CERTIFICATION TEST REPORT

Report Number. : 11626381T-E8V3

Applicant : SONY MOBILE COMMUNICATIONS INC.
4-12-3 HIGASHI-SHINAGAWA,
SHINAGAWA -KU,TOKYO, 140-0002, JAPAN

FCC ID : PY7-08618T

EUT Description : GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC

Test Standard(s) : FCC 47 CFR PART 15 SUBPART B

Date Of Issue:

May 02, 2017

Prepared by:

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	04/12/17	Initial Issue	C. Vergonio
V2	04/26/17	Updated EUT Description in Cover page, Section 1 and Section 5.1. Updated Calibration table in Section 6.1. Updated Setup diagram in Section 5.6.	C. Vergonio
V3	05/02/17	Updated Page 7 and Page 12 highest frequency info.	C. Vergonio

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SONY MOBILE COMMUNICATIONS, INC.

EUT DESCRIPTION: GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC.

SERIAL NUMBER: CB512DRH84

DATE TESTED: March 24, 2017 to April 11, 2017

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC 47 CFR PART 15 SUBPART B	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 and released for
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UL VERIFICATION SERVICES INC

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2014, ICES-003 Issue 6.

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:22541-1)
☒ Chamber B (IC:2324B-2)	☐ Chamber E (IC: 22541-2)
☐ Chamber C (IC:2324B-3)	☐ Chamber F (IC: 22541-3)
	☐ Chamber G (IC: 22541-4)
	☐ Chamber H (IC: 22541-5)

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

Chambers A through C are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-3, respectively and Chambers D through H are covered under Industry Canada company address code 22541 with site numbers 22541 -1 through 22541-5, respectively.

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

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4.3. MEASUREMENT UNCERTAINTY

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

Parameter	Uncertainty
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	3.15 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	5.36 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.32 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.45 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.24 dB

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

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC.

GENERAL INFORMATION

Highest frequency generated or used by the EUT	5.825GHz

5.2. TEST CONFIGURATIONS

The following configuration was tested:

EUT Configuration	Description
1	Laptop Sync Mode - The EUT was configured as table top equipment. The EUT is installed in a typical configuration. The EUT is connected to a laptop via USB, is charging and transferring data via the laptop.
2	Charging - The EUT was configured as table top equipment. The EUT is installed in a typical configuration. The EUT is connected to an AC adapter for charging and in a functional mode.

5.3. MODE(S) OF OPERATION

Mode	Description
Sync mode	Data transfer; Sync video file from laptop to EUT and continued playing video during testing.
Charging Mode	Charging with supplied USB charger. EUT and its charger shall be on back edge of table, with charger connected to extension cord.

5.4. SOFTWARE AND FIRMWARE

The software version installed in the EUT during testing was 0.274.

5.5. MODIFICATIONS

No modifications were made during testing.

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5.6. DETAILS OF TESTED SYSTEM

SUPPORT EQUIPMENT & PERIPHERALS

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	Lenovo	2349CW5	PB05HPL	DoC
Earphone	Sony	N/A	N/A	N/A
AC Adapter	Lenovo	ADLX90NLT2A	11S45N0307ZLZ436RDM2	N/A
Mouse	Logitech	M-U0026	1304HS02AX68	N/A
Keyboard	Lenovo	KU-0225	54Y9400	N/A
Switch	Netgear	FS105 v2	1D52163304A74	DoC
AC Adapter	Netgear	FA-0751000SUA	332-10154-01	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	2	Power	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A
3	USB	1	Mini-USB	Shielded	0.9 m	UCB16 cable from EUT to Laptop
3	USB	2	USB	Shielded	2m	From laptop to keyboard & mouse
4	AC Power	2	IEC	Unshielded	1m	N/A
5	Ethernet	1	RJ45	Unshielded	2m	N/A

TEST SETUP

The EUT is installed in a typical configuration. Test software exercised the EUT.

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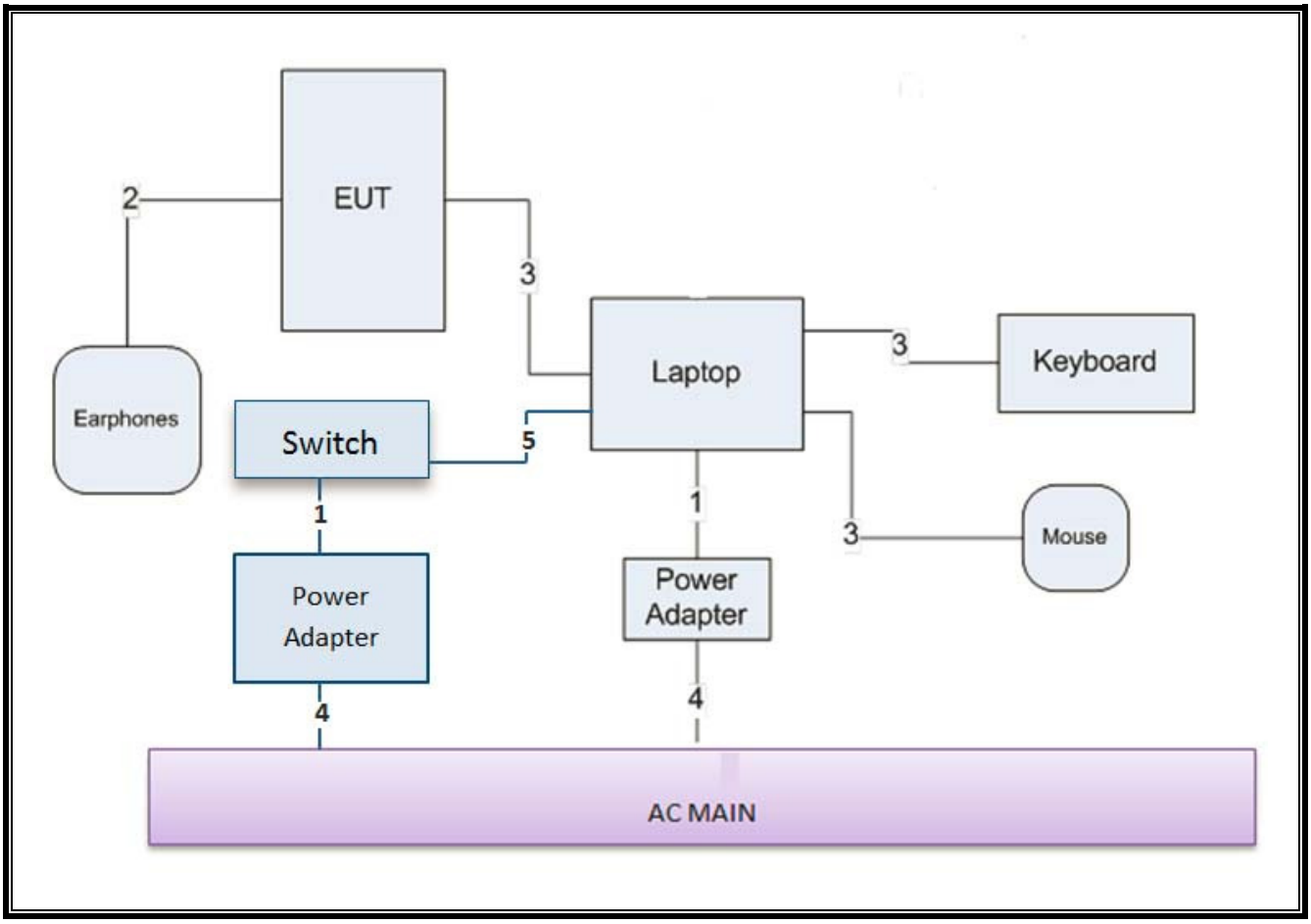
SETUP DIAGRAM

Sync Mode



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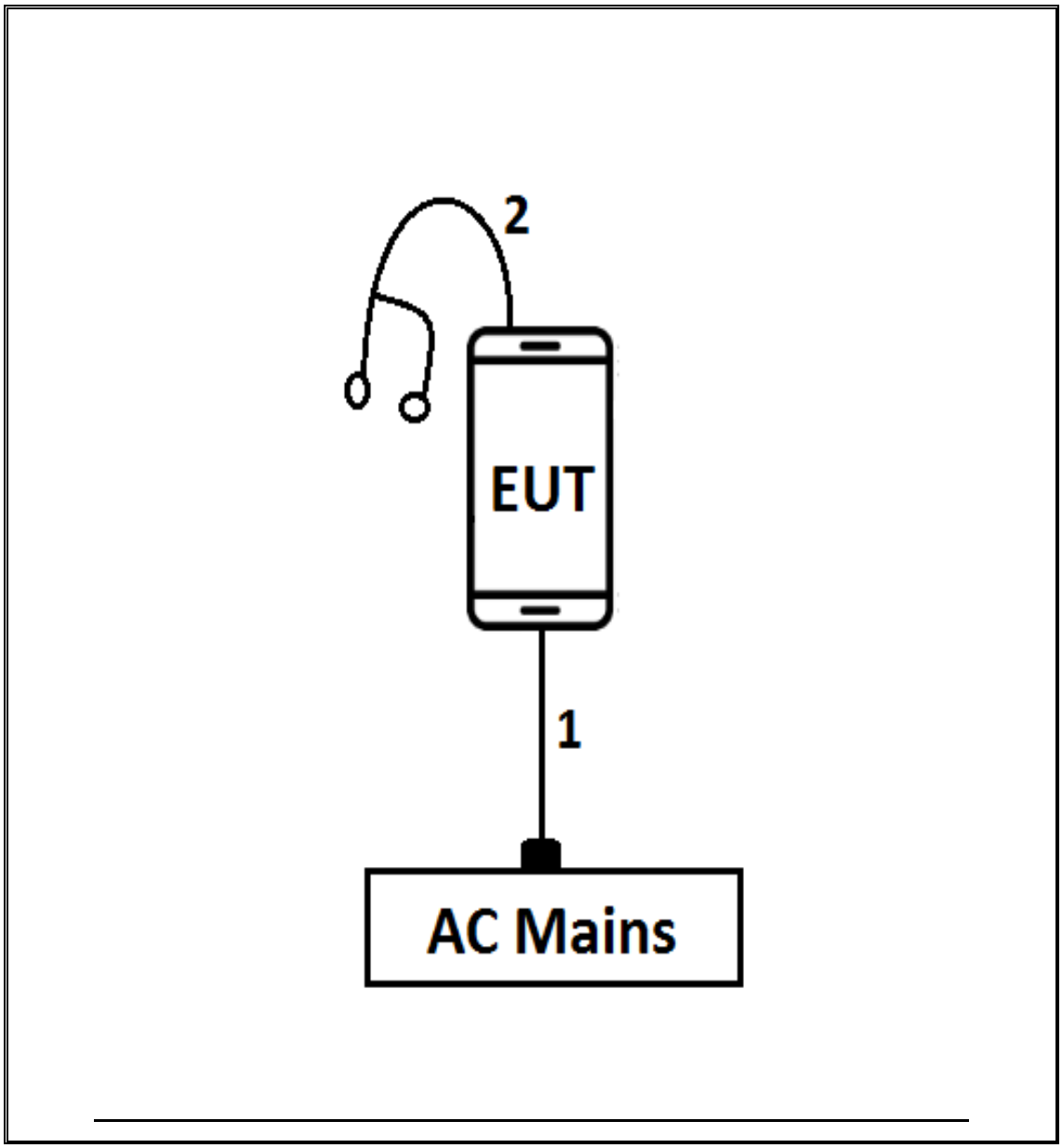
Charging Mode



