



FCC CFR47 PART 15 SUBPART C

C2PC CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n/ac, ANT+ and NFC

FCC ID: PY7-PM0816

REPORT NUMBER: 15U19770-E4

ISSUE DATE: MARCH 18, 2015

**Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Issue			
Rev.	Date	Revisions	Revised By
--	03/18/15	Initial Issue	CHOON OOI

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SONY MOBILE COMMUNICATIONS, INC.
EUT DESCRIPTION: GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac, ANT+ and NFC.
SERIAL NUMBER: YT910XTJRB (Radiated)
DATE TESTED: FEBRUARY 13-MARCH 13, 2015

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

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, and ANSI C63.4-2009.

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:

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

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

4.3. MEASUREMENT UNCERTAINTY

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

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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac, ANT+ and NFC.

5.2. MAXIMUM OUTPUT POWER

Please refer to test report 14U17919-4A (FCC ID: PY7PM-0813).

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.6 dBi.

5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

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

802.11b mode: 1 Mbps

802.11g mode: 6 Mbps

802.11n HT20mode: MCS0

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	SONY	EP880	3514W 01 S08328	N/A
Earphone	SONY	MH410C	N/A	N/A

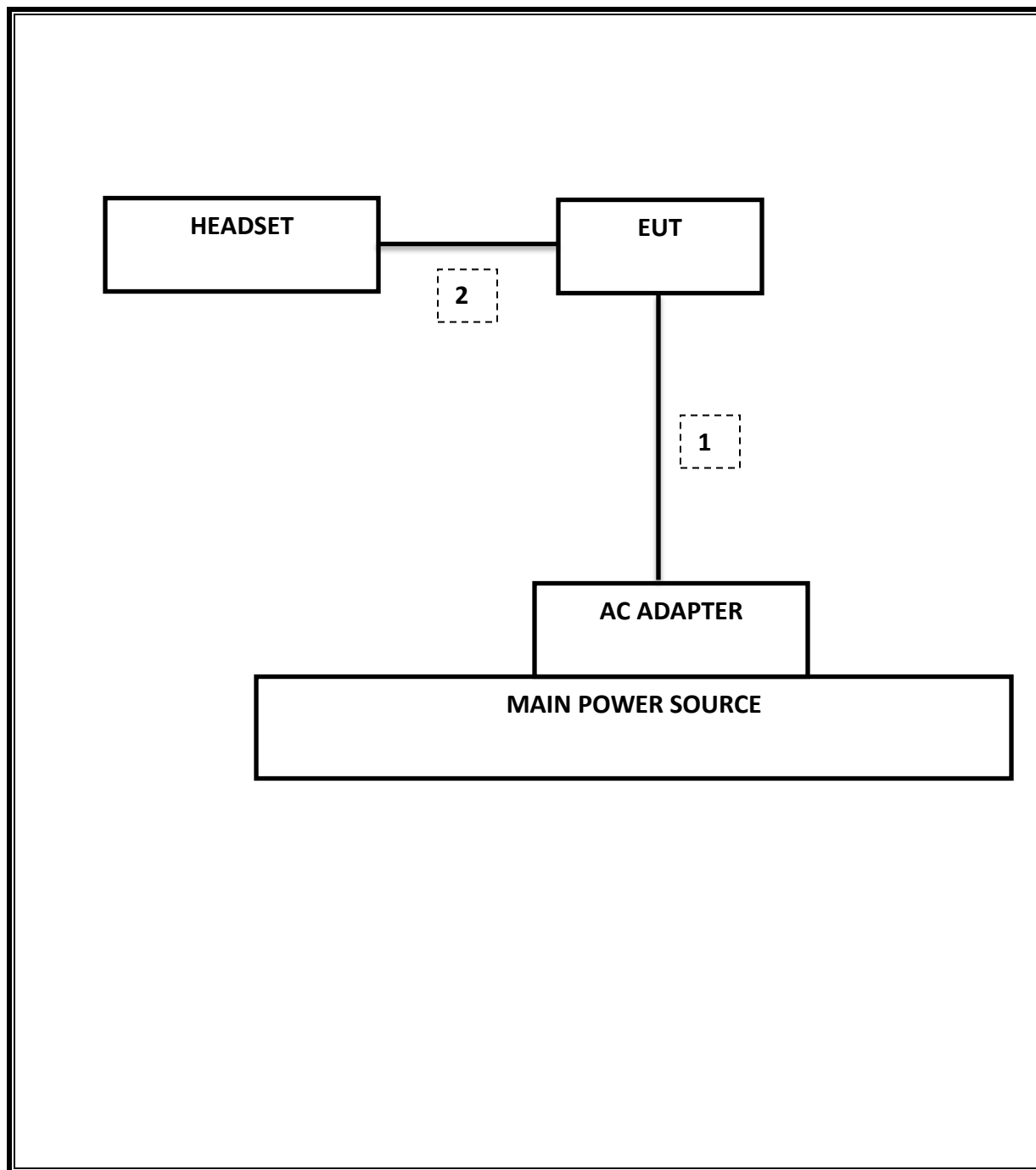
I/O CABLES

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

TEST SETUP

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

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
Spectrum Analyzer, 9KHz-40GHz	HP	8564E	C00986	04/01/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	100773	08/15/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn, 18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/15
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	12/08/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 18GHz	Miteq	AFS42-00101800-25-S-42	1818466	05/09/15
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/15
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/15
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/15

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

7. MEASUREMENT METHODS

KDB 558074 D01 DTS Meas Guidance v03r02:Measurement Procedure AVGPM-G is used for power and AVGPSD-3 is used for power spectral density.

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

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

8. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)(2)	RSS-210 A8.2(a)	Occupied Band width (6dB)	>500KHz	Conducted	Pass	See Original
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	See Original
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	See Original
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	See Original
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	See Original
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	41.32 dBuV/m

9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (μ V/m) at 3 m	Field Strength Limit (dB μ 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.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor for average measurements. Duty cycle factor = $10\log(1/x)$ For this sample B mode = 0dB (duty cycle >98%); G mode = 0dB (duty cycle >98%);; N mode = 0dB (duty cycle >98%).

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

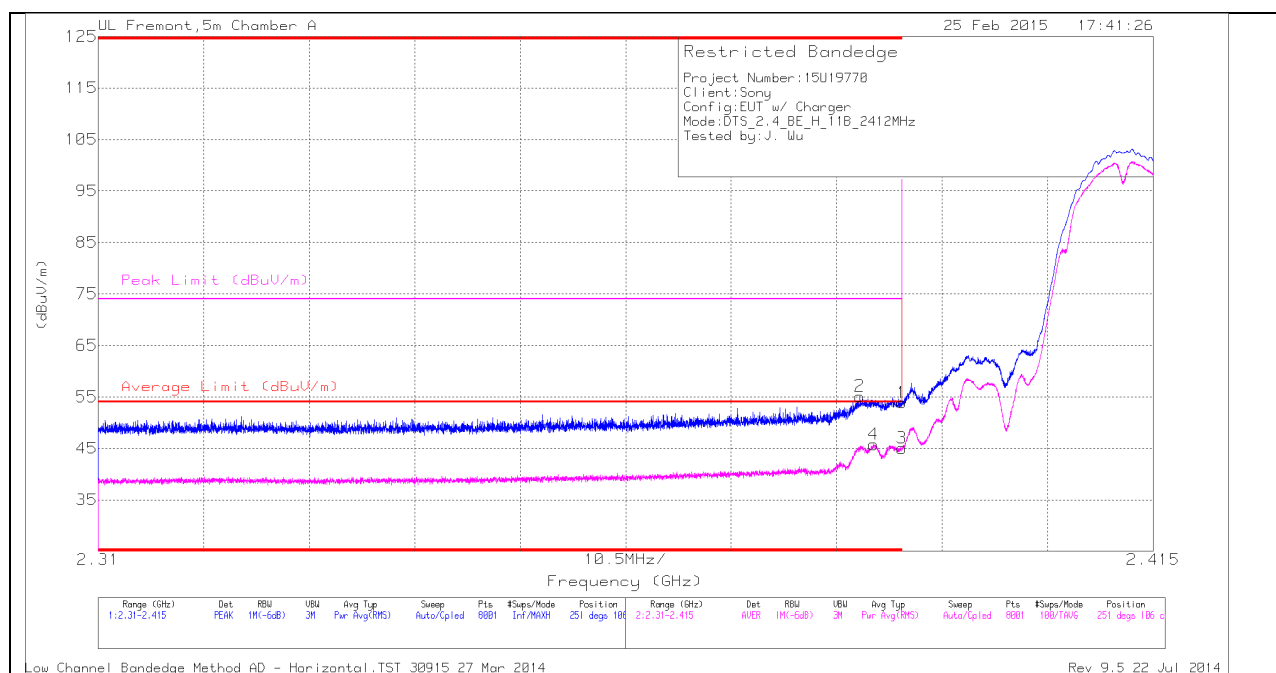
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

9.2. TRANSMITTER ABOVE 1 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)

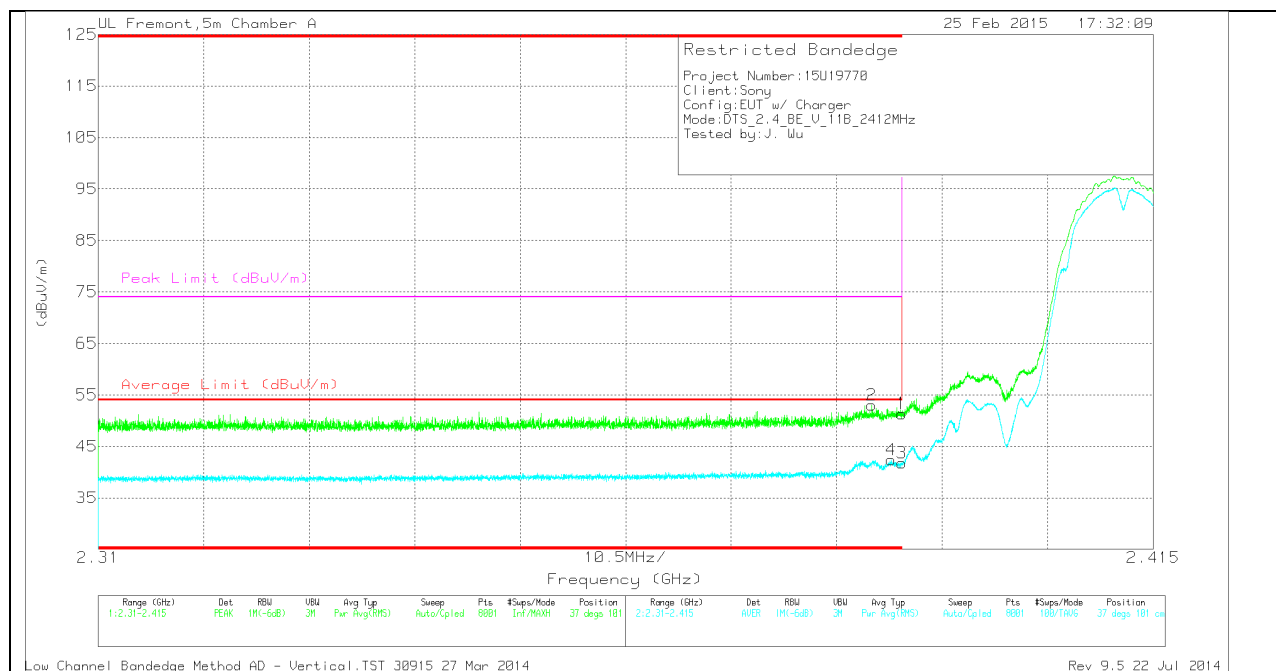
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	* 2.386	45.23	PK	32.1	-22.2	0	55.13	-	-	74	-18.87	251	106	H
4	* 2.387	35.87	RMS	32.1	-22.2	0	45.77	54	-8.23	-	-	251	106	H
1	* 2.39	43.96	PK	32.1	-22.2	0	53.86	-	-	74	-20.14	251	106	H
3	* 2.39	35.13	RMS	32.1	-22.2	0	45.03	54	-8.97	-	-	251	106	H

VERTICAL PEAK AND AVERAGE PLOT

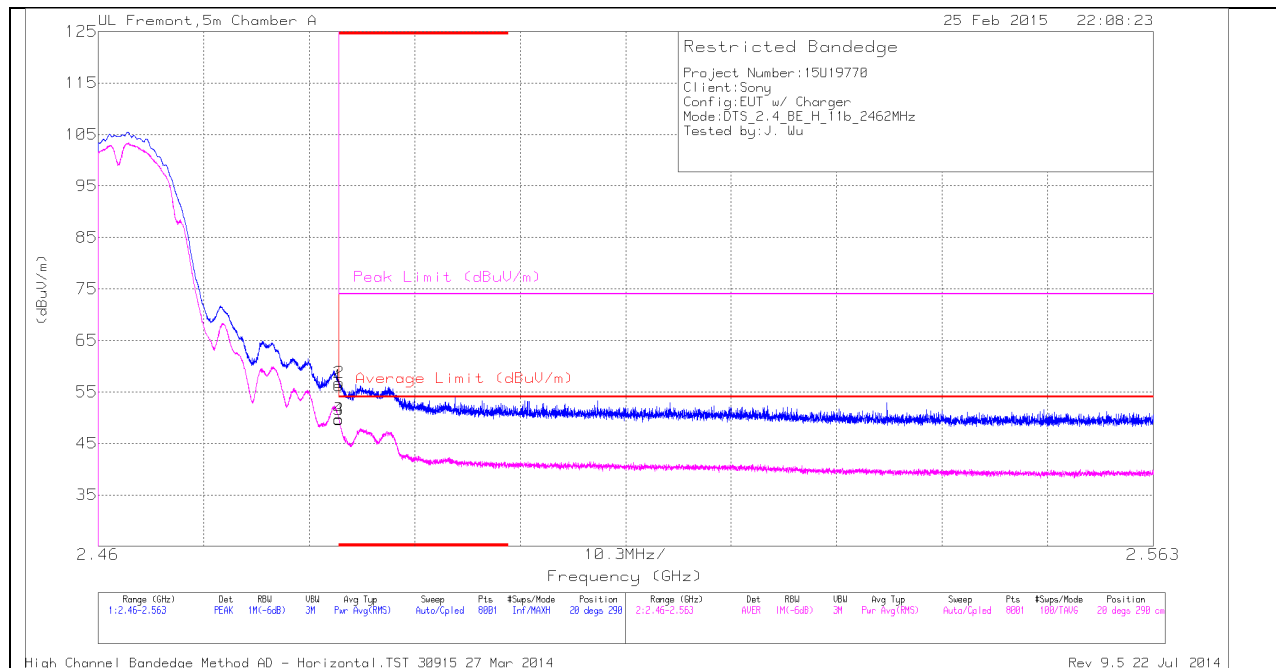


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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
2	* 2.387	43.1	PK	32.1	-22.2	0	53	-	-	74	-21	37	101	V
4	* 2.389	32.48	RMS	32.1	-22.2	0	42.38	54	-11.62	-	-	37	101	V
1	* 2.39	41.45	PK	32.1	-22.2	0	51.35	-	-	74	-22.65	37	101	V
3	* 2.39	31.84	RMS	32.1	-22.2	0	41.74	54	-12.26	-	-	37	101	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

