



FCC CFR47 PART 15 SUBPART C

C2PC CERTIFICATION TEST REPORT

FOR

CDMA WATCH + Bluetooth, DTS b/g

MODEL NUMBER: LG-VC200, LGVC200, VC200, LG-VC200B, LGVC200B, VC200B

FCC ID: ZNFVC200

REPORT NUMBER: 15I21554-E2V1

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Prepared for

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NVLAP LAB CODE 200065-0

Revision History

Issue			
Rev.	Date	Revisions	Revised By
V1	9/28/15	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.
EUT DESCRIPTION: CDMA WATCH + Bluetooth, DTS b/g
MODEL: LG-VC200, LGVC200, VC200, LG-VC200B, LGVC200B, VC200B
SERIAL NUMBER: 22145, 22143
DATE TESTED: SEPTEMBER 7-16, 2015

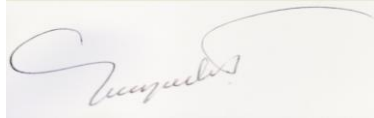
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass

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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UL VERIFICATION SERVICES INC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, and ANSI C63.10-2009 for FCC.

Deviation from ANSI C63.10-2009:

Radiated spurious emission above 1GHz was performed with the EUT elevated at 1.5m instead of 0.8m. 1.5m is the required height in ANSI C63.10:2013 as referenced by RSS GEN issue 4.

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 CDMA WATCH + Bluetooth, DTS b/g

5.2. MAXIMUM OUTPUT POWER

See original report for details.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

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.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	STA-U17WD	DS542312055	N/A

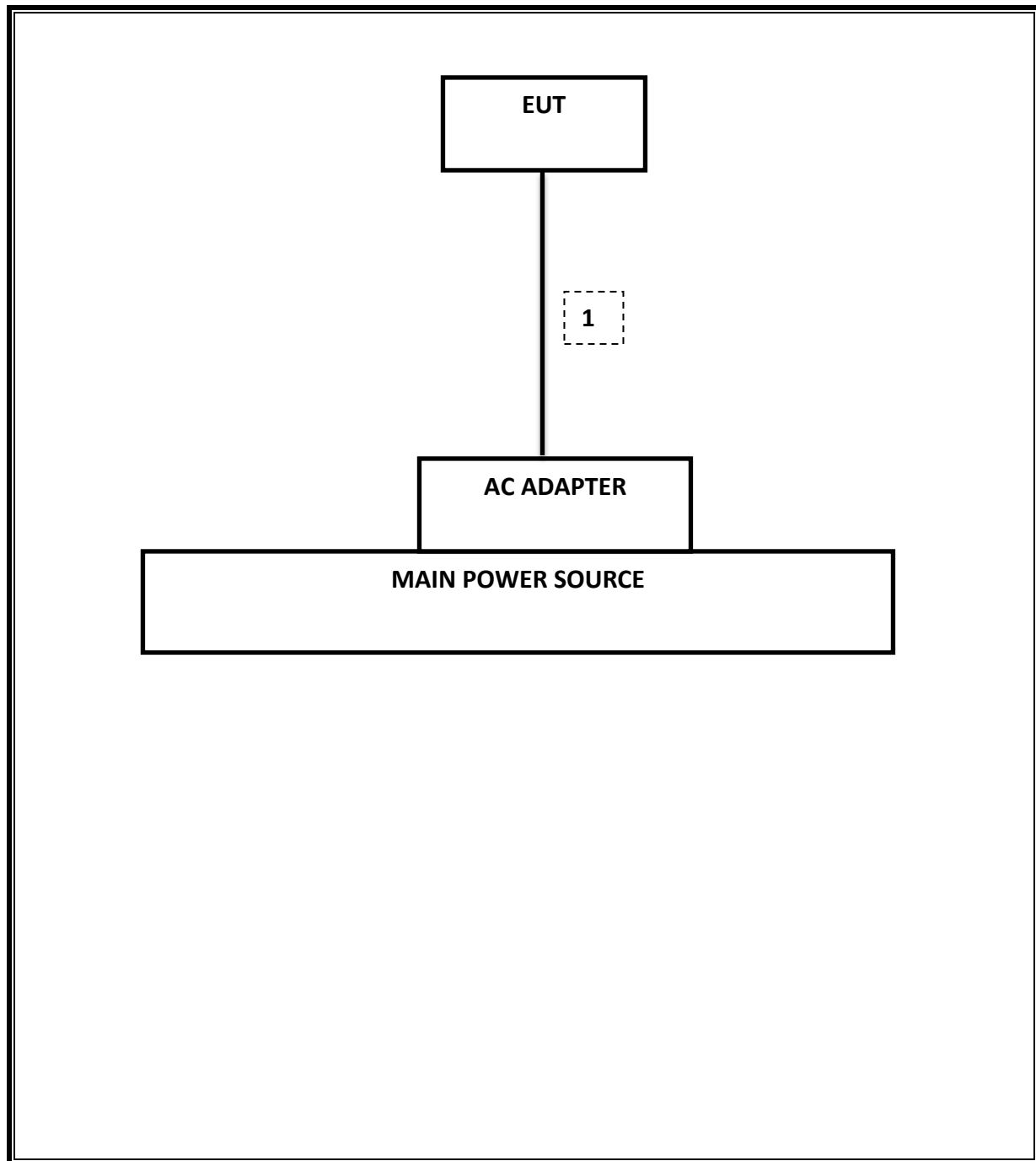
I/O CABLES

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 continuously communicating to the Bluetooth tester during the tests.

EUT was set in the Hidden menu mode to enable BT communications.

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	04/01/16
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	02/21/16
Antenna, Horn, 18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/16
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/16
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	T404	06/29/16
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
CBT Bluetooth Tester	R & S	CBT	None	42551
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/16
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/16
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/16
Radiated Software	UL	UL EMC	Ver 9.5, Jul 22, 2014	
Conducted Software	UL	UL EMC	Ver 9.5, May 17 2012	
CLT Software	UL	UL RF	Ver 1.0, Feb 2 2015	
Antenna Port Software	UL	UL RF	Ver 2.1.1.1, Jan 20 2015	

7. SUMMARY TABLE

C2PC Reason: Please see LG-VC200 FCC Class II change description for detail

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
2.1049	RSS-GEN 4.6	Occupied Band width (99%)	N/A	Conducted	Pass	See original
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	See original
15.247 (b)(1)	RSS-247 5.4.2	TX conducted output power	<21dBm		Pass	See original
15.247 (a)(1)	RSS-247 5.1.2	Hopping frequency separation	> 25KHz		Pass	See original
15.247 (a)(1)(iii)	RSS-247 5.1.4	Number of Hopping channels	More than 15 non-overlapping channels		Pass	See original
15.247 (a)(1)(iii)	RSS-247 5.1.4	Avg Time of Occupancy	< 0.4sec		Pass	See original
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass	See original
15.205, 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass	50.18 dBuV/m

9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit ($\mu\text{V/m}$) at 3 m	Field Strength Limit (dB $\mu\text{V/m}$) 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. The EUT is configured in accordance with ANSI C63.4. 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 band edge 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 1/T (on time) for average measurement.
 $\text{GFSK} = 1/T = 1 / 0.001632\text{S} = 620\text{Hz}$.

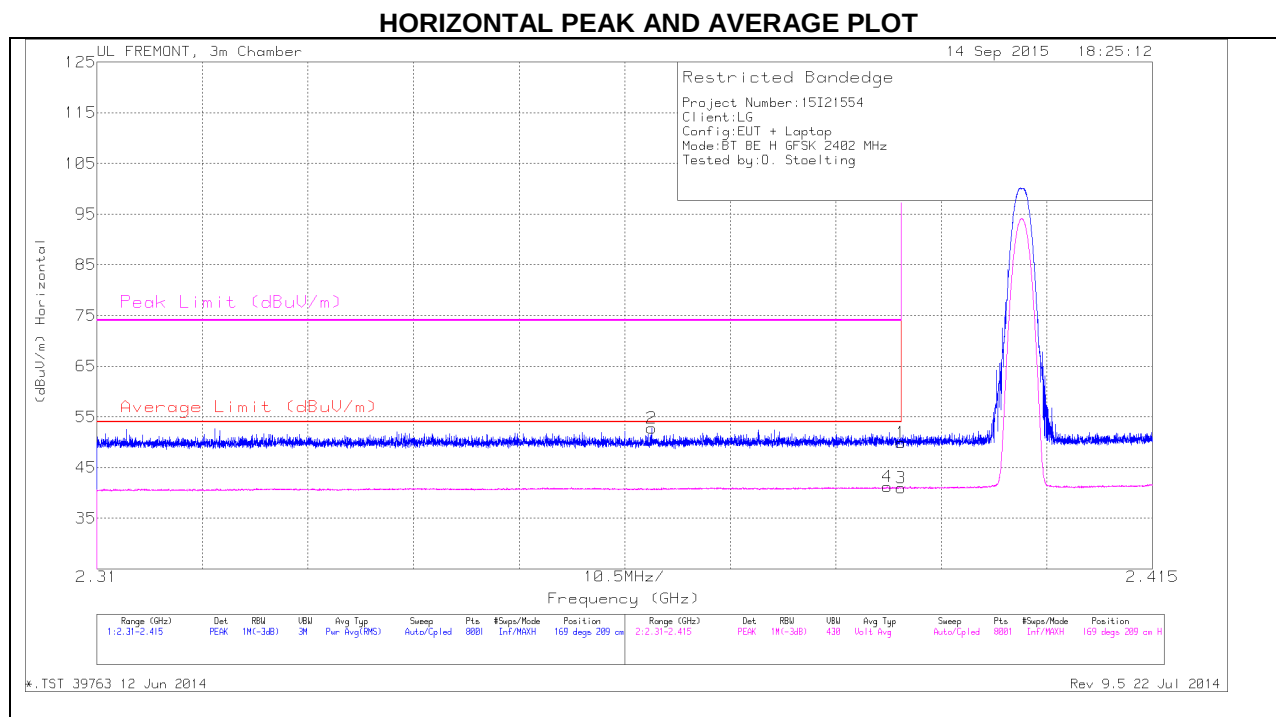
The spectrum from 1GHzHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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.

