



**FCC CFR47 PART 15 SUBPART C  
C2PC CERTIFICATION TEST REPORT  
FOR  
WALKIE-TALKIE ACCESSORY  
MODEL NAME: GVC200WTH**

**MODEL NUMBER: LG-VC110, LGVC110, VC110, LG-VC110B, LGVC110B, VC110B**

**FCC ID: ZNFVC110**

**REPORT NUMBER: 16I22628-E4V3**

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**NVLAP LAB CODE 200065-0**

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	1/26/2016	Initial issue	D. CORONIA
V2	2/10/2016	Updated Section 5.2	D. CORONIA
V3	2/15/2016	Updated EUT Description	D. CORONIA

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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** LG ELECTRONICS MOBILECOMM U.S.A., INC.  
**EUT DESCRIPTION:** WALKIE-TALKIE ACCESSORY  
**MODEL NAME:** GVC200WTH  
**MODEL #:** LG-VC110, LGVC110, VC110, LG-VC110B, LGVC110B, VC110B  
**SERIAL NUMBER:** A1000040E03DCD, A1000040E03DCA, A1000040E03DC9  
**DATE TESTED:** January 12-20, 2016

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 revision 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 C63.10-2013.

## 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
<input type="checkbox"/> Chamber A(IC: 2324B-1)	<input type="checkbox"/> Chamber D(IC: 2324B-4)
<input checked="" type="checkbox"/> Chamber B(IC: 2324B-2)	<input type="checkbox"/> Chamber E(IC: 2324B-5)
<input type="checkbox"/> Chamber C(IC: 2324B-3)	<input type="checkbox"/> Chamber F(IC: 2324B-6)
	<input type="checkbox"/> Chamber G(IC: 2324B-7)
	<input type="checkbox"/> 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:

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

### 4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Radiated Disturbance, 9KHz to 30 MHz	2.14 dB
Radiated Disturbance, 30 to 1000 MHz	4.98 dB
Radiated Disturbance, 1000 to 6000 MHz	3.86 dB
Radiated Disturbance, 6000 to 18000 MHz	4.23 dB
Radiated Disturbance, 18000 to 26000 MHz	5.30 dB
Radiated Disturbance, 26000 to 40000 MHz	5.23 dB

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

## **5. EQUIPMENT UNDER TEST**

### **5.1. DESCRIPTION OF EUT**

The EUT is a WALKIE-TALKIE ACCESSORY.

### **5.2. DESCRIPTION OF AVAILABLE ANTENNAS**

The radio utilizes an LMA antenna, with a maximum gain of -0.14 dBi.

### **5.3. 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

**5.4. DESCRIPTION OF TEST SETUP**  
**SUPPORT EQUIPMENT**

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	DC1507	EAD62377906	N/A
Laptop	LENOVO	2349CW5	PBB4M4Y	N/A
Laptop AC Adapter	LENOVO	ADLX65NCT2A	36200293	N/A

**I/O CABLES**

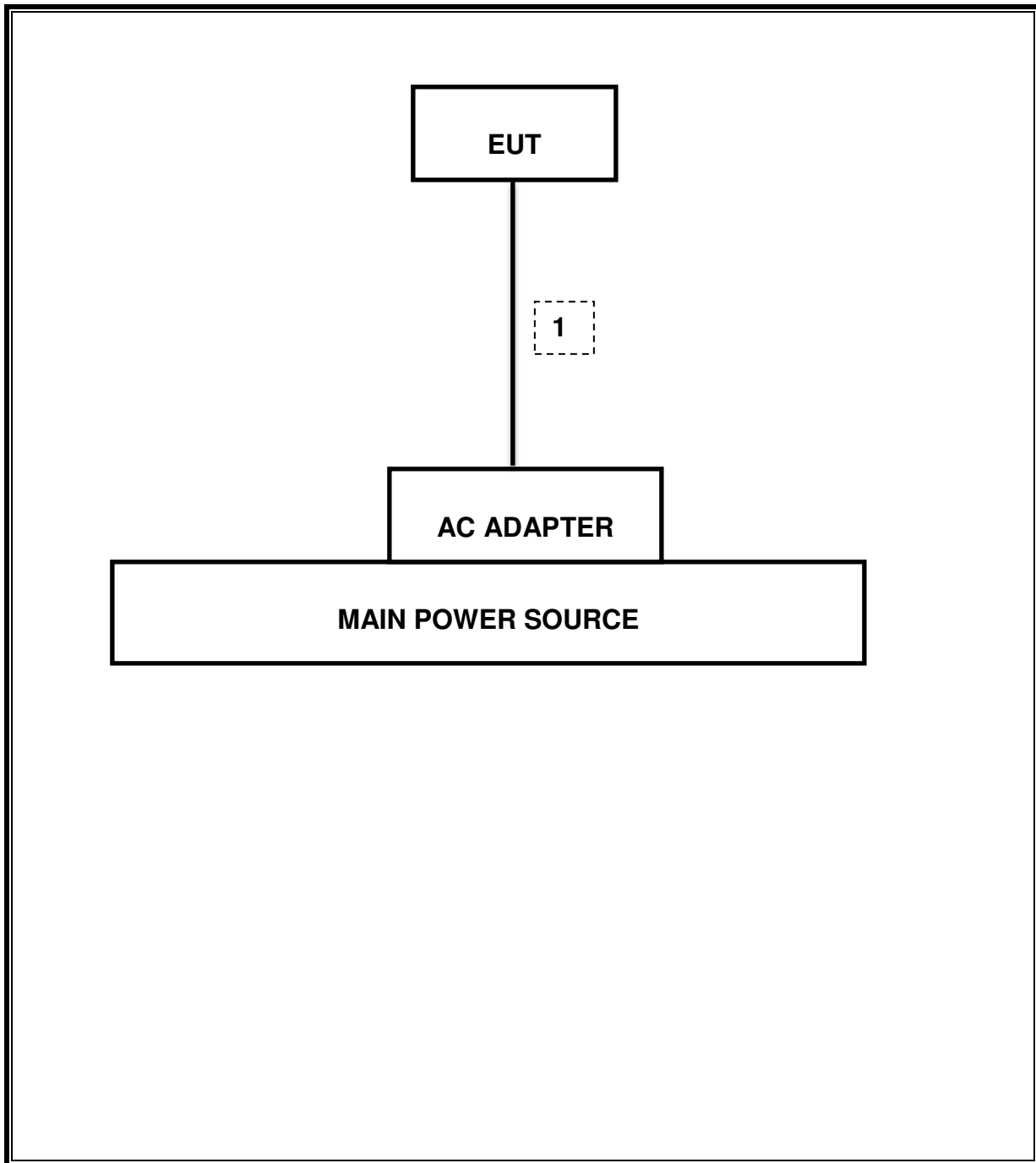
I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A

**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	T Number	Cal Due
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	130	09/01/16
Antenna, Horn, 18GHz	ETS Lindgren	3117	345	03/03/16
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	447	05/12/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	88	04/07/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	404	06/29/16
Amplifier, 10KHz to 1 GHz	Keysight	8447D	15	08/14/16
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	N9030A	907	01/06/17
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	417	05/04/16
High Pass Filter 6GHz	Micro-Tronics	HPS17542	893	04/25/16
High Pass Filter 3GHz	Micro-Tronics	HPS17543	898	04/25/16

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Ver 9.5, June 24, 2015

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## 7. MEASUREMENT METHODS

On Time and Duty Cycle: KDB 558074 D01 v03r04, Section 6.0.

Out-of-band emissions in non-restricted bands: KDB 558074 D01 v03r04, Section 11.0.

Out-of-band emissions in restricted bands: KDB 558074 D01 v03r04, Section 12.1.

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. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result
15.247 (a)(2)	RSS-247 5.2.1	Occupied Band width (6dB)	>500KHz	Conducted	See Original
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		See Original
15.247	RSS-247 5.4.4	TX conducted output power	<30dBm		See Original
15.247	RSS-247 5.2.2	PSD	<8dBm		See Original
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	See Original
15.205, 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass

## 9. ANTENNA PORT TEST RESULTS

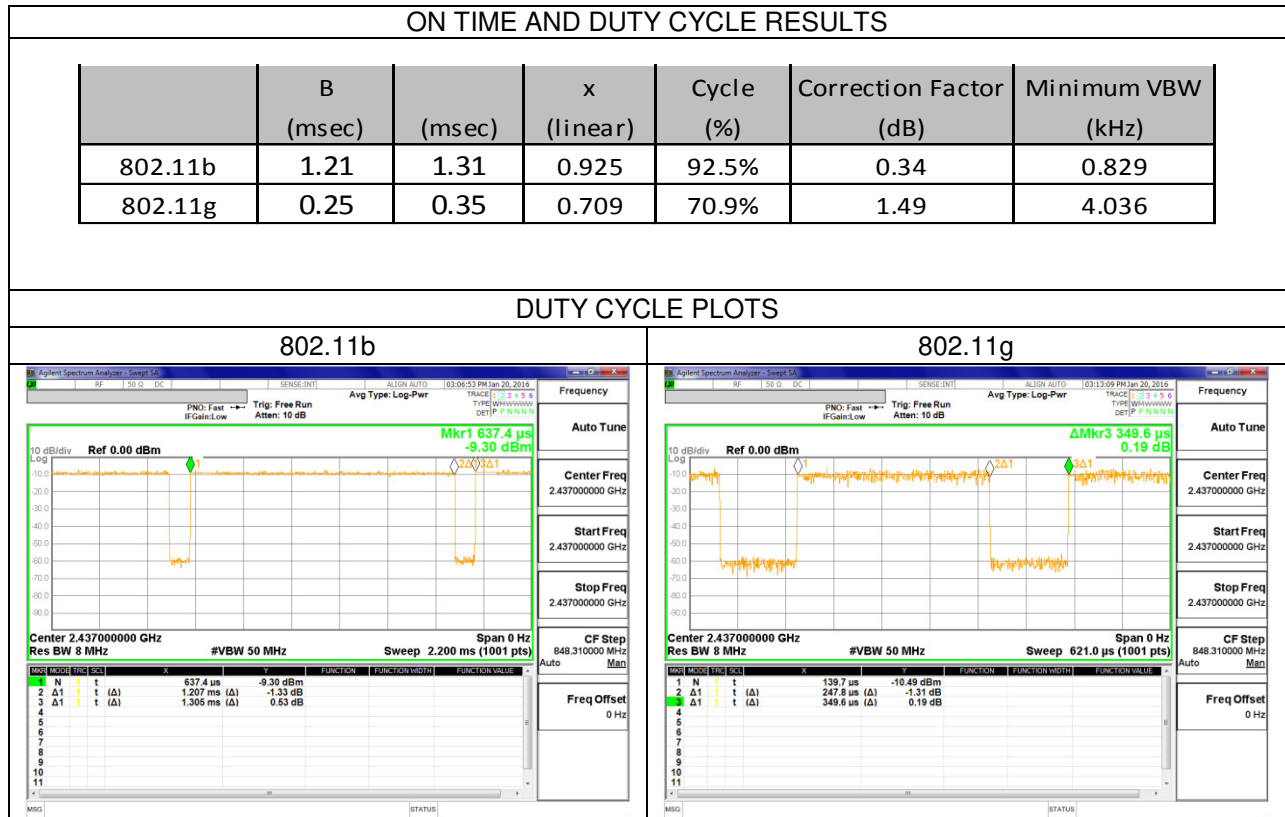
### 9.1. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS LIMITS

None; for reporting purposes only.

#### PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

#### 9.1.1. ON TIME AND DUTY CYCLE RESULTS



## 10. RADIATED TEST RESULTS

### 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 for below 1GHz and 150cm for above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

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, then the video bandwidth is set to 1 MHz for peak measurements and add duty cycle factor for average measurements. Duty cycle factor =  $10 \log (1/x)$ .

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

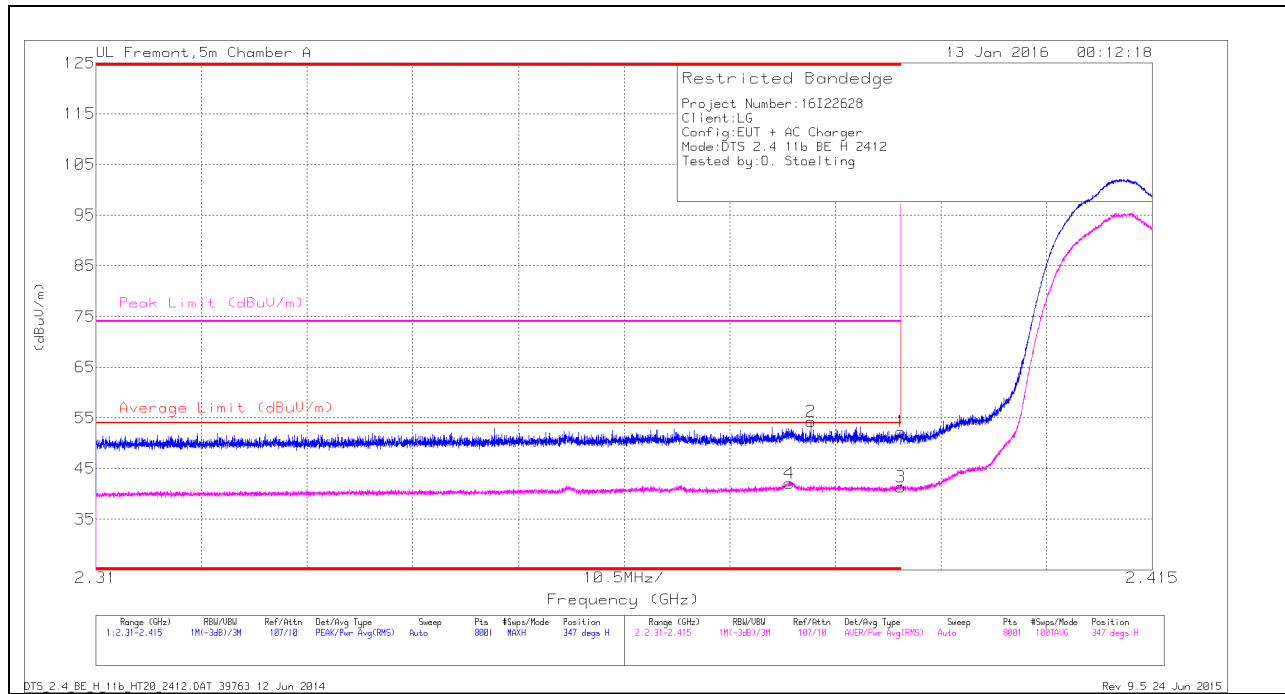
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

## 10.1. TRANSMITTER ABOVE 1 GHz

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

#### RESTRICTED BANDEDGE (LOW CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

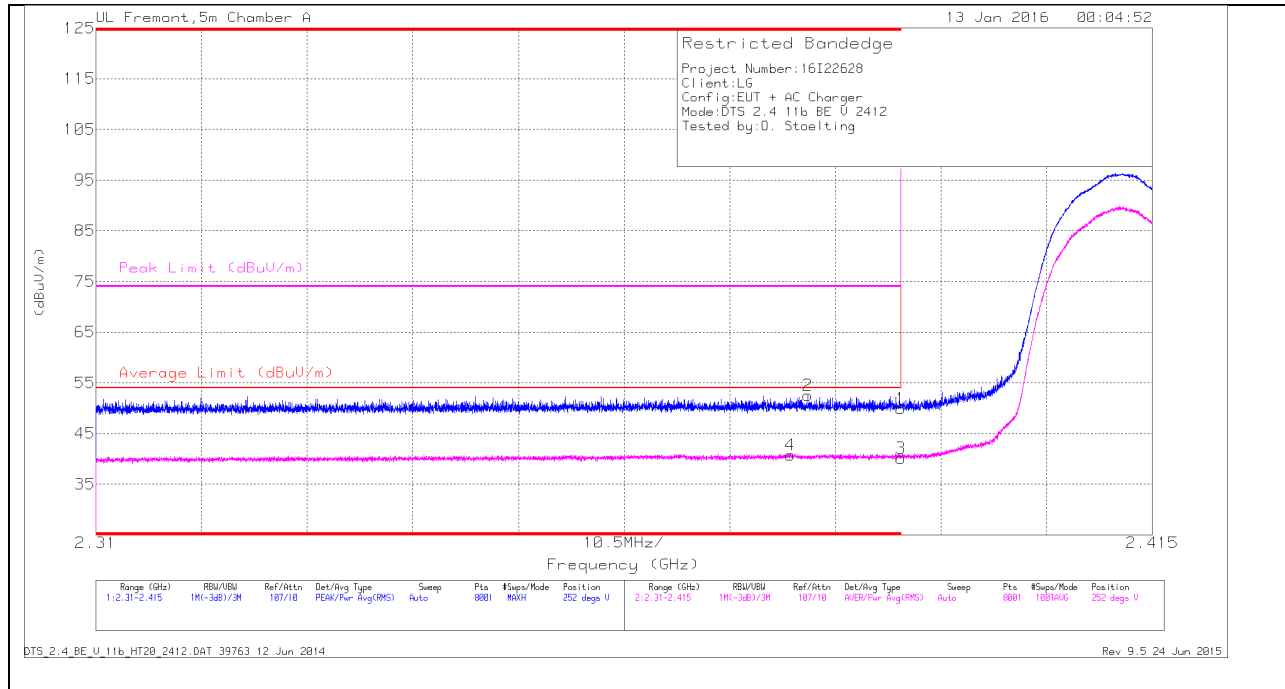
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	42.46	Pk	32	-22.2	0	52.26	-	-	74	-21.74	347	176	H
2	* 2.381	44.59	Pk	31.9	-22.2	0	54.29	-	-	74	-19.71	347	176	H
3	* 2.39	31.54	RMS	32	-22.2	.34	41.68	54	-12.32	-	-	347	176	H
4	* 2.379	32.42	RMS	31.9	-22.2	.34	42.46	54	-11.54	-	-	347	176	H

\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.249	43.61	PK2	29.4	-23.2	0	49.81	-	-	-	-	346	107	H
* 1.25	30.86	MAV1	29.4	-23.2	.34	37.24	-	-	-	-	346	107	H
* 1.295	43.1	PK2	29.8	-23.1	0	49.8	-	-	-	-	353	208	V
* 1.295	30.72	MAV1	29.8	-23.1	.34	37.61	-	-	-	-	353	208	V

