



FCC CFR47 PART 15 SUBPART C

C2PC CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS b/g/n

MODEL NUMBER: LG-US550, LGUS550, US550

FCC ID: ZNFUS550

REPORT NUMBER: 15I19900-E4

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Prepared for

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Revision History

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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 b/g/n
MODEL: LG-US550, LGUS550, US550
SERIAL NUMBER: 80EFD1FD, 80049B33
DATE TESTED: February 20-23, 2015

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	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 ANSI C63.10-2009, FCC CFR 47 Part 2, and FCC CFR 47 Part 15C.

3. FACILITIES AND ACCREDITATION

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

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 18000 MHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS b/g/n

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:
See original report for details.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -3.1dBi.

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 X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

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

802.11b mode: 1 Mbps

802.11g mode: 6 Mbps

802.11n HT20mode: MCS0

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MCS-02WD	DA3Z0153451	N/A
Earphone	LG	LG-US550	N/A	N/A

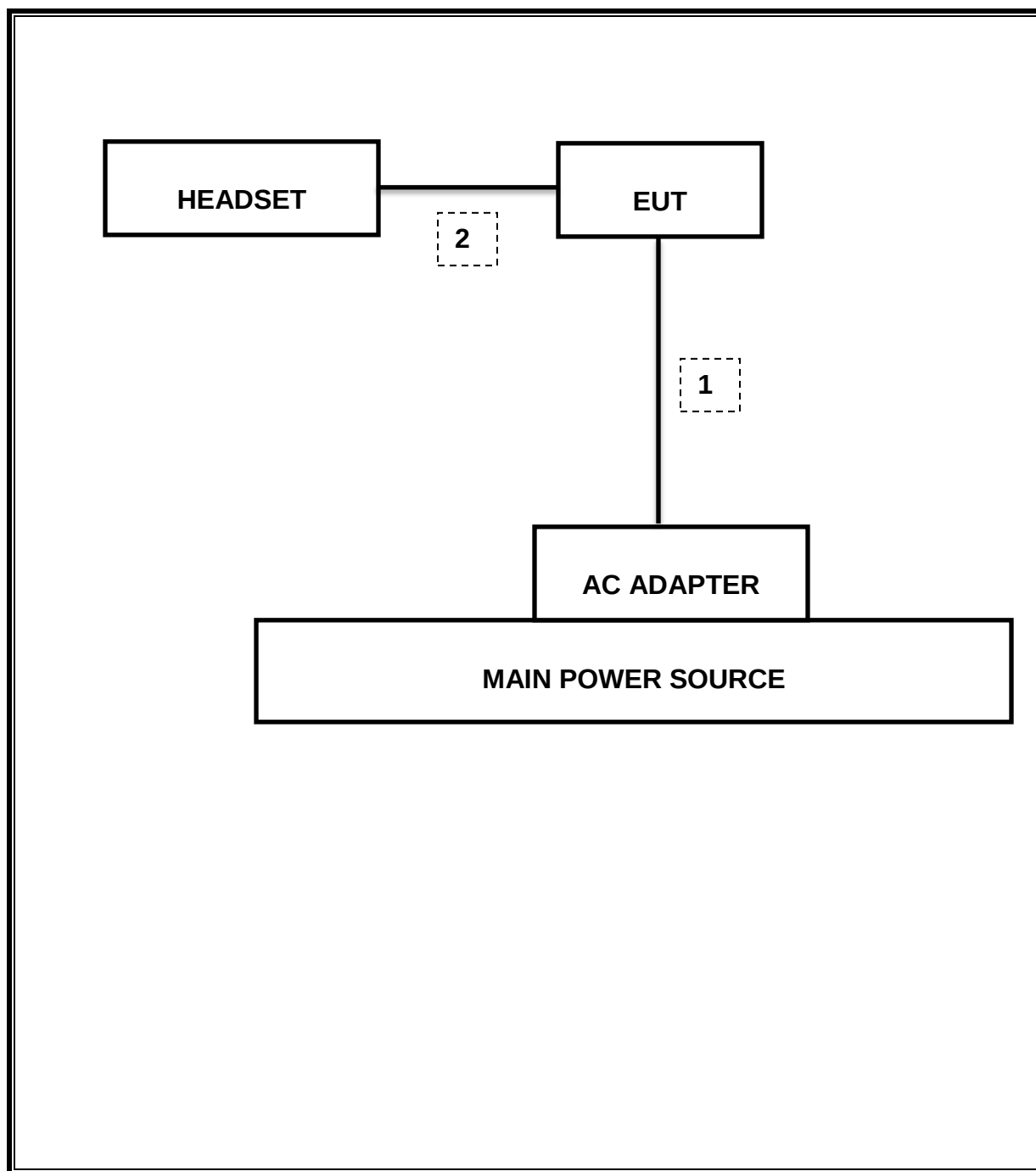
I/O CABLES

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	1m	N/A

TEST SETUP

The EUT is a stand-alone unit during the tests. Test software exercised the radio card.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
Spectrum Analyzer, 9KHz-40GHz	HP	8564E	C00986	04/01/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/15
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/15
Antenna, Horn, 18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/15
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/15
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/15
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/15
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/15

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

7. MEASUREMENT METHODS

KDB 558074 D01 DTS Meas Guidance v03r01: Measurement Procedure PK2 is used for power and PKPSD is used for power spectral density.

Unwanted emissions within Restricted Bands are measured using traditional radiated procedures.

Band edge emissions within Restricted Bands are measured using RMS with duty cycle factor offset method.

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)
802.11b	12.22	12.32	0.992	99.2%	0.00	0.010
802.11g	2.03	2.13	0.953	95.3%	0.21	0.493
802.11n HT20	1.87	1.98	0.947	94.7%	0.24	0.535

9. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)(2)	RSS-210 A8.2(a)	Occupied Band width (6dB)	>500KHz	Conducted	Pass	See Original
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	See Original
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	See Original
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	See Original
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	See Original
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	45.13dBuV/m

10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
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.

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 for average measurements. Duty cycle factor= $10\log(1/x)$ for this sample B mode = 0dB (duty cycle >98%); G mode = 0.21dB; N mode = 0.24dB.

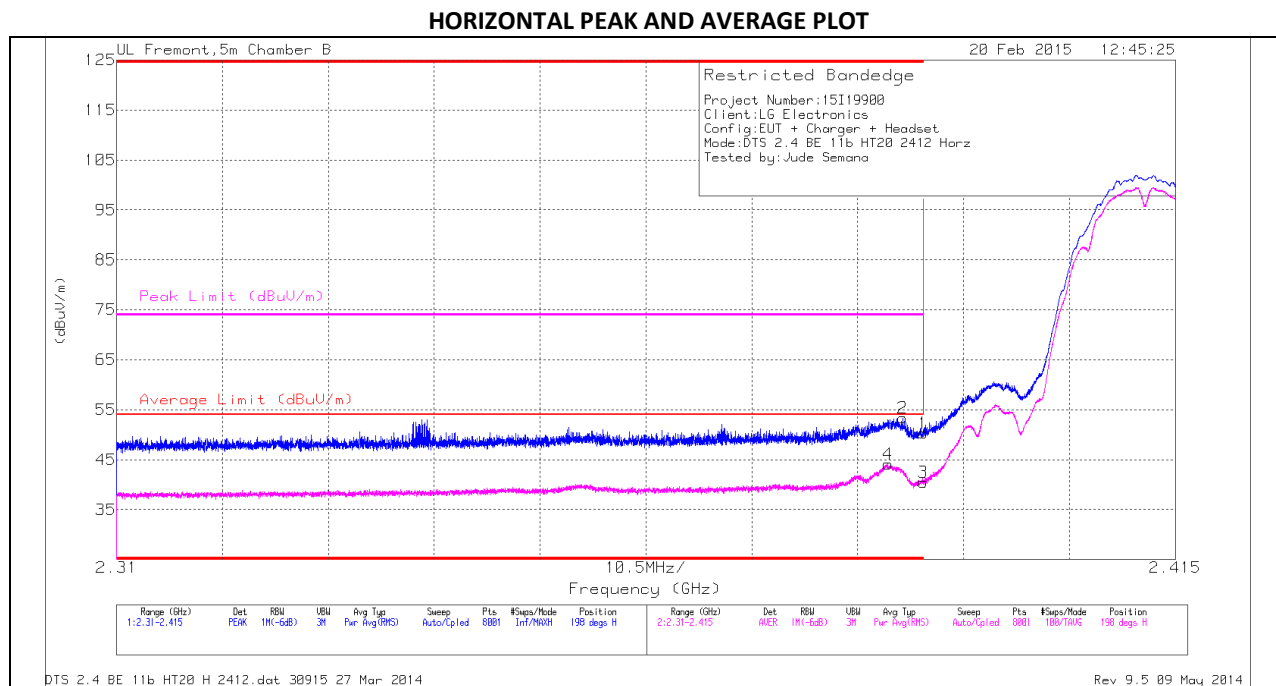
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

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.

10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

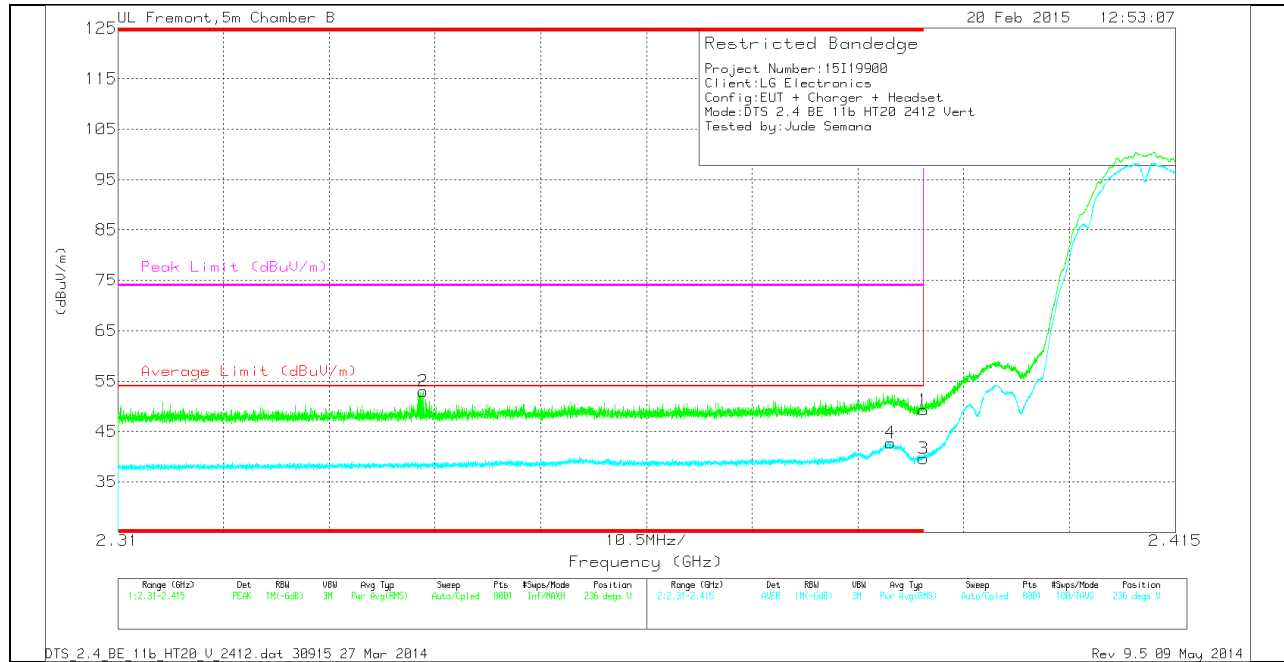
RESTRICTED BANDEDGE (LOW CHANNEL)



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.82	PK	32.1	-22.6	50.32	-	-	74	-23.68	198	235	H
2	* 2.388	43.86	PK	32.1	-22.6	53.36	-	-	74	-20.64	198	235	H
3	* 2.39	30.99	RMS	32.1	-22.6	40.49	54	-13.51	-	-	198	235	H
4	* 2.387	34.64	RMS	32.1	-22.6	44.14	54	-9.86	-	-	198	235	H

