TEST REPORT

Report Number. : 13573637-E1V2

Applicant	:	BELKIN INTERNATIONAL, INC 12045 EAST WATERFRONT DRIVE PLAYA VISTA, CA 90094, U.S.A.
Model	:	WIZ009
FCC ID	:	K7SWIZ009
IC	:	3623A-WIZ009
EUT Description	:	BOOST ↑ CHARGE™ PRO 3-in-1 Magnetic Wireless Charger
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C ISED RSS-216 ISSUE 2

Date Of Issue:
December 02, 2020

Prepared by:
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NVLAP Lab code: 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	11/24/2020	Initial Issue	--
V2	12/2/2020	Updated setup photo report revision number	Tina Chu

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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: BOOST ↑ CHARGE™ PRO 3-in-1 Magnetic Wireless Charger

MODEL NUMBER: WIZ009

SERIAL NUMBER: DLC040200S4PP493B, DLC040200V0PP4936

DATE TESTED: NOVEMBER 02, 2020 to NOVEMBER 10, 2020

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART C	Complies
ISED RSS-216 Issue 2, A1:9/2020	Complies
ISED RSS-GEN Issue 5	Complies

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

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

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of the U.S. government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, 414788 D01 Radiated Test Site v01r01, FCC CFR 47 Part 2, and FCC CFR 47 Part 15, RSS-GEN Issue 5 and RSS-216 Issue 2 January 2016, amendment 1 (September 2020).

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, and 47658 Kato Road, Fremont, California, USA. Line conducted emissions were measured at 47658 Kato Road 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	47658 Kato Rd
☐ Chamber A	☐ Chamber D	☐ Chamber I
☐ Chamber B	☐ Chamber E	☐ Chamber J
☐ Chamber C	☐ Chamber F	☐ Chamber K
	☐ Chamber G	☐ Chamber L
	☒ Chamber H	☐ Chamber M

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers above are covered under Industry Canada company address and respective code: 22541 .

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

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

4.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U_{Lab}
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.84 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB

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

5. EQUIPMENT UNDER TEST – Notes: watches operates at 326kHz

5.1. DESCRIPTION OF EUT

The EUT is a BOOST ↑ CHARGE™ PRO 3-in-1 Magnetic Wireless Charger with 3 separated charging coils that is capable of charging 3 client devices at the same time. First coil is used for charging an iPhone at 360kHz (15W power), second coil is used to charge AirPods Charging Case at 110.5kHz – 148.5kHz (1W power), and the third coil is used for charging an Apple Watch at 326kHz (1W power). EUT is powered by AC/DC adapter only.

5.2. MAXIMUM E-FIELD AND H-FIELD STRENGTH

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

Fundamental Frequency (kHz)	E field (300m distance) FCC (dBuV/m)	H field (3m distance) IC (dBuA/m)
110.5 to 148.5	-5.56	19.98
326	-20.24	5.66
360	-23.91	2.36

5.3. WORST-CASE CONFIGURATION

EUT is a desktop device. Worst case orientation of the client devices have been investigated, it was determined that both iPhone and Apple Watch at their upright position are the worst case position, all testing is based on direct contact and no shifts position due to magnetic charger pad. The AirPods Charging Case is placed at the maximum power position during the testing. For the entire radiated emissions test, the EUT was testing at desktop position on the following configurations. Client devices being charged were at a state of <20 – 50% charged.

Config	Mode	Descriptions
1	Standby mode.	EUT stand alone, powered by AC/DC adapter.
2	Operating @360kHz.	Direct contact during charging between the EUT & WPT Client (iPhone 12), and the EUT is powered by AC/DC adapter.
3	Operating @110.5kHz to 148.5kHz	Direct contact during charging between the EUT & WPT Client (AirPods Charging Case with AirPods charging inside), and the EUT is powered by AC/DC adapter.
4	Operating @326kHz	Direct contact during charging between the EUT & WPT Client (Apple Watch), and the EUT is powered by AC/DC adapter.
5	Operating @360kHz and 326kHz	Direct contact during charging between the EUT & WPT Client (iPhone 12, AirPods Charging Case with AirPods charging inside) and the EUT is powered by AC/DC adapter.
6	Operating @360kHz and @110.5kHz to 148.5kHz	Direct contact during charging between the EUT & WPT Client (iPhone 12, Apple Watch) and the EUT is powered by AC/DC adapter.
7	Operating @@110.5kHz to 148.5kHz and 326kHz	Direct contact during charging between the EUT & WPT Client (AirPods Charging Case with AirPods charging inside, Apple Watch) and the EUT is powered by AC/DC adapter.
8	Operating @360kHz, @110.5kHz to 148.5kHz and 326kHz	Direct contact during charging between the EUT & WPT Client (iPhone 12, AirPods Charging Case with AirPods charging inside, Apple Watch) and the EUT is powered by AC/DC adapter.

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

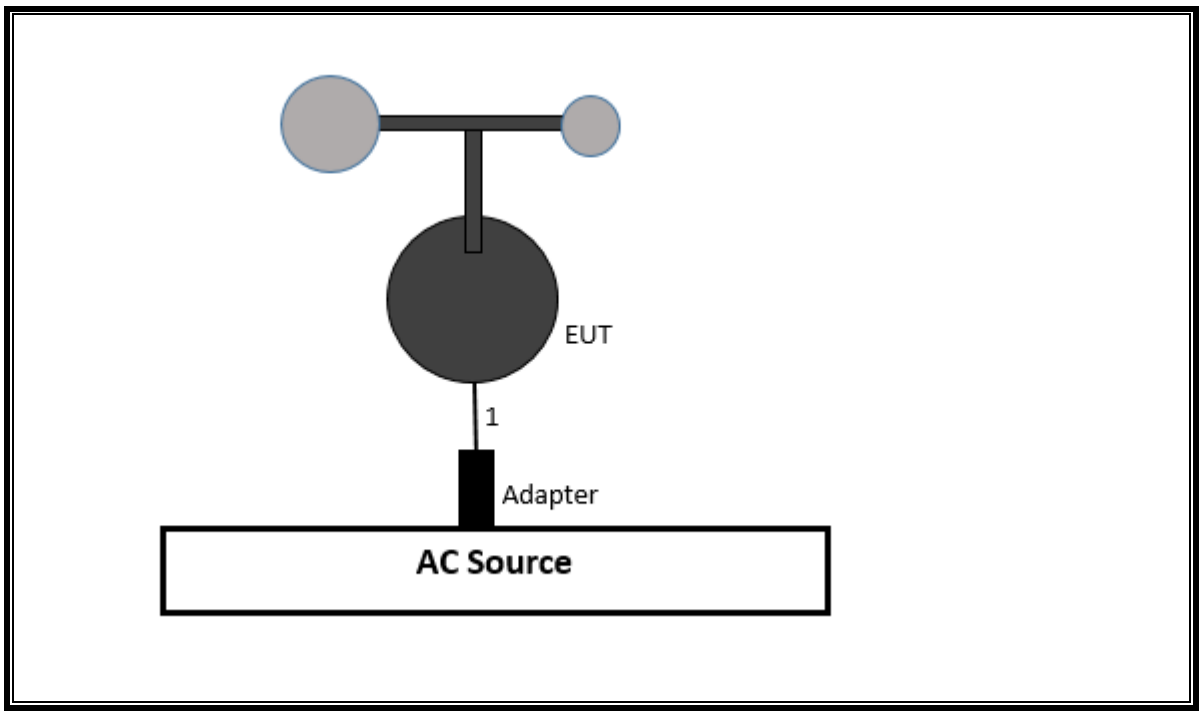
SUPPORT TEST EQUIPMENT				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID/ DoC**
AC/DC adapter	Channel Well Technology Co., Ltd.	2ACR040GNJ	N/A	DoC
iPhone 12 Pro	Apple	A2341	DNPDF3C90D82	BCG-E3545A
iPhone 12 Pro	Apple	A2341	DNPDKW2B0D80	BCG-E3545A
iPhone 12	Apple	A2172	G6TDG5VJ0DXT	BCG-E3542A
AirPods Charging Case	Apple	A2190	H35D18FMLTTK	DoC
AirPods Charging Case	Apple	A2190	GX4ZHCSNLKKT	DoC
AirPods Charging Case	Apple	A2190	H35CX3JULKKT	DoC
Apple Watch	Apple	A1977	FH7XG2HZKDH2	BCG-A1977
Apple Watch	Apple	A1554	FHLPNJQEG9J6	BCG-E2871
Apple Watch	Apple	A2352	G99D534CQ07W	BCG-A2352
AirPods	Apple	A2083	H36D37S0JQH3	BCG-A2083
AirPods	Apple	A2083	H34D33VVJQH4	BCG-A2083
AirPods	Apple	A2083	GX5ZG9HPJQH4	BCG-A2083
AirPods	Apple	A2083	GX6ZJ845JQH3	BCG-A2083
AirPods	Apple	A2083	H36D2EXBJQH4	BCG-A2083
AirPods	Apple	A2083	H32D2352JQH3	BCG-A2083

I/O CABLES (AC LINE CONDUCTED)						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC	1	Barrel	Un-shielded	1.5	From AC/DC adapter ,40W Power supply

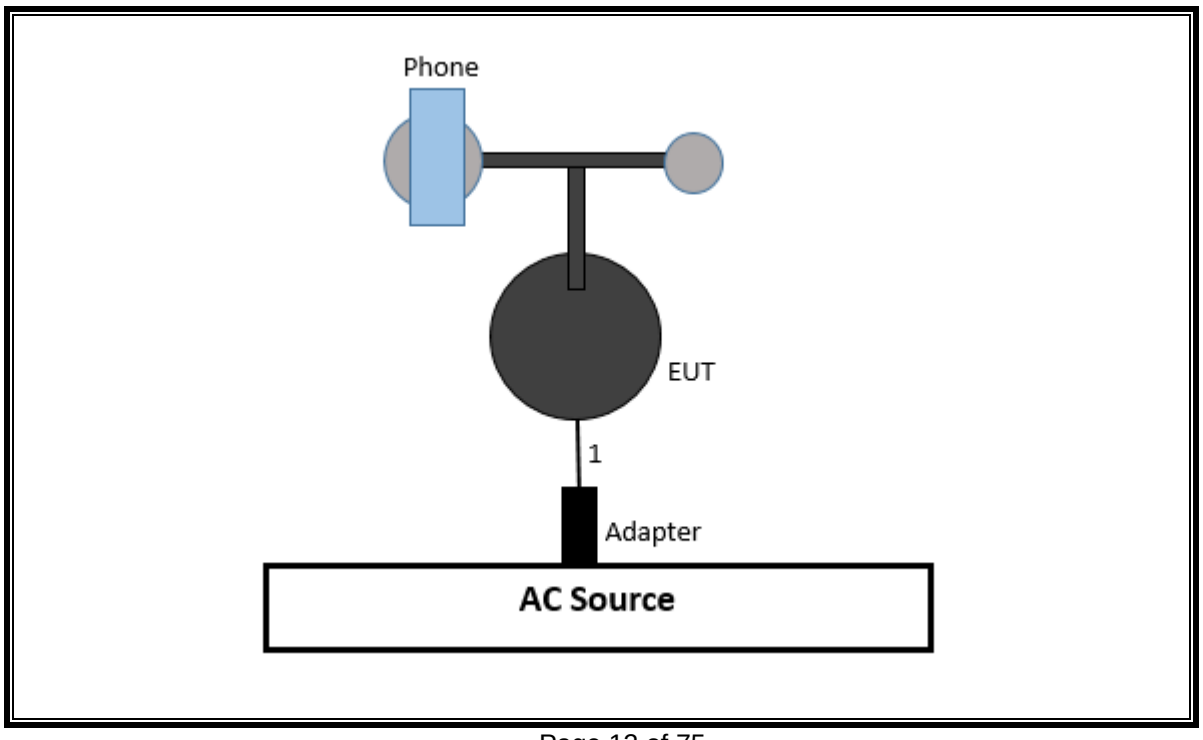
TEST SETUP

The EUT is directly connected to an AC/DC adapter. All testing is based on direct contact and no position shift due to magnet embedded in charger pad. The AirPods Charging Case is placed at the maximum power position during the testing.

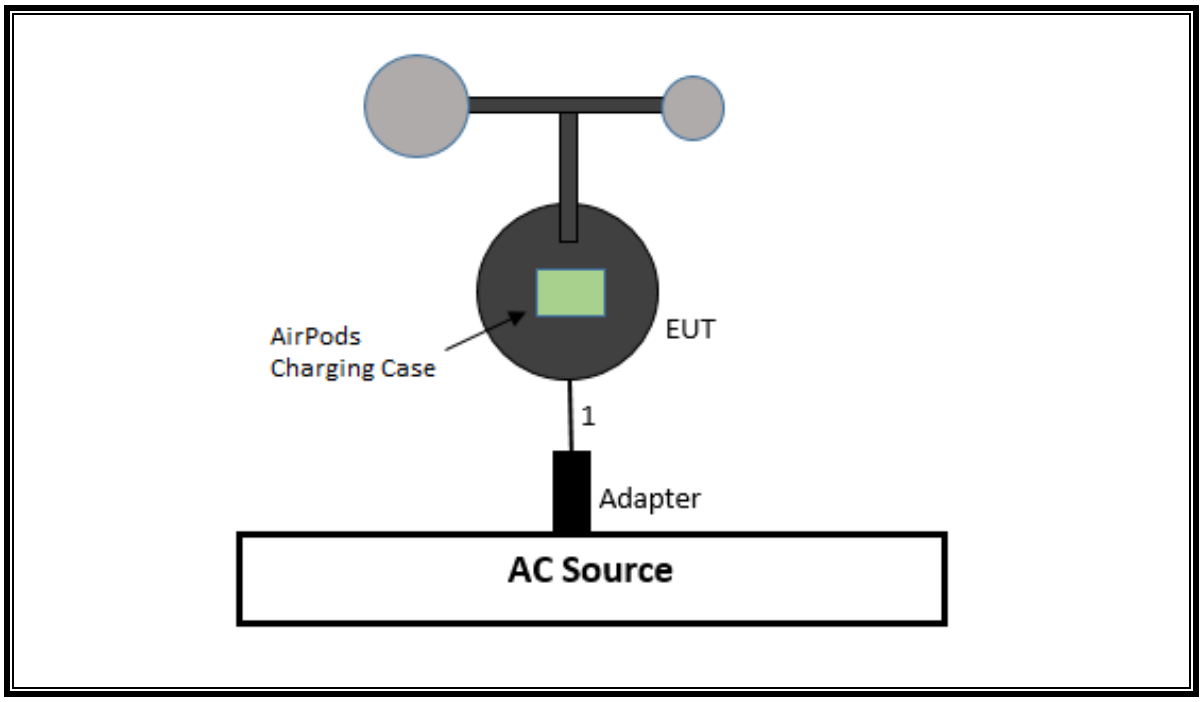
CONFIGURATION 1: STANDBY MODE



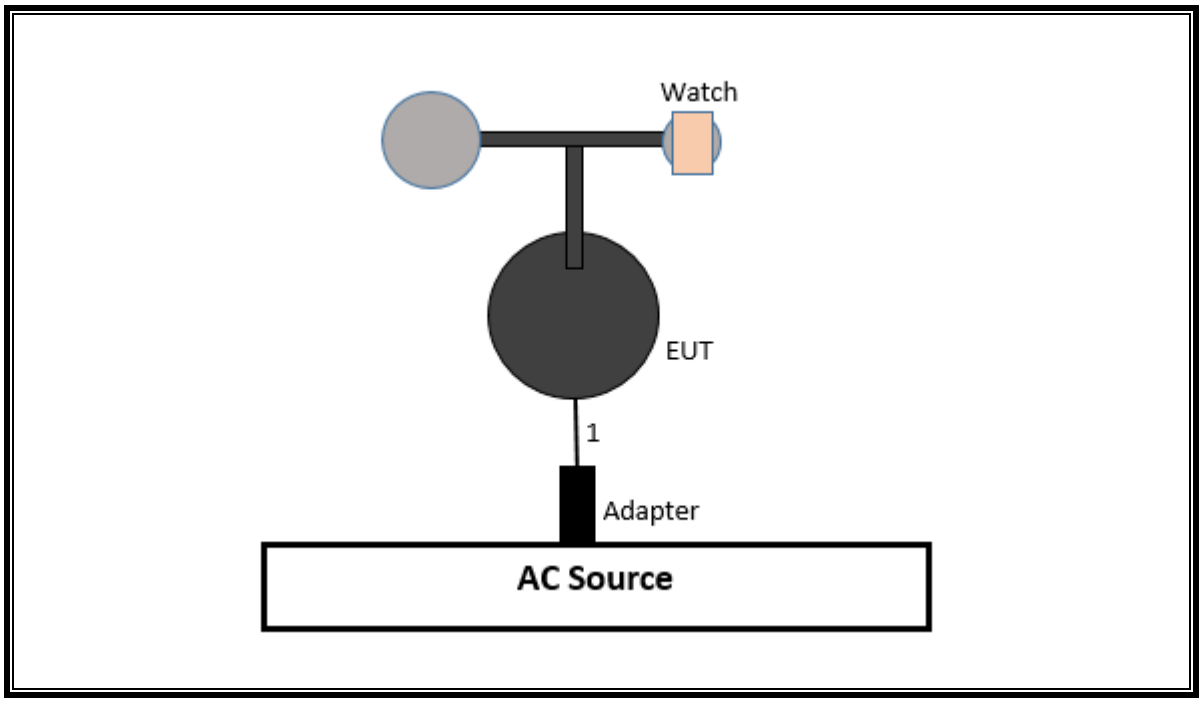
CONFIGURATION 2: OPERATING MODE WITH iPhone



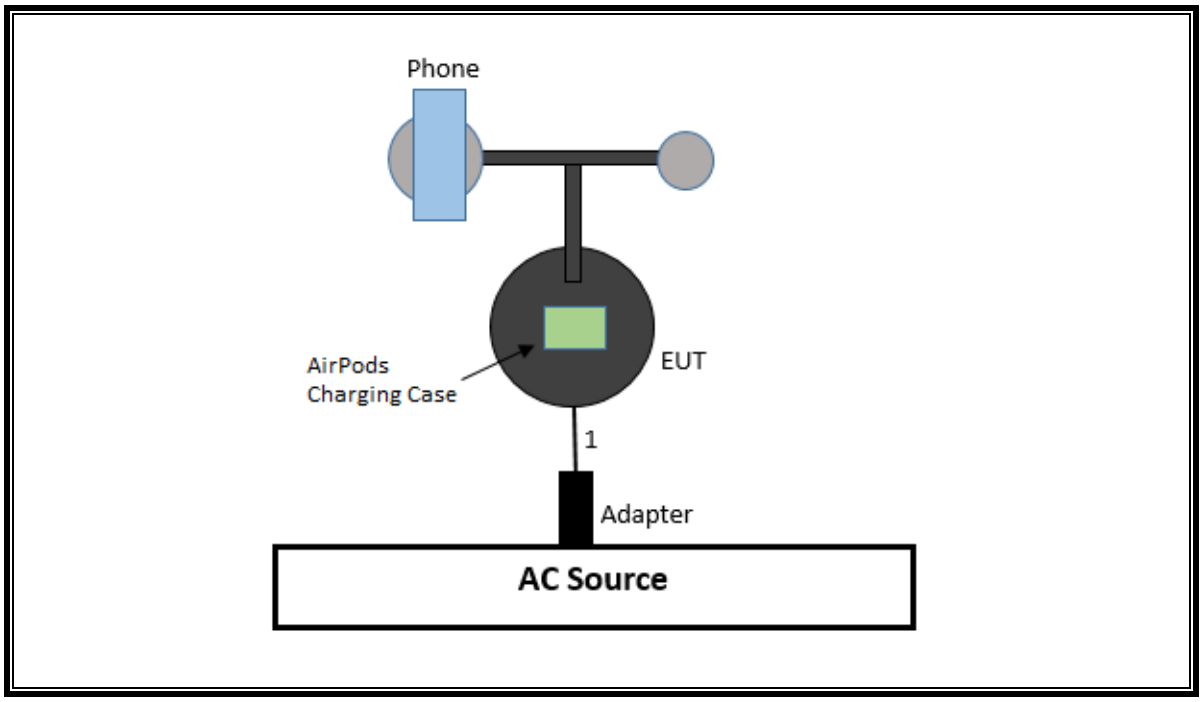
CONFIGURATION 3: OPERATING MODE WITH AirPods Charging Case



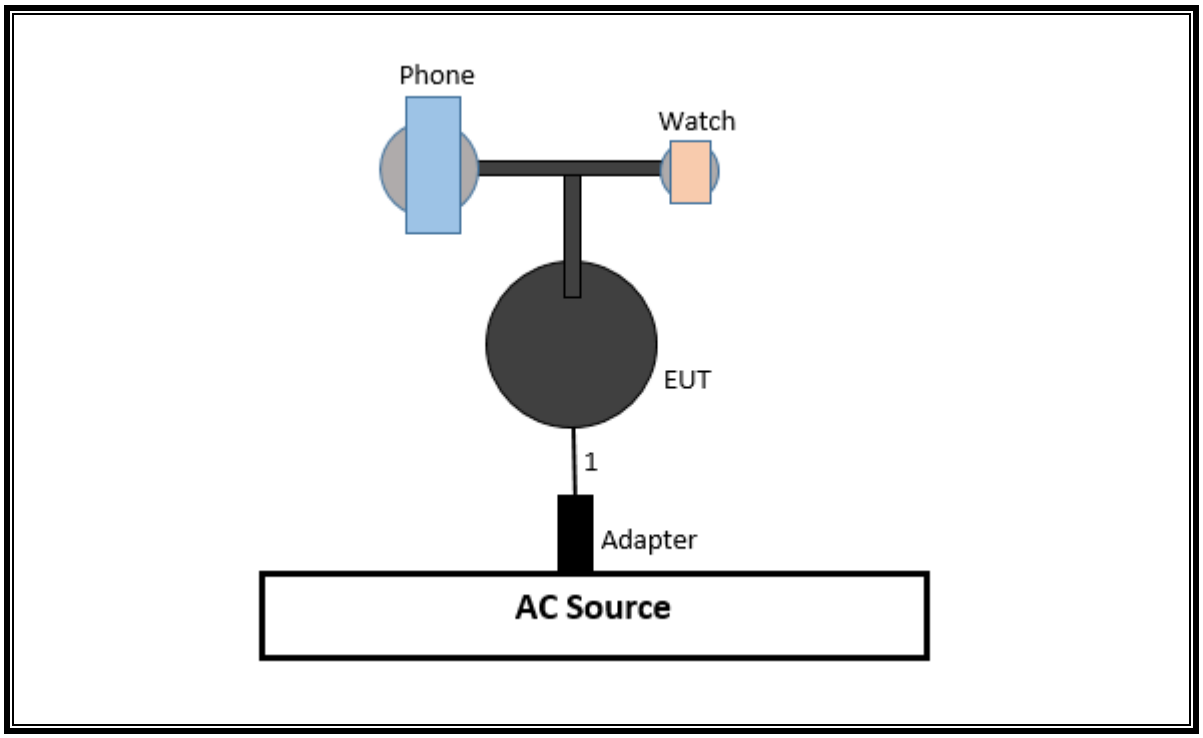
CONFIGURATION 4: OPERATING MODE WITH Apple Watch



