FCC 47 CFR PART 15 SUBPART C
CERTIFICATION TEST REPORT

FOR

TABLET WITH CELLULAR GSM/GPRS/EGPRS/WCDMA/HSPA+/DC- HSDPA/LTE IEEE 802.11A/B/G/N (MIMO 2X2) AND BLUETOOTH RADIO

MODEL NUMBER: A1491

FCC ID: BCGA1491

REPORT NUMBER: 13U16583-6, Revision A

ISSUE DATE: FEBRUARY 21, 2014

Prepared for
APPLE, INC.
1 INFINITE LOOP
CUPERTINO, CA 95014, U.S.A.

Prepared by
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
---	02/14/14	Initial	T. Chan
A	02/21/14	Addressed TCB's Questions	T. Chan

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: APPLE, INC.
1 INFINITE LOOP
CUPERTINO, CA 95014, U.S.A.

EUT DESCRIPTION: Tablet with cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA/LTE/IEEE 802.11a/b/g/n (MIMO 2x2) and Bluetooth Radio.

MODEL: A1491

SERIAL NUMBER: DLXL2008FW7N

DATE TESTED: AUGUST 22 - FEBRUARY 15, 2014

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.

Approved & Released For
UL Verification Services Inc. By:

Thu Chan
WiSE Operations Manager
UL Verification Services Inc.

Tested By:

Oliver Su
WiSE Senior Engineer
UL Verification Services Inc.

2. TEST METHODOLOGY

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

3. FACILITIES AND ACCREDITATION

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

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	☐ Chamber D
☐ Chamber B	☒ Chamber E
☐ Chamber C	☒ Chamber F

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The device is a Tablet with cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA / LTE / IEEE 802.11a/b/g/n (MIMO 2x2) and Bluetooth Radio.

5.2. MAXIMUM OUTPUT POWER

Please refer to project number 13U15668-11, Section 5.2

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PiFA antenna, with a maximum gain as below table.

Frequency (MHz)	Antenna Gain (dBi)
2402 -2480	0.81

5.4. SOFTWARE AND FIRMWARE

Firmware installed in the EUT during testing was Broadcom Bluetool 1.8.3.5

5.5. WORST-CASE CONFIGURATION AND MODE

There are two vendors of the WiFi/Bluetooth radio modules: BOM #1, vender1 and BOM #2, vender 2, and they have the same mechanical outline, same on board antenna, matching circuit, antenna structure and same specification and baseline was performed on both venders to determine the worst case on conducted power and radiated emissions.

For the RF conducted test: Refer to FCC DTS report with the FCC ID BCGA1490 and project number 13U15668-11.

For the RF radiated test: The fundamental of the EUT was investigated in three orthogonal orientations X, Y, Z, with AC Adapter and Headset, it was determined that X orientation without AC Adapter and Headset was the worst-case orientation for 2.4GHz band, and Z orientation was the worst-case orientation for 5.8 GHz band; therefore, all final radiated testing was performed with the EUT in X orientation for 2.4GHz band, and Z orientation for 5.8 GHz band.

Worst-case data rates as provided by the client were:

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11a mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT40mode: MCS0

For below 1GHz test, the EUT that is connected to the headset and AC charger is activated on the worst-case mode and channel with the highest output power.

For all modes with single chain, the radiated emissions test was based on the port with the higher antenna gain.

5.6. DESCRIPTION OF TEST SETUP

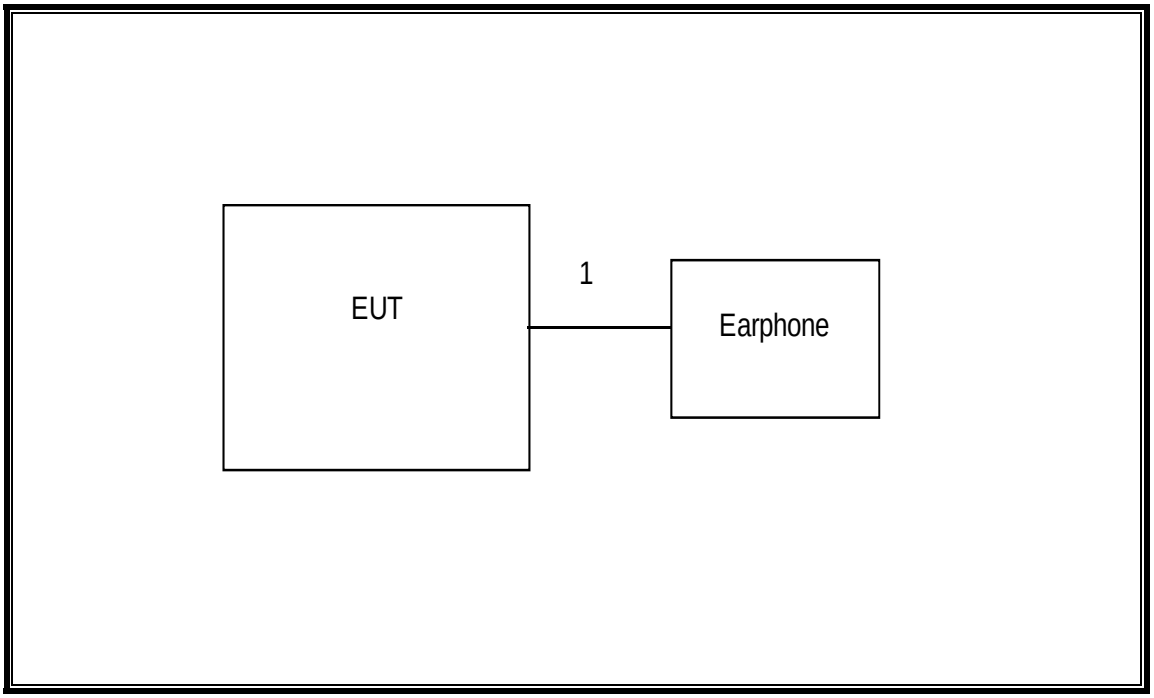
SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC/DC Adapter	Apple	A1357	A/12981EA	DoC
Earphone	Apple	NA	NA	NA

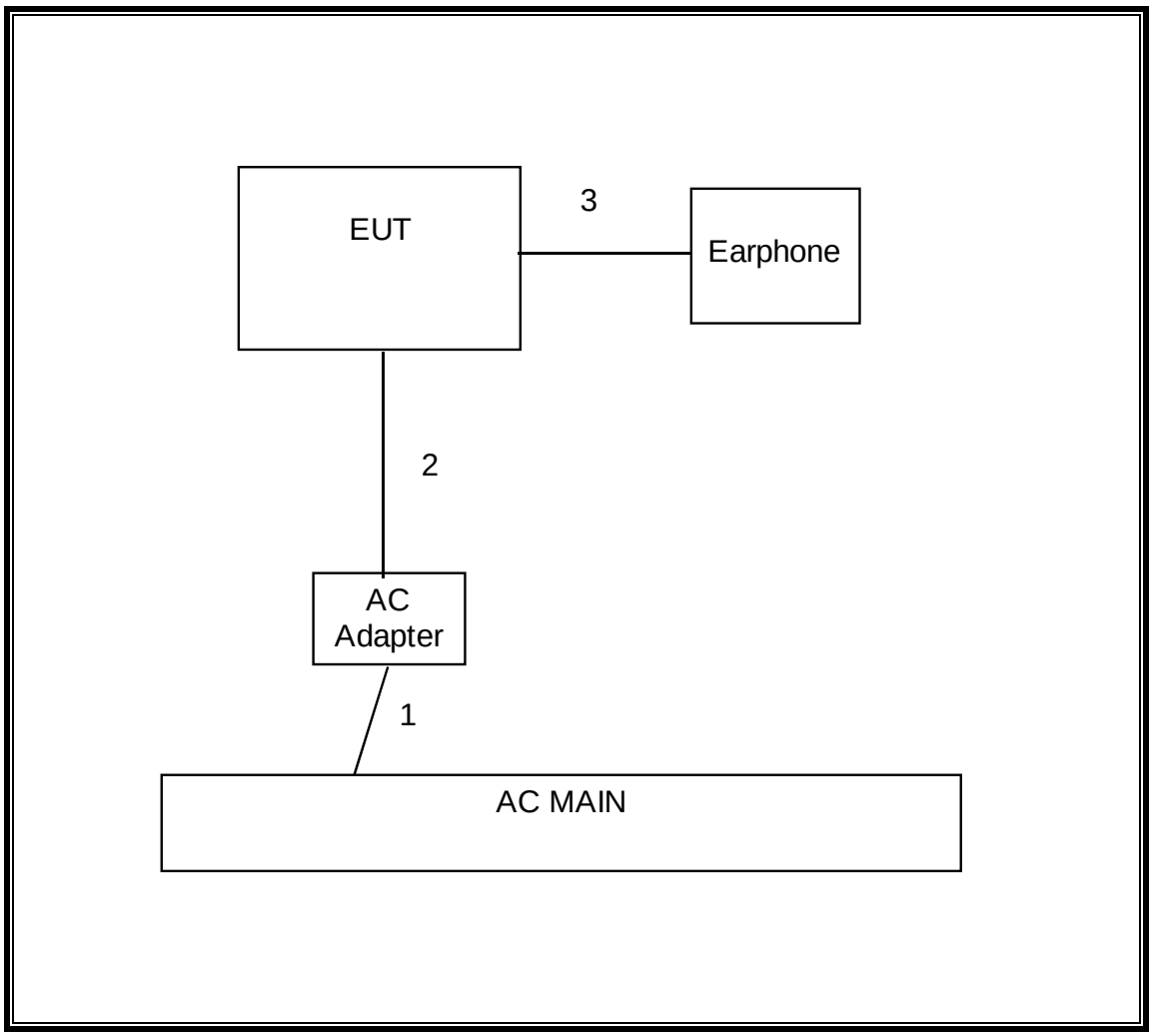
I/O CABLES (RADIATED TEST)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Audio	1	Jack	Un-Shielded	0.5m	NA

SETUP DIAGRAM FOR RADIATED TESTS



SETUP DIAGRAM FOR BELOW 1GHZ TEST



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**
Horn Antenna 1-18GHz	ETS Lindgren	3117	F00131	02/18/15
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	06/26/14
Antenna, Horn, 26.5 GHz	ARA	SWH-28	C01015	05/06/14
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB3	F00027	03/07/14
Peak / Average Power Sensor	Agilent / HP	E9323A	F00026	04/03/14
P-Series single channel Power Meter	Agilent / HP	N1911A	F00153	04/05/14
Spectrum Analyzer, 44GHz	Agilent	E4446A	C01159	04/10/14
PreApmplifier, 1-26.5GHz	Agilent	8449B	C01052	06/26/14

7. ANTENNA PORT TEST RESULTS

Note that for all antenna port data refer to the FCC BLUETOOTH report with the FCC ID BCGA1490 and project number 13U15668-11 from Section 7.1. to 7.7.