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6. APPLICABLE EMISSIONS LIMITS AND TEST RESULTS

6.1. EMISSIONS 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 Date**	**Cal Due**
Amplifier, 1 to 18 GHz	Miteq	AFS43-00101800-25-S-42	493	02/15/17	02/15/18
Amplifier, 1 to 8 GHz	Miteq	AMF-4D-01000800-30-29P	1156	02/15/17	02/15/18
Amplifier, 10KHz to 1GHz, 32dB	Keysight	8447D	10	02/15/17	02/15/18
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	477	06/22/16	06/22/17
LISN	FISCHER	FCC-LISN-50/250-25-2-01	T1310	06/08/16	06/08/17
Amplifier, 1 to 8 GHz	Miteq	AMF-4D-01000800-30-29P	1170	04/28/16	04/28/17
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	907	01/23/17	01/23/18
EMI Reciever	Rohde & Schwarz	ESR-EMI	1436	01/06/17	01/06/18
LISN	FISCHER	FCC-LISN-50/250-25-2-01	1310	06/08/16	06/08/17
18 - 26.5 GHz Horn Antenna	Seavey Division	MWH-1826/B	449	05/26/16	5/26/2017
26.5 - 40 GHz Horn Antenna	ARA	MWH-2640/B	446	05/25/16	5/25/2017
Pre-Amp 1-26.5 GHz	Agilent	8449B	404	07/05/16	07/05/17
Pre-Amp, 26-40GHz	MITEQ	NSP4000-SP2	88	04/07/16	4/31/2017
Spectrum Analyzer	Agilent	8564E	106	09/07/16	09/07/17

Test Software List			
Description	**Manufacturer**	**Model**	**Version**
Radiated Software	UL	UL EMC	Ver 9.5, Apr 26, 2016
Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015

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6.2. RADIATED EMISSIONS LIMITS AND RESULTS

LIMIT

FCC Part 15 Subpart B

§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dBµV/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54
Note: The lower limit shall apply at the transition frequency.	

TEST PROCEDURE

ANSI C63.4: 2014

The highest frequency generated or used in the EUT is 5.825 GHz therefore the frequency range was investigated from 30 MHz to 40 GHz.

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	**Upper frequency of measurement range** (MHz)
Below 108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

RESULTS

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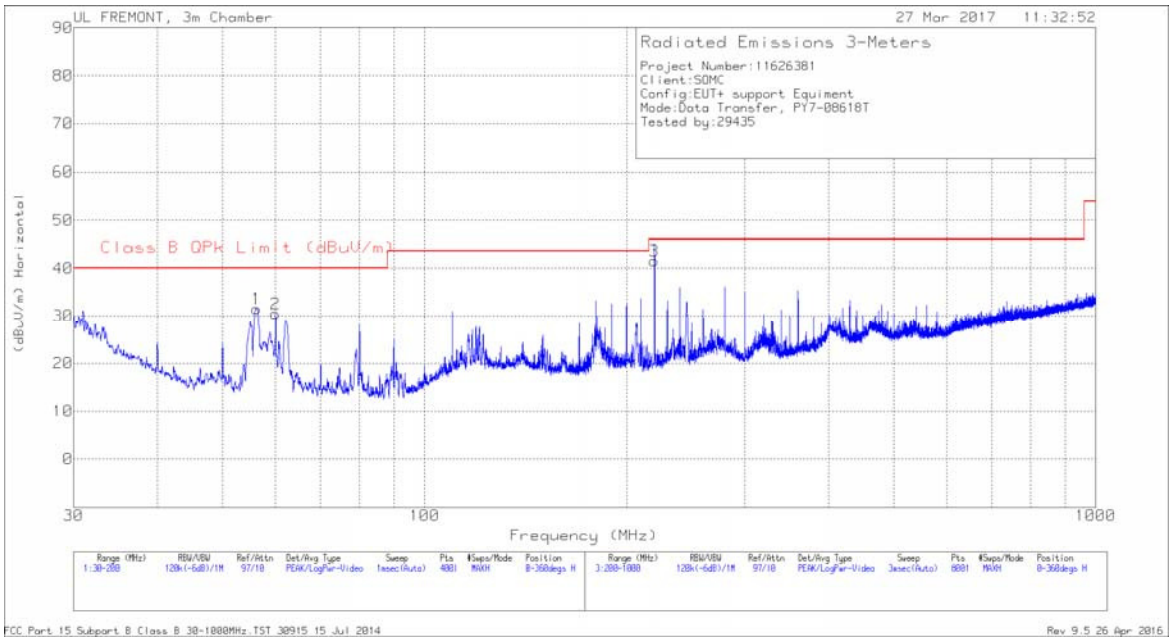
6.2.1. RADIATED EMISSIONS 30 TO 1000 MHz (SYNC MODE)

HORIZONTAL PLOT



VERTICAL PLOT

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HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T408 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	56.2438	47.38	Pk	11.1	-26.9	31.58	40	-8.42	0-360	400	H
2	60.005	45.86	Pk	11.5	-26.8	30.56	40	-9.44	0-360	400	H
4	90.01	51.61	Pk	11.7	-26.4	36.91	43.52	-6.61	0-360	100	V
5	110.0275	47.52	Pk	16.5	-26.2	37.82	43.52	-5.7	0-360	100	V
6	199.9575	46.46	Pk	16.6	-25	38.06	43.52	-5.46	0-360	100	V
3	219.9	51.68	Pk	14.7	-24.8	41.58	46.02	-4.44	0-360	100	H

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	AF T408 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
109.9982	46.26	Qp	16.5	-26.2	36.56	43.52	-6.96	148	103	V
199.9984	46.97	Qp	16.6	-25	38.57	43.52	-4.95	128	100	V
220.008	55.91	Qp	14.7	-24.8	45.81	46.02	-.21	165	137	H