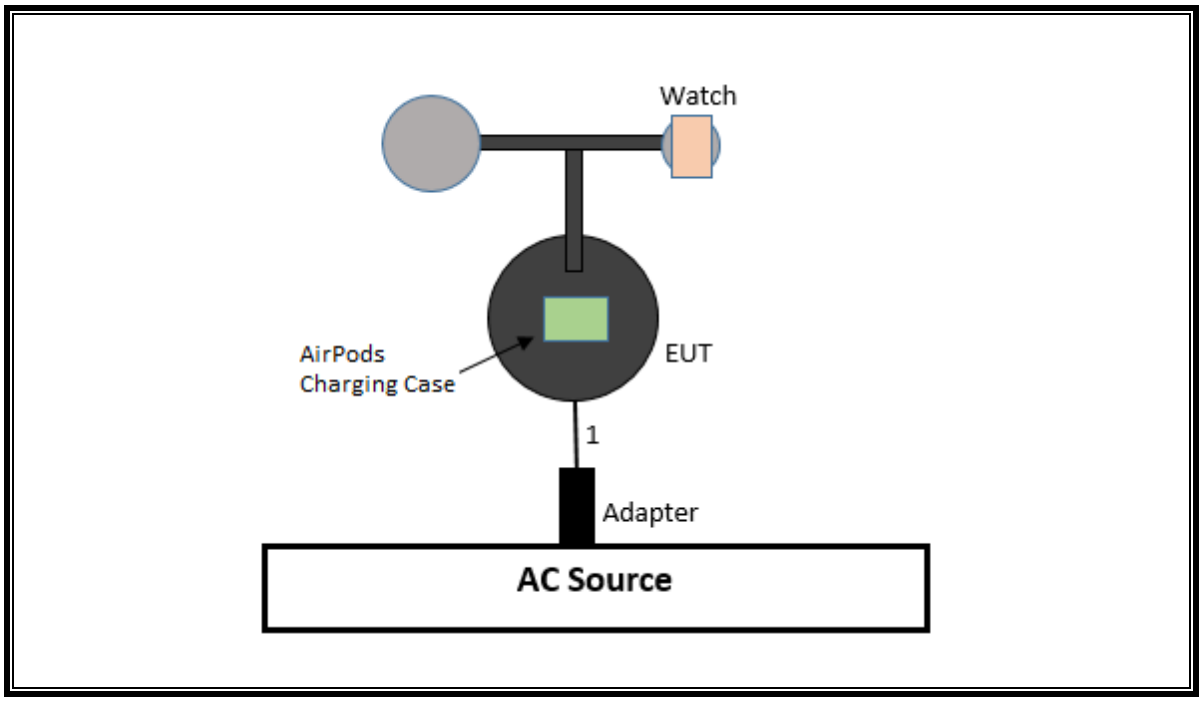
CONFIGURATION 5: OPERATING MODE WITH iPhone + AirPods Charging Case



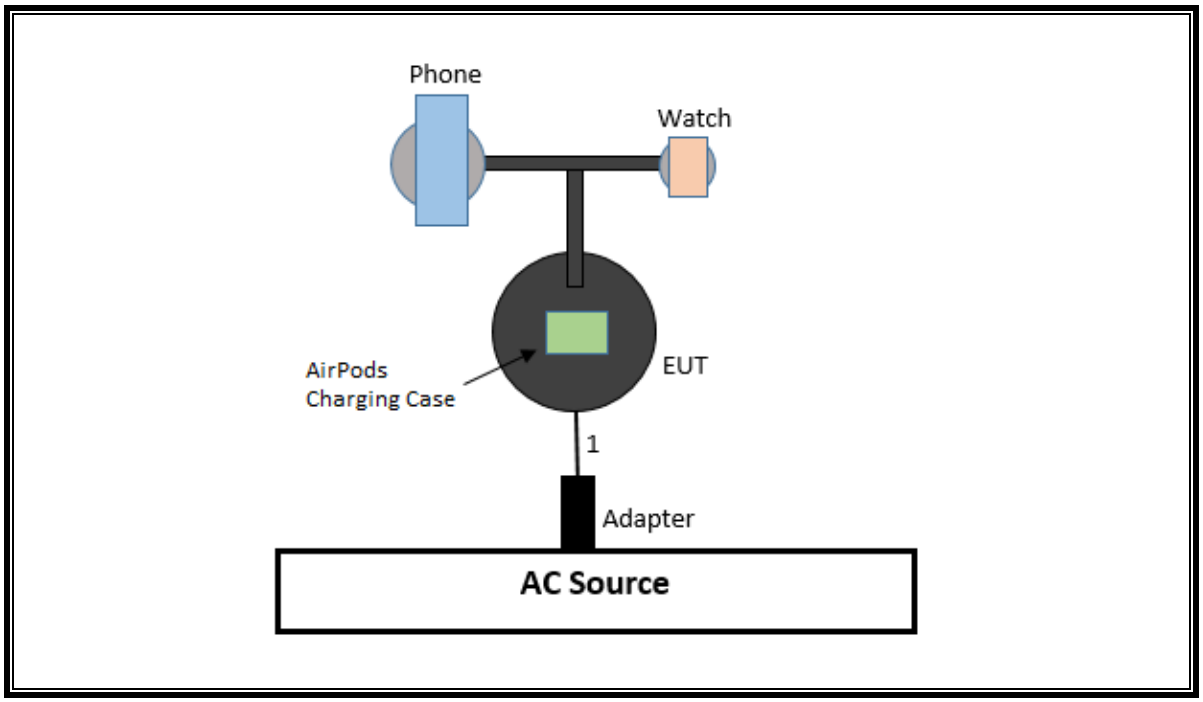
CONFIGURATION 6: OPERATING MODE WITH iPhone + Apple Watch



CONFIGURATION 7: OPERATING MODE WITH AirPods Charging Case + Apple Watch



CONFIGURATION 8: OPERATING MODE WITH iPhone + AirPods Charging Case + Apple Watch



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**	**ID Num**	**Cal Due**	**Last Cal**
Antenna, Active Loop 9KHz to 30MHz	ETS-Lindgren	6502	T1683	04/28/2021	04/28/2020
Antenna, Broadband Hybrid, 30MHz to 2000MHz w/4dB	Sunol Sciences Crop.	JB1	T185	06/26/2021	06/26/2020
Amplifier, 10kHz to 1GHz, 32dB	Sonoma Instrument	310N	T834	07/14/2021	07/14/2020
Sniffer Probes	Electro Metrics	EM-6992	N/A	N/A	N/A
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A-544	T1210	01/28/2021	01/28/2020

AC Line Conducted					
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**	**Last Cal**
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	T1436	02/20/2021	02/20/2020
Cable, RG223 Coax, double shield, BNC	Pasternack	RG233/U	202326	10/16/2021	10/16/2020
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01	PRE0186446	01/21/2021	01/21/2020
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, Mar 6, 2020		
Conducted Software	UL	UL EMC	2020.2.26		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, February 21, 2020		

7. OCCUPIED BANDWIDTH

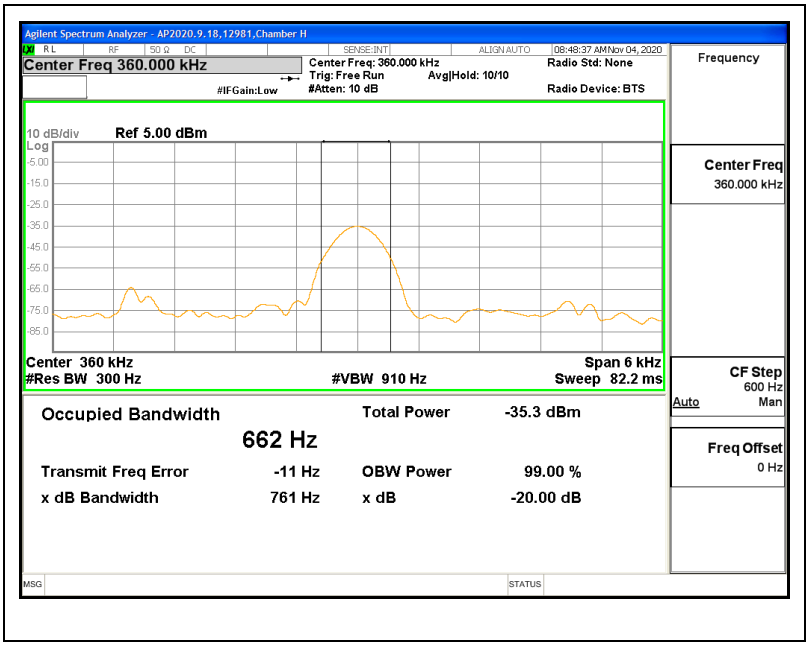
TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 300Hz. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

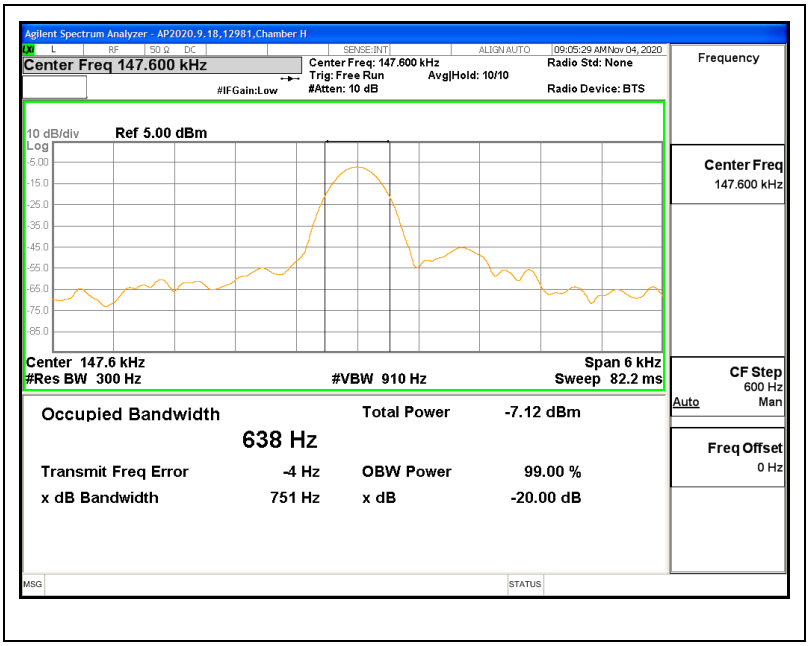
Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

RESULTS

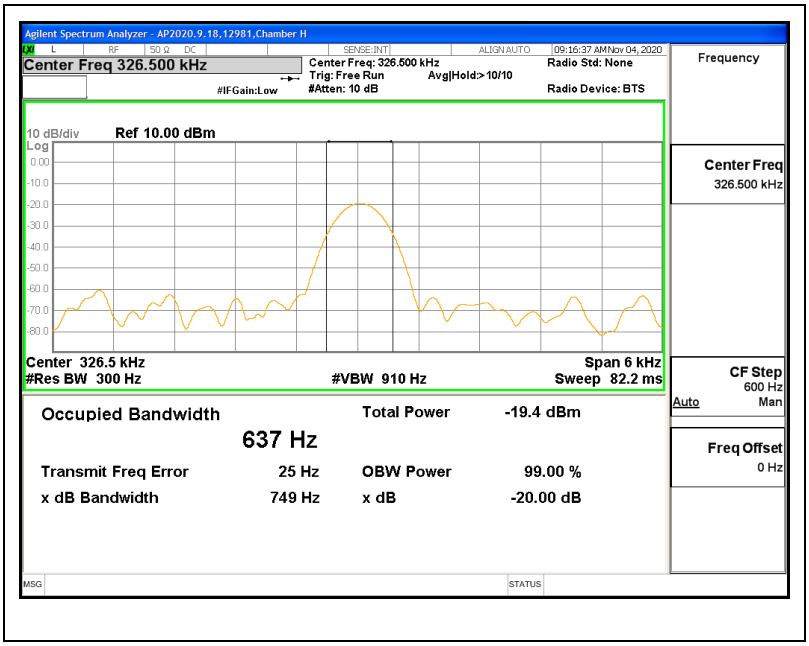
CONFIGURATION 2: OPERATING MODE WITH iPhone



CONFIGURATION 3: OPERATING MODE WITH AirPods Charging Case



CONFIGURATION 4: OPERATING MODE WITH Apple Watch



8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMIT

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.		

ICES-001 Issue 5 Table 2 & Table 4:

Table 2: Magnetic field strength radiated emission limits for induction cooking appliances	
Frequency(MHz)	**Quasi-peak, at 3 m distance (dBµA/m)**
0.009 – 0.07	69
0.07 – 0.15	69 to 39 *
0.15 – 30	39 to 7 *
* The limit level in dBµA/m decreases linearly with the logarithm of frequency.	

Table 4: Electric field strength radiated emission limits for induction cooking appliances			
Frequency range (MHz)	**OATS or SAC* 10 m measurement distance Quasi-peak (dBµV/m)**	**OATS or SAC* 3 m measurement distance Quasi-peak (dBµV/m)**	**FAR* 3 m measurement distance Quasi-peak (dBµV/m)**
30 – 230	30	40	42 to 35 **
230 – 1000	37	47	42
Note: The more stringent limit applies at the transition frequency. *OATS = open-area test site, SAC = semi-anechoic chamber, FAR = fully-anechoic room (see CSA CISPR 11:19). **The limit level in dBµV/m decreases linearly with the logarithm of frequency.			

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

2D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.

KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

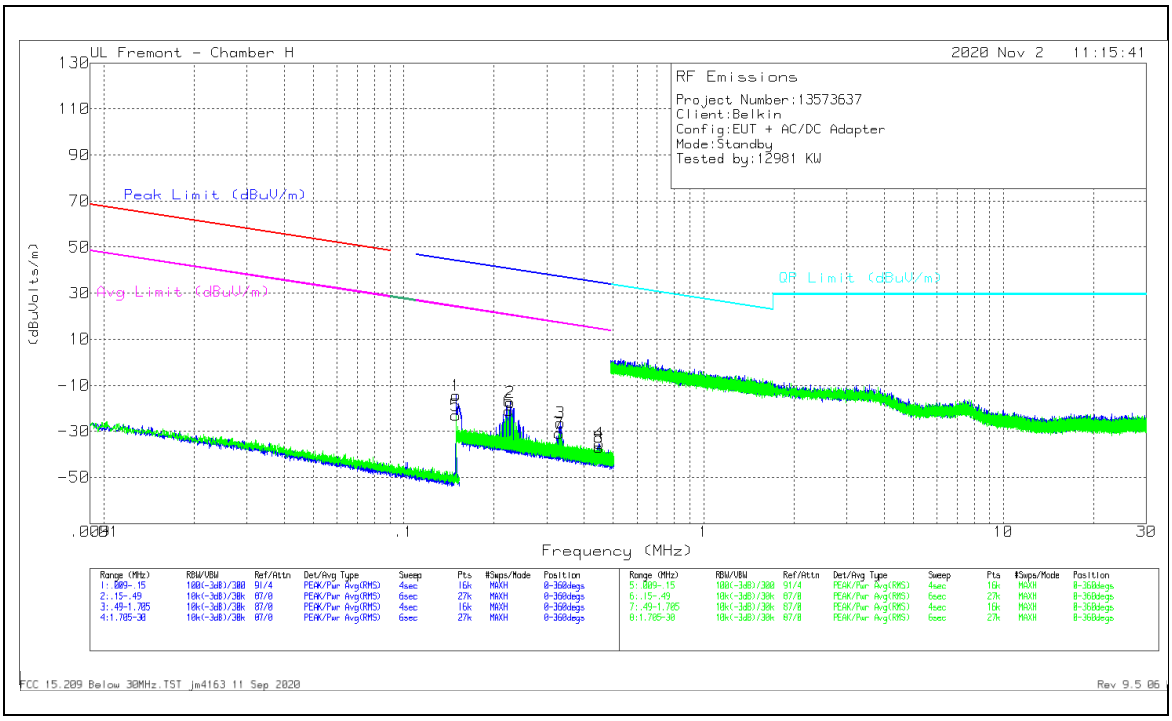
Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

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

RESULTS

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

8.2.1. CONFIGURATION 1: STANDBY MODE

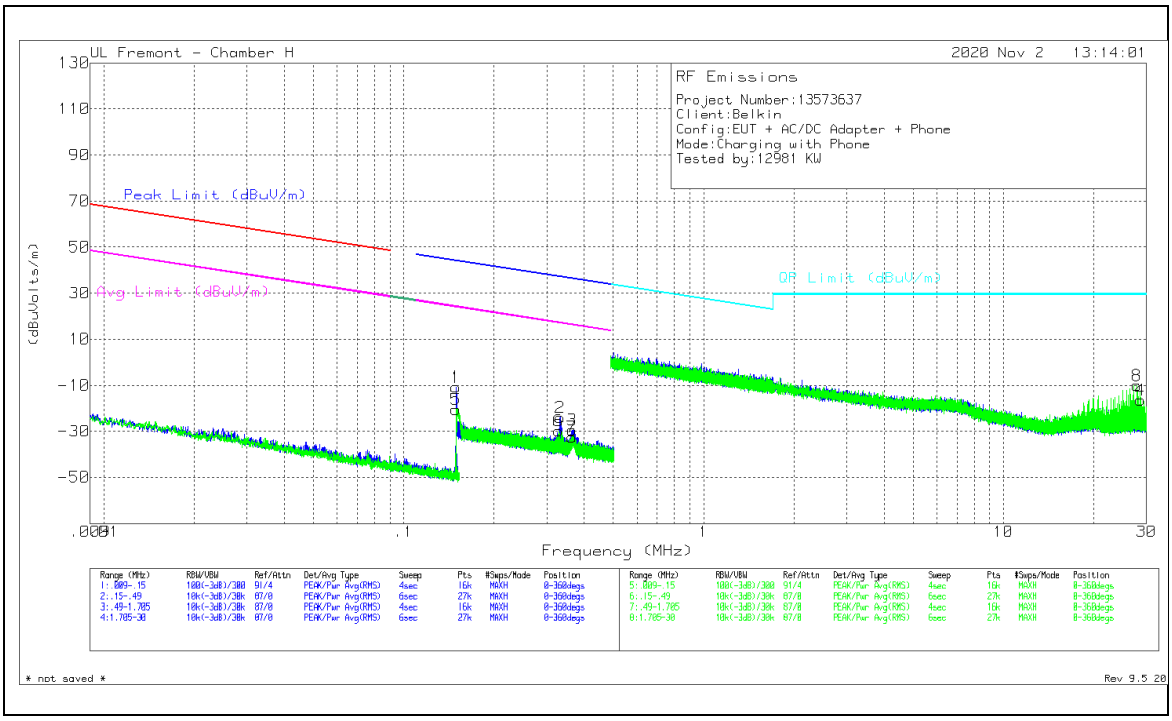


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
5	.14941	45.82	Pk	11	.1	-80	-23.08	44.14	-67.22	24.14	-47.22	0-360
1	.14944	54.59	Pk	11	.1	-80	-14.31	44.13	-58.44	24.13	-38.44	0-360
6	.22389	47.91	Pk	10.9	.1	-80	-21.09	40.62	-61.71	20.62	-41.71	0-360
2	.22697	51.59	Pk	10.9	.1	-80	-17.41	40.5	-57.91	20.5	-37.91	0-360
7	.33014	38.08	Pk	10.9	.1	-80	-30.92	37.24	-68.16	17.24	-48.16	0-360
3	.33298	42.69	Pk	10.9	.1	-80	-26.31	37.16	-63.47	17.16	-43.47	0-360
8	.44773	32.11	Pk	10.8	.1	-80	-36.99	34.59	-71.58	14.59	-51.58	0-360
4	.44873	33.88	Pk	10.8	.1	-80	-35.22	34.57	-69.79	14.57	-49.79	0-360

Pk - Peak detector

8.2.2. CONFIGURATION 2: OPERATING MODE WITH iPhone



DATA

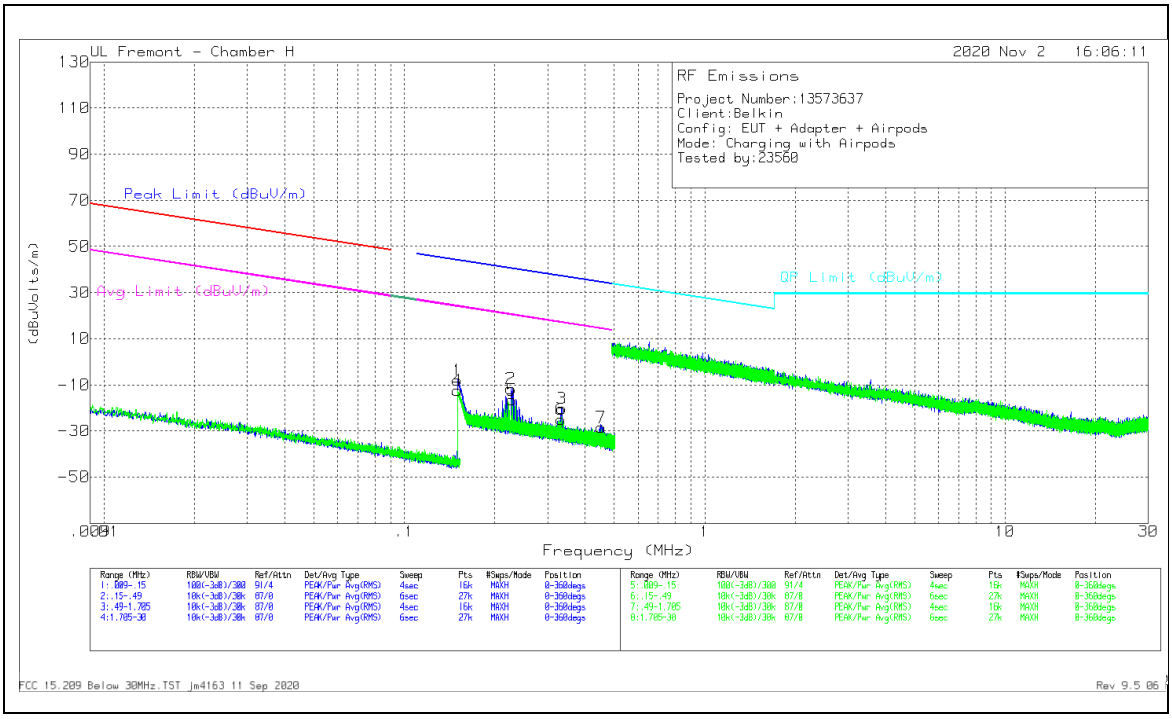
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
5	.14936	48.46	Pk	11	.1	-80	-20.44	44.14	-64.58	24.14	-44.58	0-360
1	.14938	58.08	Pk	11	.1	-80	-10.82	44.14	-54.96	24.14	-34.96	0-360
6	.32841	39.24	Pk	10.9	.1	-80	-29.76	37.28	-67.04	17.28	-47.04	0-360
2	.33187	44.94	Pk	10.9	.1	-80	-24.06	37.19	-61.25	17.19	-41.25	0-360
7	.36373	36.42	Pk	10.9	.1	-80	-32.58	36.39	-68.97	16.39	-48.97	0-360
3	.36459	39.59	Pk	10.9	.1	-80	-29.41	36.37	-65.78	16.37	-45.78	0-360

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
8	27.90186	20.46	Pk	8.8	.6	-40	-10.14	29.5	-39.64	0-360
4	28.61869	14.36	Pk	8.7	.6	-40	-16.34	29.5	-45.84	0-360

Pk - Peak detector

8.2.3. CONFIGURATION 3: OPERATING MODE WITH AirPods Charging Case

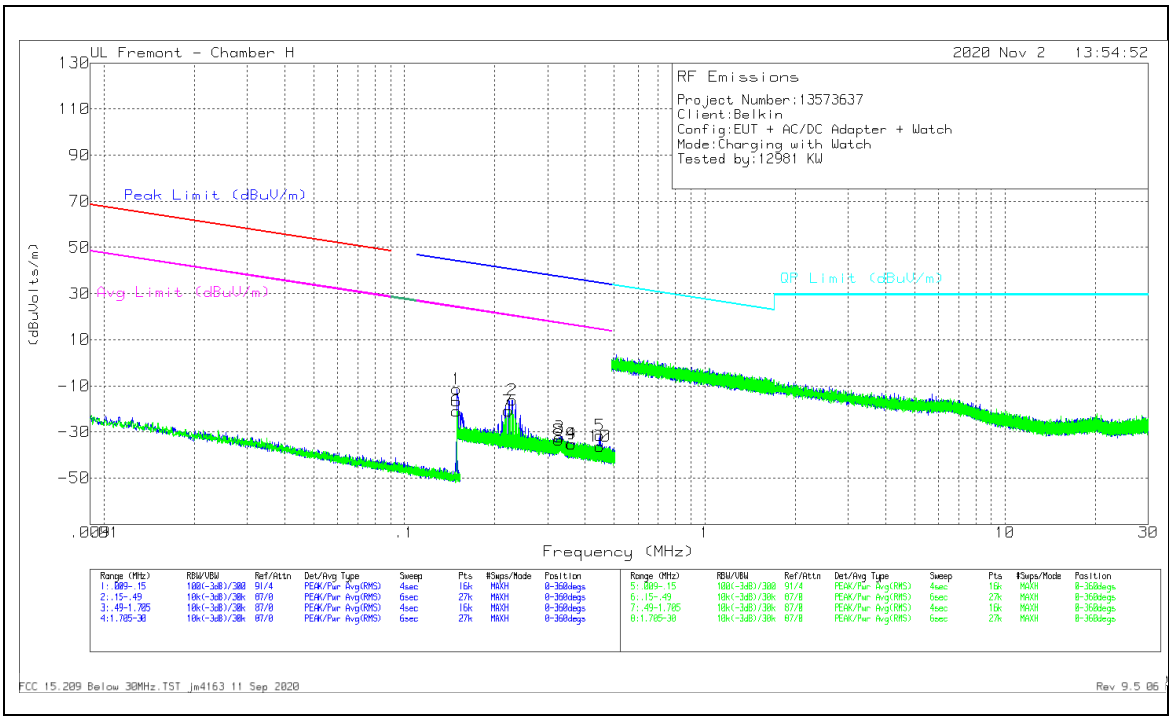


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dBm)	Cables (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
4	.15001	56.26	Pk	11.1	.1	-80	-12.54	44.1	-56.64	24.1	-36.64	0-360
1	.15021	60.84	Pk	11.1	.1	-80	-7.96	44.09	-52.05	24.09	-32.05	0-360
2	.22625	57.24	Pk	11	.1	-80	-11.66	40.52	-52.18	20.52	-32.18	0-360
5	.22821	52.31	Pk	11	.1	-80	-16.59	40.45	-57.04	20.45	-37.04	0-360
6	.33266	43.96	Pk	10.9	.1	-80	-25.04	37.17	-62.21	17.17	-42.21	0-360
3	.33417	48.76	Pk	10.9	.1	-80	-20.24	37.13	-57.37	17.13	-37.37	0-360
7	.45237	40.43	Pk	10.9	.1	-80	-28.57	34.5	-63.07	14.5	-43.07	0-360