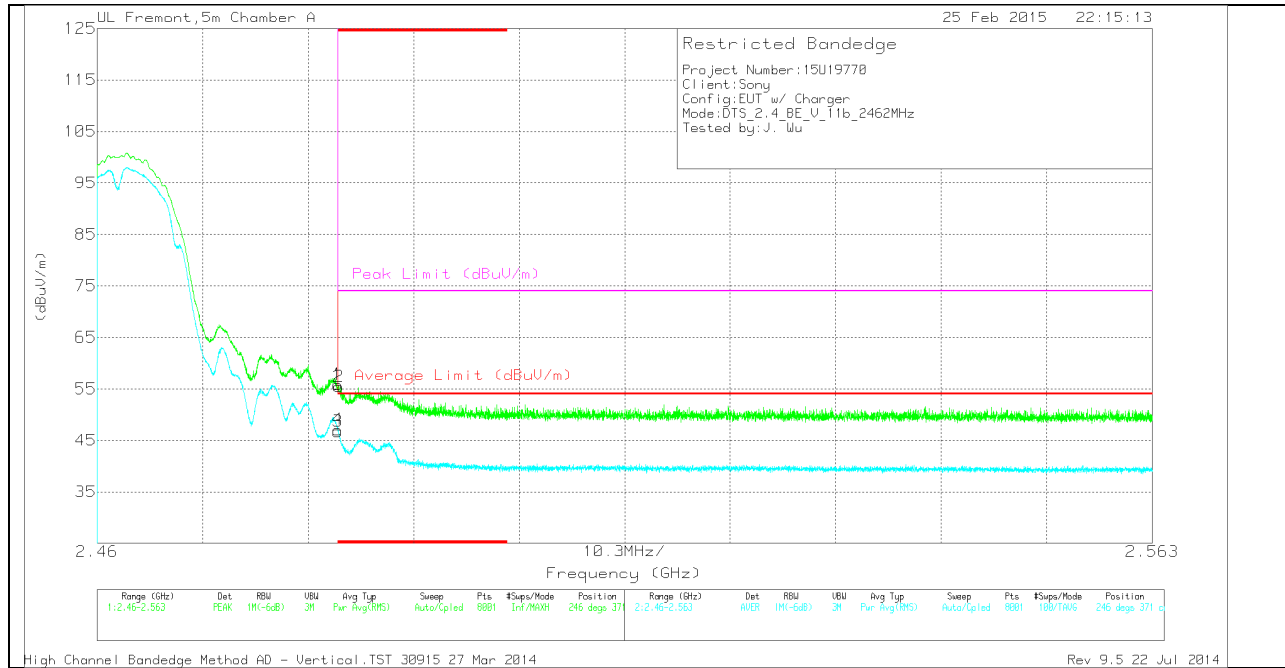
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/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	45.99	PK	32.1	-21.9	0	56.19	-	-	74	-17.81	20	290	H
2	* 2.484	46.61	PK	32.1	-21.9	0	56.81	-	-	74	-17.19	20	290	H
3	* 2.484	39.42	RMS	32.1	-21.9	0	49.62	54	-4.38	-	-	20	290	H
4	* 2.484	39.5	RMS	32.1	-21.9	0	49.7	54	-4.3	-	-	20	290	H

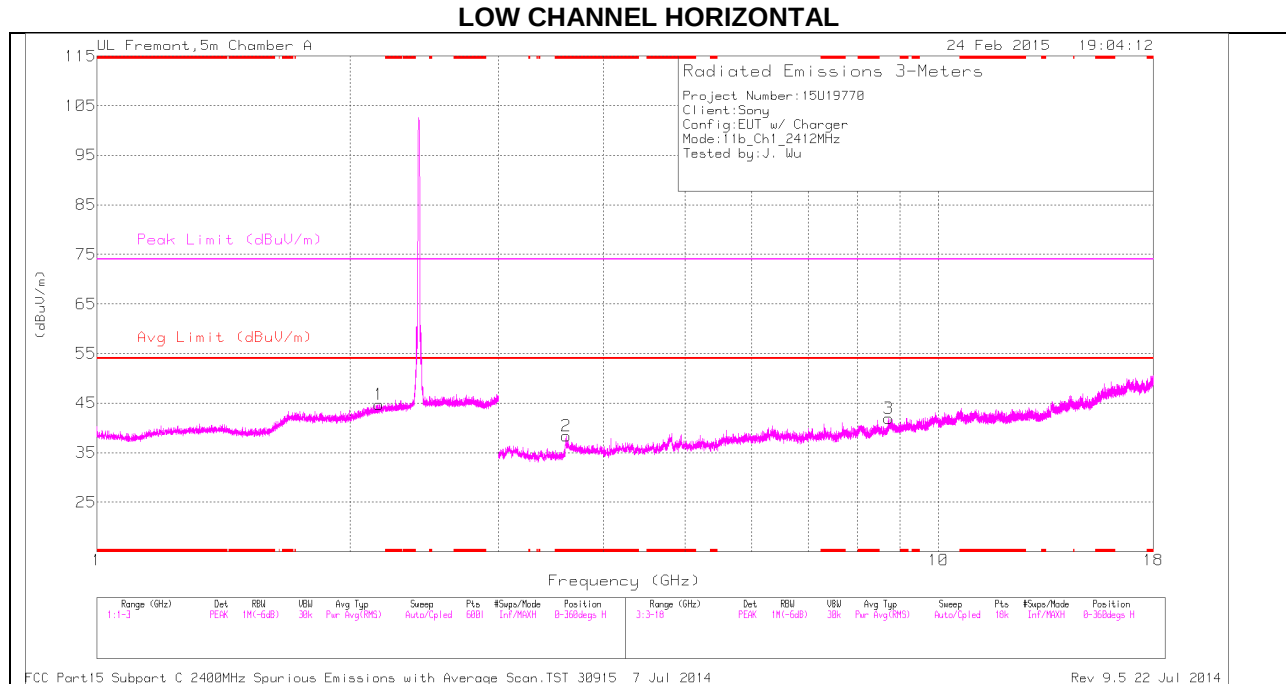
VERTICAL PEAK AND AVERAGE PLOT



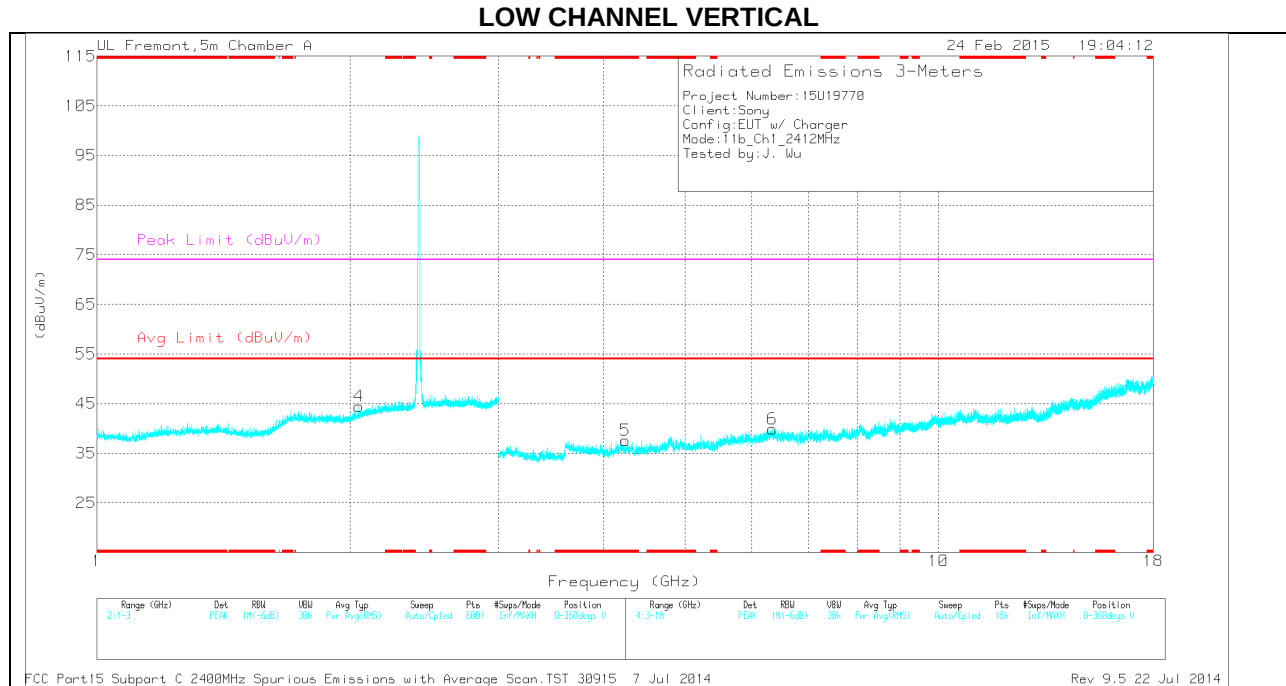
VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Filtr/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	45.67	PK	32.1	-21.9	55.87	-	-	74	-18.13	246	371	V
2	* 2.484	45.25	PK	32.1	-21.9	55.45	-	-	74	-18.55	246	371	V
3	* 2.484	36.54	RMS	32.1	-21.9	46.74	54	-7.26	-	-	246	371	V
4	* 2.484	36.89	RMS	32.1	-21.9	47.09	54	-6.91	-	-	246	371	V

HARMONICS AND SPURIOUS EMISSIONS



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



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LOW CHANNEL DATA

TRACE MARKERS

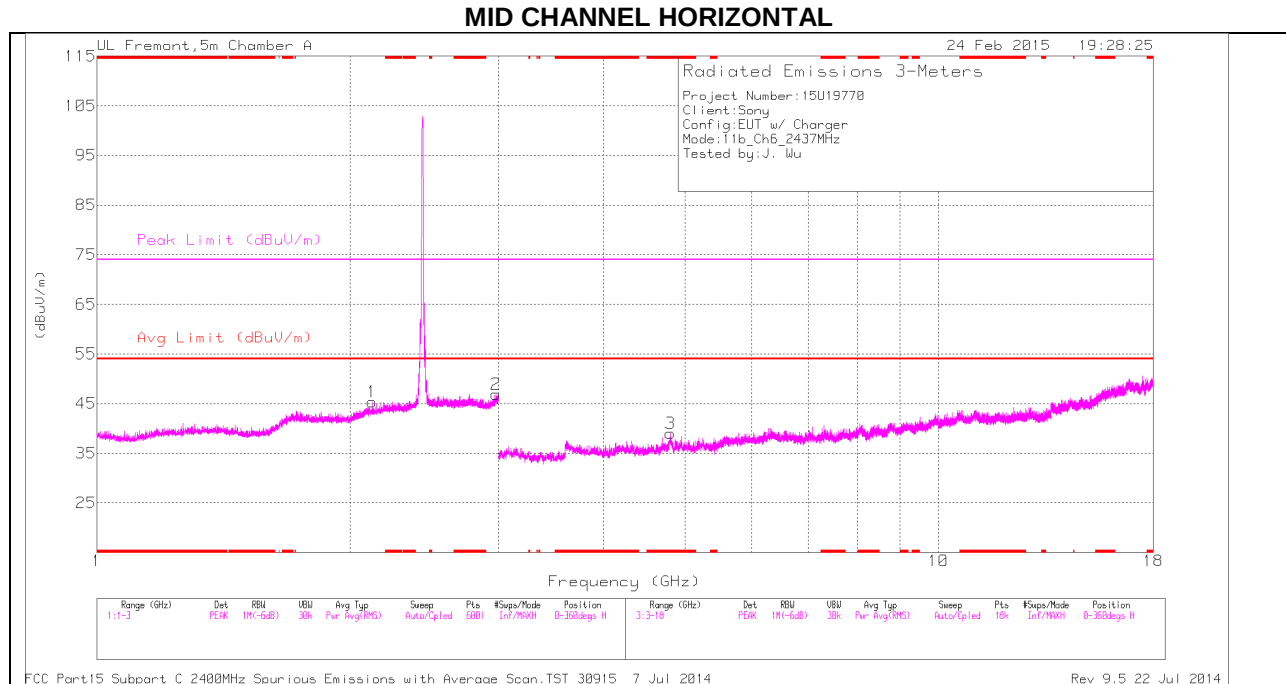
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.609	35.21	PK	33.2	-30	0	38.41	-	-	74	-35.59	0-360	201	H
5	* 4.244	33.05	PK	33.4	-28.8	0	37.65	-	-	74	-36.35	0-360	100	V
4	2.048	36.48	PK	30.7	-22.7	0	44.48	-	-	-	-	0-360	100	V
1	2.162	35.56	PK	31.7	-22.6	0	44.66	-	-	-	-	0-360	201	H
6	6.343	30.56	PK	36	-26.7	0	39.86	-	-	-	-	0-360	201	V
3	8.731	28.79	PK	36.5	-23.4	0	41.89	-	-	-	-	0-360	100	H

