FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: LG-D631, D631, LGD631

FCC ID: ZNFD631

REPORT NUMBER: 14U17477-5

ISSUE DATE: APRIL 14, 2014

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	04/14/14	Initial Issue	P. Kim

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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 + NFC.**
MODEL:	**LG-D631, D631, LGD631**
SERIAL NUMBER:	**403KPDT000322 (Conducted), 403KPMZ000323 (Radiated)**
DATE TESTED:	**APRIL 4-12, 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:

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

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
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 + 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	11.56	14.32
5180-5240	802.11n HT20	11.49	14.09
5190-5230	802.11n HT40	11.62	14.52
5260-5320	802.11a	11.56	14.32
5260-5320	802.11n HT20	11.45	13.96
5270-5310	802.11n HT40	11.16	13.06
5500-5700	802.11a	11	12.59
5500-5700	802.11n HT20	11.16	13.06
5510-5670	802.11n HT40	10.85	12.16

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -4.22 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	DB390078751	N/A
Earphone	LG ELECTRONICS	LG-D631	N/A	N/A

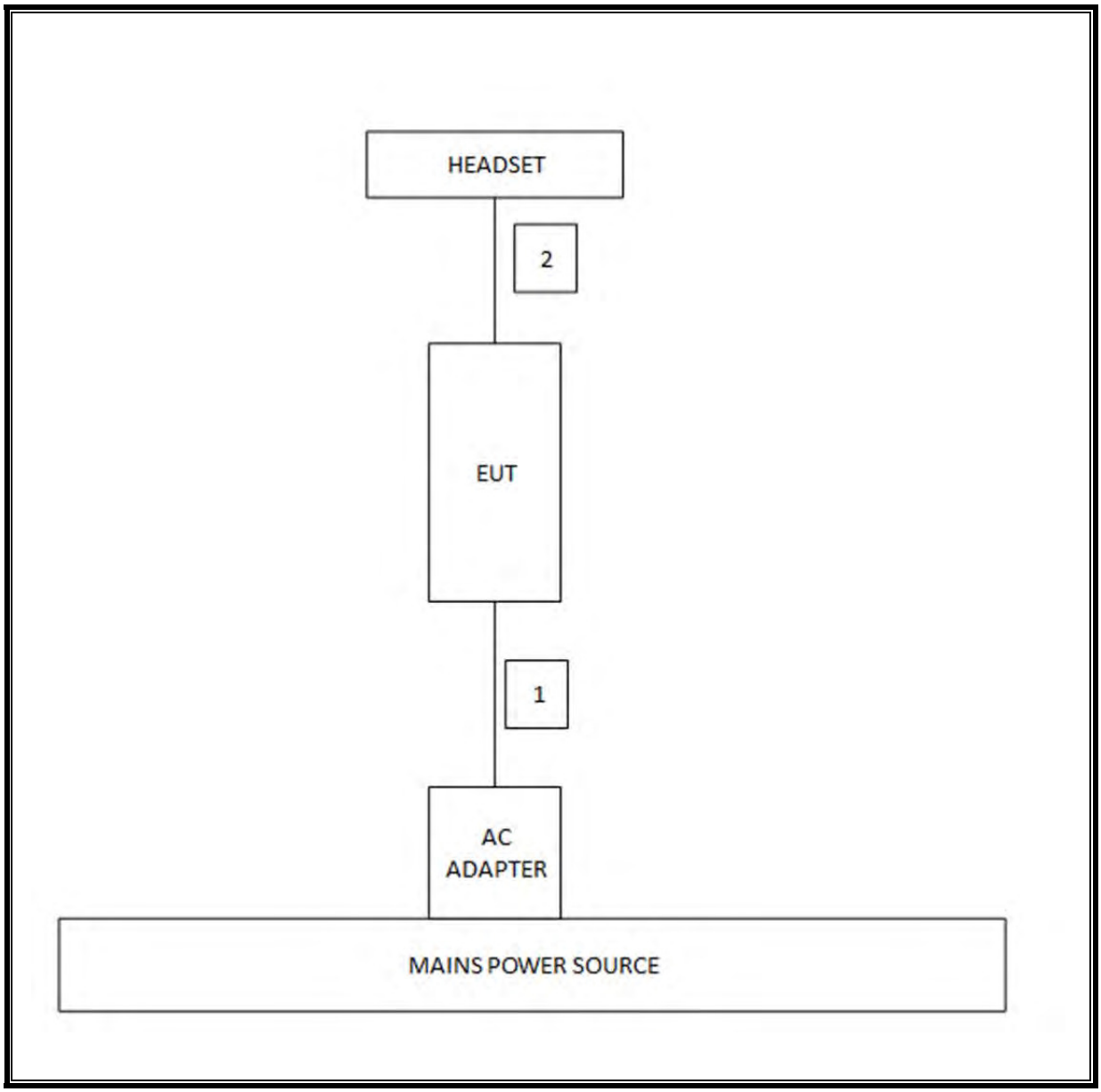
I/O CABLES

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	44.7MHz
15.407 (a)(1)	TX Cond. Power 5.15-2.25	<17dBm or 4+10Log(OBW)		Pass	11.62dBm
15.407 (a)(2)	TX Cond. Power 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	11.56dBm
15.407 (a)(5)	PSD	<4dBm for 5.2 and 11dBm for 5.3,5.5		Pass	1.72dBm
15.407 (a)(6)	Peak Excursion Ratio	13dB		Pass	9.81dBm
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	29.51dBuV(AV)
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	47.15dBuV/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	2.07	2.16	0.956	95.6%	0.20	0.484
802.11n HT20	1.92	2	0.948	94.8%	0.23	0.522
802.11n HT40	0.93	1	0.899	89.9%	0.46	1.072

8.2. DUTY CYCLE PLOTS

DUTY CYCLE 802.11a MODE

DUTY CYCLE 802.11n HT20 MODE

DUTY CYCLE 802.11n HT40 MODE

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	18.78
Mid	5200	19.05
High	5240	18.99
Worst		19.05

10.1.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	19.26
Mid	5200	19.17
High	5240	19.17
Worst		19.26

10.1.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	44.520
Mid	5230	44.700
Worst		44.700

10.1.1. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	19.02
Mid	5300	18.99
High	5320	18.93
Worst		19.02

10.1.1. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	19.11
Mid	5300	19.20
High	5320	19.20
Worst		19.20

10.1.2. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	44.0
High	5310	44.3
Worst		44.3

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	18.750
High	5700	18.870
Worst		18.870

10.1.4. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	19.230
Mid	5580	19.260
High	5700	19.200
Worst		19.260

10.1.5. 802.11n HT40 MODE IN THE 5.5 GHz BAND

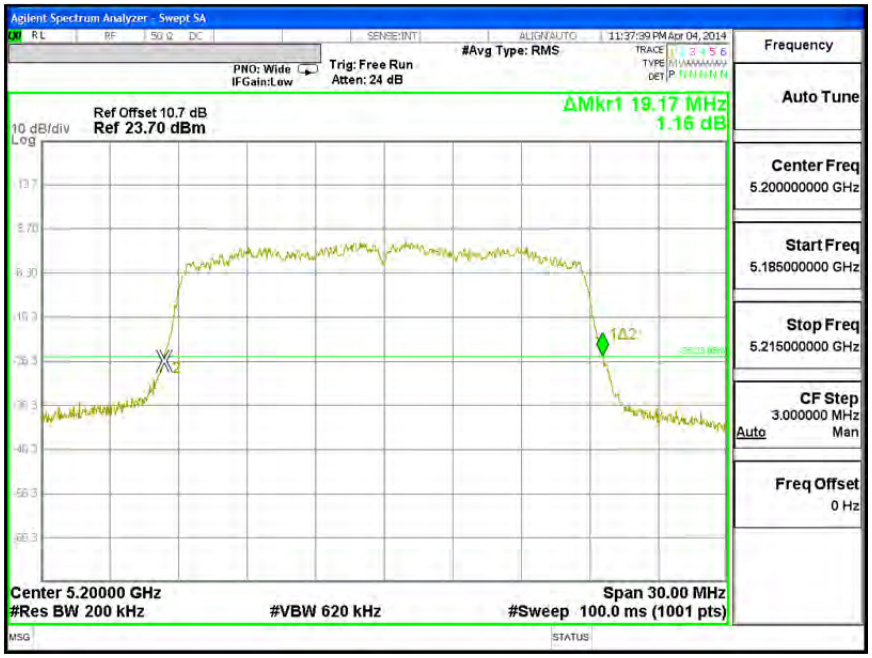
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	43.7
Mid	5550	44.5
High	5670	44.6
Worst		44.6

802.11a 5.2G 26 dB BANDWIDTH

BANDWIDTH MID CH

802.11n HT20 5.2G 26 dB BANDWIDTH

BANDWIDTH MID CH



802.11n HT40 5.2G 26 dB BANDWIDTH

BANDWIDTH MID CH

802.11a 5.3G 26 dB BANDWIDTH

BANDWIDTH MID CH

802.11n HT20 5.3G 26 dB BANDWIDTH

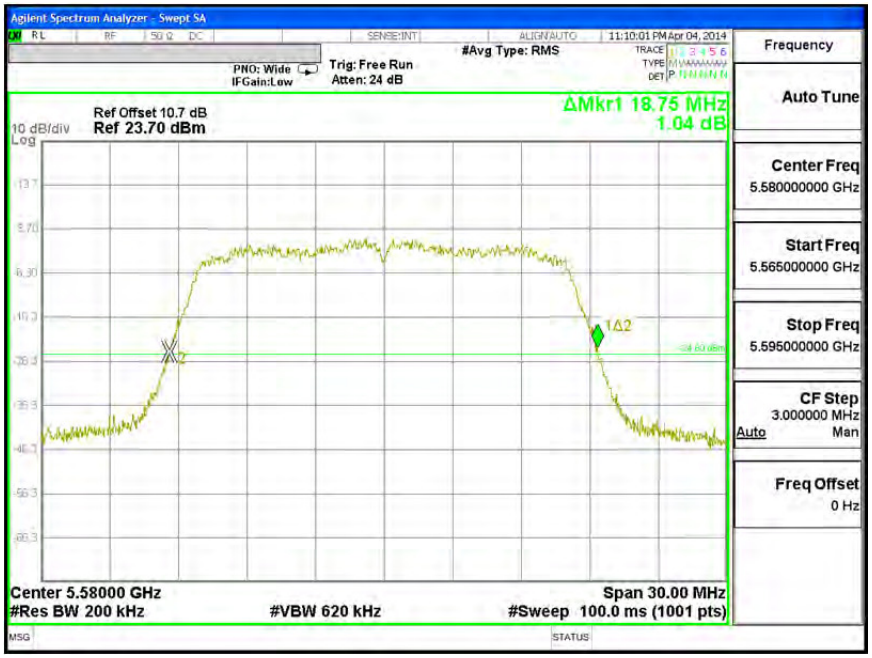
BANDWIDTH MID CH

802.11n HT40 5.3G 26 dB BANDWIDTH

BANDWIDTH MID CH

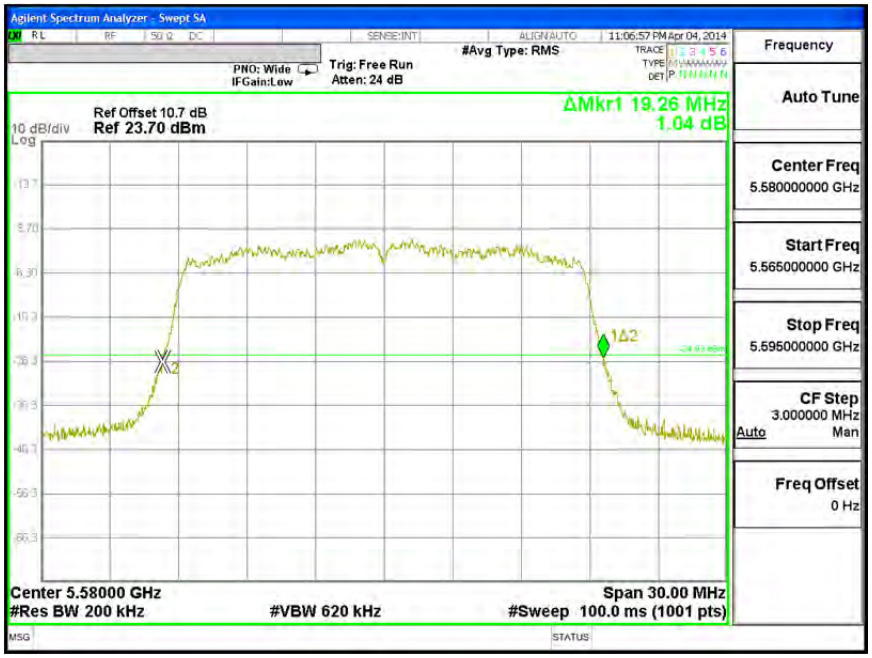
802.11a 5.5G 26 dB BANDWIDTH

BANDWIDTH MID CH



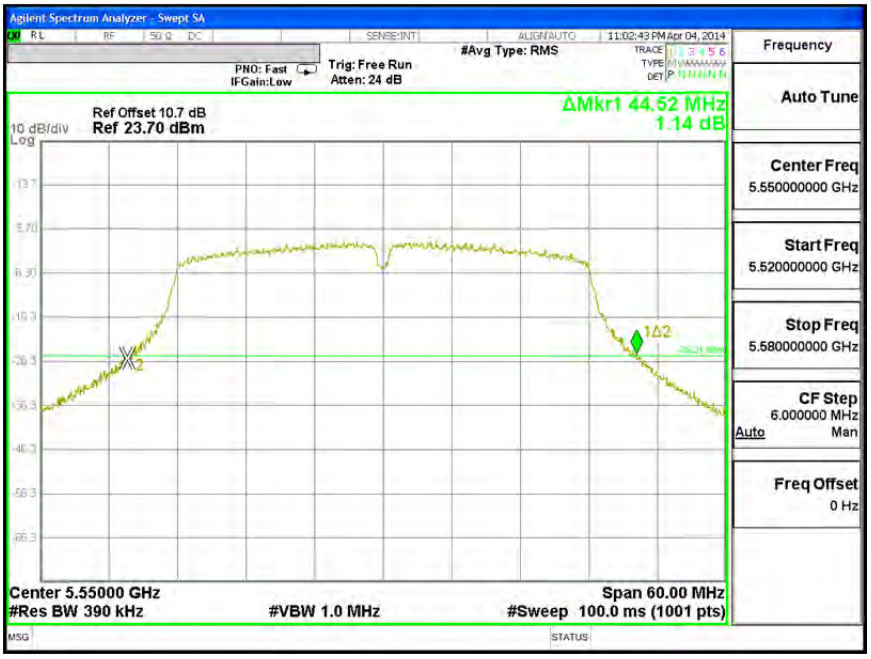
802.11n HT20 5.5G 26 dB BANDWIDTH

BANDWIDTH MID CH



802.11n HT40 5.5G 26 dB BANDWIDTH

BANDWIDTH MID CH



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	16.32
Mid	5200	16.48
High	5240	16.47
Worst		16.48

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.70
Mid	5200	17.72
High	5240	17.61
Worst		17.72

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	35.988
Mid	5230	36.160
Worst		36.160

10.2.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	16.48
Mid	5300	16.44
High	5320	16.47
Worst		16.48

10.2.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	17.80
Mid	5300	17.74
High	5320	17.61
Worst		17.80

10.2.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	36.0
High	5310	35.9
Worst		36.0

10.2.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	16.514
Mid	5580	16.510
High	5700	16.631
Worst		16.631

10.2.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.638
Mid	5580	17.598
High	5700	17.669
Worst		17.669

10.2.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5510	35.8
Mid	5550	35.8
High	5670	36.0
Worst		36.0

802.11a 5.2G 99% BANDWIDTH

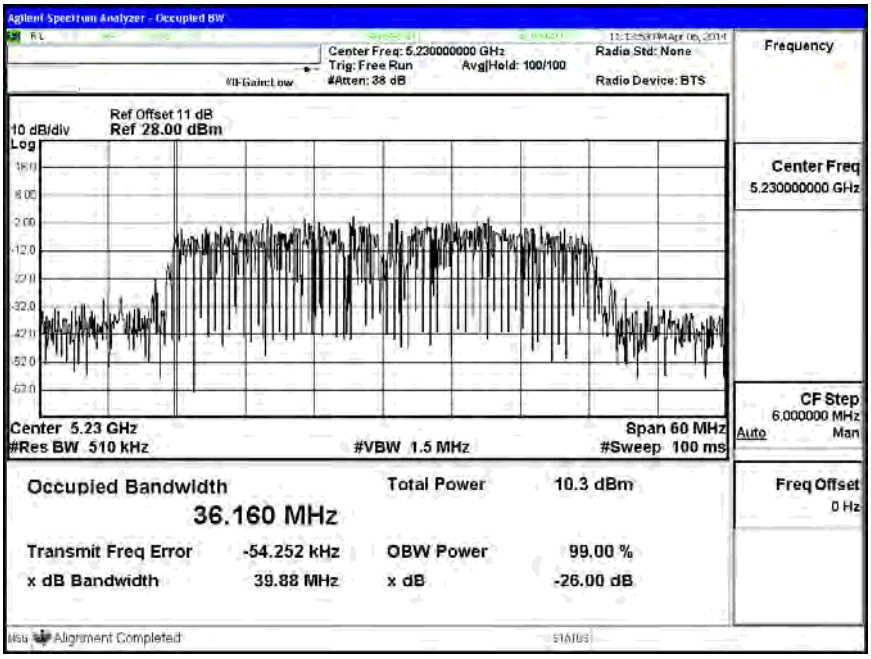
BANDWIDTH MID CH

802.11n HT20 5.2G 99% BANDWIDTH

BANDWIDTH MID CH

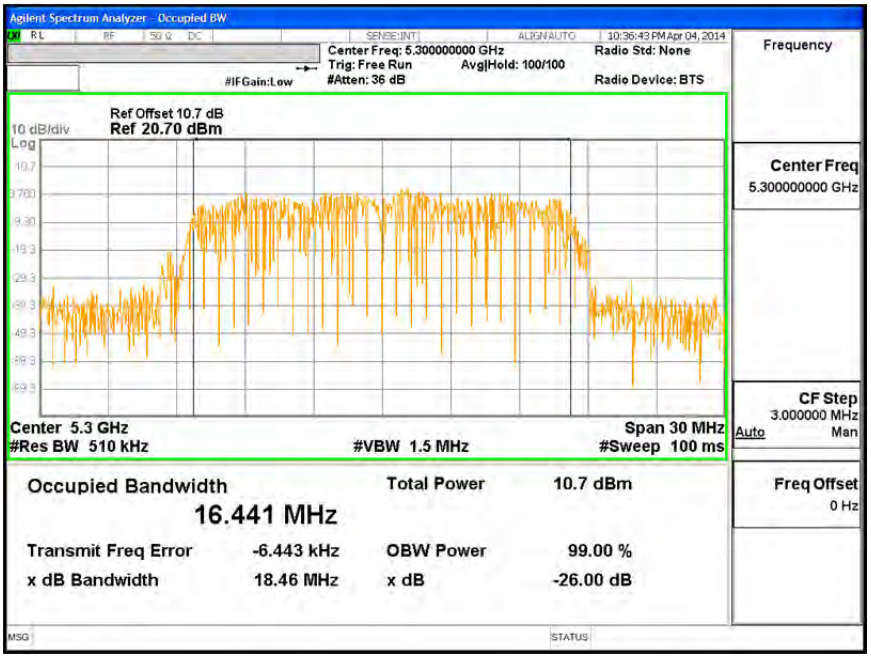
802.11n HT40 5.2G 99% BANDWIDTH

BANDWIDTH MID CH



802.11a 5.3G 99% BANDWIDTH

BANDWIDTH MID CH

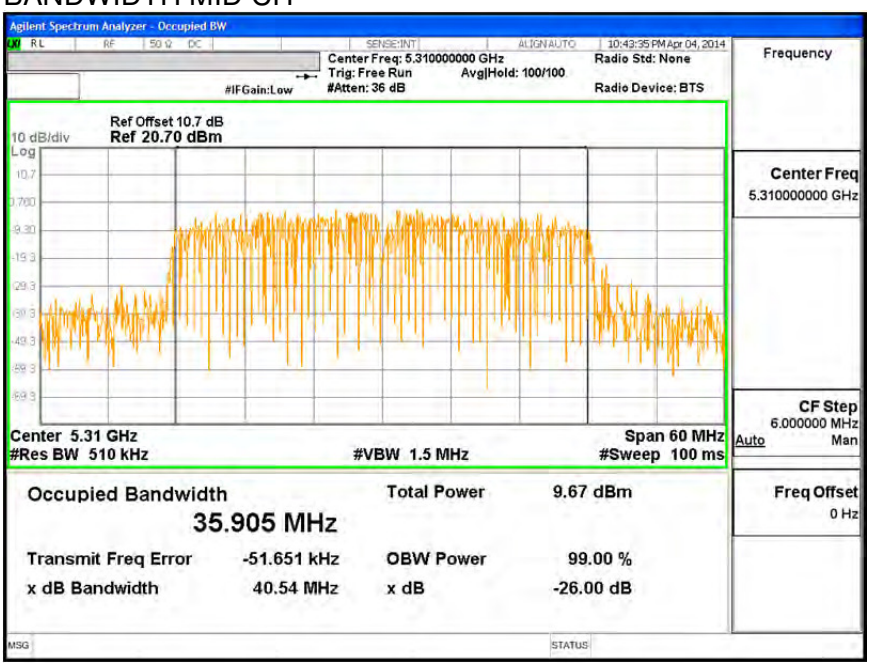


802.11n HT20 5.3G 99% BANDWIDTH

BANDWIDTH MID CH

802.11n HT40 5.3G 99% BANDWIDTH

BANDWIDTH MID CH

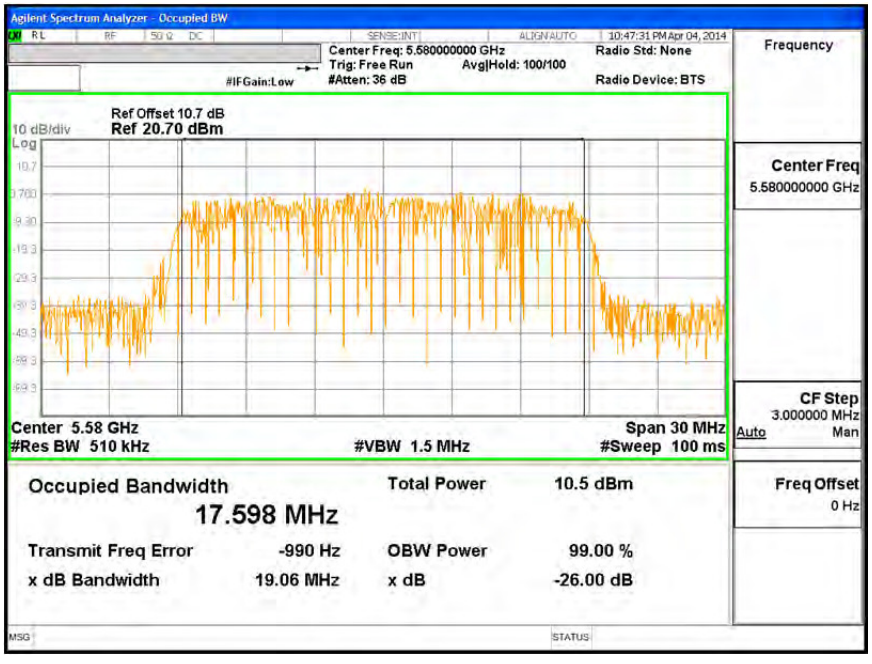


802.11a 5.5G 99% BANDWIDTH

BANDWIDTH MID CH

802.11n HT20 5.5G 99% BANDWIDTH

BANDWIDTH MID CH



802.11n HT40 5.5G 99% BANDWIDTH

BANDWIDTH MID CH

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	11.00
Mid	5200	11.10
High	5240	11.20
Worst		11.20

10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5180	10.90
Mid	5200	11.00
High	5240	11.10
Worst		11.10

10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5190	10.600
Mid	5230	10.700
Worst		10.700

10.3.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	11.00
Mid	5300	11.30
High	5320	11.30
Worst		11.30

10.3.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	10.90
Mid	5300	11.00
High	5320	11.00
Worst		11.00

10.3.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5270	10.7
High	5310	10.5
Worst		10.7

10.3.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	10.700
Mid	5580	10.600
High	5700	10.600
Worst		10.700

10.3.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	10.600
Mid	5580	10.600
High	5700	10.400
Worst		10.600

10.3.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5510	9.9
Mid	5550	9.9
High	5670	10.0
Worst		10.0

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 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 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

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	18.780	16.316	-4.22
Mid	5200	19.050	16.478	-4.22
High	5240	18.990	16.468	-4.22

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	16.74	22.13	26.35	16.74	4.00	10.00	4.00
Mid	5200	16.80	22.17	26.39	16.80	4.00	10.00	4.00
High	5240	16.79	22.17	26.39	16.79	4.00	10.00	4.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	11.325	11.53	16.74	-5.21
Mid	5200	11.356	11.56	16.80	-5.24
High	5240	11.081	11.28	16.79	-5.50

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	1.165	1.37	4.00	-2.64
Mid	5200	1.354	1.55	4.00	-2.45
High	5240	0.357	0.56	4.00	-3.44

10.4.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5180	19.260	17.701	-4.22
Mid	5200	19.170	17.718	-4.22
High	5240	19.170	17.610	-4.22

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	16.85	22.48	26.70	16.85	4.00	10.00	4.00
Mid	5200	16.83	22.48	26.70	16.83	4.00	10.00	4.00
High	5240	16.83	22.46	26.68	16.83	4.00	10.00	4.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	11.264	11.49	16.85	-5.35
Mid	5200	11.226	11.46	16.83	-5.37
High	5240	10.955	11.19	16.83	-5.64

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	1.054	1.28	4.00	-2.72
Mid	5200	1.092	1.32	4.00	-2.68
High	5240	0.765	1.00	4.00	-3.01

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	44.52	35.988	-4.22
Mid	5230	44.7	36.160	-4.22

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	27.22	17.00	4.00	10.00	4.00
Mid	5230	17.00	23.00	27.22	17.00	4.00	10.00	4.00
Duty Cycle CF (dB)		0.46	Included in Calculations of Corr'd Power & PPSD					

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	11.162	11.62	17.00	-5.38
Mid	5230	10.982	11.44	17.00	-5.56

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-2.590	-2.13	4.00	-6.13
Mid	5230	-2.516	-2.06	4.00	-6.06

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	19.02	16.482	-4.22
Mid	5300	18.99	16.441	-4.22
High	5320	18.93	16.473	-4.22

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	23.79	23.17	29.17	23.17	11.00	11.00	11.00
Mid	5300	23.79	23.16	29.16	23.16	11.00	11.00	11.00
High	5320	23.77	23.17	29.17	23.17	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	11.089	11.29	23.17	-11.88
Mid	5300	11.323	11.52	23.16	-11.64
High	5320	11.362	11.56	23.17	-11.61

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	1.226	1.43	11.00	-9.57
Mid	5300	1.387	1.59	11.00	-9.41
High	5320	1.520	1.72	11.00	-9.28

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	19.11	17.800	-4.22
Mid	5300	19.20	17.740	-4.22
High	5320	19.20	17.611	-4.22

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	23.81	23.50	29.50	23.50	11.00	11.00	11.00
Mid	5300	23.83	23.49	29.49	23.49	11.00	11.00	11.00
High	5320	23.83	23.46	29.46	23.46	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	10.964	11.19	23.50	-12.31
Mid	5300	11.214	11.44	23.49	-12.05
High	5320	11.219	11.45	23.46	-12.01

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	0.634	0.86	11.00	-10.14
Mid	5300	1.038	1.27	11.00	-9.73
High	5320	1.010	1.24	11.00	-9.76

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	44.0	36.0	-4.22
High	5310	44.3	35.9	-4.22

Limits

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

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	10.70	11.16	24.00	-12.84
High	5310	10.51	10.97	24.00	-13.04

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-2.89	-2.43	11.00	-13.43
High	5310	-3.36	-2.90	11.00	-13.90

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	16.514	-4.22
Mid	5580	18.75	16.510	-4.22
High	5700	18.87	16.631	-4.22

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	23.18	29.18	23.18	11.00	11.00	11.00
Mid	5580	23.73	23.18	29.18	23.18	11.00	11.00	11.00
High	5700	23.76	23.21	29.21	23.21	11.00	11.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	10.742	10.94	23.18	-12.24
Mid	5580	10.633	10.83	23.18	-12.34
High	5700	10.801	11.00	23.21	-12.21

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	0.942	1.14	11.00	-9.86
Mid	5580	0.449	0.65	11.00	-10.35
High	5700	0.811	1.01	11.00	-9.99

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	19.23	17.638	-4.22
Mid	5580	19.26	17.598	-4.22
High	5700	19.20	17.669	-4.22

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	23.84	23.46	29.46	23.46	11.00	11.00	11.00
Mid	5580	23.85	23.45	29.45	23.45	11.00	11.00	11.00
High	5700	23.83	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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	10.629	10.86	23.46	-12.61
Mid	5580	10.615	10.85	23.45	-12.61
High	5700	10.934	11.16	23.47	-12.31

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	0.356	0.59	11.00	-10.41
Mid	5580	0.609	0.84	11.00	-10.16
High	5700	0.863	1.09	11.00	-9.91

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	43.7	35.837	-4.22
Mid	5550	44.5	35.806	-4.22
High	5670	44.6	36.013	-4.22

Limits

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

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

Output Power Results

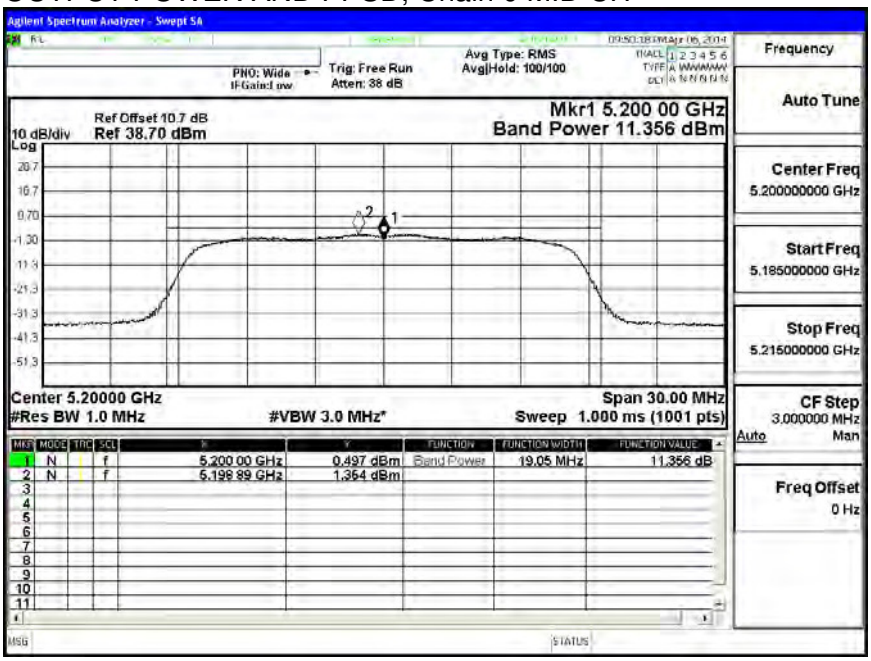
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	10.355	10.82	24.00	-13.19
Mid	5550	9.963	10.42	24.00	-13.58
High	5670	10.391	10.85	24.00	-13.15

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-3.249	-2.79	11.00	-13.79
Mid	5550	-3.524	-3.06	11.00	-14.06
High	5670	-3.271	-2.81	11.00	-13.81

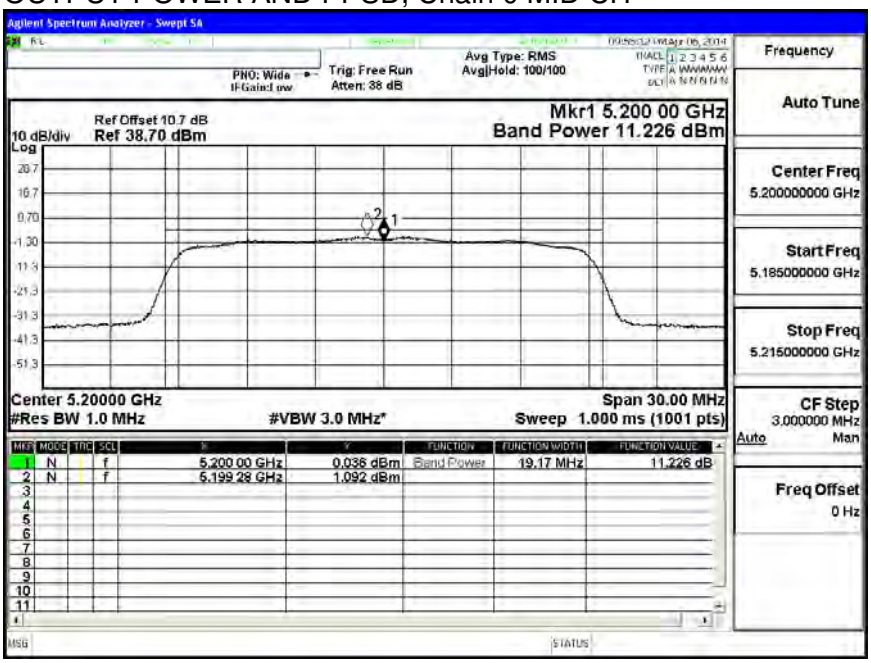
802.11a 5.2G OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 MID CH



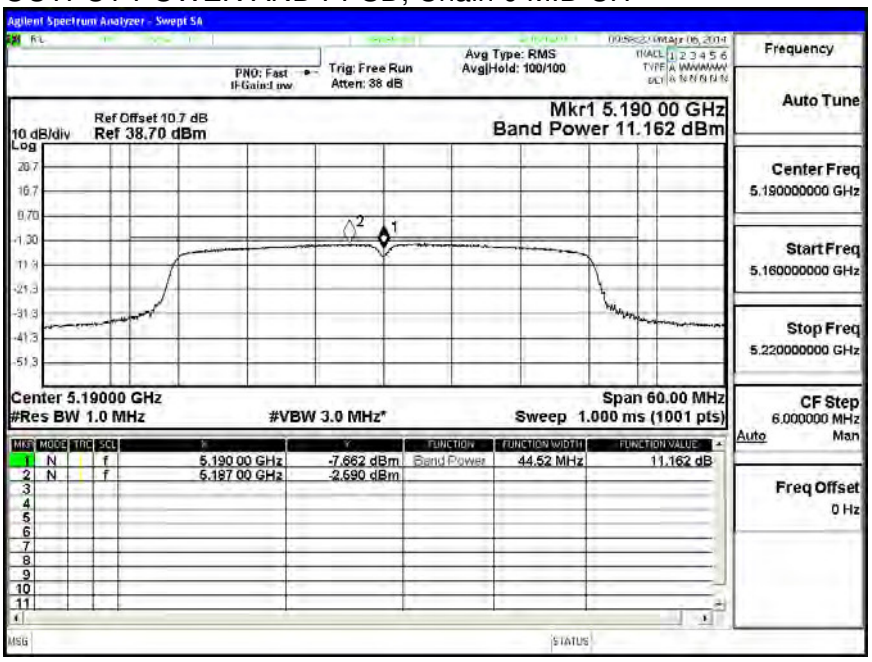
802.11n HT20 5.2G OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 MID CH



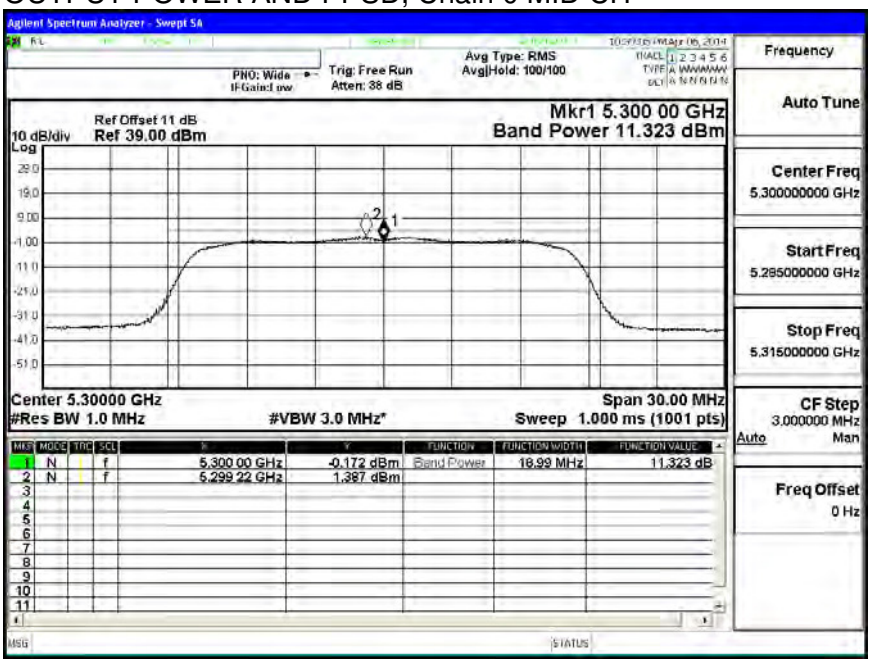
802.11n HT40 5.2G OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 MID CH



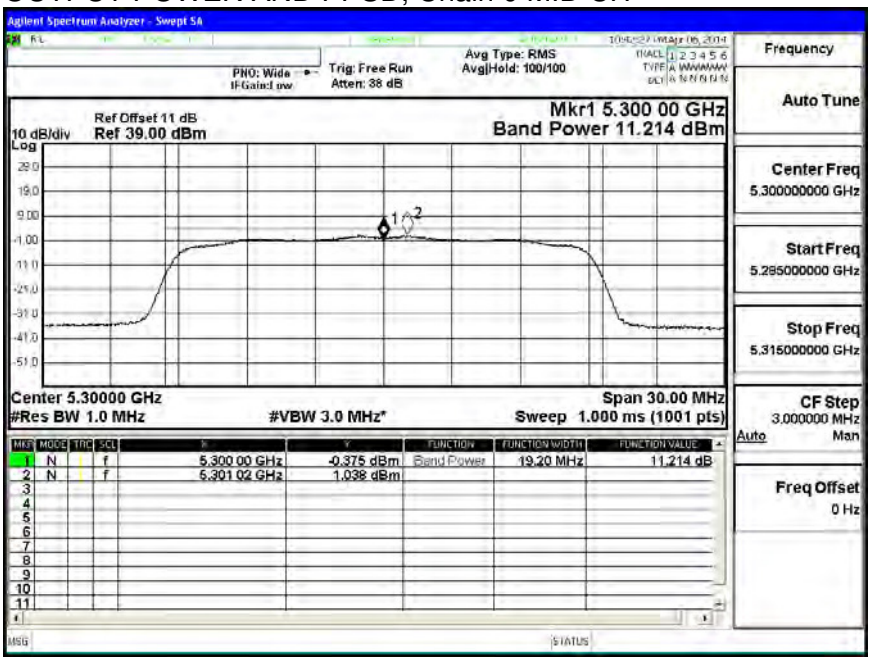
802.11a 5.3G OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 MID CH



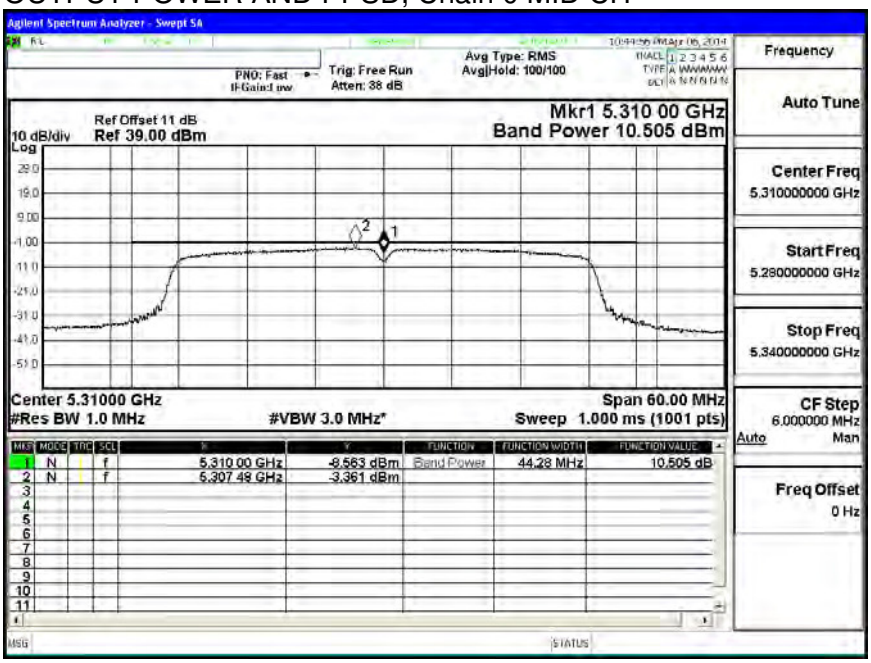
802.11n HT20 5.3G OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 MID CH



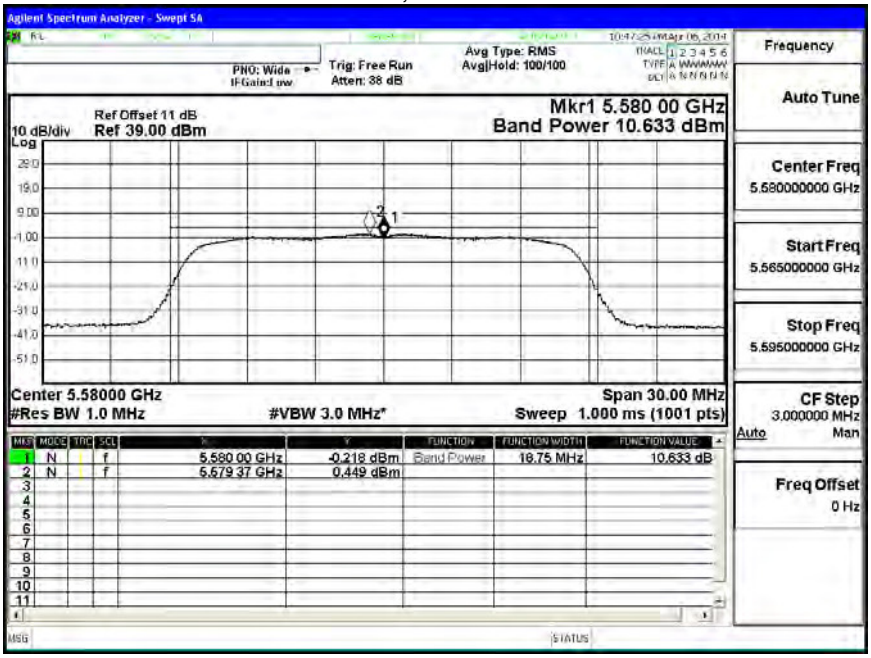
802.11n HT40 5.3G OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 MID CH