Pk - Peak detector

8.2.4. CONFIGURATION 4: OPERATING MODE WITH Apple Watch

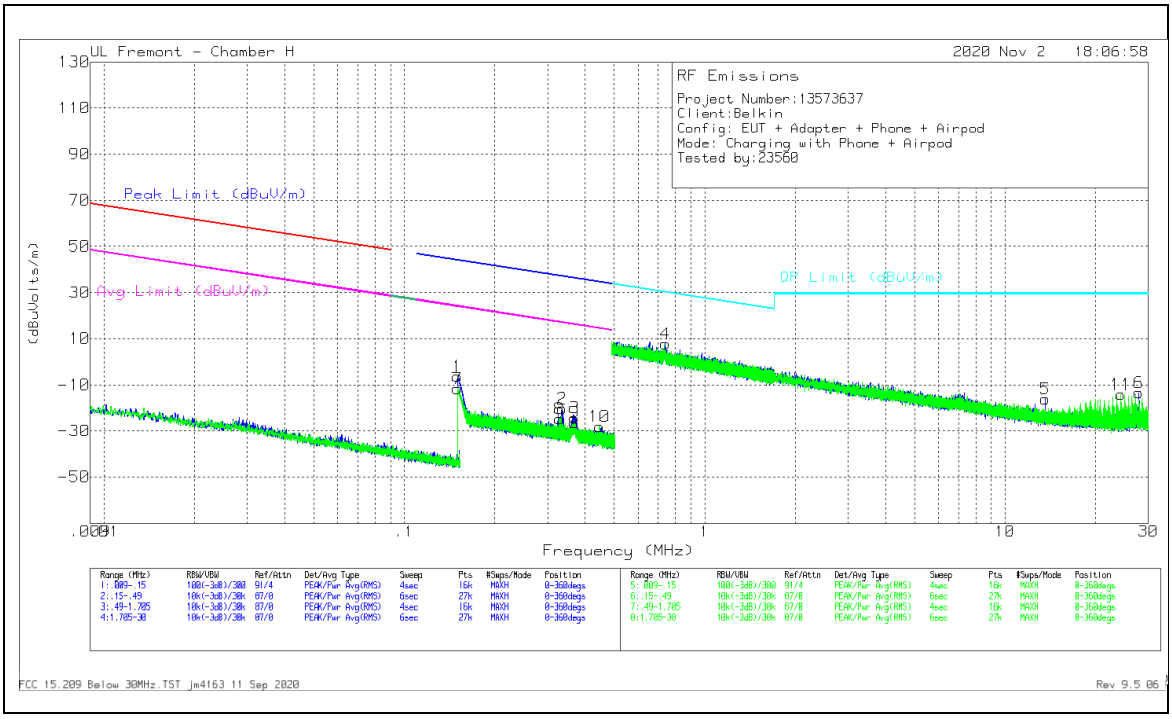


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.1494	57.53	Pk	11	.1	-80	-11.37	44.14	-55.51	24.14	-35.51	0-360
6	.14941	47.91	Pk	11	.1	-80	-20.99	44.14	-65.13	24.14	-45.13	0-360
7	.22206	48.12	Pk	10.9	.1	-80	-20.88	40.69	-61.57	20.69	-41.57	0-360
2	.22892	52.83	Pk	10.9	.1	-80	-16.17	40.42	-56.59	20.42	-36.59	0-360
8	.32661	35.56	Pk	10.9	.1	-80	-33.44	37.33	-70.77	17.33	-50.77	0-360
3	.32817	36.7	Pk	10.9	.1	-80	-32.3	37.29	-69.59	17.29	-49.59	0-360
4	.35952	33.83	Pk	10.9	.1	-80	-35.17	36.49	-71.66	16.49	-51.66	0-360
9	.36094	33.73	Pk	10.9	.1	-80	-35.27	36.46	-71.73	16.46	-51.73	0-360
5	.44799	37.59	Pk	10.8	.1	-80	-31.51	34.58	-66.09	14.58	-46.09	0-360
10	.44814	32.98	Pk	10.8	.1	-80	-36.12	34.58	-70.7	14.58	-50.7	0-360

Pk - Peak detector

8.2.5. CONFIGURATION 5: OPERATING MODE WITH iPhone + AirPods Charging Case



DATA

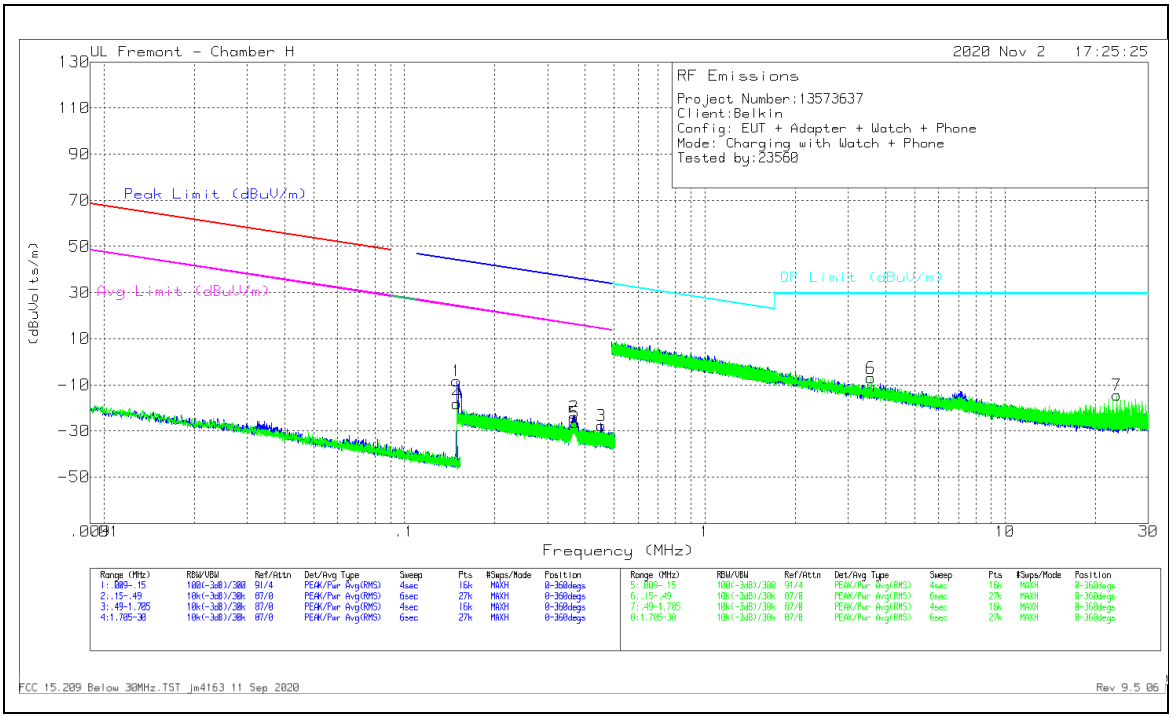
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dBm)	Cables (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.1502	62.44	Pk	11.1	.1	-80	-6.36	44.09	-50.45	24.09	-30.45	0-360
7	.15023	57.16	Pk	11.1	.1	-80	-11.64	44.09	-55.73	24.09	-35.73	0-360
8	.32833	44.26	Pk	10.9	.1	-80	-24.74	37.28	-62.02	17.28	-42.02	0-360
2	.33502	48.62	Pk	10.9	.1	-80	-20.38	37.11	-57.49	17.11	-37.49	0-360
3	.36772	44.8	Pk	10.8	.1	-80	-24.3	36.3	-60.6	16.3	-40.6	0-360
9	.36817	42.75	Pk	10.8	.1	-80	-26.35	36.29	-62.64	16.29	-42.64	0-360
10	.44613	40.85	Pk	10.9	.1	-80	-28.15	34.62	-62.77	14.62	-42.77	0-360

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dBm)	Cables (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
4	.73928	36.72	Pk	11	.1	-40	7.82	30.24	-22.42	0-360
5	13.62705	12.97	Pk	10.6	.4	-40	-16.03	29.5	-45.53	0-360
11	24.30093	15.86	Pk	9.4	.5	-40	-14.24	29.5	-43.74	0-360
6	27.89871	17.33	Pk	8.6	.6	-40	-13.47	29.5	-42.97	0-360

Pk - Peak detector

8.2.6. CONFIGURATION 6: OPERATING MODE WITH iPhone + Apple Watch



DATA

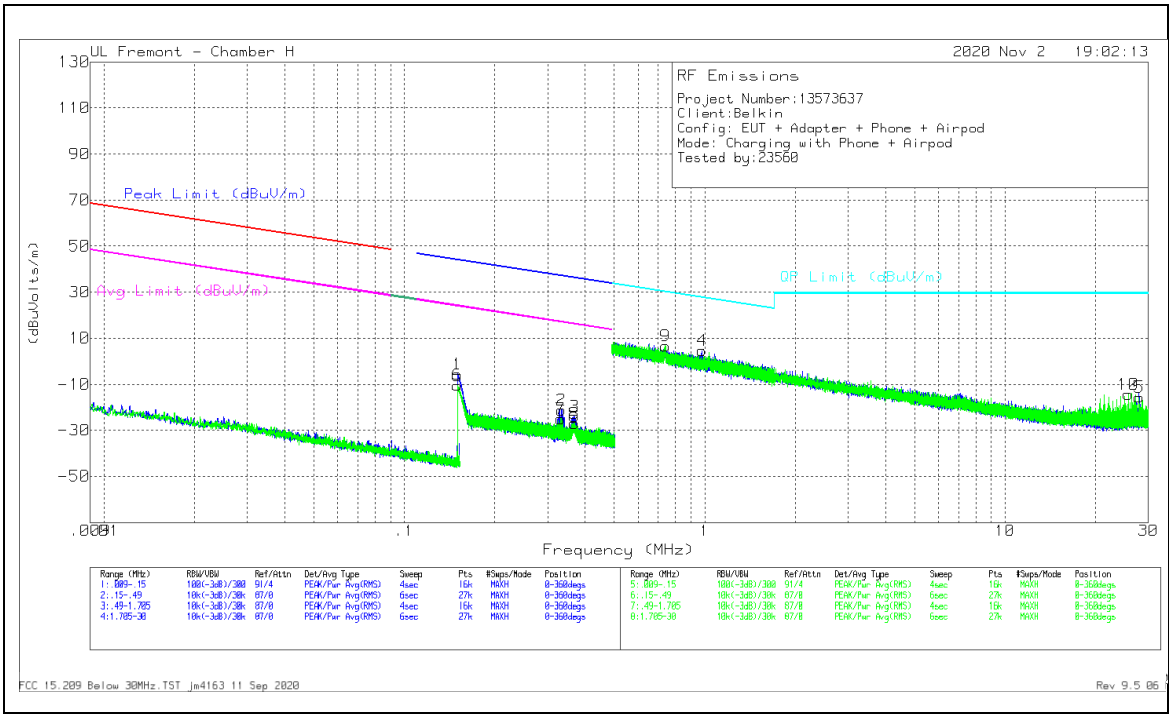
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dBm)	Cables (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.14938	60.31	Pk	11.2	.1	-80	-8.39	44.14	-52.53	24.14	-32.53	0-360
4	.14947	50.62	Pk	11.2	.1	-80	-18.08	44.13	-62.21	24.13	-42.21	0-360
8	.33223	42.8	Pk	10.9	.1	-80	-26.2	37.18	-63.38	17.18	-43.38	0-360
9	.33543	41.93	Pk	10.9	.1	-80	-27.07	37.1	-64.17	17.1	-44.17	0-360
2	.36679	45.19	Pk	10.8	.1	-80	-23.91	36.32	-60.23	16.32	-40.23	0-360
5	.36809	42.56	Pk	10.8	.1	-80	-26.54	36.29	-62.83	16.29	-42.83	0-360
3	.45293	41.24	Pk	10.9	.1	-80	-27.76	34.48	-62.24	14.48	-42.24	0-360

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dBm)	Cables (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
6	3.57568	21.29	Pk	11.4	.2	-40	-7.11	29.5	-36.61	0-360
7	23.58043	15.57	Pk	9.5	.5	-40	-14.43	29.5	-43.93	0-360

Pk - Peak detector

8.2.7. CONFIGURATION 7: OPERATING MODE WITH AirPods Charging Case + Apple Watch



DATA

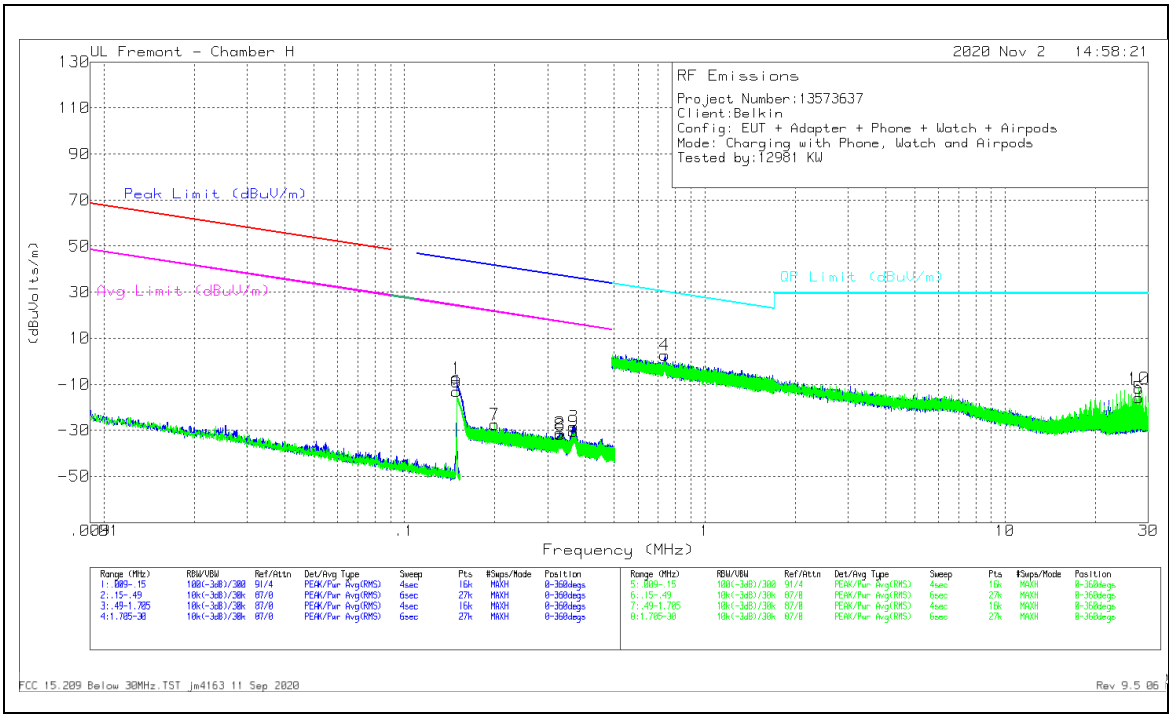
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dBm)	Cables (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
6	.15001	58.27	Pk	11.1	.1	-80	-10.53	44.1	-54.63	24.1	-34.63	0-360
1	.1503	63.24	Pk	11.1	.1	-80	-5.56	44.08	-49.64	24.08	-29.64	0-360
7	.33153	44.12	Pk	10.9	.1	-80	-24.88	37.2	-62.08	17.2	-42.08	0-360
2	.33295	47.89	Pk	10.9	.1	-80	-21.11	37.16	-58.27	17.16	-38.27	0-360
3	.36765	45.17	Pk	10.8	.1	-80	-23.93	36.3	-60.23	16.3	-40.23	0-360
8	.36822	42.08	Pk	10.8	.1	-80	-27.02	36.29	-63.31	16.29	-43.31	0-360

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dBm)	Cables (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
9	.7411	35.5	Pk	11	.1	-40	6.6	30.22	-23.62	0-360
4	.97936	33.37	Pk	11.2	.1	-40	4.67	27.8	-23.13	0-360
10	25.73983	15.89	Pk	9.2	.6	-40	-14.31	29.5	-43.81	0-360
5	27.99094	15.15	Pk	8.6	.6	-40	-15.65	29.5	-45.15	0-360

Pk - Peak detector

8.2.8. CONFIGURATION 8: OPERATING MODE WITH iPhone + AirPods Charging Case + Apple Watch



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
6	.14929	55.72	Pk	11	.1	-80	-13.18	44.14	-57.32	24.14	-37.32	0-360
1	.14932	61.51	Pk	11	.1	-80	-7.39	44.14	-51.53	24.14	-31.53	0-360
7	.19979	41.37	Pk	11	.1	-80	-27.53	41.61	-69.14	21.61	-49.14	0-360
2	.32928	37.93	Pk	10.9	.1	-80	-31.07	37.26	-68.33	17.26	-48.33	0-360
8	.33071	37.06	Pk	10.9	.1	-80	-31.94	37.22	-69.16	17.22	-49.16	0-360
9	.36626	38.45	Pk	10.9	.1	-80	-30.55	36.33	-66.88	16.33	-46.88	0-360
3	.36646	40.68	Pk	10.9	.1	-80	-28.32	36.33	-64.65	16.33	-44.65	0-360

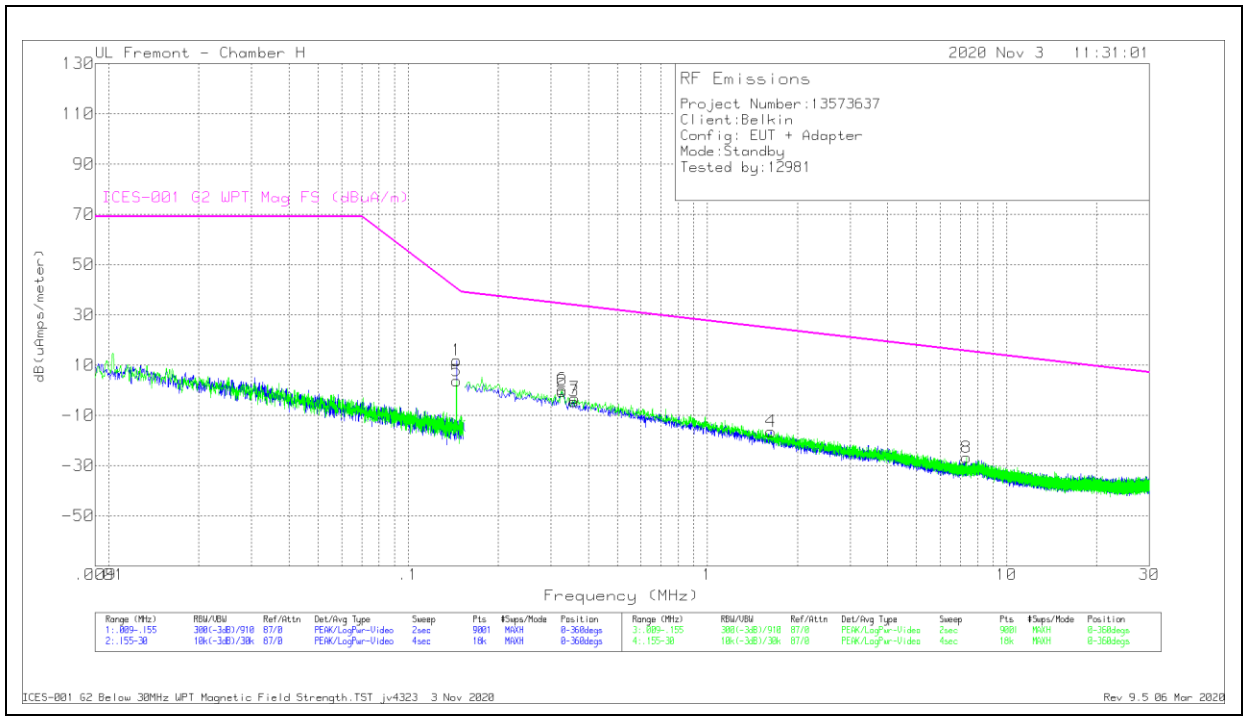
Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
4	.73677	31.79	Pk	10.8	.1	-40	2.69	30.27	-27.58	0-360
10	27.89871	18.71	Pk	8.8	.6	-40	-11.89	29.5	-41.39	0-360
5	27.89976	14.66	Pk	8.8	.6	-40	-15.94	29.5	-45.44	0-360

Pk - Peak detector

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

8.3.1. CONFIGURATION 1: STANDBY MODE

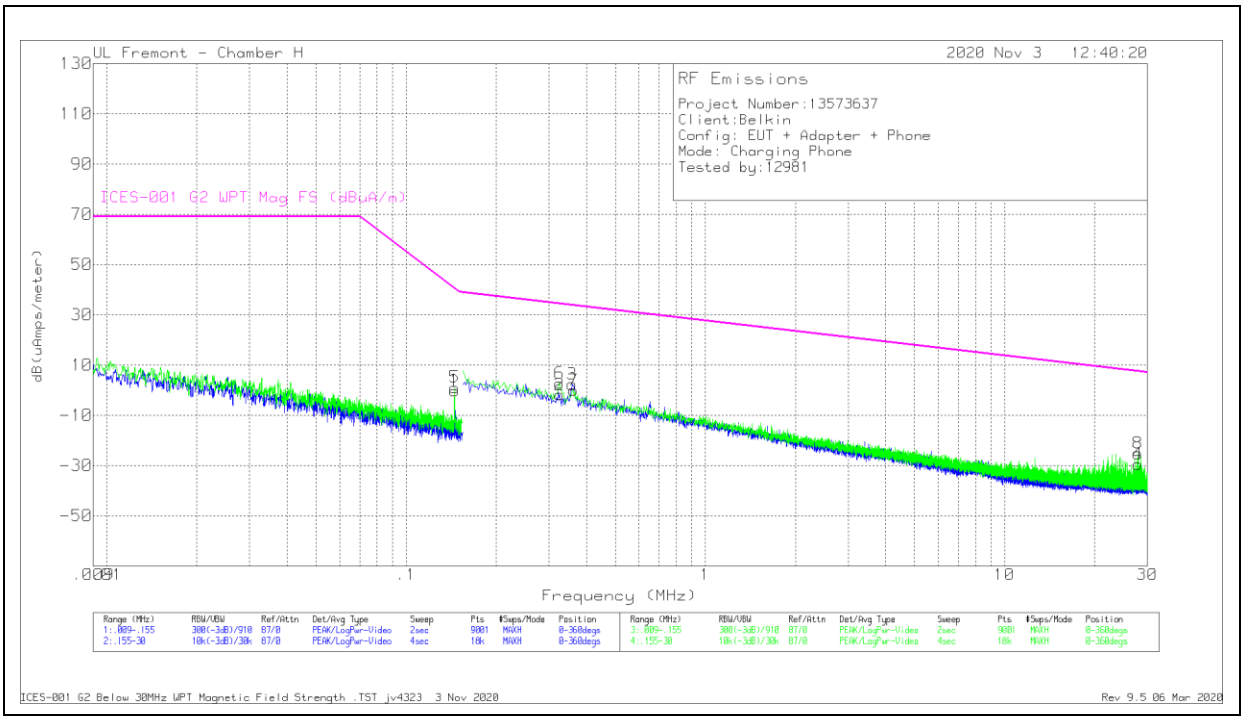


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/meter)	ICES-001 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
5	.14515	43.78	Pk	-40.2	.1	3.68	40.29	-36.61	0-360
1	.14526	51.95	Pk	-40.2	.1	11.85	40.27	-28.42	0-360
2	.32743	40.05	Pk	-40.6	.1	-.45	34.29	-34.74	0-360
6	.32743	40.76	Pk	-40.6	.1	.26	34.29	-34.03	0-360
3	.35893	36.07	Pk	-40.6	.1	-4.43	33.73	-38.16	0-360
7	.36059	37.25	Pk	-40.6	.1	-3.25	33.7	-36.95	0-360
4	1.63228	23.65	Pk	-40.2	.1	-16.45	24.58	-41.03	0-360
8	7.34906	13.39	Pk	-40.5	.3	-26.81	15.5	-42.31	0-360

Pk - Peak detector
*Marker 3, 7 are not fundamental of 360kHz, only spurious emisisons.