PK - Peak detector

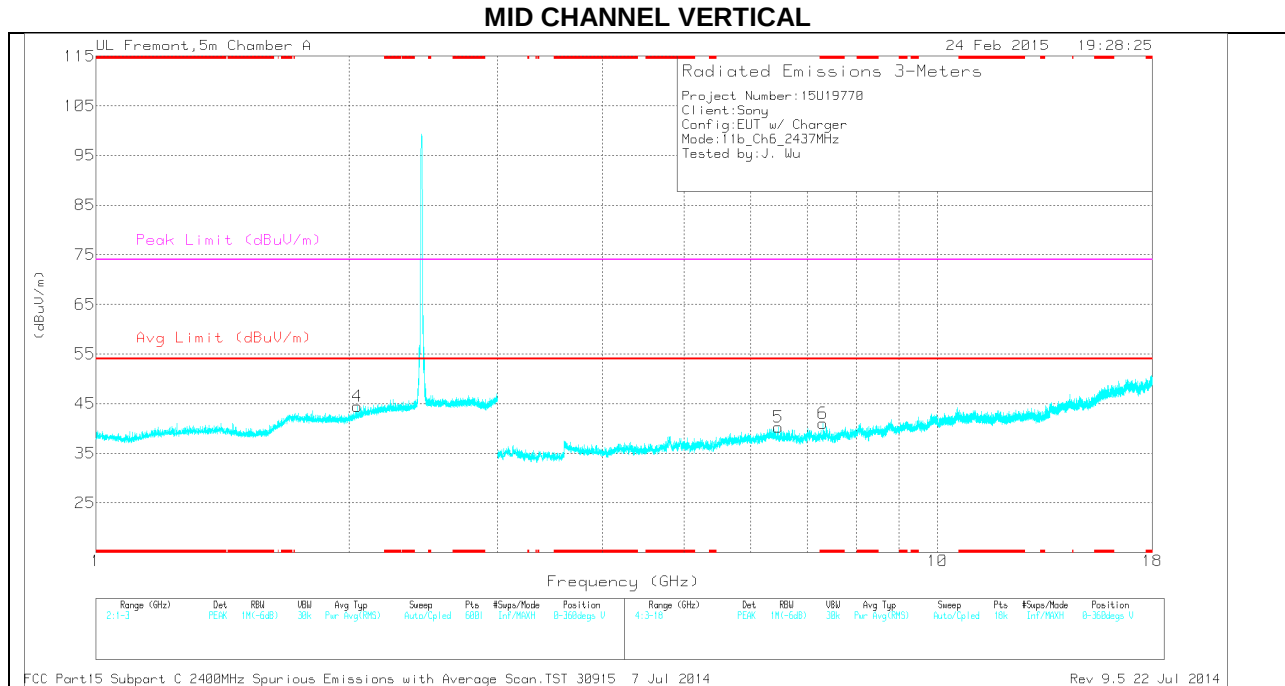
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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
* 3.608	40.78	PK2	33.2	-30	0	43.98	-	-	74	-30.02	6	132	H
* 3.607	29.5	MAV1	33.2	-30	0	32.7	54	-21.3	-	-	6	132	H
* 4.245	39.36	PK2	33.4	-28.7	0	44.06	-	-	74	-29.94	6	100	V
* 4.245	28.63	MAV1	33.4	-28.7	0	33.33	54	-20.67	-	-	6	100	V

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



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MID CHANNEL DATA

TRACE MARKERS

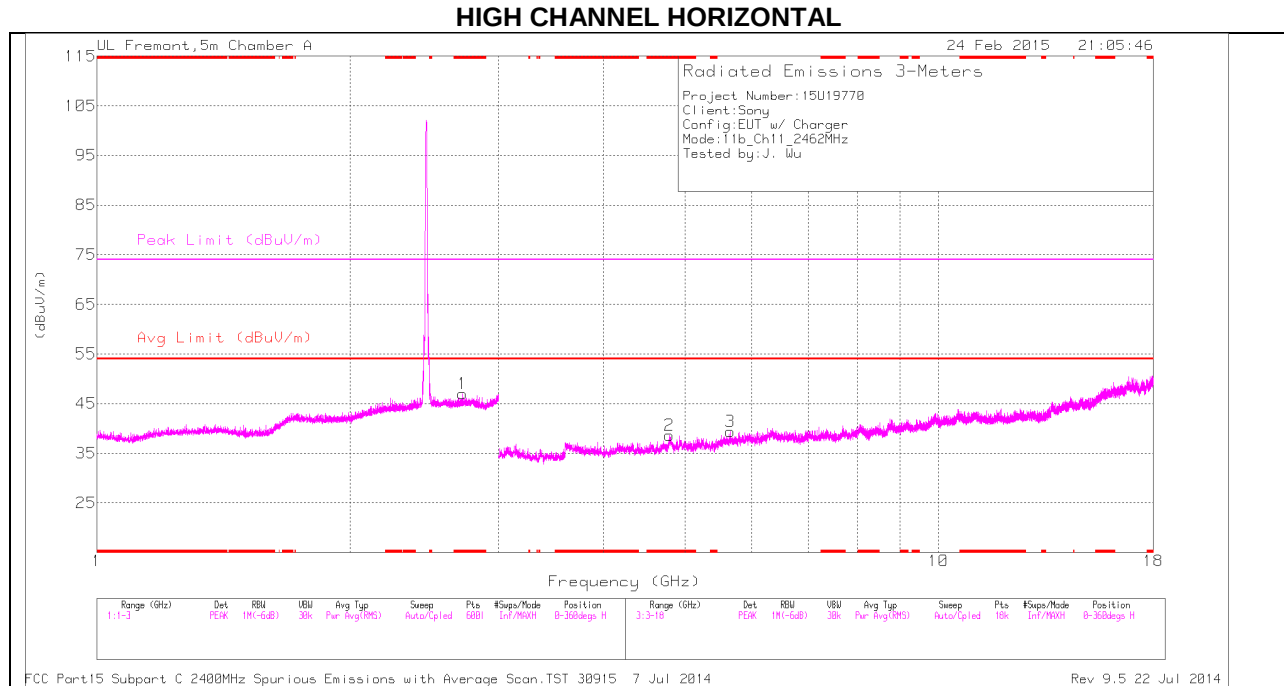
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 4.801	33.35	PK	34	-28.4	0	38.95	-	-	74	-35.05	0-360	201	H
6	* 7.31	30.66	PK	35.6	-25.2	0	41.06	-	-	74	-32.94	0-360	201	V
4	2.043	36.66	PK	30.6	-22.8	0	44.46	-	-	-	-	0-360	100	V
1	2.123	36.68	PK	31.4	-22.7	0	45.38	-	-	-	-	0-360	201	H
2	2.979	35.66	PK	32.6	-21.4	0	46.86	-	-	-	-	0-360	201	H
5	6.468	32.12	PK	35.9	-27.8	0	40.22	-	-	-	-	0-360	201	V

PK - Peak detector

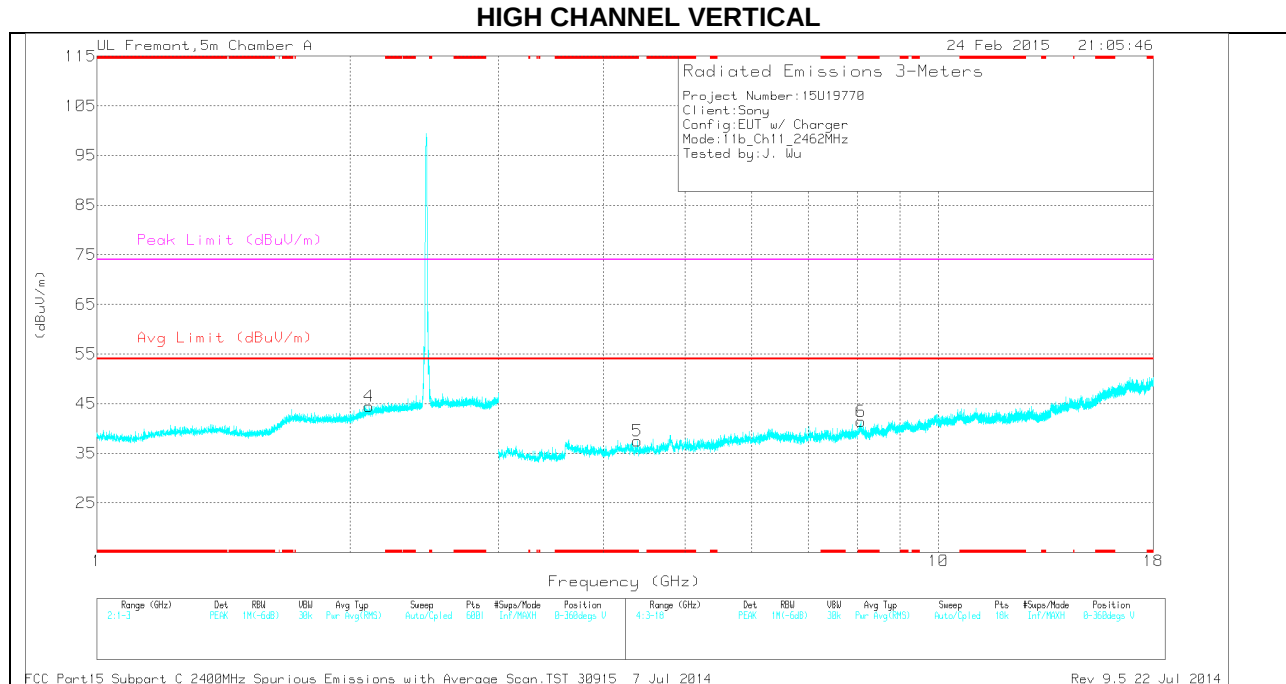
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.8	40.63	PK2	34	-28.4	0	46.23	-	-	74	-27.77	135	147	H
* 4.799	29.17	MAV1	34	-28.4	0	34.77	54	-19.23	-	-	135	147	H
* 7.311	36.23	PK2	35.6	-25.1	0	46.73	-	-	74	-27.27	316	279	V
* 7.311	25.25	MAV1	35.6	-25.1	0	35.75	54	-18.25	-	-	316	279	V

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



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

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	* 2.722	36.45	PK	32.4	-21.8	0	47.05	-	-	74	-26.95	0-360	100	H
2	* 4.787	33.25	PK	34	-28.6	0	38.65	-	-	74	-35.35	0-360	100	H
5	* 4.387	33.7	PK	33.5	-29.7	0	37.5	-	-	74	-36.5	0-360	201	V
6	* 8.096	28.86	PK	36	-23.4	0	41.46	-	-	74	-32.54	0-360	100	V
4	2.106	36.01	PK	31.2	-22.7	0	44.51	-	-	-	-	0-360	100	V
3	5.655	32.15	PK	35	-27.8	0	39.35	-	-	-	-	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

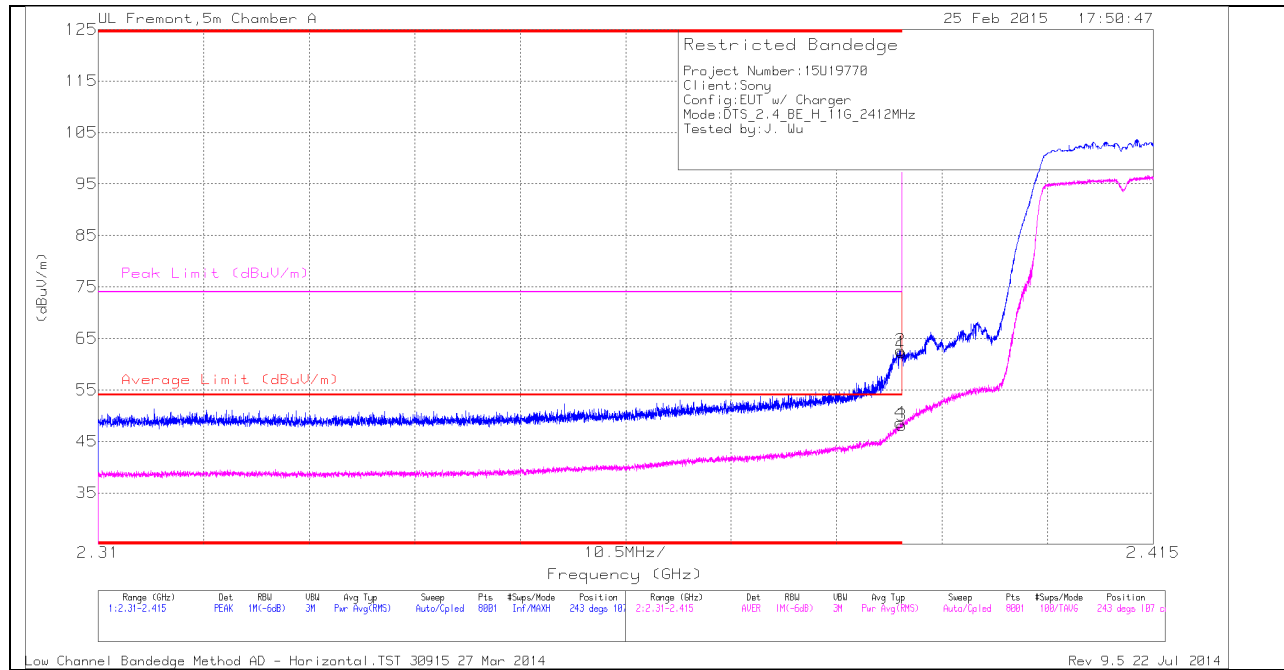
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.721	42.33	PK2	32.4	-21.8	0	52.93	-	-	74	-21.07	67	316	H
* 2.72	30.72	MAV1	32.4	-21.8	0	41.32	54	-12.68	-	-	67	316	H
* 4.789	40.08	PK2	34	-28.5	0	45.58	-	-	74	-28.42	279	326	H
* 4.787	28.47	MAV1	34	-28.6	0	33.87	54	-20.13	-	-	279	326	H
* 4.386	40.02	PK2	33.5	-29.7	0	43.82	-	-	74	-30.18	279	200	V
* 4.388	29.59	MAV1	33.5	-29.7	0	33.39	54	-20.61	-	-	279	200	V
* 8.094	36.12	PK2	36	-23.4	0	48.72	-	-	74	-25.28	144	344	V
* 8.095	24.17	MAV1	36	-23.4	0	36.77	54	-17.23	-	-	144	344	V

