



# **CERTIFICATION TEST REPORT**

**Report Number. :** 12073310-E8V3

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

**FCC ID :** PY7-21831A

**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:**

January 22, 2018

**Prepared by:**

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	01/08/18	Initial Issue	Dan Corona
V2	01/16/18	Section 1 removed "Reviewed By", updated header date	Dan Corona
V3	01/22/18	Updated Section 5.6 (radiated setup)	Dan Corona

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# 1. ATTESTATION OF TEST RESULTS

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

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

**SERIAL NUMBER:** QV70003Q12

**DATE TESTED:** DECEMBER 07- 26, 2017

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR PART 15 SUBPART B	Complies

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:



Dan Corona  
Operations Leader  
UL Verification Services Inc.

Prepared By:



Kiya Kedida  
Project Engineer  
UL Verification Services Inc.

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2014.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
<input type="checkbox"/> Chamber A(IC: 2324B-1)	<input type="checkbox"/> Chamber D(IC: 22541-1)
<input checked="" type="checkbox"/> Chamber B(IC: 2324B-2)	<input type="checkbox"/> Chamber E(IC: 22541-2)
<input type="checkbox"/> Chamber C(IC: 2324B-3)	<input type="checkbox"/> Chamber F(IC: 22541-3)
	<input type="checkbox"/> Chamber G(IC: 22541-4)
	<input type="checkbox"/> 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. 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:

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

### 4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.84 dB
Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Radiated Disturbance, 9KHz to 30 MHz	3.15 dB
Radiated Disturbance, 30 to 1000 MHz	5.36 dB
Radiated Disturbance, 1000 to 18000 MHz	4.32 dB
Radiated Disturbance, 18000 to 26000 MHz	4.45 dB
Radiated Disturbance, 26000 to 40000 MHz	5.24 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 with BT, DTS/UNII a/b/g/n/ac, & NFC.

#### GENERAL INFORMATION

Highest frequency generated or used by the EUT	5825 MHz
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### 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 0.202.

### 5.5. MODIFICATIONS

No modifications were made during testing.

## 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
Audio & Charger Splitter	SONY	1312-8675.1B	YYWWSSPCXXXXXC	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 Sync Mode

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC Power	1	AC	Unshielded	1.2m	AC Mains to AC/DC Adapter
2	DC Power	1	DC	Unshielded	1m	AC/DC Adapter to Switch and Laptop
3	USB	2	USB	Unshielded	1m	Laptop to keyboard and mouse
4	USB	1	USB-type-C	Unshielded	1m	EUT to Laptop
5	Ethernet	1	RJ45	Unshielded	>2m	Laptop to Switch

### I/O CABLES Charging Mode

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	AC Adapter	Un-Shielded	1.2m	No
2	Jack	1	Headset	Shielded	1m	No
3	USB/HP Jack	1	USB Type-C/Audio	Un-Shielded	.2m	Audio & Charging Cabel

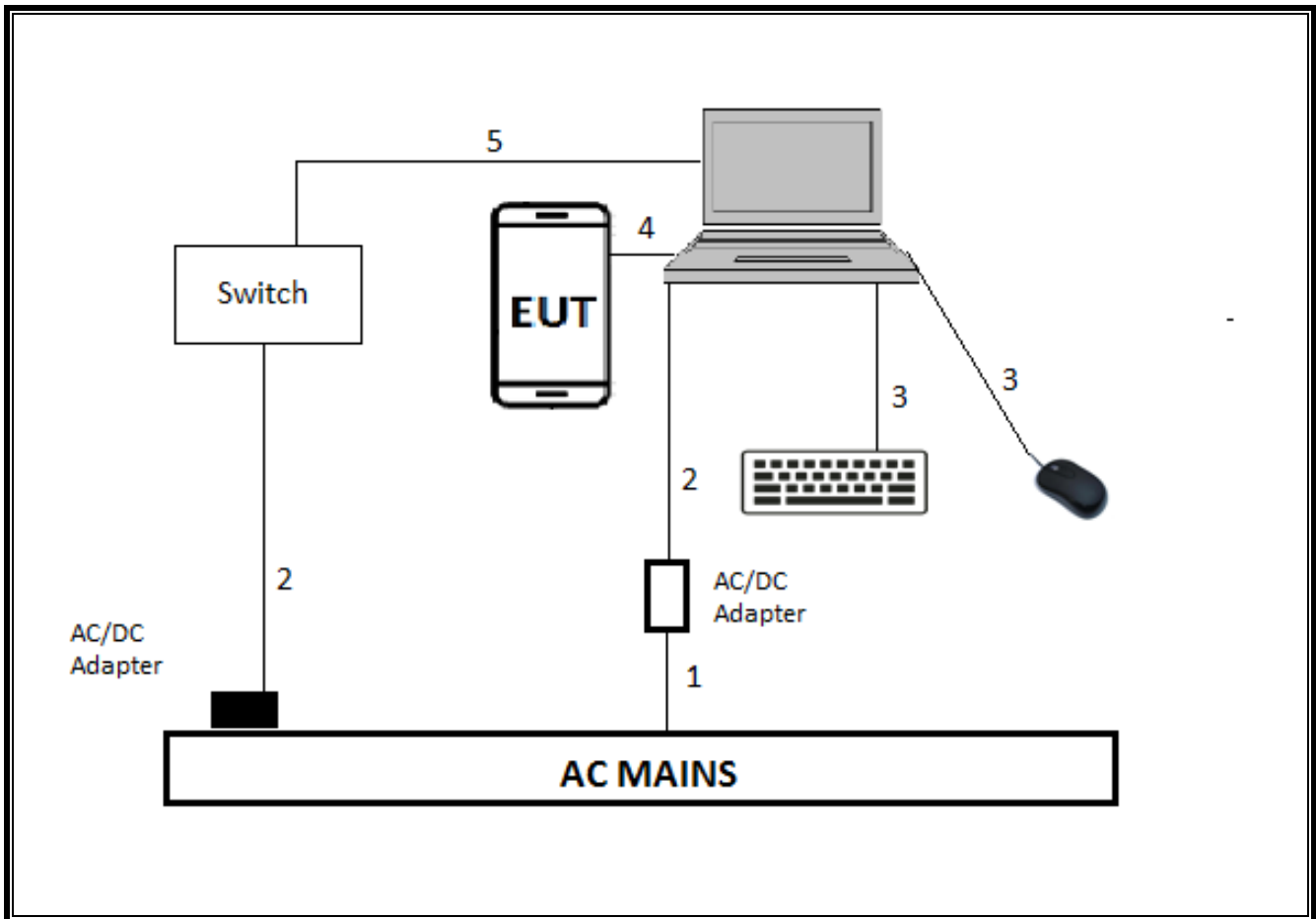
### TEST SETUP

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

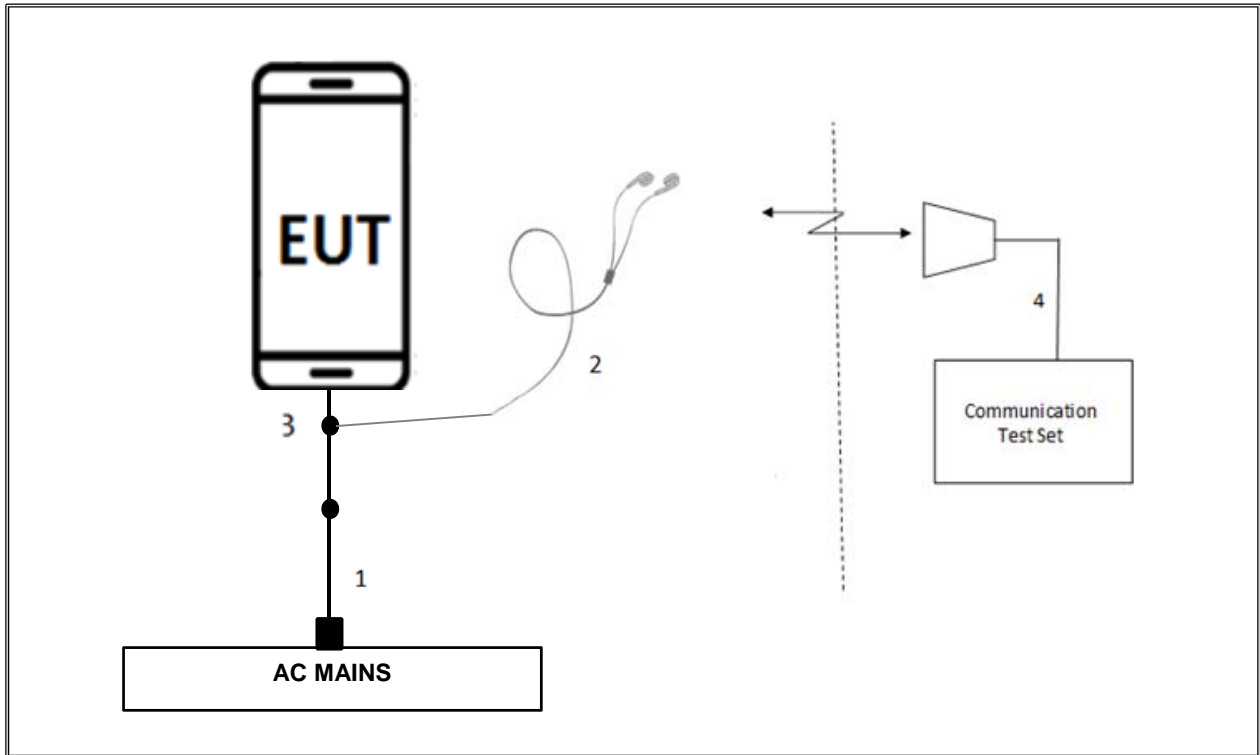


**SETUP DIAGRAM**

**Sync Mode**



### Charging Mode



## 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	06/23/17	06/23/2018
Amplifier, 10KHz to 1GHz, 32dB	Keysight	8447D	10	02/15/17	02/15/2018
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	346	3/28/17	03/28/2018
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	899	06/15/17	06/15/2018
PXA Spectrum Analyzer, 3Hz to 44GHz	Agilent	N9030A	907	01/23/17	01/23/2018
EMI Reciever	Rohde & Schwarz	ESR-EMI	1436	01/06/17	01/06/2018
LISN	FISCHER	FCC-LISN-50/250-25-2-01	1310	06/08/17	06/08/2018
18 - 26.5 GHz Horn Antenna	Seavey Division	MWH-1826/B	449	06/12/17	06/12/2018
26.5 - 40 GHz Horn Antenna	ARA	MWH-2640/B	446	06/12/17	06/12/2018
Pre-Amp 1-26.5 GHz	Agilent	8449B	404	07/23/17	07/23/2018
Pre-Amp, 26-40GHz	MITEQ	NSTTA2640-35-HG	1864	09/21/17	09/21/2018
PXA Spectrum Analyzer, 3Hz to 44GHz	Keysight	N9030A	1454	12/15/17	12/15/2018