VERTICAL PEAK AND AVERAGE PLOT

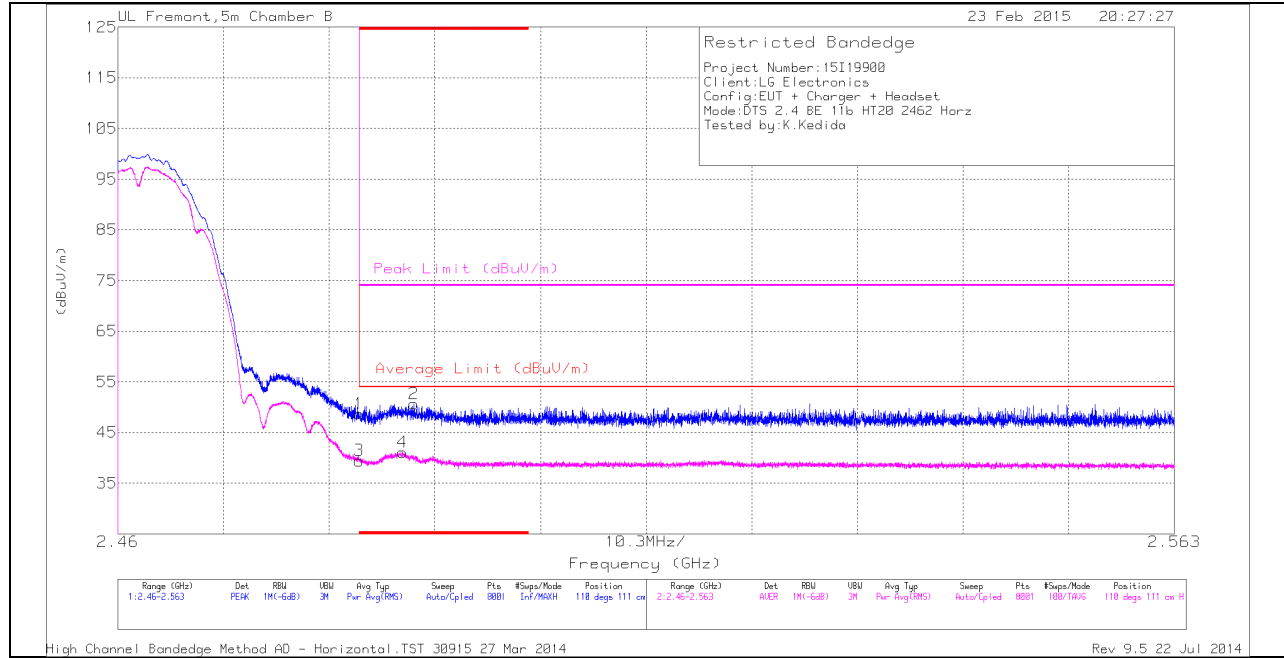


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.8	PK	32.1	-22.6	0	49.3	-	-	74	-24.7	236	239	V
2	* 2.34	43.88	PK	31.8	-22.7	0	52.98	-	-	74	-21.02	236	239	V
3	* 2.39	30.13	RMS	32.1	-22.6	0	39.63	54	-14.37	-	-	236	239	V
4	* 2.387	33.27	RMS	32.1	-22.6	0	42.77	54	-11.23	-	-	236	239	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

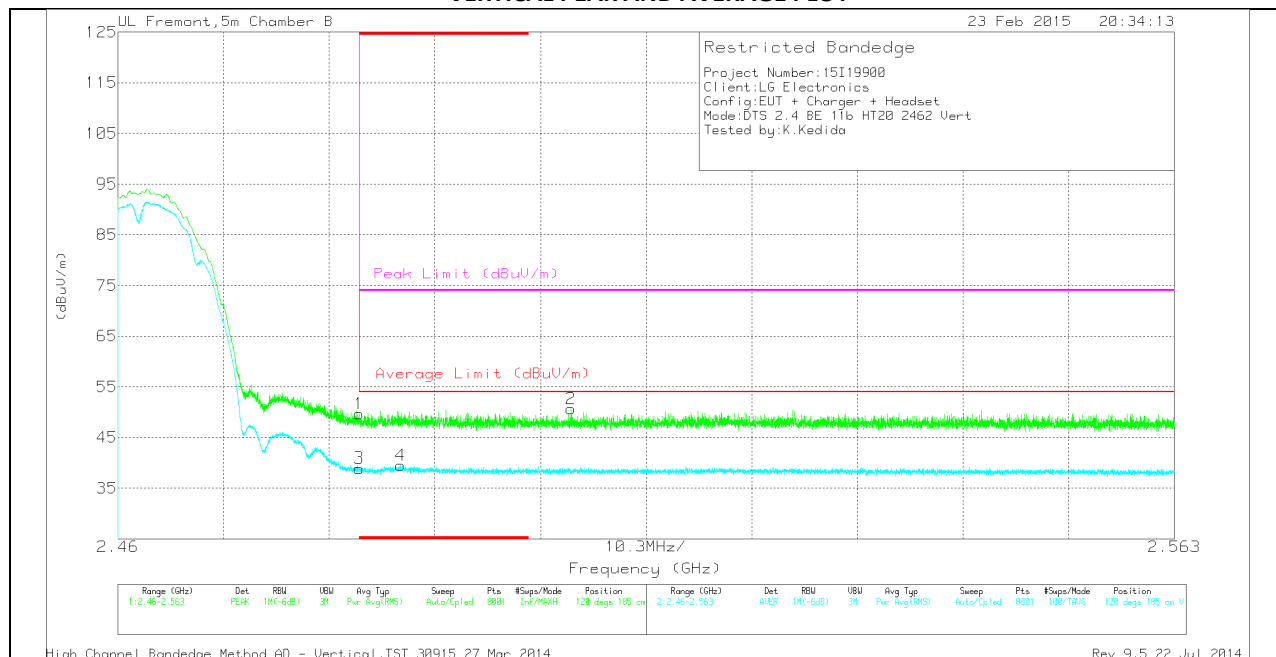
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.01	PK	32.1	-22.4	48.71	-	-	74	-25.29	110	111	H
2	* 2.489	40.96	PK	32.1	-22.4	50.66	-	-	74	-23.34	110	111	H
3	* 2.484	29.73	RMS	32.1	-22.4	39.43	54	-14.57	-	-	110	111	H
4	* 2.488	31.41	RMS	32.1	-22.4	41.11	54	-12.89	-	-	110	111	H

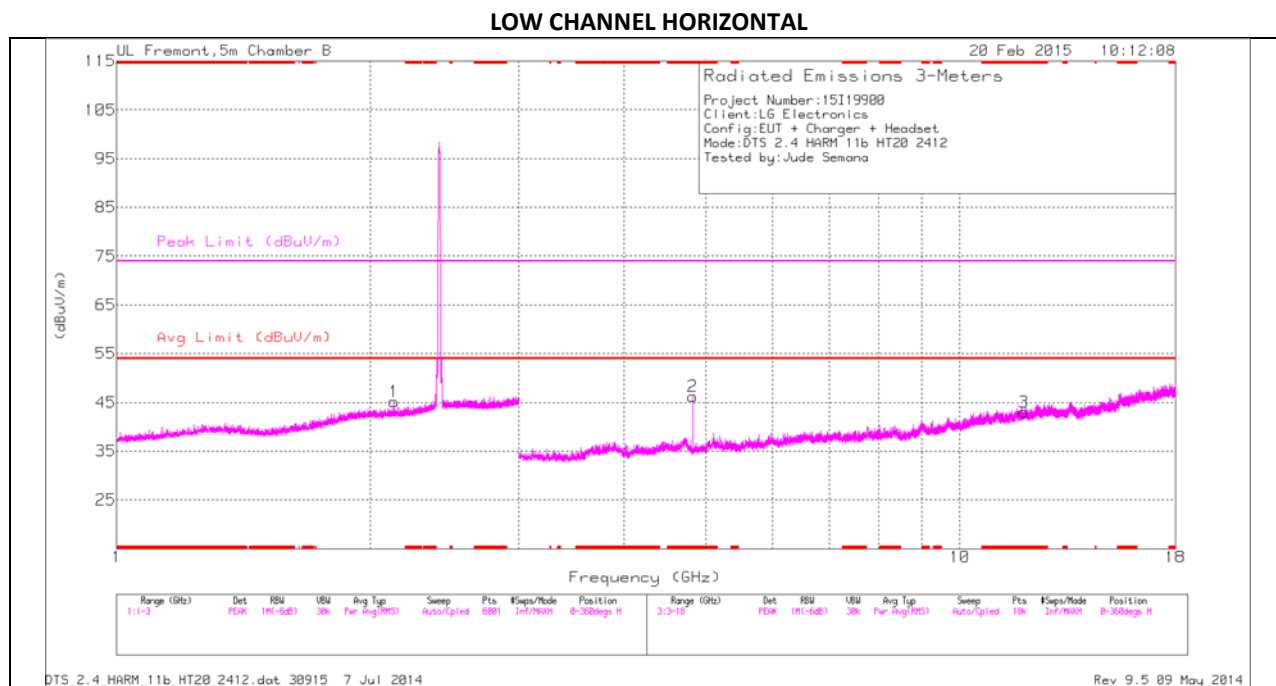
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

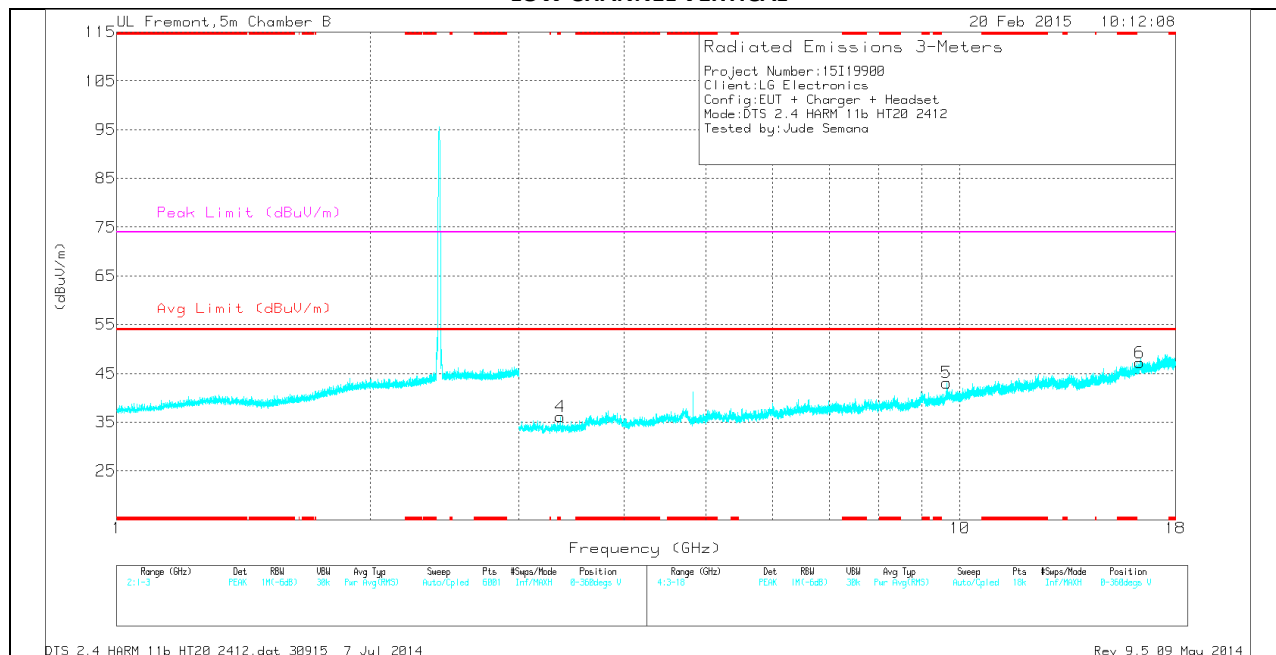
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.95	PK	32.1	-22.4	49.65	-	-	74	-24.35	120	185	V
3	* 2.484	29.23	RMS	32.1	-22.4	38.93	54	-15.07	-	-	120	185	V
4	* 2.488	29.78	RMS	32.1	-22.4	39.48	54	-14.52	-	-	120	185	V
2	2.504	40.87	PK	32.1	-22.3	50.67	-	-	74	-23.33	120	185	V

HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

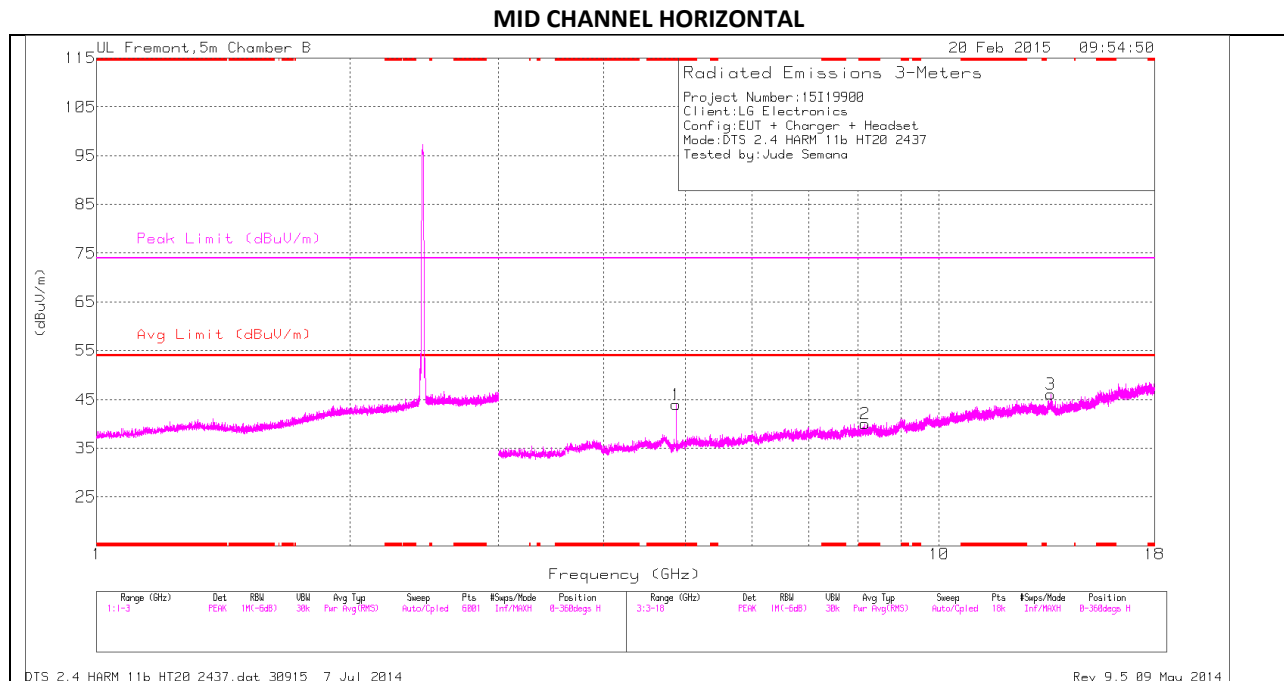
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.824	41.7	PK	34.2	-29.7	0	46.2	-	-	74	-27.8	0-360	200	H
3	* 11.908	27.04	PK	38.5	-22.5	0	43.04	-	-	74	-30.96	0-360	200	H
1	2.132	36.81	PK	31.3	-23	0	45.11	-	-	-	-	0-360	101	H
4	3.358	34.3	PK	32.8	-31	0	36.1	-	-	-	-	0-360	200	V
5	9.647	30.07	PK	36.8	-23.8	0	43.07	-	-	-	-	0-360	200	V
6	16.332	26.11	PK	41.2	-20.1	0	47.21	-	-	-	-	0-360	200	V

