FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-216 ISSUE 2

CERTIFICATION TEST REPORT

FOR

WIRELESS CHARGER

MODEL NO: F7U050

FCC ID: K7SF7U050

IC: 3623A-F7U050

REPORT NUMBER: 12152708-E1V2

ISSUE DATE: MARCH 08, 2018

Prepared for
BELKIN INTERNATIONAL, INC.
12045 EAST WATERFRONT DRIVE
PLAYA VISTA, CA 90094, U.S.A.

Prepared by
UL VERIFICATION SERVICES INC.
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NVLAP TESTING
NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	03/05/2018	Initial Issue	Chin Pang
V2	03/08/2018	Correction on Section 3 IC Test Sites	Chin Pang

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: BELKIN INTERNATIONAL, INC.
12045 EAST WATERFRONT DRIVE
PLAYA VISTA, CA 90094 U.S.A.

EUT DESCRIPTION: WIRELESS CHARGER

MODEL NUMBER: F7U050

SERIAL NUMBER: 05011EH2800043

DATE TESTED: FEBRUARY 15-27, 2018

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART C	Complies
INDUSTRY CANADA RSS-216 ISSUE 2	Complies
INDUSTRY CANADA RSS-GEN ISSUE 4	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:

CHIN PANG
SENIOR TEST ENGINEER
UL VERIFICATION SERVICES INC.

Prepared By:

LIEU NGUYEN
LAB ENGINEER
UL VERIFICATION SERVICES INC.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, FCC CFR 47 Part 2, and FCC CFR 47 Part 15, RSS-GEN Issue 4 and RSS-216 Issue 2 January 2016.

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. 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, 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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is wireless charging base capable of up to 10 watt power transfer.

5.2. MAXIMUM OUTPUT POWER

The transmitter has maximum peak radiated electric and magnetic field strength as follows:

Fundamental Frequency (KHz)	Mode	E field (300m distance) FCC (dBuV/m)	H field (3m distance) IC (dBuA/m)
127.8	Standby(Config 1)	-2.77	21.13
127.8	Operating(Config 2)	-1.06	28.51
127.8	Operating(Config 3)	-6.29	36.82

5.3. SOFTWARE AND FIRMWARE

The firmware version installed in the EUT during testing was V5.10

5.4. WORST-CASE CONFIGURATION AND MODE

The EUT is a single frequency magnetic charger enclosed in a plastic case. For the entire radiated emissions test, the EUT was examining on the following configuration.

Config	Mode	Descriptions
1	Standby	EUT Alone powered by AC/DC adapter
2	Operating (With & without 3mm gap)	EUT and smart phone powered by AC/DC adapter (Phone 5W, 20-50% power Charging)
3	Operating (with & without 3mm gap)	EUT and 10W load powered by AC/DC adapter (10W Load, >90% power charging)

Note that the EUT was tested as standby and operation modes.
Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 300 m open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788 D01.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT & PERIPHERALS

SUPPORT EQUIPMENT & PERIPHERALS LIST			
Description	**Manufacturer**	**Model**	**Serial Number**
QI Receiver Simulator	AVID Technologies	102-03	00011122117
AC Adapter	Shenzhen Honor Electronics	ADS-26FSG-12 15023EPCU	N/A
10W Resistor Load	N/A	N/A	N/A
Phone	Apple	iPhone X	G6TVJ7H8JCLH

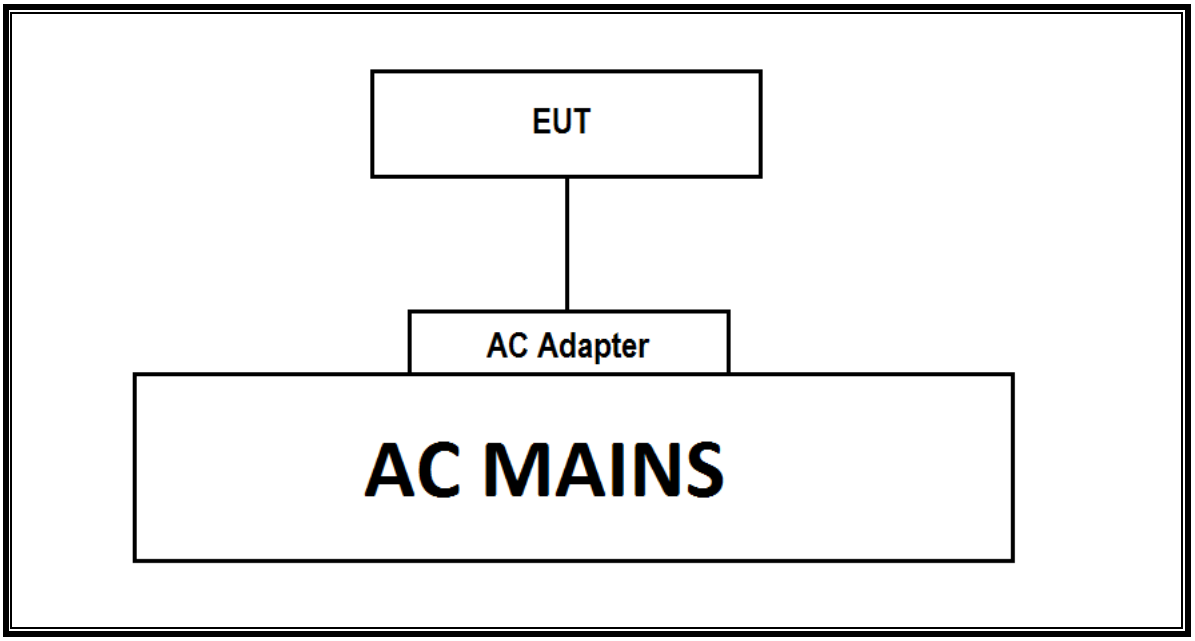
I/O CABLES

N/A

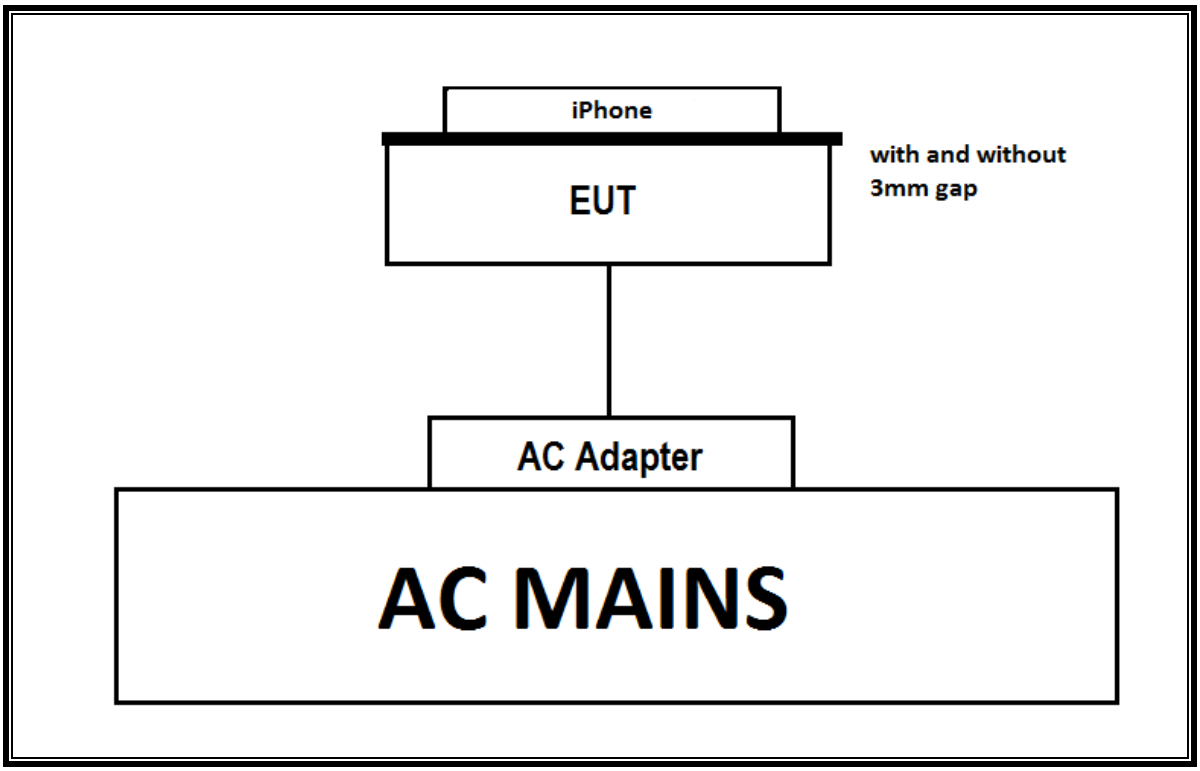
TEST SETUP

Please see the following configurations for the test setups. Both configurations indicate that the EUT is directly connected to an AC/DC adapter.

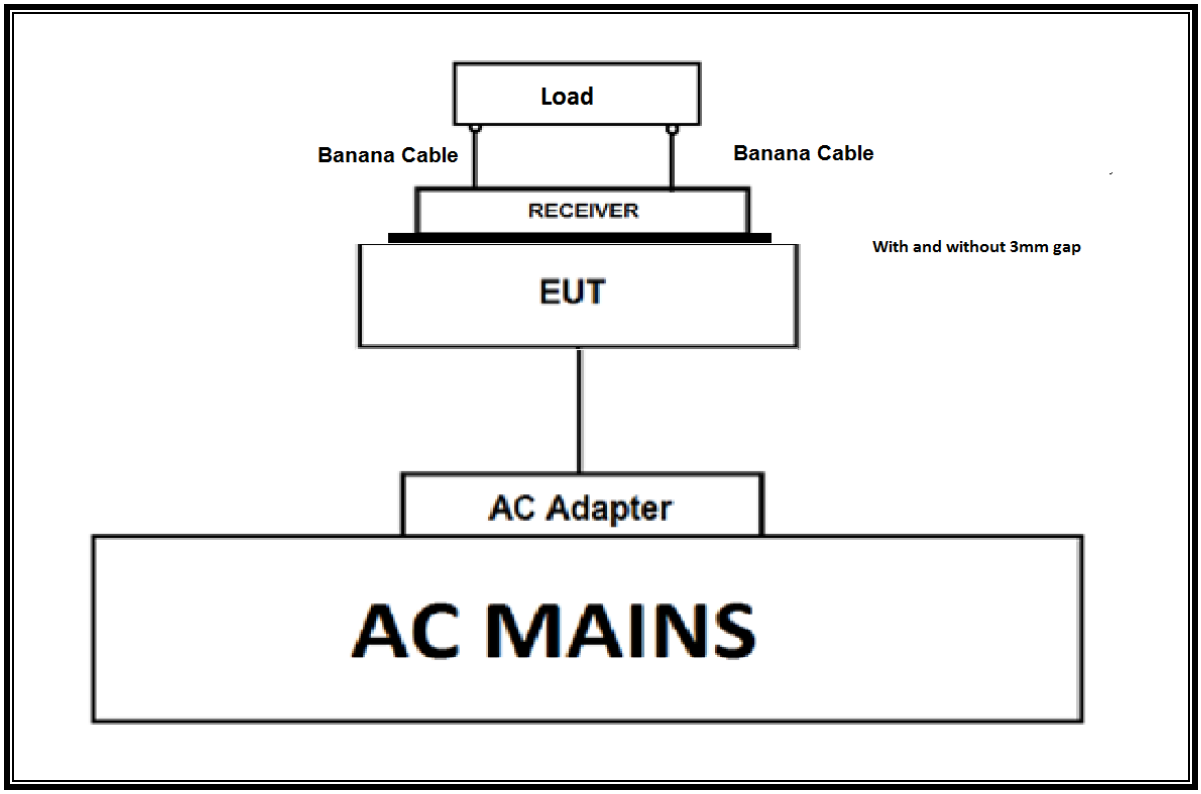
CONFIGURATION 1: STANDBY MODE



CONFIGURATION 2: OPERATING MODE WITH PHONE



CONFIGURATION 3: OPERATING MODE WITH 10W LOAD



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**
Antenna, Broadband Hybrid, 30MHz to 2000MHz w/4dB Pad	Sunol Sciences Corp.	JB3	T477	07/07/2018
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB3	T900	05/31/2018
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB1	T130	10/16/2018
Amplifier, 10KHz to 1GHz, 32dB	Sonoma Instrument Co.	310N	T286	06/02/2018
Amplifier, 10KHz to 1GHz, 32dB	Sonoma Instrument Co.	310	T285	06/24/2018
Antenna, Active Loop 9kHz-30MHz	ETS-Lindgren	6502	T1616	09/14/2018
Amplifier, 10KHz to 1GHz, 32dB	Agilent (Keysight) Technologies	8447D	T15	8/14/2018
Sniffer Probes	Electro-Metrics	EM-6992	N/A	N/A
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T341	11/12/2018
LISN	Fischer Custom Communications, Inc	FCC-LISN-50/250-25-2	T1310	6/15/2018
EMI Test Receiver	Rohde & Schwarz	ESR	T1436	1/25/2019
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T340	12/15/2018

Test Software List			
Description	**Manufacturer**	**Model**	**Version**
Antenna Port Software	UL	UL EMC	Ver 7.9 Jan 24, 2018

7. OCCUPIED BANDWIDTH

TEST PROCEDURE

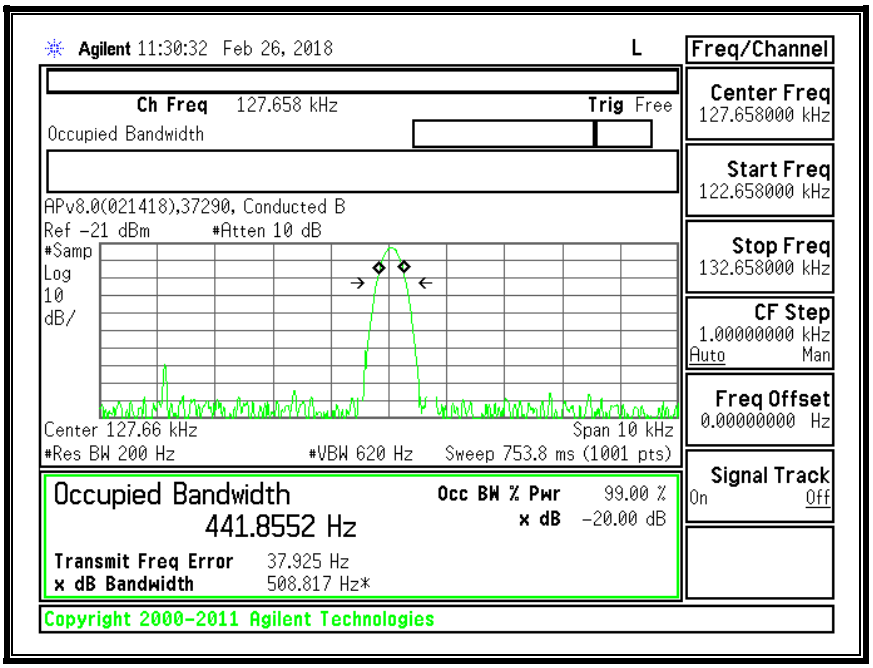
The transmitter output is connected to the spectrum analyzer. The RBW is set to 200Hz. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

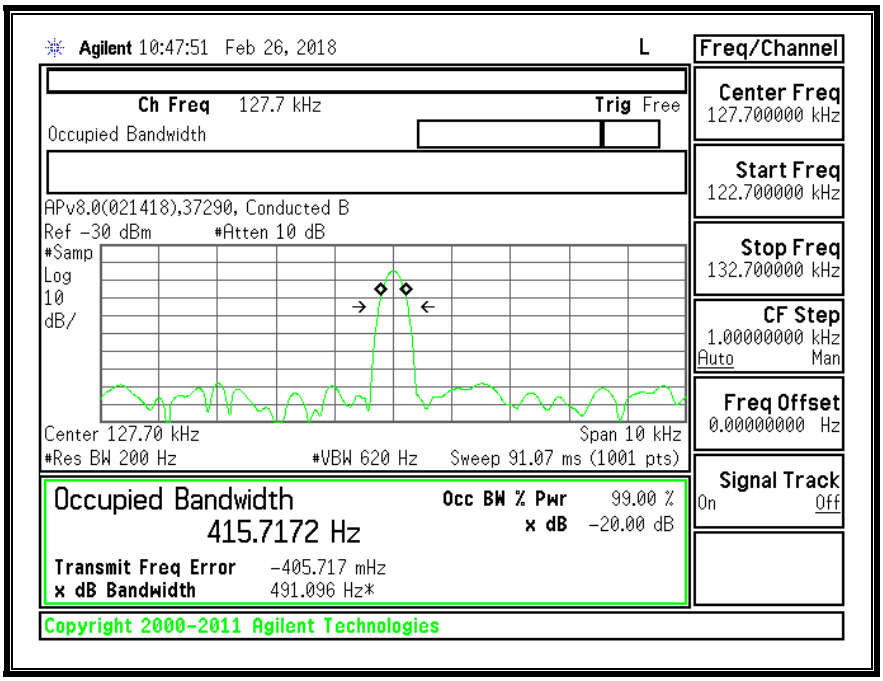
RESULTS

ID:	37290	**Date:**	2/26/18

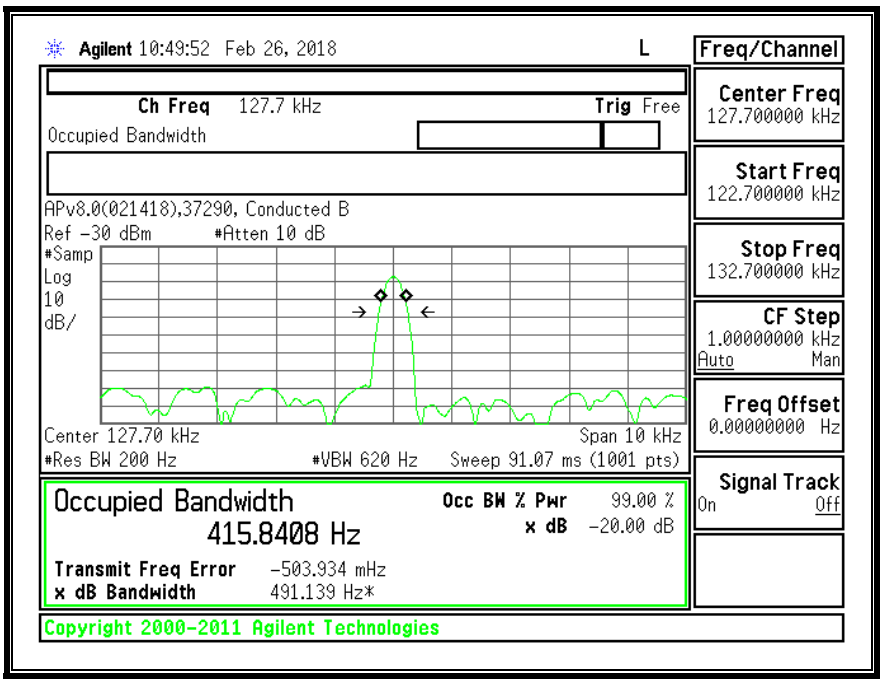
7.1.1. STANDBY CONFIGURATION CHARGER



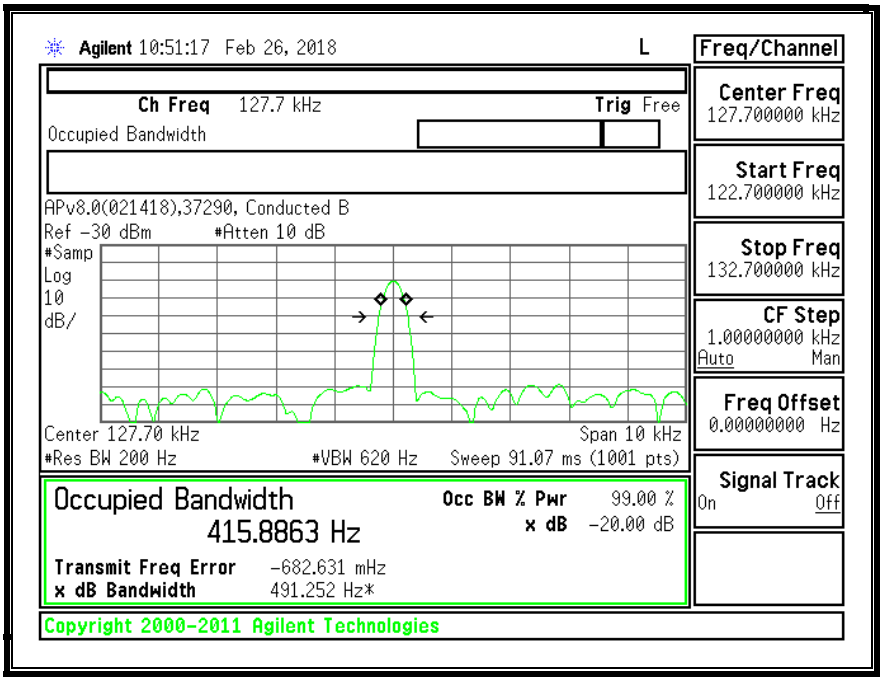
7.1.2. OPERATING CONFIGURATION WITH PHONE