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Ver 9.5, Dec 01, 2016

## 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

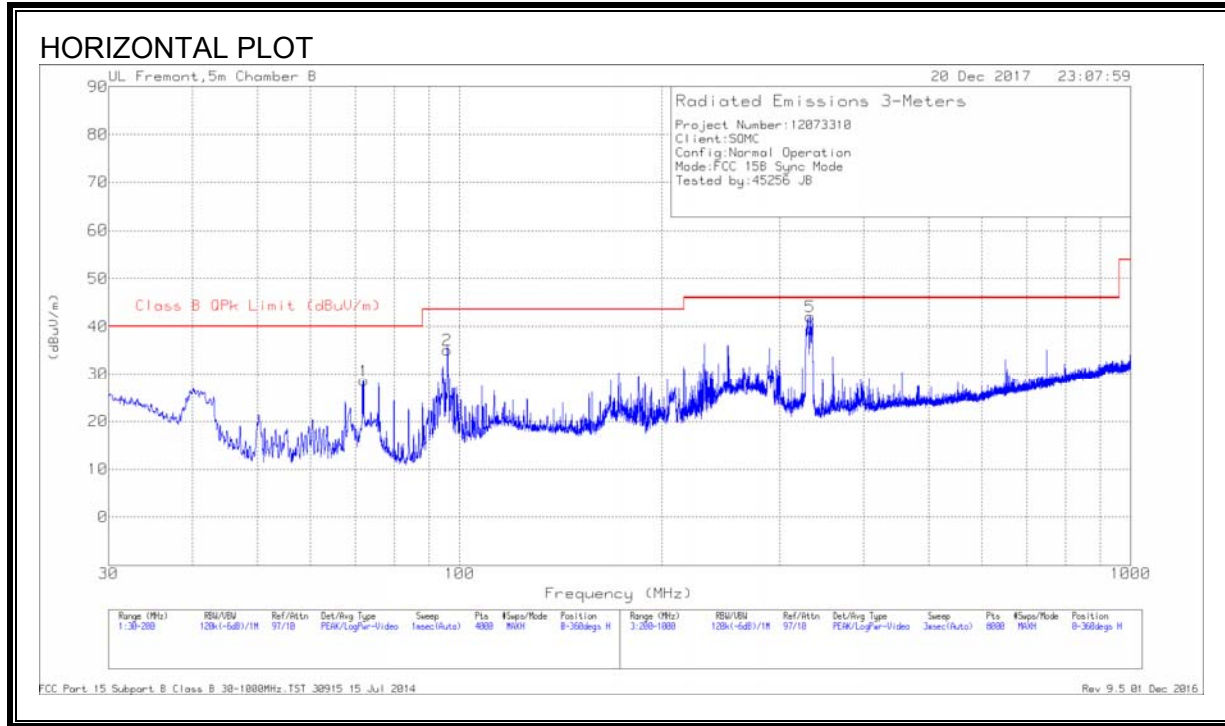
ANSI C63.4: 2014

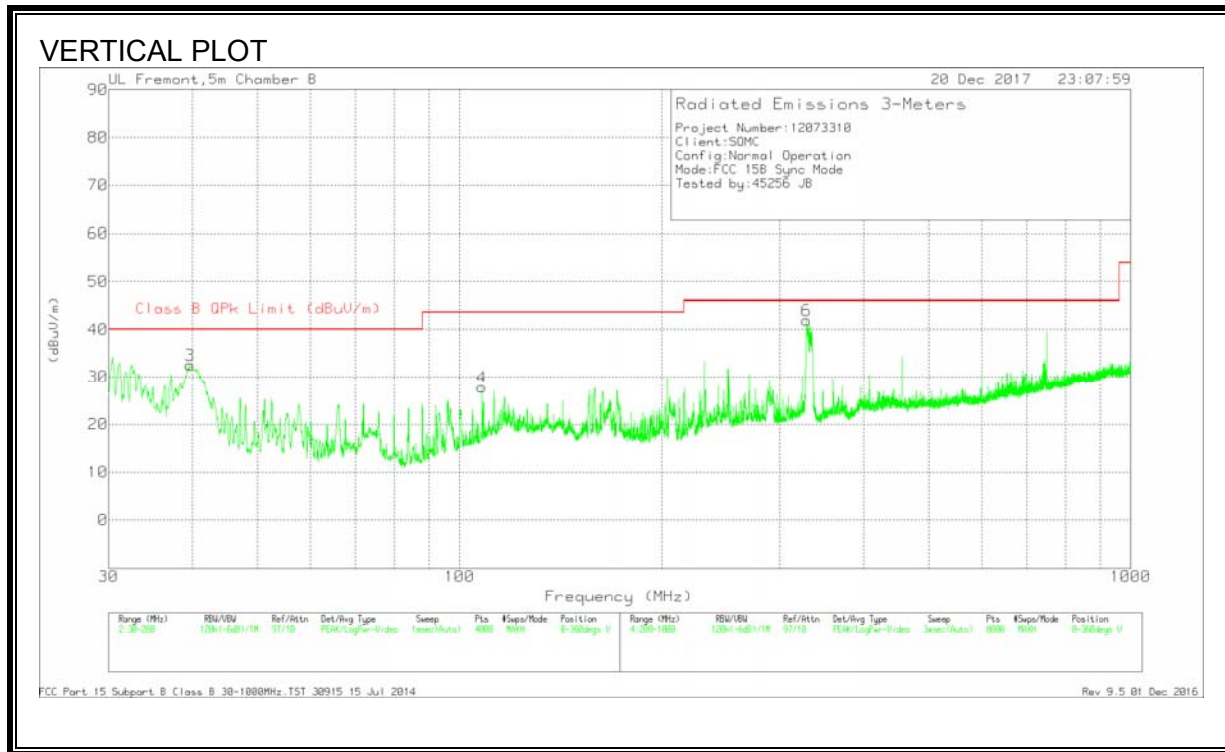
The highest frequency generated or used in the EUT is 5.8 GHz therefore the frequency range was investigated from 30 MHz to 40 GHz.

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	5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower

**RESULTS**

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





### HORIZONTAL AND VERTICAL DATA

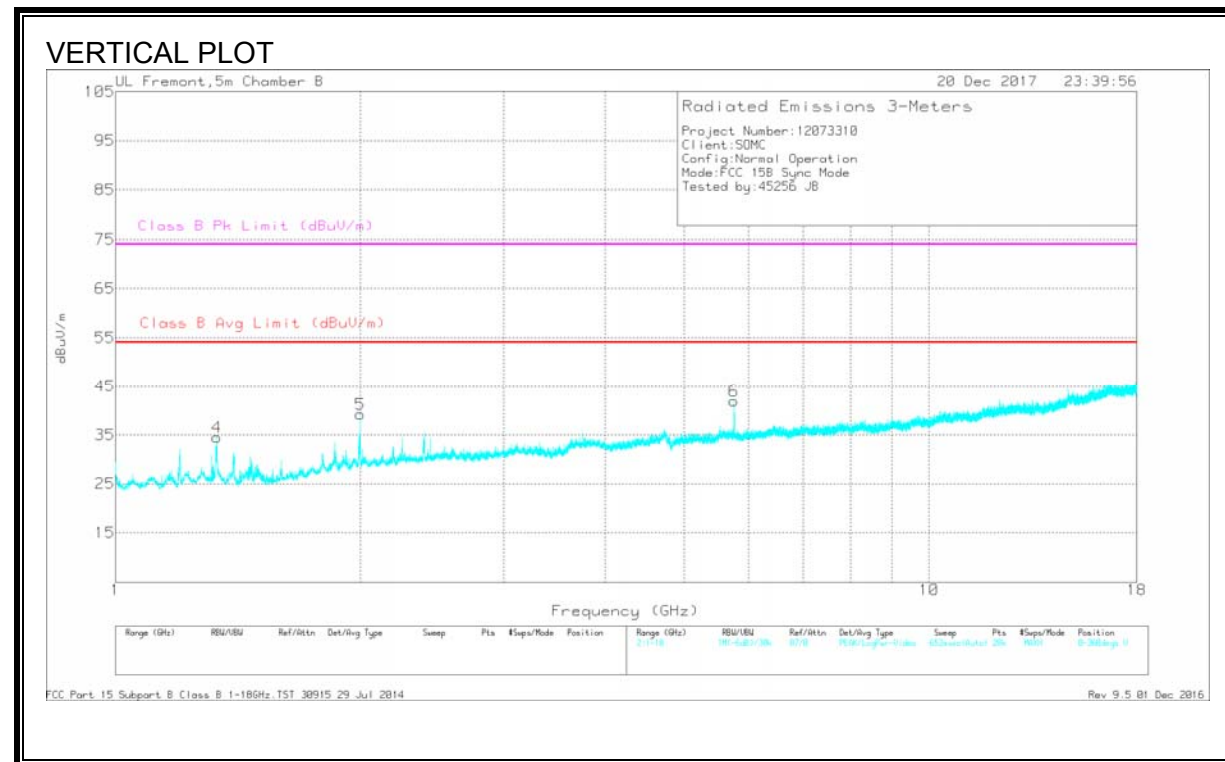
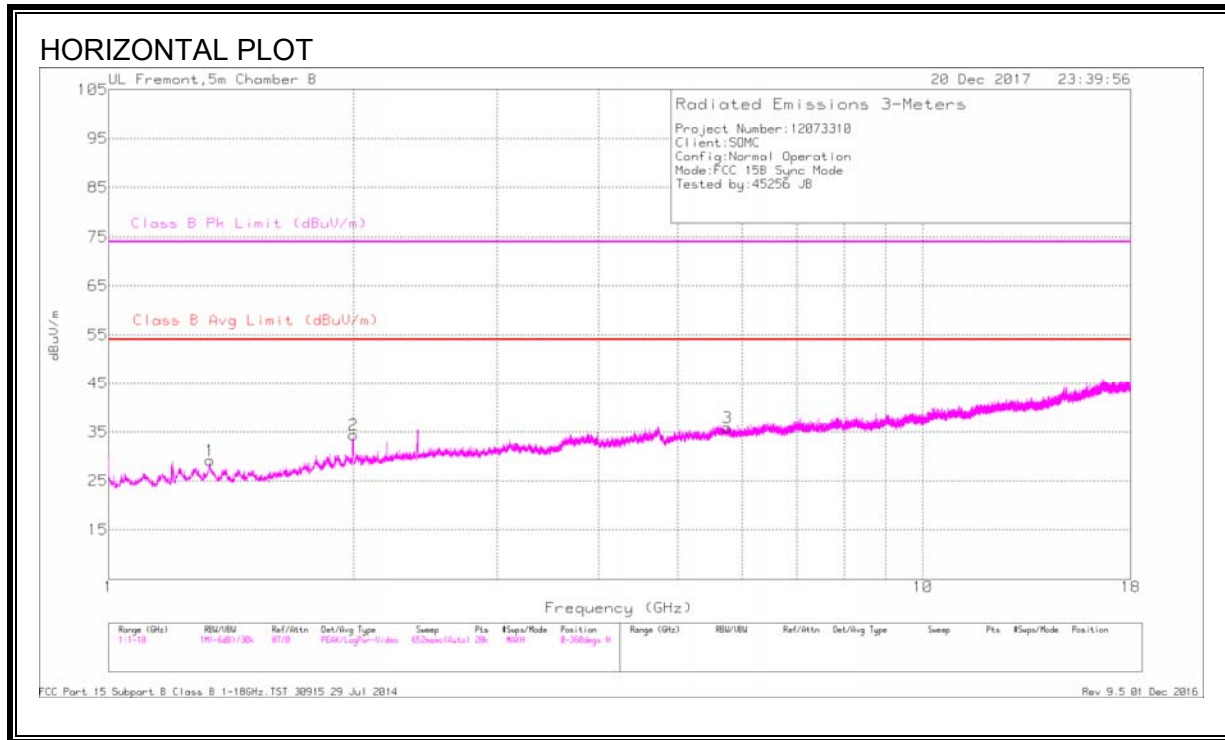
#### Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	39.65	42.74	Pk	18.5	-28.7	32.54	40	-7.46	0-360	100	V
1	71.9584	44.87	Pk	12	-28.3	28.57	40	-11.43	0-360	300	H
2	95.8921	50	Pk	13.1	-28	35.1	43.52	-8.42	0-360	300	H
4	108.0077	39.49	Pk	16.3	-27.9	27.89	43.52	-15.63	0-360	100	V
6	328.8861	43.01	Qp	17.9	-25.9	35.01	46.02	-11.01	197	134	V
5	332.9559	43.32	Qp	17.8	-25.8	35.32	46.02	-10.7	263	106	H