\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band

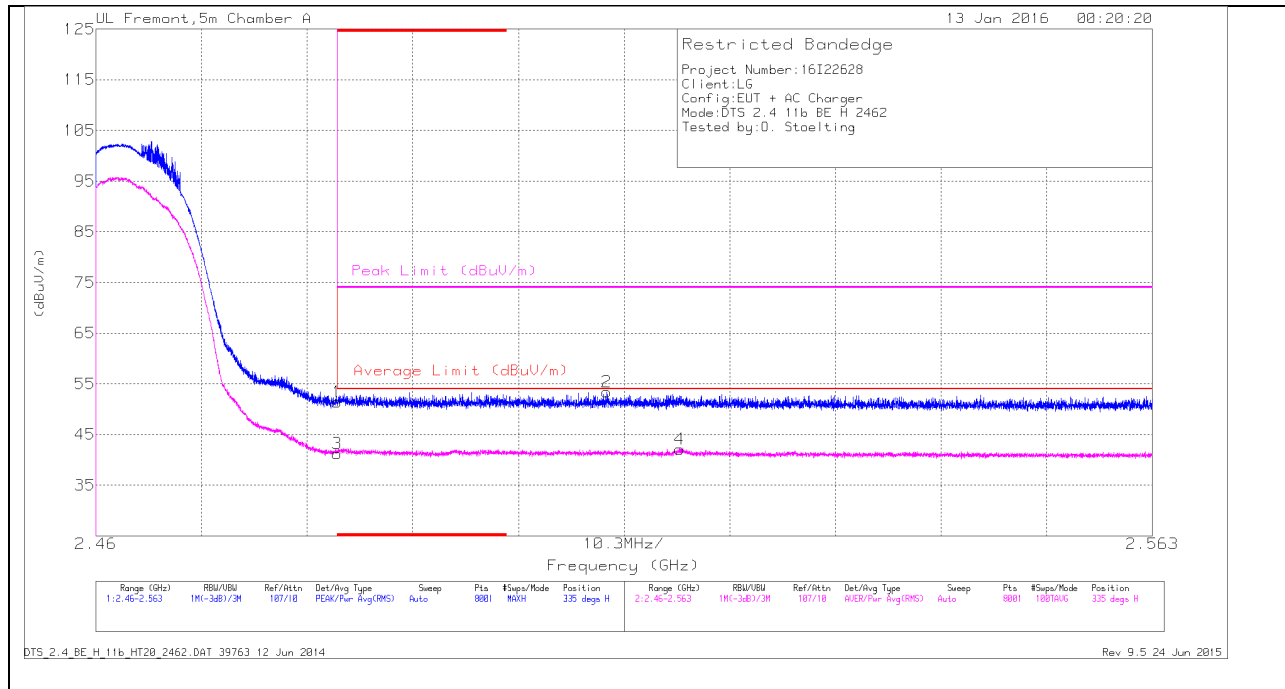
Pk - Peak detector

RMS - RMS detection



**AUTHORIZED BANDEDGE (HIGH CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



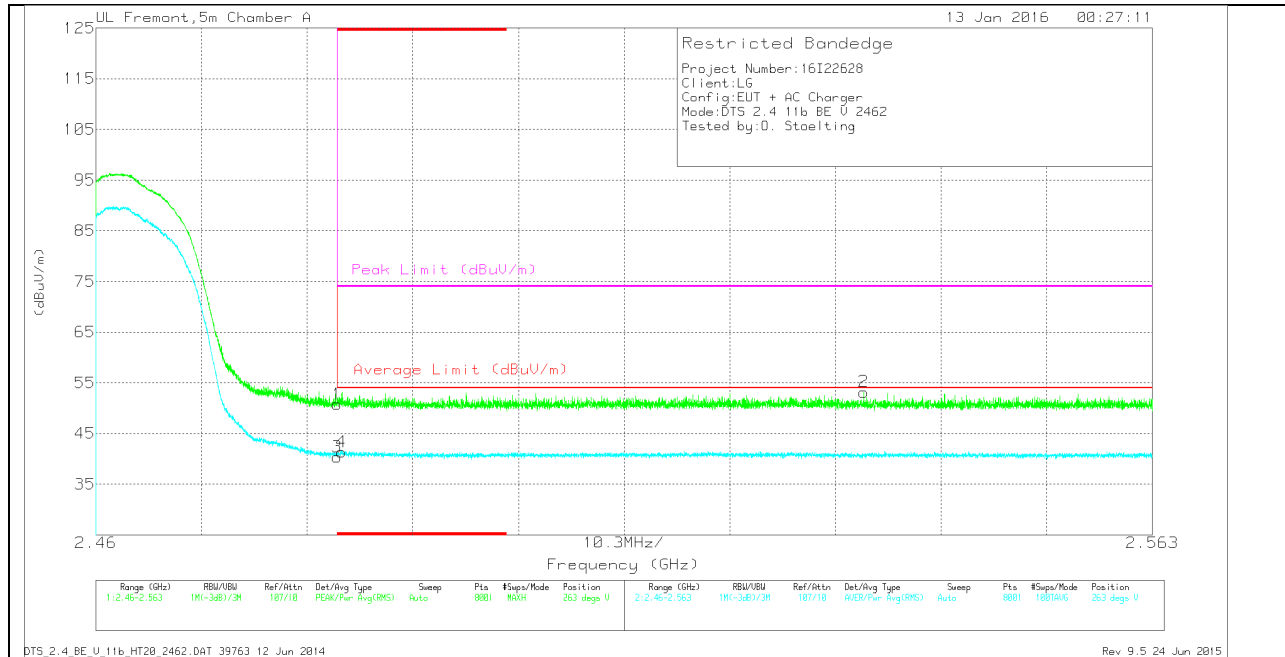
**HORIZONTAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	41.15	Pk	32.3	-22	0	51.45	-	-	74	-22.55	335	164	H
3	* 2.484	30.91	RMS	32.3	-22	.34	41.55	54	-12.45	-	-	335	164	H
2	2.51	43.03	Pk	32.3	-21.9	0	53.43	-	-	74	-20.57	335	164	H
4	2.517	31.66	RMS	32.3	-21.9	.34	42.4	54	-11.6	-	-	335	164	H

\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.46	Pk	32.3	-22	0	50.76	-	-	74	-23.24	263	380	V
3	* 2.484	30.09	RMS	32.3	-22	.34	40.73	54	-13.27	-	-	263	380	V
4	* 2.484	31.08	RMS	32.3	-22	.34	41.72	54	-12.28	-	-	263	380	V
2	2.535	42.71	Pk	32.4	-21.9	0	53.21	-	-	74	-20.79	263	380	V

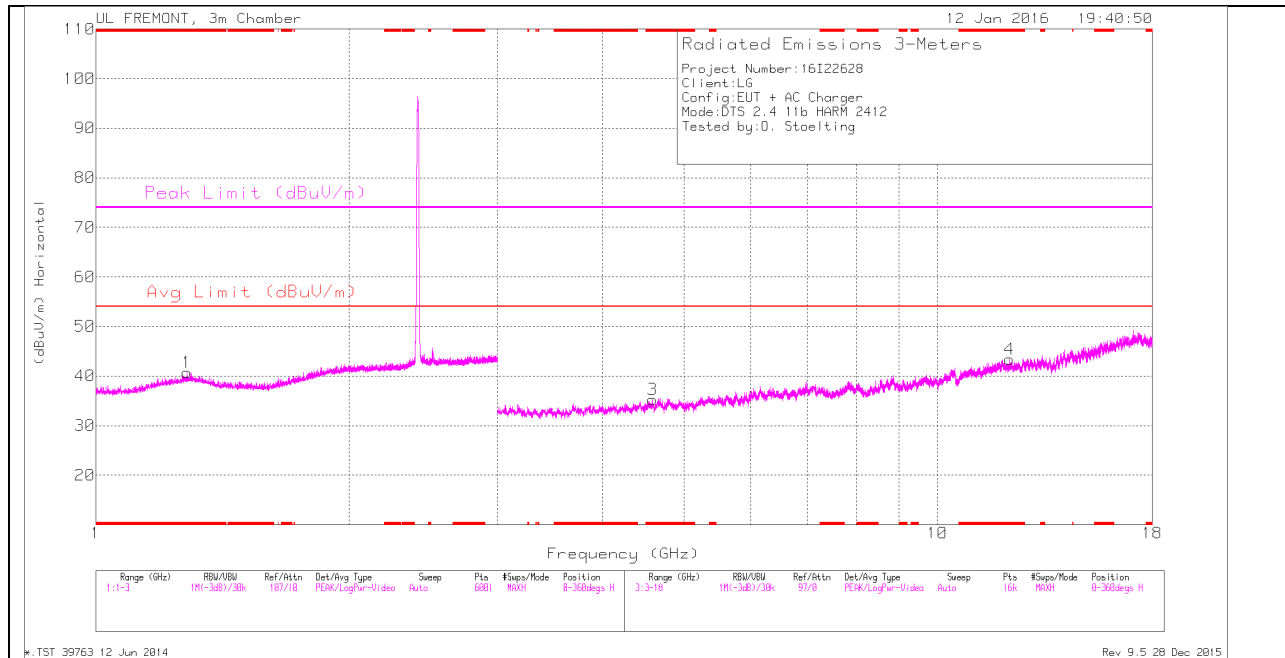
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

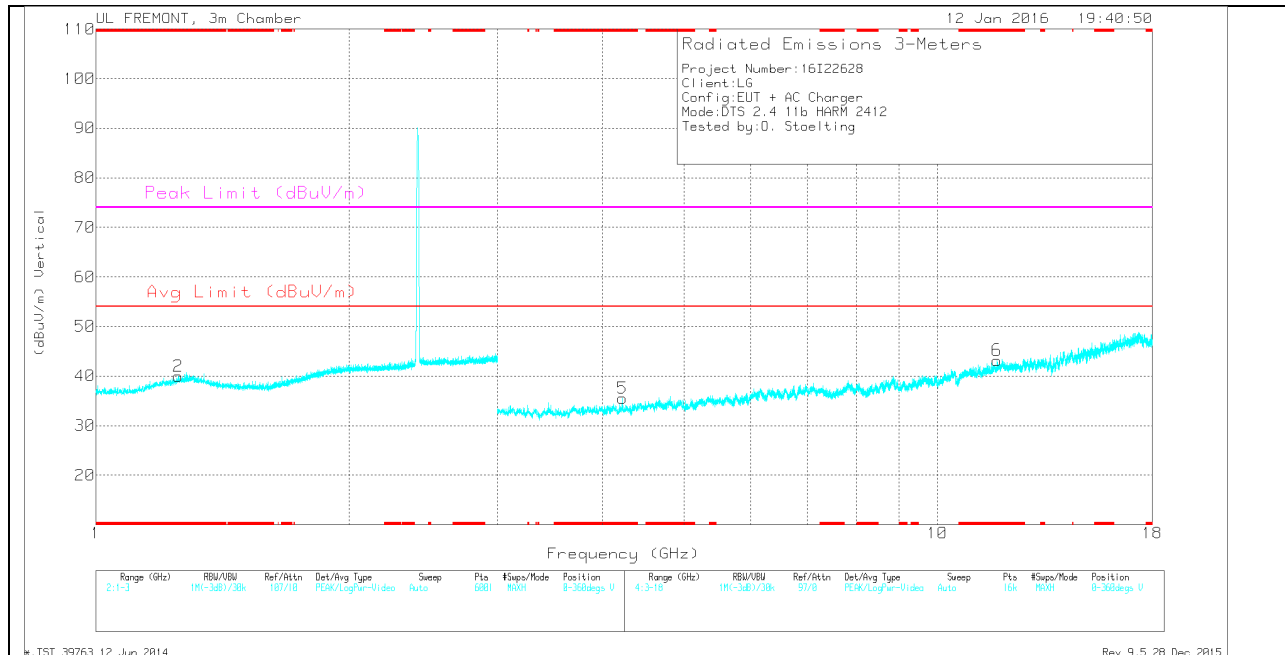
## HARMONICS AND SPURIOUS EMISSIONS

### LOW 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.

### 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 T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.283	34.26	Avg	29.7	-23.2	0	40.76	54	-13.24	-	-	0-360	100	H
2	* 1.253	33.75	Avg	29.4	-23.2	0	39.95	54	-14.05	-	-	0-360	200	V
3	* 4.588	30.97	Avg	33.8	-29.5	0	35.27	54	-18.73	-	-	0-360	100	H
4	* 12.189	28.22	Avg	39	-23.8	0	43.42	54	-10.58	-	-	0-360	100	H
5	* 4.226	31.88	Avg	33.4	-29.7	0	35.58	54	-18.42	-	-	0-360	100	V
6	* 11.762	27.7	Avg	38.9	-23.4	0	43.2	54	-10.8	-	-	0-360	100	V

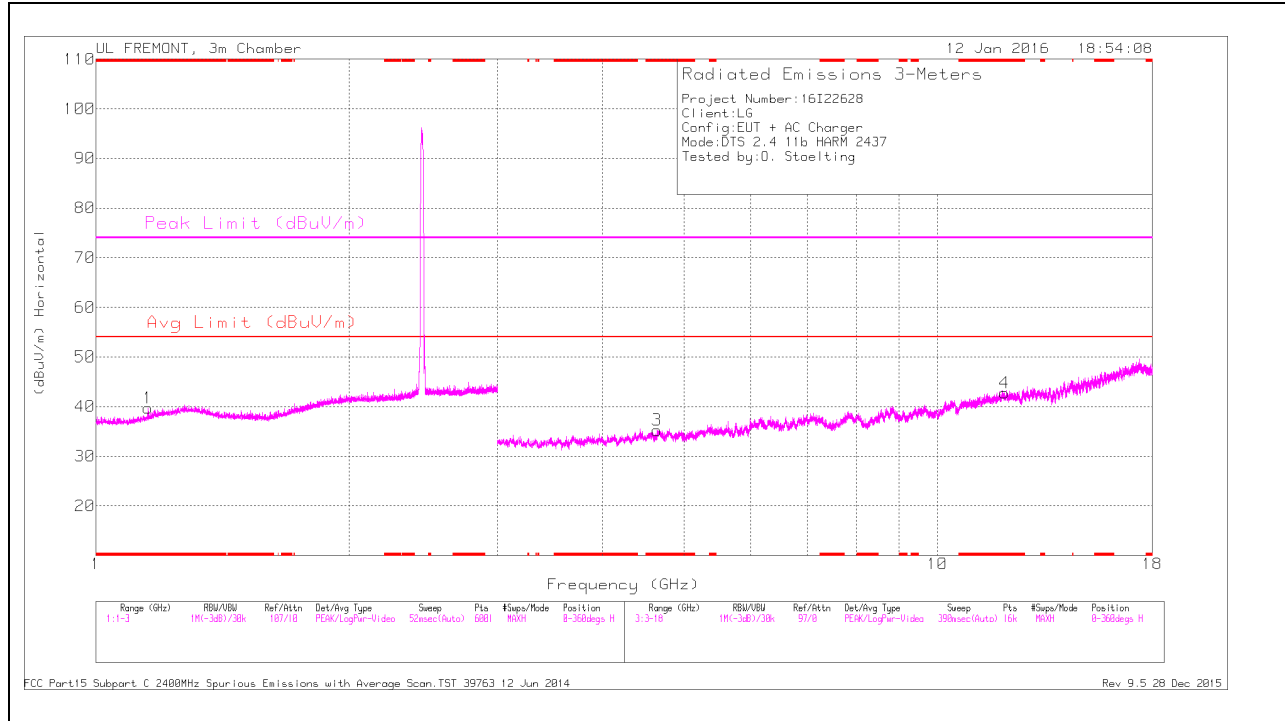
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.282	43.52	PK2	29.7	-23.2	0	50.02	-	-	74	-23.98	74	275	H
* 1.282	30.76	MAv1	29.7	-23.2	.34	37.6	54	-16.4	-	-	74	275	H
* 1.254	43.44	PK2	29.4	-23.2	0	49.64	-	-	74	-24.36	159	148	V
* 1.253	30.93	MAv1	29.4	-23.2	.34	37.47	54	-16.53	-	-	159	148	V
* 4.589	40.46	PK2	33.8	-29.6	0	44.66	-	-	74	-29.34	197	106	V
* 4.588	28.13	MAv1	33.8	-29.5	.34	32.77	54	-21.23	-	-	197	106	V
* 12.191	37.3	PK2	39	-23.8	0	52.5	-	-	74	-21.5	148	153	H
* 12.191	25.02	MAv1	39	-23.8	.34	40.56	54	-13.44	-	-	148	153	H
* 4.228	40.08	PK2	33.4	-29.8	0	43.68	-	-	74	-30.32	111	268	V
* 4.225	28.01	MAv1	33.4	-29.6	.34	32.15	54	-21.85	-	-	111	268	V
* 11.76	36.81	PK2	38.9	-23.4	0	52.31	-	-	74	-21.69	287	100	V
* 11.76	24.58	MAv1	38.9	-23.4	.34	40.42	54	-13.58	-	-	287	100	V