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

RESTRICTED BANDEDGE (LOW CHANNEL)

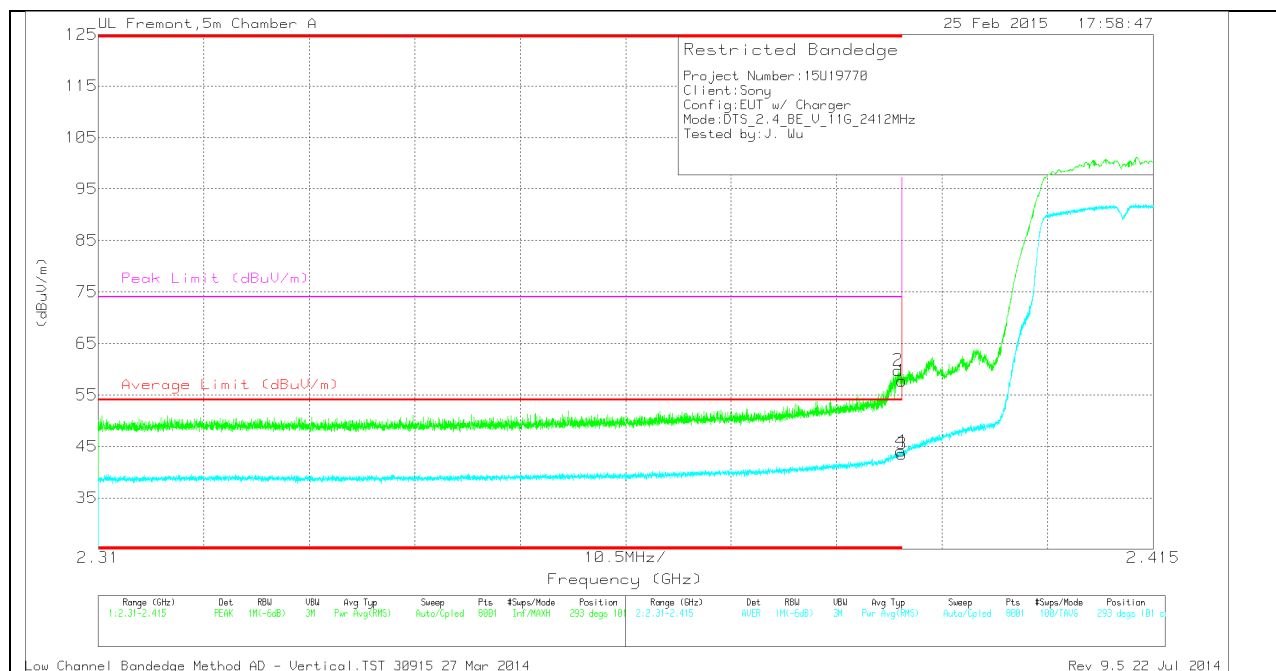
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/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	* 2.39	52.41	PK	32.1	-22.2	0	62.31	-	-	74	-11.69	243	107	H
2	* 2.39	52.78	PK	32.1	-22.2	0	62.68	-	-	74	-11.32	243	107	H
3	* 2.39	38.22	RMS	32.1	-22.2	0	48.12	54	-5.88	-	-	243	107	H
4	* 2.39	38.7	RMS	32.1	-22.2	0	48.6	54	-5.4	-	-	243	107	H

VERTICAL PEAK AND AVERAGE PLOT

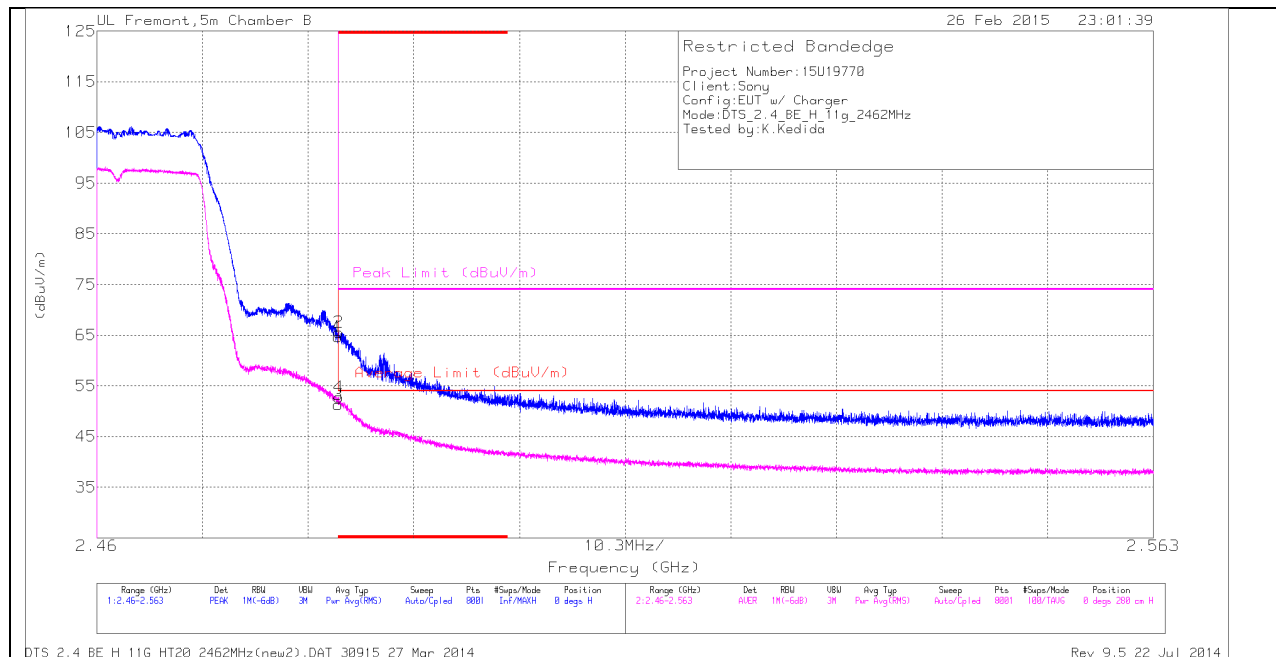


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	47.84	PK	32.1	-22.2	0	57.74	-	-	74	-16.26	293	101	V
2	* 2.39	49.87	PK	32.1	-22.2	0	59.77	-	-	74	-14.23	293	101	V
3	* 2.39	33.66	RMS	32.1	-22.2	0	43.56	54	-10.44	-	-	293	101	V
4	* 2.39	34.18	RMS	32.1	-22.2	0	44.08	54	-9.92	-	-	293	101	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

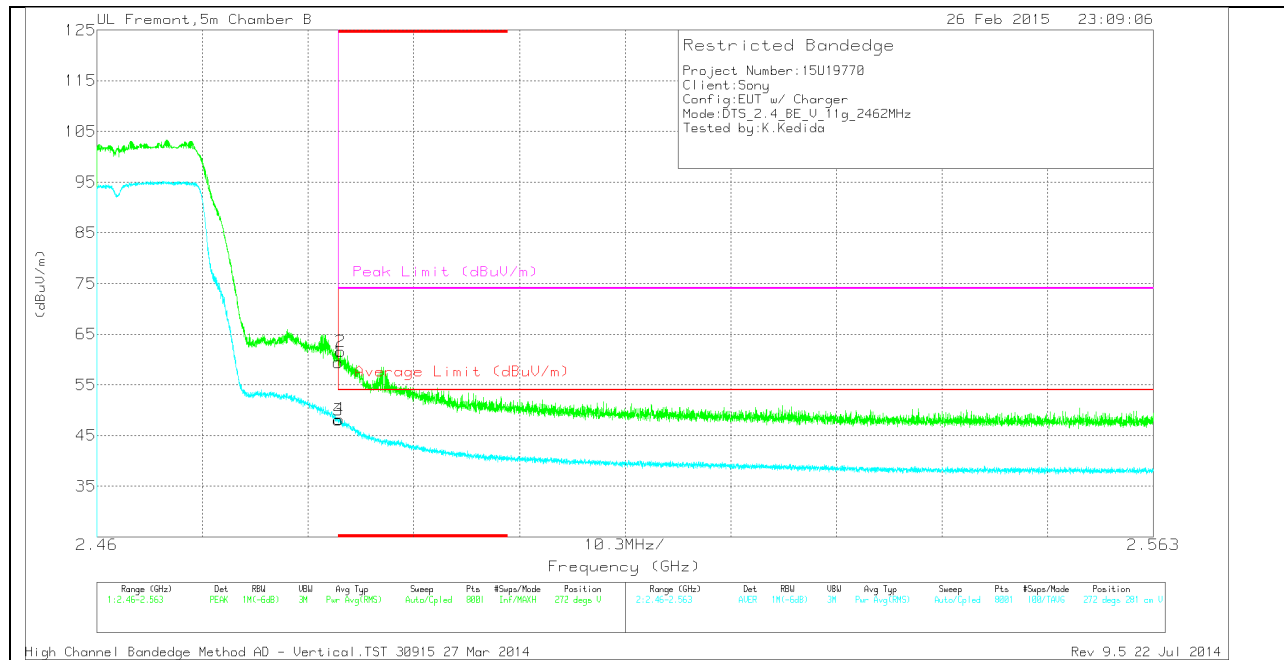
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Filt/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	54.95	PK	32.1	-22.4	64.65	-	-	74	-9.35	0	280	H
2	* 2.484	55.83	PK	32.1	-22.4	65.53	-	-	74	-8.47	0	280	H
3	* 2.484	41.6	RMS	32.1	-22.4	51.3	54	-2.7	-	-	0	280	H
4	* 2.484	43.02	RMS	32.1	-22.4	52.72	54	-1.28	-	-	0	280	H