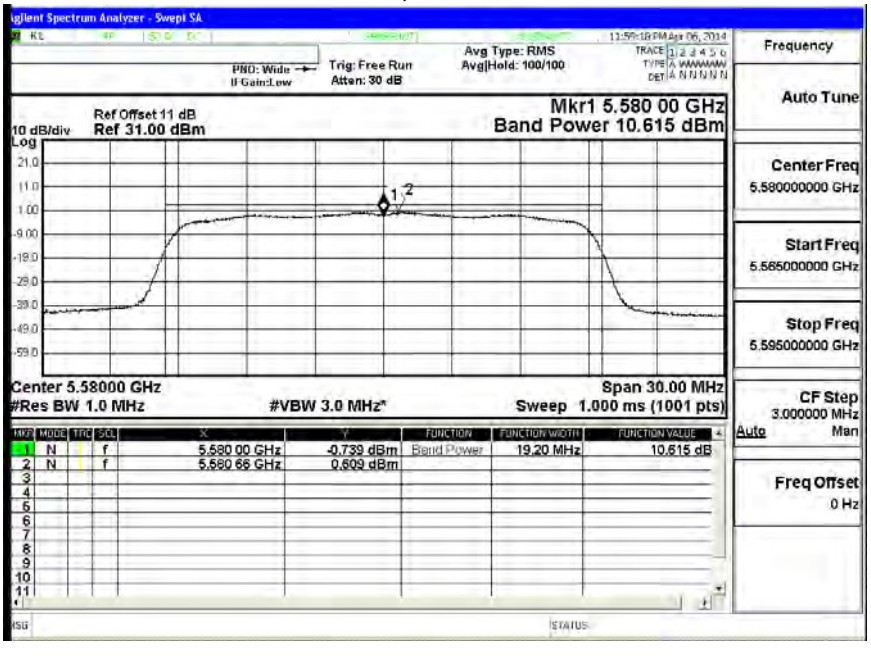
802.11a 5.5G OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 MID CH



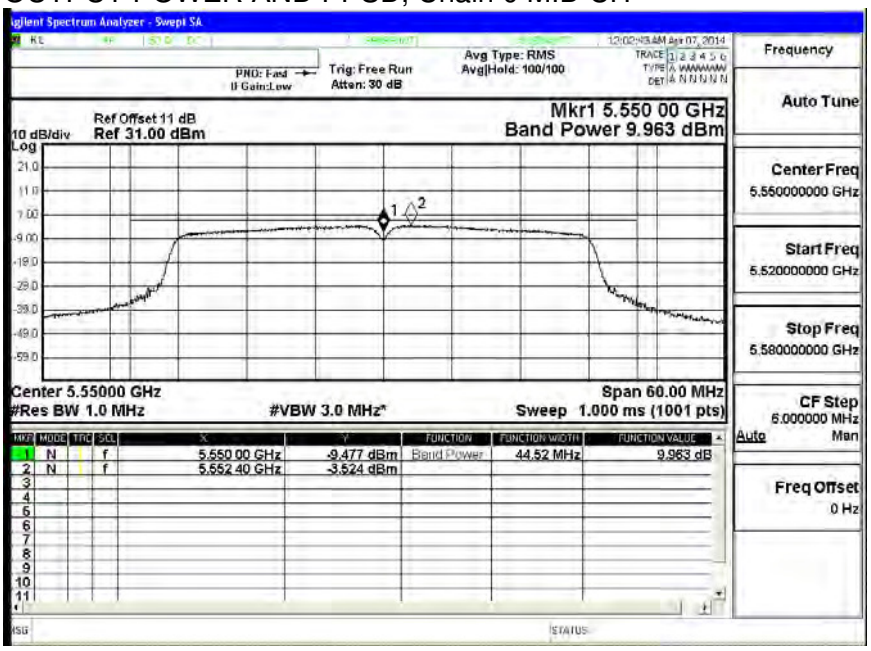
802.11n HT20 5.5G OUTPUT POWER AND PPSD, Chain 0

OUTPUT POWER AND PPSD, Chain 0 MID CH



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

OUTPUT POWER AND PPSD, Chain 0 MID CH



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	10.466	1.35	0.20	8.91	13	-4.09

PEAK EXCURSION

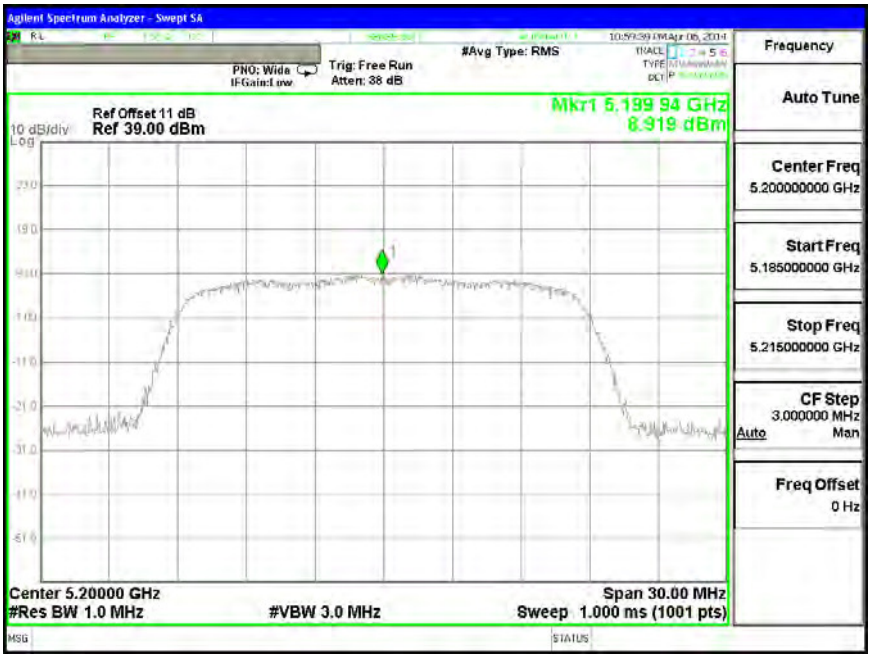
PEAK EXCURSION MID CH

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	8.919	1.09	0.23	7.60	13	-5.40

PEAK EXCURSION

PEAK EXCURSION MID CH

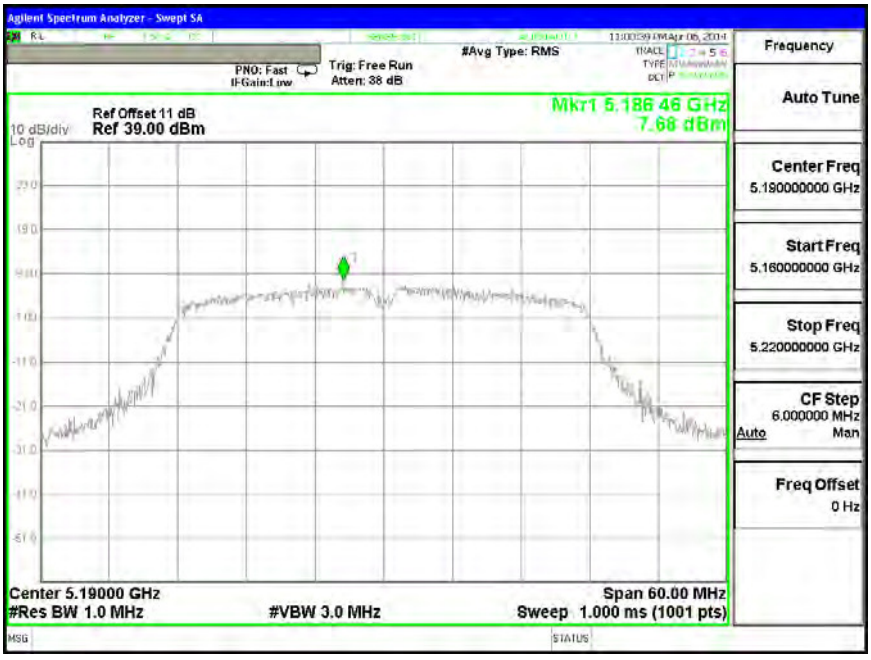


10.5.1. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5190	7.680	-2.59	0.46	9.81	13	-3.19

PEAK EXCURSION

PEAK EXCURSION MID CH



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.

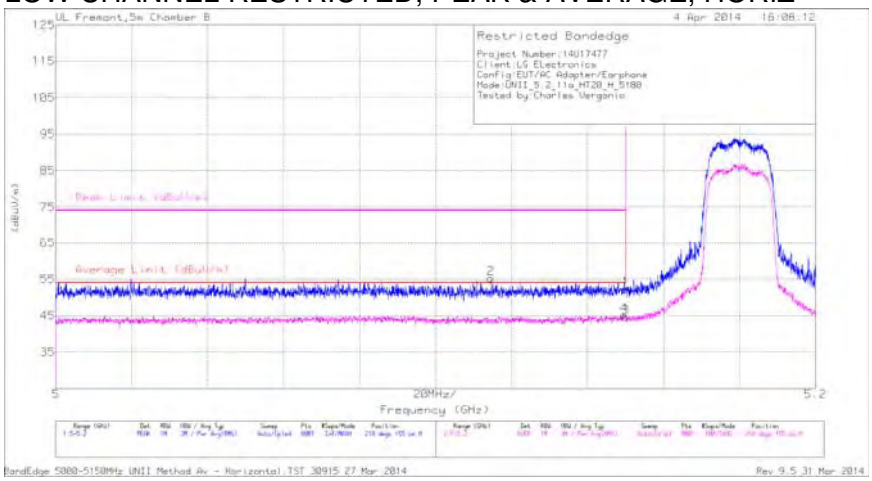
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



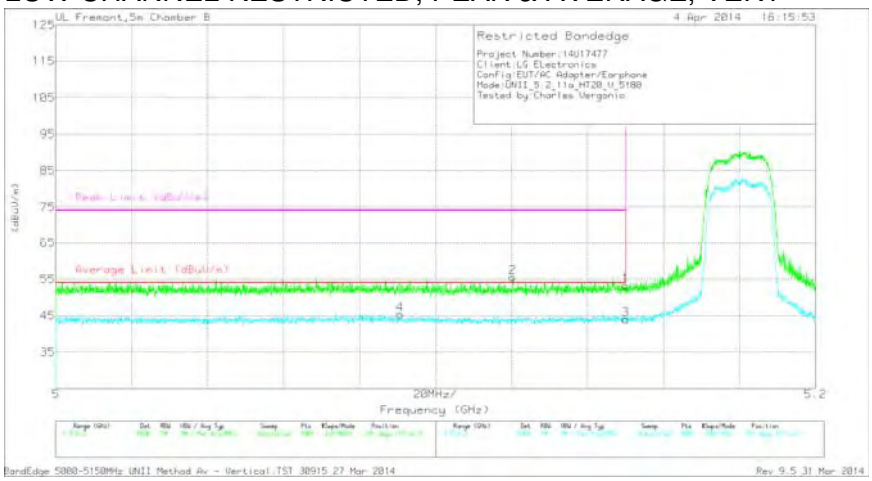
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.24	PK	34.3	-20.2	0	52.34	-	-	74	-21.66	210	155	H
2	* 5.115	41.1	PK	34.3	-20.1	0	55.3	-	-	74	-18.7	210	155	H
3	* 5.15	30.23	RMS	34.3	-20.2	.2	44.53	54	-9.47	-	-	210	155	H
4	* 5.15	30.77	RMS	34.3	-20.2	.2	45.07	54	-8.93	-	-	210	155	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	39.12	PK	34.3	-20.2	0	53.22	-	-	74	-20.78	281	115	V
2	* 5.12	41.3	PK	34.3	-20.1	0	55.5	-	-	74	-18.5	281	115	V
3	* 5.15	29.65	RMS	34.3	-20.2	.2	43.95	54	-10.05	-	-	281	115	V
4	* 5.091	31.07	RMS	34.2	-20.1	.2	45.37	54	-8.63	-	-	281	115	V

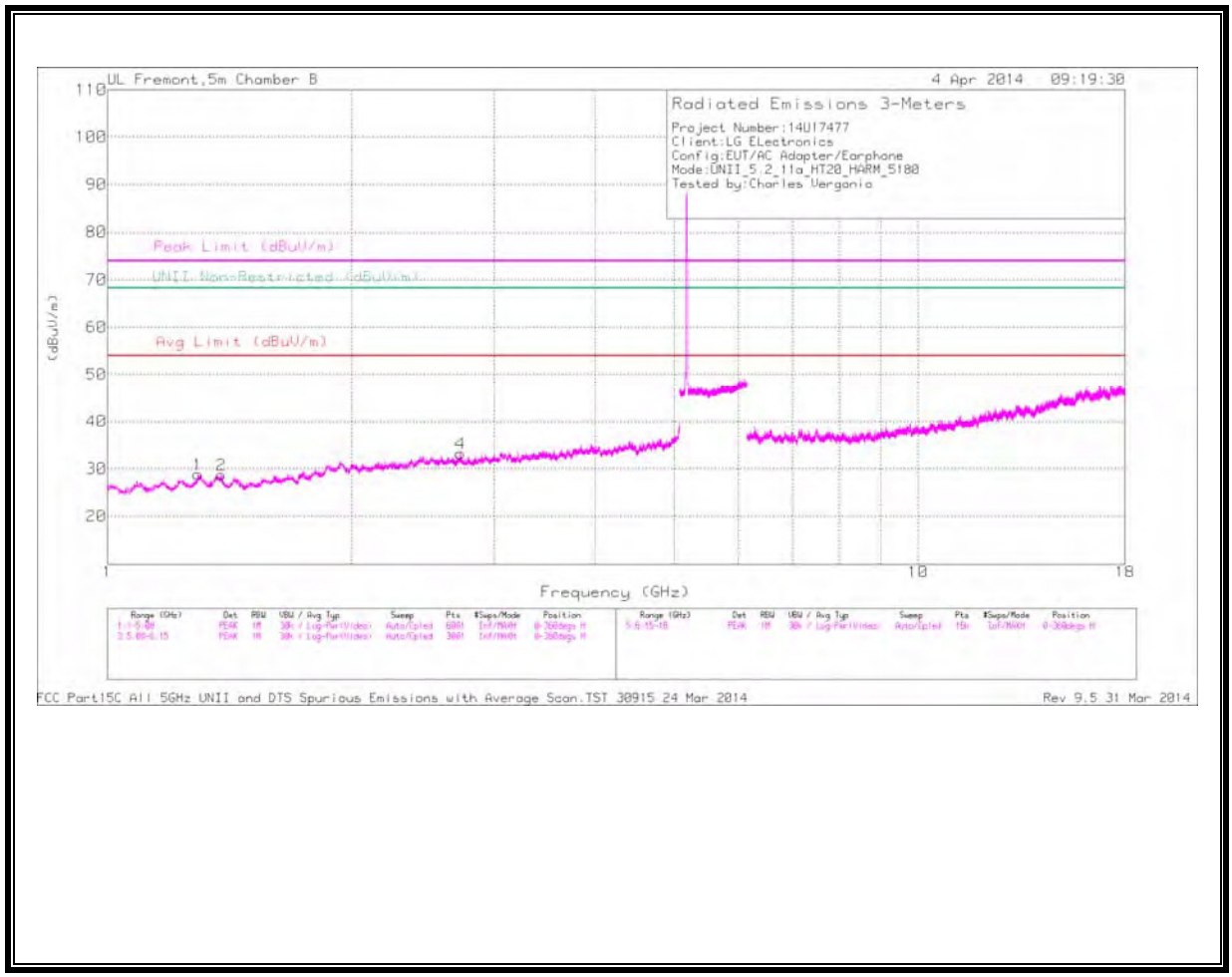
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

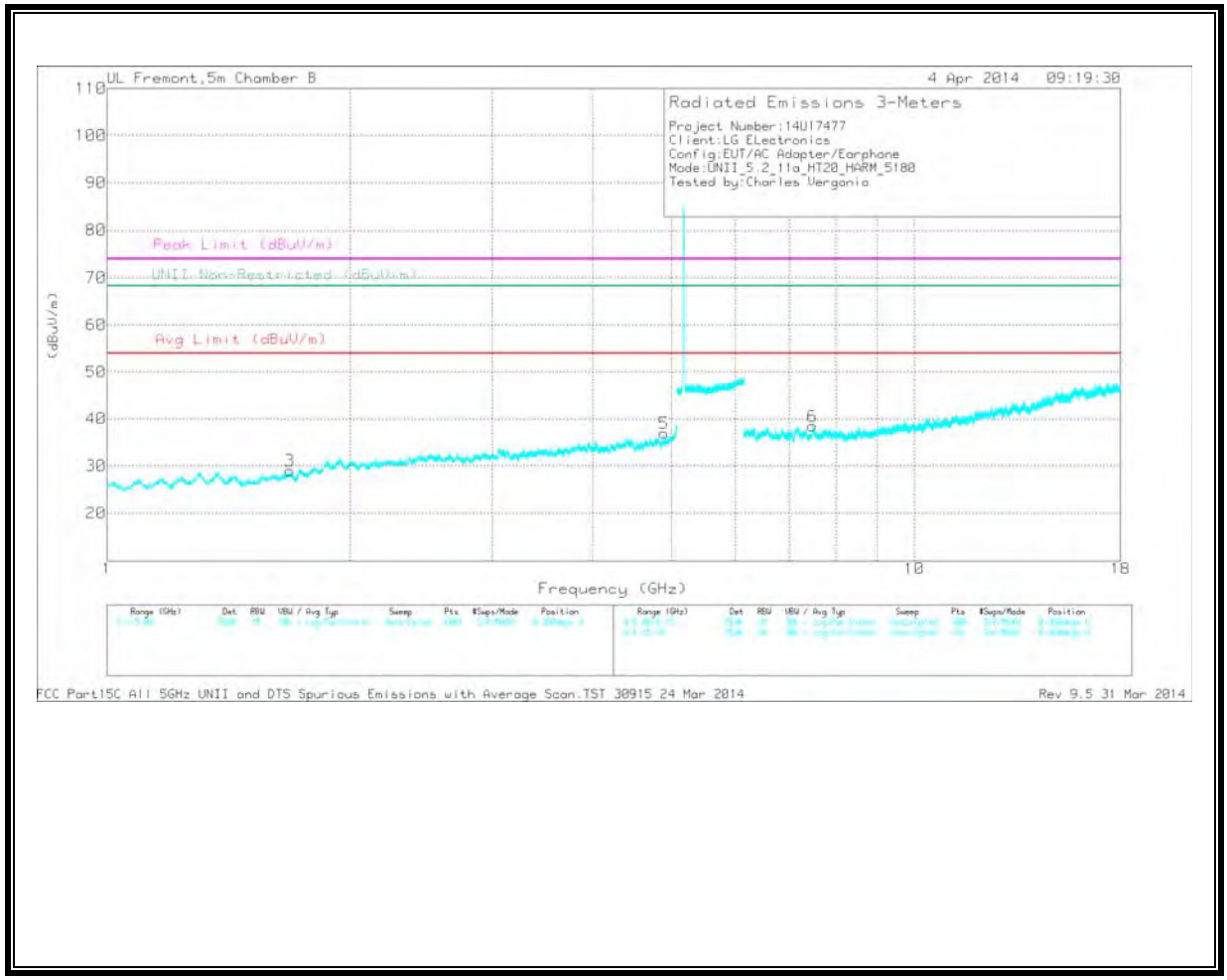
HARMONICS AND SPURIOUS EMISSIONS

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.

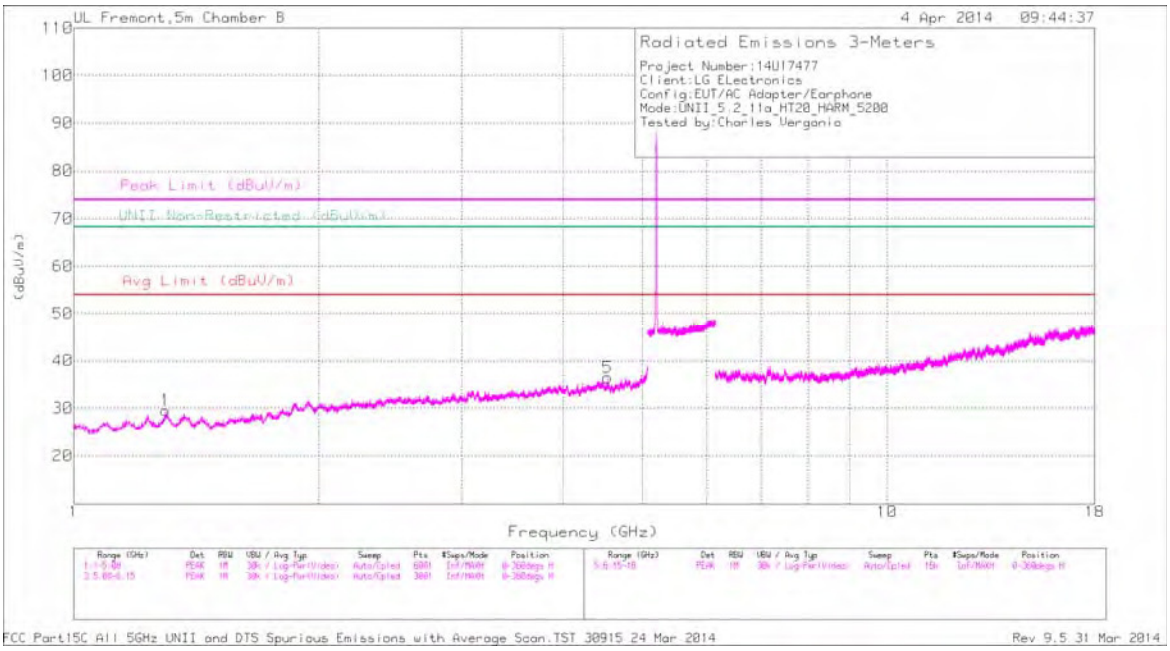
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/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
* 1.293	42.64	PK1	28.8	-34.3	37.14	54	-16.86	74	-36.86	-	-	0	100	H
* 1.382	42.23	PK1	28.6	-33.8	37.03	54	-16.97	74	-36.97	-	-	0	100	H
* 2.725	40.77	PK1	32.2	-31.9	41.07	54	-12.93	74	-32.93	-	-	0	100	H
* 1.686	41.77	PK1	29	-33.3	37.47	54	-16.53	74	-36.53	-	-	0	100	V
* 4.903	40.77	PK1	34.2	-29.5	45.47	54	-8.53	74	-28.53	-	-	0	100	V
* 7.476	37.89	PK1	35.6	-26.3	47.19	54	-6.81	74	-26.81	-	-	0	100	V

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

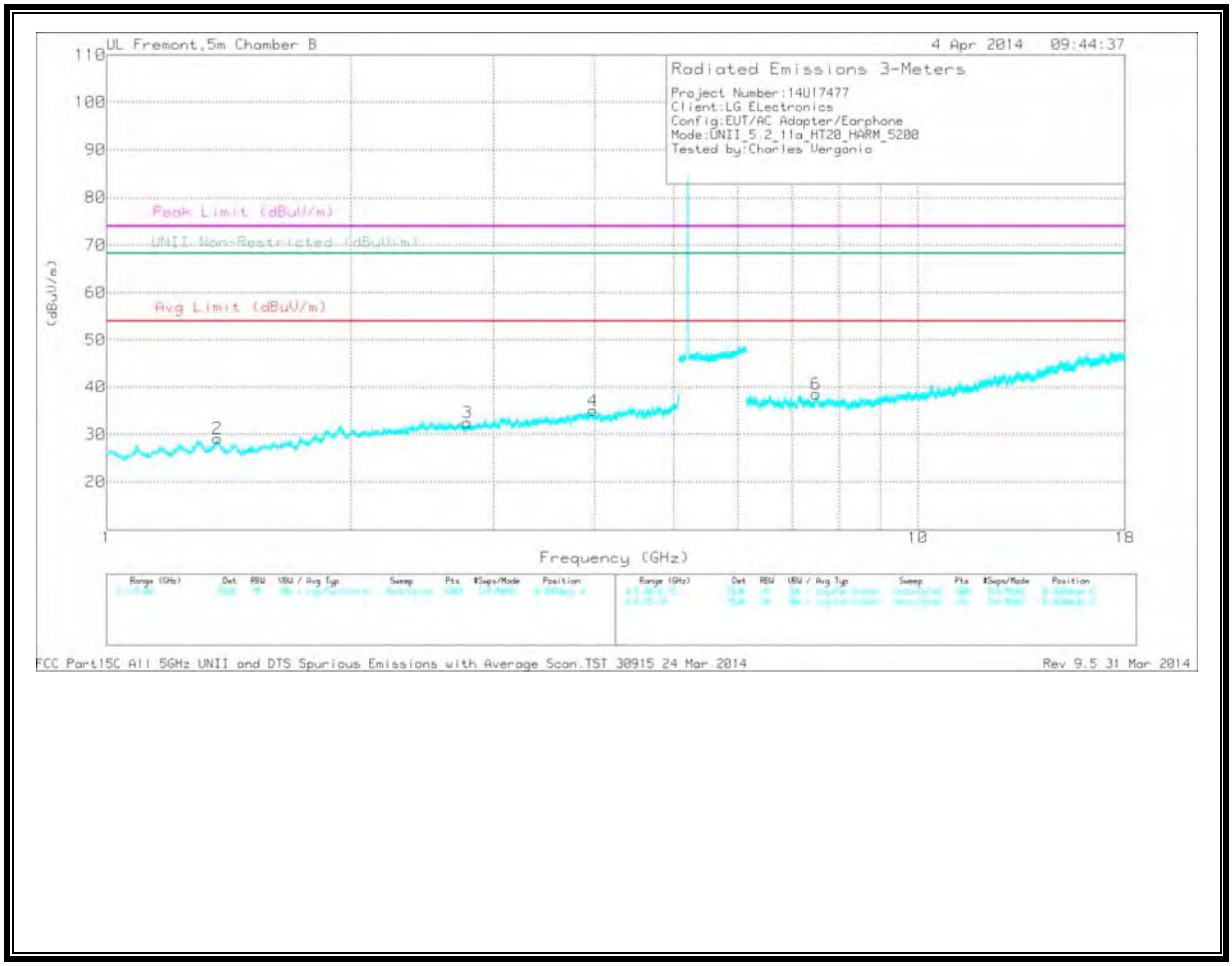
PK1 - KDB789033 Method: Peak

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.

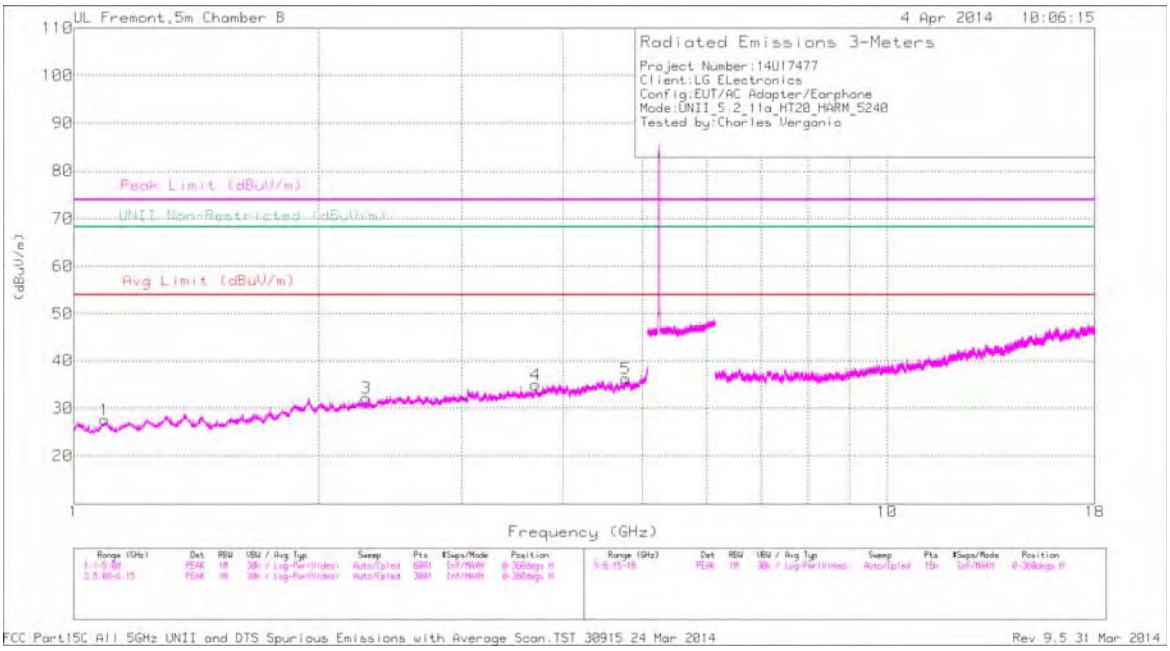
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 1.298	43.34	PK1	28.8	-34.2	37.94	54	-16.06	74	-36.06	-	-	1	100	H
* 4.536	40.74	PK1	34.1	-30.5	44.34	54	-9.66	74	-29.66	-	-	1	100	H
* 1.37	43.22	PK1	28.6	-33.8	38.02	54	-15.98	74	-35.98	-	-	1	100	V
* 2.788	41.43	PK1	32.3	-32.5	41.23	54	-12.77	74	-32.77	-	-	1	100	V
* 3.978	39.88	PK1	33.6	-30.2	43.28	54	-10.72	74	-30.72	-	-	1	100	V
* 7.49	37.24	PK1	35.6	-25.7	47.14	54	-6.86	74	-26.86	-	-	1	100	V

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

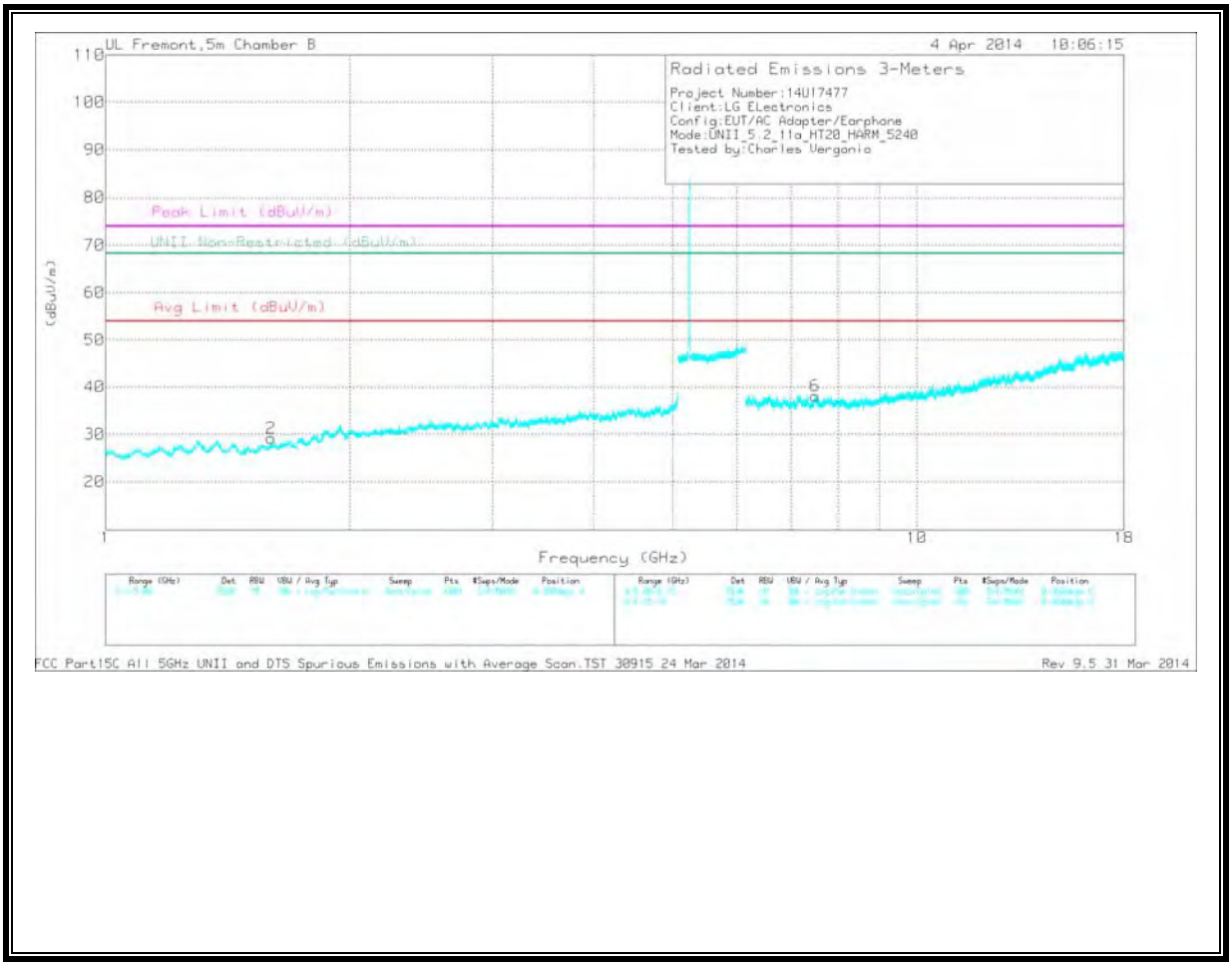
PK1 - KDB789033 Method: Peak

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

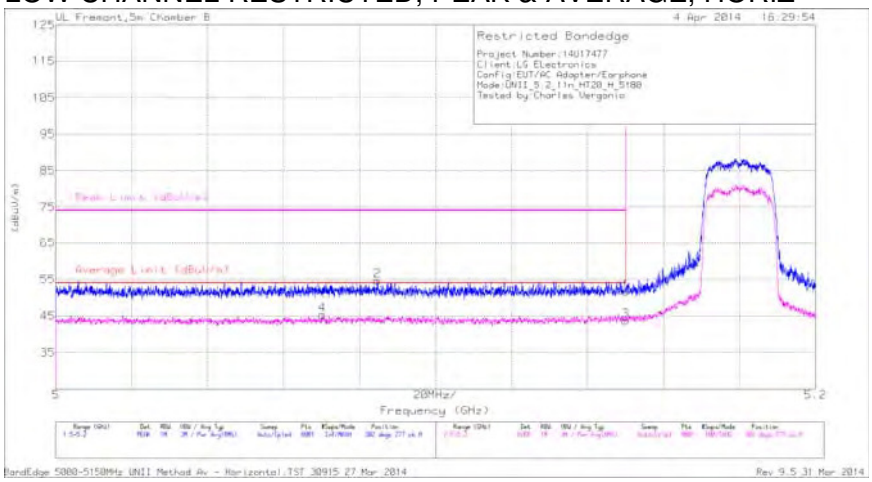
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.093	43.74	PK1	27.3	-34.4	36.64	54	-17.36	74	-37.36	-	-	1	100	H
* 2.291	41.07	PK1	31.6	-33	39.67	54	-14.33	74	-34.33	-	-	1	100	H
* 3.698	40.55	PK1	33.3	-31.2	42.65	54	-11.35	74	-31.35	-	-	1	100	H
* 4.774	40.25	PK1	34.2	-29.1	45.35	54	-8.65	74	-28.65	-	-	1	100	H
* 1.601	42.15	PK1	28.5	-33.1	37.55	54	-16.45	74	-36.45	-	-	1	100	V
* 7.496	37.65	PK1	35.6	-25.8	47.45	54	-6.55	74	-26.55	-	-	1	100	V

* - 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)

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



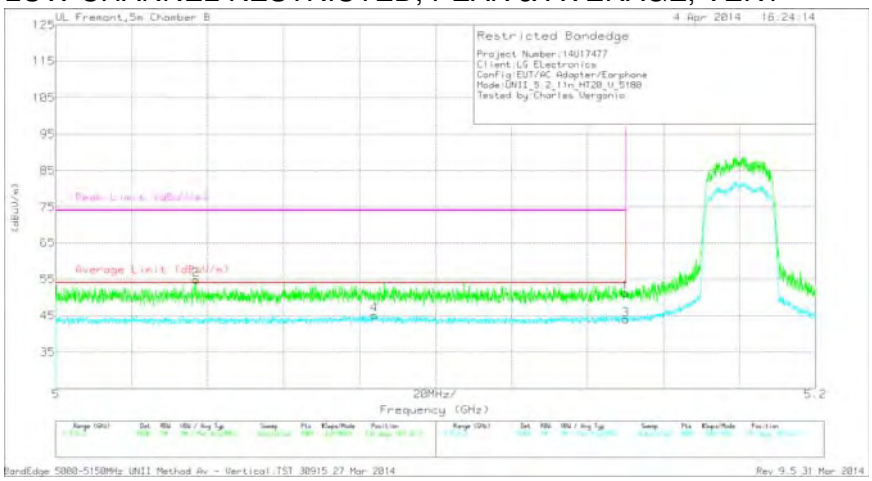
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.53	PK	34.3	-20.2	0	51.63	-	-	74	-22.37	302	277	H
2	* 5.085	40.48	PK	34.2	-20	0	54.68	-	-	74	-19.32	302	277	H
3	* 5.15	29.38	RMS	34.3	-20.2	.23	43.68	54	-10.32	-	-	302	277	H
4	* 5.07	31.05	RMS	34.2	-20.1	.23	45.35	54	-8.65	-	-	302	277	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.2	PK	34.3	-20.2	0	51.3	-	-	74	-22.7	132	183	V
2	* 5.037	40.85	PK	34.2	-20.2	0	54.85	-	-	74	-19.15	132	183	V
3	* 5.15	29.68	RMS	34.3	-20.2	.23	43.98	54	-10.02	-	-	132	183	V
4	* 5.084	30.74	RMS	34.2	-20	.23	45.14	54	-8.86	-	-	132	183	V

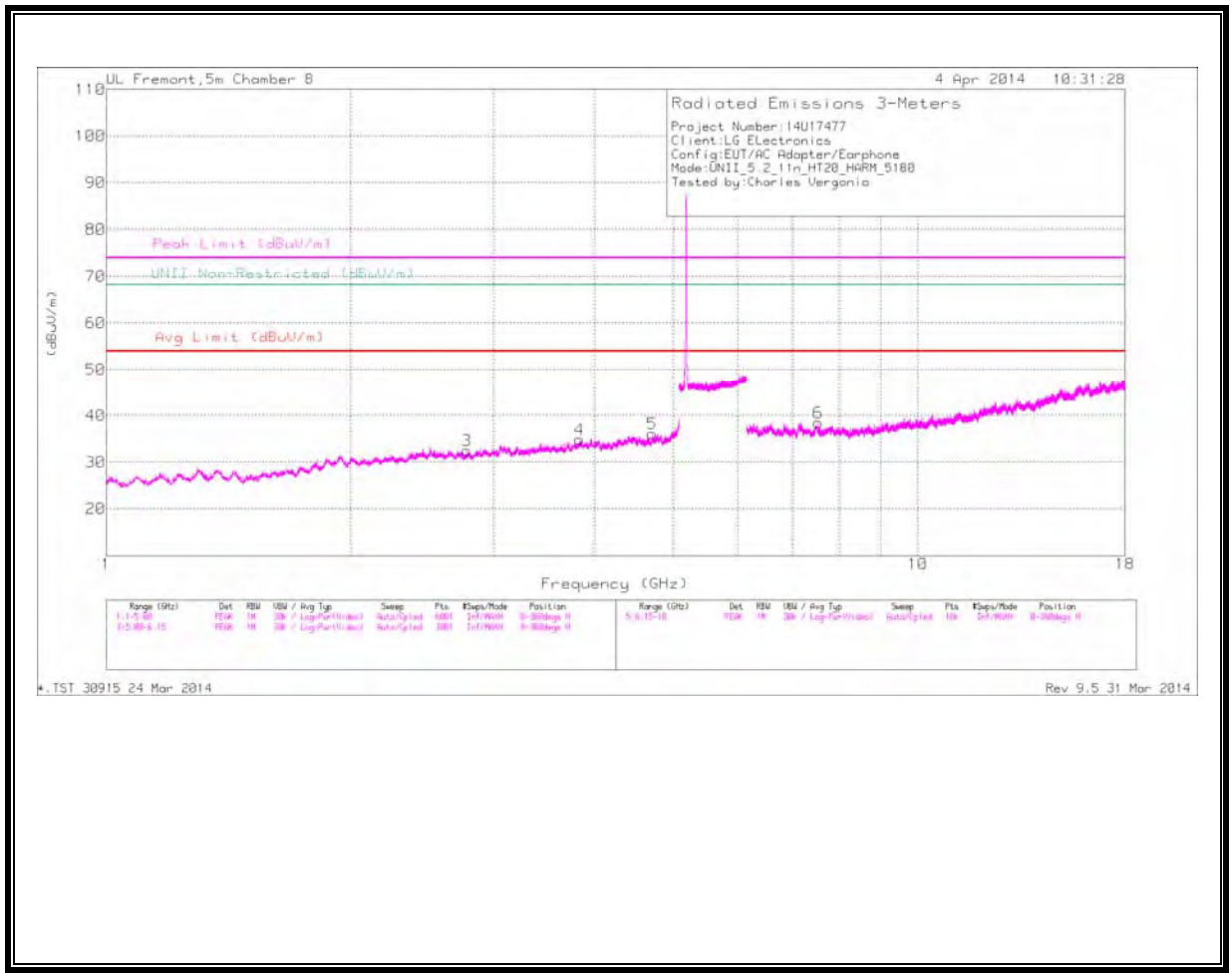
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

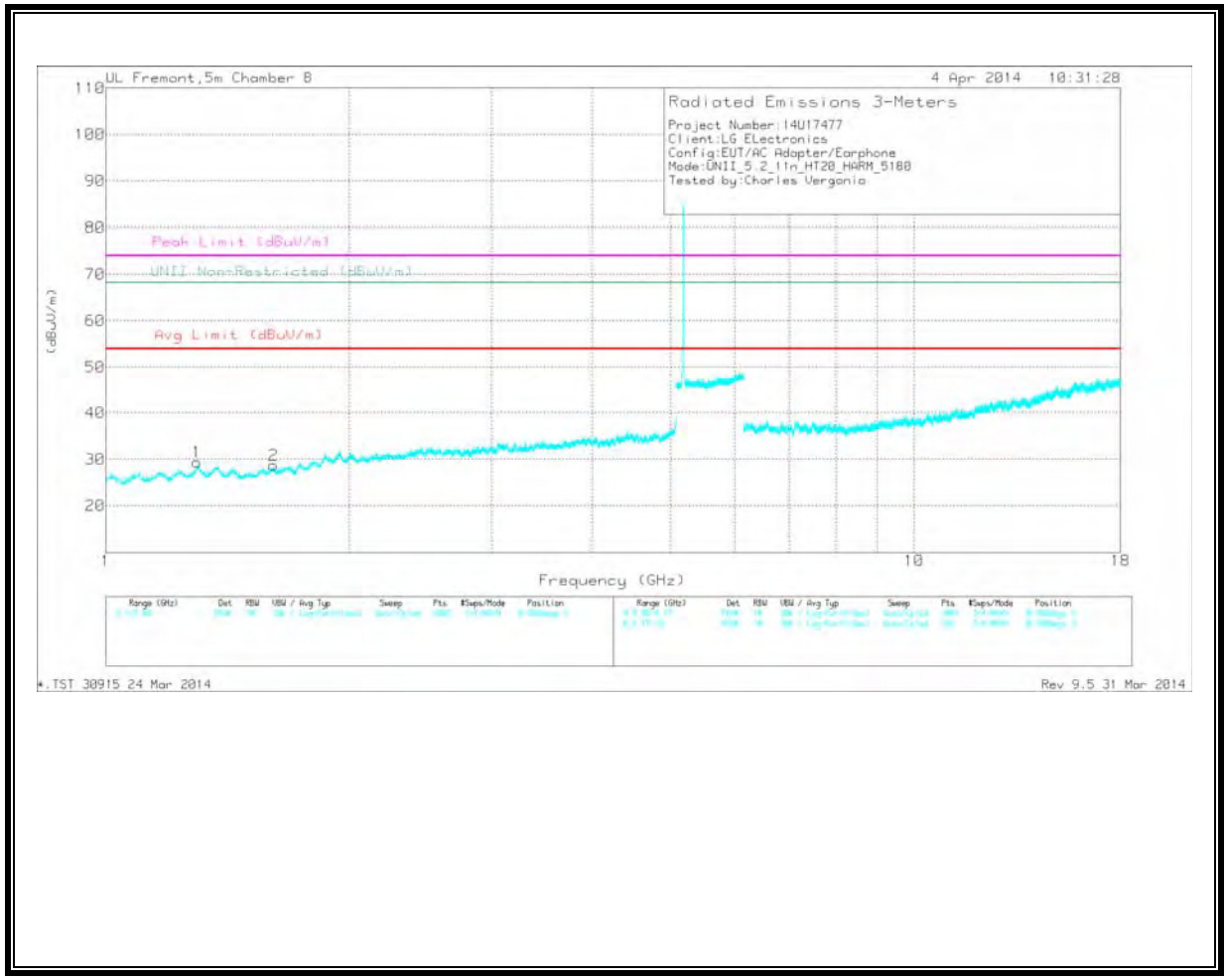
HARMONICS AND SPURIOUS EMISSIONS

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.