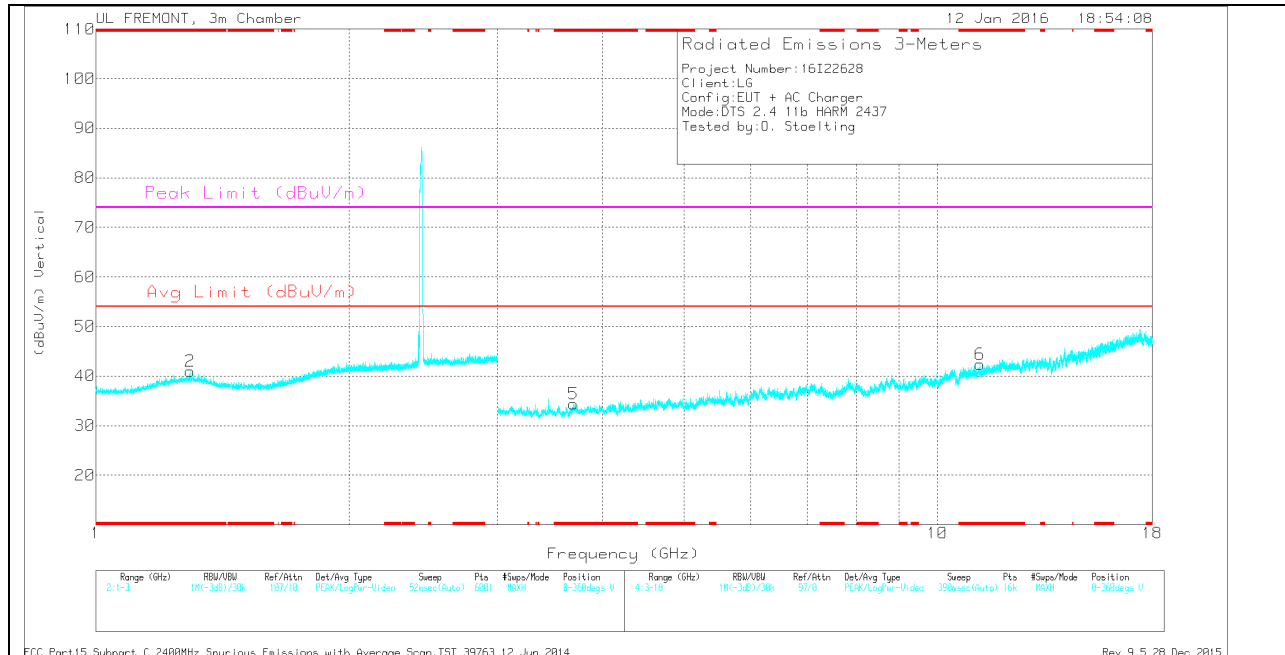
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

**MID 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.

**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 T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.154	34.68	Avg	28.2	-23.2	0	39.68	54	-14.32	-	-	0-360	200	H
2	* 1.293	34.33	Avg	29.8	-23.1	0	41.03	54	-12.97	-	-	0-360	100	V
3	* 4.646	30.91	Avg	34	-29.7	0	35.21	54	-18.79	-	-	0-360	200	H
4	* 12.011	26.8	Avg	39.1	-23.1	0	42.8	54	-11.2	-	-	0-360	100	H
5	* 3.696	30.88	Avg	33	-29.5	0	34.38	54	-19.62	-	-	0-360	200	V
6	* 11.234	26.86	Avg	37.9	-22.4	0	42.36	54	-11.64	-	-	0-360	200	V

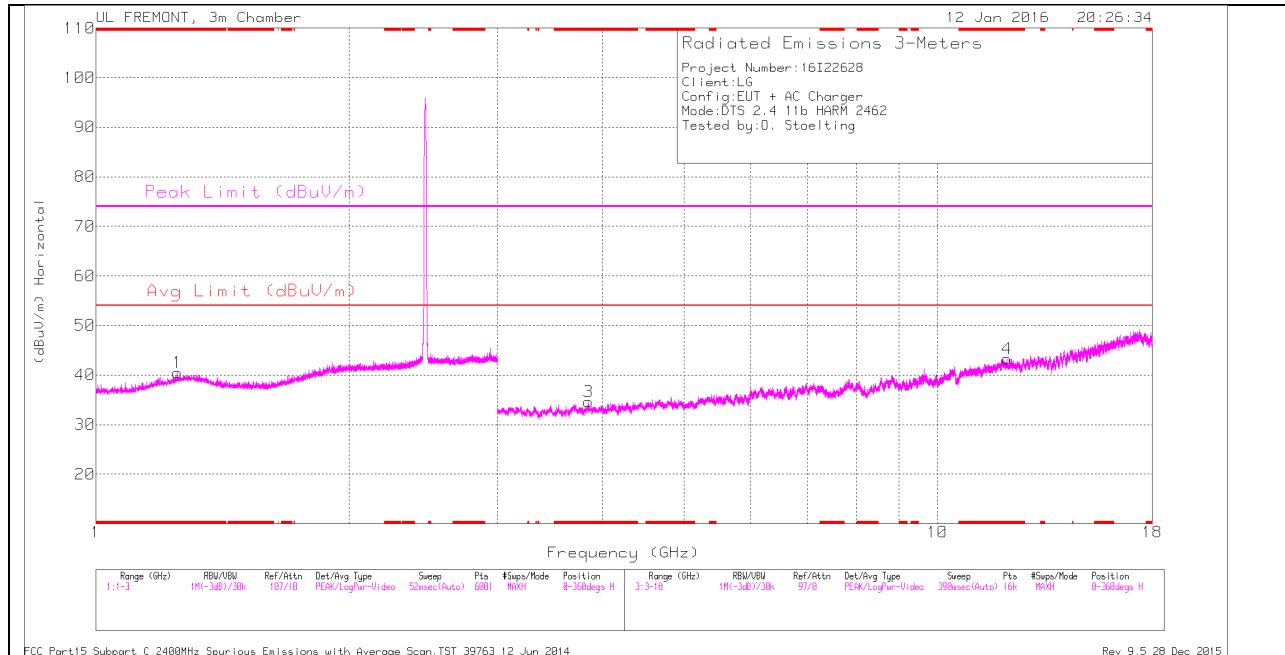
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 Avg - Video bandwidth < Resolution bandwidth

**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.155	42.93	PK2	28.2	-23.2	0	47.93	-	-	74	-26.07	102	315	H
* 1.156	30.87	MAv1	28.2	-23.2	.34	36.21	54	-17.79	-	-	102	315	H
* 1.295	42.95	PK2	29.8	-23.1	0	49.65	-	-	74	-24.35	157	362	V
* 1.293	30.7	MAv1	29.8	-23.1	.34	37.74	54	-16.26	-	-	157	362	V
* 4.645	40.34	PK2	33.9	-29.7	0	44.54	-	-	74	-29.46	133	149	V
* 4.648	28.49	MAv1	34	-29.7	.34	33.13	54	-20.87	-	-	133	149	V
* 12.01	36.73	PK2	39.1	-23.1	0	52.73	-	-	74	-21.27	28	150	H
* 12.013	24.5	MAv1	39.1	-23.1	.34	40.84	54	-13.16	-	-	28	150	H
* 3.694	40.07	PK2	33	-29.5	0	43.57	-	-	74	-30.43	129	369	V
* 3.697	27.75	MAv1	33	-29.5	.34	31.59	54	-22.41	-	-	129	369	V
* 11.232	36.38	PK2	37.9	-22.4	0	51.88	-	-	74	-22.12	163	105	V
* 11.235	24.05	MAv1	38	-22.5	.34	39.89	54	-14.11	-	-	163	105	V

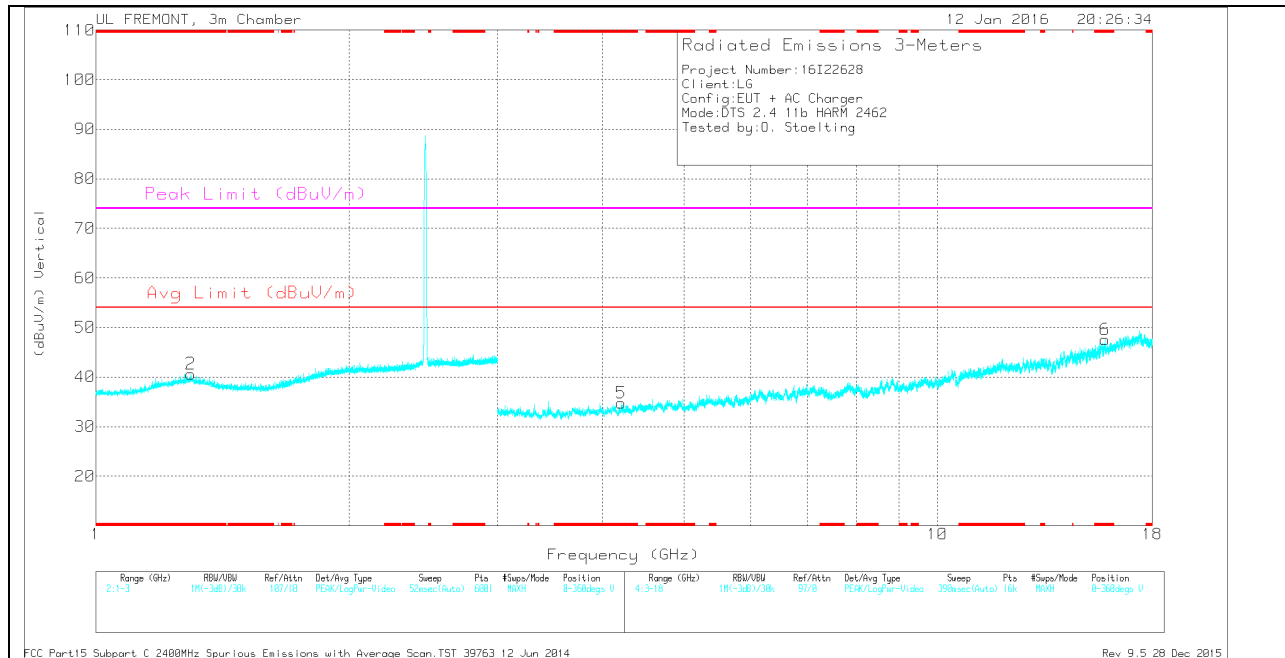
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

