CERTIFICATION TEST REPORT

Report Number. : 13003458-E1V2

Applicant	:	BRAUN GMBH T-QTA FRANKFURTER STRASSE 145 KRONBERG TS, D-61476 DE
Model	:	3768
FCC ID	:	USQ3768
EUT Description	:	Wireless Charger
Test Standard(s)	:	FCC 47 CFR PART 18 SUBPART C

Date Of Issue:
December 12, 2019

Prepared by:
UL Verification Services Inc.
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NVLAP Lab code: 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	12/4/2019	Initial Issue	--
V2	12/12/2019	Updated operational frequency, support equipment and test equipment cal.	Tri Pham

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TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS 4

2. TEST METHODOLOGY 5

3. FACILITIES AND ACCREDITATION 5

4. CALIBRATION AND UNCERTAINTY 6

4.1. MEASURING INSTRUMENT CALIBRATION 6

4.2. SAMPLE CALCULATION 6

4.3. MEASUREMENT UNCERTAINTY 6

5. EQUIPMENT UNDER TEST 7

5.1. DESCRIPTION OF EUT 7

5.2. OPERATING FREQUENCY AND POWER 7

5.3. SOFTWARE AND FIRMWARE 7

5.4. CONFIGURATION AND INVESTIGATED 7

5.5. WORST-CASE MODE AND MODE 7

5.6. DETAILS OF TESTED SYSTEM 8

6. TEST AND MEASUREMENT EQUIPMENT 11

7. APPLICABLE LIMITS AND TEST RESULTS 12

7.1. RADIATED EMISSIONS 12

7.1.1. SPURIOUS EMISSIONS 9 kHz TO 30 MHz CHARGING MODE @3m 14
7.1.1. SPURIOUS EMISSIONS 9 kHz TO 30 MHz STANDBY MODE @3m 16
7.1.2. SPURIOUS EMISSIONS 30 MHz TO 1000 MHz CHARGING MODE 18
7.1.3. SPURIOUS EMISSIONS 30 MHz TO 1000 MHz STANDBY MODE 20

7.2. AC POWER LINE CONDUCTED EMISSIONS 22

7.2.1. Charging Mode 23
7.2.1. Standby Mode 25

8. SETUP PHOTOS 27

8.1. Standby 27

8.1. Charging 28

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: BRAUN GMBH
T-QTA FRANKFURTER STRASSE 145
KRONBERG TS, D-61476 DE

EUT DESCRIPTION: Wireless Charger

MODEL: 3768

SERIAL NUMBER: DVTD8H1850 05679

DATE TESTED: SEPTEMBER 30 – NOVEMBER 25, 2019

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 18 SUBPART C	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

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 UL, NVLAP, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released For
UL Verification Services Inc. By:

Frank Ibrahim
OPERATIONS LEAD
UL Verification Services Inc.

Reviewed By:

Tri Pham
PROJECT ENGINEER
UL Verification Services Inc.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC / OST MP-5, "FCC Methods of Measurements of Radio Noise Emissions from Industrial, Scientific, and Medical Equipment."

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, and 47658 Kato Road, Fremont, California, USA. 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	47658 Kato Rd.
☐ Chamber A (ISED:2324B-1)	☐ Chamber D (ISED:22541-1)	☐ Chamber I (ISED: 2324A-5)
☐ Chamber B (ISED:2324B-2)	☐ Chamber E (ISED:22541-2)	☐ Chamber J (ISED: 2324A-6)
☐ Chamber C (ISED:2324B-3)	☐ Chamber F (ISED:22541-3)	☒ Chamber K (ISED: 2324A-1)
	☐ Chamber G (ISED:22541-4)	☐ Chamber L (ISED: 2324A-3)
	☐ Chamber H (ISED:22541-5)	

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers above are covered under Industry Canada company address and respective code.

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

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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, 9KHz to 0.15 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
Occupied Channel Bandwidth	±0.39 %

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

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT is a wireless charger for electric toothbrushes.

5.2. OPERATING FREQUENCY AND POWER

- Operating Frequency of the WPT: 80-96 kHz

5.3. SOFTWARE AND FIRMWARE

N/A

5.4. CONFIGURATION AND INVESTIGATED

Configuration	Description
1	Charging Mode
2	Standby Mode

5.5. WORST-CASE MODE AND MODE

The EUT is wireless charger enclosed in a plastic case.

Note that the EUT was tested as standby and charging modes.

For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.

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5.6. DETAILS OF TESTED SYSTEM

SUPPORT EQUIPMENT

SUPPORT EQUIPMENT & PERIPHERALS LIST			
Description	**Manufacturer**	**Model**	**Serial Number**
Toothbrush	Braun	3758	W690

I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	1	AC	Unshield	1.5	

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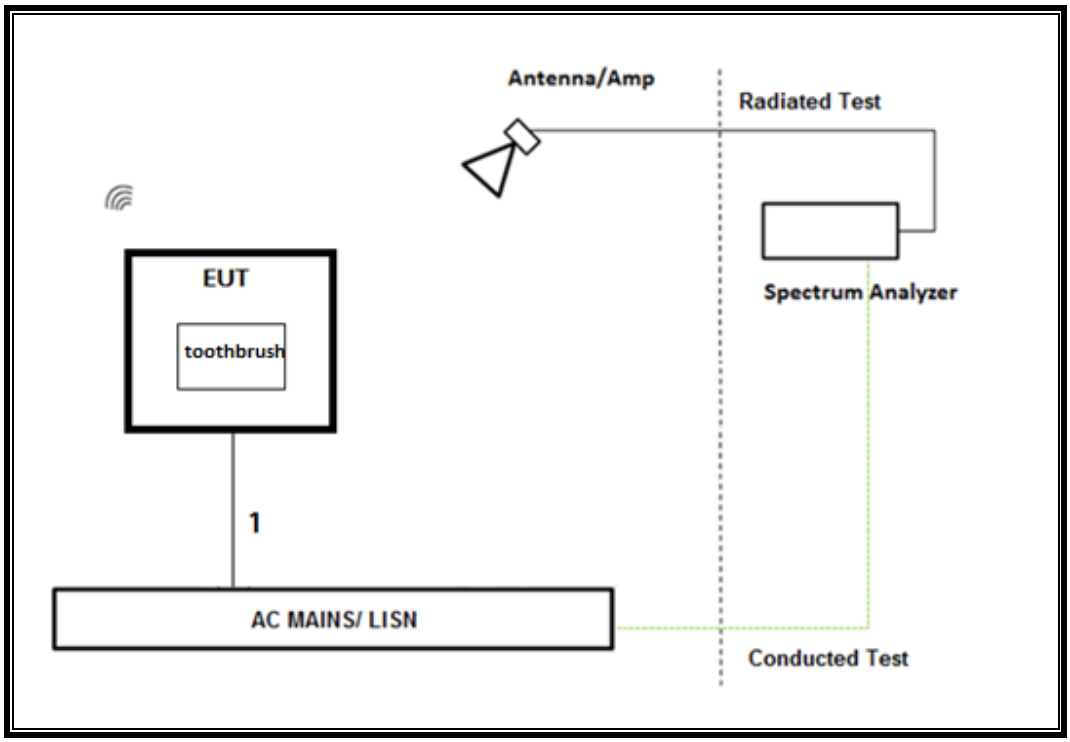
TEST SETUP – AC POWER LINE CONDUCTED TEST AND RADIATED TEST