Pk - Peak detector

Qp - Quasi-Peak detector

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



**HORIZONTAL AND VERTICAL DATA**

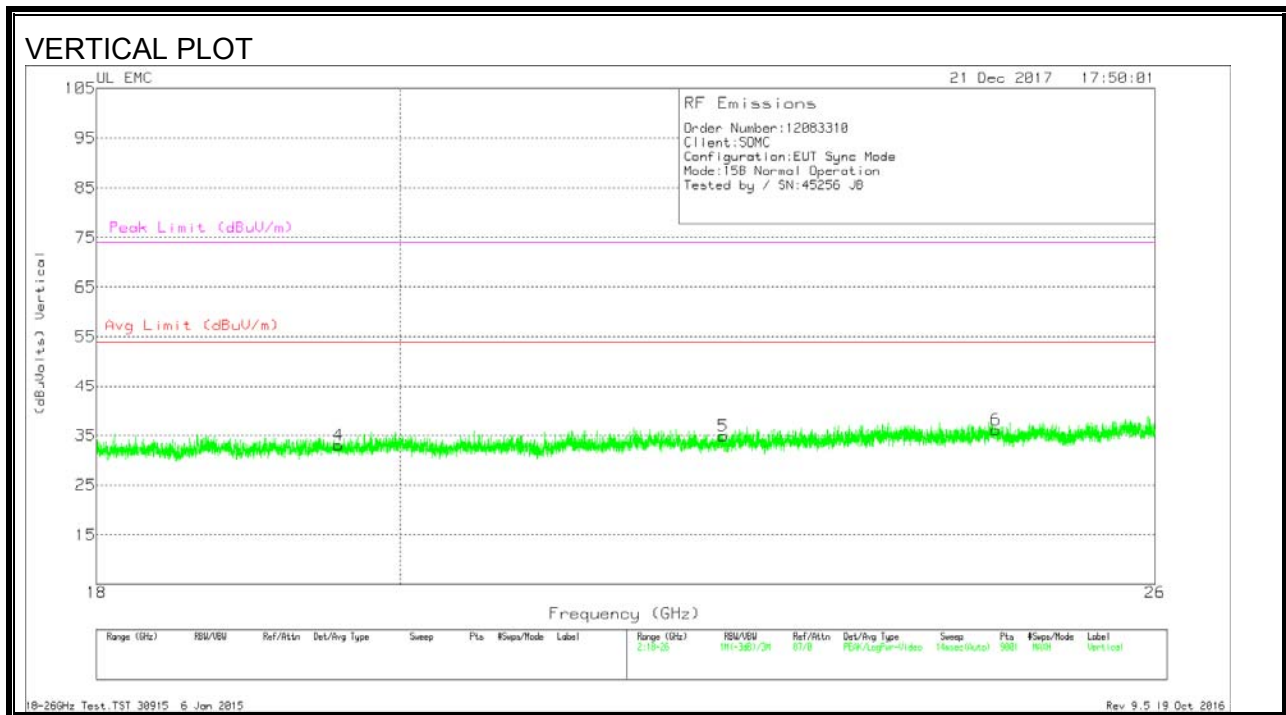
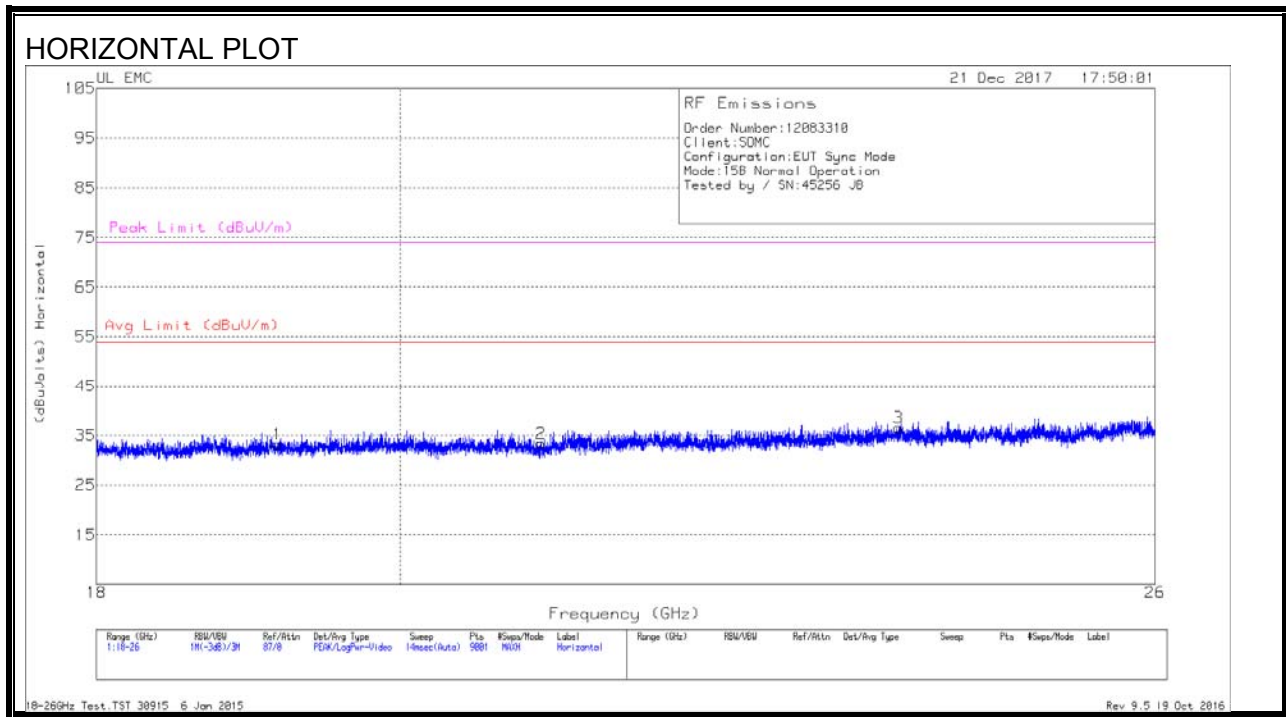
**Radiated Emissions**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.332	45.81	Pk	28.9	-34.3	40.41	-	-	74	-33.59	0	199	H
	1.332	28.66	Av	28.9	-34.3	23.26	54	-30.74	-	-	0	199	H
4	1.333	45.32	Pk	28.9	-34.3	39.92	-	-	74	-34.08	360	199	V
	1.333	28.67	Av	28.9	-34.3	23.27	54	-30.73	-	-	360	199	V
2	1.996	40.23	Pk	31.3	-33.5	38.03	-	-	74	-35.97	0	199	V
	1.996	26.98	Av	31.3	-33.5	24.78	54	-29.22	-	-	0	199	V
5	1.998	40.79	Pk	31.3	-33.5	38.59	-	-	74	-35.41	360	199	H
	1.998	26.93	Av	31.3	-33.5	24.73	54	-29.27	-	-	360	199	H
3	5.751	39.55	Pk	35	-30.6	43.95	-	-	74	-30.05	0	199	H
	5.751	26.05	Av	35	-30.6	30.45	54	-23.55	-	-	0	199	H
6	5.762	39.76	Pk	35	-30.5	44.26	-	-	74	-29.74	257	199	V
	5.762	26.04	Av	35	-30.5	30.54	54	-23.46	-	-	257	199	V