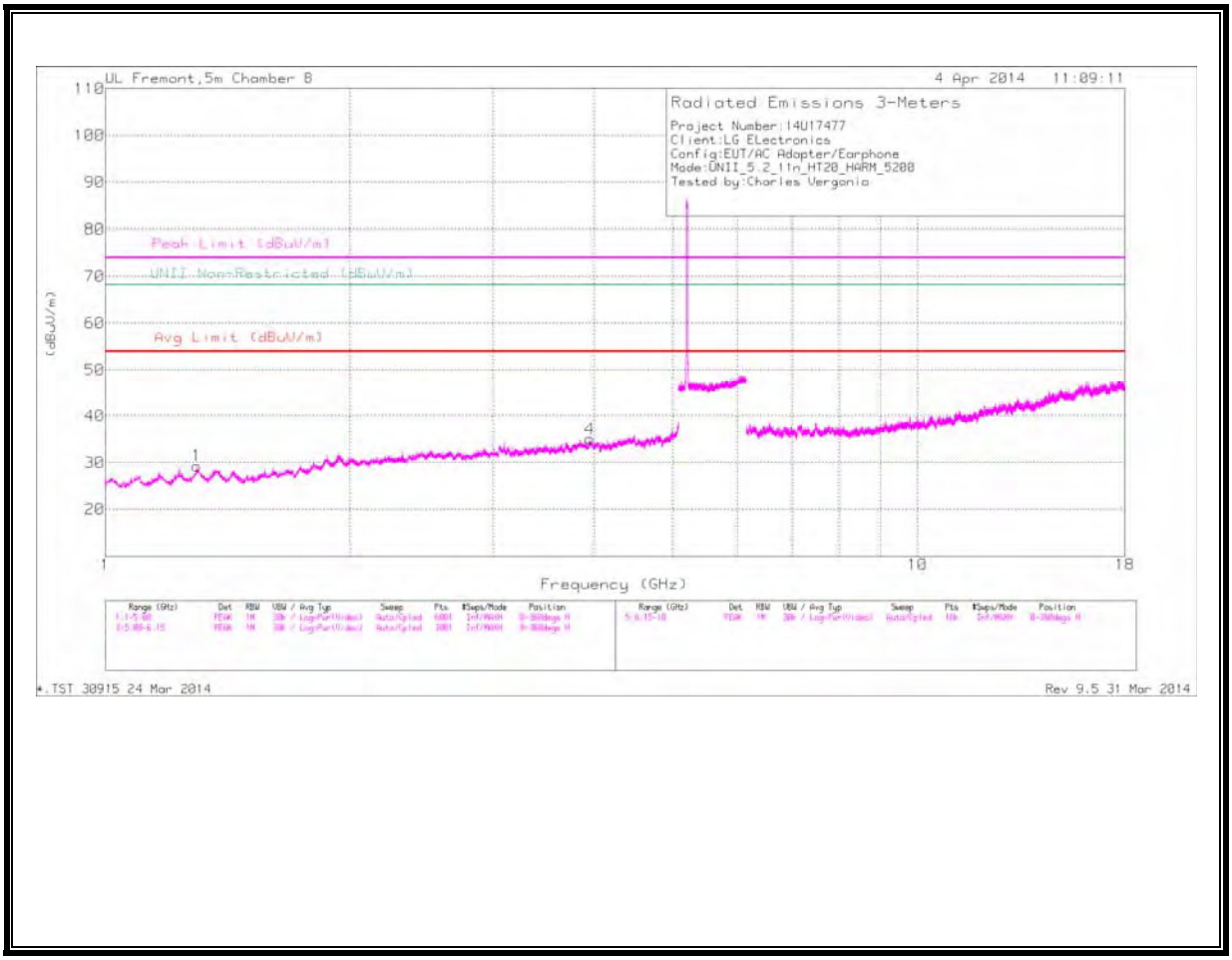
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 2.782	41.08	PK1	32.3	-32.6	40.78	54	-13.22	74	-33.22	-	-	2	100	H
* 3.83	40.31	PK1	33.7	-31	43.01	54	-10.99	74	-30.99	-	-	2	100	H
* 4.71	40.81	PK1	34.2	-29.9	45.11	54	-8.89	74	-28.89	-	-	2	100	H
* 1.295	43.33	PK1	28.8	-34.3	37.83	54	-16.17	74	-36.17	-	-	2	100	V
* 1.61	41.67	PK1	28.6	-33	37.27	54	-16.73	74	-36.73	-	-	2	100	V
* 7.532	37.07	PK1	35.6	-26.5	46.17	54	-7.83	74	-27.83	-	-	2	100	H

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

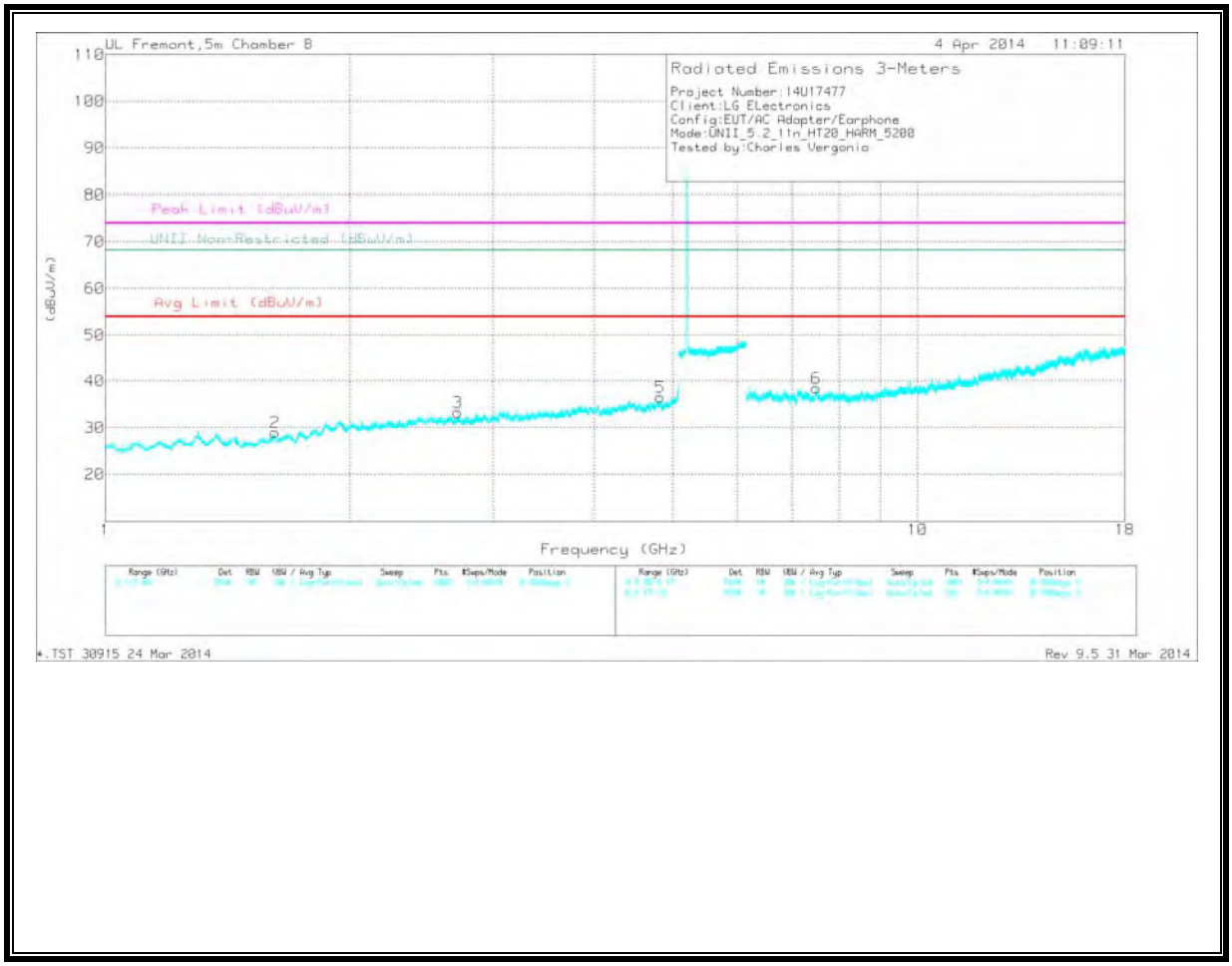
PK1 - KDB789033 Method: Peak

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.

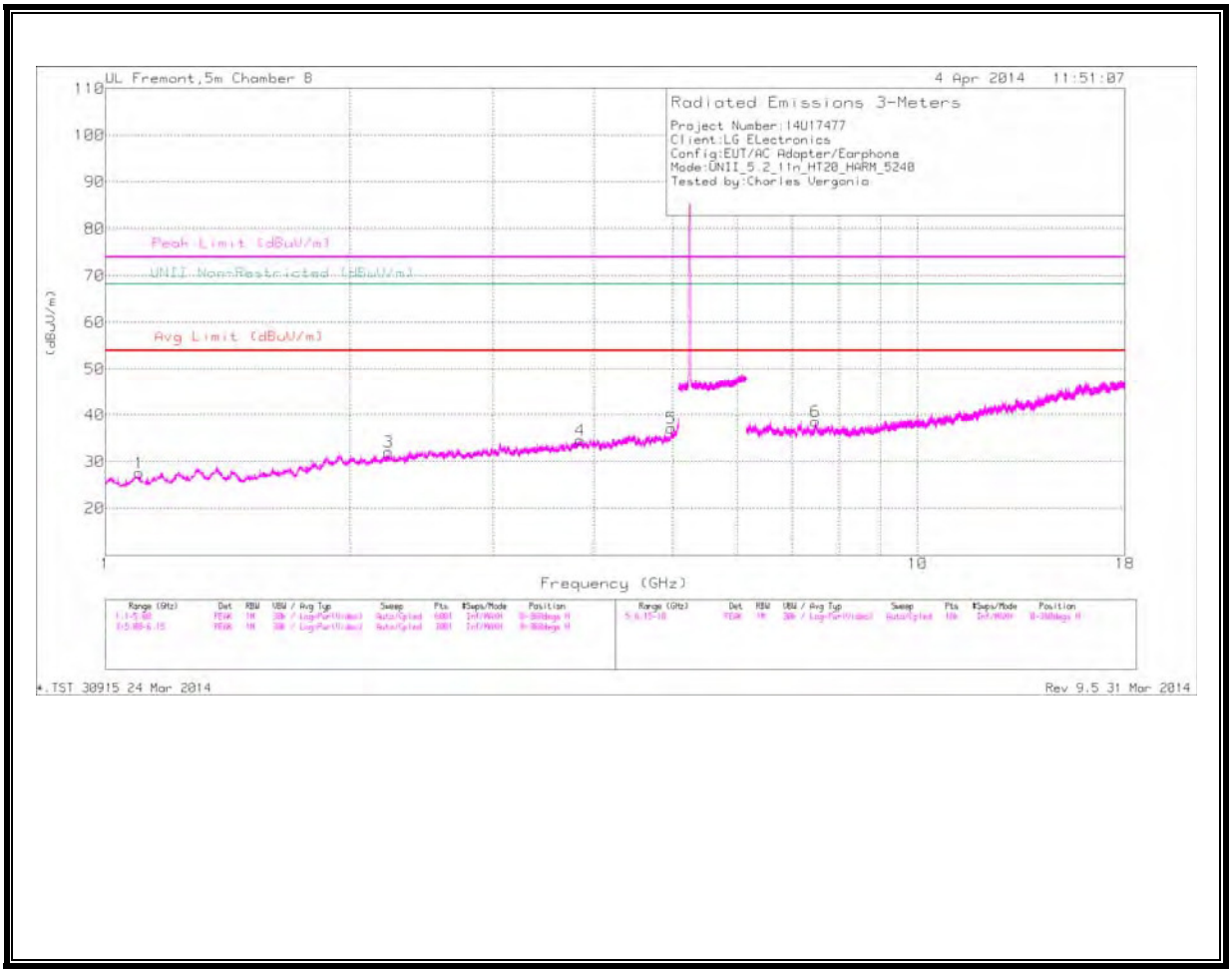
MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr /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	* 1.297	34.84	PK	28.8	-34.3	29.34	-	-	74	-44.66	-	-	0-360	99	H
4	* 3.953	31.37	PK	33.7	-30	35.07	-	-	74	-38.93	-	-	0-360	202	H
2	* 1.617	33.54	PK	28.6	-33.1	29.04	-	-	74	-44.96	-	-	0-360	99	V
3	* 2.716	32.84	PK	32.2	-31.8	33.24	-	-	74	-40.76	-	-	0-360	202	V
5	* 4.822	32.05	PK	34.2	-29.7	36.55	-	-	74	-37.45	-	-	0-360	99	V
6	* 7.496	28.69	PK	35.6	-25.8	38.49	-	-	74	-35.51	-	-	0-360	99	V

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

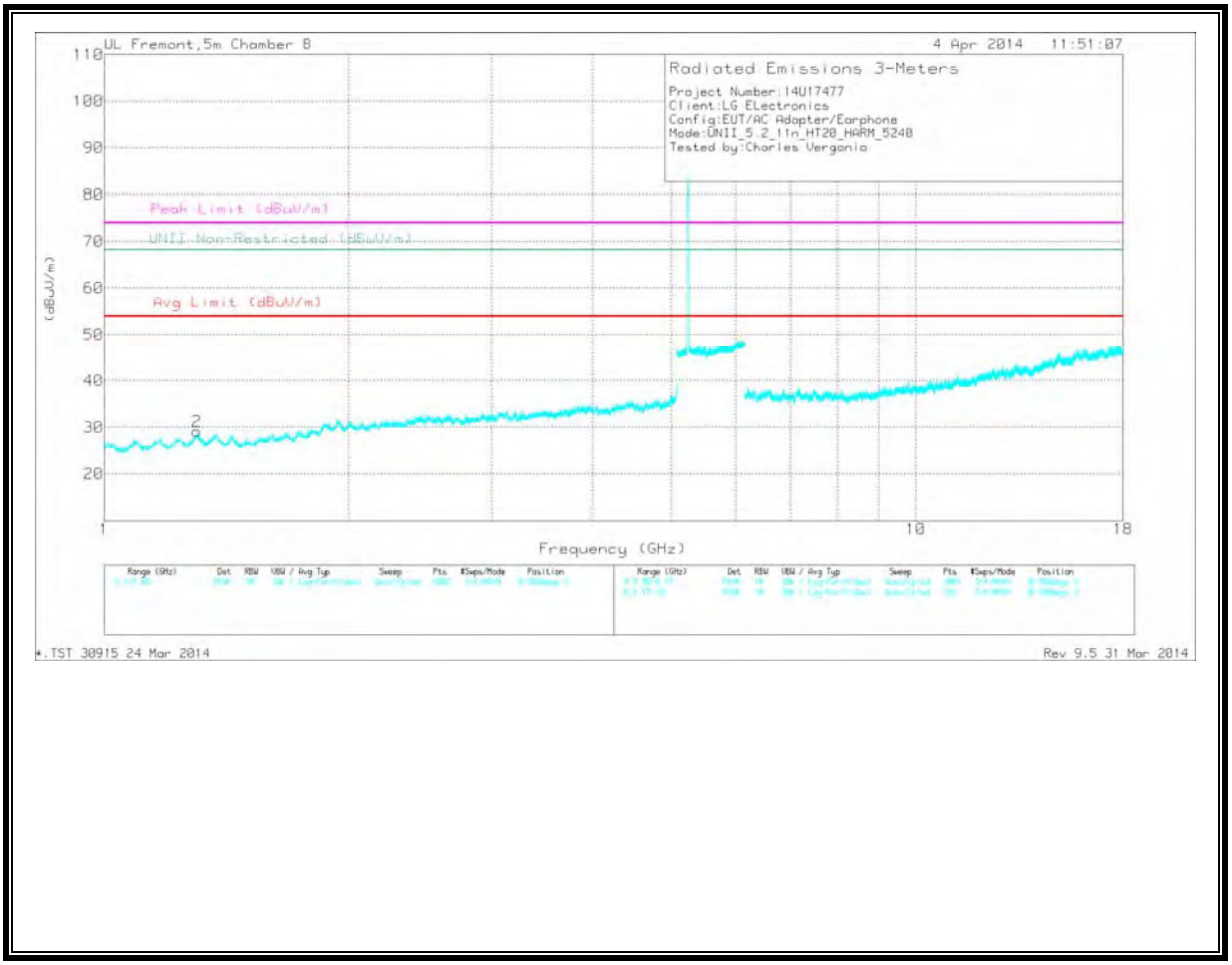
PK - Peak detector

HIGH CHANNEL
HORIZONTAL



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

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

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/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
* 1.101	42.05	PK1	27.4	-34.4	35.05	54	-18.95	74	-38.95	-	-	1	100	H
* 2.234	41.39	PK1	31.4	-32.3	40.49	54	-13.51	74	-33.51	-	-	1	100	H
* 3.839	40.83	PK1	33.7	-31.1	43.43	54	-10.57	74	-30.57	-	-	1	100	H
* 4.875	41.02	PK1	34.2	-30.1	45.12	54	-8.88	74	-28.88	-	-	1	100	H
* 1.301	43.04	PK1	28.9	-34.2	37.74	54	-16.26	74	-36.26	-	-	1	100	V
* 7.493	37.97	PK1	35.6	-25.7	47.87	54	-6.13	74	-26.13	-	-	1	100	H

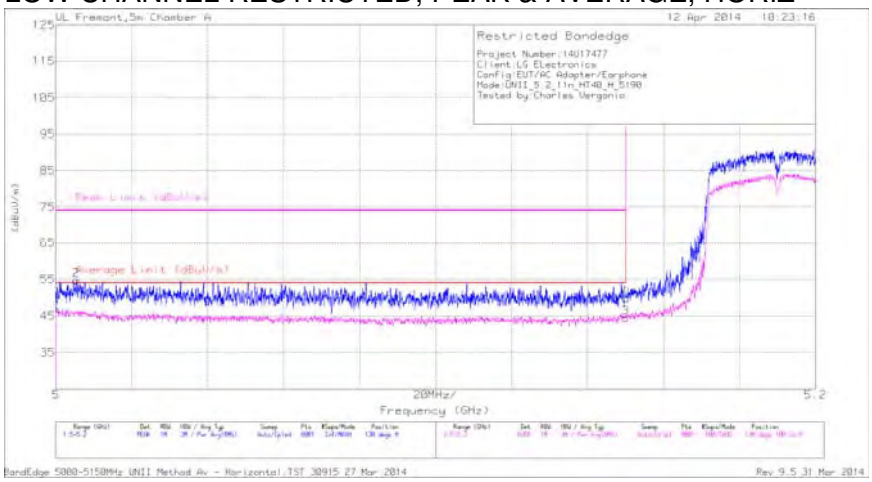
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

11.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



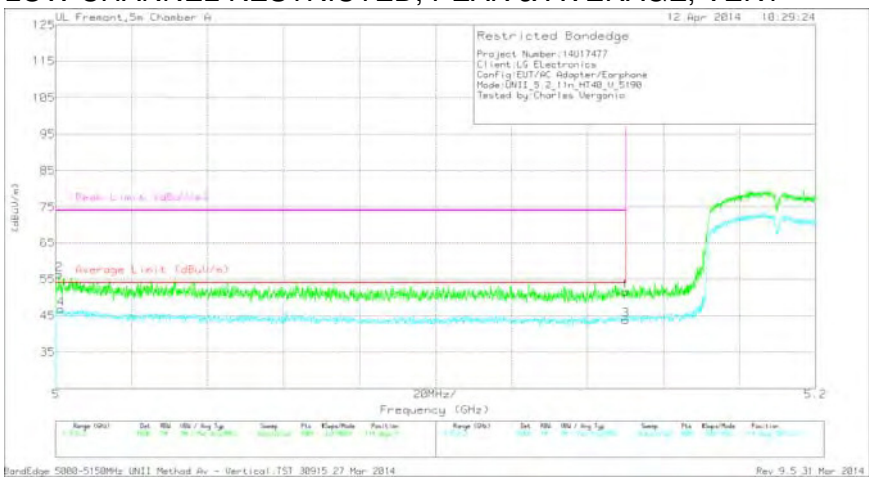
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	36.39	PK	34	-20.5	0	49.89	-	-	74	-24.11	138	100	H
2	* 5.005	40.48	PK	33.9	-19.6	0	54.78	-	-	74	-19.22	138	100	H
3	* 5.15	30.5	RMS	34	-20.5	.46	44.5	54	-9.5	-	-	138	100	H
4	* 5	32.42	RMS	33.9	-19.8	.46	47.02	54	-6.98	-	-	138	100	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.09	PK	34	-20.5	0	51.59	-	-	74	-22.41	114	384	V
2	* 5.001	42.32	PK	33.9	-19.8	0	56.42	-	-	74	-17.58	114	384	V
3	* 5.15	29.81	RMS	34	-20.5	.46	43.81	54	-10.19	-	-	114	384	V
4	* 5.001	32.23	RMS	33.9	-19.8	.46	46.83	54	-7.17	-	-	114	384	V

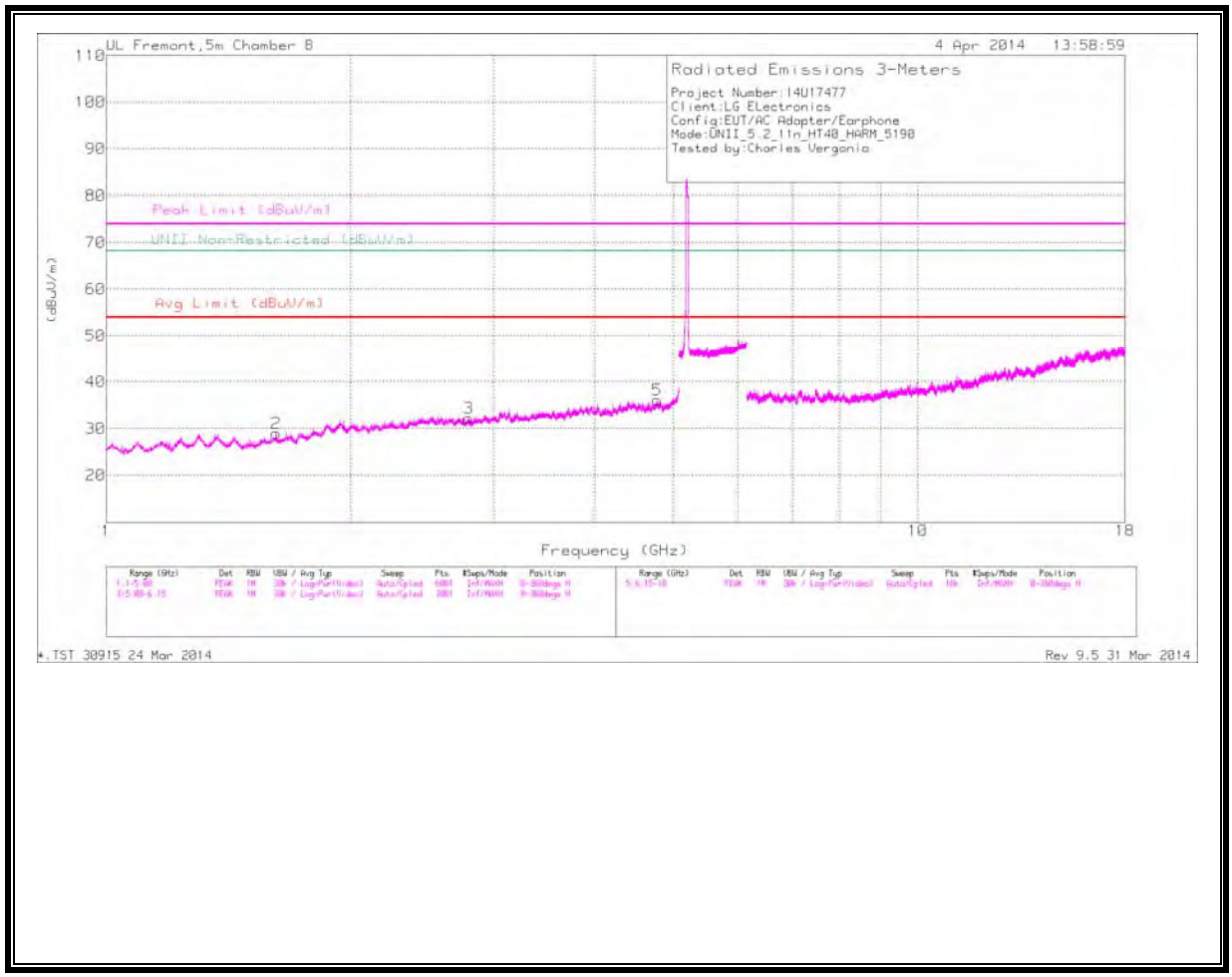
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

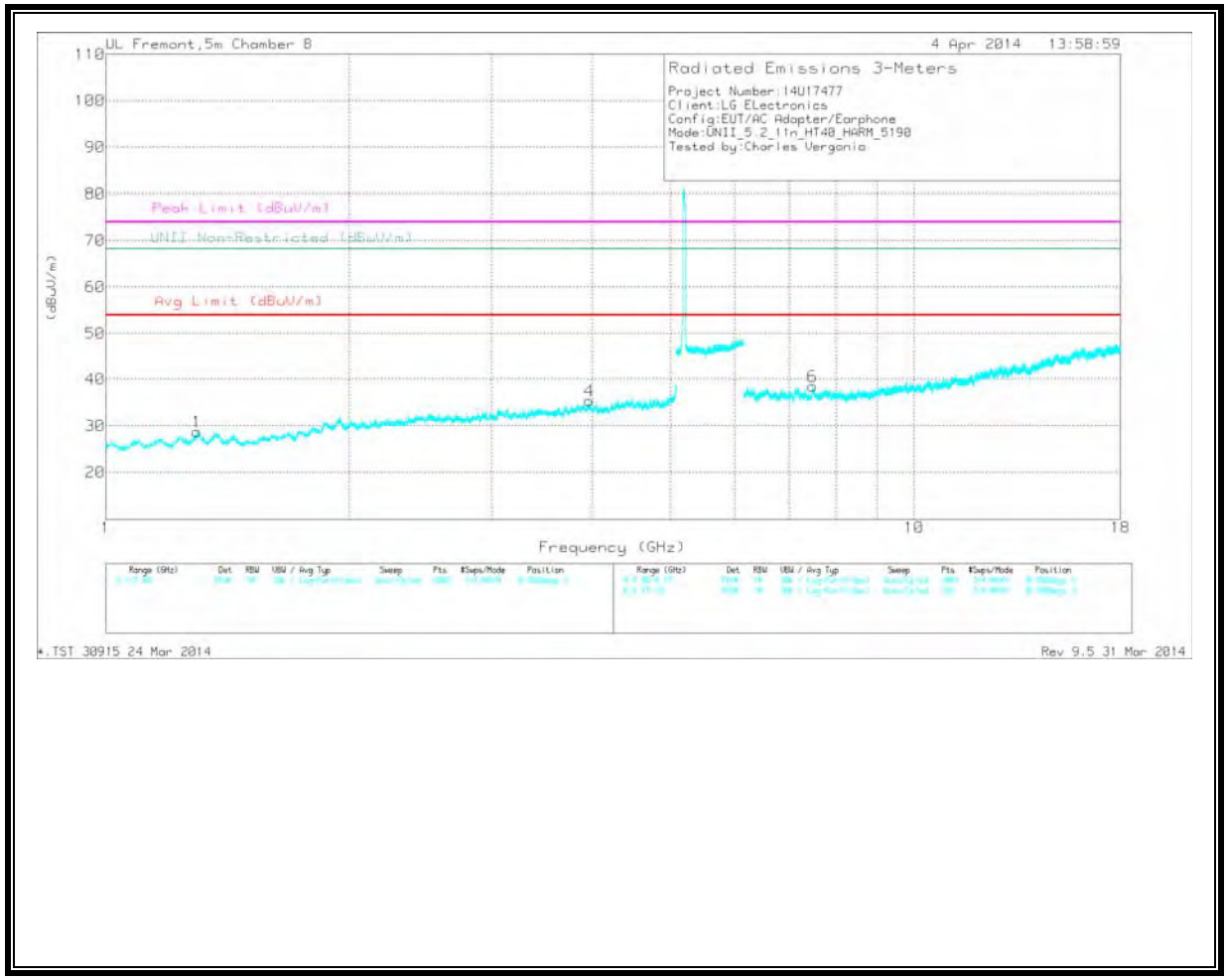
HARMONICS AND SPURIOUS EMISSIONS

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.

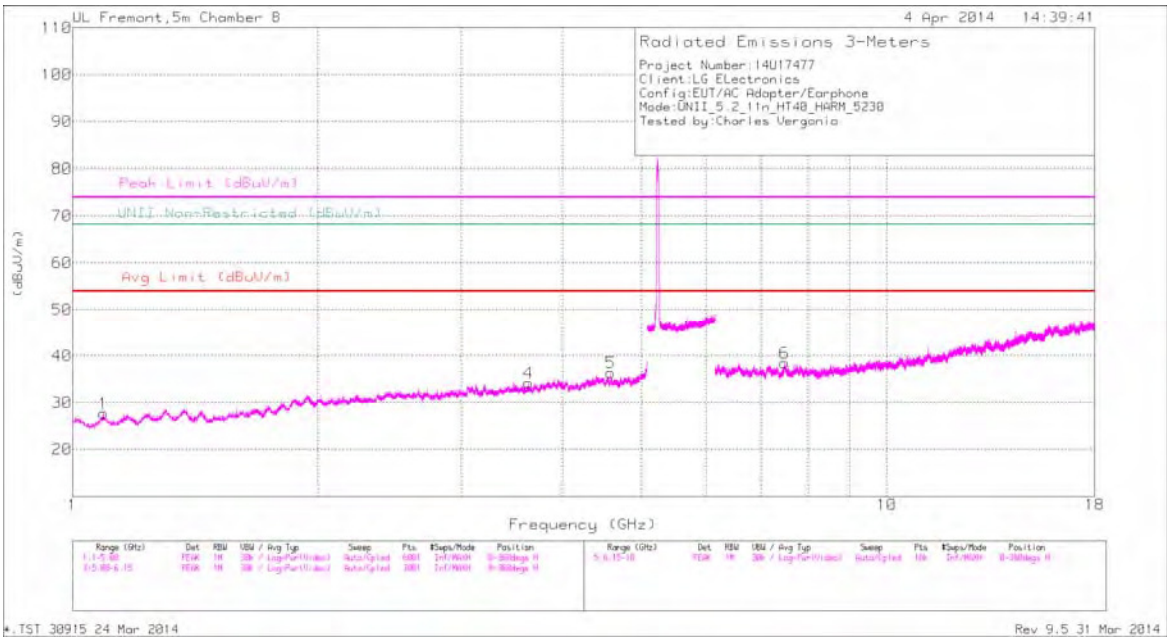
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/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
* 1.62	40.96	PK1	28.6	-33.2	36.36	54	-17.64	74	-37.64	-	-	1	100	H
* 2.795	41	PK1	32.3	-32.4	40.9	54	-13.1	74	-33.1	-	-	1	100	H
* 4.772	39.76	PK1	34.2	-29.1	44.86	54	-9.14	74	-29.14	-	-	1	100	H
* 1.297	43.06	PK1	28.8	-34.3	37.56	54	-16.44	74	-36.44	-	-	1	100	V
* 3.965	39.88	PK1	33.7	-30	43.58	54	-10.42	74	-30.42	-	-	1	100	V
* 7.491	37.09	PK1	35.6	-25.7	46.99	54	-7.01	74	-27.01	-	-	1	100	V

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

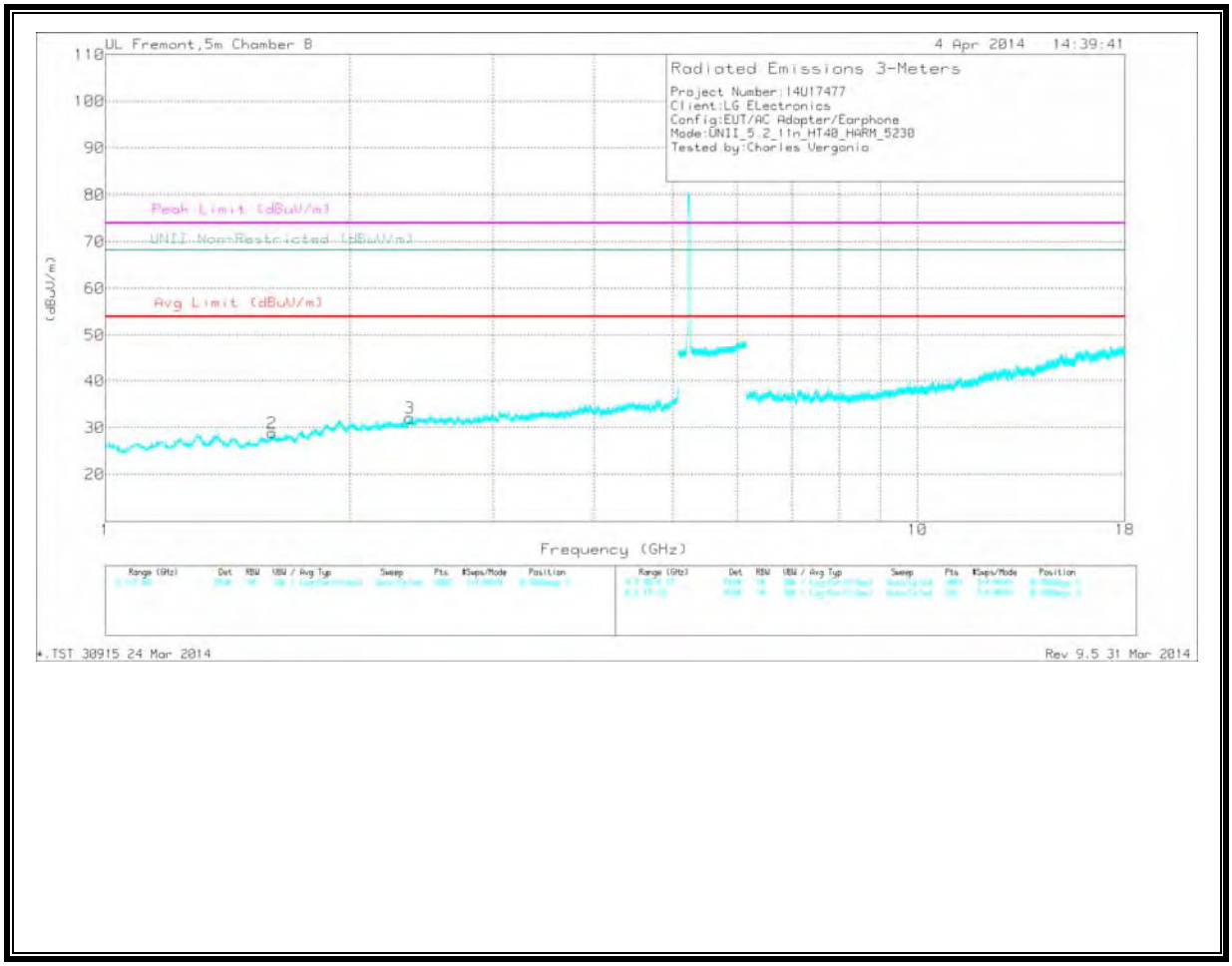
PK1 - KDB789033 Method: Peak

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

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/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
* 1.092	42.85	PK1	27.3	-34.4	35.75	54	-18.25	74	-38.25	-	-	1	100	H
* 3.628	40.36	PK1	33.2	-31.3	42.26	54	-11.74	74	-31.74	-	-	1	100	H
* 4.581	40.08	PK1	34.1	-30.3	43.88	54	-10.12	74	-30.12	-	-	1	100	H
* 2.371	41.81	PK1	32	-32.7	41.11	54	-12.89	74	-32.89	-	-	1	100	V
* 7.483	37.71	PK1	35.6	-26	47.31	54	-6.69	74	-26.69	-	-	1	100	H

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

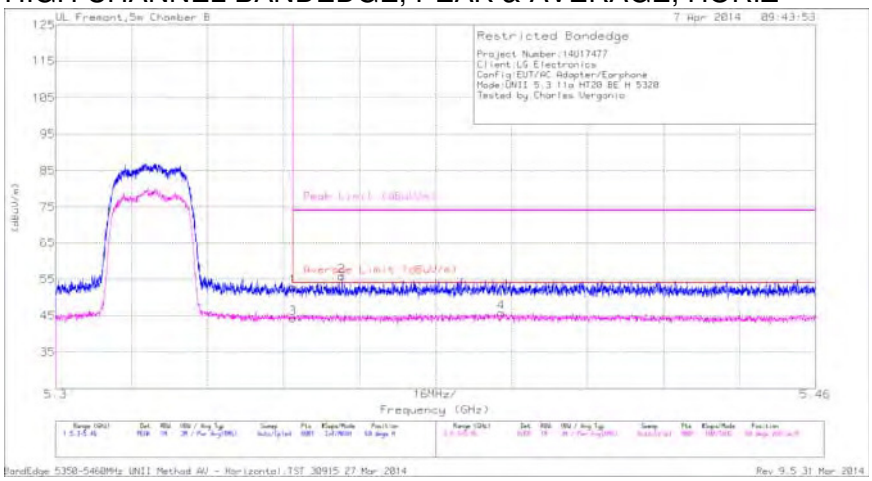
PK1 - KDB789033 Method: Peak

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)

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, HORIZ



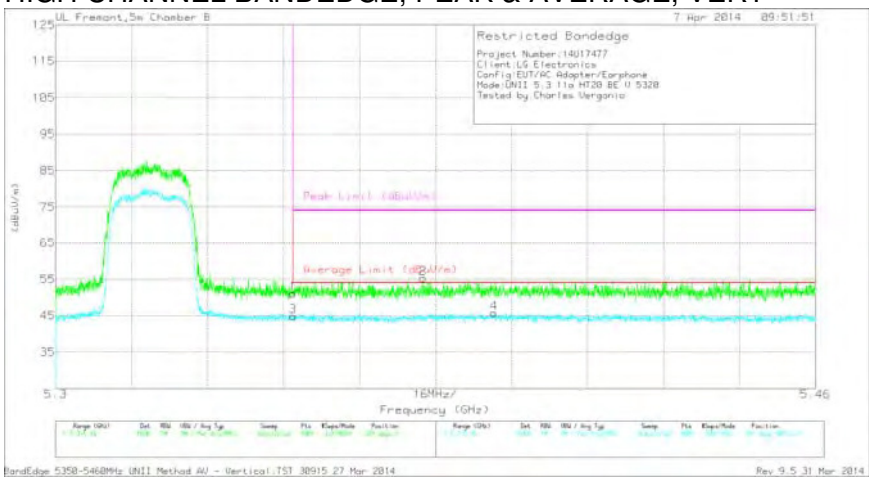
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	38.36	PK	34.5	-19.9	0	52.96	-	-	74	-21.04	68	269	H
2	* 5.36	41.29	PK	34.5	-19.9	0	55.89	-	-	74	-18.11	68	269	H
3	* 5.35	29.57	RMS	34.5	-19.9	.2	44.37	54	-9.63	-	-	68	269	H
4	* 5.394	30.87	RMS	34.5	-19.8	.2	45.77	54	-8.23	-	-	68	269	H