SETUP DIAGRAM CHARGING MODE



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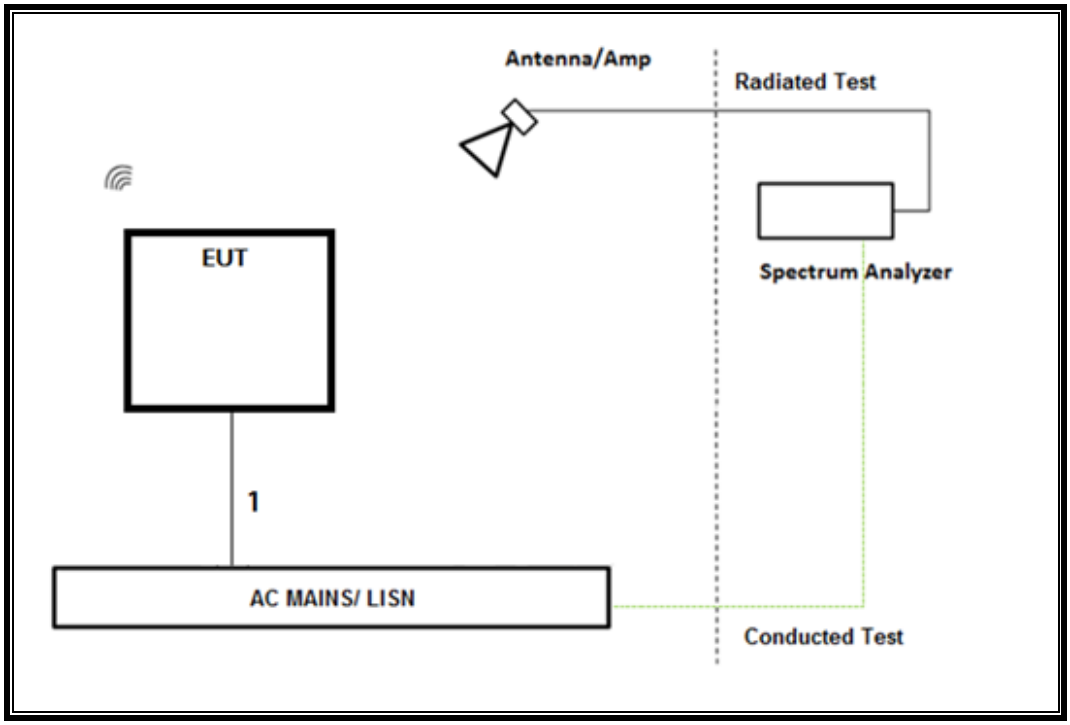
SETUP DIAGRAM STANDBY MODE



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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**	**Local ID (T No.)**	**Cal Date**	**Cal Due**
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	T863	05/30/2018	05/30/2020
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB3	T899	08/23/2019	08/23/2020
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1454	01/08/2019	01/08/2020
RF Amplifier, 1-18GHz	MITEQ	AFS42-00101800-25-S-42	T1165	06/24/2019	05/24/2020
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179372	02/16/2019	02/16/2020
Hybrid Antenna, 30MHz to 3GHz	SunAR rf motion	JB3	PRE0181575	09/05/2019	09/05/2020
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1454	01/23/2019	01/23/2020
Antenna, Passive Loop 30Hz – 1MHz	Electro-Metrics	EM-6871	PRE0179465	05/31/2019	5/31/2020
Antenna, Passive Loop 100kHz – 30MHz	Electro-Metrics	EM-6872	PRE0179467	05/31/2019	5/31/2020
AC Line Conducted					
EMI Test Receiver	Rohde&Schwarz	ESR	T1436	4/10/2019	4/10/2020
AC Power source	Schaffner	NSG1007	T134	1/23/2019	1/23/2020
L.I.S.N	FCC INC.	FCC LISN 50/250	T1310	1/24/2019	1/24/2020
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, Dec 01, 2016		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015		

NOTE:

Equipment listed above that has a calibration due date during the testing period, the testing was completed before equipment expiration date.

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7. APPLICABLE LIMITS AND TEST RESULTS

7.1. RADIATED EMISSIONS

LIMIT

§18.301 Operating frequencies

The EUT operates at 80 - 96 kHz

§18.305 Field Strength Limits
(b) The field strength levels of emissions which lie outside the bands specified in §18.301, unless otherwise indicated, shall not exceed the following:

Equipment	Operating frequency	RF Power generated by equipment (watts)	Field strength limit (μV/m)	Distance (meters)
Any type unless otherwise specified (miscellaneous)	Any ISM frequency	Below 500 500 or more	25 25 × SQRT(power/500)	300 [1]300
	Any non-ISM frequency	Below 500 500 or more	15 15 × SQRT(power/500	300 [1]300

[1]Field strength may not exceed 10 μV/m at 1600 meters. Consumer equipment operating below 1000 MHz is not permitted the increase in field strength otherwise permitted here for power over 500 watts.

The field strength limit is 23.5 dBuV/m at 300 m.

TEST PROCEDURE

FCC / MP-5

The frequency range was investigated from 9 kHz to 1 GHz.

KDB 414788 OFS and Chamber Correlation Justification

For below 30MHz testing, based on KDB 414788, Clause 2, for Part 18 equipment, Section 2.1 of FCC Measurement Procedure MP-5 also permits the use of test sites other than an open-field test site only if it can be shown that the results obtained at such a location are correlated with those made at an open-field test site.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

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Distance Correction Factor

Based on FCC 18.305, note 2. Testing for compliance with these limits may be made at closer distances, provided a sufficient number of measurements are taken to plot the radiation pattern, to determine the major lobes of radiation, and to determine the expected field strength level at 30, 300, or 1600 meters. Alternatively, if measurements are made at only one closer fixed distance, then the permissible field strength limits shall be adjusted using 1/d as an attenuation factor.

- Distance factor from 3m to 300m = 20log (3/300) = -40dB

Extrapolation factor, X, is calculated from: X Log10 (distance 1 / distance 2) = Level at distance 1 (dBuV/m) – level at distance 2 (dBuV/m).

