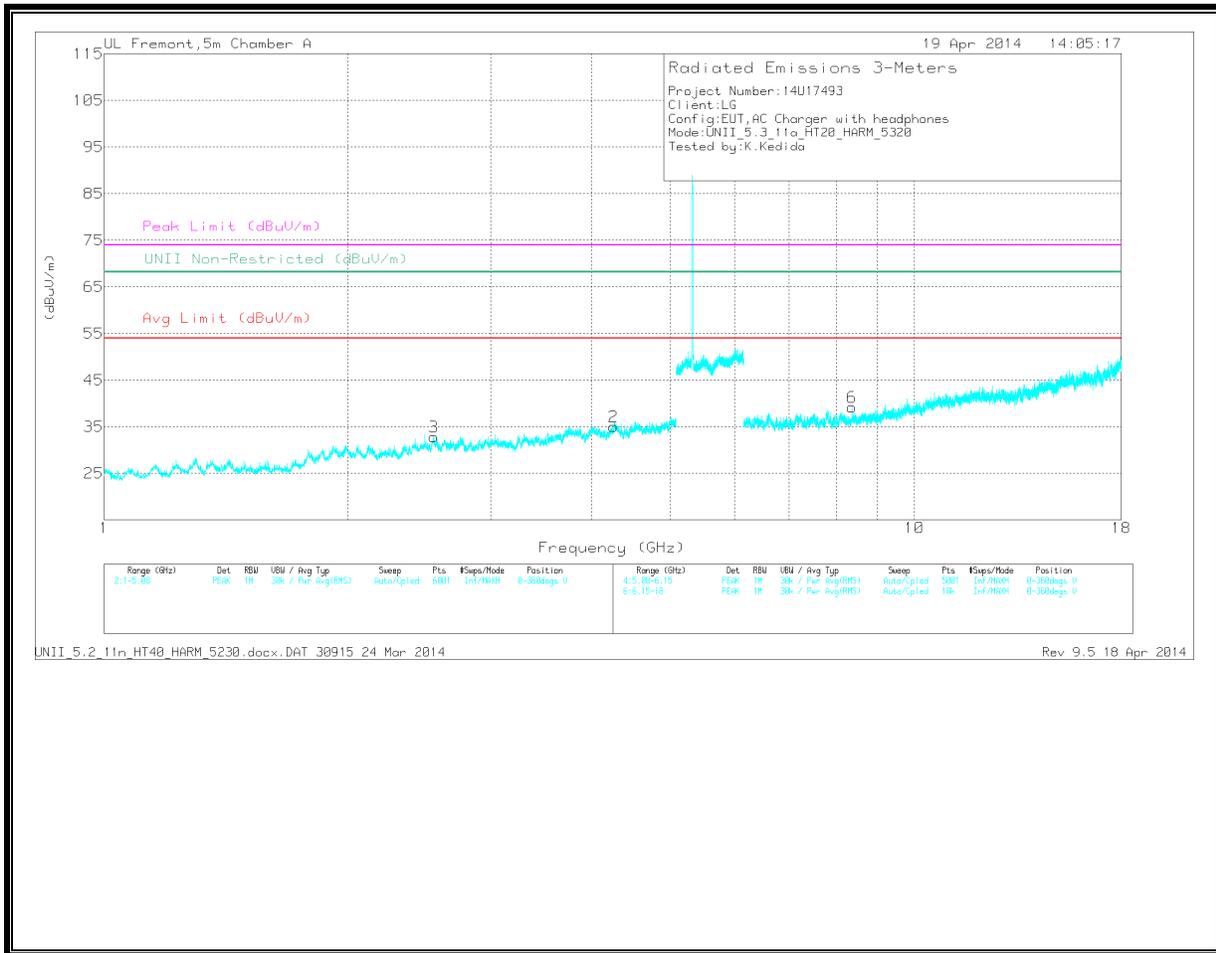
PK1 - KDB789033 Method: Peak

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.

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/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	* 4.281	31.28	PK	34	-28.7	0	36.58	-	-	74	-37.42	-	-	0-360	100	H
2	* 4.25	30.46	PK	34	-29.4	0	35.06	-	-	74	-38.94	-	-	0-360	100	V
5	* 12.47	27.15	PK	38.8	-21.9	0	44.05	-	-	74	-29.95	-	-	0-360	100	H
6	* 8.367	29.85	PK	35.7	-26.4	0	39.15	-	-	74	-34.85	-	-	0-360	200	V
3	2.552	32.7	PK	32.9	-32.7	0	32.9	-	-	-	-	68.2	-35.3	0-360	201	V
4	7.979	28.4	PK	35.5	-25.7	0	38.2	-	-	-	-	68.2	-30	0-360	200	H

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

PK - Peak detector

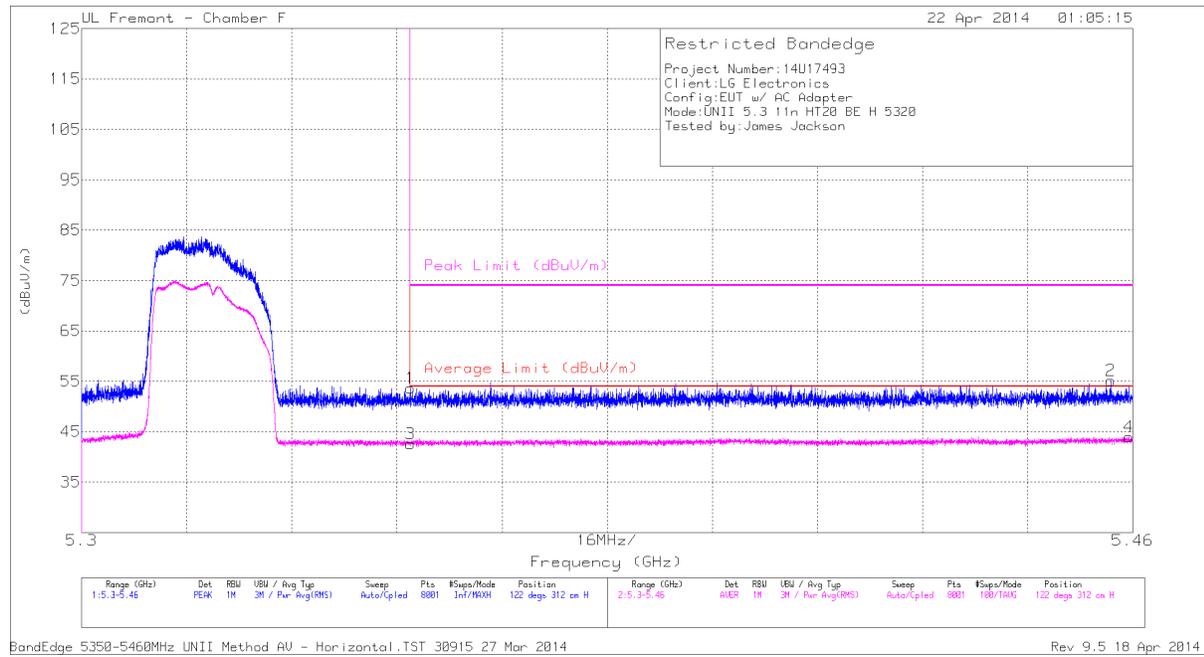
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.28	40.2	PK1	34	-28.7	0	45.5	-	-	74	-28.5	-	-	359	100	H
* 4.248	38.68	PK1	34	-29.5	0	43.18	-	-	74	-30.82	-	-	359	100	V
* 12.469	35.07	PK1	38.8	-21.9	0	51.97	-	-	74	-22.03	-	-	359	100	H
* 8.367	37.18	PK1	35.7	-26.5	0	46.38	-	-	74	-27.62	-	-	359	100	V
2.551	41.17	PK1	32.9	-32.6	0	41.47	-	-	-	-	68.2	-26.73	359	100	V
7.978	36.49	PK1	35.5	-25.7	0	46.29	-	-	-	-	68.2	-21.91	359	100	H

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

PK1 - KDB789033 Method: Peak

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

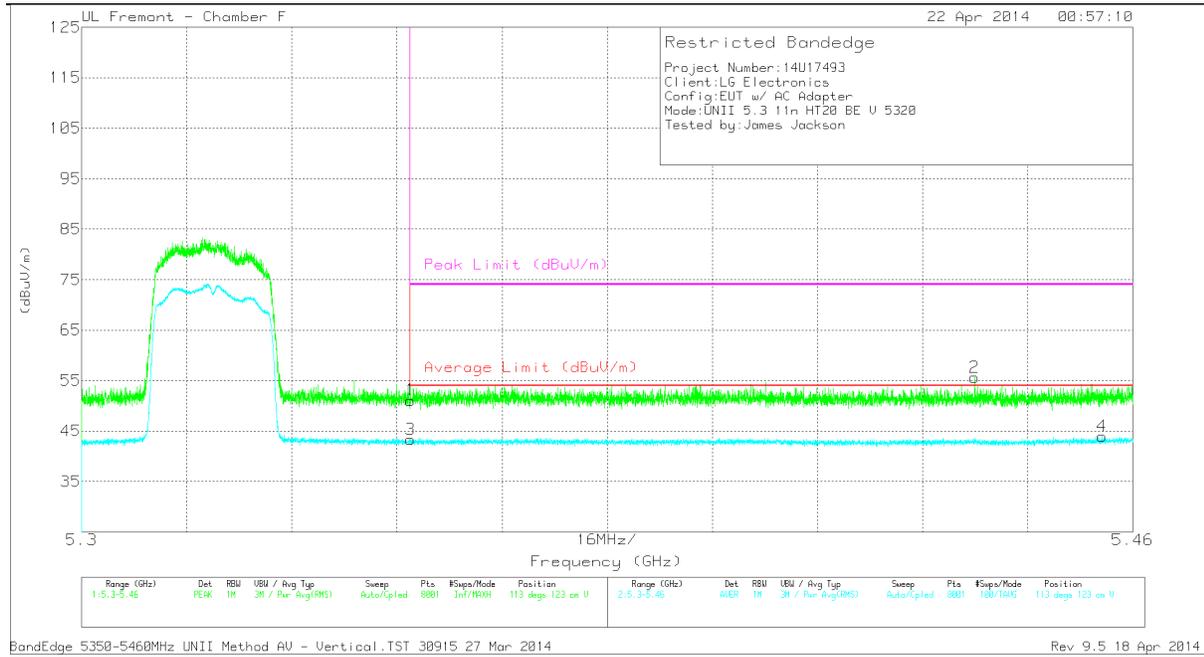


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	38.29	PK	34.5	-19.2	53.59	-	-	74	-20.41	122	312	H
2	* 5.457	40.4	PK	34.6	-19.9	55.1	-	-	74	-18.9	122	312	H
3	* 5.35	27.24	RMS	34.5	-19.2	42.54	54	-11.46	-	-	122	312	H
4	* 5.459	29.19	RMS	34.6	-19.8	43.99	54	-10.01	-	-	122	312	H

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

PK - Peak detector

RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.8	PK	34.5	-19.2	51.1	-	-	74	-22.9	113	123	V
2	* 5.436	41.05	PK	34.6	-20	55.65	-	-	74	-18.35	113	123	V
3	* 5.35	28.03	RMS	34.5	-19.2	43.33	54	-10.67	-	-	113	123	V
4	* 5.455	29.27	RMS	34.6	-19.9	43.97	54	-10.03	-	-	113	123	V

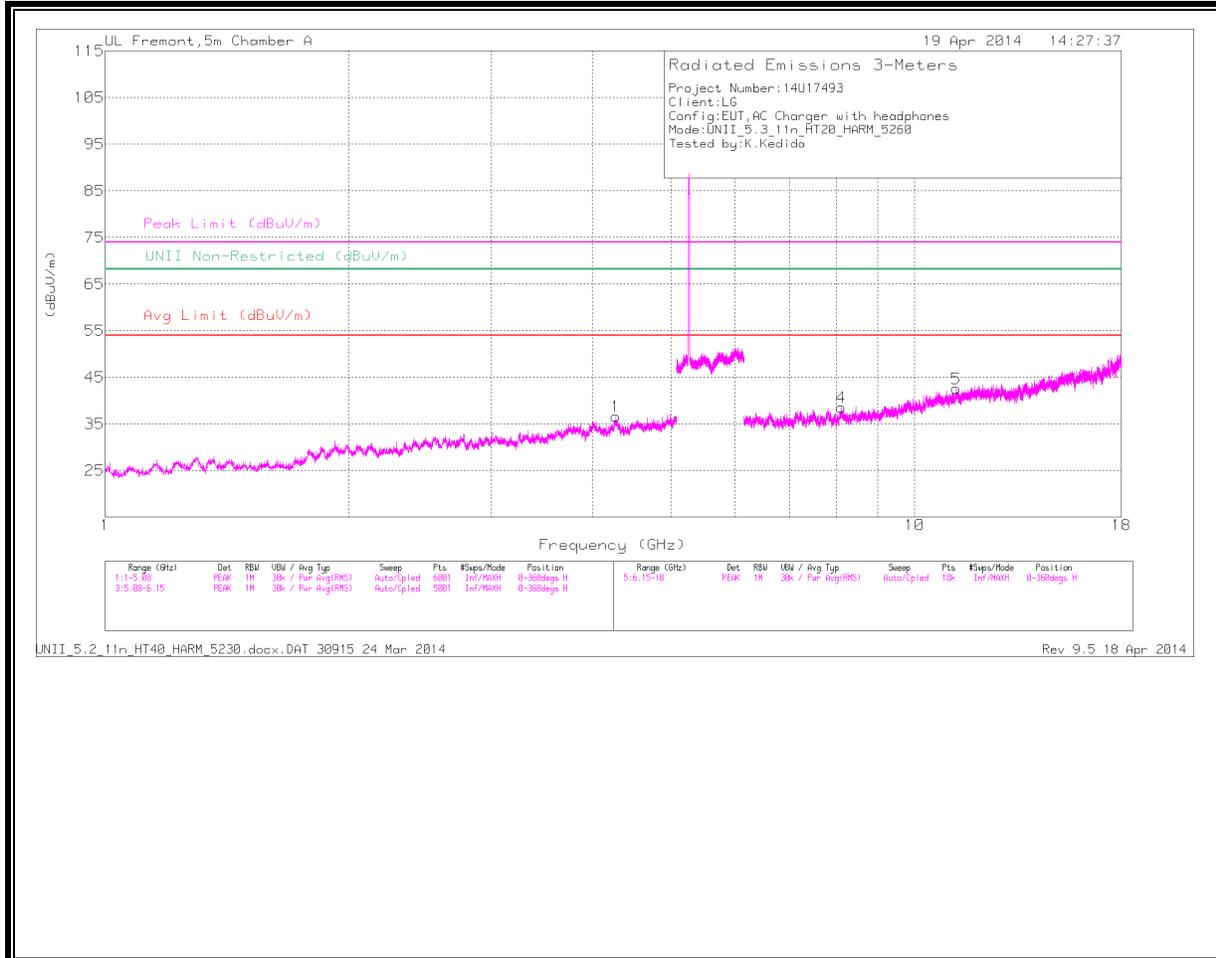
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

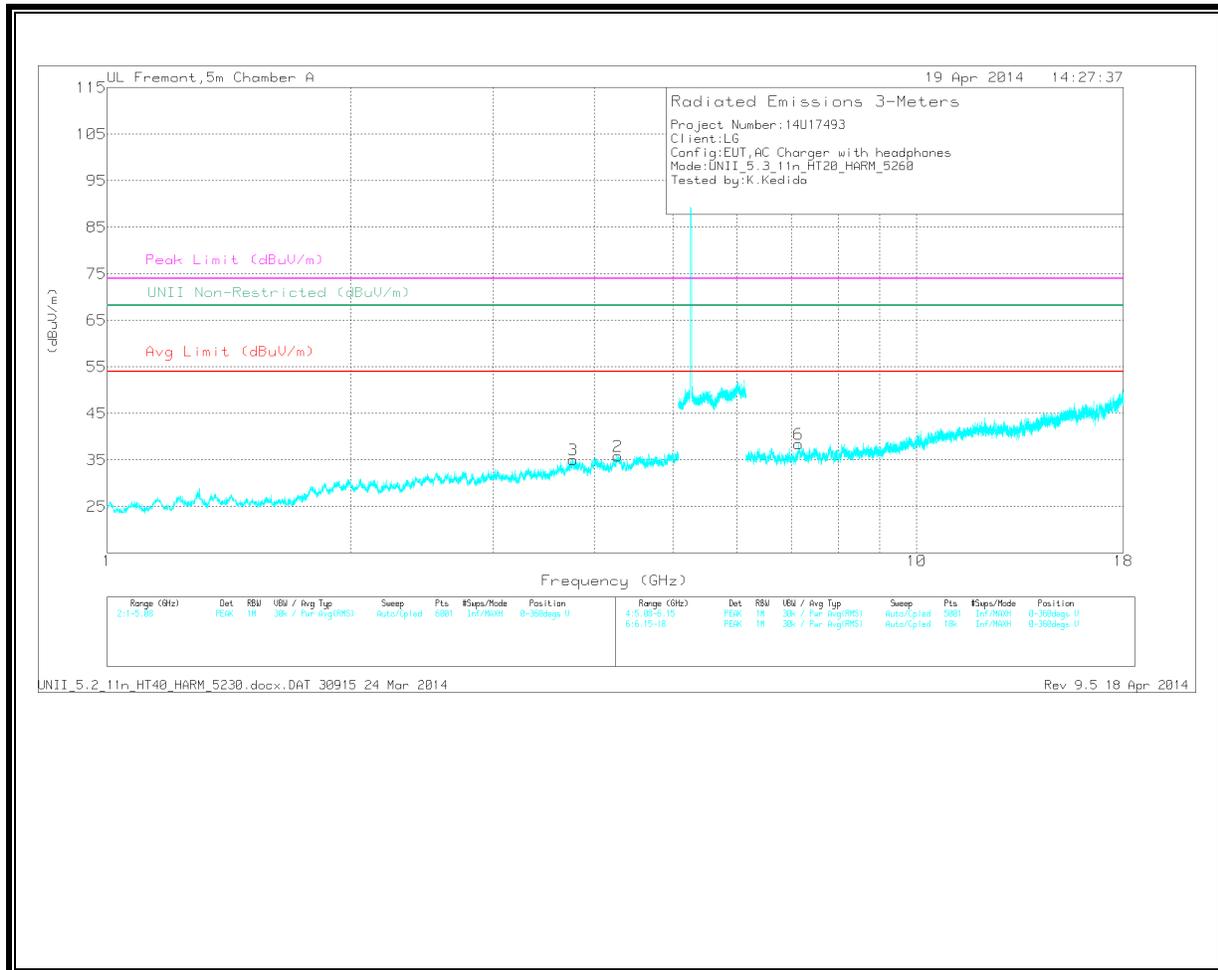
HARMONICS AND SPURIOUS EMISSIONS

**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.

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/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	* 4.273	31.27	PK	34	-28.7	0	36.57	-	-	74	-37.43	-	-	0-360	100	H
2	* 4.274	30.5	PK	34	-28.7	0	35.8	-	-	74	-38.2	-	-	0-360	201	V
3	* 3.763	31.14	PK	33.5	-29.6	0	35.04	-	-	74	-38.96	-	-	0-360	100	V
4	* 8.116	27.94	PK	35.5	-24.9	0	38.54	-	-	74	-35.46	-	-	0-360	100	H
5	* 11.249	26.51	PK	37.9	-21.8	0	42.61	-	-	74	-31.39	-	-	0-360	200	H
6	7.15	29.56	PK	35.3	-26.4	0	38.46	-	-	-	-	68.2	-29.74	0-360	200	V

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

PK - Peak detector

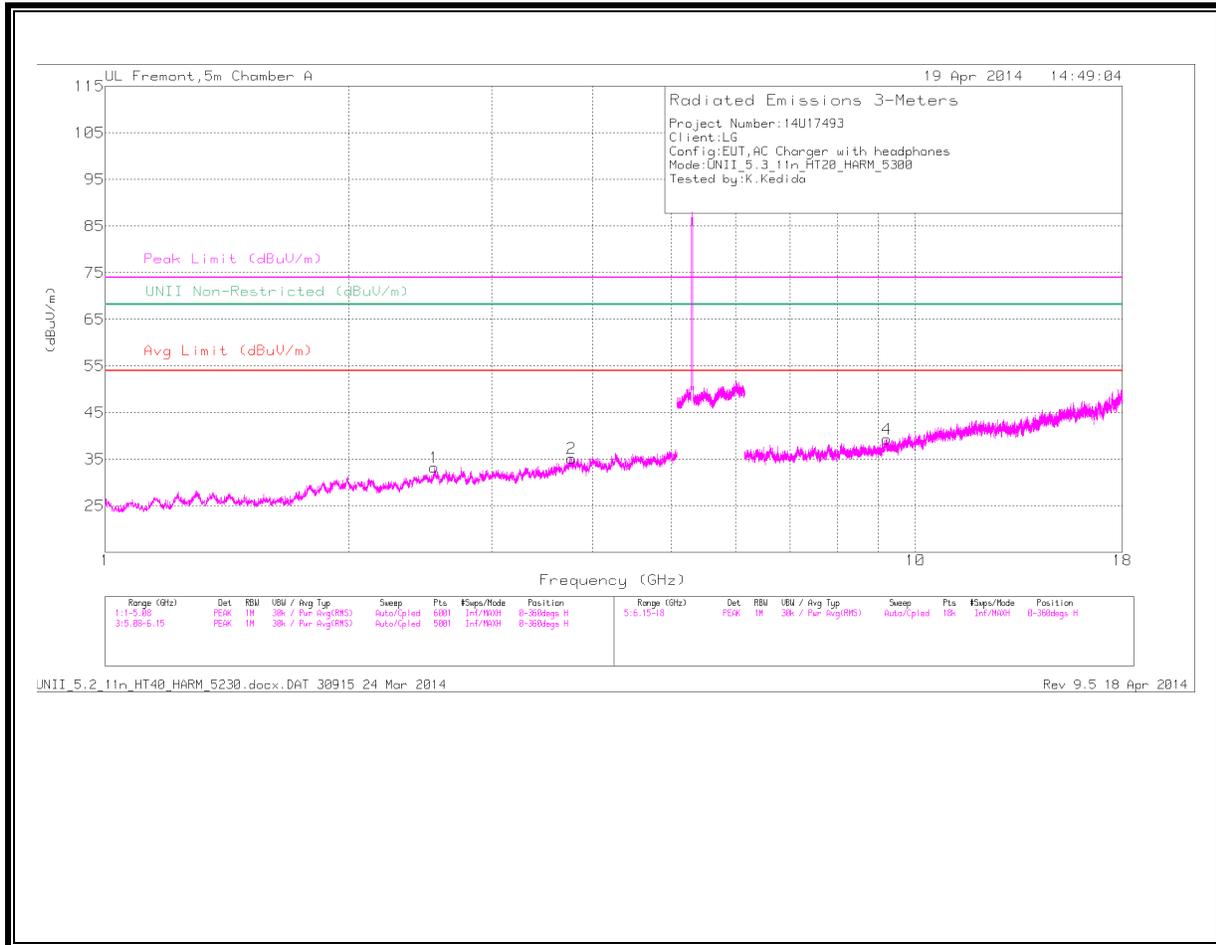
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.272	39.3	PK1	34	-28.7	0	44.6	-	-	74	-29.4	-	-	359	100	H
* 4.273	39.07	PK1	34	-28.7	0	44.37	-	-	74	-29.63	-	-	359	100	V
* 3.763	39.94	PK1	33.5	-29.6	0	43.84	-	-	74	-30.16	-	-	359	100	V
* 8.115	36.93	PK1	35.5	-24.9	0	47.53	-	-	74	-26.47	-	-	359	100	H
* 11.248	35	PK1	37.9	-21.8	0	51.1	-	-	74	-22.9	-	-	359	100	H
7.148	38.01	PK1	35.3	-26.5	0	46.81	-	-	-	-	68.2	-21.39	359	100	V

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

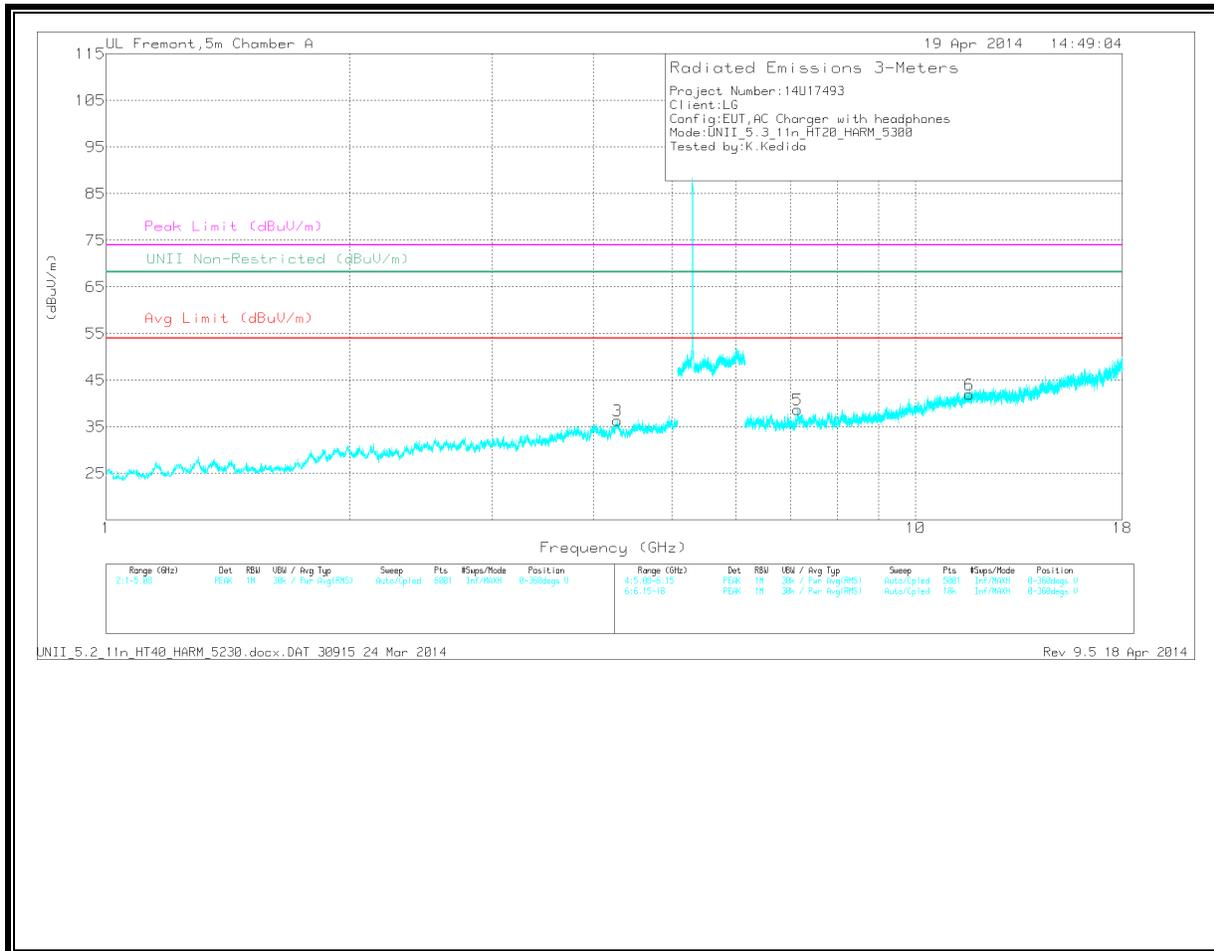
PK1 - KDB789033 Method: Peak

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.