8.3.2. CONFIGURATION 2: OPERATING MODE WITH iPhone

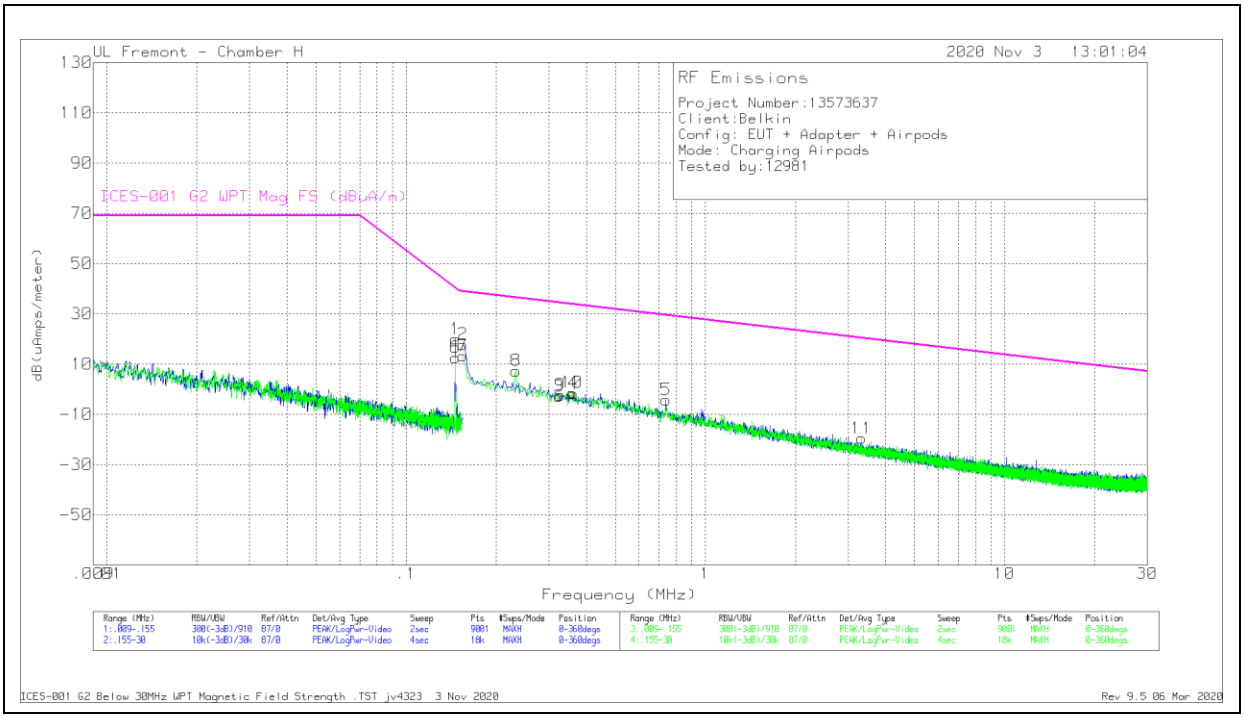


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/meter)	ICES-001 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
5	.14513	41.18	Pk	-40.2	.1	1.08	40.3	-39.22	0-360
1	.14528	39.85	Pk	-40.2	.1	-.25	40.26	-40.51	0-360
2	.32577	38.7	Pk	-40.6	.1	-1.8	34.32	-36.12	0-360
6	.32577	43.26	Pk	-40.6	.1	2.76	34.32	-31.56	0-360
3	.35893	42.86	Pk	-40.6	.1	2.36	33.73	-31.37	0-360
7	.36225	40.44	Pk	-40.6	.1	-.06	33.67	-33.73	0-360
4	27.89997	12.71	Pk	-42.8	.6	-29.49	7.44	-36.93	0-360
8	27.89997	17.05	Pk	-42.8	.6	-25.15	7.44	-32.59	0-360

Pk - Peak detector

8.3.3. CONFIGURATION 3: OPERATING MODE WITH AirPods Charging Case

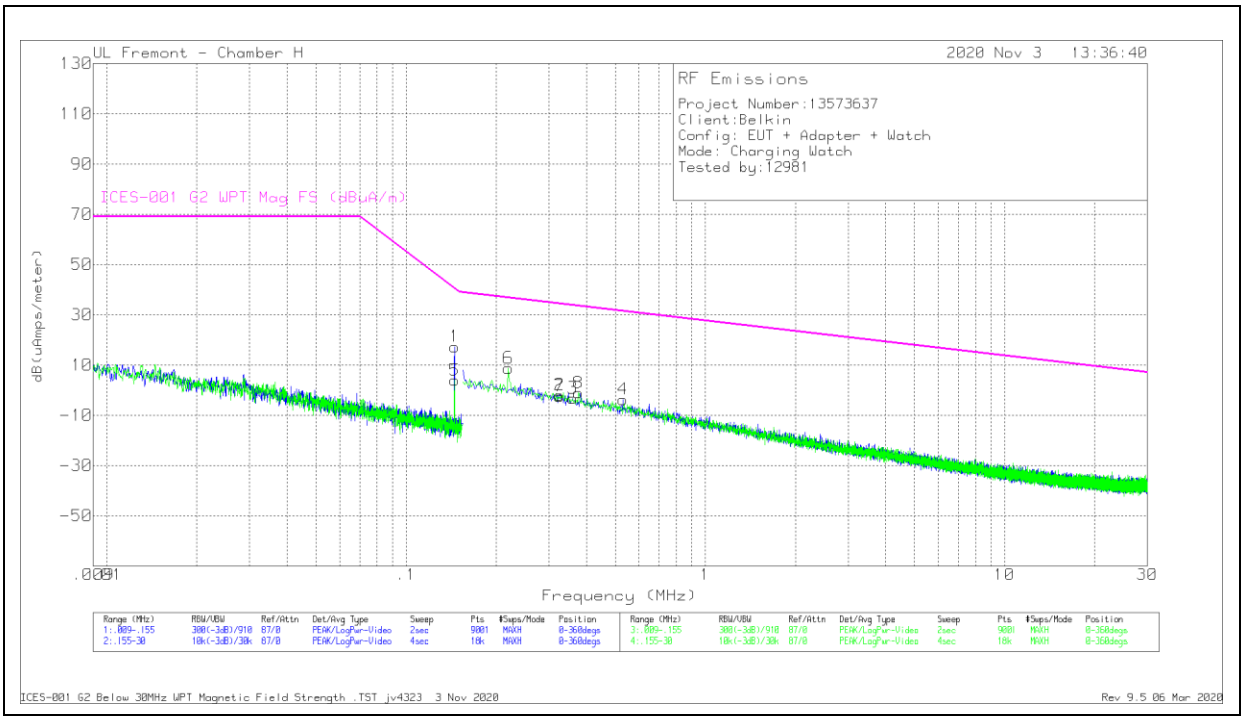


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/meter)	ICES-001 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
1	.14604	60.08	Pk	-40.2	.1	19.98	40.05	-20.07	0-360
6	.14608	52.69	Pk	-40.2	.1	12.59	40.04	-27.45	0-360
2	.155	58	Pk	-40.3	.1	17.8	38.8	-21	0-360
7	.155	53.48	Pk	-40.3	.1	13.28	38.8	-25.52	0-360
8	.23293	47.73	Pk	-40.5	.1	7.33	36.34	-29.01	0-360
3	.32412	37.68	Pk	-40.6	.1	-2.82	34.35	-37.17	0-360
9	.32743	38.13	Pk	-40.6	.1	-2.37	34.29	-36.66	0-360
10	.35893	39.08	Pk	-40.6	.1	-1.42	33.73	-35.15	0-360
4	.36225	38.8	Pk	-40.6	.1	-1.7	33.67	-35.37	0-360
5	.73862	36.17	Pk	-40.5	.1	-4.23	29.37	-33.6	0-360
11	3.3251	20.33	Pk	-40.1	.2	-19.57	20.29	-39.86	0-360

Pk - Peak detector

8.3.4. CONFIGURATION 4: OPERATING MODE WITH Apple Watch

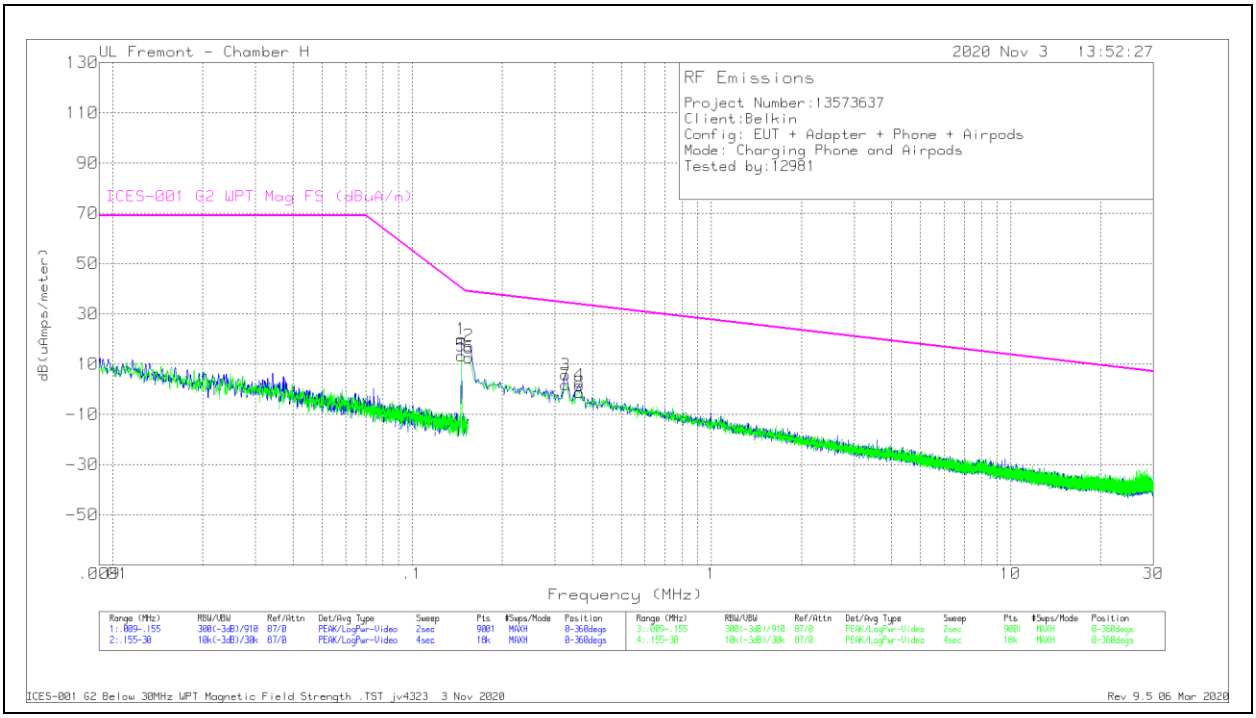


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/meter)	ICES-001 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
1	.14518	57.44	Pk	-40.2	.1	17.34	40.29	-22.95	0-360
5	.1452	44.07	Pk	-40.2	.1	3.97	40.28	-36.31	0-360
6	.21966	49.05	Pk	-40.4	.1	8.75	36.7	-27.95	0-360
2	.32577	38.59	Pk	-40.6	.1	-1.91	34.32	-36.23	0-360
7	.32577	38.09	Pk	-40.6	.1	-2.41	34.32	-36.73	0-360
3	.36059	37.28	Pk	-40.6	.1	-3.22	33.7	-36.92	0-360
8	.37717	39.44	Pk	-40.6	.1	-1.06	33.43	-34.49	0-360
4	.53137	36.64	Pk	-40.4	.1	-3.66	31.36	-35.02	0-360

Pk - Peak detector

8.3.5. CONFIGURATION 5: OPERATING MODE WITH iPhone + AirPods Charging Case

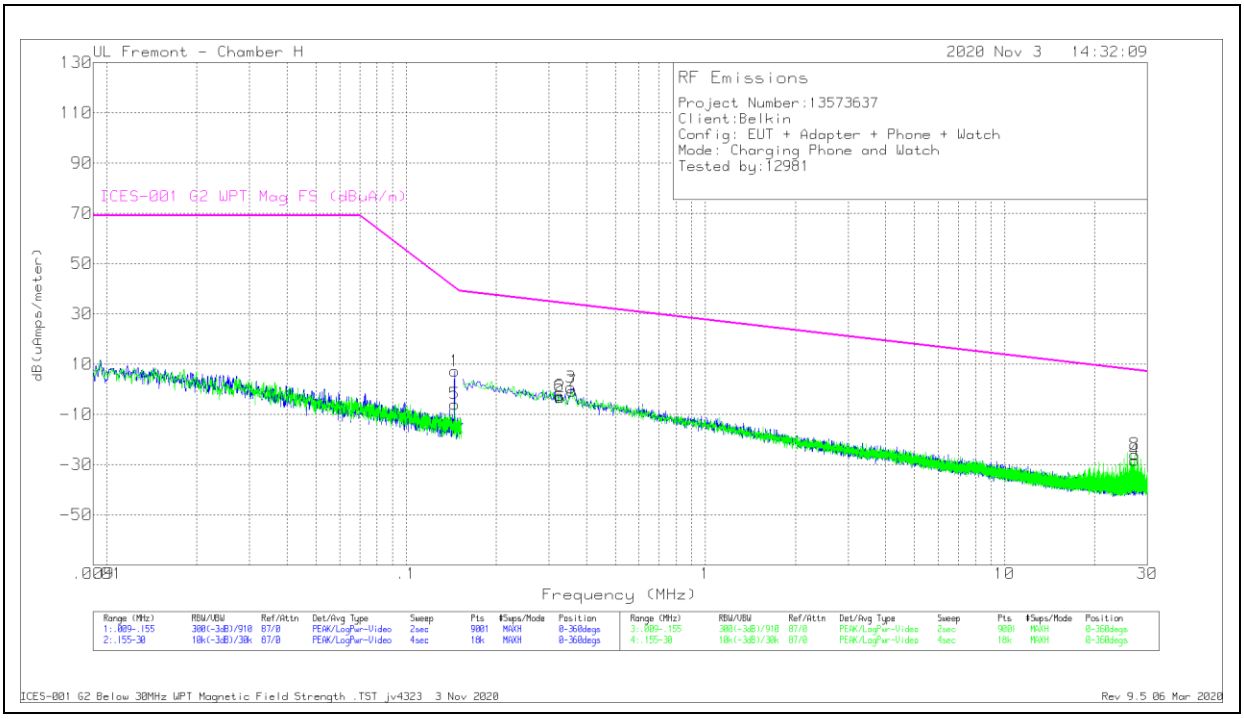


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/meter)	ICES-001 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
1	.14606	60.03	Pk	-40.2	.1	19.93	40.05	-20.12	0-360
5	.14608	53.36	Pk	-40.2	.1	13.26	40.04	-26.78	0-360
2	.155	57.49	Pk	-40.3	.1	17.29	38.8	-21.51	0-360
6	.155	52.64	Pk	-40.3	.1	12.44	38.8	-26.36	0-360
3	.32577	46.16	Pk	-40.6	.1	5.66	34.32	-28.66	0-360
7	.32577	42.27	Pk	-40.6	.1	1.77	34.32	-32.55	0-360
4	.36225	42.04	Pk	-40.6	.1	1.54	33.67	-32.13	0-360
8	.36225	39.18	Pk	-40.6	.1	-1.32	33.67	-34.99	0-360

Pk - Peak detector

8.3.6. CONFIGURATION 6: OPERATING MODE WITH iPhone + Apple Watch

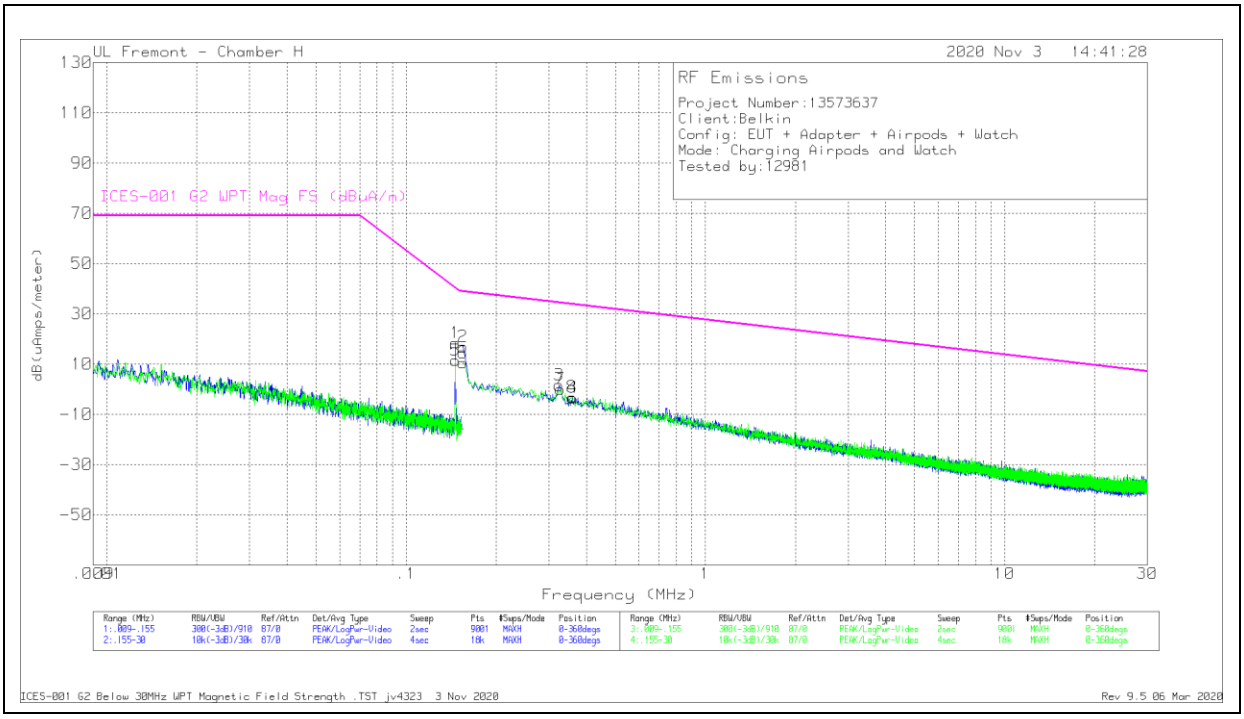


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/meter)	ICES-001 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
5	.14518	34.17	Pk	-40.2	.1	-5.93	40.29	-46.22	0-360
1	.1452	47.28	Pk	-40.2	.1	7.18	40.28	-33.1	0-360
6	.32577	37.92	Pk	-40.6	.1	-2.58	34.32	-36.9	0-360
2	.32743	37.35	Pk	-40.6	.1	-3.15	34.29	-37.44	0-360
3	.35562	41.12	Pk	-40.6	.1	.62	33.79	-33.17	0-360
7	.35893	39.67	Pk	-40.6	.1	-.83	33.73	-34.56	0-360
4	27.18206	13.75	Pk	-42.6	.6	-28.25	7.6	-35.85	0-360
8	27.18206	16.02	Pk	-42.6	.6	-25.98	7.6	-33.58	0-360

Pk - Peak detector

8.3.7. CONFIGURATION 7: OPERATING MODE WITH AirPods Charging Case + Apple Watch

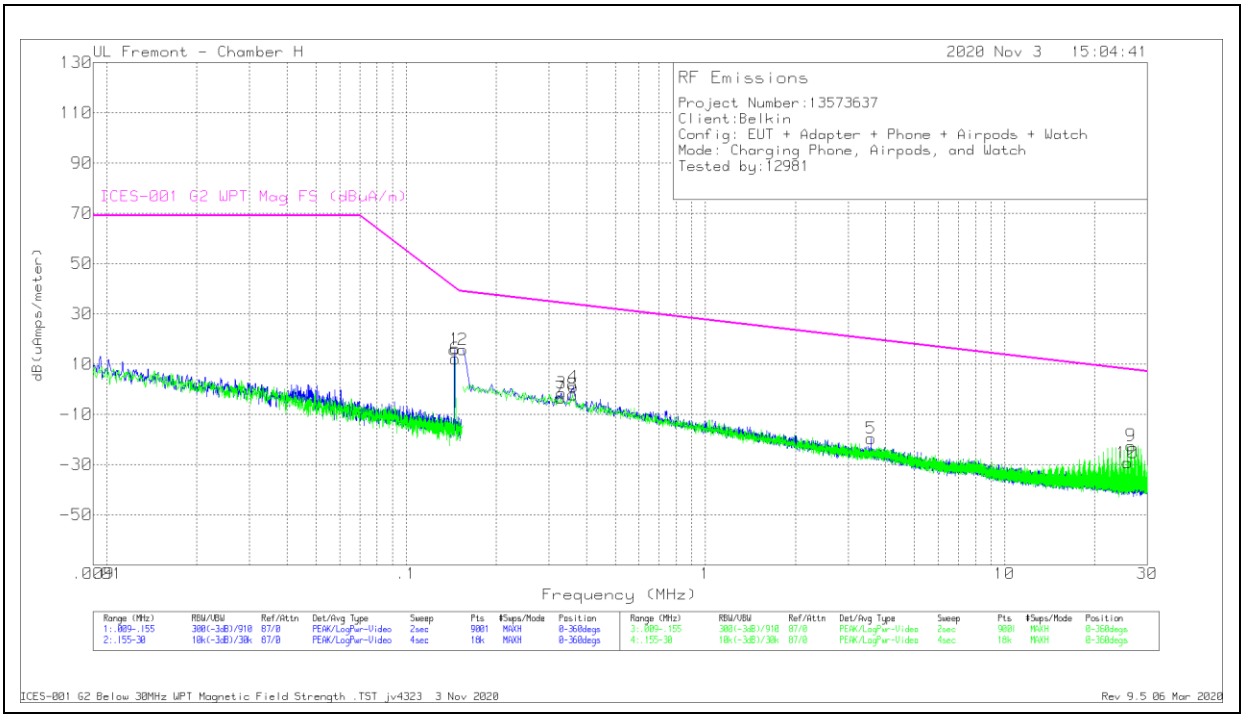


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/meter)	ICES-001 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
5	.14606	51.52	Pk	-40.2	.1	11.42	40.05	-28.63	0-360
1	.14607	58.56	Pk	-40.2	.1	18.46	40.04	-21.58	0-360
2	.155	57.07	Pk	-40.3	.1	16.87	38.8	-21.93	0-360
6	.155	50.72	Pk	-40.3	.1	10.52	38.8	-28.28	0-360
3	.32412	42.1	Pk	-40.6	.1	1.6	34.35	-32.75	0-360
7	.32743	40.59	Pk	-40.6	.1	.09	34.29	-34.2	0-360
8	.35893	37.27	Pk	-40.6	.1	-3.23	33.73	-36.96	0-360
4	.36059	37.07	Pk	-40.6	.1	-3.43	33.7	-37.13	0-360