8. RADIATED TEST RESULTS

8.1. 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. 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 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 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

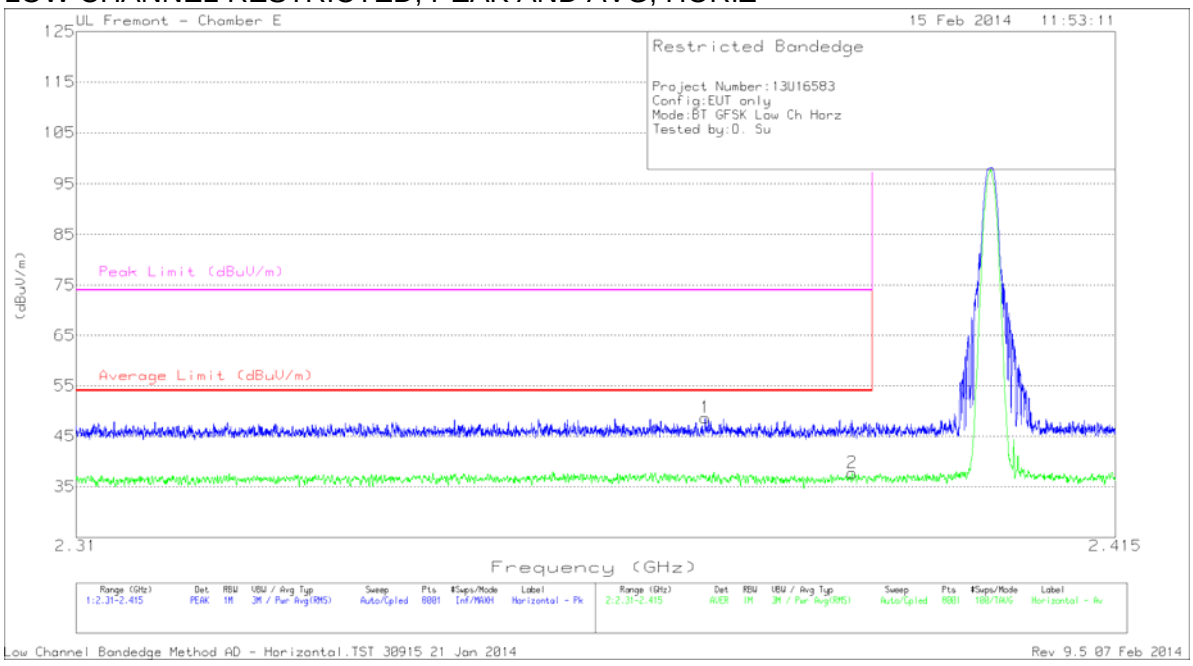
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

8.2. TRANSMITTER ABOVE 1 GHz

8.2.1. BASIC DATA RATE GFSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

LOW CHANNEL RESTRICTED, PEAK AND AVG, HORIZ

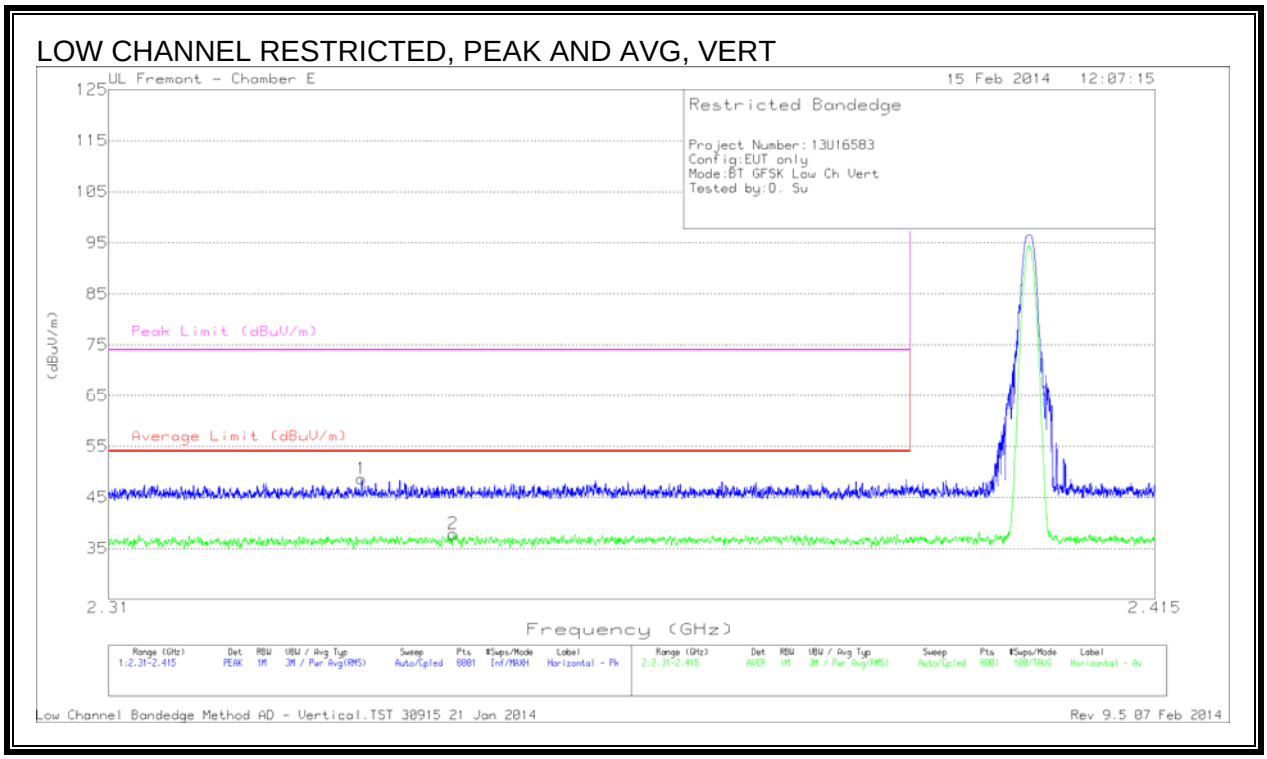


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	2.373	40.96	PK	32.6	-24.9	48.66	-	-	74	-25.34	82	202	H
2	2.388	30.10	RMS	32.6	-25.0	37.70	54	-16.30	-	-	82	202	H

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

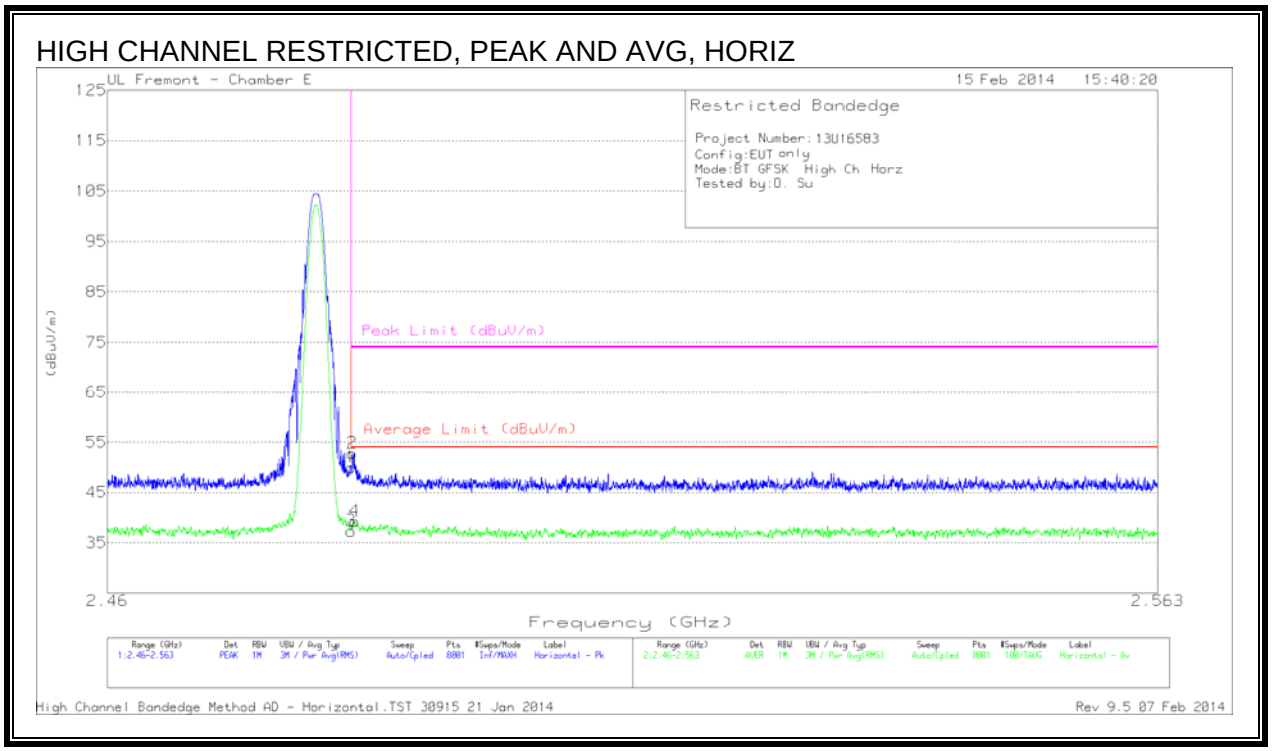


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	2.335	41.13	PK	32.6	-25.1	48.63	-	-	74	-25.37	37	139	V
2	2.344	30.23	RMS	32.6	-25.0	37.83	54	-16.17	-	-	37	139	V