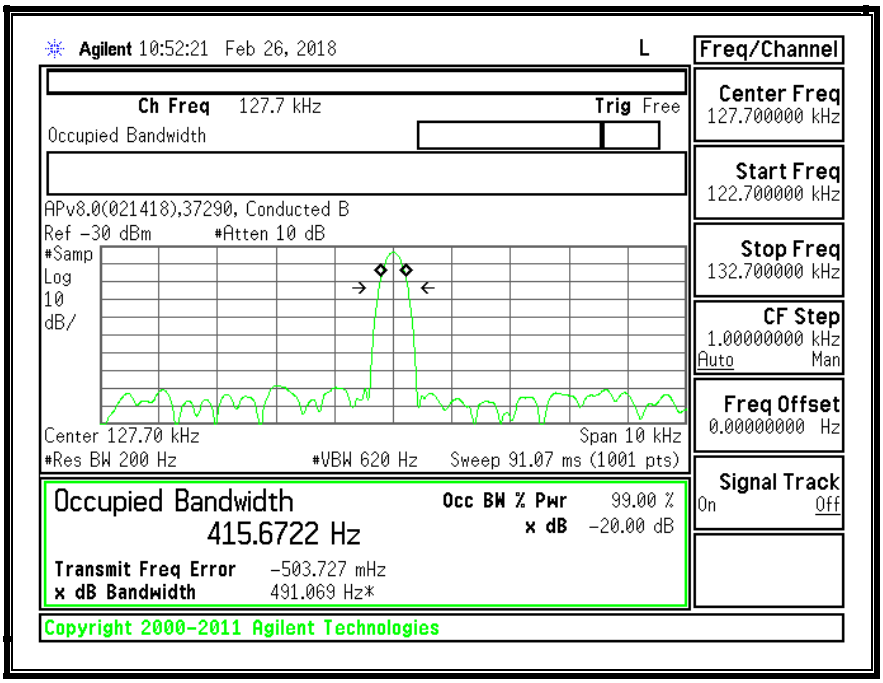
7.1.3. OPERATING CONFIGURATION WITH PHONE 3mm Gap



7.1.4. OPERATING CONFIGURATION WITH 10W LOAD



7.1.5. OPERATING CONFIGURATION WITH 10W LOAD at 3mm Gap



8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.209 (a)
ICES-001 Section 6.2, IC RSS-216 6.2.2, and IC RSS-GEN Sections 8.9 and 8.10.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (m)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100	3
88 to 216	150	3
216 to 960	200	3
Above 960 MHz	500	3
Note: The lower limit shall apply at the transition frequency.		

CISPR 11:04

Electromagnetic radiation disturbance limits for class B group 2 equipment measured on a test site

Frequency Range (MHz)	Magnetic Field Strength Limit Class B Group 2 @ 3m Distance (dBuA/m)
	Quasi-peak
0.009 - 0.070	69
0.070 - 0.1485	69 Decreasing Linearly with Logarithm of Frequency to 39
0.1485 - 4.0	39 Decreasing Linearly with Logarithm of Frequency to 3
4.0 - 30	3
The limits of this table apply to induction cooking appliances intended for commercial use and those for domestic use with a diagonal diameter of more than 1.6m. The measurements are performed at 3m distance with a 0.6 m loop antenna as described in 4.2.1 of CISPR 16-1-4. The antenna should be vertically installed, with the lower edge of the loop at 1m height above the floor.	

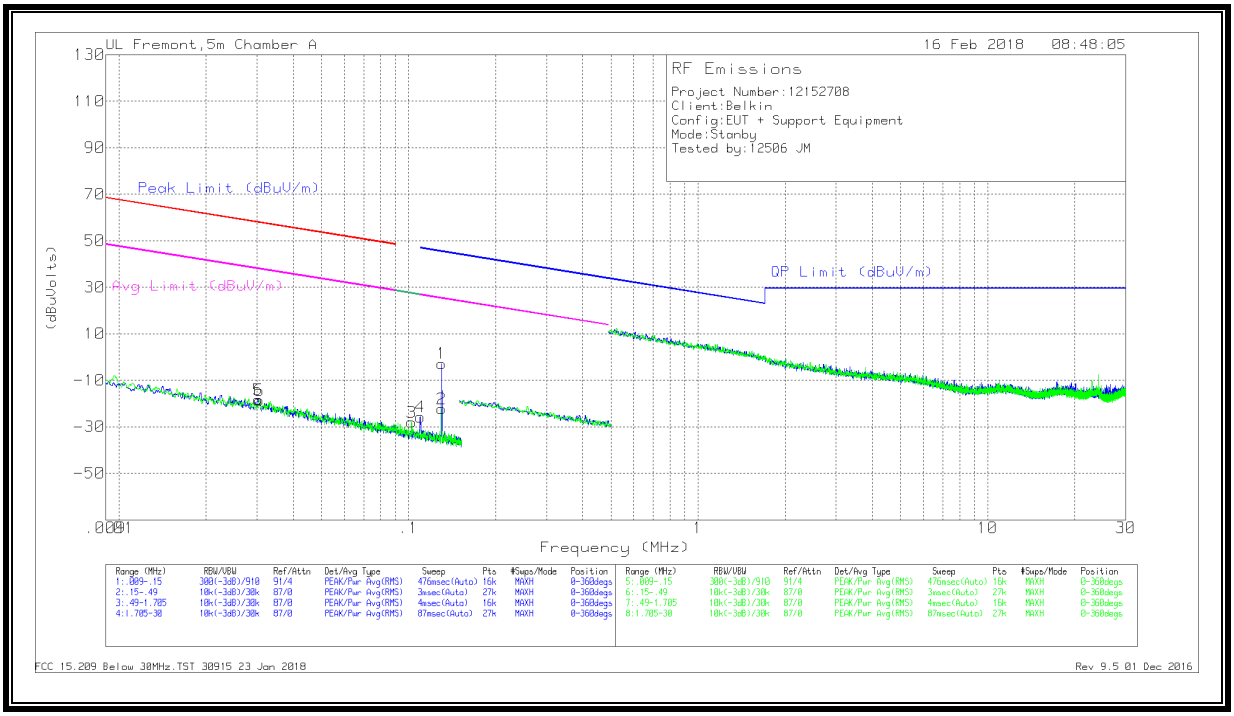
Frequency Range (MHz)	Electric Field Strength Limit Class B Group 2 @ 3m Distance (dBuV/m)	
	Quasi-peak	Average
30 – 80,872	40	35
80,872 – 81,848	60	55
81,848 – 134,786	40	35
134,786 – 136,414	60	55
136,414 – 230	40	35
230 – 1 000	47	42

RESULTS

The EUT belongs to Type 3 (Category I Radio Apparatus).

8.2. FCC TX FUNDAMENTAL AND SPURIOUS EMISSIONS FROM 9 kHz TO 30 MHz

8.2.1. STANDBY CONFIGURATION

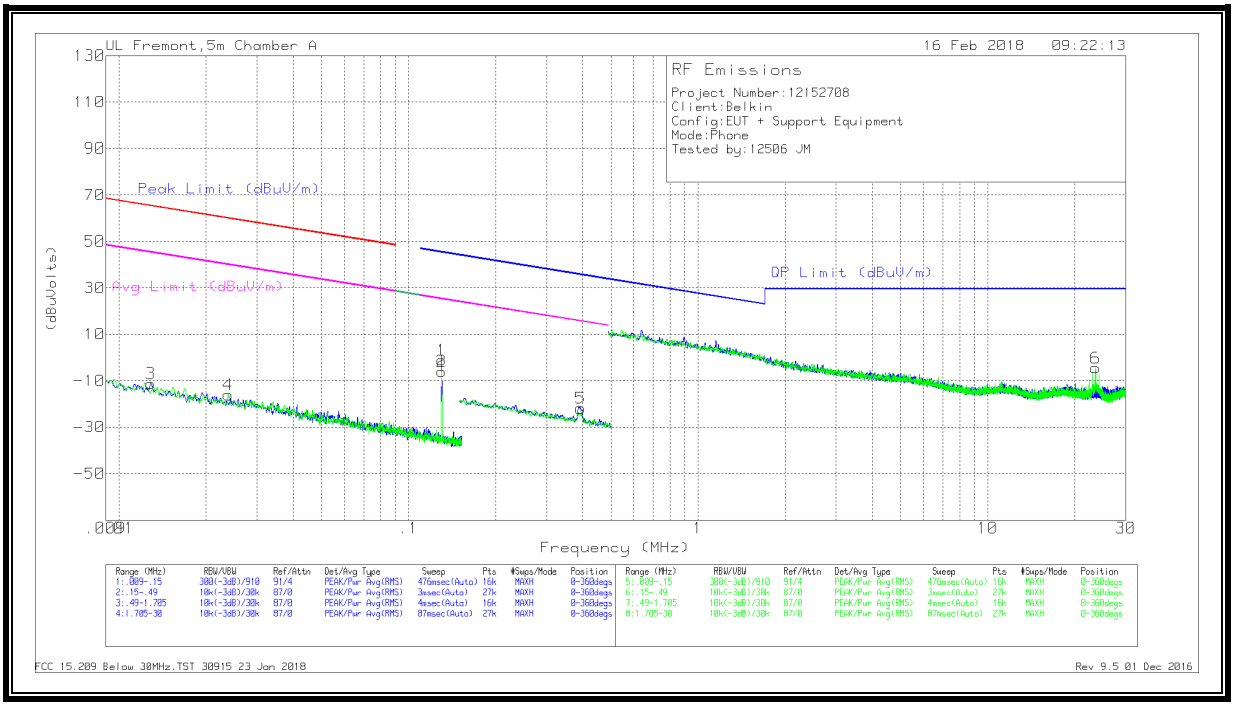


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
5	.03025	46.26	Pk	15.3	.1	-80	-18.34	57.97	-76.31	37.97	-56.31	-	-	0-360
6	.03053	46.06	Pk	15.3	.1	-80	-18.54	57.89	-76.43	37.89	-56.43	-	-	0-360
3	.10249	38.04	Pk	13.8	.1	-80	-28.06	-	-	-	-	27.4	-55.46	0-360
4	.10982	40.35	Pk	13.8	.1	-80	-25.75	-	-	-	-	26.81	-52.56	0-360
1	.13023	63.33	Pk	13.8	.1	-80	-2.77	45.33	-48.1	25.33	-28.1	-	-	0-360
2	.13026	43.84	Pk	13.8	.1	-80	-22.26	45.33	-67.59	25.33	-47.59	-	-	0-360

Pk - Peak detector
FCC 15.209 Below 30MHz.TST 30915 23 Jan 2018
Rev 9.5 01 Dec 2016

8.2.2. OPERATING WITH PHONE



DATA

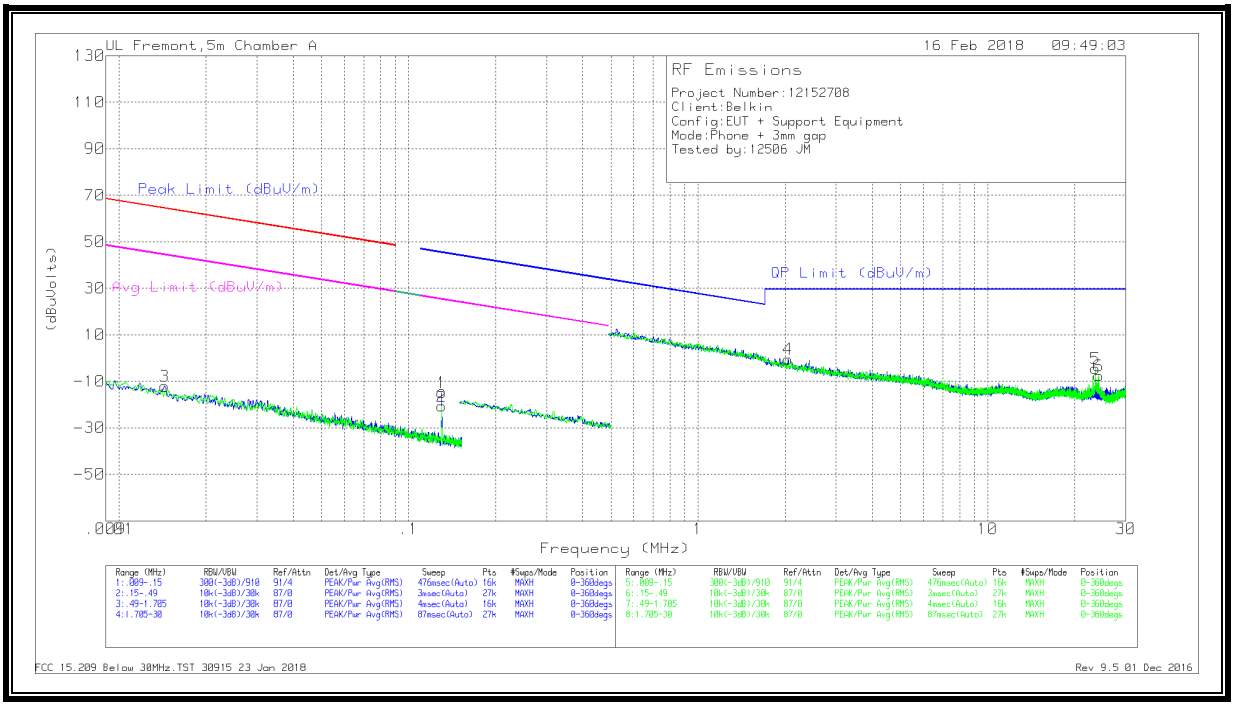
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
3	.01289	53.71	Pk	15	.1	-80	-11.19	65.38	-76.57	45.38	-56.57	0-360
4	.02385	49.05	Pk	14.8	.1	-80	-16.05	60.04	-76.09	40.04	-56.09	0-360
2	.13022	60.17	Pk	13.8	.1	-80	-5.93	45.33	-51.26	25.33	-31.26	0-360
1	.13035	65.04	Pk	13.8	.1	-80	-1.06	45.32	-46.38	25.32	-26.38	0-360
5	.39252	44.38	Pk	13.7	.1	-80	-21.82	35.73	-57.55	15.73	-37.55	0-360

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 30m	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
	23.59615	21.64	Pk	13.2	.7	-40	-4.46	29.5	-33.96	0-360

Pk - Peak detector
FCC 15.209 Below 30MHz.TST 30915 23 Jan 2018
Rev 9.5 01 Dec 2016

8.2.3. OPERATING WITH PHONE WITH 3mm Gap



DATA

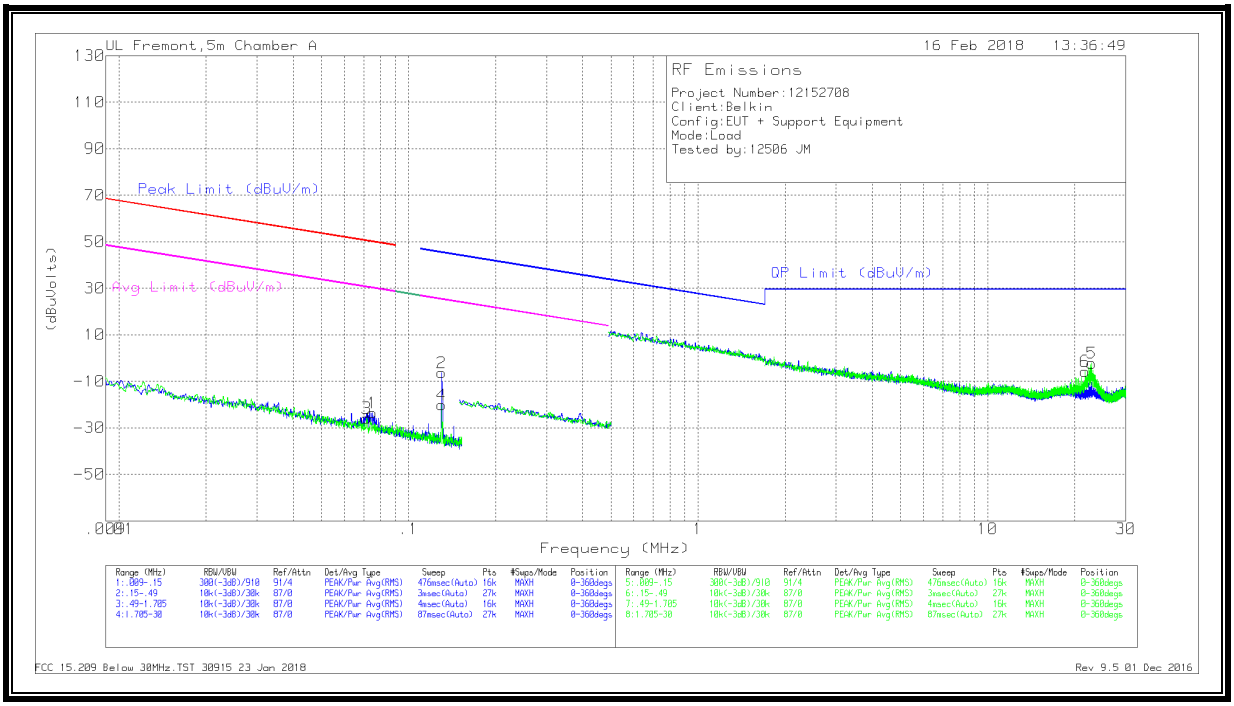
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
3	.0144	52.86	Pk	14.9	.1	-80	-12.14	64.42	-76.56	44.42	-56.56	0-360
1	.13022	51.21	Pk	13.8	.1	-80	-14.89	45.33	-60.22	25.33	-40.22	0-360
2	.13022	45.45	Pk	13.8	.1	-80	-20.65	45.33	-65.98	25.33	-45.98	0-360

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 30m	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
4	2.04612	25.09	Pk	14.2	.2	-40	-.51	29.5	-30.01	0-360
5	23.59248	21.61	Pk	13.2	.7	-40	-4.49	29.5	-33.99	0-360
6	24.17936	18.73	Pk	12.9	.7	-40	-7.67	29.5	-37.17	0-360

Pk - Peak detector
FCC 15.209 Below 30MHz.TST 30915 23 Jan 2018
Rev 9.5 01 Dec 2016

