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

CERTIFICATION TEST REPORT

FOR

WIRELESS CHARGER

MODEL NO: F7U052

FCC ID: K7SF7U052

IC: 3623A-F7U052

REPORT NUMBER: 12152703-E1V2

ISSUE DATE: MARCH 07, 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	Lieu Nguyen
V2	03/07/2018	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: F7U052

SERIAL NUMBER: 05211EH2800342

DATE TESTED: FEBRUARY 15-26, 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:

ROY ZHENG
LAB ENGINEER
UL VERIFICATION SERVICES INC.

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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

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4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
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%.

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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)	1.32	32.39
127.8	Operating(Config 2)	-4.95	23.41
127.8	Operating(Config 3)	10.90	34.49

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)

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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.

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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.

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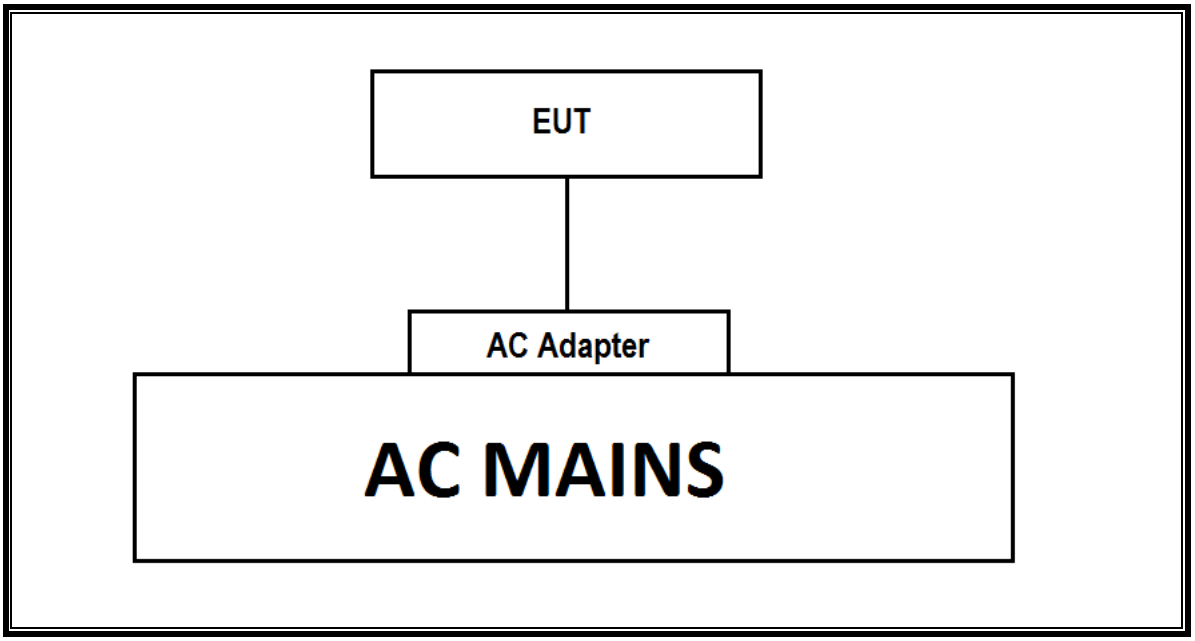
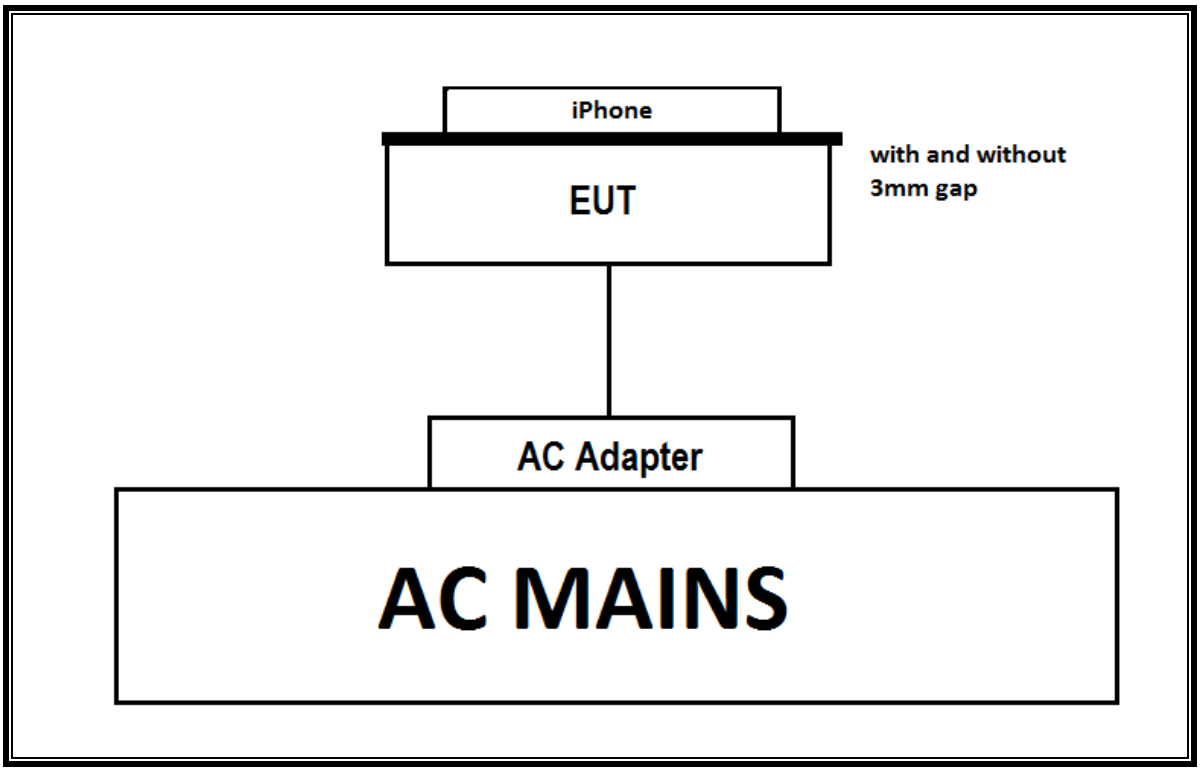
CONFIGURATION 1: STANDBY MODE



CONFIGURATION 2: OPERATING MODE WITH PHONE



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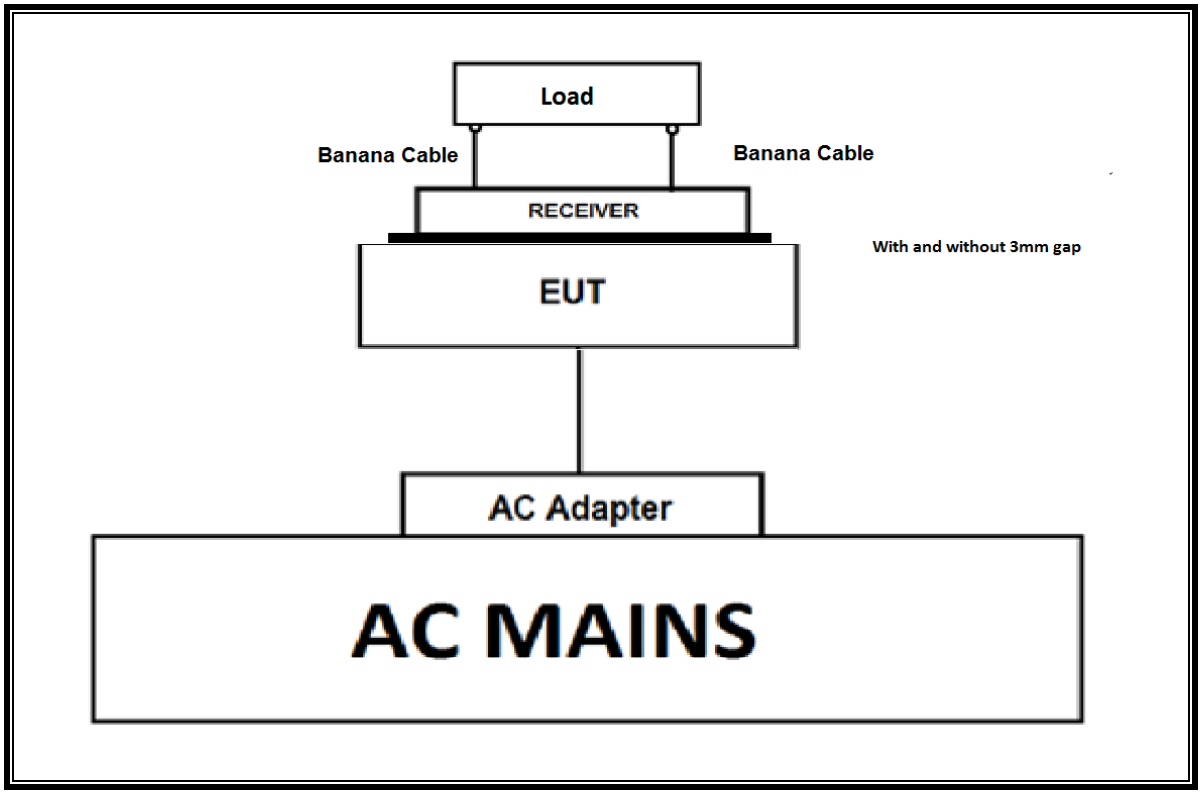
CONFIGURATION 3: OPERATING MODE WITH 10W LOAD



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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**	**Asset**	**Cal Due**
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB3	T900	05/31/2018
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, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB1	T130	10/16/2018
Antenna, Active Loop 9kHz-30MHz	ETS-Lindgren	6502	T1616	09/14/2018
Sniffer Probes	Electro-Metrics	EM-6992	N/A	N/A
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T341	11/12/2018
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T340	12/15/2018
EMI Test Receiver	Rohde & Schwarz	ESR	T1436	1/25/2019
LISN	Fischer Custom Communications, Inc	FCC-LISN-50/250-25-2	T1310	6/15/2018

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

Note: * indicates automation software version used in the compliance certification testing

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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

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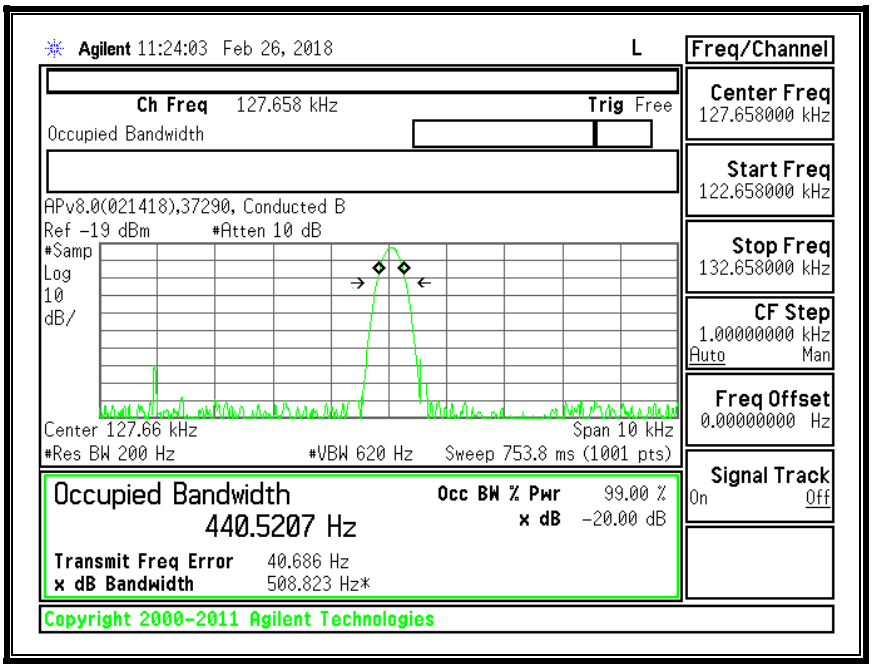
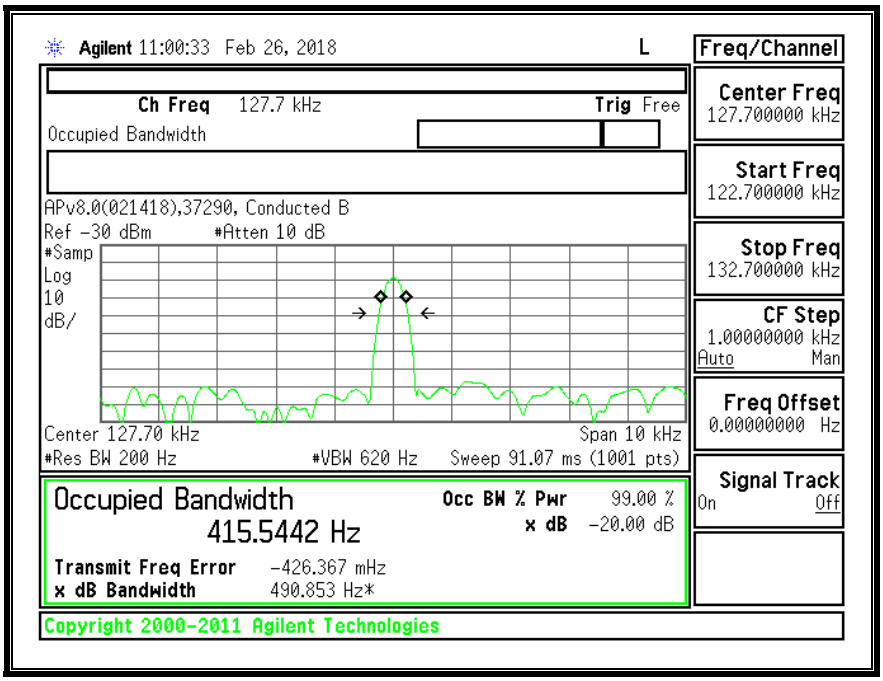
7.1.1. STANDBY CONFIGURATION CHARGER



7.1.2. OPERATING CONFIGURATION WITH PHONE



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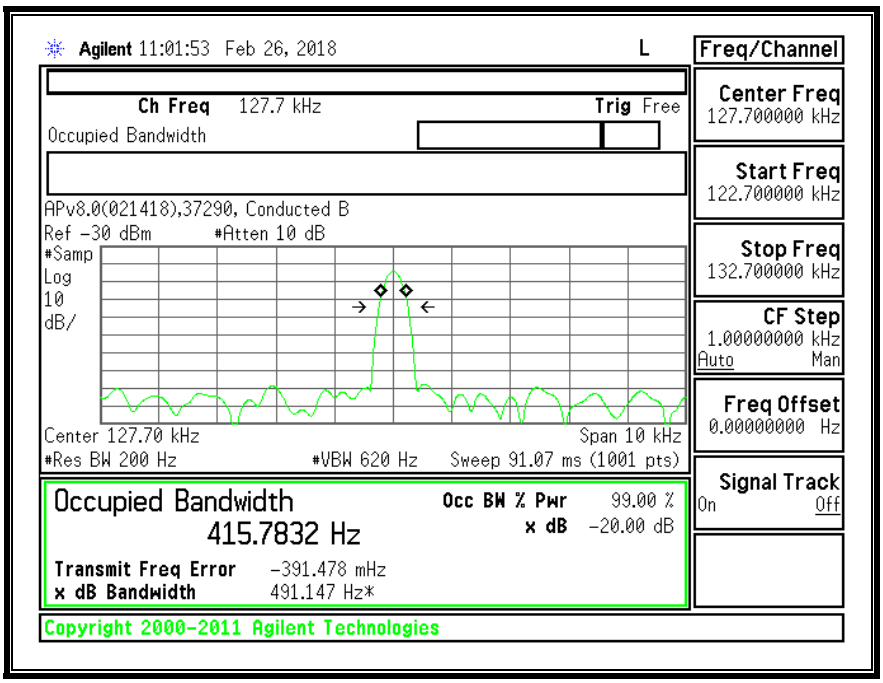
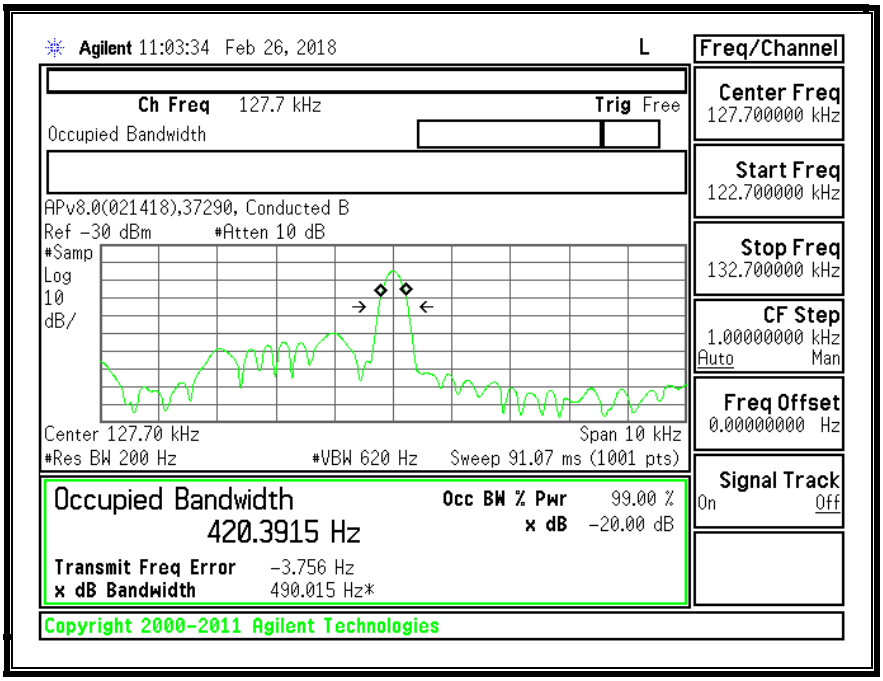
7.1.3. OPERATING CONFIGURATION WITH PHONE 3mm Gap



7.1.4. OPERATING CONFIGURATION WITH 10W LOAD



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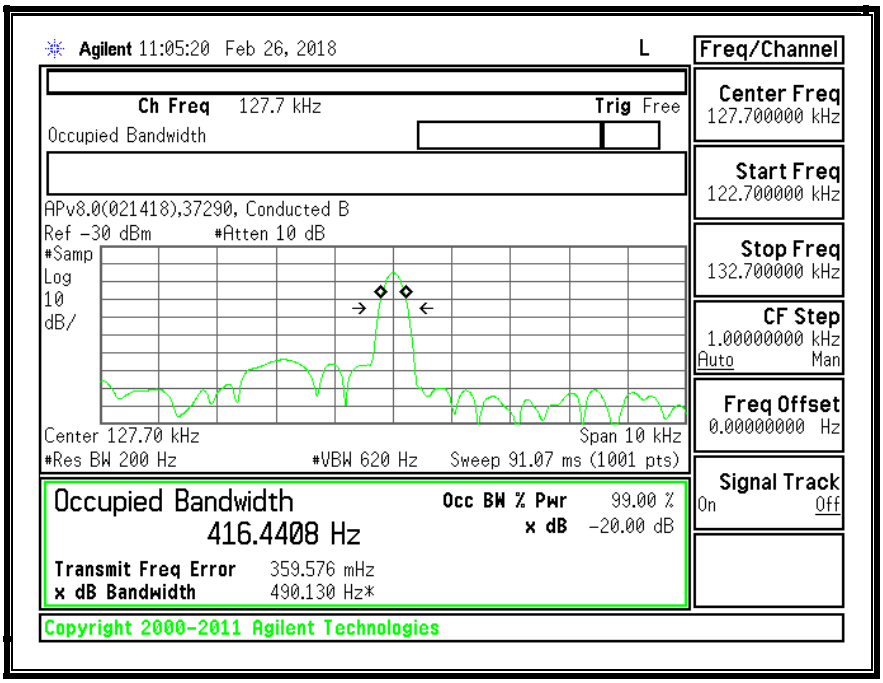
7.1.5. OPERATING CONFIGURATION WITH 10W LOAD 3mm gap



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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.	