PK - Peak detector

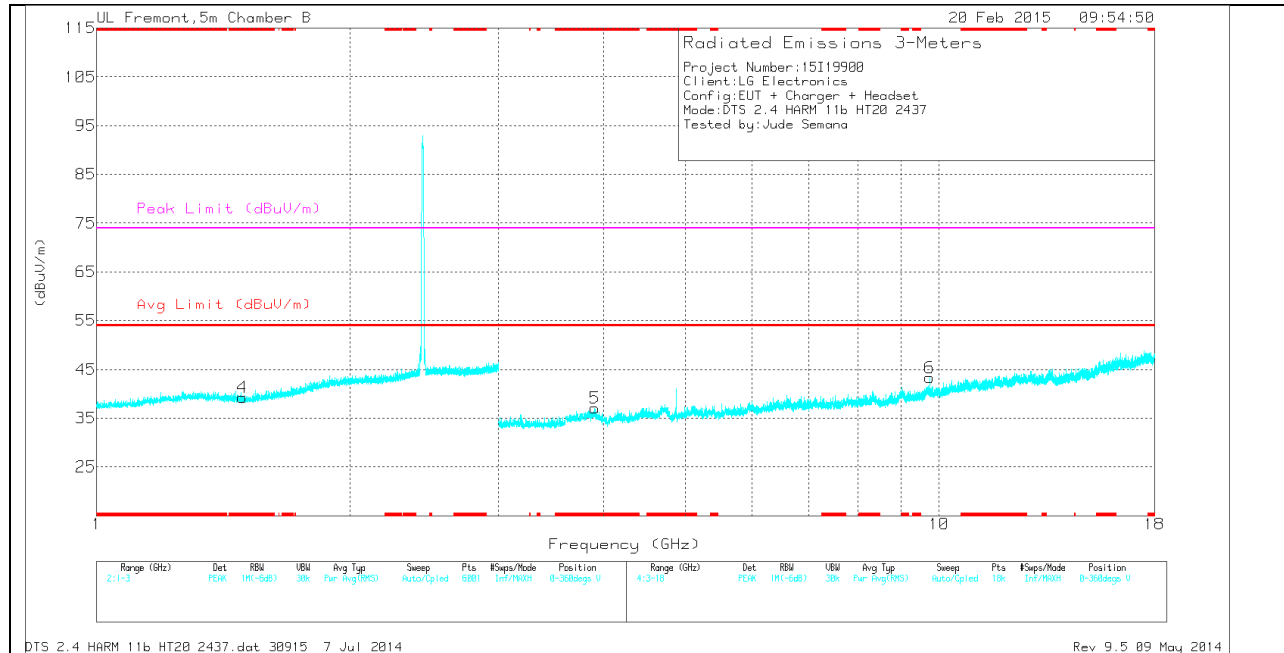
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.824	44.96	PK2	34.2	-29.7	0	49.46	-	-	74	-24.54	177	198	H
* 4.824	40.63	MAV1	34.2	-29.7	0	45.13	54	-8.87	-	-	177	198	H



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

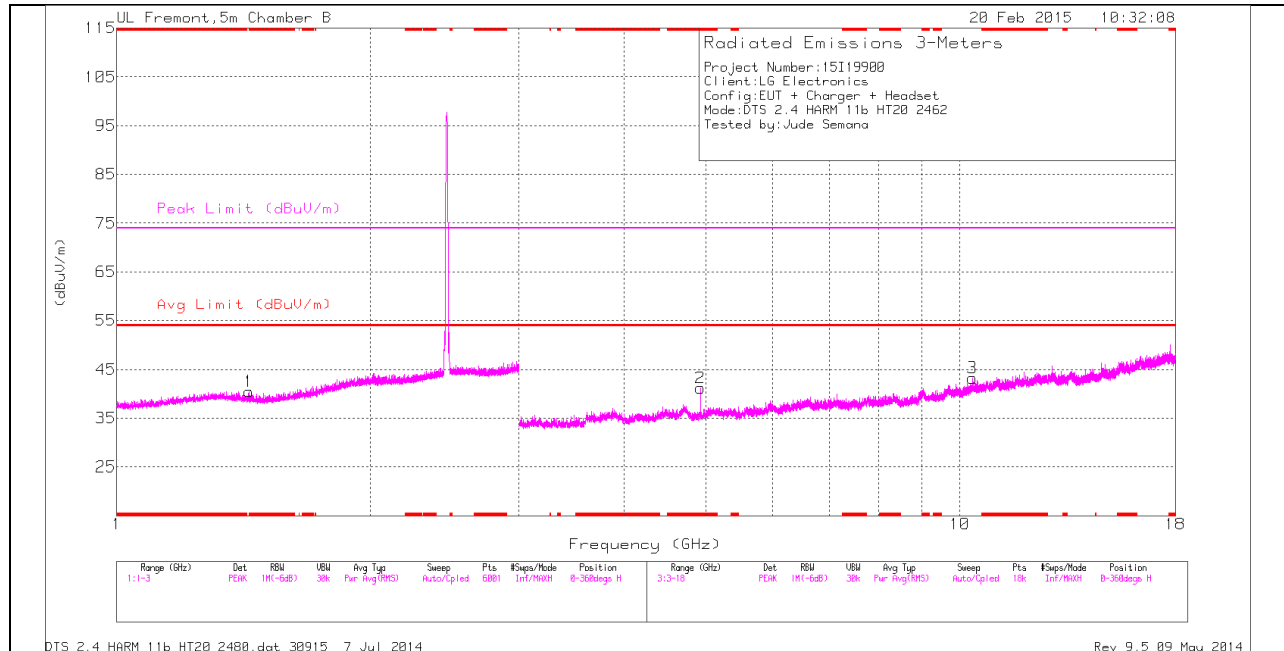
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 1.49	35.21	PK	28	-23.9	0	39.31	-	-	74	-34.69	0-360	199	V
5	* 3.901	33.16	PK	33.8	-29.9	0	37.06	-	-	74	-36.94	0-360	101	V
1	* 4.874	40.14	PK	34.2	-30.4	0	43.94	-	-	74	-30.06	0-360	199	H
2	* 8.163	30.41	PK	35.7	-26.1	0	40.01	-	-	74	-33.99	0-360	199	H
3	13.564	28.16	PK	38.9	-21	0	46.06	-	-	-	-	0-360	199	H
6	9.748	30.23	PK	36.9	-23.8	0	43.33	-	-	-	-	0-360	199	V

PK - Peak detector

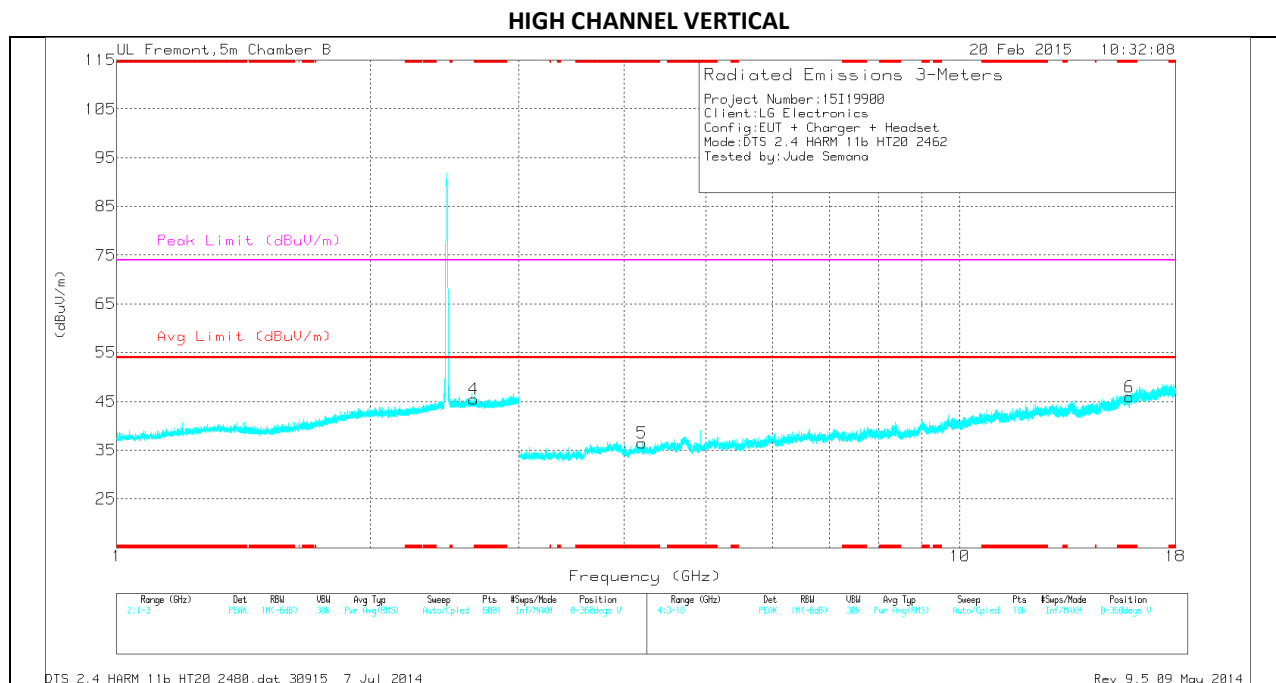
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.874	45.53	PK2	34.2	-30.4	0	49.33	-	-	74	-24.67	170	216	H
* 4.874	40.62	MAV1	34.2	-30.4	0	44.42	54	-9.58	-	-	170	216	H

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.435	36.15	PK	28.3	-24	0	40.45	-	-	74	-33.55	0-360	199	H
2	* 4.924	37.49	PK	34.2	-30.5	0	41.19	-	-	74	-32.81	0-360	101	H
5	* 4.2	32.9	PK	33.5	-29.9	0	36.5	-	-	74	-37.5	0-360	101	V
6	* 15.885	25.89	PK	40.8	-20.8	0	45.89	-	-	74	-28.11	0-360	199	V
4	2.651	35.56	PK	32.3	-22.4	0	45.46	-	-	-	-	0-360	199	V
3	10.348	28.72	PK	37.2	-22.7	0	43.22	-	-	-	-	0-360	199	H

PK - Peak detector

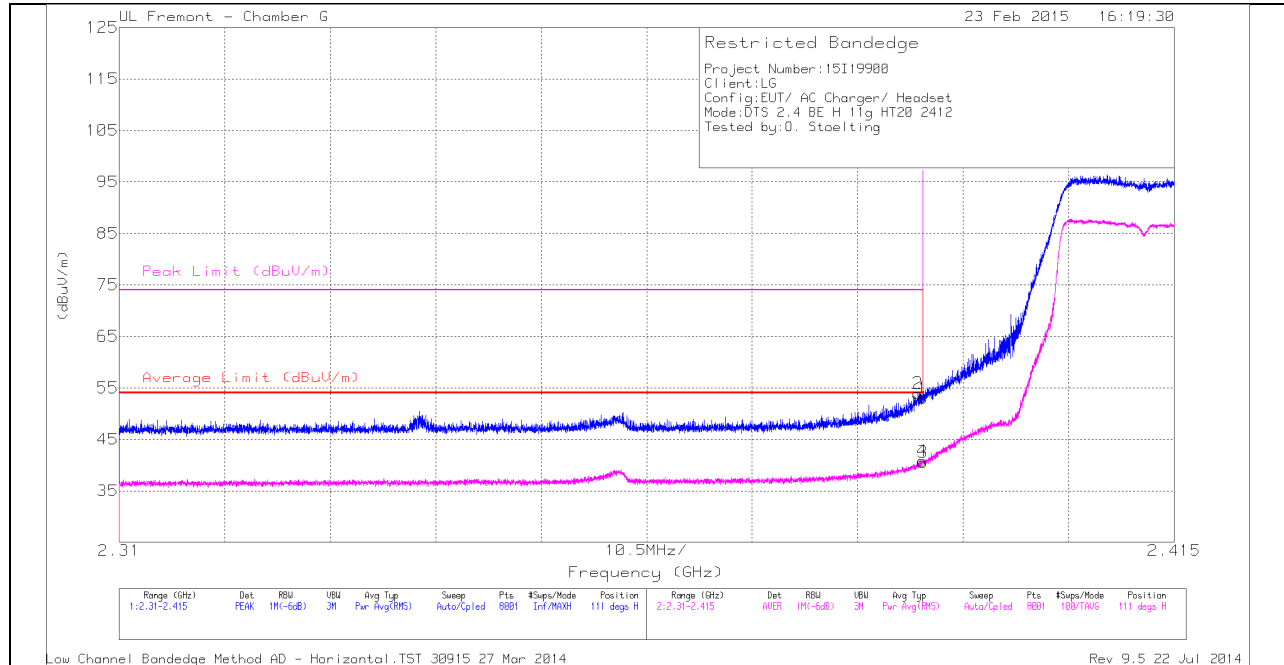
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.924	44.42	PK2	34.2	-30.5	0	48.12	-	-	74	-25.88	175	193	H
* 4.924	38.5	MAV1	34.2	-30.5	0	42.2	54	-11.8	-	-	175	193	H