8.2.4. OPERATING WITH 10W LOAD



DATA

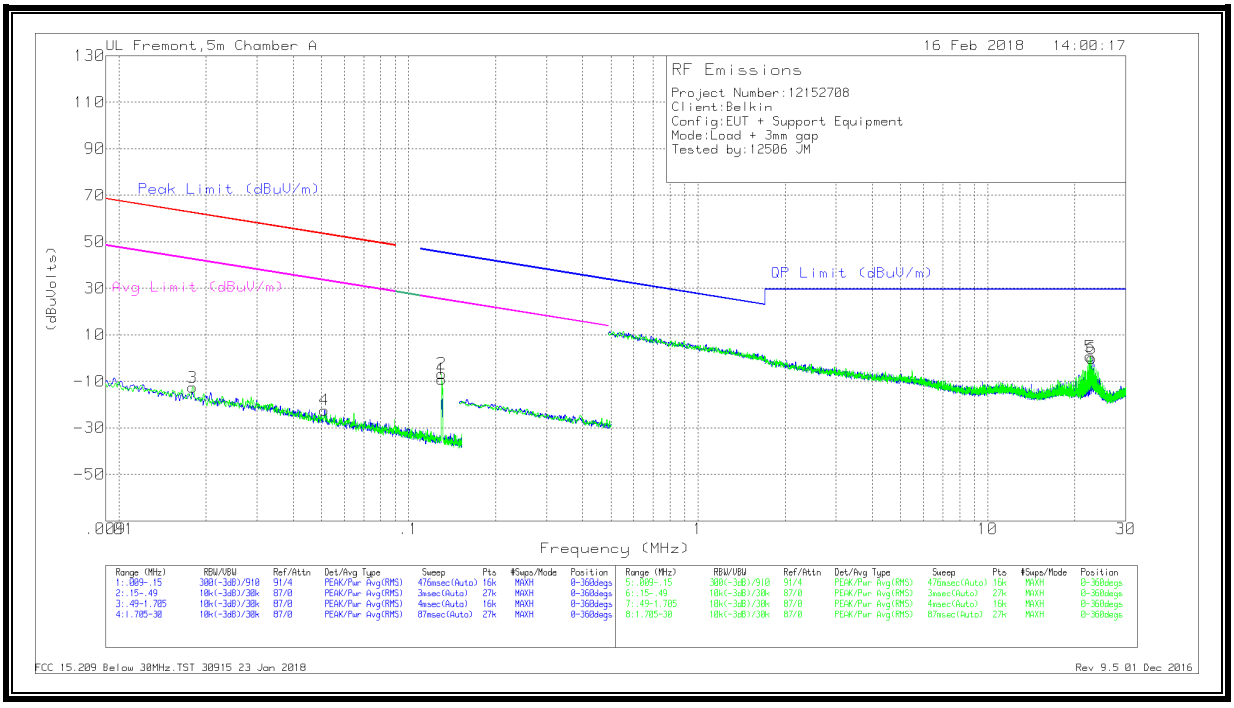
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
3	.0717	39.93	Pk	14.1	.1	-80	-25.87	50.47	-76.34	30.47	-56.34	0-360
1	.07515	42.18	Pk	14.1	.1	-80	-23.62	50.07	-73.69	30.07	-53.69	0-360
4	.13017	45.94	Pk	13.8	.1	-80	-20.16	45.34	-65.5	25.34	-45.5	0-360
2	.1302	59.81	Pk	13.8	.1	-80	-6.29	45.33	-51.62	25.33	-31.62	0-360

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 30m	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
6	21.70765	19.48	Pk	14.1	.7	-40	-5.72	29.5	-35.22	0-360
5	22.91547	23.57	Pk	13.5	.7	-40	-2.23	29.5	-31.73	0-360

Pk - Peak detector
FCC 15.209 Below 30MHz.TST 30915 23 Jan 2018
Rev 9.5 01 Dec 2016

8.2.5. OPERATING WITH 10W LOAD AT 3mm Gap



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
3	.01798	52.67	Pk	14.6	.1	-80	-12.63	62.49	-75.12	42.49	-55.12	0-360
4	.05133	43.32	Pk	14.2	.1	-80	-22.38	53.38	-75.76	33.38	-55.76	0-360
1	.13021	57.02	Pk	13.8	.1	-80	-9.08	45.33	-54.41	25.33	-34.41	0-360
2	.13022	59.35	Pk	13.8	.1	-80	-6.75	45.33	-52.08	25.33	-32.08	0-360

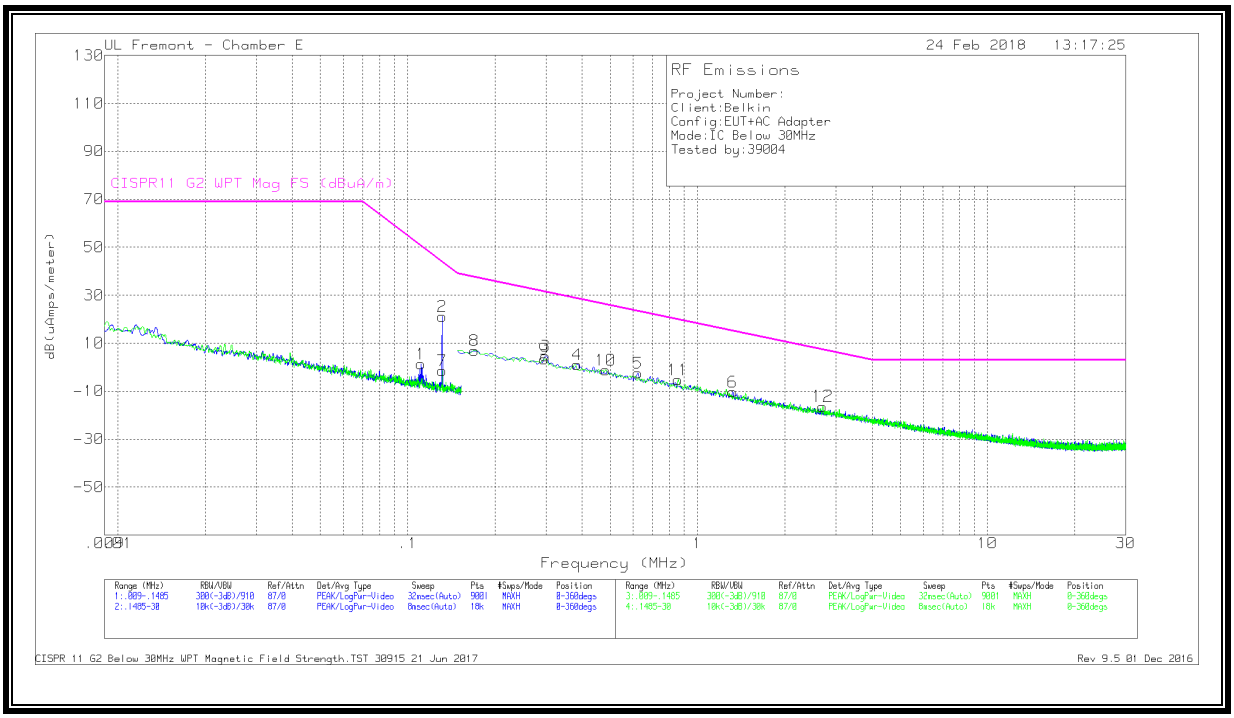
Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 30m	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
5	22.60317	26.36	Pk	13.7	.7	-40	.76	29.5	-28.74	0-360
6	22.85783	25.6	Pk	13.6	.7	-40	-.1	29.5	-29.6	0-360

Pk - Peak detector
FCC 15.209 Below 30MHz.TST 30915 23 Jan 2018
Rev 9.5 01 Dec 2016

8.3. IC / CISPR 11 TX FUNDAMENTAL AND SPURIOUS EMISSIONS FROM 9 kHz TO 30 MHz

8.3.1. STANDBY CONFIGURATION

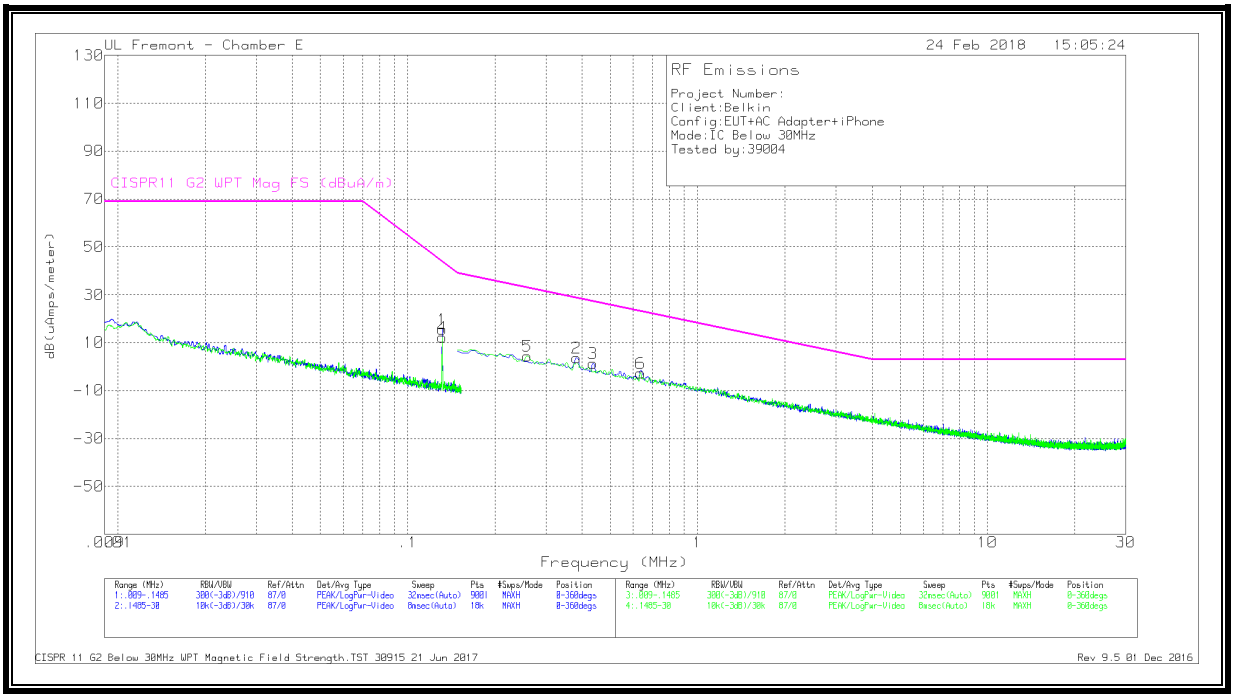


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/ meter)	CISPR11 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
1	.11106	41.06	Pk	-39.8	.1	1.36	50.59	-49.23	0-360
7	.13148	38.27	Pk	-39.9	.1	-1.53	43.86	-45.39	0-360
2	.13152	60.93	Pk	-39.9	.1	21.13	43.84	-22.71	0-360
8	.17005	46.84	Pk	-39.9	.1	7.04	37.52	-30.48	0-360
9	.29606	43.23	Pk	-40	.1	3.33	31.46	-28.13	0-360
3	.29938	44.46	Pk	-40	.1	4.56	31.34	-26.78	0-360
4	.38477	41.11	Pk	-40	.1	1.21	28.59	-27.38	0-360
10	.48176	38.75	Pk	-40	.1	-1.15	26.14	-27.29	0-360
5	.62186	37.44	Pk	-40	.1	-2.46	23.35	-25.81	0-360
11	.8573	34.66	Pk	-40	.2	-5.14	19.84	-24.98	0-360
6	1.32319	29.43	Pk	-40	.2	-10.37	15.09	-25.46	0-360
12	2.70431	23.31	Pk	-39.8	.2	-16.29	7.28	-23.57	0-360

Pk - Peak detector
CISPR 11 G2 Below 30MHz WPT Magnetic Field Strength.TST 30915 21 Jun 2017
Rev 9.5 01 Dec 2016

8.3.2. OPERATING WITH PHONE

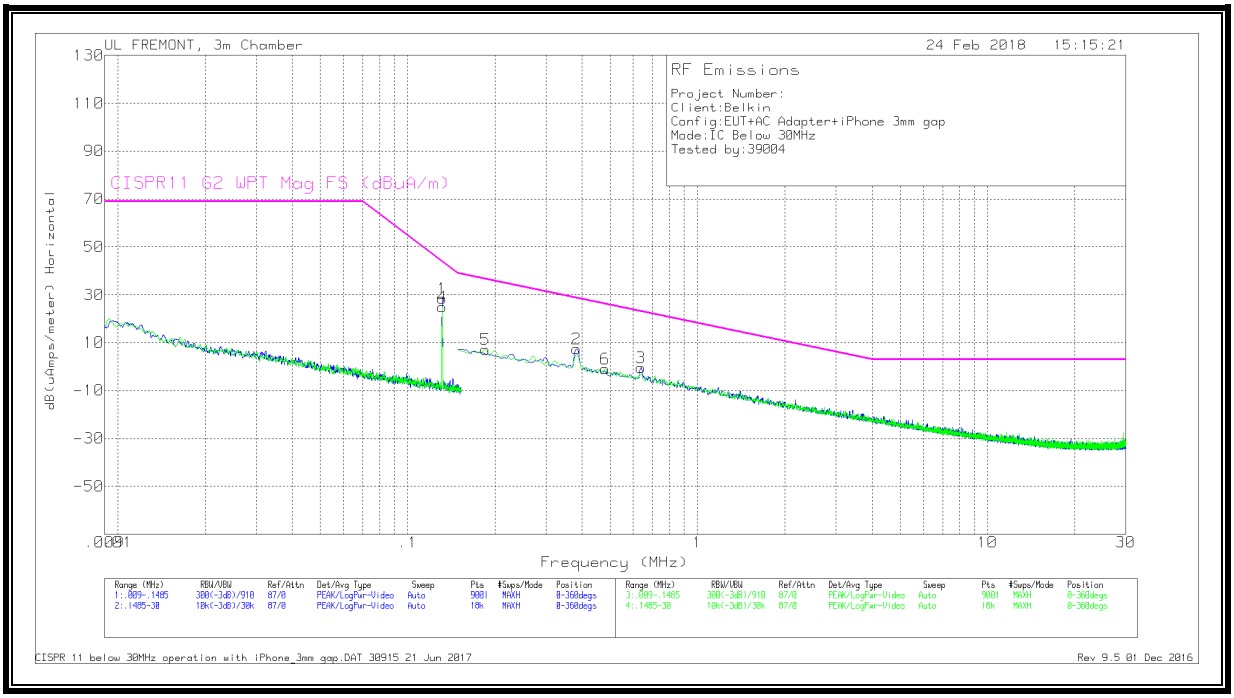


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/meter)	CISPR11 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
*1	.13152	55.29	Pk	-39.9	.1	15.49	43.84	-28.35	0-360
*4	.13152	52.08	Pk	-39.9	.1	12.28	43.84	-31.56	0-360
5	.25876	44.23	Pk	-40	.1	4.33	32.93	-28.6	0-360
2	.38228	43.54	Pk	-40	.1	3.64	28.66	-25.02	0-360
3	.43616	41.18	Pk	-40	.1	1.28	27.22	-25.94	0-360
6	.63595	37.11	Pk	-40	.1	-2.79	23.1	-25.89	0-360

Pk - Peak detector
*-Fundamental
CISPR 11 G2 Below 30MHz WPT Magnetic Field Strength.TST 30915 21 Jun 2017
Rev 9.5 01 Dec 2016

8.3.3. OPERATING WITH iPhone AT 3mm Gap



DATA

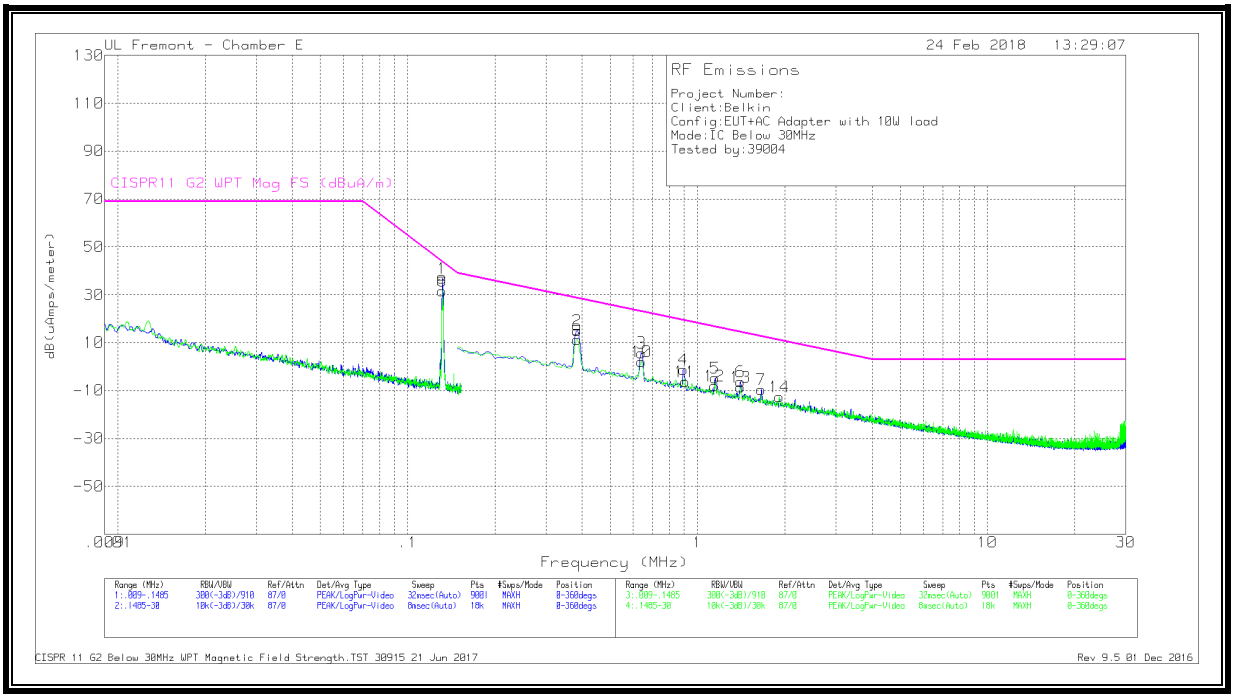
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/ meter)	CISPR11 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
4	.13152	64.74	Pk	-39.9	.1	24.94	43.84	-18.9	0-360
1	.13158	68.31	Pk	-39.9	.1	28.51	43.83	-15.32	0-360
5	.18498	46.88	Pk	-39.9	.1	7.08	36.6	-29.52	0-360
2	.38228	47.37	Pk	-40	.1	7.47	28.66	-21.19	0-360
6	.4801	39.04	Pk	-40	.1	-.86	26.17	-27.03	0-360
3	.63761	39.43	Pk	-40	.1	-.47	23.07	-23.54	0-360

Pk - Peak detector

CISPR 11 below 30MHz operation with iPhone_3mm gap.DAT 30915 21 Jun 2017
Rev 9.5 01 Dec 2016

Pk - Peak detector

8.3.4. OPERATING WITH 10W LOAD

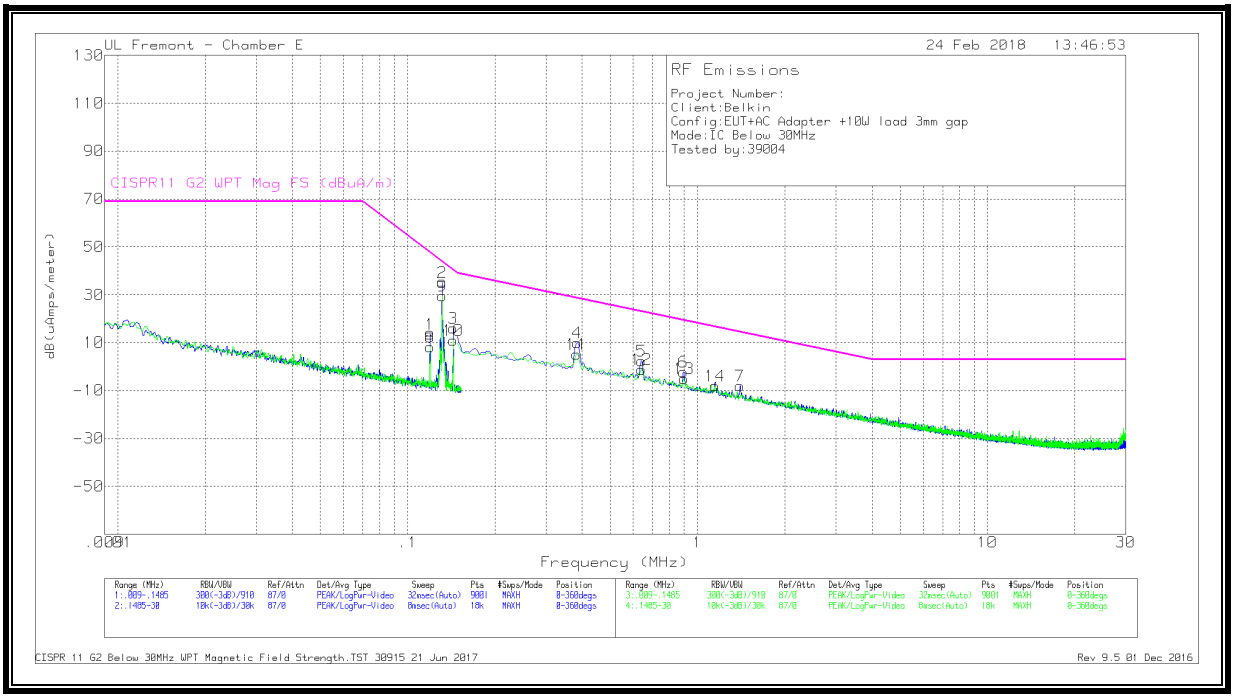


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/ meter)	CISPR11 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
*8	.13146	71.27	Pk	-39.9	.1	31.47	43.86	-12.39	0-360
*1	.13152	76.62	Pk	-39.9	.1	36.82	43.84	-7.02	0-360
2	.38394	54.86	Pk	-40	.1	14.96	28.62	-13.66	0-360
9	.38394	51.27	Pk	-40	.1	11.37	28.62	-17.25	0-360
3	.63927	45.69	Pk	-40	.1	5.79	23.04	-17.25	0-360
10	.63927	42.13	Pk	-40	.1	2.23	23.04	-20.81	0-360
4	.89377	38.52	Pk	-40	.2	-1.28	19.38	-20.66	0-360
11	.90455	33.56	Pk	-40	.2	-6.24	19.25	-25.49	0-360
12	1.14496	31.71	Pk	-40	.2	-8.09	16.67	-24.76	0-360
5	1.14827	35.06	Pk	-40	.2	-4.74	16.64	-21.38	0-360
6	1.40526	33.59	Pk	-40	.2	-6.21	14.43	-20.64	0-360
13	1.40526	31.24	Pk	-40	.2	-8.56	14.43	-22.99	0-360
7	1.65977	30.03	Pk	-39.9	.2	-9.67	12.61	-22.28	0-360
14	1.91261	27.05	Pk	-39.9	.2	-12.65	11.06	-23.71	0-360