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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).

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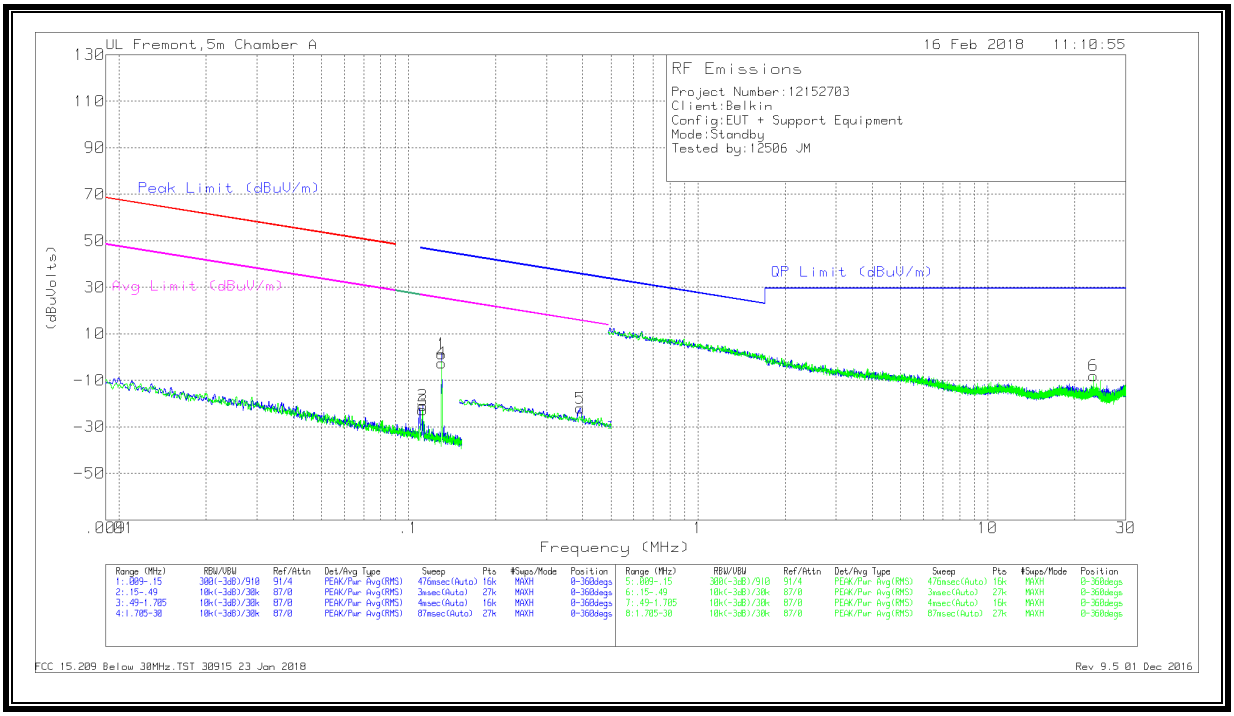
8.2. FCC TX FUNDAMENTAL AND SPURIOUS EMISSIONS FROM 9 kHz TO 30 MHz

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)	Azimuth (Degs)
3	.11181	43.33	Pk	13.8	.1	-80	-22.77	46.66	-69.43	26.66	-49.43	0-360
2	.11196	45.24	Pk	13.8	.1	-80	-20.86	46.65	-67.51	26.65	-47.51	0-360
1	.13028	67.42	Pk	13.8	.1	-80	1.32	45.33	-44.01	25.33	-24.01	0-360
4	.13029	63.6	Pk	13.8	.1	-80	-2.5	45.33	-47.83	25.33	-27.83	0-360
5	.39129	44.14	Pk	13.7	.1	-80	-22.06	35.76	-57.82	15.76	-37.82	0-360

k - 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	23.20996	17.9	Pk	13.4	.7	-40	-8	29.5	-37.5	0-360

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

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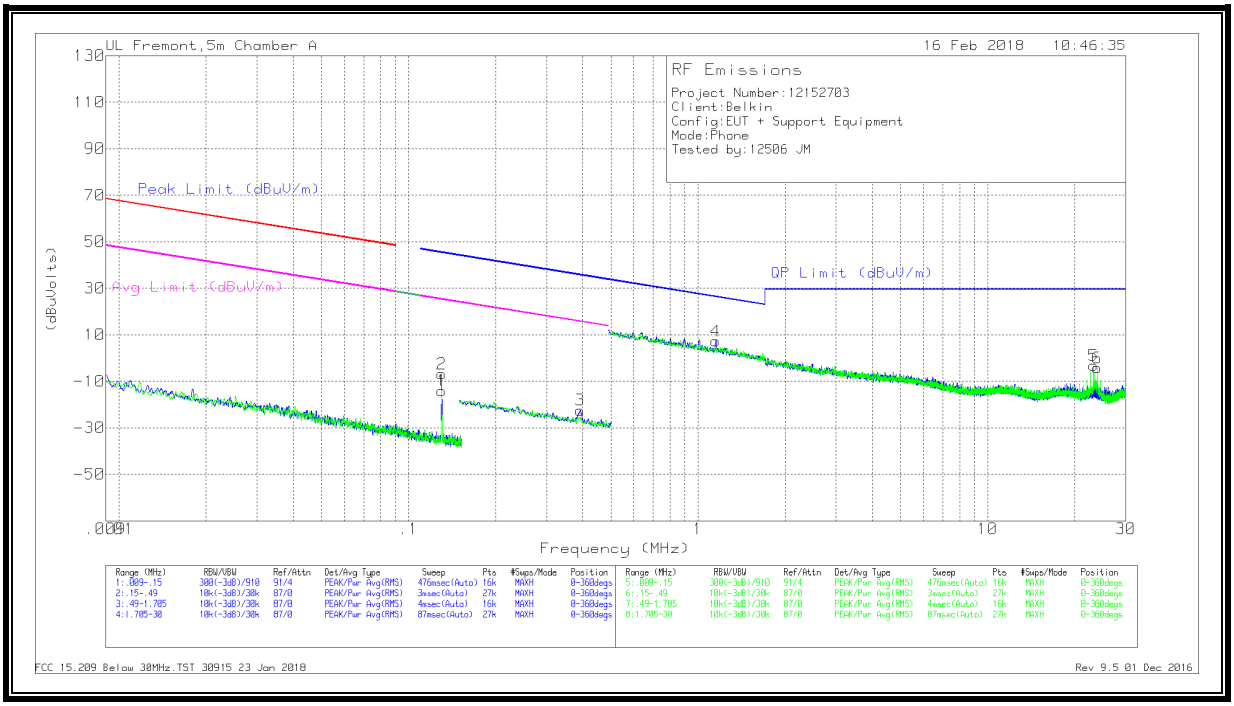
8.2.2. OPERATING WITH PHONE



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)
2	.13022	59.31	Pk	13.8	.1	-80	-6.79	45.33	-52.12	25.33	-32.12	0-360
1	.13022	52.08	Pk	13.8	.1	-80	-14.02	45.33	-59.35	25.33	-39.35	0-360
3	.39169	43.81	Pk	13.7	.1	-80	-22.39	35.75	-58.14	15.75	-38.14	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	1.15067	32.87	Pk	14.2	.2	-40	7.27	26.41	-19.14	0-360
5	23.24874	22.69	Pk	13.4	.7	-40	-3.21	29.5	-32.71	0-360
6	23.86758	22	Pk	13.1	.7	-40	-4.2	29.5	-33.7	0-360

Pk - Peak detector
FCC 15.209 Below 30MHz.TST 30915 23 Jan 2018
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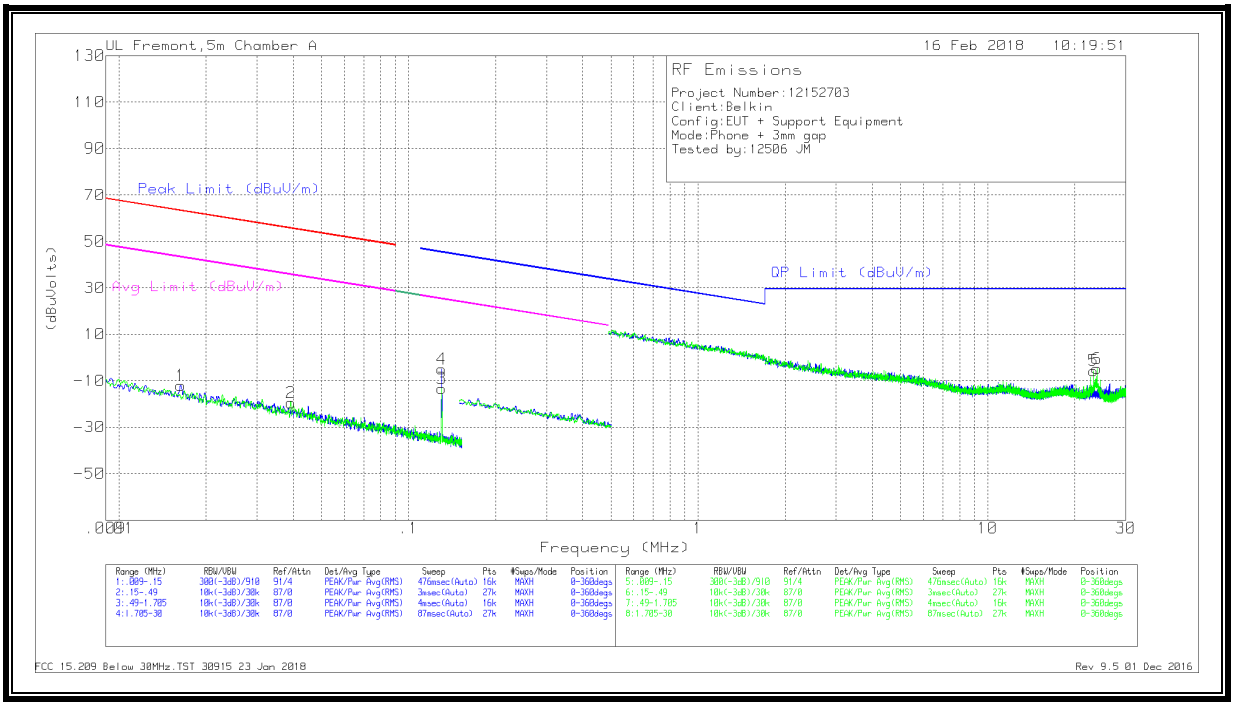
8.2.3. OPERATING WITH PHONE WITH 3mm Gap



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)
1	.01635	53.08	Pk	14.8	.1	-80	-12.02	63.31	-75.33	43.31	-55.33	0-360
2	.03929	45.63	Pk	14.8	.1	-80	-19.47	55.7	-75.17	35.7	-55.17	0-360
4	.13023	61.15	Pk	13.8	.1	-80	-4.95	45.33	-50.28	25.33	-30.28	0-360
3	.13023	52.83	Pk	13.8	.1	-80	-13.27	45.33	-58.6	25.33	-38.6	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	23.24192	20.26	Pk	13.4	.7	-40	-5.64	29.5	-35.14	0-360
6	23.84976	21.47	Pk	13.1	.7	-40	-4.73	29.5	-34.23	0-360

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

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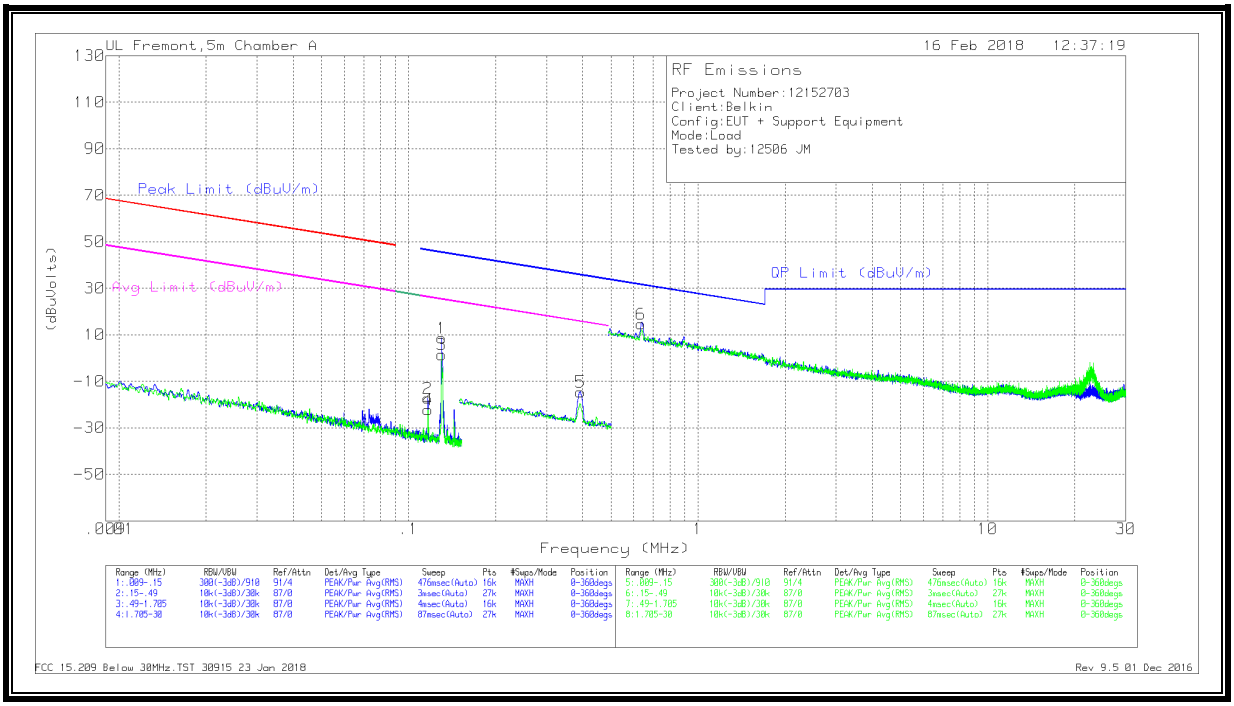
8.2.4. OPERATING WITH 10W LOAD



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)
2	.11671	48.84	Pk	13.8	.1	-80	-17.26	46.28	-63.54	26.28	-43.54	0-360
4	.11685	43.79	Pk	13.8	.1	-80	-22.31	46.27	-68.58	26.27	-48.58	0-360
3	.13018	67.54	Pk	13.8	.1	-80	1.44	45.33	-43.89	25.33	-23.89	0-360
1	.13022	74.64	Pk	13.8	.1	-80	8.54	45.33	-36.79	25.33	-16.79	0-360
5	.39276	51.57	Pk	13.7	.1	-80	-14.63	35.72	-50.35	15.72	-30.35	0-360

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	.63539	40.56	Pk	13.9	.1	-40	14.56	31.55	-16.99	0-360

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

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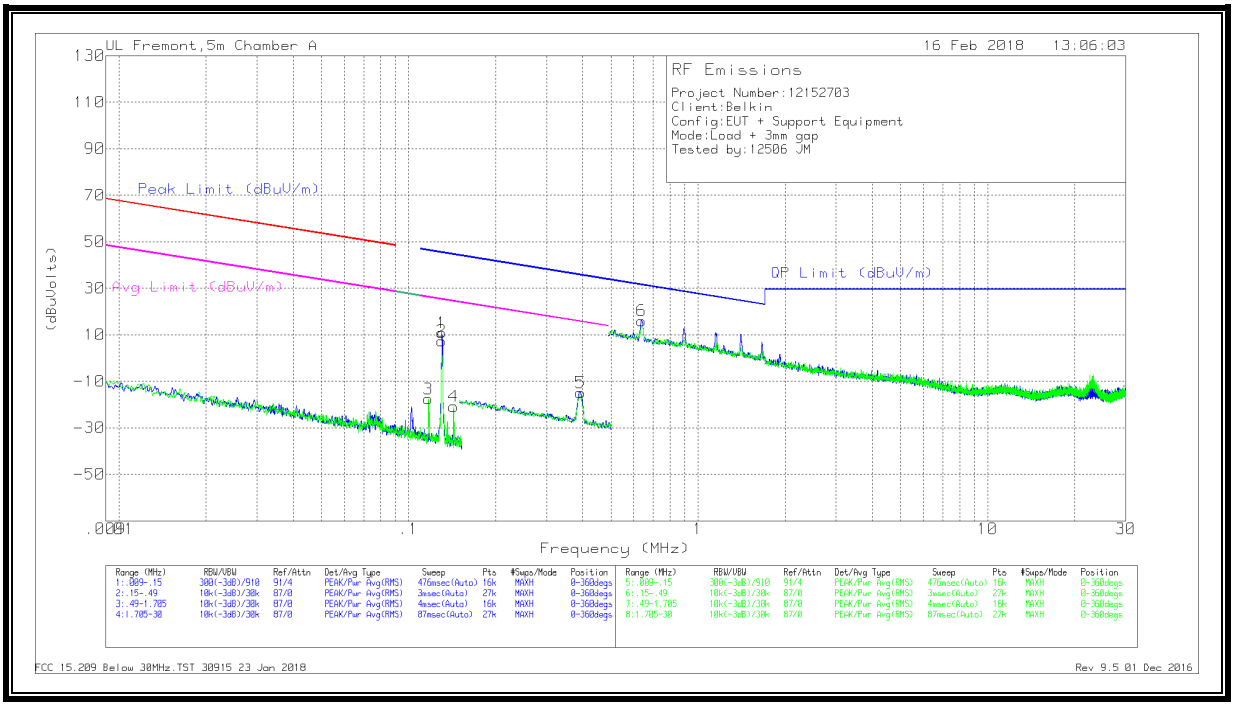
8.2.5. OPERATING WITH 10W LOAD AT 3mm Gap



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	.11732	48.49	Pk	13.8	.1	-80	-17.61	46.24	-63.85	26.24	-43.85	0-360
1	.13023	77	Pk	13.8	.1	-80	10.9	45.33	-34.43	25.33	-14.43	0-360
2	.13023	73.48	Pk	13.8	.1	-80	7.38	45.33	-37.95	25.33	-17.95	0-360
4	.14316	45.3	Pk	13.8	.1	-80	-20.8	44.51	-65.31	24.51	-45.31	0-360
5	.39273	51.37	Pk	13.7	.1	-80	-14.83	35.73	-50.56	15.73	-30.56	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	.63805	42.06	Pk	13.9	.1	-40	16.06	31.51	-15.45	0-360