9.2. TRANSMITTER ABOVE 1 GHz

9.2.1. BASIC DATA RATE GFSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL)



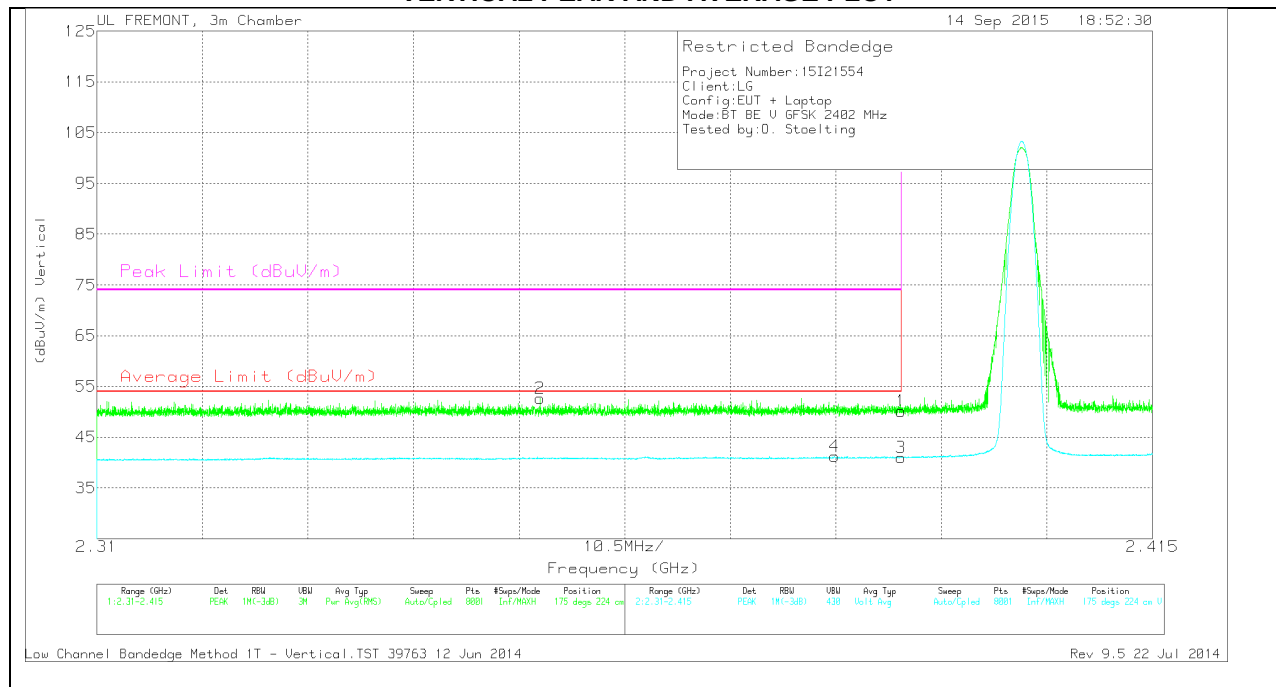
HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.365	43.38	PK	31.9	-22.5	0	52.78	-	-	74	-21.22	169	209	H
4	2.389	31.58	VB1T	32	-22.4	0	41.18	54	-12.82	-	-	169	209	H
1	2.39	40.34	PK	32	-22.4	0	49.94	-	-	74	-24.06	169	209	H
3	2.39	31.34	VB1T	32	-22.4	0	40.94	54	-13.06	-	-	169	209	H

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

Pk - Peak detector

VERTICAL PEAK AND AVERAGE PLOT

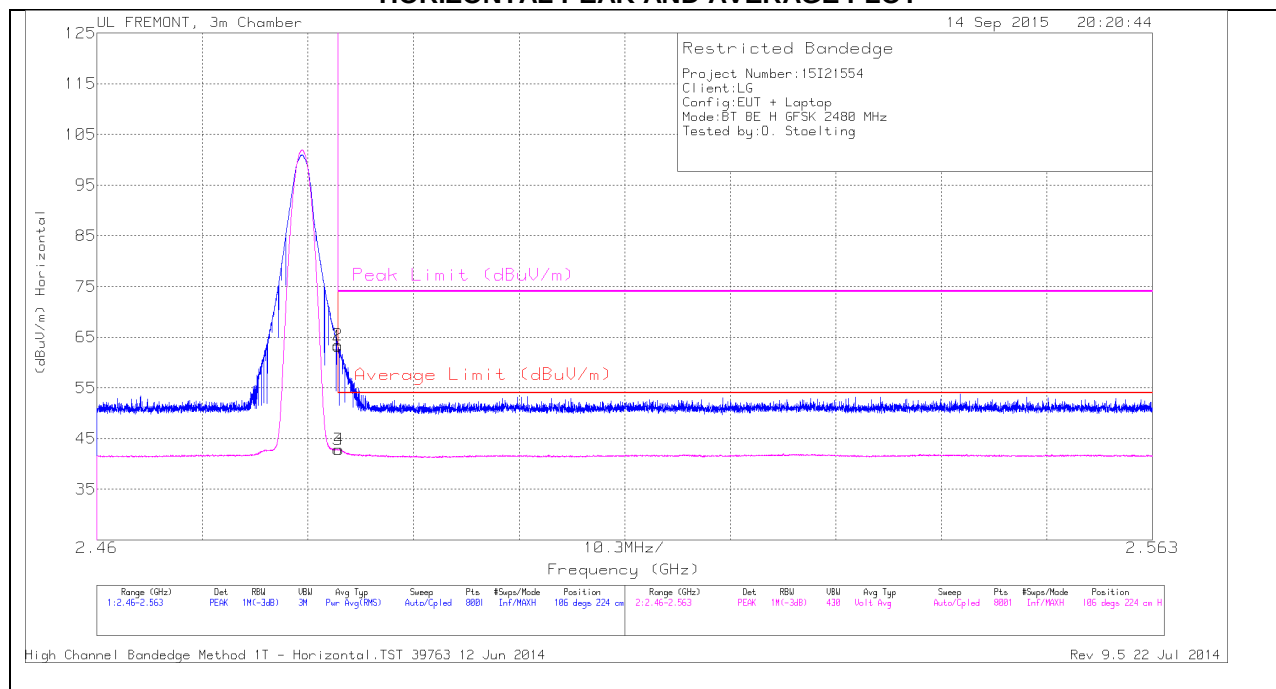


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.354	43.3	PK	31.8	-22.4	0	52.7	-	-	74	-21.3	175	224	V
4	2.383	31.64	VB1T	32	-22.4	0	41.24	54	-12.76	-	-	175	224	V
1	2.39	40.51	PK	32	-22.4	0	50.11	-	-	74	-23.89	175	224	V
3	2.39	31.41	VB1T	32	-22.4	0	41.01	54	-12.99	-	-	175	224	V

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

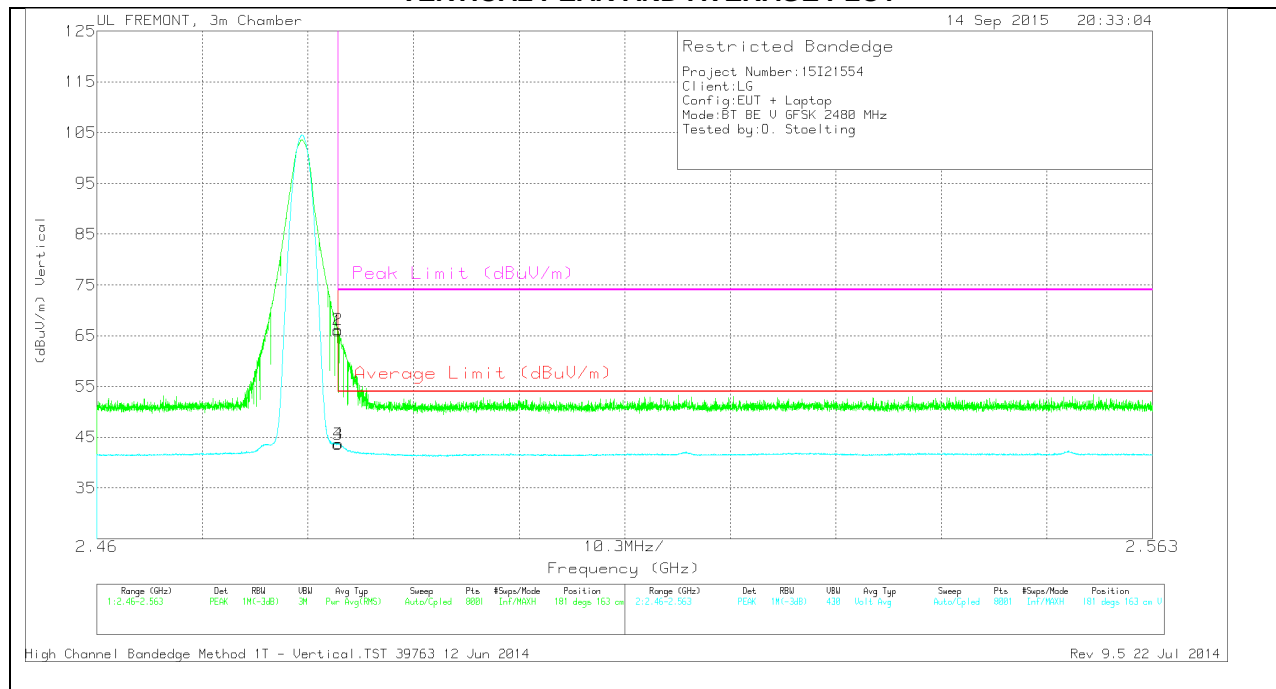
Pk - Peak detector

AUTHORIZED BANDEDGE (HIGH CHANNEL)**HORIZONTAL PEAK AND AVERAGE PLOT****HORIZONTAL DATA**

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	52.98	PK	32.3	-22.1	0	63.18	-	-	74	-10.82	106	224	H
2	2.484	53.2	PK	32.3	-22.1	0	63.4	-	-	74	-10.6	106	224	H
3	2.484	32.62	VB1T	32.3	-22.1	0	42.82	54	-11.18	-	-	106	224	H
4	2.484	32.69	VB1T	32.3	-22.1	0	42.89	54	-11.11	-	-	106	224	H

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

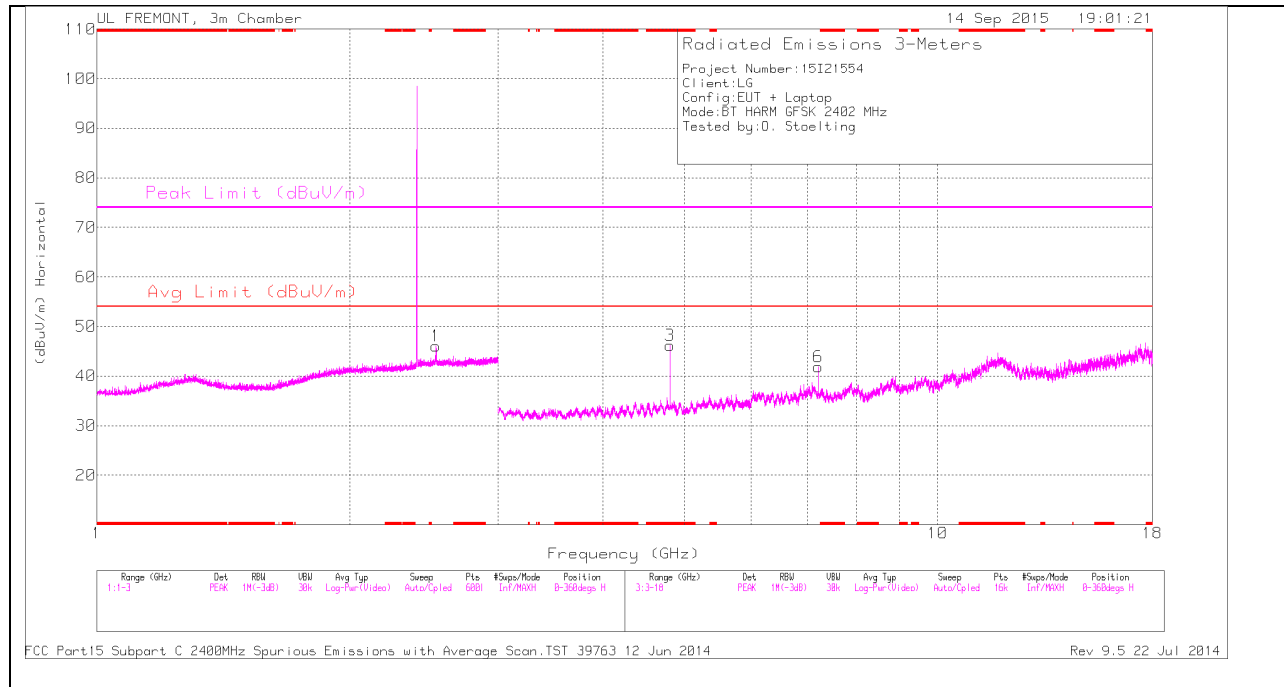
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