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

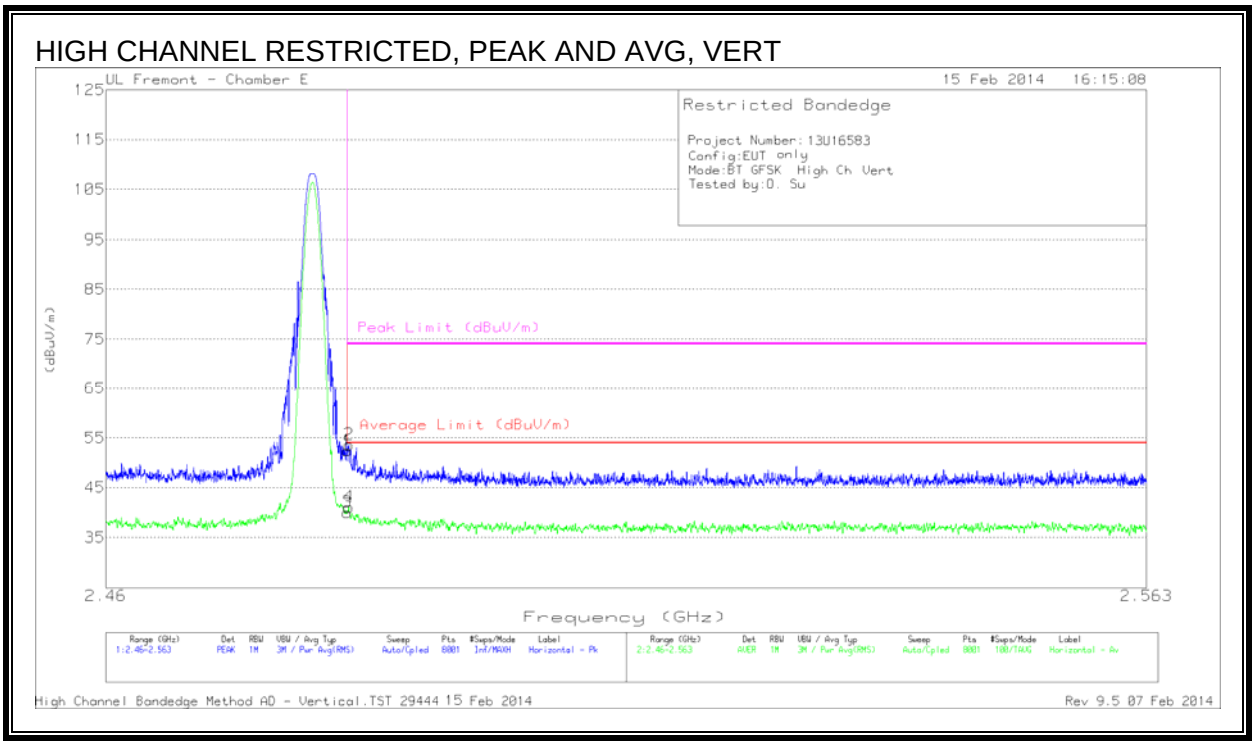


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	41.66	PK	32.7	-24.4	49.96	-	-	74	-24.04	133	128	H
2	2.484	44.50	PK	32.7	-24.4	52.80	-	-	74	-21.20	133	128	H
3	2.484	29.04	RMS	32.7	-24.4	37.34	54	-16.66	-	-	133	128	H
4	2.484	30.95	RMS	32.7	-24.4	39.25	54	-14.75	-	-	133	128	H

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



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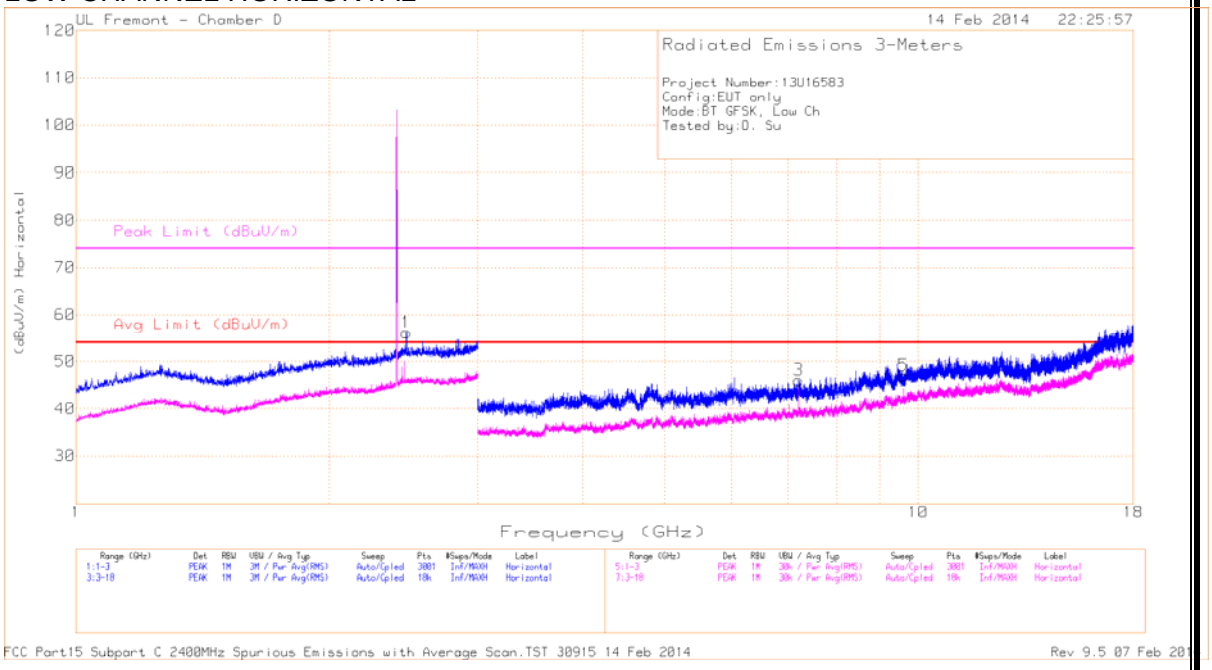
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	44.09	PK	32.7	-24.4	52.39	-	-	74	-21.61	78	313	V
2	2.484	45.30	PK	32.7	-24.4	53.60	-	-	74	-20.40	78	313	V
3	2.484	31.72	RMS	32.7	-24.4	40.02	54	-13.98	-	-	78	313	V
4	2.484	32.76	RMS	32.7	-24.4	41.06	54	-12.94	-	-	78	313	V

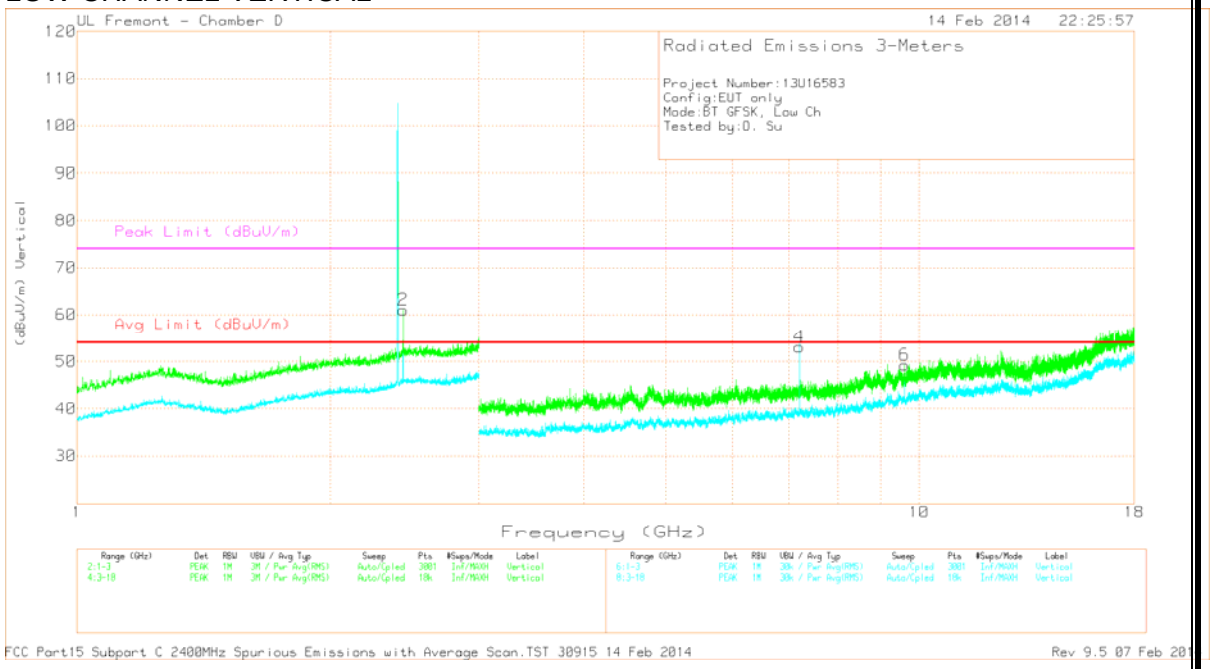
PK - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL

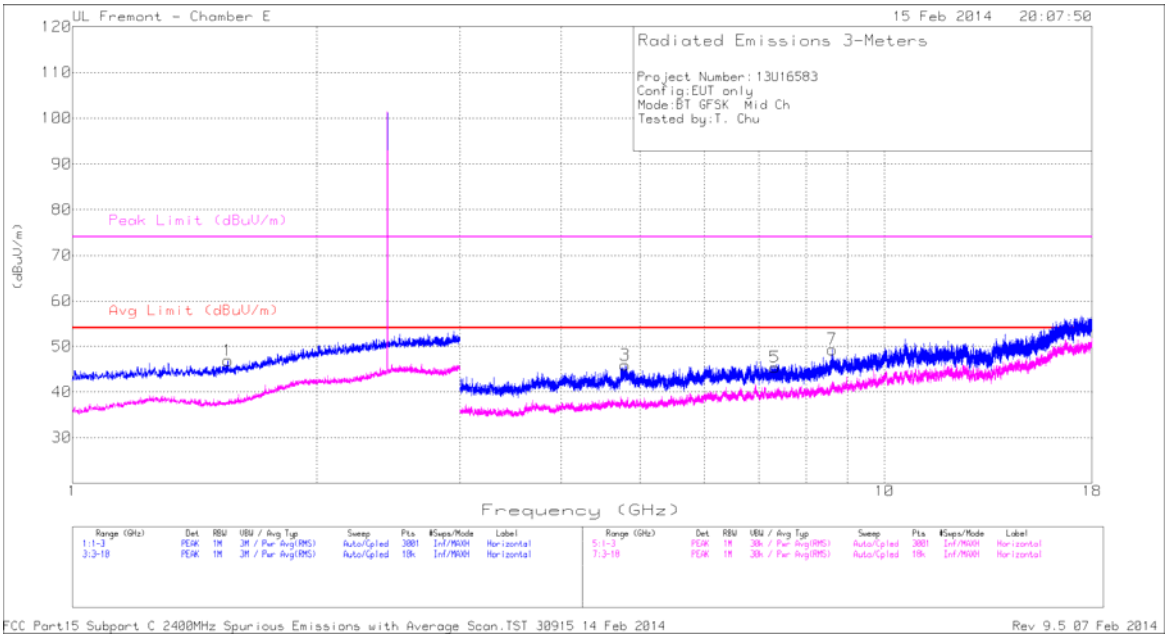


DATA

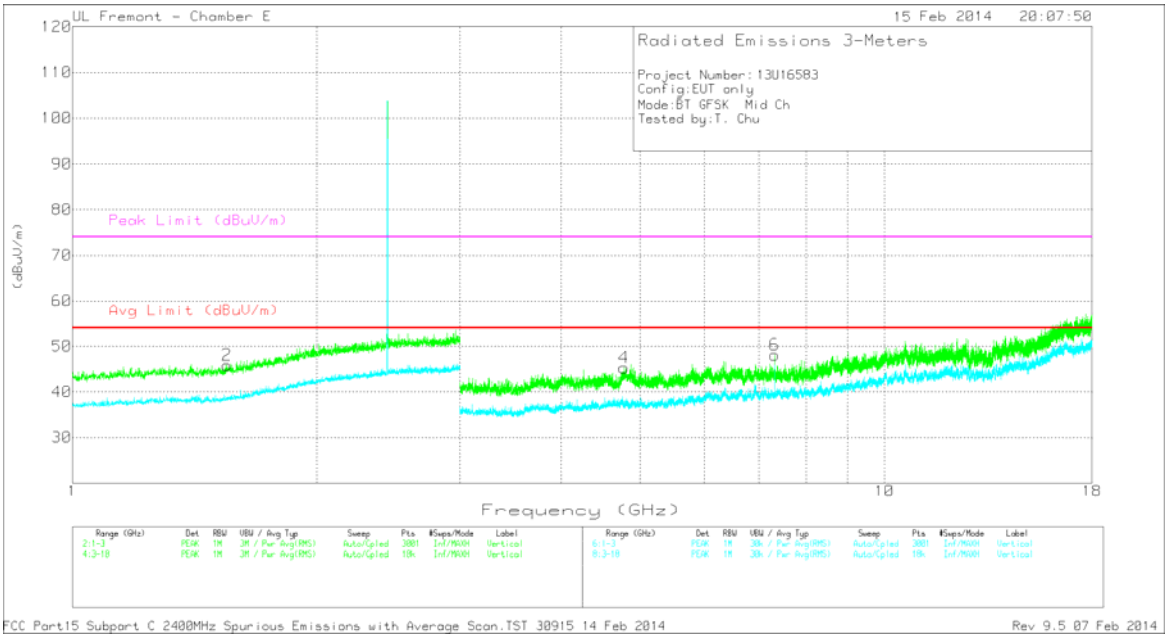
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.467	44.81	PK	32	-20.6	56.21	-	-	-	-	0-360	201	H
2	2.439	49.76	PK	31.8	-20.5	61.06	-	-	-	-	0-360	201	V
3	7.207	35.98	PK	35.1	-25.1	45.98	-	-	-	-	0-360	201	H
4	7.206	43.09	PK	35.1	-25.1	53.09	-	-	-	-	0-360	201	V
5	9.605	33.18	PK	36.3	-22.5	46.98	-	-	-	-	0-360	100	H
6	9.608	35.43	PK	36.3	-22.5	49.23	-	-	-	-	0-360	201	V

PK - Peak detector

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL

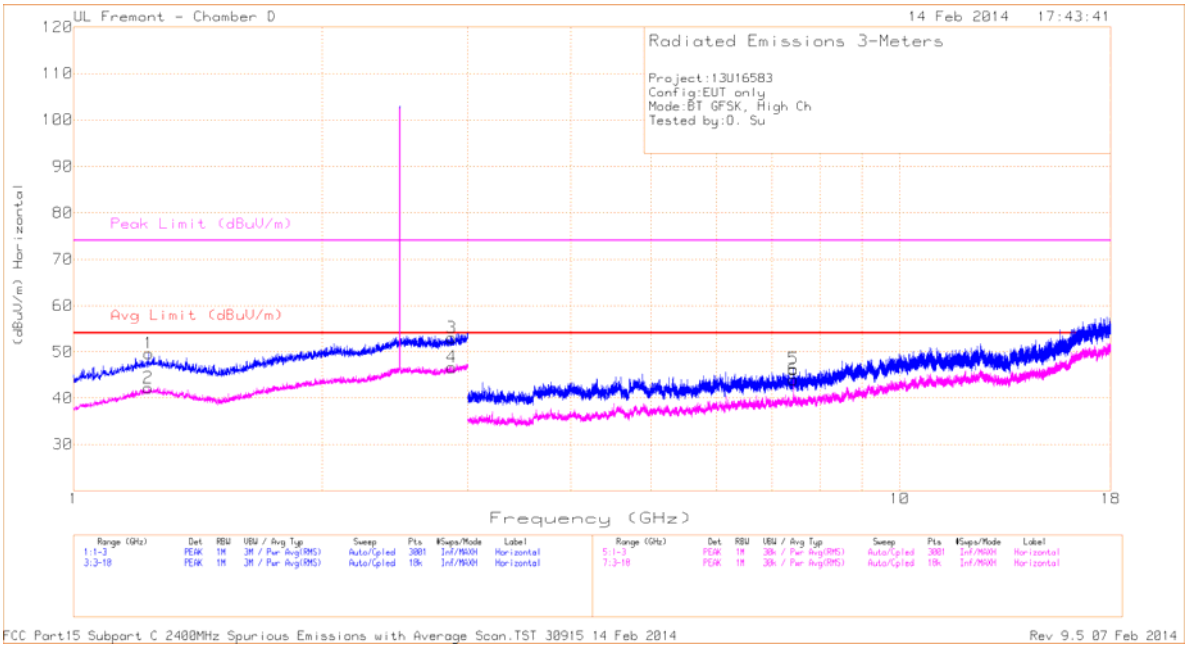


DATA

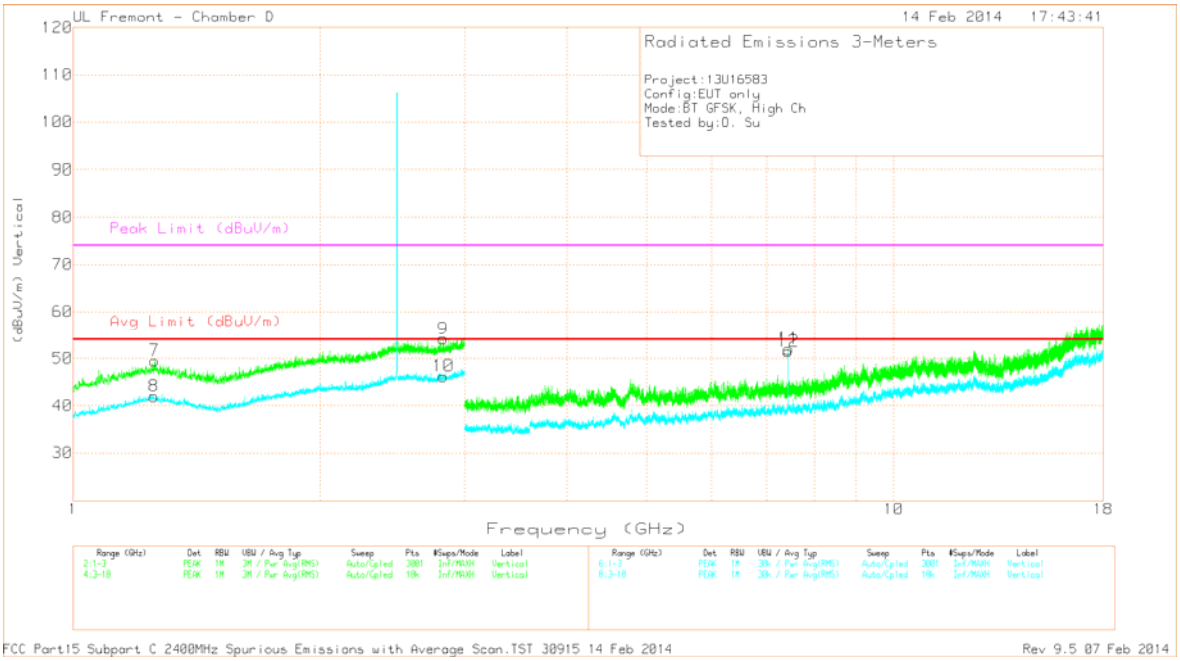
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.554	44.58	PK	28.7	-26.4	46.88	54	-7.12	74	-27.12	0-360	199	H
2	* 1.551	43.56	PK	28.7	-26.4	45.86	54	-8.14	74	-28.14	0-360	200	V
3	* 4.792	42.31	PK	34.5	-30.9	45.91	54	-8.09	74	-28.09	0-360	199	H
4	* 4.778	41.62	PK	34.5	-30.8	45.32	54	-8.68	74	-28.68	0-360	200	V
5	* 7.326	37.09	PK	35.9	-27.6	45.39	54	-8.61	74	-28.61	0-360	101	H
6	* 7.323	40.53	PK	35.9	-27.6	48.83	54	-	74	-25.17	139	201	V
	* 7.323	32.07	MAv1	35.9	-27.6	40.37	54	-13.63	-	-	139	201	V
7	8.623	39.00	PK	36.3	-26.0	49.30	-	-	-	-	0-360	101	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