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

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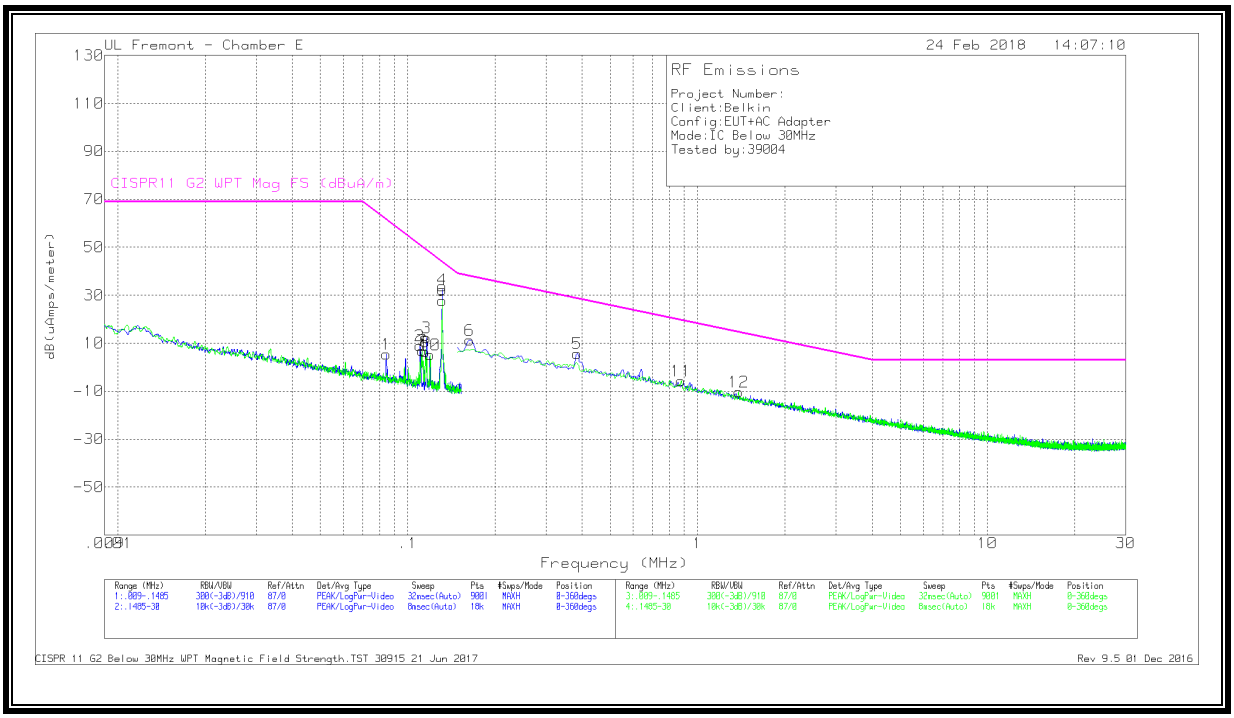
8.3. IC / CISPR 11 TX FUNDAMENTAL AND SPURIOUS EMISSIONS FROM 9 kHz TO 30 MHz

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	.08437	44.95	Pk	-39.7	.1	5.35	61.55	-56.2	0-360
2	.11025	48.73	Pk	-39.8	.1	9.03	50.88	-41.85	0-360
7	.11206	46.63	Pk	-39.8	.1	6.93	50.23	-43.3	0-360
8	.11511	46.05	Pk	-39.8	.1	6.35	49.16	-42.81	0-360
3	.11616	51.95	Pk	-39.8	.1	12.25	48.8	-36.55	0-360
10	.11957	44.83	Pk	-39.8	.1	5.13	47.64	-42.51	0-360
*4	.13152	72.19	Pk	-39.9	.1	32.39	43.84	-11.45	0-360
*9	.13152	67.61	Pk	-39.9	.1	27.81	43.84	-16.03	0-360
6	.16342	51.16	Pk	-39.9	.1	11.36	37.95	-26.59	0-360
5	.38394	45.54	Pk	-40	.1	5.64	28.62	-22.98	0-360
11	.87802	34.03	Pk	-40	.2	-5.77	19.58	-25.35	0-360
12	1.38371	29.4	Pk	-40	.2	-10.4	14.6	-25	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

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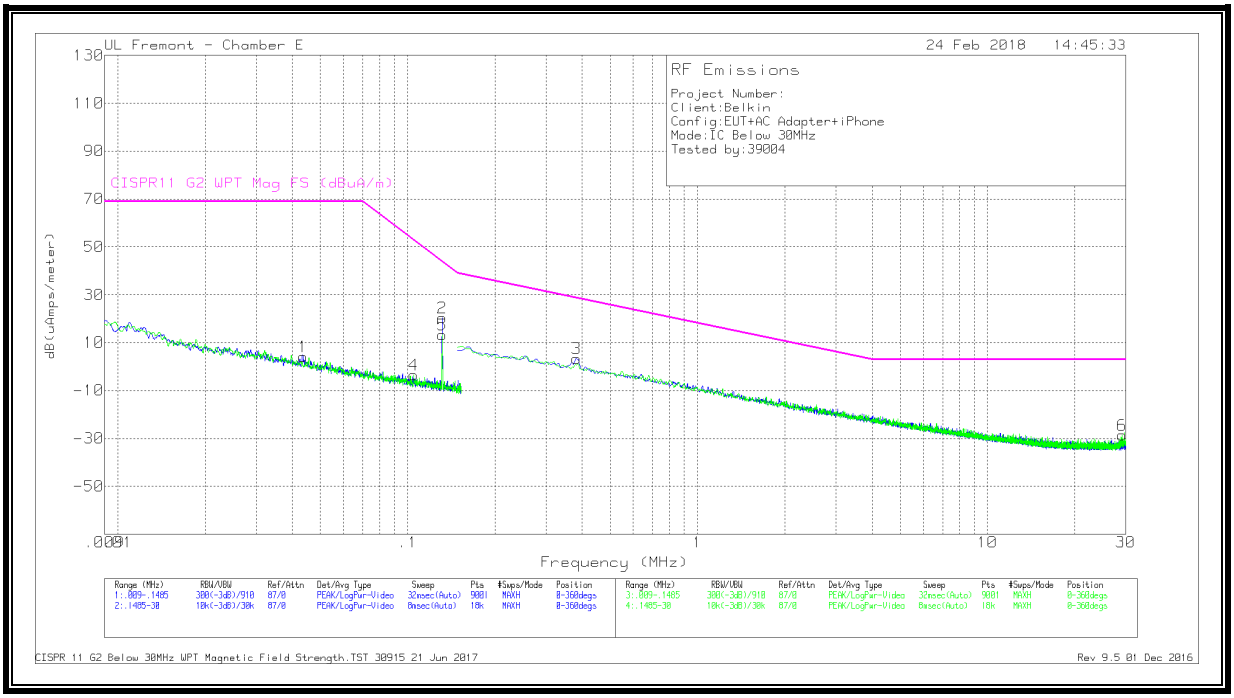
8.3.2. OPERATING WITH PHONE



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)
4	* .1049	36.17	Pk	-39.8	.1	-3.53	52.86	-56.39	0-360
1	.04351	42.58	Pk	-38.5	.1	4.18	69	-64.82	0-360
**2	.13152	60.2	Pk	-39.9	.1	20.4	43.84	-23.44	0-360
**5	.13152	53.09	Pk	-39.9	.1	13.29	43.84	-30.55	0-360
3	.38228	43.2	Pk	-40	.1	3.3	28.66	-25.36	0-360
6	29.11708	13.9	Pk	-43.3	.8	-28.6	3	-31.6	0-360

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
**-Fundamental
CISPR 11 G2 Below 30MHz WPT Magnetic Field Strength.TST 30915 21 Jun 2017
Rev 9.5 01 Dec 2016

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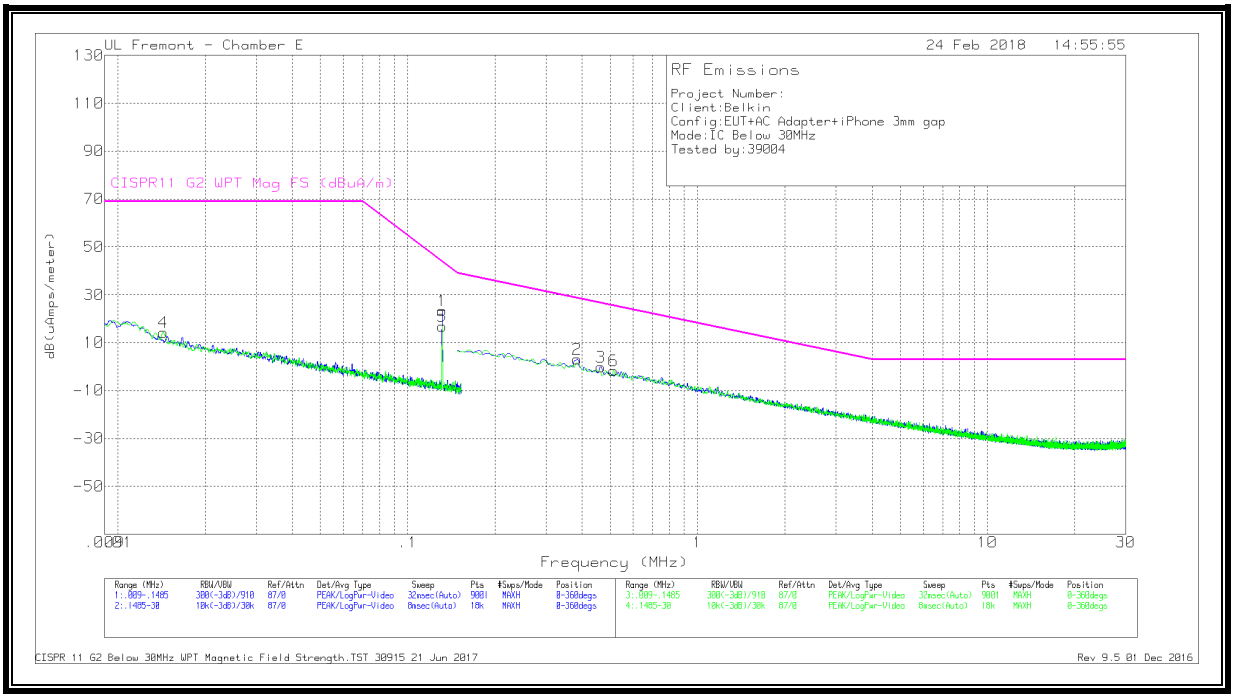
8.3.3. OPERATING WITH iPhone AT 3mm Gap



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	.01434	48.02	Pk	-33.8	.1	14.32	69	-54.68	0-360
*1	.13151	63.21	Pk	-39.9	.1	23.41	43.85	-20.44	0-360
*5	.13152	56.54	Pk	-39.9	.1	16.74	43.84	-27.1	0-360
2	.38394	42.94	Pk	-40	.1	3.04	28.62	-25.58	0-360
3	.46435	39.78	Pk	-40	.1	-.12	26.54	-26.66	0-360
6	.51326	38.31	Pk	-40	.1	-1.59	25.44	-27.03	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

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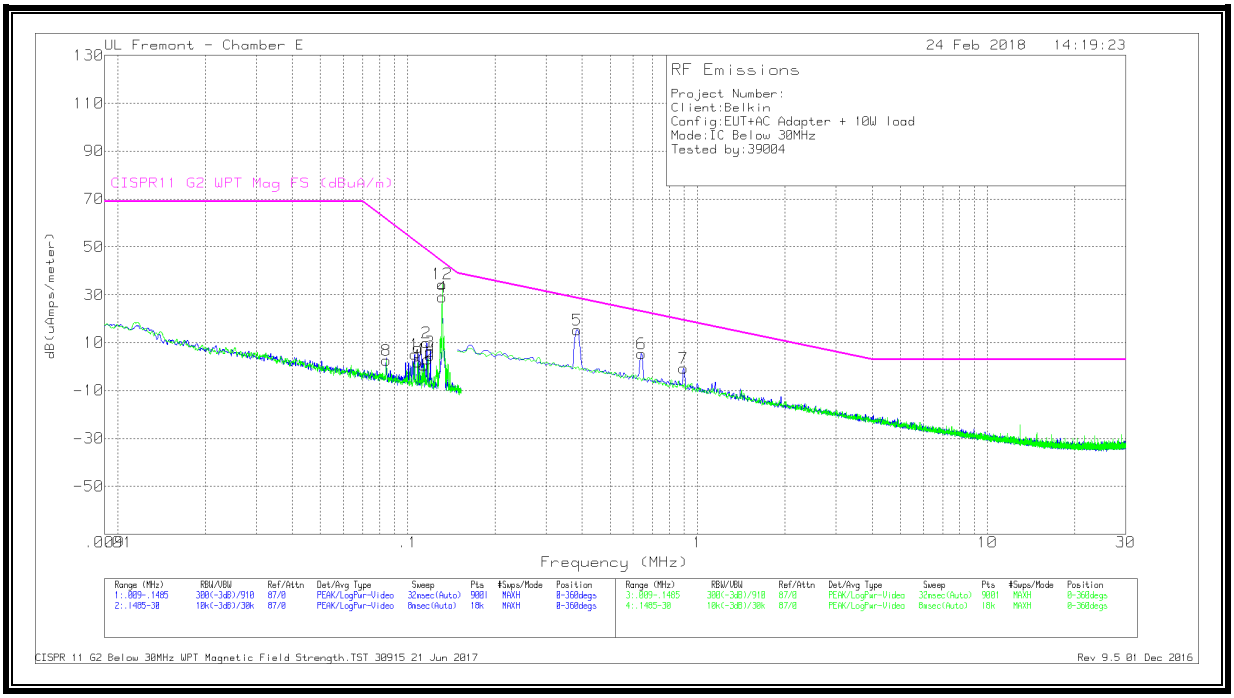
8.3.4. OPERATING WITH 10W LOAD



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)
1	* .10566	44.81	Pk	-39.8	.1	5.11	52.58	-47.47	0-360
9	* .10827	41.51	Pk	-39.8	.1	1.81	51.6	-49.79	0-360
8	.08442	42.22	Pk	-39.7	.1	2.62	61.53	-58.91	0-360
10	.11412	40.38	Pk	-39.8	.1	.68	49.5	-48.82	0-360
2	.11628	49.66	Pk	-39.8	.1	9.96	48.76	-38.8	0-360
11	.11746	42.82	Pk	-39.8	.1	3.12	48.35	-45.23	0-360
3	.11961	45.86	Pk	-39.8	.1	6.16	47.63	-41.47	0-360
**4	.13152	68.88	Pk	-39.9	.1	29.08	43.84	-14.76	0-360
**12	.13152	74.29	Pk	-39.9	.1	34.49	43.84	-9.35	0-360
5	.38394	55.26	Pk	-40	.1	15.36	28.62	-13.26	0-360
6	.63927	45.35	Pk	-40	.1	5.45	23.04	-17.59	0-360
7	.8946	39.03	Pk	-40	.2	-.77	19.37	-20.14	0-360

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

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

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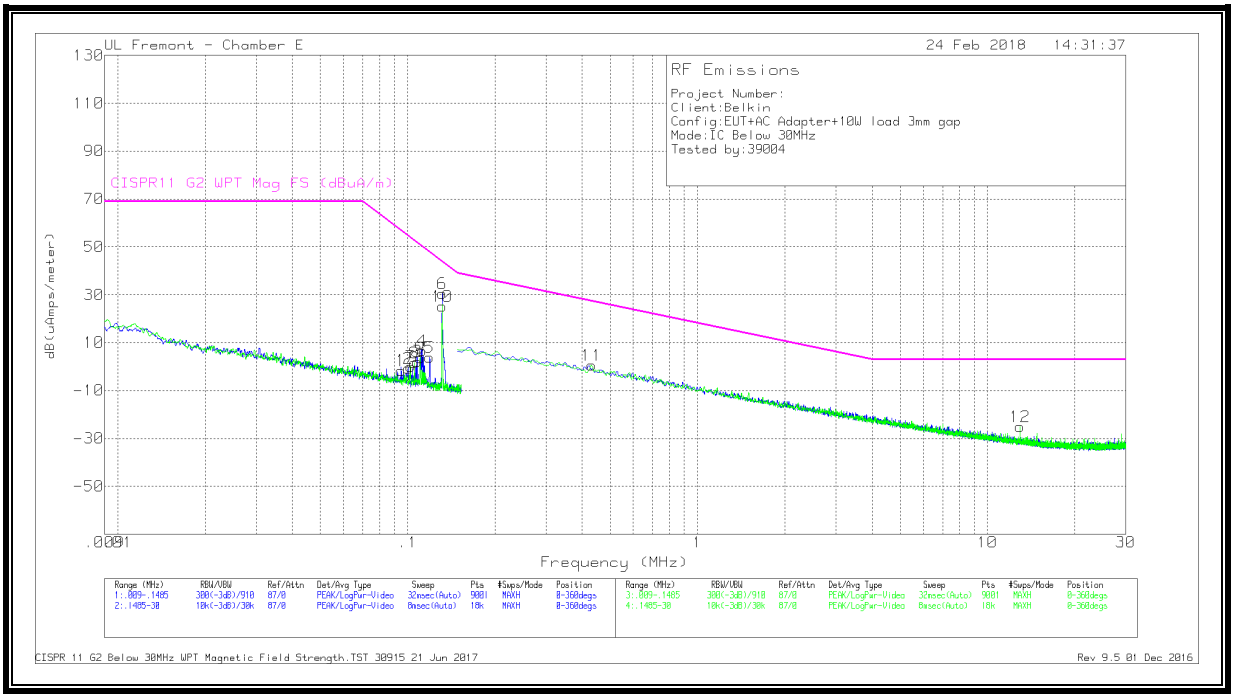
8.3.5. OPERATING WITH 10W LOAD AT 3mm Gap



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)
1	* .09498	38.13	Pk	-39.8	.1	-1.57	56.83	-58.4	0-360
2	* .10044	38.99	Pk	-39.8	.1	-.71	54.6	-55.31	0-360
3	* .10782	41.94	Pk	-39.8	.1	2.24	51.77	-49.53	0-360
7	* .10216	39.84	Pk	-39.8	.1	.14	53.92	-53.78	0-360
8	* .10542	41.21	Pk	-39.8	.1	1.51	52.67	-51.16	0-360
9	.11036	43.43	Pk	-39.8	.1	3.73	50.84	-47.11	0-360
4	.11218	46.33	Pk	-39.8	.1	6.63	50.19	-43.56	0-360
5	.11907	43.56	Pk	-39.8	.1	3.86	47.81	-43.95	0-360
**10	.13143	65.07	Pk	-39.9	.1	25.27	43.87	-18.6	0-360
**6	.13152	70.33	Pk	-39.9	.1	30.53	43.84	-13.31	0-360
11	.43036	40.57	Pk	-40	.1	.67	27.37	-26.7	0-360
12	12.93914	15.66	Pk	-41.1	.5	-24.94	3	-27.94	0-360

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
**-Fundamental
CISPR 11 G2 Below 30MHz WPT Magnetic Field Strength.TST 30915 21 Jun 2017
Rev 9.5 01 Dec 2016