Pk - Peak detector  
 Av - Average detection



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



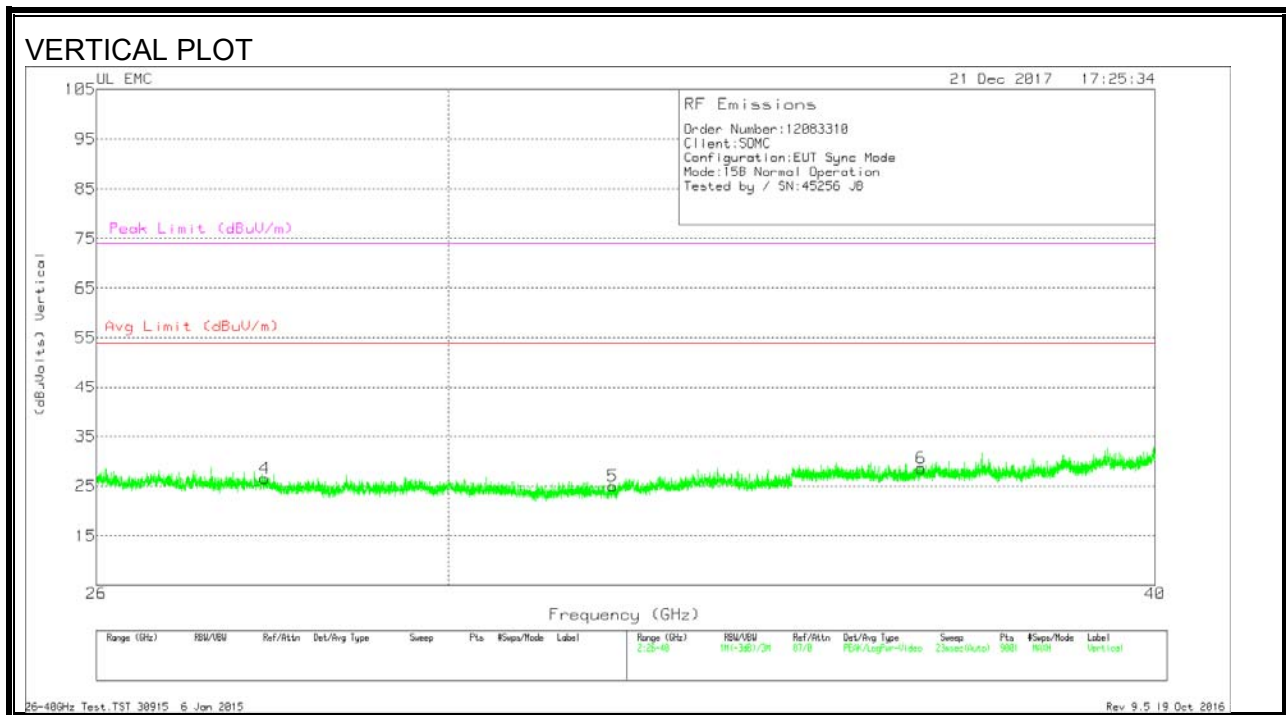
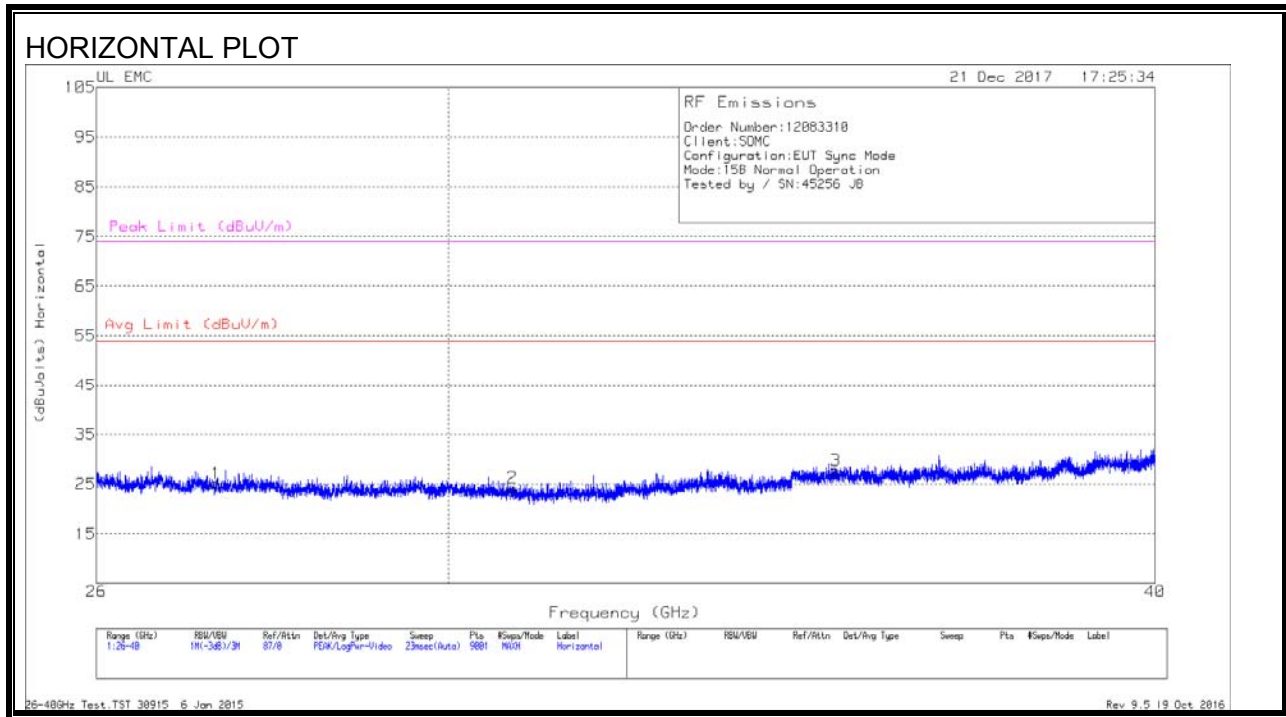
### HORIZONTAL AND VERTICAL DATA

#### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 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	19.168	35.14	Pk	32.3	-24.7	-9.5	33.24	54	-20.76	74	-40.76
2	21.004	36.13	Pk	32.4	-25.7	-9.5	33.33	54	-20.67	74	-40.67
3	23.783	36.51	Pk	33.7	-24.2	-9.5	36.51	54	-17.49	74	-37.49
4	19.577	35.12	Pk	32.5	-25.1	-9.5	33.02	54	-20.98	74	-40.98
5	22.376	36.2	Pk	33.1	-24.9	-9.5	34.9	54	-19.1	74	-39.1
6	24.6	35.92	Pk	33.9	-24.2	-9.5	36.12	54	-17.88	74	-37.88

Pk - Peak detector

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



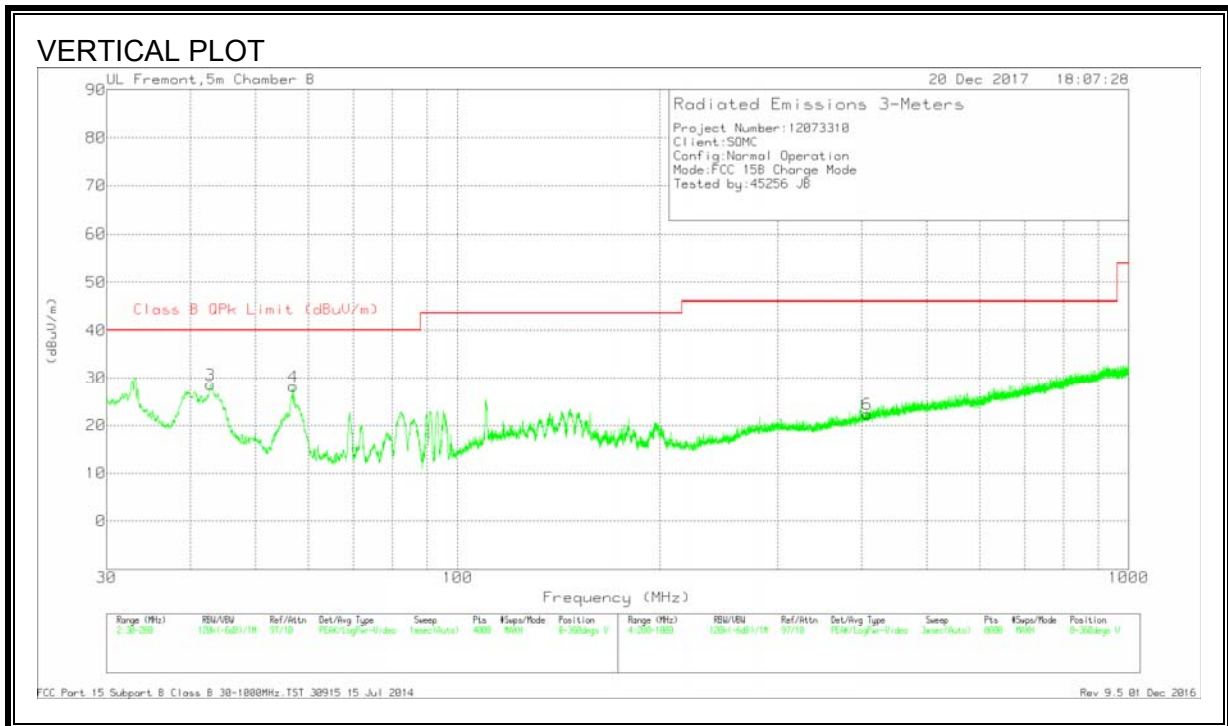
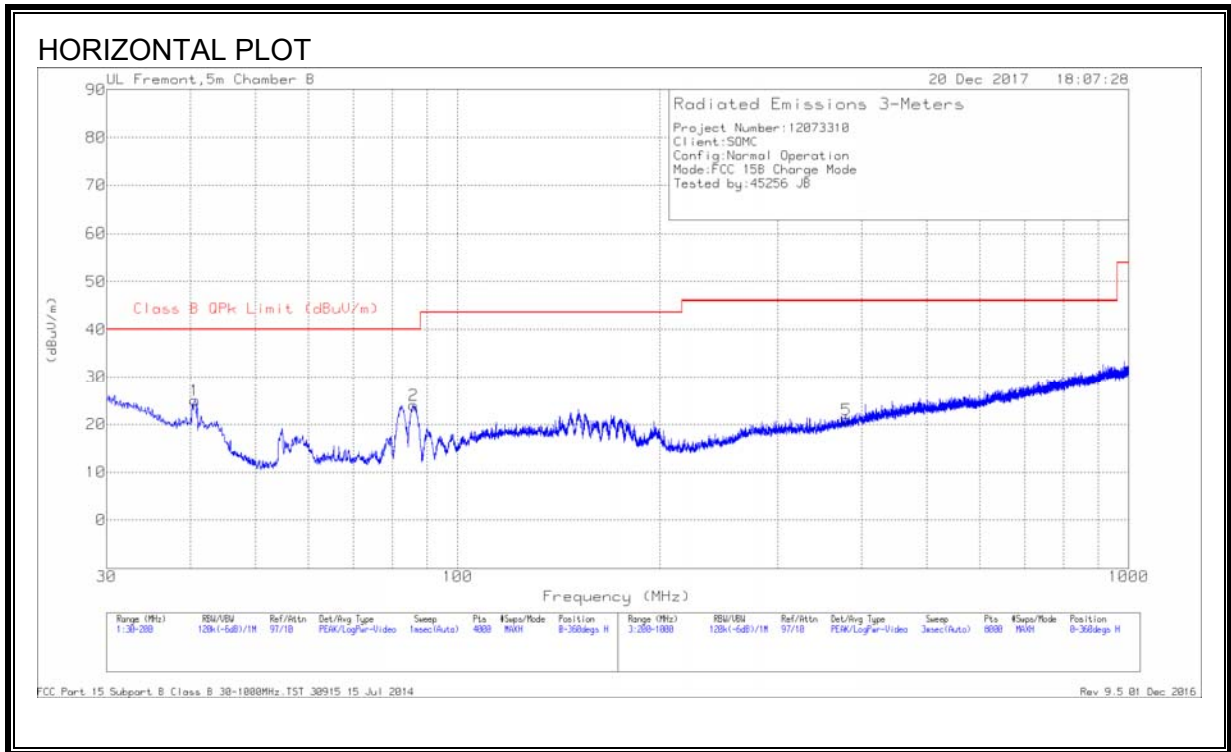
**HORIZONTAL AND VERTICAL DATA**