VERTICAL PEAK AND AVERAGE PLOT

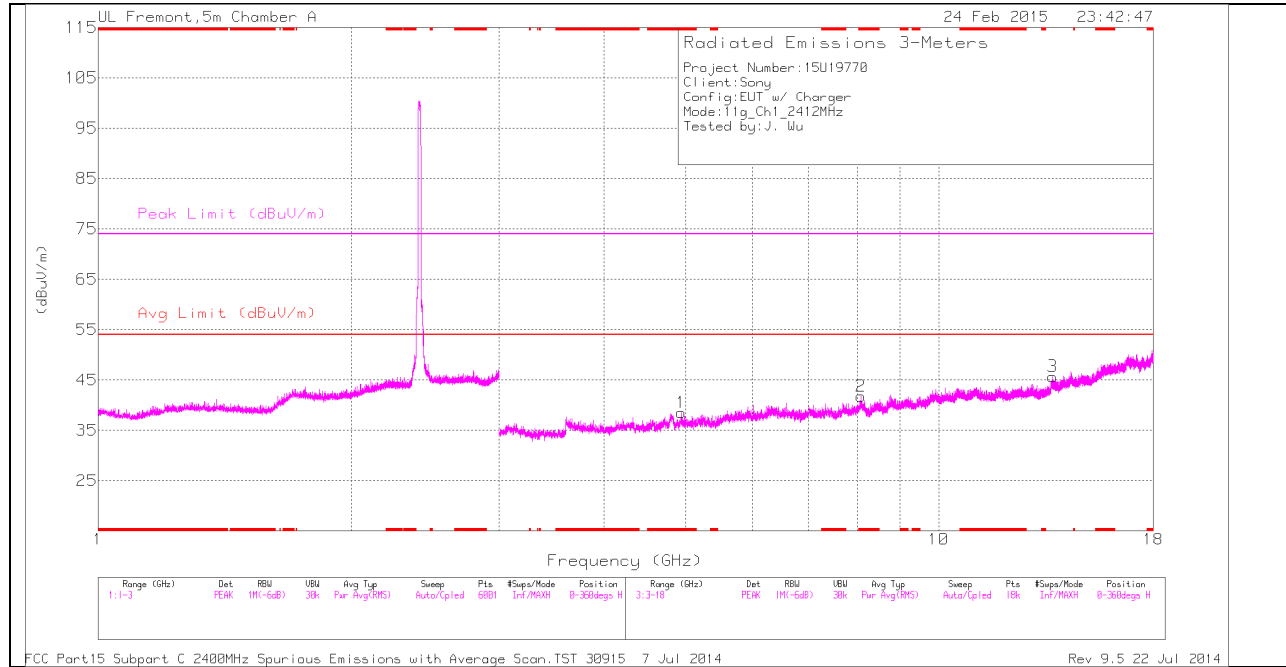


VERTICAL DATA

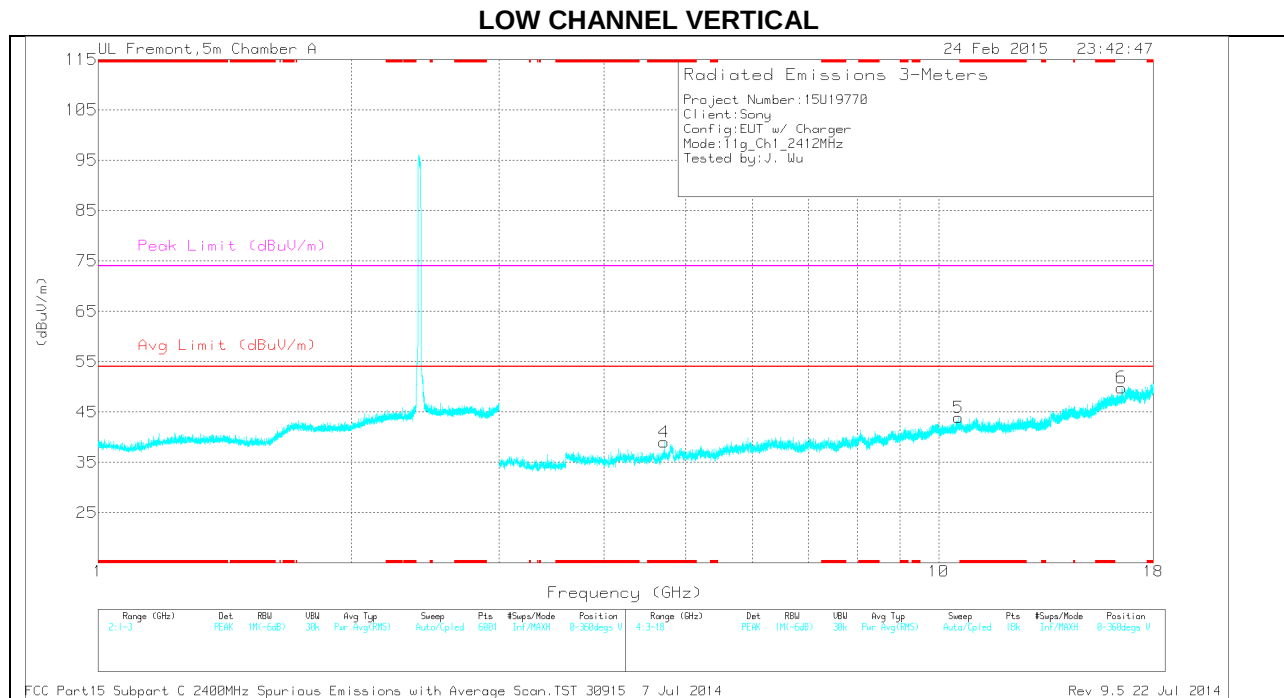
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	49.72	PK	32.1	-22.4	59.42	-	-	74	-14.58	272	281	V
2	* 2.484	51.86	PK	32.1	-22.4	61.56	-	-	74	-12.44	272	281	V
3	* 2.484	38.35	RMS	32.1	-22.4	48.05	54	-5.95	-	-	272	281	V
4	* 2.484	38.54	RMS	32.1	-22.4	48.24	54	-5.76	-	-	272	281	V

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.



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

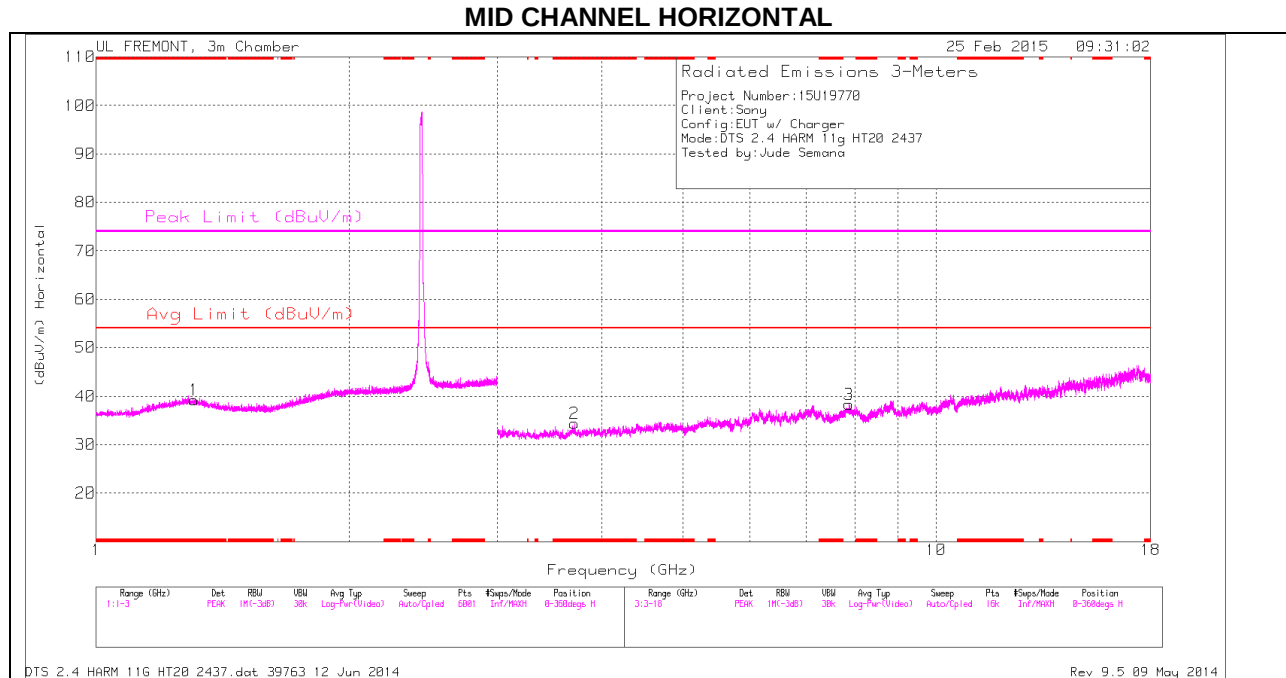
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cb/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.94	32.03	PK	33.9	-27.4	0	38.53	-	-	74	-35.47	0-360	201	H
2	* 8.082	29.08	PK	36	-23.3	0	41.78	-	-	74	-32.22	0-360	201	H
4	* 4.712	34.74	PK	33.9	-29.6	0	39.04	-	-	74	-34.96	0-360	201	V
5	10.558	26.88	PK	38.1	-21.1	0	43.88	-	-	-	-	0-360	201	V
3	13.658	27.47	PK	39.1	-20.9	0	45.67	-	-	-	-	0-360	100	H
6	16.5	26.62	PK	41.9	-18.7	0	49.82	-	-	-	-	0-360	100	V

PK - Peak detector

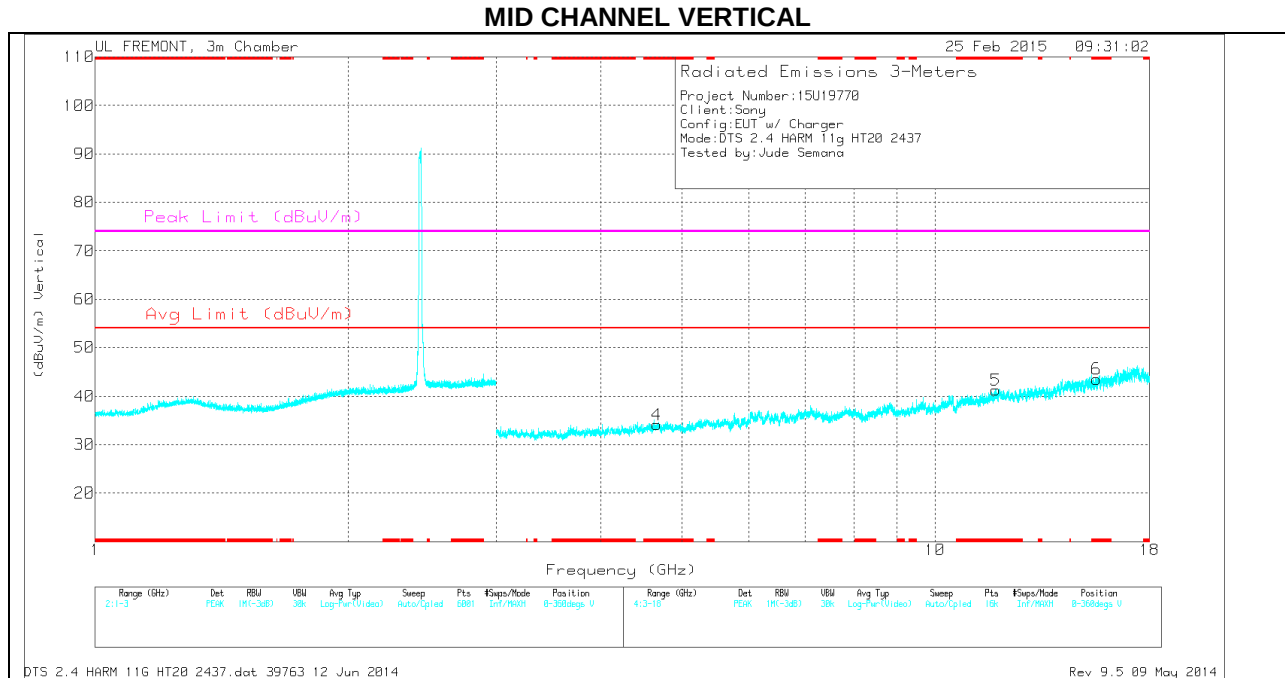
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cb/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.942	40.32	PK2	33.9	-27.3	0	46.92	-	-	74	-27.08	137	387	H
* 4.94	27.67	MAV1	33.9	-27.4	0	34.17	54	-19.83	-	-	137	387	H
* 8.083	35.7	PK2	36	-23.3	0	48.4	-	-	74	-25.6	31	170	H
* 8.082	24.33	MAV1	36	-23.3	0	37.03	54	-16.97	-	-	31	170	H
* 4.713	40.77	PK2	33.9	-29.6	0	45.07	-	-	74	-28.93	355	288	V
* 4.712	29.32	MAV1	33.9	-29.6	0	33.62	54	-20.38	-	-	355	288	V

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



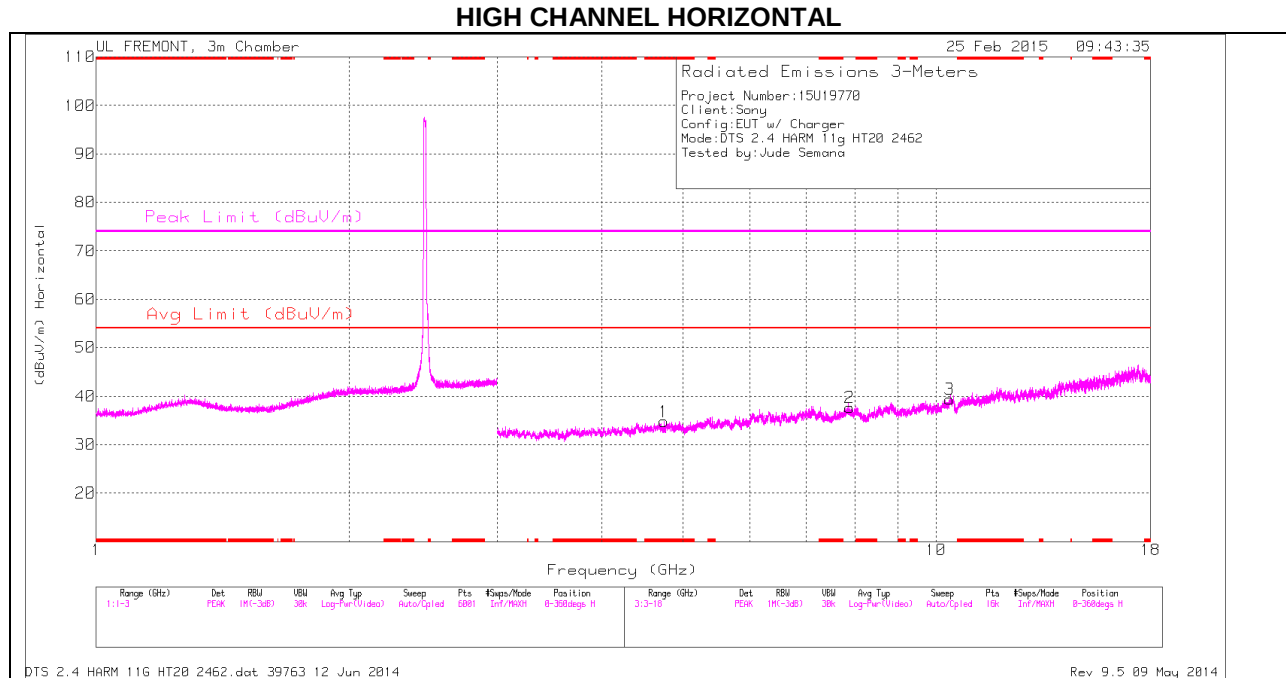
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