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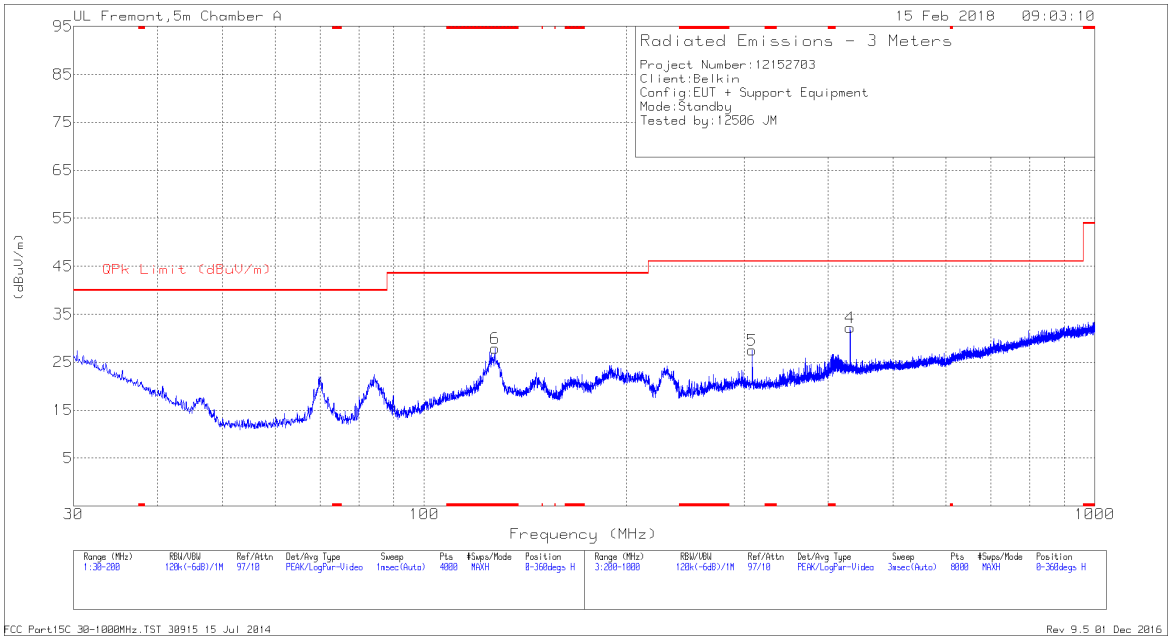
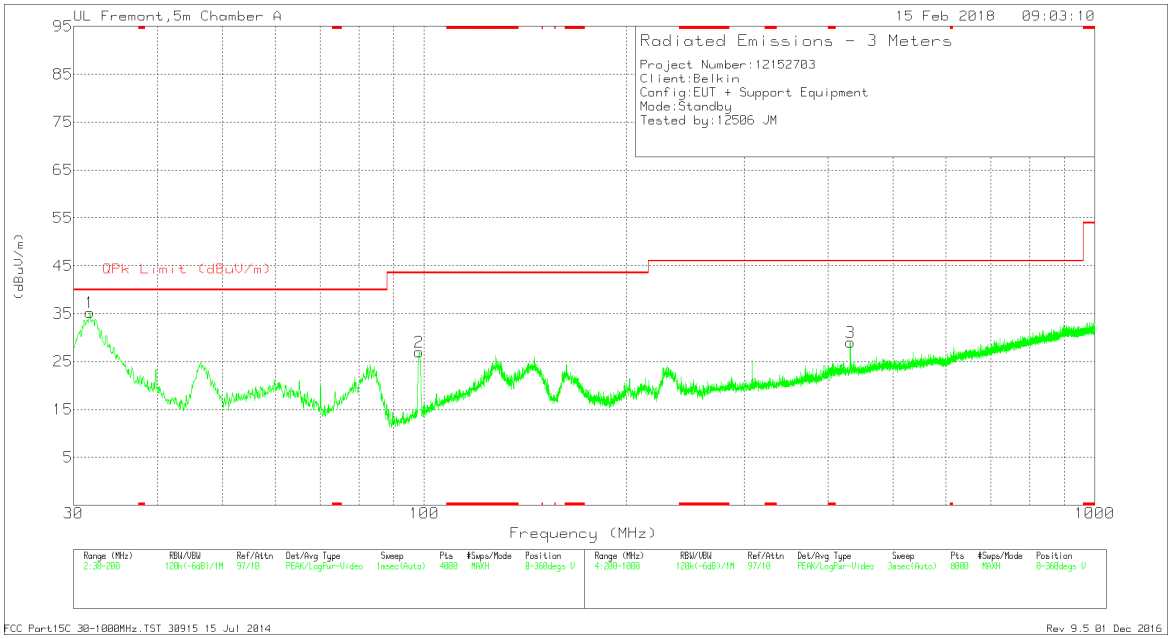
8.4. FCC TX SPURIOUS EMISSION 30 TO 1000 MHz

8.4.1. STANDBY CONFIGURATION

HORIZONTAL PLOT



VERTICAL PLOT



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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
6	* 127.5202	35.88	Pk	18.1	-26.1	27.88	43.52	-15.64	0-360	200	H
1	31.743	38.65	Pk	23.9	-27.3	35.25	40	-4.75	0-360	100	V
	31.7257	33.12	Qp	23.9	-27.3	29.72	40	-10.28	358	161	V
2	98.3364	39.65	Pk	13.8	-26.4	27.05	43.52	-16.47	0-360	100	V
5	308.4141	34.51	Pk	17.6	-24.6	27.51	46.02	-18.51	0-360	101	H
4	431.7301	36.8	Pk	20.6	-25.2	32.2	46.02	-13.82	0-360	101	H
3	431.8301	33.68	Pk	20.6	-25.2	29.08	46.02	-16.94	0-360	200	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

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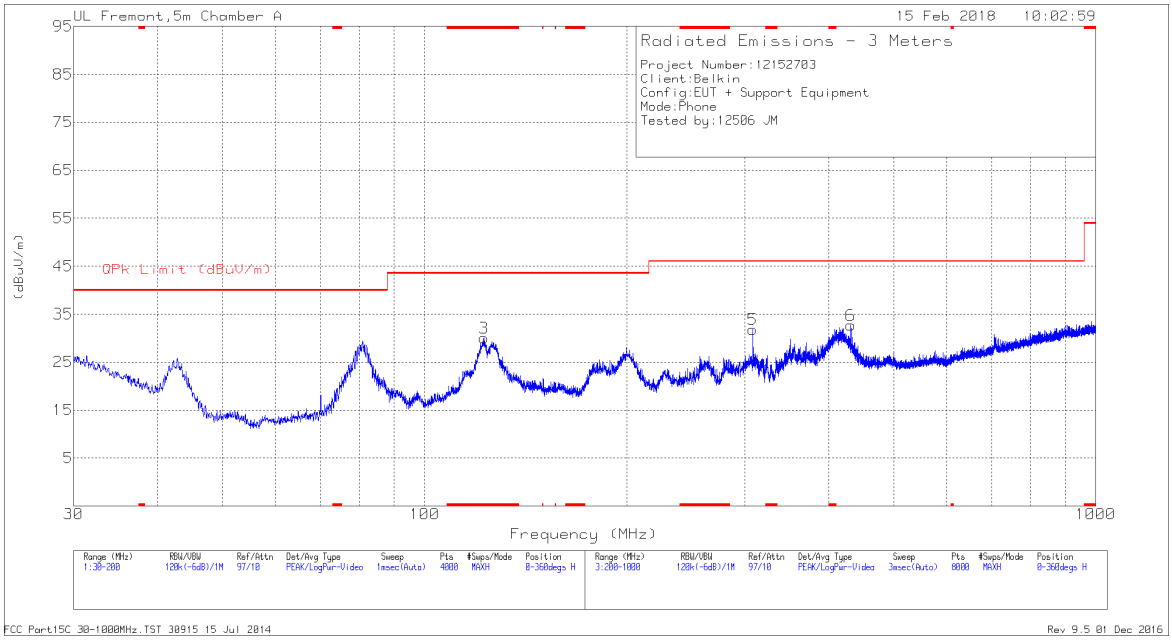
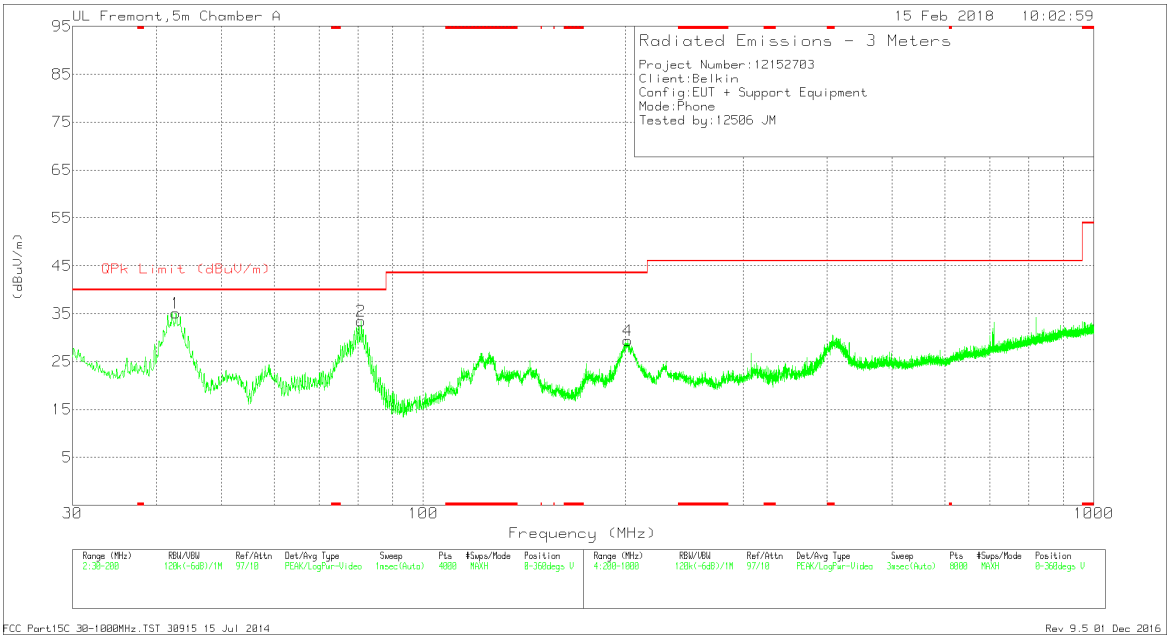
8.4.2. OPERATING WITH PHONE

HORIZONTAL PLOT



VERTICAL PLOT



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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	* 122.5039	38.21	Pk	18	-26.2	30.01	43.52	-13.51	0-360	200	H
1	42.7958	46.47	Pk	15.8	-27.1	35.17	40	-4.83	0-360	100	V
	42.7545	41.48	Qp	15.9	-27.1	30.28	40	-9.72	344	102	V
2	80.8006	48.66	Pk	11.4	-26.6	33.46	40	-6.54	0-360	100	V
4	202.0003	38.47	Pk	16.1	-25.2	29.37	43.52	-14.15	0-360	101	V
5	308.4141	38.82	Pk	17.6	-24.6	31.82	46.02	-14.2	0-360	101	H
6	431.7301	37.31	Pk	20.6	-25.2	32.71	46.02	-13.31	0-360	101	H

* - indicates frequecy 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

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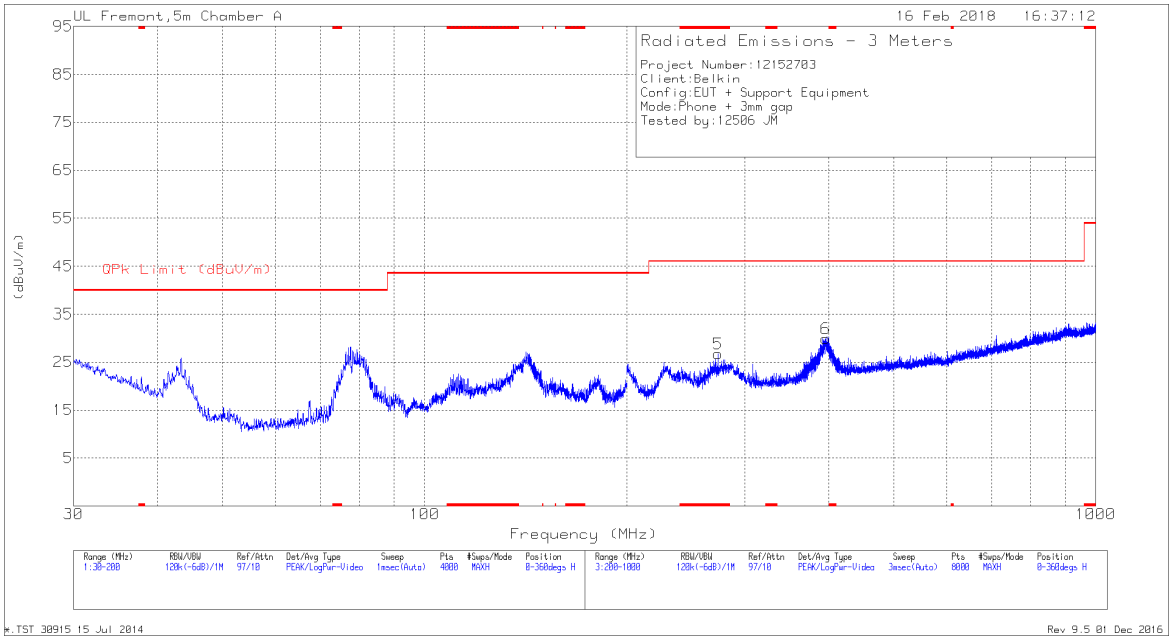
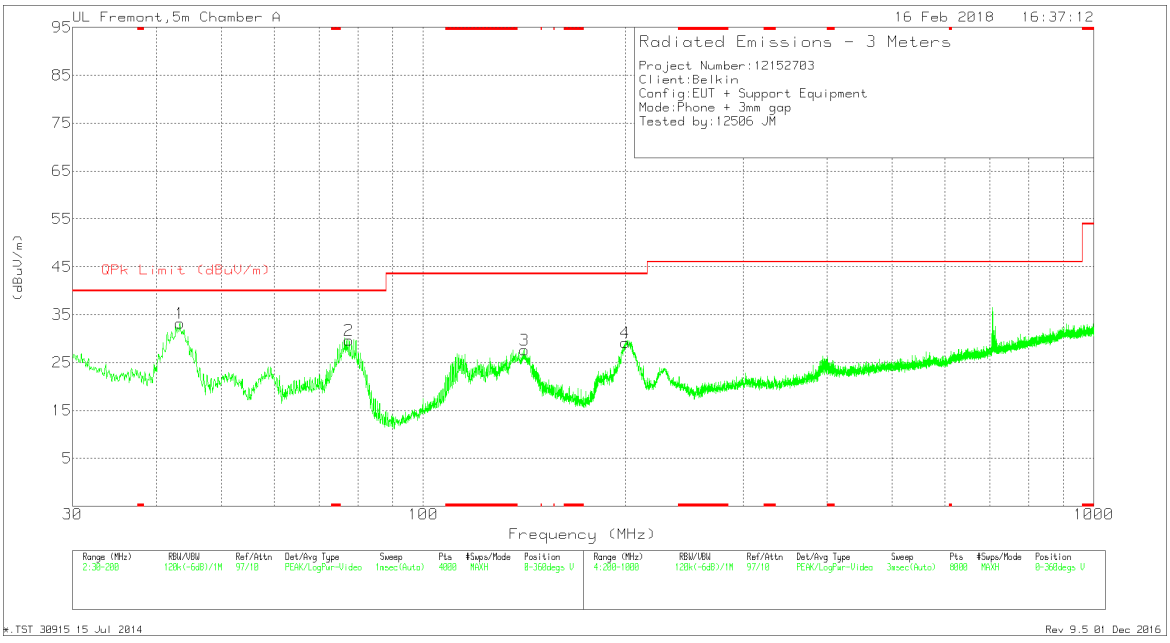
8.4.3. OPERATING WITH PHONE 3mm Gap

HORIZONTAL PLOT



VERTICAL PLOT



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DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 273.6096	34.11	Pk	17.3	-24.7	26.71	46.02	-19.31	0-360	100	H
1	43.3485	44.83	Pk	15.5	-27.1	33.23	40	-6.77	0-360	100	V
2	77.5273	44.62	Pk	11.7	-26.7	29.62	40	-10.38	0-360	100	V
3	141.6764	36.57	Pk	17	-25.9	27.67	43.52	-15.85	0-360	100	V
4	200	37.93	Pk	16.5	-25.3	29.13	43.52	-14.39	0-360	100	V
6	396.3255	35.65	Pk	19.4	-25.1	29.95	46.02	-16.07	0-360	100	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

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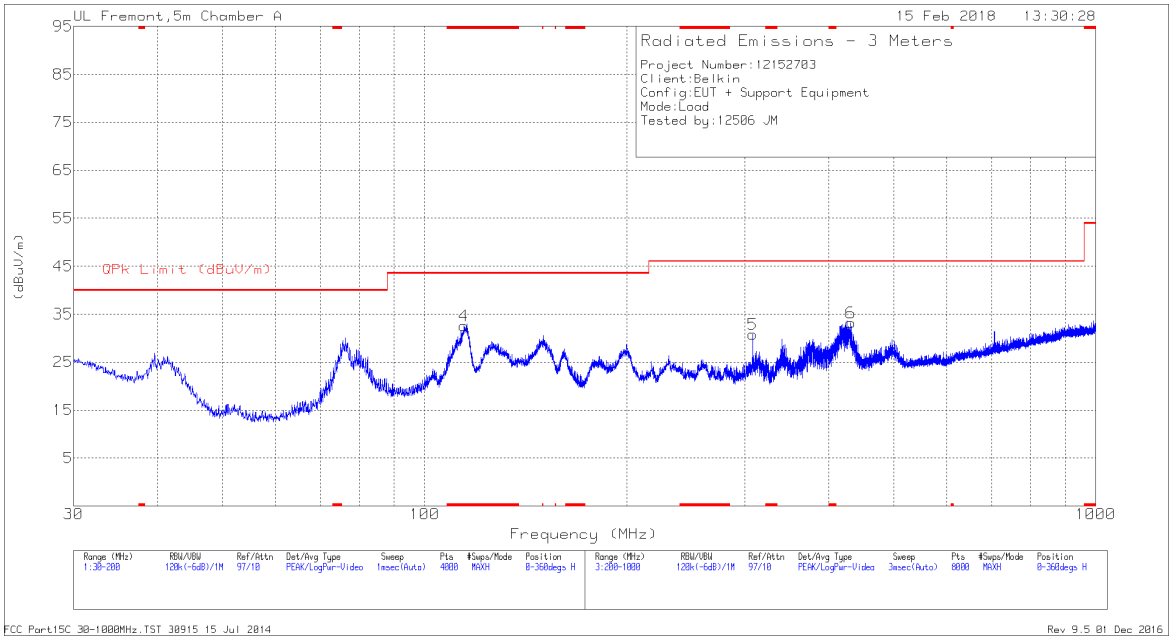
8.4.4. OPERATING WITH 10W LOAD

HORIZONTAL PLOT



VERTICAL PLOT

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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	* 114.5119	41.43	Pk	17.3	-26.2	32.53	43.52	-10.99	0-360	300	H
3	* 125.6498	40.42	Pk	18	-26.1	32.32	43.52	-11.2	0-360	100	V
1	39.6075	47.18	Pk	18.3	-27.1	38.38	40	-1.62	0-360	100	V
	39.8086	41.23	Qp	18.1	-27.1	32.23	40	-7.77	257	114	V
2	76.2095	50.75	Pk	11.9	-26.7	35.95	40	-4.05	0-360	100	V
	76.2609	48.36	Qp	11.9	-26.7	33.56	40	-6.44	156	106	V
5	308.4141	37.86	Pk	17.6	-24.6	30.86	46.02	-15.16	0-360	101	H
6	431.7301	37.86	Pk	20.6	-25.2	33.26	46.02	-12.76	0-360	101	H