Qp - Quasi-Peak detector

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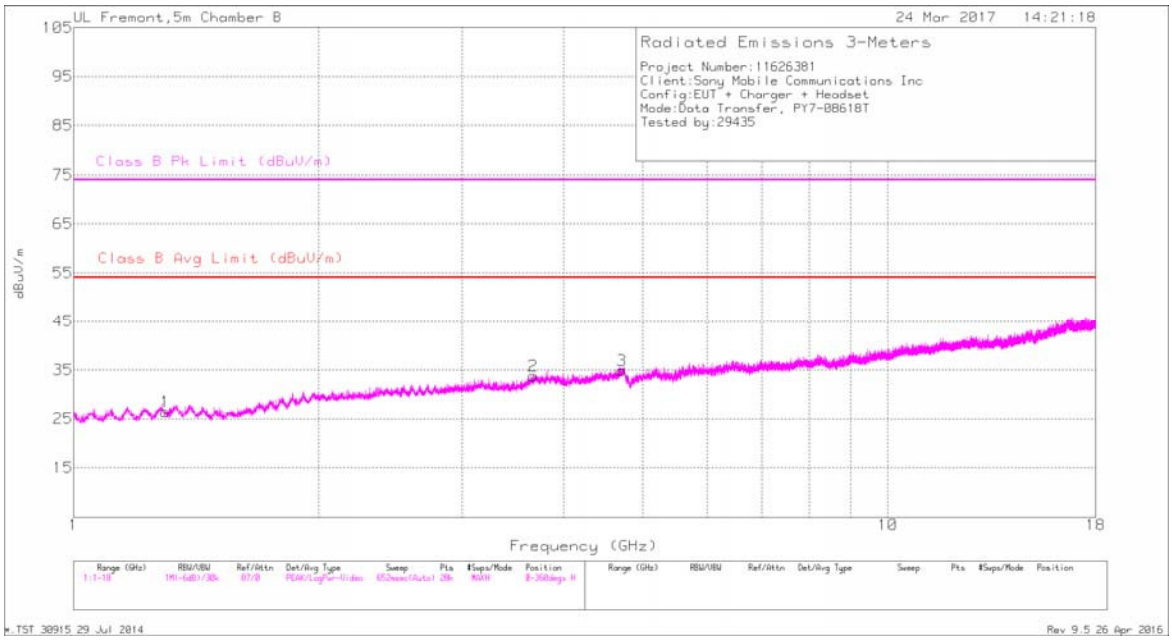
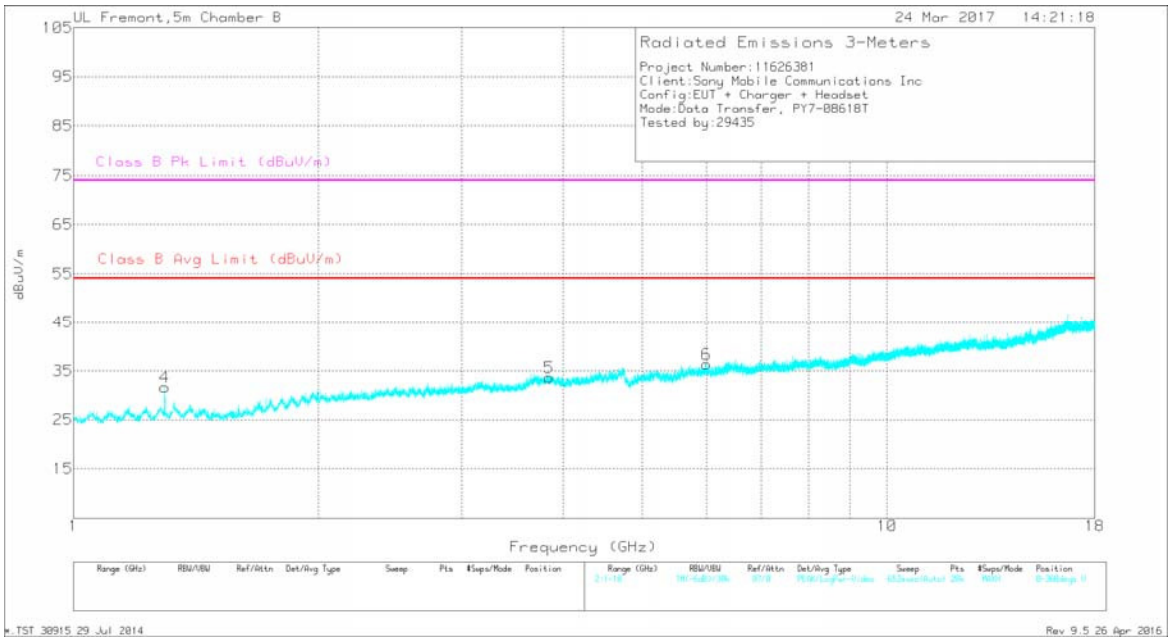
6.2.2. RADIATED EMISSIONS 1GHz to 18GHz (SYNC MODE)

HORIZONTAL PLOT



VERTICAL PLOT



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HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	1.295	36.74	Avg	28.9	-34	31.64	-	-	-	-	0-360	98	V
1	1.296	31.48	Avg	29	-34	26.48	-	-	-	-	0-360	202	H
2	3.665	31.66	Avg	33.3	-31.2	33.76	-	-	-	-	0-360	202	H
5	3.843	31.05	Avg	33.4	-30.8	33.65	-	-	-	-	0-360	201	V
3	4.714	31.3	Avg	34	-30.4	34.9	-	-	-	-	0-360	202	H
6	6	30.93	Avg	35.2	-29.7	36.43	-	-	-	-	0-360	201	V

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.293	27.43	Av	28.9	-34	22.33	54	-31.67	-	-	279	167	H
1.294	58.3	Pk	28.9	-34	53.2	-	-	74	-20.8	62	114	V
1.294	27.42	Av	28.9	-34	22.32	54	-31.68	-	-	62	114	V
1.296	39.98	Pk	29	-34	34.98	-	-	74	-39.02	279	167	H
3.665	39.7	Pk	33.2	-31.2	41.7	-	-	74	-32.3	358	209	H
3.665	25.74	Av	33.3	-31.2	27.84	54	-26.16	-	-	358	209	H
3.841	38.54	Pk	33.4	-30.8	41.14	-	-	74	-32.86	195	209	V
3.844	25.52	Av	33.4	-30.8	28.12	54	-25.88	-	-	195	209	V
4.714	26.38	Av	34	-30.4	29.98	54	-24.02	-	-	60	100	H
4.715	38.87	Pk	34	-30.4	42.47	-	-	74	-31.53	60	100	H
6	37.92	Pk	35.2	-29.7	43.42	-	-	74	-30.58	179	353	V
6	25.08	Av	35.2	-29.7	30.58	54	-23.42	-	-	179	353	V

Pk - Peak detector
Av - Average detection

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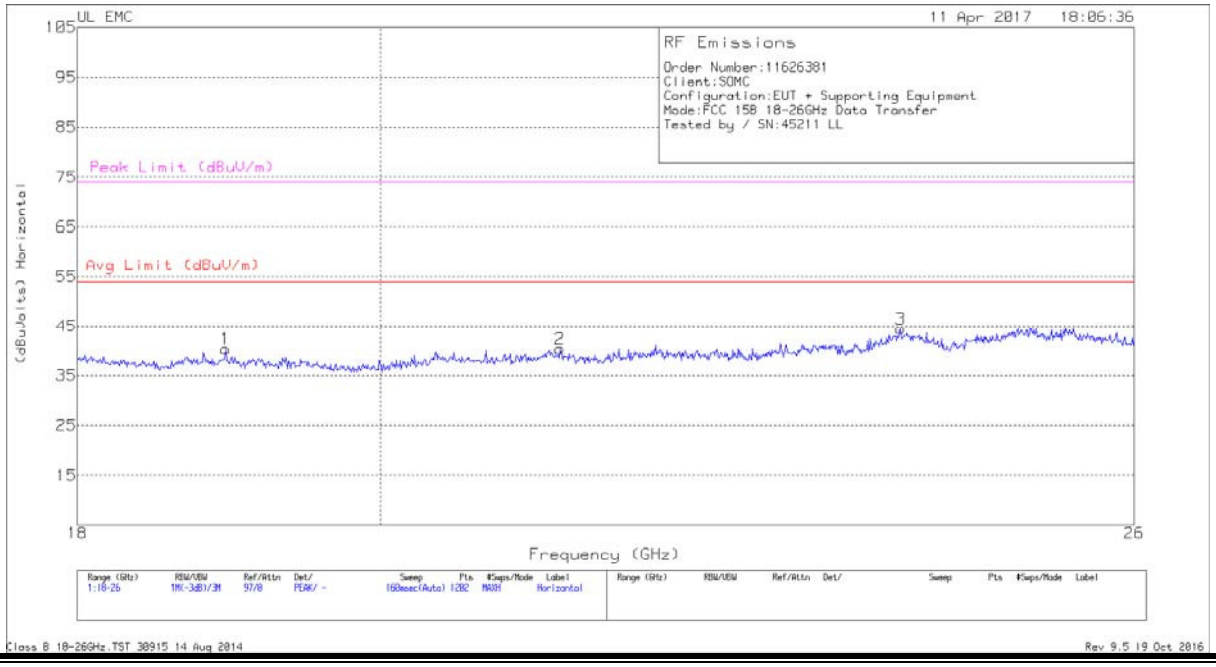
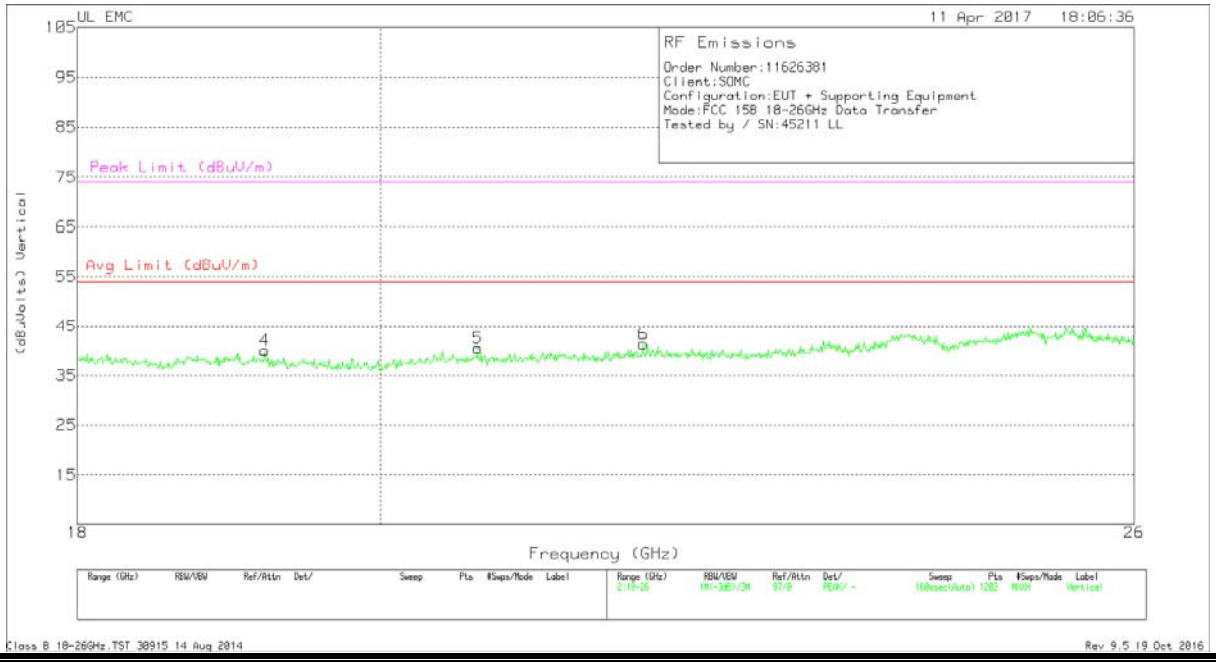
6.2.3. RADIATED EMISSIONS 18 to 26 GHz (SYNC MODE)