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/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
2	* 3.762	31.32	PK	33.5	-29.6	0	35.22	-	-	74	-38.78	-	-	0-360	200	H
3	* 4.28	31.11	PK	34	-28.7	0	36.41	-	-	74	-37.59	-	-	0-360	100	V
6	* 11.653	25.99	PK	38.6	-22.6	0	41.99	-	-	74	-32.01	-	-	0-360	100	V
1	2.548	33.07	PK	32.9	-32.7	0	33.27	-	-	-	-	68.2	-34.93	0-360	100	H
5	7.142	30.14	PK	35.3	-26.7	0	38.74	-	-	-	-	68.2	-29.46	0-360	200	V
4	9.212	27.58	PK	36.1	-24.3	0	39.38	-	-	-	-	68.2	-28.82	0-360	100	H

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

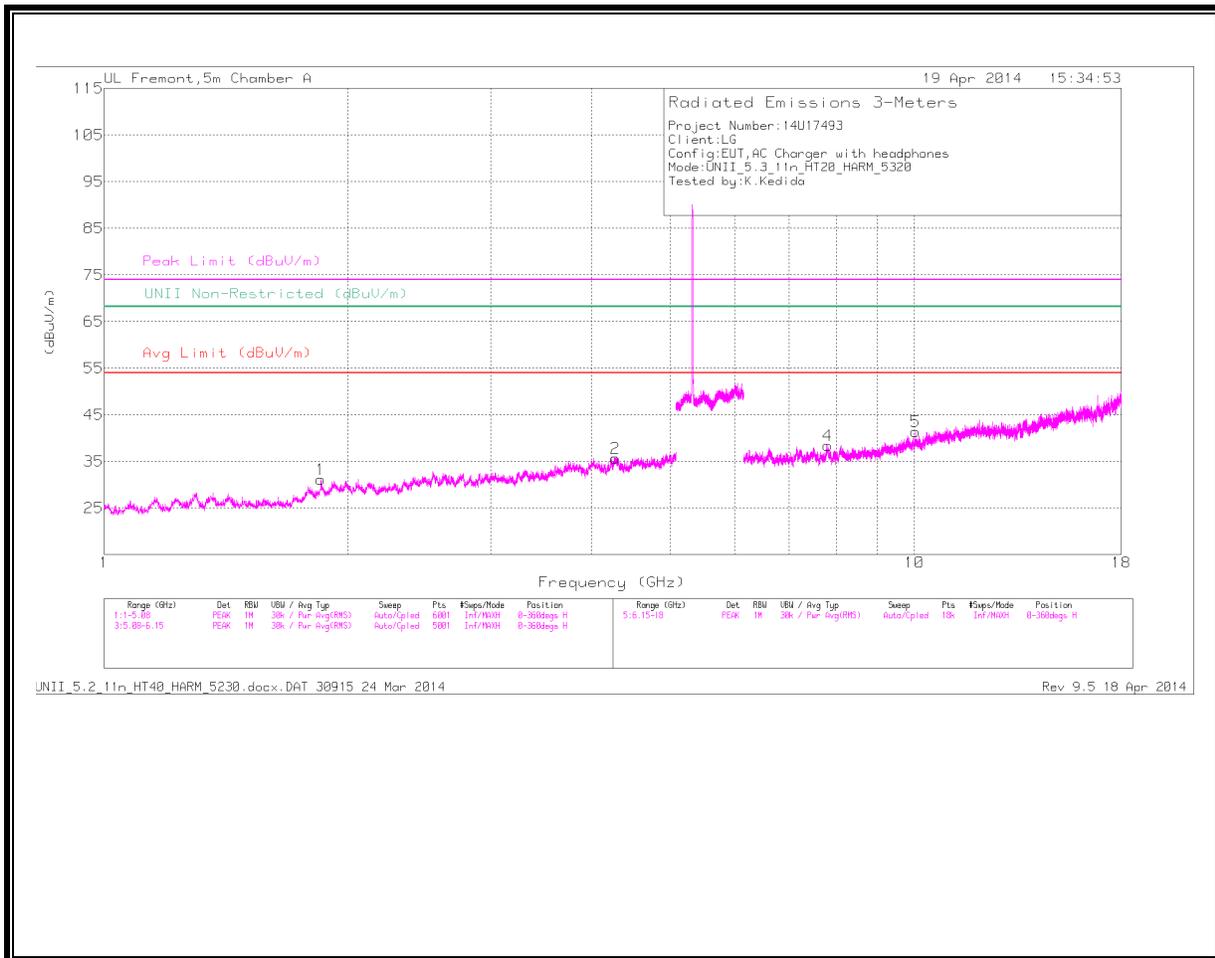
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 3.762	39.58	PK1	33.5	-29.6	0	43.48	-	-	74	-30.52	-	-	360	100	H
* 4.28	39.27	PK1	34	-28.7	0	44.57	-	-	74	-29.43	-	-	360	100	V
* 11.653	34.4	PK1	38.6	-22.6	0	50.4	-	-	74	-23.6	-	-	360	100	V
2.548	40.86	PK1	32.9	-32.7	0	41.06	-	-	-	-	68.2	-27.14	360	100	H
7.142	37.96	PK1	35.3	-26.7	0	46.56	-	-	-	-	68.2	-21.64	360	100	V
9.211	36.22	PK1	36.1	-24.4	0	47.92	-	-	-	-	68.2	-20.28	360	100	H

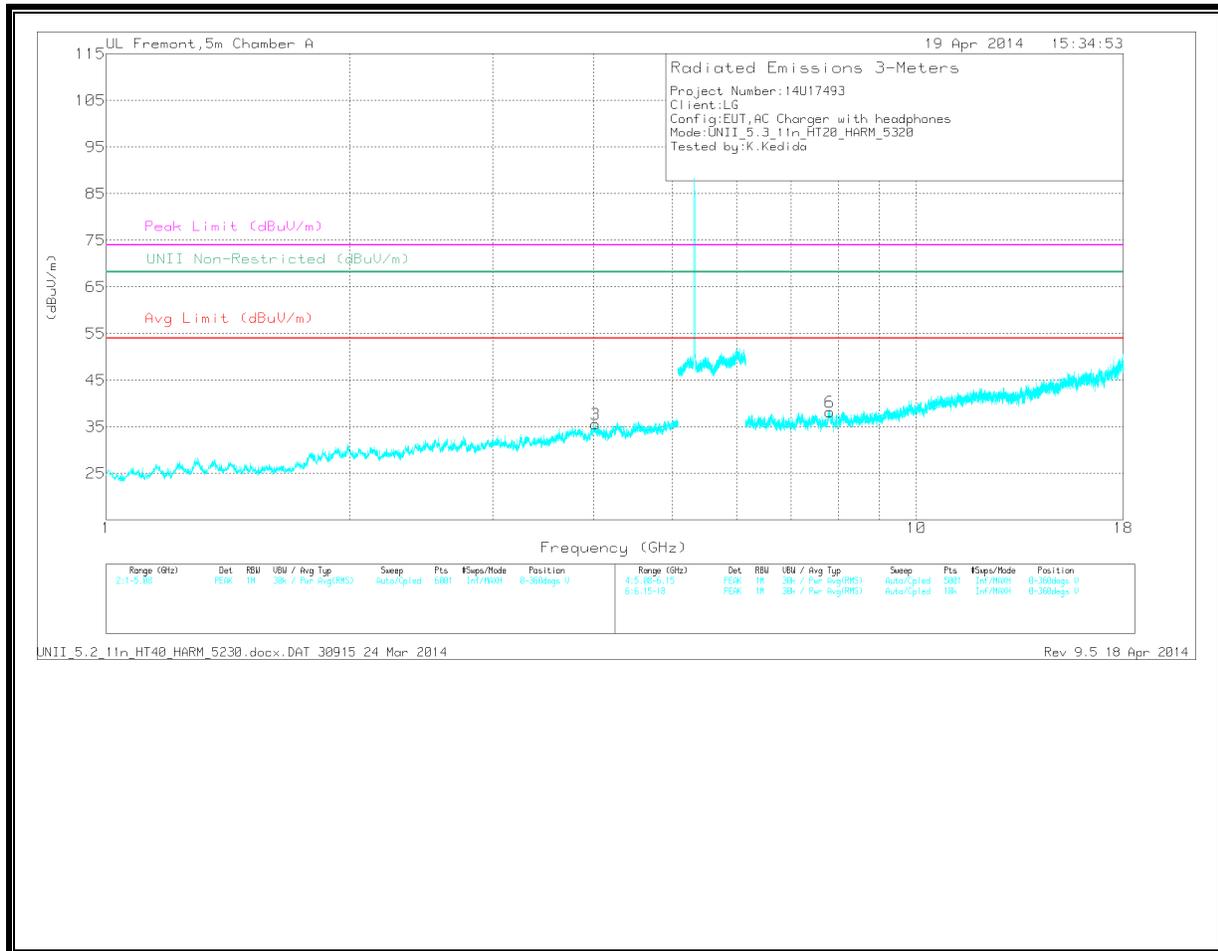
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak



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

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/Filt r/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	* 4.274	30.45	PK	34	-28.7	0	35.75	-	-	74	-38.25	-	-	0-360	100	H
3	* 4.019	31.58	PK	33.7	-29.7	0	35.58	-	-	74	-38.42	-	-	0-360	200	V
1	1.851	34.74	PK	31.1	-34.7	0	31.14	-	-	-	-	68.2	-37.06	0-360	200	H
4	7.818	27.29	PK	35.5	-24.4	0	38.39	-	-	-	-	68.2	-29.81	0-360	200	H
6	7.819	26.94	PK	35.5	-24.3	0	38.14	-	-	-	-	68.2	-30.06	0-360	100	V
5	10.027	27.8	PK	37.1	-23.5	0	41.4	-	-	-	-	68.2	-26.8	0-360	200	H

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

PK - Peak detector

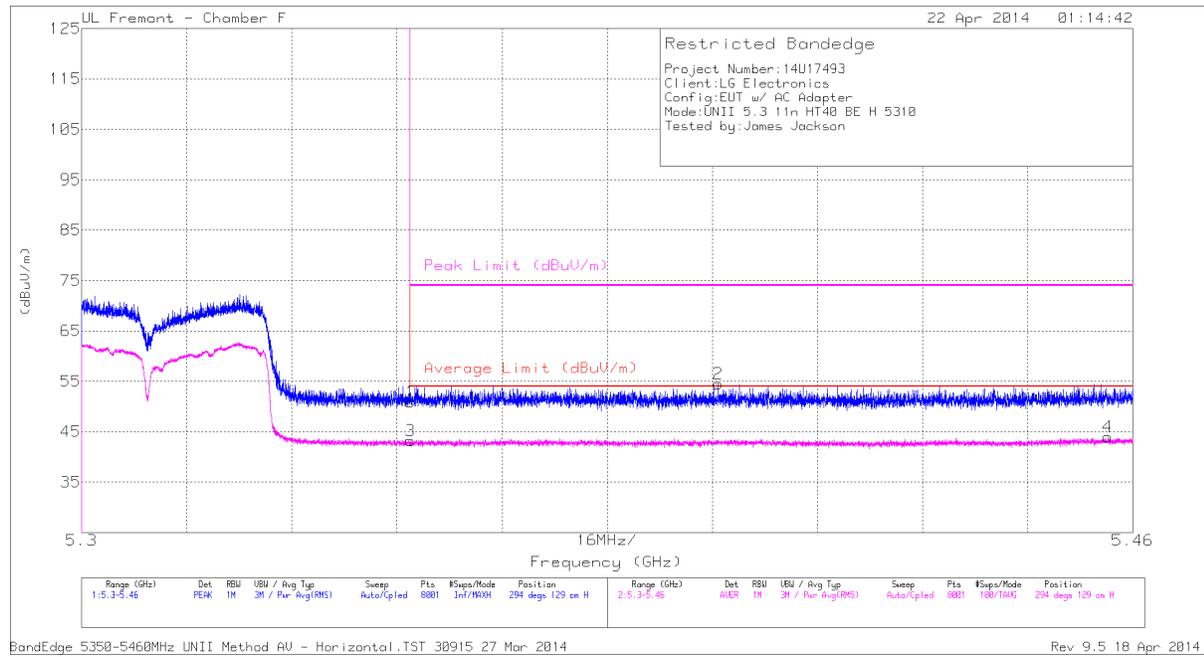
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.274	38.83	PK1	34	-28.7	0	44.13	-	-	74	-29.87	-	-	359	100	H
* 4.018	40.3	PK1	33.7	-29.7	0	44.3	-	-	74	-29.7	-	-	359	100	V
1.85	42.22	PK1	31.1	-34.7	0	38.62	-	-	-	-	68.2	-29.58	359	100	H
7.818	36.22	PK1	35.5	-24.4	0	47.32	-	-	-	-	68.2	-20.88	359	100	H
10.026	35.06	PK1	37.1	-23.5	0	48.66	-	-	-	-	68.2	-19.54	359	100	H

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

PK1 - KDB789033 Method: Peak

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

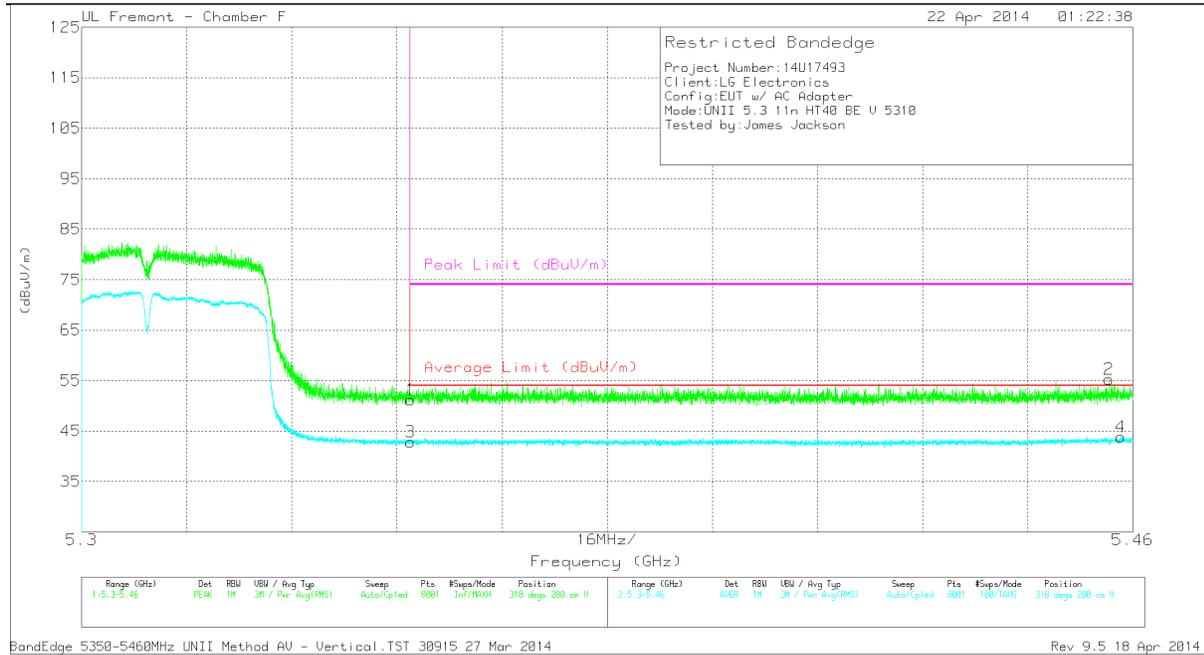


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.56	PK	34.5	-19.2	50.86	-	-	74	-23.14	294	129	H
2	* 5.397	39.28	PK	34.6	-19.4	54.48	-	-	74	-19.52	294	129	H
3	* 5.35	27.9	RMS	34.5	-19.2	43.2	54	-10.8	-	-	294	129	H
4	* 5.456	29.3	RMS	34.6	-19.9	44	54	-10	-	-	294	129	H

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

PK - Peak detector

RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.84	PK	34.5	-19.2	51.14	-	-	74	-22.86	318	200	V
2	* 5.456	40.56	PK	34.6	-19.9	55.26	-	-	74	-18.74	318	200	V
3	* 5.35	27.54	RMS	34.5	-19.2	42.84	54	-11.16	-	-	318	200	V
4	* 5.458	29.11	RMS	34.6	-19.9	43.81	54	-10.19	-	-	318	200	V

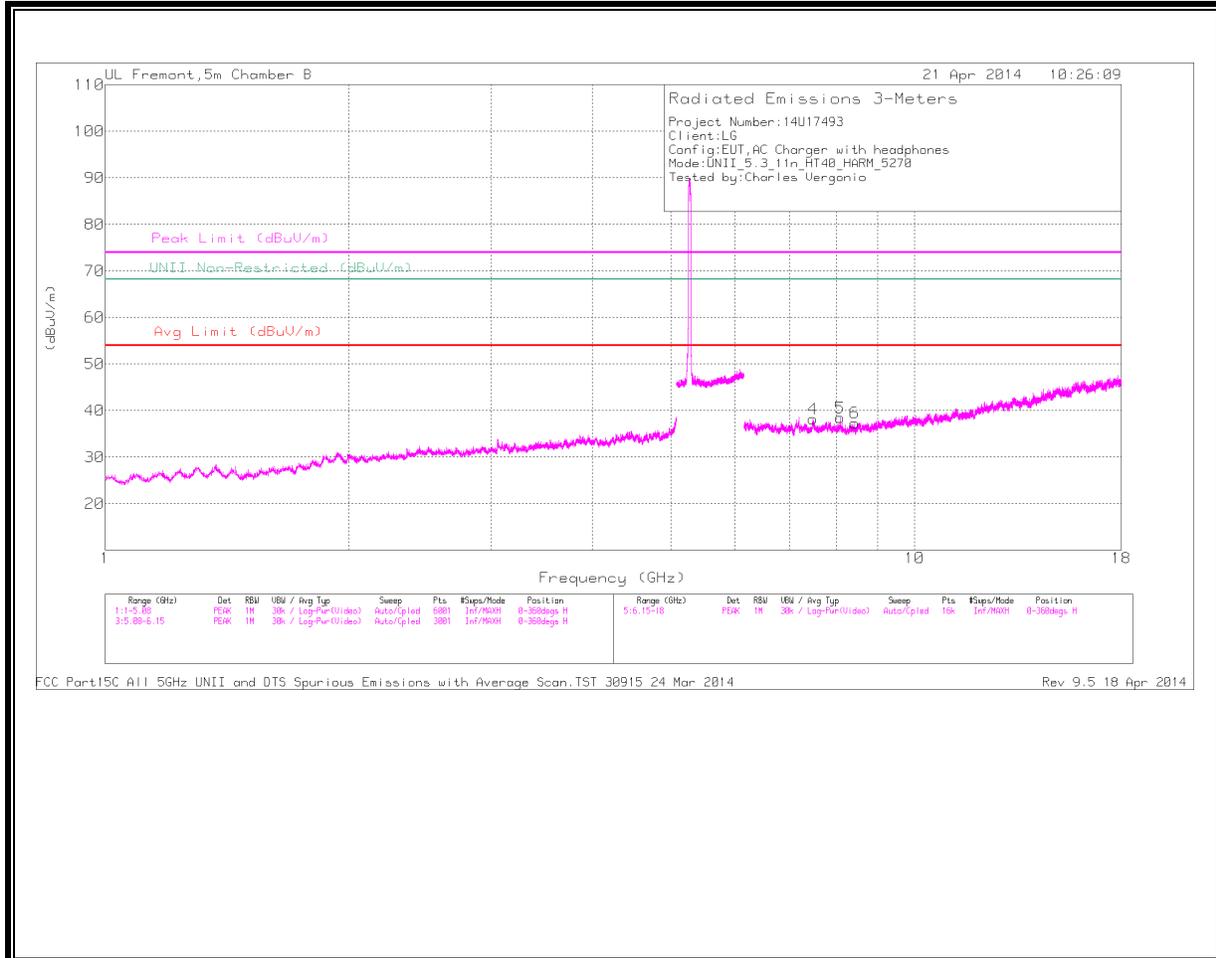
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

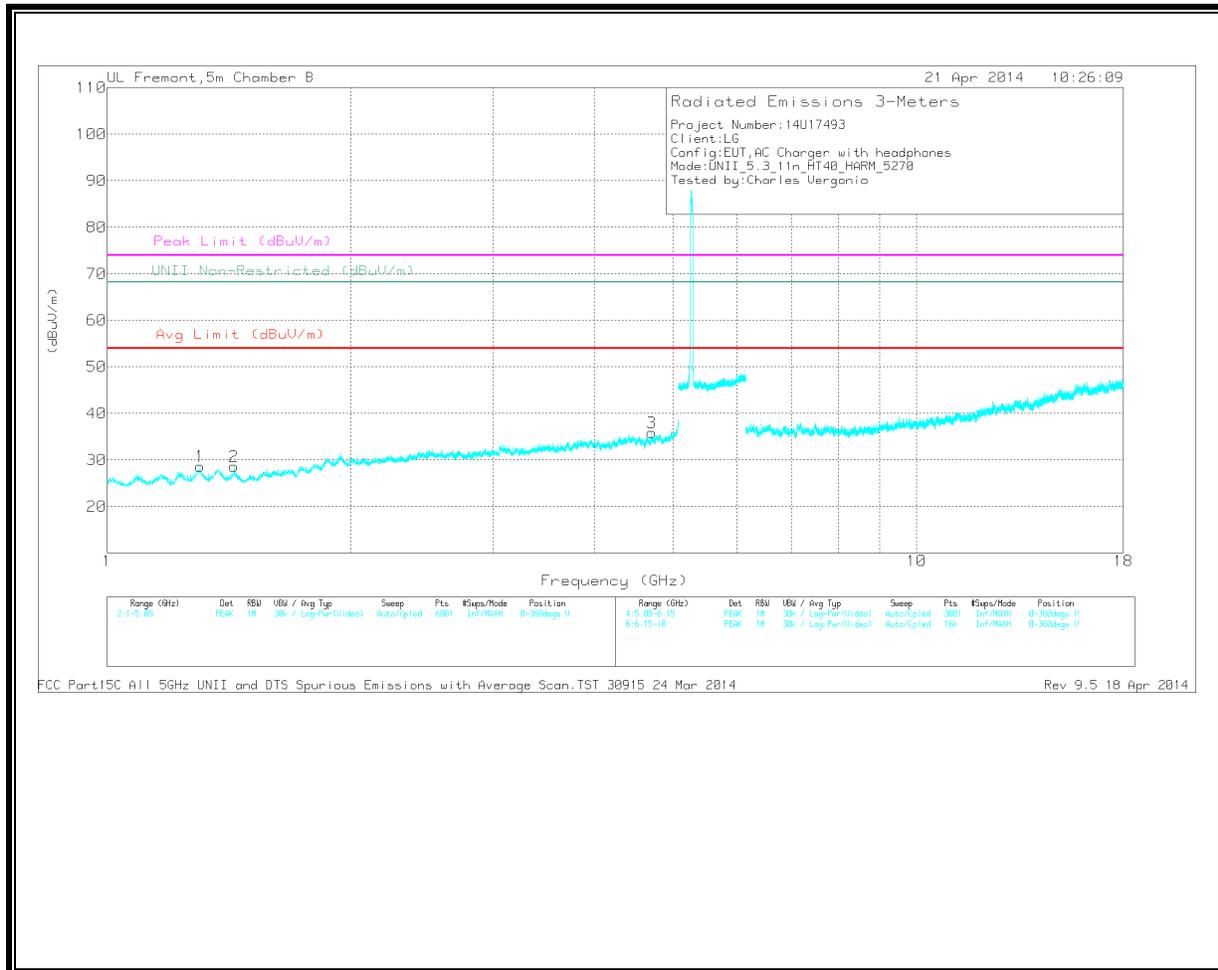
HARMONICS AND SPURIOUS EMISSIONS

**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.

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 T345 (dB/m)	Amp/Cb/Fitr/Pad (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	* 1.303	34.09	PK	28.8	-34.2	28.69	-	-	74	-45.31	-	-	0-360	99	V
2	* 1.435	34.29	PK	28.3	-34	28.59	-	-	74	-45.41	-	-	0-360	99	V
3	* 4.709	31.54	PK	34.2	-29.9	35.84	-	-	74	-38.16	-	-	0-360	202	V
4	* 7.488	28.38	PK	35.6	-25.8	38.18	-	-	74	-35.82	-	-	0-360	99	H
5	* 8.094	29.17	PK	35.7	-26.4	38.47	-	-	74	-35.53	-	-	0-360	202	H
6	* 8.434	27.59	PK	35.8	-26	37.39	-	-	74	-36.61	-	-	0-360	202	H

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

PK - Peak detector

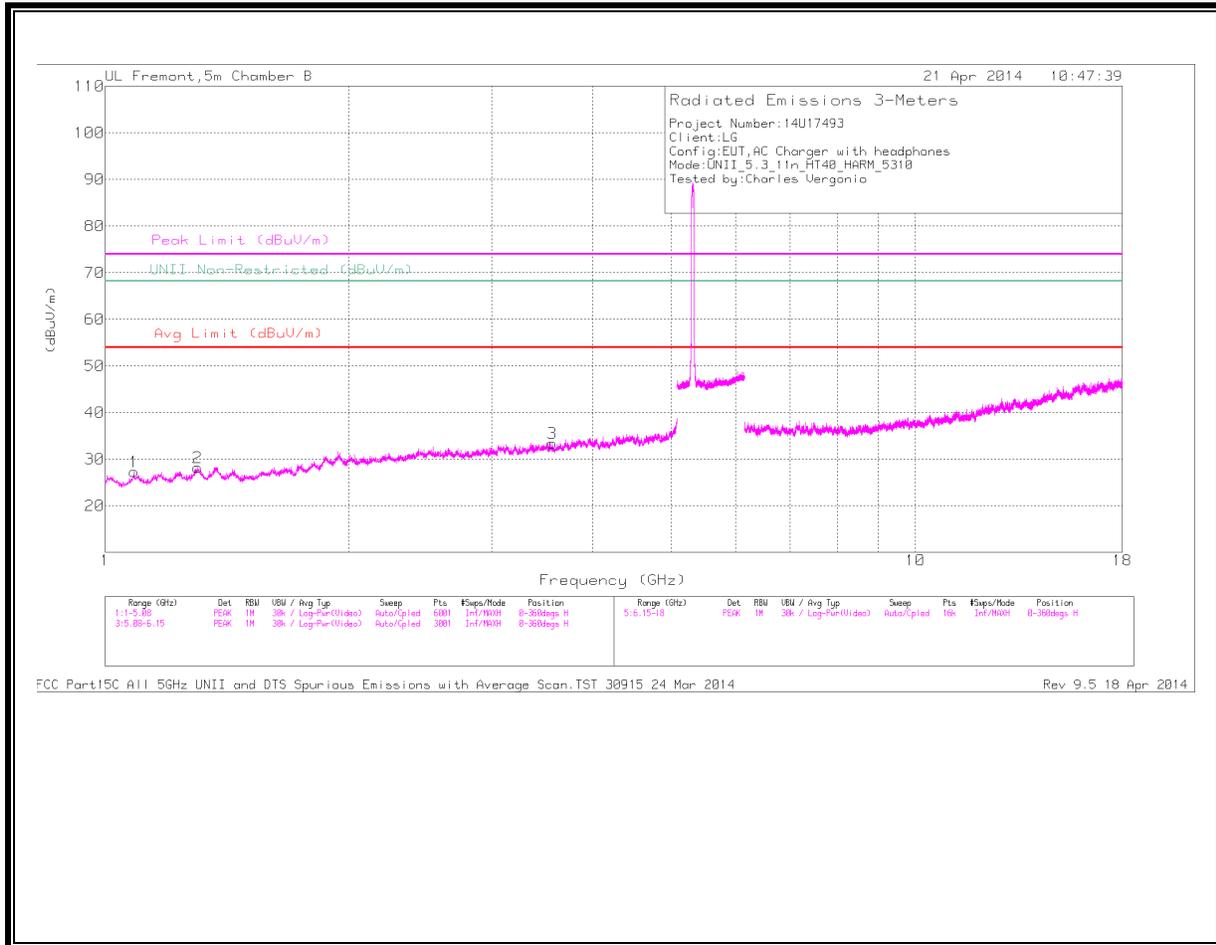
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Fitr/Pad (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
* 1.303	44.02	PK1	28.8	-34.2	38.62	54	-15.38	74	-35.38	-	-	1	100	V
* 1.437	43.18	PK1	28.3	-34	37.48	54	-16.52	74	-36.52	-	-	1	100	V
* 4.709	40.71	PK1	34.2	-29.9	45.01	54	-8.99	74	-28.99	-	-	1	100	V
* 7.486	38.02	PK1	35.6	-25.9	47.72	54	-6.28	74	-26.28	-	-	1	100	H
* 8.096	37.25	PK1	35.7	-26.5	46.45	54	-7.55	74	-27.55	-	-	1	100	H
* 8.434	36.55	PK1	35.8	-26	46.35	54	-7.65	74	-27.65	-	-	1	100	H

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

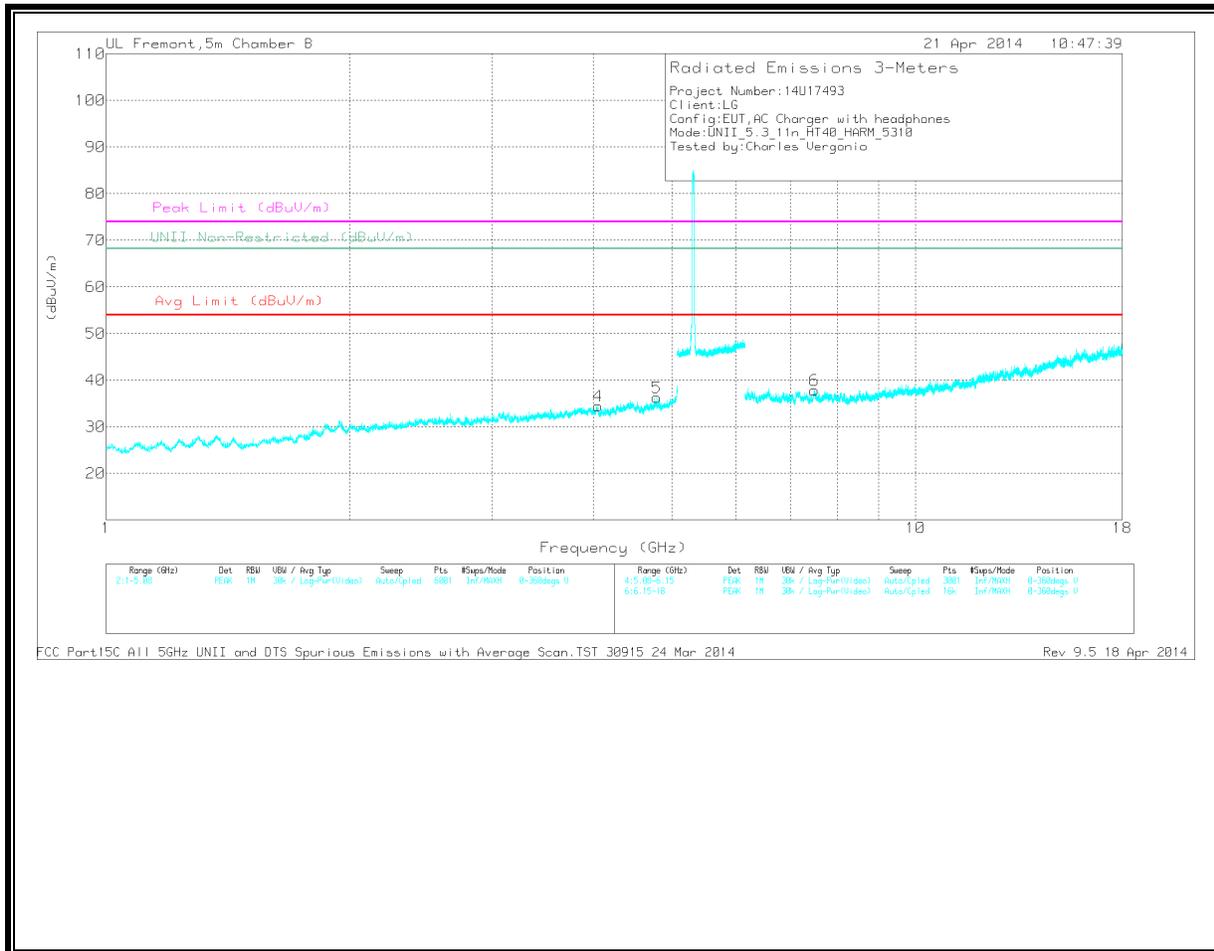
PK1 - KDB789033 Method: Peak

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.