DATA

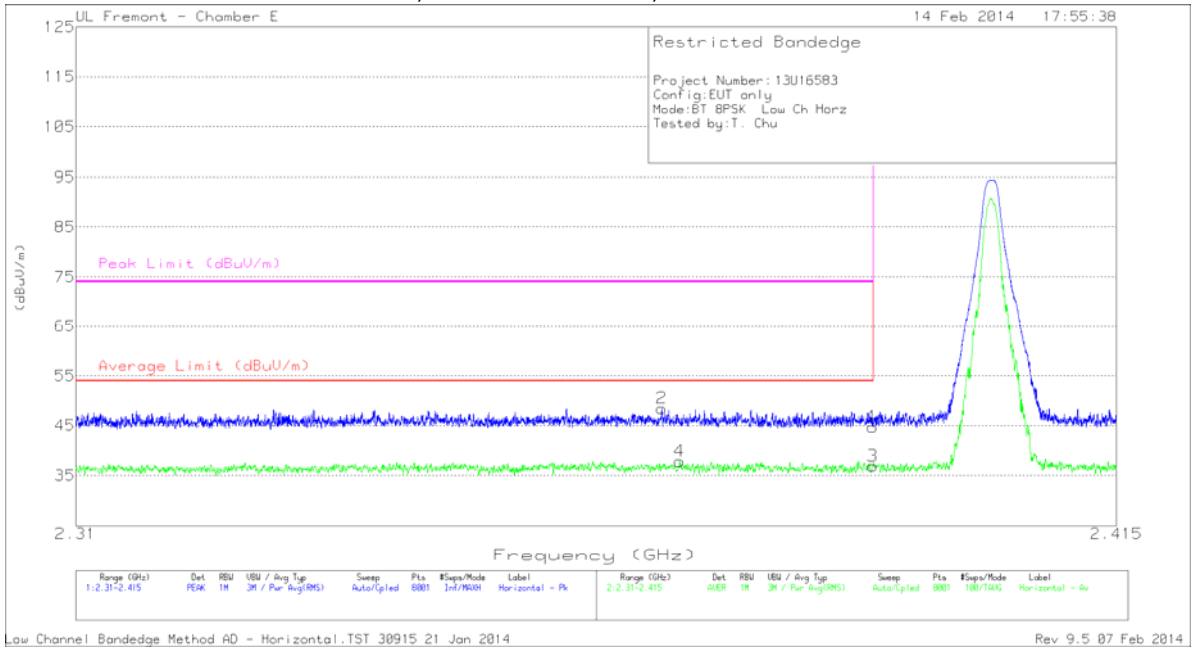
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.233	42.24	PK	29.4	-22	49.64	-	-	74	-24.36	0-360	100	H
2	* 1.233	34.88	Avg	29.3	-22	42.18	54	-11.82	-	-	0-360	100	H
3	* 2.869	41.22	PK	32	-20.2	53.02	-	-	74	-20.98	0-360	201	H
4	* 2.869	34.83	Avg	32	-20.2	46.63	54	-7.37	-	-	0-360	201	H
5	* 7.44	35.88	PK	35.2	-24.8	46.28	54	-7.72	74	-27.72	0-360	201	H
6	* 7.44	33.6	Avg	35.2	-24.8	44	54	-10	-	-	0-360	201	H
7	* 1.257	42.1	PK	29.5	-22.1	49.5	-	-	74	-24.5	0-360	100	V
8	* 1.257	34.57	Avg	29.5	-22.1	41.97	54	-12.03	-	-	0-360	201	V
9	* 2.825	42.29	PK	31.8	-19.9	54.19	-	-	74	-19.81	0-360	100	V
10	* 2.825	34.21	Avg	31.8	-19.8	46.21	54	-7.79	-	-	0-360	100	V
11	* 7.441	41.57	PK2	35.2	-24.8	51.97	-	-	74	-22.03	0-360	201	V
12	* 7.441	39.52	MAv 1	35.2	-24.8	49.92	54	-4.08	-	-	167	211	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
Avg - Video bandwidth < Resolution bandwidth

8.2.2. ENHANCED DATA RATE 8PSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

LOW CHANNEL RESTRICTED, PEAK AND AVG, HORIZ



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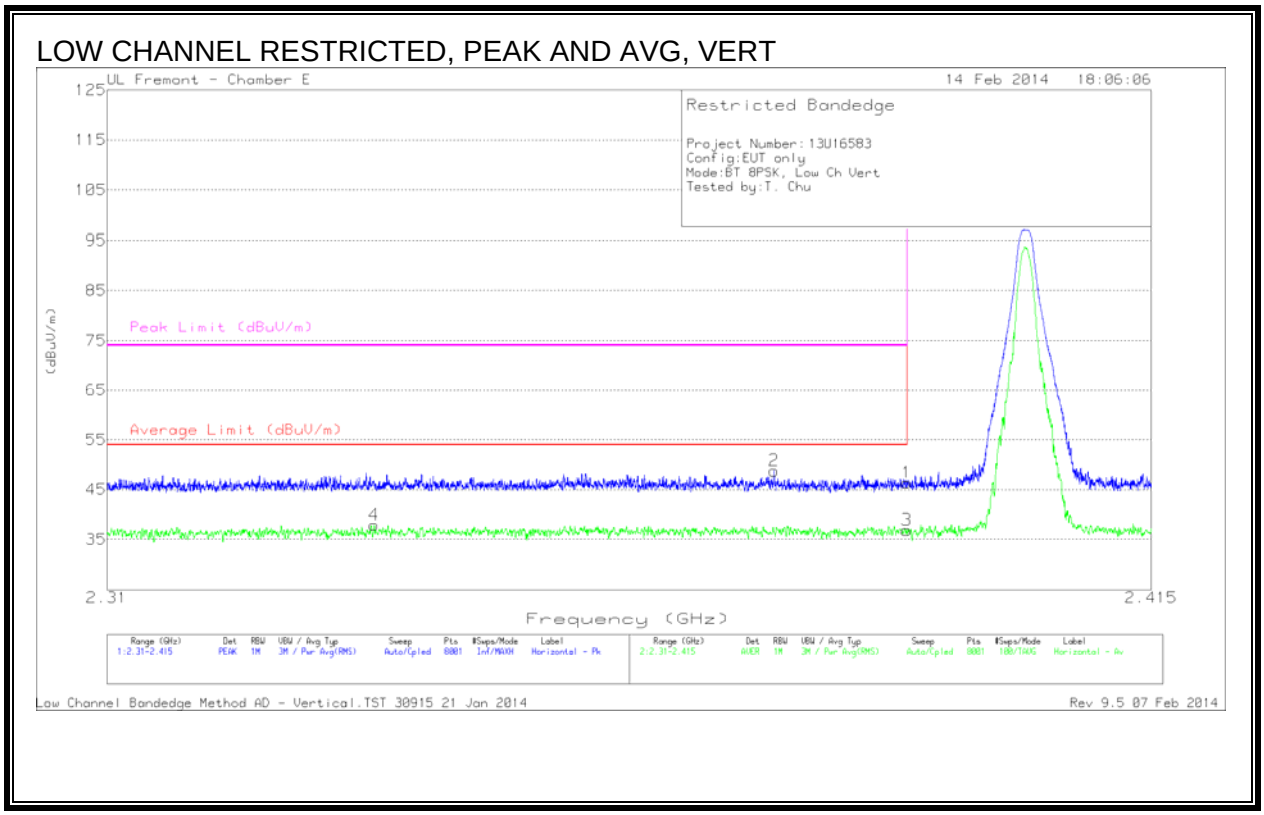
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.390	37.12	PK	32.6	-25.0	44.72	-	-	74	-29.28	265	308	H
2	2.369	40.67	PK	32.6	-24.8	48.47	-	-	74	-25.53	265	308	H
3	2.390	29.26	RMS	32.6	-25.0	36.86	54	-17.14	-	-	265	308	H
4	2.370	30.14	RMS	32.6	-24.9	37.84	54	-16.16	-	-	265	308	H

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



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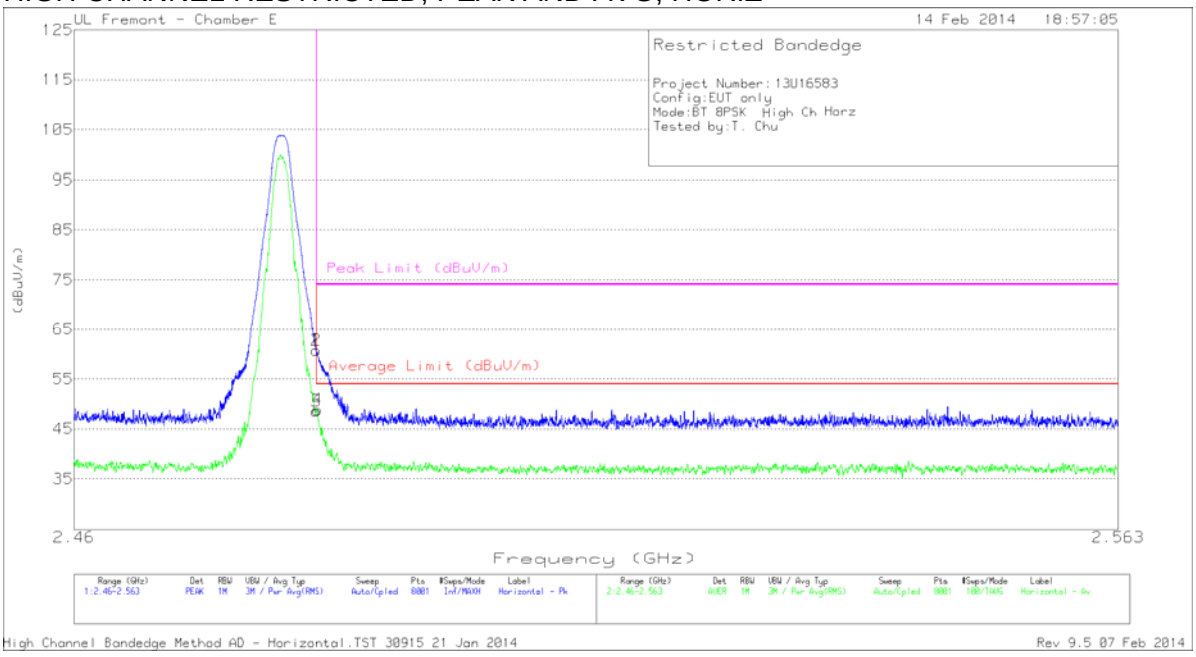
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.390	38.77	PK	32.6	-25.0	46.37	-	-	74	-27.63	199	390	V
2	2.377	41.17	PK	32.6	-25.0	48.77	-	-	74	-25.23	199	390	V
3	2.390	29.25	RMS	32.6	-25.0	36.85	54	-17.15	-	-	199	390	V
4	2.336	30.36	RMS	32.6	-25.1	37.86	54	-16.14	-	-	199	390	V