10.2.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

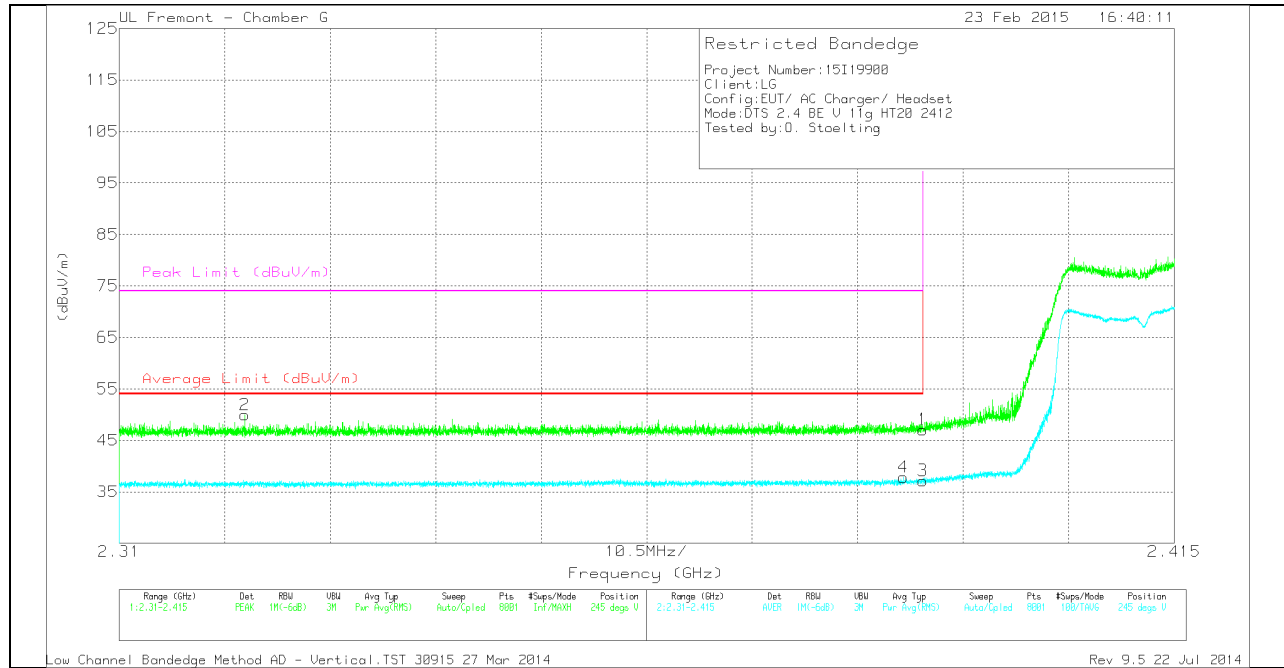
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	46.08	PK	31.8	-24.9	0	52.98	-	-	74	-21.02	111	109	H
2	* 2.389	46.99	PK	31.8	-24.9	0	53.89	-	-	74	-20.11	111	109	H
3	* 2.39	33.46	RMS	31.8	-24.9	.21	40.57	54	-13.43	-	-	111	109	H
4	* 2.39	33.67	RMS	31.8	-24.9	.21	40.78	54	-13.22	-	-	111	109	H

VERTICAL PEAK AND AVERAGE PLOT

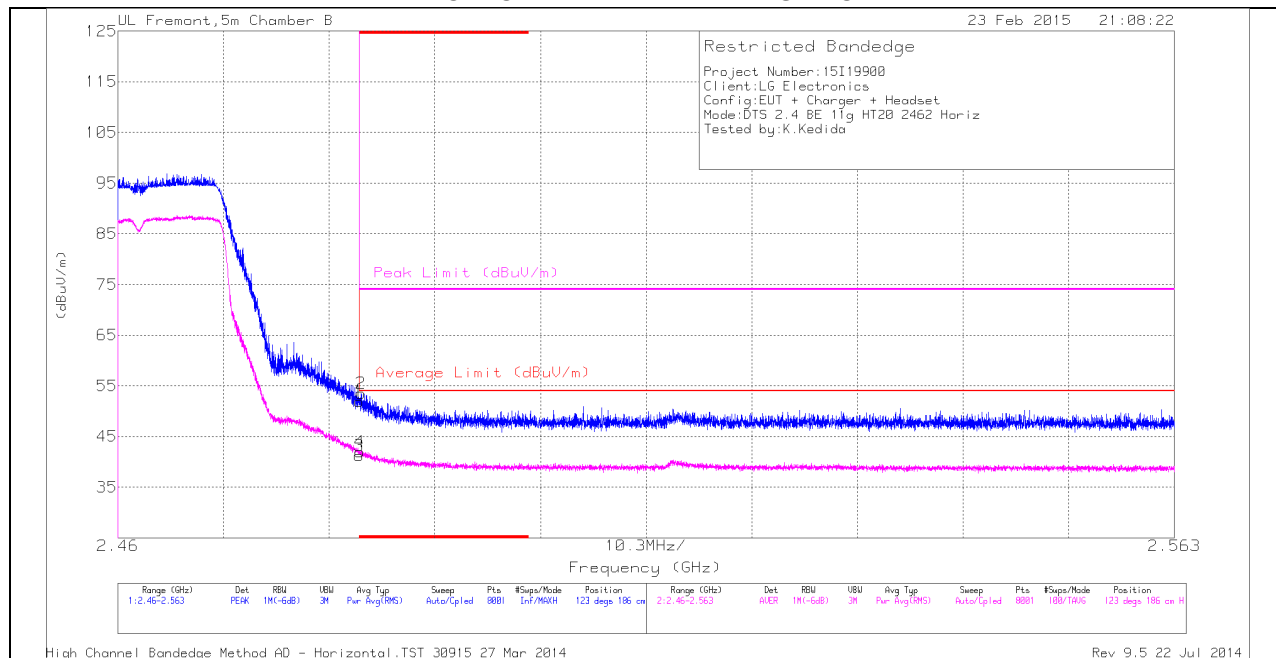


VERTICAL DATA

arker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.15	PK	31.8	-24.9	0	47.05	-	-	74	-26.95	245	108	V
2	* 2.323	43.37	PK	31.6	-25	0	49.97	-	-	74	-24.03	245	108	V
3	* 2.39	30.05	RMS	31.8	-24.9	.21	37.16	54	-16.84	-	-	245	108	V
4	* 2.388	30.72	RMS	31.8	-24.9	.21	37.83	54	-16.17	-	-	245	108	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

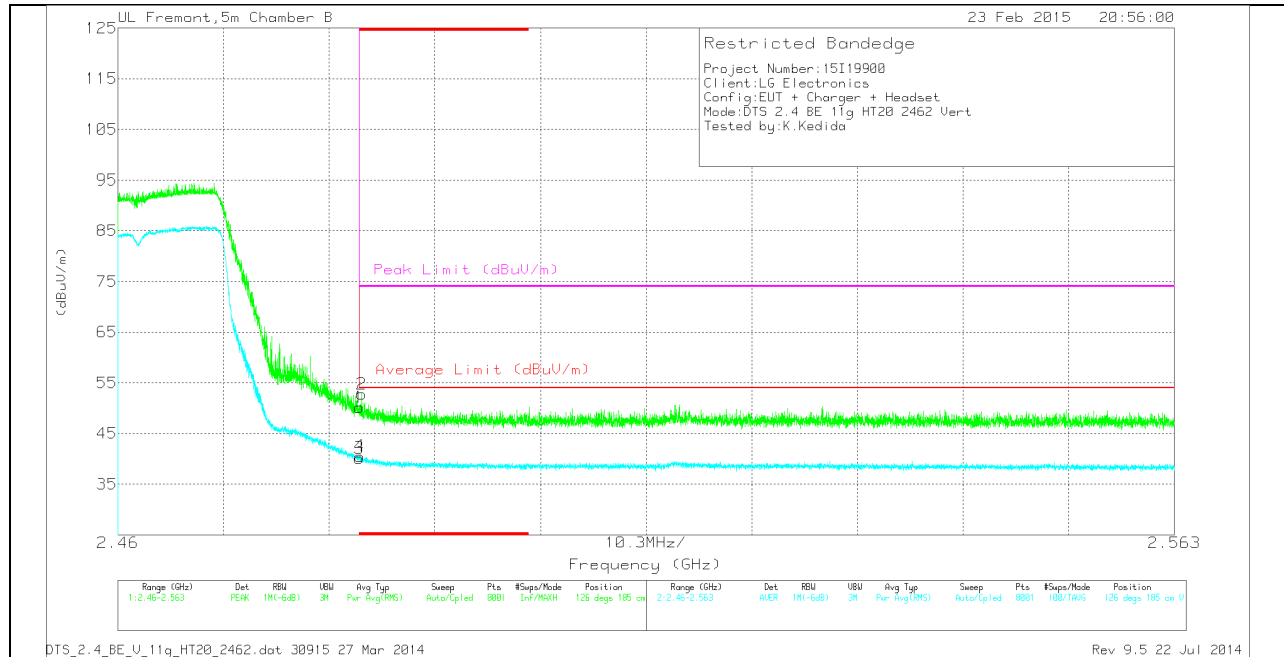
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/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	* 2.484	42.23	PK	32.1	-22.4	0	51.93	-	-	74	-22.07	123	186	H
2	* 2.484	43.8	PK	32.1	-22.4	0	53.5	-	-	74	-20.5	123	186	H
3	* 2.484	31.55	RMS	32.1	-22.4	.21	41.47	54	-12.53	-	-	123	186	H
4	* 2.484	32.31	RMS	32.1	-22.4	.21	42.23	54	-11.77	-	-	123	186	H

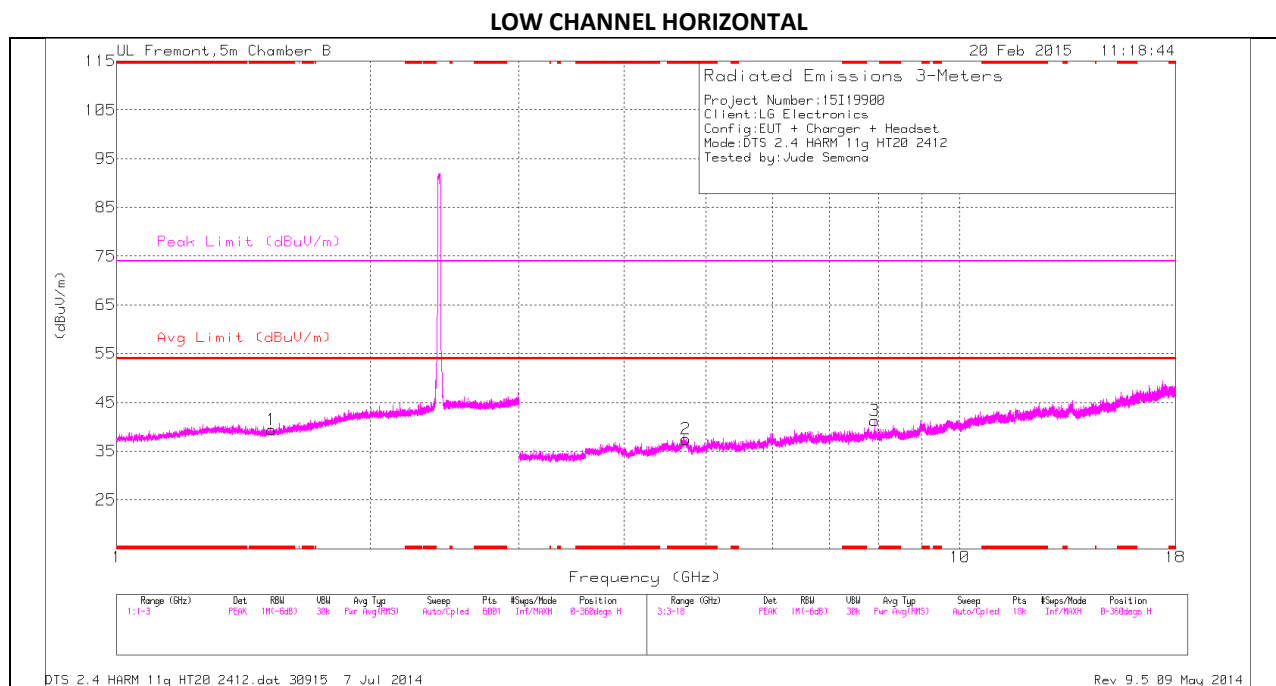
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