The levels at 3m, 5m and 10m are the maximum / highest field strength values across all measurement antenna polarisations and EUT azimuths at each distance.

The lowest calculated value for X is then used to determine the factor to use to extrapolate the measured data at 3m to a distance of 300m and the level at 300m is the level at 3m minus the factor.

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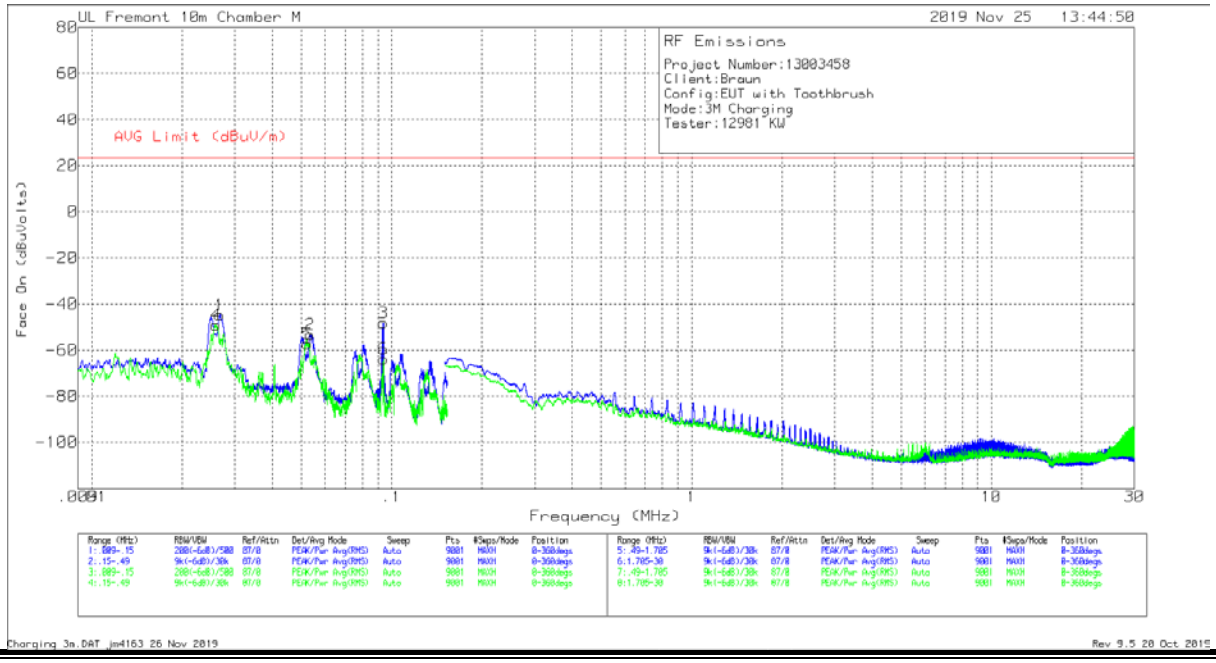
RESULTS

7.1.1. SPURIOUS EMISSIONS 9 kHz TO 30 MHz CHARGING MODE @3m

ANTENNA LOOP FACE ON AND FACE OFF



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF)	Amp/Cbl (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuVolts)	AVG Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.02666	52.58	Pk	58.1	-32.4	-123	-44.72	23.5	-68.22	0-360
2	.05346	45.35	Pk	56.6	-32.2	-123	-53.25	23.5	-76.75	0-360
3	.09378	51.5	Pk	55.5	-32.1	-123	-48.1	23.5	-71.6	0-360
4	.02596	48.28	Pk	58.1	-32.4	-123	-49.02	23.5	-72.52	0-360
5	.05223	41.3	Pk	56.7	-32.2	-123	-57.2	23.5	-80.7	0-360
6	.09382	35.86	Pk	55.5	-32.1	-123	-63.74	23.5	-87.24	0-360

Pk - Peak detector

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NOTE: Extrapolation factor, X, is calculated from: X Log_{10} (distance 1 / distance 2) = Level at distance 1 (dBuV/m) – level at distance 2 (dBuV/m).

The levels at 3m, 5m and 10m are the maximum / highest field strength values across all measurement antenna polarisations and EUT azimuths at each distance.

The lowest calculated value for X is then used to determine the factor to use to extrapolate the measured data at 3m to a distance of 300m and the level at 300m is the level at 3m minus the factor.

Frequency (MHz)	Highest Corrected Reading (dBuV/m)			Extrapolation Factor X, Calculated from measurements			3m to 300m	Peak level at 300m (dBuV/m)
	3m	5m	10m	3m to 5m	3m to 10m	5m to 10m		
0.02666	78.28	64.34	46.02	-63	-62	-61	126	-47.4
0.05346	69.75	55.69	39.69	-63	-57	-53	127	-57.0
0.09378	74.9	61.26	44.96	-61	-57	-54	123	-48.1

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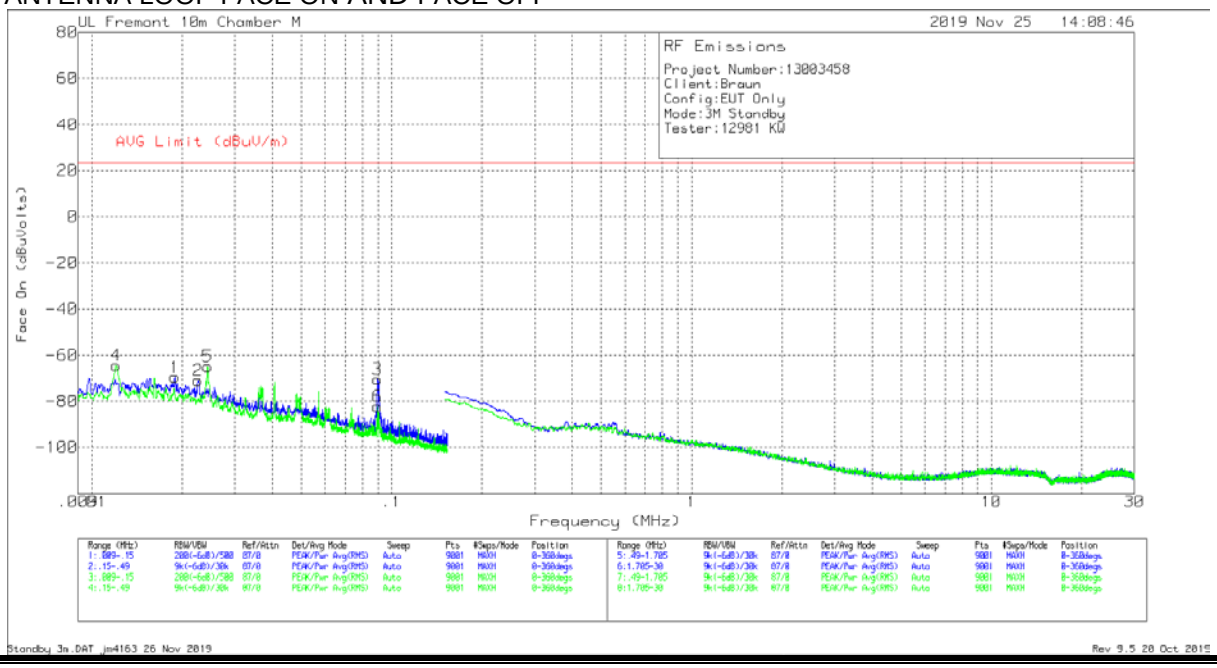
7.1.1. SPURIOUS EMISSIONS 9 kHz TO 30 MHz STANDBY MODE @3m