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

HIGH CHANNEL RESTRICTED, PEAK AND AVG, HORIZ

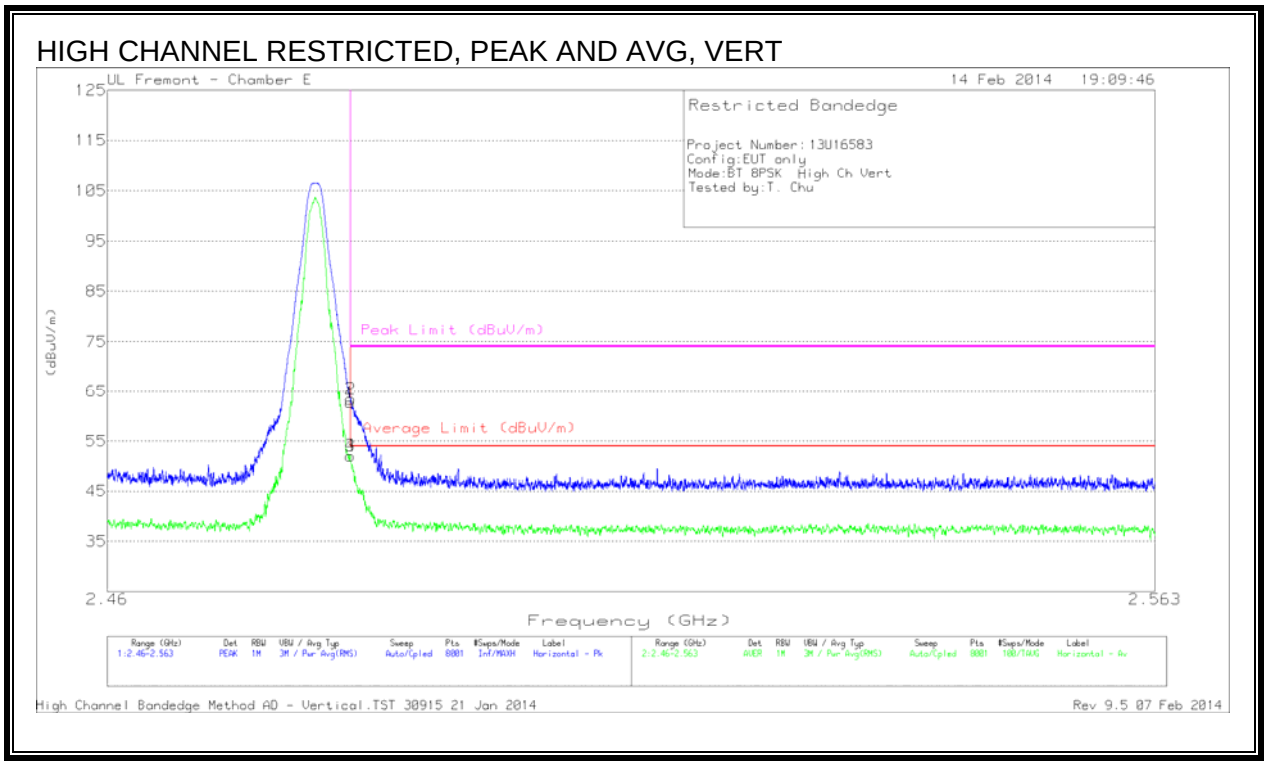


DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	52.41	PK	32.7	-24.4	60.71	-	-	74	-13.29	309	165	H
2	2.484	52.41	PK	32.7	-24.4	60.71	-	-	74	-13.29	309	165	H
3	2.484	40.27	RMS	32.7	-24.4	48.57	54	-5.43	-	-	309	165	H
4	2.484	40.48	RMS	32.7	-24.4	48.78	54	-5.22	-	-	309	165	H

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



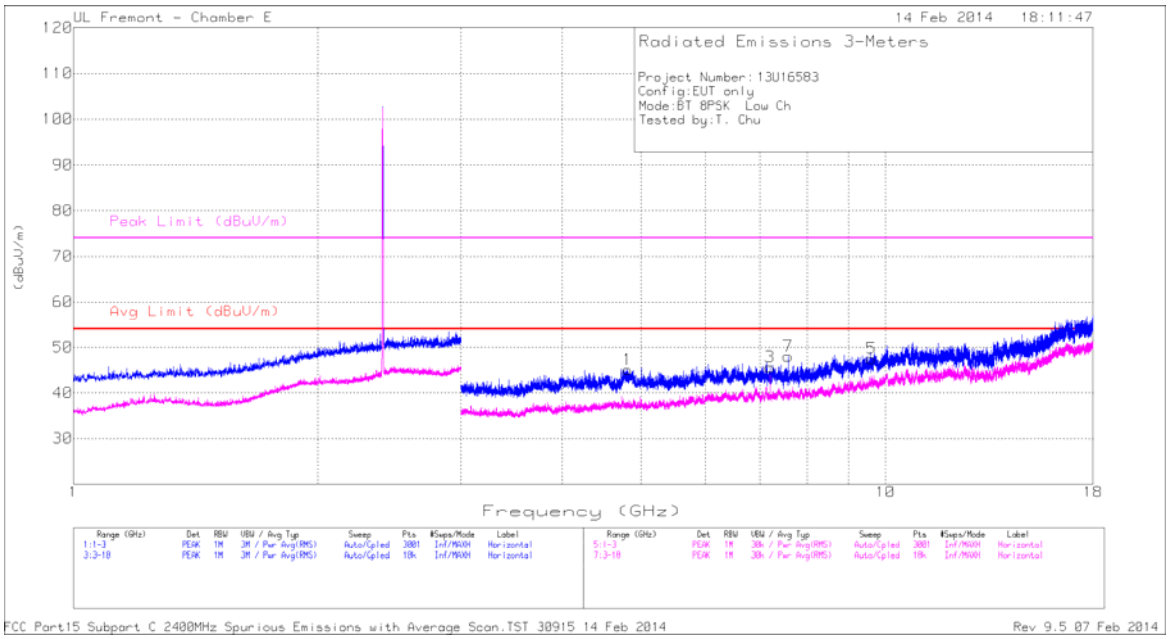
DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	54.42	PK	32.7	-24.4	62.72	-	-	74	-11.28	254	200	V
2	2.484	55.12	PK	32.7	-24.4	63.42	-	-	74	-10.58	254	200	V
3	2.484	43.75	RMS	32.7	-24.4	52.05	54	-1.95	-	-	254	200	V
4	2.484	43.75	RMS	32.7	-24.4	52.05	54	-1.95	-	-	254	200	V

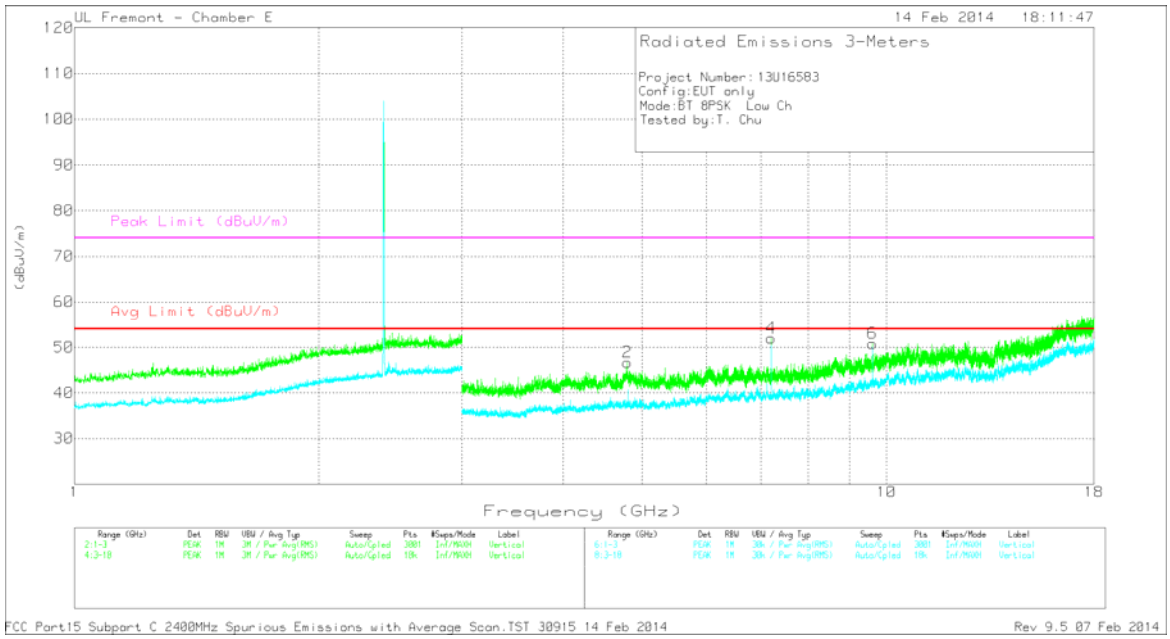
PK - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL

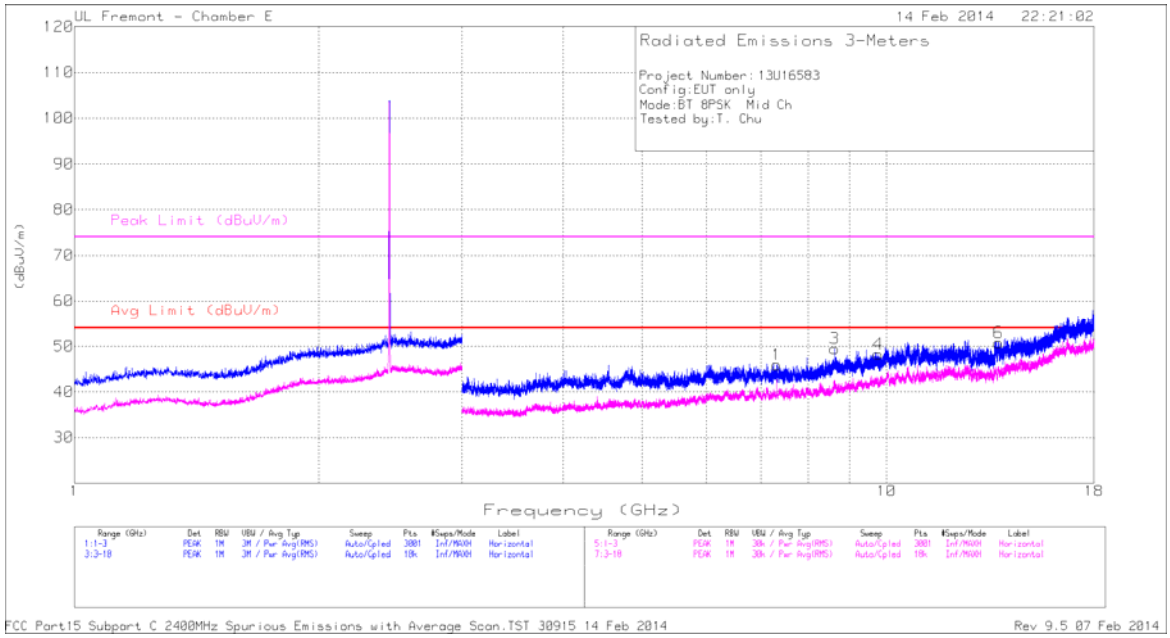


DATA

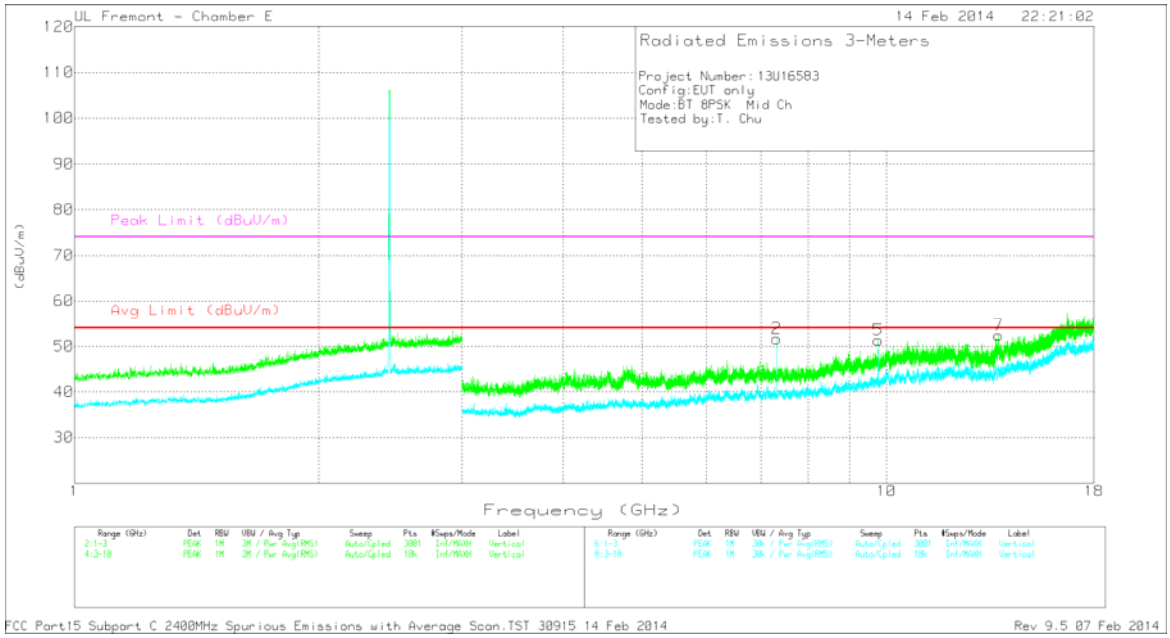
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.812	41.57	PK	34.5	-31.0	45.07	54	-8.93	74	-28.93	0-360	101	H
2	* 4.797	43.13	PK	34.5	-30.9	46.73	54	-7.27	74	-27.27	0-360	200	V
3	7.206	38.46	PK	35.9	-28.7	45.66	-	-	-	-	0-360	199	H
4	7.207	44.80	PK	35.9	-28.7	52.00	-	-	-	-	0-360	200	V
5	9.607	34.64	PK	37.2	-24.3	47.54	-	-	-	-	0-360	199	H
6	9.608	38.05	PK	37.2	-24.4	50.85	-	-	-	-	0-360	200	V
7	* 7.586	40.09	PK	35.9	-28.0	47.99	54	-6.01	74	-26.01	0-360	101	H

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

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL

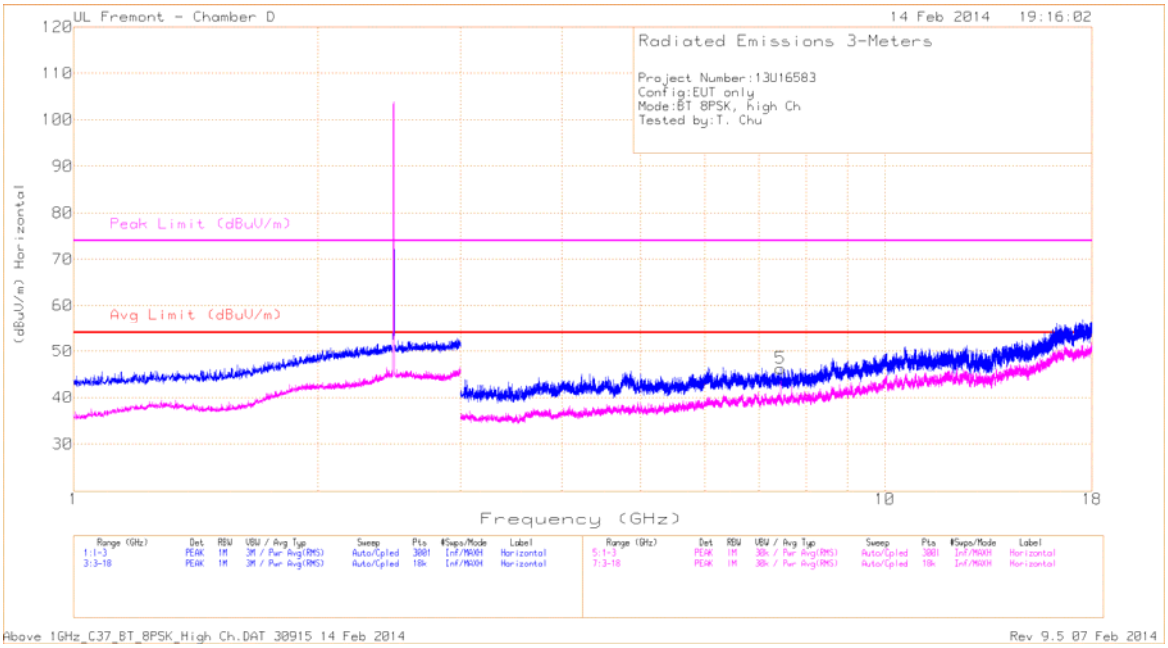


DATA

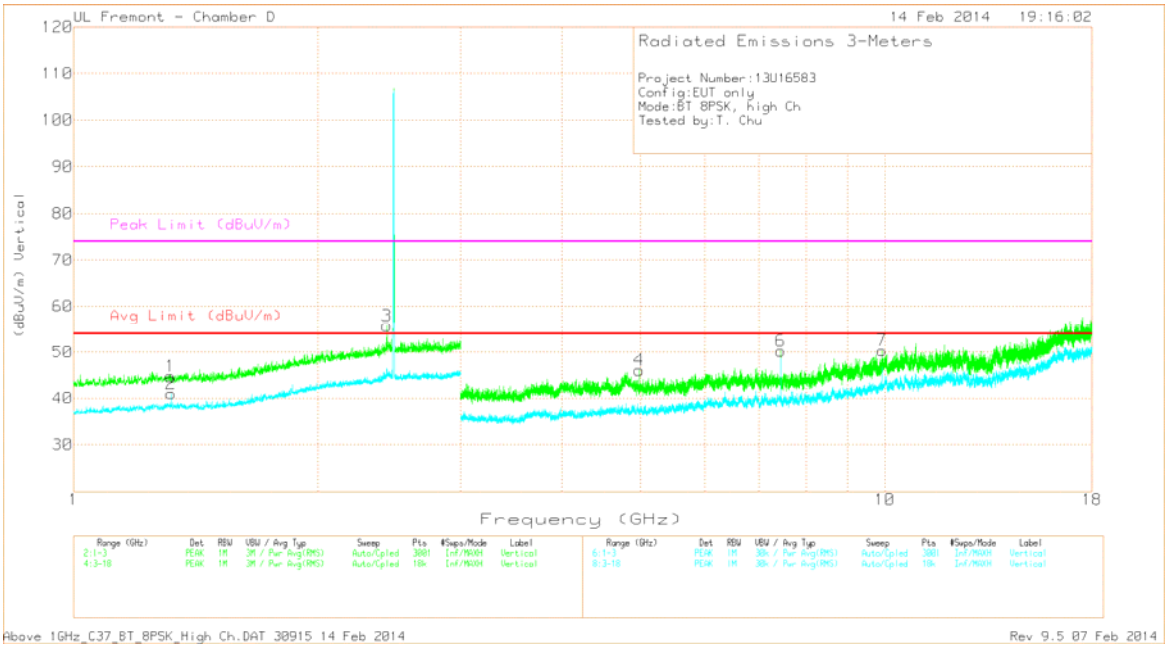
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Fltr/Pa d (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 7.323	37.65	PK	35.9	-27.6	45.95	54	-8.05	74	-28.05	0-360	101	H
2	* 7.324	46.54	PK2	35.9	-27.6	54.84	-	-	74	-19.16	179	136	V
	* 7.323	39.84	MAv1	35.9	-27.6	48.14	54	-5.86	-	-	179	136	V
3	8.632	39.01	PK	36.3	-25.8	49.51	-	-	-	-	0-360	199	H
4	9.765	36.27	PK	37.4	-25.4	48.27	-	-	-	-	0-360	101	H
5	9.765	39.37	PK	37.4	-25.4	51.37	-	-	-	-	0-360	200	V
6	13.740	37.77	PK	38.9	-25.9	50.77	-	-	-	-	0-360	101	H
7	13.736	39.29	PK	38.9	-25.8	52.39	-	-	-	-	0-360	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