Pk - Peak detector

8.3.8. CONFIGURATION 8: OPERATING MODE WITH iPhone + AirPods Charging Case + Apple Watch



DATA

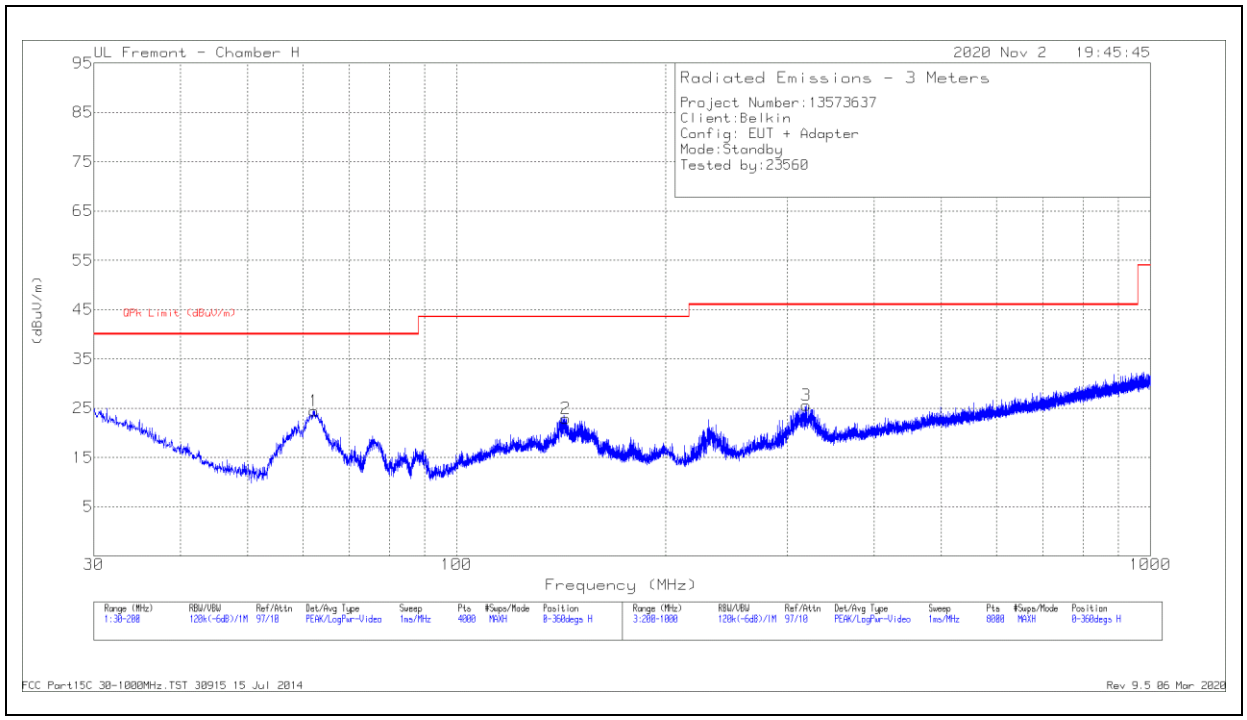
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Corrected Reading dB(uAmps/meter)	ICES-001 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
1	.14511	55.88	Pk	-40.2	.1	15.78	40.3	-24.52	0-360
6	.14606	52.2	Pk	-40.2	.1	12.1	40.05	-27.95	0-360
2	.155	55.91	Pk	-40.3	.1	15.71	38.8	-23.09	0-360
7	.32909	37.12	Pk	-40.6	.1	-3.38	34.25	-37.63	0-360
3	.33075	38.97	Pk	-40.6	.1	-1.53	34.22	-35.75	0-360
8	.36059	38.38	Pk	-40.6	.1	-2.12	33.7	-35.82	0-360
4	.36225	41.45	Pk	-40.6	.1	.95	33.67	-32.72	0-360
5	3.58374	20.27	Pk	-40.1	.2	-19.63	19.83	-39.46	0-360
10	25.74291	12.39	Pk	-42.3	.6	-29.31	7.92	-37.23	0-360
9	26.46083	19.42	Pk	-42.5	.6	-22.48	7.76	-30.24	0-360

Pk - Peak detector

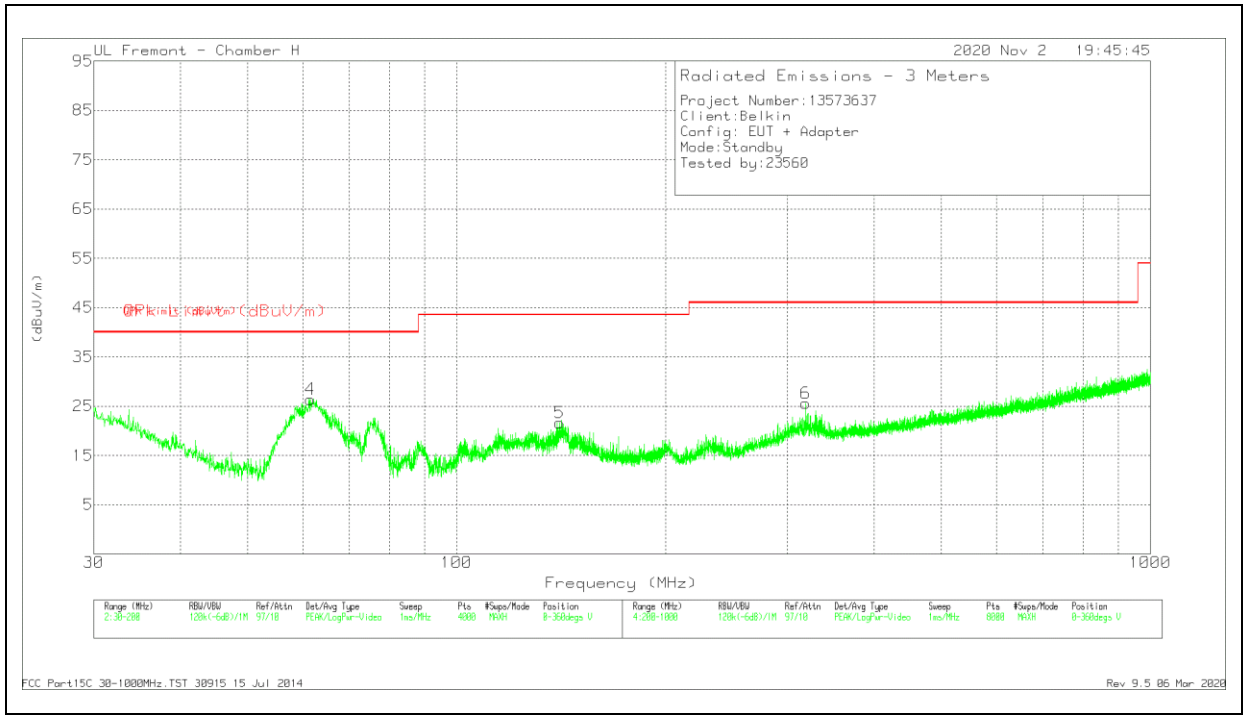
8.4. FCC TX SPURIOUS EMISSION 30 TO 1000 MHz

8.4.1. CONFIGURATION 1: STANDBY MODE

HORIZONTAL PLOT



VERTICAL PLOT



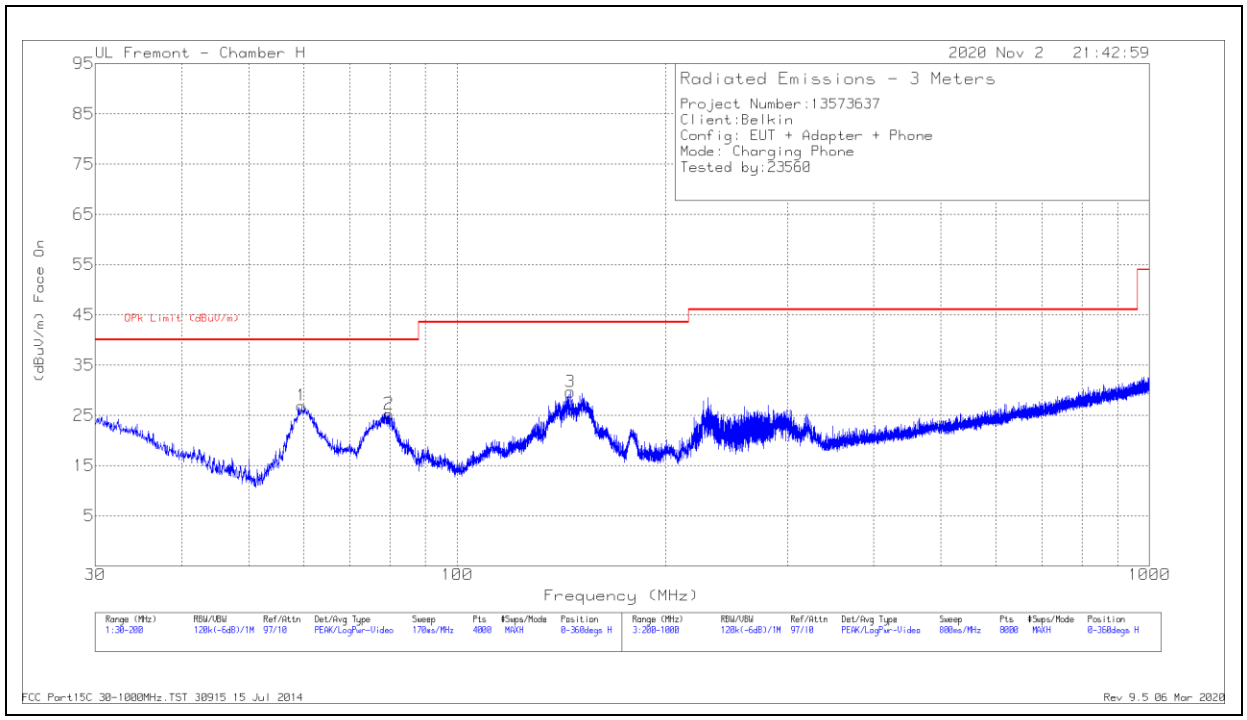
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	61.5007	43.71	Pk	13.6	-30.9	26.41	40	-13.59	0-360	100	V
	61.7507	40.09	Qp	13.6	-30.9	22.79	40	-17.21	275	112	V
1	62.2658	41.76	Pk	13.6	-30.9	24.46	40	-15.54	0-360	300	H
5	140.6986	32.3	Pk	19.3	-30	21.6	43.52	-21.92	0-360	100	V
2	143.8019	33.96	Pk	19	-30.1	22.86	43.52	-20.66	0-360	200	H
6	318.8154	34.13	Pk	20.3	-28.8	25.63	46.02	-20.39	0-360	200	V
3	319.0155	34.14	Pk	20.3	-28.8	25.64	46.02	-20.38	0-360	100	H

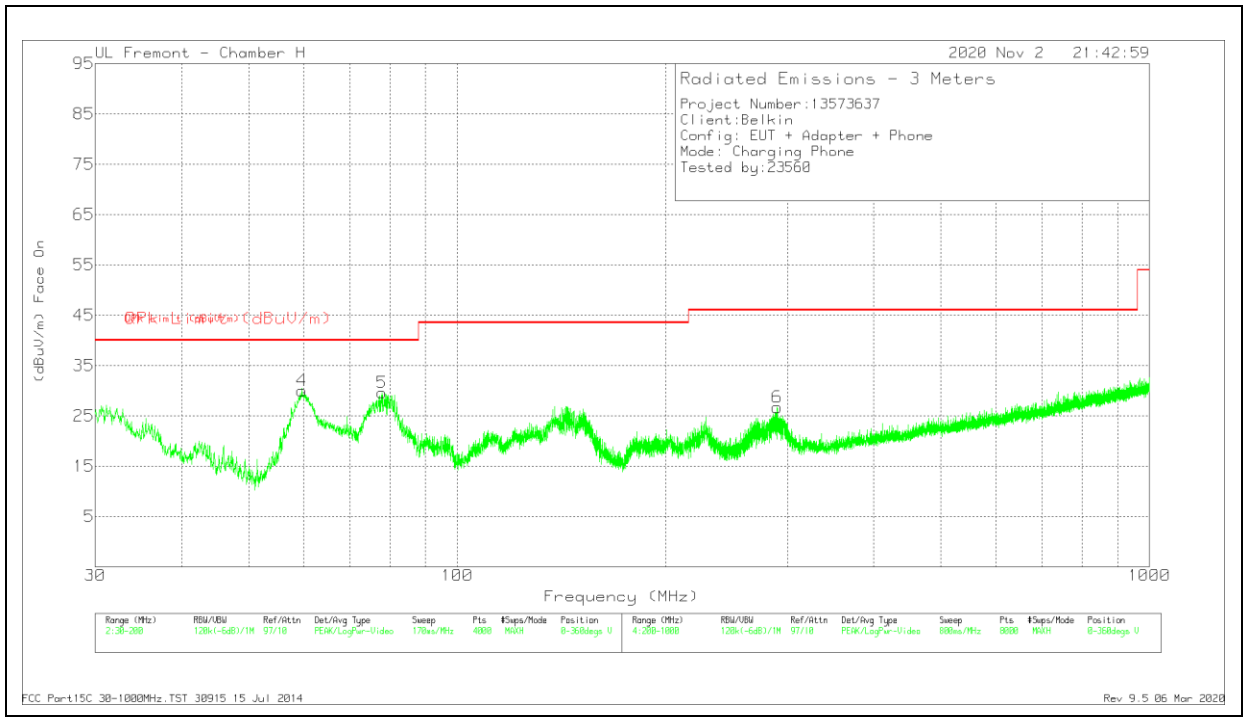
Pk - Peak detector
Qp - Quasi-Peak detector

8.4.2. CONFIGURATION 2: OPERATING MODE WITH iPhone

HORIZONTAL PLOT



VERTICAL PLOT



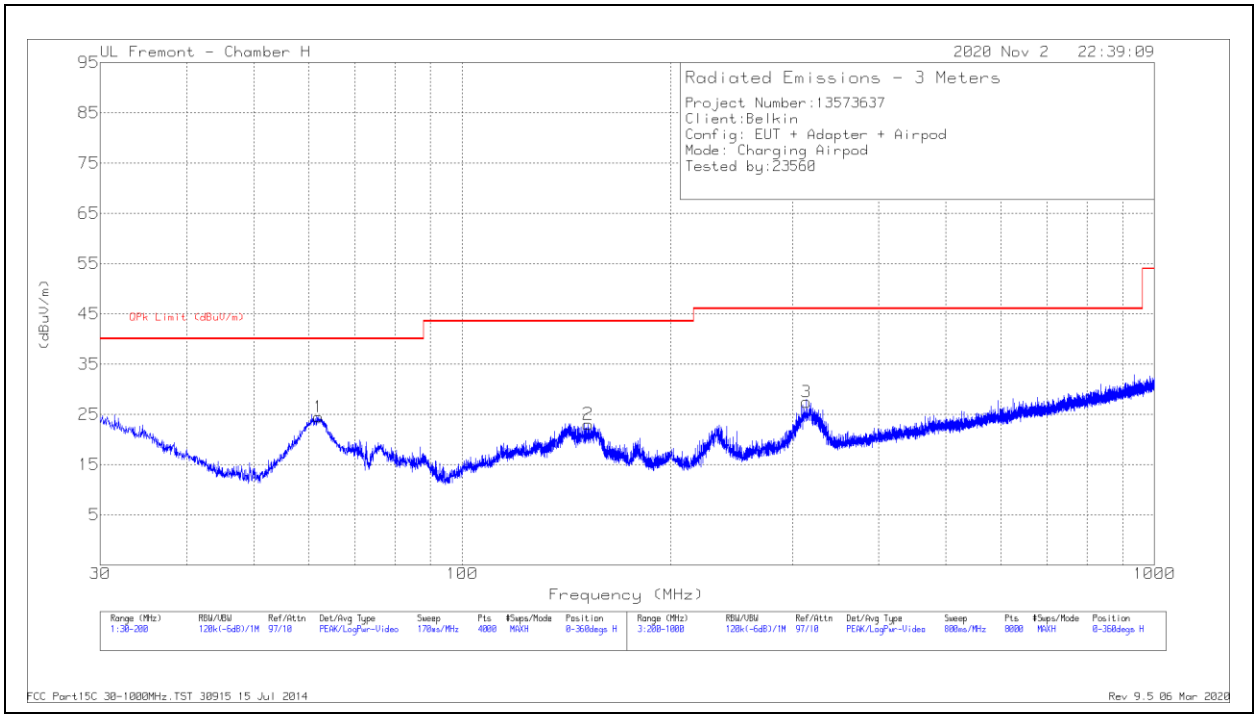
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	59.6302	44.32	Pk	13.5	-30.9	26.92	40	-13.08	0-360	400	H
4	59.6727	47.4	Pk	13.5	-30.9	30	40	-10	0-360	100	V
	59.4127	42.69	Qp	13.4	-30.9	25.19	40	-14.81	301	158	V
5	77.9524	46.19	Pk	14.1	-30.7	29.59	40	-10.41	0-360	100	V
2	79.7379	42.07	Pk	13.9	-30.7	25.27	40	-14.73	0-360	200	H
3	145.8425	40.79	Pk	18.9	-30	29.69	43.52	-13.83	0-360	200	H
6	290.0117	36	Pk	19.7	-29	26.7	46.02	-19.32	0-360	200	V

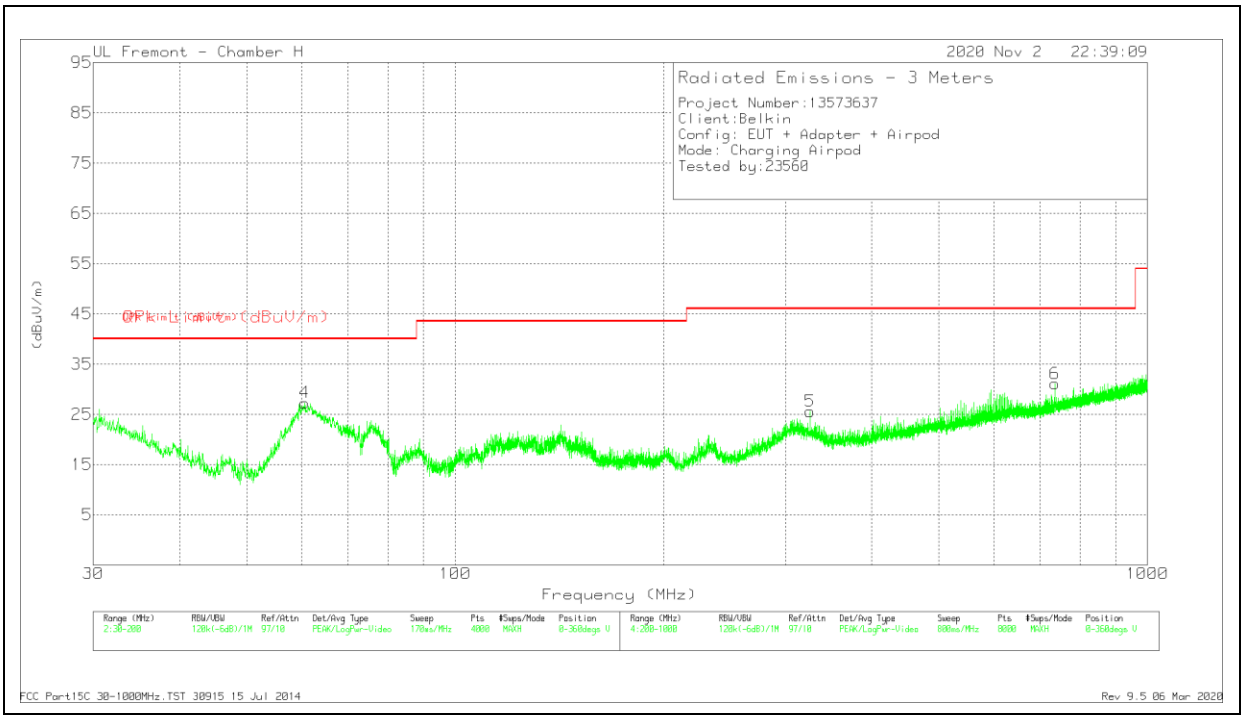
Pk - Peak detector
Qp - Quasi-Peak detector

8.4.3. CONFIGURATION 3: OPERATING MODE WITH AirPods Charging Case

HORIZONTAL PLOT



VERTICAL PLOT



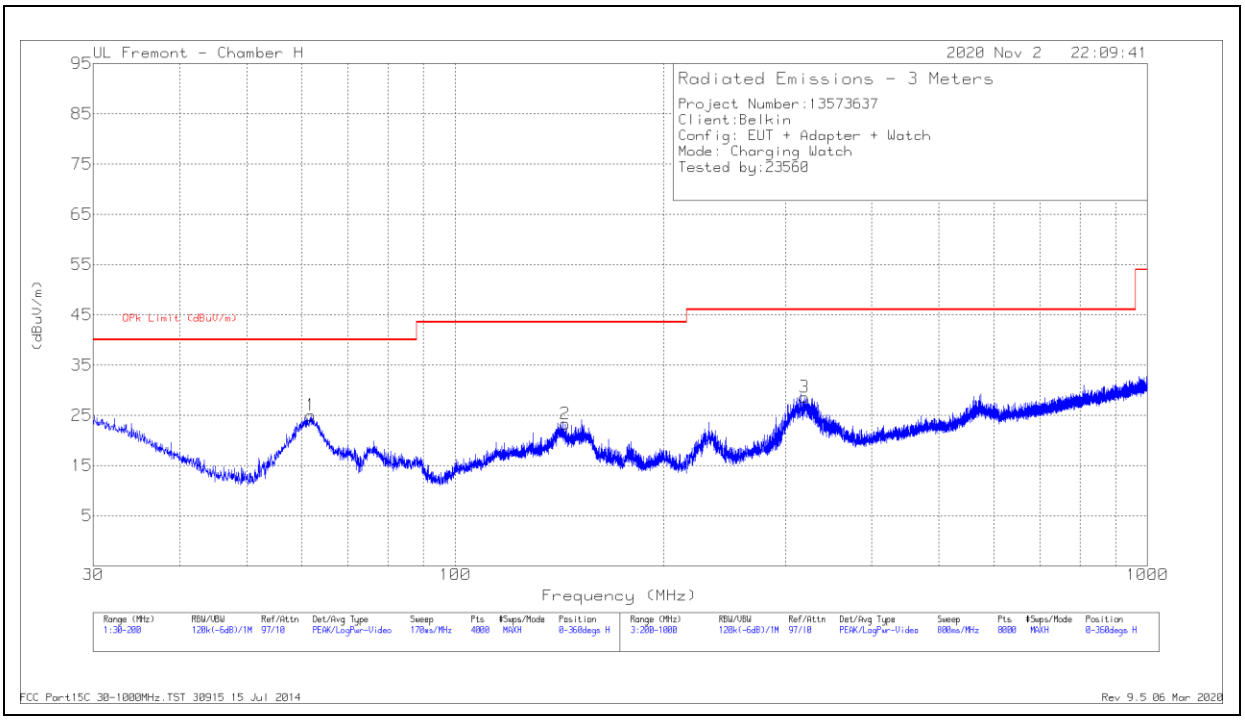
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 325.5163	33.97	Pk	20.4	-28.8	25.57	46.02	-20.45	0-360	200	V
4	60.6079	44.69	Pk	13.5	-30.9	27.29	40	-12.71	0-360	100	V
	61.2179	40.1	Qp	13.5	-30.9	22.7	40	-17.3	272	103	V
1	62.0108	41.78	Pk	13.6	-30.9	24.48	40	-15.52	0-360	300	H
2	152.0916	34.43	Pk	18.6	-30	23.03	43.52	-20.49	0-360	200	H
3	314.4149	36.13	Pk	20.2	-28.9	27.43	46.02	-18.59	0-360	100	H
6	735.4696	31.59	Pk	26.9	-27.4	31.09	46.02	-14.93	0-360	100	V

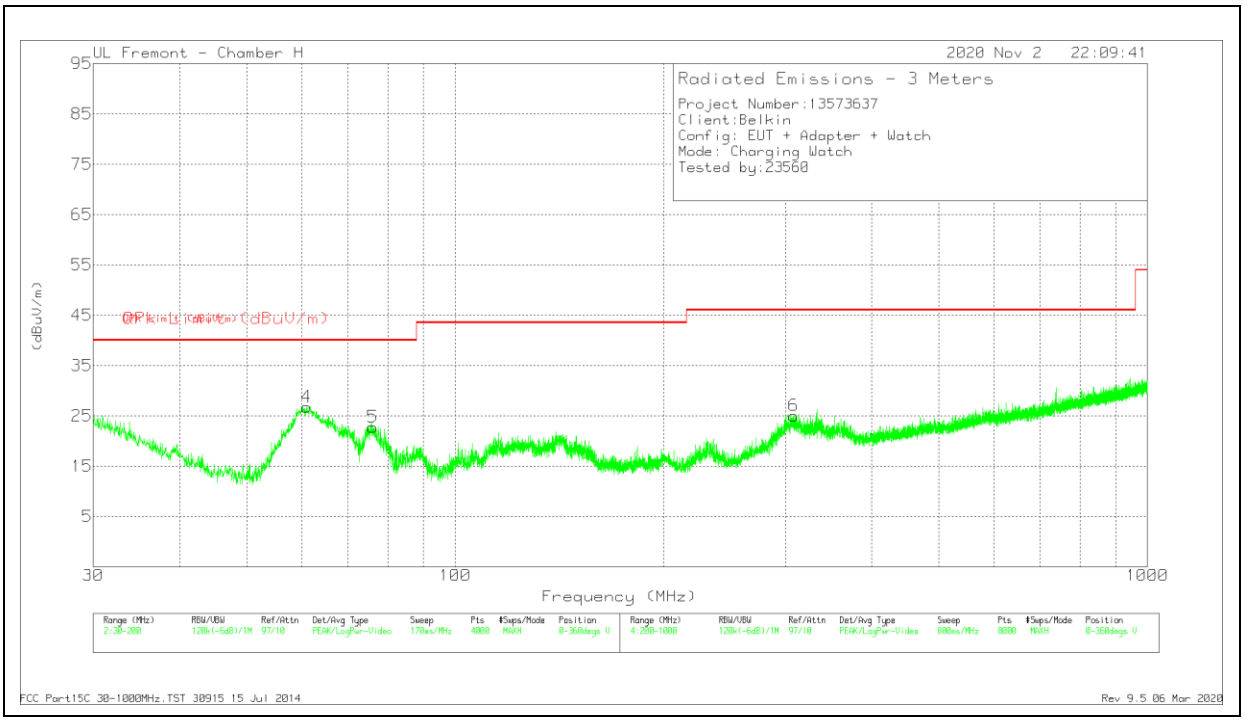
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Qp - Quasi-Peak detector