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	27.296	30.24	Pk	35.6	-31.2	-9.5	25.14	54	-28.86	74	-48.86
2	30.797	30.39	Pk	36	-32.6	-9.5	24.29	54	-29.71	74	-49.71
3	35.122	32.93	Pk	37.4	-33.1	-9.5	27.73	54	-26.27	74	-46.27
4	27.843	31.84	Pk	35.8	-31.6	-9.5	26.54	54	-27.46	74	-47.46
5	32.076	31.1	Pk	36.3	-32.9	-9.5	25	54	-29	74	-49
6	36.368	33.99	Pk	37.2	-33.1	-9.5	28.59	54	-25.41	74	-45.41

Pk - Peak detector

### 6.2.1. RADIATED EMISSIONS 30 TO 1000 MHz (CHARGING MODE)



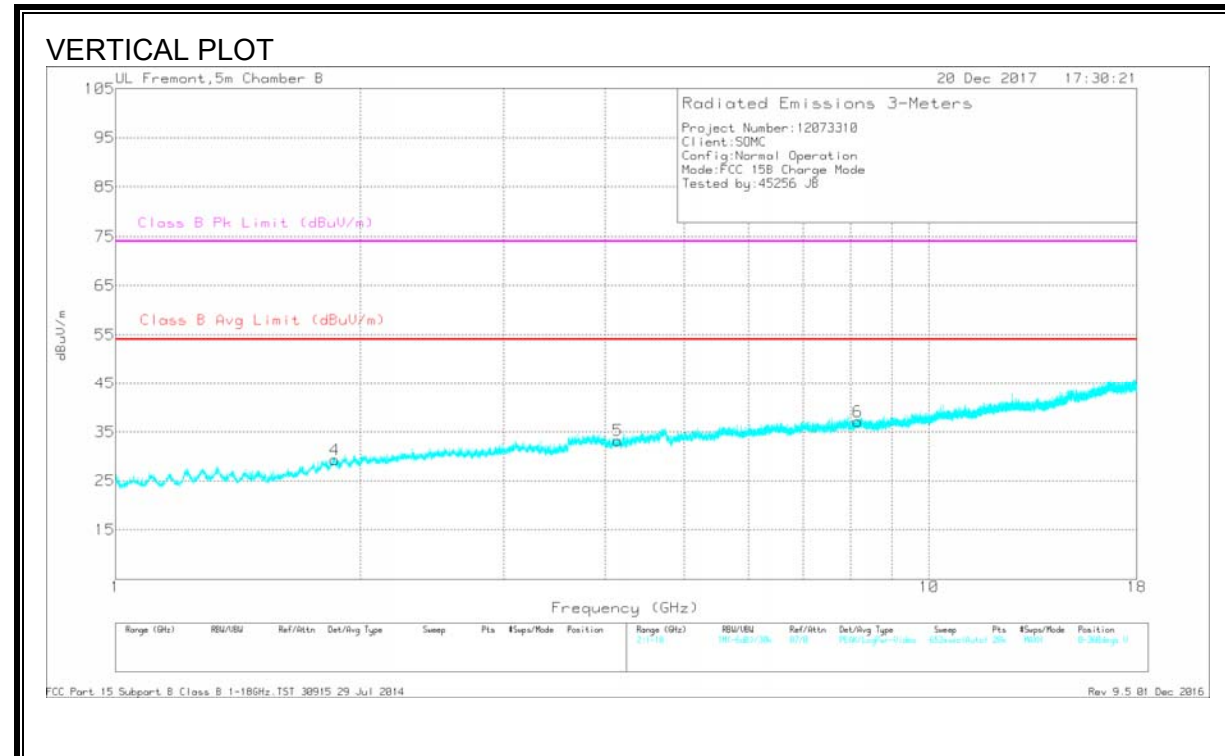
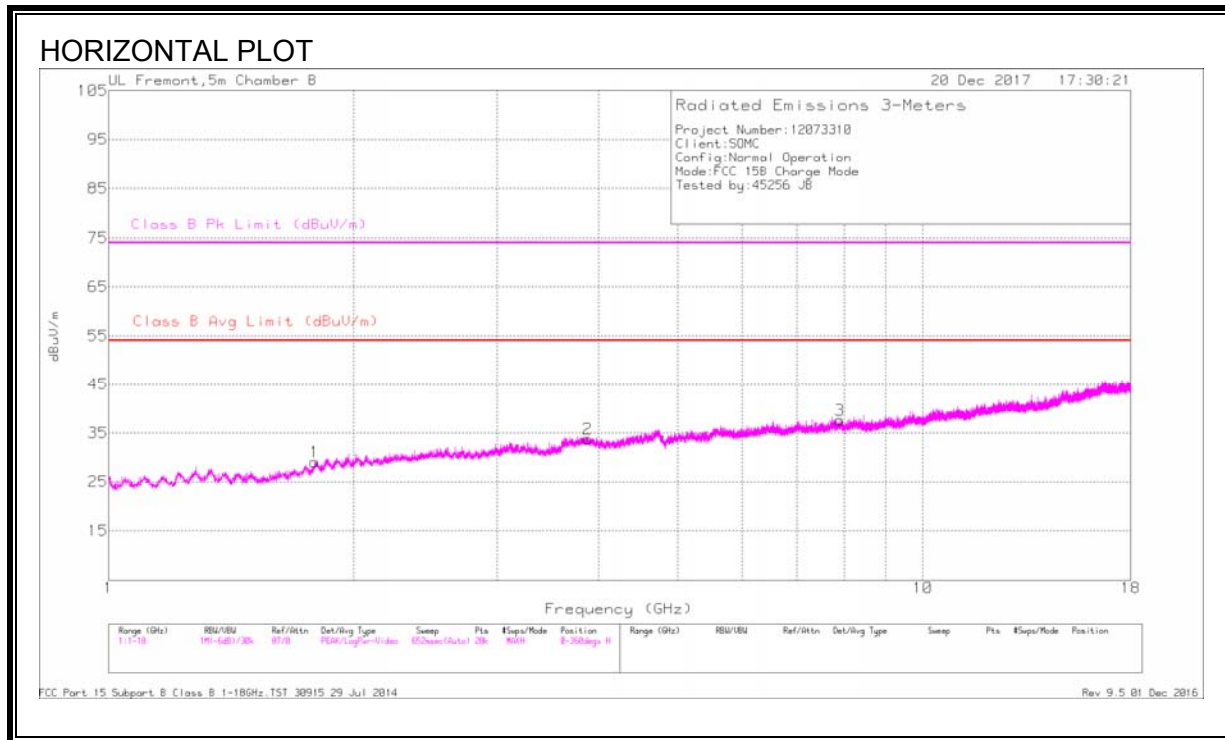
**HORIZONTAL AND VERTICAL DATA**

**Radiated Emissions**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.6278	36.09	Pk	17.7	-28.7	25.09	40	-14.91	0-360	400	H
3	42.8383	41.23	Pk	16	-28.6	28.63	40	-11.37	0-360	100	V
4	56.9095	45.32	Pk	11.3	-28.4	28.22	40	-11.78	0-360	100	V
2	85.987	41.06	Pk	11.1	-28.1	24.06	40	-15.94	0-360	400	H
5	380.1234	28.03	Pk	19	-26	21.03	46.02	-24.99	0-360	300	H
6	407.827	28.46	Pk	19.9	-26	22.36	46.02	-23.66	0-360	200	V