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 T345 (dB/m)	Amp/Cbl/Fitr/Pad (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	* 1.085	34.43	PK	27.3	-34.4	27.33	-	-	74	-46.67	-	-	0-360	202	H
2	* 1.301	33.59	PK	28.9	-34.2	28.29	-	-	74	-45.71	-	-	0-360	99	H
3	* 3.562	32.07	PK	33	-31.6	33.47	-	-	74	-40.53	-	-	0-360	202	H
4	* 4.051	30.82	PK	33.6	-29.9	34.52	-	-	74	-39.48	-	-	0-360	202	V
5	* 4.786	31.04	PK	34.2	-29	36.24	-	-	74	-37.76	-	-	0-360	202	V
6	* 7.499	28.12	PK	35.6	-25.9	37.82	-	-	74	-36.18	-	-	0-360	202	V

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

PK - Peak detector

Radiated Emissions

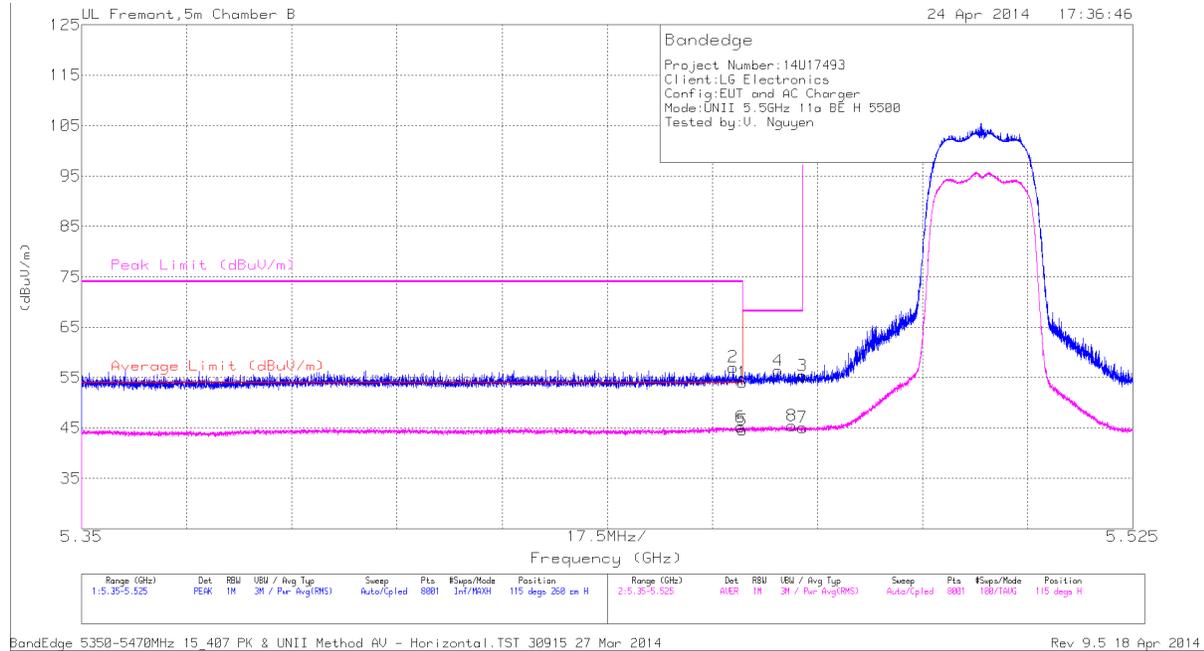
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.084	43.42	PK1	27.3	-34.4	36.32	54	-17.68	74	-37.68	-	-	1	100	H
* 1.298	43.33	PK1	28.8	-34.2	37.93	54	-16.07	74	-36.07	-	-	1	100	H
* 3.562	41.29	PK1	33	-31.6	42.69	54	-11.31	74	-31.31	-	-	1	100	H
* 4.05	40.38	PK1	33.6	-29.8	44.18	54	-9.82	74	-29.82	-	-	1	100	V
* 4.785	39.4	PK1	34.2	-29	44.6	54	-9.4	74	-29.4	-	-	1	100	V
* 7.5	37.68	PK1	35.6	-25.9	47.38	54	-6.62	74	-26.62	-	-	1	100	V

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

PK1 - KDB789033 Method: Peak

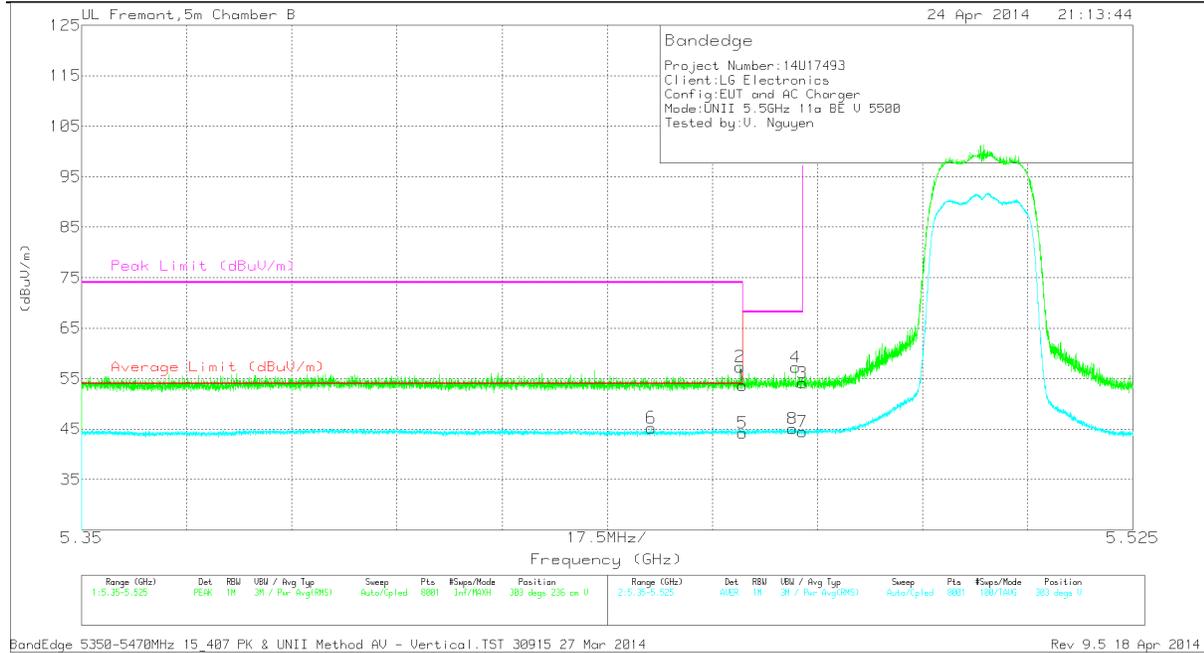
11.3. 5.5-5.6 GHz

11.3.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.458	42.56	PK	34.5	-20	57.06	-	-	74	-16.94	115	260	H
1	* 5.46	39.54	PK	34.5	-20	54.04	-	-	74	-19.96	115	260	H
5	* 5.46	30.08	RMS	34.5	-20	44.58	54	-9.42	-	-	115	260	H
6	* 5.46	30.69	RMS	34.5	-20	45.19	54	-8.81	-	-	115	260	H
4	5.466	41.85	PK	34.5	-20	56.35	-	-	68.2	-11.85	115	260	H
8	5.468	30.95	RMS	34.5	-20	45.45	-	-	-	-	115	260	H
3	5.47	40.74	PK	34.5	-19.9	55.34	-	-	68.2	-12.86	115	260	H
7	5.47	30.42	RMS	34.5	-19.9	45.02	-	-	-	-	115	260	H

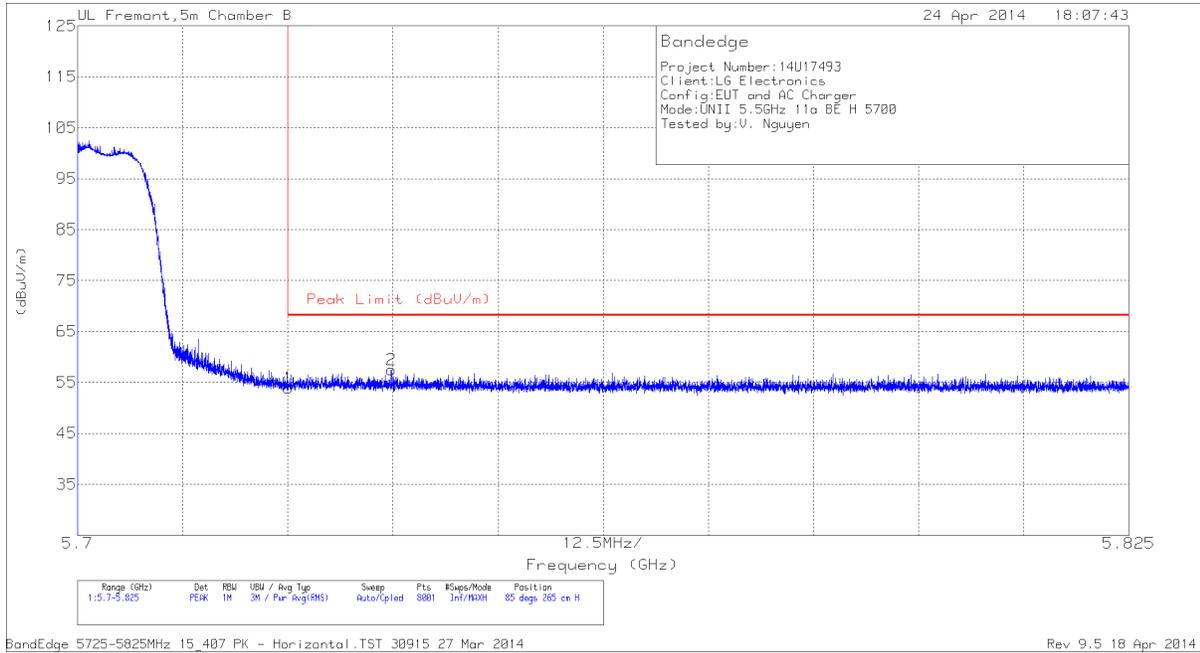
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
 PK - Peak detector
 RMS - RMS detection



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	39.19	PK	34.5	-20	0	53.69	-	-	74	-20.31	303	236	V
2	* 5.46	42.81	PK	34.5	-20	0	57.31	-	-	74	-16.69	303	236	V
5	* 5.46	29.53	RMS	34.5	-20	2	44.23	54	-9.77	-	-	303	236	V
6	* 5.445	30.66	RMS	34.5	-20.1	.2	45.26	54	-8.74	-	-	303	236	V
8	5.468	30.38	RMS	34.5	-20	.2	45.08	-	-	-	-	303	236	V
4	5.469	42.73	PK	34.5	-20	0	57.23	-	-	68.2	-10.97	303	236	V
3	5.47	39.54	PK	34.5	-19.9	0	54.14	-	-	68.2	-14.06	303	236	V
7	5.47	29.68	RMS	34.5	-19.9	.2	44.48	-	-	-	-	303	236	V

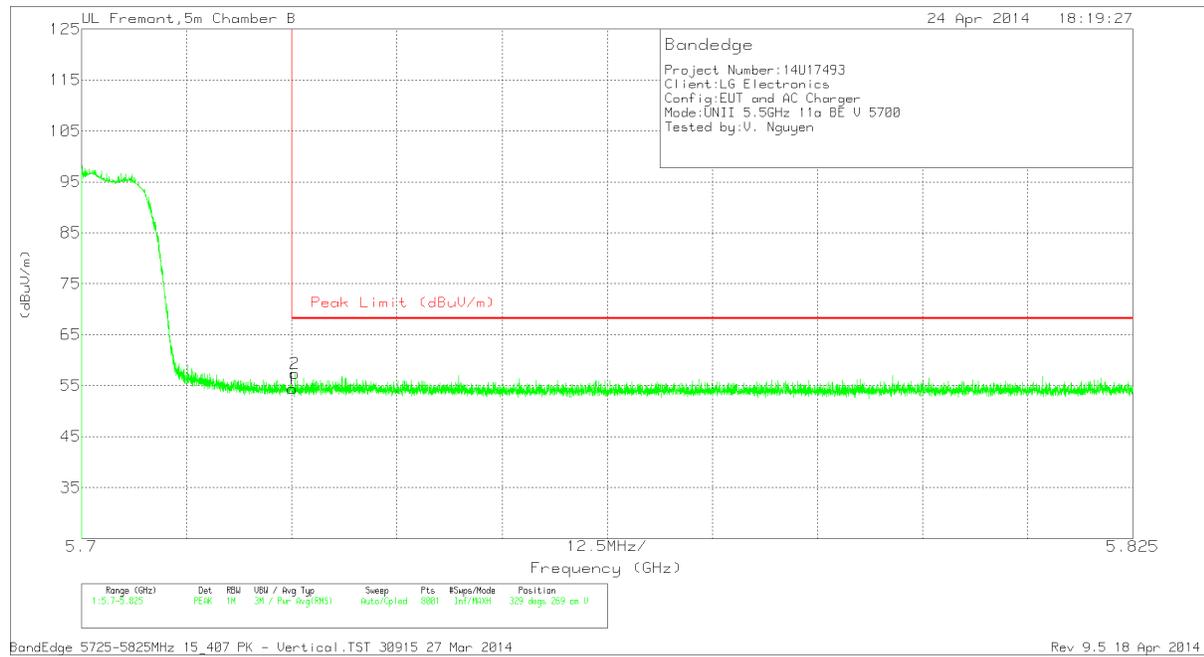
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
 PK - Peak detector
 RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	38.94	PK	34.6	-19.6	53.94	68.2	-14.26	85	265	H
2	5.737	42.41	PK	34.6	-19.5	57.51	68.2	-10.69	85	265	H

PK - Peak detector

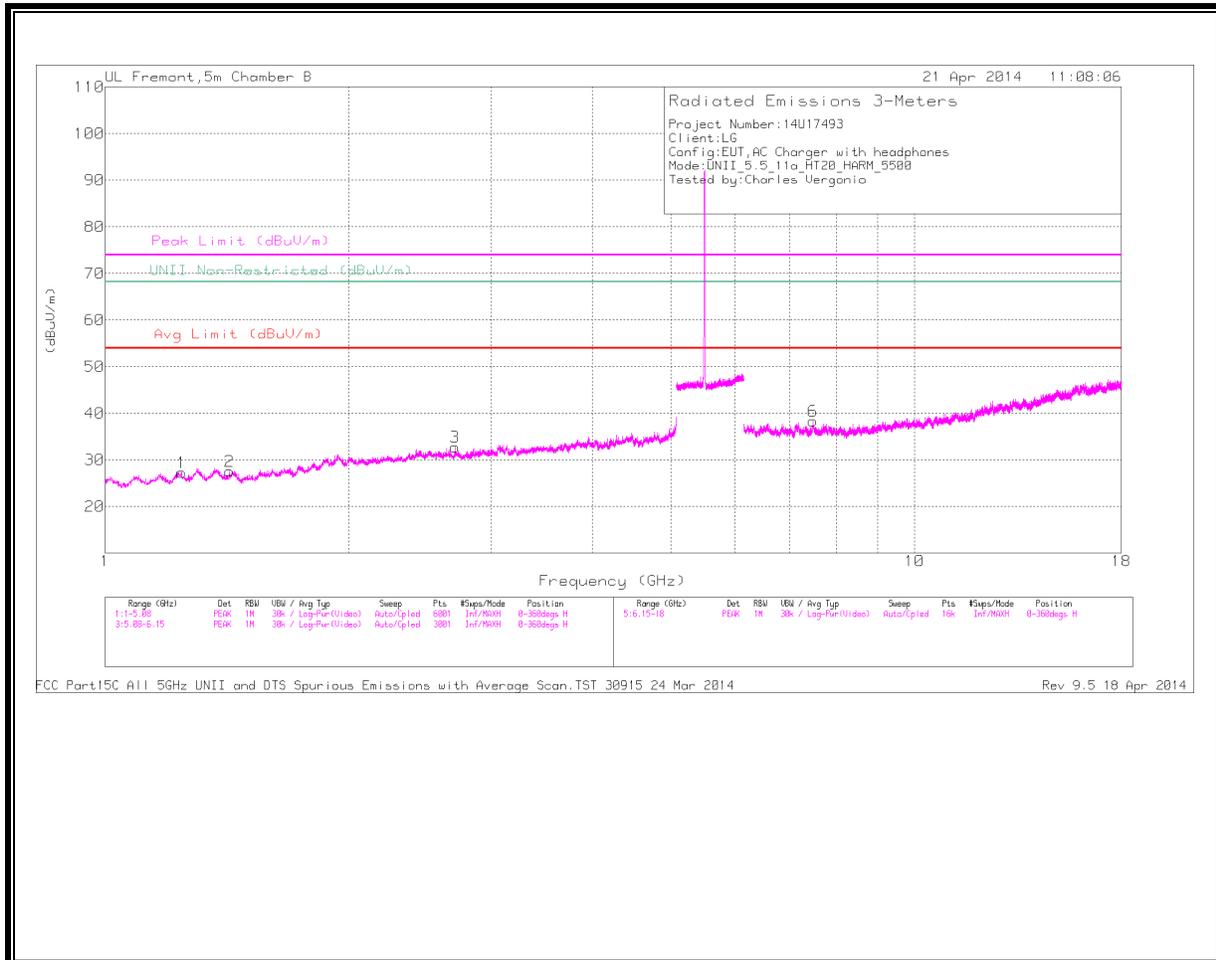


Marker	Frequen cy (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Correcte d Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.36	PK	34.6	-19.6	54.36	68.2	-13.84	329	269	V
2	5.725	42.31	PK	34.6	-19.6	57.31	68.2	-10.89	329	269	V

PK - Peak detector

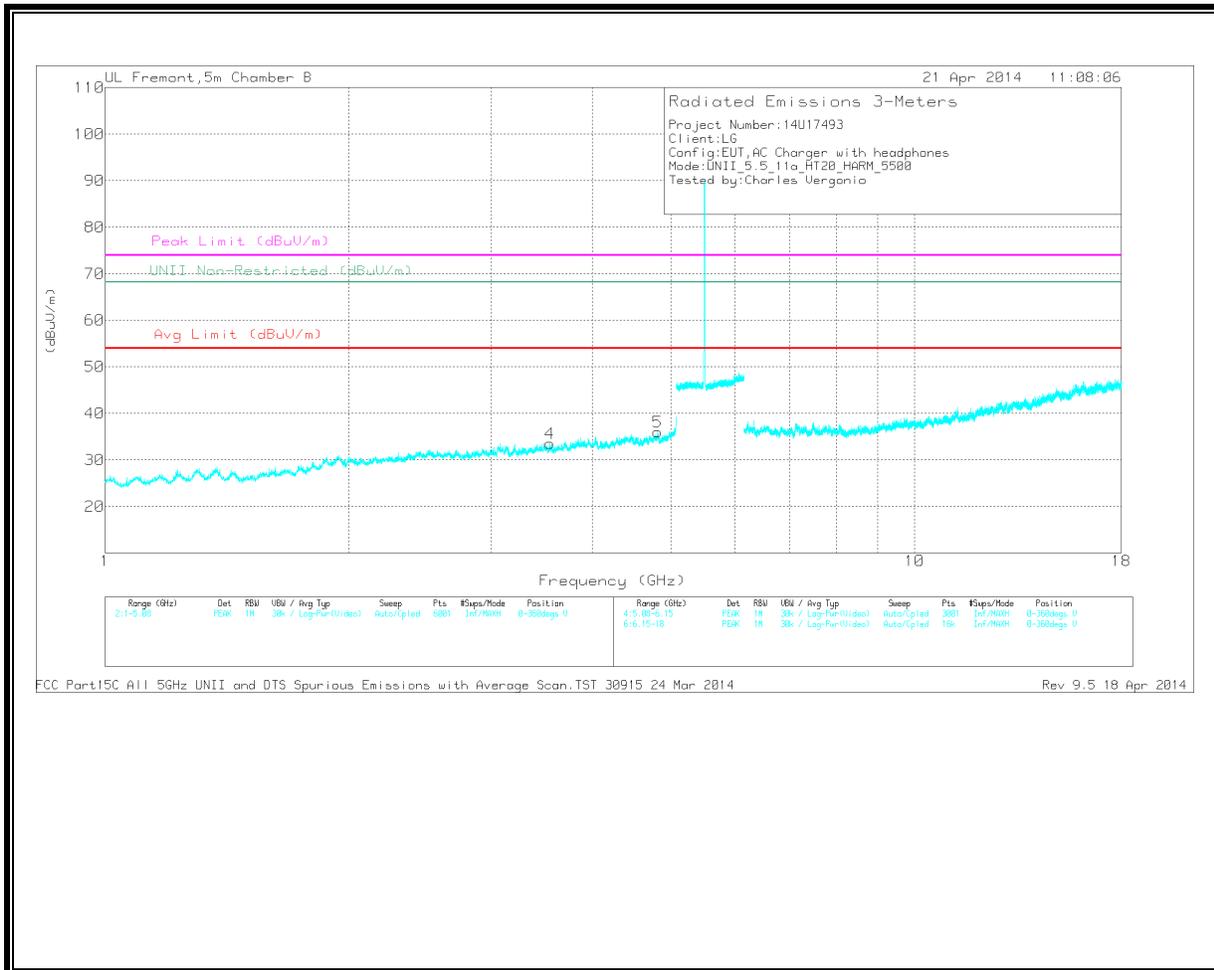
HARMONICS AND SPURIOUS EMISSIONS

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.

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 T345 (dB/m)	Amp/Cbl/Fitr/Pad (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	* 1.243	33.54	PK	28.5	-34.7	27.34	-	-	74	-46.66	-	-	0-360	99	H
2	* 1.426	33.24	PK	28.4	-34	27.64	-	-	74	-46.36	-	-	0-360	99	H
3	* 2.706	32.35	PK	32.2	-31.8	32.75	-	-	74	-41.25	-	-	0-360	202	H
4	* 3.547	32.39	PK	33	-31.8	33.59	-	-	74	-40.41	-	-	0-360	99	V
5	* 4.809	31.17	PK	34.2	-29.3	36.07	-	-	74	-37.93	-	-	0-360	202	V
6	* 7.488	28.56	PK	35.6	-25.8	38.36	-	-	74	-35.64	-	-	0-360	202	H

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

PK - Peak detector

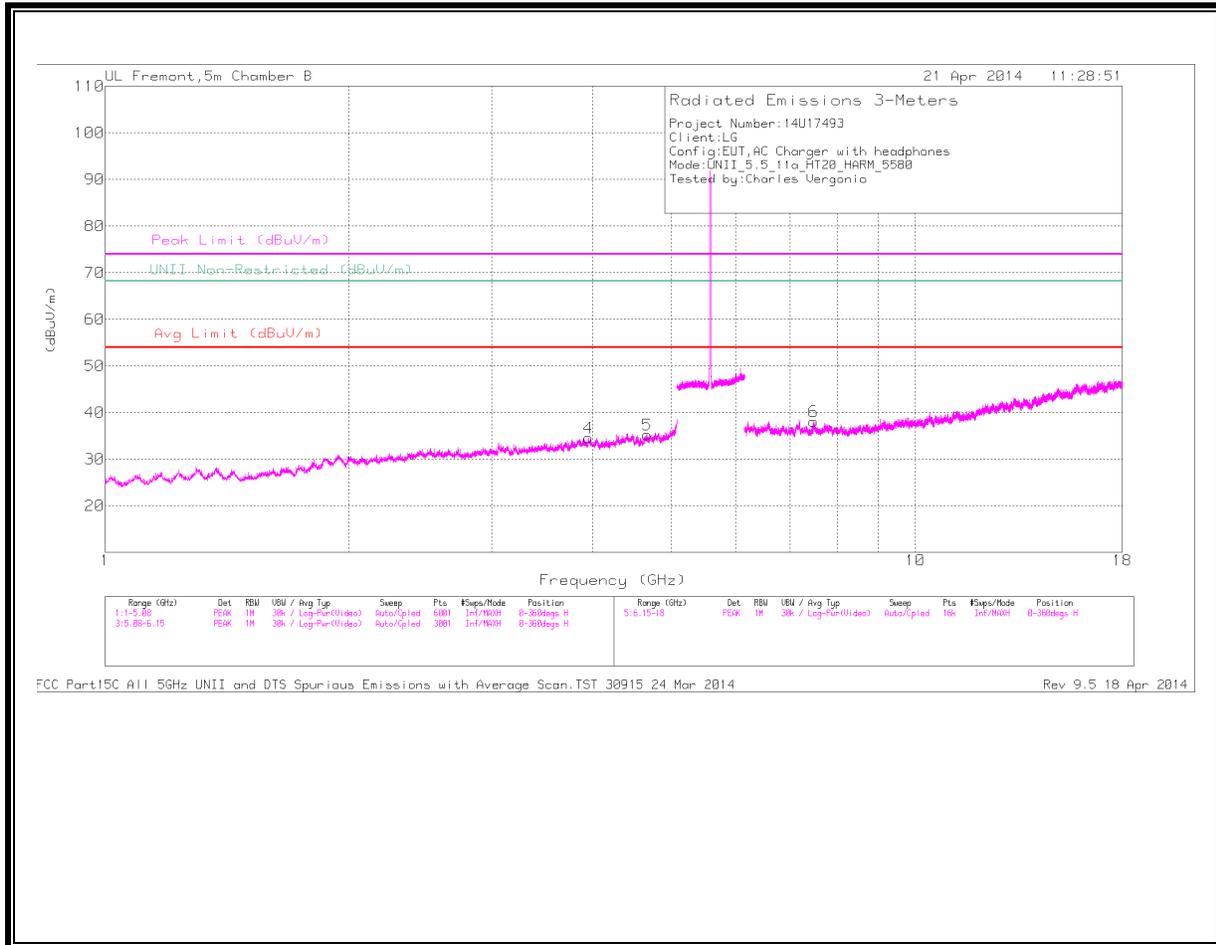
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (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
* 1.244	43.12	PK1	28.5	-34.7	36.92	54	-17.08	74	-37.08	-	-	1	100	H
* 1.425	42.86	PK1	28.4	-34	37.26	54	-16.74	74	-36.74	-	-	1	100	H
* 2.708	41.65	PK1	32.2	-31.8	42.05	54	-11.95	74	-31.95	-	-	1	100	H
* 3.545	41.83	PK1	32.9	-31.9	42.83	54	-11.17	74	-31.17	-	-	1	100	V
* 4.808	40.65	PK1	34.2	-29.3	45.55	54	-8.45	74	-28.45	-	-	1	100	V
* 7.489	38.07	PK1	35.6	-25.7	47.97	54	-6.03	74	-26.03	-	-	1	100	H

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

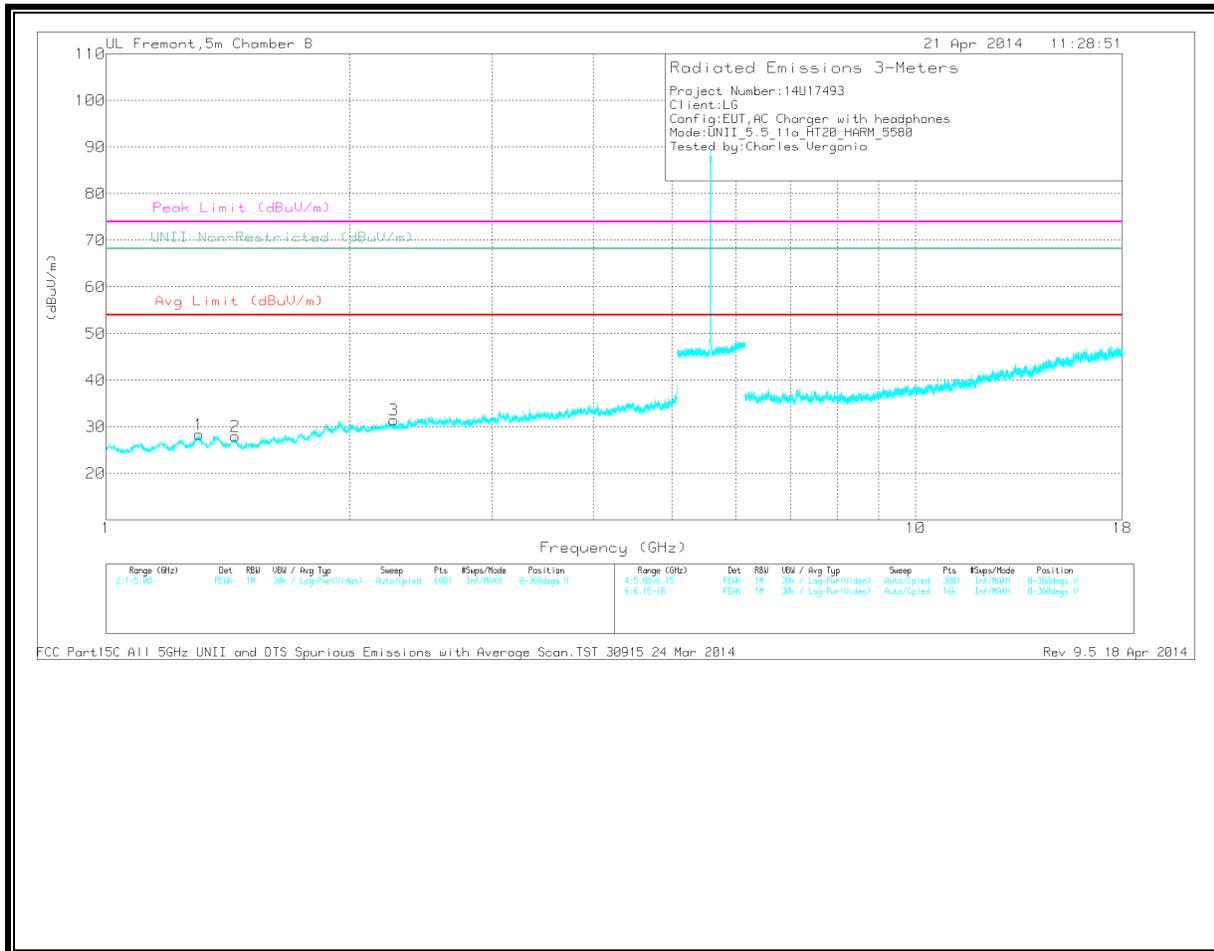
PK1 - KDB789033 Method: Peak

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.