HORIZONTAL PLOT



VERTICAL PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T449 (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	18.953	42.13	Pk	32.6	-24.9	-9.5	40.33	54	-13.67	74	-33.67
2	21.291	42.23	Pk	33.1	-25.5	-9.5	40.33	54	-13.67	74	-33.67
3	23.968	44.2	Pk	34	-24.2	-9.5	44.5	54	-9.5	74	-29.5
4	19.212	41.7	Pk	32.7	-24.9	-9.5	40	54	-14	74	-34
5	20.691	42.2	Pk	33	-25.2	-9.5	40.5	54	-13.5	74	-33.5
6	21.917	42.63	Pk	33.4	-25.2	-9.5	41.33	54	-12.67	74	-32.67

Pk - Peak detector

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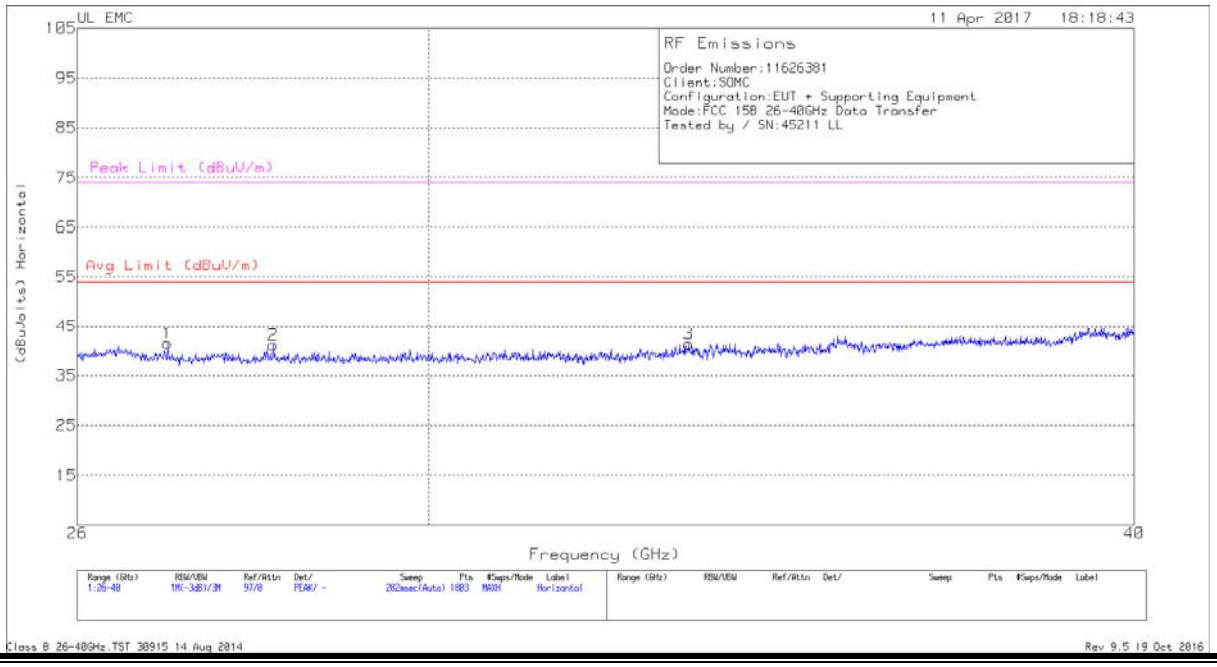
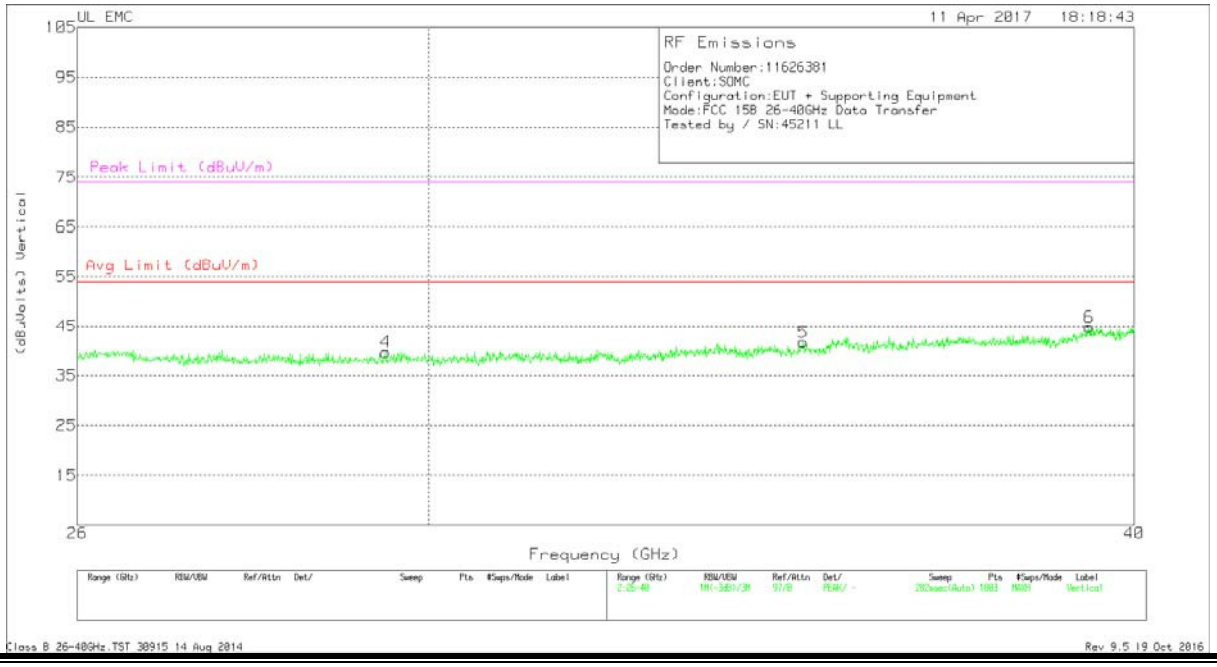
6.2.4. RADIATED EMISSIONS 26 to 40 GHz (SYNC MODE)

HORIZONTAL PLOT



VERTICAL PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (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	26.971	46.9	Pk	35.5	-31.4	-9.5	41.5	54	-12.5	74	-32.5
2	28.16	46.87	Pk	35.8	-32	-9.5	41.17	54	-12.83	74	-32.83
3	33.357	47.33	Pk	37	-33.5	-9.5	41.33	54	-12.67	74	-32.67
4	29.481	45.97	Pk	35.9	-32.7	-9.5	39.67	54	-14.33	74	-34.33
5	34.95	47.77	Pk	37.2	-33.8	-9.5	41.67	54	-12.33	74	-32.33
6	39.27	48.23	Pk	38.5	-32.4	-9.5	44.83	54	-9.17	74	-29.17

Pk - Peak detector

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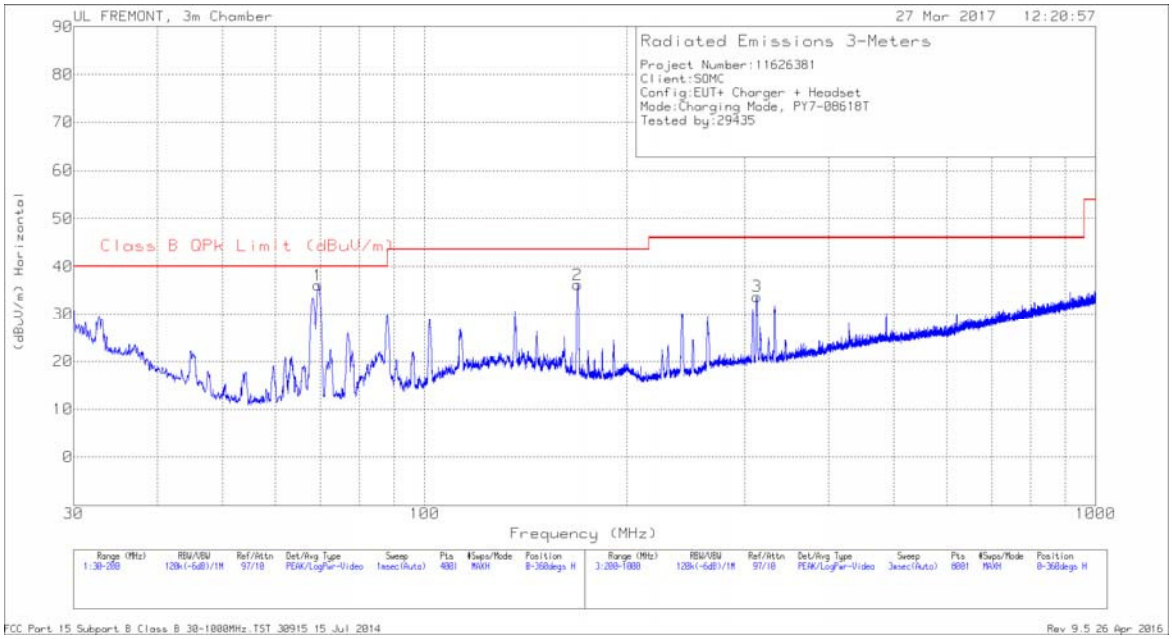
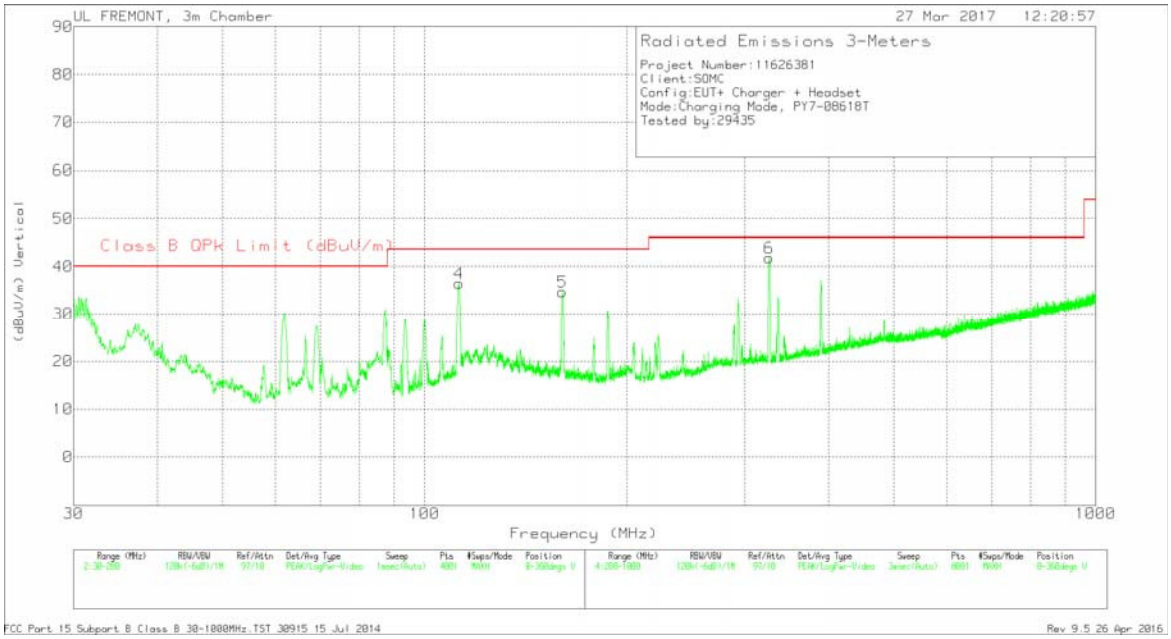
6.2.5. RADIATED EMISSIONS 30 TO 1000 MHz (CHARGING MODE)