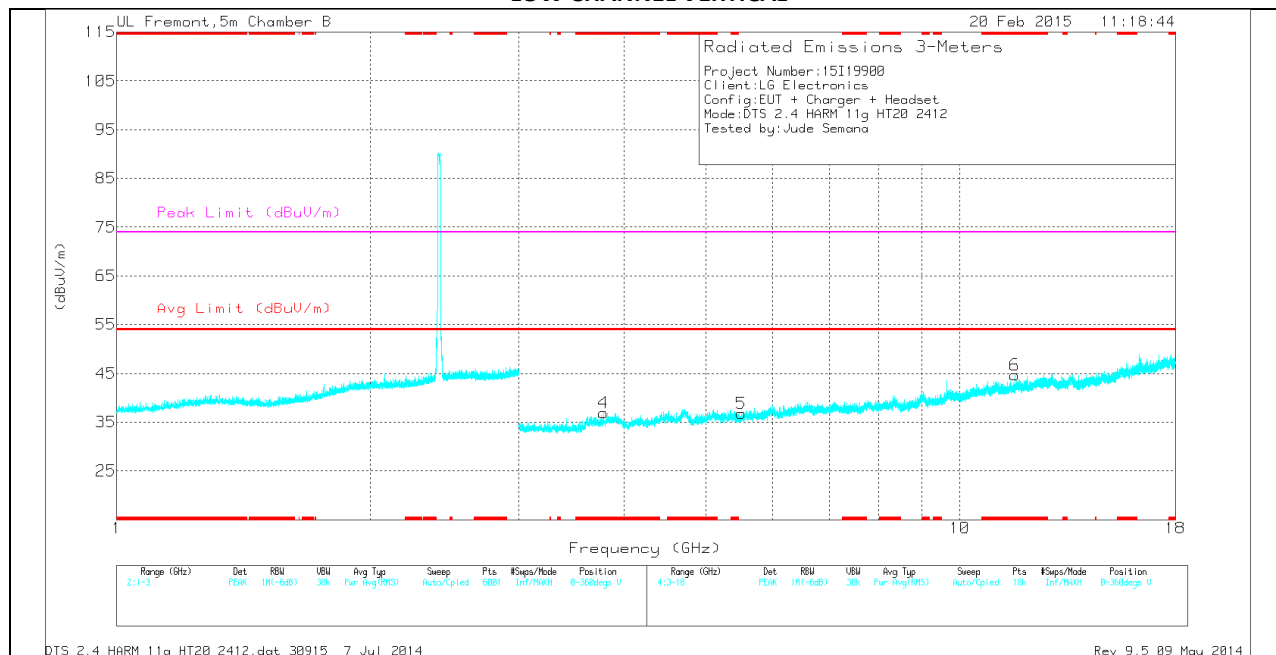
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.46	PK	32.1	-22.4	0	50.16	-	-	74	-23.84	126	185	V
2	* 2.484	43.03	PK	32.1	-22.4	0	52.73	-	-	74	-21.27	126	185	V
3	* 2.484	30.47	RMS	32.1	-22.4	.21	40.35	54	-13.65	-	-	126	185	V
4	* 2.484	30.84	RMS	32.1	-22.4	.21	40.72	54	-13.28	-	-	126	185	V

HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



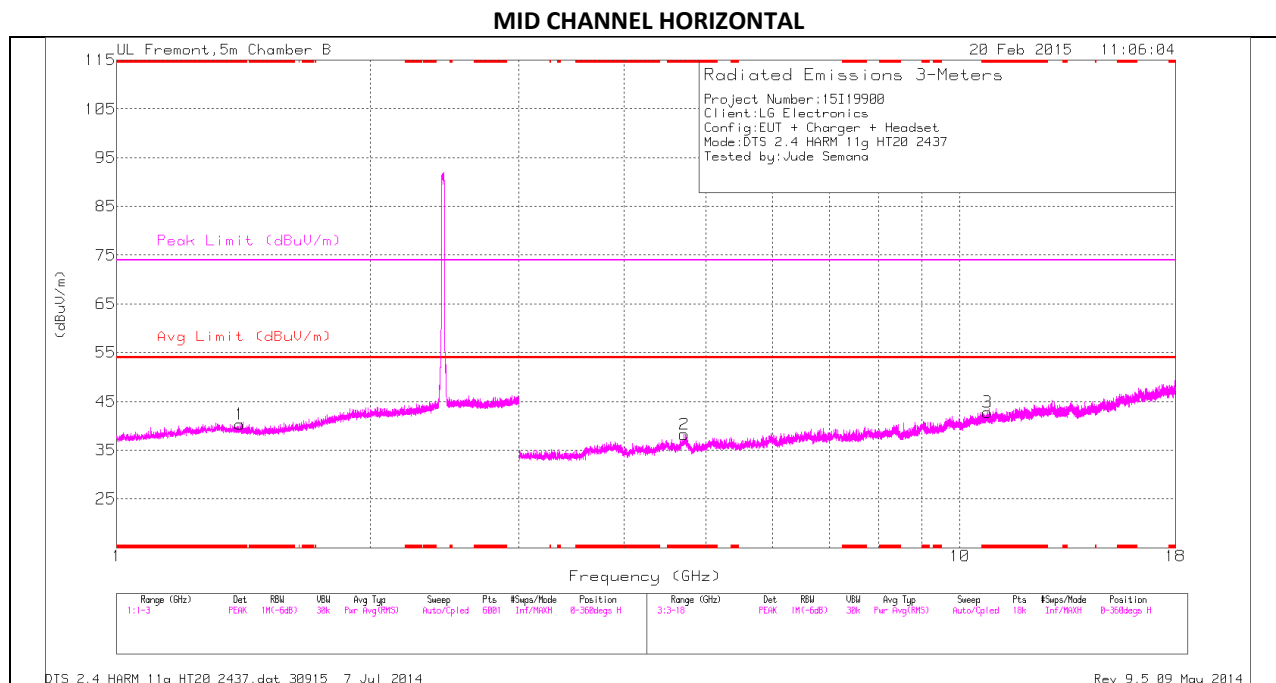
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

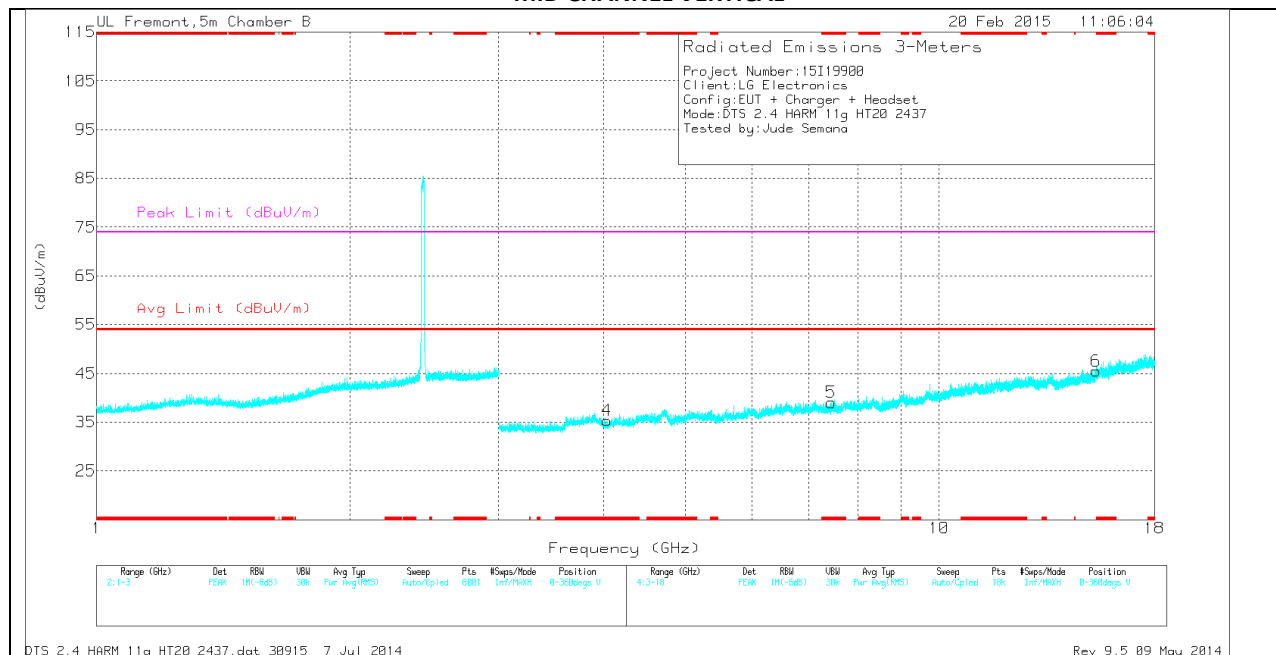
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.526	35.18	PK	28.1	-23.9	0	39.38	-	-	74	-34.62	0-360	101	H
2	* 4.732	32.37	PK	34.2	-29.1	0	37.47	-	-	74	-36.53	0-360	101	H
4	* 3.778	34.01	PK	33.6	-30.7	0	36.91	-	-	74	-37.09	0-360	101	V
6	* 11.621	28.65	PK	38.1	-22.1	0	44.65	-	-	74	-29.35	0-360	200	V
5	5.503	32.42	PK	34.5	-30.1	0	36.82	-	-	-	-	0-360	101	V
3	7.926	32.86	PK	35.7	-27.3	0	41.26	-	-	-	-	0-360	200	H

PK - Peak detector



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

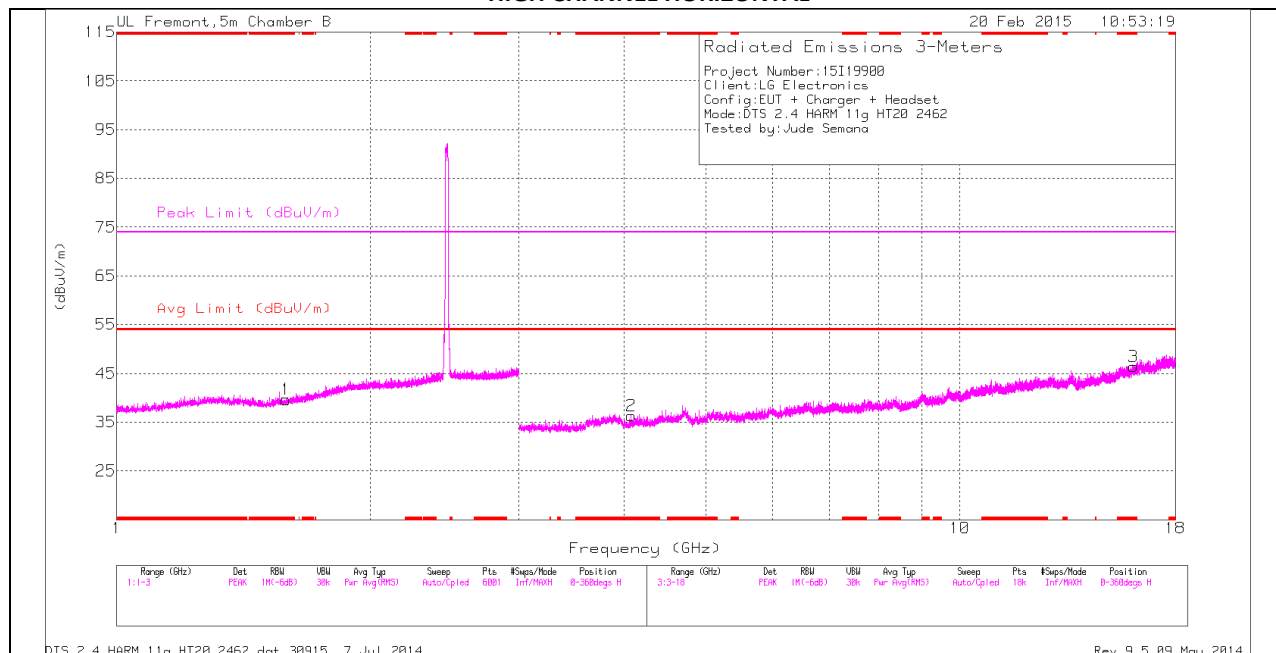
MID CHANNEL DATA

TRACE MARKERS

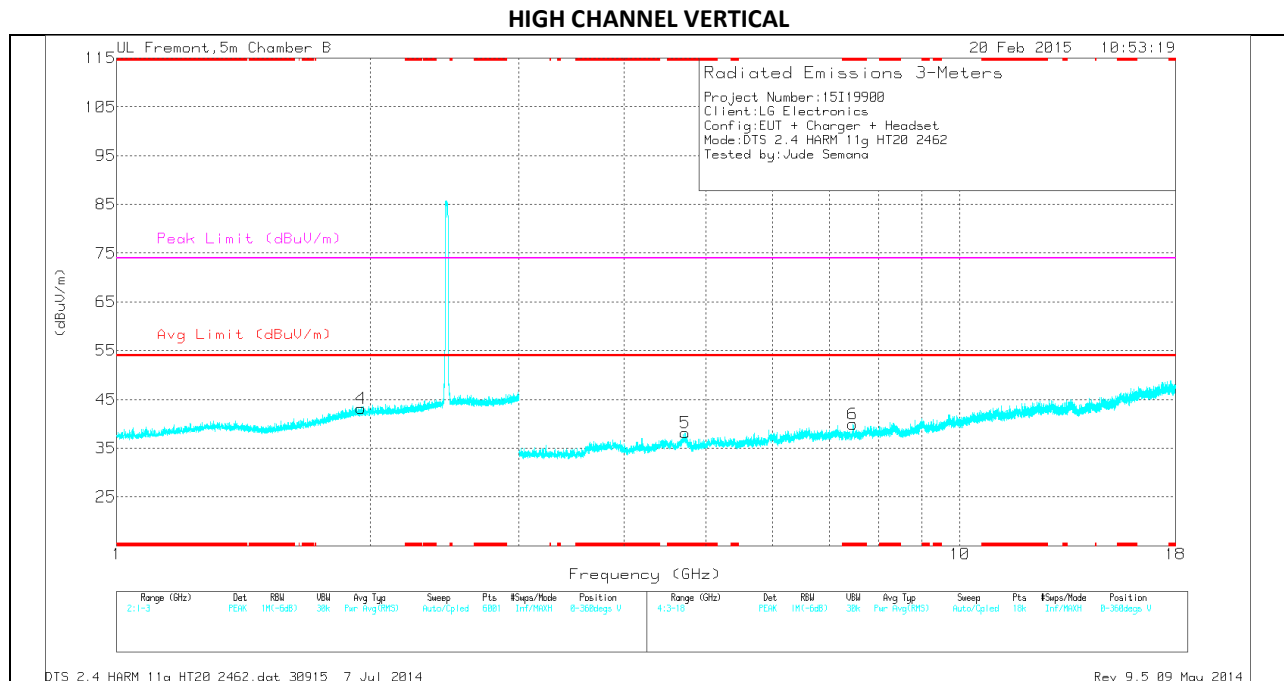
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.4	35.91	PK	28.5	-24.1	0	40.31	-	-	74	-33.69	0-360	200	H
2	* 4.709	33.24	PK	34.2	-29.2	0	38.24	-	-	74	-35.76	0-360	101	H
3	* 10.78	27.45	PK	37.8	-22.5	0	42.75	-	-	74	-31.25	0-360	101	H
4	* 4.034	32.65	PK	33.6	-30.9	0	35.35	-	-	74	-38.65	0-360	101	V
5	* 7.446	30.03	PK	35.6	-26.6	0	39.03	-	-	74	-34.97	0-360	101	V
6	* 15.352	26.81	PK	40.2	-21.5	0	45.51	-	-	74	-28.49	0-360	199	V