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 T345 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 3.949	31.08	PK	33.7	-30.2	34.58	-	-	74	-39.42	-	-	0-360	202	H
5	* 4.665	30.28	PK	34.2	-29.2	35.28	-	-	74	-38.72	-	-	0-360	202	H
1	* 1.303	33.81	PK	28.8	-34.2	28.41	-	-	74	-45.59	-	-	0-360	99	V
2	* 1.444	33.9	PK	28.2	-34.1	28	-	-	74	-46	-	-	0-360	99	V
3	* 2.268	32.76	PK	31.5	-32.8	31.46	-	-	74	-42.54	-	-	0-360	202	V
6	* 7.492	28.23	PK	35.6	-25.7	38.13	-	-	74	-35.87	-	-	0-360	99	H

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

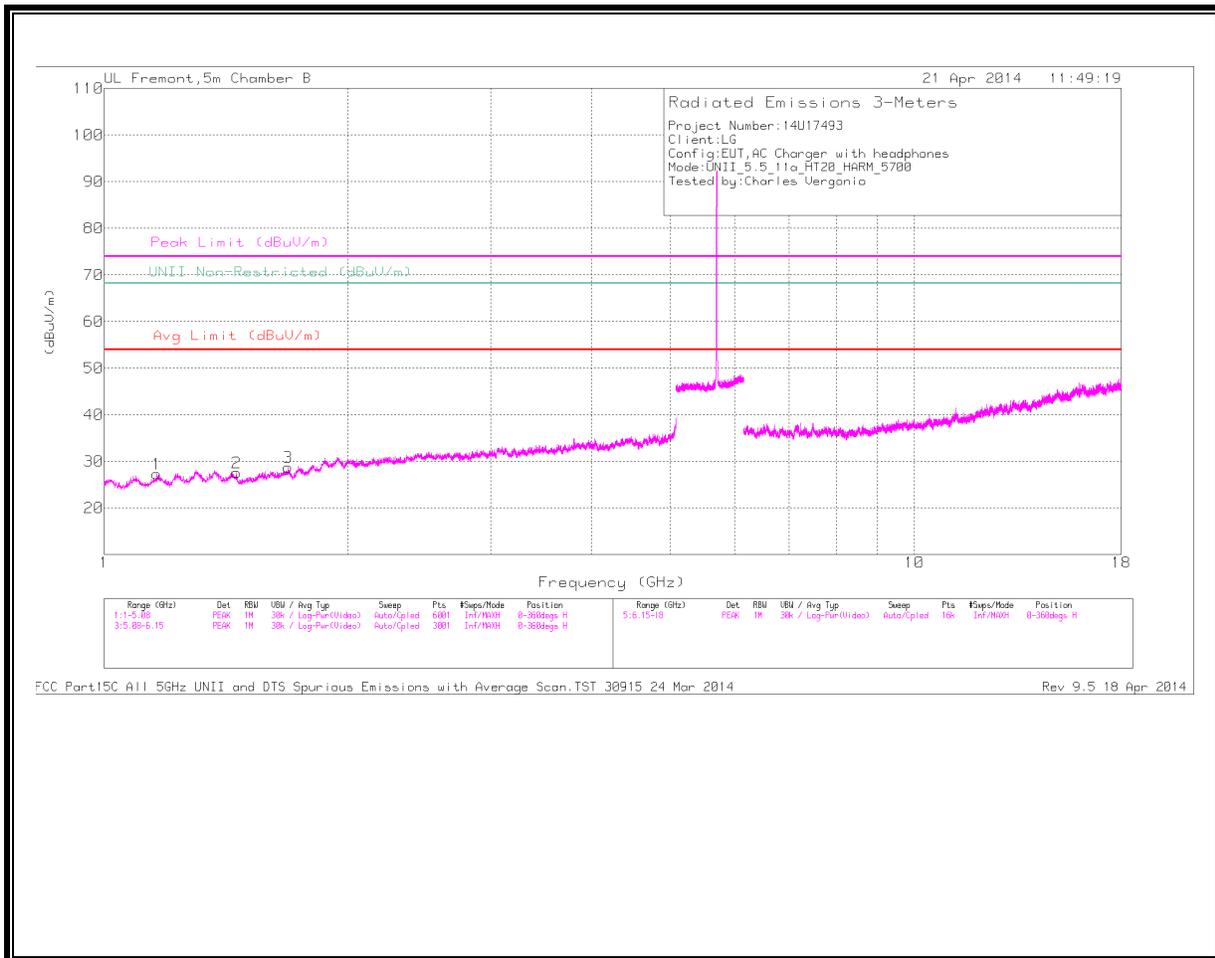
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (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
* 3.948	40.22	PK1	33.7	-30.3	43.62	54	-10.38	74	-30.38	-	-	1	100	H
* 4.666	40.02	PK1	34.2	-29.2	45.02	54	-8.98	74	-28.98	-	-	1	100	H
* 1.304	43.01	PK1	28.8	-34.2	37.61	54	-16.39	74	-36.39	-	-	1	100	V
* 1.446	43.52	PK1	28.2	-34.2	37.52	54	-16.48	74	-36.48	-	-	1	100	V
* 2.268	41.7	PK1	31.5	-32.8	40.4	54	-13.6	74	-33.6	-	-	1	100	V
* 7.493	37.81	PK1	35.6	-25.7	47.71	54	-6.29	74	-26.29	-	-	1	100	H

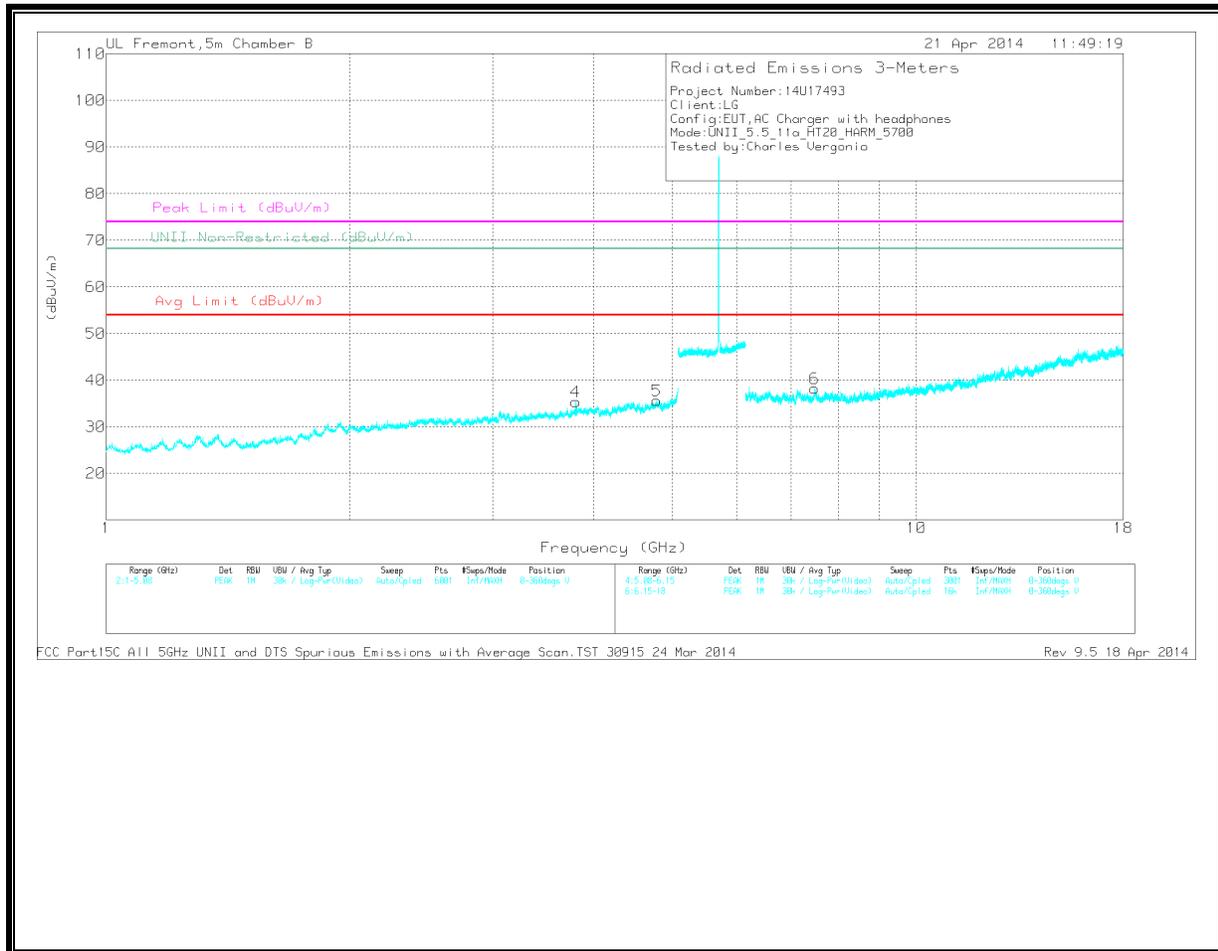
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak



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

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 T345 (dB/m)	Amp/Cbl/Fitr/Pad (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	* 1.161	34.13	PK	27.9	-34.7	27.33	-	-	74	-46.67	-	-	0-360	201	H
2	* 1.458	33.8	PK	28.2	-34.4	27.6	-	-	74	-46.4	-	-	0-360	99	H
3	* 1.687	33.01	PK	29	-33.3	28.71	-	-	74	-45.29	-	-	0-360	201	H
4	* 3.8	32.8	PK	33.6	-31	35.4	-	-	74	-38.6	-	-	0-360	99	V
5	* 4.781	30.49	PK	34.2	-29	35.69	-	-	74	-38.31	-	-	0-360	99	V
6	* 7.492	28.36	PK	35.6	-25.7	38.26	-	-	74	-35.74	-	-	0-360	202	V

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

PK - Peak detector

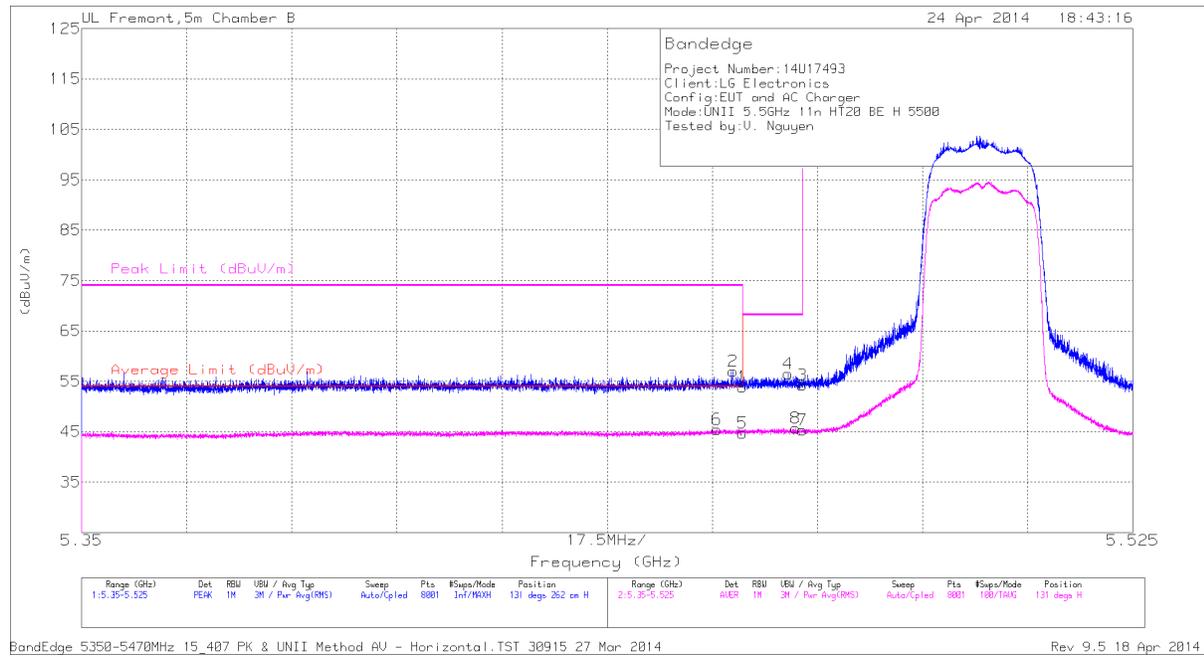
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (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
* 1.16	43.66	PK1	27.9	-34.7	36.86	54	-17.14	74	-37.14	-	-	1	100	H
* 1.456	42.64	PK1	28.2	-34.4	36.44	54	-17.56	74	-37.56	-	-	1	100	H
* 1.69	42.45	PK1	29	-33.3	38.15	54	-15.85	74	-35.85	-	-	1	100	H
* 3.802	40.4	PK1	33.6	-31	43	54	-11.0	74	-31	-	-	1	100	V
* 4.78	40.41	PK1	34.2	-29	45.61	54	-8.39	74	-28.39	-	-	1	100	V
* 7.49	38.16	PK1	35.6	-25.7	48.06	54	-5.94	74	-25.94	-	-	1	100	V

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

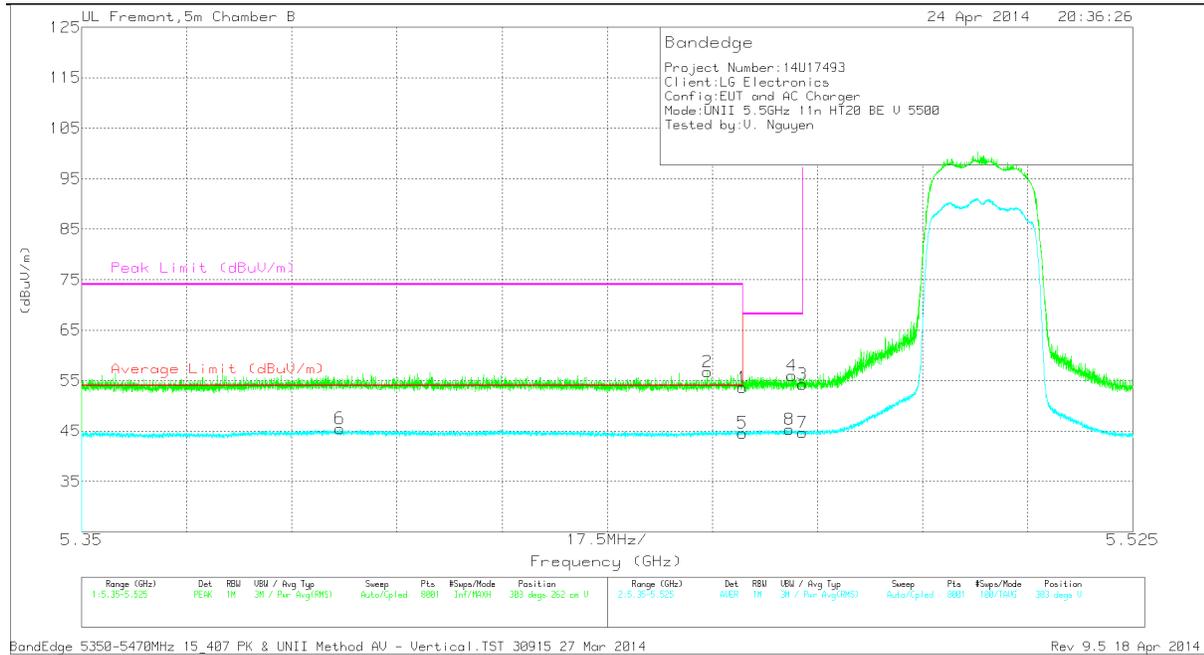
PK1 - KDB789033 Method: Peak

11.3.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)



Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/FI tr/Pad (dB)	DC Corr (dB)	Correcte d Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 5.456	30.73	RMS	34.5	-20	.2	45.43	54	-8.57	-	-	131	262	H
2	* 5.458	42.53	PK	34.5	-20	0	57.03	-	-	74	-16.97	131	262	H
1	* 5.46	39.36	PK	34.5	-20	0	53.86	-	-	74	-20.14	131	262	H
5	* 5.46	29.97	RMS	34.5	-20	.2	44.67	54	-9.33	-	-	131	262	H
4	5.468	42	PK	34.5	-20	0	56.5	-	-	68.2	-11.7	131	262	H
8	5.469	30.98	RMS	34.5	-20	.2	45.68	-	-	-	-	131	262	H
3	5.47	39.65	PK	34.5	-19.9	0	54.25	-	-	68.2	-13.95	131	262	H
7	5.47	30.54	RMS	34.5	-19.9	.2	45.34	-	-	-	-	131	262	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
 PK - Peak detector
 RMS - RMS detection



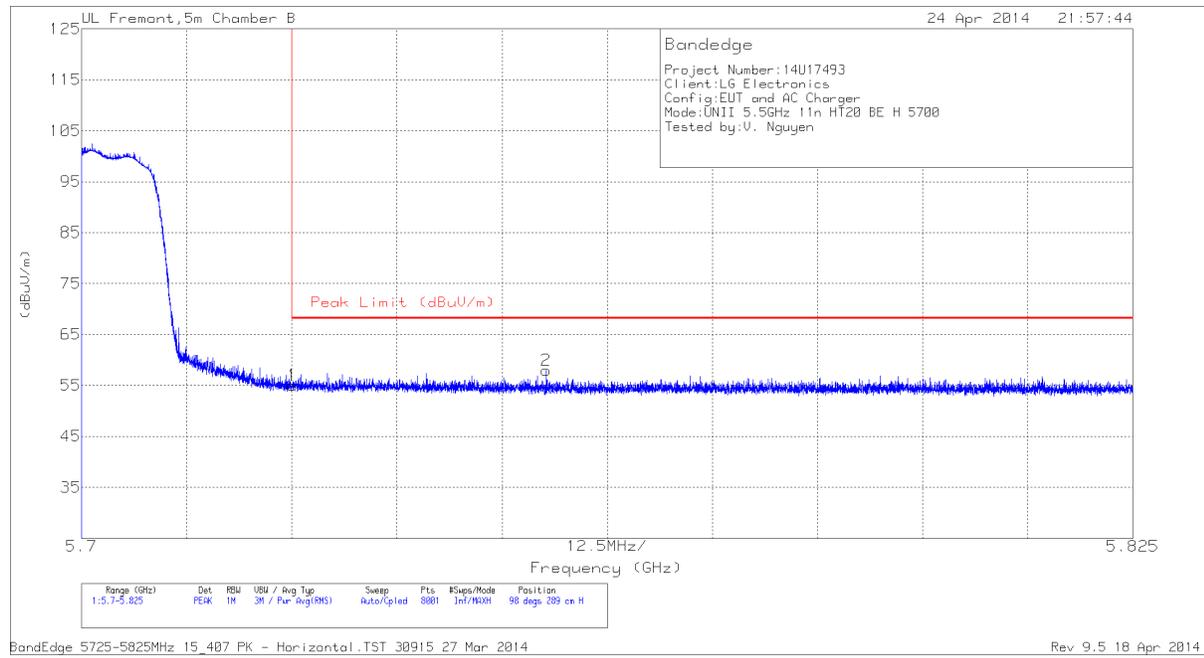
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 5.393	30.61	RMS	34.5	-19.8	.2	45.51	54	-8.49	-	-	303	262	V
2	* 5.454	42.34	PK	34.5	-20.1	0	56.74	-	-	74	-17.26	303	262	V
1	* 5.46	39.1	PK	34.5	-20	0	53.6	-	-	74	-20.4	303	262	V
5	* 5.46	29.94	RMS	34.5	-20	.2	44.64	54	-9.36	-	-	303	262	V
4	5.468	41.48	PK	34.5	-20	0	55.98	-	-	68.2	-12.22	303	262	V
8	5.468	30.59	RMS	34.5	-20	.2	45.29	-	-	-	-	303	262	V
3	5.47	39.63	PK	34.5	-19.9	0	54.23	-	-	68.2	-13.97	303	262	V
7	5.47	29.9	RMS	34.5	-19.9	.2	44.7	-	-	-	-	303	262	V

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

PK - Peak detector

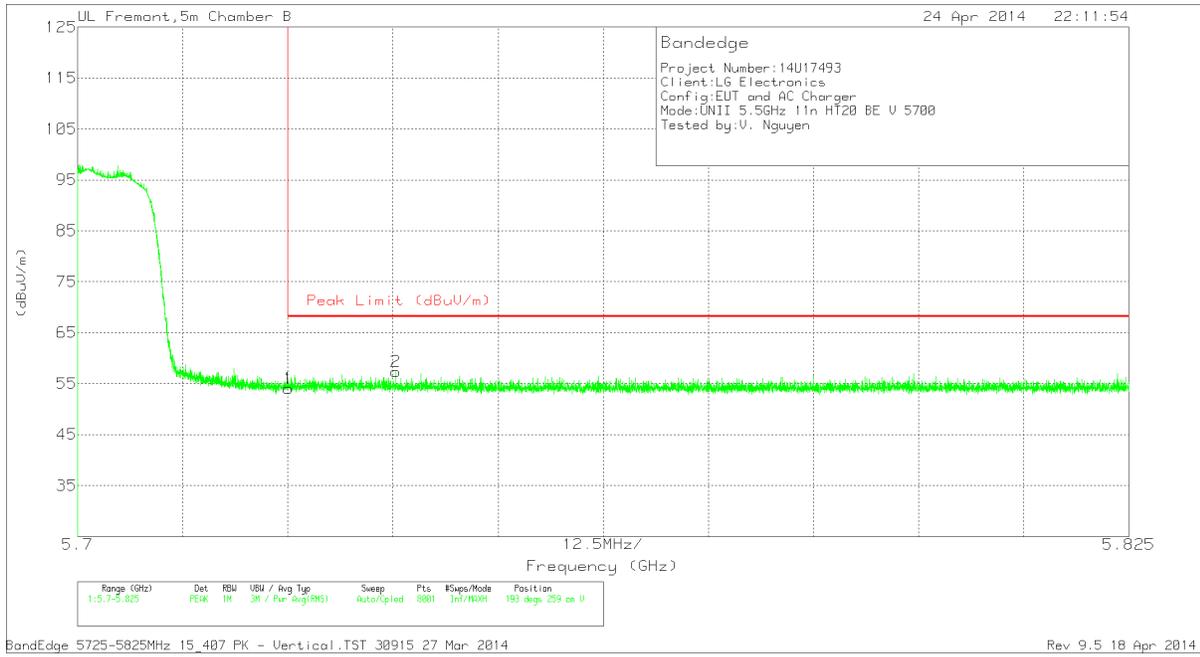
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	40.03	PK	34.6	-19.6	55.03	68.2	-13.17	98	289	H
2	5.755	42.87	PK	34.6	-19.5	57.97	68.2	-10.23	98	289	H

PK - Peak detector

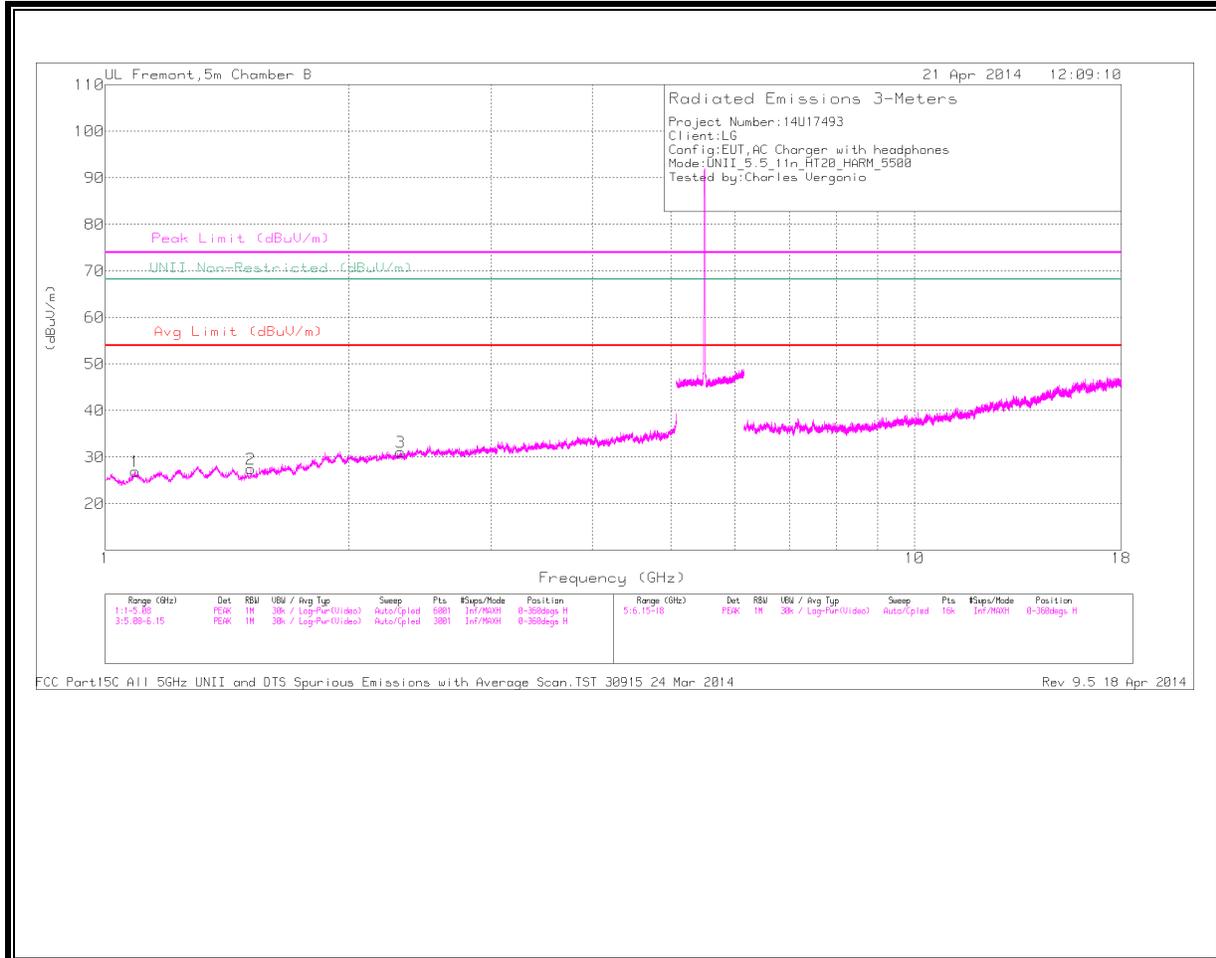


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.1	PK	34.6	-19.6	54.1	68.2	-14.1	193	259	V
2	5.738	42.27	PK	34.6	-19.5	57.37	68.2	-10.83	193	259	V