Pk - Peak detector

Qp - Quasi-Peak detector

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

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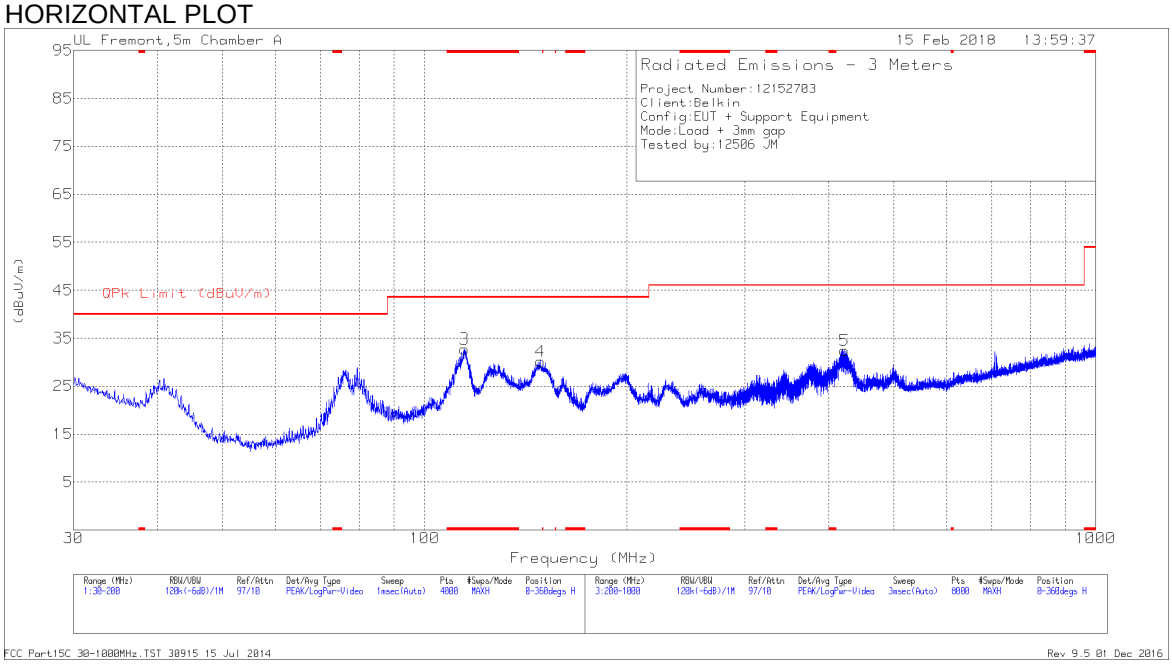
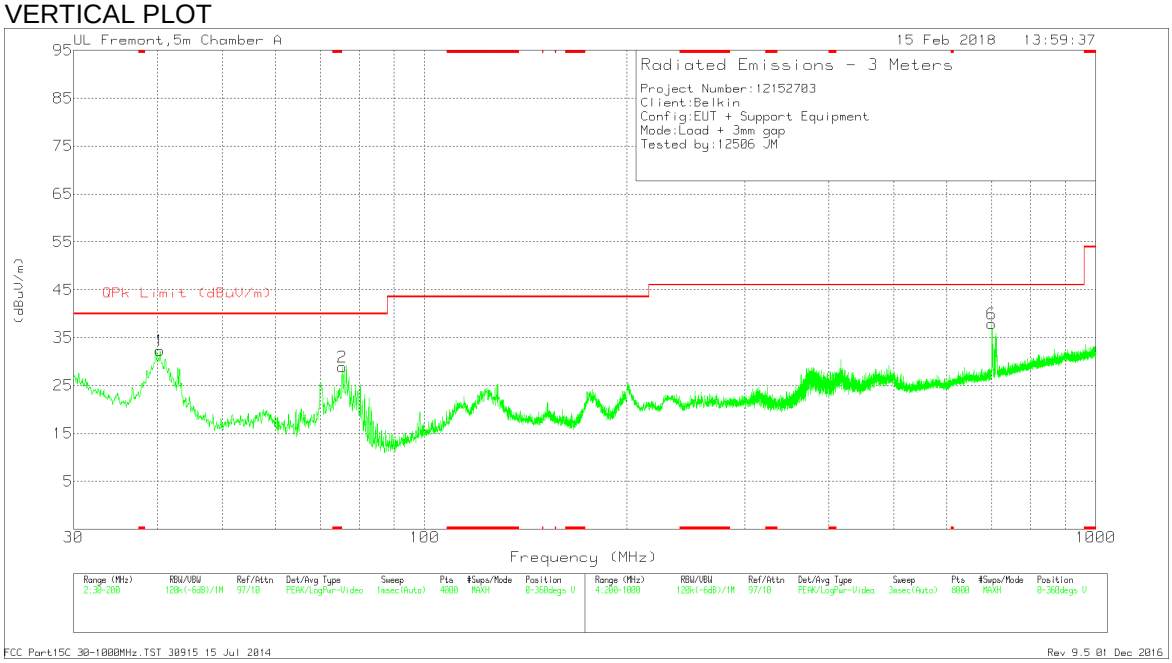
8.4.5. OPERATING WITH 10W LOAD AT 3MM Gap

HORIZONTAL PLOT



VERTICAL PLOT



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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	* 114.7669	41.57	Pk	17.4	-26.2	32.77	43.52	-10.75	0-360	300	H
1	40.3727	41.68	Pk	17.7	-27.1	32.28	40	-7.72	0-360	100	V
2	75.4443	43.72	Pk	11.9	-26.7	28.92	40	-11.08	0-360	100	V
4	148.7757	39.56	Pk	16.5	-25.9	30.16	43.52	-13.36	0-360	300	H
5	422.3289	37.14	Pk	20.4	-25.1	32.44	46.02	-13.58	0-360	101	H
6	699.765	38.21	Pk	24.2	-24.5	37.91	46.02	-8.11	0-360	300	V

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

Pk - Peak detector

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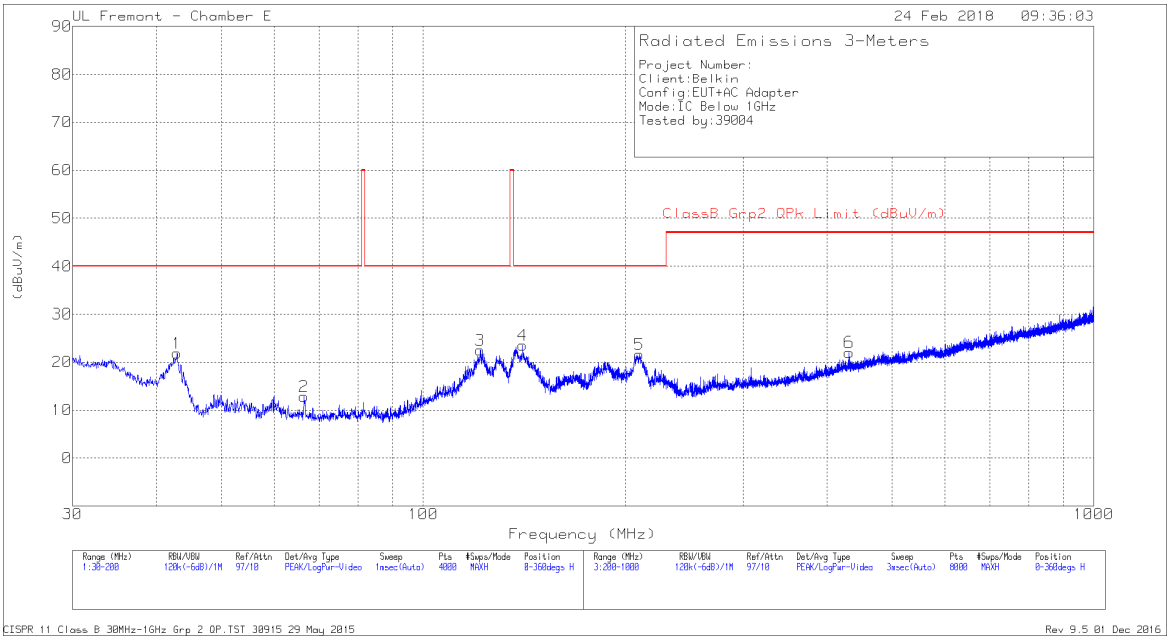
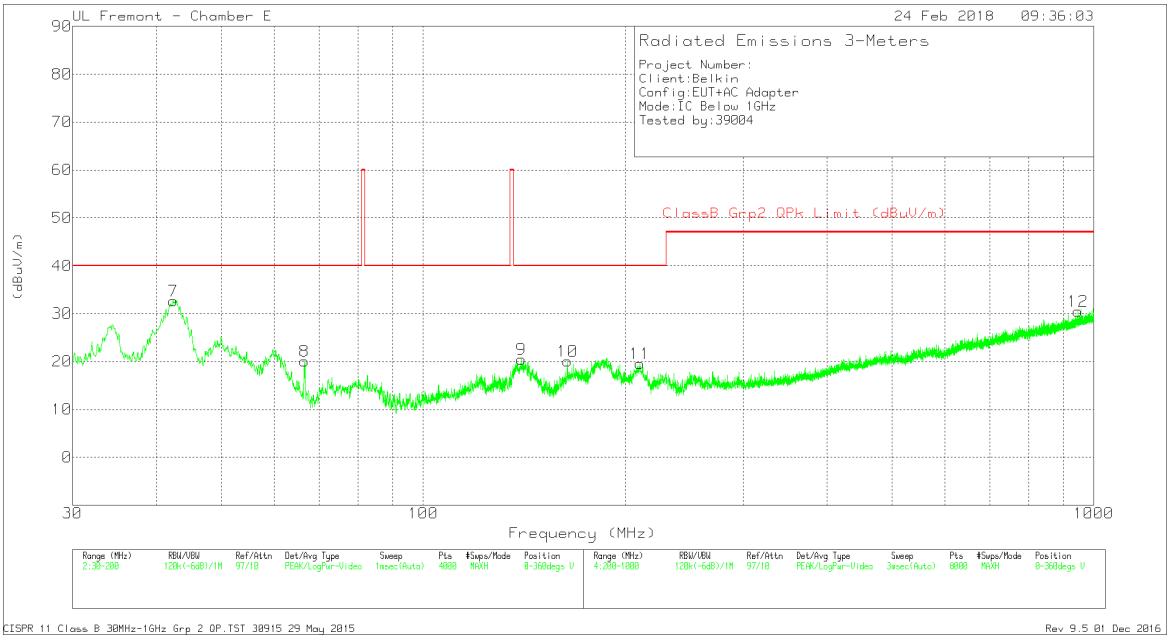
8.5. IC / CISPR 11 TX SPURIOUS EMISSION 30 TO 1000 MHz

8.5.1. STANDBY CONFIGURATION

HORIZONTAL PLOT



VERTICAL PLOT



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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	42.3707	47.79	Pk	16.3	-31.4	32.69	40	-7.31	0-360	100	V
1	42.9659	37.51	Pk	15.8	-31.4	21.91	40	-18.09	0-360	299	H
2	66.3894	32.11	Pk	11.8	-31.1	12.81	40	-27.19	0-360	299	H
8	66.602	39.41	Pk	11.8	-31.1	20.11	40	-19.89	0-360	100	V
3	121.6962	36.17	Pk	16.9	-30.6	22.47	40	-17.53	0-360	200	H
9	140.1885	33.81	Pk	17.1	-30.4	20.51	40	-19.49	0-360	100	V
4	140.6986	36.87	Pk	17.1	-30.4	23.57	40	-16.43	0-360	200	H
10	164.1222	34.98	Pk	15.3	-30.2	20.08	40	-19.92	0-360	100	V
5	210.2013	37.61	Pk	13.9	-29.9	21.61	40	-18.39	0-360	100	H
11	210.5014	35.64	Pk	13.9	-29.9	19.64	40	-20.36	0-360	100	V
6	431.7301	30.56	Pk	20	-28.5	22.06	47	-24.94	0-360	200	H
12	946.397	28.94	Pk	26.8	-25.2	30.54	47	-16.46	0-360	100	V

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

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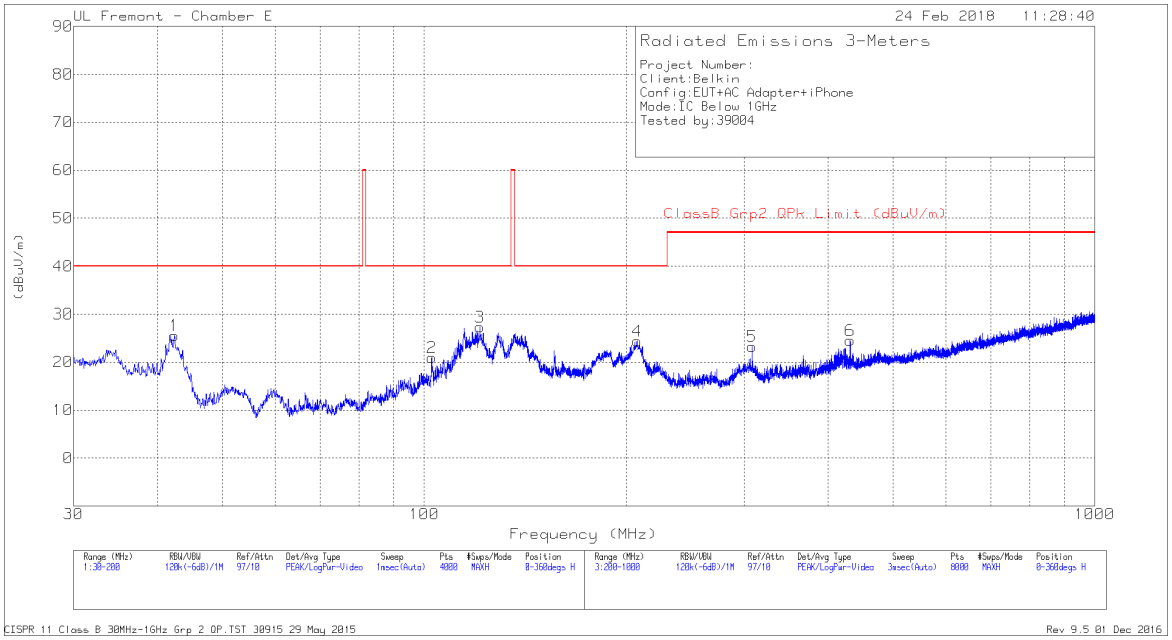
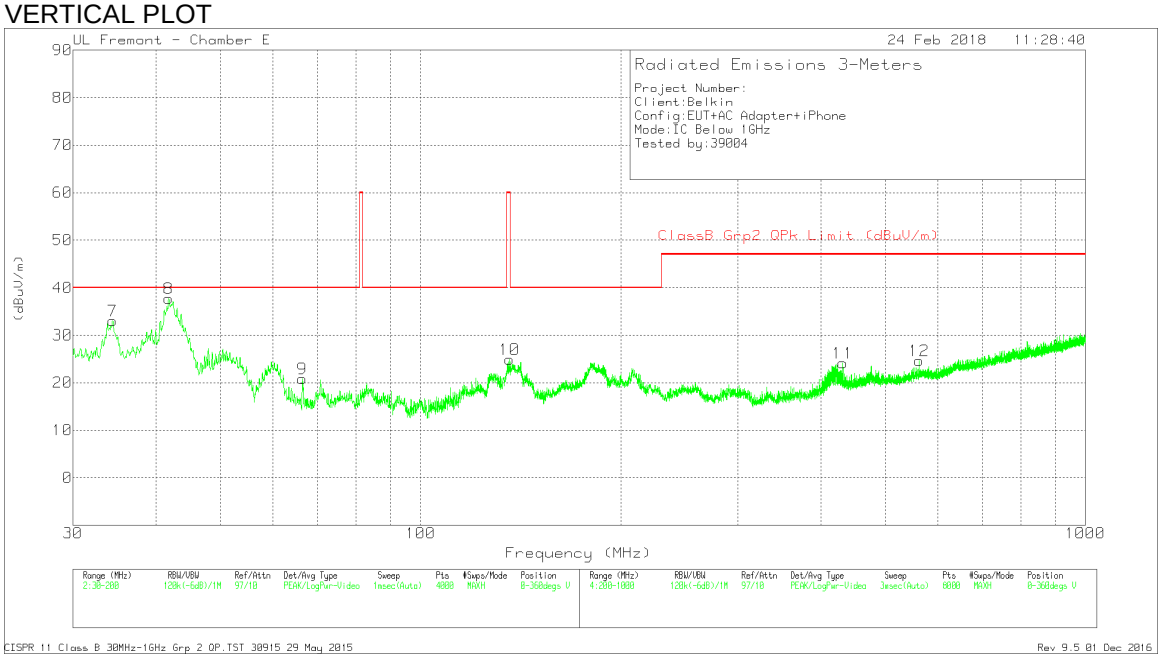
8.5.2. OPERATING WITH PHONE

HORIZONTAL PLOT



VERTICAL PLOT



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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	34.4211	42.49	Pk	22.1	-31.5	33.09	40	-6.91	0-360	100	V
8	41.7755	52.37	Pk	16.8	-31.4	37.77	40	-2.23	0-360	100	V
	41.7755	48.07	QP	16.8	-31.4	33.47	40	-6.53	275	175	V
1	42.4132	40.71	Pk	16.3	-31.4	25.61	40	-14.39	0-360	300	H
9	66.4319	40.1	Pk	11.8	-31.1	20.8	40	-19.2	0-360	100	V
2	102.6088	37.23	Pk	14.5	-30.7	21.03	40	-18.97	0-360	300	H
3	121.1436	41.09	Pk	16.8	-30.6	27.29	40	-12.71	0-360	199	H
10	136.1712	38.1	Pk	17.2	-30.4	24.9	60	-35.1	0-360	100	V
4	207.901	40.17	Pk	14	-29.8	24.37	40	-15.63	0-360	100	H
5	308.4141	35.26	Pk	17.1	-29.1	23.26	47	-23.74	0-360	100	H
6	431.7301	33.08	Pk	20	-28.5	24.58	47	-22.42	0-360	200	H
11	431.7301	32.68	Pk	20	-28.5	24.18	47	-22.82	0-360	100	V
12	561.647	30.14	Pk	22.2	-27.7	24.64	47	-22.36	0-360	200	V

Pk - Peak detector
Qp - Quasi-Peak detector

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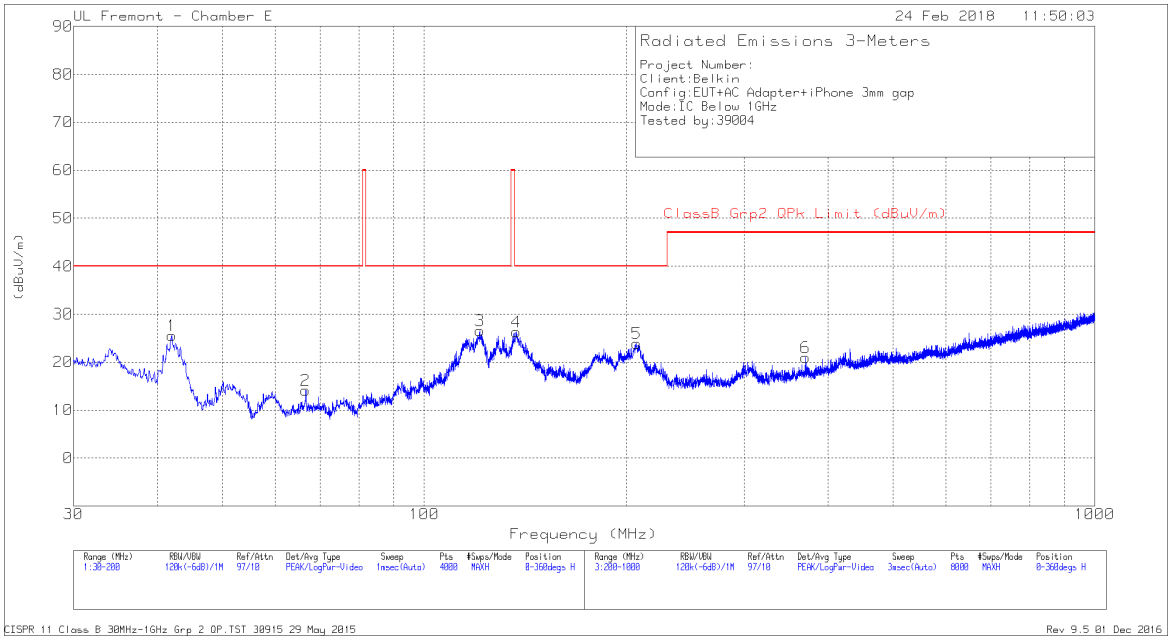
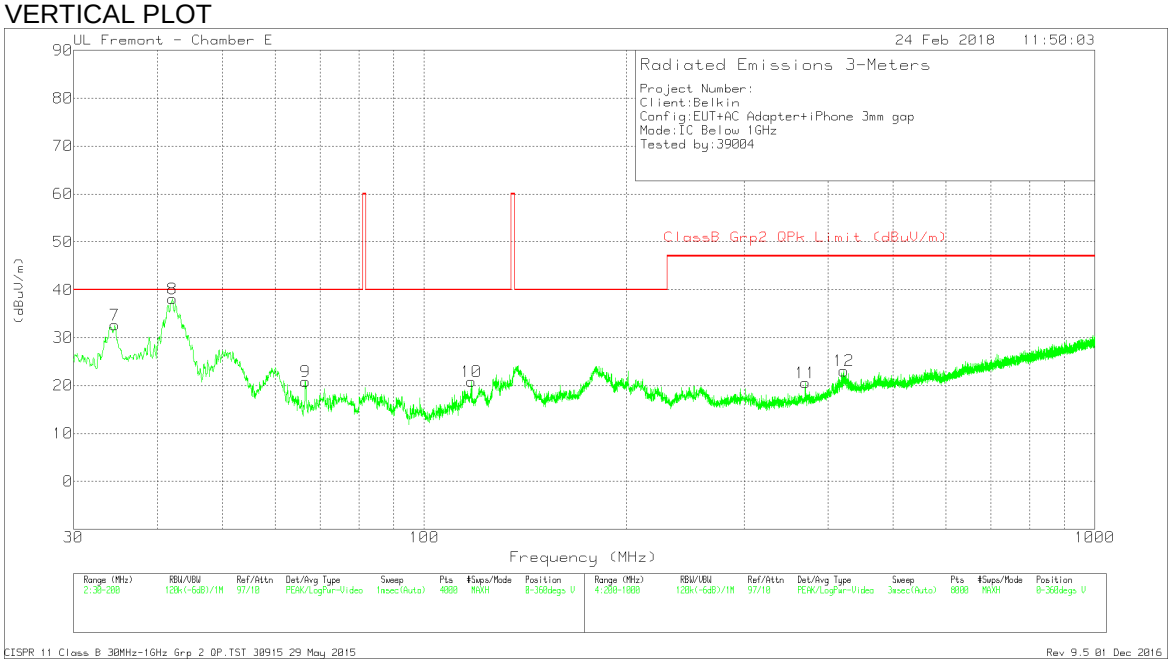
8.5.3. OPERATING WITH iPhone AT 3mm gap