8.4.4. CONFIGURATION 4: OPERATING MODE WITH Apple Watch

HORIZONTAL PLOT



VERTICAL PLOT



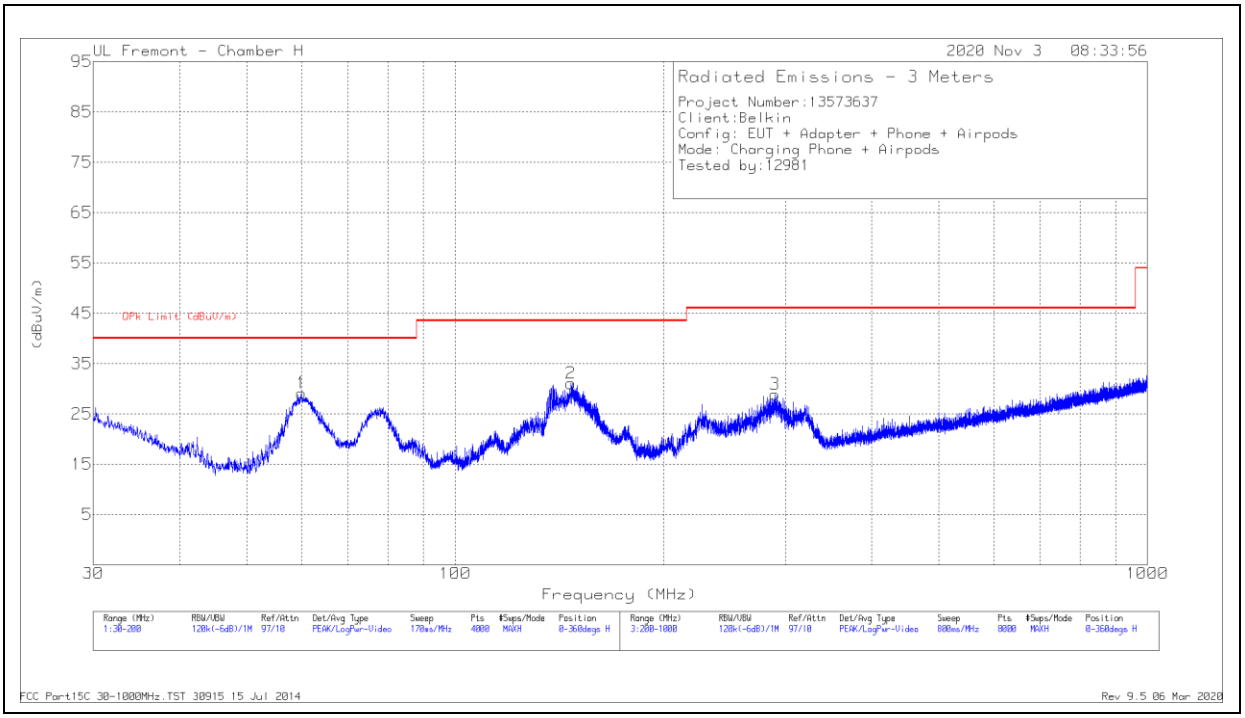
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	61.033	44.16	Pk	13.5	-30.9	26.76	40	-13.24	0-360	100	V
	59.693	40.39	Qp	13.5	-30.9	22.99	40	-17.01	289	103	V
1	61.9258	42.32	Pk	13.6	-30.9	25.02	40	-14.98	0-360	300	H
5	76.0394	39.27	Pk	14.2	-30.7	22.77	40	-17.23	0-360	100	V
2	144.1845	34.4	Pk	19	-30.1	23.3	43.52	-20.22	0-360	300	H
6	308.5141	33.84	Pk	20.1	-28.9	25.04	46.02	-20.98	0-360	200	V
3	319.7156	37.22	Pk	20.3	-28.9	28.62	46.02	-17.4	0-360	99	H

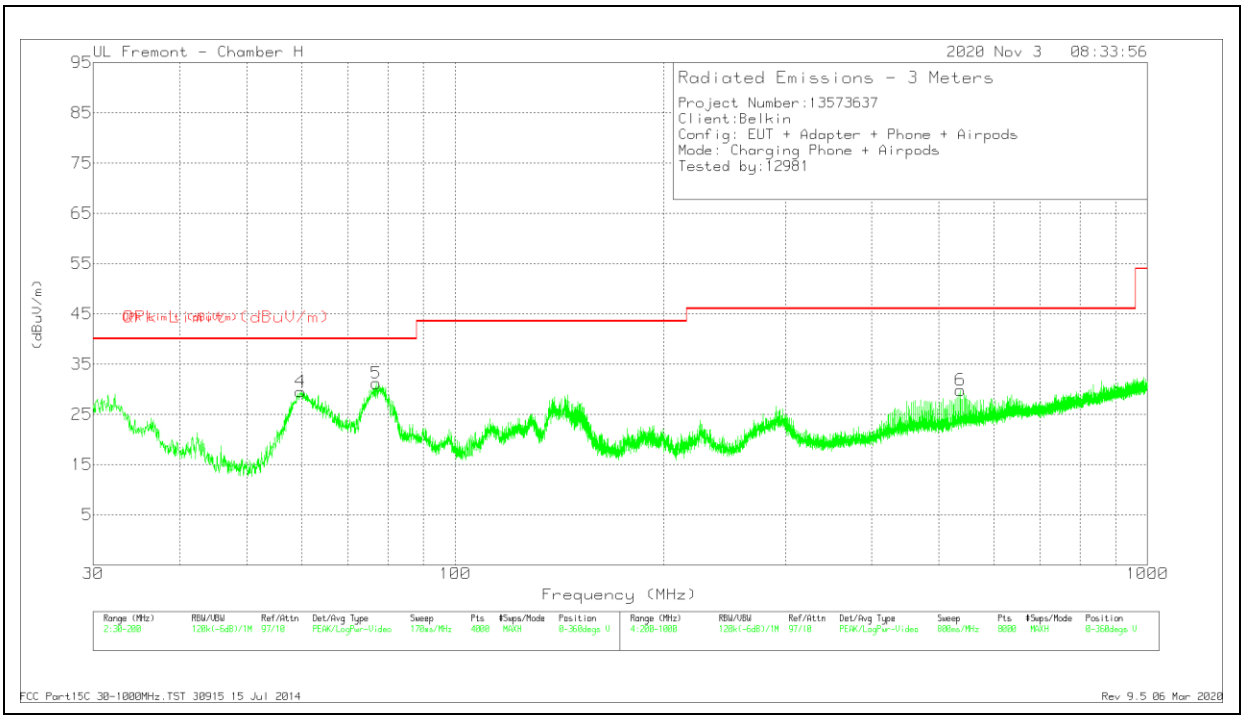
Pk - Peak detector
Qp - Quasi-Peak detector

8.4.5. CONFIGURATION 5: OPERATING MODE WITH iPhone + AirPods Charging Case

HORIZONTAL PLOT



VERTICAL PLOT



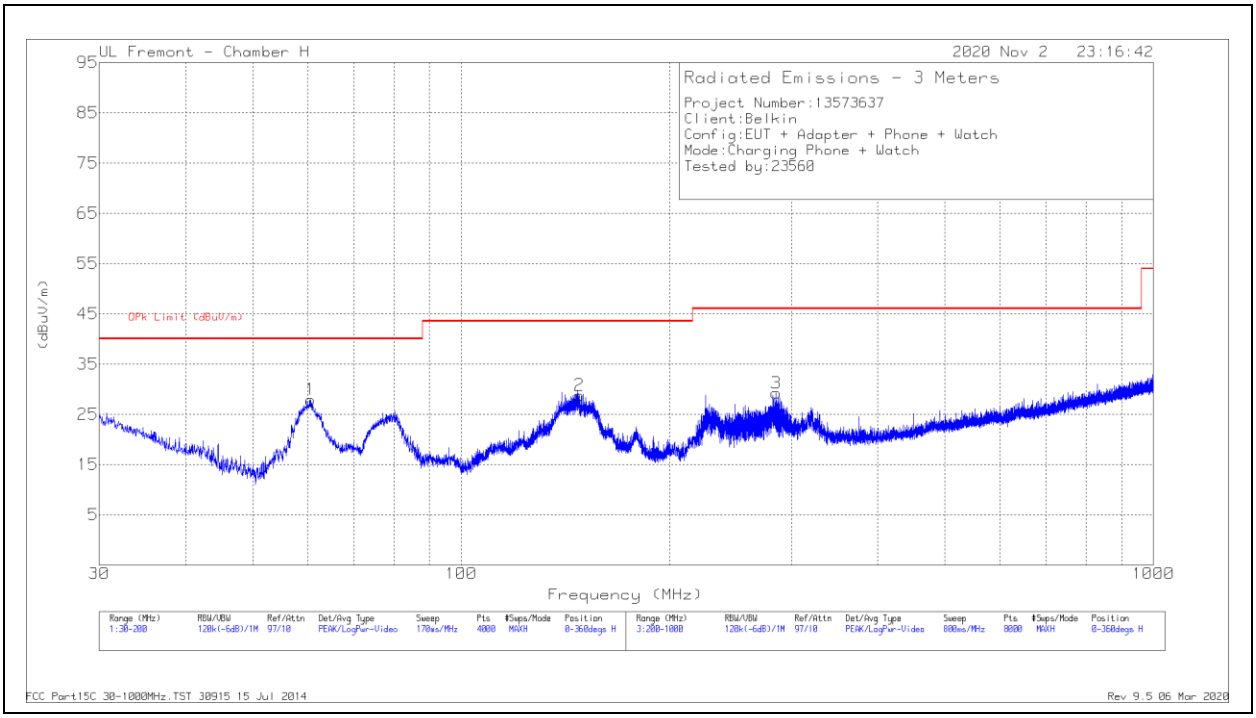
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	59.8002	46.92	Pk	13.5	-30.9	29.52	40	-10.48	0-360	100	V
1	59.9703	46.52	Pk	13.5	-30.9	29.12	40	-10.88	0-360	200	H
5	76.9321	47.79	Pk	14.1	-30.7	31.19	40	-8.81	0-360	100	V
	76.9941	41.22	Qp	14.1	-30.7	24.62	40	-15.38	46	128	V
2	147.0753	42.26	Pk	18.8	-30	31.06	43.52	-12.46	0-360	200	H
3	289.6116	38.2	Pk	19.7	-29	28.9	46.02	-17.12	0-360	100	H
6	537.0438	33.3	Pk	24.4	-27.9	29.8	46.02	-16.22	0-360	100	V

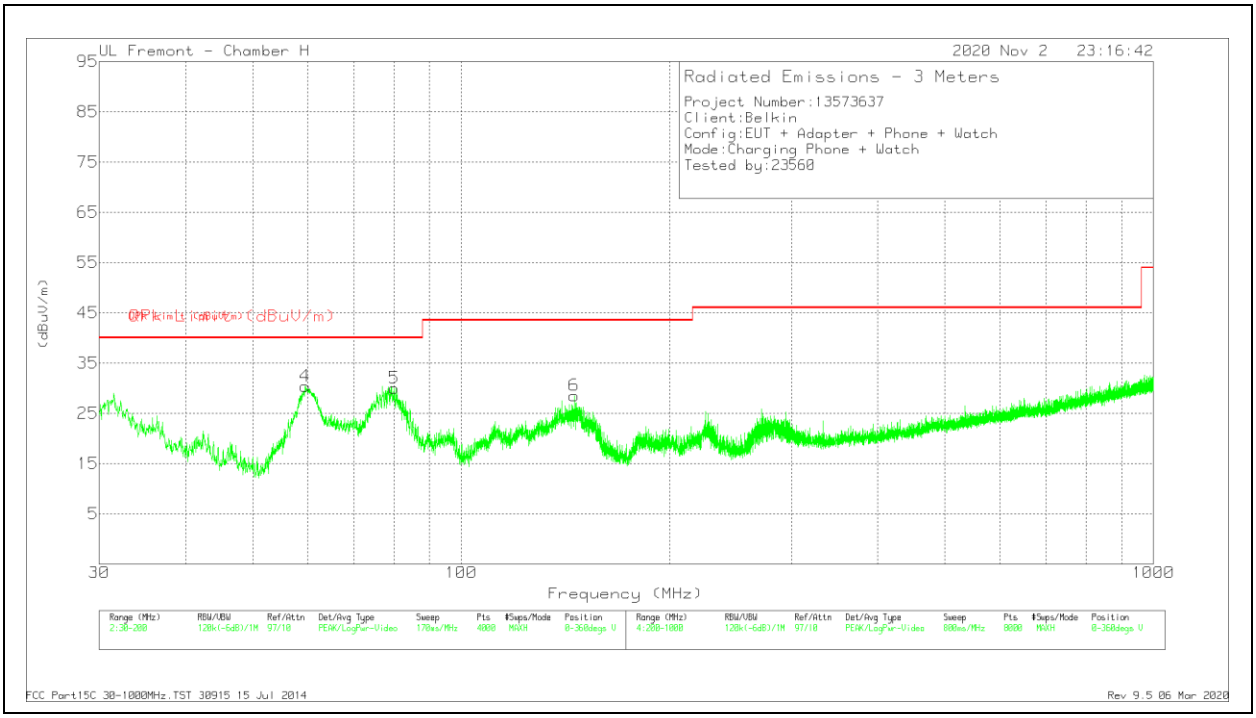
Pk - Peak detector
Qp - Quasi-Peak detector

8.4.6. CONFIGURATION 6: OPERATING MODE WITH iPhone + Apple Watch

HORIZONTAL PLOT



VERTICAL PLOT



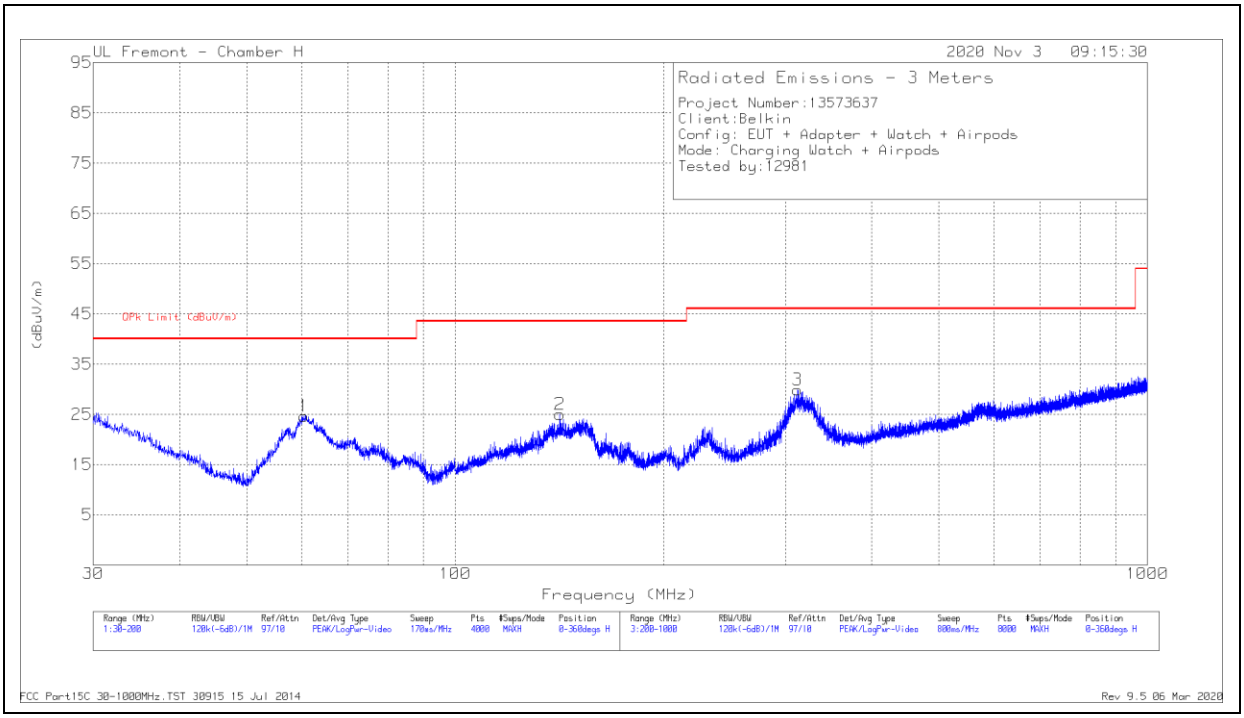
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	59.5451	47.79	Pk	13.5	-30.9	30.39	40	-9.61	0-360	100	V
	60.1051	44.97	Qp	13.5	-30.9	27.57	40	-12.43	310	115	V
1	60.6504	45.32	Pk	13.5	-30.9	27.92	40	-12.08	0-360	400	H
5	80.078	46.82	Pk	13.9	-30.7	30.02	40	-9.98	0-360	100	V
6	145.6299	39.74	Pk	18.9	-30.1	28.54	43.52	-14.98	0-360	100	V
2	148.2656	39.97	Pk	18.8	-30	28.77	43.52	-14.75	0-360	300	H
3	285.2111	38.61	Pk	19.7	-29.1	29.21	46.02	-16.81	0-360	100	H

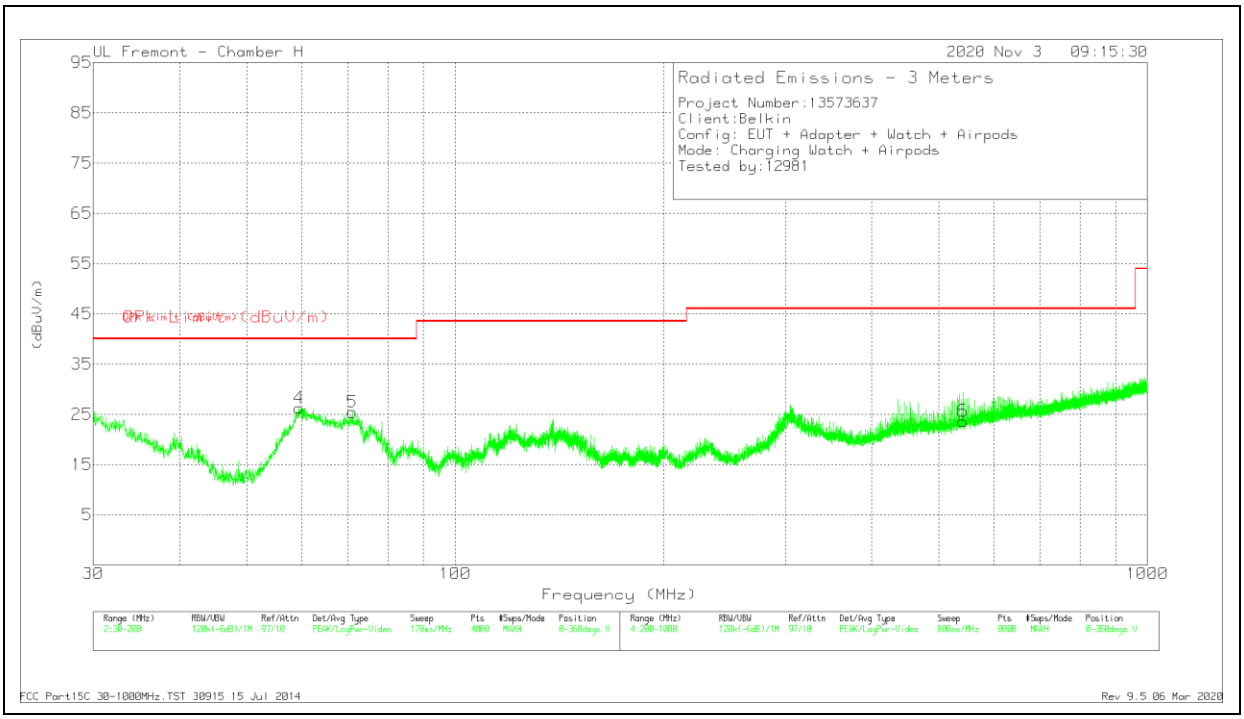
Pk - Peak detector
Qp - Quasi-Peak detector

8.4.7. CONFIGURATION 7: OPERATING MODE WITH AirPods Charging Case + Apple Watch

HORIZONTAL PLOT



VERTICAL PLOT



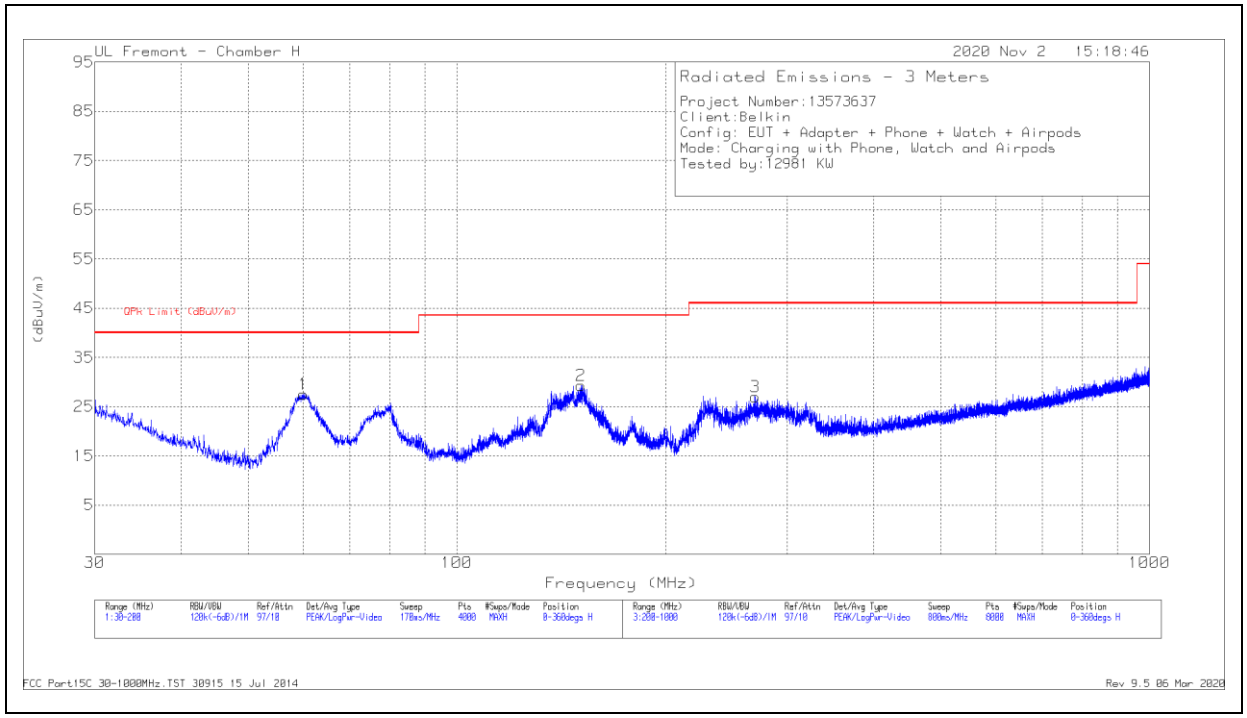
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	59.4601	43.76	Pk	13.4	-30.9	26.26	40	-13.74	0-360	100	V
	59.4321	39.91	Qp	13.4	-30.9	22.41	40	-17.59	104	189	V
1	60.4804	42.02	Pk	13.5	-30.9	24.62	40	-15.38	0-360	300	H
5	71.1081	41.93	Pk	14.3	-30.8	25.43	40	-14.57	0-360	100	V
2	141.6764	35.9	Pk	19.2	-30.1	25	43.52	-18.52	0-360	300	H
3	312.6146	38.59	Pk	20.2	-28.9	29.89	46.02	-16.13	0-360	100	H
6	541.5444	27.14	Pk	24.5	-28	23.64	46.02	-22.38	0-360	100	V