DATA

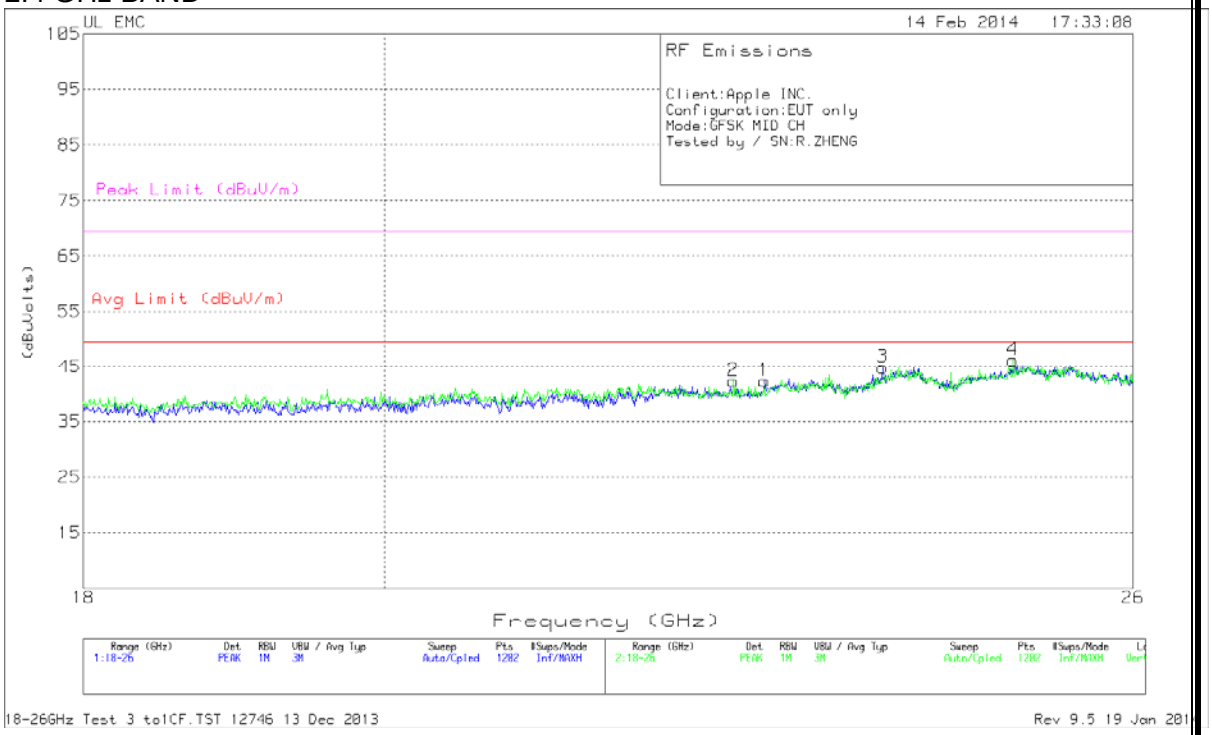
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.317	42.95	PK	28.7	-26.9	44.75	54	-9.25	74	-29.25	0-360	200	V
2	* 1.319	39.2	Avg	28.7	-26.9	41	54	-13	-	-	0-360	200	V
3	2.434	48.05	PK	32.6	-24.9	55.75	-	-	-	-	0-360	200	V
4	* 4.981	42.69	PK	34.4	-31	46.09	54	-7.91	74	-27.91	0-360	101	V
5	* 7.441	39.07	PK	35.8	-28.6	46.27	54	-7.73	74	-27.73	0-360	199	H
6	* 7.44	46.06	PK2	35.8	-28.6	53.26	-	-	74	-20.74	0	175	V
	* 7.44	38.5	MAv1	35.8	-28.6	45.7	54	-8.3	-	-	0	175	V
7	9.92	37.42	PK	37.7	-24.8	50.32	-	-	-	-	0-360	200	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
Avg - Video bandwidth < Resolution bandwidth
MAv1 - KDB558074 Option 1 Maximum RMS Average

8.3. WORST-CASE ABOVE 18 GHz

SPURIOUS EMISSIONS 18 TO 26 GHz (WORST-CASE CONFIGURATION, HORIZONTAL & VERTICAL)

2.4 GHz BAND



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T89 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	22.849	41.93	PK	33.5	-23.6	-9.5	42.33	49.5	-7.17	69.5	-27.17
3	23.815	43.03	PK	33.7	-22.4	-9.5	44.83	49.5	-4.67	69.5	-24.67
2	22.603	41.73	PK	33.4	-23.3	-9.5	42.33	49.5	-7.17	69.5	-27.17
4	24.928	44.37	PK	34	-22.7	-9.5	46.17	49.5	-3.33	69.5	-23.33

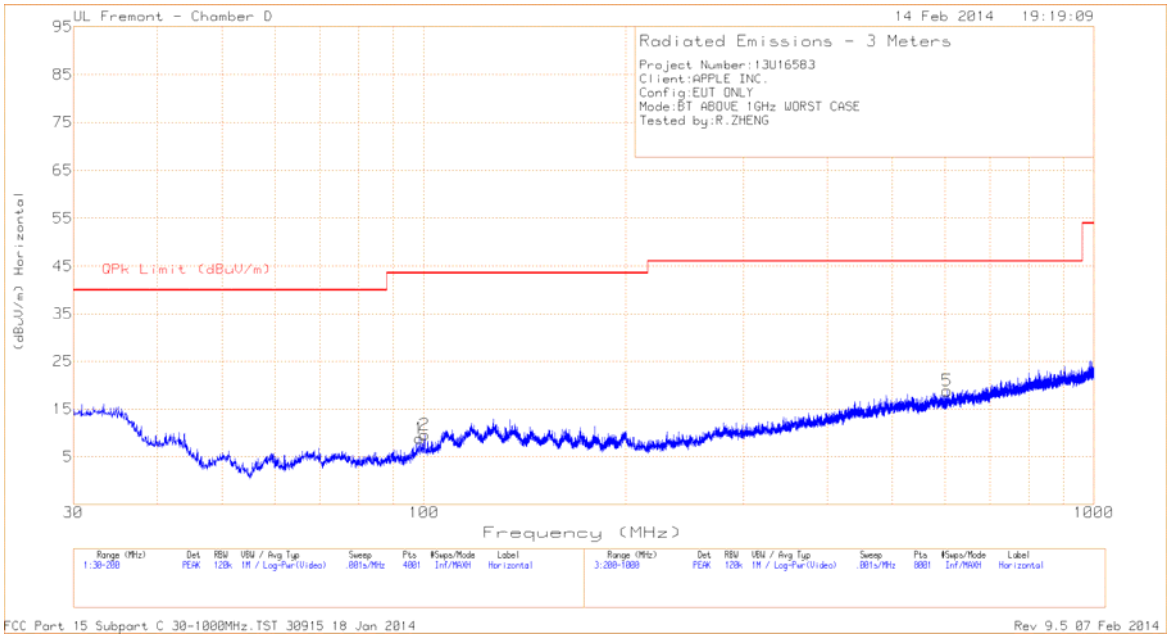
PK - Peak detector

18-26GHz Test 3 to1CF.TST 12746 13 Dec 2013 Rev 9.5 19 Jan 2014

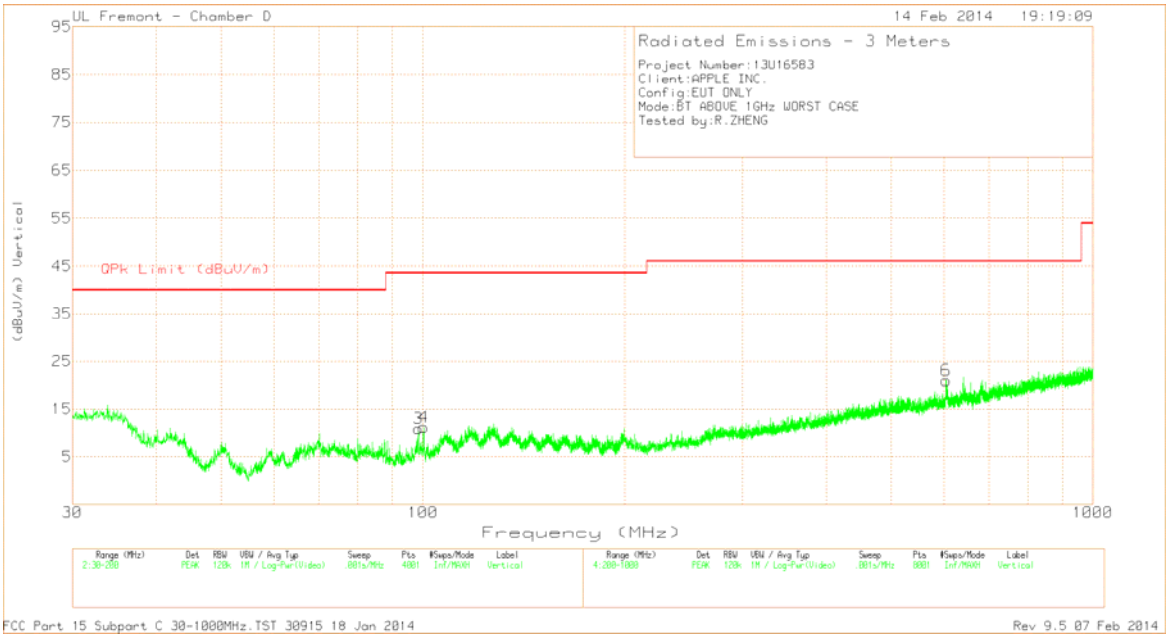
8.4. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T407 dB/m	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	98.5525	30.73	PK	9.7	-31.6	8.83	43.52	-34.69	0-360	400	H
2	100.295	31.13	PK	10.2	-31.7	9.63	43.52	-33.89	0-360	301	H
3	98.4675	32.82	PK	9.7	-31.6	10.92	43.52	-32.6	0-360	100	V
4	100.295	32.69	PK	10.2	-31.7	11.19	43.52	-32.33	0-360	100	V
5	604.2	30.12	PK	18.4	-29.7	18.82	46.02	-27.2	0-360	400	H
6	604	32.3	PK	18.4	-29.7	21	46.02	-25.02	0-360	200	V

PK - Peak detector