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

PK - Peak detector

RMS - RMS detection

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	36.49	PK	34.5	-19.9	0	51.09	-	-	74	-22.91	207	300	V
2	* 5.377	40.54	PK	34.5	-19.8	0	55.24	-	-	74	-18.76	207	300	V
3	* 5.35	29.99	RMS	34.5	-19.9	.2	44.79	54	-9.21	-	-	207	300	V
4	* 5.392	30.67	RMS	34.5	-19.7	.2	45.67	54	-8.33	-	-	207	300	V

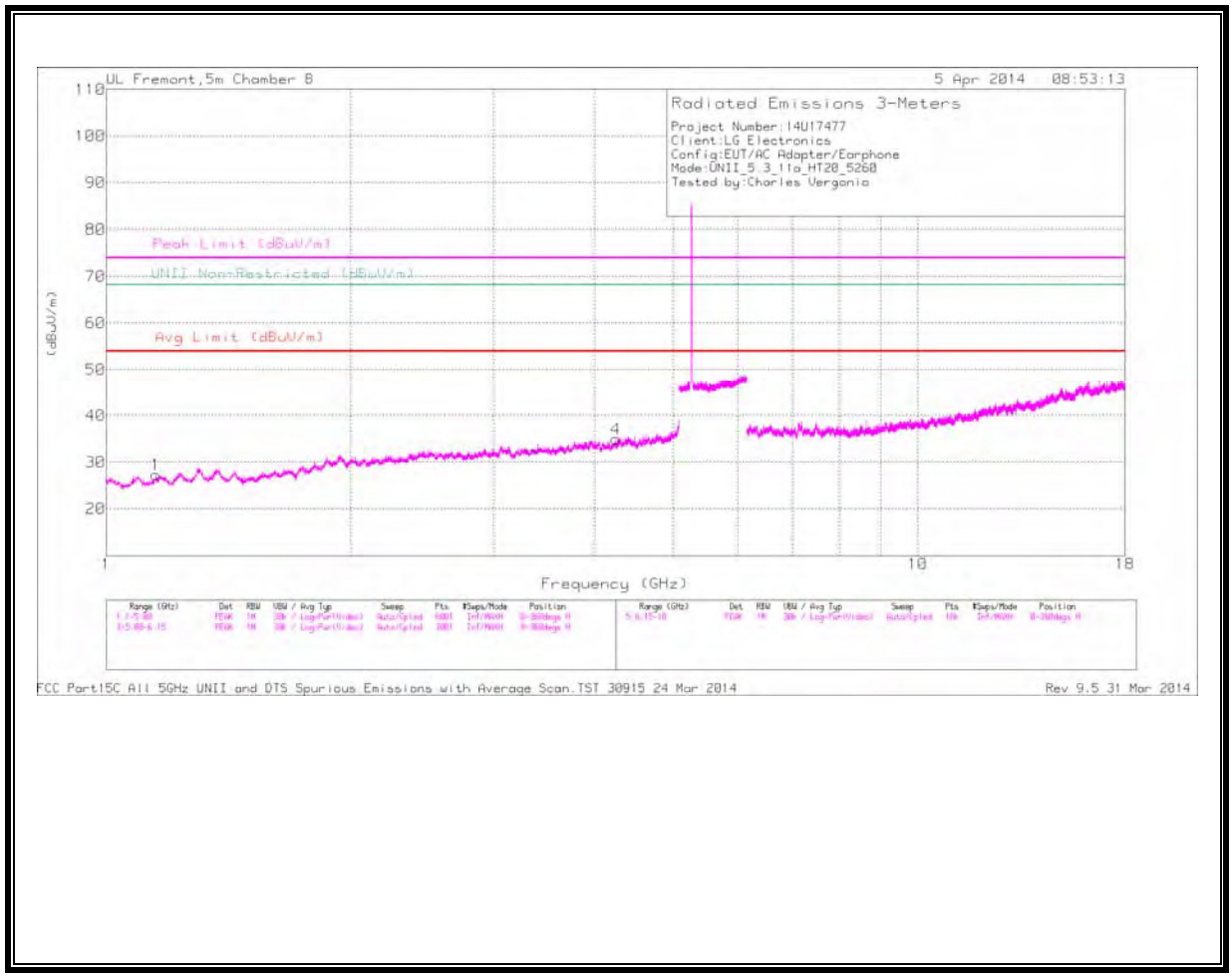
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

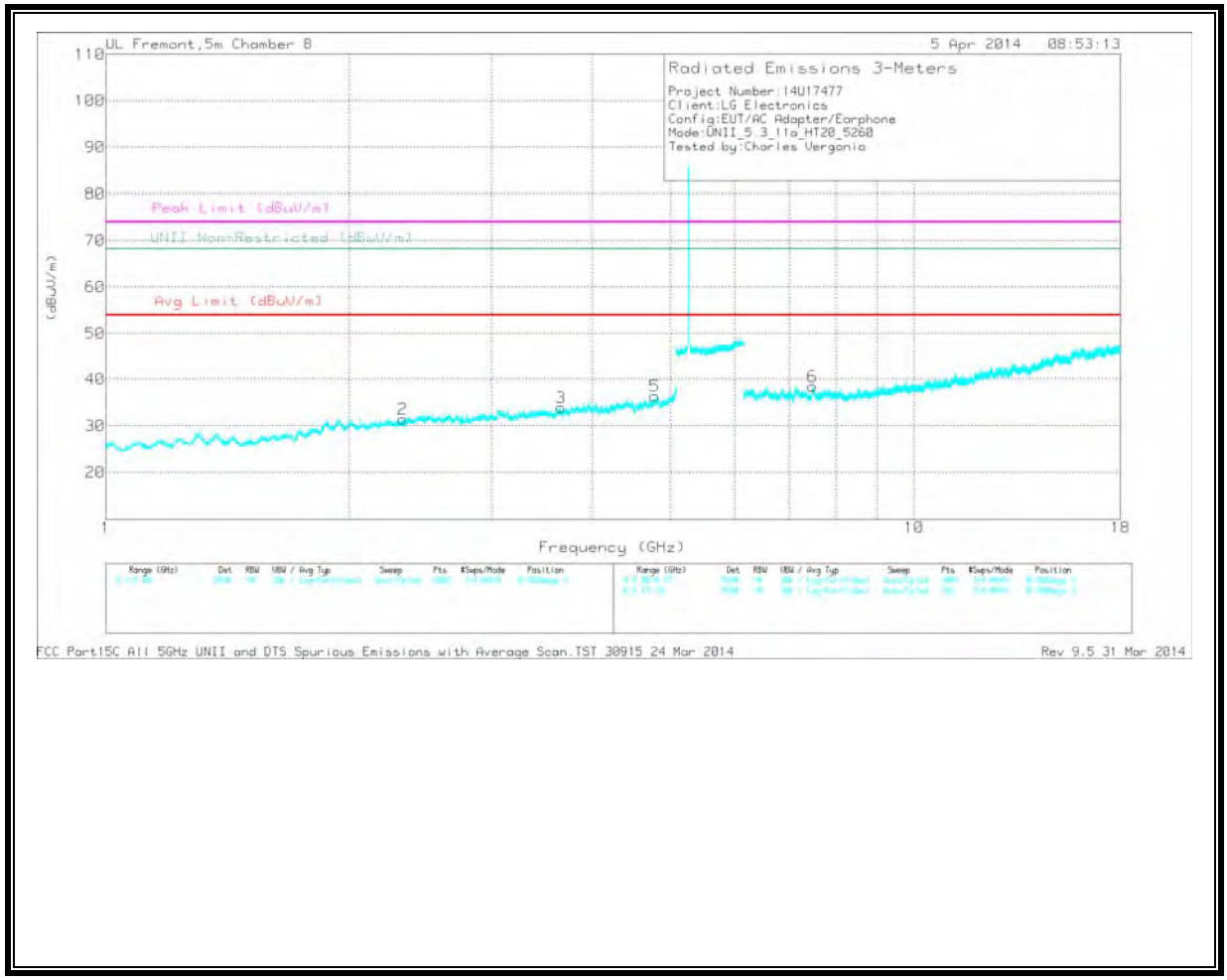
HARMONICS AND SPURIOUS EMISSIONS

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.

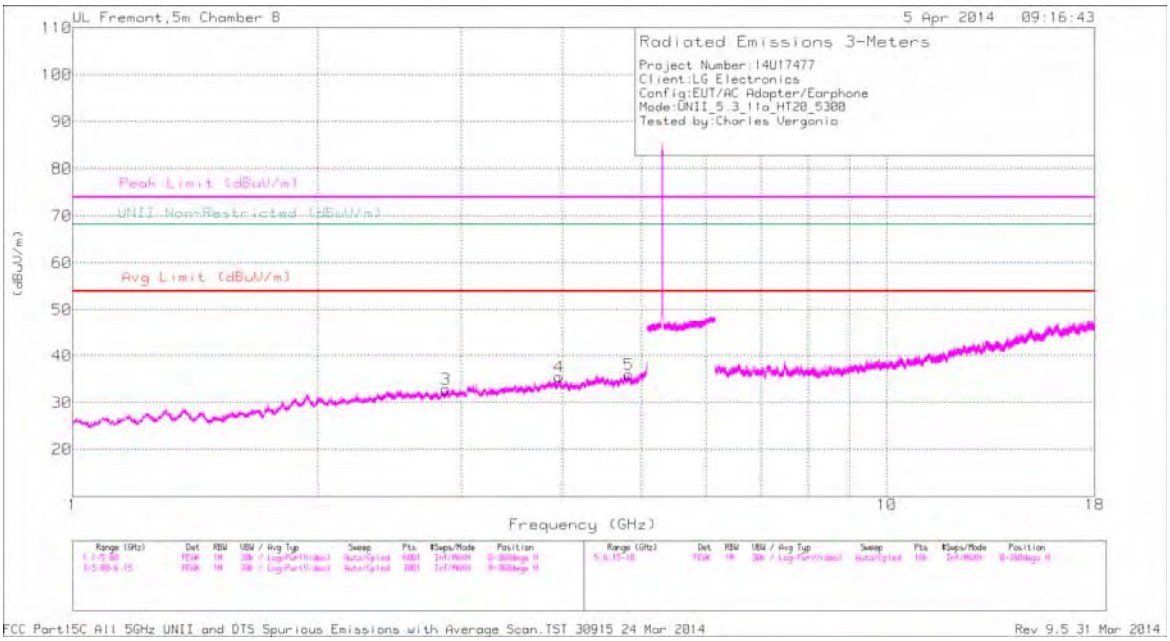
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 1.152	42.81	PK1	27.8	-34.5	36.11	54	-17.89	74	-37.89	-	-	0	100	H
* 4.245	40.2	PK1	33.6	-30.1	43.7	54	-10.3	74	-30.3	-	-	0	100	H
* 2.332	42.03	PK1	31.8	-33.2	40.63	54	-13.37	74	-33.37	-	-	0	100	V
* 3.653	40.41	PK1	33.2	-31.1	42.51	54	-11.49	74	-31.49	-	-	0	100	V
* 4.777	40.05	PK1	34.2	-29	45.25	54	-8.75	74	-28.75	-	-	0	100	V
* 7.488	37.9	PK1	35.6	-25.8	47.7	54	-6.3	74	-26.3	-	-	0	100	V

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

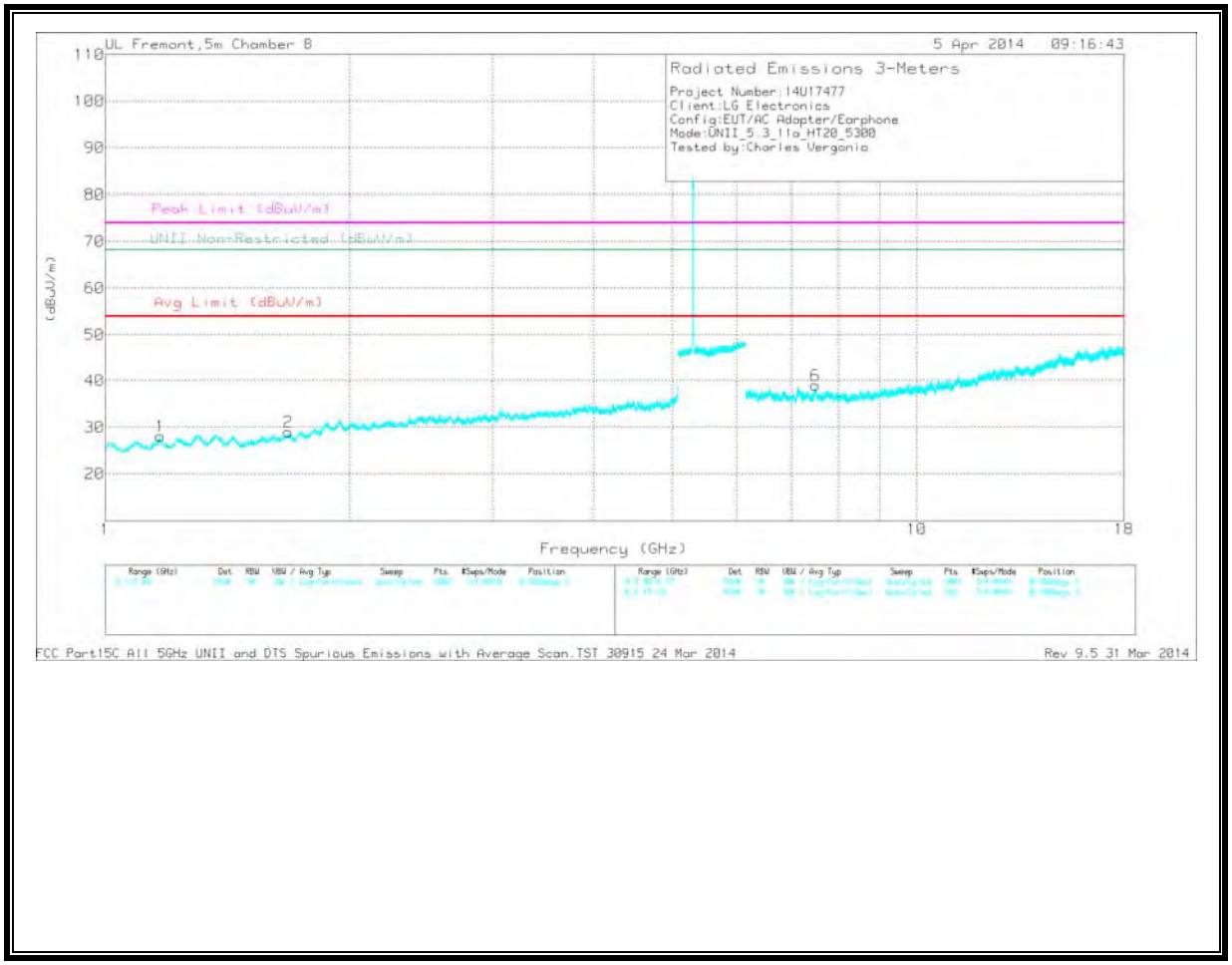
PK1 - KDB789033 Method: Peak

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.

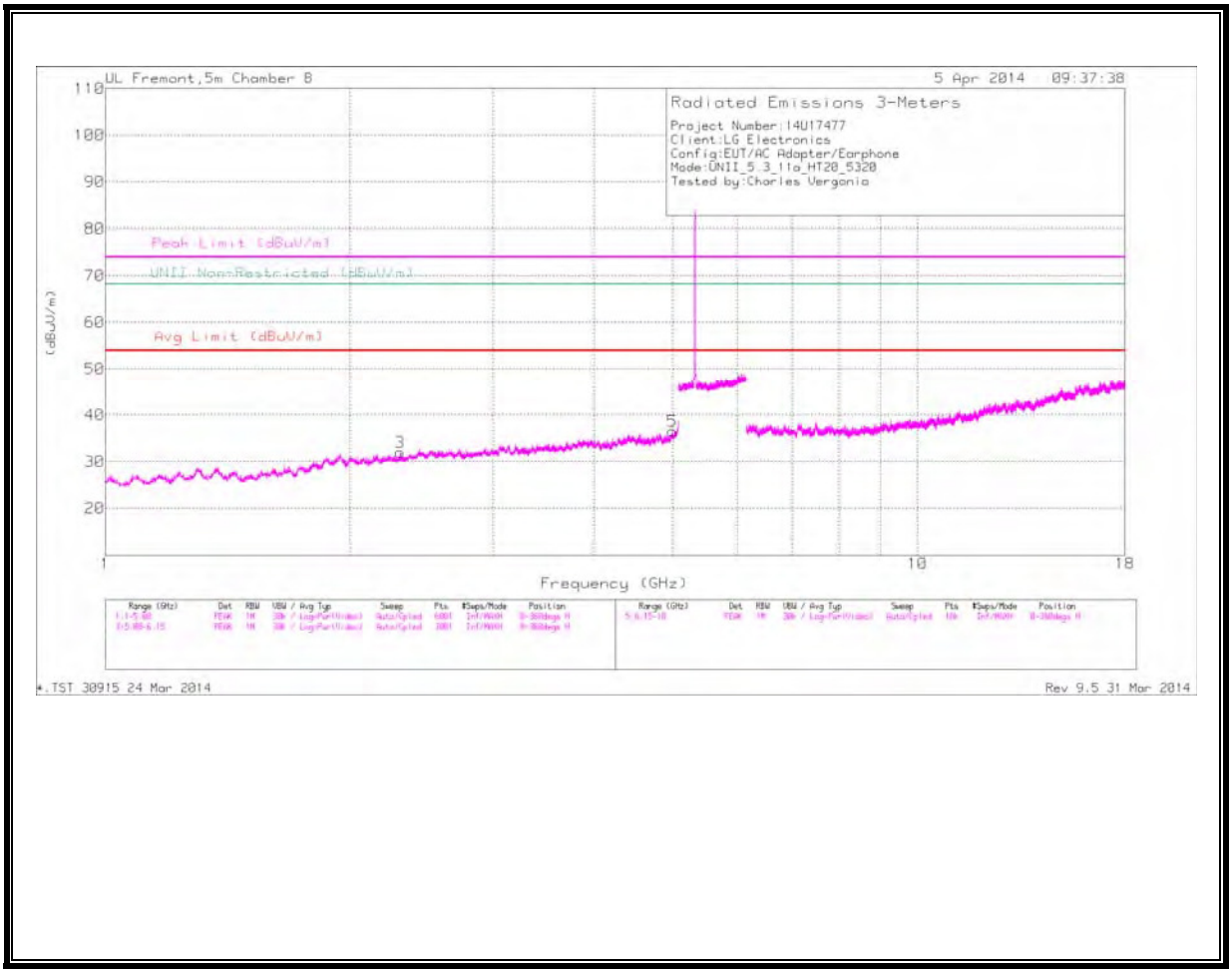
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 2.875	41.24	PK1	32.6	-32.1	41.74	54	-12.26	74	-32.26	-	-	1	100	H
* 3.956	40.58	PK1	33.7	-30	44.28	54	-9.72	74	-29.72	-	-	1	100	H
* 4.823	40.07	PK1	34.2	-29.7	44.57	54	-9.43	74	-29.43	-	-	1	100	H
* 1.169	42.94	PK1	27.9	-34.7	36.14	54	-17.86	74	-37.86	-	-	1	100	V
* 1.681	42.18	PK1	28.9	-33.4	37.68	54	-16.32	74	-36.32	-	-	1	100	V
* 7.501	38.1	PK1	35.6	-26	47.7	54	-6.3	74	-26.3	-	-	1	100	V

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

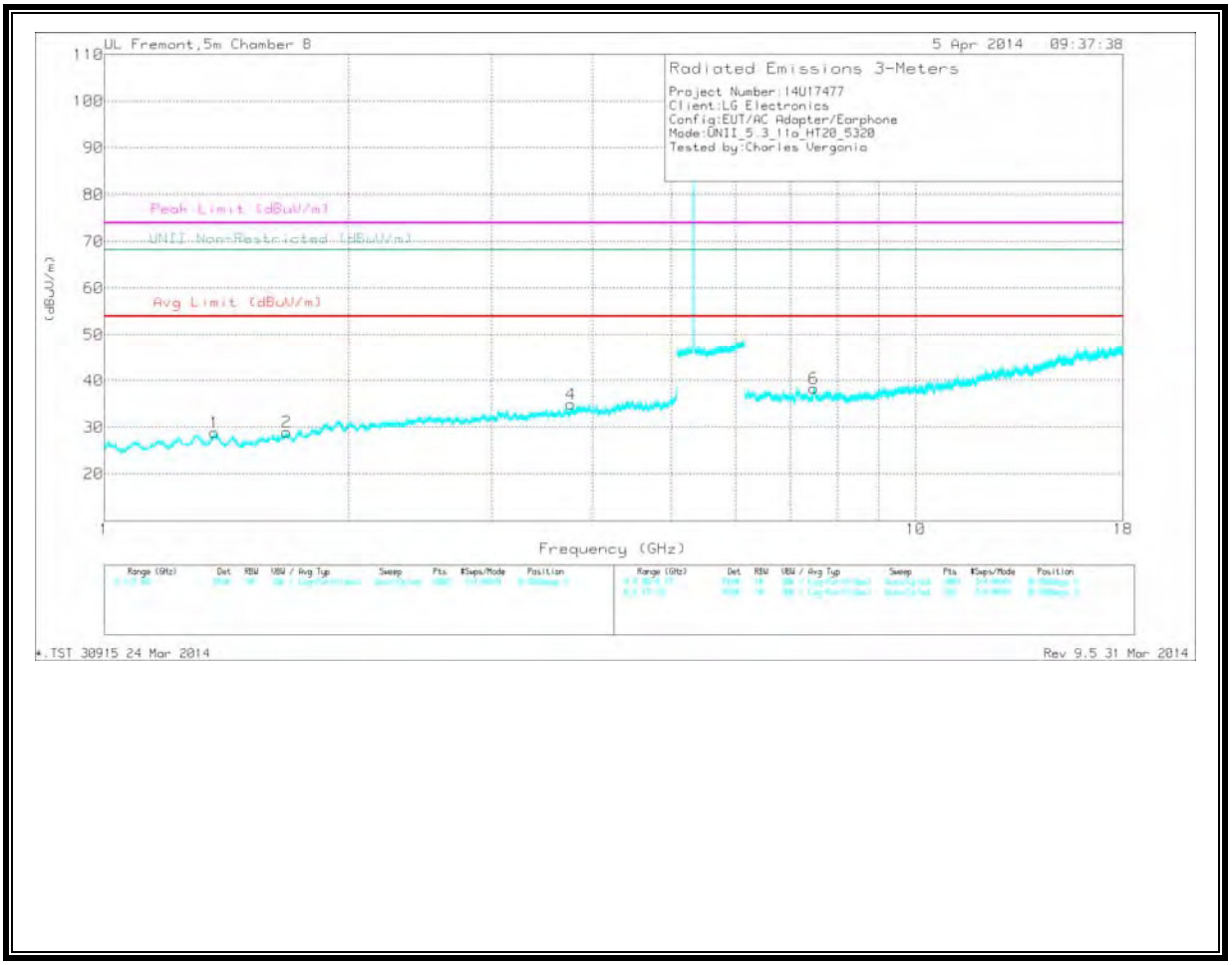
PK1 - KDB789033 Method: Peak

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

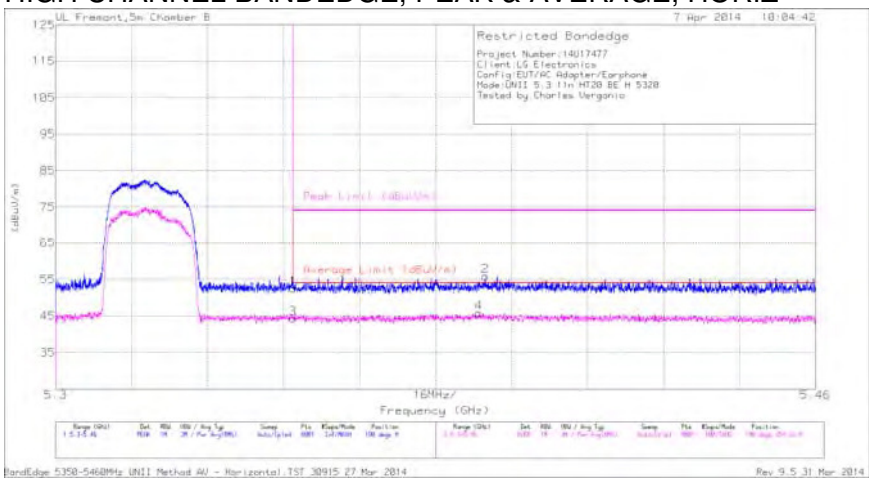
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.99	39.58	PK1	34.2	-28.2	45.58	54	-8.42	74	-28.42	-	-	1	100	H
* 1.367	42.58	PK1	28.6	-33.8	37.38	54	-16.62	74	-36.62	-	-	1	100	V
* 1.679	42.37	PK1	28.9	-33.4	37.87	54	-16.13	74	-36.13	-	-	1	100	V
* 3.755	40.68	PK1	33.5	-31.3	42.88	54	-11.12	74	-31.12	-	-	1	100	V
* 7.489	37.72	PK1	35.6	-25.8	47.52	54	-6.48	74	-26.48	-	-	1	100	V
2.307	42.43	PK1	31.7	-33	41.13	54	-12.87	74	-32.87	68.2	-27.07	1	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)

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, HORIZ



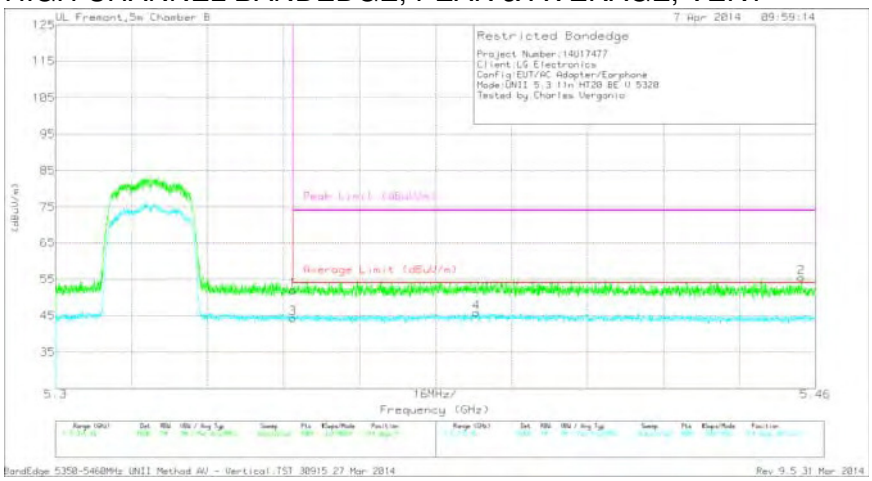
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	37.98	PK	34.5	-19.9	0	52.58	-	-	74	-21.42	190	354	H
2	* 5.39	41.07	PK	34.5	-19.7	0	55.87	-	-	74	-18.13	190	354	H
3	* 5.35	29.54	RMS	34.5	-19.9	.23	44.34	54	-9.66	-	-	190	354	H
4	* 5.389	30.84	RMS	34.5	-19.7	.23	45.84	54	-8.16	-	-	190	354	H

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

PK - Peak detector

RMS - RMS detection

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	37.4	PK	34.5	-19.9	0	52	-	-	74	-22	314	364	V
2	* 5.457	41.01	PK	34.5	-20	0	55.51	-	-	74	-18.49	314	364	V
3	* 5.35	29.52	RMS	34.5	-19.9	.23	44.32	54	-9.68	-	-	314	364	V
4	* 5.389	30.87	RMS	34.5	-19.7	.23	45.87	54	-8.13	-	-	314	364	V

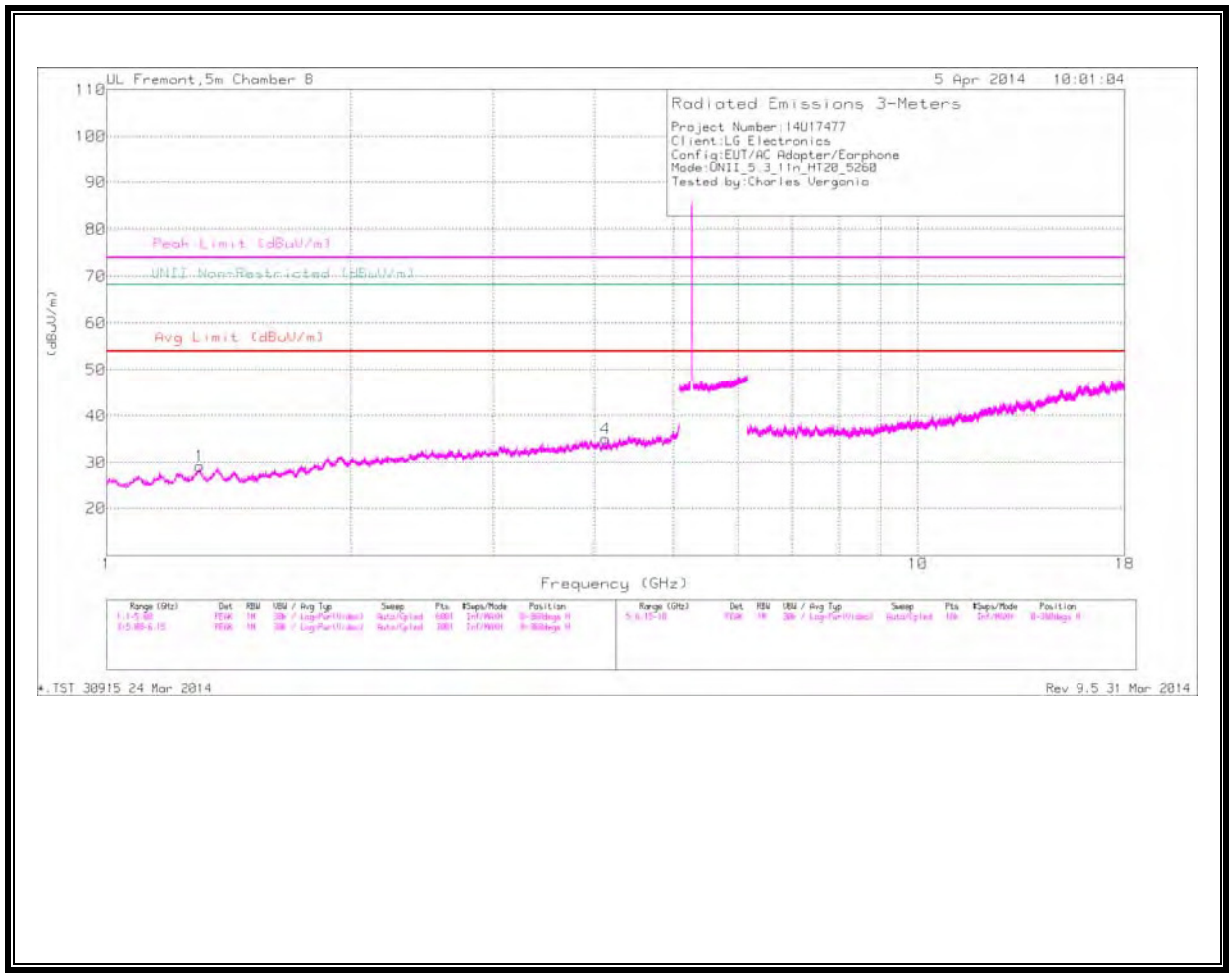
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

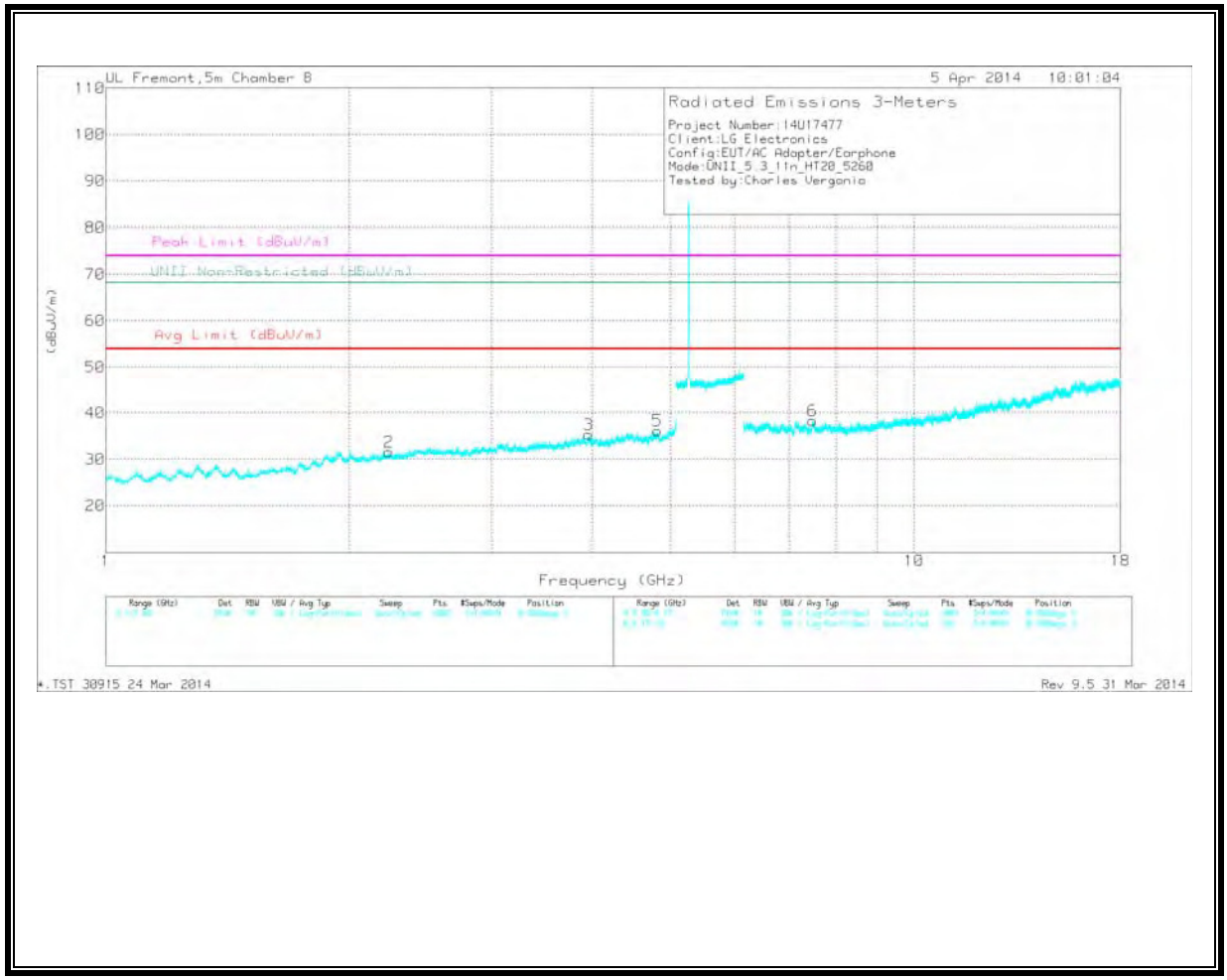
HARMONICS AND SPURIOUS EMISSIONS

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.

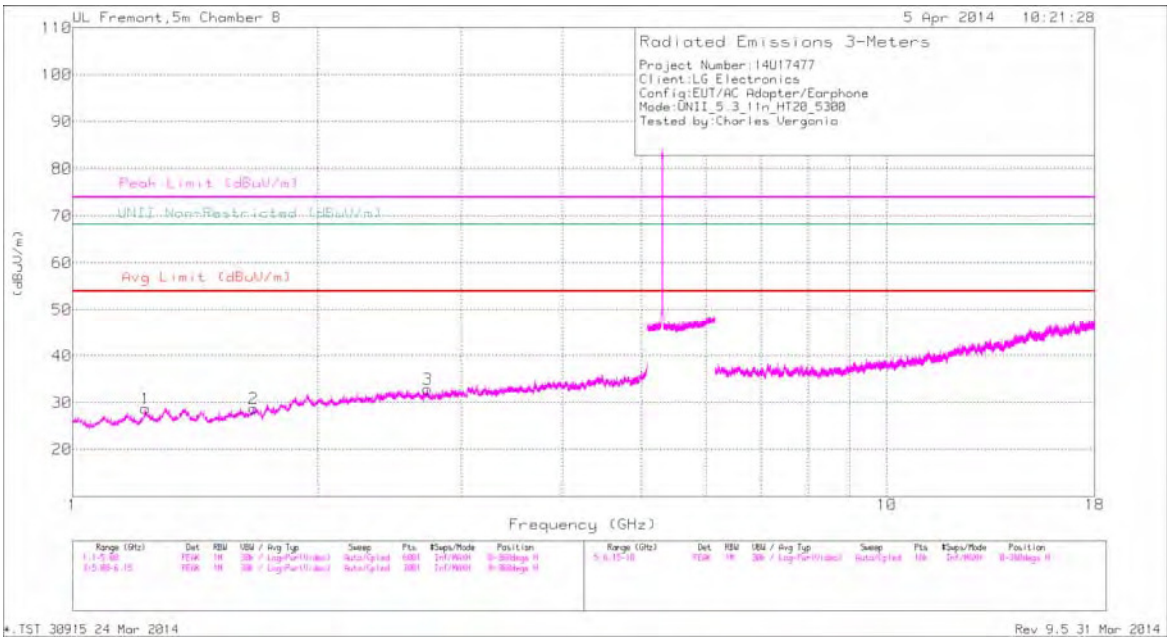
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 1.306	42.89	PK1	28.8	-34.2	37.49	54	-16.51	74	-36.51	-	-	1	100	H
* 4.126	40.93	PK1	33.6	-31	43.53	54	-10.47	74	-30.47	-	-	1	100	H
* 2.237	41.63	PK1	31.4	-32.3	40.73	54	-13.27	74	-33.27	-	-	1	100	V
* 3.955	40.21	PK1	33.7	-30	43.91	54	-10.09	74	-30.09	-	-	1	100	V
* 4.815	40.8	PK1	34.2	-29.4	45.6	54	-8.4	74	-28.4	-	-	1	100	V
* 7.489	37.44	PK1	35.6	-25.7	47.34	54	-6.66	74	-26.66	-	-	1	100	V

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

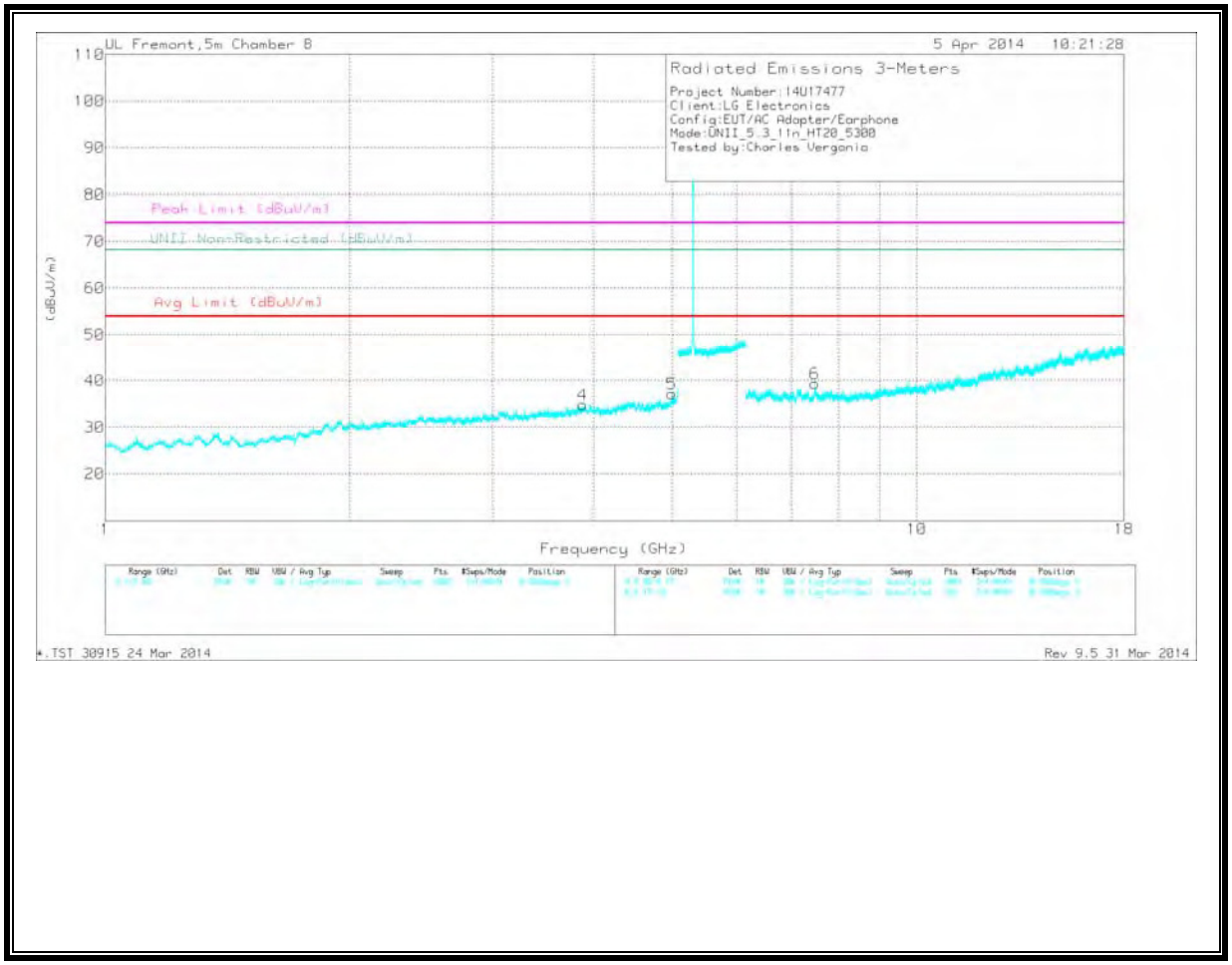
PK1 - KDB789033 Method: Peak

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.