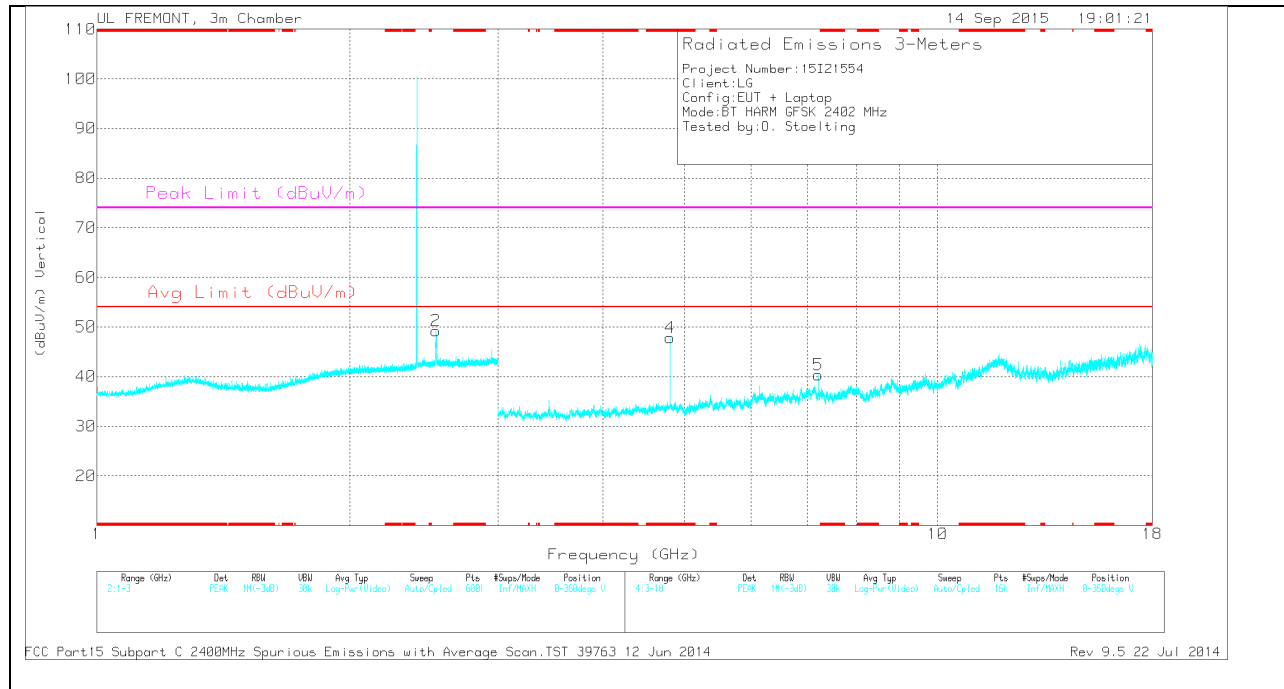
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	55.74	PK	32.3	-22.1	0	65.94	-	-	74	-8.06	181	163	V
2	2.484	55.99	PK	32.3	-22.1	0	66.19	-	-	74	-7.81	181	163	V
3	2.484	33.41	VB1T	32.3	-22.1	0	43.61	54	-10.39	-	-	181	163	V
4	2.484	33.48	VB1T	32.3	-22.1	0	43.68	54	-10.32	-	-	181	163	V

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

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**

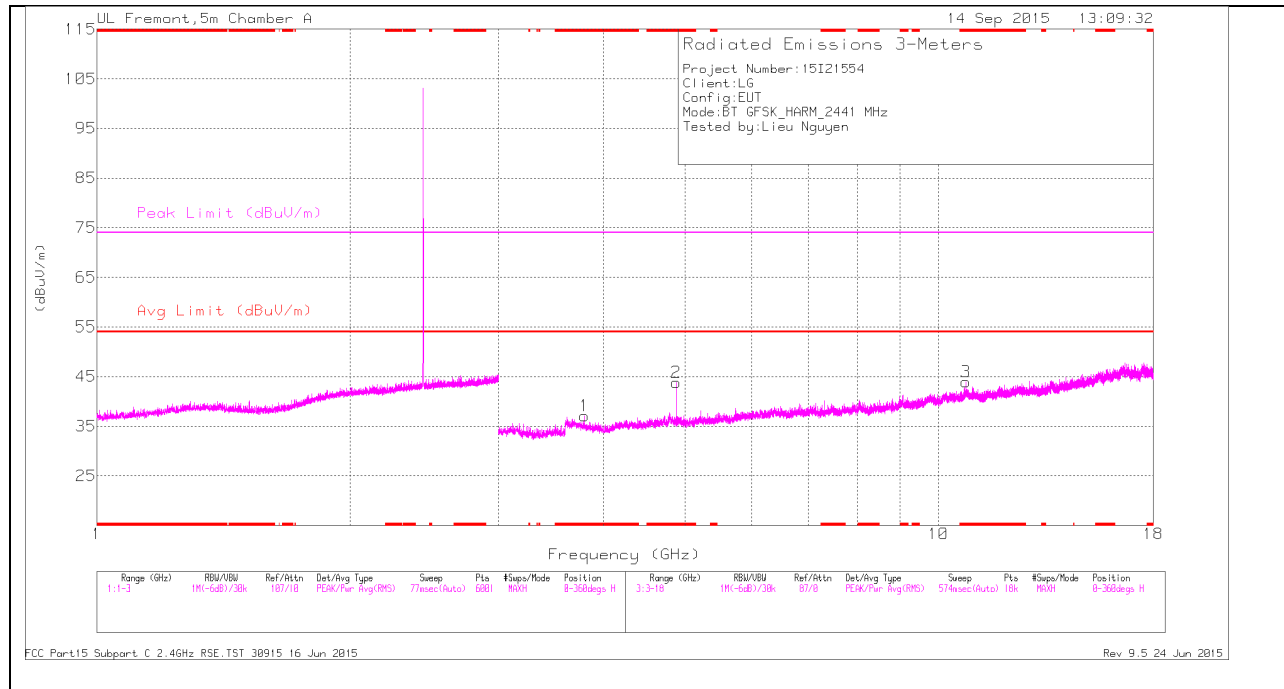
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb1/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 4.804	41.62	PK	34	-29.4	0	46.22	-	-	74	-27.78	0-360	200	H
4	* 4.804	43.18	PK	34	-29.4	0	47.78	-	-	74	-26.22	0-360	200	V
2	2.53	38.79	PK	32.4	-22	0	49.19	-	-	-	-	0-360	200	V
1	2.531	35.7	PK	32.4	-22	0	46.1	-	-	-	-	0-360	200	H
6	7.205	34.7	PK	35.6	-28.4	0	41.9	-	-	-	-	0-360	200	H
5	7.206	33.09	PK	35.6	-28.4	0	40.29	-	-	-	-	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

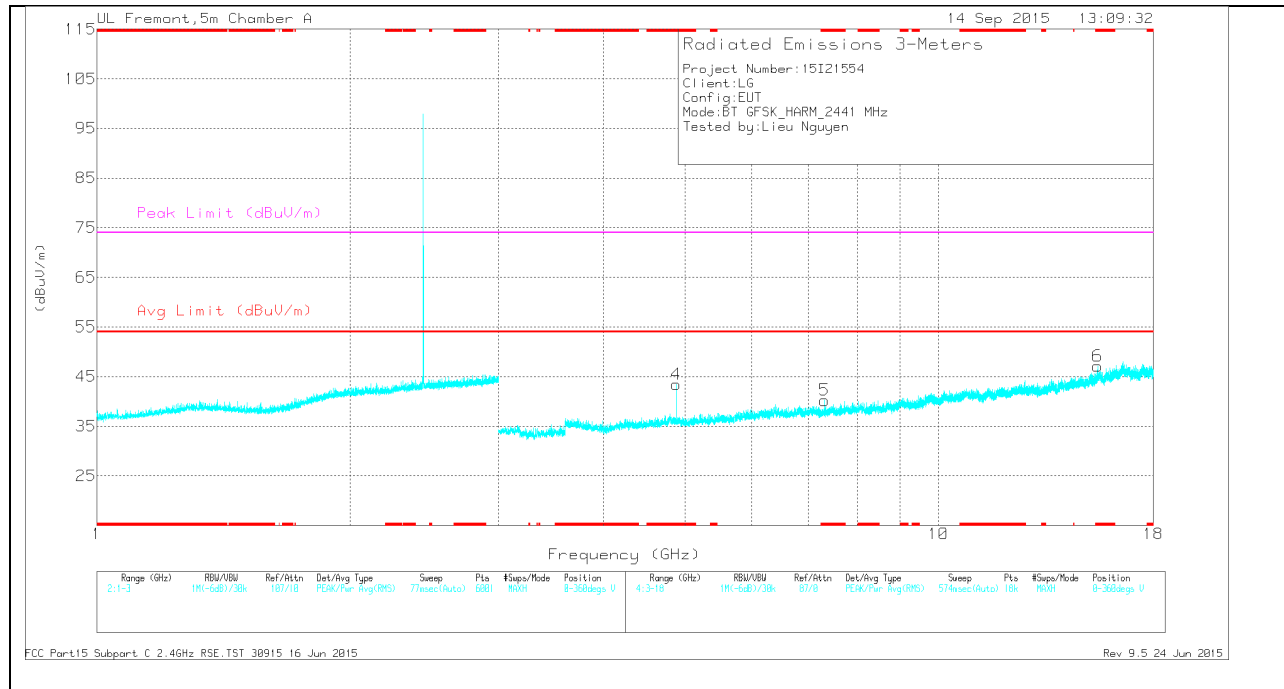
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb1/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.804	46.77	PK2	34	-29.4	0	51.37	-	-	74	-22.63	211	222	H
* 4.804	41.58	MAV1	34	-29.4	1.83	48.01	54	-5.99	-	-	211	222	H
* 4.804	48.58	PK2	34	-29.4	0	53.18	-	-	74	-20.82	277	270	V
* 4.804	43.75	MAV1	34	-29.4	1.83	50.18	54	-3.82	-	-	277	270	V
2.529	30.98	MAV1	32.4	-22	1.83	43.21	-	-	-	-	94	389	H
2.53	31.3	MAV1	32.4	-22	1.83	43.53	-	-	-	-	186	168	V
2.531	51.1	PK2	32.4	-22	0	61.5	-	-	-	-	186	168	V
2.533	50.76	PK2	32.4	-22	0	61.16	-	-	-	-	94	389	H
7.205	41.64	PK2	35.6	-28.4	0	48.84	-	-	-	-	206	239	V
7.206	32.58	MAV1	35.6	-28.4	1.83	41.61	-	-	-	-	188	210	H
7.206	32.02	MAV1	35.6	-28.4	1.83	41.05	-	-	-	-	206	239	V
7.207	42.07	PK2	35.6	-28.4	0	49.27	-	-	-	-	188	210	H