Pk - Peak detector
*Fundamental
CISPR 11 G2 Below 30MHz WPT Magnetic Field Strength.TST 30915 21 Jun 2017

8.3.5. OPERATING WITH 10W LOAD AT 3mm Gap



DATA

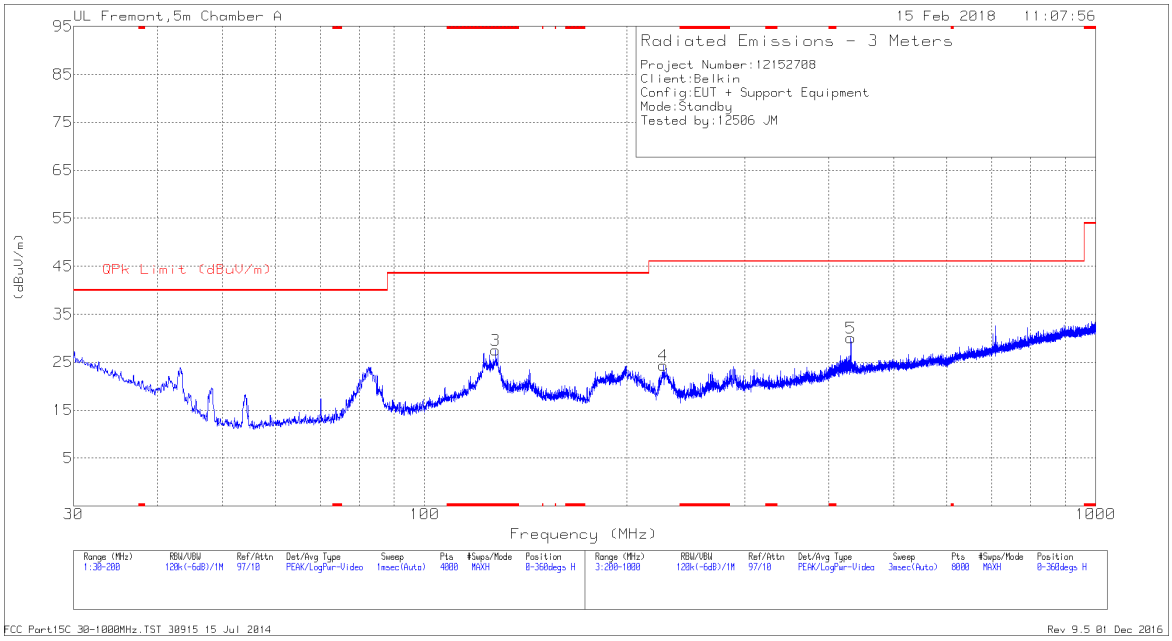
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/ meter)	CISPR11 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
8	.11946	48	Pk	-39.8	.1	8.3	47.68	-39.38	0-360
1	.11951	53.31	Pk	-39.8	.1	13.61	47.66	-34.05	0-360
*9	.13152	69.26	Pk	-39.9	.1	29.46	43.84	-14.38	0-360
*2	.13154	74.98	Pk	-39.9	.1	35.18	43.84	-8.66	0-360
10	.14356	50.82	Pk	-39.9	.1	11.02	40.35	-29.33	0-360
3	.14359	55.94	Pk	-39.9	.1	16.14	40.34	-24.2	0-360
11	.38311	45.08	Pk	-40	.1	5.18	28.64	-23.46	0-360
4	.38394	49.89	Pk	-40	.1	9.99	28.62	-18.63	0-360
5	.63927	42.32	Pk	-40	.1	2.42	23.04	-20.62	0-360
12	.64093	38.79	Pk	-40	.1	-1.11	23.02	-24.13	0-360
6	.8946	37.6	Pk	-40	.2	-2.2	19.37	-21.57	0-360
13	.89792	34.84	Pk	-40	.2	-4.96	19.33	-24.29	0-360
14	1.14993	31.82	Pk	-40	.2	-7.98	16.63	-24.61	0-360
7	1.40195	31.81	Pk	-40	.2	-7.99	14.46	-22.45	0-360

Pk - Peak detector
*Fundamental
CISPR 11 G2 Below 30MHz WPT Magnetic Field Strength.TST 30915 21 Jun 2017

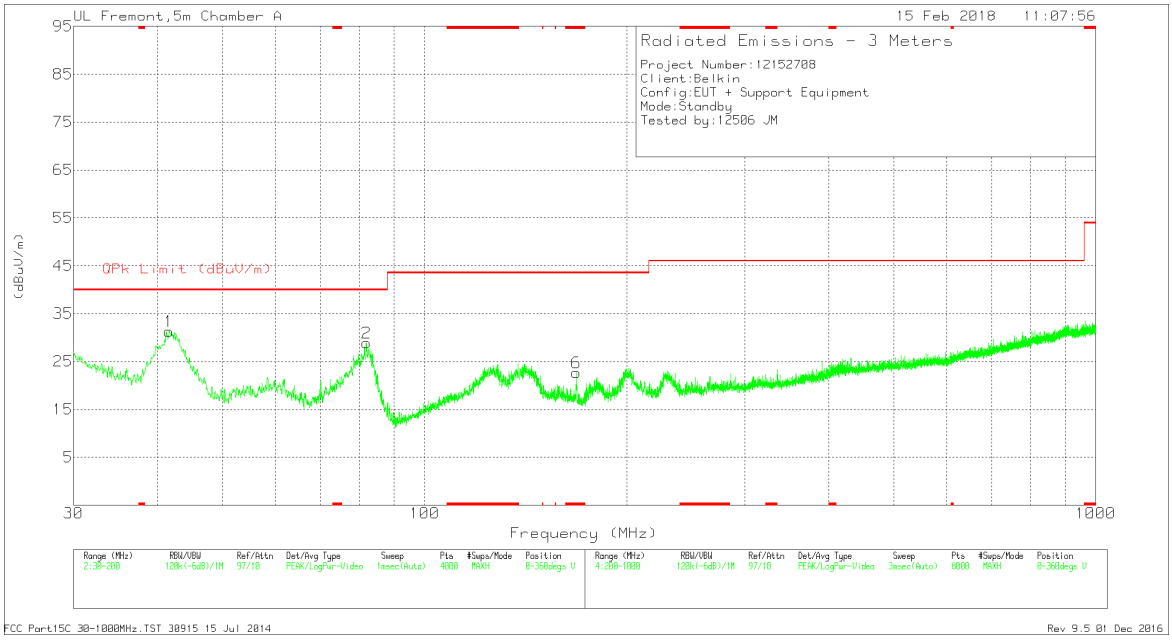
8.4. FCC TX SPURIOUS EMISSION 30 TO 1000 MHz

8.4.1. STANDBY CONFIGURATION

HORIZONTAL PLOT



VERTICAL PLOT



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
3	* 127.5627	35.56	Pk	18.1	-26.1	27.56	43.52	-15.96	0-360	300	H
6	* 168.3733	32.59	Pk	15.8	-25.7	22.69	43.52	-20.83	0-360	100	V
1	41.648	41.69	Pk	16.7	-27.1	31.29	40	-8.71	0-360	100	V
2	81.9059	44.06	Pk	11.4	-26.6	28.86	40	-11.14	0-360	100	V
4	226.9035	34.4	Pk	14.9	-25	24.3	46.02	-21.72	0-360	100	H
5	431.7301	34.68	Pk	20.6	-25.2	30.08	46.02	-15.94	0-360	100	H

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

Pk - Peak detector

FCC Part15C 30-1000MHz.TST 30915 15 Jul 2014
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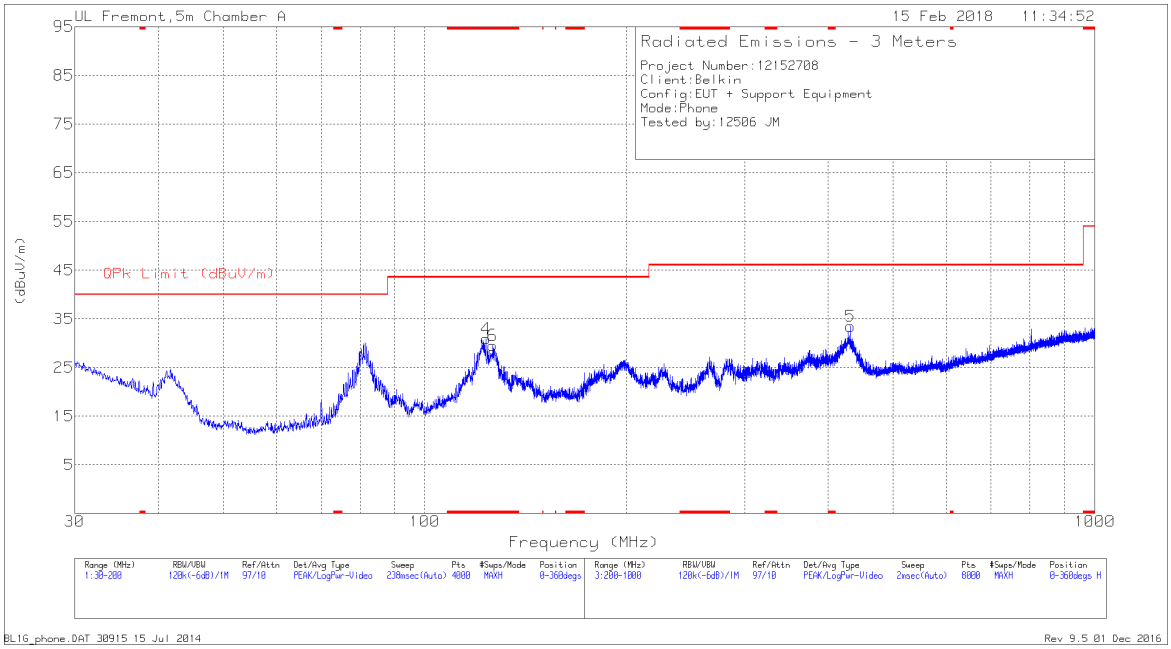
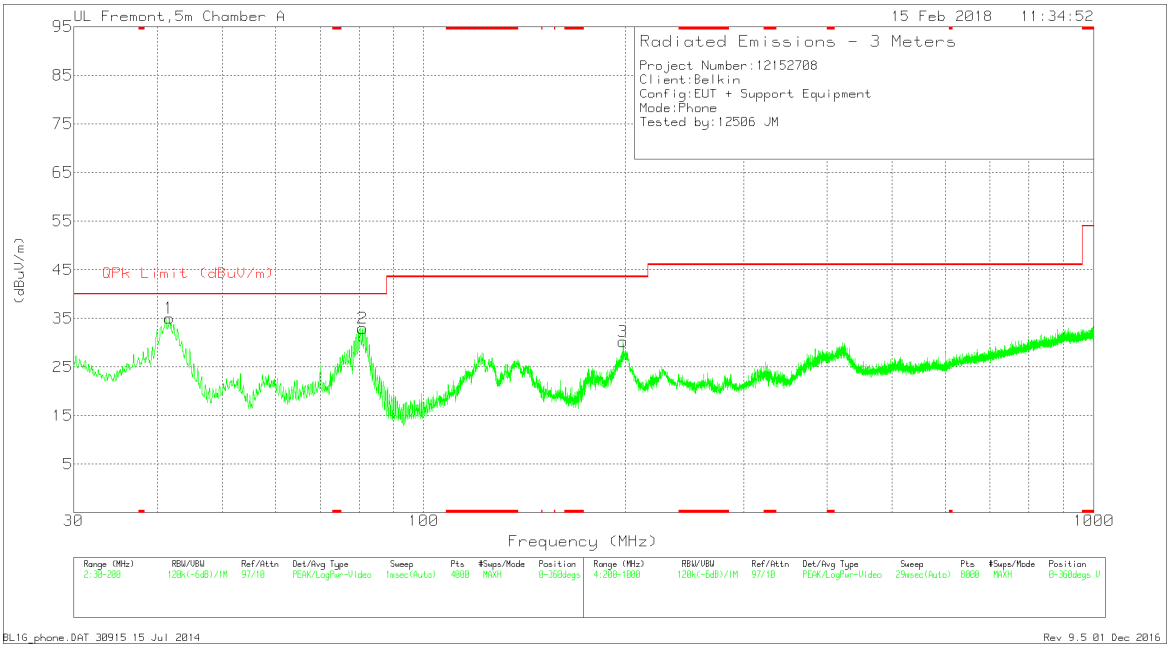
8.4.2. OPERATING WITH PHONE

HORIZONTAL PLOT



VERTICAL PLOT



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
4	* 123.3542	39.02	Pk	18	-26.1	30.92	43.52	-12.6	0-360	300	H
6	* 126.3299	37.64	Pk	18	-26.1	29.54	43.52	-13.98	0-360	200	H
3	198.3436	39.12	Pk	16.4	-25.3	30.22	43.52	-13.3	0-360	100	V
1	41.6905	45.57	Pk	16.6	-27.1	35.07	40	-4.93	0-360	100	V
	41.6906	42.99	Qp	16.6	-27.1	32.49	40	-7.51	273	103	V
5	431.7301	38.07	Pk	20.6	-25.2	33.47	46.02	-12.55	0-360	101	H
2	81.0132	48.17	Pk	11.4	-26.6	32.97	40	-7.03	0-360	100	V

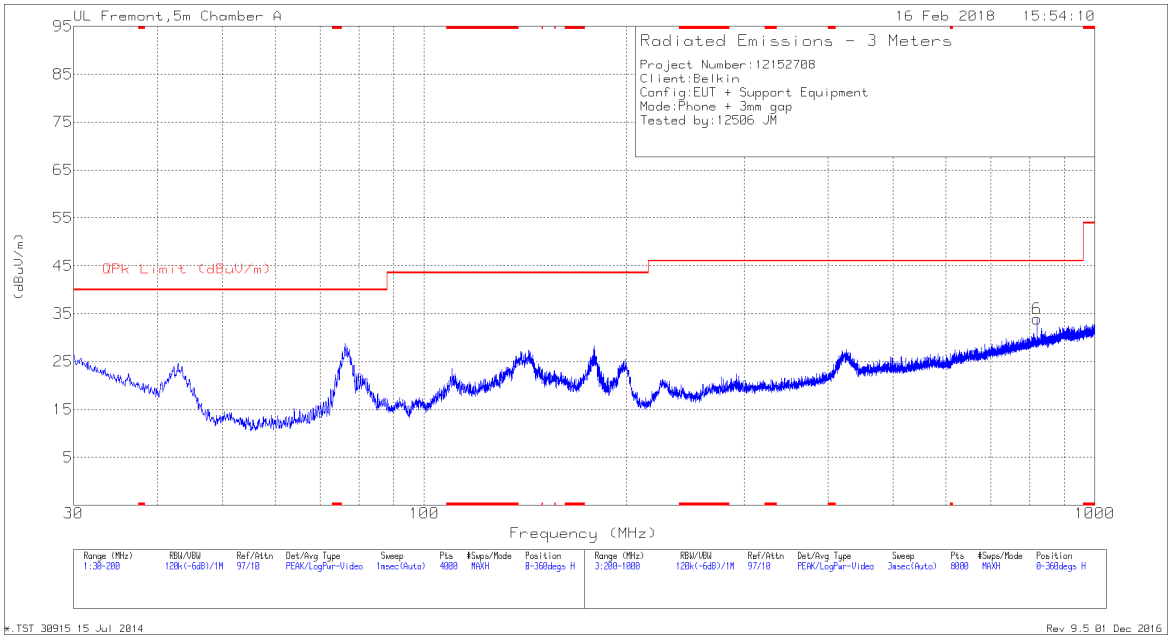
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector
Qp - Quasi-Peak detector

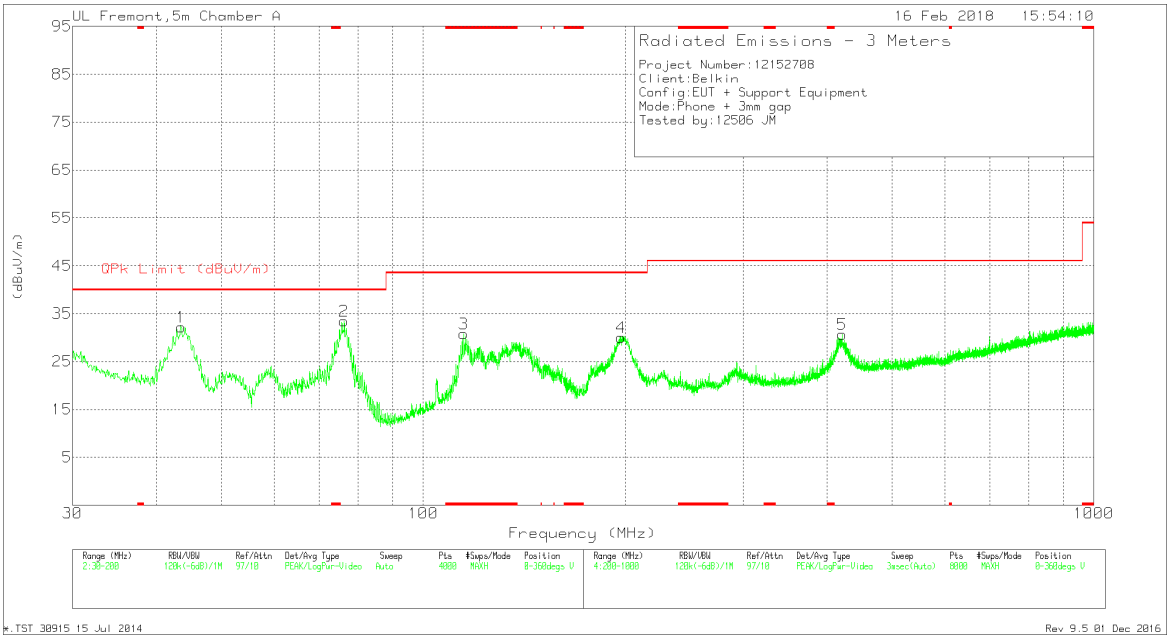
BL1G_phone.DAT 30915 15 Jul 2014
Rev 9.5 01 Dec 2016

8.4.3. OPERATING WITH PHONE 3mm Gap

HORIZONTAL PLOT



VERTICAL PLOT



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
3	* 114.8945	39.55	Pk	17.4	-26.2	30.75	43.52	-12.77	0-360	100	V
1	43.6035	43.96	Pk	15.3	-27.1	32.16	40	-7.84	0-360	100	V
2	76.2095	48.24	Pk	11.9	-26.7	33.44	40	-6.56	0-360	100	V
4	197.1745	39.2	Pk	16.2	-25.4	30	43.52	-13.52	0-360	100	V
5	421.4288	35.35	Pk	20.4	-25.1	30.65	46.02	-15.37	0-360	101	V
6	819.3805	31.92	Pk	25.6	-23.6	33.92	46.02	-12.1	0-360	300	H