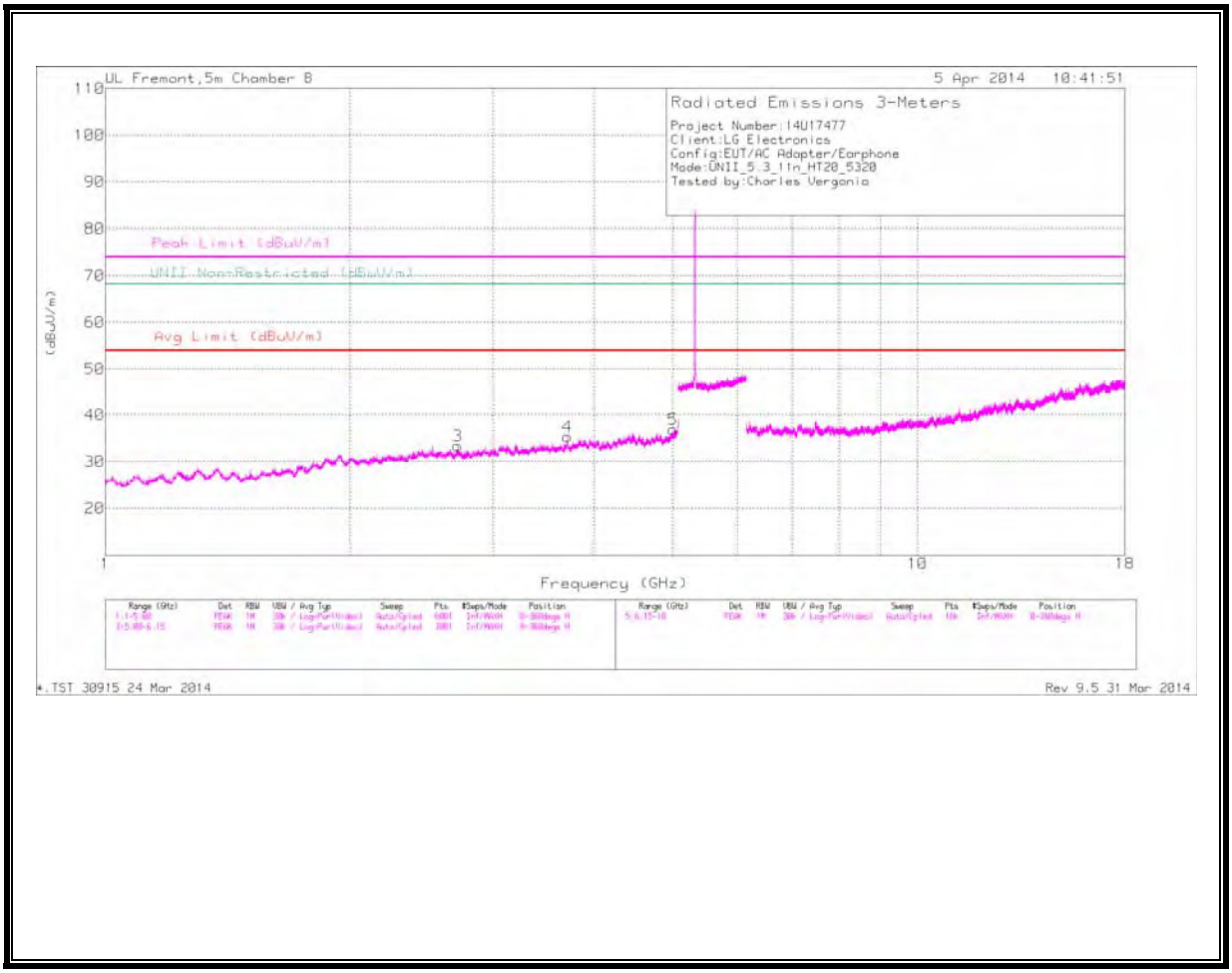
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 1.228	42.72	PK1	28.4	-34.7	36.42	54	-17.58	74	-37.58	-	-	1	100	H
* 1.67	41.63	PK1	28.9	-33.3	37.23	54	-16.77	74	-36.77	-	-	1	100	H
* 2.726	40.76	PK1	32.2	-31.9	41.06	54	-12.94	74	-32.94	-	-	1	100	H
* 3.879	41.05	PK1	33.8	-31.7	43.15	54	-10.85	74	-30.85	-	-	1	100	V
* 4.986	39.66	PK1	34.2	-28.3	45.56	54	-8.44	74	-28.44	-	-	1	100	V
* 7.489	37.61	PK1	35.6	-25.7	47.51	54	-6.49	74	-26.49	-	-	1	100	V

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

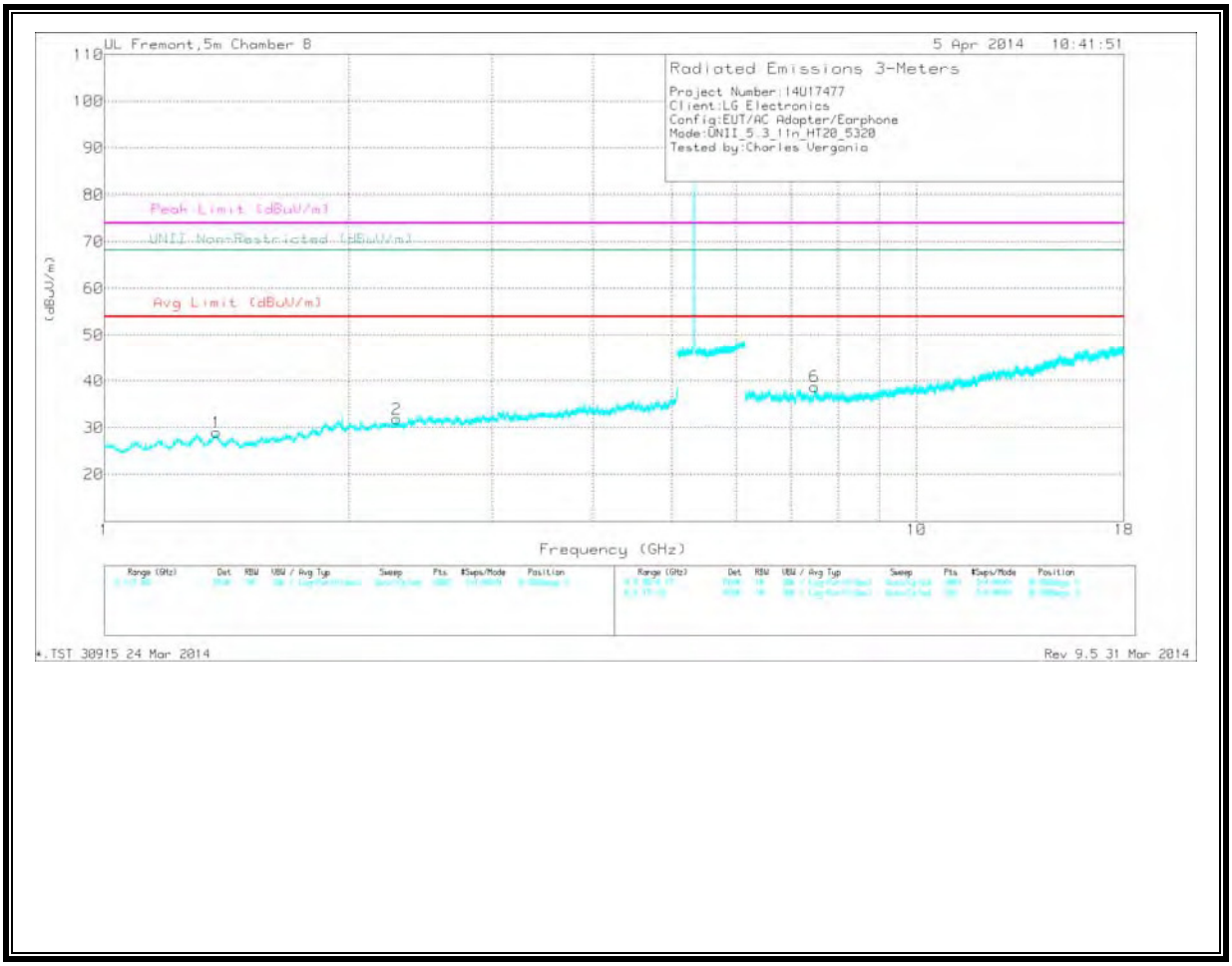
PK1 - KDB789033 Method: Peak

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

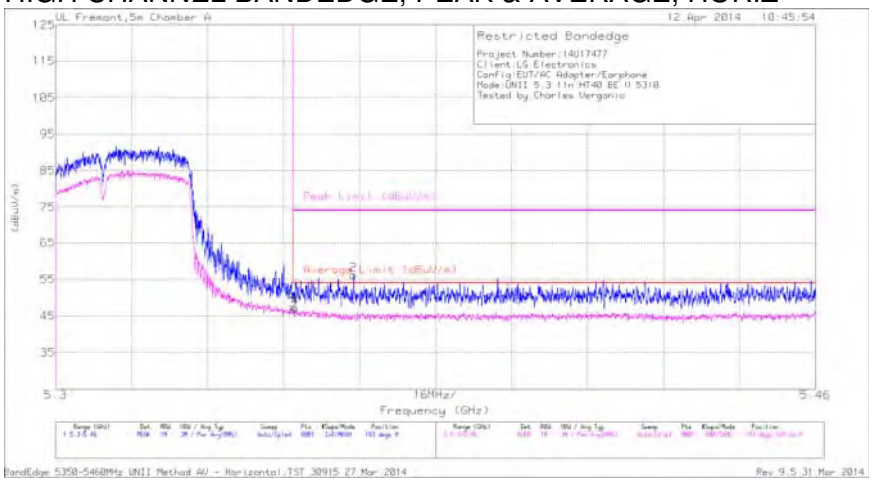
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.715	41.07	PK1	32.2	-31.8	41.47	54	-12.53	74	-32.53	-	-	2	100	H
* 3.706	40.91	PK1	33.4	-31.1	43.21	54	-10.79	74	-30.79	-	-	2	100	H
* 4.997	38.98	PK1	34.2	-28.2	44.98	54	-9.02	74	-29.02	-	-	2	100	H
* 1.376	42.76	PK1	28.6	-33.8	37.56	54	-16.44	74	-36.44	-	-	2	100	V
* 2.291	41.47	PK1	31.6	-33	40.07	54	-13.93	74	-33.93	-	-	2	100	V
* 7.489	37.95	PK1	35.6	-25.8	47.75	54	-6.25	74	-26.25	-	-	2	100	V

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

PK1 - KDB789033 Method: Peak

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

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, HORIZ



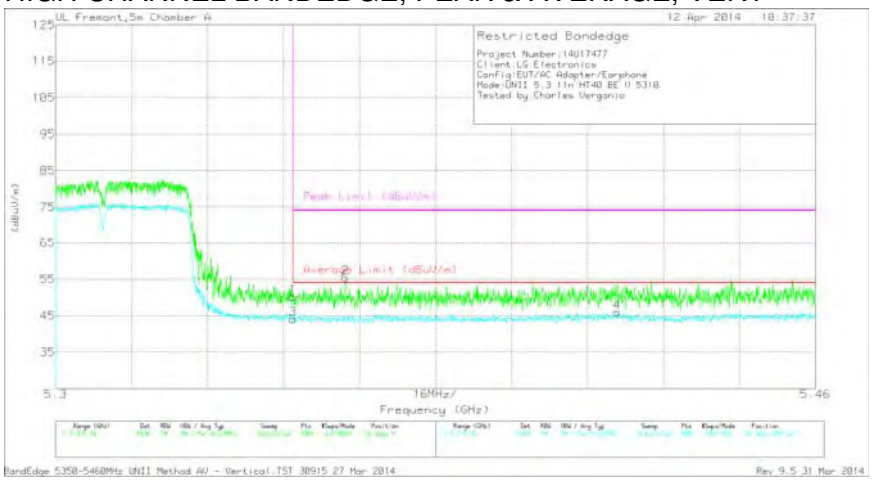
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	36.28	PK	34.3	-19.6	0	50.98	-	-	74	-23.02	193	329	H
2	* 5.363	41.65	PK	34.3	-19.7	0	56.25	-	-	74	-17.75	193	329	H
3	* 5.35	31.54	RMS	34.3	-19.6	.46	46.74	54	-7.26	-	-	193	329	H
4	* 5.35	31.95	RMS	34.3	-19.6	.46	47.15	54	-6.85	-	-	193	329	H

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

PK - Peak detector

RMS - RMS detection

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.53	PK	34.3	-19.6	0	50.23	-	-	74	-23.77	56	208	V
2	* 5.361	40.74	PK	34.3	-19.7	0	55.34	-	-	74	-18.66	56	208	V
3	* 5.35	28.87	RMS	34.3	-19.6	.46	44.07	54	-9.93	-	-	56	208	V
4	* 5.418	30.56	RMS	34.4	-19.5	.46	45.96	54	-8.04	-	-	56	208	V

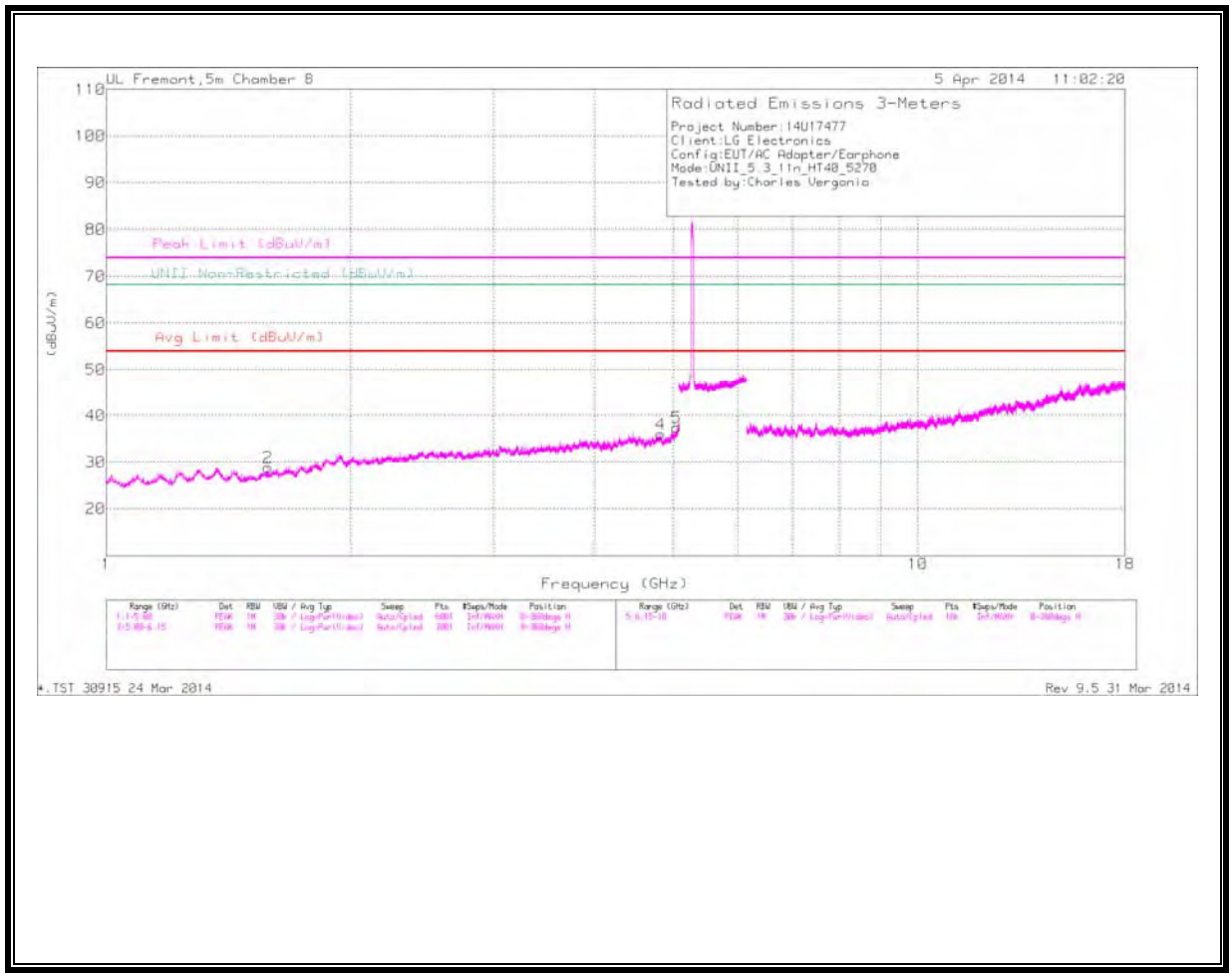
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

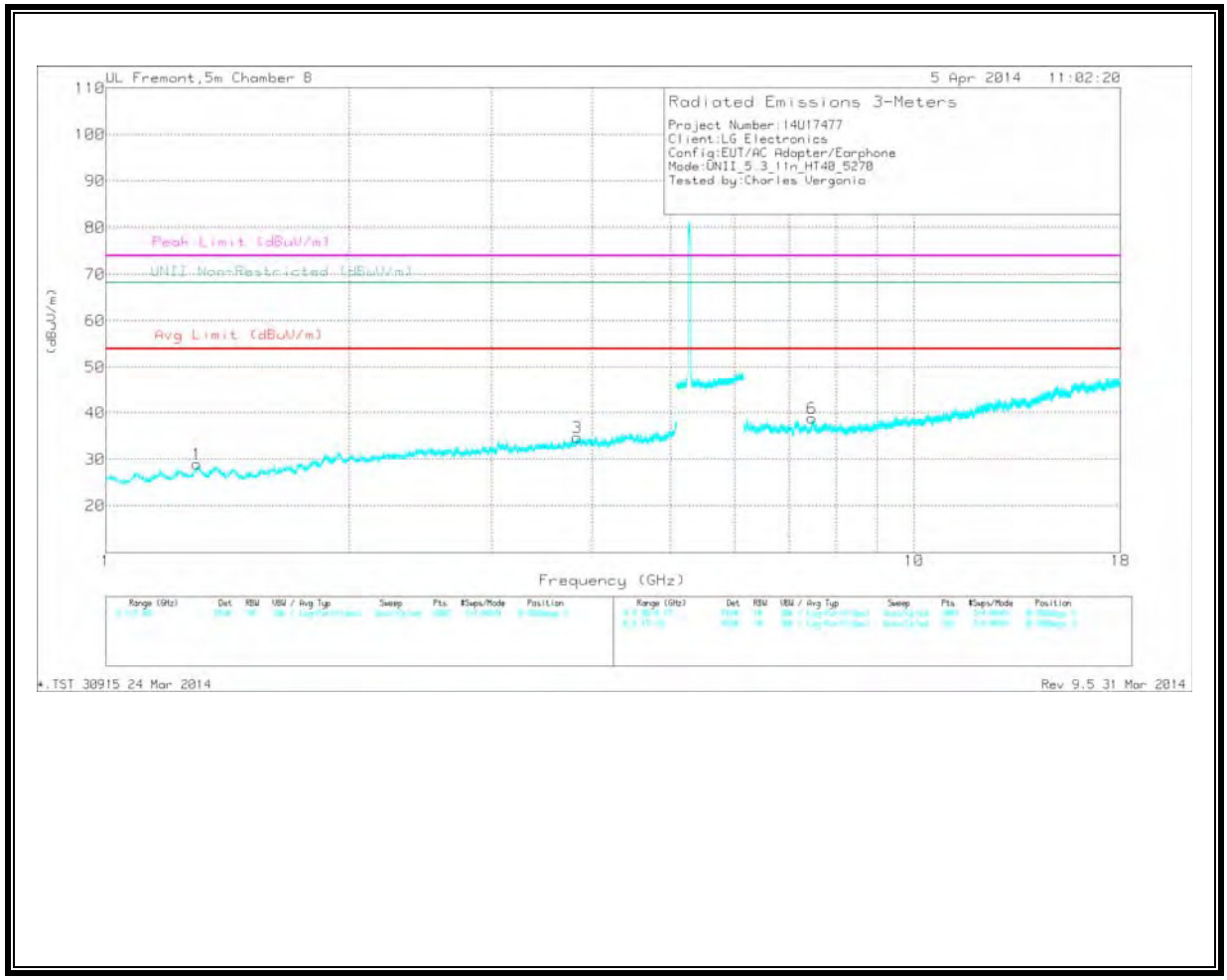
HARMONICS AND SPURIOUS EMISSIONS

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.

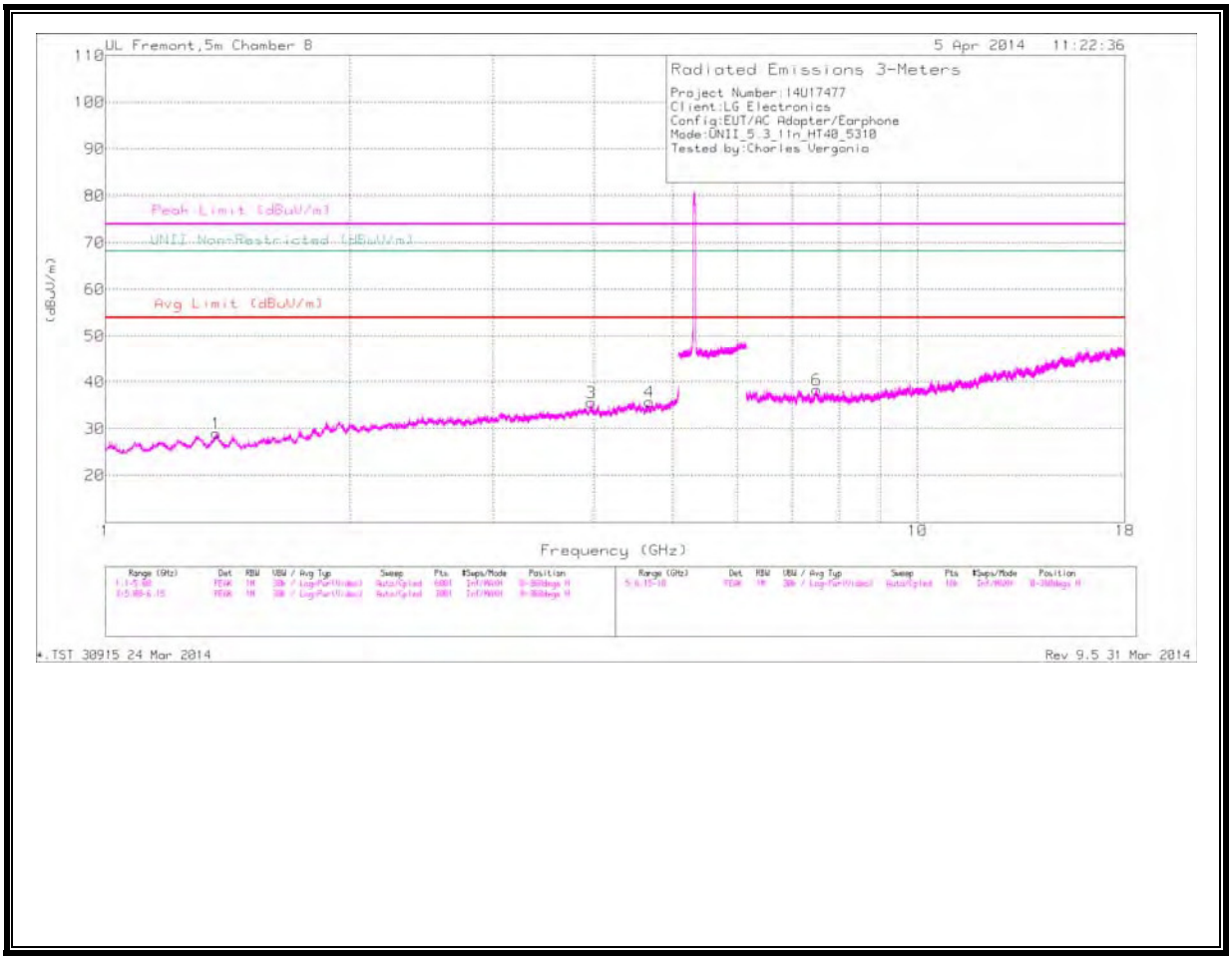
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/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
* 1.58	41.5	PK1	28.4	-33.5	36.4	54	-17.6	74	-37.6	-	-	1	100	H
* 4.824	40.72	PK1	34.2	-29.8	45.12	54	-8.88	74	-28.88	-	-	1	100	H
* 5.042	40.11	PK1	34.2	-28.5	45.81	54	-8.19	74	-28.19	-	-	1	100	H
* 1.298	43.42	PK1	28.8	-34.3	37.92	54	-16.08	74	-36.08	-	-	1	100	V
* 3.827	40.97	PK1	33.7	-31	43.67	54	-10.33	74	-30.33	-	-	1	100	V
* 7.481	37.4	PK1	35.6	-26.1	46.9	54	-7.1	74	-27.1	-	-	1	100	V

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

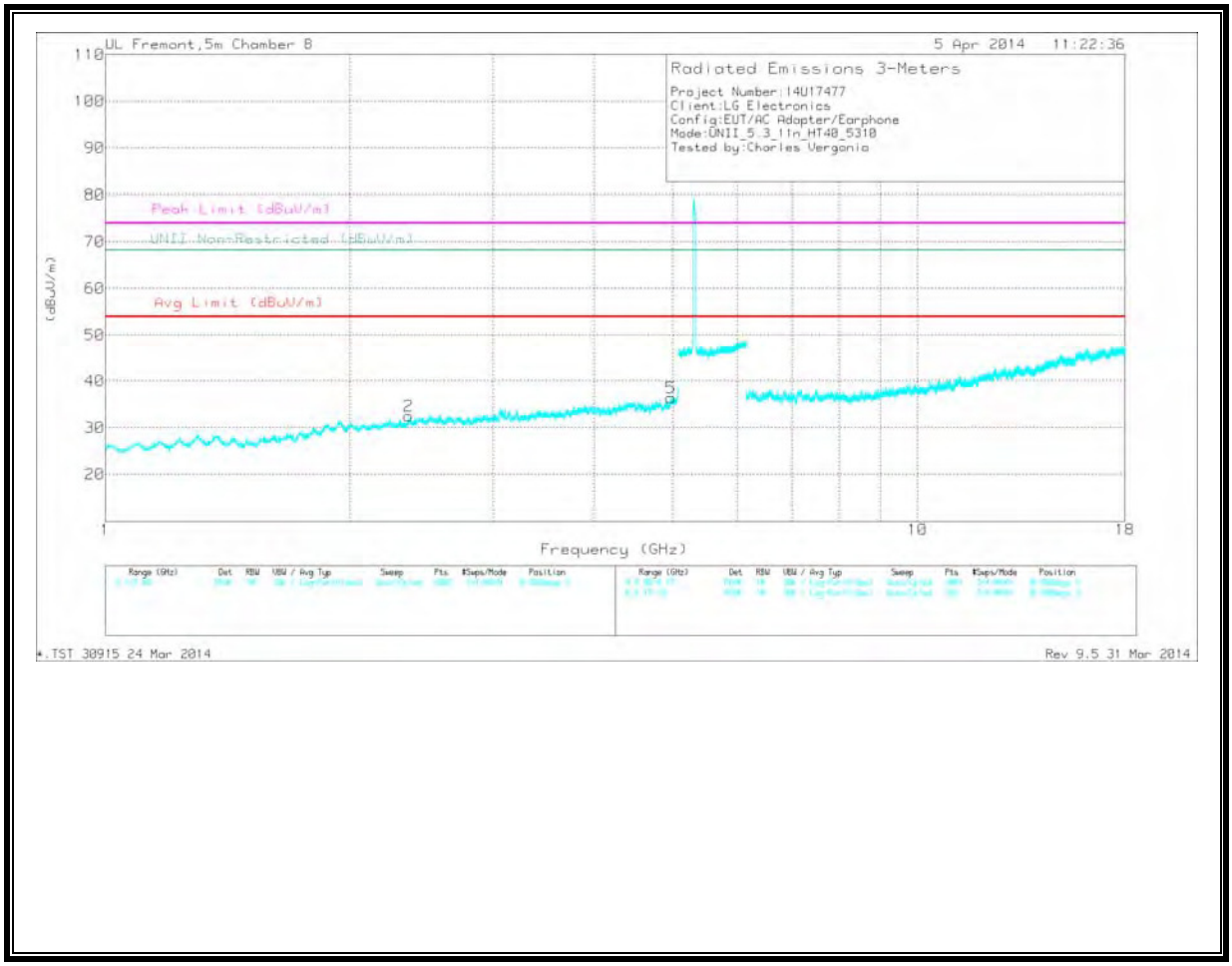
PK1 - KDB789033 Method: Peak

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

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/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
* 1.37	42.07	PK1	28.6	-33.8	36.87	54	-17.13	74	-37.13	-	-	1	100	H
* 3.96	39.88	PK1	33.7	-30	43.58	54	-10.42	74	-30.42	-	-	1	100	H
* 4.674	39.76	PK1	34.2	-29.4	44.56	54	-9.44	74	-29.44	-	-	1	100	H
* 2.363	41.68	PK1	32	-32.8	40.88	54	-13.12	74	-33.12	-	-	1	100	V
* 4.969	39.79	PK1	34.2	-28.6	45.39	54	-8.61	74	-28.61	-	-	1	100	V
* 7.509	37.56	PK1	35.6	-26.2	46.96	54	-7.04	74	-27.04	-	-	1	100	H

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

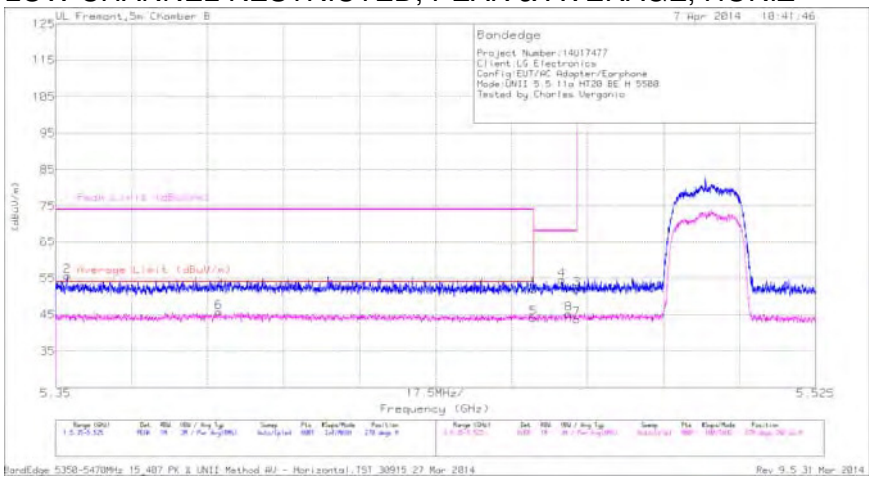
PK1 - KDB789033 Method: Peak

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)

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



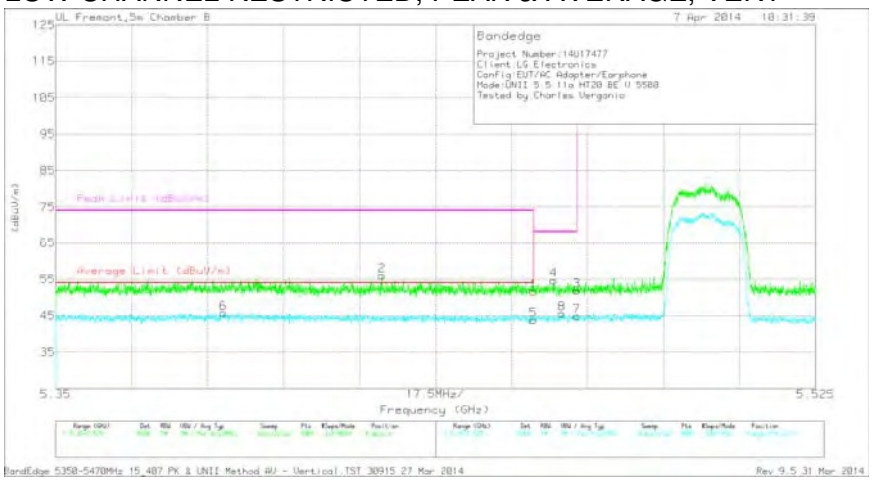
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	37.5	PK	34.5	-20	0	52	-	-	74	-22	270	282	H
2	* 5.353	41.02	PK	34.5	-19.9	0	55.62	-	-	74	-18.38	270	282	H
5	* 5.46	29.42	RMS	34.5	-20	.2	44.12	54	-9.88	-	-	270	282	H
6	* 5.388	30.65	RMS	34.5	-19.7	.2	45.65	54	-8.35	-	-	270	282	H
4	5.467	40.04	PK	34.5	-20	0	54.54	-	-	68.2	-13.66	270	282	H
8	5.468	30.52	RMS	34.5	-20	.2	45.22	-	-	-	-	270	282	H
3	5.47	37.47	PK	34.5	-19.9	0	52.07	-	-	68.2	-16.13	270	282	H
7	5.47	28.97	RMS	34.5	-19.9	.2	43.77	-	-	-	-	270	282	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	37.19	PK	34.5	-20	0	51.69	-	-	74	-22.31	4	176	V
2	* 5.425	41.51	PK	34.5	-20	0	56.01	-	-	74	-17.99	4	176	V
5	* 5.46	29.08	RMS	34.5	-20	.2	43.78	54	-10.22	-	-	4	176	V
6	* 5.389	30.72	RMS	34.5	-19.7	.2	45.72	54	-8.28	-	-	4	176	V
4	5.465	40.2	PK	34.5	-20	0	54.7	-	-	68.2	-13.5	4	176	V
8	5.467	30.83	RMS	34.5	-20	.2	45.53	-	-	-	-	4	176	V
3	5.47	37.35	PK	34.5	-19.9	0	51.95	-	-	68.2	-16.25	4	176	V
7	5.47	30.03	RMS	34.5	-19.9	.2	44.83	-	-	-	-	4	176	V

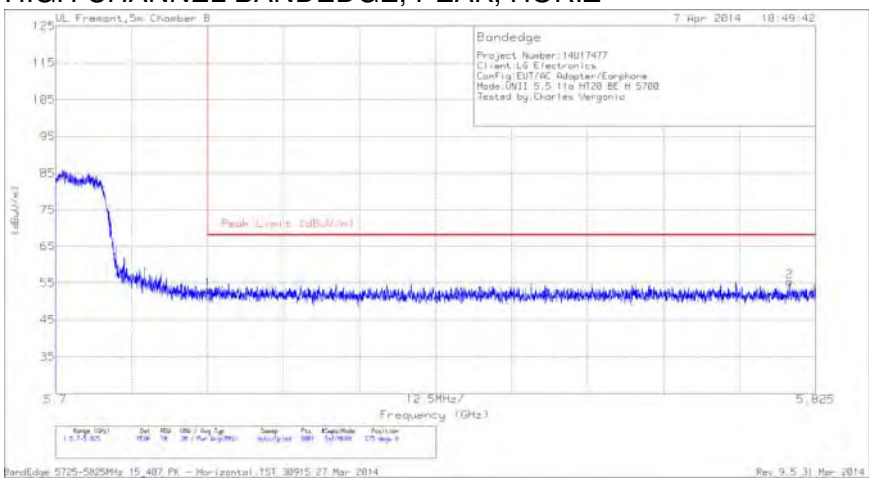
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

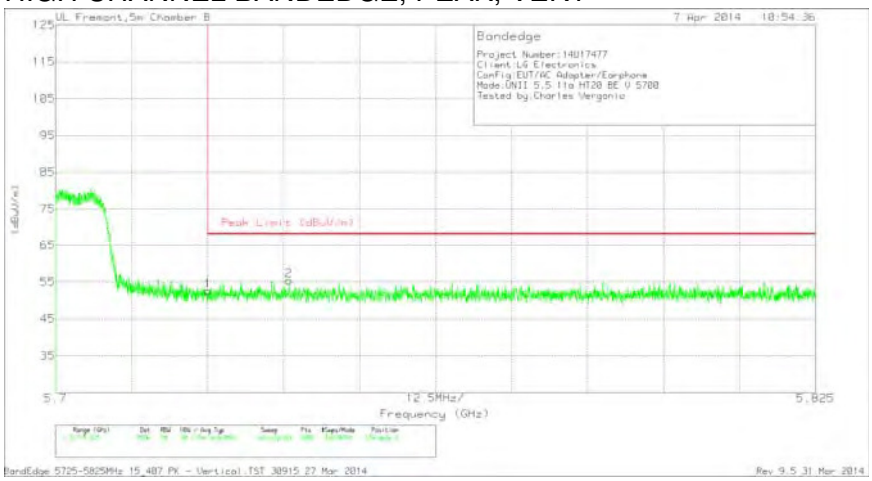
HIGH CHANNEL BANDEDGE, PEAK, HORIZ



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	38.12	PK	34.6	-19.6	53.12	68.2	-15.08	275	293	H
2	5.821	40.35	PK	34.7	-19.6	55.45	68.2	-12.75	275	293	H

PK - Peak detector

HIGH CHANNEL BANDEDGE, PEAK, VERT

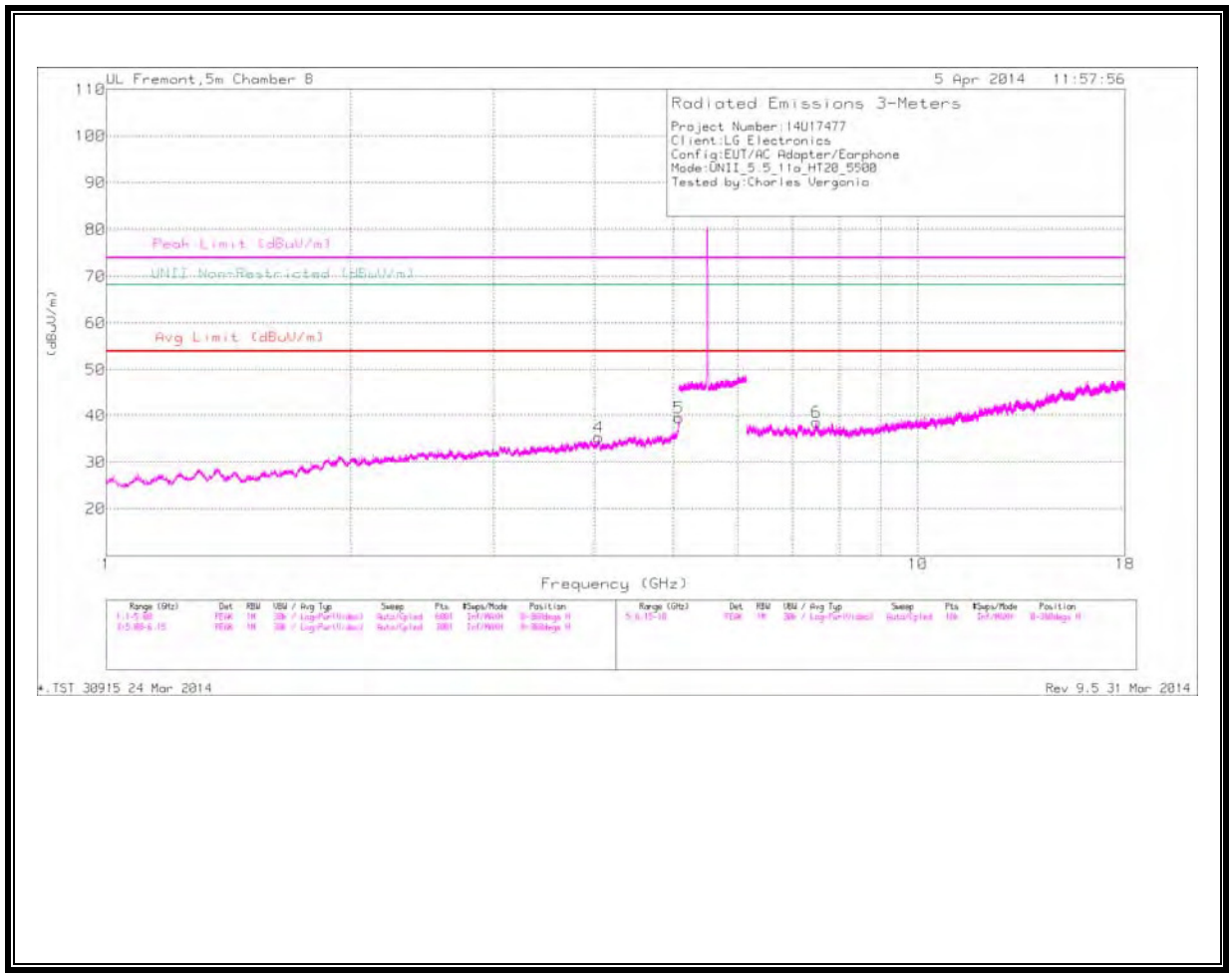


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	37.6	PK	34.6	-19.6	52.6	68.2	-15.6	159	362	V
2	5.738	40.32	PK	34.6	-19.5	55.42	68.2	-12.78	159	362	V

PK - Peak detector

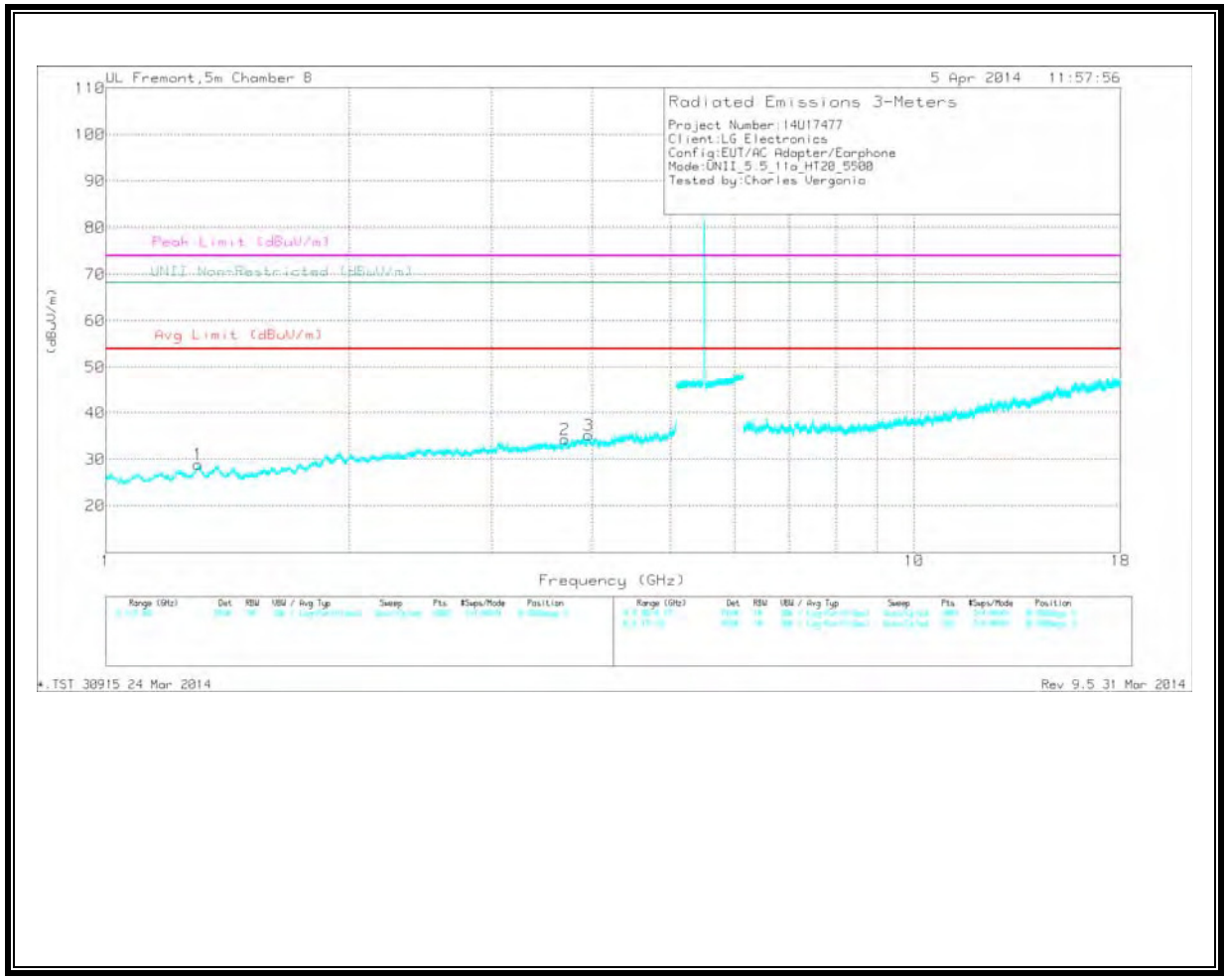
HARMONICS AND SPURIOUS EMISSIONS

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.