Pk - Peak detector

### 6.2.2. RADIATED EMISSIONS 1GHz to 18GHz (CHARGING MODE)



**HORIZONTAL AND VERTICAL DATA**

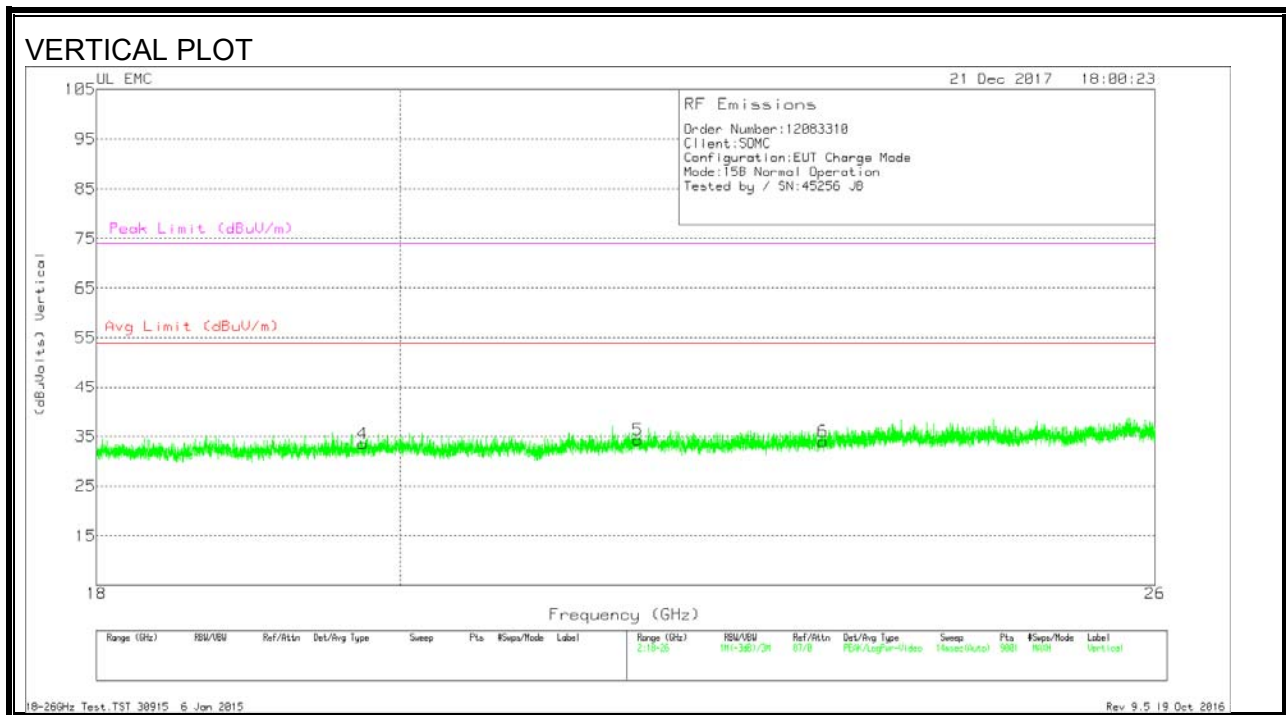
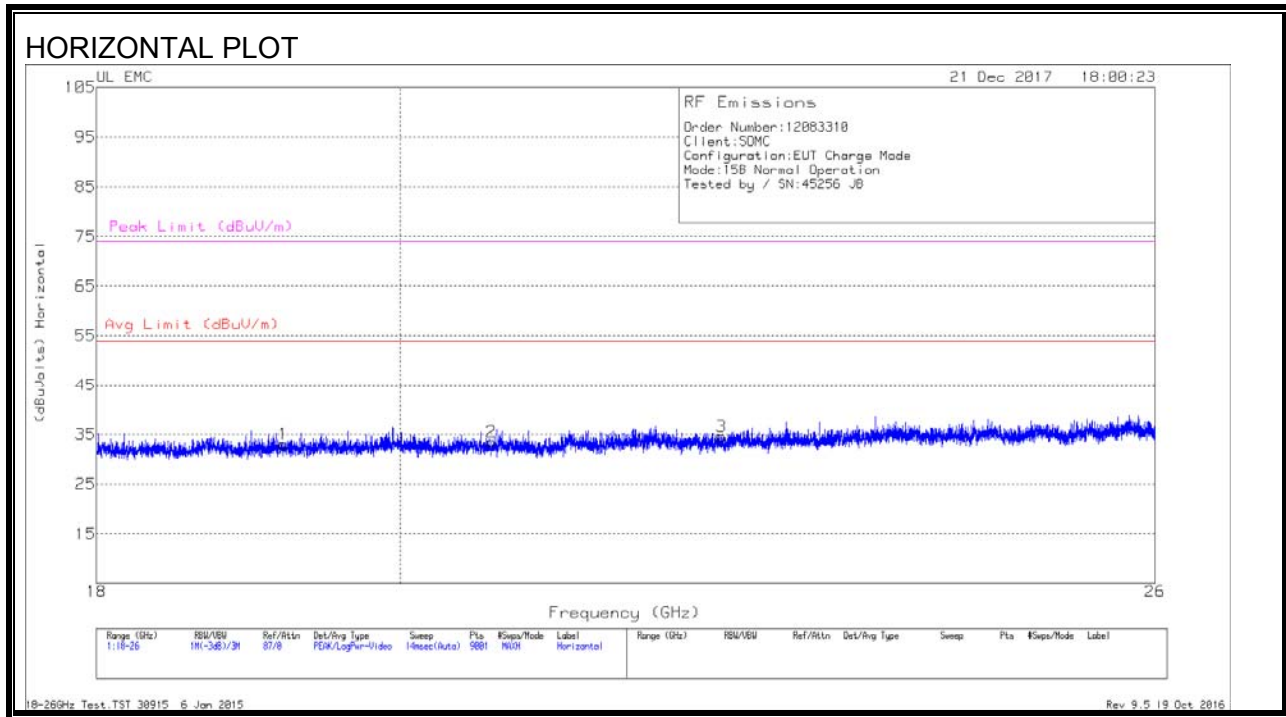
**Radiated Emissions**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.792	41.84	Pk	30.1	-33.5	38.44	-	-	74	-35.56	320	199	H
	1.792	28.12	Av	30.1	-33.5	24.72	54	-29.28	-	-	320	199	H
4	1.859	41.47	Pk	30.8	-33.6	38.67	-	-	74	-35.33	360	102	V
	1.859	28.29	Av	30.8	-33.6	25.49	54	-28.51	-	-	360	102	V
2	3.873	40.79	Pk	33.5	-31.4	42.89	-	-	74	-31.11	0	104	H
	3.873	27.1	Av	33.5	-31.4	29.2	54	-24.8	-	-	0	104	H
5	4.144	40.11	Pk	33.4	-31.7	41.81	-	-	74	-32.19	0	199	V
	4.144	27.08	Av	33.4	-31.7	28.78	54	-25.22	-	-	0	199	V
3	7.912	37.23	Pk	36	-28.1	45.13	-	-	74	-28.87	360	198	H
	7.912	23.95	Av	36	-28.1	31.85	54	-22.15	-	-	360	198	H
6	8.176	37.05	Pk	36	-27.6	45.45	-	-	74	-28.55	360	102	V
	8.176	23.38	Av	36	-27.6	31.78	54	-22.22	-	-	360	102	V

Pk - Peak detector  
 Av - Average detection



### 6.2.3. RADIATED EMISSIONS 18 to 26 GHz (CHARGING MODE)



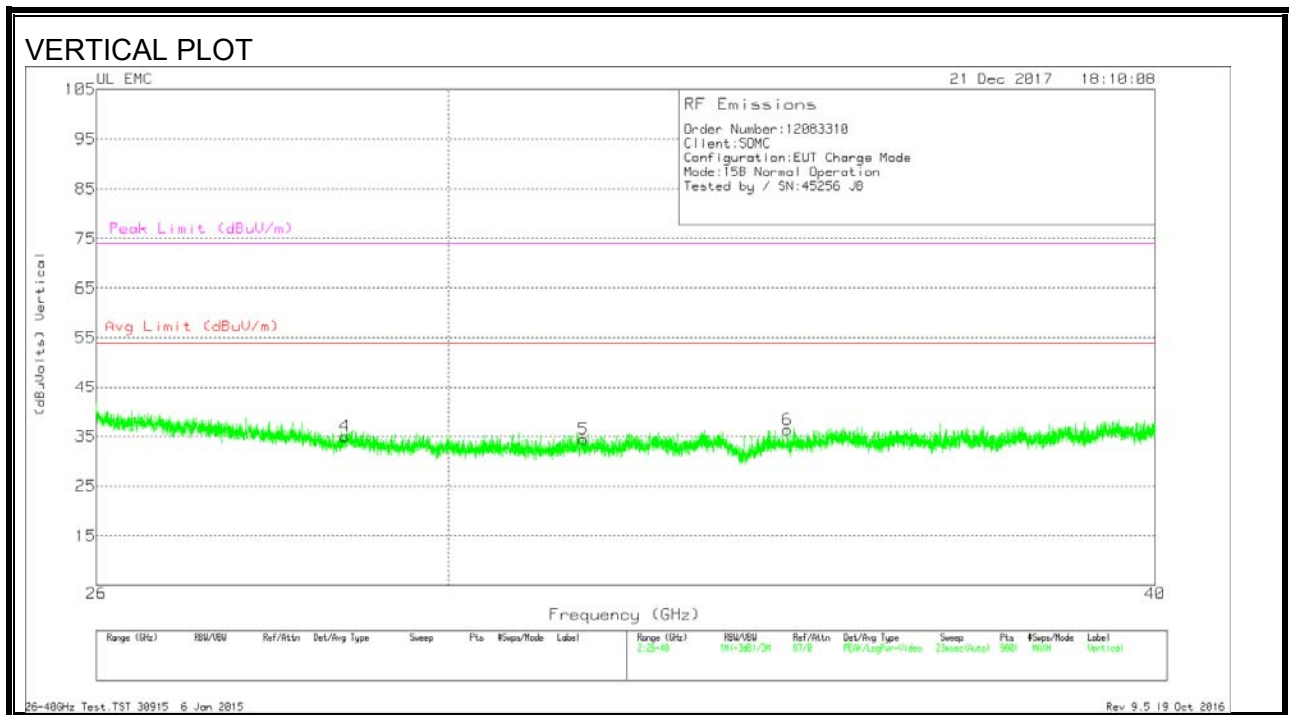
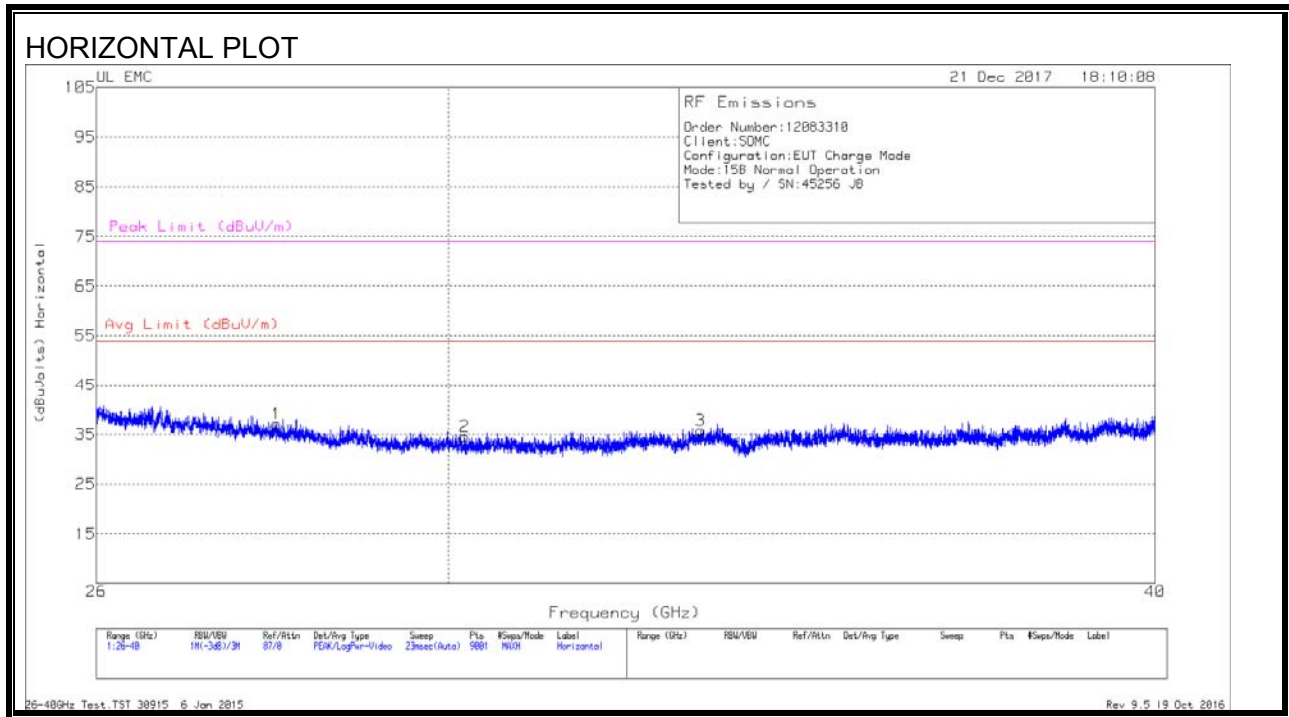
### HORIZONTAL AND VERTICAL DATA

#### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 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	19.207	35.23	Pk	32.3	-25	-9.5	33.03	54	-20.97	74	-40.97
2	20.646	35.79	Pk	32.7	-25.5	-9.5	33.49	54	-20.51	74	-40.51
3	22.364	35.84	Pk	33	-24.8	-9.5	34.54	54	-19.46	74	-39.46
4	19.742	35.4	Pk	32.5	-24.9	-9.5	33.5	54	-20.5	74	-40.5
5	21.724	35.39	Pk	33.3	-24.9	-9.5	34.29	54	-19.71	74	-39.71
6	23.164	34.99	Pk	33.5	-25	-9.5	33.99	54	-20.01	74	-40.01

Pk - Peak detector

### 6.2.4. RADIATED EMISSIONS 26 to 40 GHz (CHARGING MODE)



**HORIZONTAL AND VERTICAL DATA**

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	27.977	42.72	Pk	35.8	-31.9	-9.5	37.12	54	-16.88	74	-36.88
2	30.2	40.77	Pk	35.9	-32.6	-9.5	34.57	54	-19.43	74	-39.43
3	33.244	41.08	Pk	36.9	-32.7	-9.5	35.78	54	-18.22	74	-38.22
4	28.766	40.63	Pk	35.7	-31.8	-9.5	35.03	54	-18.97	74	-38.97
5	31.701	40.57	Pk	36.3	-32.9	-9.5	34.47	54	-19.53	74	-39.53
6	34.439	41.54	Pk	37.3	-33	-9.5	36.34	54	-17.66	74	-37.66

Pk - Peak detector

### 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  $\mu$ H/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.

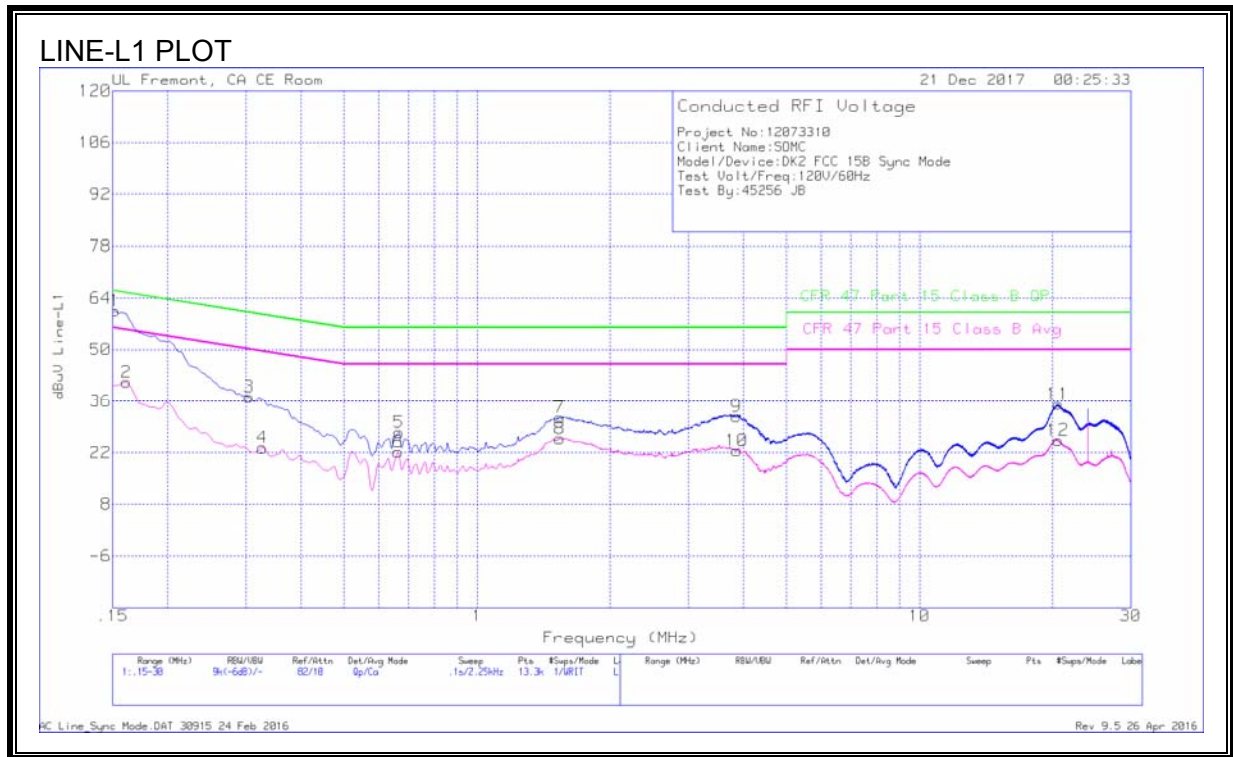
Frequency range (MHz)	Limits (dB $\mu$ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

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

### 6.3.1. RESULTS- SYNC MODE

#### 6 WORST EMISSIONS

#### Line-L1 .15 - 30MHz

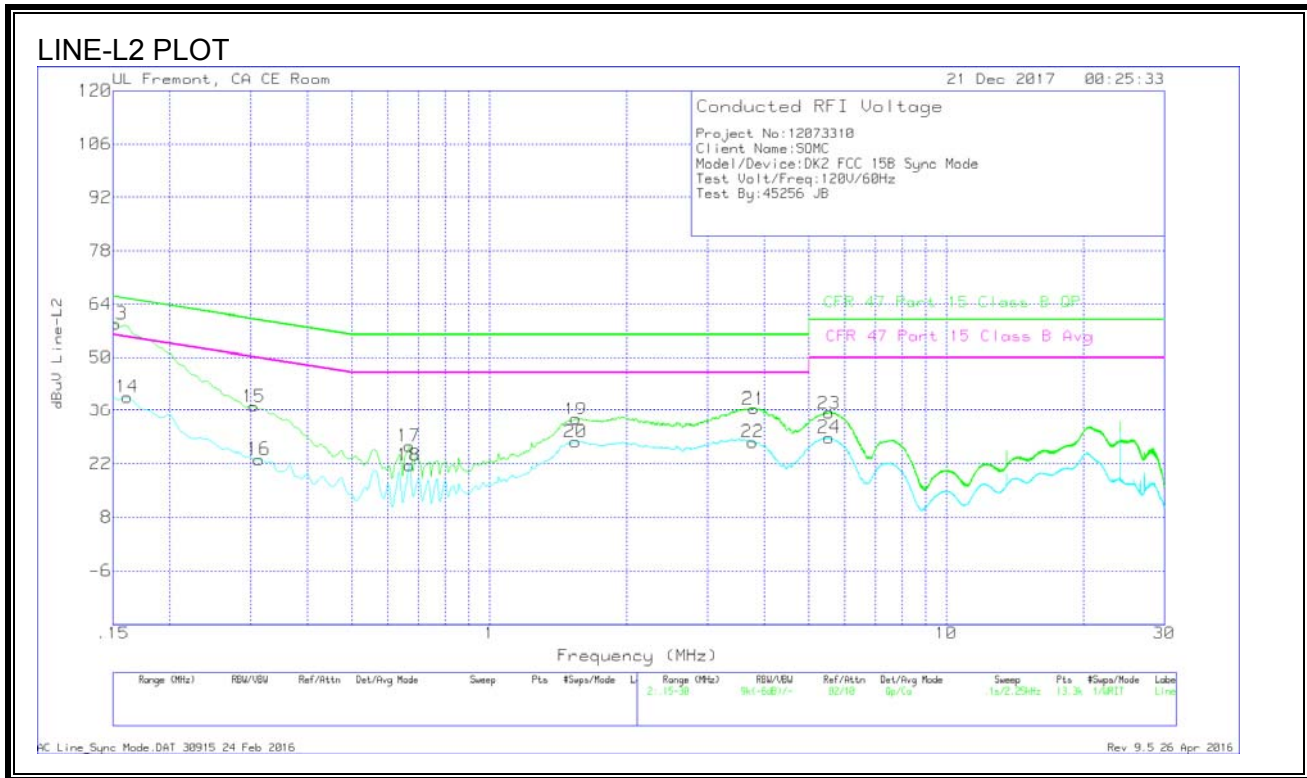


#### Trace Markers

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	50.3	Qp	.1	0	10.1	60.5	65.88	-5.38	-	-	
2	.16125	30.97	Ca	.1	0	10.1	41.17	-	-	55.4	-14.23	
3	.30525	27.05	Qp	0	0	10.1	37.15	60.1	-22.95	-	-	
4	.32775	13.22	Ca	0	0	10.1	23.32	-	-	49.51	-26.19	
5	.66525	17.34	Qp	0	0	10.1	27.44	56	-28.56	-	-	
6	.663	12.06	Ca	0	0	10.1	22.16	-	-	46	-23.84	
7	1.53825	21.32	Qp	0	.1	10.1	31.52	56	-24.48	-	-	
8	1.53825	15.62	Ca	0	.1	10.1	25.82	-	-	46	-20.18	
9	3.86025	21.51	Qp	0	.1	10.2	31.81	56	-24.19	-	-	
10	3.86475	12.25	Ca	0	.1	10.2	22.55	-	-	46	-23.45	
11	20.553	24.36	Qp	.1	.3	10.4	35.16	60	-24.84	-	-	
12	20.54963	14.51	Ca	.1	.3	10.4	25.31	-	-	50	-24.69	