### 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.

### HIGH 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.

**HIGH CHANNEL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.249	34.28	Avg	29.4	-23.2	0	40.48	54	-13.52	-	-	0-360	200	H
2	* 1.296	33.96	Avg	29.8	-23.1	0	40.66	54	-13.34	-	-	0-360	100	V
3	* 3.847	31.58	Avg	33.1	-30.1	0	34.58	54	-19.42	-	-	0-360	100	H
4	* 12.098	28.29	Avg	39	-24	0	43.29	54	-10.71	-	-	0-360	200	H
5	* 4.212	30.98	Avg	33.3	-29.5	0	34.78	54	-19.22	-	-	0-360	100	V
6	* 15.817	29.61	Avg	40.3	-22.3	0	47.61	54	-6.39	-	-	0-360	100	V

\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 Avg - Video bandwidth < Resolution bandwidth

**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.249	43.61	PK2	29.4	-23.2	0	49.81	-	-	74	-24.19	346	107	H
* 1.25	30.86	MAv1	29.4	-23.2	.34	37.4	54	-16.6	-	-	346	107	H
* 1.295	43.1	PK2	29.8	-23.1	0	49.8	-	-	74	-24.2	353	208	V
* 1.295	30.72	MAv1	29.8	-23.1	.34	37.76	54	-16.24	-	-	353	208	V
* 3.847	40.98	PK2	33.1	-30.1	0	43.98	-	-	74	-30.02	253	185	H
* 3.846	28.7	MAv1	33.1	-30.1	.34	32.04	54	-21.96	-	-	253	185	H
* 12.099	37.63	PK2	39	-24	0	52.63	-	-	74	-21.37	345	107	H
* 12.1	25.2	MAv1	39	-24	.34	40.54	54	-13.46	-	-	345	107	H
* 4.213	40.76	PK2	33.3	-29.6	0	44.46	-	-	74	-29.54	73	252	V
* 4.214	28.03	MAv1	33.3	-29.6	.34	32.07	54	-21.93	-	-	73	252	V
* 15.816	38.47	PK2	40.3	-22.2	0	56.57	-	-	74	-17.43	31	106	V
* 15.816	26.36	MAv1	40.3	-22.2	.34	44.8	54	-9.2	-	-	31	106	V

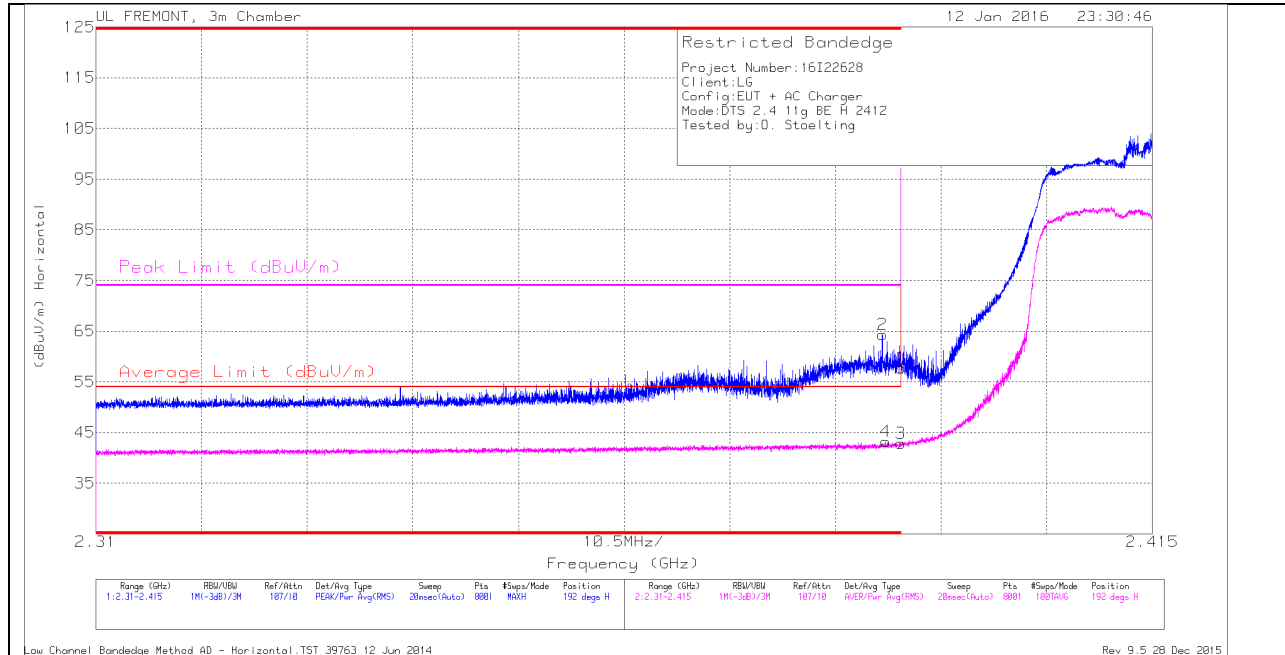
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average



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

### RESTRICTED BANDEDGE (LOW CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

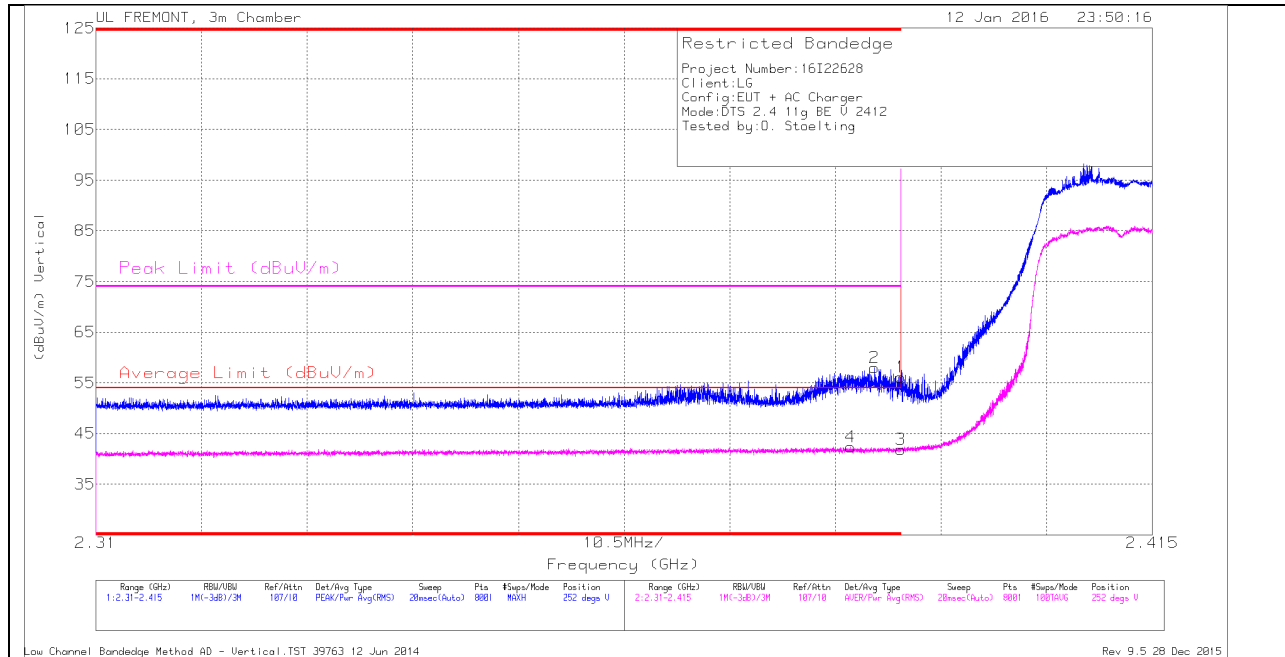
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF Y119 (dBm)	Amp/CBI/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.388	54.47	Pk	32	-22.2	0	64.27	-	-	74	-9.73	192	145	H
4	* 2.389	31.9	RMS	32	-22.2	1.49	43.19	54	-10.81	-	-	192	145	H
1	* 2.39	47.9	Pk	32	-22.2	0	57.7	-	-	74	-16.3	192	145	H
3	* 2.39	31.56	RMS	32	-22.2	1.49	42.85	54	-11.15	-	-	192	145	H

\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dBm)	Amp/Cbl/Filt/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
4	* 2.385	31.05	RMS	32	-22.2	1.49	42.34	54	-11.66	-	-	252	279	V
2	* 2.387	48.17	Pk	32	-22.2	0	57.97	-	-	74	-16.03	252	279	V
1	* 2.39	46.34	Pk	32	-22.2	0	56.14	-	-	74	-17.86	252	279	V
3	* 2.39	30.58	RMS	32	-22.2	1.49	41.87	54	-12.13	-	-	252	279	V

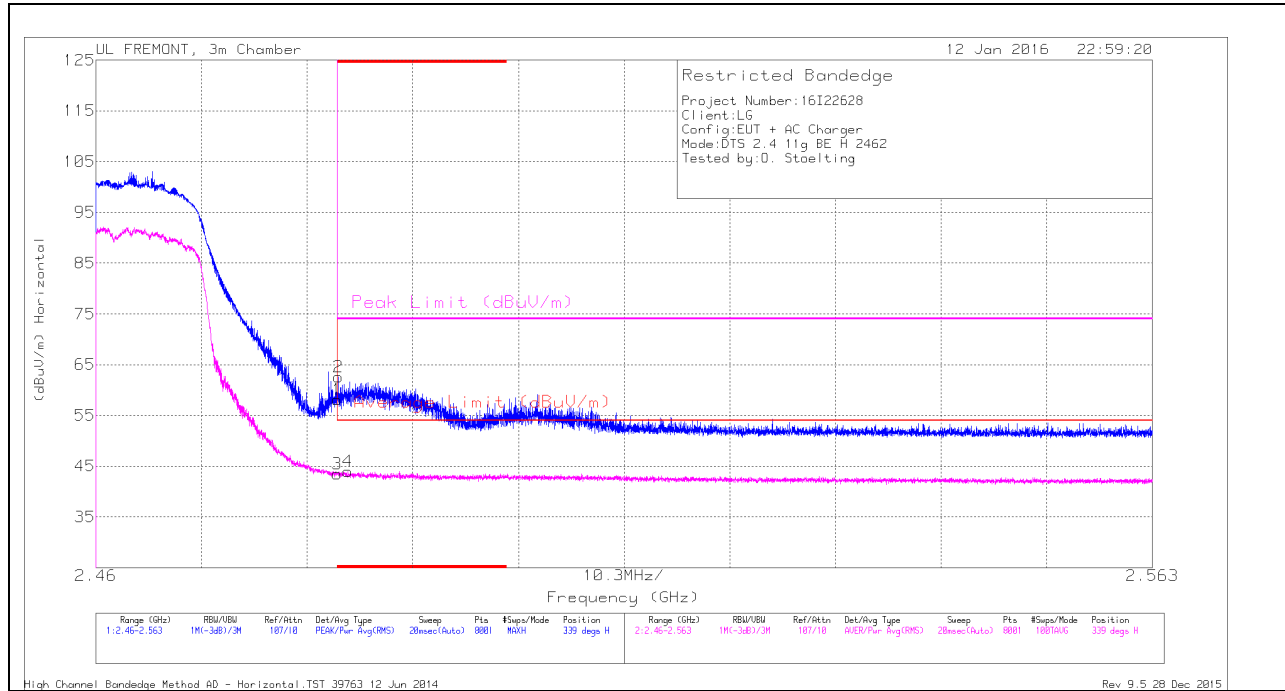
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