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

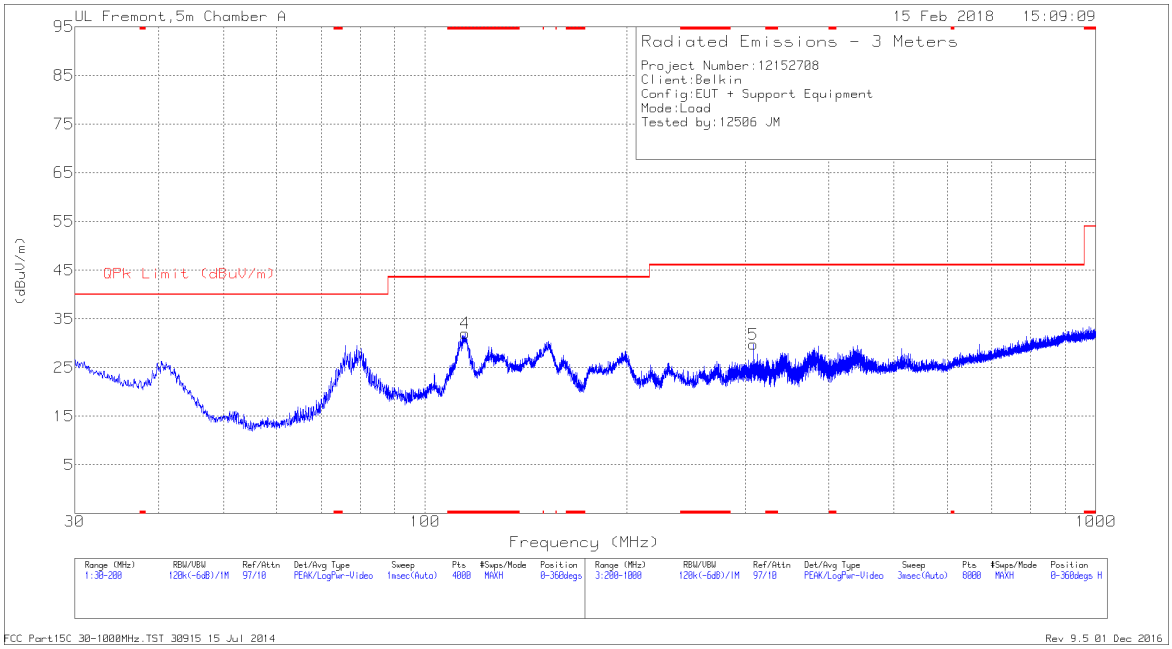
Pk - Peak detector

*.TST 30915 15 Jul 2014

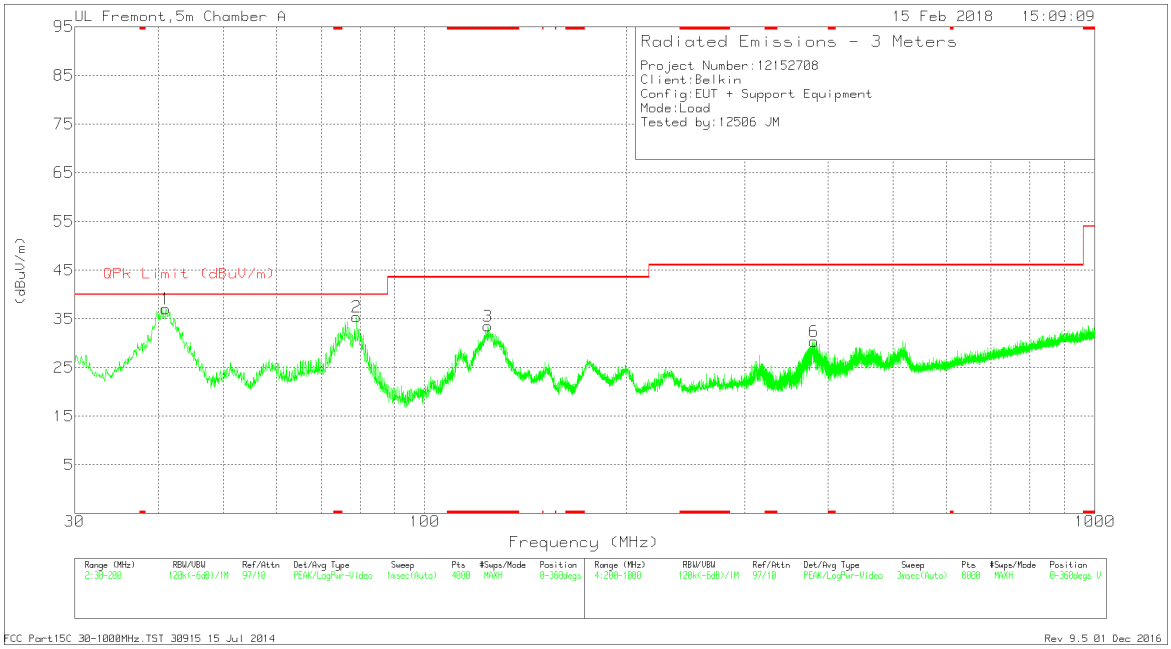
Rev 9.5 01 Dec 2016

8.4.4. OPERATING WITH 10W LOAD

HORIZONTAL PLOT



VERTICAL PLOT



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
4	* 114.6819	40.95	Pk	17.3	-26.2	32.05	43.52	-11.47	0-360	300	H
3	* 124.2469	41.62	Pk	18	-26.1	33.52	43.52	-10	0-360	100	V
1	41.0529	46.97	Pk	17.2	-27.1	37.07	40	-2.93	0-360	100	V
	41.0530	42.74	Qp	17.3	-27.1	32.94	40	-7.06	309	116	V
2	79.1002	50.41	Pk	11.6	-26.6	35.41	40	-4.59	0-360	100	V
	79.100	46.07	Qp	11.6	-26.6	31.07	40	-8.93	150	104	V
5	308.4141	36.77	Pk	17.6	-24.6	29.77	46.02	-16.25	0-360	101	H
6	380.8235	36.35	Pk	19	-25	30.35	46.02	-15.67	0-360	101	V

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

FCC Part15C 30-1000MHz.TST 30915 15 Jul 2014
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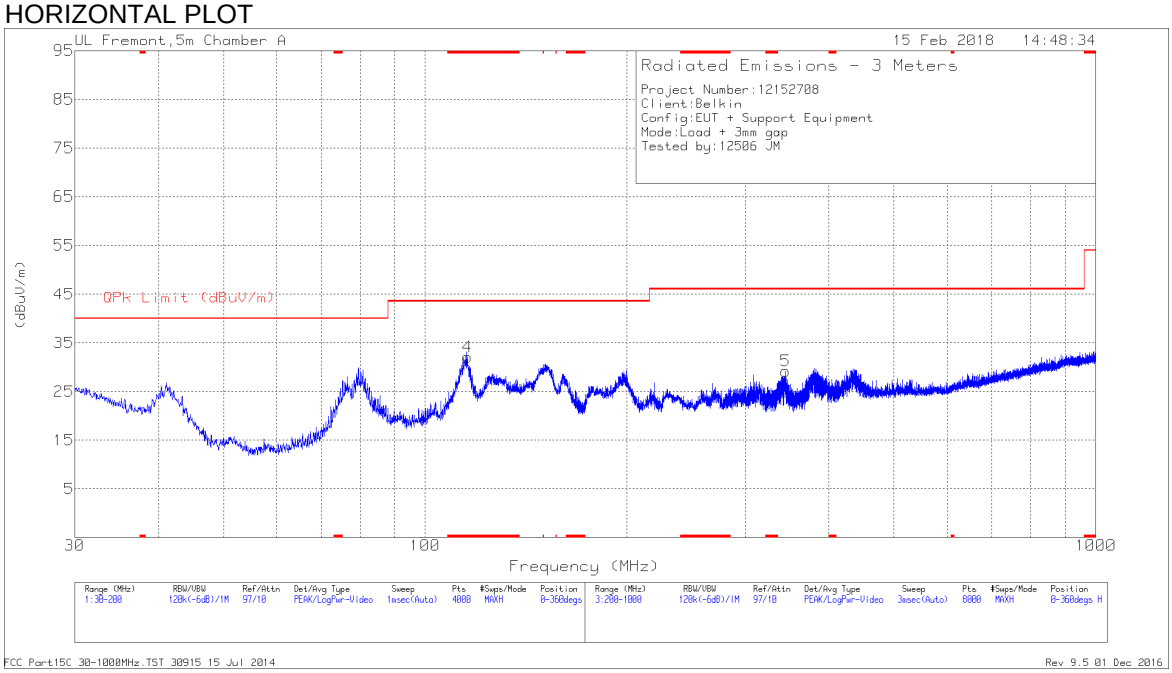
8.4.5. OPERATING WITH 10W LOAD AT 3MM GAP

HORIZONTAL PLOT



VERTICAL PLOT

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
4	* 115.6597	40.8	Pk	17.5	-26.2	32.1	43.52	-11.42	0-360	300	H
3	* 123.5667	41.9	Pk	18	-26.1	33.8	43.52	-9.72	0-360	100	V
5	344.6188	35.82	Pk	18.1	-24.7	29.22	46.02	-16.8	0-360	101	H
6	378.3232	37.25	Pk	18.9	-25	31.15	46.02	-14.87	0-360	100	V
1	41.563	47.68	Pk	16.7	-27.1	37.28	40	-2.72	0-360	100	V
	41.560	44.22	Qp	16.7	-27.1	33.82	40	-6.18	327	115	V
2	76.5495	49.42	Pk	11.8	-26.7	34.52	40	-5.48	0-360	100	V
	76.6081	45.3	Qp	11.8	-26.7	30.4	40	-9.6	113	127	V

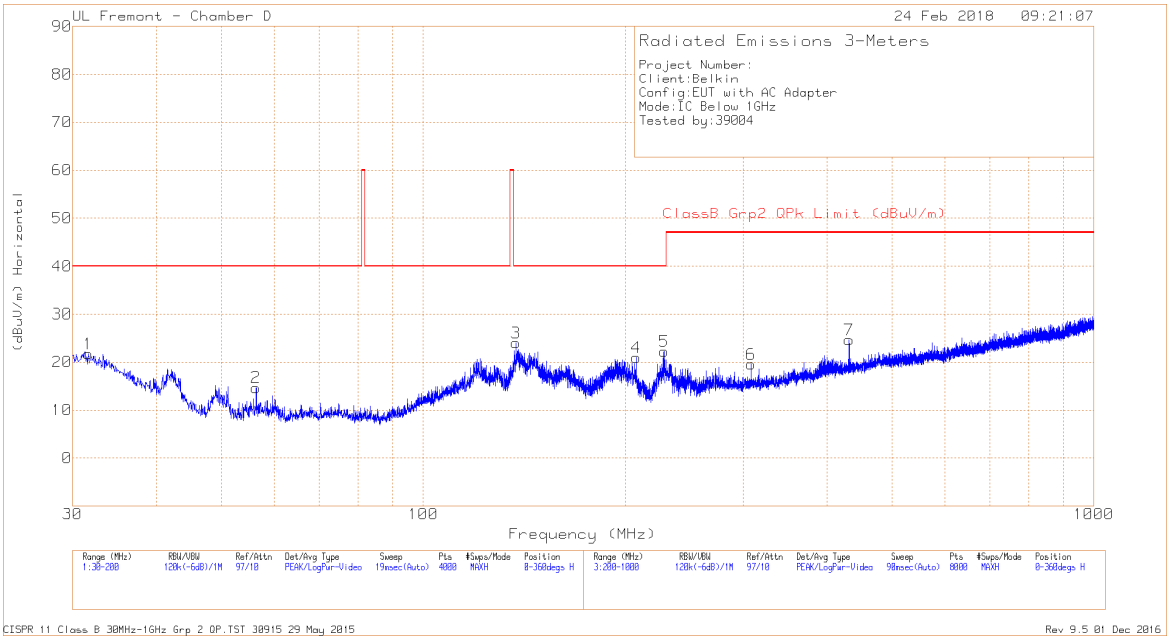
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Qp - Quasi-Peak detector

FCC Part15C 30-1000MHz.TST 30915 15 Jul 2014
Rev 9.5 01 Dec 2016

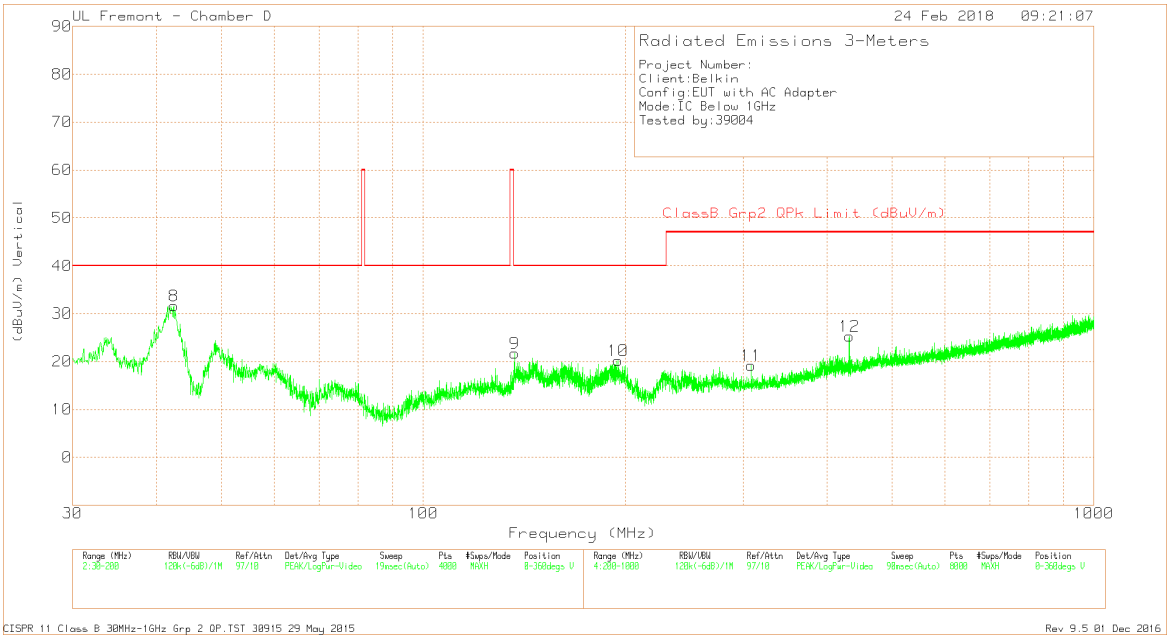
8.5. IC / CISPR 11 TX SPURIOUS EMISSION 30 TO 1000 MHz

8.5.1. STANDBY CONFIGURATION

HORIZONTAL PLOT



VERTICAL PLOT



DATA

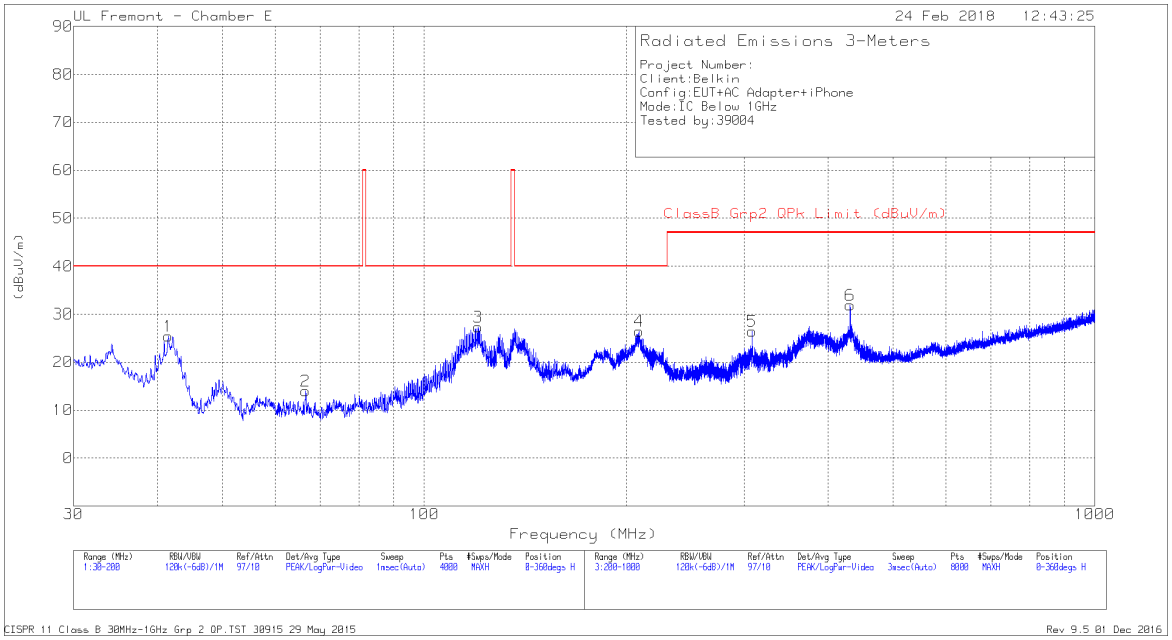
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	ClassB Grp2 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.6579	28.67	Pk	25	-31.9	21.77	40	-18.23	0-360	99	H
8	42.4557	46.73	Pk	16.7	-31.8	31.63	40	-8.37	0-360	100	V
2	56.3568	34.3	Pk	12.1	-31.7	14.7	40	-25.3	0-360	399	H
9	136.8301	35.06	Pk	17.8	-31.1	21.76	40	-18.24	0-360	100	V
3	137.4678	37.39	Pk	17.7	-31.1	23.99	40	-16.01	0-360	199	H
10	195.3678	34.51	Pk	16.5	-30.8	20.21	40	-19.79	0-360	100	V
4	207.701	36.55	Pk	15.1	-30.7	20.95	40	-19.05	0-360	100	H
5	228.6037	37.21	Pk	15.6	-30.6	22.21	40	-17.79	0-360	100	H
6	308.4141	31.78	Pk	18.1	-30.3	19.58	47	-27.42	0-360	100	H
11	308.4141	31.4	Pk	18.1	-30.3	19.2	47	-27.8	0-360	199	V
7	431.7301	33.61	Pk	20.9	-29.9	24.61	47	-22.39	0-360	100	H
12	431.8301	34.35	Pk	20.9	-29.9	25.35	47	-21.65	0-360	101	V

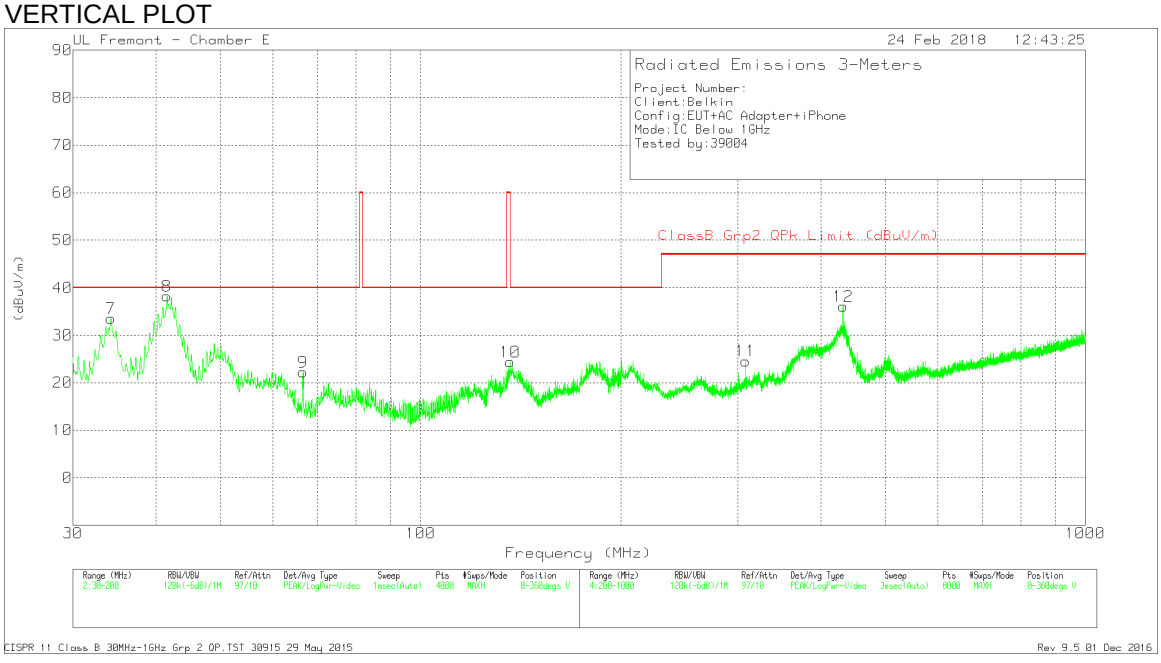
Pk - Peak detector
CISPR 11 Class B 30MHz-1GHz Grp 2 QP.TST 30915 29 May 2015
Rev 9.5 01 Dec 2016