Qp - Quasi-Peak detector  
 Ca - CISPR average detection

**Line-L2 .15 - 30MHz**



**Trace Markers**

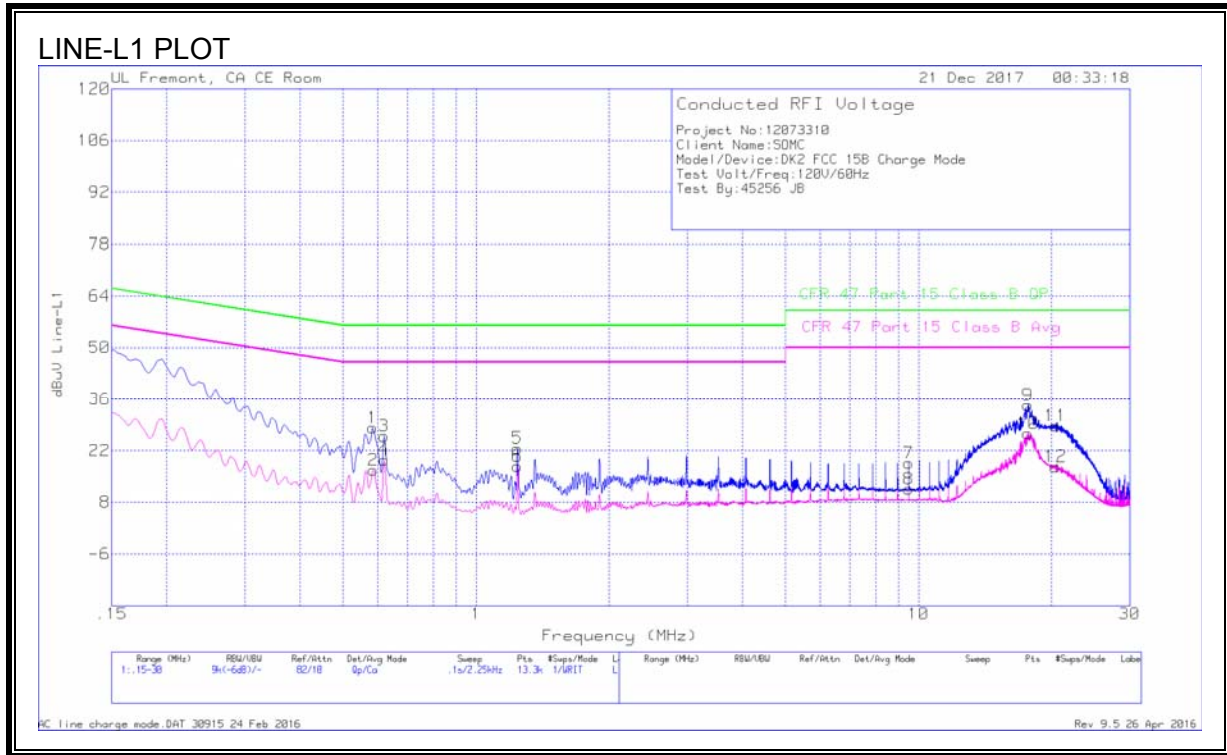
Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)Margin (dB)
13	.15225	48.76	Qp	0	0	10.1	58.86	65.88	-7.02	-	-
14	.16125	29.52	Ca	0	0	10.1	39.62	-	-	55.4	-15.78
15	.30525	26.98	Qp	0	0	10.1	37.08	60.1	-23.02	-	-
16	.31312	12.99	Ca	0	0	10.1	23.09	-	-	49.89	-26.8
17	.6675	16.44	Qp	0	0	10.1	26.54	56	-29.46	-	-
18	.6675	11.39	Ca	0	0	10.1	21.49	-	-	46	-24.51
19	1.545	23.46	Qp	0	.1	10.1	33.66	56	-22.34	-	-
20	1.54388	17.47	Ca	0	.1	10.1	27.67	-	-	46	-18.33
21	3.7905	26.13	Qp	0	.1	10.2	36.43	56	-19.57	-	-
22	3.77025	17.29	Ca	0	.1	10.2	27.59	-	-	46	-18.41
23	5.541	24.9	Qp	0	.2	10.2	35.3	60	-24.7	-	-
24	5.54438	18.36	Ca	0	.2	10.2	28.76	-	-	50	-21.24

Qp - Quasi-Peak detector  
 Ca - CISPR average detection

### 6.3.2. RESULTS- CHARGING MODE

#### 6 WORST EMISSIONS

#### Line-L1 .15 - 30MHz



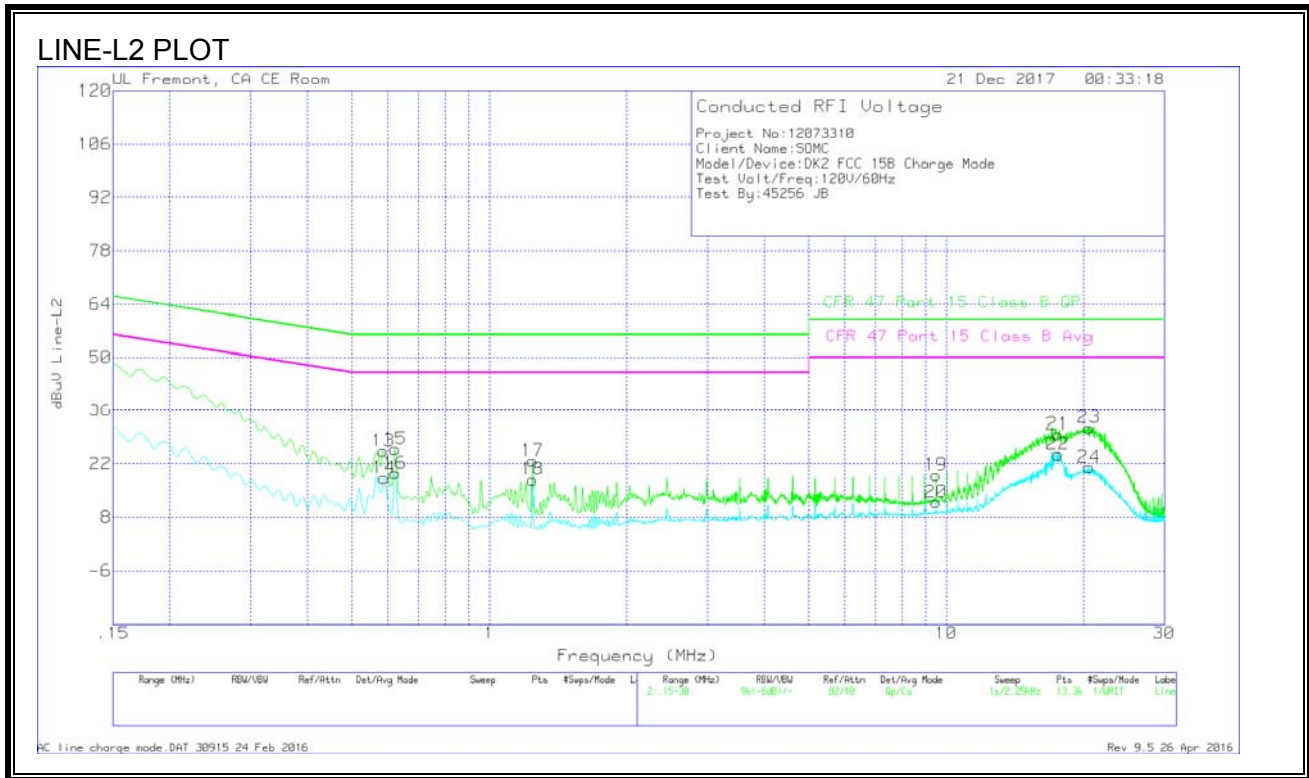
#### Trace Markers

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	.58425	18.09	Qp	0	0	10.1	28.19	56	-27.81	-	-
2	.5865	6.57	Ca	0	0	10.1	16.67	-	-	46	-29.33
3	.62025	15.81	Qp	0	0	10.1	25.91	56	-30.09	-	-
4	.62025	9.43	Ca	0	0	10.1	19.53	-	-	46	-26.47
5	1.24125	12.41	Qp	0	.1	10.1	22.61	56	-33.39	-	-
6	1.24125	7.59	Ca	0	.1	10.1	17.79	-	-	46	-28.21
7	9.501	8.19	Qp	0	.2	10.2	18.59	60	-41.41	-	-
8	9.501	1.13	Ca	0	.2	10.2	11.53	-	-	50	-38.47
9	17.66175	23.74	Qp	0	.3	10.3	34.34	60	-25.66	-	-
10	17.664	16.07	Ca	0	.3	10.3	26.67	-	-	50	-23.33
11	20.40788	17.93	Qp	.1	.3	10.4	28.73	60	-31.27	-	-
12	20.409	6.83	Ca	.1	.3	10.4	17.63	-	-	50	-32.37

Qp - Quasi-Peak detector  
 Ca - CISPR average detection



**Line-L2 .15 - 30MHz**



**Trace Markers**

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	USN 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	.5865	15.14	Qp	0	0	10.1	25.24	56	-30.76	-	-
14	.58875	8.17	Ca	0	0	10.1	18.27	-	-	46	-27.73
15	.6225	15.7	Qp	0	0	10.1	25.8	56	-30.2	-	-
16	.6225	9.31	Ca	0	0	10.1	19.41	-	-	46	-26.59
17	1.2435	12.52	Qp	0	.1	10.1	22.72	56	-33.28	-	-
18	1.2435	7.62	Ca	0	.1	10.1	17.82	-	-	46	-28.18
19	9.501	8.58	Qp	0	.2	10.2	18.98	60	-41.02	-	-
20	9.501	1.49	Ca	0	.2	10.2	11.89	-	-	50	-38.11
21	17.556	19.02	Qp	0	.3	10.3	29.62	60	-30.38	-	-
22	17.55375	13.75	Ca	0	.3	10.3	24.35	-	-	50	-25.65
23	20.53725	20.66	Qp	0	.3	10.4	31.36	60	-28.64	-	-
24	20.5395	10.26	Ca	0	.3	10.4	20.96	-	-	50	-29.04

Qp - Quasi-Peak detector  
 Ca - CISPR average detection