### AUTHORIZED BANDEDGE (HIGH CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

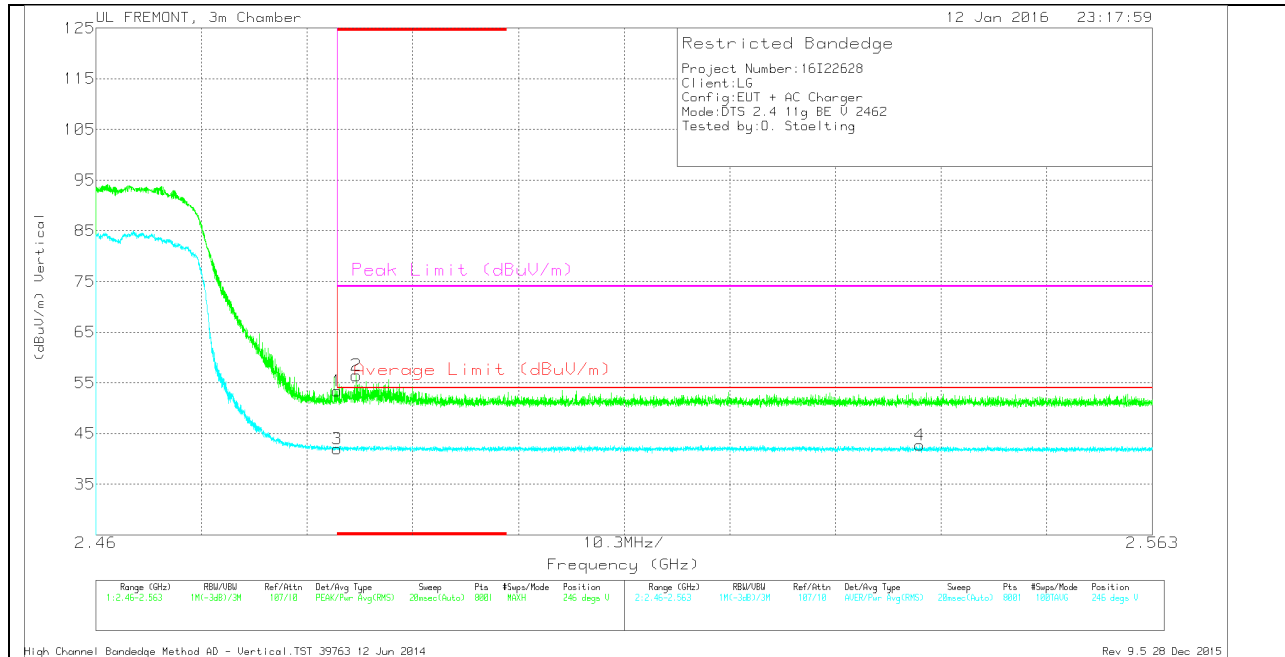
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	47.78	Pk	32.3	-22	0	58.08	-	-	74	-15.92	339	161	H
2	* 2.484	52.32	Pk	32.3	-22	0	62.62	-	-	74	-11.38	339	161	H
3	* 2.484	31.7	RMS	32.3	-22	1.49	43.49	54	-10.51	-	-	339	161	H
4	* 2.485	32.13	RMS	32.3	-22	1.49	43.92	54	-10.08	-	-	339	161	H

\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T119 (dBm)	Amp/Cb1Fitr/Pad (dB)	DC Corr (dB)	Correcte d Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	43.12	Pk	32.3	-22	0	53.42	-	-	74	-20.58	246	374	V
3	* 2.484	30.2	RMS	32.3	-22	1.49	41.99	54	-12.01	-	-	246	374	V
2	* 2.485	46.14	Pk	32.3	-22	0	56.44	-	-	74	-17.56	246	374	V
4	2.54	30.69	RMS	32.4	-21.9	1.49	42.68	54	-11.32	-	-	246	374	V

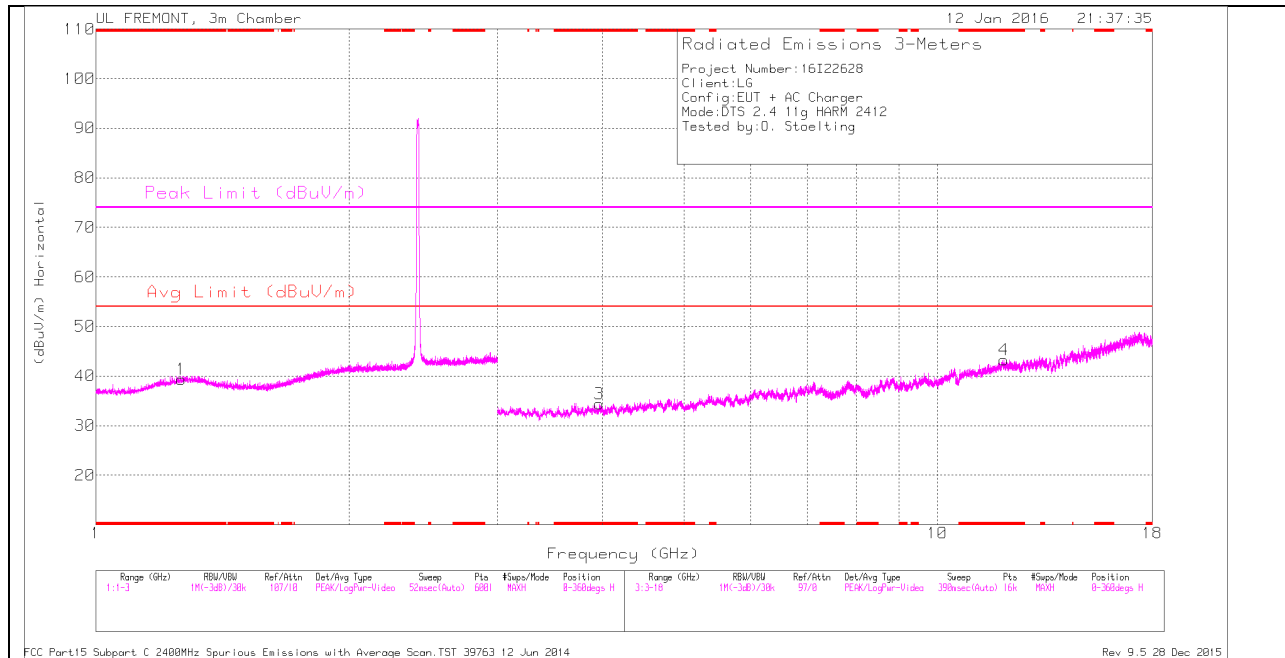
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

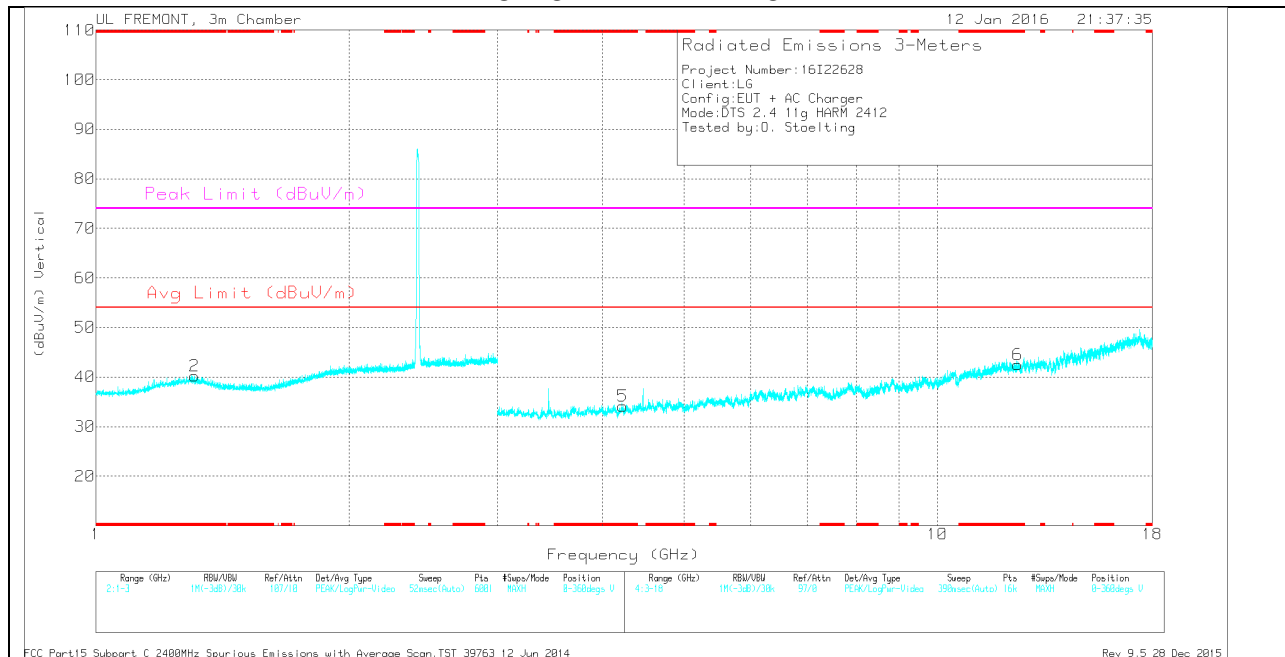
## HARMONICS AND SPURIOUS EMISSIONS

### LOW 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.

### 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 T119 (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
1	* 1.263	32.99	Avg	29.5	-23.2	0	32.29	54	-14.71	-	-	0-360	100	H
2	* 1.309	33.56	Avg	29.8	-23.1	0	40.26	54	-13.74	-	-	0-360	200	V
3	* 3.963	31.41	Avg	33.2	-30.2	0	34.41	54	-19.59	-	-	0-360	200	H
4	* 11.987	27.53	Avg	39.1	-23.4	0	43.23	54	-10.77	-	-	0-360	100	H
5	* 4.227	30.54	Avg	33.4	-29.8	0	34.14	54	-19.86	-	-	0-360	100	V
6	* 12.451	27.46	Avg	39	-23.9	0	42.56	54	-11.44	-	-	0-360	100	V