HORIZONTAL PLOT



VERTICAL PLOT



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HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T408 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	69.44	50.74	Pk	12.1	-26.7	36.14	40	-3.86	0-360	400	H
4	112.535	45.61	Pk	16.9	-26.1	36.41	43.52	-7.11	0-360	100	V
5	160.5175	43.85	Pk	16.3	-25.5	34.65	43.52	-8.87	0-360	100	V
2	169.1875	45.77	Pk	15.9	-25.4	36.27	43.52	-7.25	0-360	300	H
3	312.6	40.14	Pk	17.8	-24.2	33.74	46.02	-12.28	0-360	100	H
6	326.3	48.13	Pk	17.9	-24.2	41.83	46.02	-4.19	0-360	200	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	AF T408 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
69.3858	20.81	Qp	12.1	-26.7	6.21	40	-33.79	222	186	H
326.4502	19.48	Qp	17.9	-24.2	13.18	46.02	-32.84	18	223	V

Qp - Quasi-Peak detector

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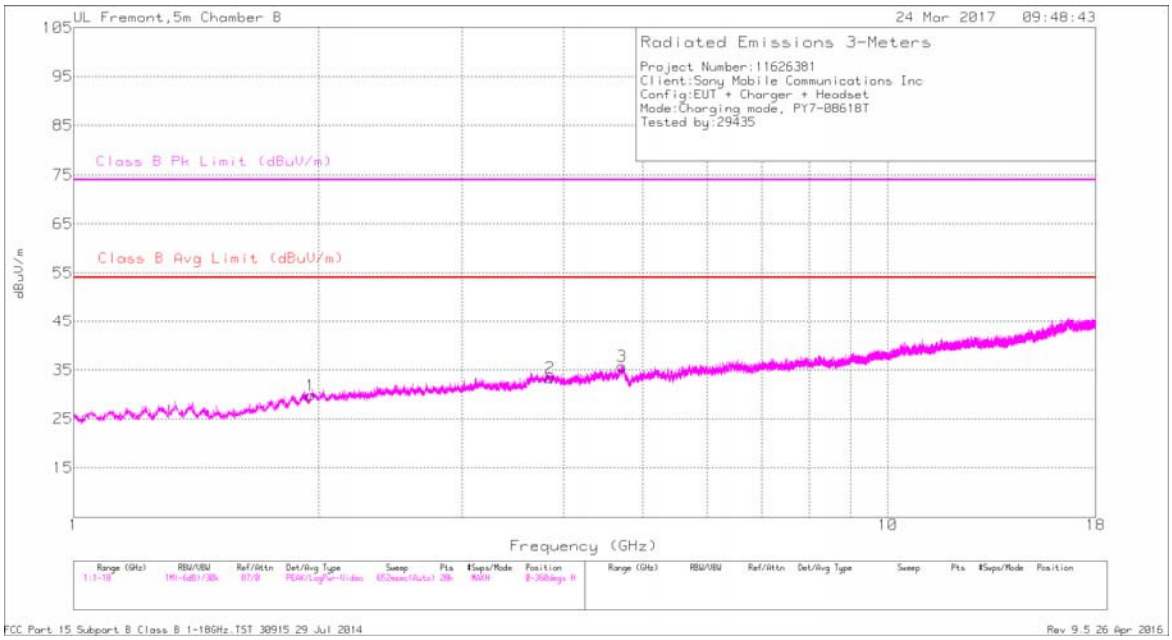
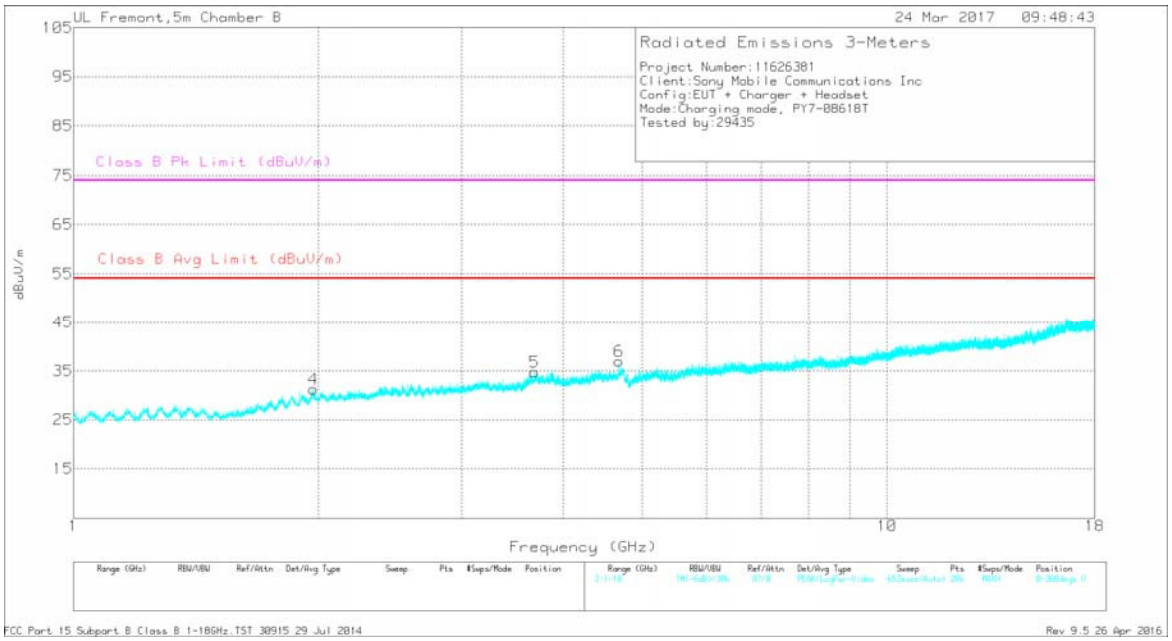
6.2.6. RADIATED EMISSIONS 1GHz to 18GHz (CHARGING MODE)

HORIZONTAL PLOT



VERTICAL PLOT



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HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.954	31.65	Avg	31.2	-33.1	29.75	-	-	-	-	0-360	99	H
4	1.971	32.87	Avg	31.3	-32.9	31.27	-	-	-	-	0-360	201	V
5	3.686	32.6	Avg	33.3	-31.1	34.8	-	-	-	-	0-360	201	V
2	3.847	30.84	Avg	33.4	-30.9	33.34	-	-	-	-	0-360	99	H
6	4.686	33.24	Avg	34.1	-30.4	36.94	-	-	-	-	0-360	98	V
3	4.713	32.17	Avg	34	-30.4	35.77	-	-	-	-	0-360	201	H

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.955	41.26	Pk	31.2	-33.1	39.36	-	-	74	-34.64	74	130	H
1.955	27.22	Av	31.2	-33.1	25.32	54	-28.68	-	-	74	130	H
1.972	40.53	Pk	31.3	-32.9	38.93	-	-	74	-35.07	233	134	V
1.972	27.52	Av	31.3	-32.9	25.92	54	-28.08	-	-	233	134	V
3.686	39.13	Pk	33.3	-31.1	41.33	-	-	74	-32.67	106	110	V
3.686	26.24	Av	33.3	-31.1	28.44	54	-25.56	-	-	106	110	V
3.844	39.36	Pk	33.4	-30.9	41.86	-	-	74	-32.14	38	328	H
3.844	25.65	Av	33.4	-30.9	28.15	54	-25.85	-	-	38	328	H
4.686	38.55	Pk	34.1	-30.4	42.25	-	-	74	-31.75	352	207	V
4.686	26.74	Av	34.1	-30.4	30.44	54	-23.56	-	-	352	207	V
4.716	39.27	Pk	34	-30.4	42.87	-	-	74	-31.13	302	249	H
4.718	26.21	Av	34	-30.4	29.81	54	-24.19	-	-	302	249	H