HORIZONTAL PLOT



VERTICAL PLOT



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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	34.5699	42.13	Pk	22	-31.5	32.63	40	-7.37	0-360	100	V
1	42.0306	40.4	Pk	16.6	-31.4	25.6	40	-14.4	0-360	300	H
8	42.1156	53.06	Pk	16.5	-31.4	38.16	40	-1.84	0-360	100	V
	42.1150	48.81	QP	16.5	-31.4	33.91	40	-6.09	270	155	V
9	66.5169	40.21	Pk	11.8	-31.1	20.91	40	-19.09	0-360	100	V
2	66.602	33.44	Pk	11.8	-31.1	14.14	40	-25.86	0-360	399	H
10	117.6577	34.73	Pk	16.7	-30.6	20.83	40	-19.17	0-360	100	V
3	120.9735	40.31	Pk	16.8	-30.6	26.51	40	-13.49	0-360	200	H
4	137.0852	39.47	Pk	17.2	-30.4	26.27	40	-13.73	0-360	200	H
5	207.501	39.66	Pk	14	-29.8	23.86	40	-16.14	0-360	100	H
11	370.0221	30.89	Pk	18.4	-28.7	20.59	47	-26.41	0-360	100	V
6	370.1221	31.28	Pk	18.4	-28.7	20.98	47	-26.02	0-360	100	H
12	422.4289	31.68	Pk	19.9	-28.5	23.08	47	-23.92	0-360	100	V

Pk - Peak detector
Qp - Quasi-Peak detector

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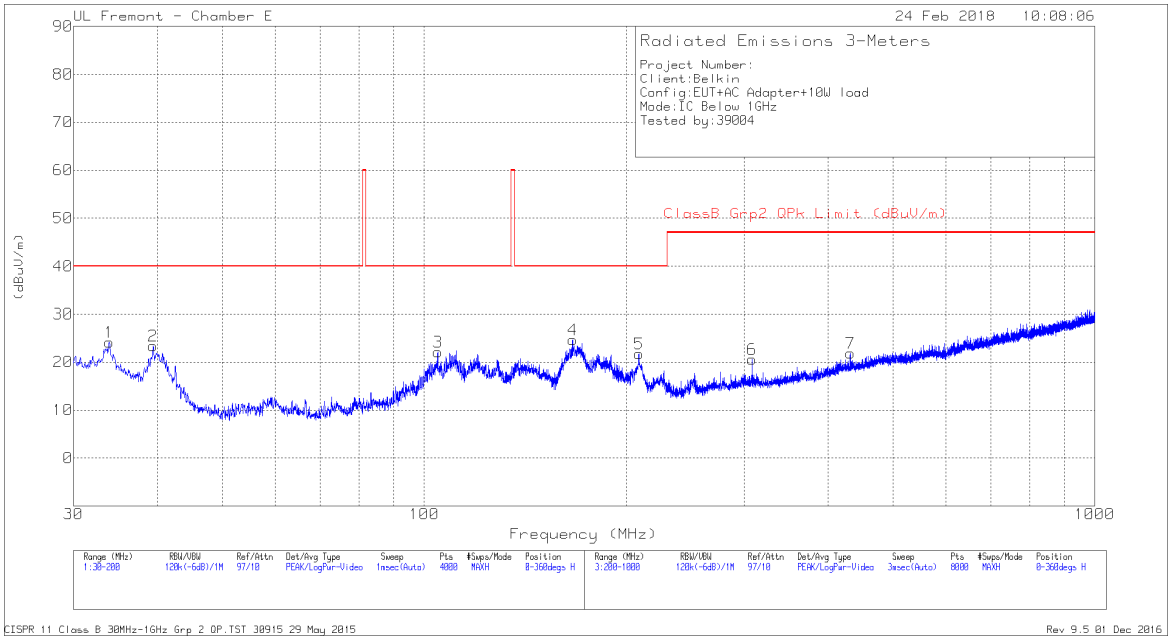
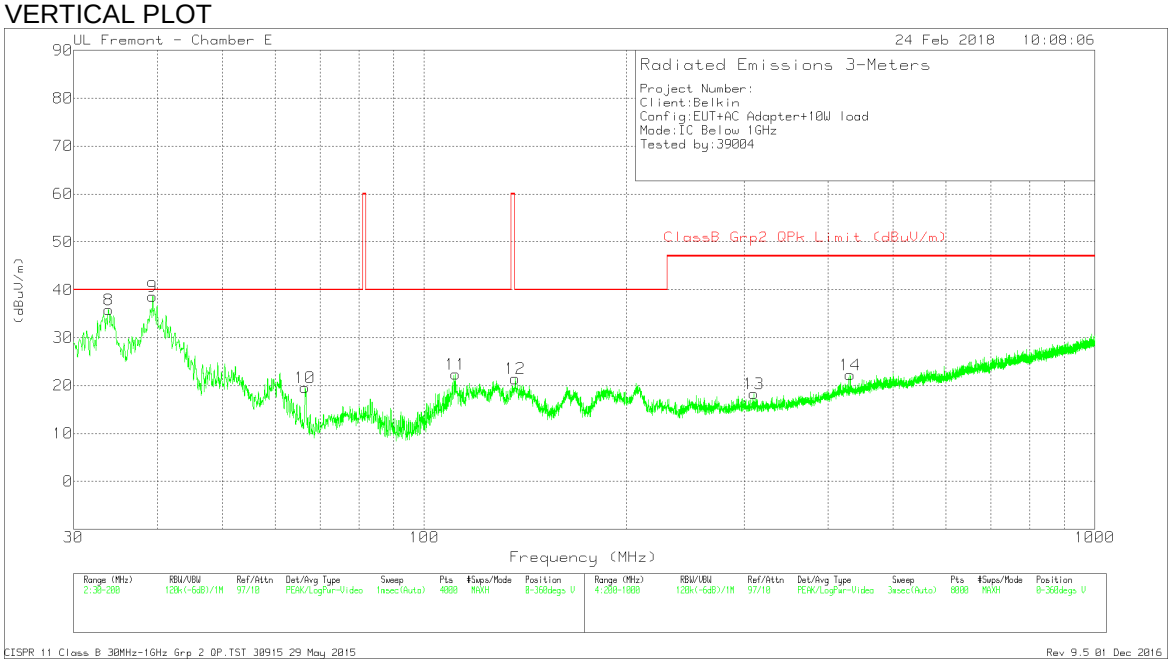
8.5.4. OPERATING WITH 10W LOAD

HORIZONTAL PLOT



VERTICAL PLOT



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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	33.826	44.89	Pk	22.5	-31.5	35.89	40	-4.11	0-360	100	V
	33.820	40.69	QP	22.5	-31.5	31.69	40	-8.31	305	175	V
1	33.911	33.11	Pk	22.5	-31.5	24.11	40	-15.89	0-360	300	H
9	39.3524	51.14	Pk	19	-31.5	38.64	40	-1.36	0-360	100	V
	39.3520	46.99	QP	19	-31.5	34.49	40	-5.51	270	150	V
2	39.4374	36.02	Pk	18.9	-31.5	23.42	40	-16.58	0-360	300	H
10	66.3894	38.93	Pk	11.8	-31.1	19.63	40	-20.37	0-360	100	V
3	104.7768	37.64	Pk	15.2	-30.7	22.14	40	-17.86	0-360	300	H
11	111.3661	36.82	Pk	16.3	-30.7	22.42	40	-17.58	0-360	100	V
12	136.7451	34.63	Pk	17.2	-30.4	21.43	40	-18.57	0-360	100	V
4	166.4603	39.49	Pk	15.4	-30.2	24.69	40	-15.31	0-360	200	H
5	209.0012	37.6	Pk	13.9	-29.8	21.7	40	-18.3	0-360	100	H
6	308.4141	32.62	Pk	17.1	-29.1	20.62	47	-26.38	0-360	100	H
13	310.0143	30.44	Pk	17.1	-29.2	18.34	47	-28.66	0-360	199	V
14	431.7301	30.76	Pk	20	-28.5	22.26	47	-24.74	0-360	100	V
7	431.8301	30.33	Pk	20	-28.5	21.83	47	-25.17	0-360	100	H

Pk - Peak detector
Qp - Quasi-Peak detector

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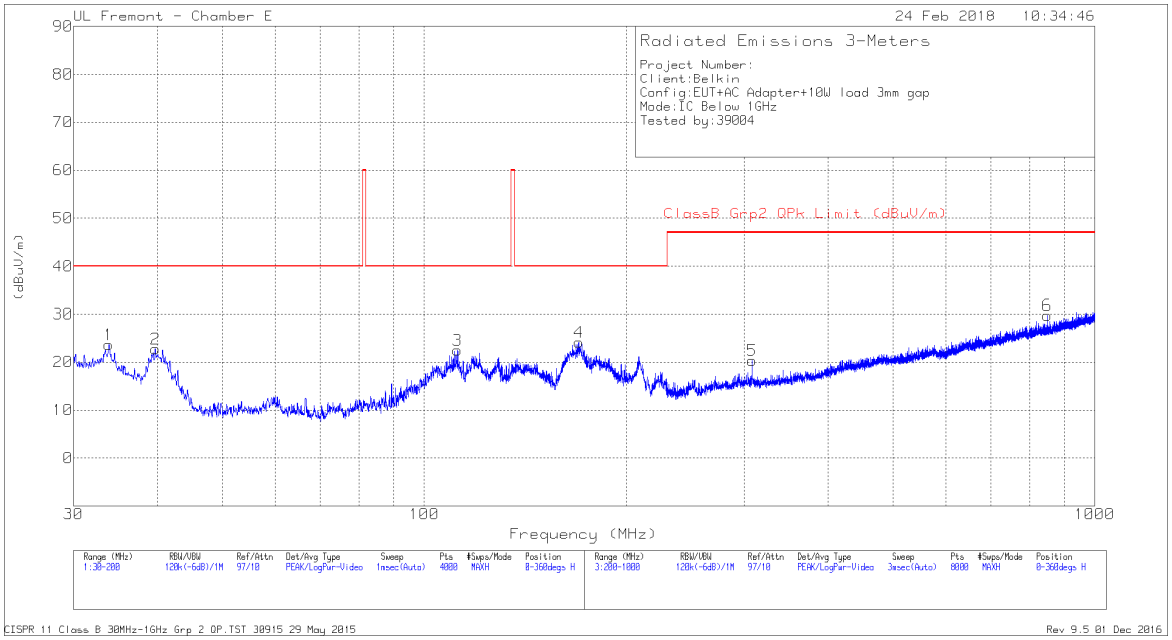
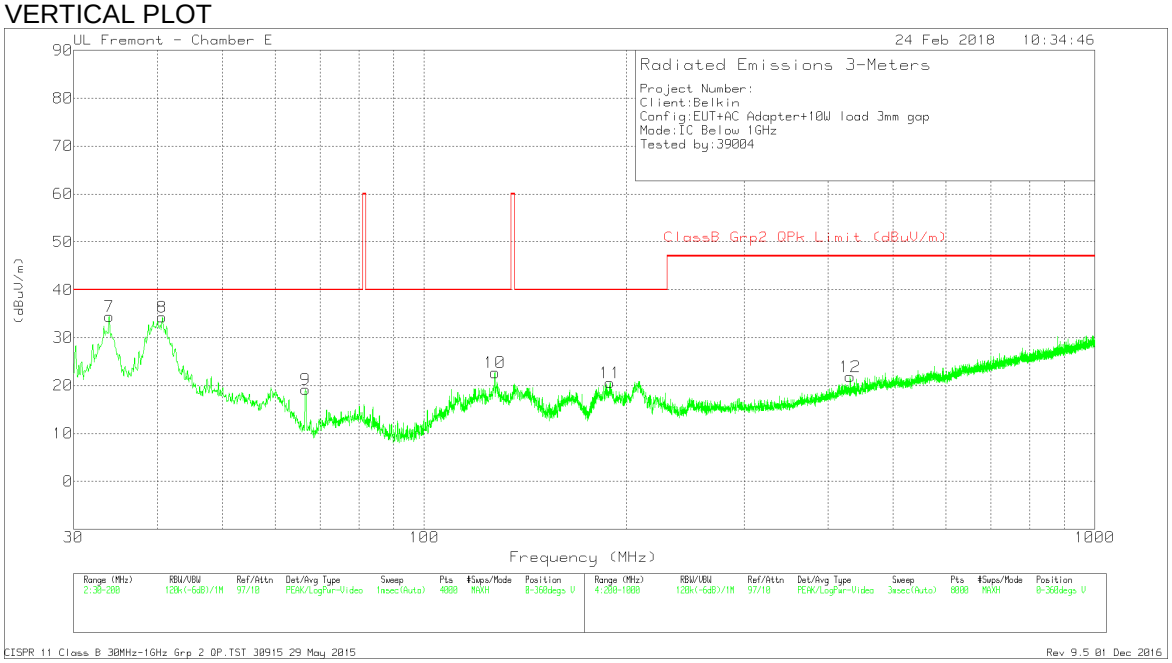
8.5.5. OPERATING WITH 10W LOAD AT 3mm Gap

HORIZONTAL PLOT



VERTICAL PLOT



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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
1	33.8685	32.69	Pk	22.5	-31.5	23.69	40	-16.31	0-360	200	H
7	33.911	43.38	Pk	22.5	-31.5	34.38	40	-5.62	0-360	100	V
	33.910	39.28	QP	22.5	-31.5	30.28	40	-9.72	255	175	V
2	39.735	35.7	Pk	18.6	-31.5	22.8	40	-17.2	0-360	300	H
8	40.6703	47.88	Pk	17.8	-31.4	34.28	40	-5.72	0-360	100	V
	40.6700	43.73	QP	17.8	-31.4	30.13	40	-9.87	290	155	V
9	66.4744	38.45	Pk	11.8	-31.1	19.15	40	-20.85	0-360	100	V
3	112.1738	36.77	Pk	16.4	-30.7	22.47	40	-17.53	0-360	300	H
10	127.4352	36.2	Pk	17	-30.5	22.7	40	-17.3	0-360	100	V
4	169.9462	38.91	Pk	15.4	-30.2	24.11	40	-15.89	0-360	200	H
11	189.395	36.05	Pk	14.6	-30.1	20.55	40	-19.45	0-360	100	V
5	308.4141	32.31	Pk	17.1	-29.1	20.31	47	-26.69	0-360	100	H
12	431.7301	30.38	Pk	20	-28.5	21.88	47	-25.12	0-360	100	V
6	849.8845	30.5	Pk	25.5	-26.2	29.8	47	-17.2	0-360	300	H

Pk - Peak detector
Qp - Quasi-Peak detector

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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

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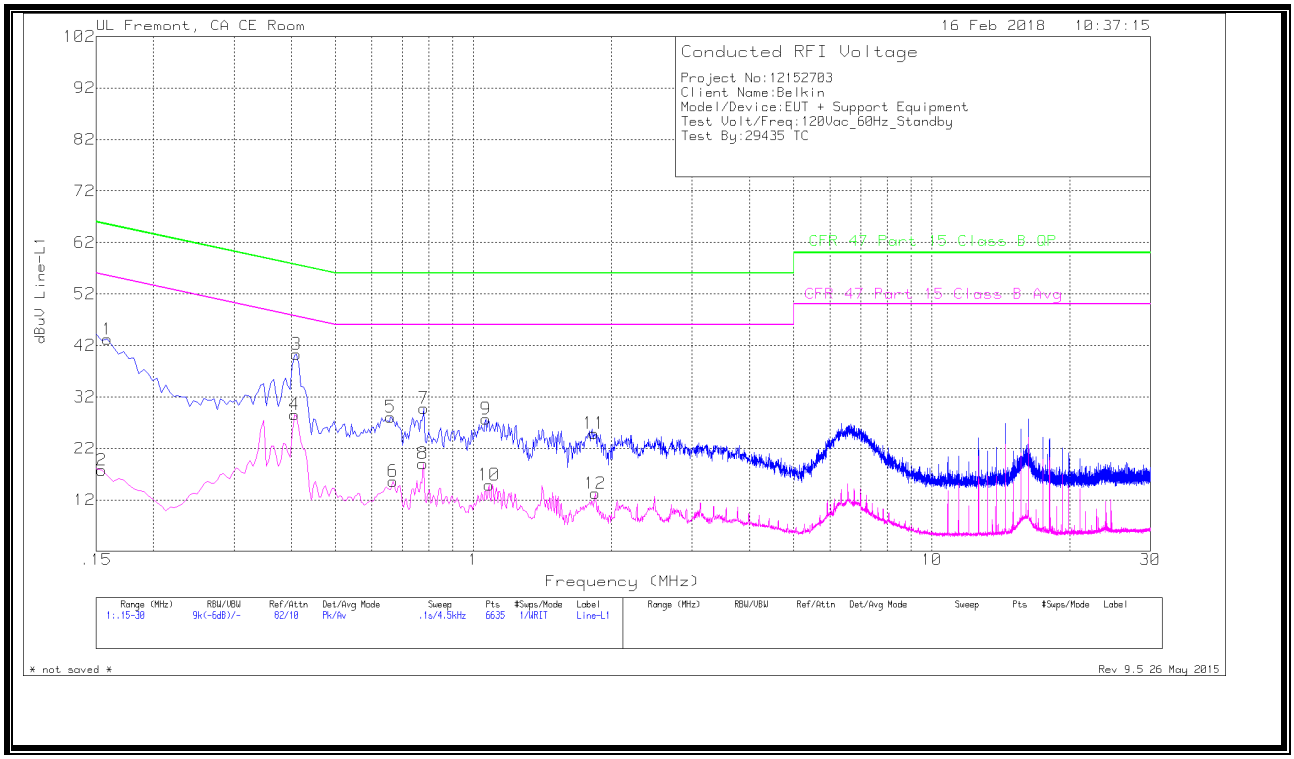
STANDBY MODE