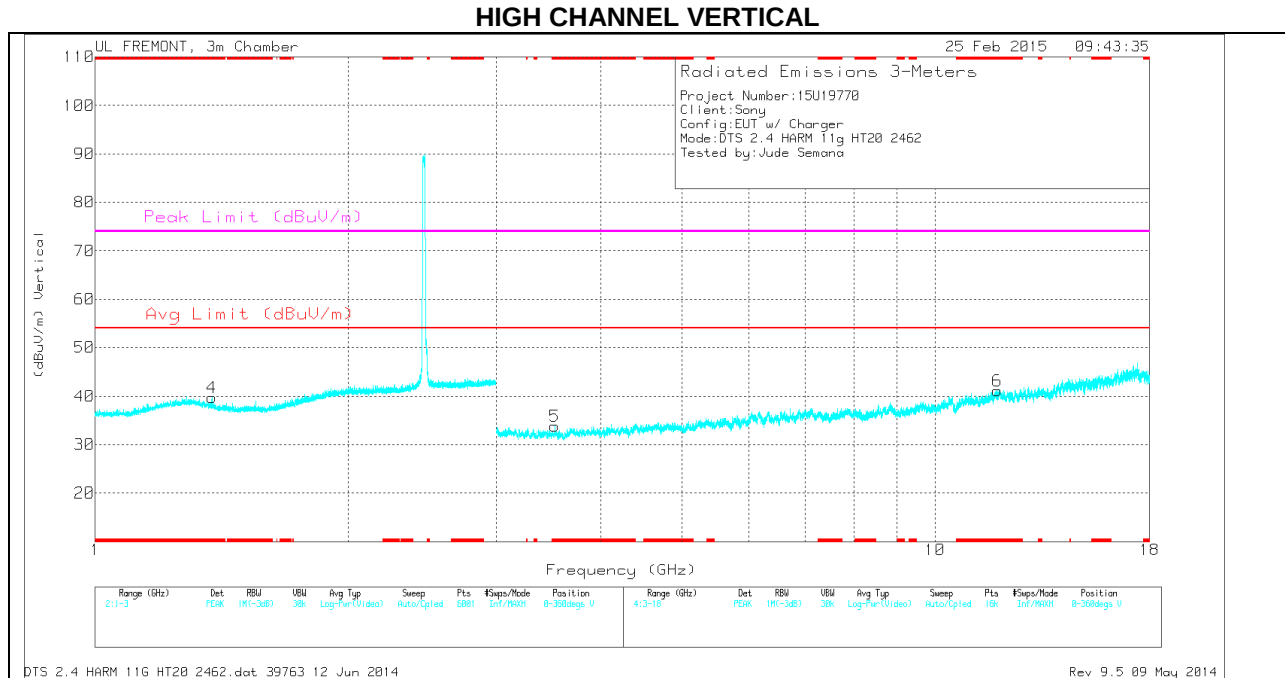
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.308	33.21	PK	29.8	-23.8	0	39.21	-	-	74	-34.79	0-360	200	H
2	* 3.711	32.18	PK	33	-30.8	0	34.38	-	-	74	-39.62	0-360	200	H
4	* 4.664	31.04	PK	34	-30.9	0	34.14	-	-	74	-39.86	0-360	100	V
5	* 11.8	28.49	PK	39	-26.2	0	41.29	-	-	74	-32.71	0-360	100	V
6	* 15.567	29.82	PK	40.3	-26.6	0	43.52	-	-	74	-30.48	0-360	100	V
3	7.876	29.8	PK	35.8	-27.3	0	38.3	-	-	-	-	0-360	100	H

PK - Peak detector



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



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

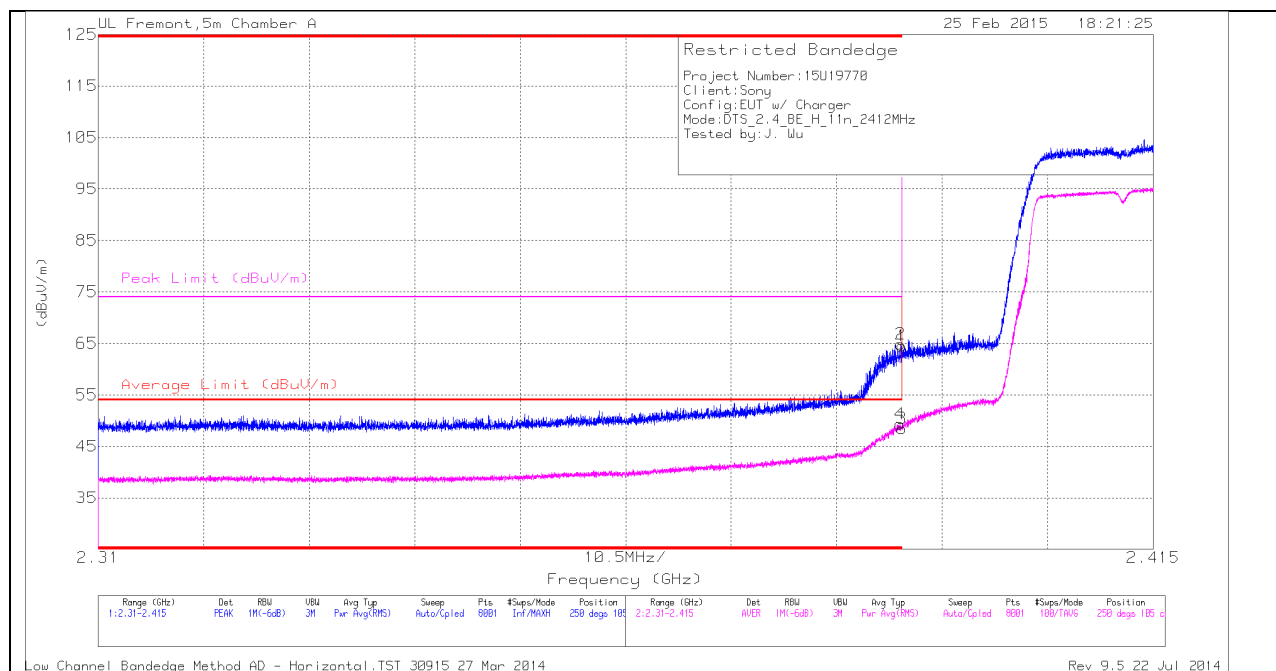
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 1.377	34.64	PK	28.9	-23.8	0	39.74	-	-	74	-34.26	0-360	200	V
6	* 11.854	28.3	PK	39.1	-26.3	0	41.1	-	-	74	-32.9	0-360	100	V
5	* 3.525	32	PK	32.8	-31	0	33.8	-	-	74	-40.2	0-360	100	V
1	* 4.741	31.68	PK	34	-30.9	0	34.78	-	-	74	-39.22	0-360	200	H
3	10.378	27.87	PK	37.2	-25.7	0	39.37	-	-	-	-	0-360	100	H
2	7.893	29.23	PK	35.8	-27.4	0	37.63	-	-	-	-	0-360	100	H

PK - Peak detector

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

RESTRICTED BANDEDGE (LOW CHANNEL)

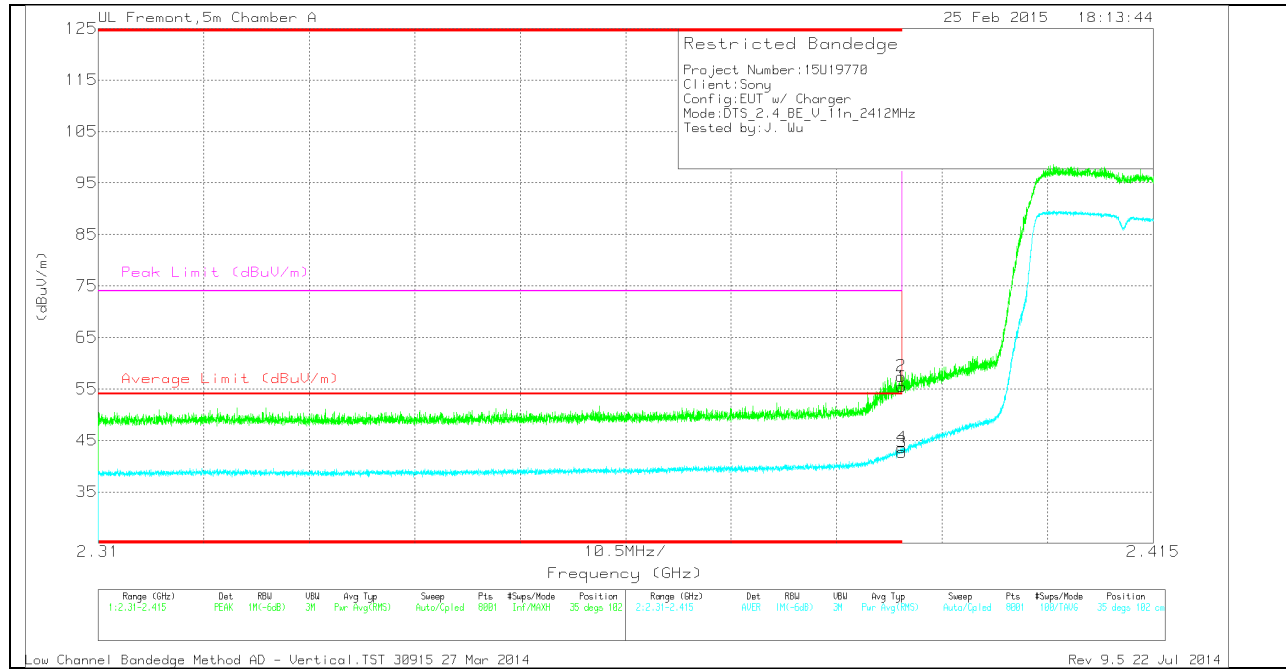
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	54.58	PK	32.1	-22.2	64.48	-	-	74	-9.52	250	105	H
2	* 2.39	54.96	PK	32.1	-22.2	64.86	-	-	74	-9.14	250	105	H
3	* 2.39	38.59	RMS	32.1	-22.2	48.49	54	-5.51	-	-	250	105	H
4	* 2.39	39.44	RMS	32.1	-22.2	49.34	54	-4.66	-	-	250	105	H

VERTICAL PEAK AND AVERAGE PLOT

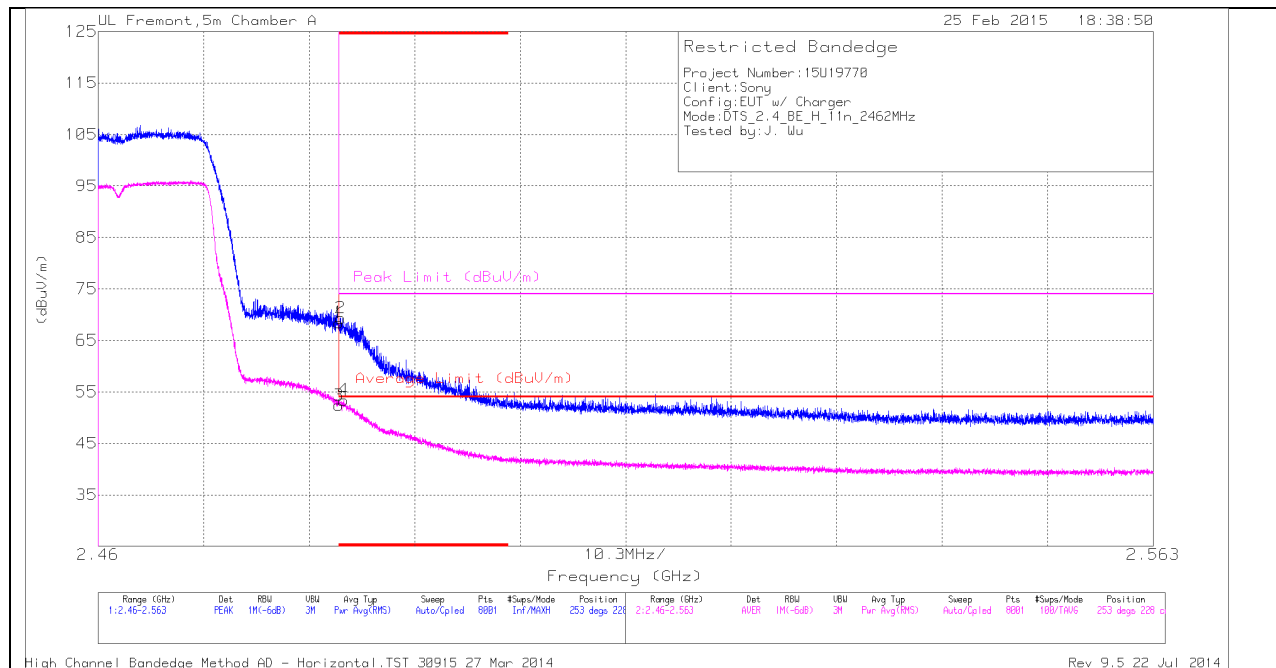


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	45.54	PK	32.1	-22.2	0	55.44	-	-	74	-18.56	35	102	V
2	* 2.39	47.57	PK	32.1	-22.2	0	57.47	-	-	74	-16.53	35	102	V
3	* 2.39	32.81	RMS	32.1	-22.2	0	42.71	54	-11.29	-	-	35	102	V
4	* 2.39	33.68	RMS	32.1	-22.2	0	43.58	54	-10.42	-	-	35	102	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

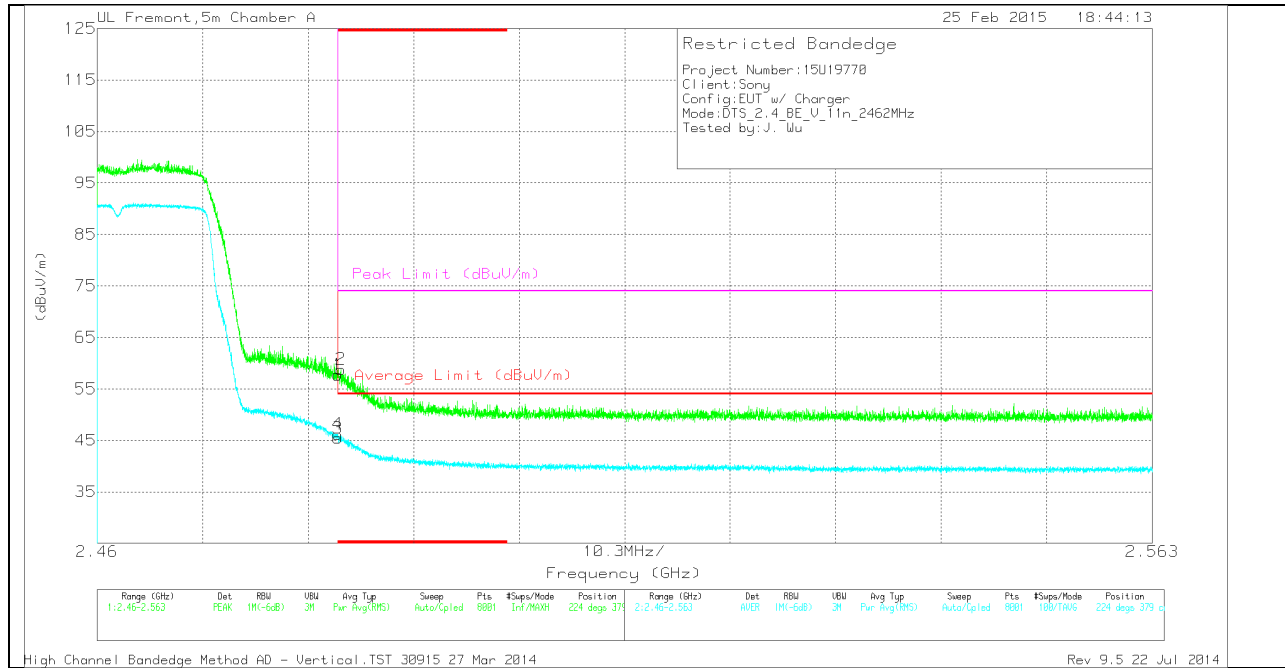
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/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	58.26	PK	32.1	-21.9	0	68.46	-	-	74	-5.54	253	228	H
2	* 2.484	59.14	PK	32.1	-21.9	0	69.34	-	-	74	-4.66	253	228	H
3	* 2.484	42.19	RMS	32.1	-21.9	0	52.39	54	-1.61	-	-	253	228	H
4	* 2.484	43.21	RMS	32.1	-21.9	0	53.41	54	-0.59	-	-	253	228	H