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

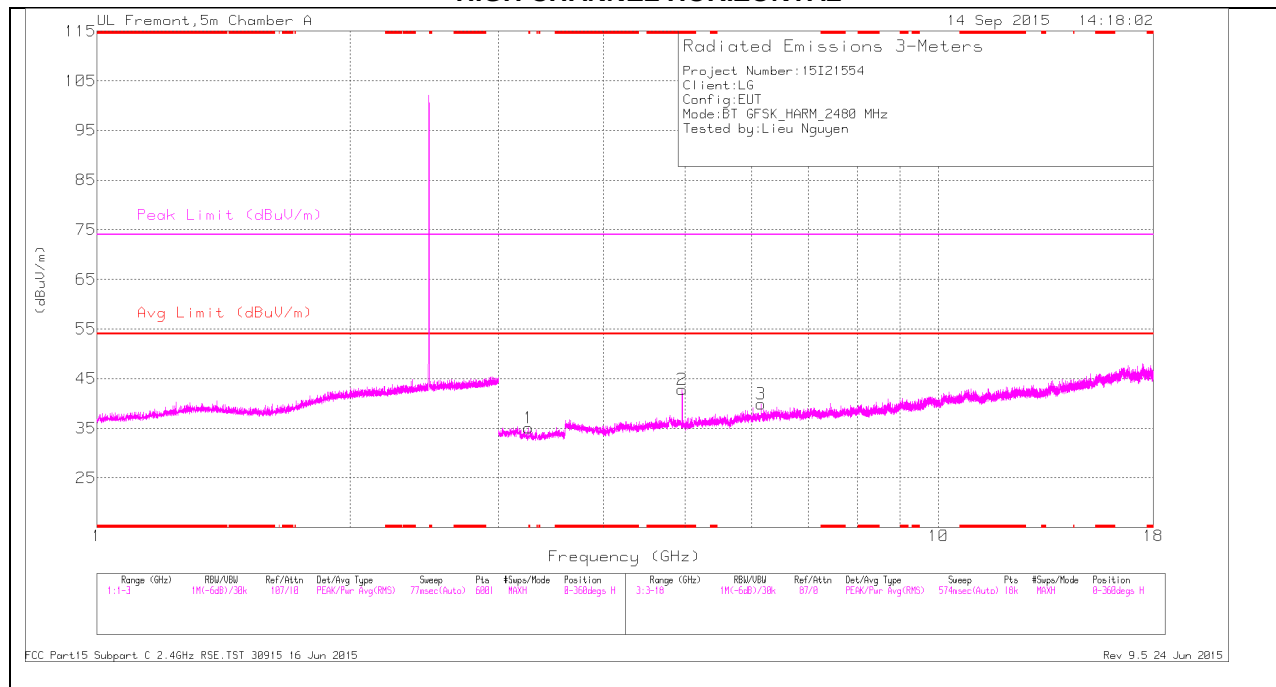
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1	* 3.795	35.58	Pk	33.4	-31.9	0	37.08	-	-	74	-36.92	0-360	100	H
2	* 4.882	39.19	Pk	33.9	-29.3	0	43.79	-	-	74	-30.21	0-360	100	H
3	* 10.781	27.88	Pk	37.8	-21.7	0	43.98	-	-	74	-30.02	0-360	201	H
4	* 4.882	38.83	Pk	33.9	-29.3	0	43.43	-	-	74	-30.57	0-360	100	V
5	* 7.323	31.21	Pk	35.5	-26.5	0	40.21	-	-	74	-33.79	0-360	100	V
6	* 15.455	28.52	Pk	40.2	-21.6	0	47.12	-	-	74	-26.88	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

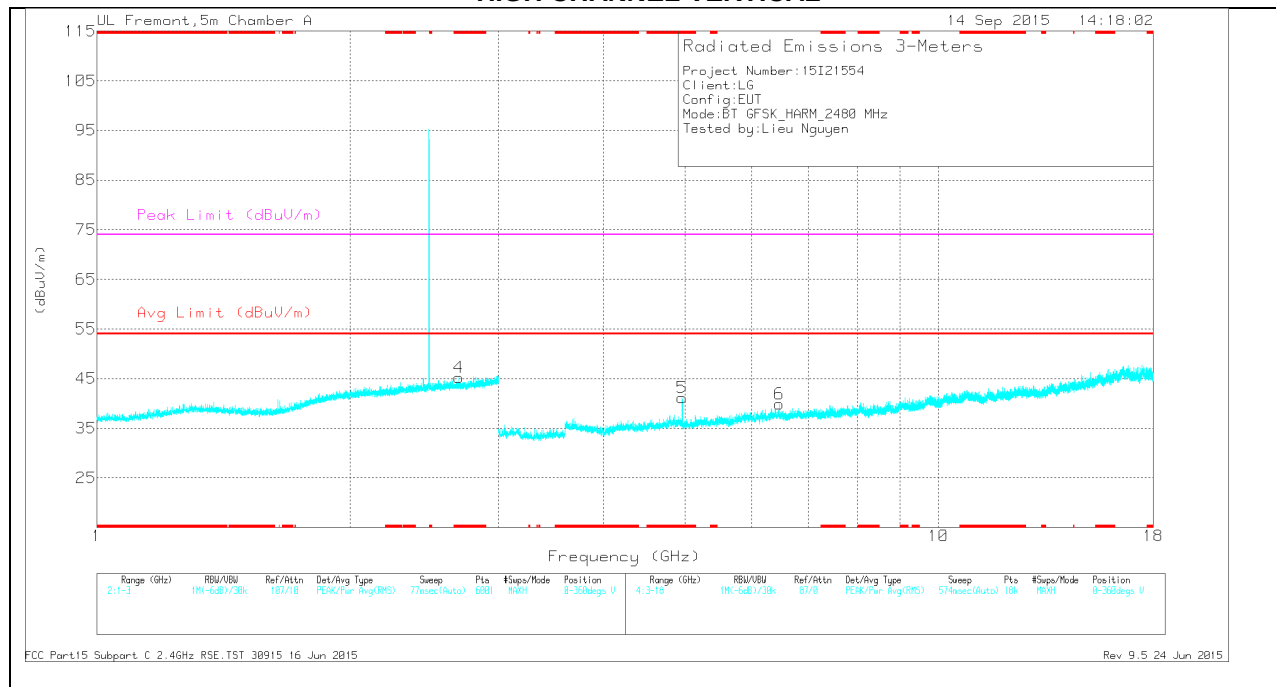
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.796	42.36	PK2	33.4	-31.8	0	43.96	-	-	74	-30.04	307	335	H
	* 3.795	30.21	MAv1	33.4	-31.8	1.15	32.96	54	-21.04	-	-	307	335	H
2	* 4.883	43.59	PK2	33.9	-29.3	0	48.19	-	-	74	-25.81	295	100	H
	* 4.882	36.55	MAv1	33.9	-29.3	1.15	42.3	54	-11.7	-	-	295	100	H
3	* 10.782	33.82	PK2	37.8	-21.7	0	49.92	-	-	74	-24.08	27	267	H
	* 10.78	22.37	MAv1	37.8	-21.7	1.15	39.62	54	-14.38	-	-	27	267	H
4	* 4.882	44.52	PK2	33.9	-29.3	0	49.12	-	-	74	-24.88	243	100	V
	* 4.882	37.26	MAv1	33.9	-29.3	1.15	43.01	54	-10.99	-	-	243	100	V
5	* 7.324	38.98	PK2	35.5	-26.5	0	47.98	-	-	74	-26.02	294	157	V
	* 7.323	28.94	MAv1	35.5	-26.5	1.15	39.09	54	-14.91	-	-	294	157	V
6	* 15.454	34.67	PK2	40.2	-21.6	0	53.27	-	-	74	-20.73	251	187	V
	* 15.455	23.27	MAv1	40.2	-21.6	1.15	43.02	54	-10.98	-	-	251	187	V

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 T136 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.692	37.37	Pk	32.2	-24.3	0	45.27	-	-	74	-28.73	0-360	100	V
2	* 4.96	38.96	Pk	33.9	-30.1	0	42.76	-	-	74	-31.24	0-360	100	H
5	* 4.96	37.34	Pk	33.9	-30.1	0	41.14	-	-	74	-32.86	0-360	100	V
1	3.257	34.92	Pk	32.8	-32.6	0	35.12	-	-	-	-	0-360	201	H
3	6.158	31.89	Pk	35.4	-27.4	0	39.89	-	-	-	-	0-360	100	H
6	6.466	31.05	Pk	35.5	-26.7	0	39.85	-	-	-	-	0-360	200	V