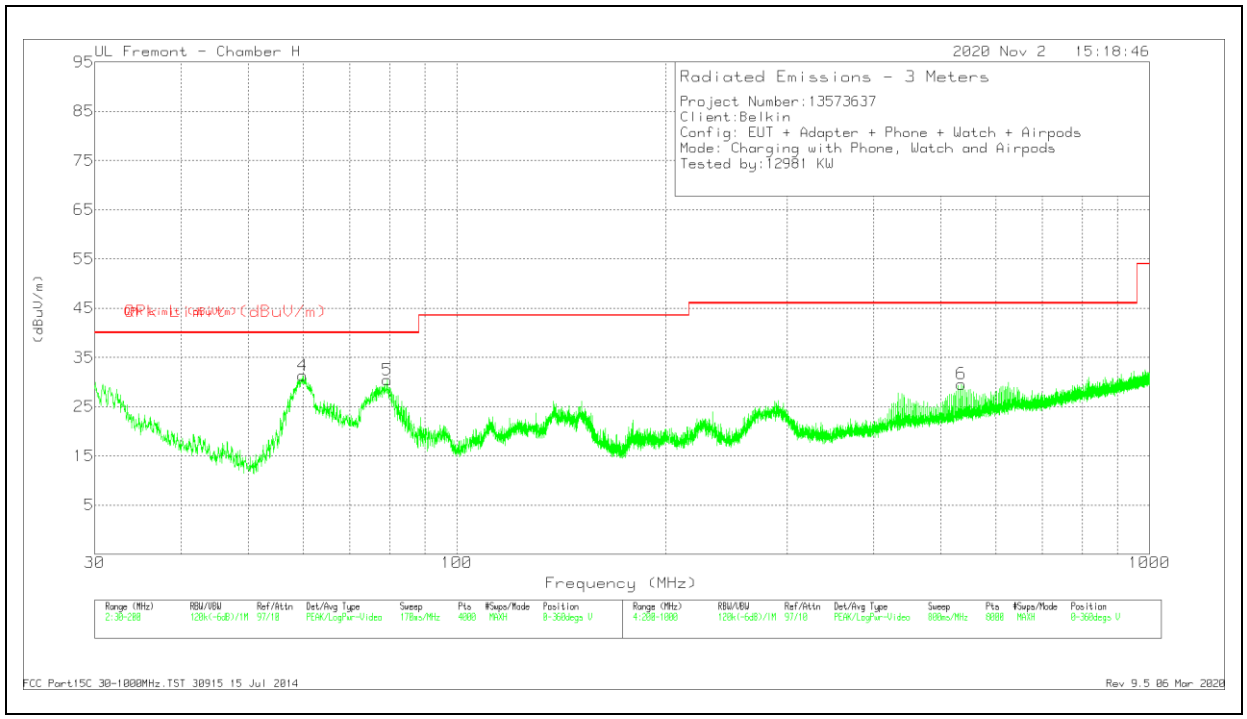
Pk - Peak detector
Qp - Quasi-Peak detector

8.4.8. CONFIGURATION 8: OPERATING MODE WITH iPhone + AirPods Charging Case + Apple Watch

HORIZONTAL PLOT



VERTICAL PLOT



DATA

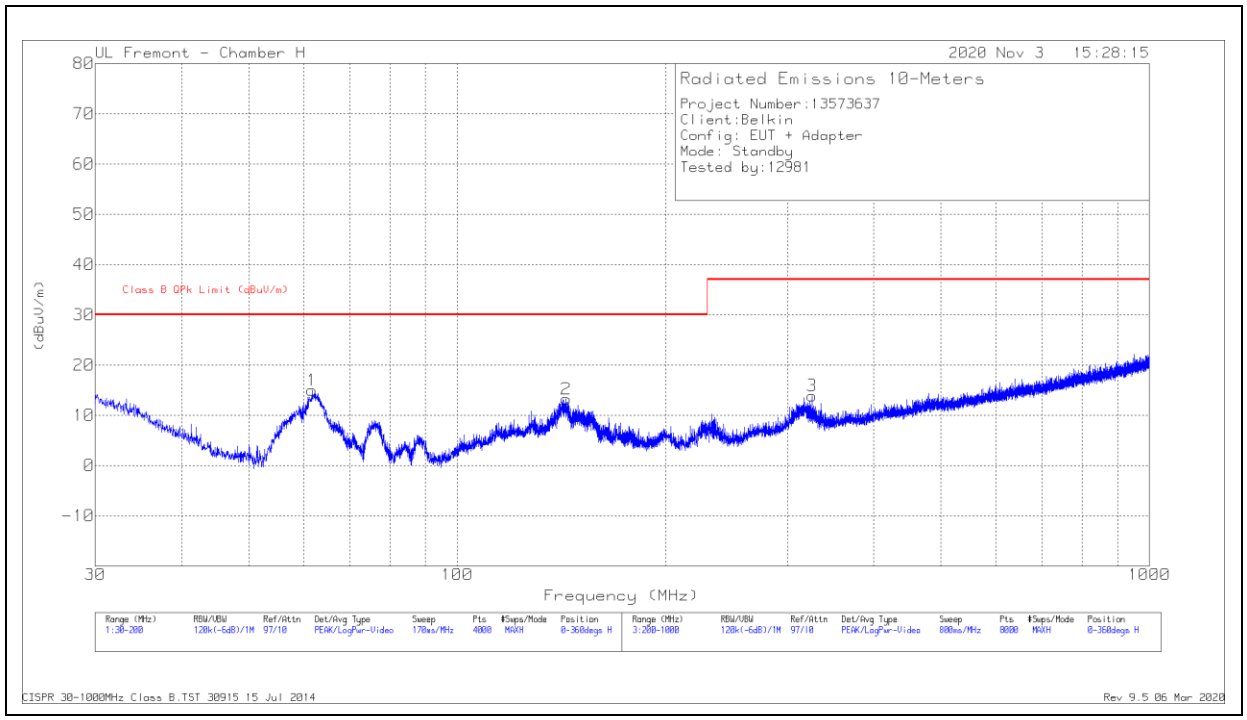
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 269.509	36.5	Pk	19.6	-29.1	27	46.02	-19.02	0-360	99	H
4	59.9277	48.77	Pk	13.5	-30.9	31.37	40	-8.63	0-360	100	V
	59.9493	45.12	Qp	13.5	-30.9	27.72	40	-12.28	322	100	V
1	59.9703	44.93	Pk	13.5	-30.9	27.53	40	-12.47	0-360	300	H
5	79.3553	47.14	Pk	14	-30.7	30.44	40	-9.56	0-360	100	V
2	151.1138	40.68	Pk	18.6	-30	29.28	43.52	-14.24	0-360	200	H
6	535.5436	33.1	Pk	24.4	-27.9	29.6	46.02	-16.42	0-360	100	V

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

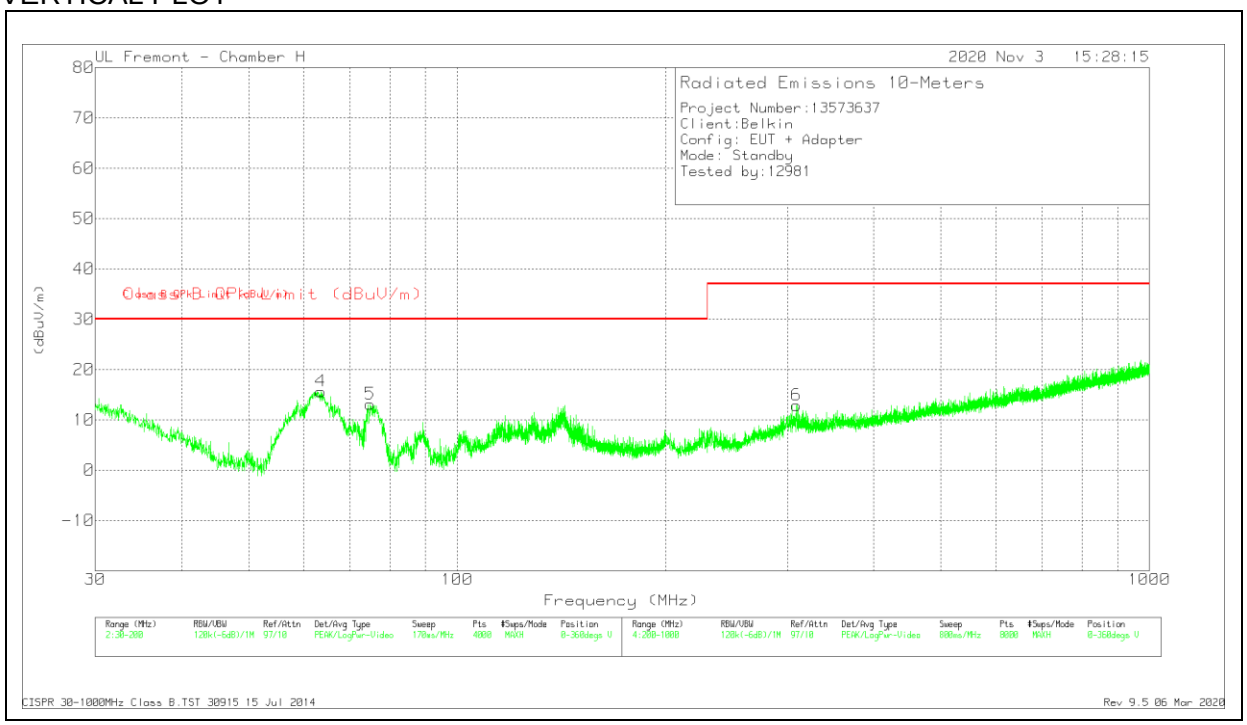
8.5. IC / CISPR 11 TX SPURIOUS EMISSION 30 TO 1000 MHz

8.5.1. CONFIGURATION 1: STANDBY MODE

HORIZONTAL PLOT



VERTICAL PLOT



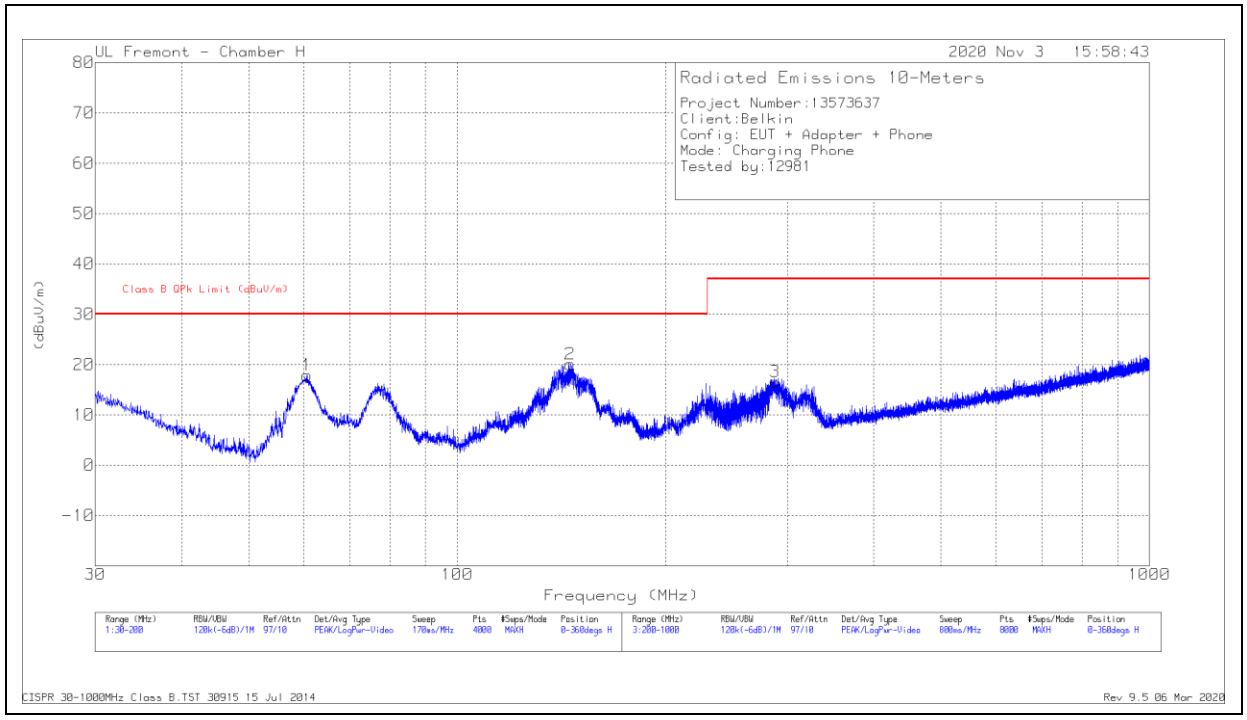
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB) 20Log	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	61.7132	42.76	Pk	13.6	-30.9	-10.5	14.96	30	-15.04	0-360	200	H
4	63.5412	43.17	Pk	13.8	-30.8	-10.5	15.67	30	-14.33	0-360	100	V
	63.23	39.4	Qp	13.7	-30.8	-10.5	11.8	30	-18.2	118	128	V
5	74.8916	40.15	Pk	14.2	-30.7	-10.5	13.15	30	-16.85	0-360	100	V
2	143.7594	34.81	Pk	19	-30.1	-10.5	13.21	30	-16.79	0-360	300	H
6	309.3142	32.21	Pk	20.1	-28.9	-10.5	12.91	37	-24.09	0-360	200	V
3	325.7163	32.77	Pk	20.4	-28.8	-10.5	13.87	37	-23.13	0-360	100	H

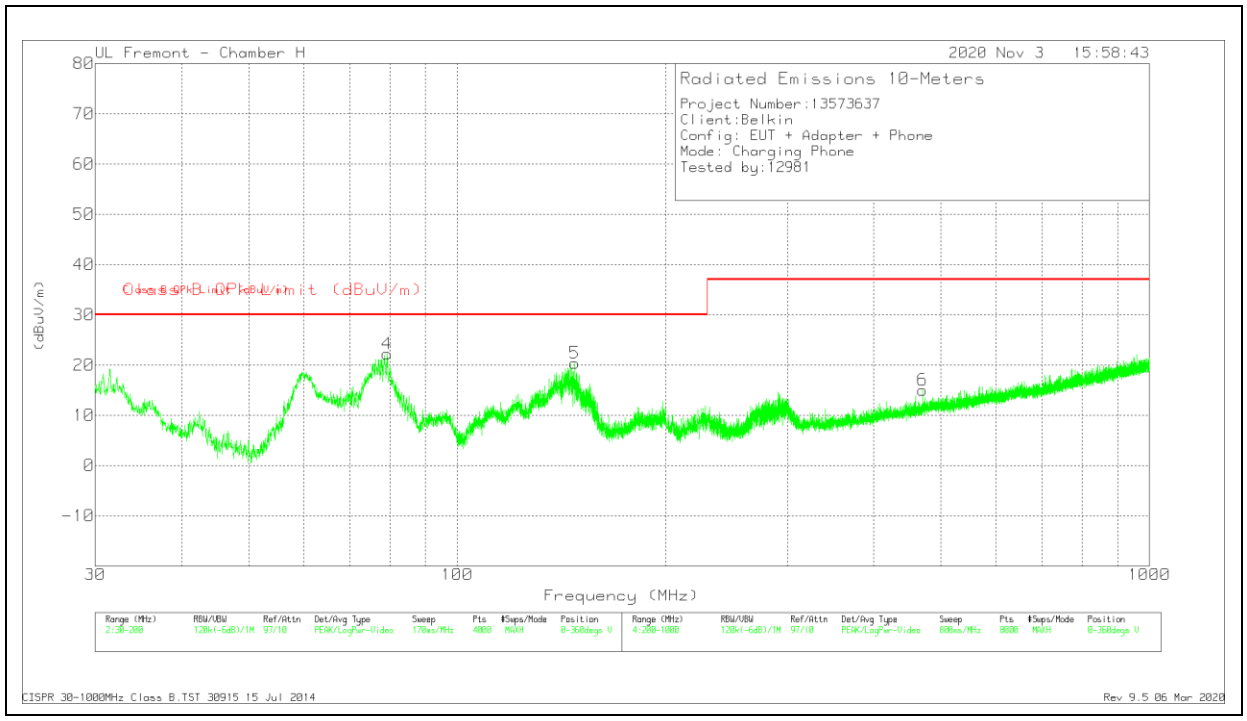
Pk - Peak detector
Qp - Quasi-Peak detector

8.5.2. CONFIGURATION 2: OPERATING MODE WITH iPhone

HORIZONTAL PLOT



VERTICAL PLOT



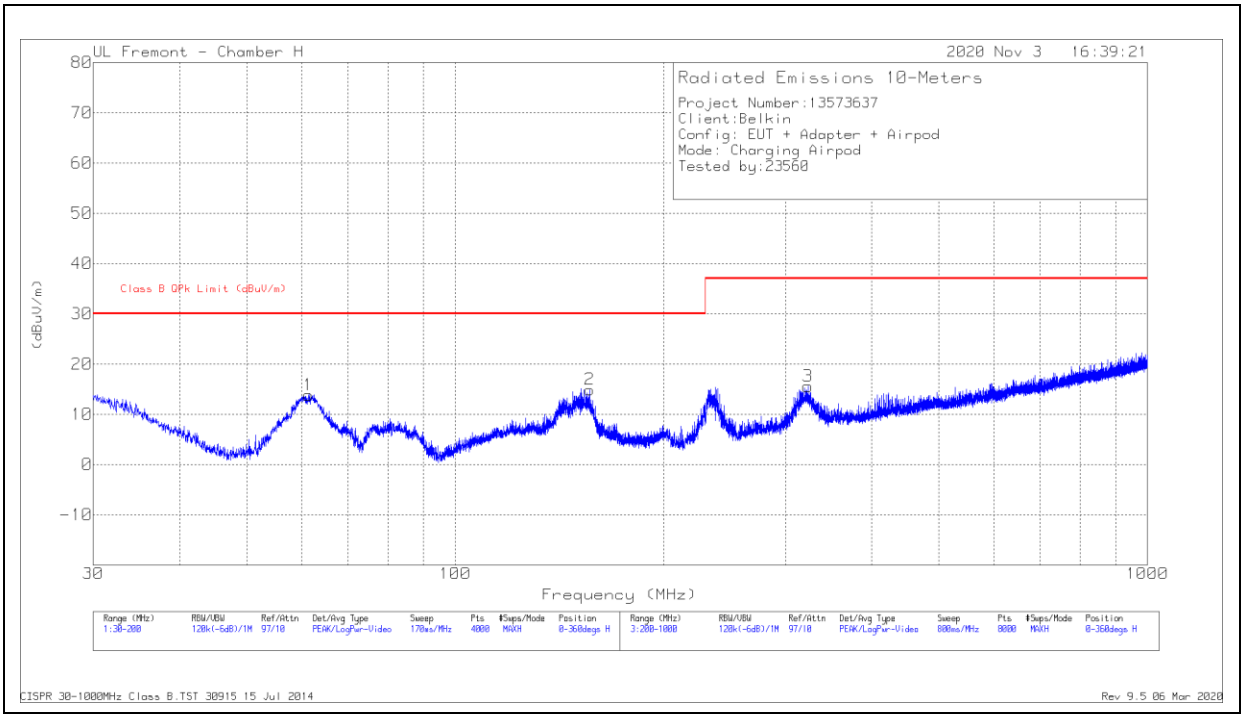
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB) 20Log	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	60.6929	45.77	Pk	13.5	-30.9	-10.5	17.87	30	-12.13	0-360	300	H
4	79.2702	49.42	Pk	14	-30.7	-10.5	22.22	30	-7.78	0-360	100	V
	79.4294	42.13	Qp	14	-30.7	-10.5	14.93	30	-15.07	23	163	V
2	145.6299	41.77	Pk	18.9	-30.1	-10.5	20.07	30	-9.93	0-360	200	H
5	147.8405	42.07	Pk	18.8	-30	-10.5	20.37	30	-9.63	0-360	100	V
3	287.8114	36.36	Pk	19.7	-29	-10.5	16.56	37	-20.44	0-360	100	H
6	470.6352	30.03	Pk	23.6	-28.1	-10.5	15.03	37	-21.97	0-360	100	V

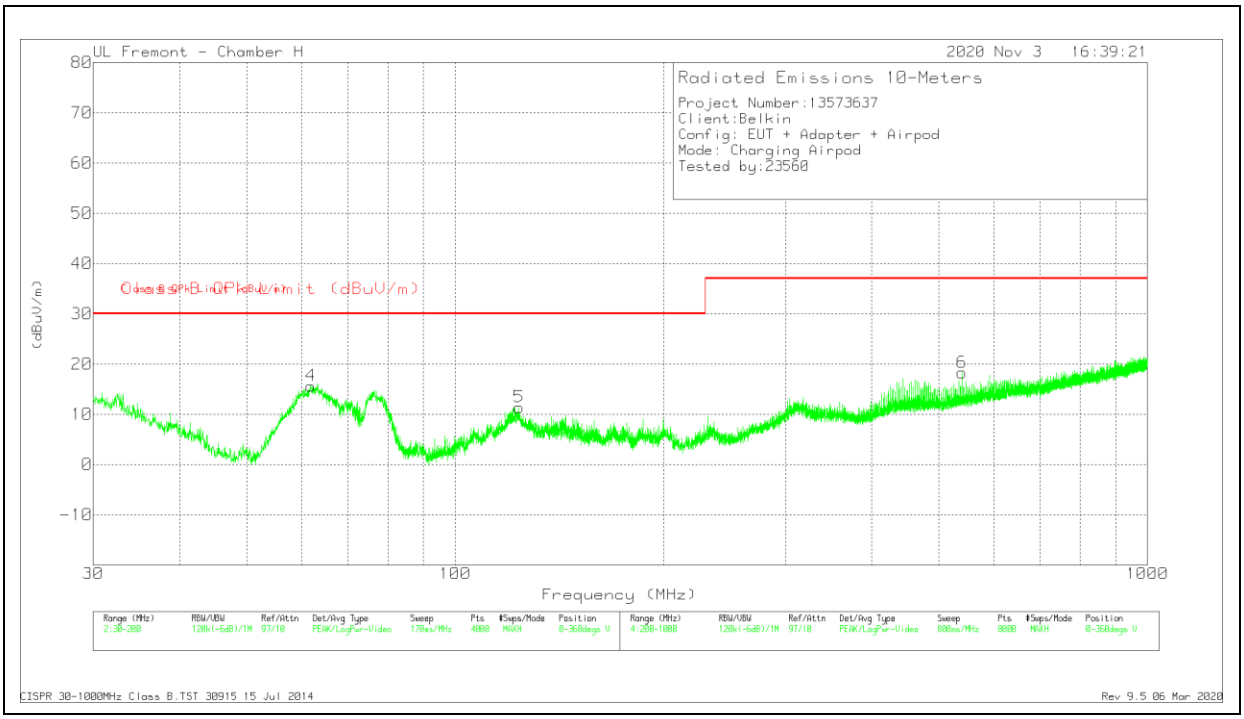
Pk - Peak detector
Qp - Quasi-Peak detector