ANTENNA LOOP FACE ON AND FACE OFF



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF)	Amp/Cbl (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuVolts)	AVG Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.01892	32	Pk	59	-32.5	-128	-69.5	23.5	-93	0-360
2	.02257	31.04	Pk	58.5	-32.5	-128	-70.96	23.5	-94.46	0-360
3	.08969	34.09	Pk	55.6	-32.1	-128	-70.41	23.5	-93.91	0-360
4	.01206	36.17	Pk	59.9	-32.5	-128	-64.43	23.5	-87.93	0-360
5	.02431	37.21	Pk	58.3	-32.4	-128	-64.89	23.5	-88.39	0-360
6	.08959	22.28	Pk	55.6	-32.1	-128	-82.22	23.5	-105.72	0-360

Pk - Peak detector

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NOTE: Extrapolation factor, X, is calculated from: X Log_{10} (distance 1 / distance 2) = Level at distance 1 (dBuV/m) – level at distance 2 (dBuV/m).

The levels at 3m, 5m and 10m are the maximum / highest field strength values across all measurement antenna polarisations and EUT azimuths at each distance.

The lowest calculated value for X is then used to determine the factor to use to extrapolate the measured data at 3m to a distance of 300m and the level at 300m is the level at 3m minus the factor.

Frequency (MHz)	Highest Corrected Reading (dBuV/m)			Extrapolation Factor X, Calculated from measurements			3m to 300m	Peak level at 300m (dBuV/m)
	3m	5m	10m	3m to 5m	3m to 10m	5m to 10m		
0.01292	63.57	53.97	22.39	-43	-79	-105	210	-146.2
0.22	57.04	52.01	32.68	-23	-47	-64	128	-71.4
0.89	57.59	48.61	27.47	-40	-58	-70	140	-82.9

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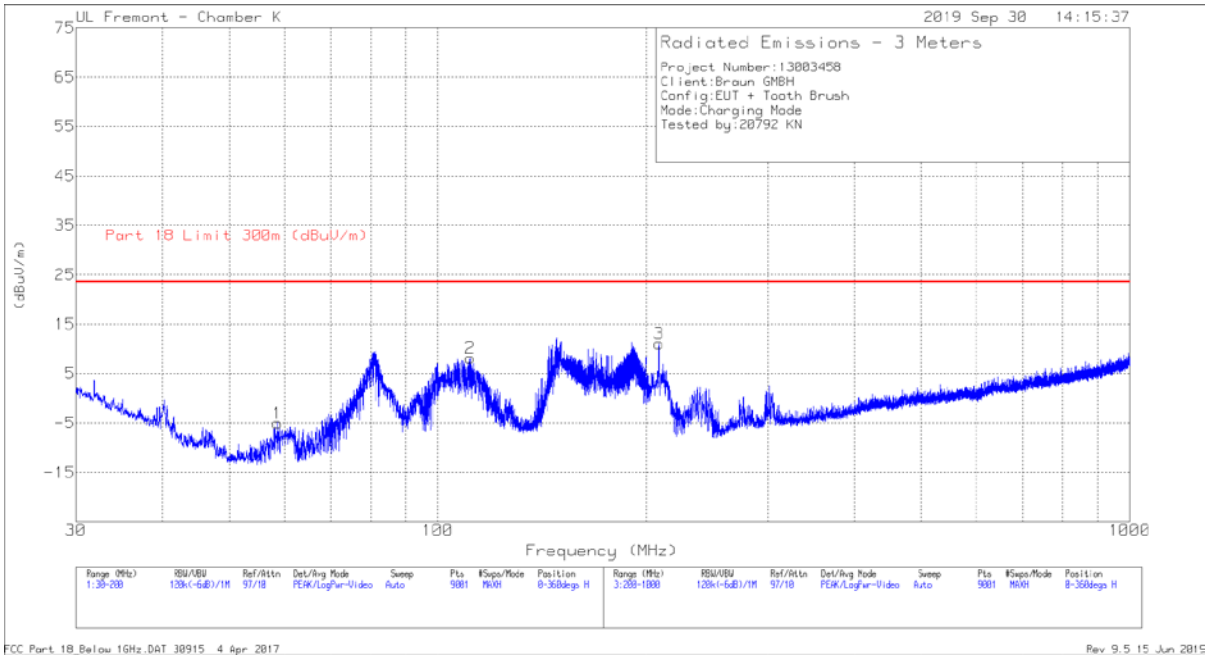
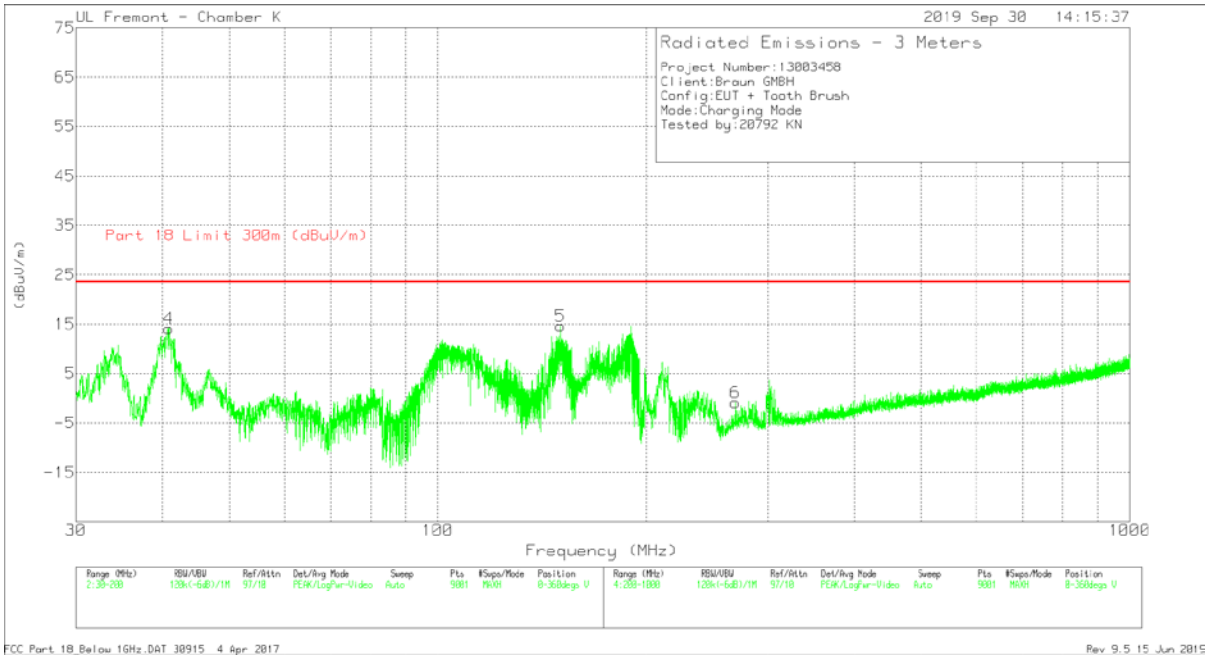
7.1.2. SPURIOUS EMISSIONS 30 MHz TO 1000 MHz CHARGING MODE