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	.159	33.01	Pk	.1	0	10.1	43.21	65.52	-22.31	-	-
2	.1545	7.56	Av	.1	0	10.1	17.76	-	-	55.75	-37.99
3	.411	30.2	Pk	0	0	10.1	40.3	57.63	-17.33	-	-
4	.4065	18.48	Av	0	0	10.1	28.58	-	-	47.72	-19.14
5	.6585	18	Pk	0	0	10.1	28.1	56	-27.9	-	-
6	.6675	5.54	Av	0	0	10.1	15.64	-	-	46	-30.36
7	.78	19.69	Pk	0	0	10.1	29.79	56	-26.21	-	-
8	.7755	8.96	Av	0	0	10.1	19.06	-	-	46	-26.94
9	1.0635	17.51	Pk	0	.1	10.1	27.71	56	-28.29	-	-
10	1.0815	4.7	Av	0	.1	10.1	14.9	-	-	46	-31.1
11	1.833	14.72	Pk	0	.1	10.1	24.92	56	-31.08	-	-
12	1.842	3.05	Av	0	.1	10.1	13.25	-	-	46	-32.75

Pk - Peak detector

Av - Average detection

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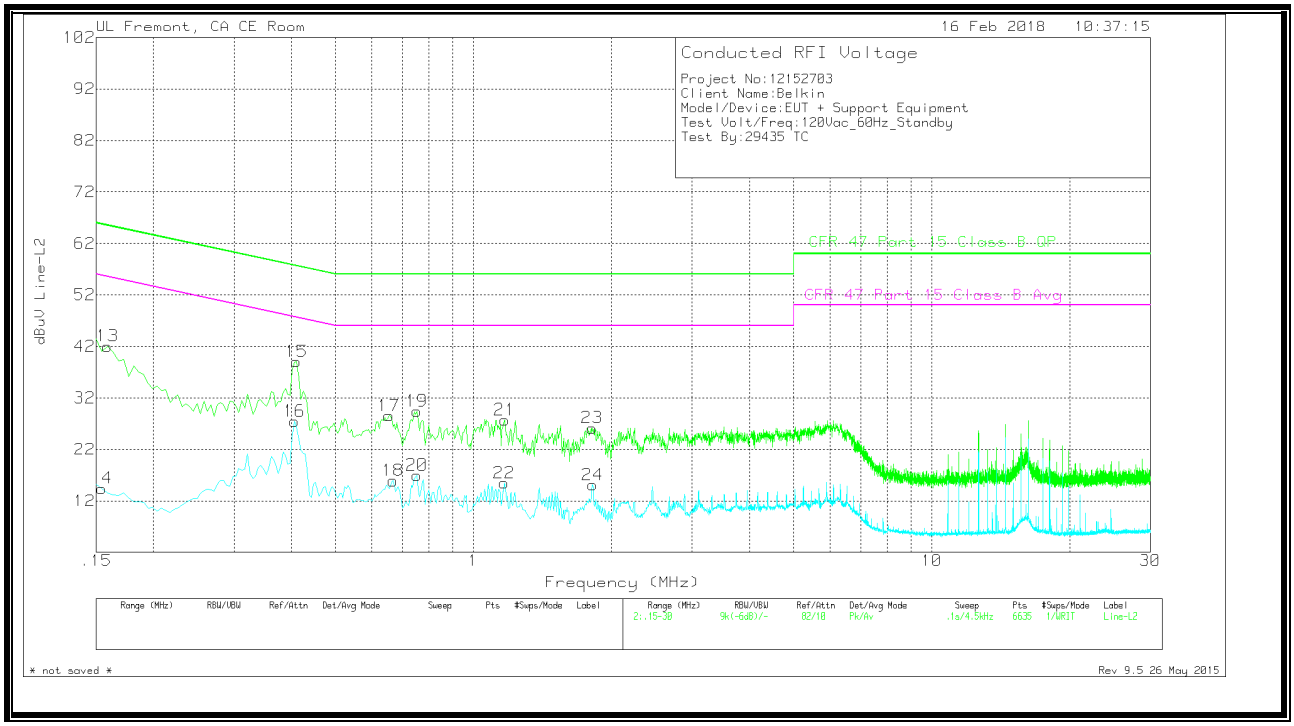
LINE 2 RESULTS



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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.159	31.95	Pk	0	0	10.1	42.05	65.52	-23.47	-	-
14	.1545	4.33	Av	0	0	10.1	14.43	-	-	55.75	-41.32
15	.411	28.94	Pk	0	0	10.1	39.04	57.63	-18.59	-	-
16	.4065	17.37	Av	0	0	10.1	27.47	-	-	47.72	-20.25
17	.654	18.45	Pk	0	0	10.1	28.55	56	-27.45	-	-
18	.6675	5.82	Av	0	0	10.1	15.92	-	-	46	-30.08
19	.753	19.32	Pk	0	0	10.1	29.42	56	-26.58	-	-
20	.753	6.86	Av	0	0	10.1	16.96	-	-	46	-29.04
21	1.1715	17.51	Pk	0	.1	10.1	27.71	56	-28.29	-	-
22	1.167	5.25	Av	0	.1	10.1	15.45	-	-	46	-30.55
23	1.815	15.96	Pk	0	.1	10.1	26.16	56	-29.84	-	-
24	1.8195	4.89	Av	0	.1	10.1	15.09	-	-	46	-30.91

Pk - Peak detector

Av - Average detection

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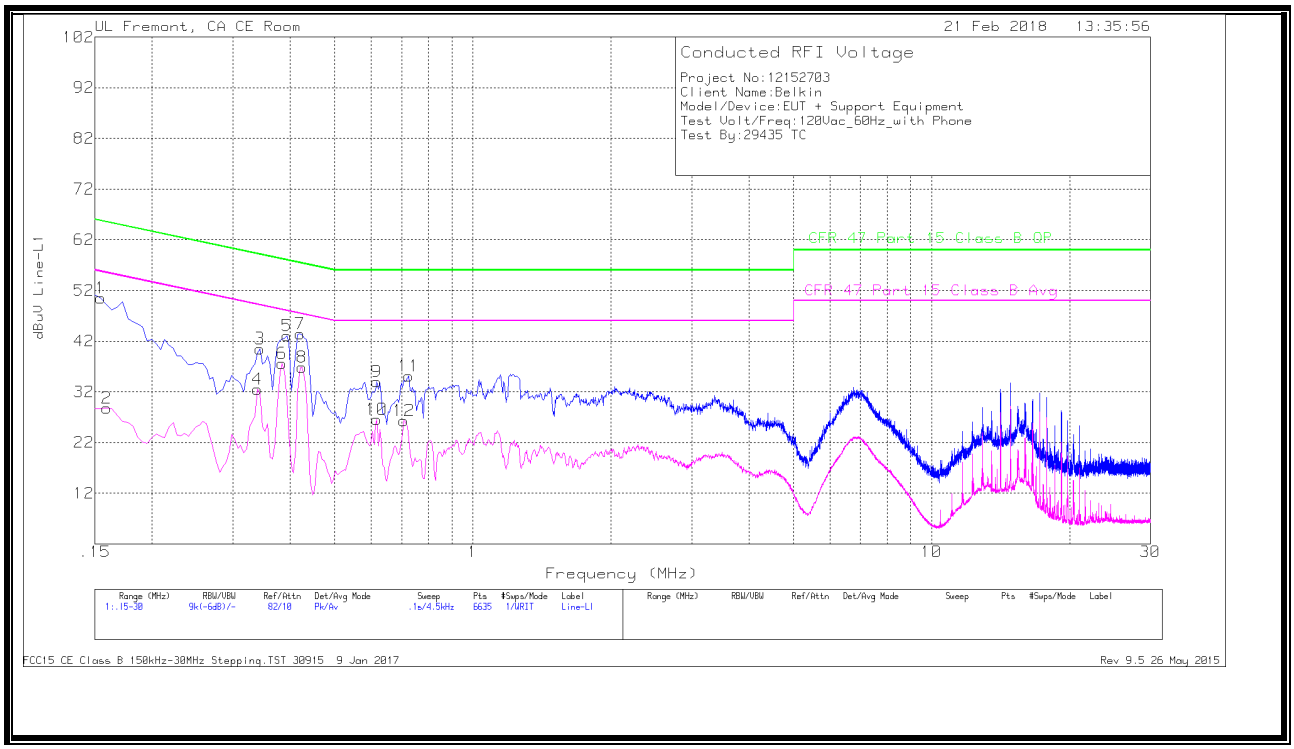
OPERATING MODE WITH PHONE

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	.1545	40.33	Pk	.1	0	10.1	50.53	65.75	-15.22	-	-
2	.159	18.63	Av	.1	0	10.1	28.83	-	-	55.52	-26.69
3	.3435	30.41	Pk	0	0	10.1	40.51	59.12	-18.61	-	-
4	.339	22.4	Av	0	0	10.1	32.5	-	-	49.23	-16.73
5	.393	33.01	Pk	0	0	10.1	43.11	58	-14.89	-	-
6	.384	27.48	Av	0	0	10.1	37.58	-	-	48.19	-10.61
7	.42	33.3	Pk	0	0	10.1	43.4	57.45	-14.05	-	-
8	.4245	26.75	Av	0	0	10.1	36.85	-	-	47.36	-10.51
9	.618	23.91	Pk	0	0	10.1	34.01	56	-21.99	-	-
10	.618	16.5	Av	0	0	10.1	26.6	-	-	46	-19.4
11	.726	24.99	Pk	0	0	10.1	35.09	56	-20.91	-	-
12	.708	16.21	Av	0	0	10.1	26.31	-	-	46	-19.69

Pk - Peak detector

Av - Average detection

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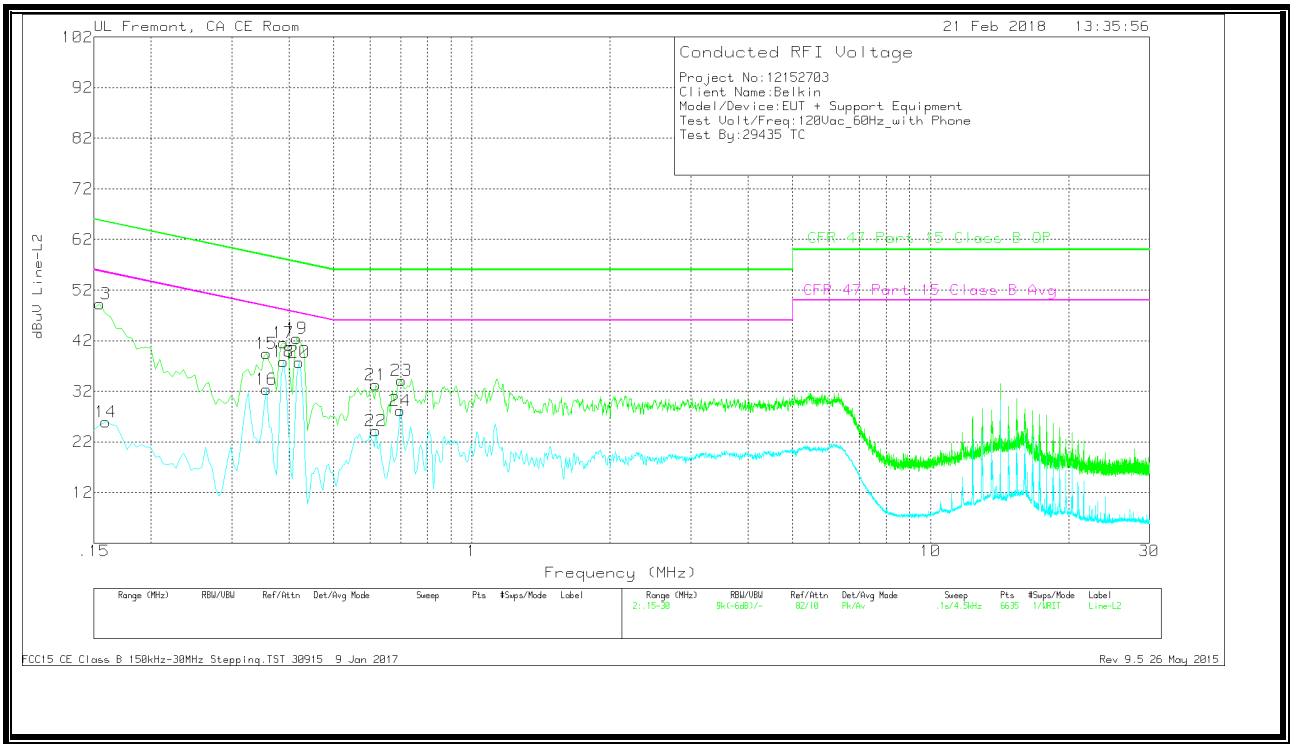
LINE 2 RESULTS



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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.1545	39.15	Pk	0	0	10.1	49.25	65.75	-16.5	-	-
14	.159	15.79	Av	0	0	10.1	25.89	-	-	55.52	-29.63
15	.357	29.41	Pk	0	0	10.1	39.51	58.8	-19.29	-	-
16	.357	22.24	Av	0	0	10.1	32.34	-	-	48.8	-16.46
17	.3885	31.45	Pk	0	0	10.1	41.55	58.1	-16.55	-	-
18	.3885	27.78	Av	0	0	10.1	37.88	-	-	48.1	-10.22
19	.4155	32.3	Pk	0	0	10.1	42.4	57.54	-15.14	-	-
20	.42	27.68	Av	0	0	10.1	37.78	-	-	47.45	-9.67
21	.618	23.12	Pk	0	0	10.1	33.22	56	-22.78	-	-
22	.618	14.07	Av	0	0	10.1	24.17	-	-	46	-21.83
23	.7035	24.02	Pk	0	0	10.1	34.12	56	-21.88	-	-
24	.699	18.01	Av	0	0	10.1	28.11	-	-	46	-17.89

Pk - Peak detector

Av - Average detection

FCC15 CE Class B 150kHz-30MHz Stepping.TST 30915 9 Jan 2017

Rev 9.5 26 May 2015

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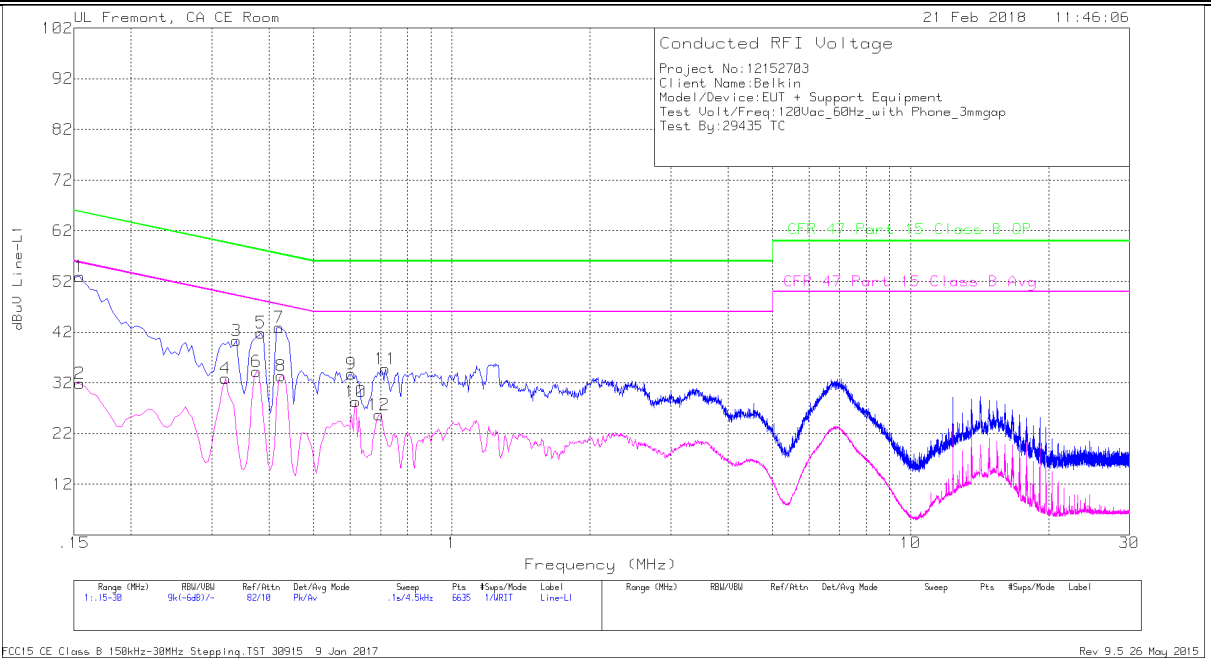
OPERATING WITH Phone 3mm GAP

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	42.79	Pk	.1	0	10.1	52.99	65.75	-12.76	-	-
2	.1545	21.73	Av	.1	0	10.1	31.93	-	-	55.75	-23.82
3	.339	30.24	Pk	0	0	10.1	40.34	59.23	-18.89	-	-
4	.321	22.75	Av	0	0	10.1	32.85	-	-	49.68	-16.83
5	.384	31.78	Pk	0	0	10.1	41.88	58.19	-16.31	-	-
6	.375	24.1	Av	0	0	10.1	34.2	-	-	48.39	-14.19
7	.42	32.85	Pk	0	0	10.1	42.95	57.45	-14.5	-	-
8	.4245	23.33	Av	0	0	10.1	33.43	-	-	47.36	-13.93
9	.6045	23.62	Pk	0	0	10.1	33.72	56	-22.28	-	-
10	.618	18.21	Av	0	0	10.1	28.31	-	-	46	-17.69
11	.717	24.62	Pk	0	0	10.1	34.72	56	-21.28	-	-
12	.6945	15.56	Av	0	0	10.1	25.66	-	-	46	-20.34

Pk - Peak detector

Av - Average detection

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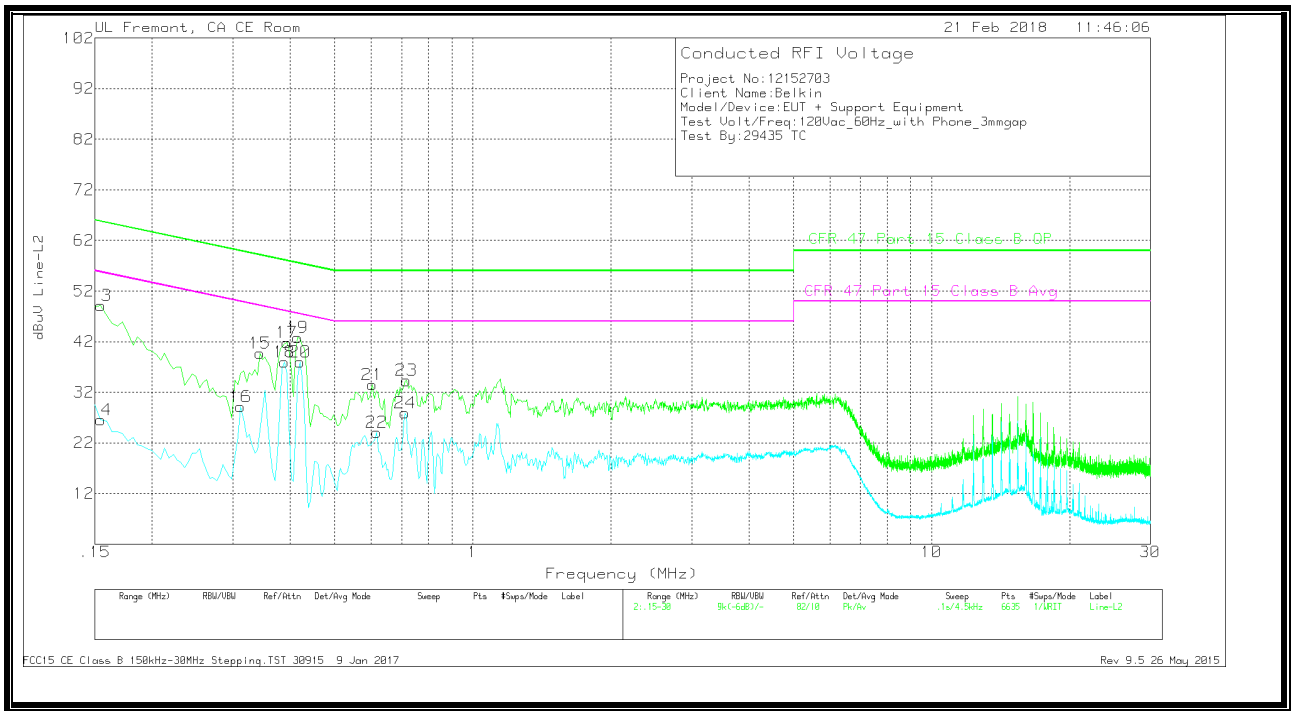
LINE 2 RESULTS