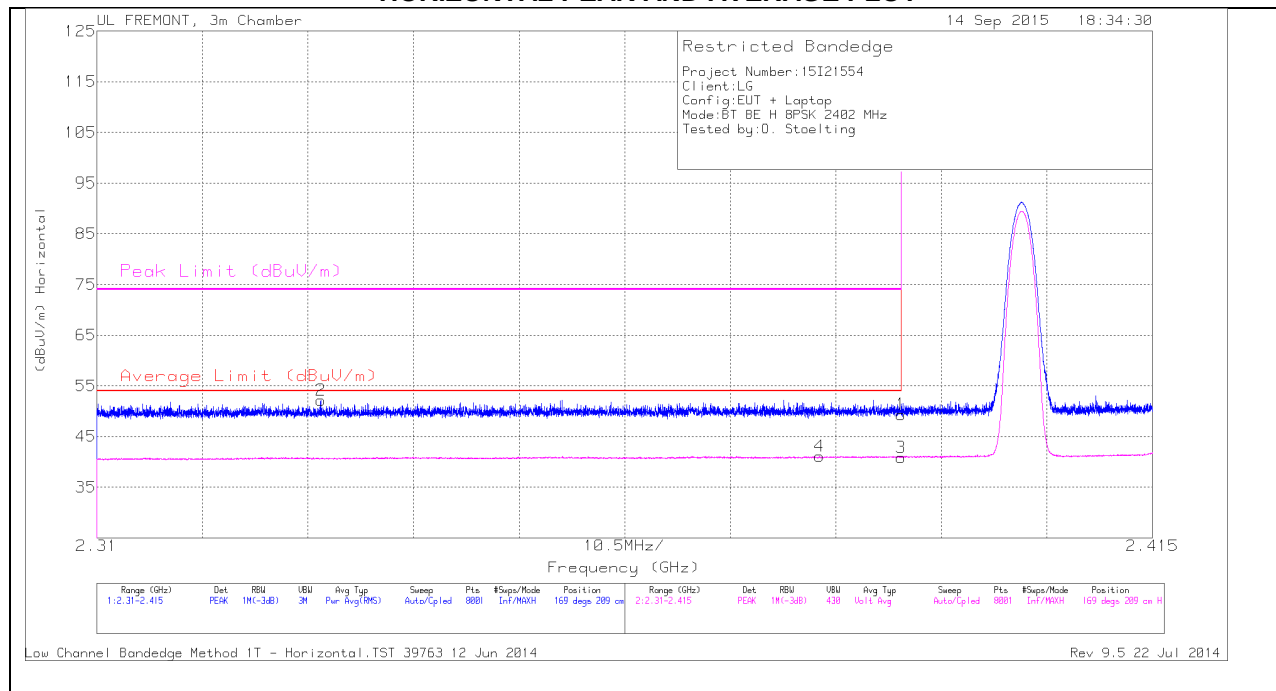
PK - Peak detector

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.692	44.23	PK2	32.2	-24.3	0	52.13	-	-	74	-21.87	239	109	V
	* 2.692	32.07	MAv1	32.2	-24.3	1.15	41.12	54	-12.88	-	-	239	109	V
2	* 4.96	44.55	PK2	33.9	-30.1	0	48.35	-	-	74	-25.65	296	100	H
	* 4.96	36.92	MAv1	33.9	-30.1	1.15	41.87	54	-12.13	-	-	296	100	H
5	* 4.96	43.99	PK2	33.9	-30.1	0	47.79	-	-	74	-26.21	58	108	V
	* 4.96	36.21	MAv1	33.9	-30.1	1.15	41.16	54	-12.84	-	-	58	108	V
1	3.256	42.15	PK2	32.8	-32.6	0	42.35	-	-	-	-	348	130	H
3	6.16	37.94	PK2	35.4	-27.4	0	45.94	-	-	-	-	301	393	H
6	6.466	37.38	PK2	35.5	-26.7	0	46.18	-	-	-	-	99	243	V

9.2.2. ENHANCED DATA RATE 8PSK MODULATION RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT

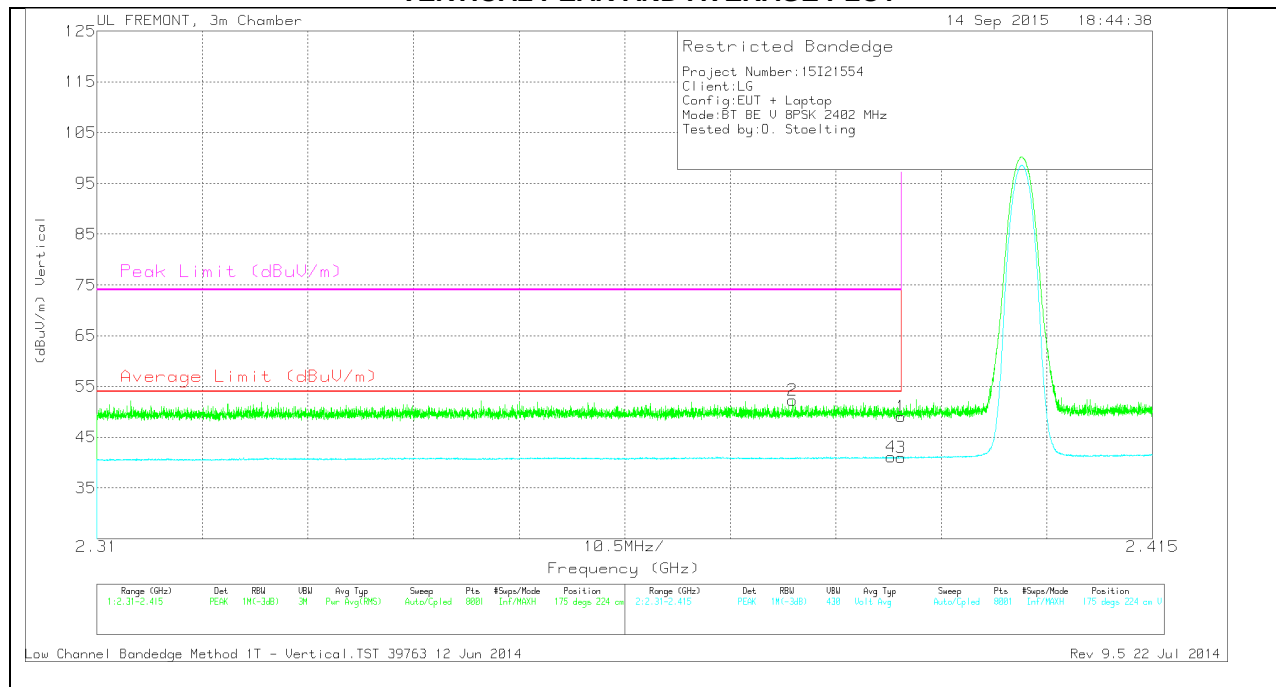


HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
2	2.332	42.99	PK	31.7	-22.5	0	52.19	-	-	74	-21.81	169	209	H
4	2.382	31.53	VB1T	32	-22.4	0	41.13	54	-12.87	-	-	169	209	H
1	2.39	39.76	PK	32	-22.4	0	49.36	-	-	74	-24.64	169	209	H
3	2.39	31.29	VB1T	32	-22.4	0	40.89	54	-13.11	-	-	169	209	H

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

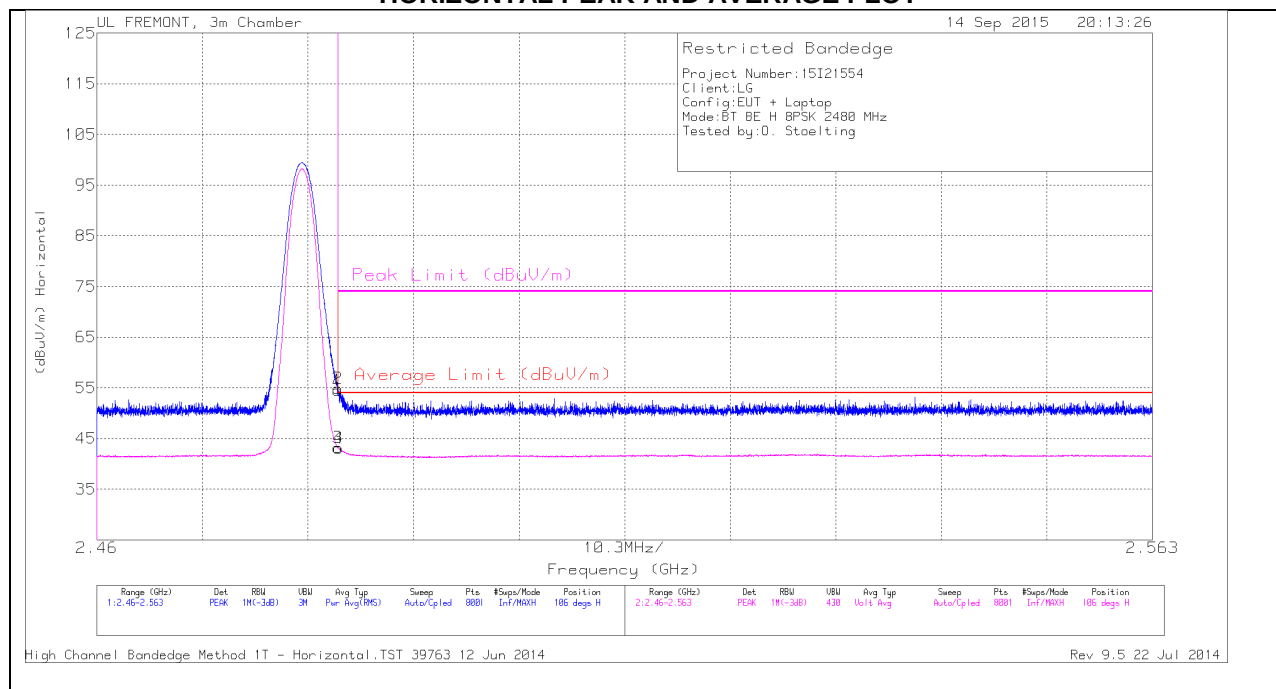
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.379	42.78	PK	31.9	-22.4	0	52.28	-	-	74	-21.72	175	224	V
4	2.389	31.54	VB1T	32	-22.4	0	41.14	54	-12.86	-	-	175	224	V
1	2.39	39.45	PK	32	-22.4	0	49.05	-	-	74	-24.95	175	224	V
3	2.39	31.4	VB1T	32	-22.4	0	41	54	-13	-	-	175	224	V

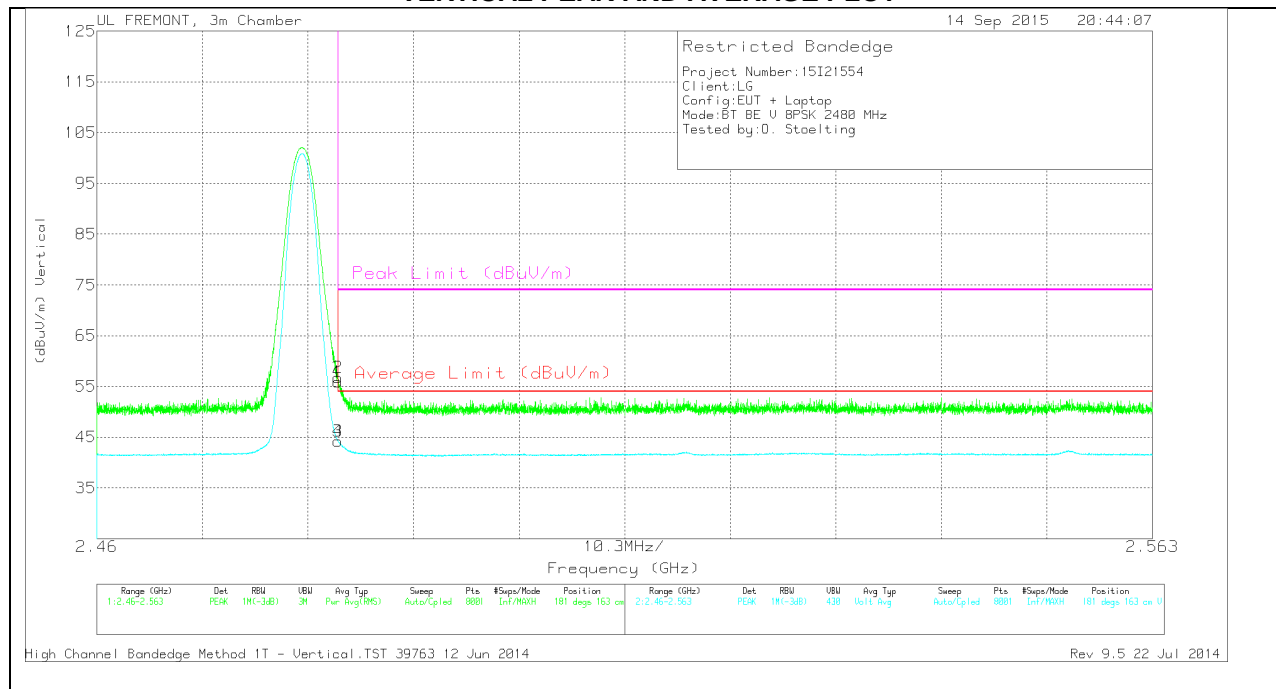
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