PK - Peak detector

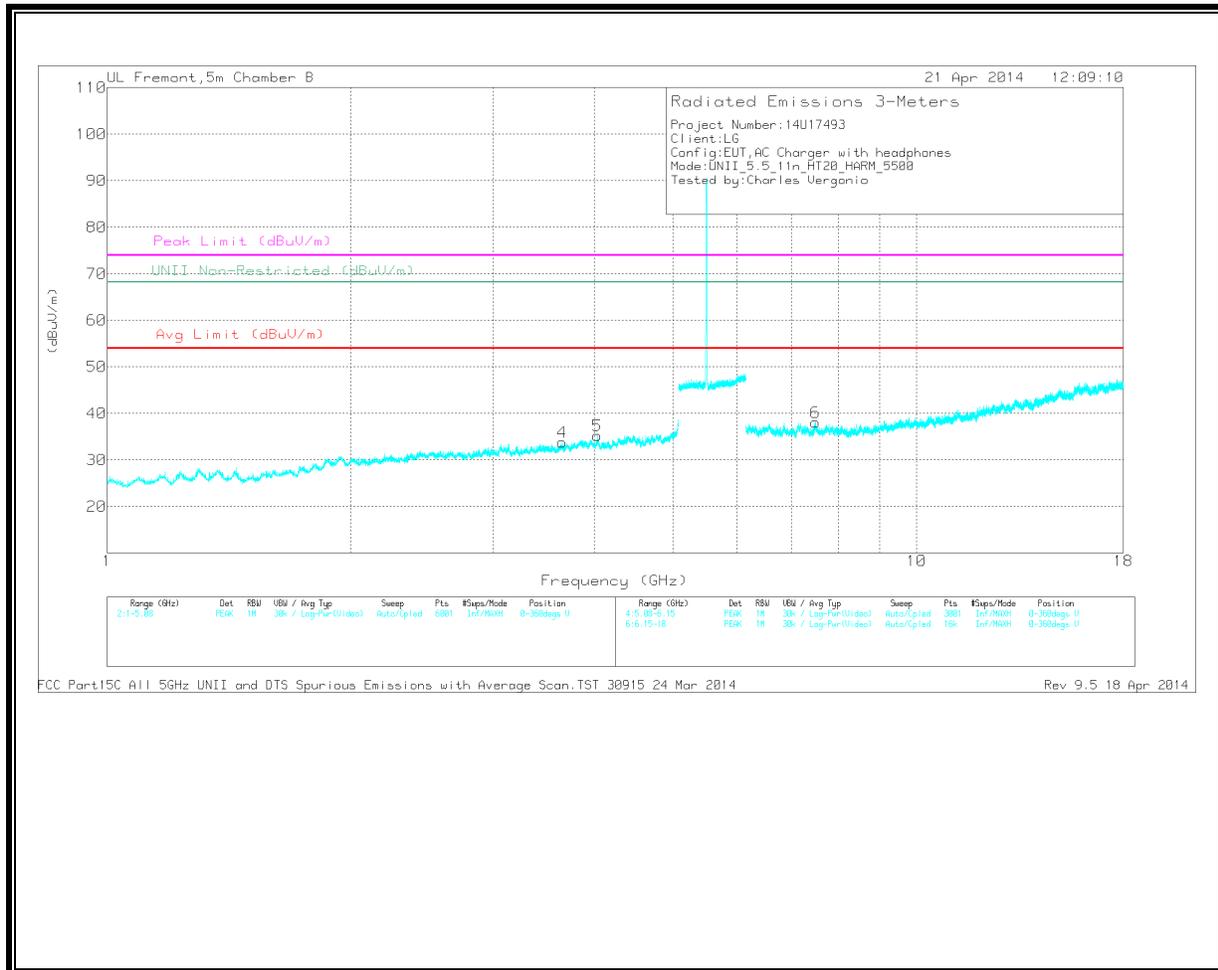
HARMONICS AND SPURIOUS EMISSIONS

**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.

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 T345 (dB/m)	Amp/Cbl/Fitr/Pad (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	* 1.09	34.05	PK	27.3	-34.4	26.95	-	-	74	-47.05	-	-	0-360	202	H
2	* 1.513	33.86	PK	28	-34.4	27.46	-	-	74	-46.54	-	-	0-360	99	H
3	* 2.316	32.52	PK	31.7	-33.1	31.12	-	-	74	-42.88	-	-	0-360	202	H
4	* 3.651	31.68	PK	33.2	-31.1	33.78	-	-	74	-40.22	-	-	0-360	99	V
5	* 4.031	31.72	PK	33.6	-30.1	35.22	-	-	74	-38.78	-	-	0-360	202	V
6	* 7.497	28.31	PK	35.6	-25.8	38.11	-	-	74	-35.89	-	-	0-360	99	V

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

PK - Peak detector

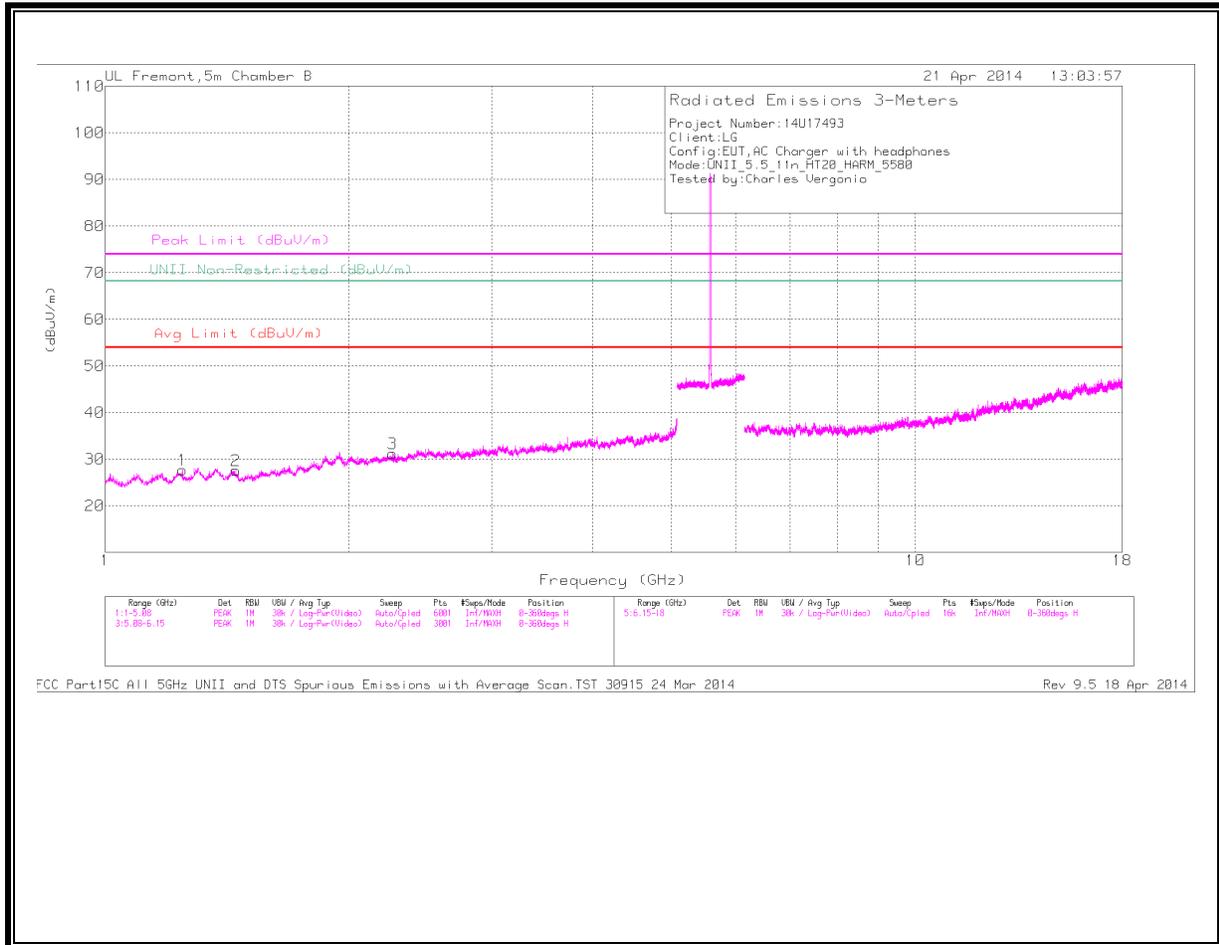
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (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
* 1.09	43.67	PK1	27.3	-34.4	36.57	54	-17.43	74	-37.43	-	-	1	100	H
* 1.514	43.03	PK1	28	-34.4	36.63	54	-17.37	74	-37.37	-	-	1	100	H
* 2.315	41.97	PK1	31.7	-33.1	40.57	54	-13.43	74	-33.43	-	-	1	100	H
* 3.65	40.8	PK1	33.2	-31.1	42.9	54	-11.1	74	-31.1	-	-	1	100	V
* 4.033	40.59	PK1	33.6	-30.1	44.09	54	-9.91	74	-29.91	-	-	1	100	V
* 7.496	38.21	PK1	35.6	-25.8	48.01	54	-5.99	74	-25.99	-	-	1	100	V

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

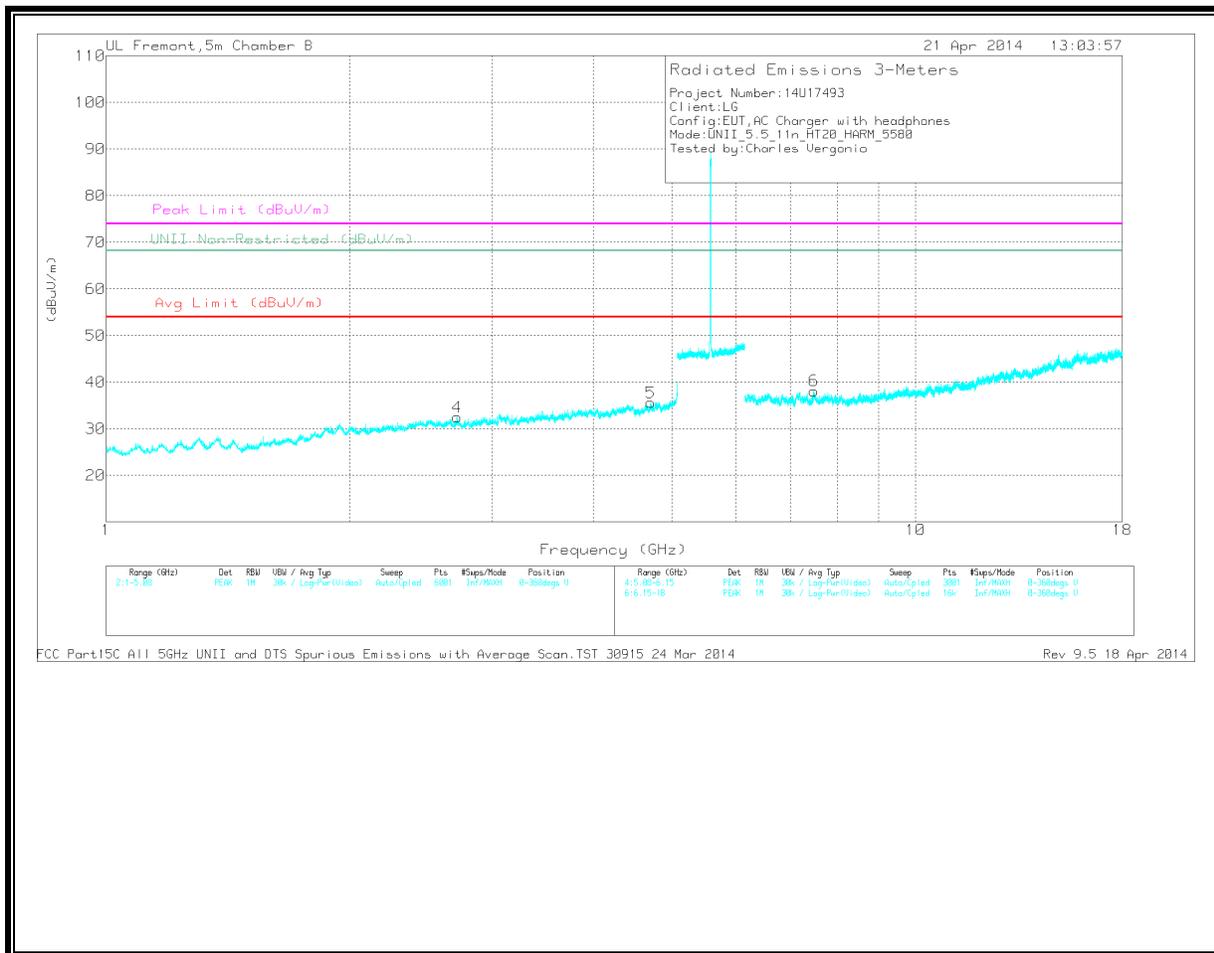
PK1 - KDB789033 Method: Peak

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.

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 T345 (dB/m)	Amp/Cbl/Fitr/Pad (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	* 1.246	33.91	PK	28.5	-34.7	27.71	-	-	74	-46.29	-	-	0-360	202	H
2	* 1.449	33.54	PK	28.2	-34.2	27.54	-	-	74	-46.46	-	-	0-360	99	H
3	* 2.263	32.49	PK	31.5	-32.8	31.19	-	-	74	-42.81	-	-	0-360	202	H
4	* 2.716	32.07	PK	32.2	-31.8	32.47	-	-	74	-41.53	-	-	0-360	202	V
5	* 4.706	31.39	PK	34.2	-29.9	35.69	-	-	74	-38.31	-	-	0-360	202	V
6	* 7.493	28.27	PK	35.6	-25.7	38.17	-	-	74	-35.83	-	-	0-360	202	V

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

PK - Peak detector

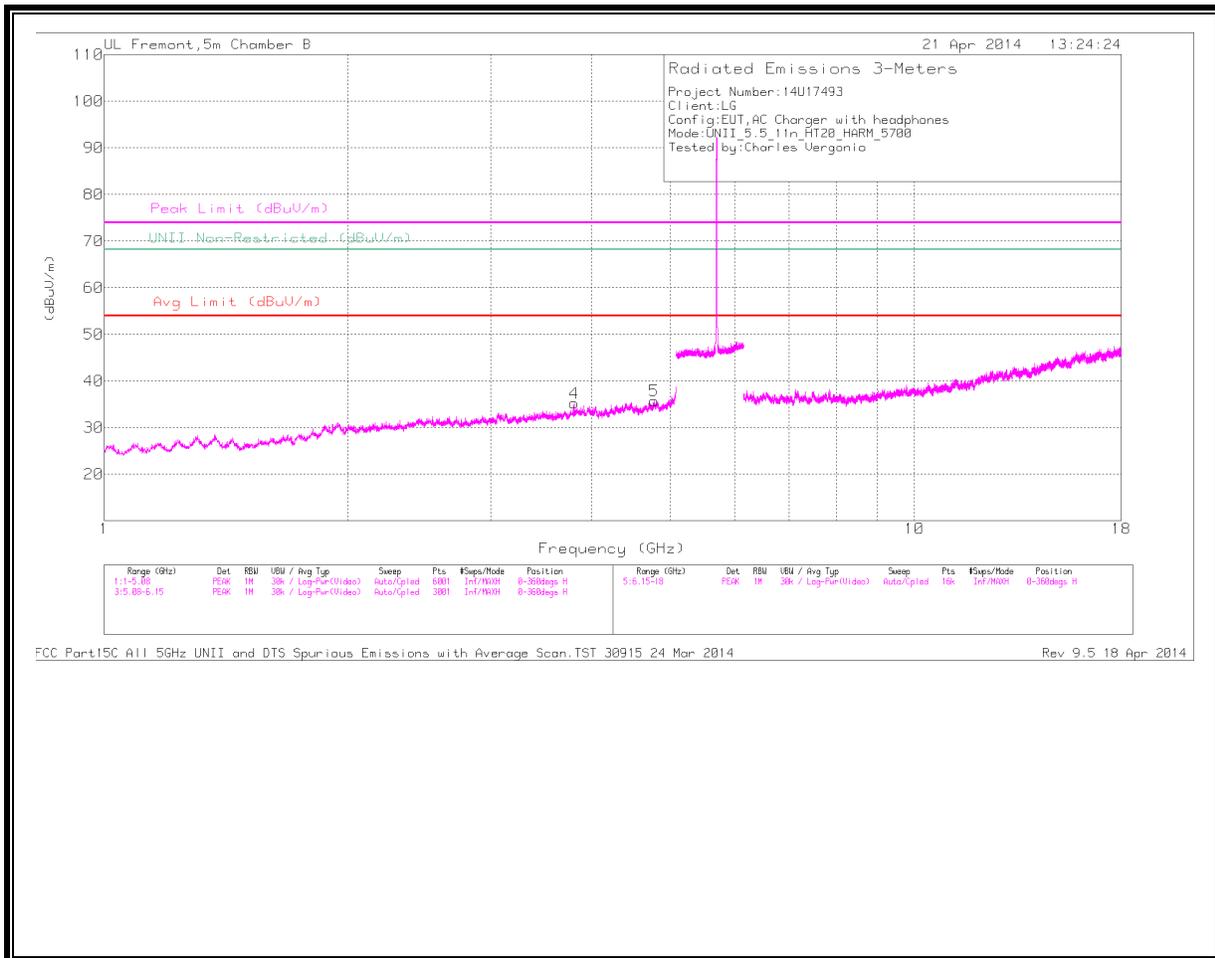
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (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
* 1.245	43	PK1	28.5	-34.7	36.8	54	-17.2	74	-37.2	-	-	1	100	H
* 1.448	43.74	PK1	28.2	-34.2	37.74	54	-16.26	74	-36.26	-	-	1	100	H
* 2.263	41.41	PK1	31.5	-32.8	40.11	54	-13.89	74	-33.89	-	-	1	100	H
* 2.714	40.85	PK1	32.2	-31.8	41.25	54	-12.75	74	-32.75	-	-	1	100	V
* 4.708	41.21	PK1	34.2	-29.9	45.51	54	-8.49	74	-28.49	-	-	1	100	V
* 7.491	38.3	PK1	35.6	-25.7	48.2	54	-5.8	74	-25.8	-	-	1	100	V

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

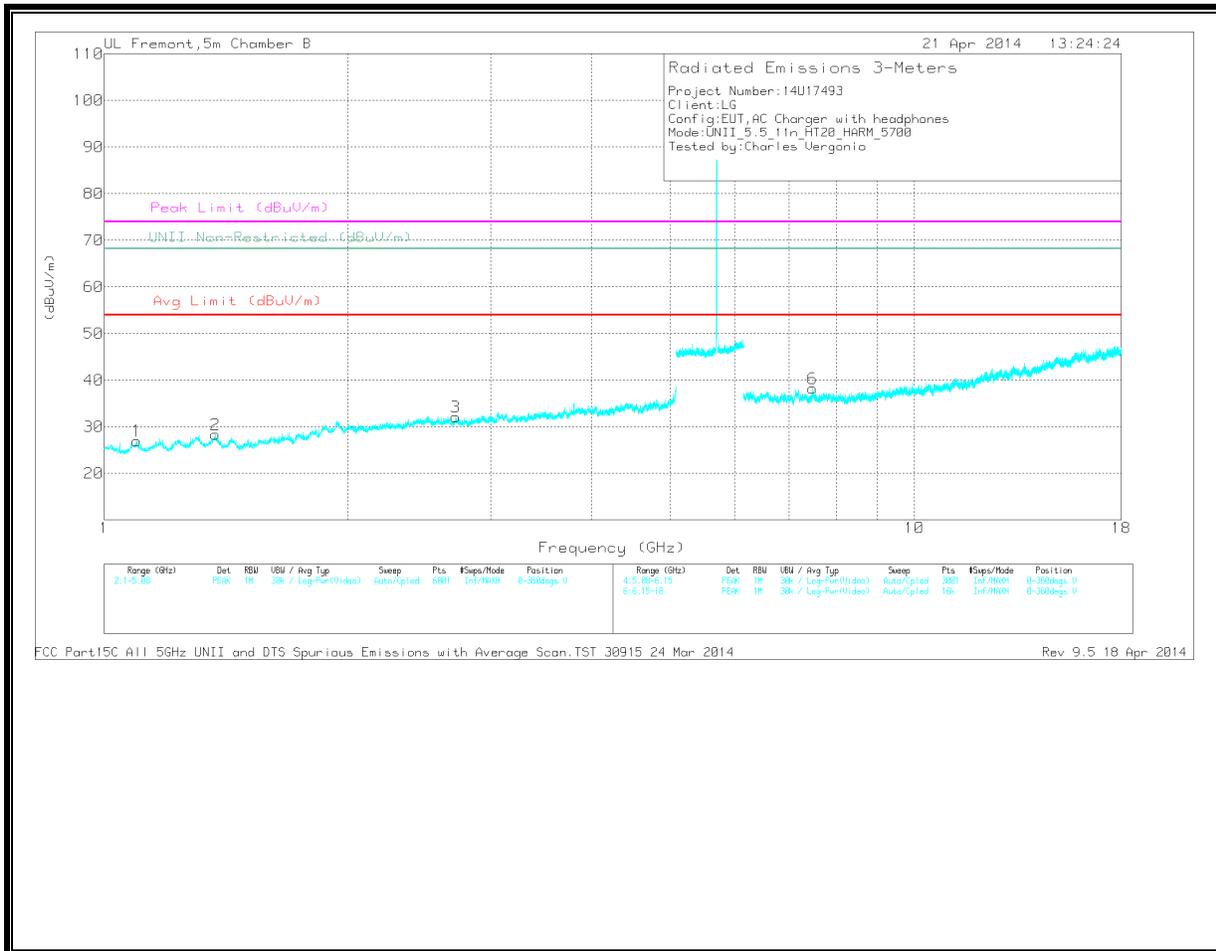
PK1 - KDB789033 Method: Peak

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.

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 T345 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 3.8	32.63	PK	33.6	-31	35.23	-	-	74	-38.77	-	-	0-360	202	H
5	* 4.77	30.75	PK	34.2	-29.2	35.75	-	-	74	-38.25	-	-	0-360	202	H
1	* 1.098	34	PK	27.4	-34.4	27	-	-	74	-47	-	-	0-360	99	V
2	* 1.372	33.61	PK	28.6	-33.8	28.41	-	-	74	-45.59	-	-	0-360	202	V
3	* 2.716	31.72	PK	32.2	-31.8	32.12	-	-	74	-41.88	-	-	0-360	202	V
6	* 7.487	28.41	PK	35.6	-25.8	38.21	-	-	74	-35.79	-	-	0-360	202	V

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

PK - Peak detector

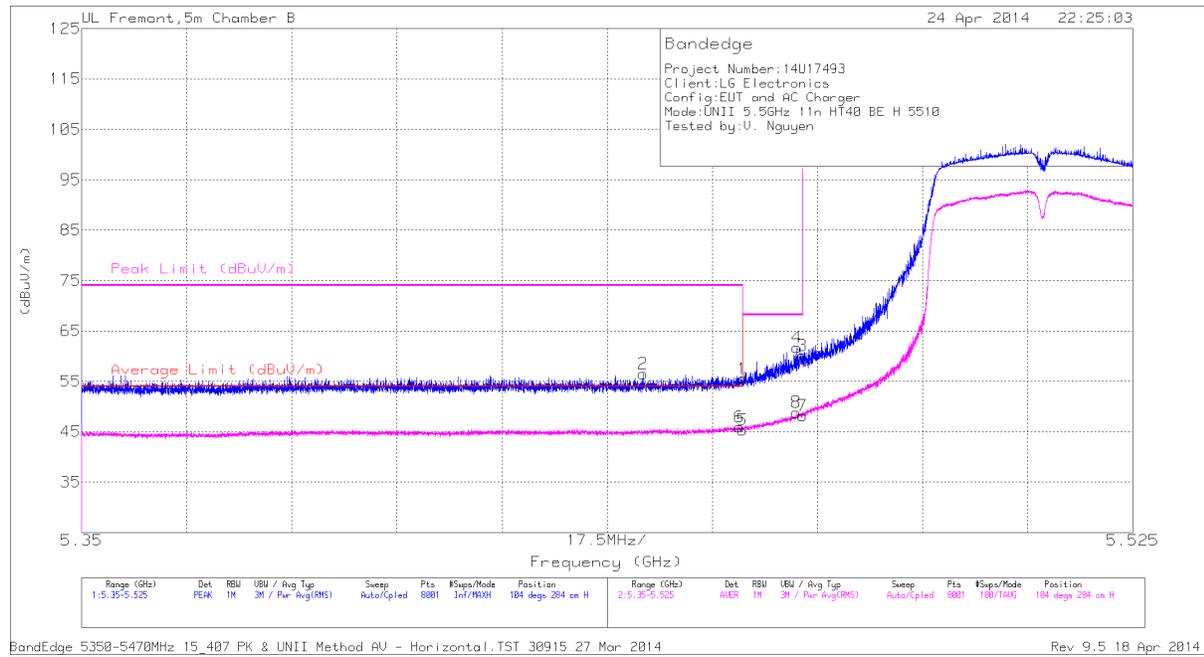
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (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
* 3.802	41.77	PK1	33.6	-31	44.37	54	-9.63	74	-29.63	-	-	1	100	H
* 4.768	40.95	PK1	34.2	-29.4	45.75	54	-8.25	74	-28.25	-	-	1	100	H
* 1.097	44.08	PK1	27.4	-34.4	37.08	54	-16.92	74	-36.92	-	-	174	316	V
* 1.371	43.36	PK1	28.6	-33.8	38.16	54	-15.84	74	-35.84	-	-	174	316	V
* 2.716	41.37	PK1	32.2	-31.8	41.77	54	-12.23	74	-32.23	-	-	174	316	V
* 7.488	37.98	PK1	35.6	-25.8	47.78	54	-6.22	74	-26.22	-	-	174	316	V

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

PK1 - KDB789033 Method: Peak

11.3.5. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

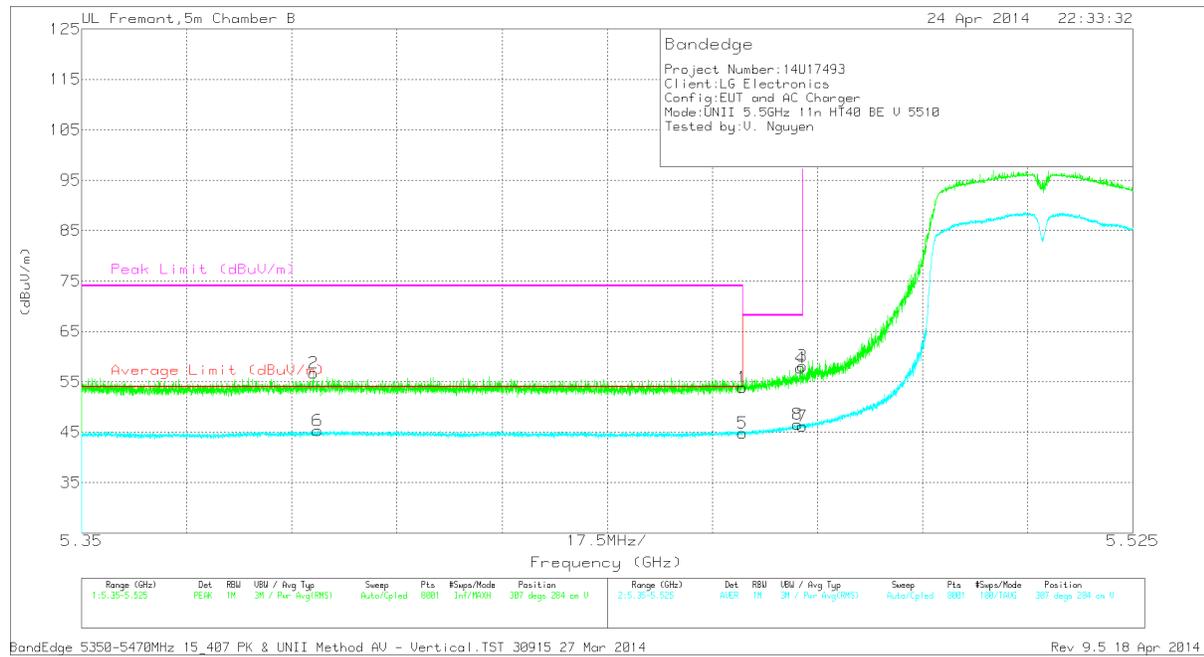


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.443	42.14	PK	34.5	-20.1	0	56.54	-	-	74	-17.46	104	284	H
1	* 5.46	40.97	PK	34.5	-20	0	55.47	-	-	74	-18.53	104	284	H
5	* 5.46	30.44	RMS	34.5	-20	.4	45.34	54	-8.66	-	-	104	284	H
6	* 5.46	31.1	RMS	34.5	-20	.4	46	54	-8	-	-	104	284	H
4	5.469	47.24	PK	34.5	-20	0	61.74	-	-	68.2	-6.46	104	284	H
8	5.469	33.96	RMS	34.5	-20	.4	48.86	-	-	-	-	104	284	H
3	5.47	45.48	PK	34.5	-19.9	0	60.08	-	-	68.2	-8.12	104	284	H
7	5.47	33.19	RMS	34.5	-19.9	.4	48.19	-	-	-	-	104	284	H