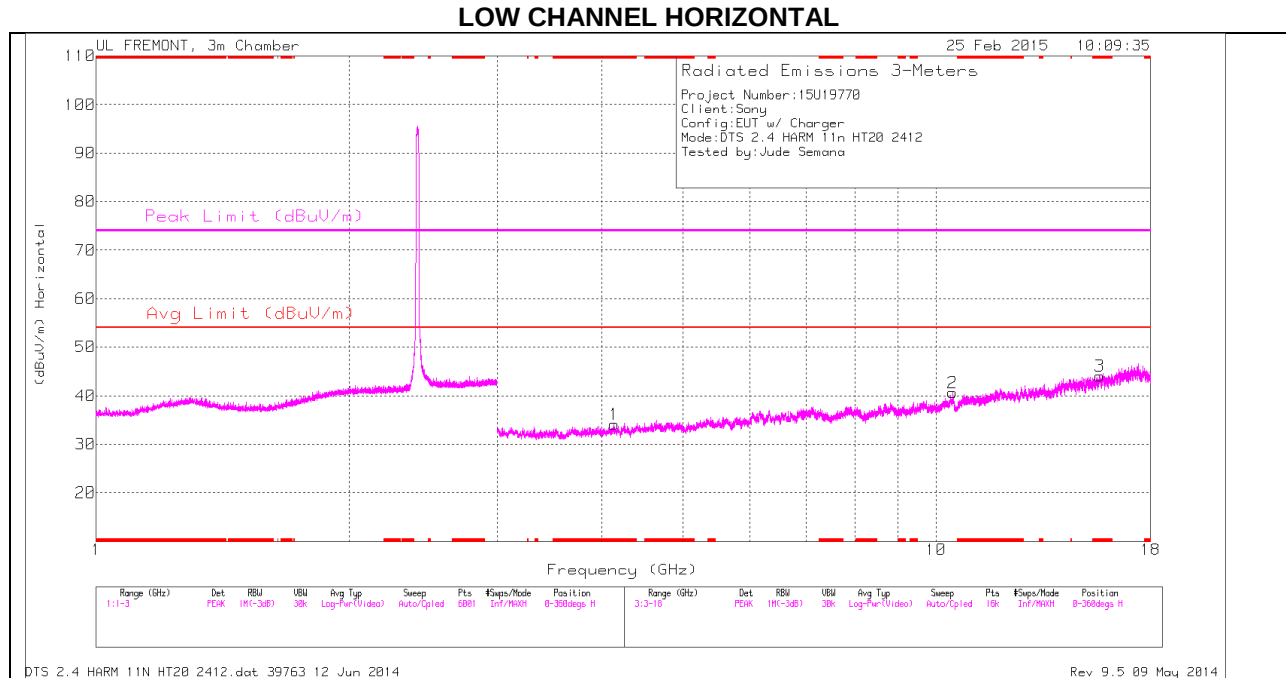
VERTICAL PEAK AND AVERAGE PLOT



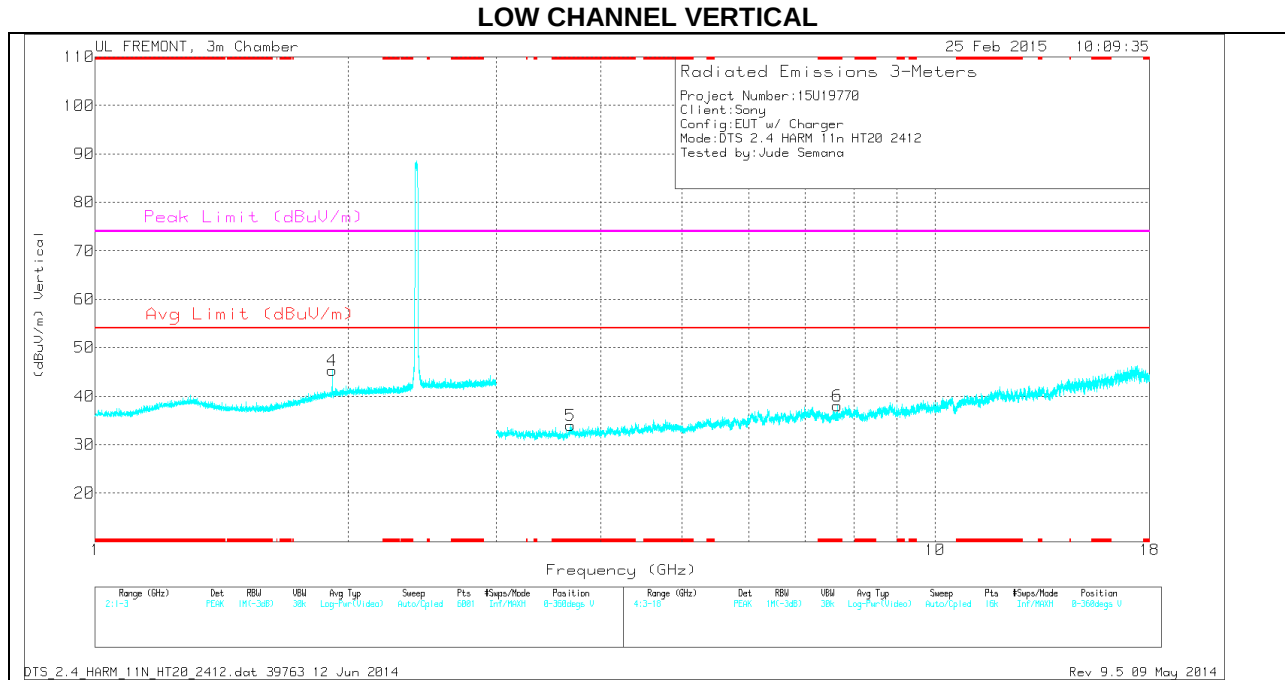
VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	47.54	PK	32.1	-21.9	0	57.74	-	-	74	-16.26	224	379	V
2	* 2.484	48.6	PK	32.1	-21.9	0	58.8	-	-	74	-15.2	224	379	V
3	* 2.484	35.23	RMS	32.1	-21.9	0	45.43	54	-8.57	-	-	224	379	V
4	* 2.484	35.99	RMS	32.1	-21.9	0	46.19	54	-7.81	-	-	224	379	V

HARMONICS AND SPURIOUS EMISSIONS



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



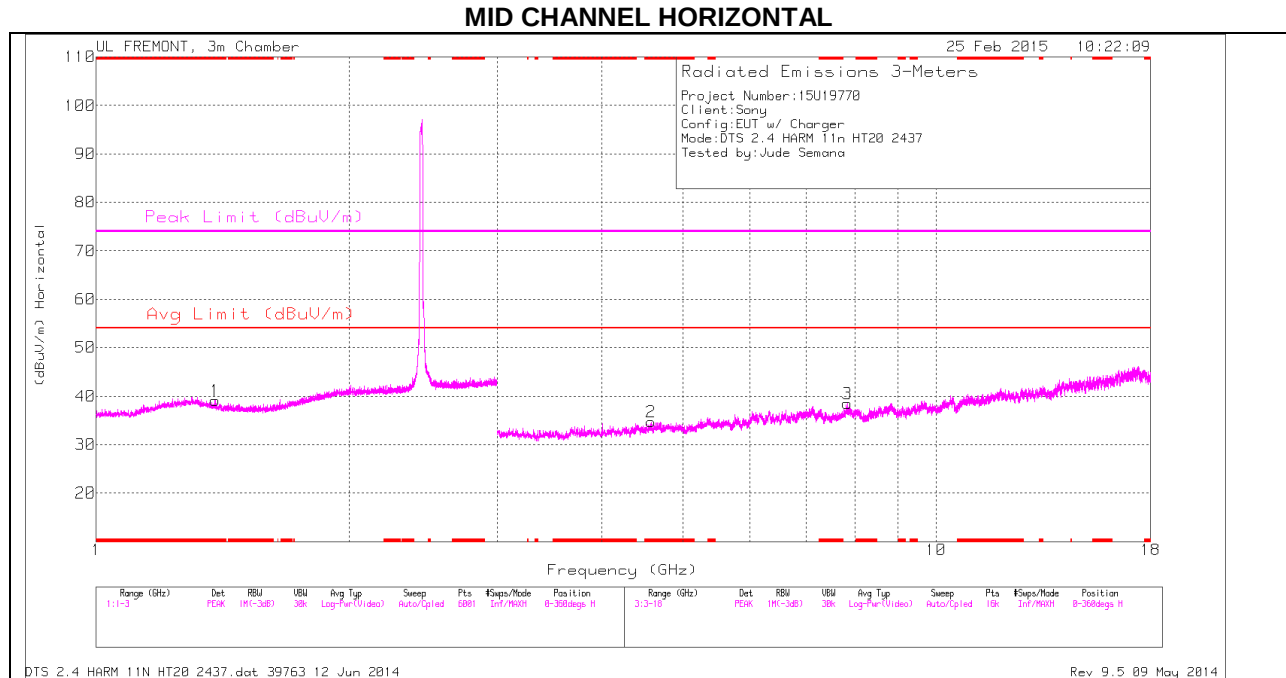
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

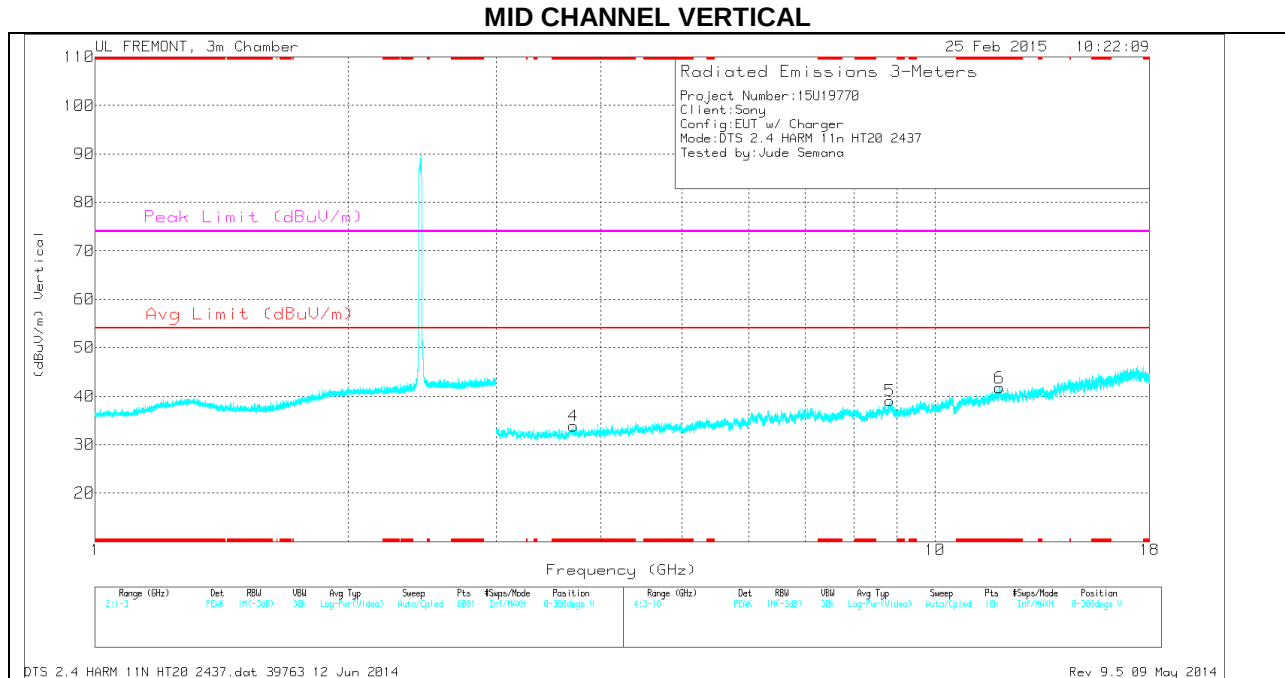
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.135	31.95	PK	33.3	-31.1	0	34.15	-	-	74	-39.85	0-360	100	H
3	* 15.651	30.37	PK	40.3	-26.6	0	44.07	-	-	74	-29.93	0-360	200	H
5	* 3.679	31.56	PK	33	-30.6	0	33.96	-	-	74	-40.04	0-360	100	V
6	* 7.652	30.21	PK	35.8	-28	0	38.01	-	-	74	-35.99	0-360	200	V
4	1.915	37.44	PK	31.2	-23.3	0	45.34	-	-	-	-	0-360	100	V
2	10.466	28.23	PK	37.4	-25	0	40.63	-	-	-	-	0-360	200	H