AUTHORIZED BANDEDGE (HIGH CHANNEL)**HORIZONTAL PEAK AND AVERAGE PLOT****HORIZONTAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/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	2.484	44.34	PK	32.3	-22.1	0	54.54	-	-	74	-19.46	106	224	H
2	2.484	44.67	PK	32.3	-22.1	0	54.87	-	-	74	-19.13	106	224	H
3	2.484	32.99	VB1T	32.3	-22.1	0	43.19	54	-10.81	-	-	106	224	H
4	2.484	32.9	VB1T	32.3	-22.1	0	43.1	54	-10.9	-	-	106	224	H

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

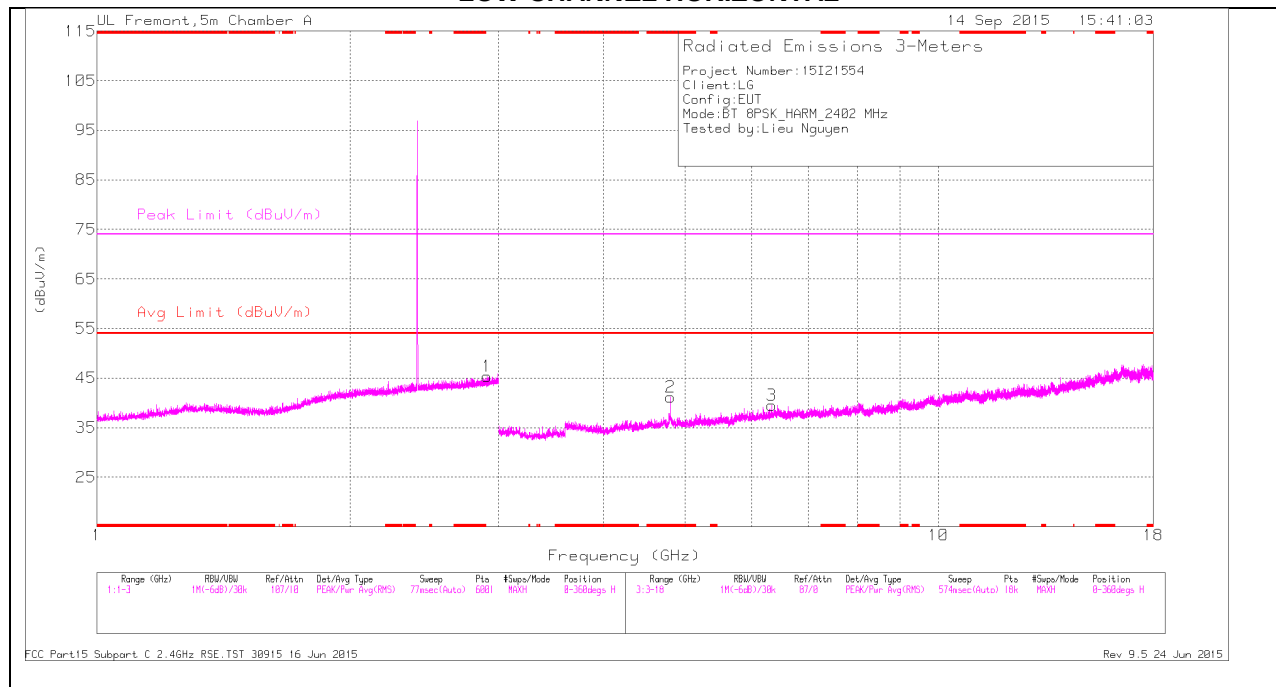
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

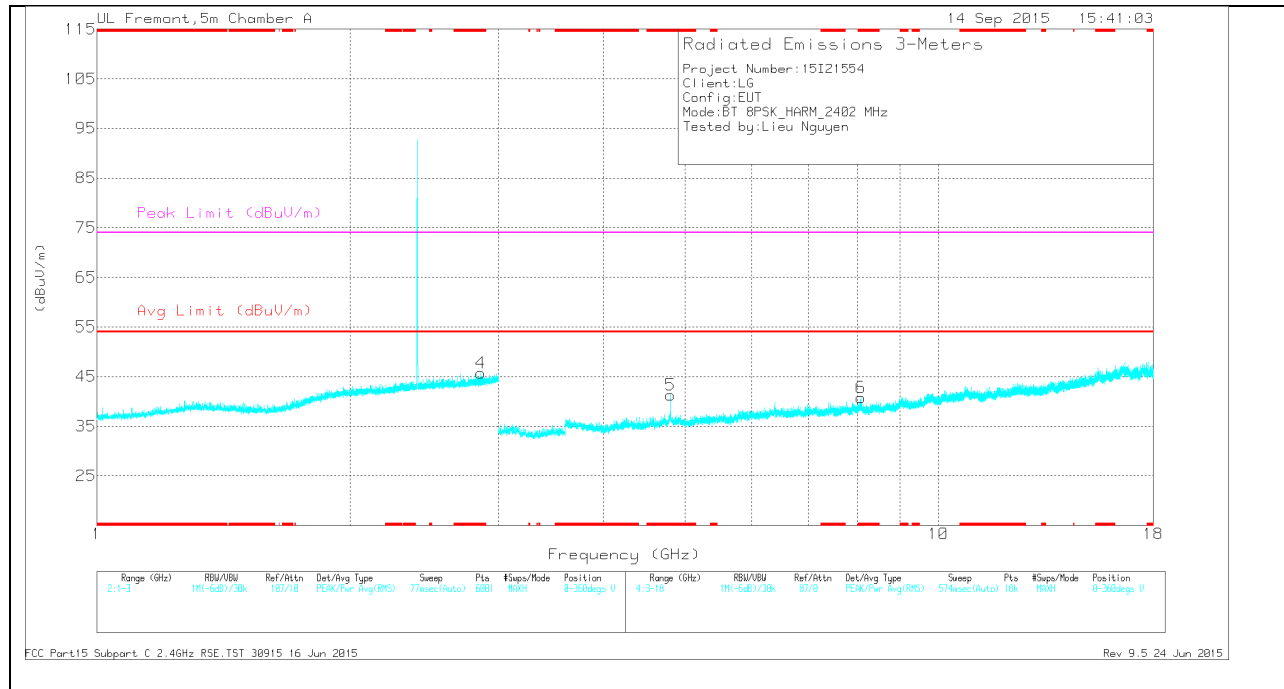
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Chl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	45.65	PK	32.3	-22.1	0	55.85	-	-	74	-18.15	181	163	V
2	2.484	46.5	PK	32.3	-22.1	0	56.7	-	-	74	-17.3	181	163	V
3	2.484	34.05	VB1T	32.3	-22.1	0	44.25	54	-9.75	-	-	181	163	V
4	2.484	34.04	VB1T	32.3	-22.1	0	44.24	54	-9.76	-	-	181	163	V

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

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*

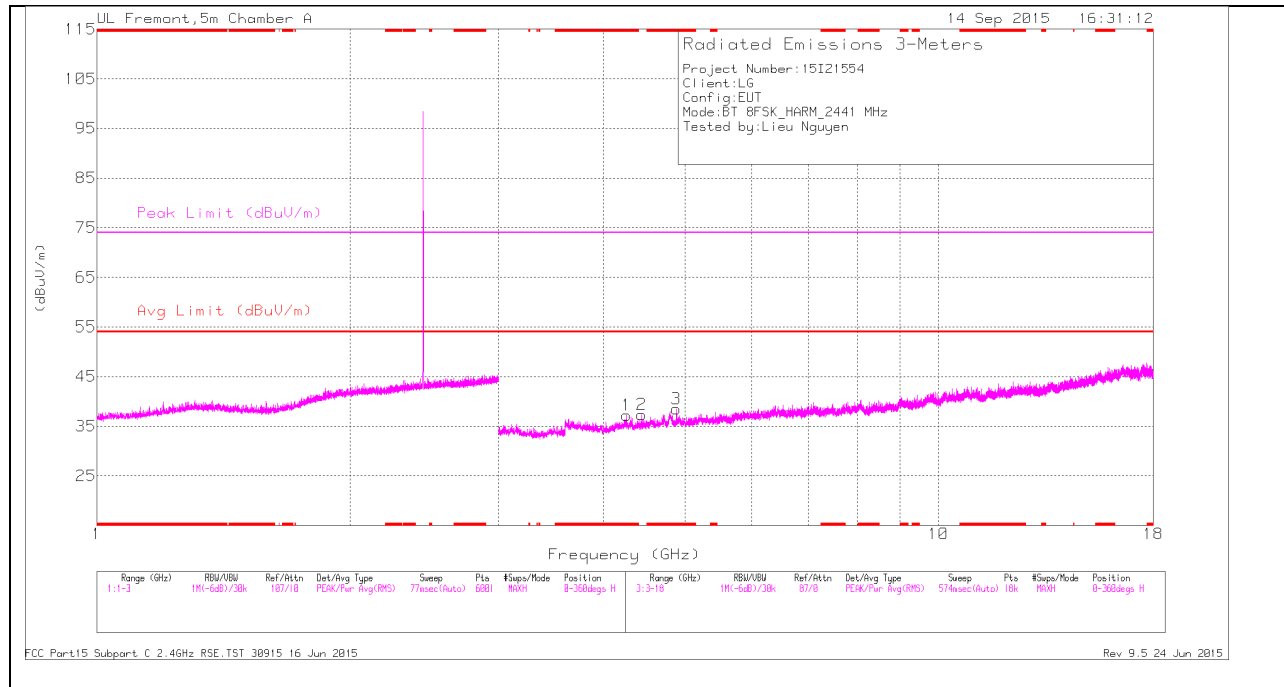
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.856	37.14	Pk	32.6	-24	0	45.74	-	-	74	-28.26	0-360	200	V
2	* 4.804	36.97	Pk	34	-29.8	0	41.17	-	-	74	-32.83	0-360	201	H
5	* 4.804	37.07	Pk	34	-29.8	0	41.27	-	-	74	-32.73	0-360	100	V
6	* 8.091	29.03	Pk	35.7	-24	0	40.73	-	-	74	-33.27	0-360	200	V
1	2.907	36.6	Pk	32.7	-23.9	0	45.4	-	-	-	-	0-360	100	H
3	6.34	31.77	Pk	35.5	-27.8	0	39.47	-	-	-	-	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