PK - Peak detector

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

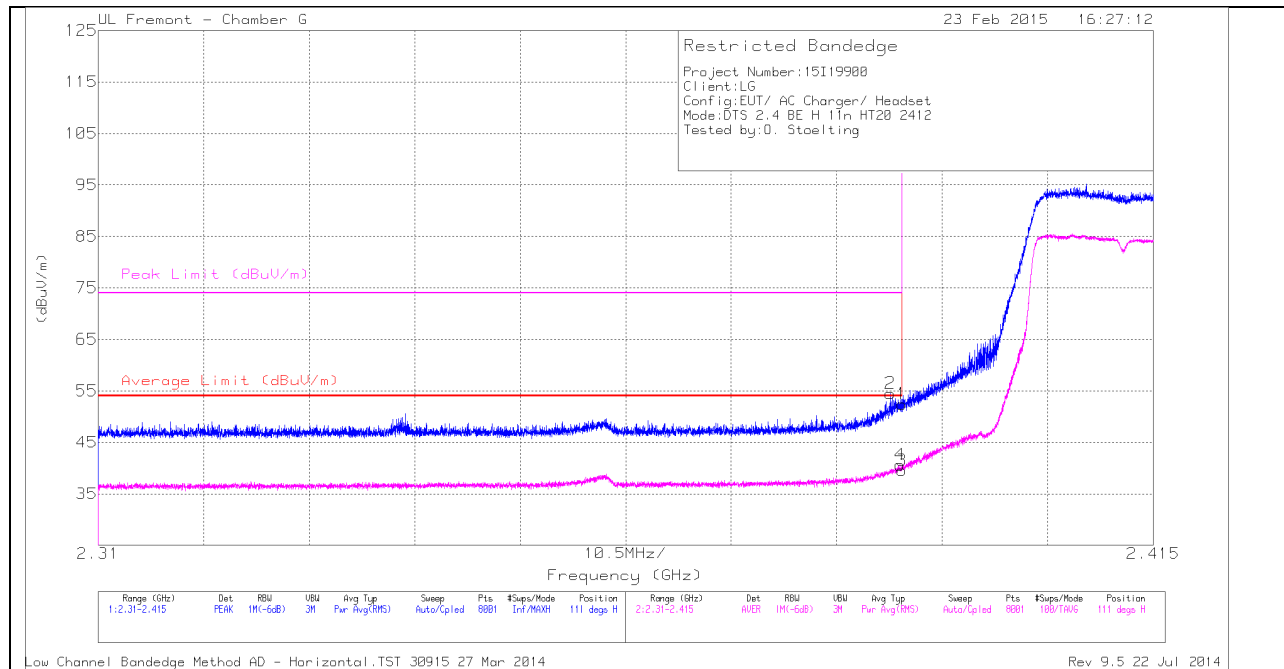
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.588	34.95	PK	28.4	-23.7	0	39.65	-	-	74	-34.35	0-360	199	H
2	* 4.075	33.23	PK	33.6	-30.5	0	36.33	-	-	74	-37.67	0-360	200	H
3	* 16.059	25.91	PK	41	-20.5	0	46.41	-	-	74	-27.59	0-360	101	H
5	* 4.721	33.04	PK	34.2	-29.1	0	38.14	-	-	74	-35.86	0-360	200	V
6	* 7.463	30.74	PK	35.6	-26.4	0	39.94	-	-	74	-34.06	0-360	101	V
4	1.95	35.18	PK	31.2	-23.2	0	43.18	-	-	-	-	0-360	101	V

PK - Peak detector

10.2.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

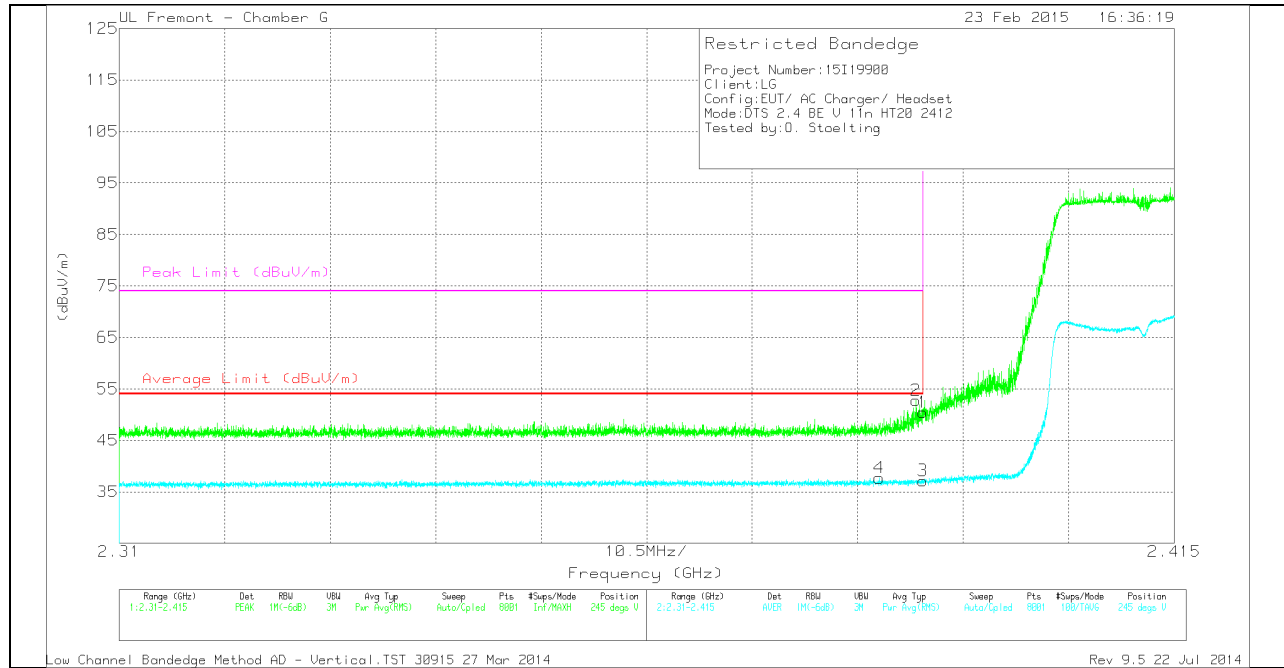
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	45.54	PK	31.8	-24.9	0	52.44	-	-	74	-21.56	111	109	H
2	* 2.389	47.6	PK	31.8	-24.9	0	54.5	-	-	74	-19.5	111	109	H
3	* 2.39	32.44	RMS	31.8	-24.9	.22	39.56	54	-14.44	-	-	111	109	H
4	* 2.39	33.52	RMS	31.8	-24.9	.22	40.64	54	-13.36	-	-	111	109	H

VERTICAL PEAK AND AVERAGE PLOT

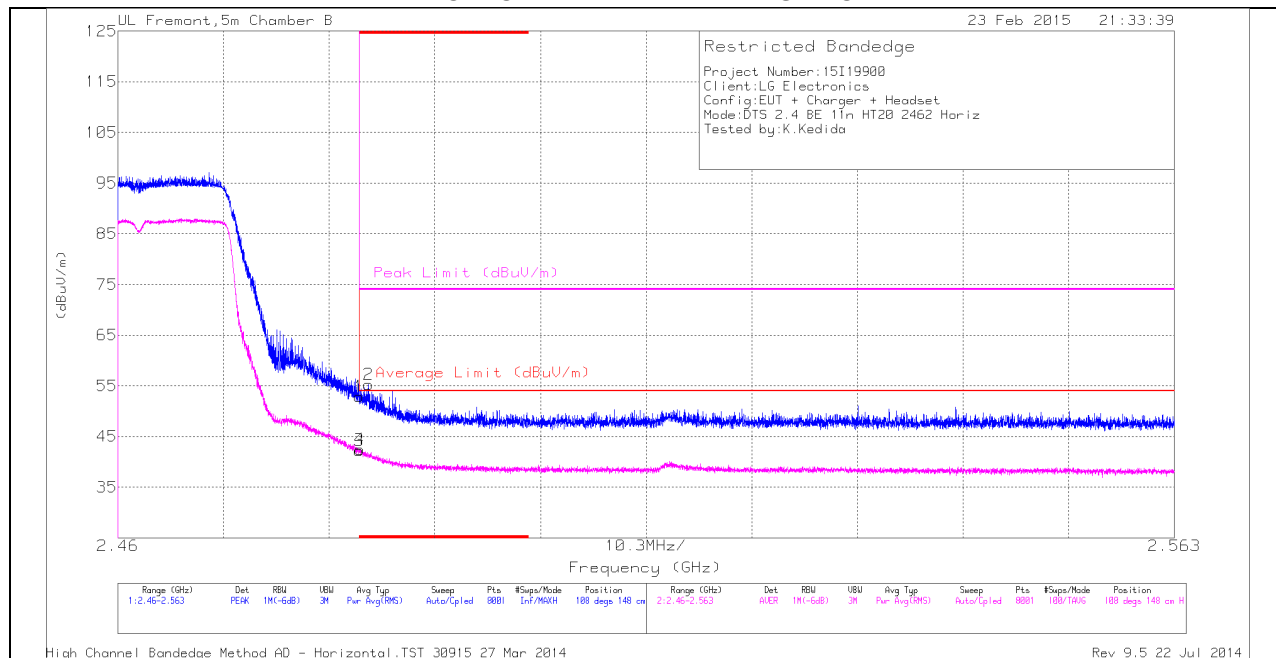


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	43.53	PK	31.8	-24.9	0	50.43	-	-	74	-23.57	245	108	V
2	* 2.389	45.84	PK	31.8	-24.9	0	52.74	-	-	74	-21.26	245	108	V
3	* 2.39	30.03	RMS	31.8	-24.9	.22	37.15	54	-16.85	-	-	245	108	V
4	* 2.386	30.58	RMS	31.8	-24.9	.22	37.7	54	-16.3	-	-	245	108	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

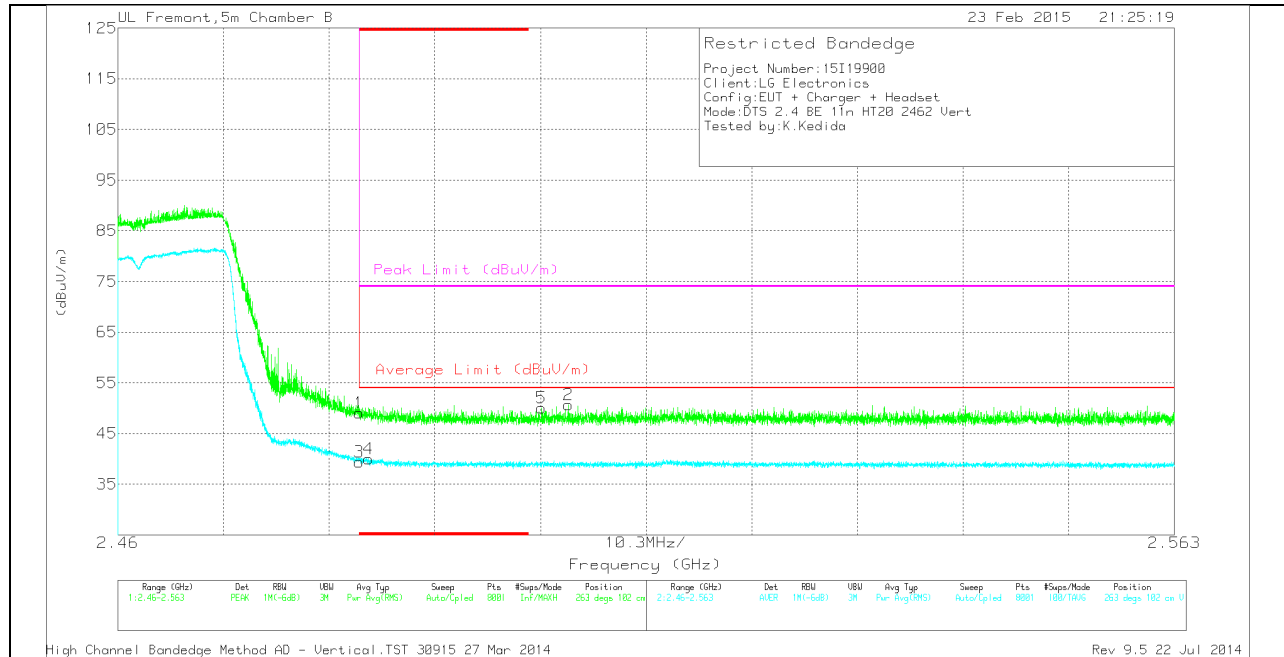
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	43.16	PK	32.1	-22.4	0	52.86	-	-	74	-21.14	108	148	H
2	* 2.484	45.6	PK	32.1	-22.4	0	55.3	-	-	74	-18.7	108	148	H
3	* 2.484	32.58	RMS	32.1	-22.4	.22	42.28	54	-11.72	-	-	108	148	H
4	* 2.484	32.82	RMS	32.1	-22.4	.22	42.52	54	-11.48	-	-	108	148	H