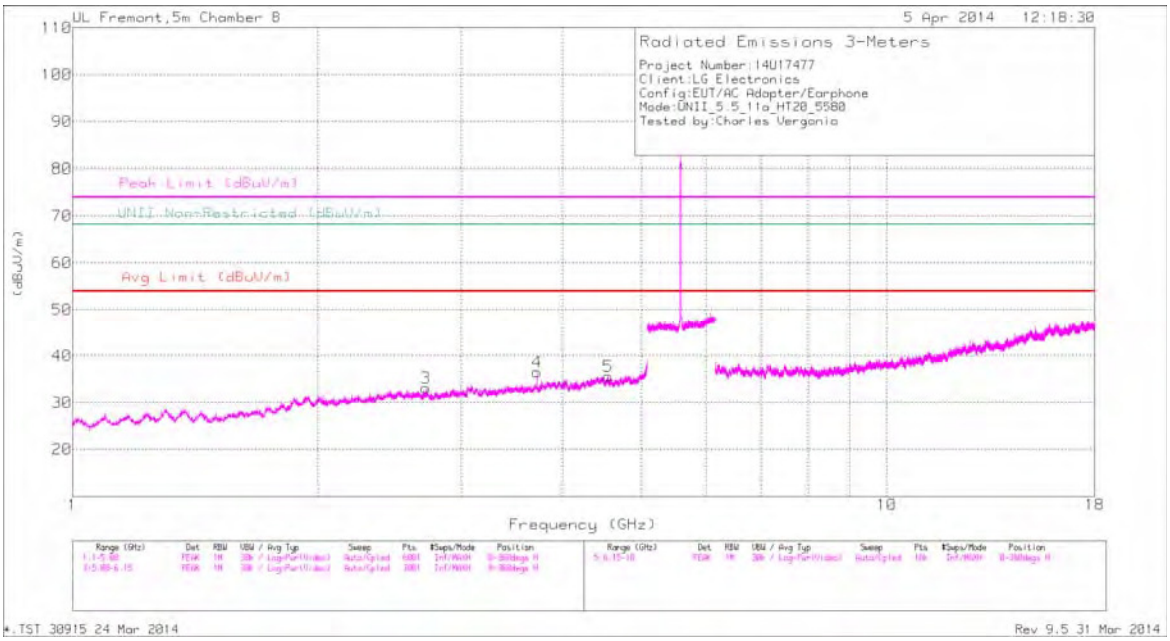
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 4.041	40.23	PK1	33.6	-29.8	44.03	54	-9.97	74	-29.97	-	-	1	100	H
* 5.08	38.62	PK1	34.2	-24.7	48.12	54	-6.88	74	-26.88	-	-	1	100	H
* 1.3	42.79	PK1	28.9	-34.2	37.49	54	-6.51	74	-36.51	-	-	1	100	V
* 3.698	40.31	PK1	33.3	-31.2	42.41	54	-11.59	74	-31.59	-	-	1	100	V
* 3.954	40.69	PK1	33.7	-30	44.39	54	-9.61	74	-29.61	-	-	1	100	V
* 7.504	36.79	PK1	35.6	-26	46.39	54	-7.61	74	-27.61	-	-	1	100	H

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

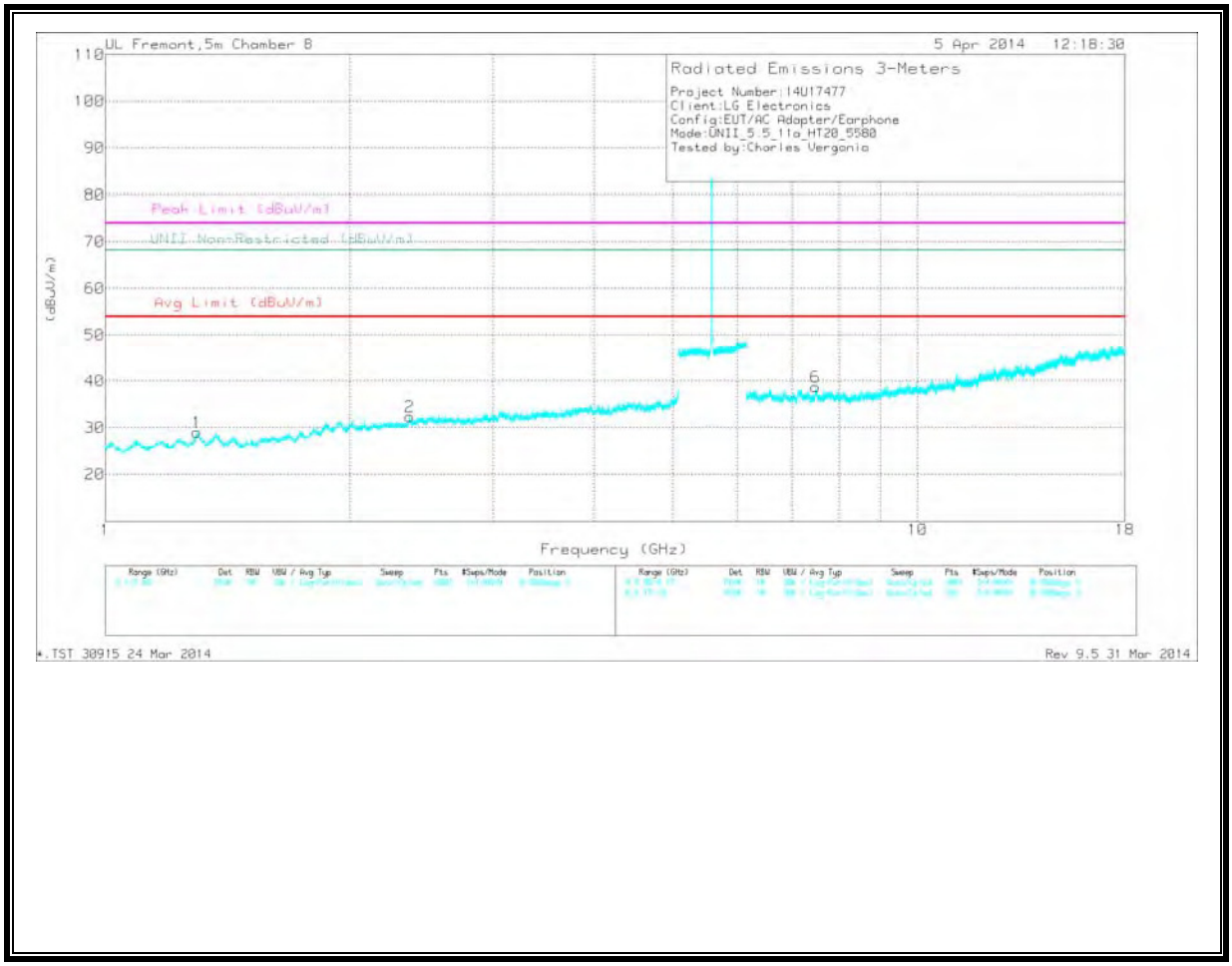
PK1 - KDB789033 Method: Peak

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.

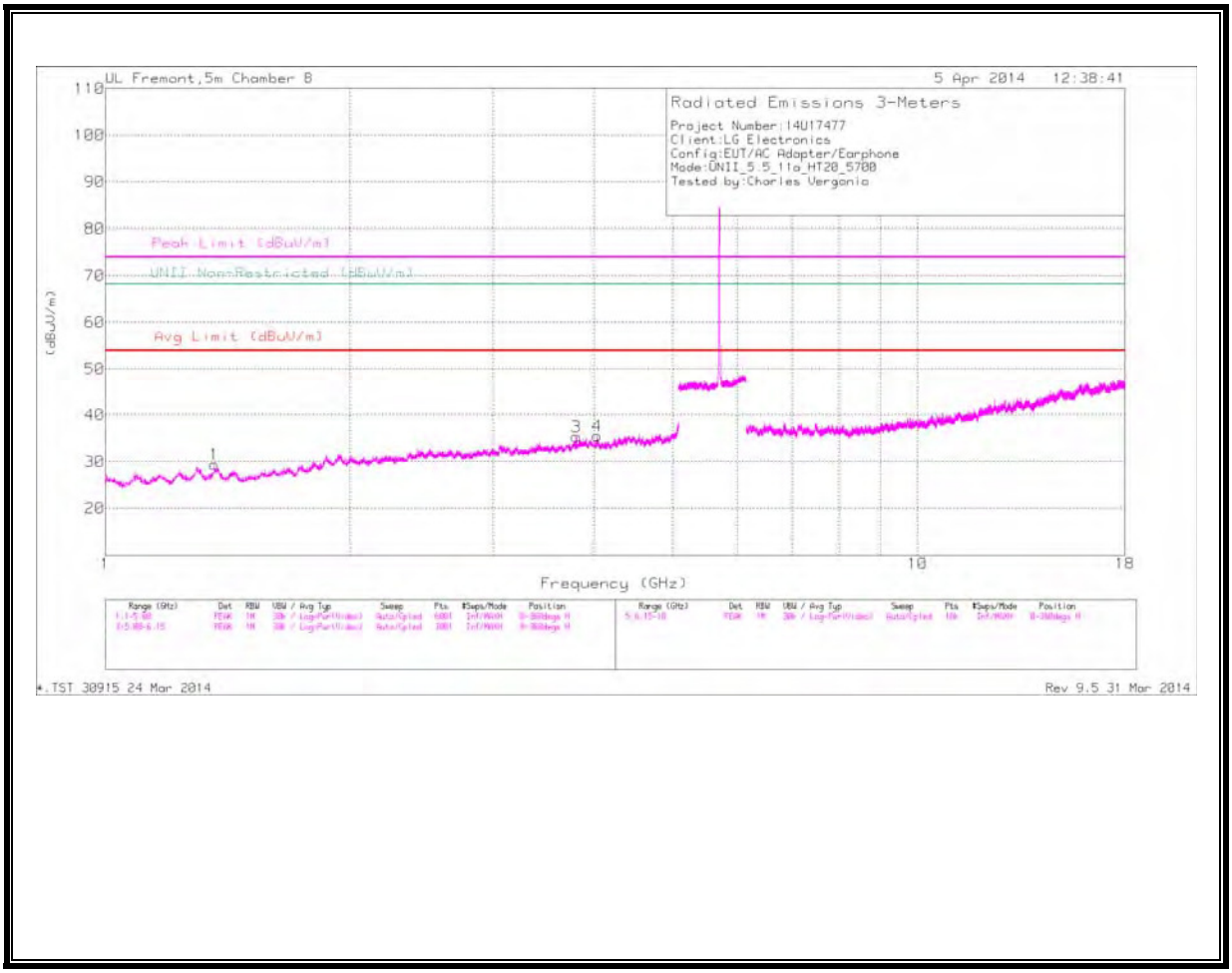
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 2.713	40.46	PK1	32.2	-31.7	40.96	54	-13.04	74	-33.04	-	-	2	100	H
* 3.72	40.76	PK1	33.4	-31.5	42.66	54	-11.34	74	-31.34	-	-	2	100	H
* 4.549	40.5	PK1	34.1	-30.5	44.1	54	-9.9	74	-29.9	-	-	2	100	H
* 1.296	43.5	PK1	28.8	-34.3	38	54	-16.0	74	-36	-	-	2	100	V
* 2.372	41.76	PK1	32	-32.7	41.06	54	-12.94	74	-32.94	-	-	2	100	V
* 7.485	38.15	PK1	35.6	-25.9	47.85	54	-6.15	74	-26.15	-	-	2	100	V

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

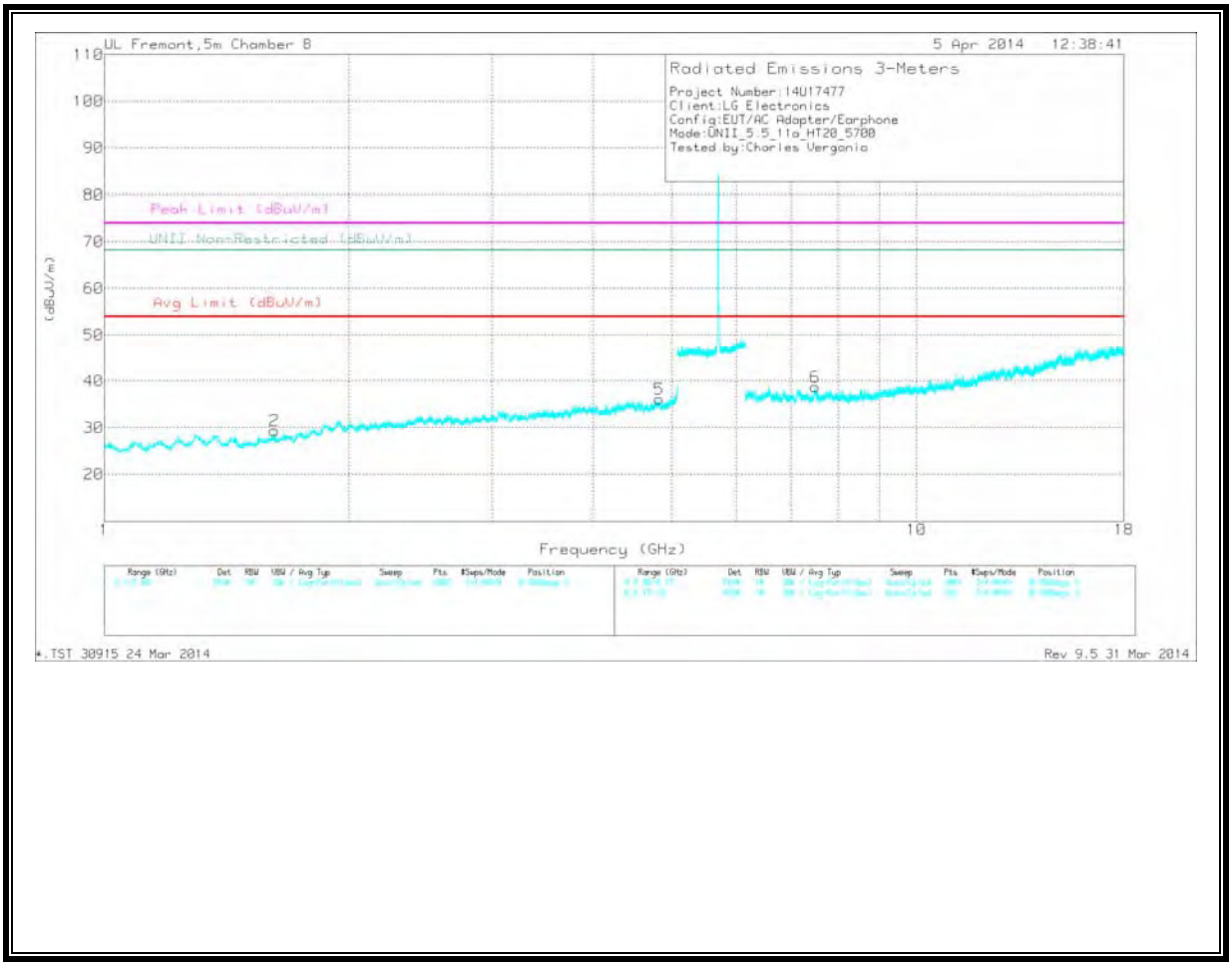
PK1 - KDB789033 Method: Peak

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

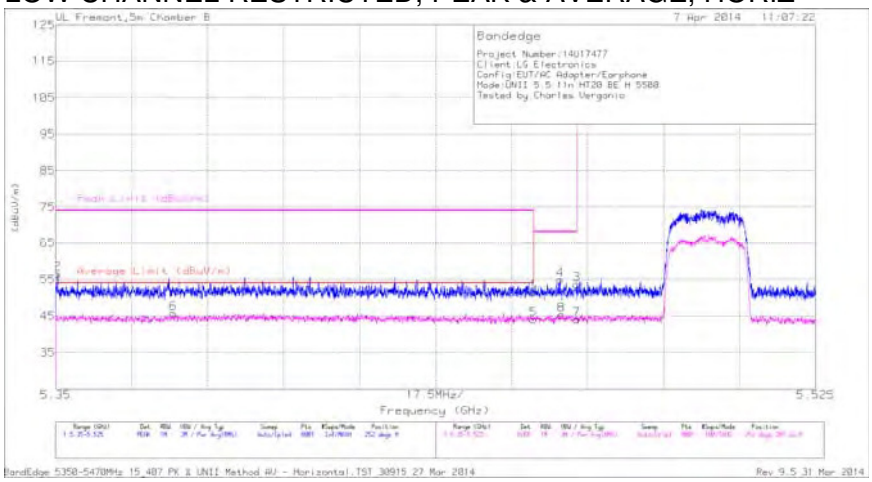
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.362	42.83	PK1	28.6	-33.8	37.63	54	-16.37	74	-36.37	-	-	2	100	H
* 3.801	40.9	PK1	33.6	-31	43.5	54	-10.5	74	-30.5	-	-	2	100	H
* 4.035	39.99	PK1	33.6	-30	43.59	54	-10.41	74	-30.41	-	-	2	100	H
* 1.621	41.53	PK1	28.6	-33.2	36.93	54	-17.07	74	-37.07	-	-	2	100	V
* 4.82	40.38	PK1	34.2	-29.6	44.98	54	-9.02	74	-29.02	-	-	2	100	V
* 7.497	37.37	PK1	35.6	-25.8	47.17	54	-6.83	74	-26.83	-	-	2	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)

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



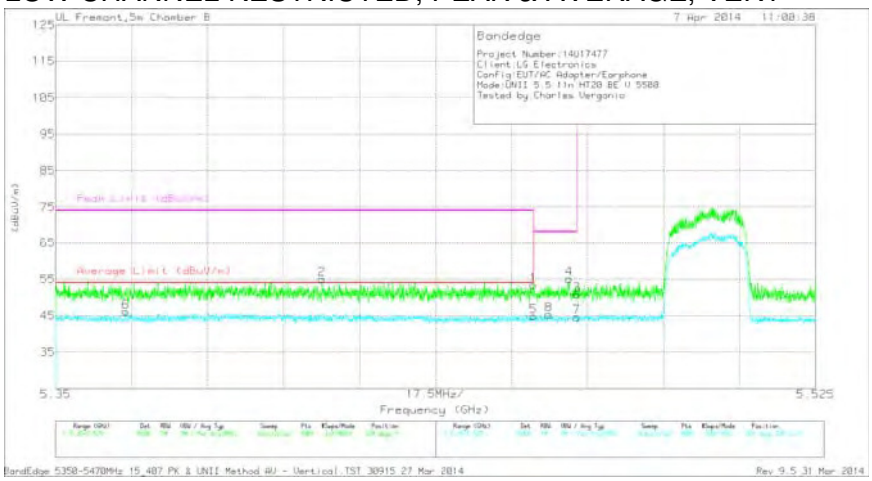
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	37.2	PK	34.5	-20	0	51.7	-	-	74	-22.3	252	387	H
2	* 5.35	41.86	PK	34.5	-19.9	0	56.46	-	-	74	-17.54	252	387	H
5	* 5.46	29.35	RMS	34.5	-20	.23	44.05	54	-9.95	-	-	252	387	H
6	* 5.377	30.79	RMS	34.5	-19.8	.23	45.69	54	-8.31	-	-	252	387	H
4	5.466	40.34	PK	34.5	-20	0	54.84	-	-	68.2	-13.36	252	387	H
8	5.467	30.64	RMS	34.5	-20	.23	45.34	-	-	-	-	252	387	H
3	5.47	39.1	PK	34.5	-19.9	0	53.7	-	-	68.2	-14.5	252	387	H
7	5.47	29.33	RMS	34.5	-19.9	.23	44.13	-	-	-	-	252	387	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	38.88	PK	34.5	-20	0	53.38	-	-	74	-20.62	328	330	V
2	* 5.411	40.6	PK	34.5	-20.1	0	55	-	-	74	-19	328	330	V
5	* 5.46	30.15	RMS	34.5	-20	.23	44.85	54	-9.15	-	-	328	330	V
6	* 5.366	31.32	RMS	34.5	-20	.23	46.02	54	-7.98	-	-	328	330	V
8	5.464	30.57	RMS	34.5	-20	.23	45.27	-	-	-	-	328	330	V
4	5.468	40.65	PK	34.5	-20	0	55.15	-	-	68.2	-13.05	328	330	V
3	5.47	36.17	PK	34.5	-19.9	0	50.77	-	-	68.2	-17.43	328	330	V
7	5.47	29.84	RMS	34.5	-19.9	.23	44.64	-	-	-	-	328	330	V

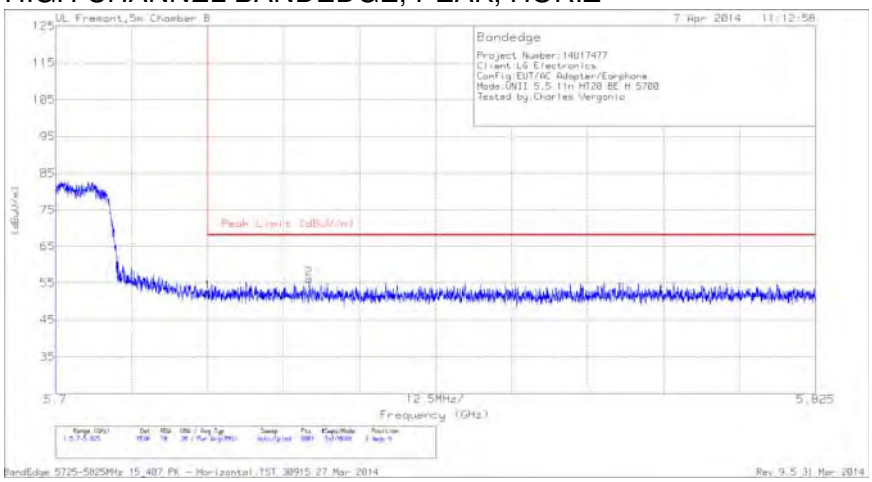
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

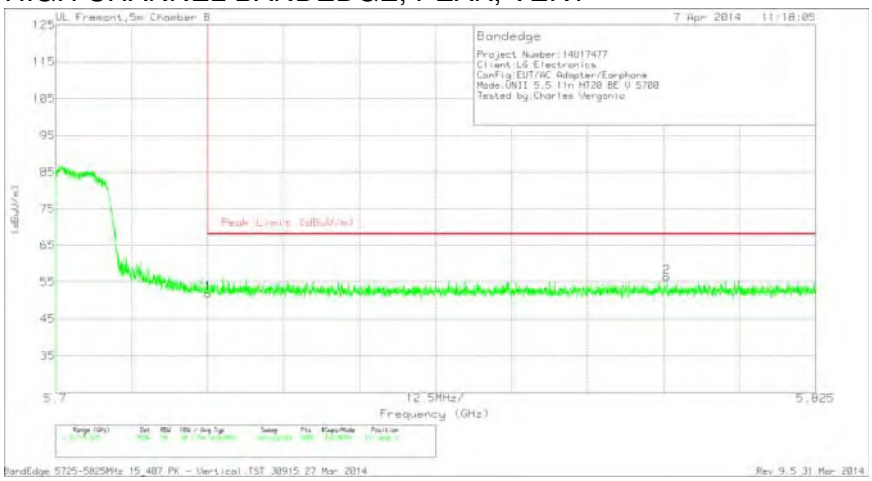
HIGH CHANNEL BANDEDGE, PEAK, HORIZ



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	37.5	PK	34.6	-19.6	52.5	68.2	-15.7	3	353	H
2	5.742	41	PK	34.6	-19.5	56.1	68.2	-12.1	3	353	H

PK - Peak detector

HIGH CHANNEL BANDEDGE, PEAK, VERT

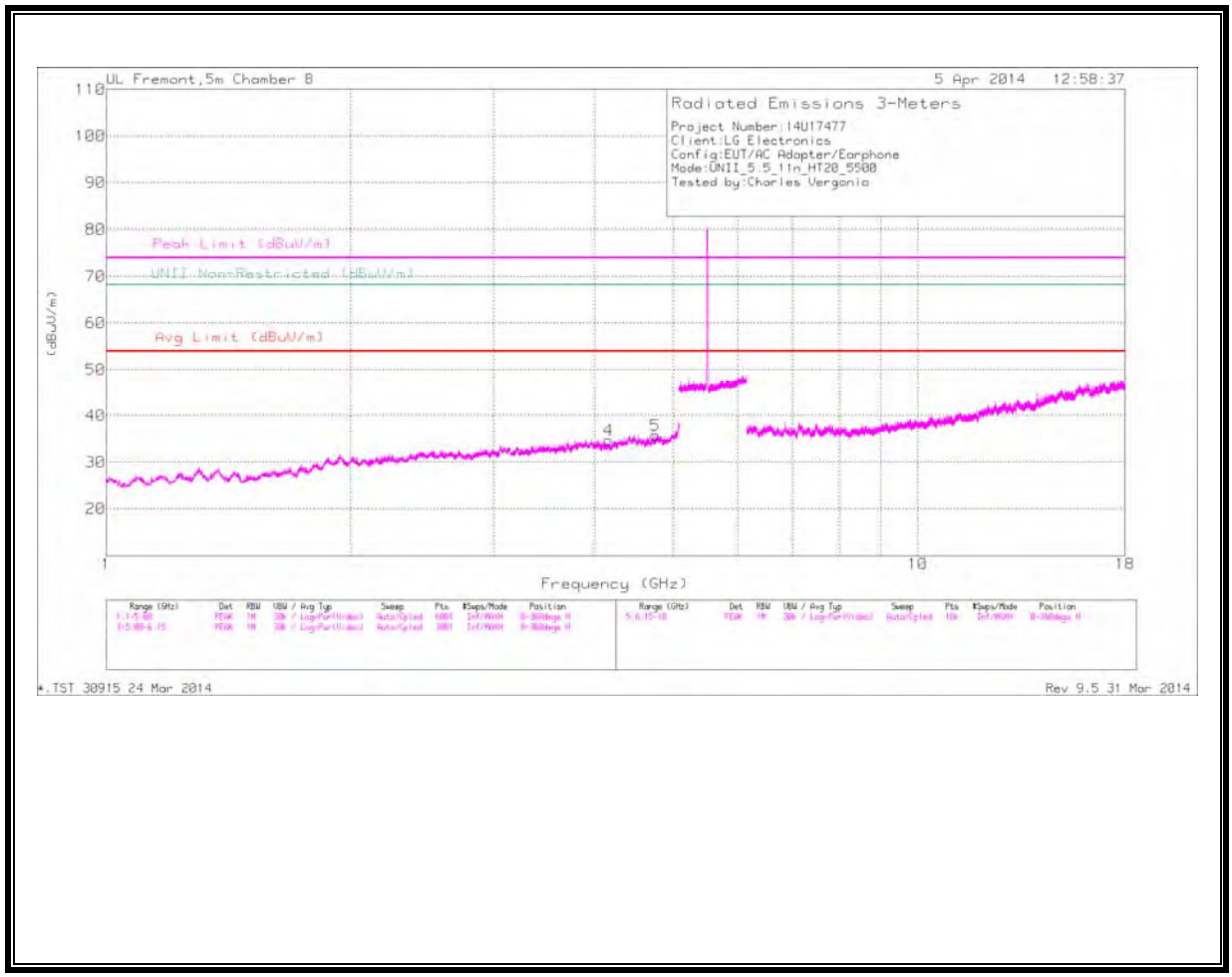


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	36.87	PK	34.6	-19.6	51.87	68.2	-16.33	111	360	V
2	5.801	41.26	PK	34.7	-19.6	56.36	68.2	-11.84	111	360	V

PK - Peak detector

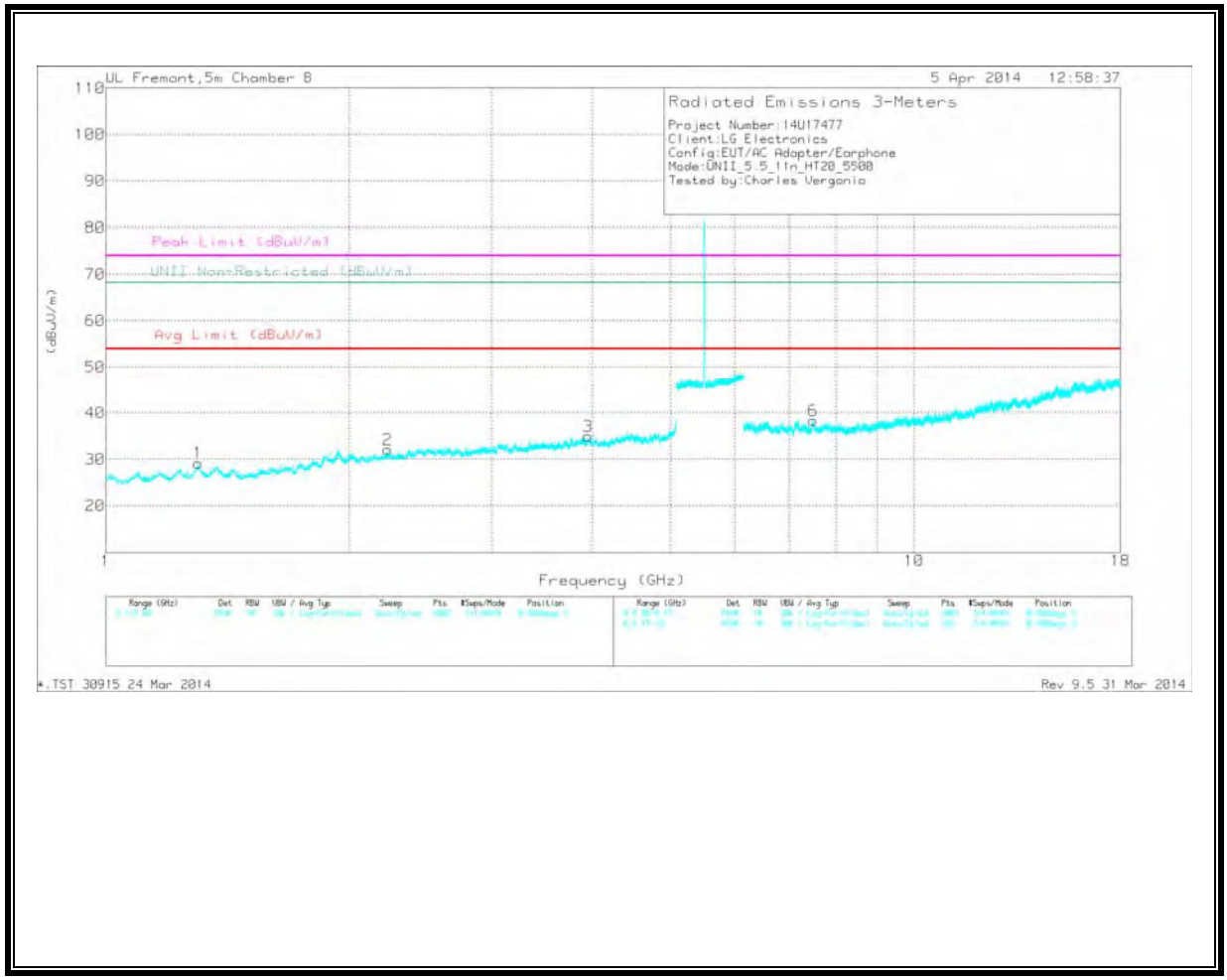
HARMONICS AND SPURIOUS EMISSIONS

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.

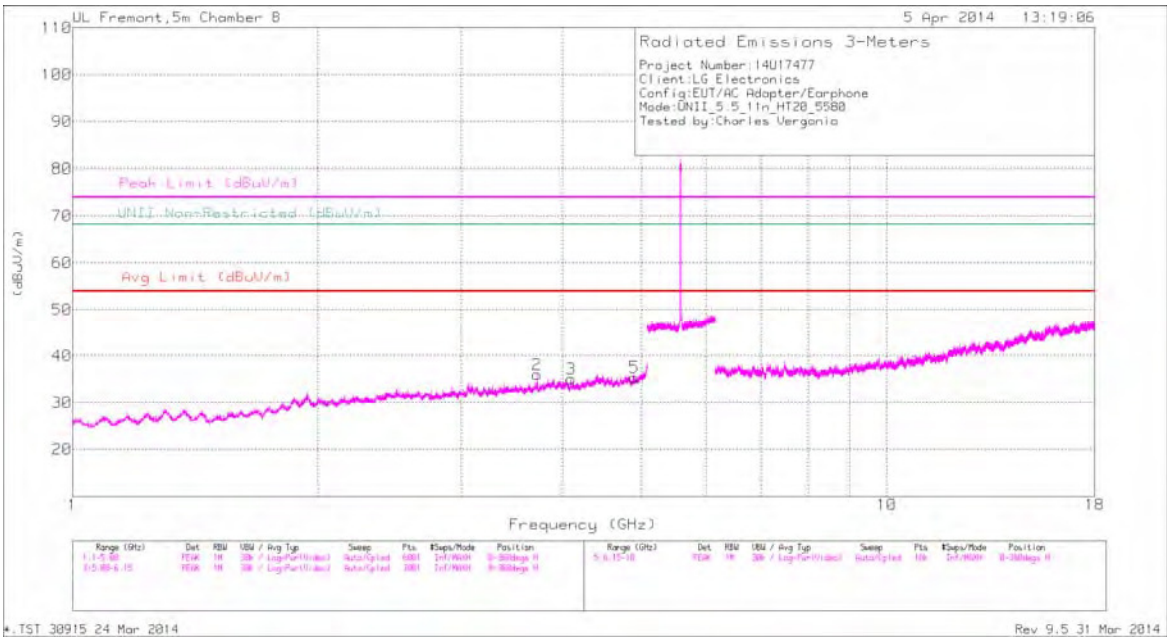
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 4.157	41.15	PK1	33.6	-31.3	43.45	54	-10.55	74	-30.55	-	-	359	100	H
* 4.746	40.1	PK1	34.2	-29.7	44.6	54	-9.4	74	-29.4	-	-	359	100	H
* 1.302	42.82	PK1	28.9	-34.2	37.52	54	-16.48	74	-36.48	-	-	359	100	V
* 2.234	41.28	PK1	31.4	-32.3	40.38	54	-13.62	74	-33.62	-	-	359	100	V
* 3.947	41.23	PK1	33.7	-30.3	44.63	54	-9.37	74	-29.37	-	-	359	100	V
* 7.502	37.3	PK1	35.6	-26	46.9	54	-7.1	74	-27.1	-	-	359	100	V

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

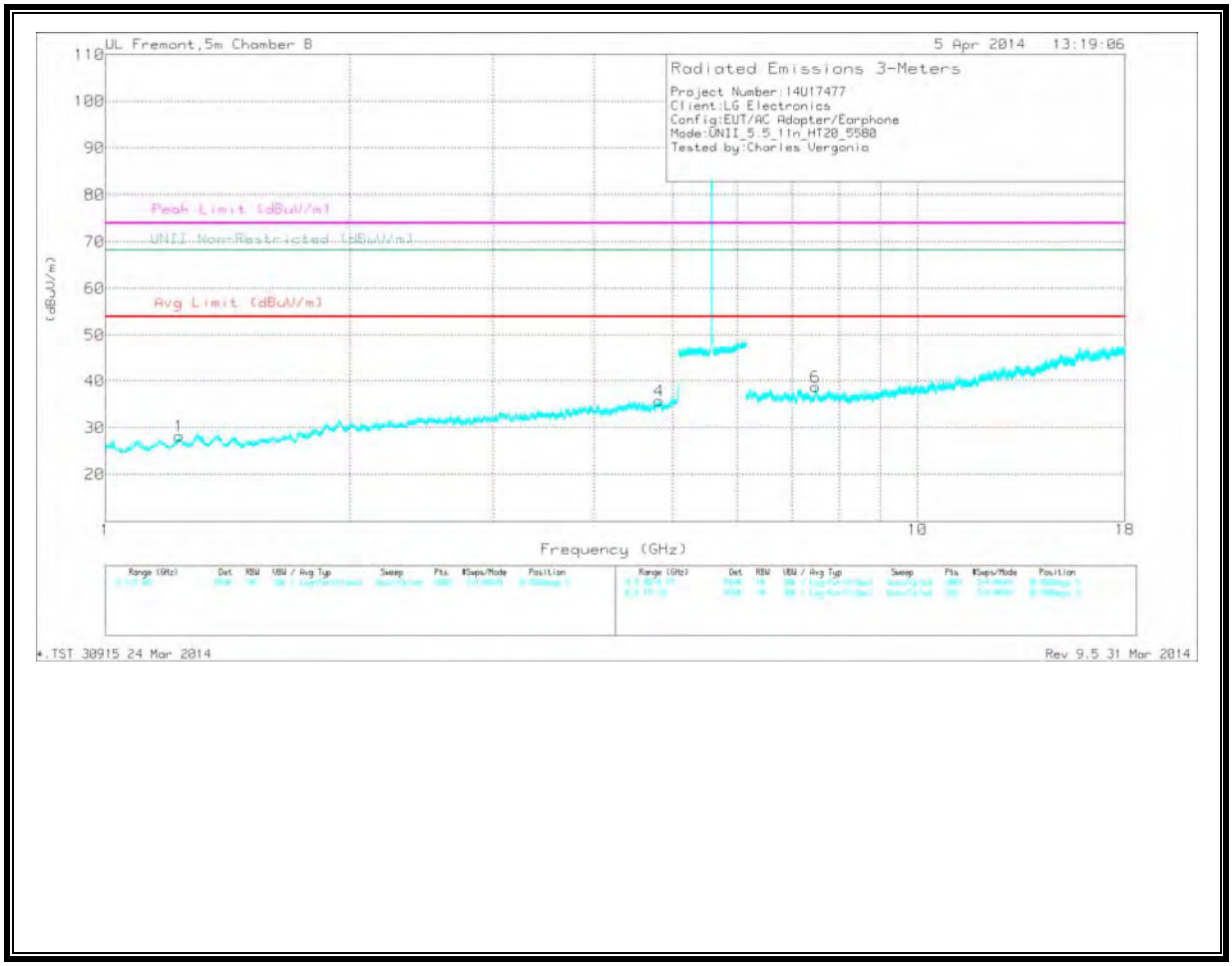
PK1 - KDB789033 Method: Peak

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.