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

PK - Peak detector

RMS - RMS detection



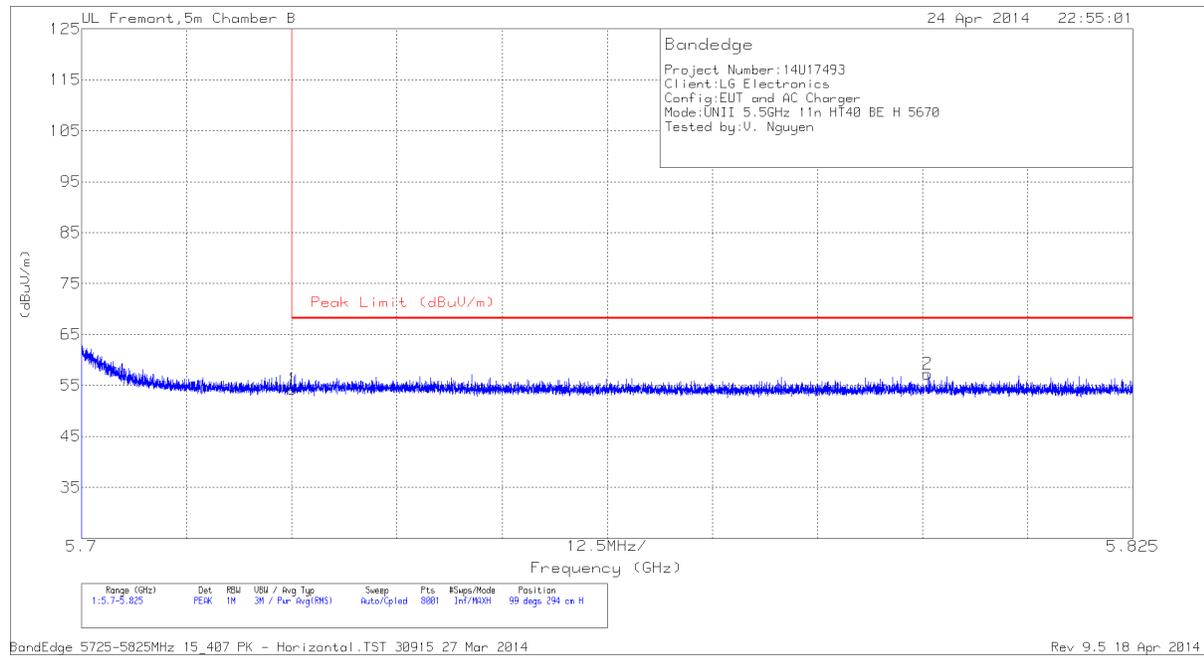
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.389	41.9	PK	34.5	-19.7	0	56.7	-	-	74	-17.3	307	284	V
6	* 5.389	30.13	RMS	34.5	-19.7	.4	45.33	54	-8.67	-	-	307	284	V
1	* 5.46	39.35	PK	34.5	-20	0	53.85	-	-	74	-20.15	307	284	V
5	* 5.46	29.95	RMS	34.5	-20	.4	44.85	54	-9.15	-	-	307	284	V
8	5.469	31.64	RMS	34.5	-20	.4	46.54	-	-	-	-	307	284	V
3	5.47	43.46	PK	34.5	-19.9	0	58.06	-	-	68.2	-10.14	307	284	V
4	5.47	43.18	PK	34.5	-19.9	0	57.78	-	-	68.2	-10.42	307	284	V
7	5.47	31.19	RMS	34.5	-19.9	.4	46.19	-	-	-	-	307	284	V

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

PK - Peak detector

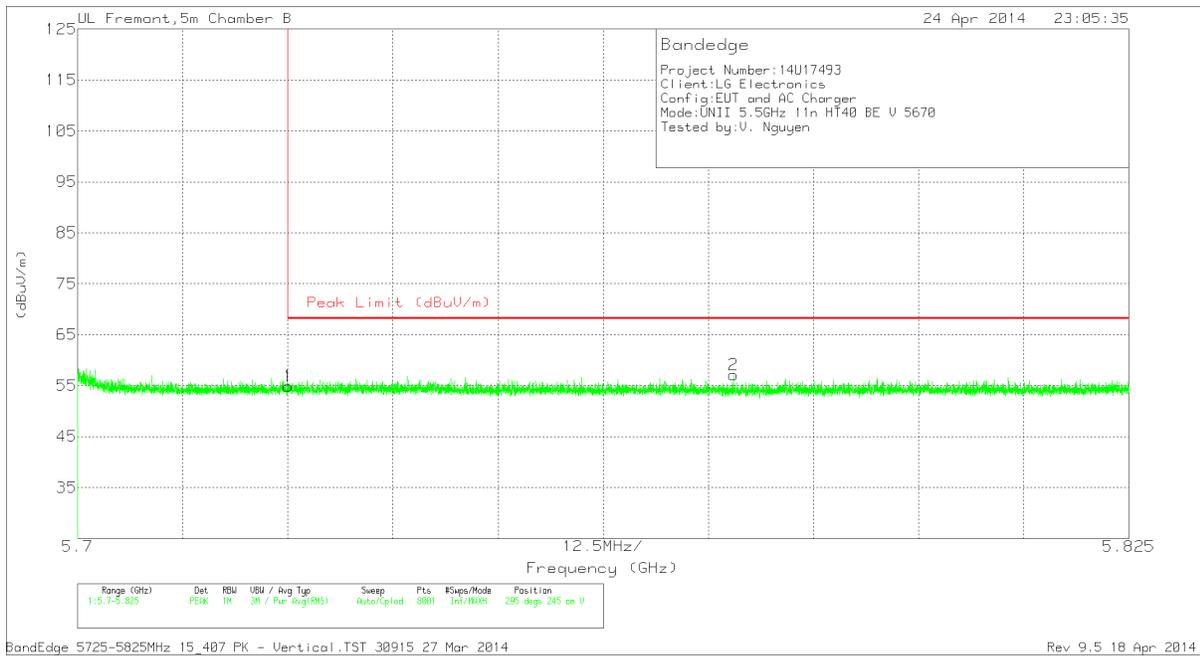
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.31	PK	34.6	-19.6	54.31	68.2	-13.89	99	294	H
2	5.801	42.2	PK	34.7	-19.6	57.3	68.2	-10.9	99	294	H

PK - Peak detector

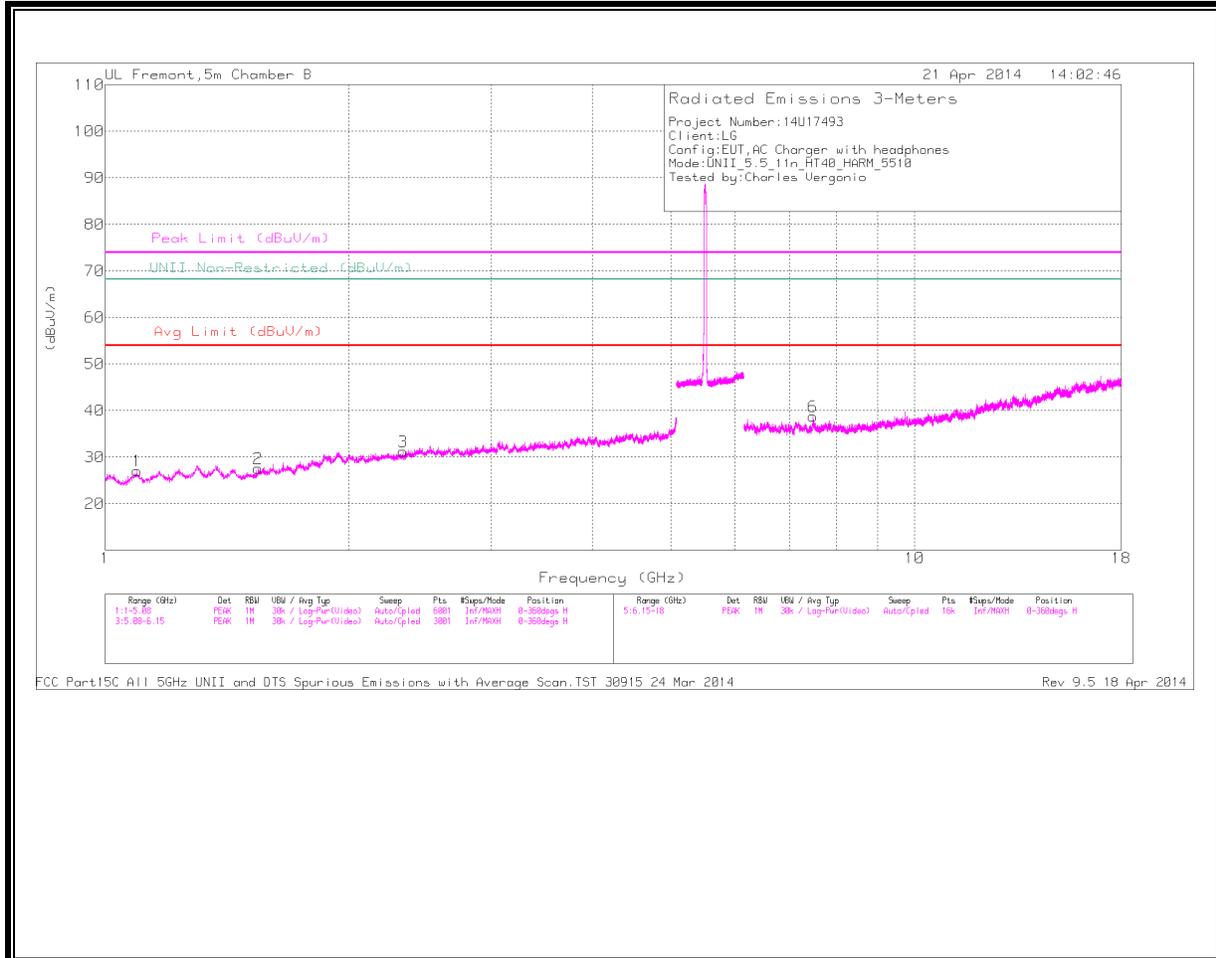


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.95	PK	34.6	-19.6	54.95	68.2	-13.25	295	245	V
2	5.778	42.14	PK	34.7	-19.7	57.14	68.2	-11.06	295	245	V

PK - Peak detector

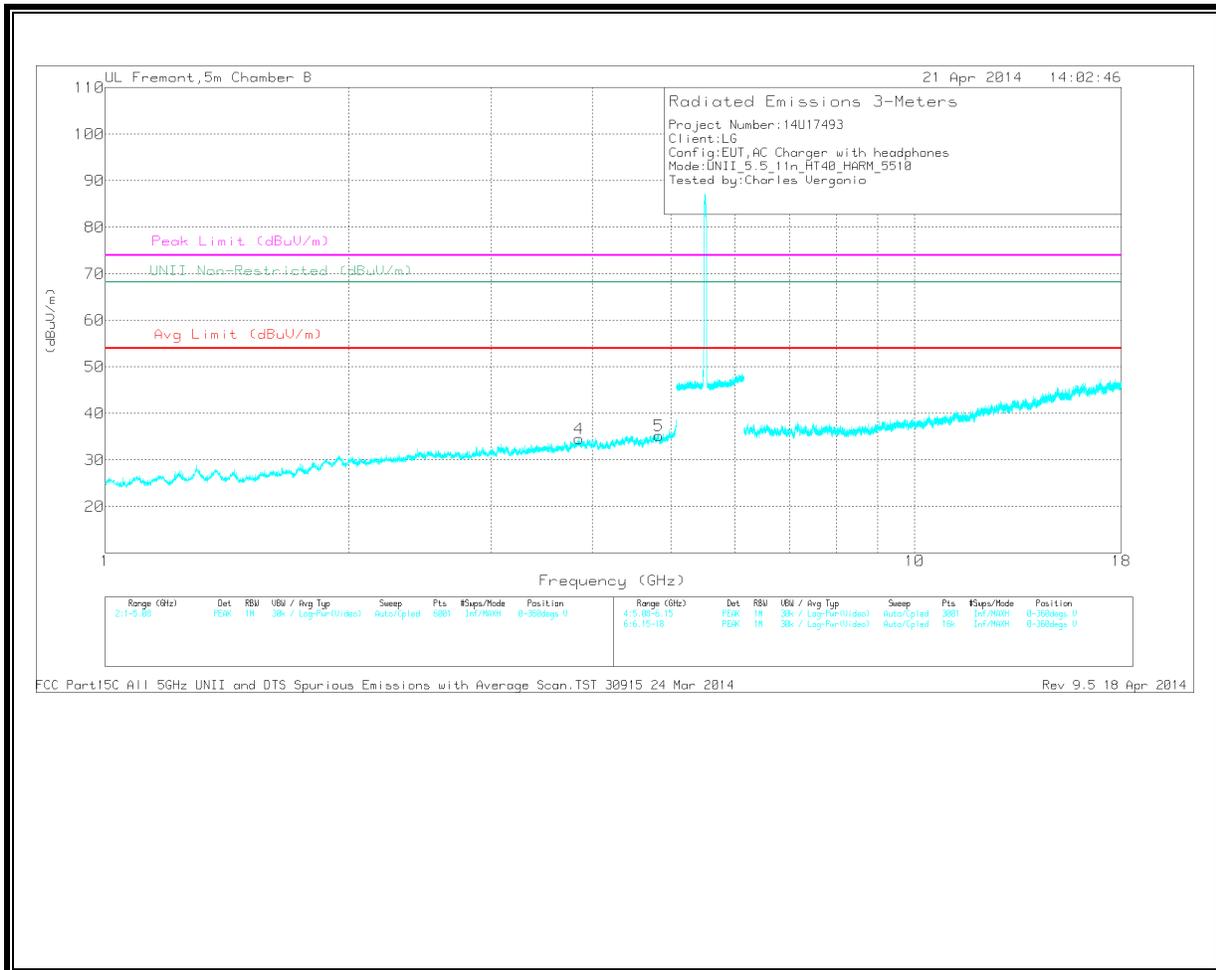
HARMONICS AND SPURIOUS EMISSIONS

**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.

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 T345 (dB/m)	Amp/Cbl/Fitr/Pad (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	* 1.095	34.05	PK	27.4	-34.4	27.05	-	-	74	-46.95	-	-	0-360	202	H
2	* 1.545	33.41	PK	28.2	-34	27.61	-	-	74	-46.39	-	-	0-360	202	H
3	* 2.333	32.64	PK	31.8	-33.2	31.24	-	-	74	-42.76	-	-	0-360	202	H
4	* 3.848	32.14	PK	33.7	-31.3	34.54	-	-	74	-39.46	-	-	0-360	202	V
5	* 4.826	30.93	PK	34.2	-29.9	35.23	-	-	74	-38.77	-	-	0-360	99	V
6	* 7.493	28.83	PK	35.6	-25.7	38.73	-	-	74	-35.27	-	-	0-360	99	H

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

PK - Peak detector

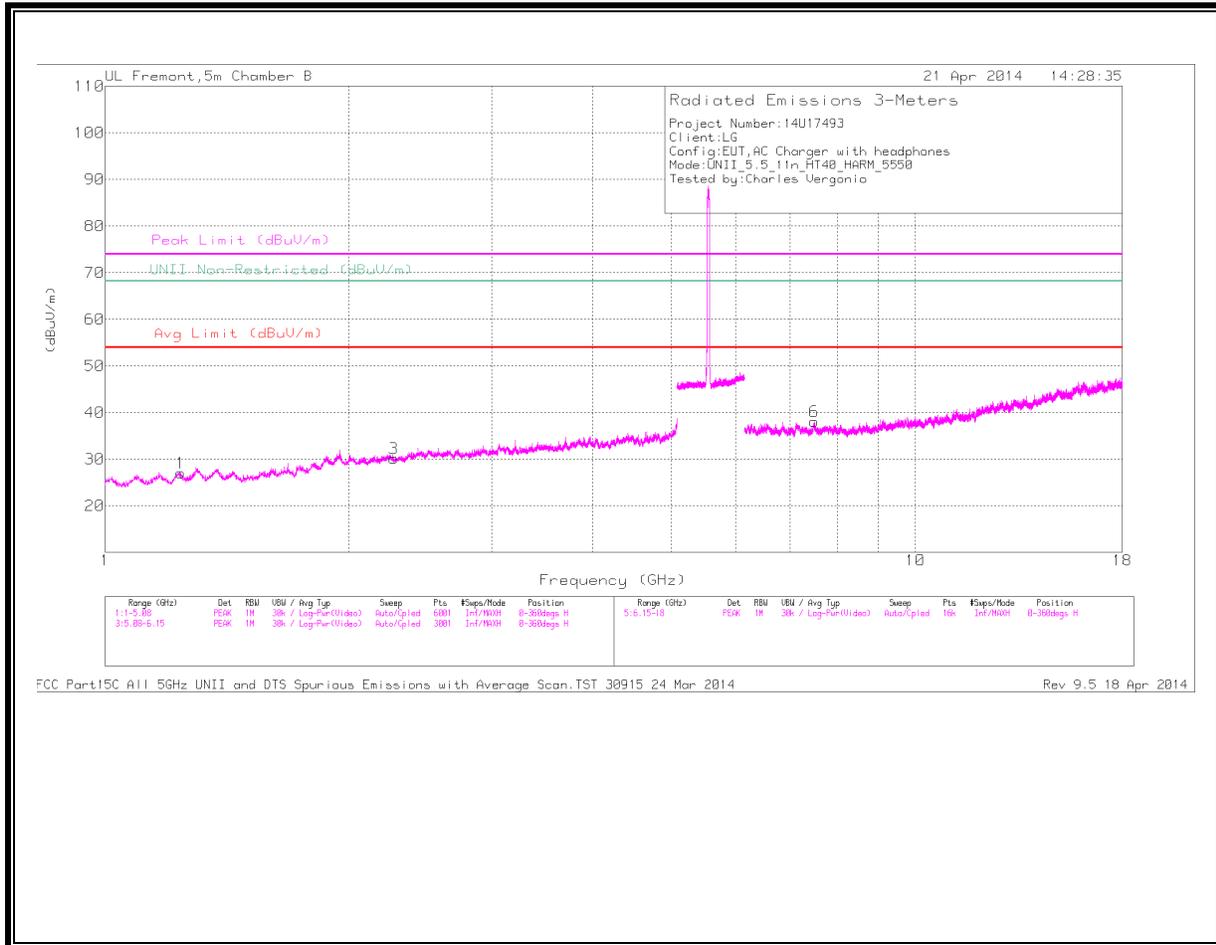
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (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
* 1.093	43.86	PK1	27.4	-34.4	36.86	54	-17.14	74	-37.14	-	-	1	100	H
* 1.547	42.75	PK1	28.2	-34	36.95	54	-17.05	74	-37.05	-	-	1	100	H
* 2.334	41.74	PK1	31.8	-33.2	40.34	54	-13.66	74	-33.66	-	-	1	100	H
* 3.848	41.37	PK1	33.7	-31.3	43.77	54	-10.23	74	-30.23	-	-	1	100	V
* 4.828	41.95	PK1	34.2	-30	46.15	54	-7.85	74	-27.85	-	-	1	100	V
* 7.493	38.31	PK1	35.6	-25.7	48.21	54	-5.79	74	-25.79	-	-	1	100	H

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

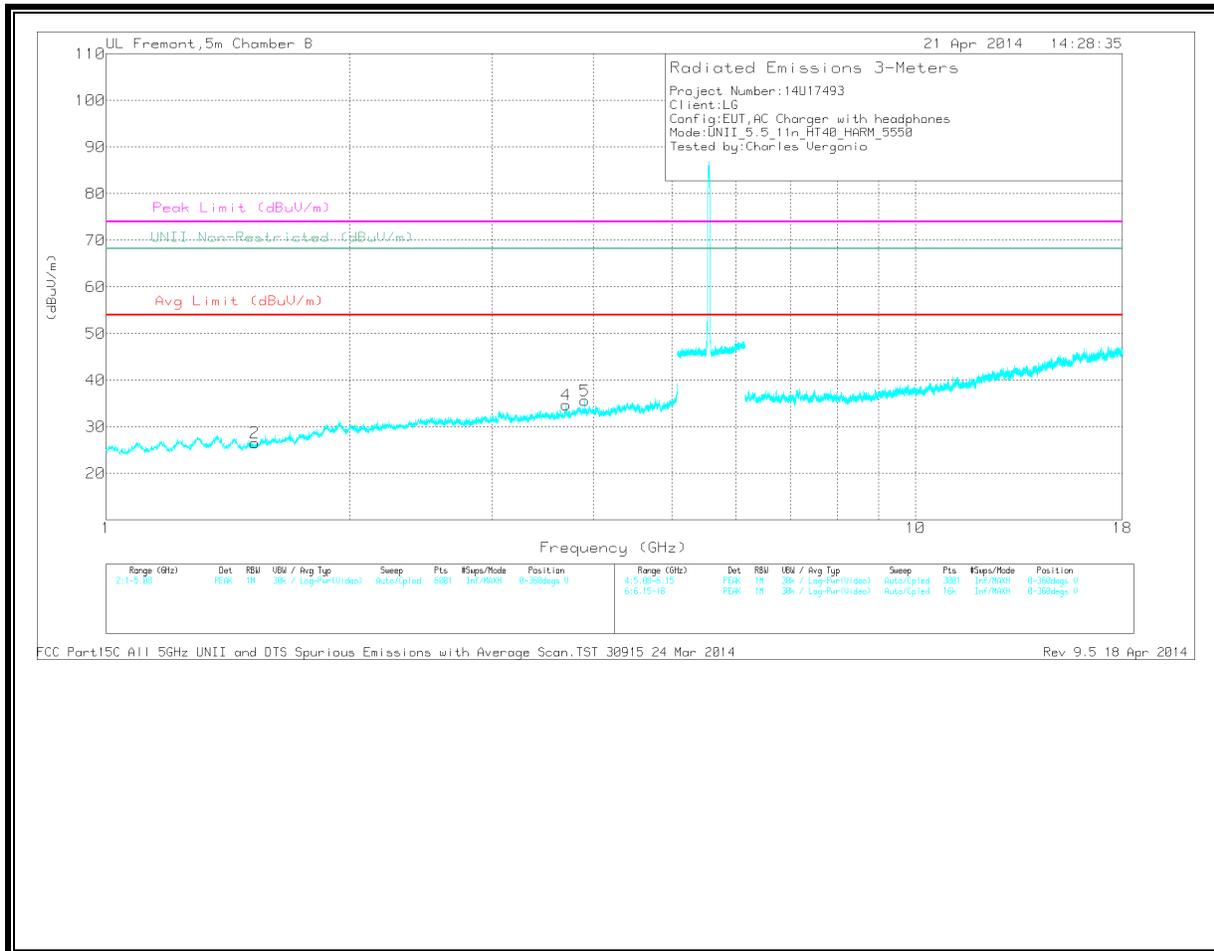
PK1 - KDB789033 Method: Peak

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.

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 T345 (dB/m)	Amp/Cbl/Fitr/Pad (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	* 1.239	33.27	PK	28.5	-34.7	27.07	-	-	74	-46.93	-	-	0-360	99	H
3	* 2.27	31.61	PK	31.5	-32.9	30.21	-	-	74	-43.79	-	-	0-360	99	H
2	* 1.526	32.81	PK	28.1	-34.3	26.61	-	-	74	-47.39	-	-	0-360	99	V
4	* 3.7	32.63	PK	33.3	-31.2	34.73	-	-	74	-39.27	-	-	0-360	99	V
5	* 3.9	33.28	PK	33.8	-31.5	35.58	-	-	74	-38.42	-	-	0-360	202	V
6	* 7.494	28.24	PK	35.6	-25.7	38.14	-	-	74	-35.86	-	-	0-360	201	H

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

PK - Peak detector

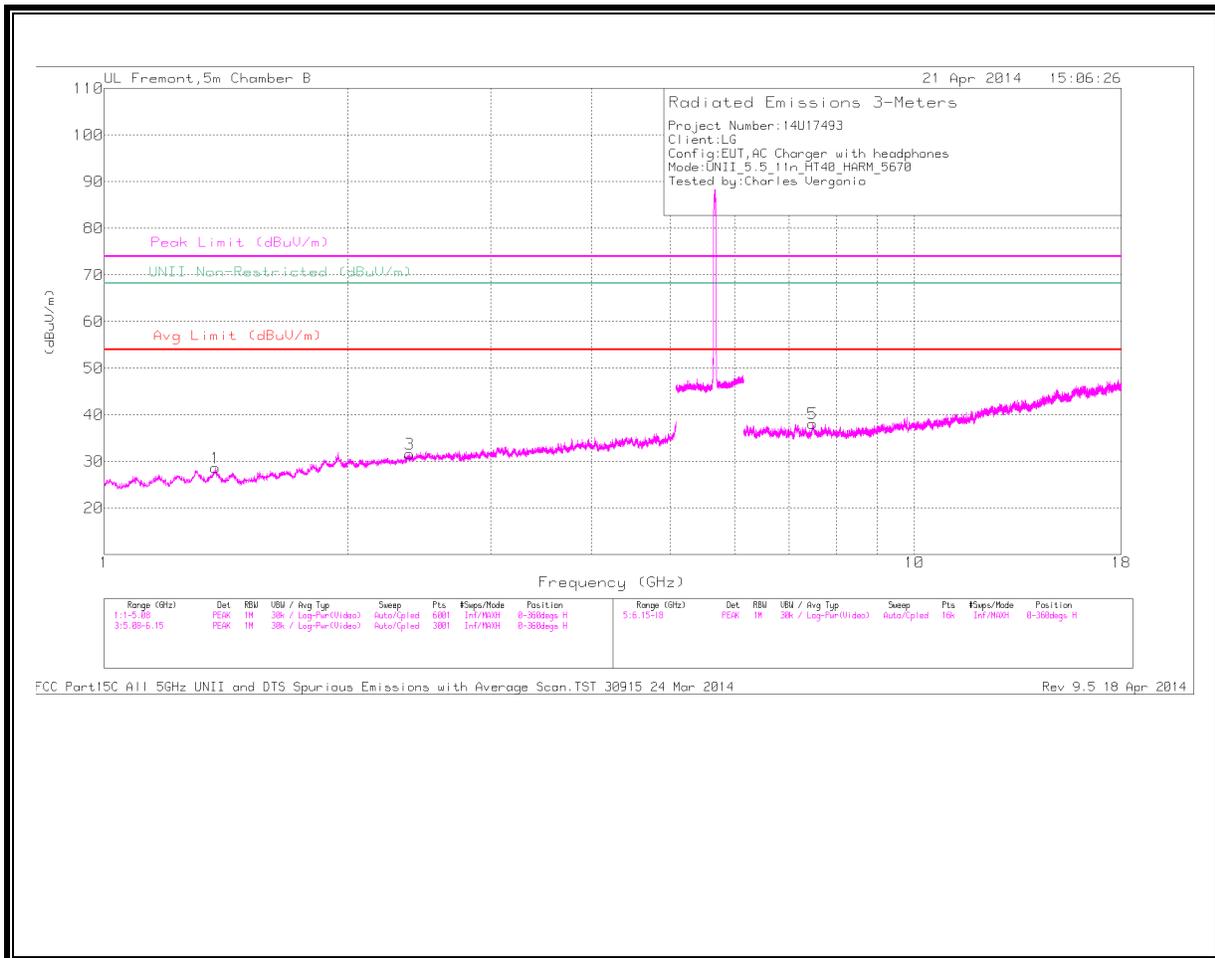
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (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
* 1.239	43.45	PK1	28.5	-34.7	37.25	54	-16.75	74	-36.75	-	-	1	100	H
* 2.271	41.58	PK1	31.5	-32.9	40.18	54	-13.82	74	-33.82	-	-	1	100	H
* 1.525	42.78	PK1	28.1	-34.3	36.58	54	-17.42	74	-37.42	-	-	353	234	V
* 3.7	40.96	PK1	33.3	-31.2	43.06	54	-10.94	74	-30.94	-	-	353	234	V
* 3.9	41.93	PK1	33.8	-31.5	44.23	54	-9.77	74	-29.77	-	-	353	234	V
* 7.492	38.05	PK1	35.6	-25.7	47.95	54	-6.05	74	-26.05	-	-	353	234	H

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

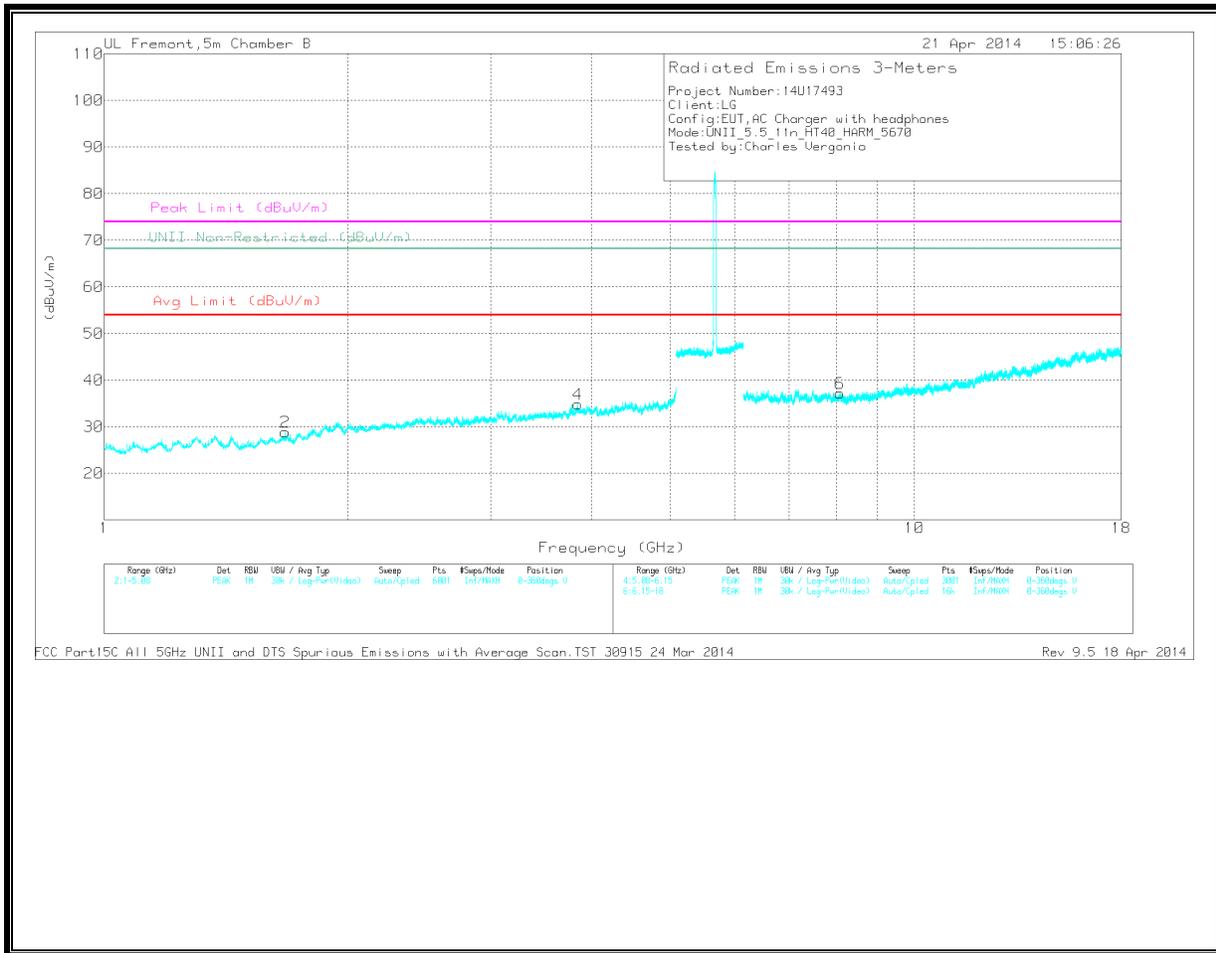
PK1 - KDB789033 Method: Peak

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.