PK - Peak detector



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



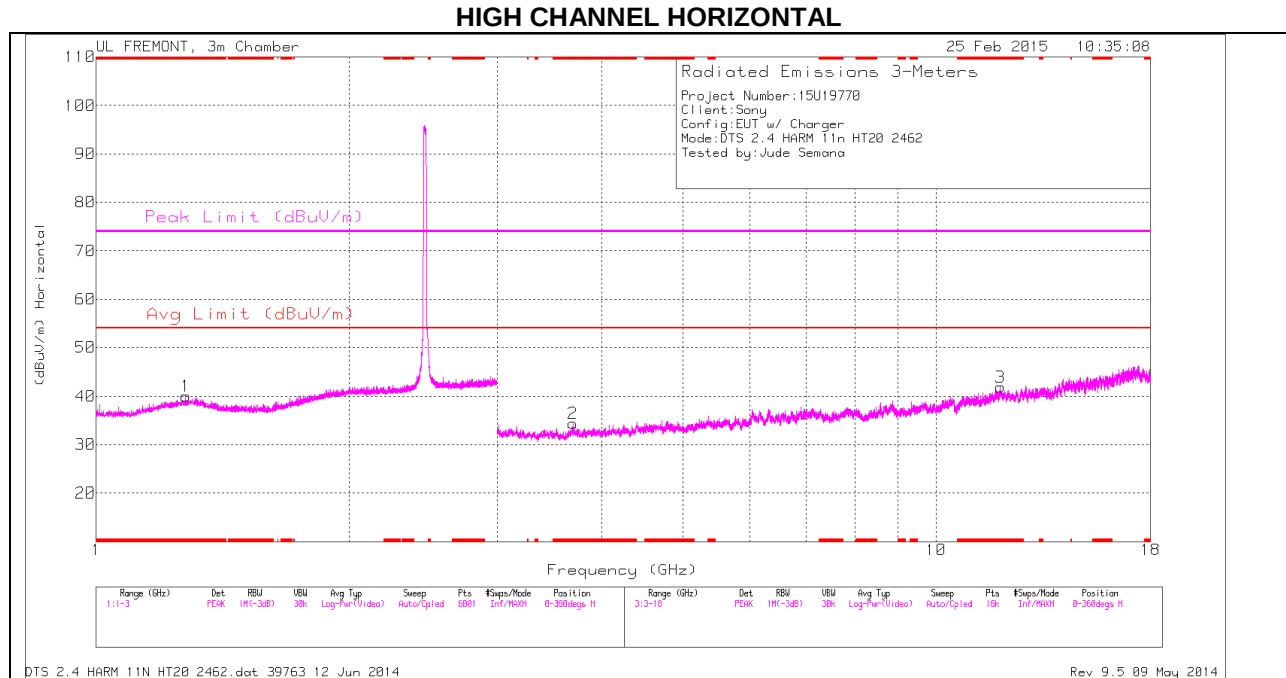
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

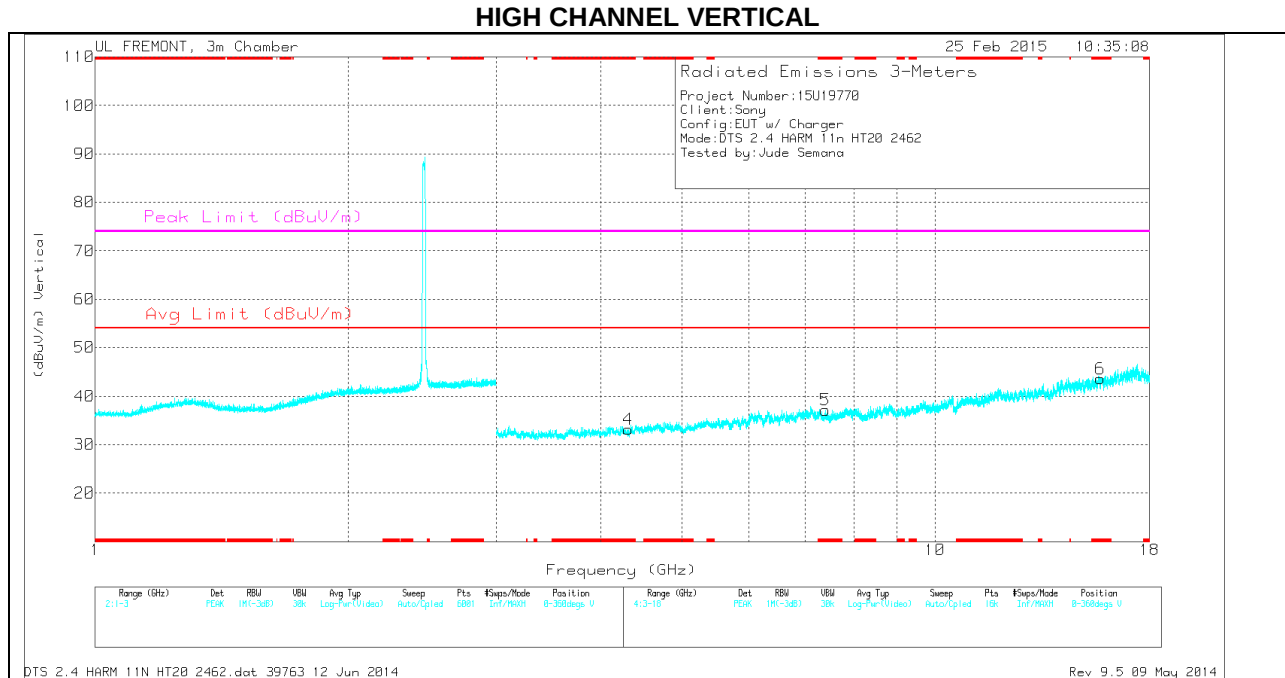
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.386	34.11	PK	28.8	-23.8	0	39.11	-	-	74	-34.89	0-360	200	H
6	* 11.926	28.83	PK	39.1	-26.2	0	41.73	-	-	74	-32.27	0-360	100	V
4	* 3.71	31.66	PK	33	-30.8	0	33.86	-	-	74	-40.14	0-360	100	V
2	* 4.577	31.82	PK	33.8	-30.9	0	34.72	-	-	74	-39.28	0-360	100	H
3	7.845	30.17	PK	35.8	-27.5	0	38.47	-	-	-	-	0-360	100	H
5	8.836	29.67	PK	35.9	-26.5	0	39.07	-	-	-	-	0-360	200	V

PK - Peak detector



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



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

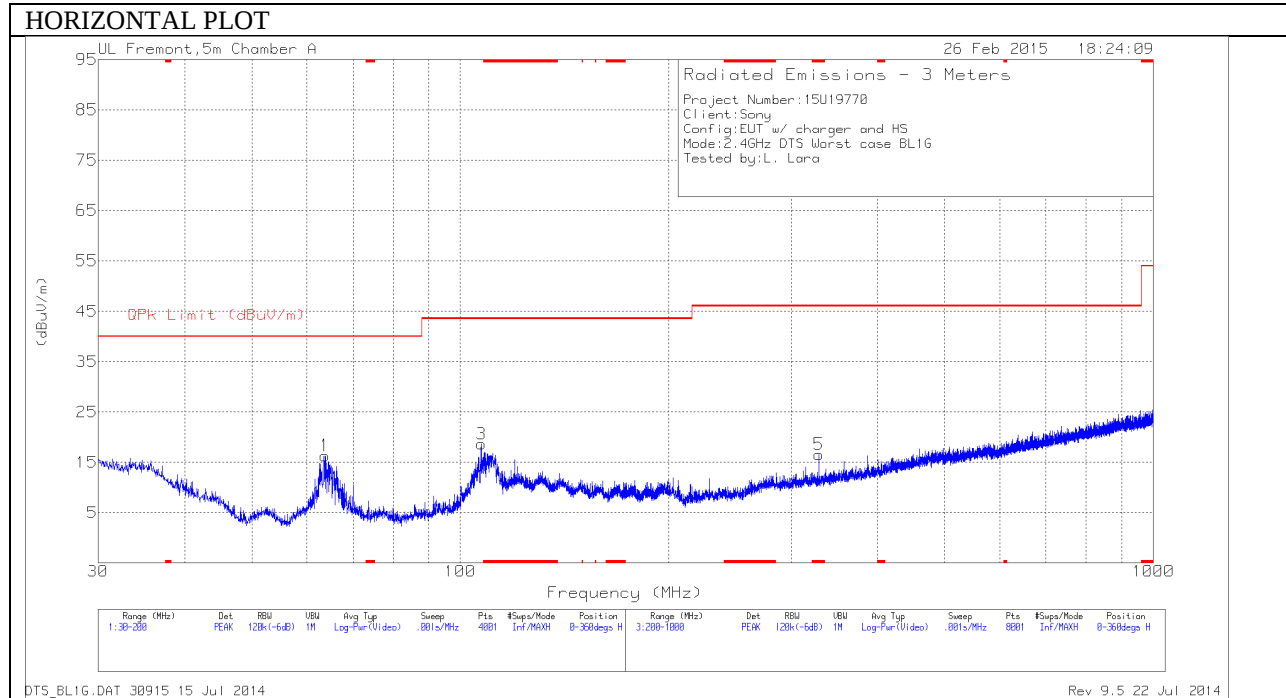
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.278	34.12	PK	29.7	-23.8	0	40.02	-	-	74	-33.98	0-360	100	H
3	* 11.925	28.98	PK	39.1	-26.2	0	41.88	-	-	74	-32.12	0-360	200	H
6	* 15.724	29.8	PK	40.4	-26.6	0	43.6	-	-	74	-30.4	0-360	100	V
2	* 3.694	32.16	PK	33	-30.8	0	34.36	-	-	74	-39.64	0-360	200	H
4	* 4.313	30.53	PK	33.5	-30.9	0	33.13	-	-	74	-40.87	0-360	200	V
5	* 7.401	29.93	PK	35.6	-28.4	0	37.13	-	-	74	-36.87	0-360	200	V

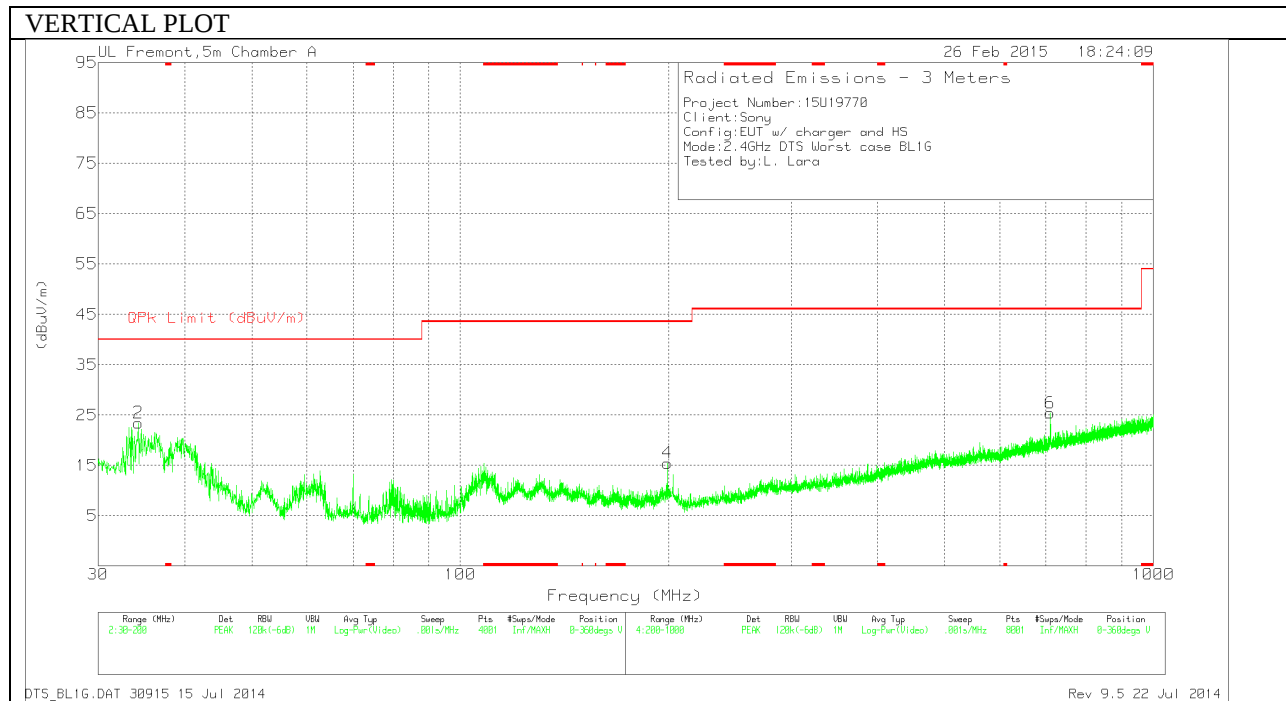
PK - Peak detector

9.3. WORST-CASE BELOW 1 GHz

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



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



Below 1G Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 329.3	31.96	PK	13.9	-29.3	16.56	46.02	-29.46	0-360	200	H
2	34.2925	36.43	PK	18.2	-31.2	23.43	40	-16.57	0-360	101	V
1	63.7875	39.32	PK	7.9	-30.9	16.32	40	-23.68	0-360	300	H
3	107.18	37.15	PK	12	-30.5	18.65	43.52	-24.87	0-360	300	H
4	199.065	32.87	PK	12.5	-29.9	15.47	43.52	-28.05	0-360	101	V
6	709.3	33.38	PK	20.2	-28.2	25.38	46.02	-20.64	0-360	101	V

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

PK - Peak detector