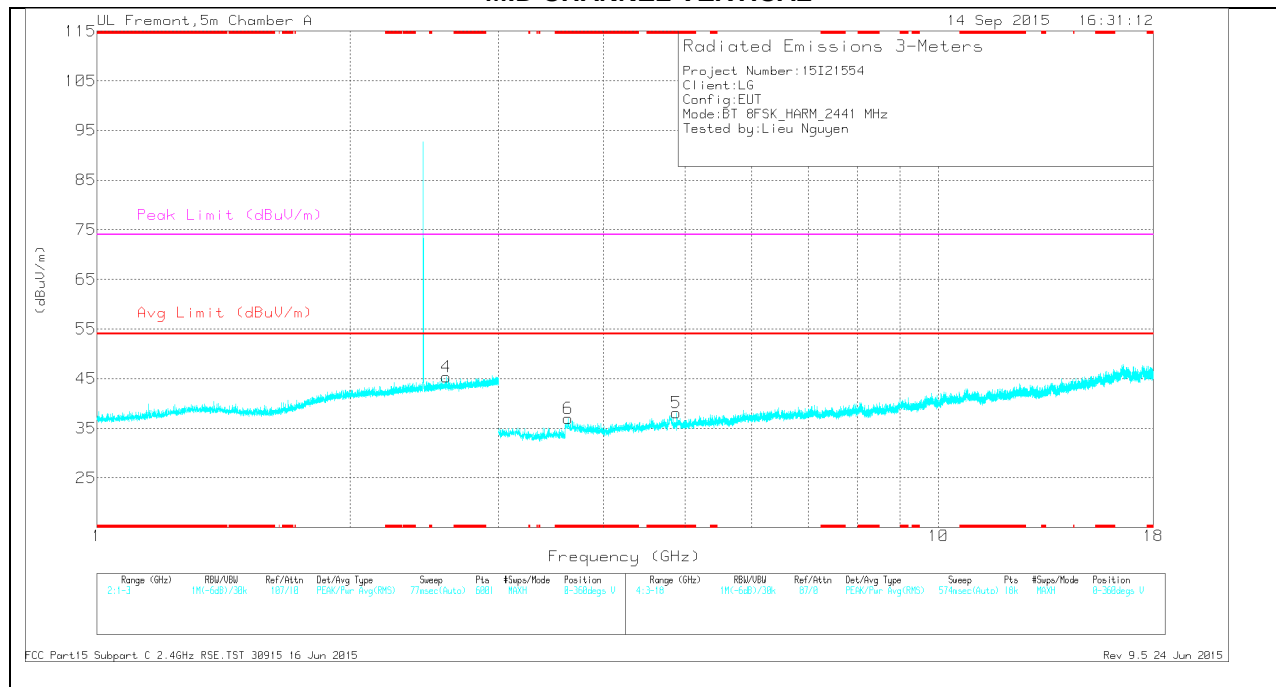
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.856	44.18	PK2	32.6	-24	0	52.78	-	-	74	-21.22	64	260	V
	* 2.856	31.83	MAv1	32.6	-24	1.15	41.58	54	-12.42	-	-	64	260	V
2	* 4.804	44.46	PK2	34	-29.8	0	48.66	-	-	74	-25.34	224	242	H
	* 4.804	35.05	MAv1	34	-29.8	1.15	40.4	54	-13.6	-	-	224	242	H
5	* 4.804	44.13	PK2	34	-29.8	0	48.33	-	-	74	-25.67	222	102	V
	* 4.804	34.66	MAv1	34	-29.8	1.15	40.01	54	-13.99	-	-	222	102	V
6	* 8.089	36.1	PK2	35.7	-24	0	47.8	-	-	74	-26.2	352	351	V
	* 8.092	24.45	MAv1	35.7	-24	1.15	37.3	54	-16.7	-	-	352	351	V
1	2.908	43.63	PK2	32.7	-23.9	0	52.43	-	-	-	-	177	171	H
3	6.339	38.65	PK2	35.5	-27.8	0	46.35	-	-	-	-	324	161	H

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*

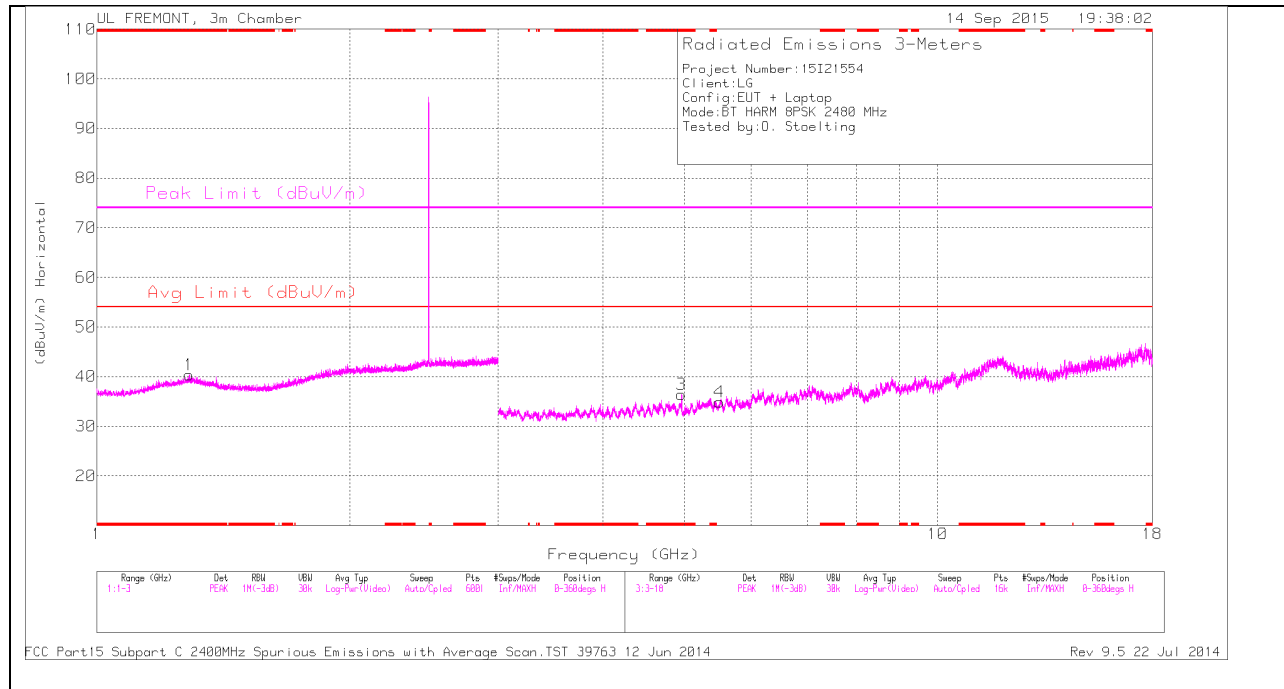
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.262	34.28	Pk	33.4	-30.5	0	37.18	-	-	74	-36.82	0-360	100	H
3	* 4.882	33.93	Pk	33.9	-29.3	0	38.53	-	-	74	-35.47	0-360	100	H
5	* 4.882	33.56	Pk	33.9	-29.3	0	38.16	-	-	74	-35.84	0-360	100	V
6	* 3.629	35.91	Pk	33.1	-32	0	37.01	-	-	74	-36.99	0-360	200	V
4	2.602	37.45	Pk	32.3	-24.4	0	45.35	-	-	-	-	0-360	200	V
2	4.442	34.51	Pk	33.8	-31	0	37.31	-	-	-	-	0-360	201	H

PK - Peak detector

RADIATED EMISSIONS

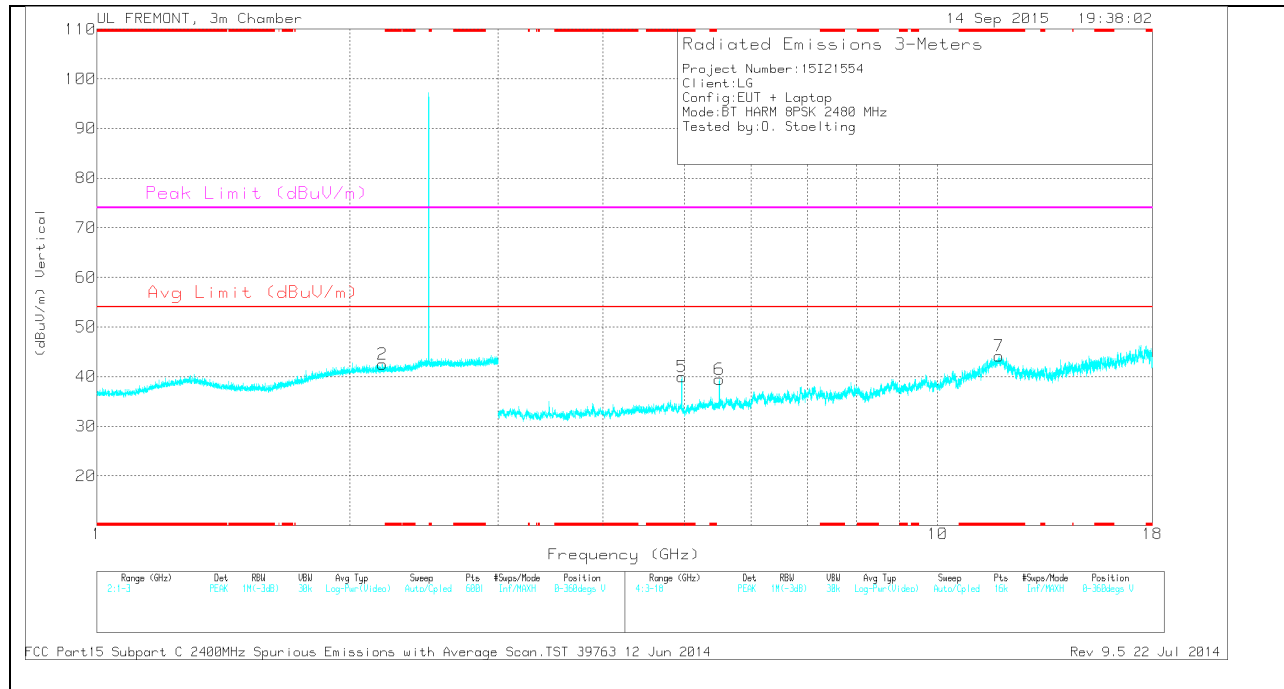
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.261	40.98	PK2	33.4	-30.5	0	43.88	-	-	74	-30.12	164	260	H
	* 4.263	29.46	MAv1	33.4	-30.5	1.15	33.51	54	-20.49	-	-	164	260	H
3	* 4.882	41.96	PK2	33.9	-29.3	0	46.56	-	-	74	-27.44	291	106	H
	* 4.882	31.13	MAv1	33.9	-29.3	1.15	36.88	54	-17.12	-	-	291	106	H
5	* 4.882	41.38	PK2	33.9	-29.3	0	45.98	-	-	74	-28.02	68	100	V
	* 4.882	30.77	MAv1	33.9	-29.3	1.15	36.52	54	-17.48	-	-	68	100	V
6	* 3.631	42.15	PK2	33.1	-32	0	43.25	-	-	74	-30.75	120	363	V
	* 3.629	30.34	MAv1	33.1	-32	1.15	32.59	54	-21.41	-	-	120	363	V
4	2.604	44.27	PK2	32.3	-24.4	0	52.17	-	-	-	-	229	302	V
2	4.444	40.87	PK2	33.8	-31	0	43.67	-	-	-	-	80	319	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.