Pk - Peak detector
Av - Average detection

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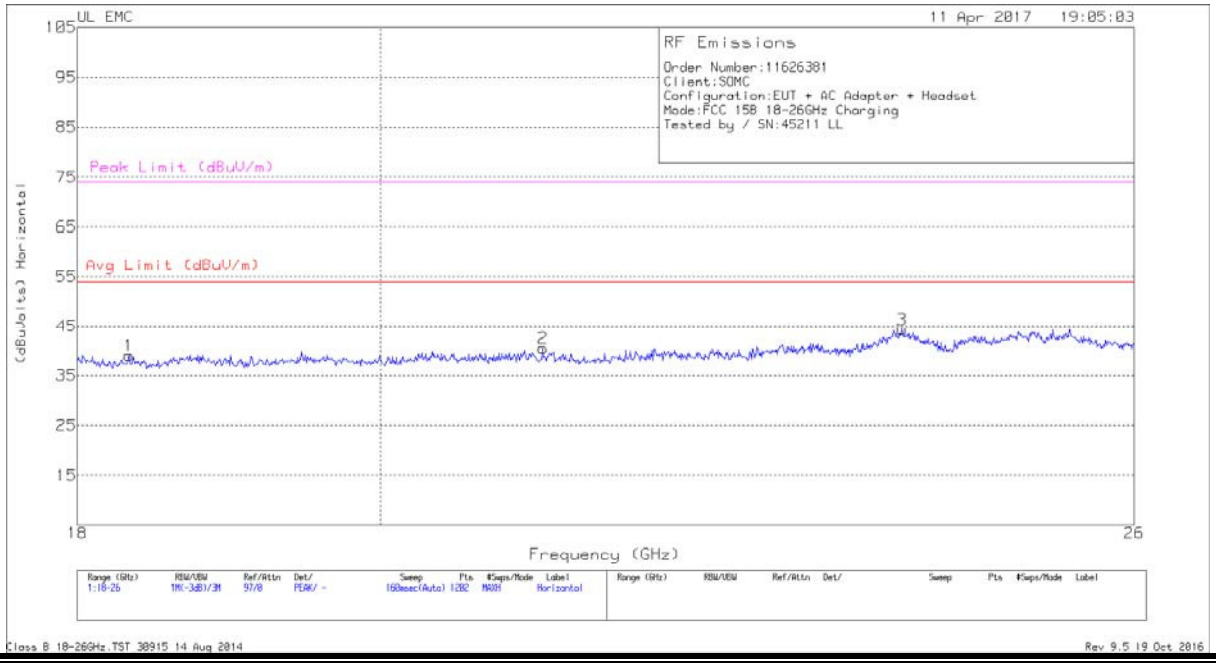
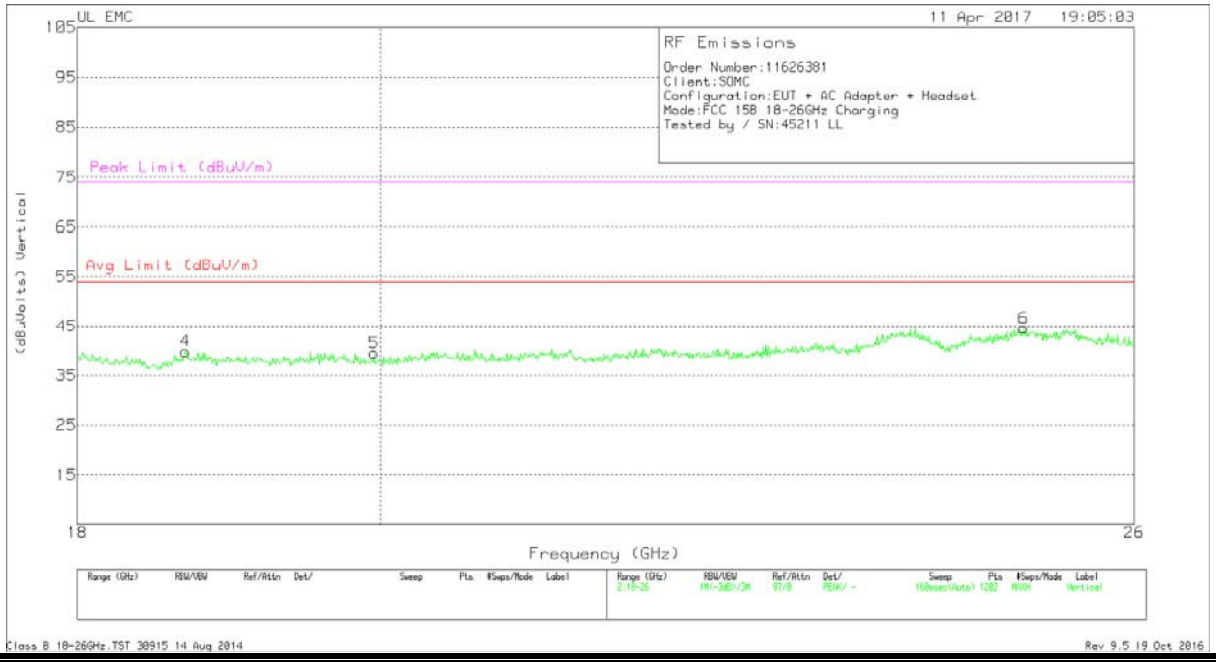
6.2.7. RADIATED EMISSIONS 18 to 26 GHz (CHARGING MODE)

HORIZONTAL PLOT



VERTICAL PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T449 (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	18.326	41.4	Pk	32.4	-25.3	-9.5	39	54	-15	74	-35
2	21.164	42.1	Pk	33.1	-25.2	-9.5	40.5	54	-13.5	74	-33.5
3	23.982	44.13	Pk	34	-24.3	-9.5	44.33	54	-9.67	74	-29.67
4	18.689	41.23	Pk	32.4	-24.3	-9.5	39.83	54	-14.1	74	-34.17
5	19.958	41.4	Pk	32.6	-25	-9.5	39.5	54	-14.5	74	-34.5
6	25.021	44.37	Pk	34.2	-24.4	-9.5	44.67	54	-9.33	74	-29.33

Pk - Peak detector

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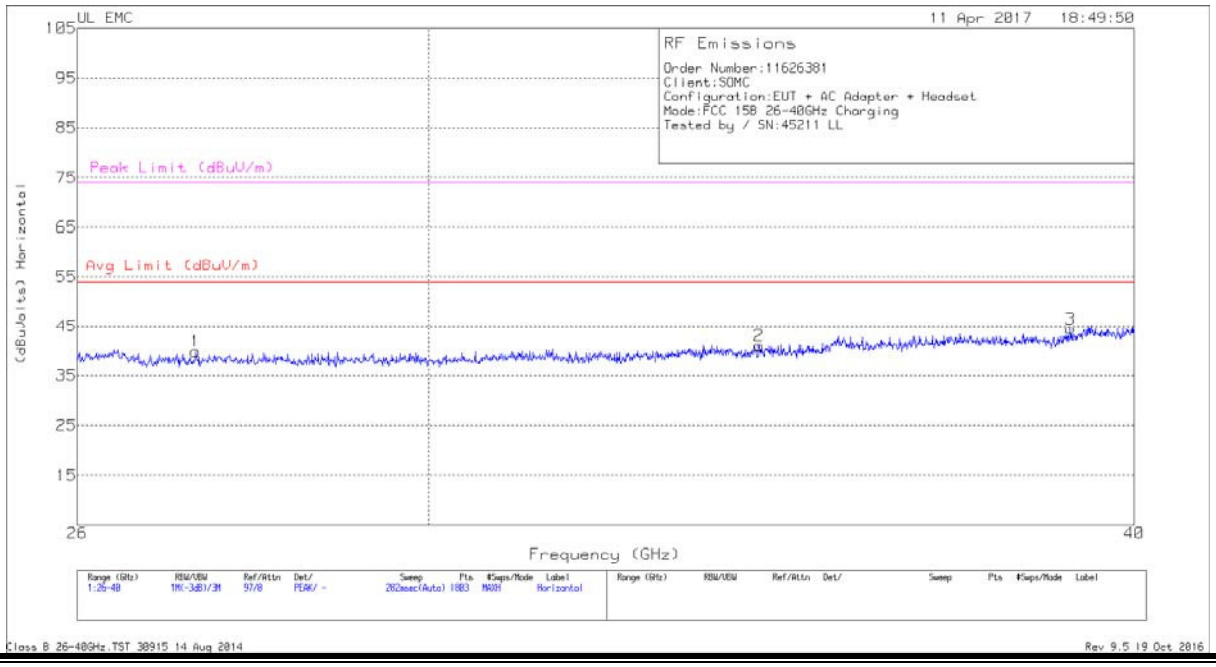
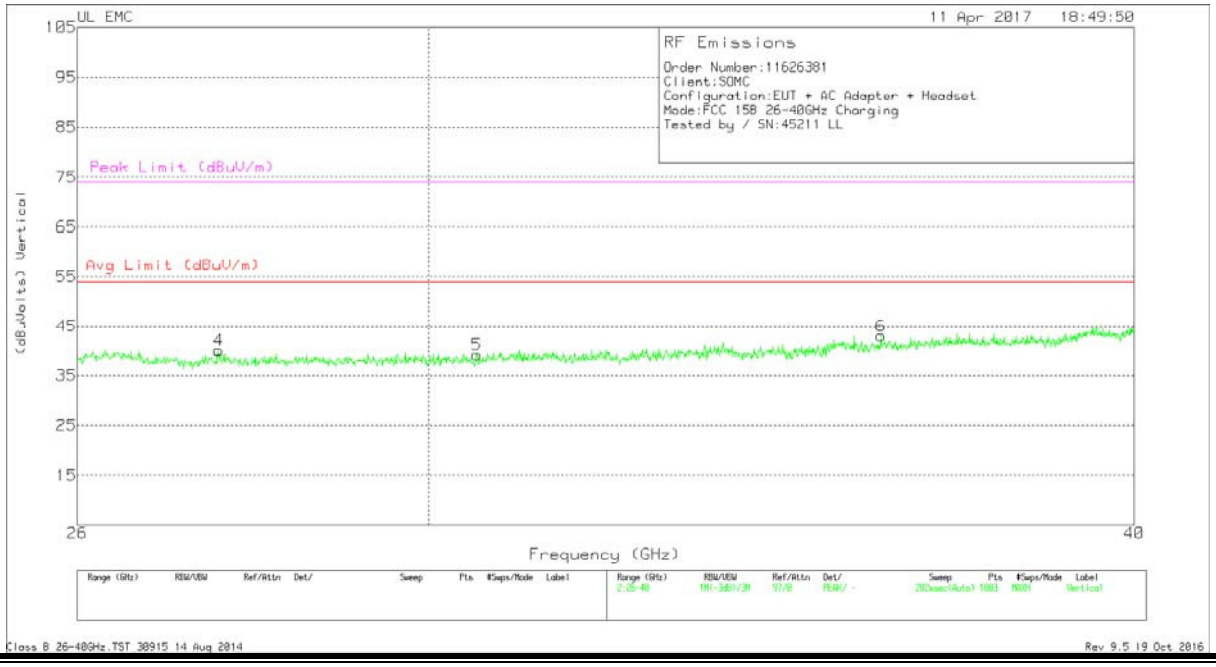
6.2.8. RADIATED EMISSIONS 26 to 40 GHz (CHARGING MODE)