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 T345 (dB/m)	Amp/Cbl/Fitr/Pad (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	* 1.371	33.78	PK	28.6	-33.8	28.58	-	-	74	-45.42	-	-	0-360	202	H
3	* 2.38	32.43	PK	32	-32.8	31.63	-	-	74	-42.37	-	-	0-360	202	H
2	* 1.673	33.31	PK	28.9	-33.3	28.91	-	-	74	-45.09	-	-	0-360	202	V
4	* 3.844	32.36	PK	33.7	-31.2	34.86	-	-	74	-39.14	-	-	0-360	202	V
5	* 7.491	28.26	PK	35.6	-25.7	38.16	-	-	74	-35.84	-	-	0-360	99	H
6	* 8.094	27.84	PK	35.7	-26.4	37.14	-	-	74	-36.86	-	-	0-360	202	V

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

PK - Peak detector

Radiated Emissions

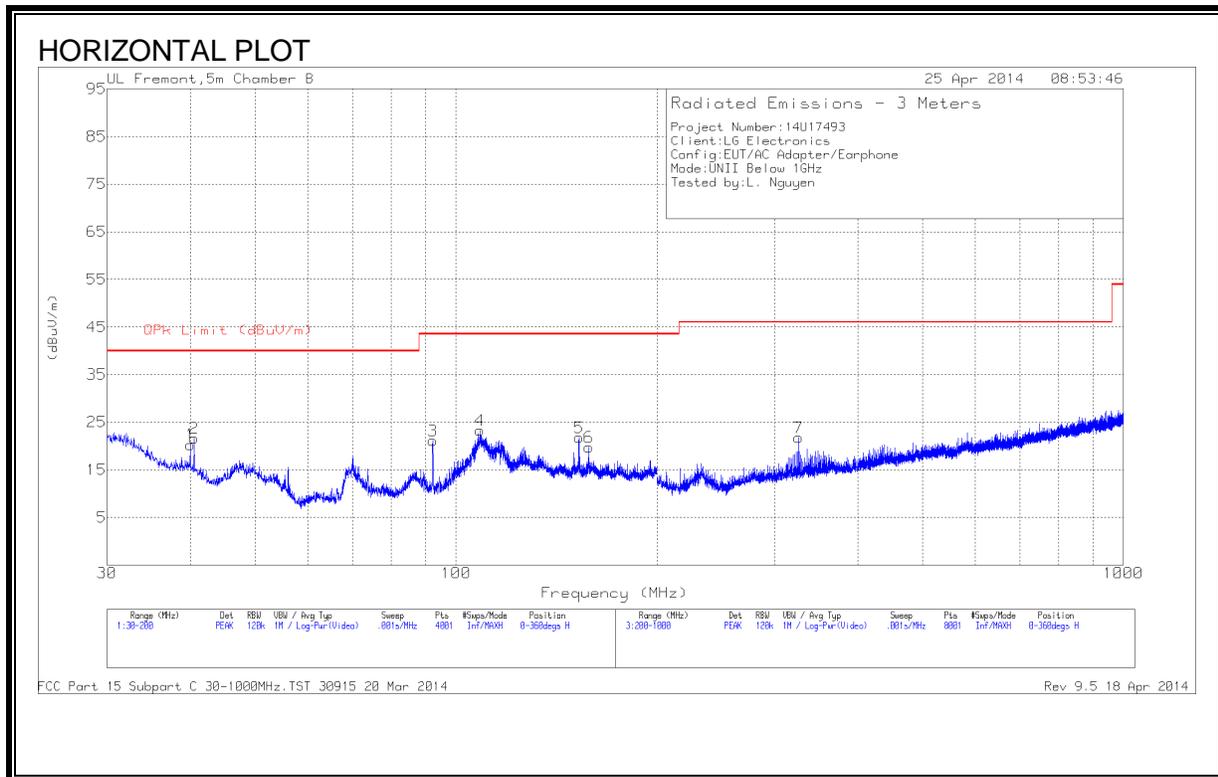
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.373	43.5	PK1	28.6	-33.8	38.3	54	-15.7	74	-35.7	-	-	360	100	H
* 2.38	41.92	PK1	32	-32.8	41.12	54	-12.88	74	-32.88	-	-	360	100	H
* 1.674	41.95	PK1	28.9	-33.3	37.55	54	-16.45	74	-36.45	-	-	360	100	V
* 3.845	40.98	PK1	33.7	-31.2	43.48	54	-9.52	74	-30.52	-	-	360	100	V
* 7.49	37.88	PK1	35.6	-25.7	47.78	54	-6.22	74	-26.22	-	-	360	100	H
* 8.096	38.47	PK1	35.7	-26.5	47.67	54	-6.33	74	-26.33	-	-	360	100	V

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

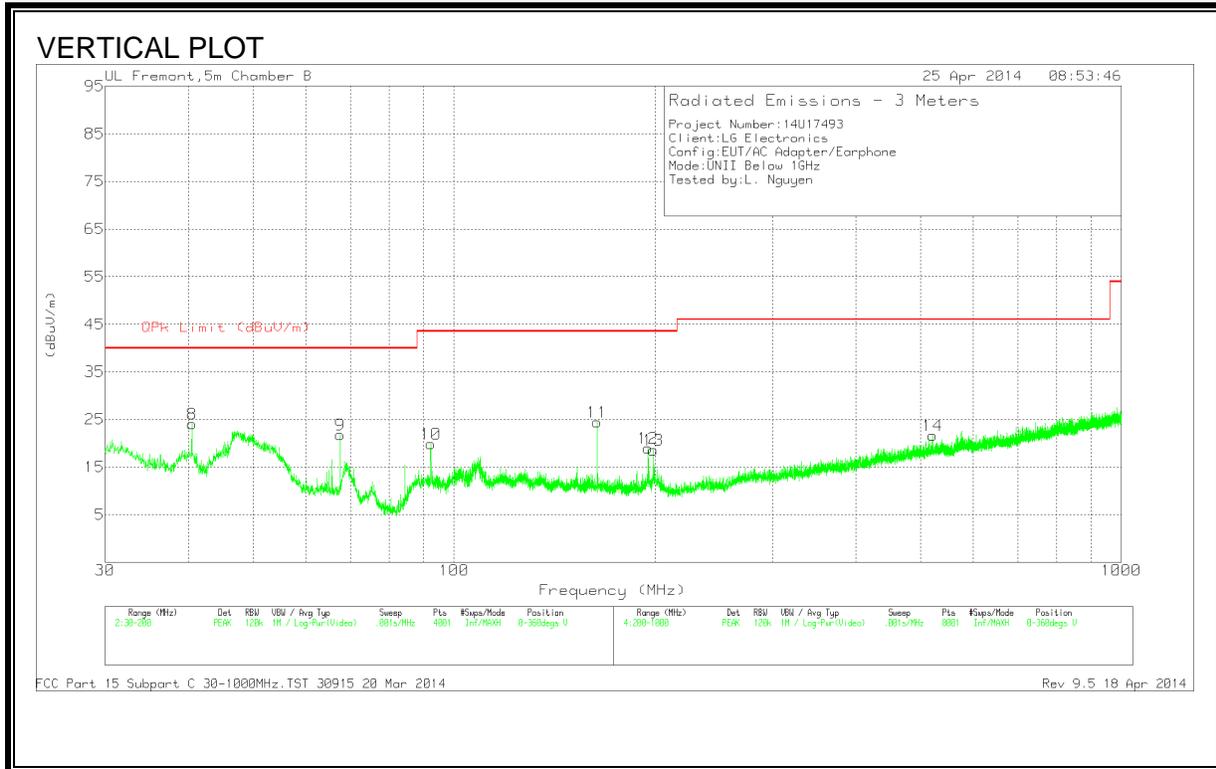
PK1 - KDB789033 Method: Peak

12. WORST-CASE BELOW 1 GHz (in the 5.3 GHz Band)

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



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



Worst Case Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 108.5825	38.9	PK	12.4	-28	23.3	43.52	-20.22	0-360	300	H
11	* 163.9175	39.66	PK	12.1	-27.3	24.46	43.52	-19.06	0-360	101	V
7	* 326.4	33.91	PK	13.8	-25.9	21.81	46.02	-24.21	0-360	101	H
1	39.9875	35.43	PK	13.6	-28.7	20.33	40	-19.67	0-360	400	H
8	40.4975	39.56	PK	13.2	-28.7	24.06	40	-15.94	0-360	101	V
2	40.54	37.16	PK	13.2	-28.7	21.66	40	-18.34	0-360	200	H
9	67.5275	42.14	PK	8.1	-28.4	21.84	40	-18.16	0-360	101	V
10	92.2625	39.75	PK	8.2	-28.1	19.85	43.52	-23.67	0-360	101	V
3	92.305	41.08	PK	8.2	-28.1	21.18	43.52	-22.34	0-360	200	H
5	152.825	37	PK	12.3	-27.5	21.8	43.52	-21.72	0-360	200	H
6	158.01	34.85	PK	12.3	-27.4	19.75	43.52	-23.77	0-360	100	H
12	195.3675	34.34	PK	11.7	-27	19.04	43.52	-24.48	0-360	101	V
13	199.065	33.26	PK	12.3	-27	18.56	43.52	-24.96	0-360	101	V
14	521	29.35	PK	18	-25.7	21.65	46.02	-24.37	0-360	101	V

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

PK - Peak detector

13. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

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

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

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

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

6 WORST EMISSIONS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.1995	38.92	PK	.9	0	39.82	63.6	-23.78	-	-
2	.1995	21.01	Av	.9	0	21.91	-	-	53.6	-31.69
3	.375	41.96	PK	.4	0	42.36	58.4	-16.04	-	-
4	.375	28.8	Av	.4	0	29.2	-	-	48.4	-19.2
5	.4965	48.98	PK	.4	0	49.38	56.1	-6.72	-	-
6	.4965	34.11	Av	.4	0	34.51	-	-	46.1	-11.59
7	1.032	47.8	PK	.2	0	48	56	-8	-	-
8	1.032	25.64	Av	.2	0	25.84	-	-	46	-20.16
9	1.6575	46.87	PK	.2	.1	47.17	56	-8.83	-	-
10	1.6575	32.1	Av	.2	.1	32.4	-	-	46	-13.6
11	3.3135	45.54	PK	.2	.1	45.84	56	-10.16	-	-
12	3.3135	28.38	Av	.2	.1	28.68	-	-	46	-17.32
17	6.1215	42.61	PK	.2	.1	42.91	60	-17.09	-	-
18	6.1215	23.89	Av	.2	.1	24.19	-	-	50	-25.81
13	13.5465	38.2	PK	.2	.2	38.6	60	-21.4	-	-
14	13.5465	16.57	Av	.2	.2	16.97	-	-	50	-33.03
15	13.623	38.96	PK	.2	.2	39.36	60	-20.64	-	-
16	13.623	17.42	Av	.2	.2	17.82	-	-	50	-32.18

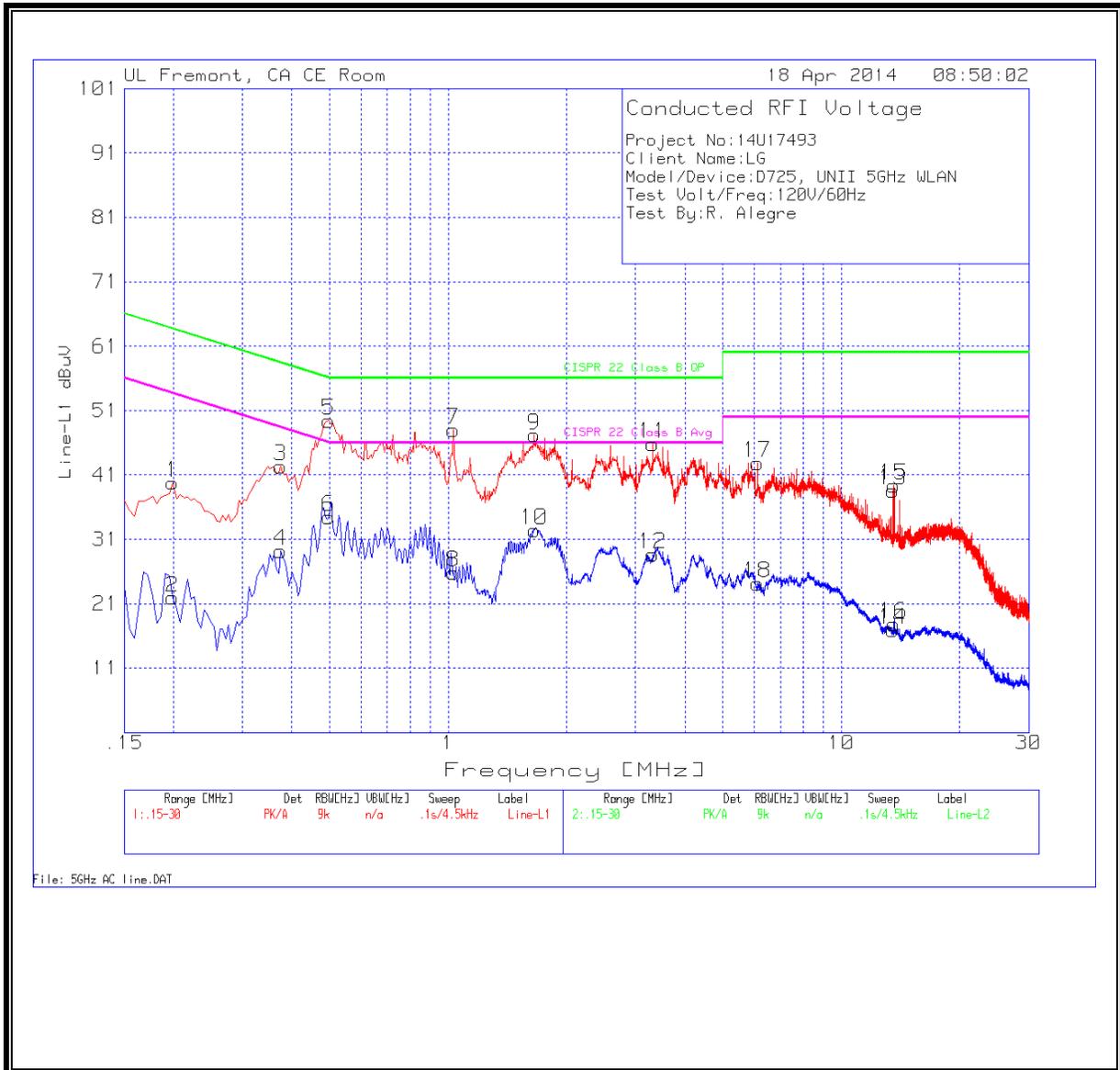
Line-L2 .15 - 30MHz

Trace Markers

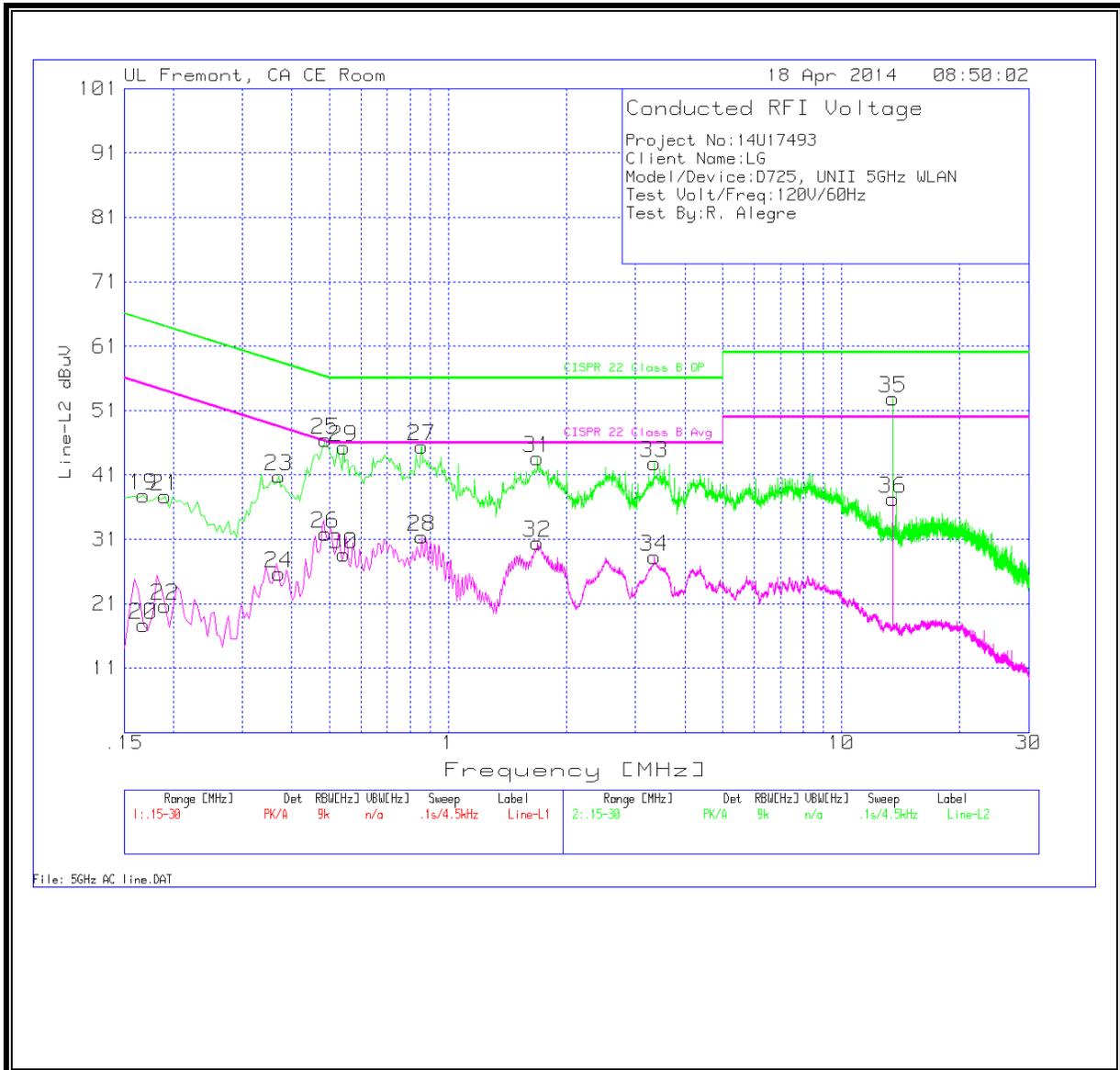
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
19	.168	36.47	PK	1.3	0	37.77	65.1	-27.33	-	-
20	.168	16.37	Av	1.3	0	17.67	-	-	55.1	-37.43
21	.1905	36.62	PK	1.1	0	37.72	64	-26.28	-	-
22	.1905	19.64	Av	1.1	0	20.74	-	-	54	-33.26
23	.3705	40.35	PK	.5	0	40.85	58.5	-17.65	-	-
24	.3705	25.18	Av	.5	0	25.68	-	-	48.5	-22.82
25	.4875	46.07	PK	.4	0	46.47	56.2	-9.73	-	-
26	.4875	31.53	Av	.4	0	31.93	-	-	46.2	-14.27
29	.5415	45.03	PK	.3	0	45.33	56	-10.67	-	-
30	.5415	28.33	Av	.3	0	28.63	-	-	46	-17.37
27	.8565	45.18	PK	.3	0	45.48	56	-10.52	-	-
28	.8565	31.14	Av	.3	0	31.44	-	-	46	-14.56
31	1.689	43.34	PK	.2	.1	43.64	56	-12.36	-	-
32	1.689	30.22	Av	.2	.1	30.52	-	-	46	-15.48
33	3.345	42.51	PK	.2	.1	42.81	56	-13.19	-	-
34	3.345	27.96	Av	.2	.1	28.26	-	-	46	-17.74
35	13.5555	52.36	PK	.3	.2	52.86	60	-7.14	-	-
36	13.5555	36.86	Av	.3	.2	37.36	-	-	50	-12.64

PK - Peak detector
 Av - average detection

LINE 1 RESULTS



LINE 2 RESULTS



14. DYNAMIC FREQUENCY SELECTION

14.1. OVERVIEW

14.1.1. LIMITS

INDUSTRY CANADA

IC RSS-210 is closely harmonized with FCC Part 15 DFS rules. The deviations are as follows:

RSS-210 Issue 7 A9.4 (b) (ii) **Channel Availability Check Time:** ...

Additional requirements for the band 5600-5650 MHz: Until further notice, devices subject to this Section shall not be capable of transmitting in the band 5600-5650 MHz, so that Environment Canada weather radars operating in this band are protected.

FCC

§15.407 (h) and FCC 06-96 APPENDIX "COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVCIES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION".

Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operational Mode		
	Master	Client (without radar detection)	Client (with radar detection)
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
Uniform Spreading	Yes	Not required	Not required

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Master	Client (without DFS)	Client (with DFS)
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes

Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value (see note)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.	

Table 4: DFS Response requirement values

Parameter	Value
<i>Non-occupancy period</i>	30 minutes
<i>Channel Availability Check Time</i>	60 seconds
<i>Channel Move Time</i>	10 seconds
<i>Channel Closing Transmission Time</i>	200 milliseconds + approx. 60 milliseconds over remaining 10 second period
<p>The instant that the <i>Channel Move Time</i> and the <i>Channel Closing Transmission Time</i> begins is as follows: For the Short pulse radar Test Signals this instant is the end of the <i>Burst</i>. For the Frequency Hopping radar Test Signal, this instant is the end of the last radar burst generated. For the Long Pulse radar Test Signal this instant is the end of the 12-second period defining the radar transmission. The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate channel changes (an aggregate of approximately 60 milliseconds) during the remainder of the 10-second period. The aggregate duration of control signals will not count quiet periods in between transmissions.</p>	

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (Microseconds)	PRI (Microseconds)	Pulses	Minimum Percentage of Successful Detection	Minimum Trials
1	1	1428	18	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Table 6 – Long Pulse Radar Test Signal

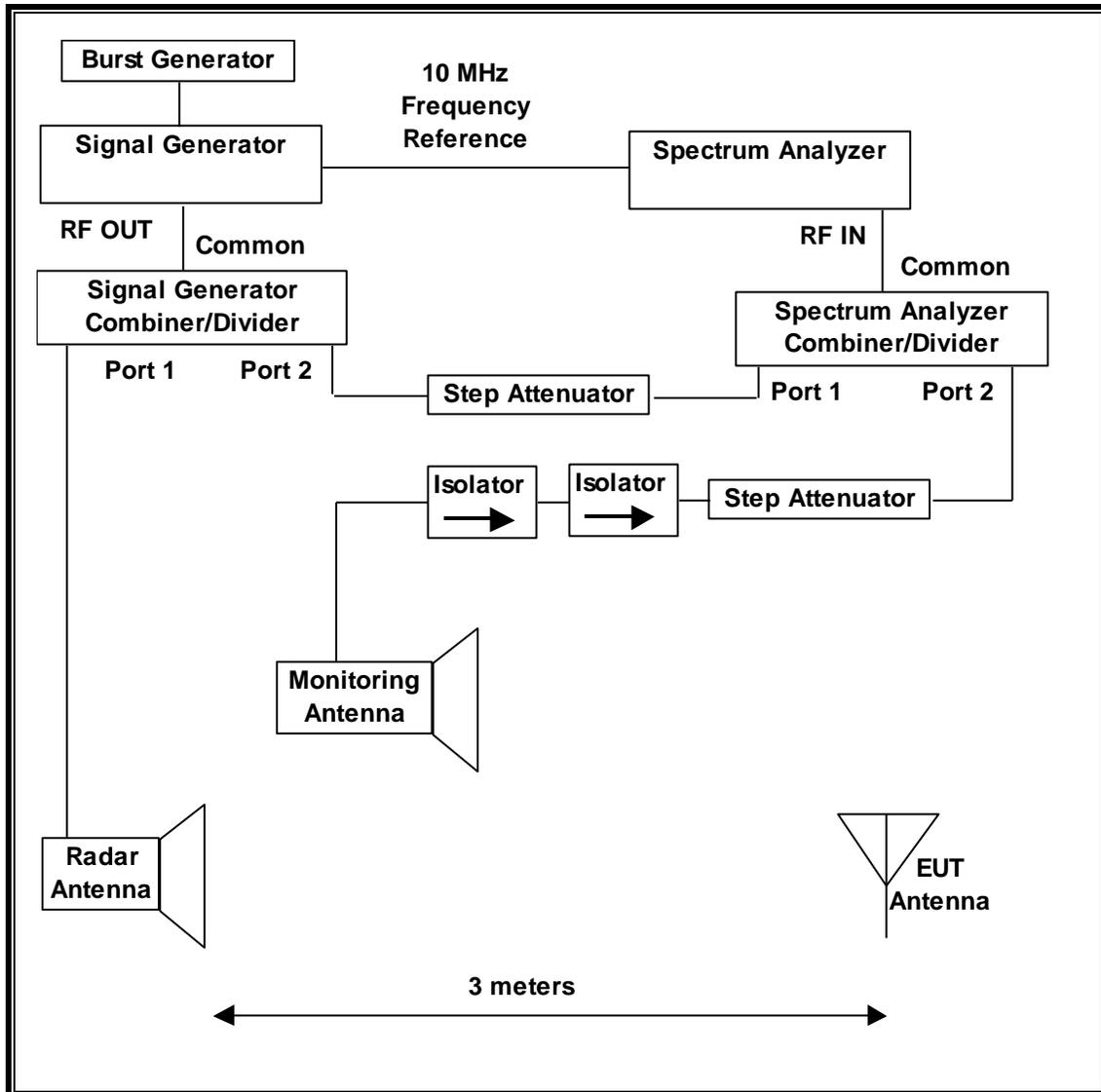
Radar Waveform	Bursts	Pulses per Burst	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Minimum Percentage of Successful Detection	Minimum Trials
5	8-20	1-3	50-100	5-20	1000-2000	80%	30

Table 7 – Frequency Hopping Radar Test Signal

Radar Waveform	Pulse Width (µsec)	PRI (µsec)	Burst Length (ms)	Pulses per Hop	Hopping Rate (kHz)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	300	9	.333	70%	30

14.1.2. TEST AND MEASUREMENT SYSTEM

RADIATED METHOD SYSTEM BLOCK DIAGRAM



SYSTEM OVERVIEW

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

The short pulse types 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of FCC 06-96 APPENDIX. The frequency of the signal generator is incremented in 1 MHz steps from F_L to F_H for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

SYSTEM CALIBRATION

A 50-ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to a horn antenna via a coaxial cable, with the reference level offset set to (horn antenna gain – coaxial cable loss). The signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –64 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. The Reference Level Offset of the spectrum analyzer is adjusted so that the displayed amplitude of the signal is –64 dBm.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –64 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

ADJUSTMENT OF DISPLAYED TRAFFIC LEVEL

A link is established between the Master and Slave and the distance between the units is adjusted as needed to provide a suitable received level at the Master and Slave devices. The video test file is streamed to generate WLAN traffic. The monitoring antenna is adjusted so that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold.