30MHz – 1000MHz HORIZONTAL & VERTICAL





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DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF PRE0184052 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	20dB Pad (dB)	Corrected Reading (dBuV/m)	Part 18 Limit 300m (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	58.6546	32.8	Pk	13.3	-31.2	-40	20	-5.1	-	-	0-360	299	H
2	* 111.3549	40.29	Pk	18.7	-30.9	-40	20	8.09	23.5	-15.41	0-360	199	H
4	40.8612	46.49	Pk	19	-31.4	-40	20	14.09	-	-	0-360	95	V
5	150.3796	46.79	Pk	18.4	-30.6	-40	20	14.59	-	-	0-360	95	V
3	208.5333	45.04	Pk	16.3	-30.3	-40	20	11.04	-	-	0-360	99	H
6	* 268.9779	29.97	Pk	19.1	-30	-40	20	-.93	23.5	-24.43	0-360	100	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	AF PRE0184052 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	20dB Pad (dB)	Corrected Reading (dBuV/m)	Part 18 Limit 300m (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
58.8124	25.72	Qp	13.3	-31.2	-40	20	-12.18	-	-	276	319	H
* 269.1496	22.14	Qp	19.1	-30	-40	20	-8.76	23.5	-32.26	270	168	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Qp - Quasi-Peak detector

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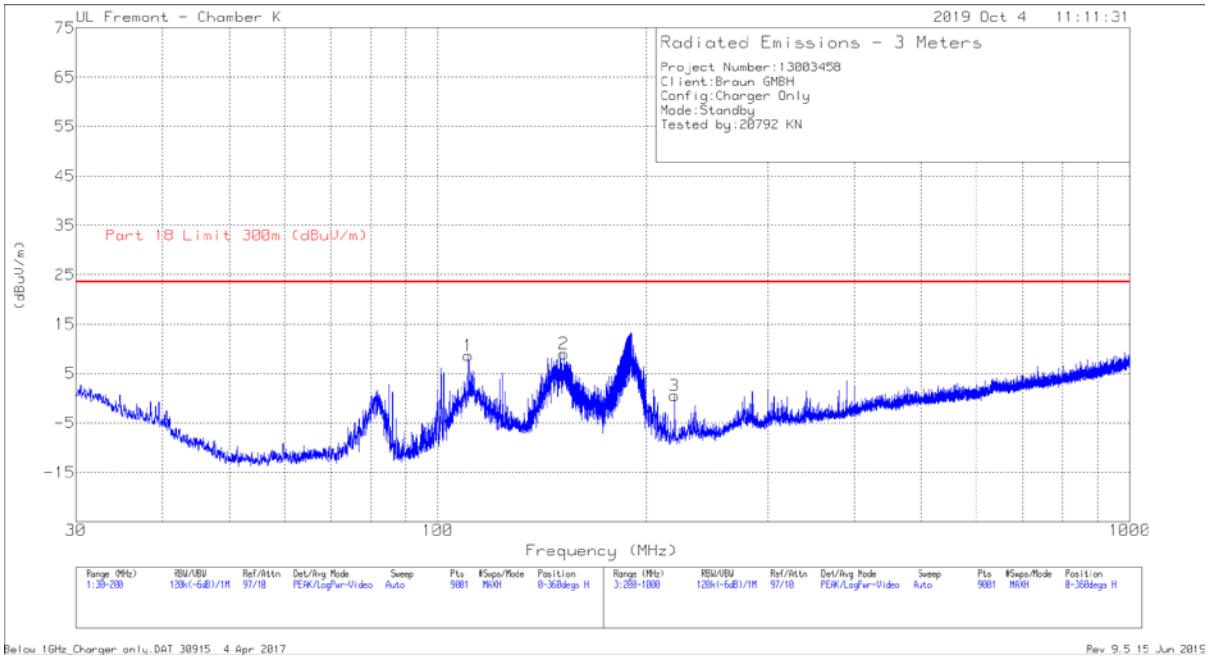
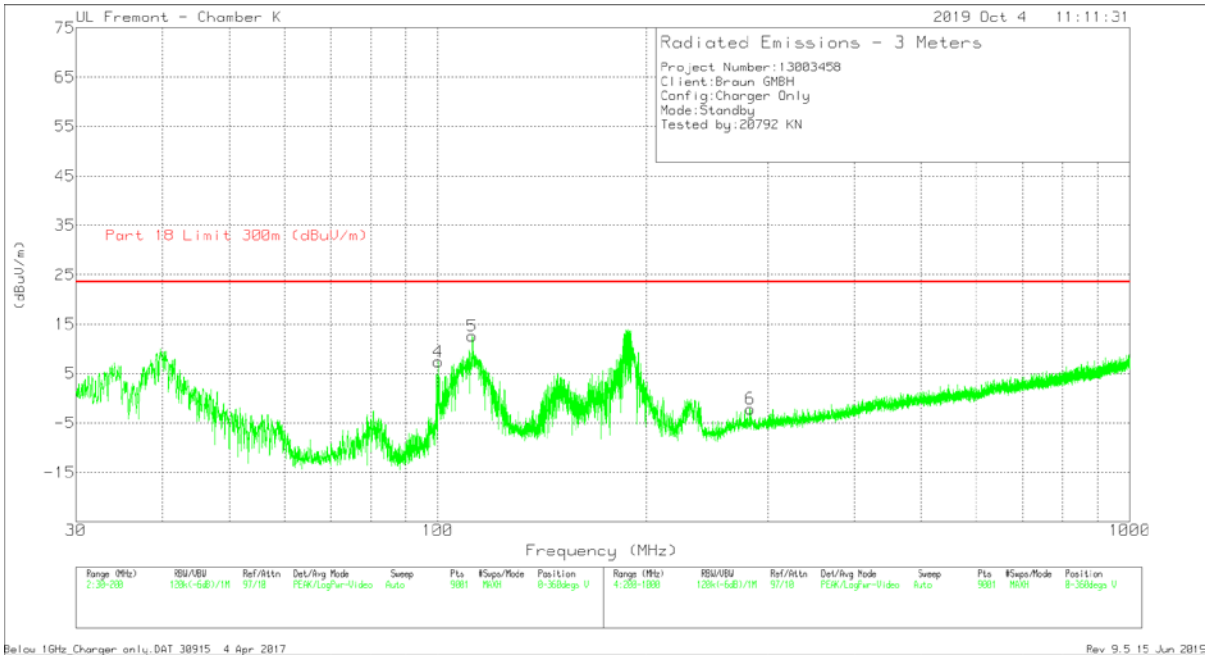
7.1.3. SPURIOUS EMISSIONS 30 MHz TO 1000 MHz STANDBY MODE