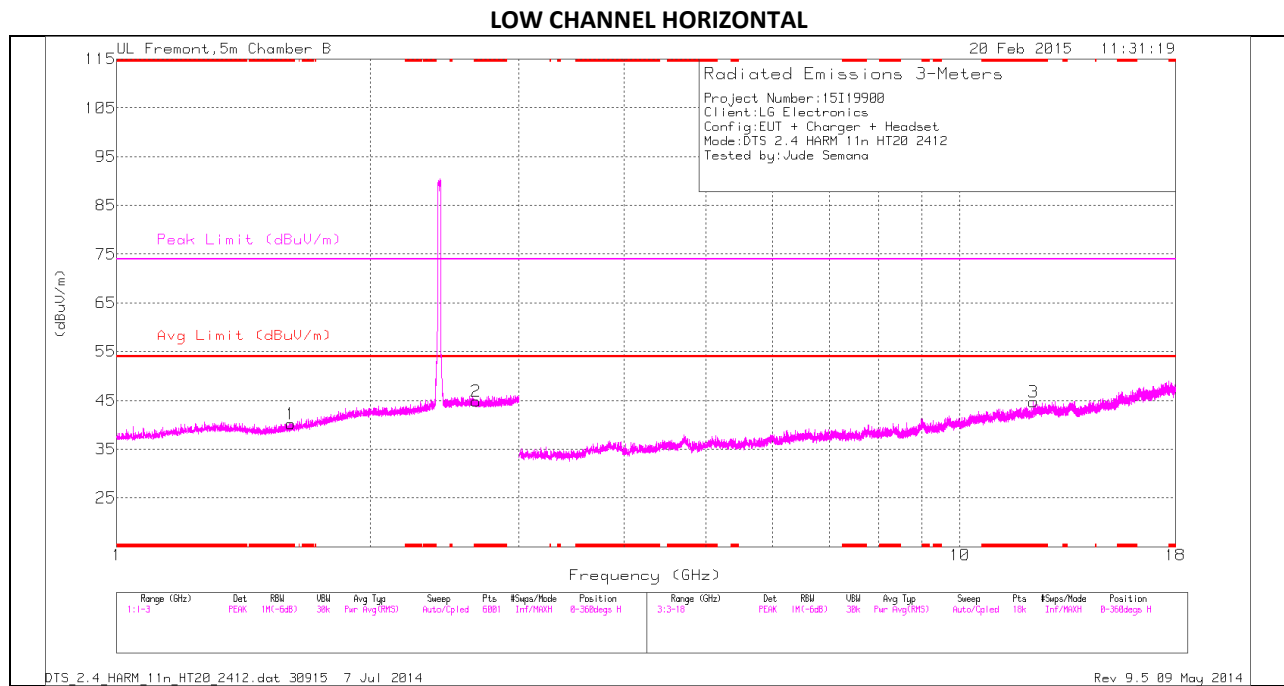
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

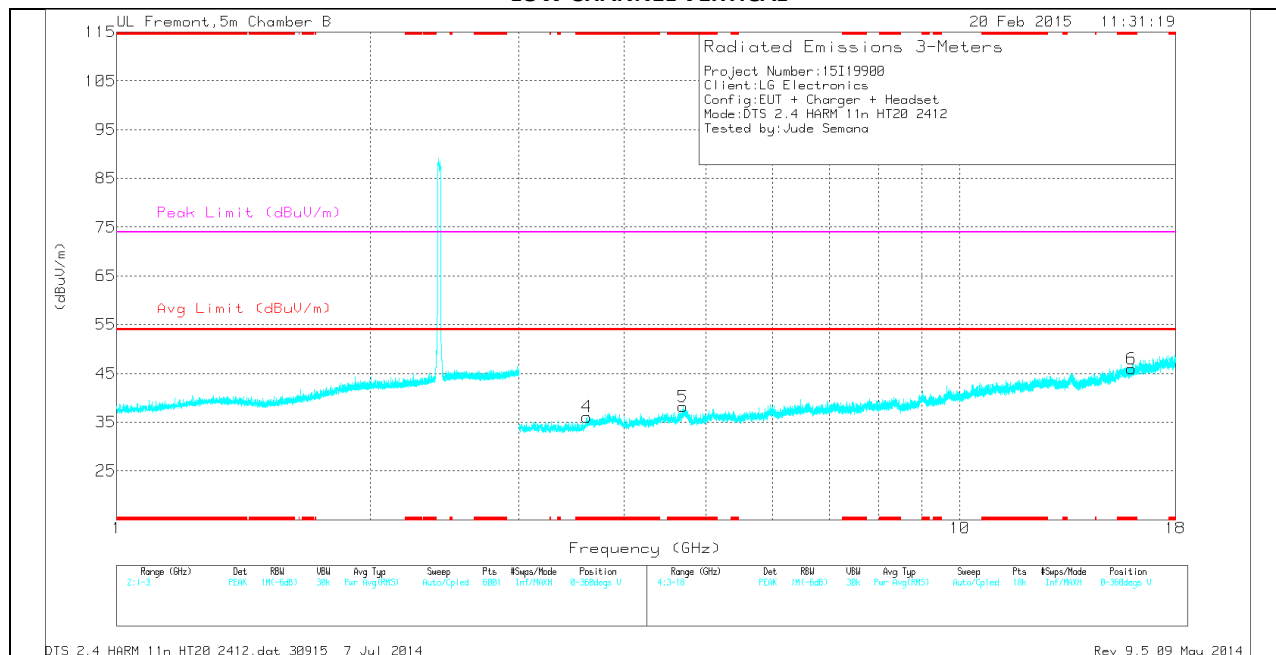
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.34	PK	32.1	-22.4	0	49.04	-	-	74	-24.96	263	102	V
3	* 2.484	29.69	RMS	32.1	-22.4	.22	39.66	54	-14.34	-	-	263	102	V
4	* 2.484	30.31	RMS	32.1	-22.4	.22	40.28	54	-13.72	-	-	263	102	V
5	2.501	40.36	PK	32.1	-22.4	0	50.06	-	-	74	-23.94	263	102	V
2	2.504	40.9	PK	32.1	-22.3	0	50.7	-	-	74	-23.3	263	102	V

HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



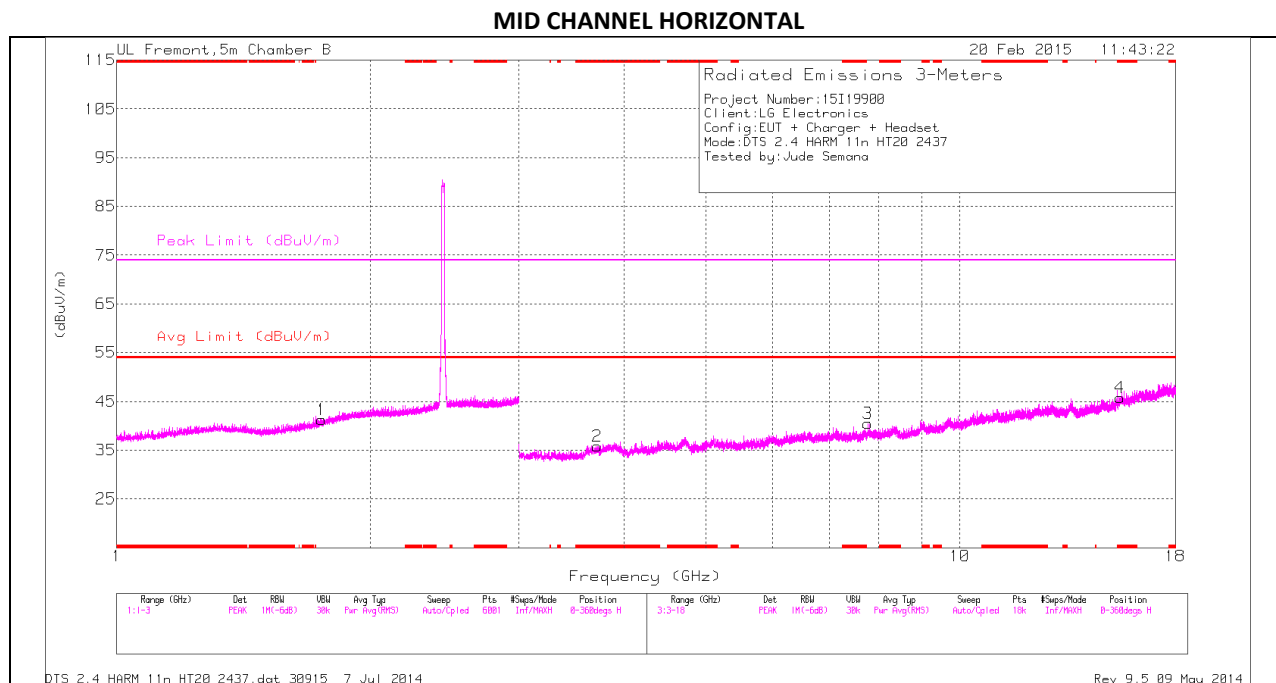
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

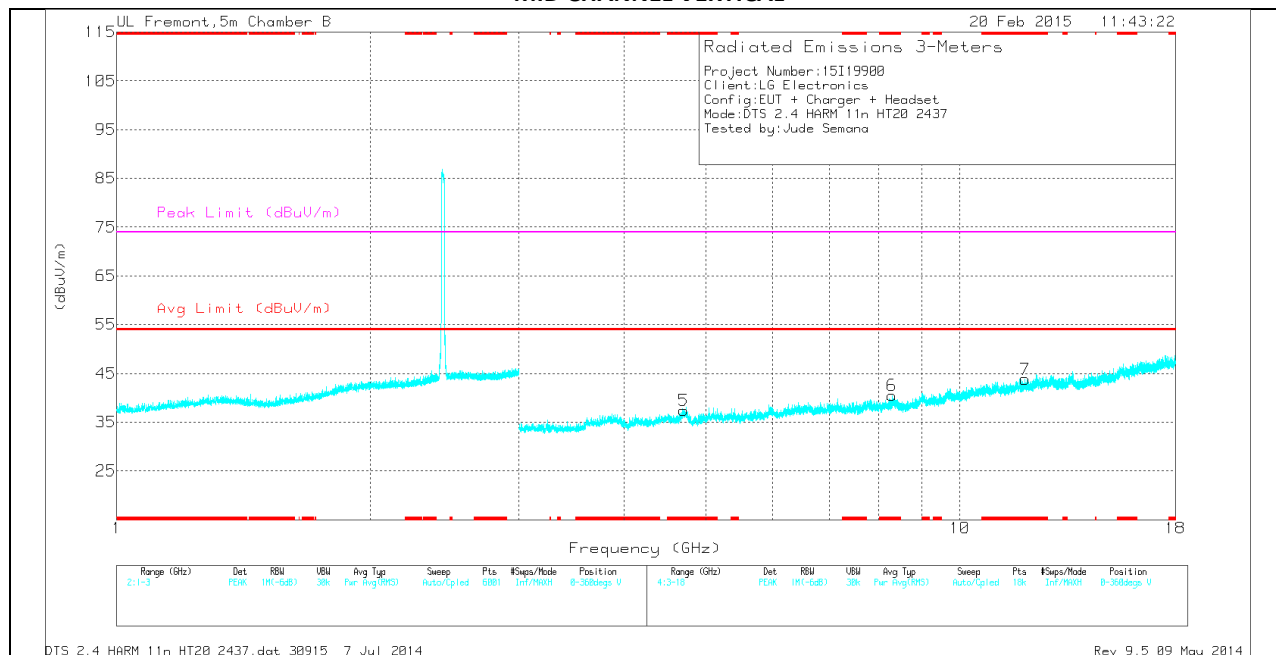
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.609	35.3	PK	28.5	-23.6	0	40.2	-	-	74	-33.8	0-360	199	H
2	* 2.668	34.9	PK	32.3	-22.4	0	44.8	-	-	74	-29.2	0-360	100	H
3	* 12.222	28	PK	38.9	-22.2	0	44.7	-	-	74	-29.3	0-360	200	H
4	* 3.611	33.68	PK	33.1	-30.7	0	36.08	-	-	74	-37.92	0-360	200	V
5	* 4.692	33.6	PK	34.2	-29.6	0	38.2	-	-	74	-35.8	0-360	101	V
6	* 15.978	25.78	PK	40.9	-20.7	0	45.98	-	-	74	-28.02	0-360	200	V