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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.1545	39.02	Pk	0	0	10.1	49.12	65.75	-16.63	-	-
14	.1545	16.5	Av	0	0	10.1	26.6	-	-	55.75	-29.15
15	.3435	29.63	Pk	0	0	10.1	39.73	59.12	-19.39	-	-
16	.312	19.07	Av	0	0	10.1	29.17	-	-	49.92	-20.75
17	.393	31.69	Pk	0	0	10.1	41.79	58	-16.21	-	-
18	.3885	27.89	Av	0	0	10.1	37.99	-	-	48.1	-10.11
19	.4155	32.73	Pk	0	0	10.1	42.83	57.54	-14.71	-	-
20	.42	27.88	Av	0	0	10.1	37.98	-	-	47.45	-9.47
21	.6045	23.45	Pk	0	0	10.1	33.55	56	-22.45	-	-
22	.618	13.96	Av	0	0	10.1	24.06	-	-	46	-21.94
23	.717	24.21	Pk	0	0	10.1	34.31	56	-21.69	-	-
24	.7125	17.85	Av	0	0	10.1	27.95	-	-	46	-18.05

Pk - Peak detector

Av - Average detection

FCC15 CE Class B 150kHz-30MHz Stepping.TST 30915 9 Jan 2017

Rev 9.5 26 May 2015

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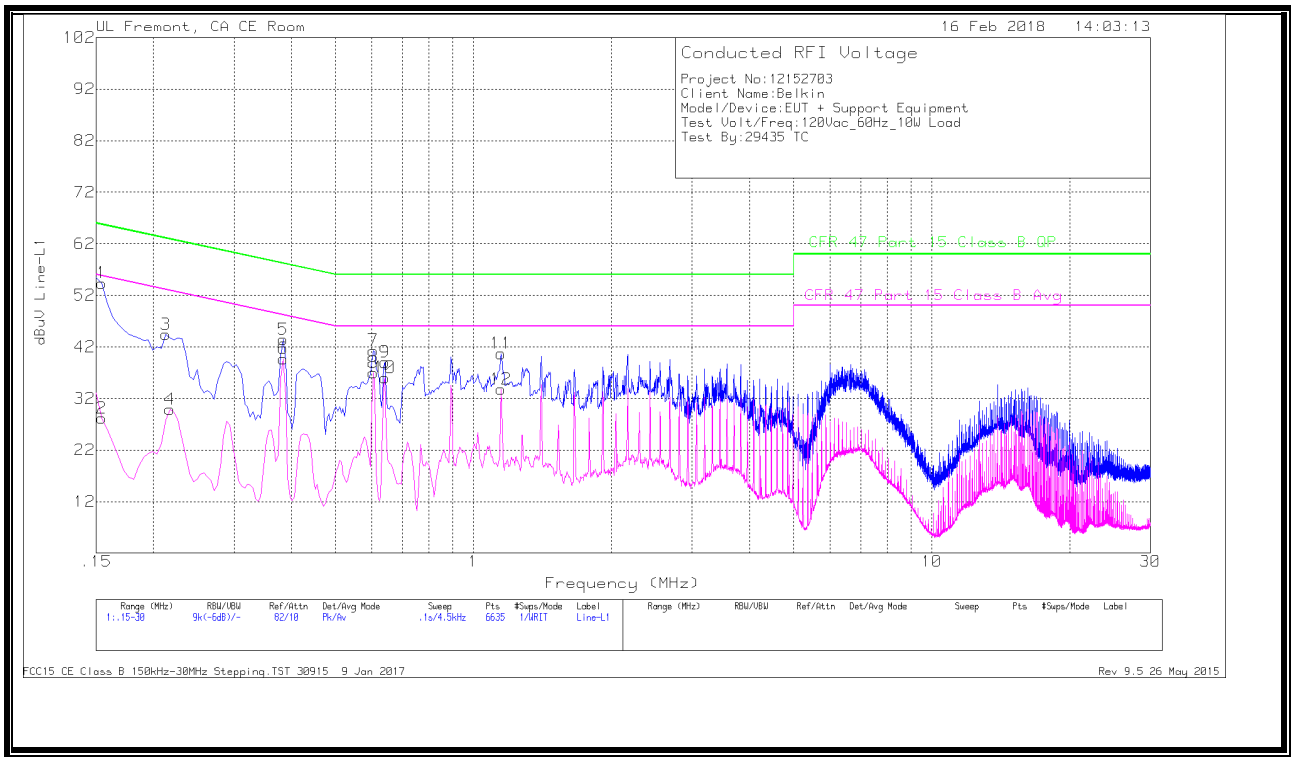
OPERATING with RECEIVER 10 W LOAD

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	.1545	44.18	Pk	.1	0	10.1	54.38	65.75	-11.37	-	-
2	.1545	17.97	Av	.1	0	10.1	28.17	-	-	55.75	-27.58
3	.213	34.34	Pk	0	0	10.1	44.44	63.09	-18.65	-	-
4	.2175	19.79	Av	0	0	10.1	29.89	-	-	52.91	-23.02
5	.384	33.33	Pk	0	0	10.1	43.43	58.19	-14.76	-	-
6	.384	29.62	Av	0	0	10.1	39.72	-	-	48.19	-8.47
7	.6045	31.19	Pk	0	0	10.1	41.29	56	-14.71	-	-
8	.6045	26.9	Av	0	0	10.1	37	-	-	46	-9
9	.6405	28.92	Pk	0	0	10.1	39.02	56	-16.98	-	-
10	.6405	25.93	Av	0	0	10.1	36.03	-	-	46	-9.97
11	1.149	30.51	Pk	0	.1	10.1	40.71	56	-15.29	-	-
12	1.149	23.57	Av	0	.1	10.1	33.77	-	-	46	-12.23

Pk - Peak detector

Av - Average detection

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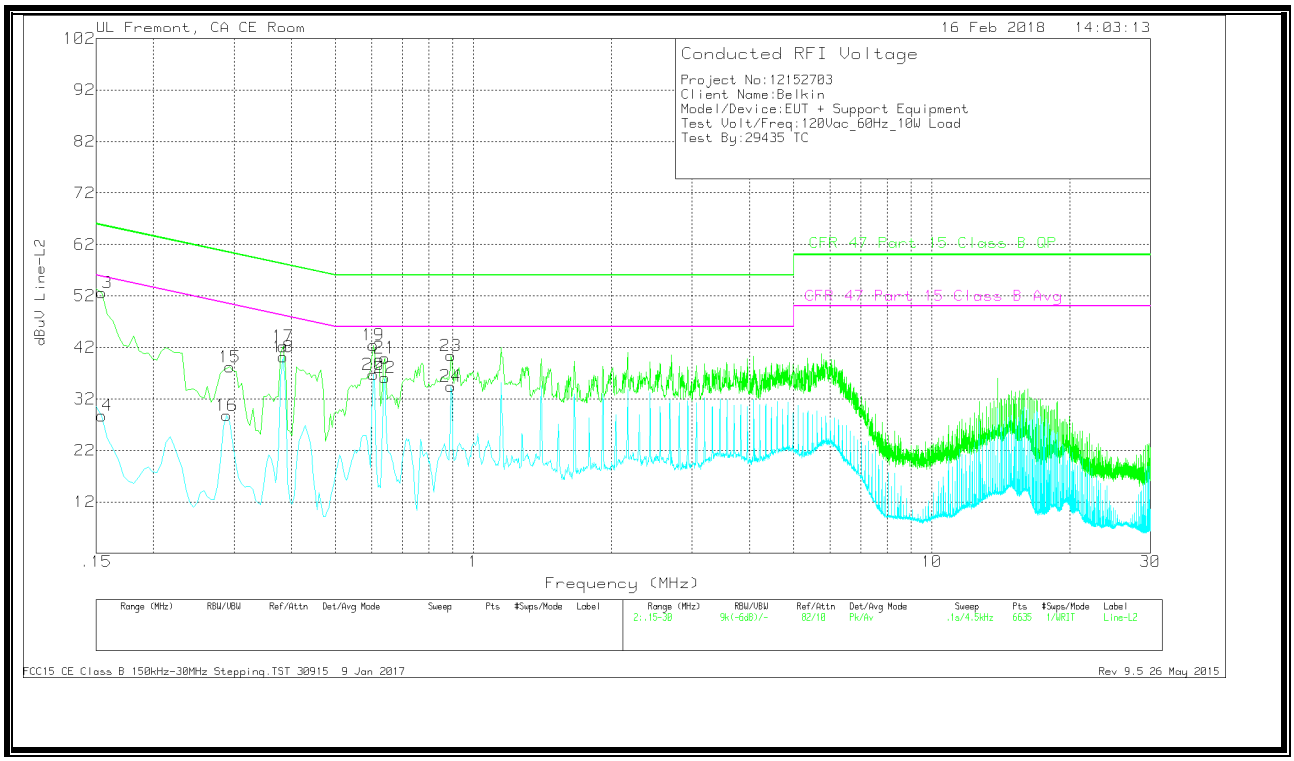
LINE 2 RESULTS



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 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.1545	42.49	Pk	0	0	10.1	52.59	65.75	-13.16	-	-
14	.1545	18.64	Av	0	0	10.1	28.74	-	-	55.75	-27.01
15	.294	28.11	Pk	0	0	10.1	38.21	60.41	-22.2	-	-
16	.2895	18.7	Av	0	0	10.1	28.8	-	-	50.54	-21.74
17	.384	32.08	Pk	0	0	10.1	42.18	58.19	-16.01	-	-
18	.384	30.02	Av	0	0	10.1	40.12	-	-	48.19	-8.07
19	.6045	32.32	Pk	0	0	10.1	42.42	56	-13.58	-	-
20	.6045	26.61	Av	0	0	10.1	36.71	-	-	46	-9.29
21	.6405	29.86	Pk	0	0	10.1	39.96	56	-16.04	-	-
22	.6405	26.02	Av	0	0	10.1	36.12	-	-	46	-9.88
23	.8925	30.3	Pk	0	0	10.1	40.4	56	-15.6	-	-
24	.8925	24.33	Av	0	0	10.1	34.43	-	-	46	-11.57

Pk - Peak detector

Av - Average detection

FCC15 CE Class B 150kHz-30MHz Stepping.TST 30915 9 Jan 2017

Rev 9.5 26 May 2015

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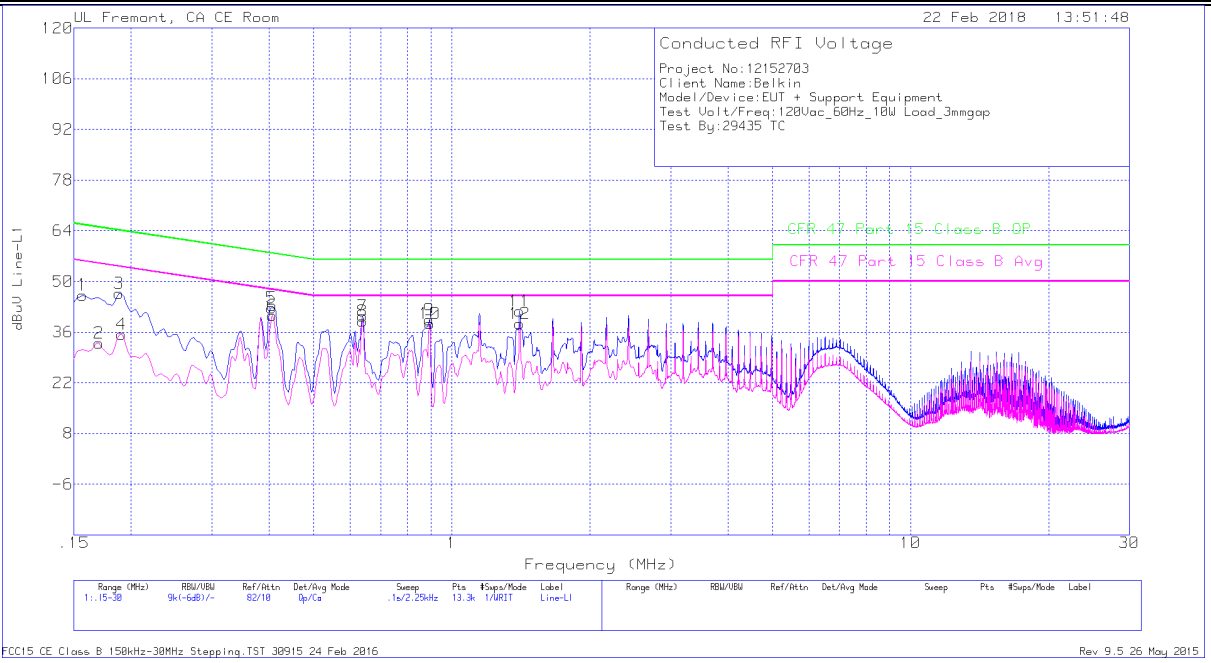
OPERATING WITH RECEIVER 10W LOAD 3mm GAP

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	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.15675	36.06	Pk	.1	0	10.1	46.26	65.63	-19.37	-	-
2	.17025	22.89	Av	0	0	10.1	32.99	-	-	54.95	-21.96
3	.18825	36.52	Pk	0	0	10.1	46.62	64.11	-17.49	-	-
4	.1905	25.24	Av	0	0	10.1	35.34	-	-	54.01	-18.67
5	.40425	32.61	Pk	0	0	10.1	42.71	57.77	-15.06	-	-
6	.4065	30.48	Av	0	0	10.1	40.58	-	-	47.72	-7.14
7	.63825	30.26	Pk	0	0	10.1	40.36	56	-15.64	-	-
8	.63825	29.01	Av	0	0	10.1	39.11	-	-	46	-6.89
9	.8925	29.3	Pk	0	0	10.1	39.4	56	-16.6	-	-
10	.89475	28.27	Av	0	0	10.1	38.37	-	-	46	-7.63
11	1.4055	31.63	Pk	0	.1	10.1	41.83	56	-14.17	-	-
12	1.4055	28.15	Av	0	.1	10.1	38.35	-	-	46	-7.65

Pk - Peak detector

Av - Average detection

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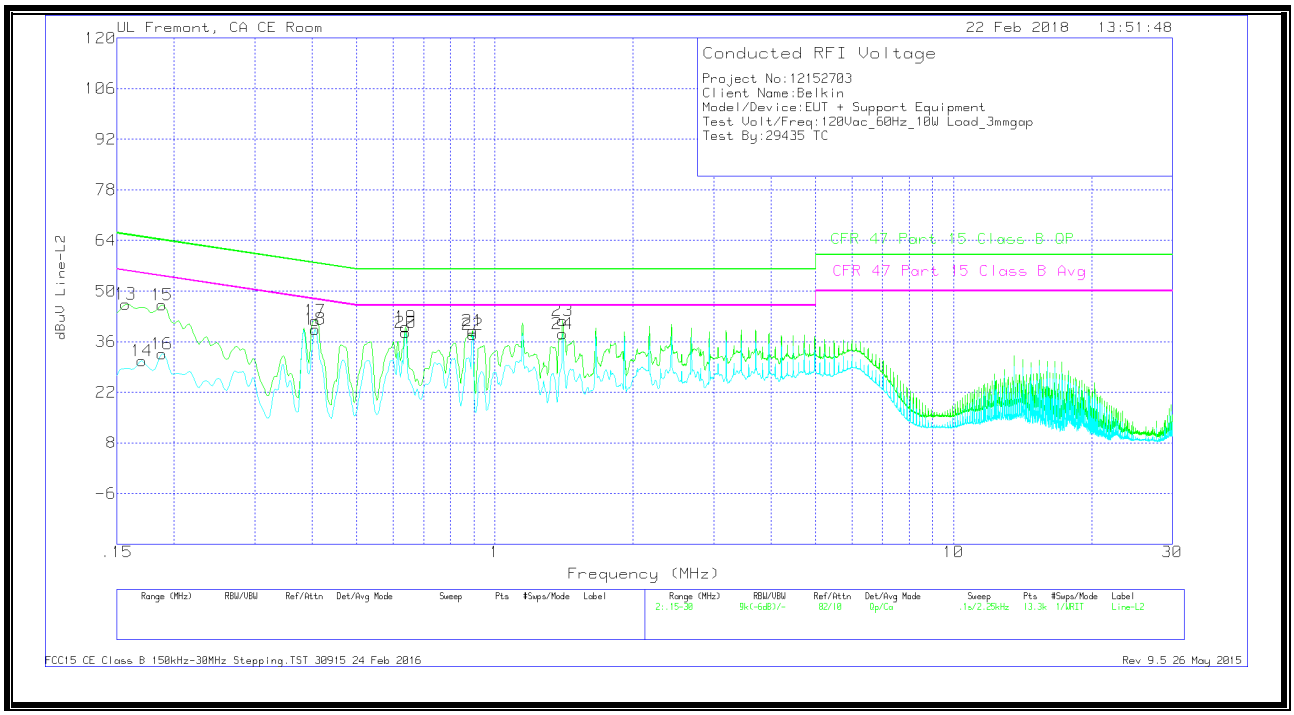
LINE 2 RESULTS



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 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.15675	36.33	Pk	0	0	10.1	46.43	65.63	-19.2	-	-
14	.17025	20.59	Av	0	0	10.1	30.69	-	-	54.95	-24.26
15	.18825	36.13	Pk	0	0	10.1	46.23	64.11	-17.88	-	-
16	.18825	22.48	Av	0	0	10.1	32.58	-	-	54.11	-21.53
17	.4065	31.69	Pk	0	0	10.1	41.79	57.72	-15.93	-	-
18	.4065	29.38	Av	0	0	10.1	39.48	-	-	47.72	-8.24
19	.63825	29.97	Pk	0	0	10.1	40.07	56	-15.93	-	-
20	.63825	28.47	Av	0	0	10.1	38.57	-	-	46	-7.43
21	.89475	28.94	Pk	0	0	10.1	39.04	56	-16.96	-	-
22	.89475	27.88	Av	0	0	10.1	37.98	-	-	46	-8.02
23	1.4055	31.56	Pk	0	.1	10.1	41.76	56	-14.24	-	-
24	1.4055	27.91	Av	0	.1	10.1	38.11	-	-	46	-7.89

Pk - Peak detector

Av - Average detection

FCC15 CE Class B 150kHz-30MHz Stepping.TST 30915 24 Feb 2016

Rev 9.5 26 May 2015

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