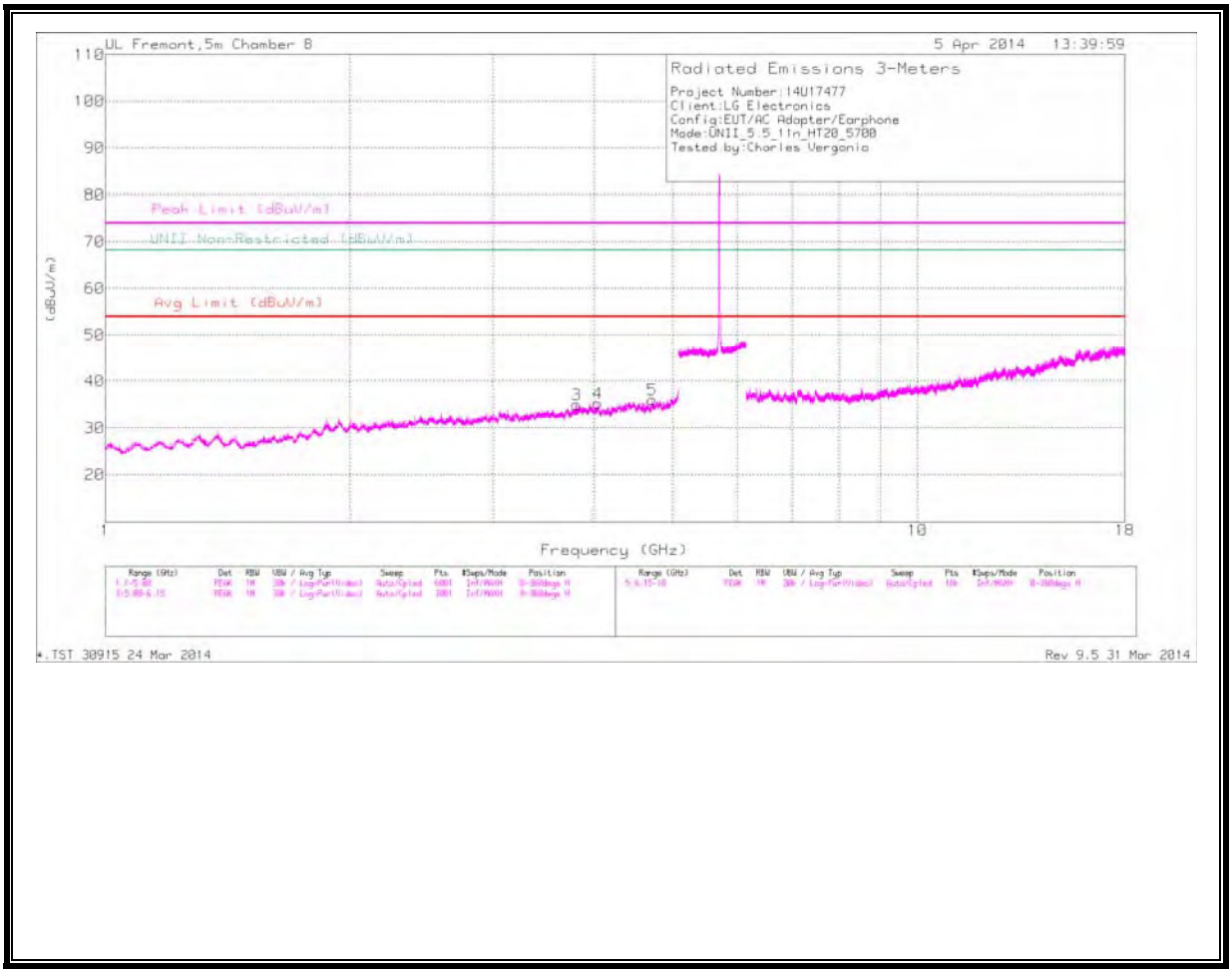
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 3.72	40.65	PK1	33.4	-31.5	42.55	54	-11.45	74	-31.45	-	-	360	100	H
* 4.097	40.77	PK1	33.6	-30.8	43.57	54	-10.43	74	-30.43	-	-	360	100	H
* 4.898	39.93	PK1	34.2	-29.5	44.63	54	-9.37	74	-29.37	-	-	360	100	H
* 1.233	42.77	PK1	28.4	-34.7	36.47	54	-17.53	74	-37.53	-	-	360	100	V
* 4.809	39.93	PK1	34.2	-29.3	44.83	54	-9.17	74	-29.17	-	-	360	100	V
* 7.49	37.72	PK1	35.6	-25.7	47.62	54	-6.38	74	-26.38	-	-	360	100	V

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

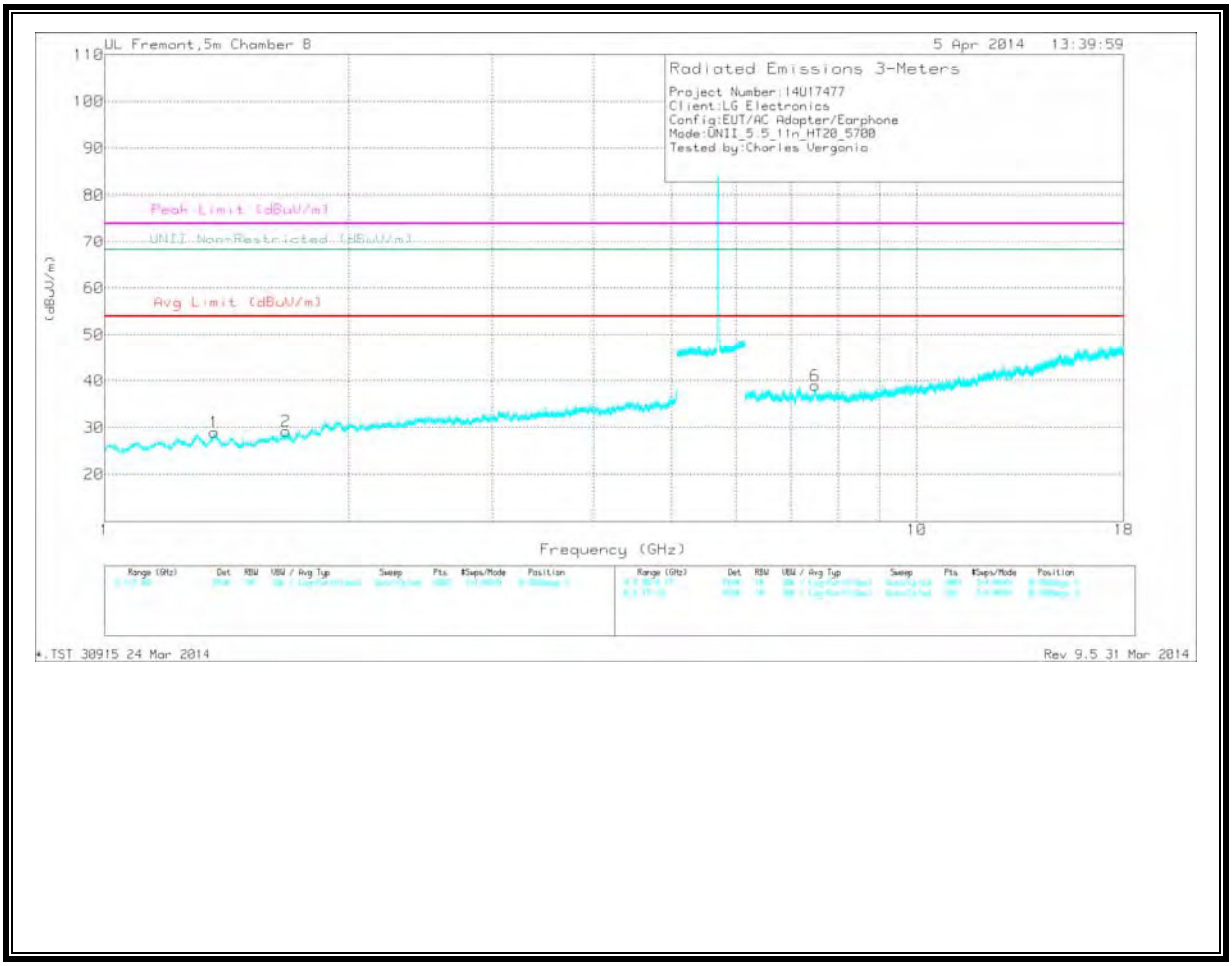
PK1 - KDB789033 Method: Peak

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

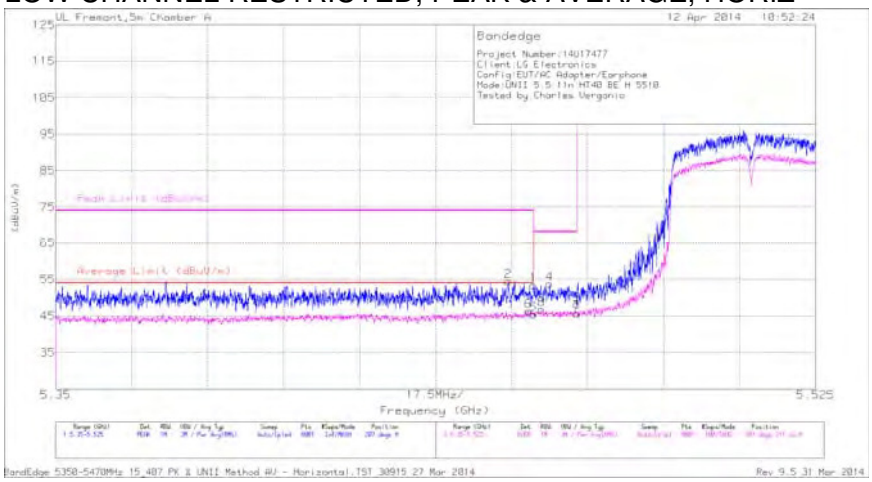
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.8	40.36	PK1	33.6	-31	42.96	54	-11.04	74	-31.04	-	-	359	100	H
* 4.038	40.09	PK1	33.6	-29.9	43.79	54	-10.21	74	-30.21	-	-	359	100	H
* 4.716	40.56	PK1	34.2	-29.9	44.86	54	-9.14	74	-29.14	-	-	359	100	H
* 1.369	42.64	PK1	28.6	-33.8	37.44	54	-16.56	74	-36.56	-	-	359	100	V
* 1.674	41.77	PK1	28.9	-33.3	37.37	54	-16.63	74	-36.63	-	-	359	100	V
* 7.496	37.31	PK1	35.6	-25.8	47.11	54	-6.89	74	-26.89	-	-	359	100	V

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

PK1 - KDB789033 Method: Peak

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

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



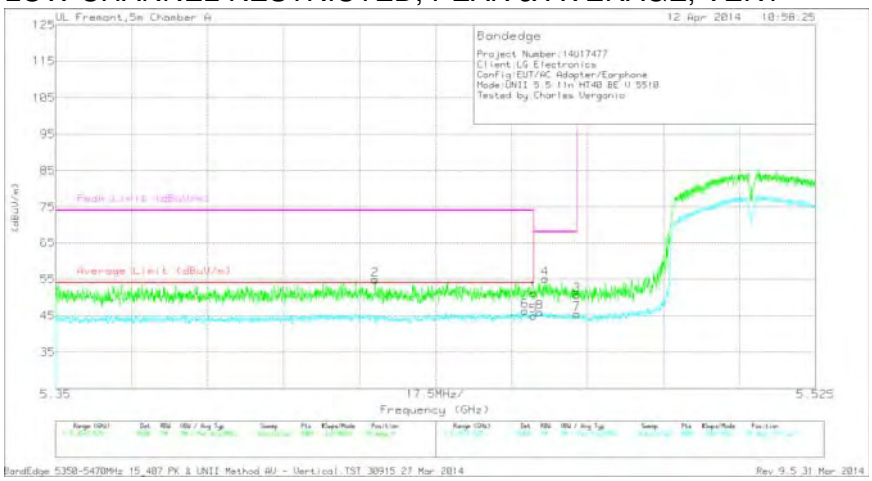
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	38.83	PK	34.4	-19.8	0	53.43	-	-	74	-20.57	207	311	H
2	* 5.454	40.08	PK	34.4	-20	0	54.48	-	-	74	-19.52	207	311	H
5	* 5.46	30.33	RMS	34.4	-19.8	.46	45.43	54	-8.57	-	-	207	311	H
6	* 5.459	31.23	RMS	34.4	-19.8	.46	46.33	54	-7.67	-	-	207	311	H
8	5.462	31.56	RMS	34.4	-19.7	.46	46.76	-	-	-	-	207	311	H
4	5.464	39.17	PK	34.4	-19.8	0	53.77	-	-	68.2	-14.43	207	311	H
3	5.47	34.07	PK	34.4	-20.3	0	48.17	-	-	68.2	-20.03	207	311	H
7	5.47	31.08	RMS	34.4	-20.3	.46	45.68	-	-	-	-	207	311	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	36.57	PK	34.4	-19.8	0	51.17	-	-	74	-22.83	79	177	V
2	* 5.424	40.35	PK	34.4	-19.9	0	54.85	-	-	74	-19.15	79	177	V
5	* 5.46	29.88	RMS	34.4	-19.8	.5	44.98	54	-9.02	-	-	79	177	V
6	* 5.458	31.31	RMS	34.4	-19.9	.5	46.31	54	-7.69	-	-	79	177	V
8	5.461	30.77	RMS	34.4	-19.7	.5	45.97	-	-	-	-	79	177	V
4	5.463	40.38	PK	34.4	-19.7	0	55.08	-	-	68.2	-13.12	79	177	V
3	5.47	36.57	PK	34.4	-20.3	0	50.67	-	-	68.2	-17.53	79	177	V
7	5.47	30.91	RMS	34.4	-20.3	.5	45.51	-	-	-	-	79	177	V

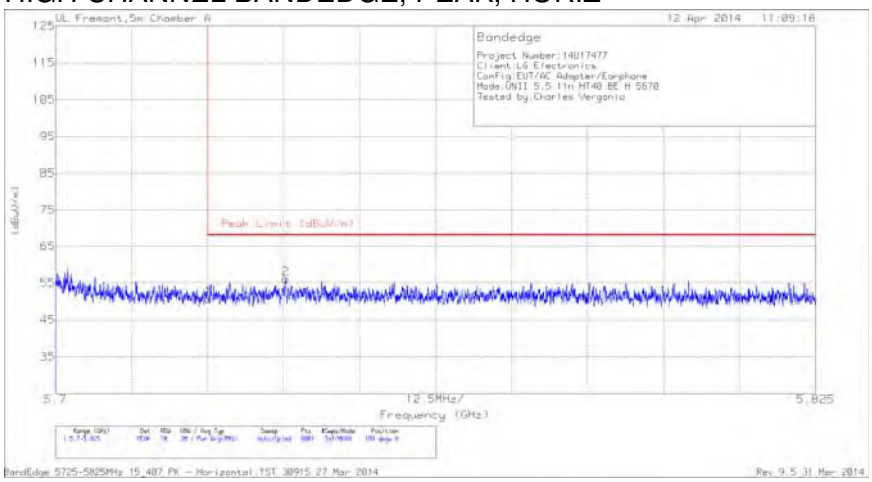
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

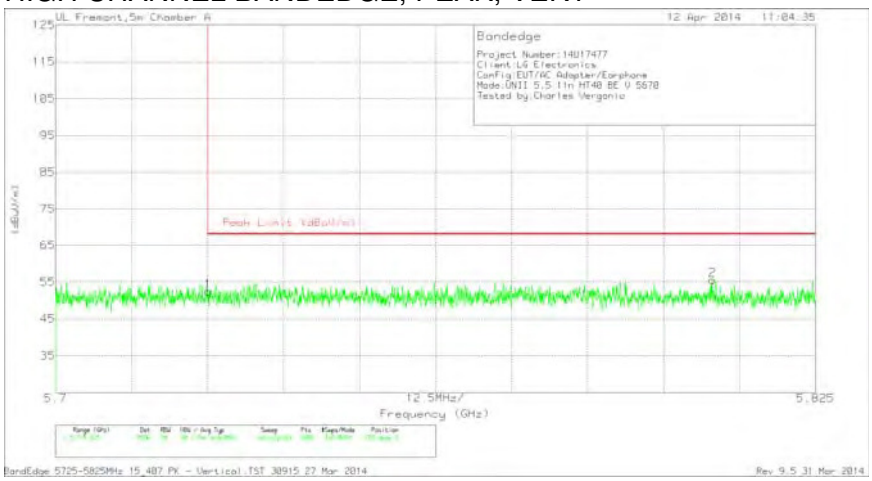
HIGH CHANNEL BANDEDGE, PEAK, HORIZ



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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	35.71	PK	34.6	-19.6	50.71	68.2	-17.49	189	165	H
2	5.738	40.9	PK	34.6	-19.4	56.1	68.2	-12.1	189	165	H

PK - Peak detector

HIGH CHANNEL BANDEDGE, PEAK, VERT

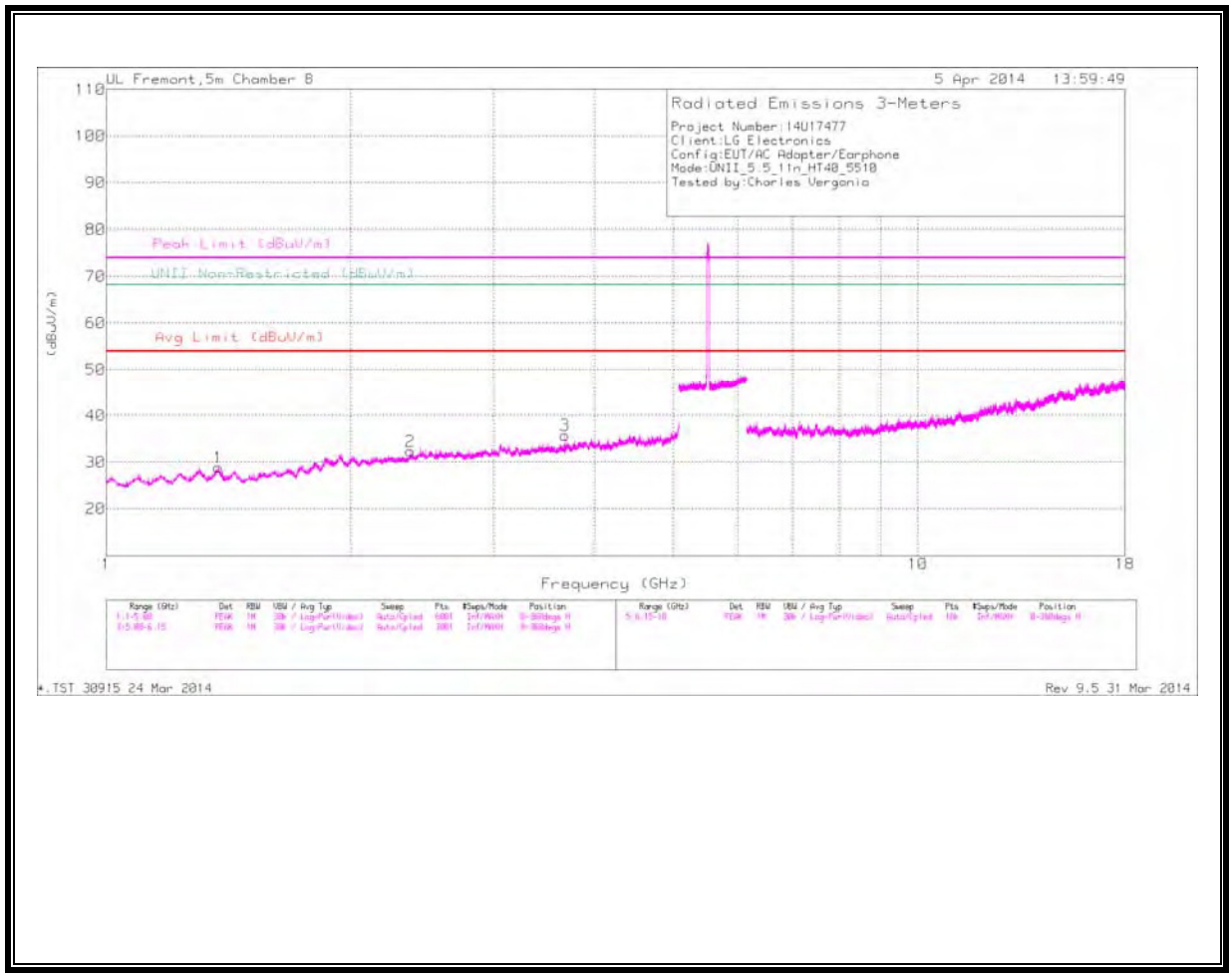


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	37.51	PK	34.6	-19.6	52.51	68.2	-15.69	203	329	V
2	5.808	40.23	PK	34.8	-19.5	55.53	68.2	-12.67	203	329	V

PK - Peak detector

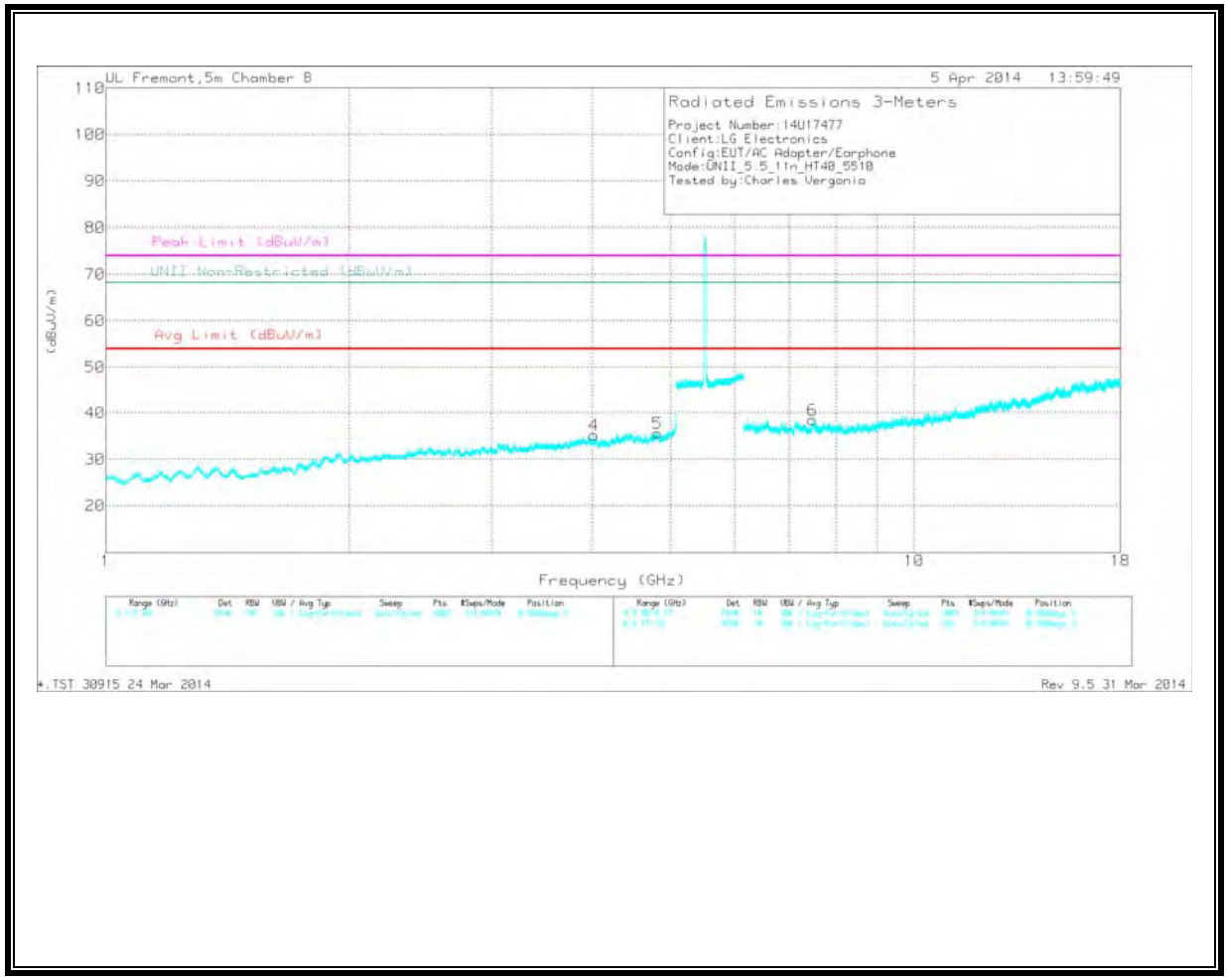
HARMONICS AND SPURIOUS EMISSIONS

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.

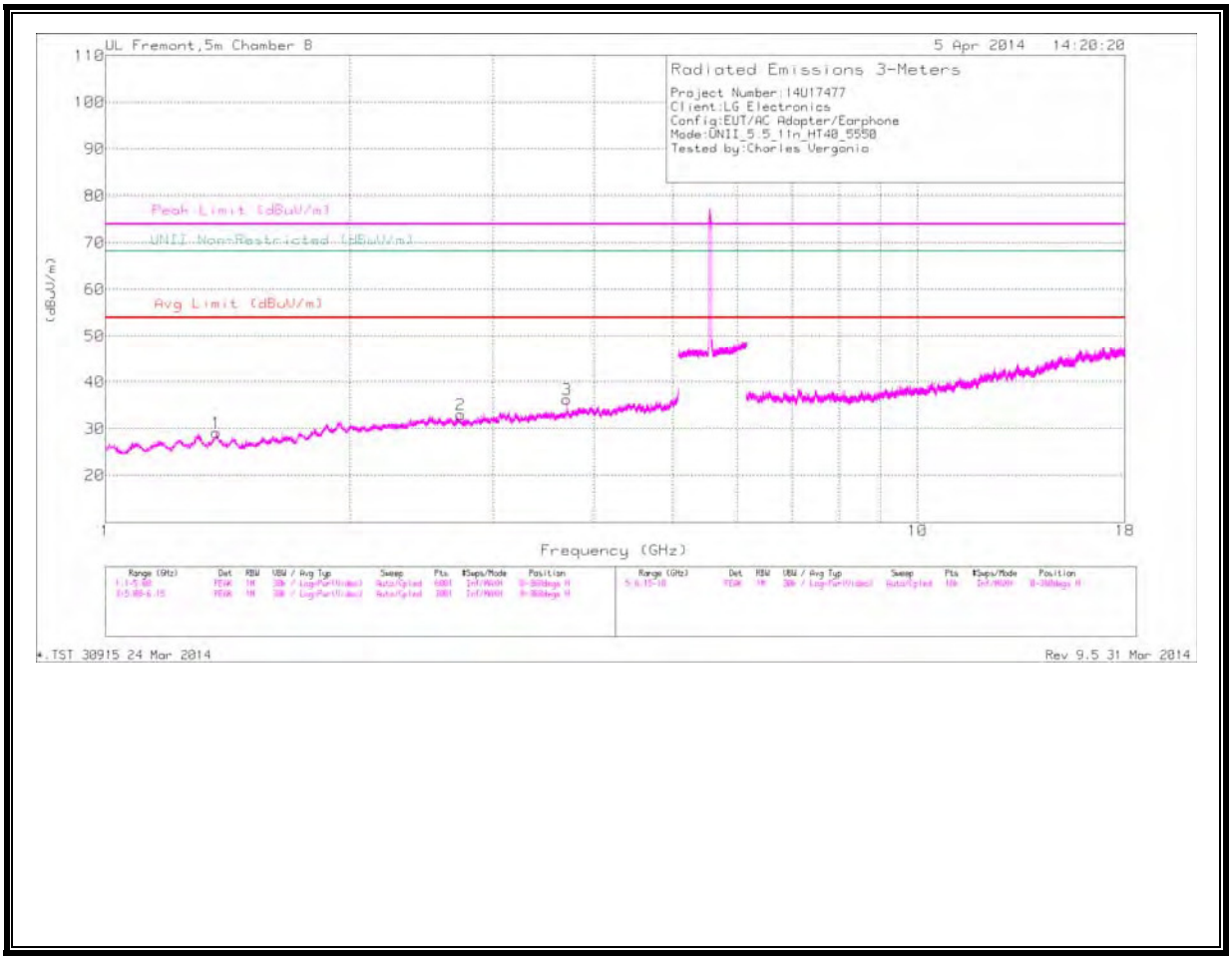
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 1.374	42.68	PK1	28.6	-33.8	37.48	54	-16.52	74	-36.52	-	-	360	100	H
* 2.367	41.81	PK1	32	-32.7	41.11	54	-12.89	74	-32.89	-	-	360	100	H
* 3.673	40.73	PK1	33.3	-31.3	42.73	54	-11.27	74	-31.27	-	-	360	100	H
* 4.021	39.53	PK1	33.6	-30.3	42.83	54	-11.17	74	-31.17	-	-	360	100	V
* 4.813	39.5	PK1	34.2	-29.3	44.4	54	-9.6	74	-29.6	-	-	360	100	V
* 7.491	37.07	PK1	35.6	-25.7	46.97	54	-7.03	74	-27.03	-	-	360	100	V

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

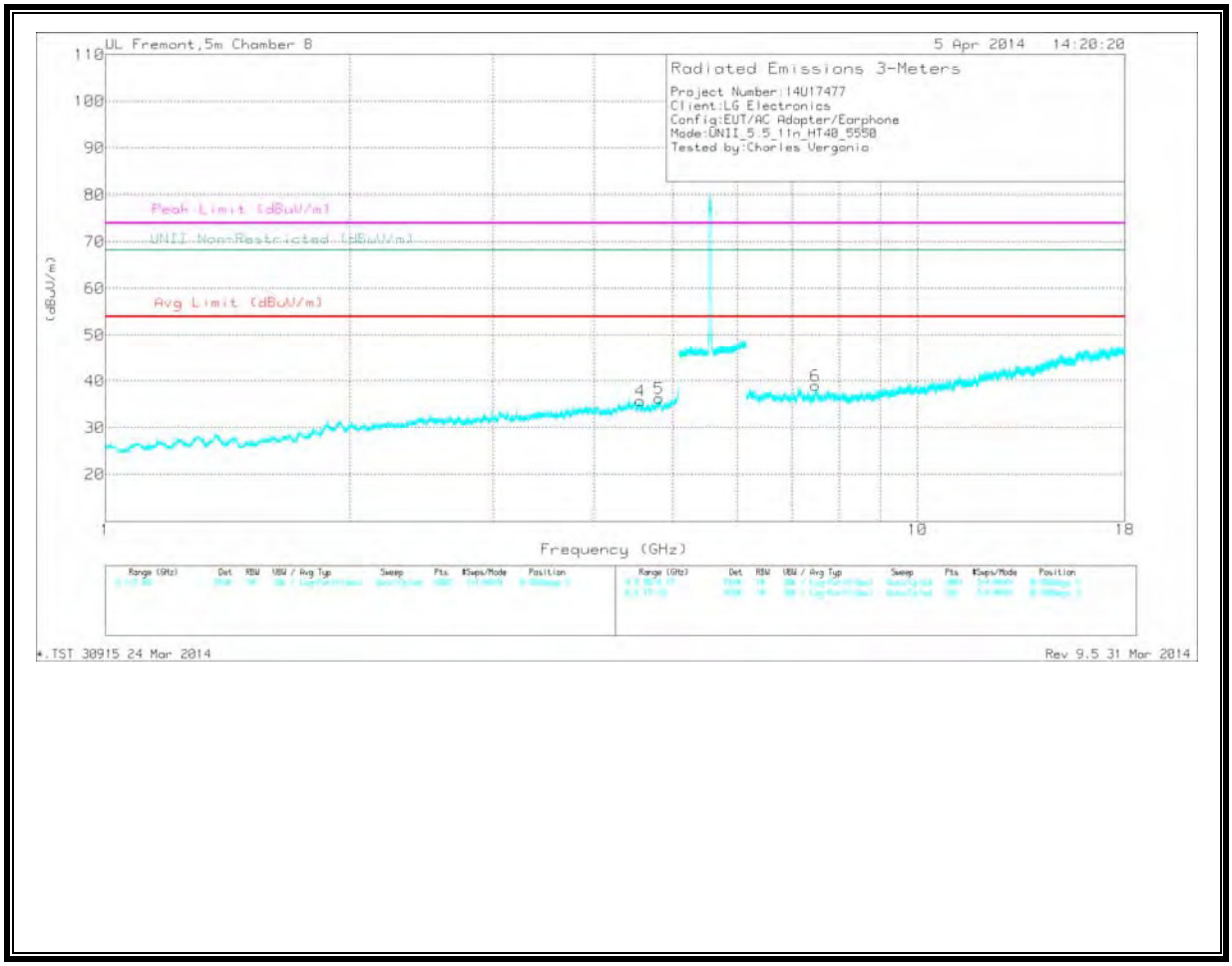
PK1 - KDB789033 Method: Peak

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.

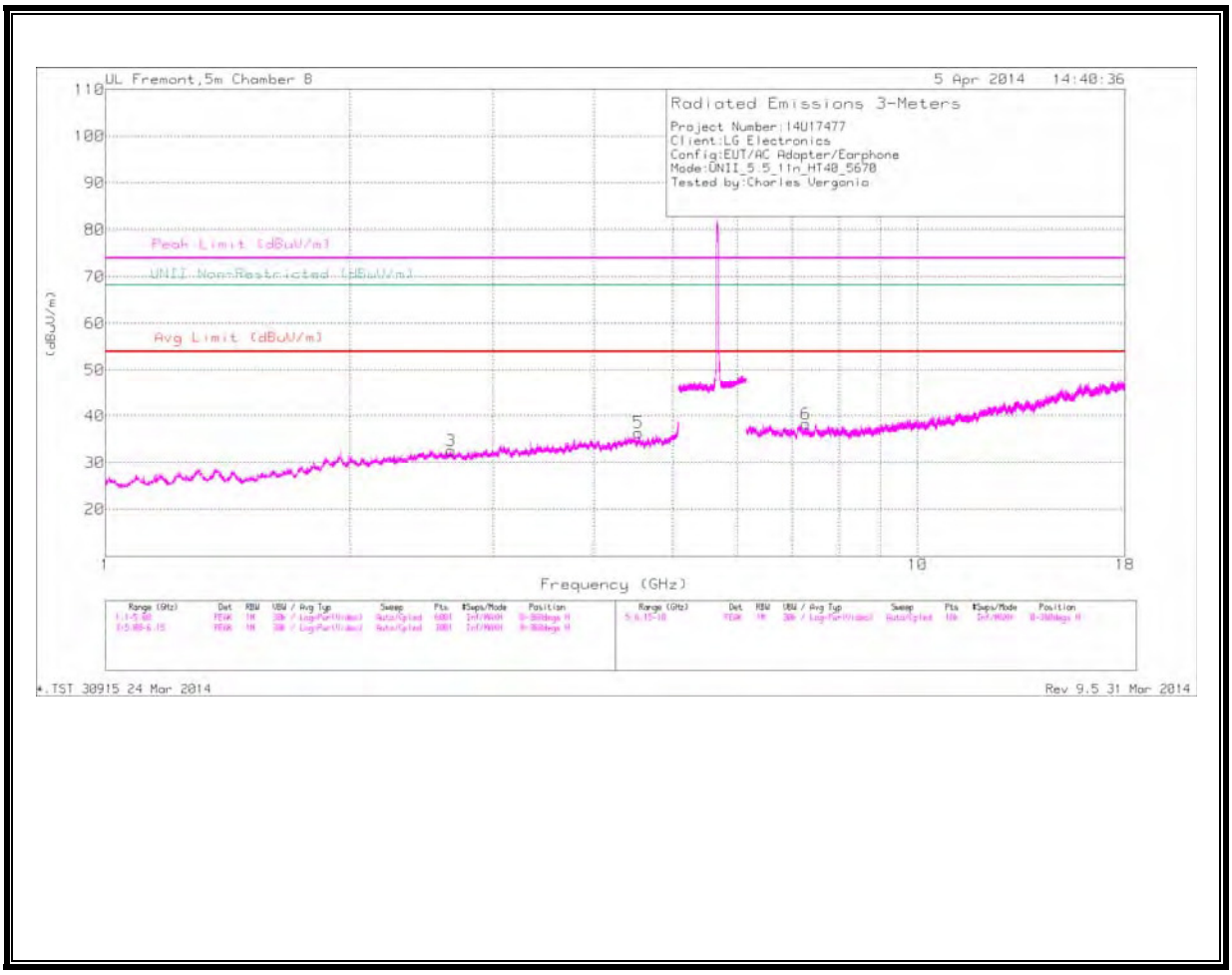
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 1.371	42.57	PK1	28.6	-33.8	37.37	54	-16.63	74	-36.63	-	-	359	100	H
* 2.737	40.87	PK1	32.2	-32.1	40.97	54	-13.03	74	-33.03	-	-	359	100	H
* 3.699	41.22	PK1	33.3	-31.2	43.32	54	-10.68	74	-30.68	-	-	359	100	H
* 4.554	40.8	PK1	34.1	-30.6	44.3	54	-9.7	74	-29.7	-	-	359	100	V
* 4.808	40.1	PK1	34.2	-29.3	45	54	-9.0	74	-29	-	-	359	100	V
* 7.492	38.47	PK1	35.6	-25.7	48.37	54	-5.63	74	-25.63	-	-	359	100	V

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

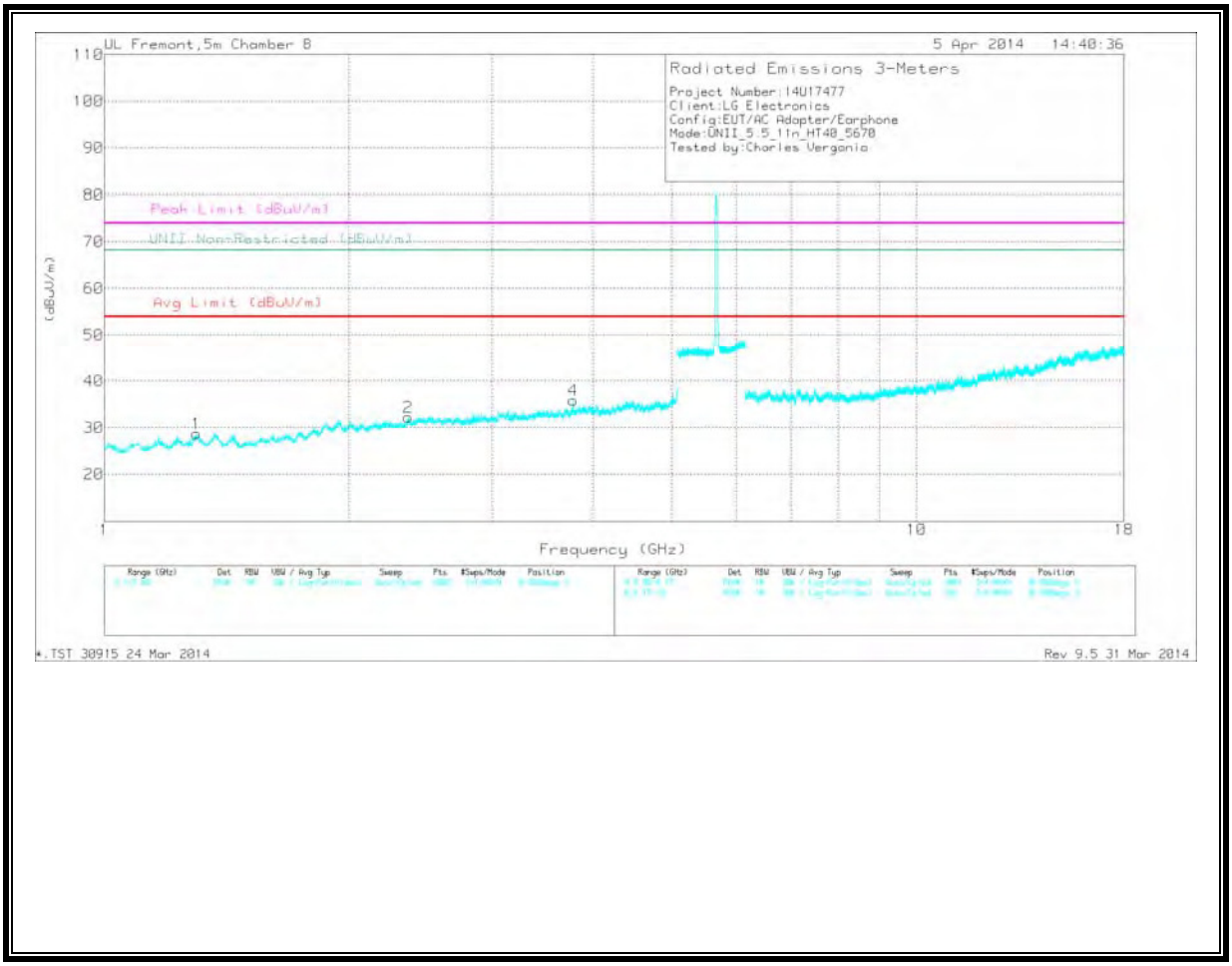
PK1 - KDB789033 Method: Peak

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

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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
* 2.665	41.23	PK1	32.3	-31.8	41.73	54	-12.27	74	-32.27	-	-	359	100	H
* 4.532	41.54	PK1	34.1	-30.6	45.04	54	-8.96	74	-28.96	-	-	359	100	H
* 1.299	42.6	PK1	28.8	-34.2	37.2	54	-16.8	74	-36.8	-	-	359	100	V
* 2.365	41.24	PK1	32	-32.7	40.54	54	-13.46	74	-33.46	-	-	359	100	V
* 3.78	41.44	PK1	33.6	-31.1	43.94	54	-10.06	74	-30.06	-	-	359	100	V
* 7.279	39.43	PK1	35.6	-27.3	47.73	54	-6.27	74	-26.27	-	-	359	100	H

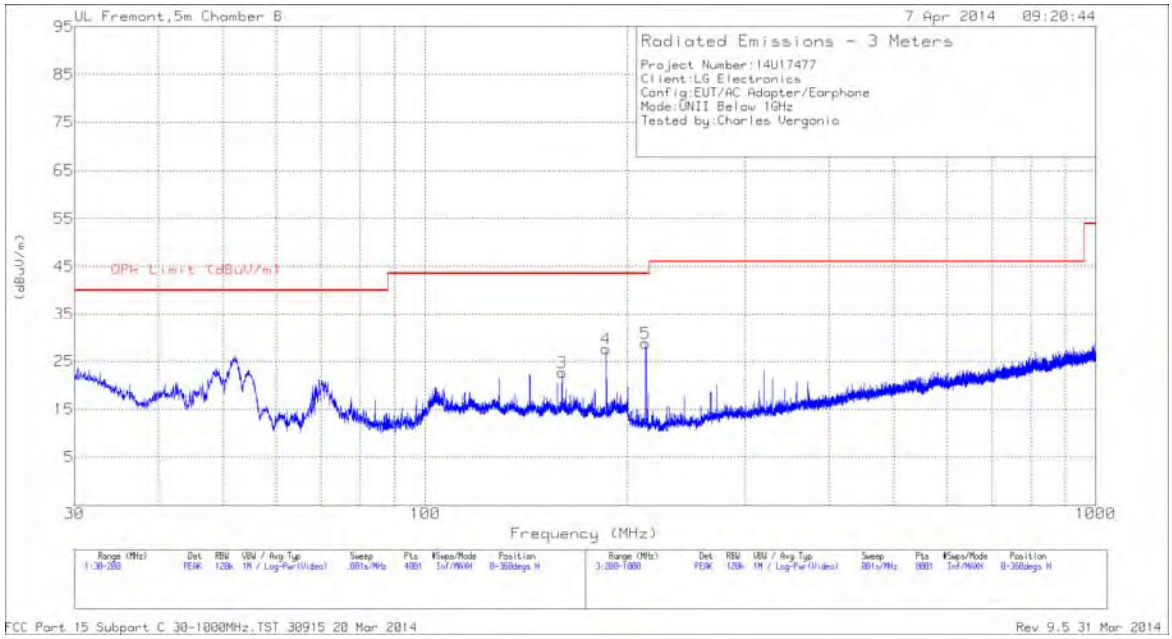
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK1 - KDB789033 Method: Peak

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

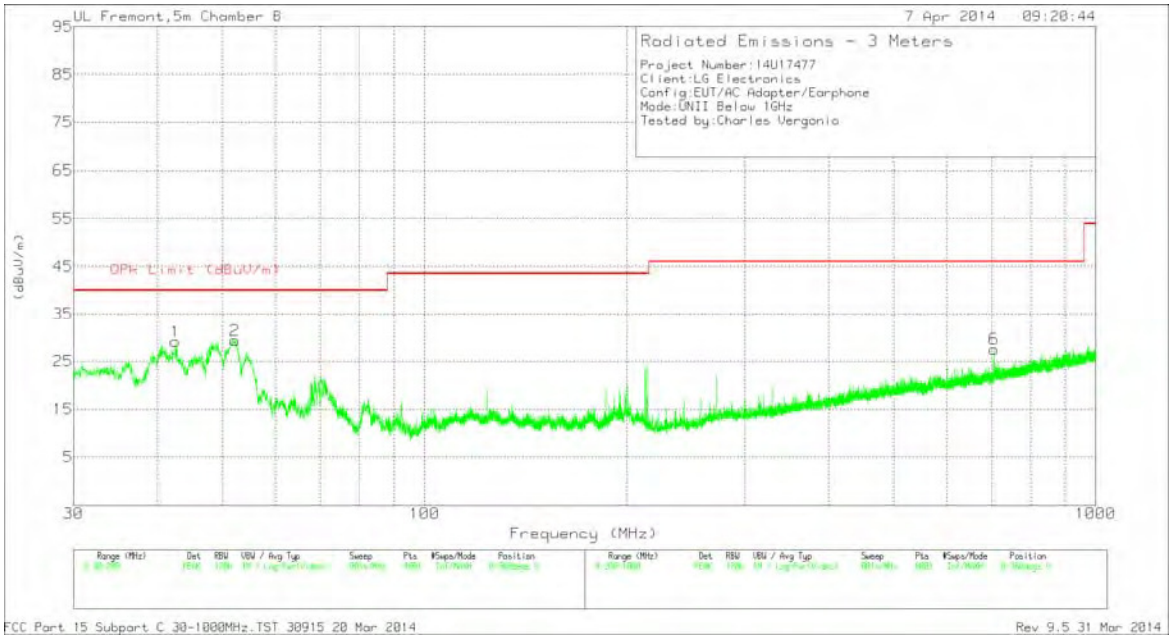
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