30MHz – 1000MHz HORIZONTAL & VERTICAL





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DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF PRE0184052 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	20dB Pad (dB)	Corrected Reading (dBuV/m)	Part 18 Limit 300m (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 110.8449	40.96	Pk	18.6	-30.9	-40	20	8.66	23.5	-14.84	0-360	299	H
2	152.0418	41.26	Pk	18.4	-30.6	-40	20	9.06	-	-	0-360	199	H
4	100.2104	42.02	Pk	16.2	-30.9	-40	20	7.32	-	-	0-360	100	V
5	* 112.2616	44.43	Pk	18.9	-30.8	-40	20	12.53	23.5	-10.97	0-360	100	V
3	219.9111	34.07	Pk	16.6	-30.2	-40	20	.47	-	-	0-360	199	H
6	* 282.6668	28.59	Pk	19.2	-29.9	-40	20	-2.11	23.5	-25.61	0-360	199	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	AF PRE0184052 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	20dB Pad (dB)	Corrected Reading (dBuV/m)	Part 18 Limit 300m (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 112.1902	35.3	Qp	18.8	-30.8	-40	20	3.3	23.5	-20.2	0	109	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Qp - Quasi-Peak detector

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47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 319-4000 FAX: (510) 661-0888
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7.2. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

§ 18.307 For the following equipment, when 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 shall not exceed the limits in the following table. Compliance with the provisions of this paragraph shall be based on the measurements of the radio frequency voltage between each power line and ground at the power terminal using a 50 µH/50 ohms line impedance stabilization network (LISN).

§ 18.307 (b) All other Part 18 consumer devices:

Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

FCC / OST MP-5

RESULTS

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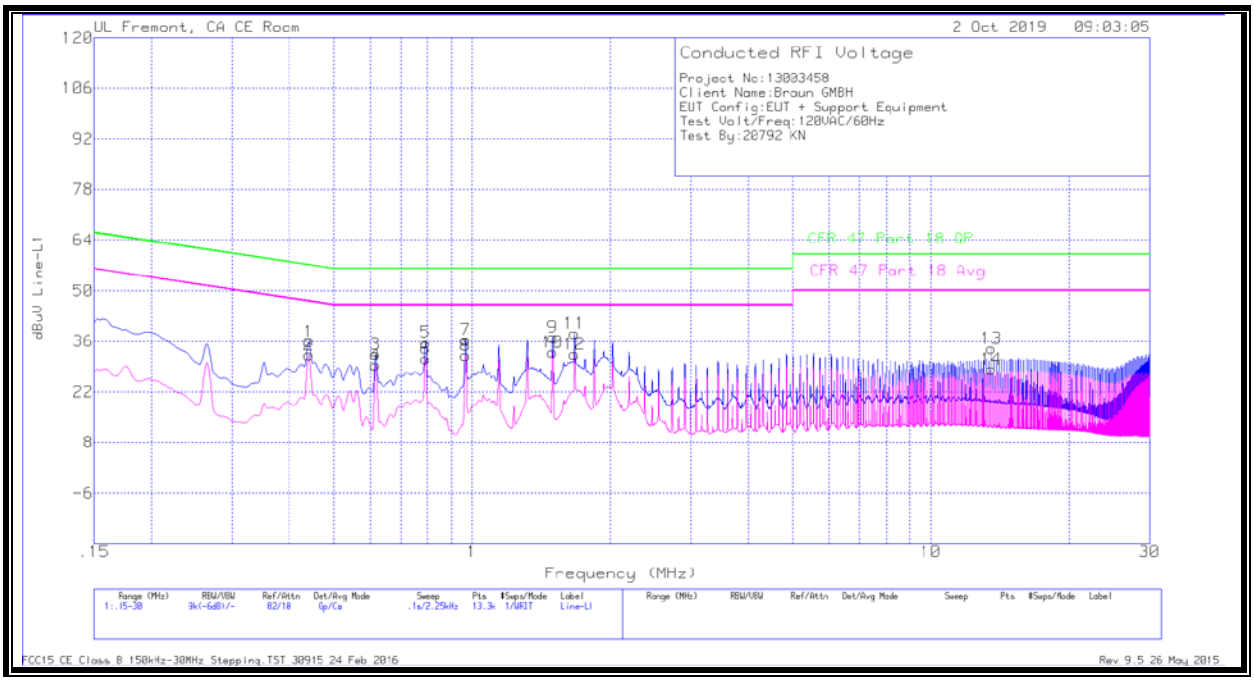
7.2.1. Charging Mode

LINE 1 RESULTS



WORST EMISSIONS

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 18 QP	QP Margin (dB)	CFR 47 Part 18 Avg	Av(CISPR) Margin (dB)
1	.44025	25.8	Qp	0	0	10.1	35.9	57.06	-21.16	-	-
2	.44025	22.19	Ca	0	0	10.1	32.29	-	-	47.06	-14.77
3	.61575	22.28	Qp	0	0	10.1	32.38	56	-23.62	-	-
4	.61575	19.37	Ca	0	0	10.1	29.47	-	-	46	-16.53
5	.79125	25.56	Qp	0	0	10.1	35.66	56	-20.34	-	-
6	.79125	21.17	Ca	0	0	10.1	31.27	-	-	46	-14.73
7	.969	26.16	Qp	0	.1	10.1	36.36	56	-19.64	-	-
8	.969	21.89	Ca	0	.1	10.1	32.09	-	-	46	-13.91
9	1.4955	26.87	Qp	0	.1	10.1	37.07	56	-18.93	-	-
10	1.4955	22.84	Ca	0	.1	10.1	33.04	-	-	46	-12.96
11	1.67325	28	Qp	0	.1	10.1	38.2	56	-17.8	-	-
12	1.67325	22.22	Ca	0	.1	10.1	32.42	-	-	46	-13.58
13	13.56	23.55	Qp	.1	.2	10.2	34.05	60	-25.95	-	-
14	13.55775	17.74	Ca	.1	.2	10.2	28.24	-	-	50	-21.76