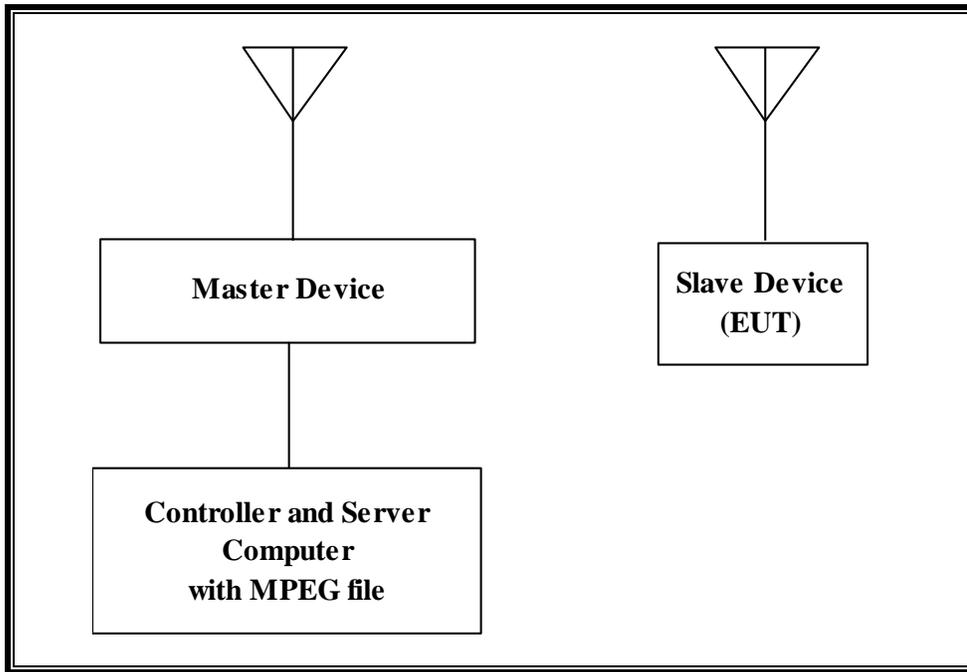
TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset Number	Cal Due
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	09/10/14
Vector Signal Generator, 20GHz	Agilent / HP	E8267C	C01066	09/12/14

14.1.3. SETUP OF EUT

RADIATED METHOD EUT TEST SETUP



SUPPORT EQUIPMENT

The following support equipment was utilized for the DFS tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Wireless Access Point	Cisco	AIR-AP1252AG-A-K9	FTX120690N2	LDK102061
AC Adapter (AP)	Delta Electronics	EADP-45BB B	DTH112490BD	DoC
Notebook PC (Controller/Server)	Dell	PP18L	10657517725	DoC
AC Adapter (Controller/Server PC)	Dell	LA65SN0-00	CN-ODF263-71615-6AU-1019	DoC

14.1.5. DESCRIPTION OF EUT

The EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges excluding the 5600-5650 MHz range.

The EUT is a Slave Device without Radar Detection.

The highest power level within these bands is 10.2 dBm EIRP in the 5250-5350 MHz band and 10.49 dBm EIRP in the 5470-5725 MHz band.

The only antenna assembly utilized with the EUT has a gain of 0.3 dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is -64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is $-64 + 1 = -63$ dBm.

The calibrated radiated DFS Detection Threshold level is set to -64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

The EUT uses one transmitter/receiver chain connected to an antenna to perform radiated tests.

WLAN traffic exceeding the transmitter minimum activity ratio of 30% is generated by streaming the compressed video file "6 ½ Magic Hours" from the Master to the Slave in full motion video using MX Player version 1.7.22 media player.

TPC is not required since the maximum EIRP is less than 500 mW (27 dBm).

The EUT utilizes the 802.11a/n architecture. Two nominal channel bandwidths are implemented: 20 MHz and 40 MHz.

The software installed in the access point is revision 12.4(25d)JA1.

UNIFORM CHANNEL SPREADING

This requirement is not applicable to Slave radio devices.

OVERVIEW OF MASTER DEVICE WITH RESPECT TO §15.407 (h) REQUIREMENTS

The Master Device is a Cisco Access Point, FCC ID: LDK102061. The minimum antenna gain for the Master Device is 3.5 dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is -64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is $-64 + 1 = -63$ dBm.

The calibrated radiated DFS Detection Threshold level is set to -64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

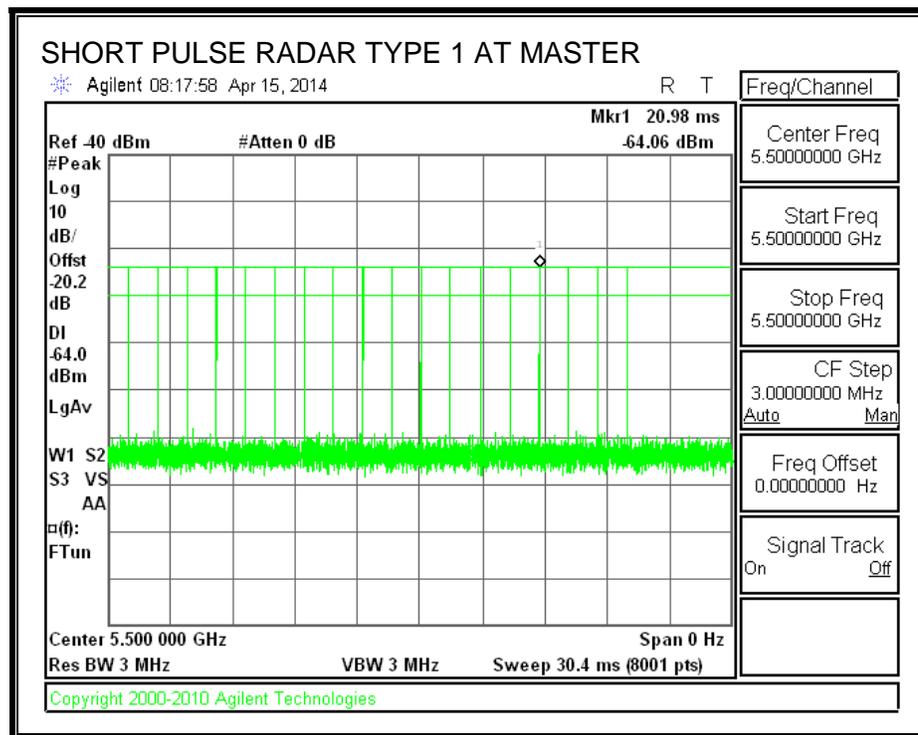
14.2. RESULTS FOR 20 MHz BANDWIDTH

14.2.1. TEST CHANNEL

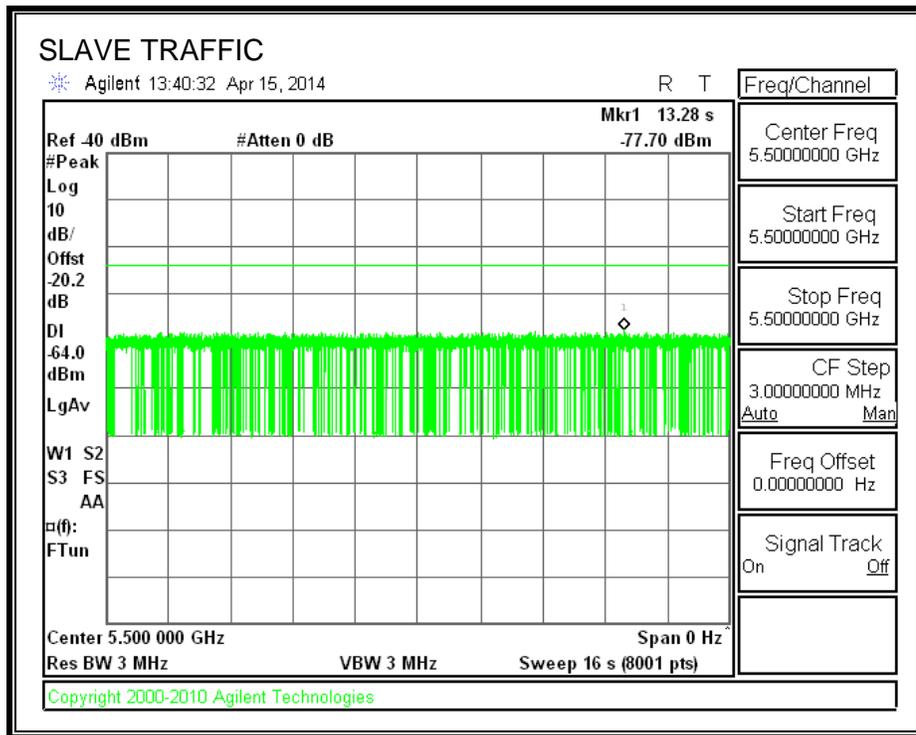
All tests were performed at a channel center frequency of 5500 MHz.

14.2.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



TRAFFIC



14.2.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

14.2.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

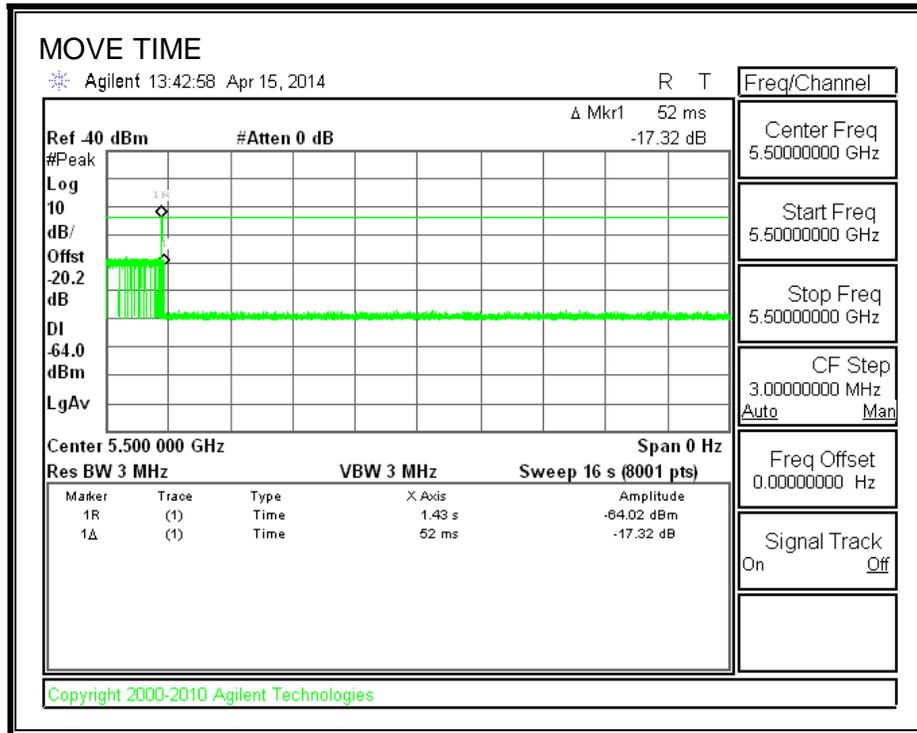
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

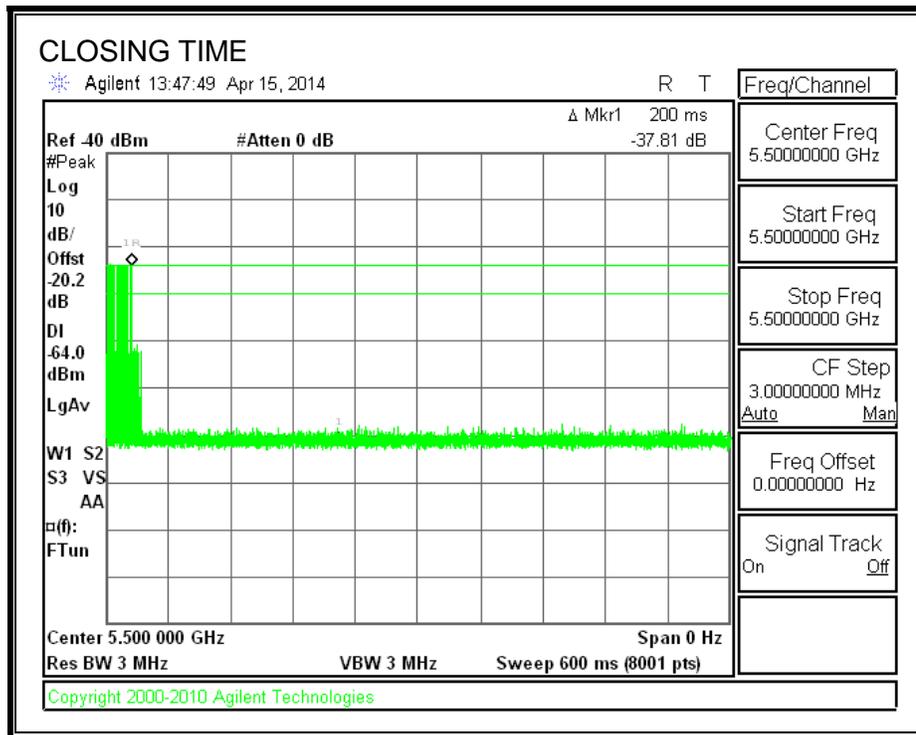
Channel Move Time (sec)	Limit (sec)
0.052	10

Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME

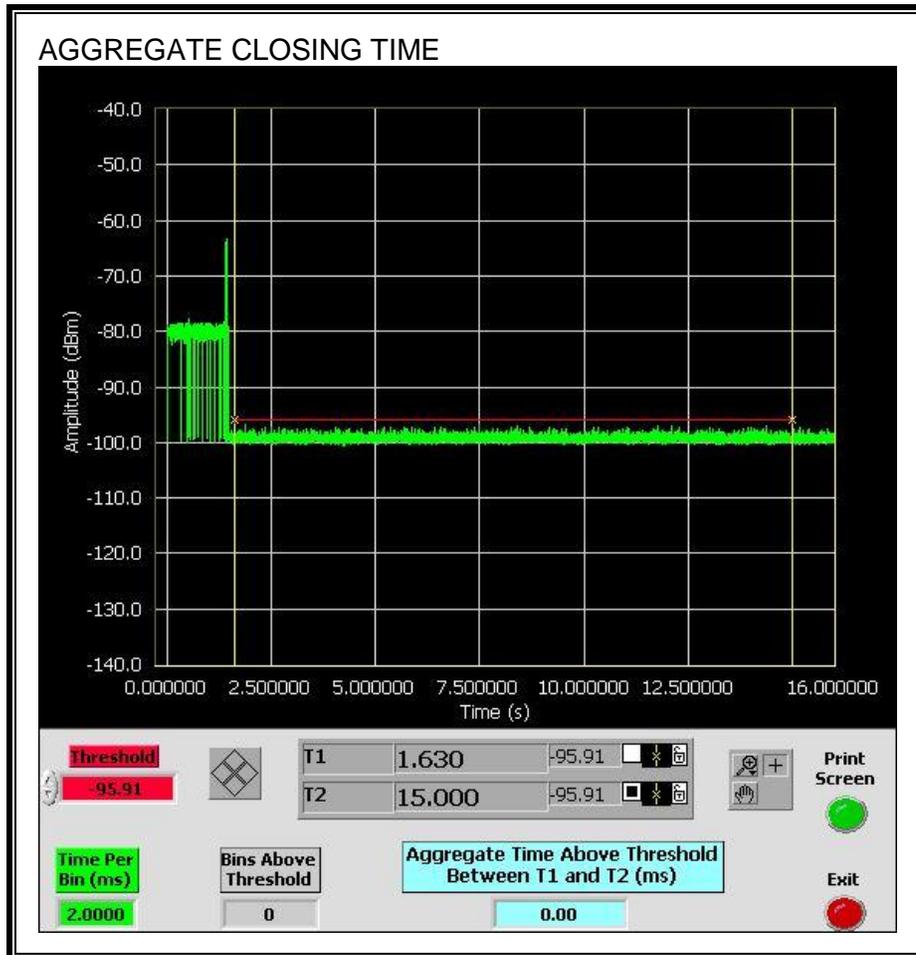


CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.



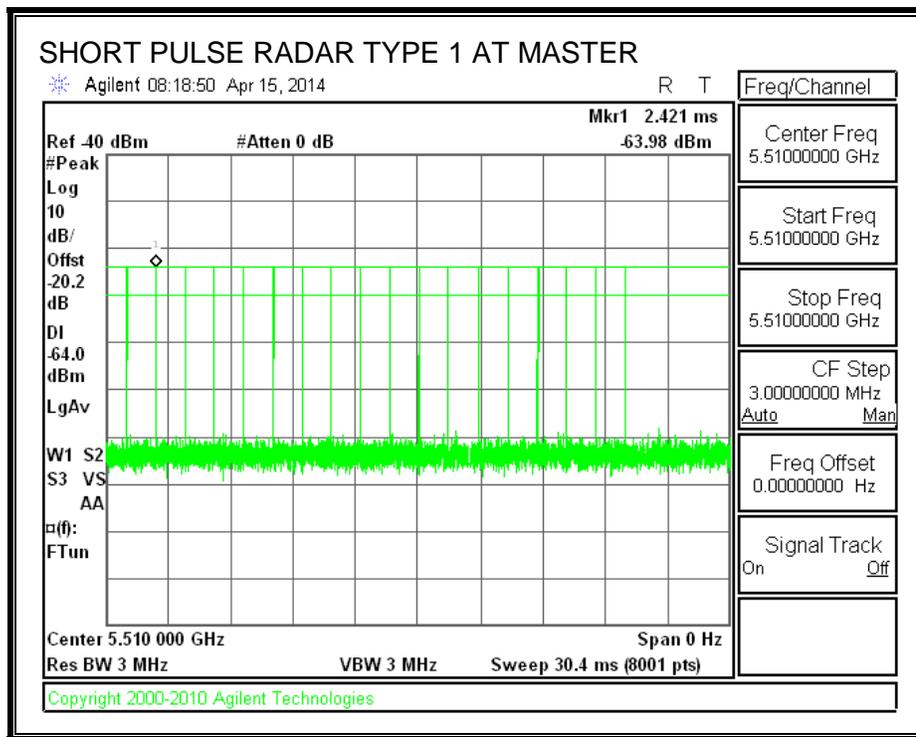
14.3. RESULTS FOR 40 MHz BANDWIDTH

14.3.1. TEST CHANNEL

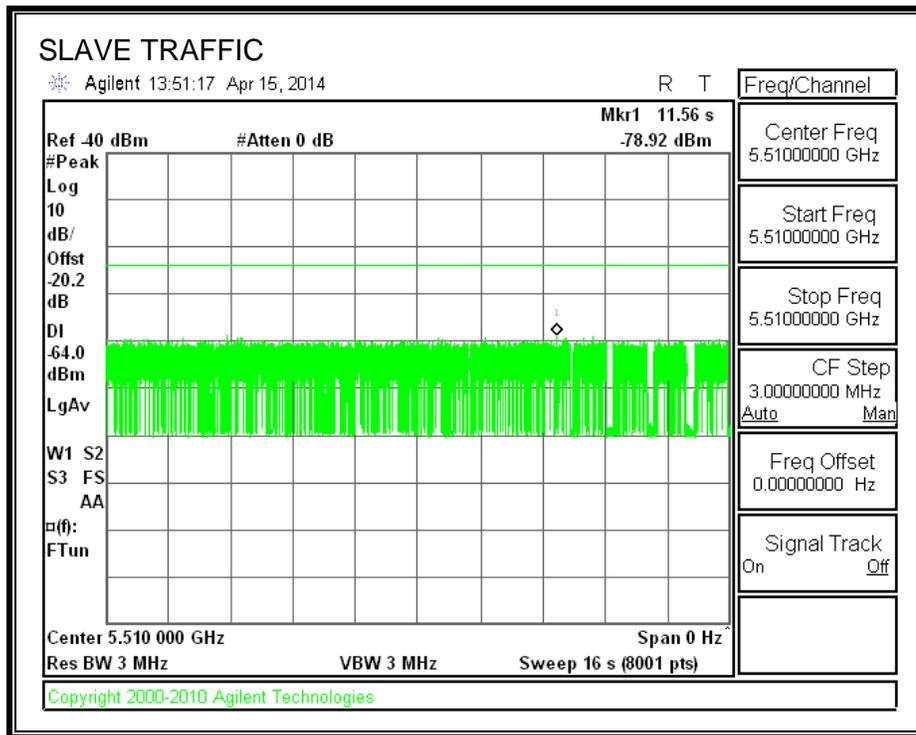
All tests were performed at a channel center frequency of 5510 MHz.

14.3.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



TRAFFIC



14.3.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

14.3.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

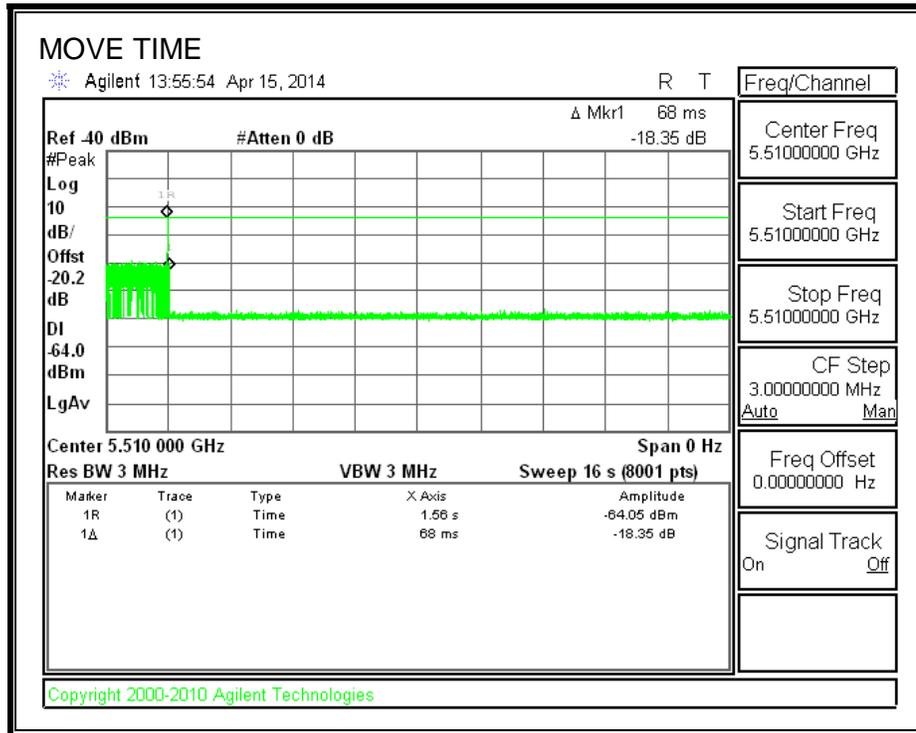
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

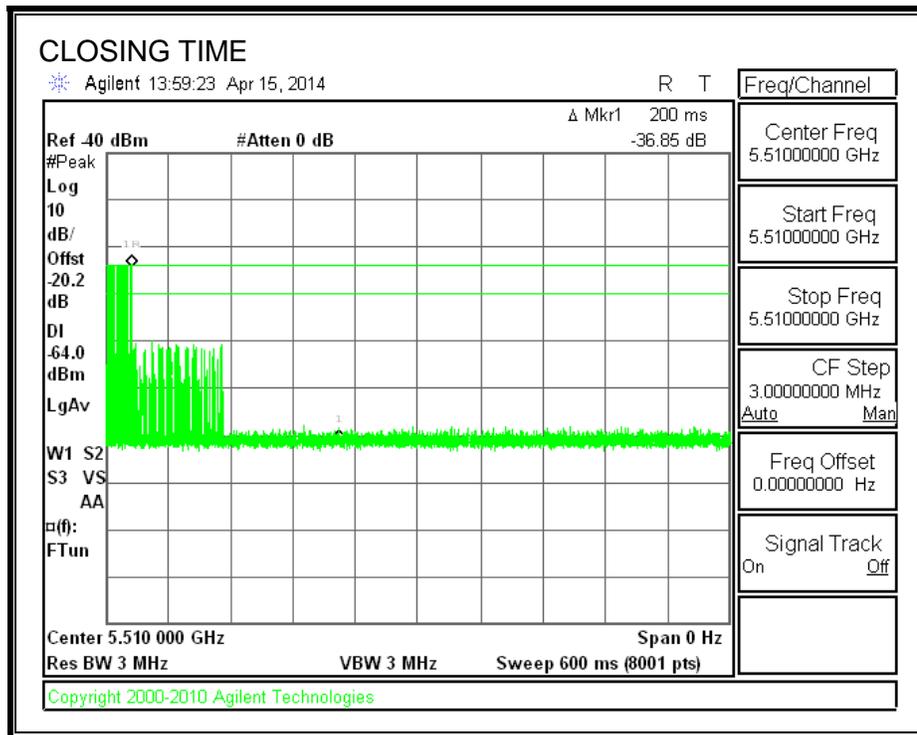
Channel Move Time (sec)	Limit (sec)
0.068	10

Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME

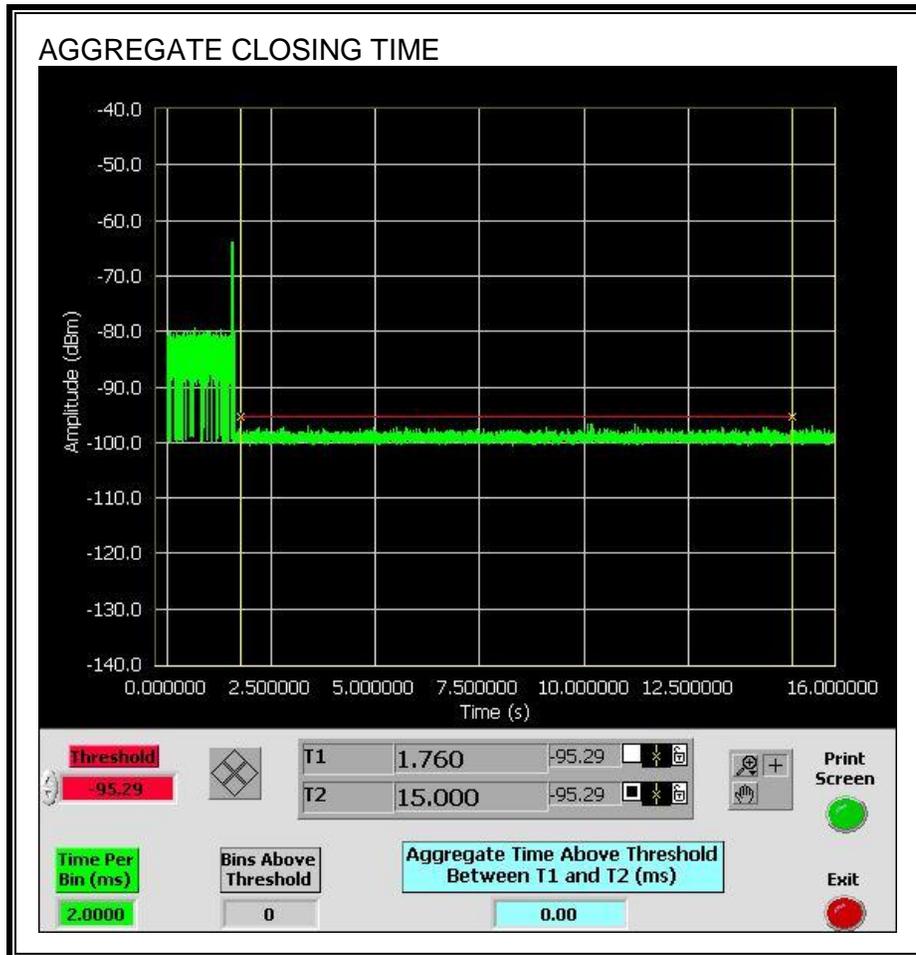


CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.



14.3.5. NON-OCCUPANCY PERIOD

RESULTS

No EUT transmissions were observed on the test channel during the 30-minute observation time.