8.5.2. OPERATING WITH PHONE

HORIZONTAL PLOT



VERTICAL PLOT



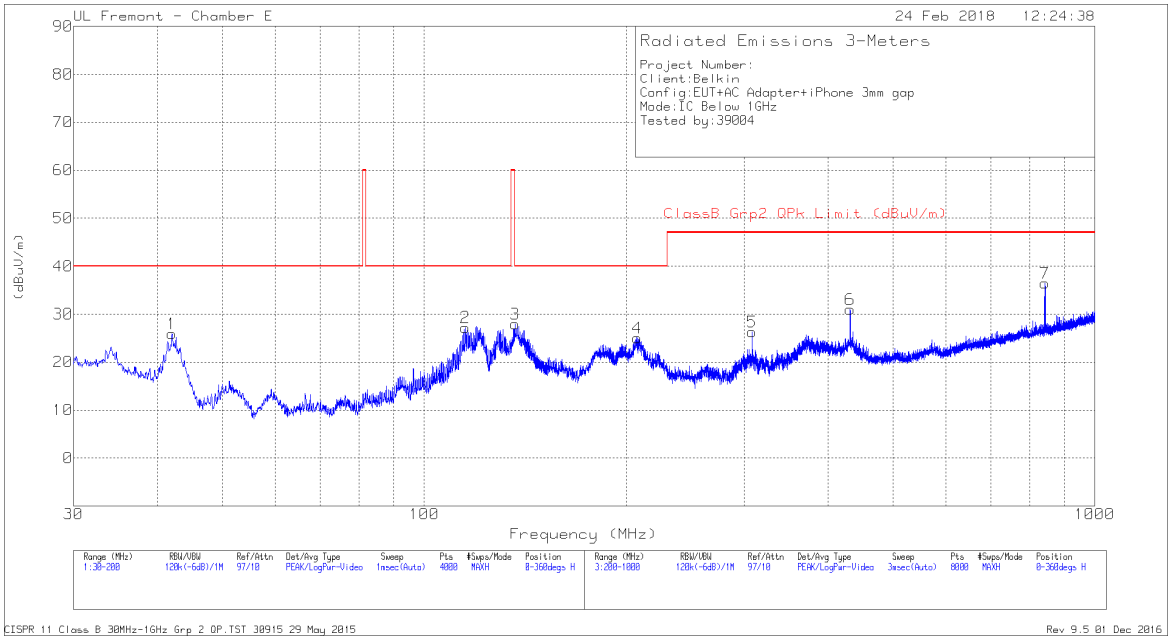
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	ClassB Grp2 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7	34.2086	42.76	Pk	22.3	-31.5	33.56	40	-6.44	0-360	100	V
1	41.563	39.8	Pk	17	-31.4	25.4	40	-14.6	0-360	300	H
8	41.563	52.64	Pk	17	-31.4	38.24	40	-1.76	0-360	100	V
	41.560	48.39	QP	17	-31.4	33.99	40	-6.01	275	155	V
2	66.602	33.3	Pk	11.8	-31.1	14	40	-26	0-360	300	H
9	66.602	41.57	Pk	11.8	-31.1	22.27	40	-17.73	0-360	100	V
3	120.3996	41.17	Pk	16.8	-30.6	27.37	40	-12.63	0-360	300	H
10	136.32	37.6	Pk	17.2	-30.4	24.4	60	-35.6	0-360	100	V
4	209.0012	42.4	Pk	13.9	-29.8	26.5	40	-13.5	0-360	100	H
5	308.4141	38.46	Pk	17.1	-29.1	26.46	47	-20.54	0-360	100	H
11	308.4141	36.6	Pk	17.1	-29.1	24.6	47	-22.4	0-360	100	V
6	431.7301	40.45	Pk	20	-28.5	31.95	47	-15.05	0-360	200	H
12	431.8301	44.56	Pk	20	-28.5	36.06	47	-10.94	0-360	100	V

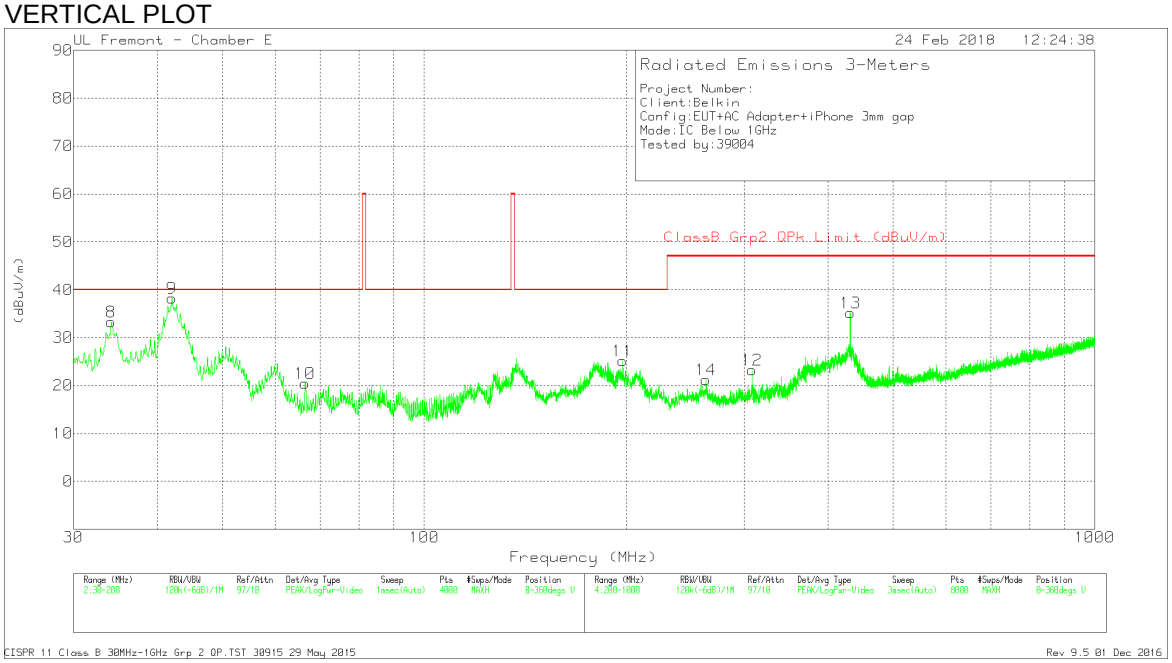
Pk - Peak detector
Qp - Quasi-Peak detector

8.5.3. OPERATING WITH iPhone AT 3mm Gap

HORIZONTAL PLOT



VERTICAL PLOT



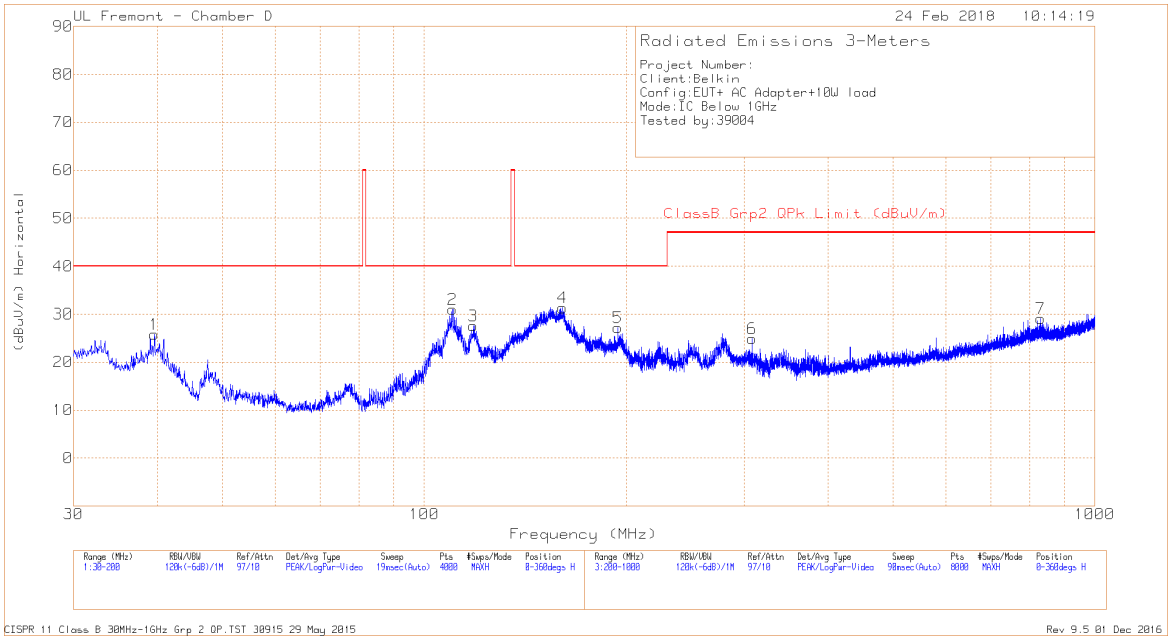
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	ClassB Grp2 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
8	34.1661	42.35	Pk	22.4	-31.5	33.25	40	-6.75	0-360	100	V
9	42.0519	53.03	Pk	16.6	-31.4	38.23	40	-1.77	0-360	100	V
	42.0520	48.48	QP	16.6	-31.4	33.68	40	-6.32	275	1.75	V
1	42.0731	40.73	Pk	16.6	-31.4	25.93	40	-14.07	0-360	300	H
10	66.3894	39.75	Pk	11.8	-31.1	20.45	40	-19.55	0-360	100	V
2	115.2346	41.16	Pk	16.7	-30.6	27.26	40	-12.74	0-360	300	H
3	136.5751	41.21	Pk	17.2	-30.4	28.01	40	-11.99	0-360	200	H
11	197.5784	39.26	Pk	15.9	-30	25.16	40	-14.84	0-360	100	V
4	208.001	40.86	Pk	14	-29.8	25.06	40	-14.94	0-360	199	H
14	263.1082	34.78	Pk	16	-29.5	21.28	47	-25.72	0-360	200	V
5	308.4141	38.29	Pk	17.1	-29.1	26.29	47	-20.71	0-360	100	H
12	308.4141	35.31	Pk	17.1	-29.1	23.31	47	-23.69	0-360	200	V
6	431.7301	39.48	Pk	20	-28.5	30.98	47	-16.02	0-360	199	H
13	431.8301	43.65	Pk	20	-28.5	35.15	47	-11.85	0-360	100	V
7	841.8834	37.22	Pk	25.4	-26.1	36.52	47	-10.48	0-360	100	H

Pk - Peak detector
Qp - Quasi-Peak detector

8.5.4. OPERATING WITH 10W LOAD

HORIZONTAL PLOT



VERTICAL PLOT

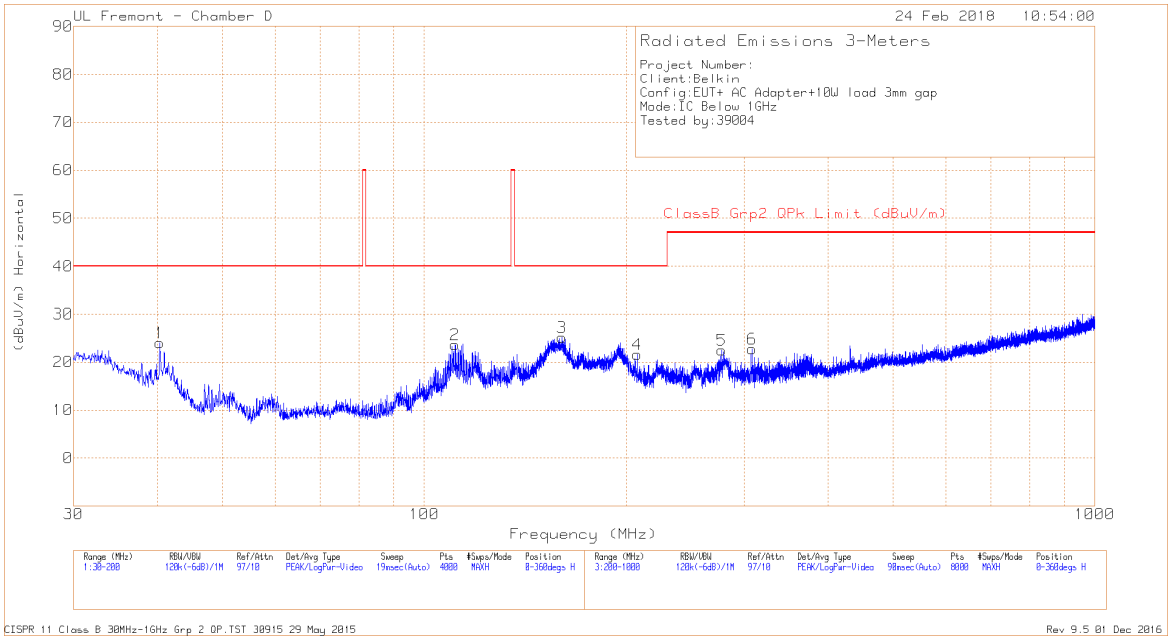
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	ClassB Grp2 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
8	31.8705	43.78	Pk	24.9	-31.9	36.78	40	-3.22	0-360	100	V
	31.8710	39.16	QP	24.9	-31.9	32.16	40	-7.84	275	205	V
9	39.565	51.37	Pk	18.8	-31.8	38.37	40	-1.63	0-360	100	V
	39.560	46.62	QP	18.8	-31.8	33,62	40	-6.38	255	175	V
1	39.6075	38.78	Pk	18.8	-31.8	25.78	40	-14.22	0-360	399	H
2	110.3033	45.33	Pk	17	-31.3	31.03	40	-8.97	0-360	299	H
10	110.4733	42.87	Pk	17.1	-31.3	28.67	40	-11.33	0-360	100	V
3	118.2528	40.69	Pk	18.2	-31.3	27.59	40	-12.41	0-360	199	H
11	135.1297	39.86	Pk	17.9	-31.1	26.66	60	-33.34	0-360	100	V
4	160.7213	45.93	Pk	16.5	-31.1	31.33	40	-8.67	0-360	199	H
5	194.5176	41.72	Pk	16.3	-30.8	27.22	40	-12.78	0-360	98	H
6	308.4141	37.14	Pk	18.1	-30.3	24.94	47	-22.06	0-360	99	H
12	341.8184	32.5	Pk	18.6	-30.1	21	47	-26	0-360	98	V
13	433.0303	33.37	Pk	20.9	-29.9	24.37	47	-22.63	0-360	98	V
14	644.7578	30.47	Pk	24.2	-29.4	25.27	47	-21.73	0-360	199	V
7	830.3819	31.61	Pk	26.2	-28.7	29.11	47	-17.89	0-360	99	H

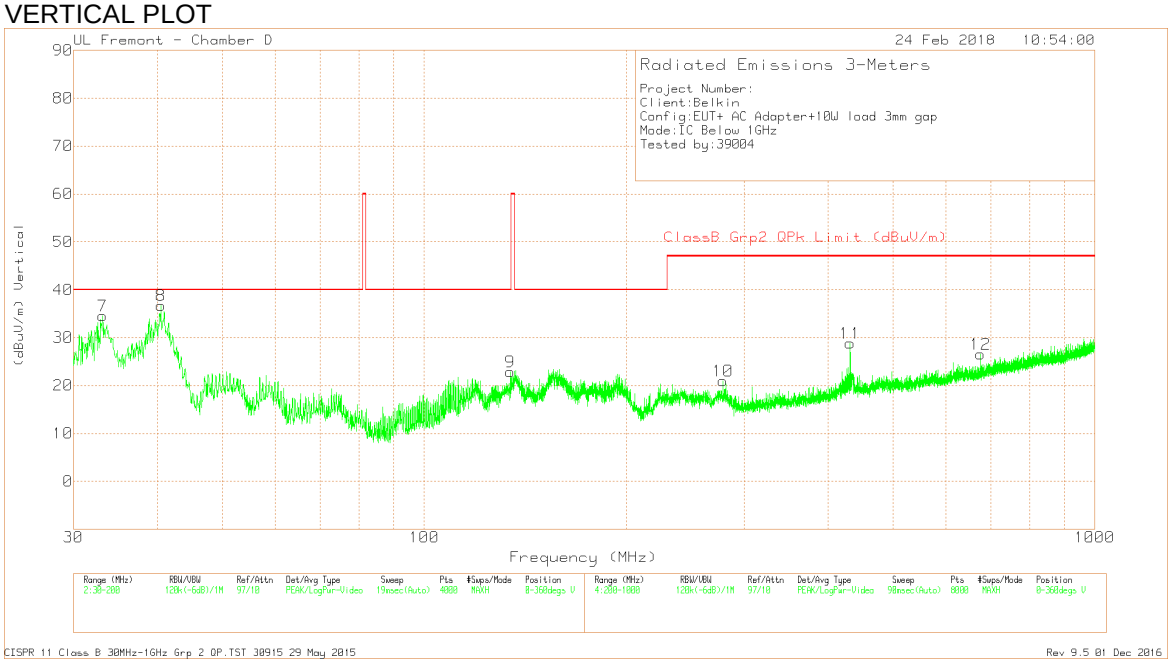
Pk - Peak detector
Qp - Quasi-Peak detector

8.5.5. OPERATING WITH 10W LOAD AT 3mm Gap

HORIZONTAL PLOT



VERTICAL PLOT



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	ClassB Grp2 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7	33.1458	42.77	Pk	23.7	-31.9	34.57	40	-5.43	0-360	100	V
	33.1450	39.17	QP	23.7	-31.9	30.97	40	-9.03	295	155	V
1	40.3302	37.52	Pk	18.3	-31.8	24.02	40	-15.98	0-360	299	H
8	40.5002	50.35	Pk	18.2	-31.8	36.75	40	-3.25	0-360	100	V
	40.5000	46.15	QP	18.2	-31.8	32,55	40	-7.45	320	175	V
2	111.2385	37.79	Pk	17.2	-31.3	23.69	40	-16.31	0-360	299	H
9	134.492	36.22	Pk	17.9	-31.2	22.92	40	-17.08	0-360	100	V
3	160.4663	39.81	Pk	16.5	-31.1	25.21	40	-14.79	0-360	299	H
4	207.801	37.19	Pk	15.1	-30.7	21.59	40	-18.41	0-360	101	H
5	278.0101	35.06	Pk	17.9	-30.4	22.56	47	-24.44	0-360	101	H
10	278.7102	33.48	Pk	17.9	-30.4	20.98	47	-26.02	0-360	199	V
6	308.4141	35	Pk	18.1	-30.3	22.8	47	-24.2	0-360	101	H
11	431.7301	37.86	Pk	20.9	-29.9	28.86	47	-18.14	0-360	101	V
12	675.2618	31.79	Pk	24.2	-29.4	26.59	47	-20.41	0-360	299	V

Pk - Peak detector
Qp - Quasi-Peak detector

9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

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

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

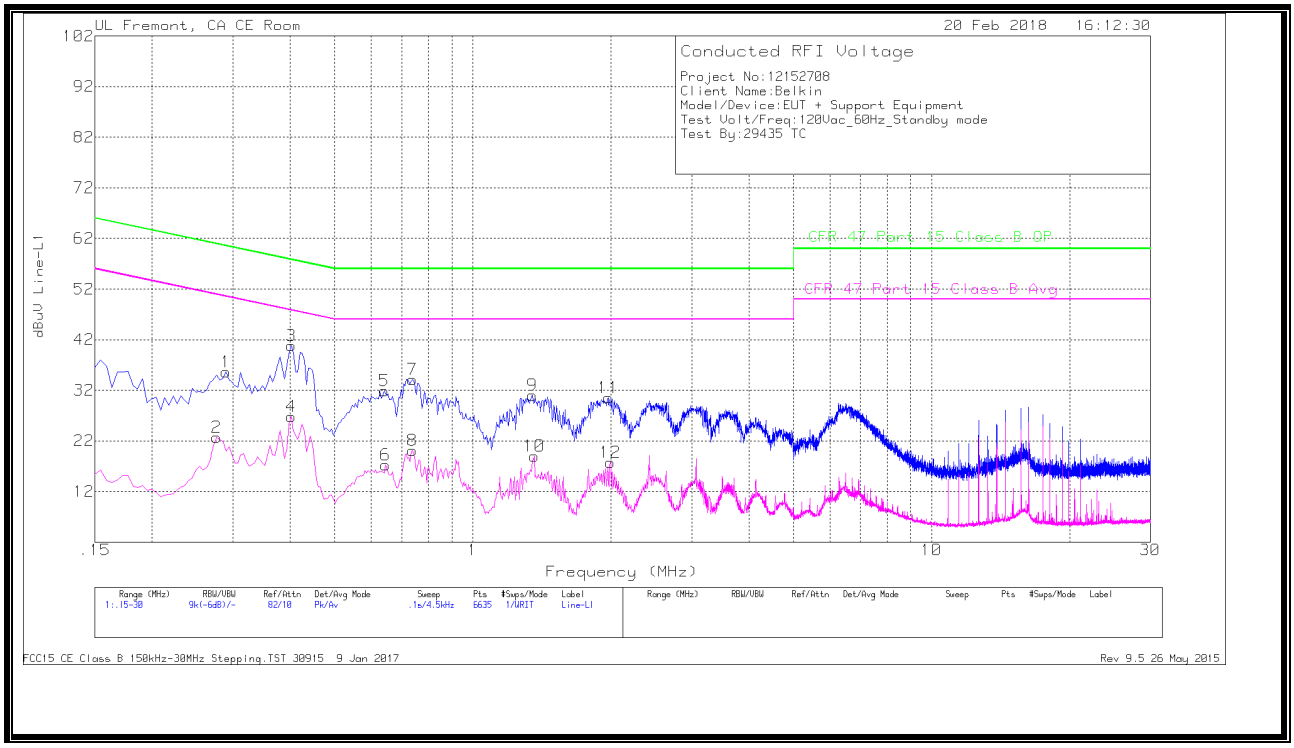
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