Qp - Quasi-Peak detector

Ca - CISPR average detection

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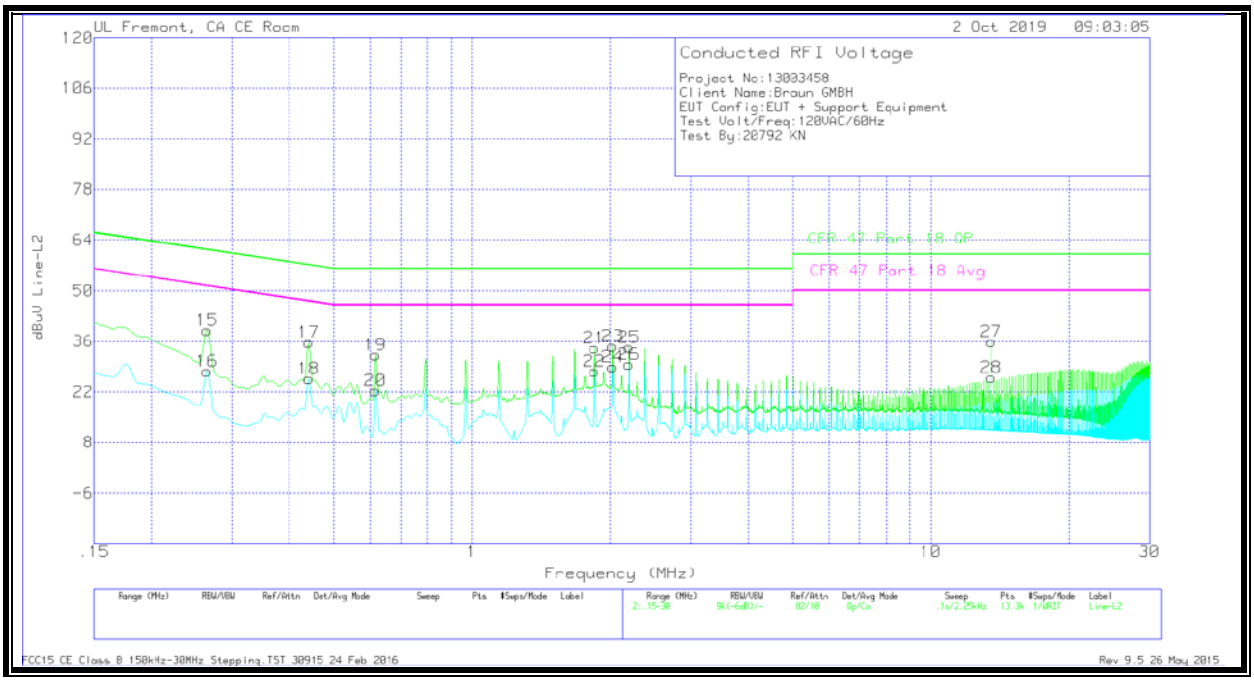
LINE 2 RESULTS



WORST EMISSIONS

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 18 QP	QP Margin (dB)	CFR 47 Part 18 Avg	Av(CISPR) Margin (dB)
15	.26475	28.91	Qp	0	0	10.1	39.01	61.28	-22.27	-	-
16	.26475	17.62	Ca	0	0	10.1	27.72	-	-	51.28	-23.56
17	.44025	25.58	Qp	0	0	10.1	35.68	57.06	-21.38	-	-
18	.44025	15.63	Ca	0	0	10.1	25.73	-	-	47.06	-21.33
19	.61575	22.18	Qp	0	0	10.1	32.28	56	-23.72	-	-
20	.61575	12.21	Ca	0	0	10.1	22.31	-	-	46	-23.69
21	1.84875	24.01	Qp	0	.1	10.1	34.21	56	-21.79	-	-
22	1.84875	17.54	Ca	0	.1	10.1	27.74	-	-	46	-18.26
23	2.02425	24.46	Qp	0	.1	10.1	34.66	56	-21.34	-	-
24	2.02425	18.78	Ca	0	.1	10.1	28.98	-	-	46	-17.02
25	2.202	24.21	Qp	0	.1	10.1	34.41	56	-21.59	-	-
26	2.202	19.4	Ca	0	.1	10.1	29.6	-	-	46	-16.4
27	13.56	25.43	Qp	.1	.2	10.2	35.93	60	-24.07	-	-
28	13.56	15.58	Ca	.1	.2	10.2	26.08	-	-	50	-23.92

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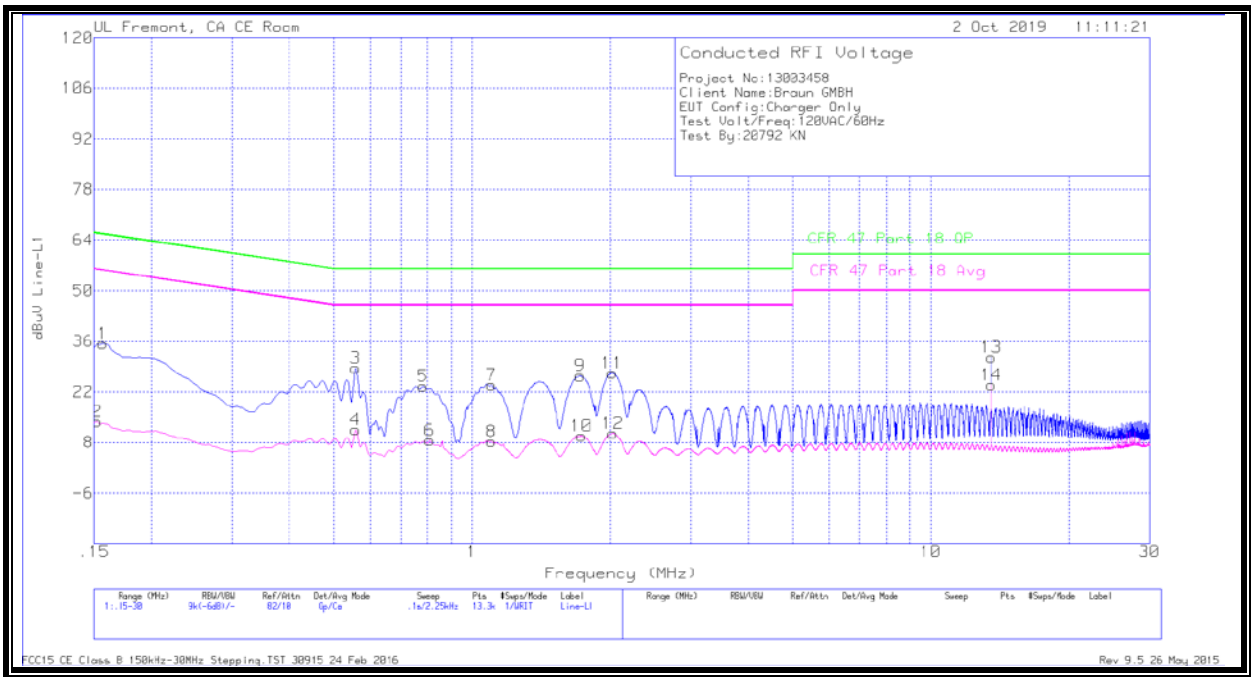
7.2.1. Standby Mode