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

VERTICAL PLOT



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
1	42.5375	46.11	PK	11.8	-28.7	29.21	40	-10.79	0-360	101	V
2	52.185	50.84	PK	7.2	-28.6	29.44	40	-10.56	0-360	101	V
3	160.0075	37.78	PK	12.2	-27.3	22.68	43.52	-20.84	0-360	300	H
4	186.145	43.4	PK	11.3	-27.1	27.6	43.52	-15.92	0-360	100	H
5	213.3	45.31	PK	10.4	-26.9	28.81	43.52	-14.71	0-360	200	H
6	705.8	32.47	PK	19.8	-24.7	27.57	46.02	-18.45	0-360	101	V

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

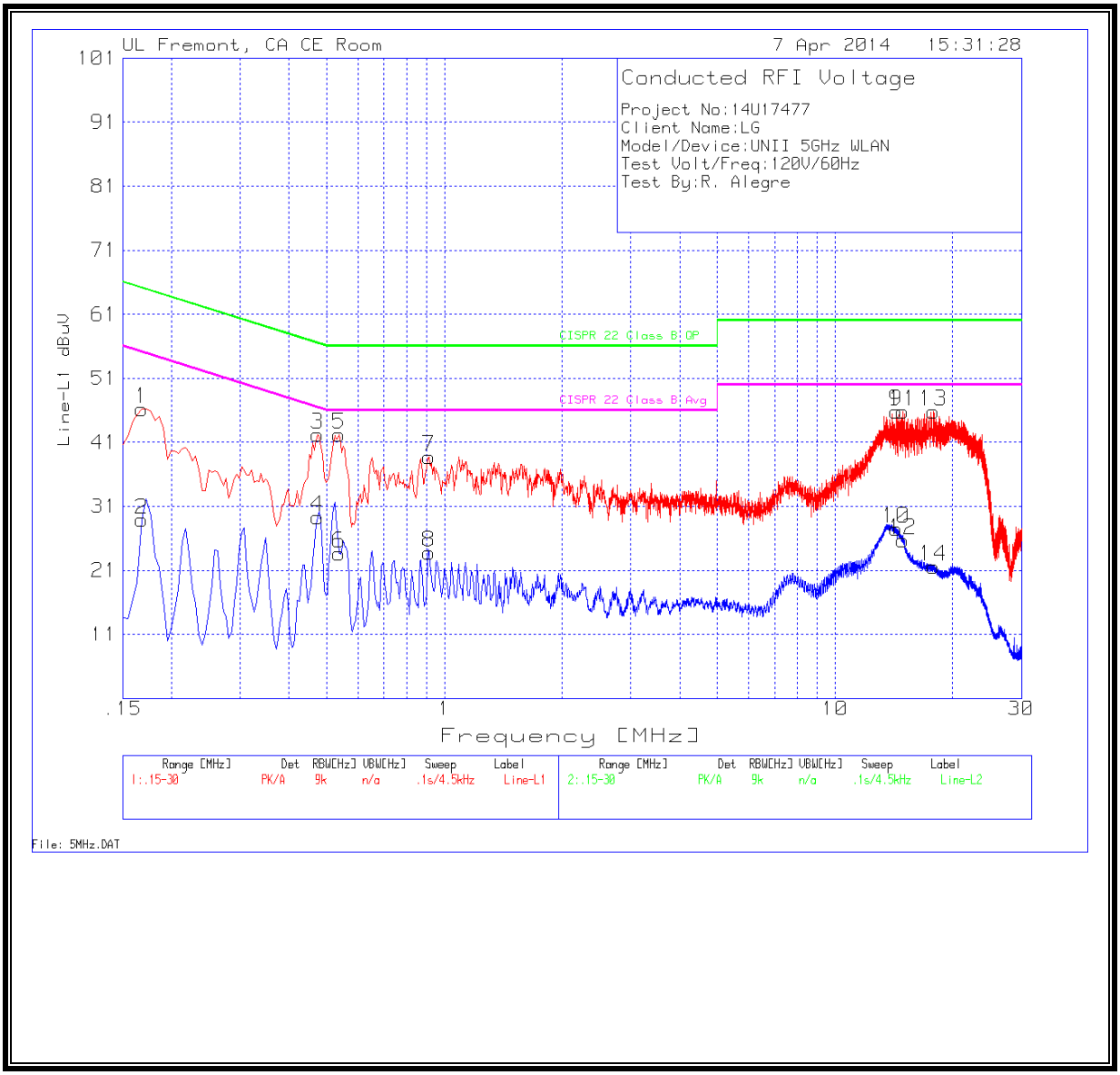
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.168	45.06	PK	1.2	0	46.26	65.1	-18.84	-	-
2	.168	27.67	Av	1.2	0	28.87	-	-	55.1	-26.23
3	.474	41.82	PK	.4	0	42.22	56.4	-14.18	-	-
4	.474	28.87	Av	.4	0	29.27	-	-	46.4	-17.13
5	.537	41.87	PK	.3	0	42.17	56	-13.83	-	-
6	.537	23.39	Av	.3	0	23.69	-	-	46	-22.31
7	.915	38.47	PK	.3	0	38.77	56	-17.23	-	-
8	.915	23.42	Av	.3	0	23.72	-	-	46	-22.28
9	14.3115	45.37	PK	.2	.2	45.77	60	-14.23	-	-
10	14.3115	27.14	Av	.2	.2	27.54	-	-	50	-22.46
11	14.883	45.46	PK	.2	.2	45.86	60	-14.14	-	-
12	14.883	25.31	Av	.2	.2	25.71	-	-	50	-24.29
13	17.8755	45.35	PK	.3	.2	45.85	60	-14.15	-	-
14	17.8755	21.12	Av	.3	.2	21.62	-	-	50	-28.38

Line-L2 .15 - 30MHz

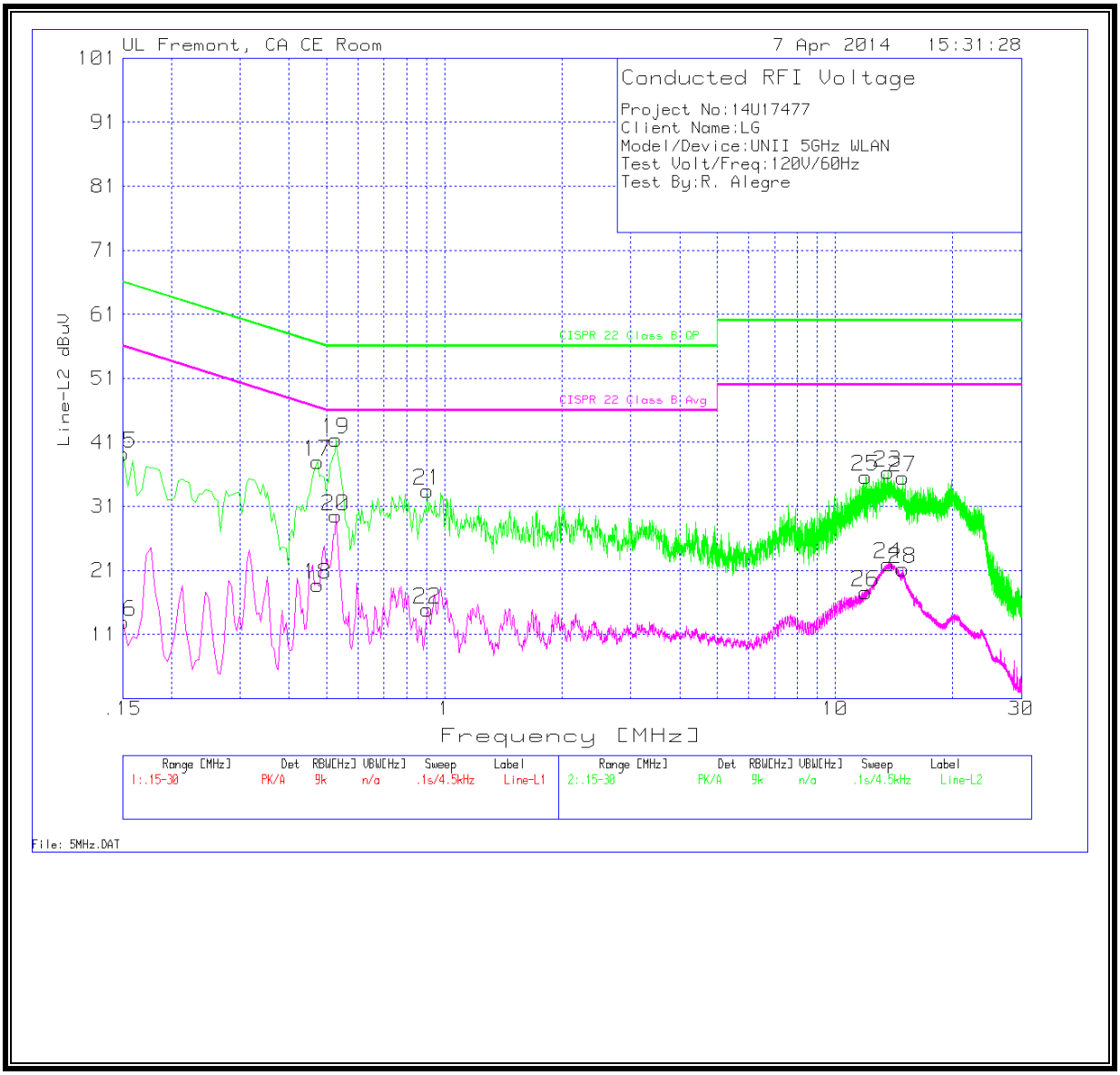
Trace Markers

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)
15	.15	37.72	PK	1.5	0	39.22	66	-26.78	-	-
16	.15	11.45	Av	1.5	0	12.95	-	-	56	-43.05
17	.474	37.56	PK	.4	0	37.96	56.4	-18.44	-	-
18	.474	18.37	Av	.4	0	18.77	-	-	46.4	-27.63
19	.528	41.11	PK	.3	0	41.41	56	-14.59	-	-
20	.528	29.21	Av	.3	0	29.51	-	-	46	-16.49
21	.906	33.12	PK	.3	0	33.42	56	-22.58	-	-
22	.906	14.56	Av	.3	0	14.86	-	-	46	-31.14
25	11.985	35.23	PK	.2	.2	35.63	60	-24.37	-	-
26	11.985	17.15	Av	.2	.2	17.55	-	-	50	-32.45
23	13.632	35.84	PK	.3	.2	36.34	60	-23.66	-	-
24	13.632	21.48	Av	.3	.2	21.98	-	-	50	-28.02
27	14.8965	35.01	PK	.3	.2	35.51	60	-24.49	-	-
28	14.8965	20.66	Av	.3	.2	21.16	-	-	50	-28.84

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
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds
Channel Closing Transmission Time	200 milliseconds + approx. 60 milliseconds over remaining 10 second period
The instant that the *Channel Move Time* and the *Channel Closing Transmission Time* begins is as follows: For the Short pulse radar Test Signals this instant is the end of the *Burst*. 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.	

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

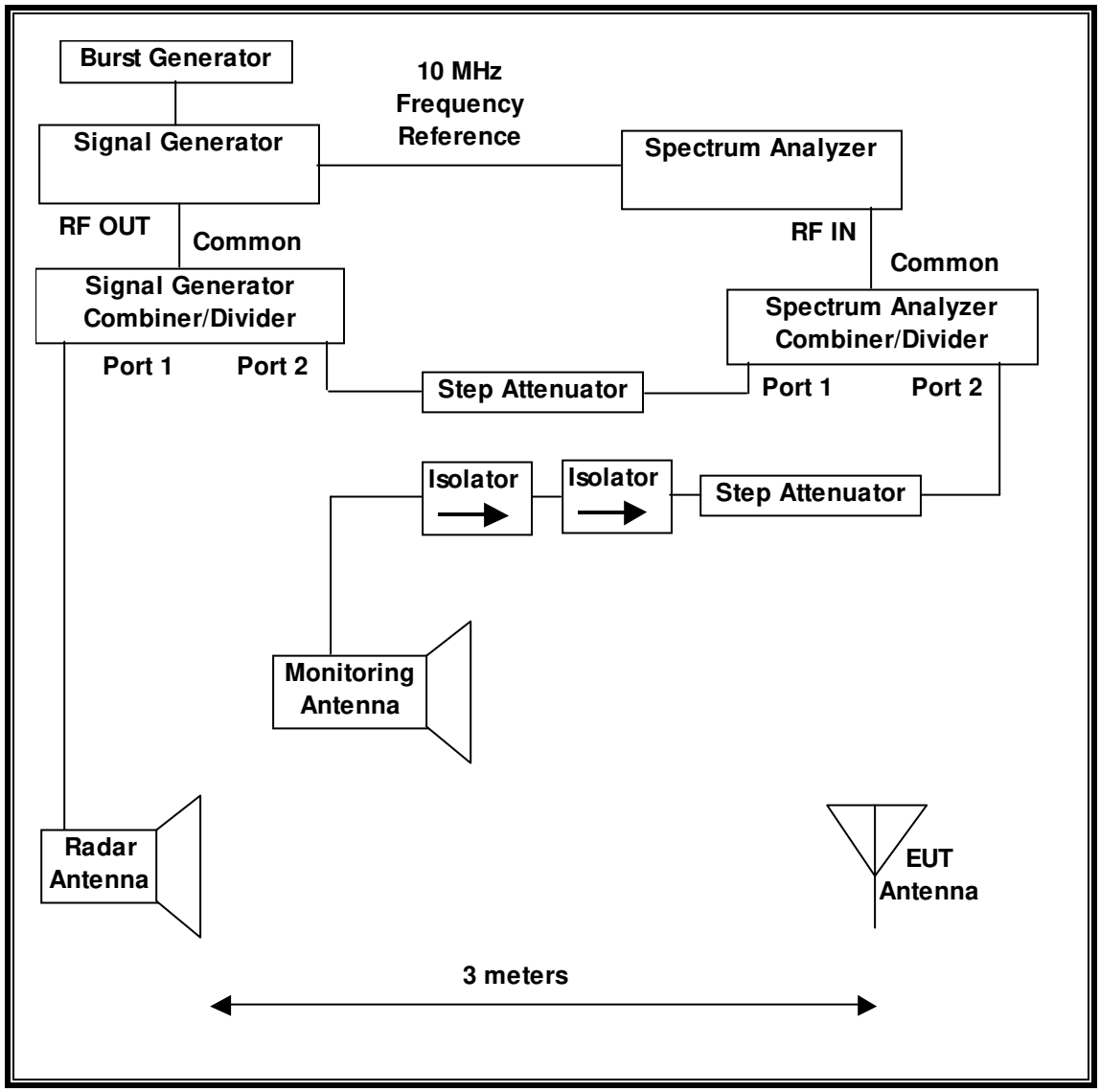
Radar Waveform	Bursts	Pulses per Burst	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Minimum Percentage of Successful Detection	Minimum Trials
5	8-20	1-3	50-100	5-20	1000-2000	80%	30

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.

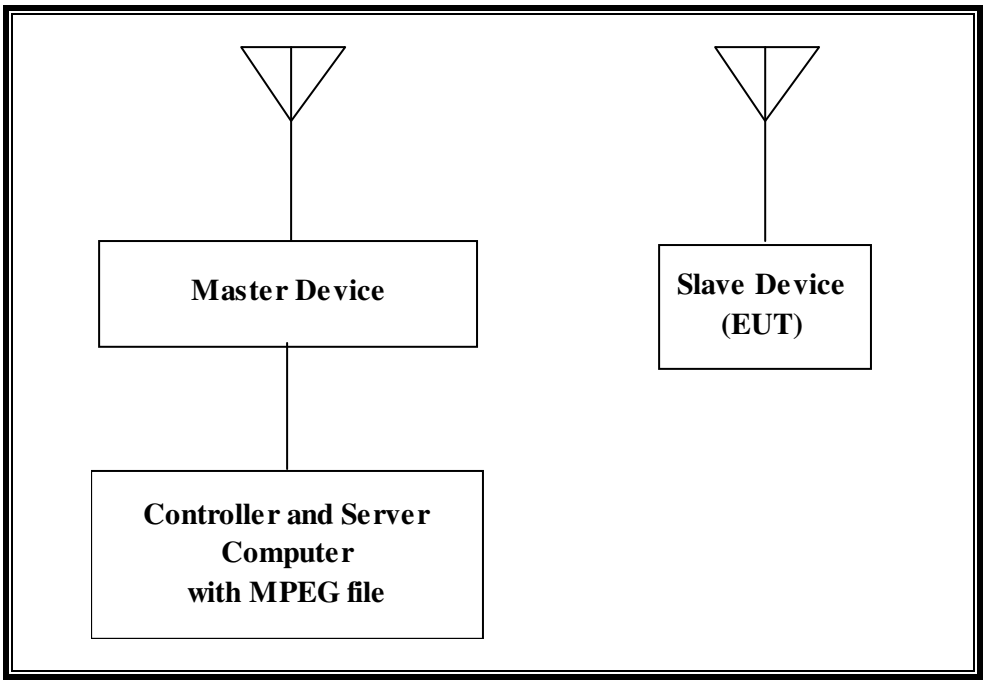
TEST AND MEASUREMENT EQUIPMENT

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

14.1.4. 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 11.56 dBm EIRP in the 5250-5350 MHz band and 11.16 dBm EIRP in the 5470-5725 MHz band.

The only antenna assembly utilized with the EUT has a gain of -4.22 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.

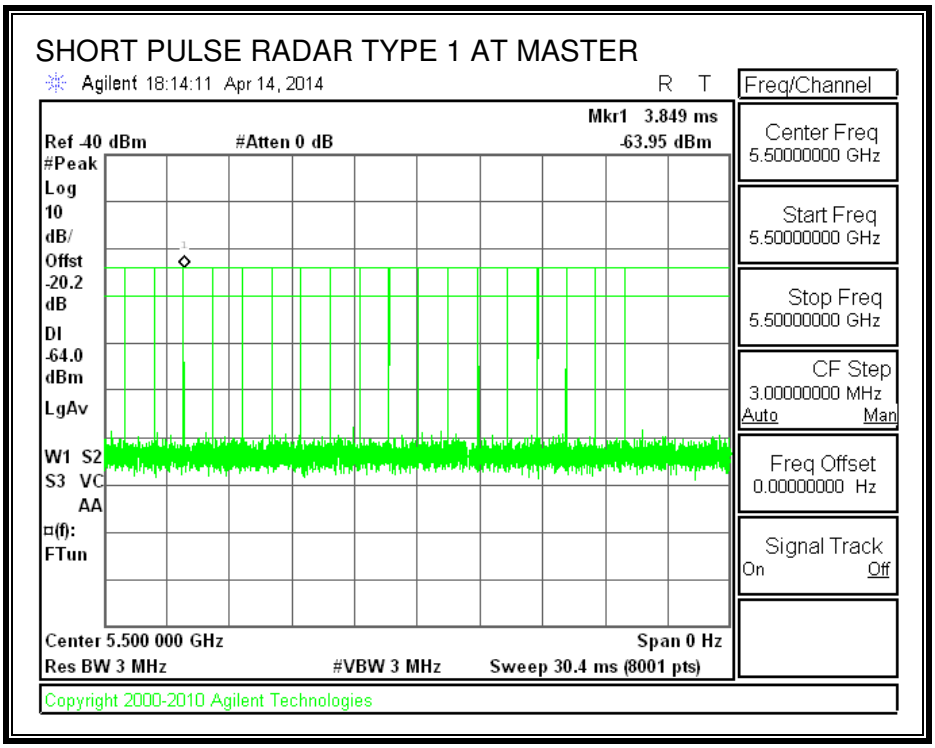
14.2. RESULTS FOR 20 MHz BANDWIDTH

14.2.1. TEST CHANNEL

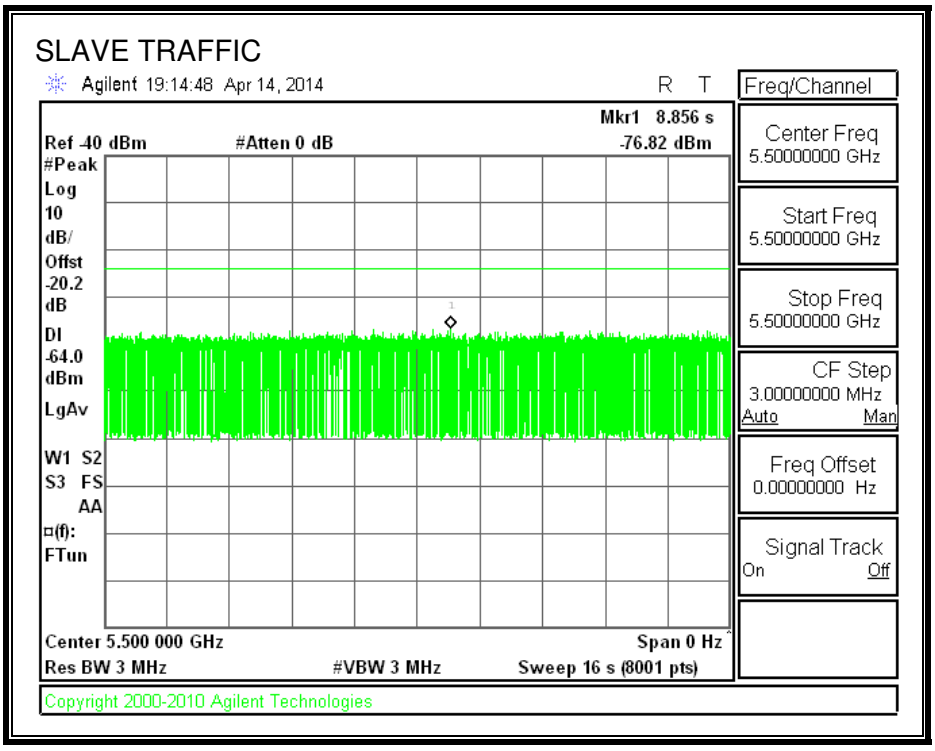
All tests were performed at a channel center frequency of 5500 MHz.

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)

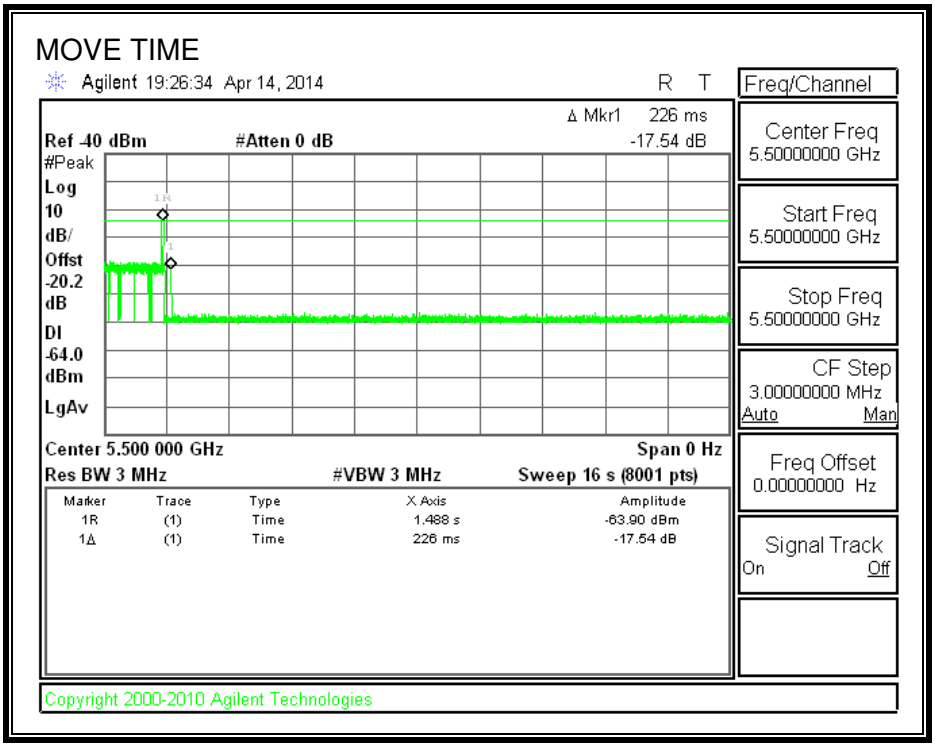
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

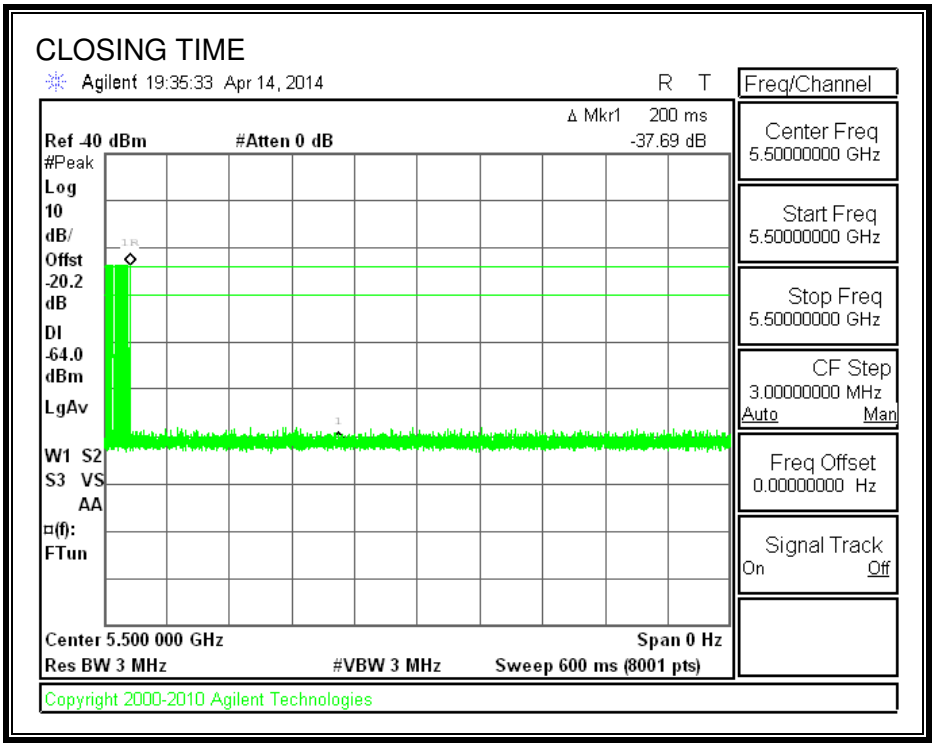
Channel Move Time (sec)	Limit (sec)
0.226	10

Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
2.0	60

MOVE TIME

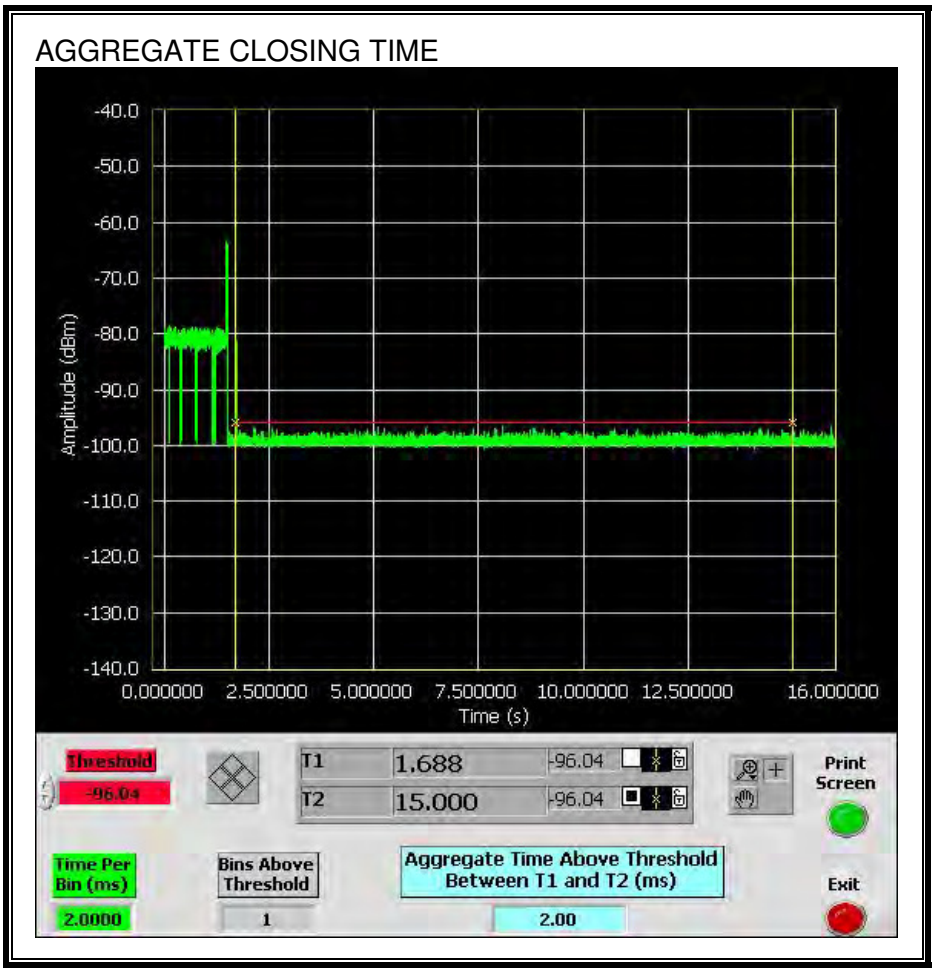


CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

Only intermittent transmissions are observed during the aggregate monitoring period.



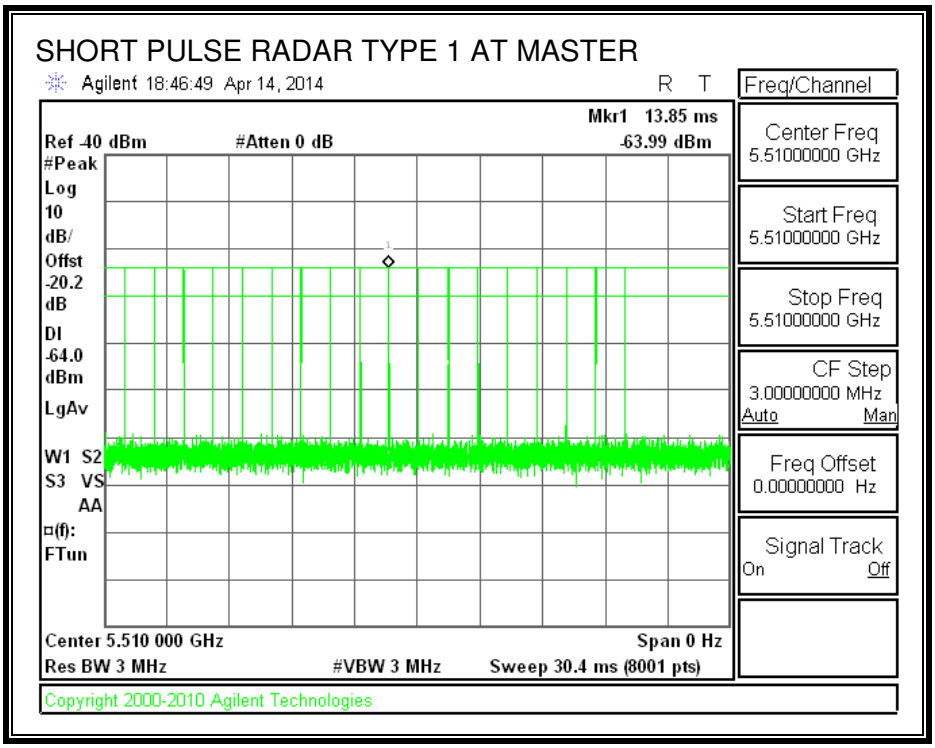
14.3. RESULTS FOR 40 MHz BANDWIDTH

14.3.1. TEST CHANNEL

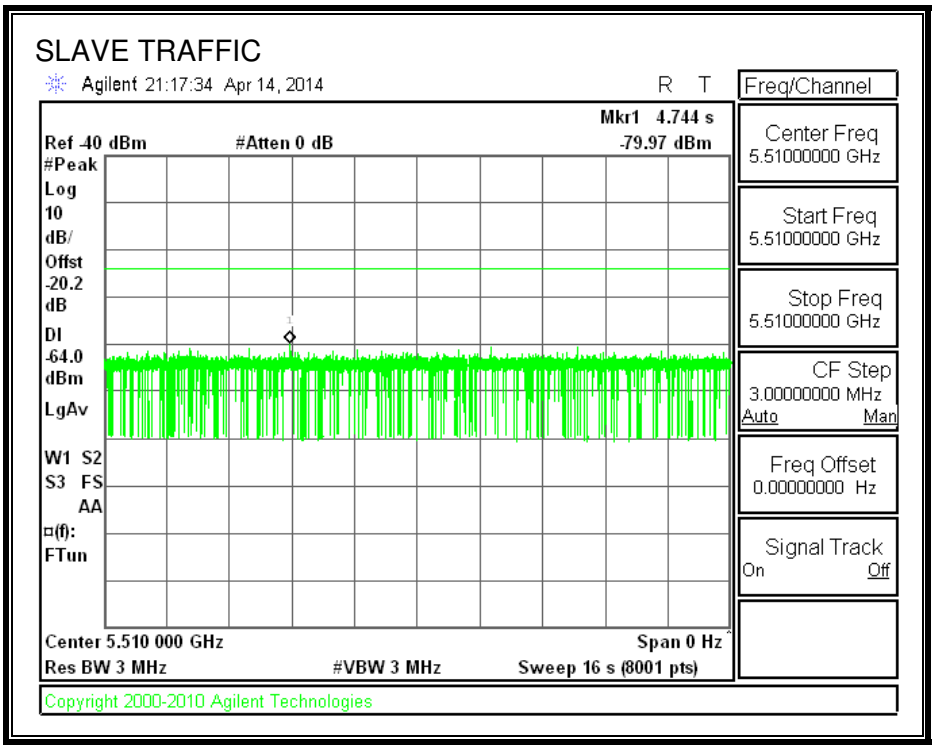
All tests were performed at a channel center frequency of 5510 MHz.

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)

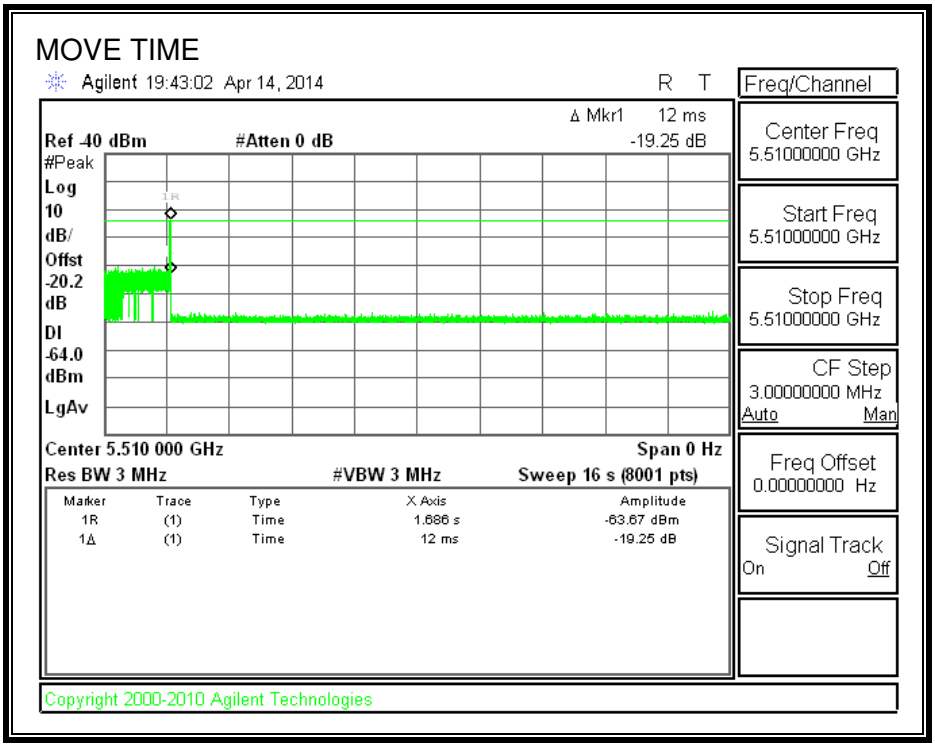
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

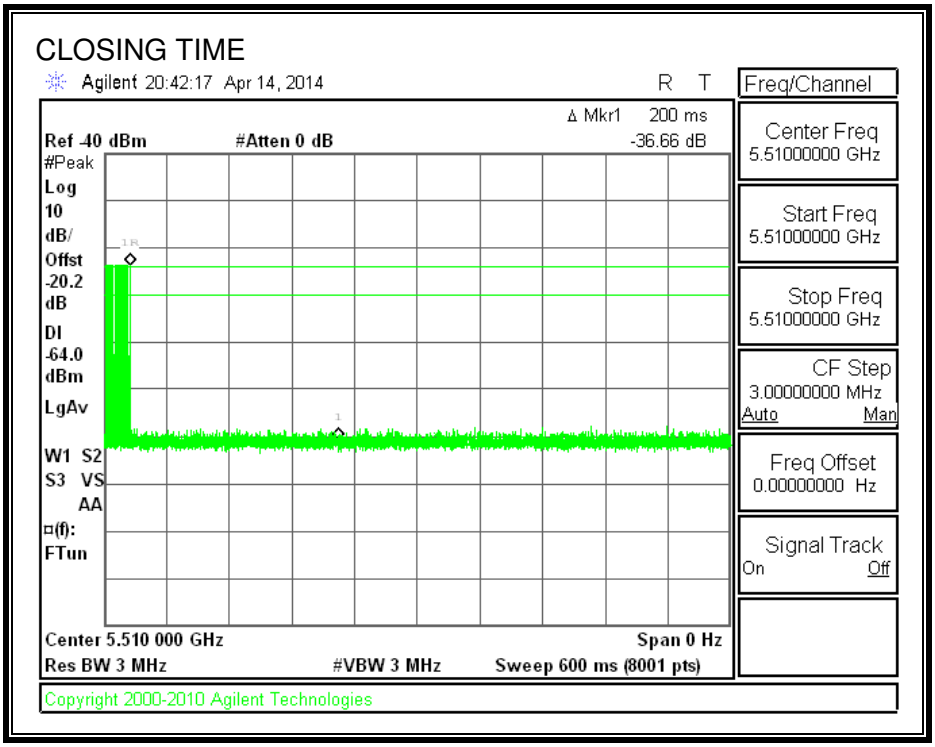
Channel Move Time (sec)	Limit (sec)
0.012	10

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

MOVE TIME

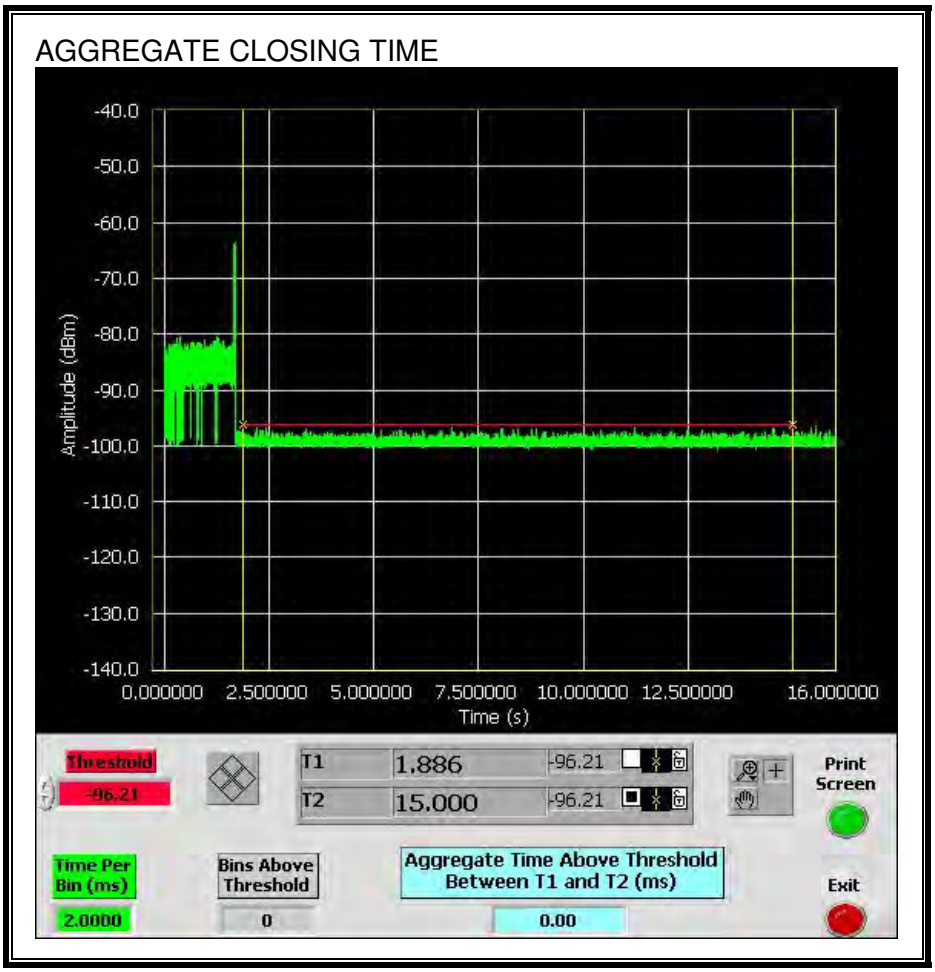


CHANNEL CLOSING TIME



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.