STANDBY MODE

LINE 1 RESULTS



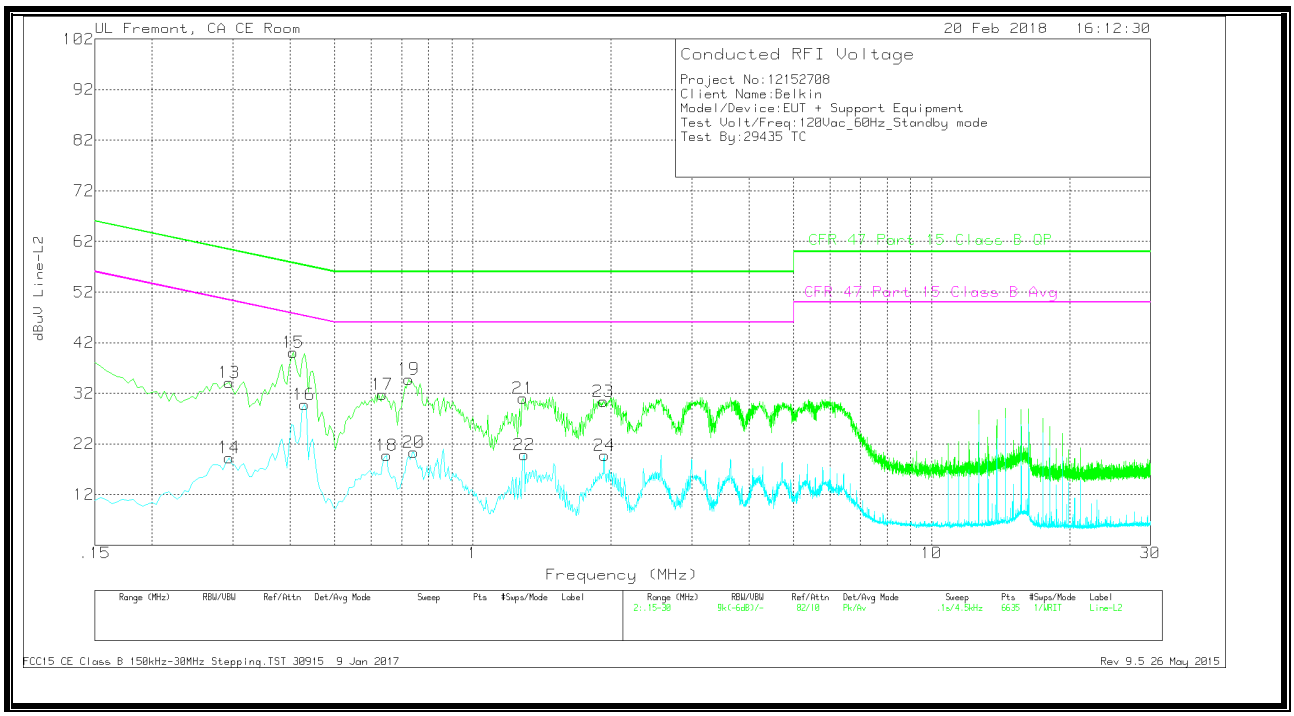
WORST EMISSIONS

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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.2895	25.49	Pk	0	0	10.1	35.59	60.54	-24.95	-	-
2	.276	12.58	Av	0	0	10.1	22.68	-	-	50.94	-28.26
3	.402	30.68	Pk	0	0	10.1	40.78	57.81	-17.03	-	-
4	.402	16.71	Av	0	0	10.1	26.81	-	-	47.81	-21
5	.6405	21.75	Pk	0	0	10.1	31.85	56	-24.15	-	-
6	.645	7.08	Av	0	0	10.1	17.18	-	-	46	-28.82
7	.7395	24.06	Pk	0	0	10.1	34.16	56	-21.84	-	-
8	.7395	9.98	Av	0	0	10.1	20.08	-	-	46	-25.92
9	1.347	20.81	Pk	0	.1	10.1	31.01	56	-24.99	-	-
10	1.3605	8.75	Av	0	.1	10.1	18.95	-	-	46	-27.05
11	1.9725	20.37	Pk	0	.1	10.1	30.57	56	-25.43	-	-
12	1.995	7.56	Av	0	.1	10.1	17.76	-	-	46	-28.24

Pk - Peak detector
Av - Average detection

LINE 2 RESULTS



WORST EMISSIONS

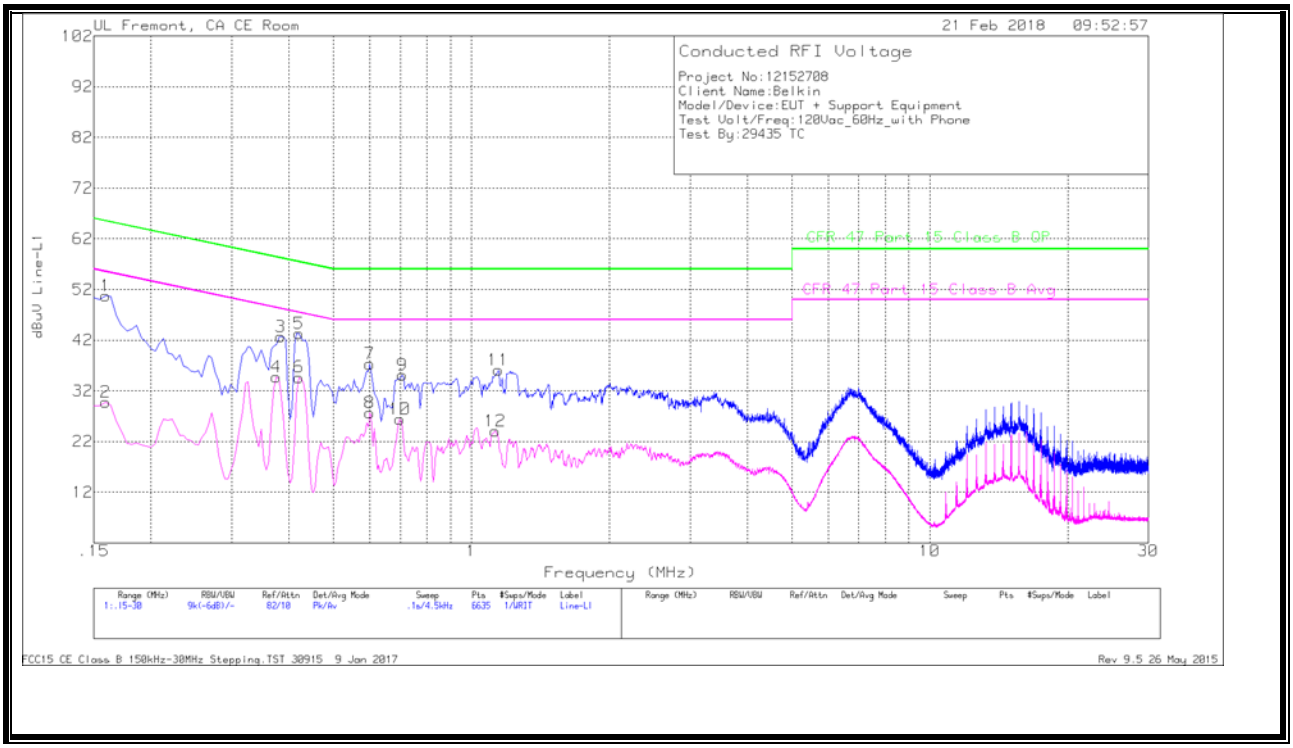
Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.294	24.07	Pk	0	0	10.1	34.17	60.41	-26.24	-	-
14	.294	9.18	Av	0	0	10.1	19.28	-	-	50.41	-31.13
15	.4065	29.95	Pk	0	0	10.1	40.05	57.72	-17.67	-	-
16	.429	19.72	Av	0	0	10.1	29.82	-	-	47.27	-17.45
17	.636	21.64	Pk	0	0	10.1	31.74	56	-24.26	-	-
18	.6495	9.6	Av	0	0	10.1	19.7	-	-	46	-26.3
19	.726	24.7	Pk	0	0	10.1	34.8	56	-21.2	-	-
20	.744	10.24	Av	0	0	10.1	20.34	-	-	46	-25.66
21	1.2885	20.81	Pk	0	.1	10.1	31.01	56	-24.99	-	-
22	1.293	9.62	Av	0	.1	10.1	19.82	-	-	46	-26.18
23	1.92525	20.23	Pk	0	.1	10.1	30.43	56	-25.57	-	-
24	1.9365	9.53	Av	0	.1	10.1	19.73	-	-	46	-26.27

Pk - Peak detector
Av - Average detection

FCC_EUT Only_120VAC 60Hz.DAT 30915 9 Jan 2017
Rev 9.5 26 May 2015

OPERATING MODE WITH PHONE

LINE 1 RESULTS

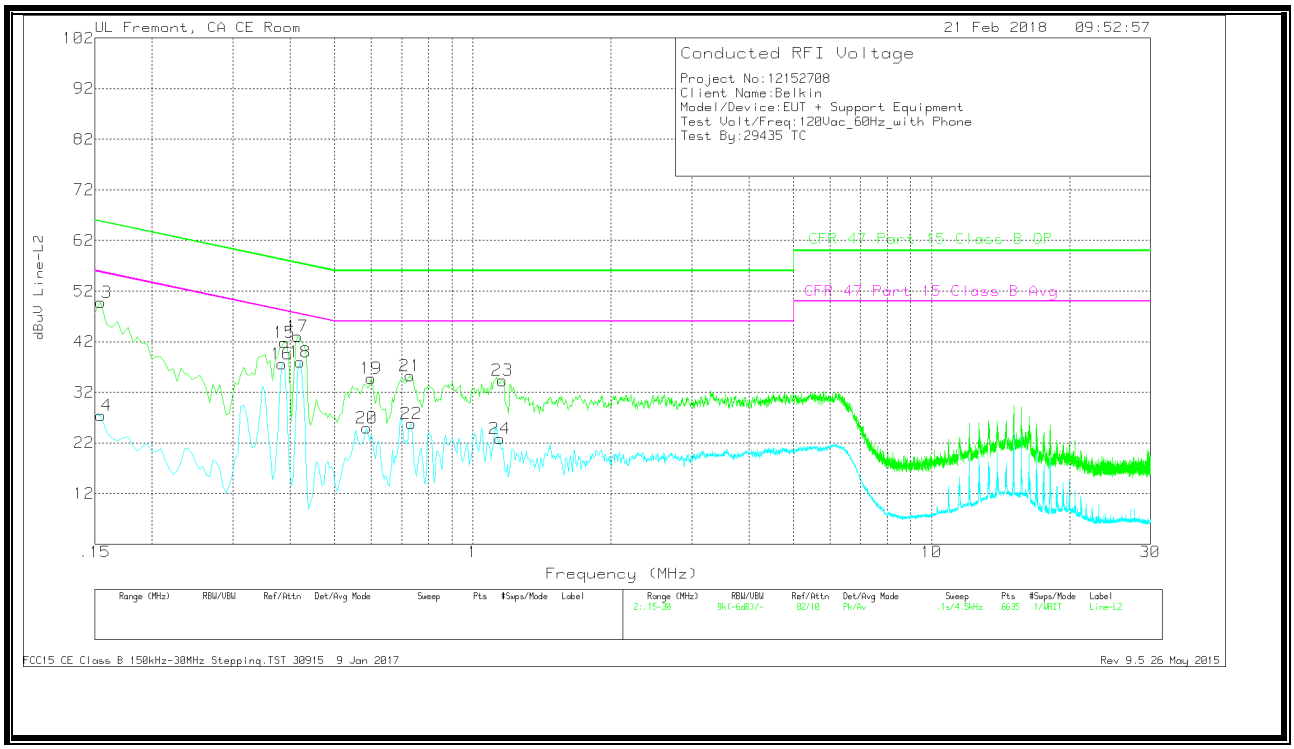


WORST EMISSIONS

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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.159	40.59	Pk	.1	0	10.1	50.79	65.52	-14.73	-	-
2	.159	19.6	Av	.1	0	10.1	29.8	-	-	55.52	-25.72
3	.384	32.64	Pk	0	0	10.1	42.74	58.19	-15.45	-	-
4	.375	24.63	Av	0	0	10.1	34.73	-	-	48.39	-13.66
5	.42	33.16	Pk	0	0	10.1	43.26	57.45	-14.19	-	-
6	.42	24.58	Av	0	0	10.1	34.68	-	-	47.45	-12.77
7	.6	27.19	Pk	0	0	10.1	37.29	56	-18.71	-	-
8	.6	17.6	Av	0	0	10.1	27.7	-	-	46	-18.3
9	.708	25.02	Pk	0	0	10.1	35.12	56	-20.88	-	-
10	.699	16.31	Av	0	0	10.1	26.41	-	-	46	-19.59
11	1.1445	25.89	Pk	0	.1	10.1	36.09	56	-19.91	-	-
12	1.1265	13.91	Av	0	.1	10.1	24.11	-	-	46	-21.89

Pk - Peak detector
Av - Average detection

LINE 2 RESULTS



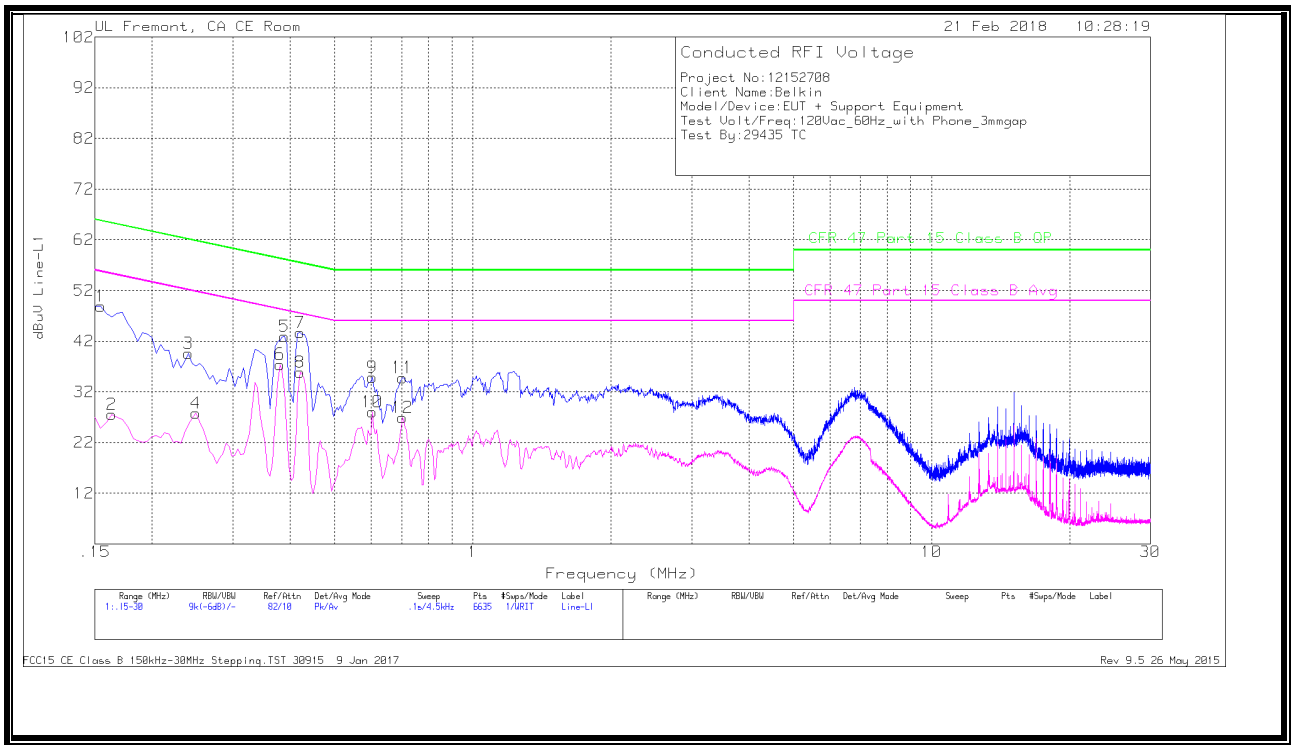
WORST EMISSIONS

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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.1545	39.68	Pk	0	0	10.1	49.78	65.75	-15.97	-	-
14	.1545	17.32	Av	0	0	10.1	27.42	-	-	55.75	-28.33
15	.3885	31.69	Pk	0	0	10.1	41.79	58.1	-16.31	-	-
16	.384	27.52	Av	0	0	10.1	37.62	-	-	48.19	-10.57
17	.4155	32.98	Pk	0	0	10.1	43.08	57.54	-14.46	-	-
18	.42	27.84	Av	0	0	10.1	37.94	-	-	47.45	-9.51
19	.6	24.61	Pk	0	0	10.1	34.71	56	-21.29	-	-
20	.5865	14.81	Av	0	0	10.1	24.91	-	-	46	-21.09
21	.7305	25.1	Pk	0	0	10.1	35.2	56	-20.8	-	-
22	.735	15.7	Av	0	0	10.1	25.8	-	-	46	-20.2
23	1.158	24.11	Pk	0	.1	10.1	34.31	56	-21.69	-	-
24	1.1445	12.66	Av	0	.1	10.1	22.86	-	-	46	-23.14