PK - Peak detector



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

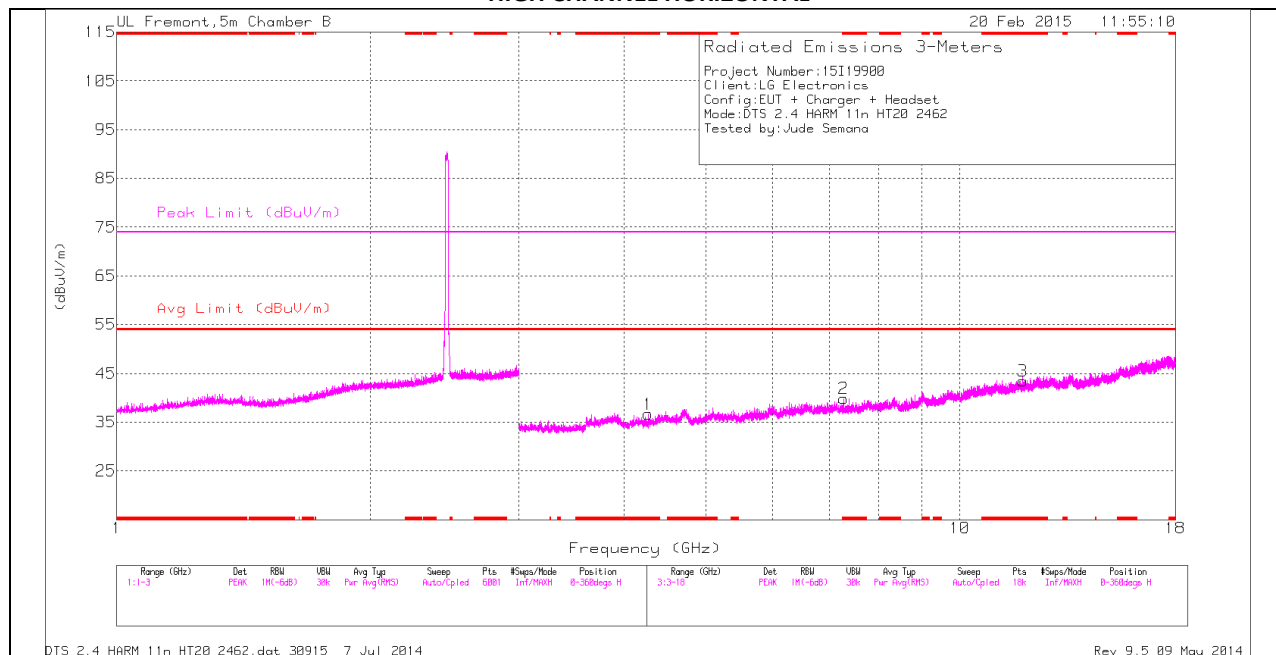
MID CHANNEL DATA

TRACE MARKERS

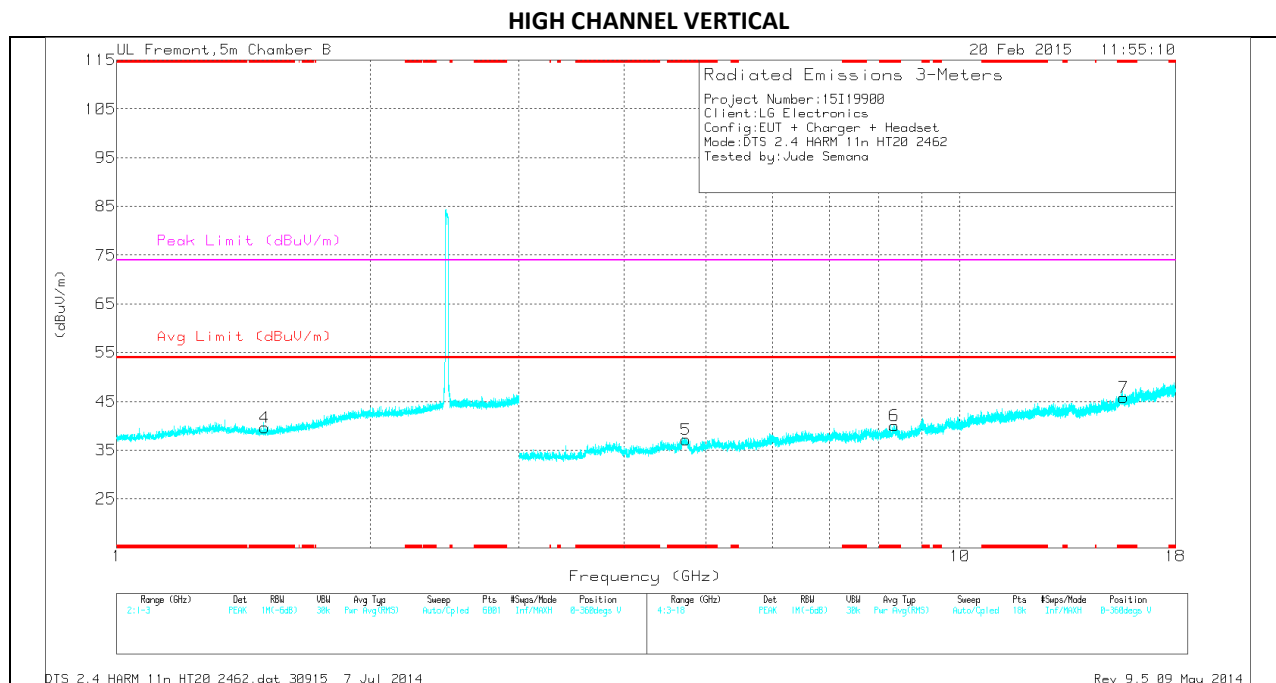
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.713	33.5	PK	33.4	-31.1	0	35.8	-	-	74	-38.2	0-360	199	H
4	* 15.48	26.06	PK	40.4	-20.7	0	45.76	-	-	74	-28.24	0-360	199	H
5	* 4.701	32.61	PK	34.2	-29.4	0	37.41	-	-	74	-36.59	0-360	101	V
6	* 8.306	30.76	PK	35.7	-26	0	40.46	-	-	74	-33.54	0-360	101	V
7	* 11.941	27.32	PK	38.6	-22.1	0	43.82	-	-	74	-30.18	0-360	199	V
1	1.75	34.92	PK	29.6	-23.3	0	41.22	-	-	-	-	0-360	100	H
3	7.779	30.56	PK	35.7	-25.8	0	40.46	-	-	-	-	0-360	199	H

PK - Peak detector

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

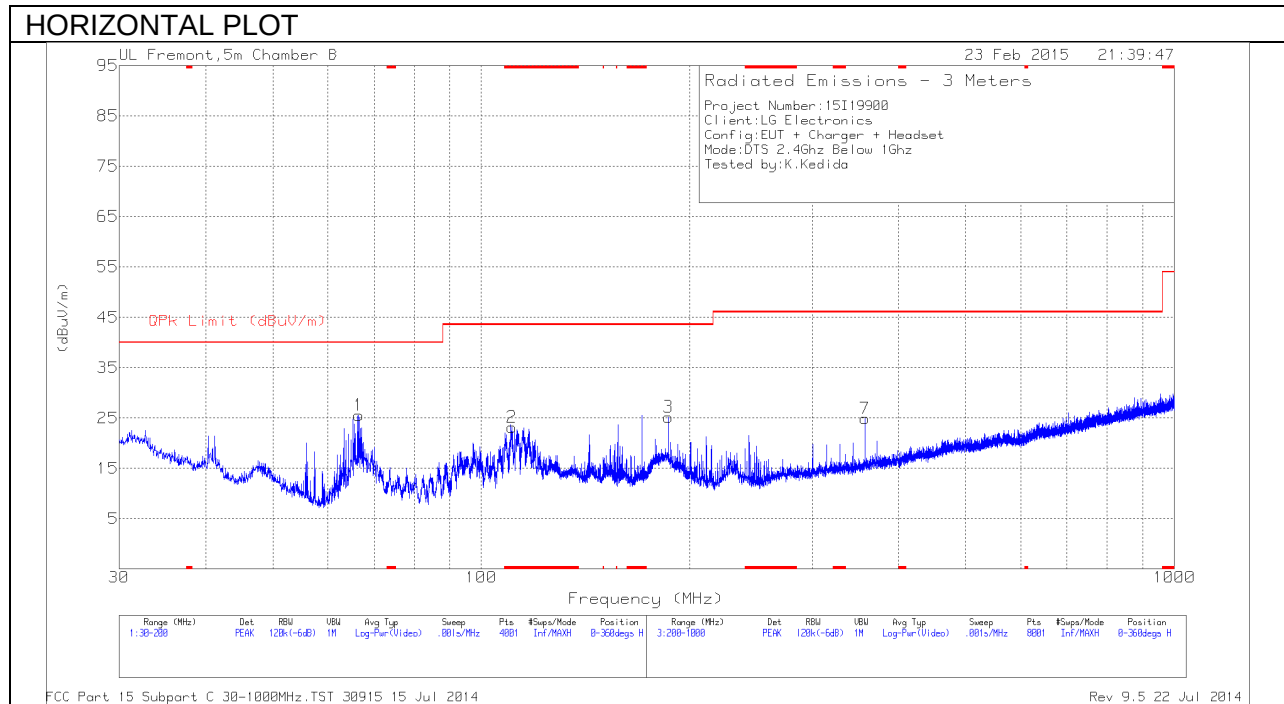
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 1.498	35.63	PK	27.9	-23.9	0	39.63	-	-	74	-34.37	0-360	101	V
1	* 4.268	33.57	PK	33.6	-30.5	0	36.67	-	-	74	-37.33	0-360	101	H
2	* 7.281	32.26	PK	35.6	-28	0	39.86	-	-	74	-34.14	0-360	199	H
3	* 11.874	27.41	PK	38.5	-22.5	0	43.41	-	-	74	-30.59	0-360	199	H
5	* 4.731	32.04	PK	34.2	-29.1	0	37.14	-	-	74	-36.86	0-360	101	V
6	* 8.361	29.42	PK	35.7	-25.1	0	40.02	-	-	74	-33.98	0-360	101	V
7	* 15.627	25.69	PK	40.6	-20.5	0	45.79	-	-	74	-28.21	0-360	199	V

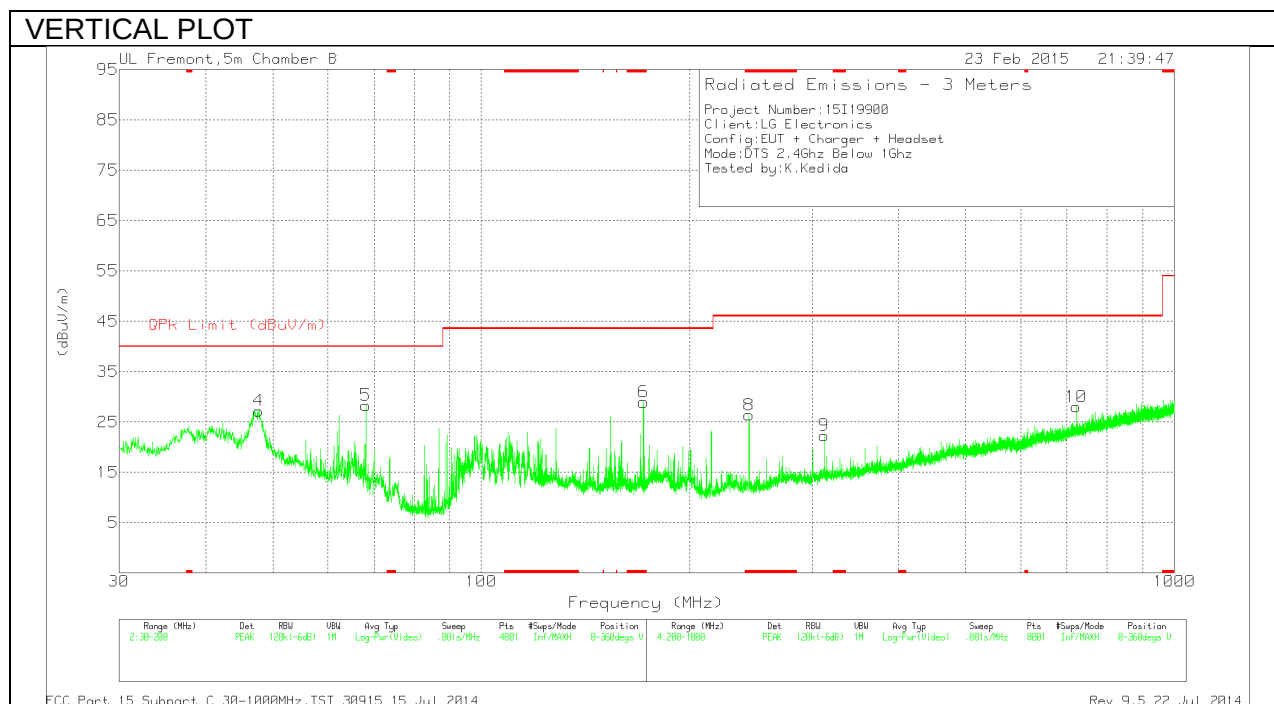
PK - Peak detector

10.3. WORST-CASE BELOW 1 GHz

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



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



Below 1G Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 110.75	38.37	PK	12.8	-28	23.17	43.52	-20.35	0-360	300	H
6	* 171.3975	44.58	PK	11.6	-27.2	28.98	43.52	-14.54	0-360	101	V
8	* 243.4	41.28	PK	11.6	-26.5	26.38	46.02	-19.64	0-360	200	V
4	47.7225	46.71	PK	9.1	-28.6	27.21	40	-12.79	0-360	101	V
1	66.55	46.04	PK	7.9	-28.4	25.54	40	-14.46	0-360	300	H
5	68.1225	48.71	PK	8	-28.4	28.31	40	-11.69	0-360	101	V
3	186.145	41	PK	11.3	-27.1	25.2	43.52	-18.32	0-360	101	H
9	312.3	34.42	PK	13.8	-25.9	22.32	46.02	-23.7	0-360	101	V
7	358	35.97	PK	14.8	-25.9	24.87	46.02	-21.15	0-360	200	H
10	721.5	31.9	PK	20.5	-24.4	28	46.02	-18.02	0-360	101	V