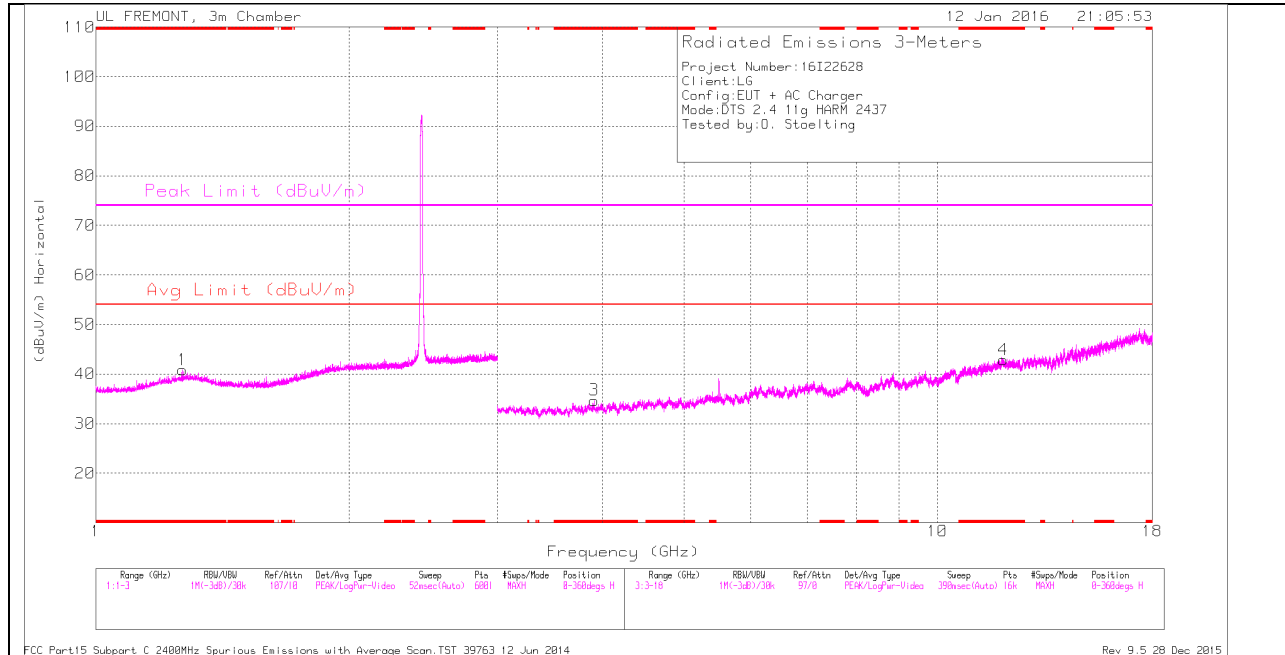
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 Avg - Video bandwidth < Resolution bandwidth

**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
* 1.265	43.43	PK2	29.6	-23.2	0	49.83	-	-	74	-24.17	103	294	H
* 1.264	30.76	MAv1	29.5	-23.2	1.49	38.55	54	-15.45	-	-	103	294	H
* 1.307	42.93	PK2	29.8	-23.2	0	49.53	-	-	74	-24.47	187	145	V
* 1.307	30.71	MAv1	29.8	-23.2	1.49	38.8	54	-15.2	-	-	187	145	V
* 3.963	40.45	PK2	33.2	-30.2	0	43.45	-	-	74	-30.55	10	177	H
* 3.964	28.42	MAv1	33.2	-30.2	1.49	32.91	54	-21.09	-	-	10	177	H
* 11.988	37.93	PK2	39.1	-23.4	0	53.63	-	-	74	-20.37	217	103	H
* 11.989	24.55	MAv1	39.1	-23.3	1.49	41.84	54	-12.16	-	-	217	103	H
* 4.225	39.86	PK2	33.4	-29.7	0	43.56	-	-	74	-30.44	325	391	V
* 4.225	27.7	MAv1	33.4	-29.7	1.49	32.89	54	-21.11	-	-	325	391	V
* 12.449	37.73	PK2	39	-23.9	0	52.83	-	-	74	-21.17	108	143	V
* 12.452	25.3	MAv1	39	-24	1.49	41.79	54	-12.21	-	-	108	143	V

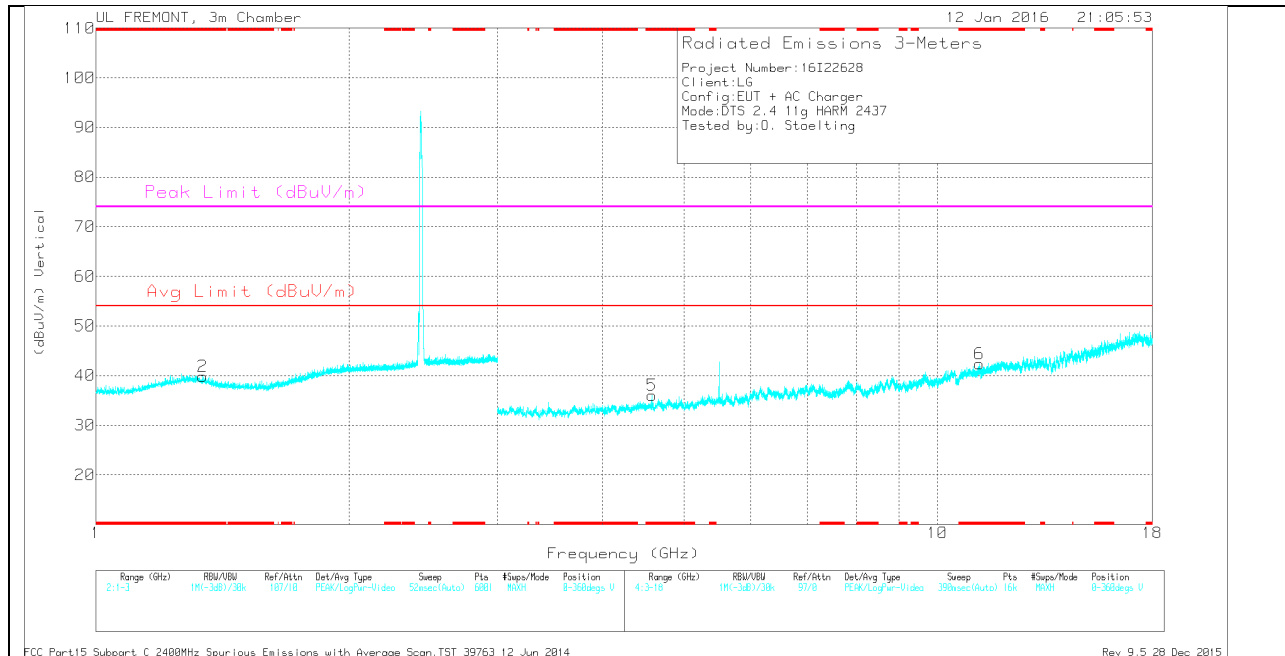
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

**MID 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.

**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 T119 (dBm)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.268	34.49	Avg	29.6	-23.2	0	40.89	54	-13.11	-	-	0-360	100	H
2	* 1.34	33.52	Avg	29.4	-23.1	0	39.82	54	-14.18	-	-	0-360	100	V
3	* 3.911	31.8	Avg	33.2	-30.3	0	34.7	54	-19.3	-	-	0-360	100	H
4	* 11.969	27.34	Avg	39.1	-23.5	0	42.94	54	-11.06	-	-	0-360	100	H
5	* 4.576	31.82	Avg	33.8	-29.6	0	36.02	54	-17.98	-	-	0-360	100	V
6	* 11.212	26.89	Avg	37.9	-22.4	0	42.39	54	-11.61	-	-	0-360	100	V

\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 Avg - Video bandwidth < Resolution bandwidth

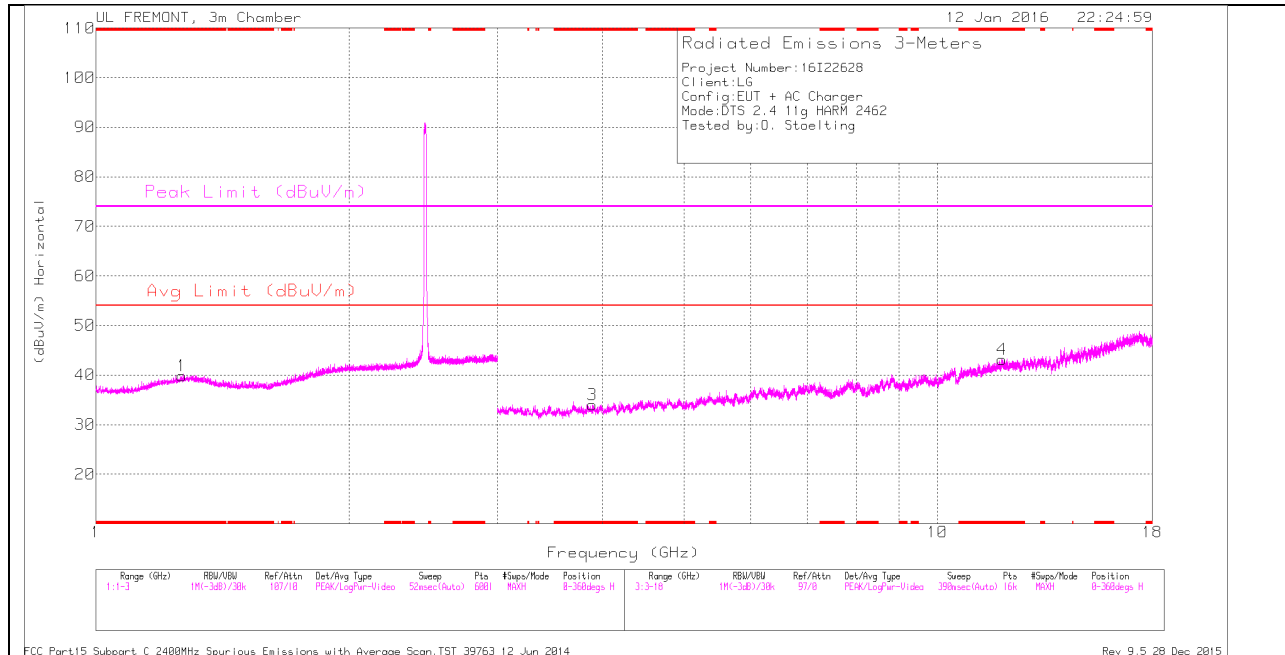
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.269	42.92	PK2	29.6	-23.2	0	49.32	-	-	74	-24.68	72	317	H
* 1.268	30.76	MAv1	29.6	-23.2	1.49	38.65	54	-15.35	-	-	72	317	H
* 1.341	43.06	PK2	29.4	-23.1	0	49.36	-	-	74	-24.64	360	175	V
* 1.339	30.78	MAv1	29.4	-23.1	1.49	38.57	54	-15.43	-	-	360	175	V
* 3.913	40.61	PK2	33.2	-30.2	0	43.61	-	-	74	-30.39	36	398	H
* 3.91	28.21	MAv1	33.2	-30.2	1.49	32.7	54	-21.3	-	-	36	398	H
* 11.968	36.8	PK2	39.1	-23.5	0	52.4	-	-	74	-21.6	332	177	H
* 11.969	24.57	MAv1	39.1	-23.5	1.49	41.66	54	-12.34	-	-	332	177	H
* 4.576	40.53	PK2	33.8	-29.6	0	44.73	-	-	74	-29.27	346	202	V
* 4.577	27.94	MAv1	33.8	-29.6	1.49	33.63	54	-20.37	-	-	346	202	V
* 11.213	36.63	PK2	37.9	-22.4	0	52.13	-	-	74	-21.87	18	117	V
* 11.214	24.09	MAv1	37.9	-22.4	1.49	41.08	54	-12.92	-	-	18	117	V