Pk - Peak detector
Av - Average detection

OPERATING WITH Phone 3mm GAP

LINE 1 RESULTS



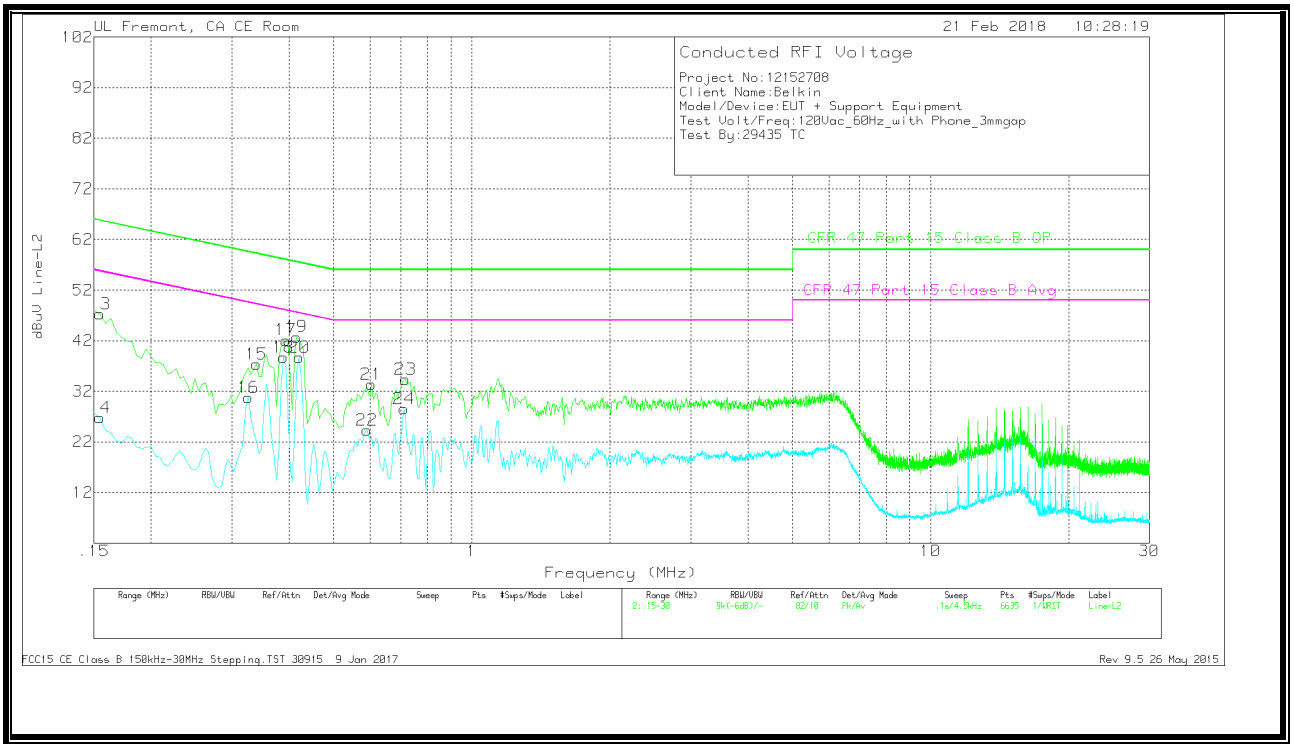
WORST EMISSIONS

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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.1545	38.7	Pk	.1	0	10.1	48.9	65.75	-16.85	-	-
2	.1635	17.37	Av	.1	0	10.1	27.57	-	-	55.28	-27.71
3	.24	29.45	Pk	0	0	10.1	39.55	62.1	-22.55	-	-
4	.249	17.69	Av	0	0	10.1	27.79	-	-	51.79	-24
5	.3885	32.79	Pk	0	0	10.1	42.89	58.1	-15.21	-	-
6	.3795	27.31	Av	0	0	10.1	37.41	-	-	48.29	-10.88
7	.42	33.58	Pk	0	0	10.1	43.68	57.45	-13.77	-	-
8	.42	25.75	Av	0	0	10.1	35.85	-	-	47.45	-11.6
9	.6045	24.74	Pk	0	0	10.1	34.84	56	-21.16	-	-
10	.6045	17.9	Av	0	0	10.1	28	-	-	46	-18
11	.7035	24.7	Pk	0	0	10.1	34.8	56	-21.2	-	-
12	.7035	16.85	Av	0	0	10.1	26.95	-	-	46	-19.05

Pk - Peak detector
Av - Average detection

LINE 2 RESULTS



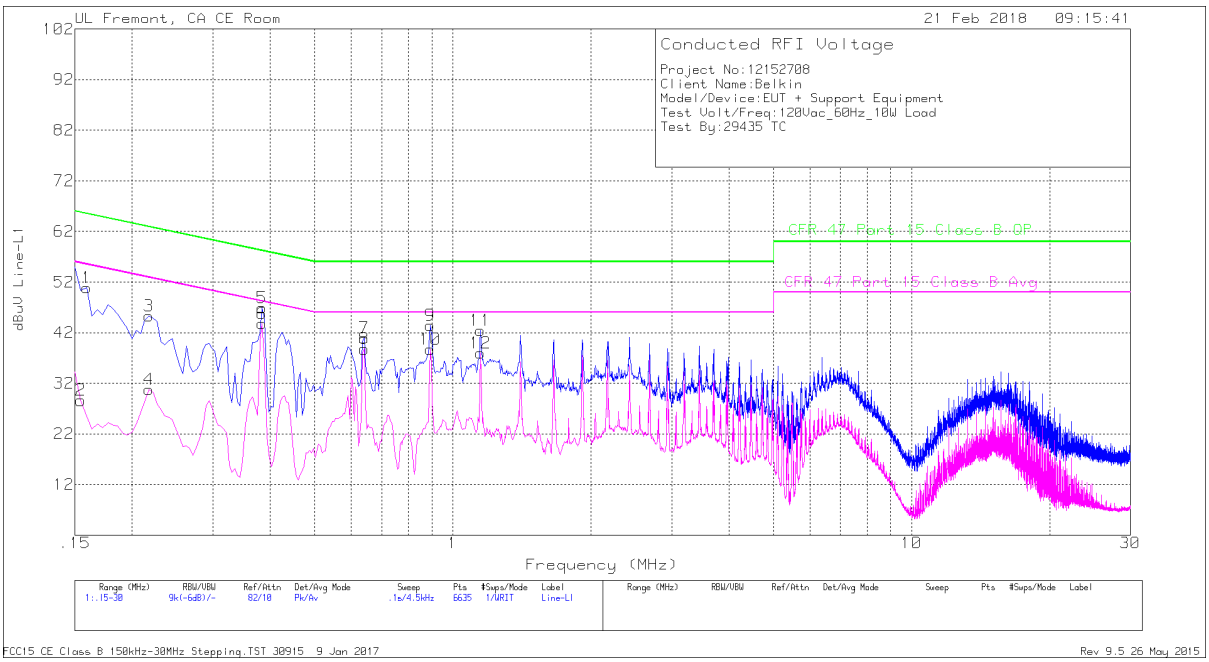
WORST EMISSIONS

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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.1545	37.17	Pk	0	0	10.1	47.27	65.75	-18.48	-	-
14	.1545	16.67	Av	0	0	10.1	26.77	-	-	55.75	-28.98
15	.339	27.2	Pk	0	0	10.1	37.3	59.23	-21.93	-	-
16	.3255	20.62	Av	0	0	10.1	30.72	-	-	49.57	-18.85
17	.393	32.03	Pk	0	0	10.1	42.13	58	-15.87	-	-
18	.3885	28.57	Av	0	0	10.1	38.67	-	-	48.1	-9.43
19	.4155	32.65	Pk	0	0	10.1	42.75	57.54	-14.79	-	-
20	.42	28.62	Av	0	0	10.1	38.72	-	-	47.45	-8.73
21	.6045	23.28	Pk	0	0	10.1	33.38	56	-22.62	-	-
22	.591	14.24	Av	0	0	10.1	24.34	-	-	46	-21.66
23	.717	24.22	Pk	0	0	10.1	34.32	56	-21.68	-	-
24	.7125	18.46	Av	0	0	10.1	28.56	-	-	46	-17.44

Pk - Peak detector
Av - Average detection

OPERATING with RECEIVER 10 W LOAD

LINE 1 RESULTS



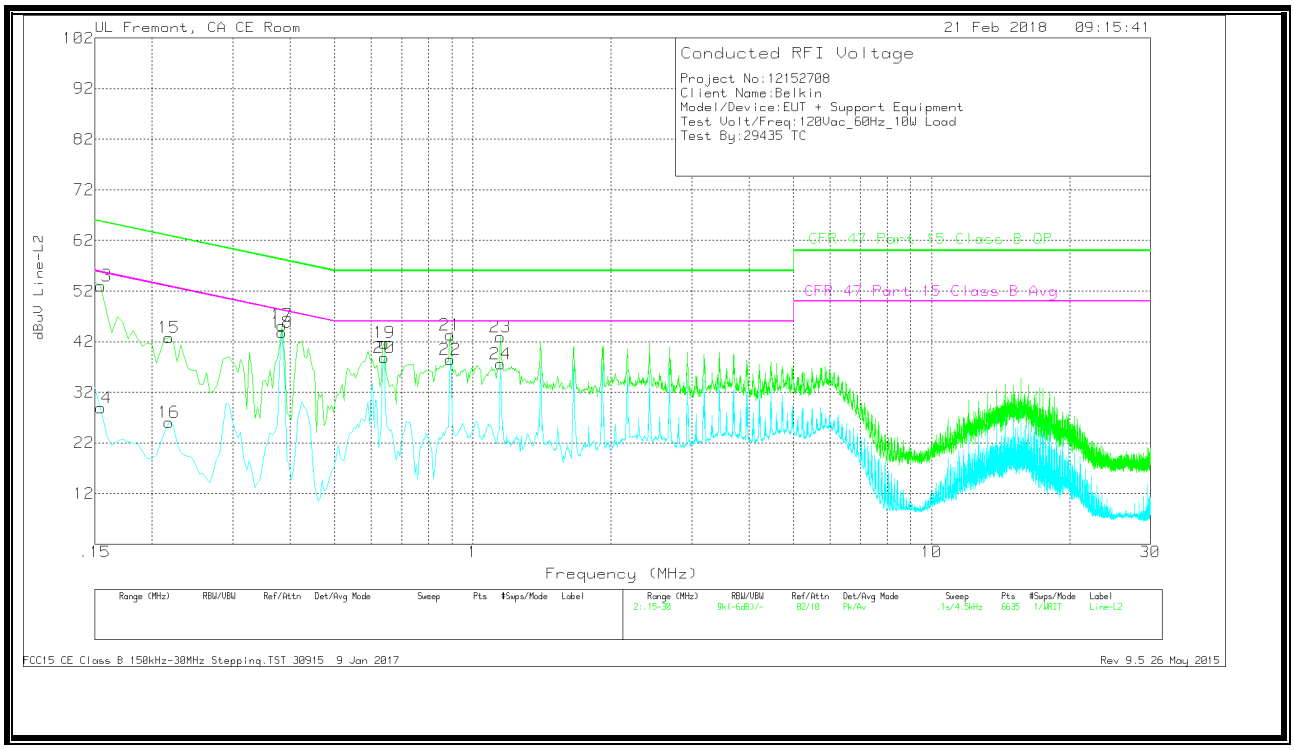
WORST EMISSIONS

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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.159	40.63	Pk	.1	0	10.1	50.83	65.52	-14.69	-	-
2	.1545	18.4	Av	.1	0	10.1	28.6	-	-	55.75	-27.15
3	.2175	35.21	Pk	0	0	10.1	45.31	62.91	-17.6	-	-
4	.2175	20.72	Av	0	0	10.1	30.82	-	-	52.91	-22.09
5	.384	36.82	Pk	0	0	10.1	46.92	58.19	-11.27	-	-
6	.384	33.66	Av	0	0	10.1	43.76	-	-	48.19	-4.43
7	.6405	30.81	Pk	0	0	10.1	40.91	56	-15.09	-	-
8	.6405	28.68	Av	0	0	10.1	38.78	-	-	46	-7.22
9	.8925	33.34	Pk	0	0	10.1	43.44	56	-12.56	-	-
10	.8925	28.66	Av	0	0	10.1	38.76	-	-	46	-7.24
11	1.149	32.29	Pk	0	.1	10.1	42.49	56	-13.51	-	-
12	1.149	27.73	Av	0	.1	10.1	37.93	-	-	46	-8.07

Pk - Peak detector

Av - Average detection

LINE 2 RESULTS



WORST EMISSIONS

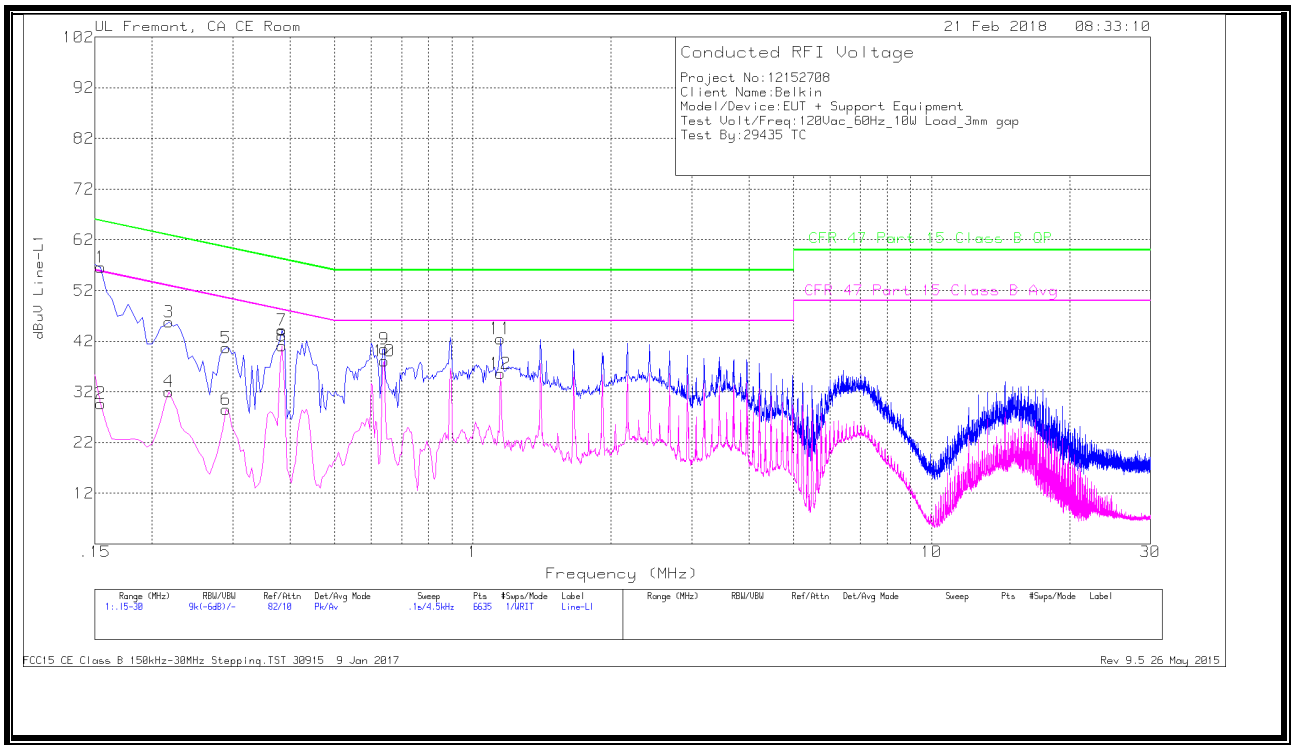
Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.1545	42.95	Pk	0	0	10.1	53.05	65.75	-12.7	-	-
14	.1545	18.85	Av	0	0	10.1	28.95	-	-	55.75	-26.8
15	.2175	32.66	Pk	0	0	10.1	42.76	62.91	-20.15	-	-
16	.2175	15.94	Av	0	0	10.1	26.04	-	-	52.91	-26.87
17	.384	35.13	Pk	0	0	10.1	45.23	58.19	-12.96	-	-
18	.384	33.7	Av	0	0	10.1	43.8	-	-	48.19	-4.39
19	.6405	31.66	Pk	0	0	10.1	41.76	56	-14.24	-	-
20	.6405	28.72	Av	0	0	10.1	38.82	-	-	46	-7.18
21	.8925	33.24	Pk	0	0	10.1	43.34	56	-12.66	-	-
22	.8925	28.38	Av	0	0	10.1	38.48	-	-	46	-7.52
23	1.149	32.74	Pk	0	.1	10.1	42.94	56	-13.06	-	-
24	1.149	27.35	Av	0	.1	10.1	37.55	-	-	46	-8.45

Pk - Peak detector

Av - Average detection

OPERATING WITH RECEIVER 10W LOAD 3mm AIRGAP

LINE 1 RESULTS

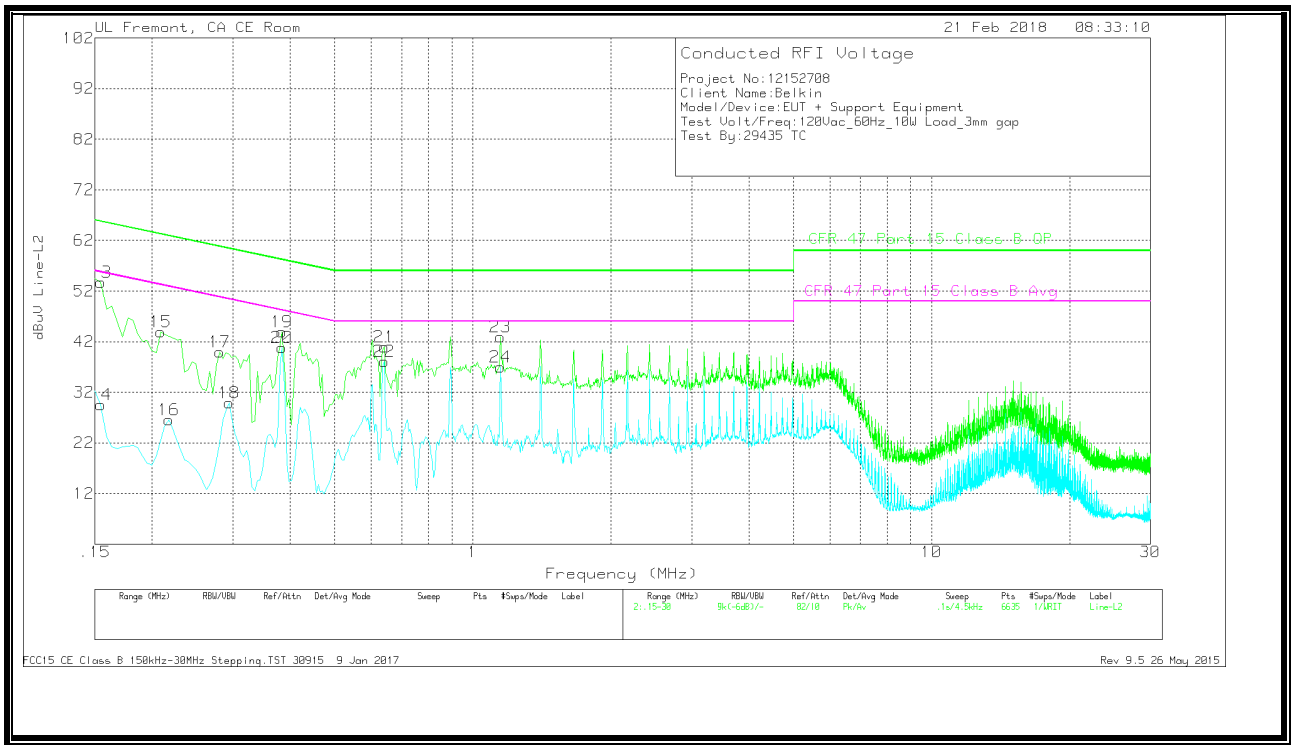


WORST EMISSIONS

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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.1545	46.38	Pk	.1	0	10.1	56.58	65.75	-9.17	-	-
2	.1545	19.51	Av	.1	0	10.1	29.71	-	-	55.75	-26.04
3	.2175	35.67	Pk	0	0	10.1	45.77	62.91	-17.14	-	-
4	.2175	21.97	Av	0	0	10.1	32.07	-	-	52.91	-20.84
5	.2895	30.55	Pk	0	0	10.1	40.65	60.54	-19.89	-	-
6	.2895	18.41	Av	0	0	10.1	28.51	-	-	50.54	-22.03
7	.384	34.13	Pk	0	0	10.1	44.23	58.19	-13.96	-	-
8	.384	30.96	Av	0	0	10.1	41.06	-	-	48.19	-7.13
9	.6405	30.36	Pk	0	0	10.1	40.46	56	-15.54	-	-
10	.6405	27.99	Av	0	0	10.1	38.09	-	-	46	-7.91
11	1.149	32.3	Pk	0	.1	10.1	42.5	56	-13.5	-	-
12	1.149	25.44	Av	0	.1	10.1	35.64	-	-	46	-10.36

Pk - Peak detector
Av - Average detection

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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.1545	43.59	Pk	0	0	10.1	53.69	65.75	-12.06	-	-
14	.1545	19.41	Av	0	0	10.1	29.51	-	-	55.75	-26.24
15	.2085	33.85	Pk	0	0	10.1	43.95	63.26	-19.31	-	-
16	.2175	16.47	Av	0	0	10.1	26.57	-	-	52.91	-26.34
17	.2805	29.85	Pk	0	0	10.1	39.95	60.8	-20.85	-	-
18	.294	19.79	Av	0	0	10.1	29.89	-	-	50.41	-20.52
19	.384	33.87	Pk	0	0	10.1	43.97	58.19	-14.22	-	-
20	.384	30.67	Av	0	0	10.1	40.77	-	-	48.19	-7.42
21	.6405	30.88	Pk	0	0	10.1	40.98	56	-15.02	-	-
22	.6405	27.96	Av	0	0	10.1	38.06	-	-	46	-7.94
23	1.149	32.77	Pk	0	.1	10.1	42.97	56	-13.03	-	-
24	1.149	26.74	Av	0	.1	10.1	36.94	-	-	46	-9.06

Pk - Peak detector
Av - Average detection