LINE 1 RESULTS



WORST EMISSIONS

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 18 QP	QP Margin (dB)	CFR 47 Part 18 Avg	Av(CISPR) Margin (dB)
1	.15675	25.12	Qp	.1	0	10.1	35.32	65.63	-30.31	-	-
2	.15225	3.61	Ca	.1	0	10.1	13.81	-	-	55.88	-42.07
3	.55725	18.53	Qp	0	0	10.1	28.63	56	-27.37	-	-
4	.55725	1.41	Ca	0	0	10.1	11.51	-	-	46	-34.49
5	.78225	13.42	Qp	0	0	10.1	23.52	56	-32.48	-	-
6	.80925	-1.54	Ca	0	0	10.1	8.56	-	-	46	-37.44
7	1.10175	13.68	Qp	0	.1	10.1	23.88	56	-32.12	-	-
8	1.10175	-1.97	Ca	0	.1	10.1	8.23	-	-	46	-37.77
9	1.7205	16.25	Qp	0	.1	10.1	26.45	56	-29.55	-	-
10	1.73288	-.43	Ca	0	.1	10.1	9.77	-	-	46	-36.23
11	2.0175	17.06	Qp	0	.1	10.1	27.26	56	-28.74	-	-
12	2.02313	.32	Ca	0	.1	10.1	10.52	-	-	46	-35.48
13	13.56	21.13	Qp	.1	.2	10.2	31.63	60	-28.37	-	-
14	13.56	13.35	Ca	.1	.2	10.2	23.85	-	-	50	-26.15

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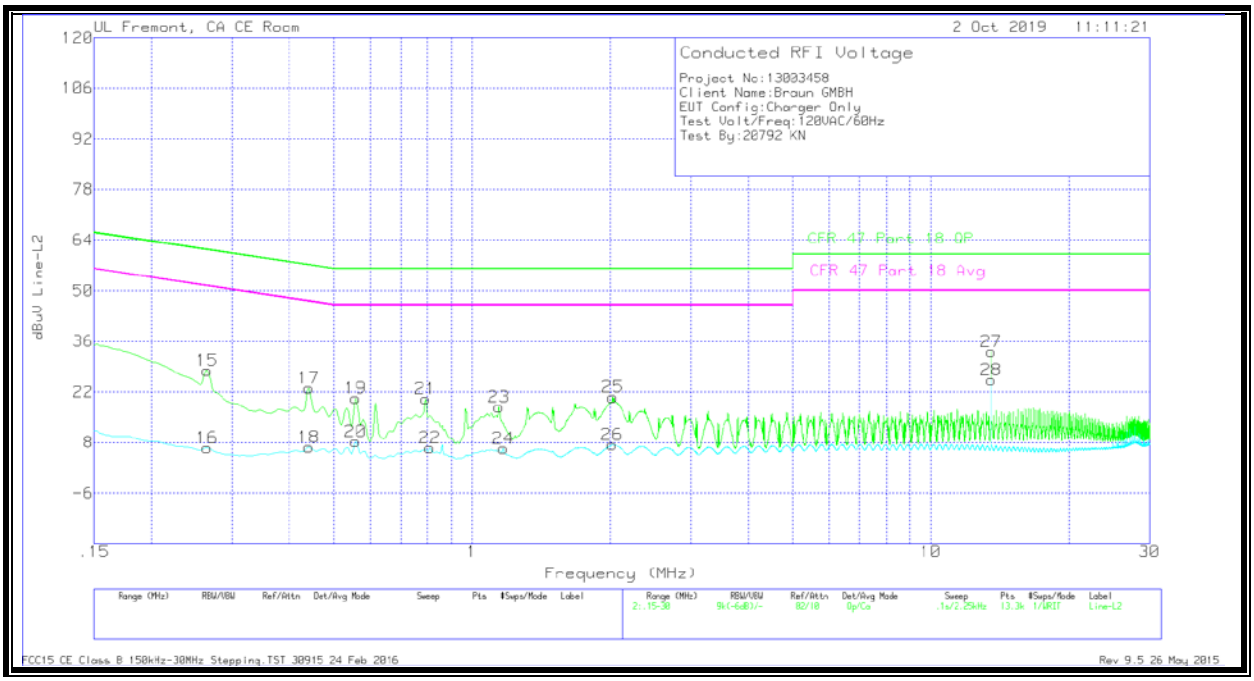
LINE 2 RESULTS



WORST EMISSIONS

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 18 QP	QP Margin (dB)	CFR 47 Part 18 Avg	Av(CISPR) Margin (dB)
15	.26475	17.87	Qp	0	0	10.1	27.97	61.28	-33.31	-	-
16	.26475	-3.52	Ca	0	0	10.1	6.58	-	-	51.28	-44.7
17	.44025	12.92	Qp	0	0	10.1	23.02	57.06	-34.04	-	-
18	.44025	-3.35	Ca	0	0	10.1	6.75	-	-	47.06	-40.31
19	.55725	10.2	Qp	0	0	10.1	20.3	56	-35.7	-	-
20	.55725	-1.81	Ca	0	0	10.1	8.29	-	-	46	-37.71
21	.79125	9.94	Qp	0	0	10.1	20.04	56	-35.96	-	-
22	.80925	-3.58	Ca	0	0	10.1	6.52	-	-	46	-39.48
23	1.1445	7.7	Qp	0	.1	10.1	17.9	56	-38.1	-	-
24	1.16925	-3.86	Ca	0	.1	10.1	6.34	-	-	46	-39.66
25	2.02425	10.34	Qp	0	.1	10.1	20.54	56	-35.46	-	-
26	2.022	-2.81	Ca	0	.1	10.1	7.39	-	-	46	-38.61
27	13.56	22.6	Qp	.1	.2	10.2	33.1	60	-26.9	-	-
28	13.56	14.89	Ca	.1	.2	10.2	25.39	-	-	50	-24.61

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