HORIZONTAL PLOT



VERTICAL PLOT



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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (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	27.282	45.33	Pk	35.6	-31.6	-9.5	39.83	54	-14.17	74	-34.17
2	34.321	47	Pk	37.1	-33.6	-9.5	41	54	-13	74	-33
3	38.967	49.6	Pk	37.1	-32.7	-9.5	44.5	54	-9.5	74	-29.5
4	27.538	45.4	Pk	35.7	-31.6	-9.5	40	54	-14	74	-34
5	30.595	45.87	Pk	36	-33.2	-9.5	39.17	54	-14.83	74	-34.83
6	36.077	49.9	Pk	37.2	-34.6	-9.5	43	54	-11	74	-31

Pk - Peak detector

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6.3. AC MAINS LINE CONDUCTED EMISSIONS

TEST PROCEDURE

ANSI C63.4: 2014

LIMIT

§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Notes:
1. The lower limit shall apply at the transition frequencies
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

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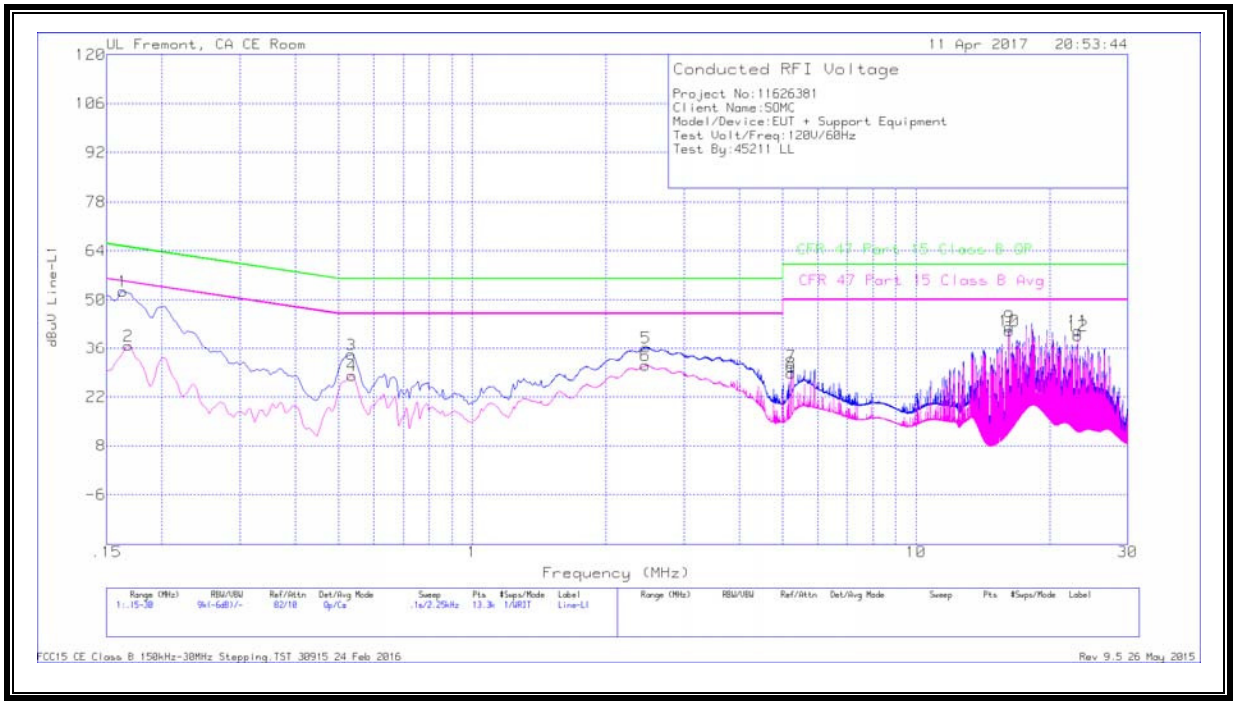
6.3.1. RESULTS- SYNC MODE

6 WORST EMISSIONS

Line-L1 .15 - 30MHz

PLOT



DATA

Trace Markers

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.1635	42.17	Qp	0	.1	10.1	52.37	65.28	-12.91	-	-
2	.168	26.73	Ca	0	0	10.1	36.83	-	-	55.06	-18.23
3	.53475	23.91	Qp	0	.1	10.1	34.11	56	-21.89	-	-
4	.53587	17.96	Ca	0	.1	10.1	28.16	-	-	46	-17.84
5	2.463	26.07	Qp	0	.1	10.1	36.27	56	-19.73	-	-
6	2.4585	20.82	Ca	0	.1	10.1	31.02	-	-	46	-14.98
7	5.23725	20.59	Qp	0	.1	10.1	30.79	60	-29.21	-	-
8	5.23725	18.67	Ca	0	.1	10.1	28.87	-	-	50	-21.13
9	16.2285	31.83	Qp	0	.2	10.3	42.33	60	-17.67	-	-
10	16.2285	30.7	Ca	0	.2	10.3	41.2	-	-	50	-8.8
11	23.12925	30.36	Qp	.1	.3	10.4	41.16	60	-18.84	-	-
12	23.12925	28.89	Ca	.1	.3	10.4	39.69	-	-	50	-10.31

Qp - Quasi-Peak detector

Ca - CISPR average detection

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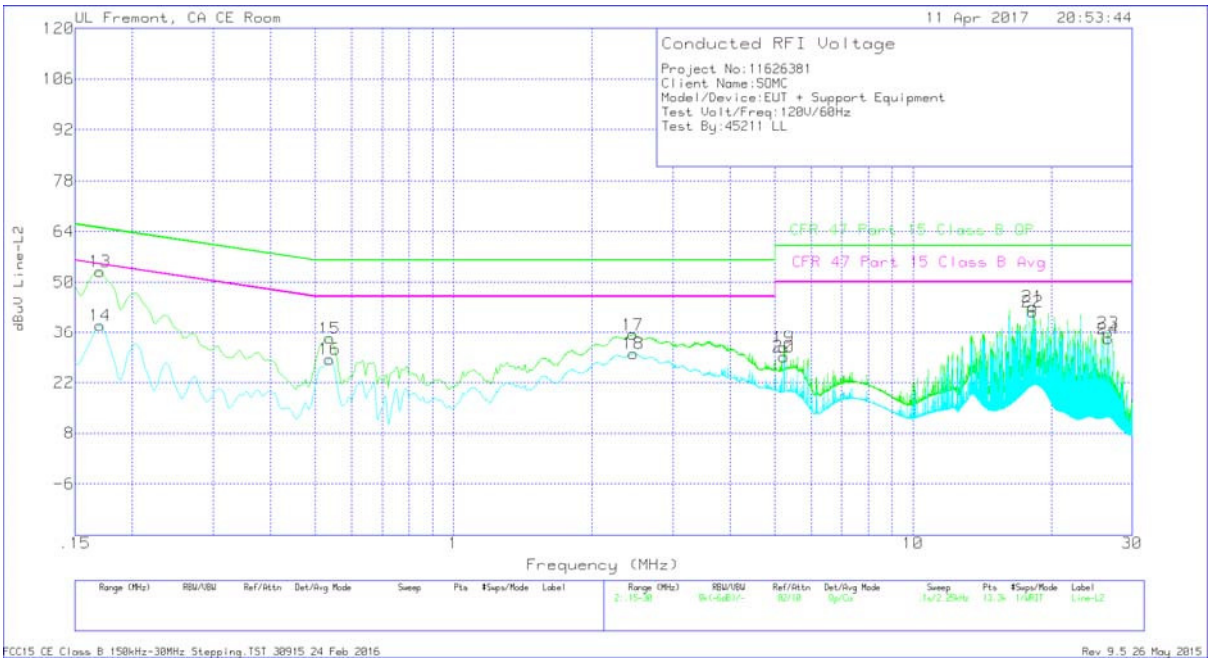
Line-L2 .15 - 30MHz