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/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	* 1.286	33.64	PK	29.8	-23.1	0	40.34	-	-	74	-33.66	0-360	100	H
3	* 4.959	32.71	PK	34	-30.3	0	36.41	-	-	74	-37.59	0-360	200	H
5	* 4.96	36.31	PK	34	-30.3	0	40.01	-	-	74	-33.99	0-360	200	V
7	* 11.823	27.99	PK	39	-22.8	0	44.19	-	-	74	-29.81	0-360	200	V
2	2.185	33.41	PK	31.4	-22.3	0	42.51	-	-	-	-	0-360	100	V
4	5.499	30.25	PK	34.6	-30	0	34.85	-	-	-	-	0-360	200	H
6	5.499	34.87	PK	34.6	-30	0	39.47	-	-	-	-	0-360	100	V

PK - Peak detector

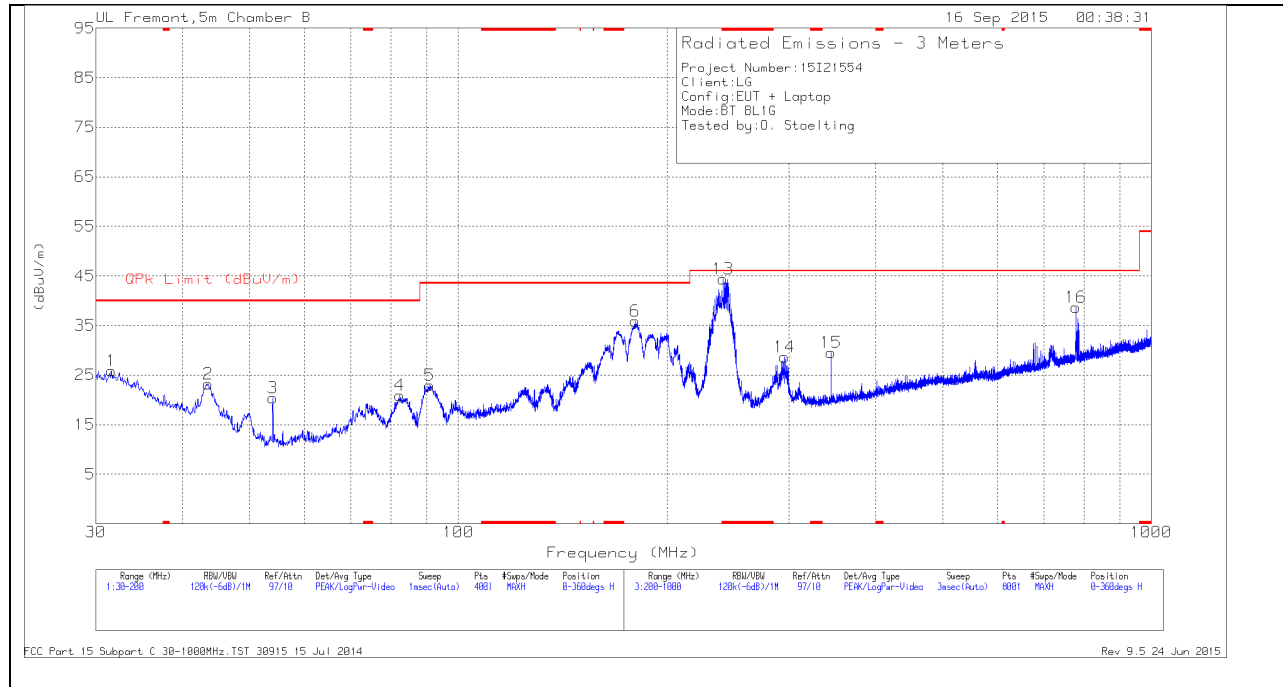
RADIATED EMISSIONS

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
* 1.288	43.17	PK2	29.8	-23.1	0	49.87	-	-	74	-24.13	360	100	H
* 1.285	31.22	MAV1	29.7	-23.1	1.83	39.65	54	-14.35	-	-	360	100	H
* 4.96	43.89	PK2	34	-30.3	0	47.59	-	-	74	-26.41	262	290	H
* 4.96	32.9	MAV1	34	-30.3	1.83	38.43	54	-15.57	-	-	262	290	H
* 4.96	44.73	PK2	34	-30.3	0	48.43	-	-	74	-25.57	284	233	V
* 4.96	36.12	MAV1	34	-30.3	1.83	41.65	54	-12.35	-	-	284	233	V
* 11.822	37.49	PK2	39	-22.8	0	53.69	-	-	74	-20.31	50	119	V
* 11.822	25.21	MAV1	39	-22.8	1.83	43.24	54	-10.76	-	-	50	119	V
2.183	43.15	PK2	31.4	-22.3	0	52.25	-	-	-	-	360	100	V
2.183	30.82	MAV1	31.4	-22.3	1.83	41.75	-	-	-	-	360	100	V
5.498	39.85	PK2	34.6	-30	0	44.45	-	-	-	-	262	200	H
5.5	28.61	MAV1	34.6	-30	1.83	35.04	-	-	-	-	262	200	H
5.5	40.99	PK2	34.6	-30	0	45.59	-	-	-	-	143	236	V
5.5	27.85	MAV1	34.6	-30	1.83	34.28	-	-	-	-	143	236	V

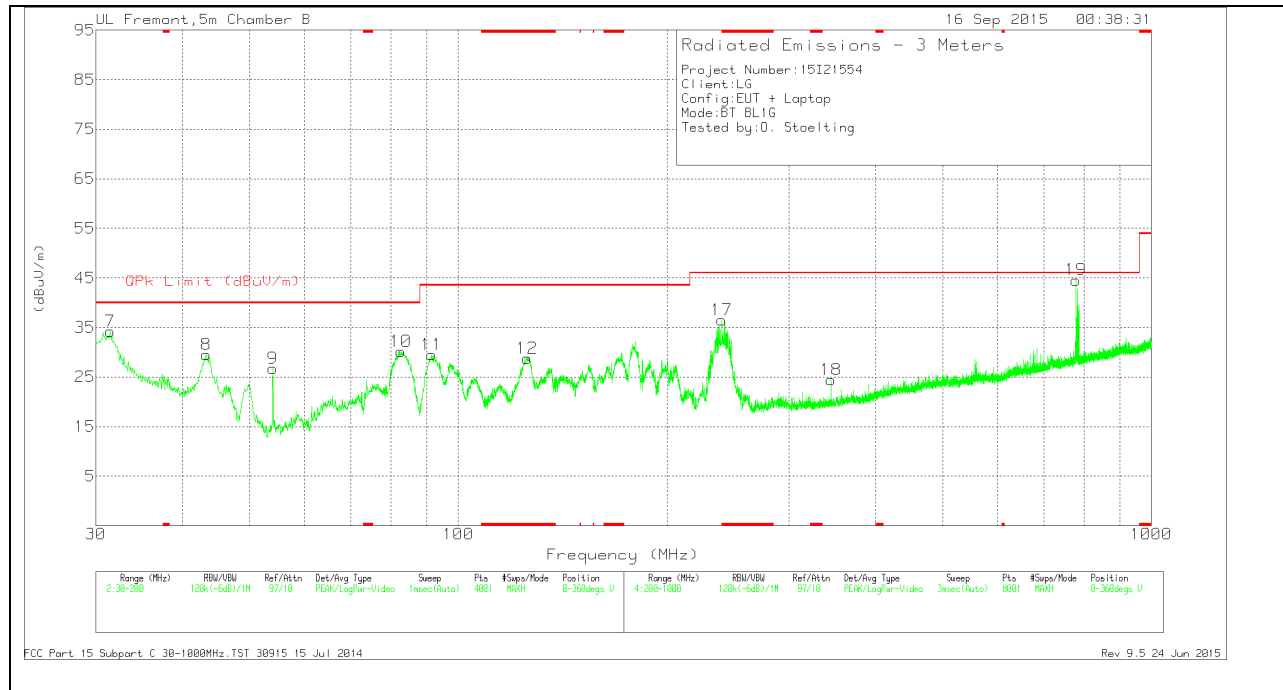
9.3. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



BELOW 1 GHz TABLE**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
12	* 125.7525	38.72	Pk	17.9	-27.8	28.82	43.52	-14.7	0-360	101	V
13	* 241.1	55.44	Pk	15.5	-26.6	44.34	46.02	-1.68	0-360	101	H
17	* 240	47.74	Pk	15.5	-26.7	36.54	46.02	-9.48	0-360	199	V
7	31.4875	38.9	Pk	24.1	-28.8	34.2	40	-5.8	0-360	101	V
1	31.5725	30.56	Pk	24.1	-28.8	25.86	40	-14.14	0-360	199	H
8	43.26	42.85	Pk	15.4	-28.7	29.55	40	-10.45	0-360	101	V
2	43.5575	36.71	Pk	15.2	-28.7	23.21	40	-16.79	0-360	299	H
3	54.0125	37.91	Pk	11	-28.5	20.41	40	-19.59	0-360	399	H
9	54.0125	44.24	Pk	11	-28.5	26.74	40	-13.26	0-360	101	V
4	82.3175	37.85	Pk	11.3	-28.3	20.85	40	-19.15	0-360	299	H
10	82.7	47.19	Pk	11.3	-28.3	30.19	40	-9.81	0-360	101	V
5	90.945	39.26	Pk	11.9	-28.2	22.96	43.52	-20.56	0-360	199	H
11	91.4975	45.66	Pk	12	-28.1	29.56	43.52	-13.96	0-360	101	V
6	180.025	47.93	Pk	15.2	-27.3	35.83	43.52	-7.69	0-360	199	H
14	295.9	37.61	Pk	17.2	-26.2	28.61	46.02	-17.41	0-360	101	H
15	345	37.57	Pk	18.1	-26.1	29.57	46.02	-16.45	0-360	101	H
18	345	32.43	Pk	18.1	-26.1	24.43	46.02	-21.59	0-360	101	V
16	778.4	38.36	Pk	25.1	-24.8	38.66	46.02	-7.36	0-360	101	H
19	778.5	44.28	Pk	25.1	-24.8	44.58	46.02	-1.44	0-360	101	V

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

Pk - Peak detector

RADIATED EMISSIONS

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
* 241.1133	47.99	Qp	15.5	-26.6	36.89	46.02	-9.13	354	130	H
778.5855	22.46	Qp	25.1	-24.8	22.76	46.02	-23.26	70	302	V

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

Qp - Quasi-Peak detector