\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

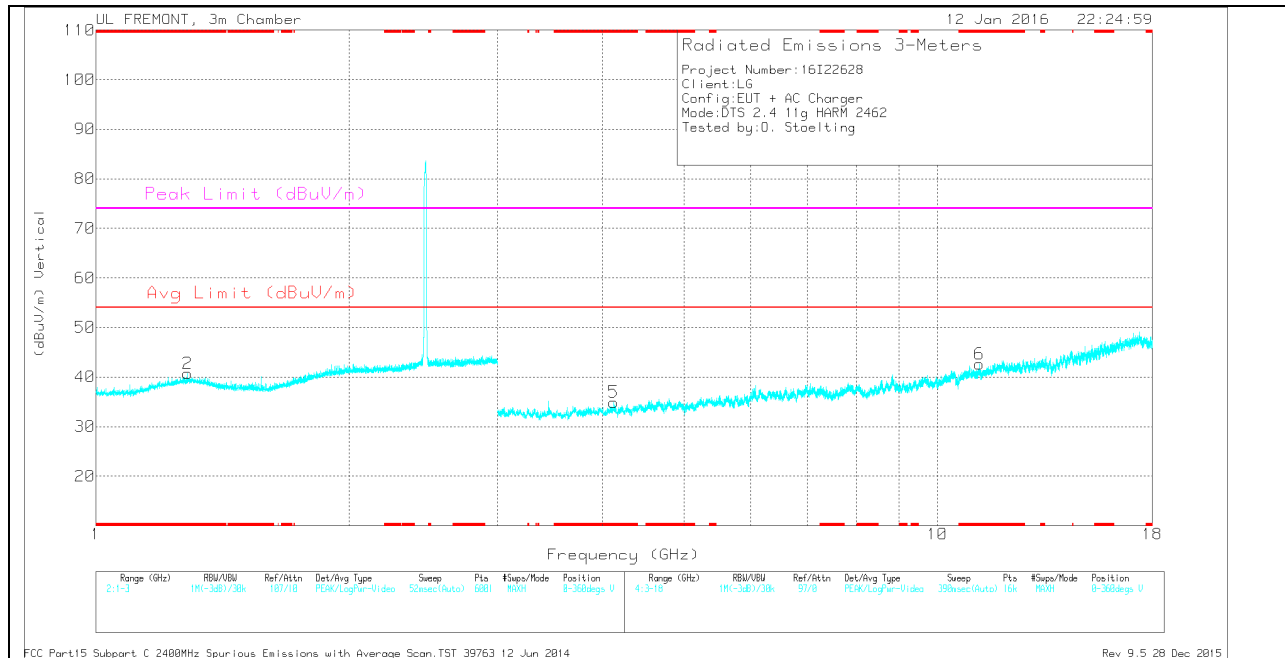


### HIGH CHANNEL HORIZONTAL



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

### HIGH 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.

**HIGH CHANNEL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dBm)	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
1	* 1.264	33.58	Avg	29.5	-23.2	0	39.88	54	-14.12	-	-	0-360	100	H
2	* 1.285	34.17	Avg	29.7	-23.2	0	40.67	54	-13.33	-	-	0-360	200	V
3	* 3.891	31.08	Avg	33.2	-30.3	0	33.98	54	-20.02	-	-	0-360	100	H
4	* 11.936	27.78	Avg	39.1	-23.7	0	43.18	54	-10.82	-	-	0-360	200	H
5	* 4.126	31.45	Avg	33.3	-29.8	0	34.95	54	-19.05	-	-	0-360	200	V
6	* 11.213	27.14	Avg	37.9	-22.4	0	42.64	54	-11.36	-	-	0-360	100	V

\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 Avg - Video bandwidth < Resolution bandwidth

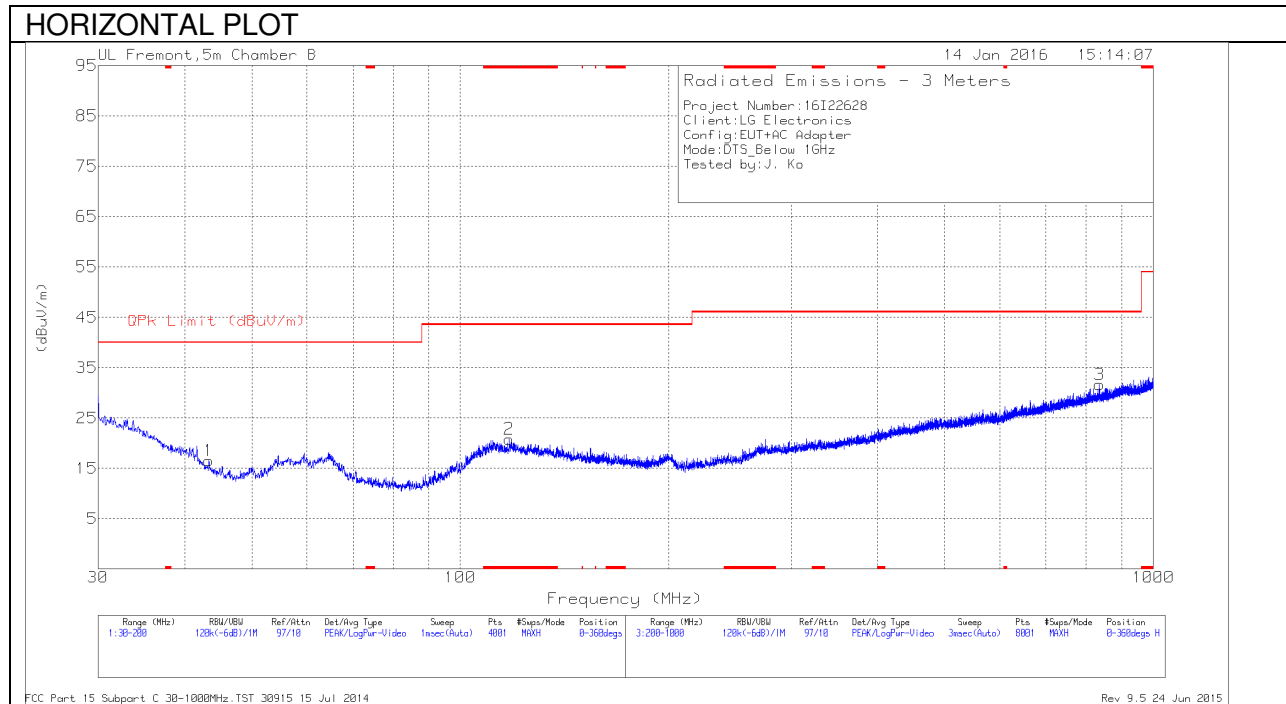
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
* 1.265	42.72	PK2	29.6	-23.2	0	49.12	-	-	74	-24.88	198	164	H
* 1.262	30.85	MAv1	29.5	-23.2	1.49	38.64	54	-15.36	-	-	198	164	H
* 1.283	43.87	PK2	29.7	-23.2	0	50.37	-	-	74	-23.63	124	203	V
* 1.285	30.87	MAv1	29.7	-23.2	1.49	38.86	54	-15.14	-	-	124	203	V
* 3.889	40.52	PK2	33.2	-30.3	0	43.42	-	-	74	-30.58	349	210	H
* 3.889	28.21	MAv1	33.2	-30.3	1.49	32.6	54	-21.4	-	-	349	210	H
* 11.935	37.46	PK2	39.1	-23.7	0	52.86	-	-	74	-21.14	0	117	H
* 11.938	25.24	MAv1	39.1	-23.7	1.49	42.13	54	-11.87	-	-	0	117	H
* 4.127	40.27	PK2	33.3	-29.8	0	43.77	-	-	74	-30.23	84	376	V
* 4.124	28.08	MAv1	33.3	-29.8	1.49	33.07	54	-20.93	-	-	84	376	V
* 11.212	36.53	PK2	37.9	-22.4	0	52.03	-	-	74	-21.97	145	161	V
* 11.215	23.95	MAv1	37.9	-22.4	1.49	40.94	54	-13.06	-	-	145	161	V

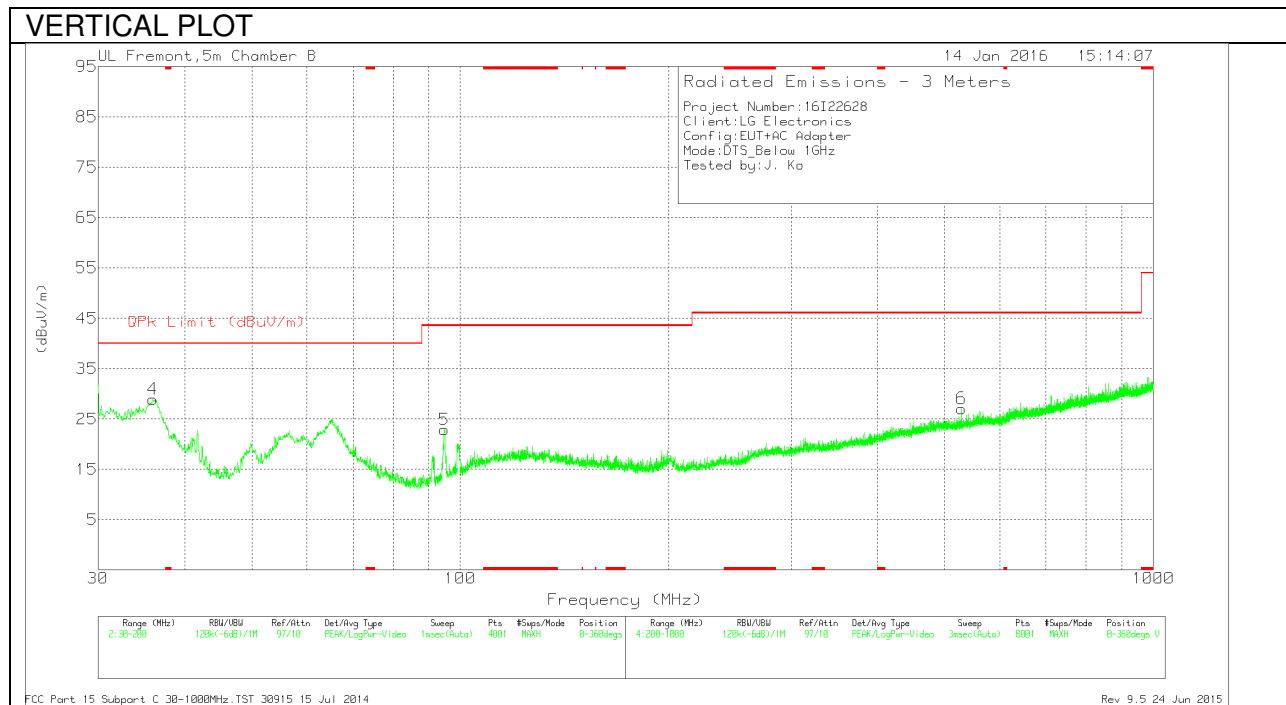
\* - indicates frequency in CFR47 Pt 15 / IC8.10 RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

## 10.2. 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**

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 117.635	31.1	Pk	17.6	-27.9	20.8	43.52	-22.72	0-360	399	H
4	35.9925	36.72	Pk	21	-28.8	28.92	40	-11.08	0-360	101	V
1	43.345	29.84	Pk	15.4	-28.7	16.54	40	-23.46	0-360	399	H
5	94.8975	38.07	Pk	12.9	-28.1	22.87	43.52	-20.65	0-360	101	V
6	528.6	31.37	Pk	21.9	-26.2	27.07	46.02	-18.95	0-360	199	V
3	836.2	30.34	Pk	25.6	-24.3	31.64	46.02	-14.38	0-360	199	H

\* - indicates frequency in CFR15.205/IC8.10 Restricted Band

Pk - Peak detector