PLOT



DATA

Trace Markers

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.17025	42.7	Qp	0	.1	10.1	52.9	64.95	-12.05	-	-
14	.17025	27.76	Ca	0	.1	10.1	37.96	-	-	54.95	-16.99
15	.537	24.16	Qp	0	.1	10.1	34.36	56	-21.64	-	-
16	.537	18.18	Ca	0	.1	10.1	28.38	-	-	46	-17.62
17	2.45288	25.18	Qp	0	.1	10.1	35.38	56	-20.62	-	-
18	2.45963	19.87	Ca	0	.1	10.1	30.07	-	-	46	-15.93
19	5.23725	21.57	Qp	0	.1	10.1	31.77	60	-28.23	-	-
20	5.23725	18.89	Ca	0	.1	10.1	29.09	-	-	50	-20.91
21	18.24225	32.64	Qp	0	.3	10.3	43.24	60	-16.76	-	-
22	18.24225	31.27	Ca	0	.3	10.3	41.87	-	-	50	-8.13
23	26.61	24.99	Qp	.1	.3	10.5	35.89	60	-24.11	-	-
24	26.61	23.23	Ca	.1	.3	10.5	34.13	-	-	50	-15.87

Qp - Quasi-Peak detector

Ca - CISPR average detection

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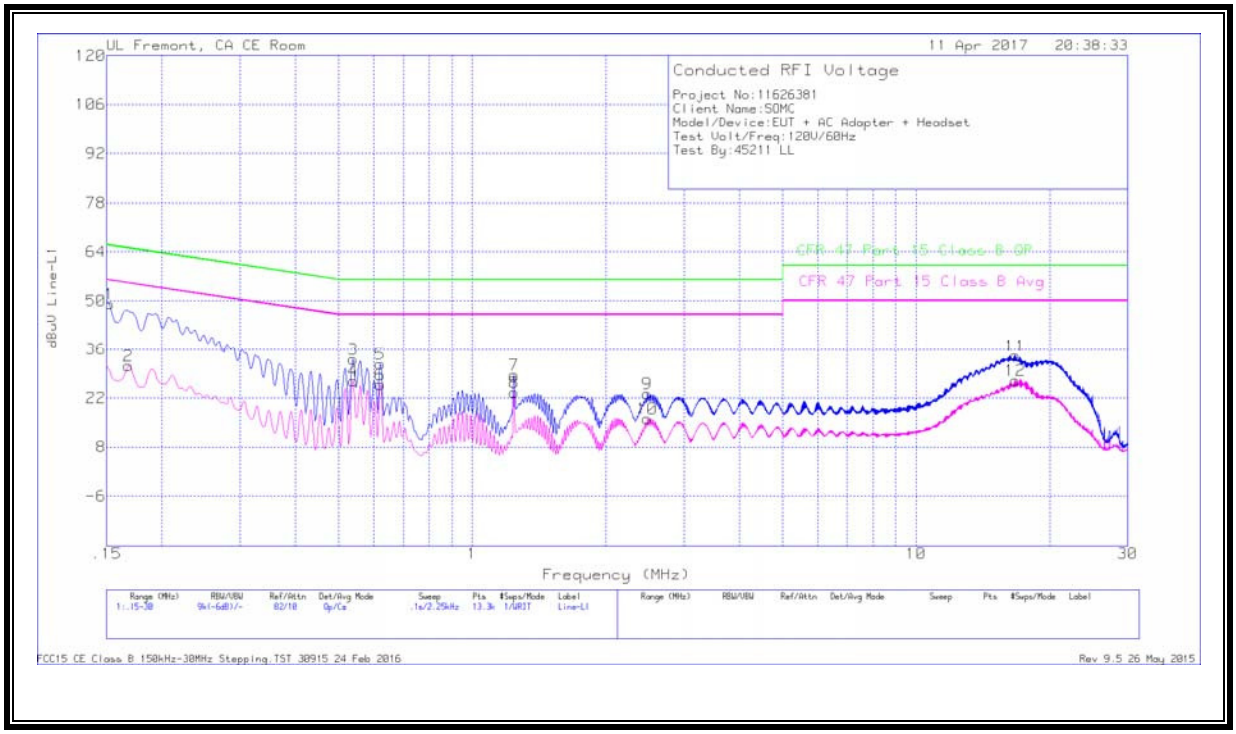
6.3.2. RESULTS- CHARGING MODE

6 WORST EMISSIONS

Line-L1 .15 - 30MHz

PLOT



DATA

Trace Markers

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.15225	38.82	Qp	.1	.1	10.1	49.12	65.88	-16.76	-	-
2	.168	21.09	Ca	0	0	10.1	31.19	-	-	55.06	-23.87
3	.53925	22.94	Qp	0	.1	10.1	33.14	56	-22.86	-	-
4	.53925	16.71	Ca	0	.1	10.1	26.91	-	-	46	-19.09
5	.62025	21.47	Qp	0	.1	10.1	31.67	56	-24.33	-	-
6	.62025	15.56	Ca	0	.1	10.1	25.76	-	-	46	-20.24
7	1.24125	18.37	Qp	0	.1	10.1	28.57	56	-27.43	-	-
8	1.24125	13.32	Ca	0	.1	10.1	23.52	-	-	46	-22.48
9	2.481	13.02	Qp	0	.1	10.1	23.22	56	-32.78	-	-
10	2.481	5.86	Ca	0	.1	10.1	16.06	-	-	46	-29.94
11	16.7325	23.68	Qp	0	.2	10.3	34.18	60	-25.82	-	-
12	16.73025	16.48	Ca	0	.2	10.3	26.98	-	-	50	-23.02

Qp - Quasi-Peak detector

Ca - CISPR average detection

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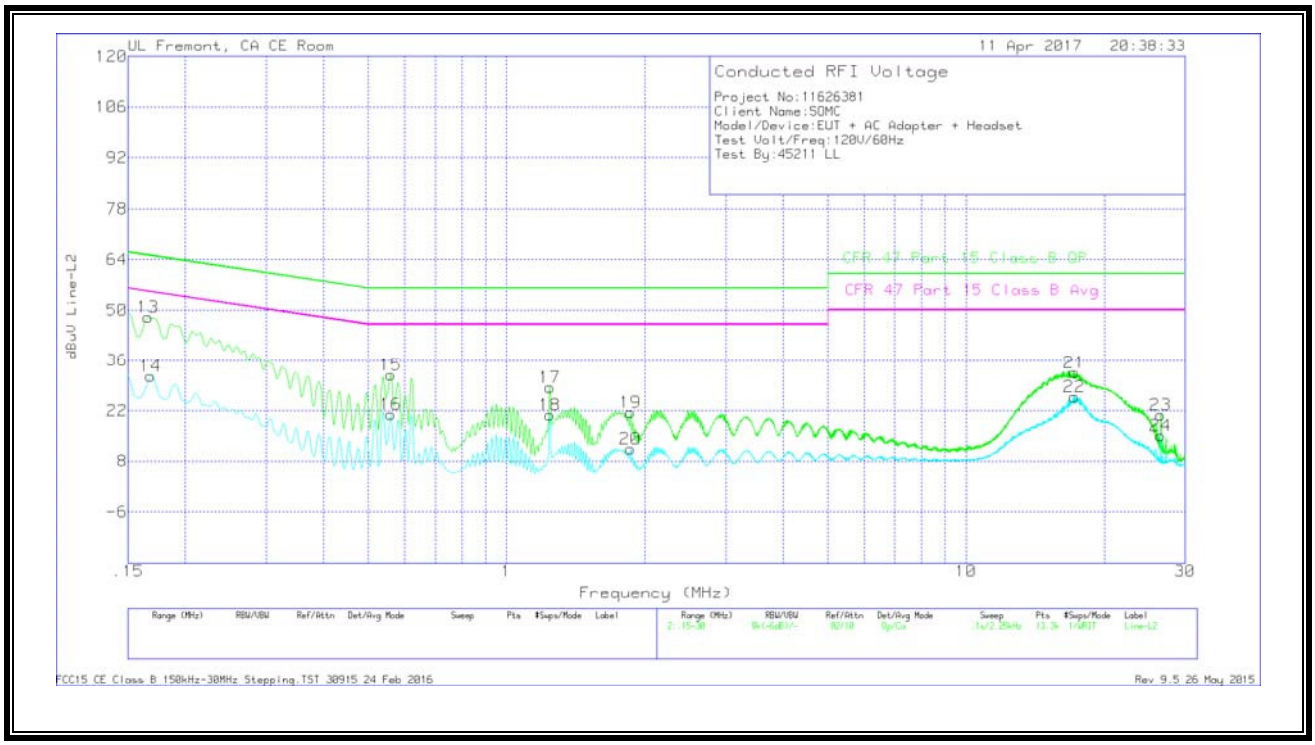
Line-L2 .15 - 30MHz

PLOT



DATA

Trace Markers

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.16575	37.95	Qp	0	0	10.1	48.05	65.17	-17.12	-	-
14	.168	21.41	Ca	0	0	10.1	31.51	-	-	55.06	-23.55
15	.5595	21.79	Qp	0	.1	10.1	31.99	56	-24.01	-	-
16	.5595	10.77	Ca	0	.1	10.1	20.97	-	-	46	-25.03
17	1.24125	18.27	Qp	0	.1	10.1	28.47	56	-27.53	-	-
18	1.24125	10.65	Ca	0	.1	10.1	20.85	-	-	46	-25.15
19	1.86225	11.3	Qp	0	.1	10.1	21.5	56	-34.5	-	-
20	1.86225	1.21	Ca	0	.1	10.1	11.41	-	-	46	-34.59
21	17.20725	22.06	Qp	0	.2	10.3	32.56	60	-27.44	-	-
22	17.2275	15.36	Ca	0	.2	10.3	25.86	-	-	50	-24.14
23	26.49075	9.93	Qp	.1	.3	10.5	20.83	60	-39.17	-	-
24	26.49075	4.16	Ca	.1	.3	10.5	15.06	-	-	50	-34.94

Qp - Quasi-Peak detector

Ca - CISPR average detection

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