8.5.3. CONFIGURATION 3: OPERATING MODE WITH AirPods Charging Case

HORIZONTAL PLOT



VERTICAL PLOT



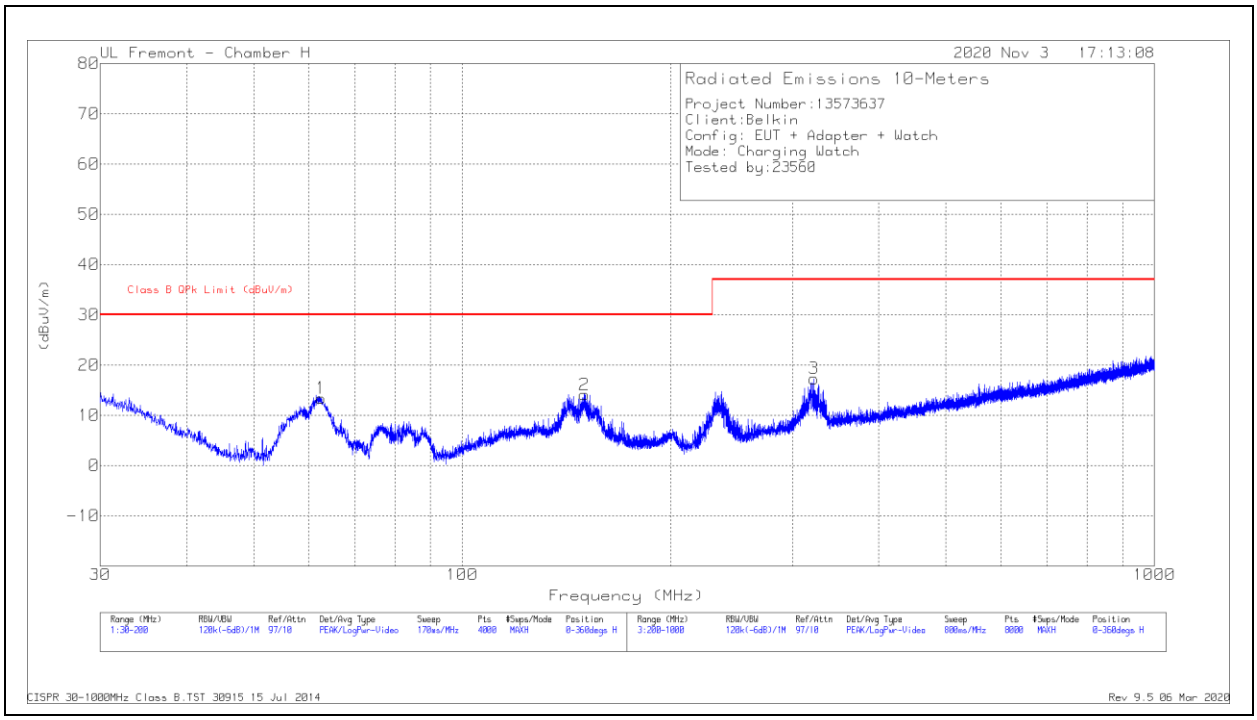
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB) 20Log	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	61.4156	41.71	Pk	13.5	-30.9	-10.5	13.81	30	-16.19	0-360	400	H
4	61.8833	43.46	Pk	13.6	-30.9	-10.5	15.66	30	-14.34	0-360	100	V
	61.6283	39.39	Qp	13.6	-30.9	-10.5	11.59	30	-18.41	61	160	V
5	123.6942	32.02	Pk	20.1	-30.2	-10.5	11.42	30	-18.58	0-360	100	V
2	156.5552	36.81	Pk	18.5	-29.9	-10.5	14.91	30	-15.09	0-360	200	H
3	323.316	34.56	Pk	20.4	-28.9	-10.5	15.56	37	-21.44	0-360	99	H
6	540.2442	32.22	Pk	24.5	-27.9	-10.5	18.32	37	-18.68	0-360	100	V

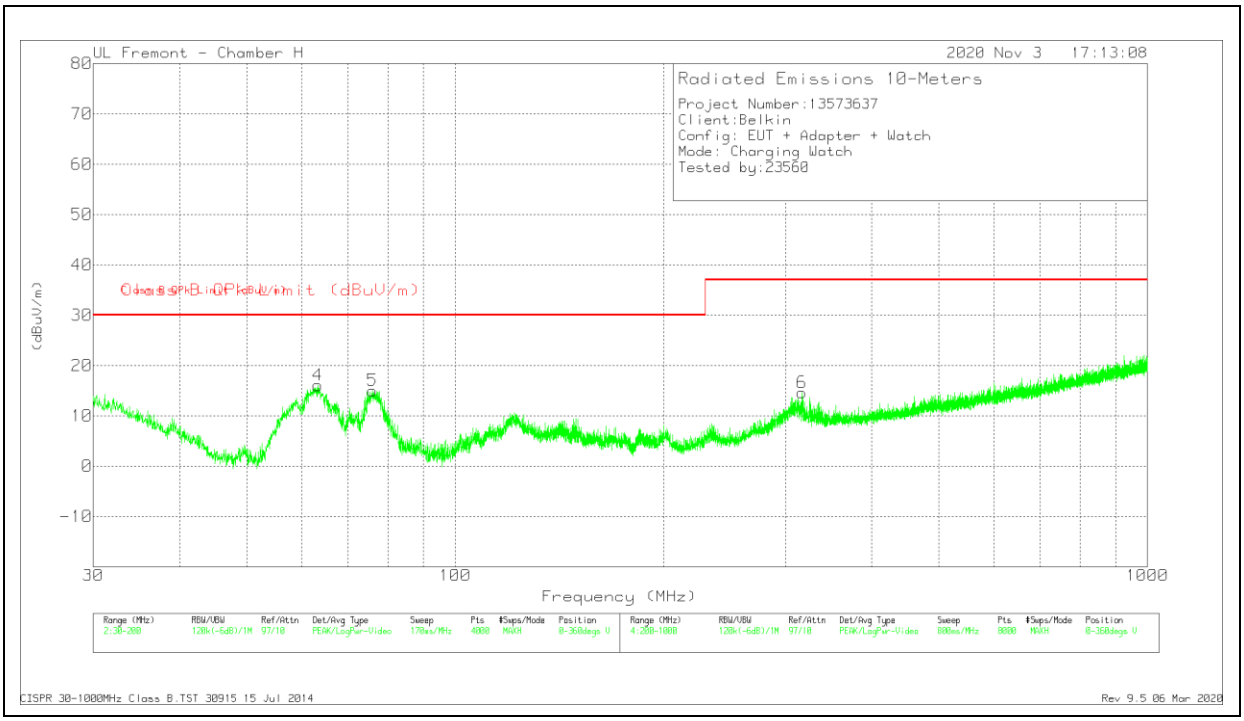
Pk - Peak detector
Qp - Quasi-Peak detector

8.5.4. CONFIGURATION 4: OPERATING MODE WITH Apple Watch

HORIZONTAL PLOT



VERTICAL PLOT



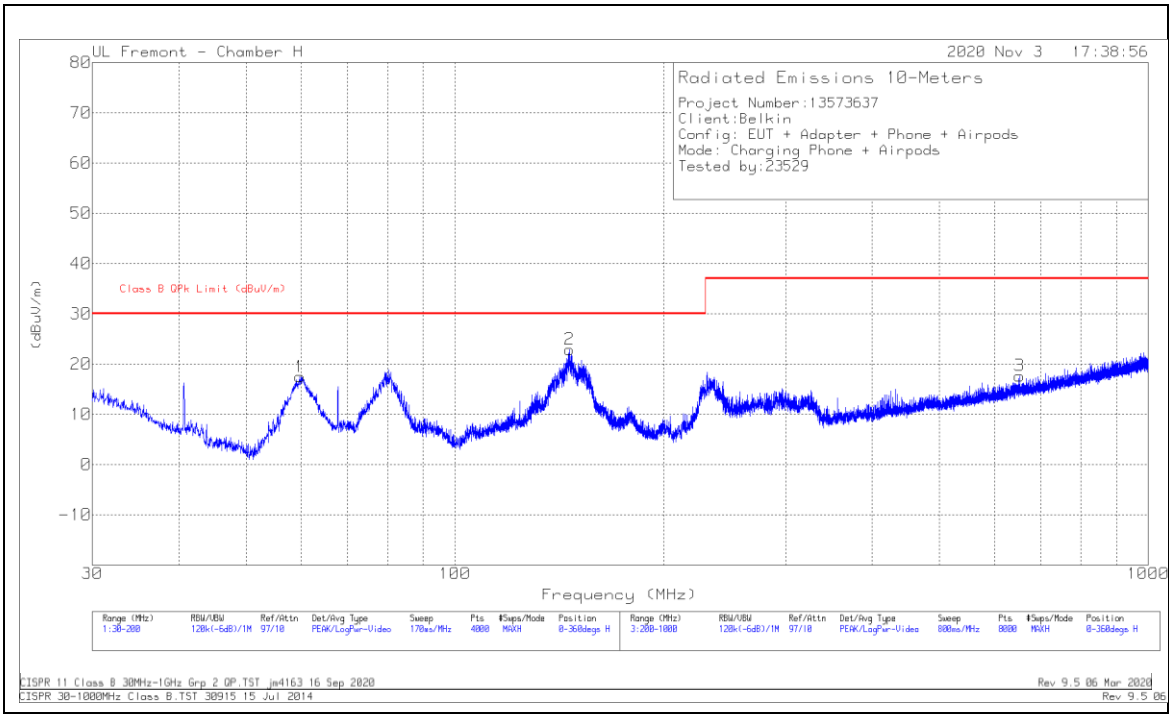
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB) 20Log	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	62.5209	41.08	Pk	13.7	-30.9	-10.5	13.38	30	-16.62	0-360	200	H
4	63.3286	43.67	Pk	13.7	-30.8	-10.5	16.07	30	-13.93	0-360	100	V
	63.511	39.99	Qp	13.8	-30.8	-10.5	12.49	30	-17.51	62	100	V
5	75.9969	42.03	Pk	14.2	-30.7	-10.5	15.03	30	-14.97	0-360	100	V
2	150.2211	35.91	Pk	18.7	-30	-10.5	14.11	30	-15.89	0-360	200	H
6	316.9152	33.72	Pk	20.3	-28.9	-10.5	14.62	37	-22.38	0-360	200	V
3	322.1159	36.3	Pk	20.4	-28.9	-10.5	17.3	37	-19.7	0-360	100	H

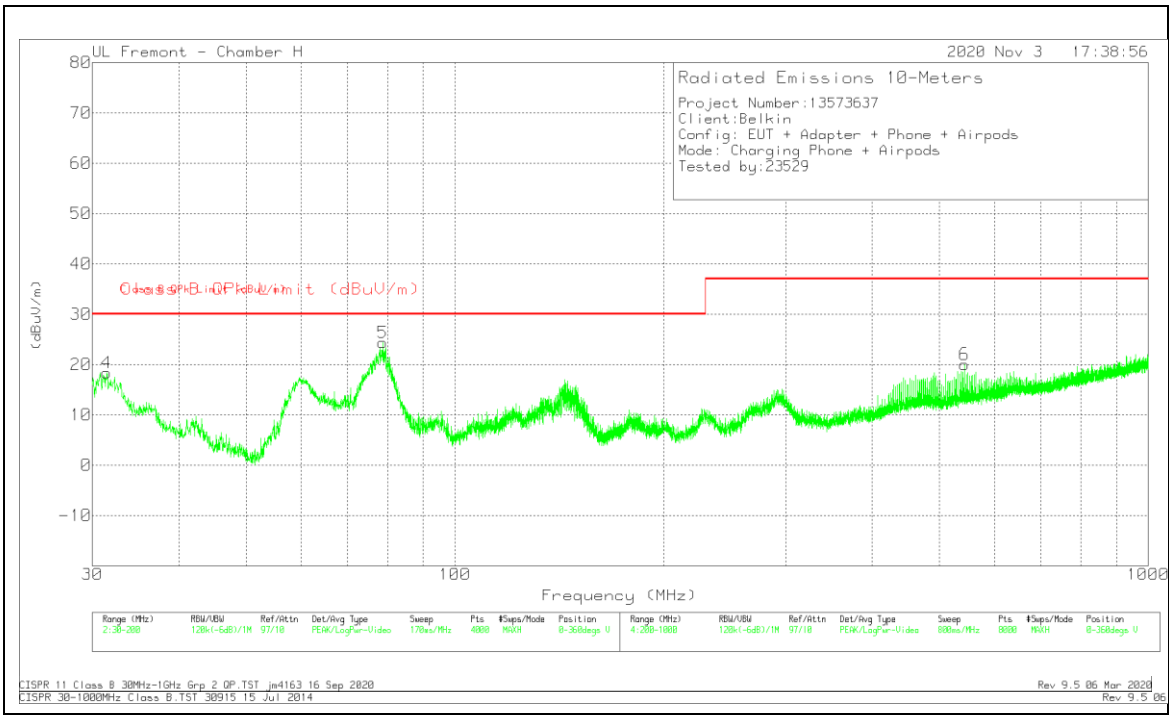
Pk - Peak detector
Qp - Quasi-Peak detector

8.5.5. CONFIGURATION 5: OPERATING MODE WITH iPhone + AirPods Charging Case

HORIZONTAL PLOT



VERTICAL PLOT



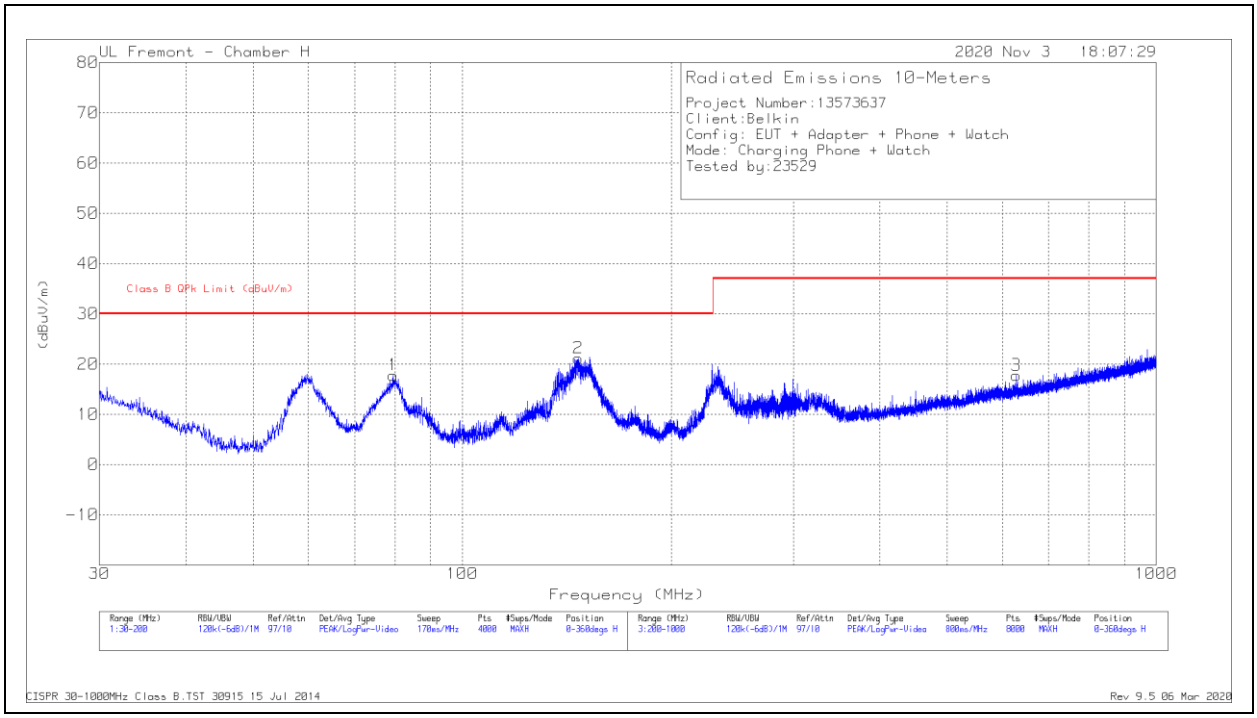
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB) 20Log	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	31.4879	33.13	Pk	27	-31.3	-10.5	18.33	30	-11.67	0-360	100	V
1	59.8002	45.38	Pk	13.5	-30.9	-10.5	17.48	30	-12.52	0-360	300	H
5	78.7176	51.56	Pk	14	-30.7	-10.5	24.36	30	-5.64	0-360	100	V
	79.0704	47.15	Qp	14	-30.7	-10.5	19.95	30	-10.05	16	129	V
2	146.3951	44.52	Pk	18.9	-30	-10.5	22.92	30	-7.08	0-360	200	H
	146.8655	36.72	Qp	18.8	-30	-10.5	15.02	30	-14.98	98	192	H
6	543.1446	33.99	Pk	24.5	-28	-10.5	19.99	37	-17.01	0-360	99	V
3	652.2588	29.56	Pk	26.2	-27.6	-10.5	17.66	37	-19.34	0-360	200	H

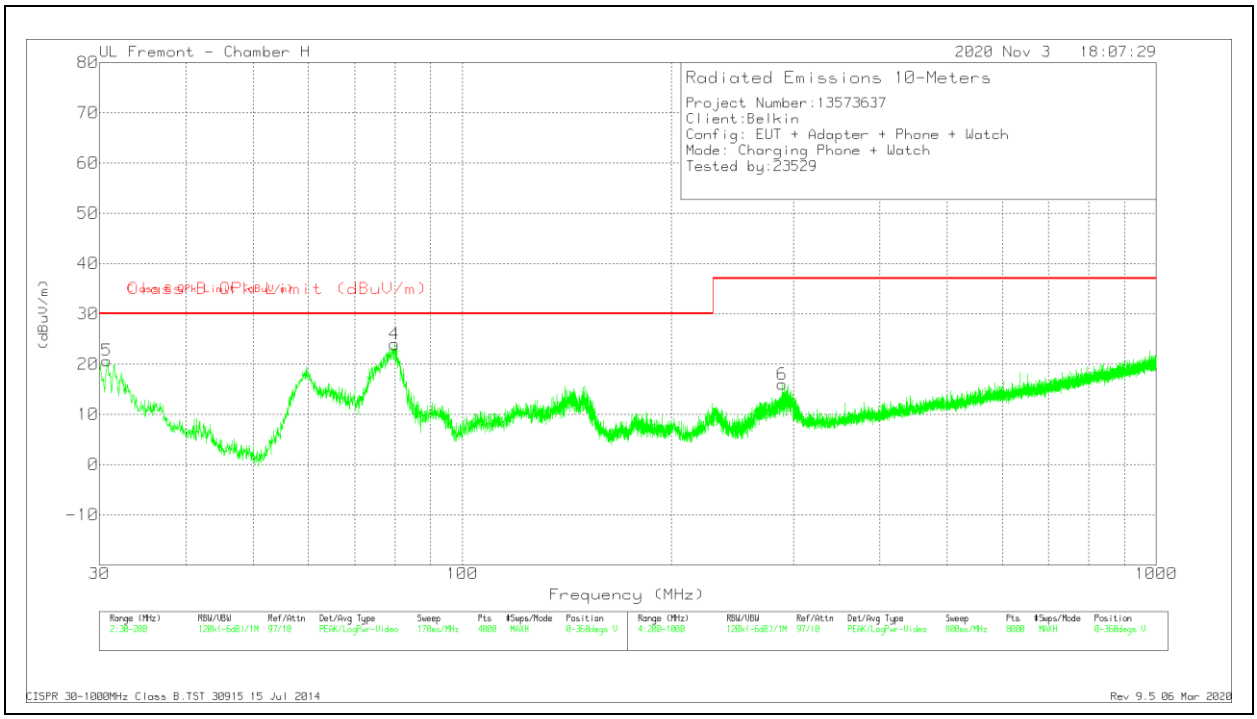
Pk - Peak detector
Qp - Quasi-Peak detector

8.5.6. CONFIGURATION 6: OPERATING MODE WITH iPhone + Apple Watch

HORIZONTAL PLOT



VERTICAL PLOT



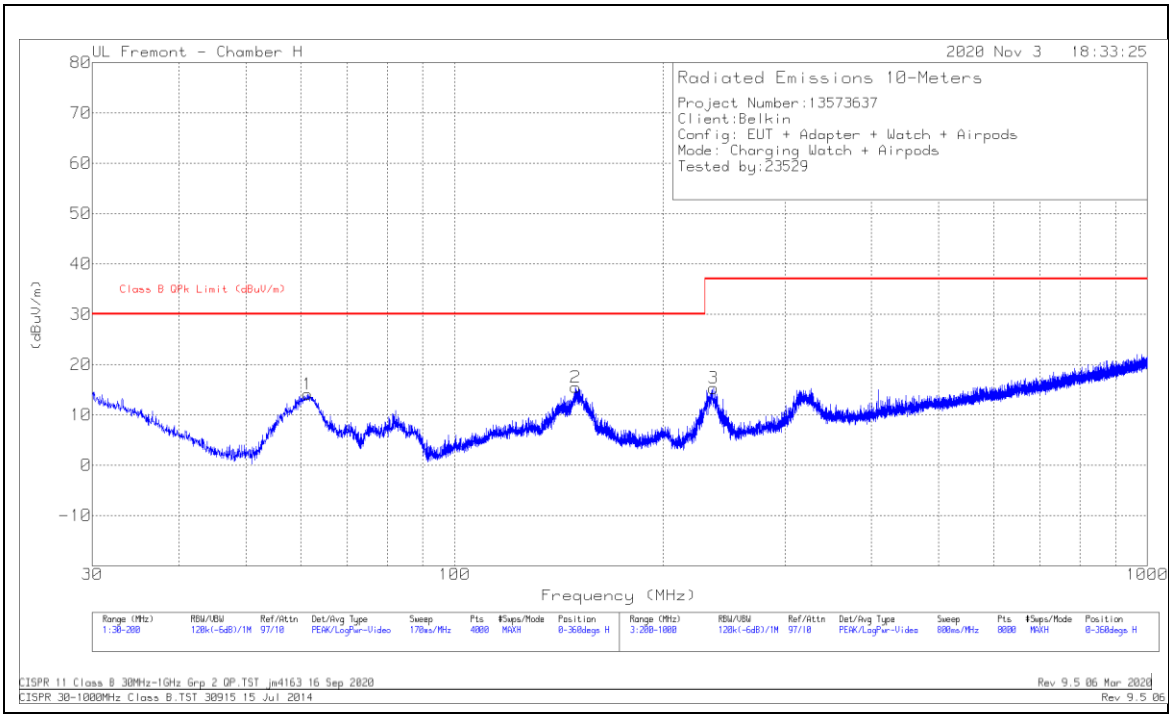
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB) 20Log	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	30.7652	34.87	Pk	27.6	-31.3	-10.5	20.67	30	-9.33	0-360	100	V
1	79.4828	44.99	Pk	14	-30.7	-10.5	17.79	30	-12.21	0-360	300	H
4	79.9079	51.25	Pk	13.9	-30.7	-10.5	23.95	30	-6.05	0-360	100	V
	79.4087	46.38	Qp	14	-30.7	-10.5	19.18	30	-10.82	56	105	V
2	146.9053	42.87	Pk	18.8	-30	-10.5	21.17	30	-8.83	0-360	200	H
6	289.2116	35.77	Pk	19.7	-29	-10.5	15.97	37	-21.03	0-360	200	V
3	629.2558	30.05	Pk	25.8	-27.6	-10.5	17.75	37	-19.25	0-360	100	H

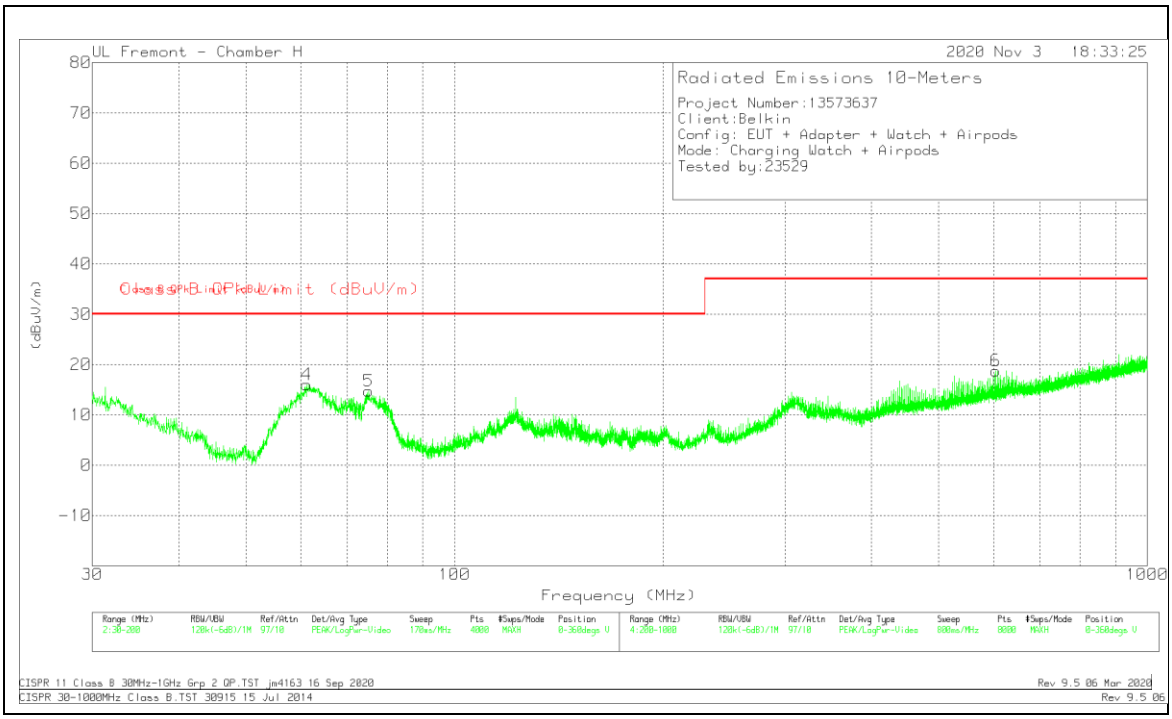
Pk - Peak detector
Qp - Quasi-Peak detector

8.5.7. CONFIGURATION 7: OPERATING MODE WITH AirPods Charging Case + Apple Watch

HORIZONTAL PLOT



VERTICAL PLOT



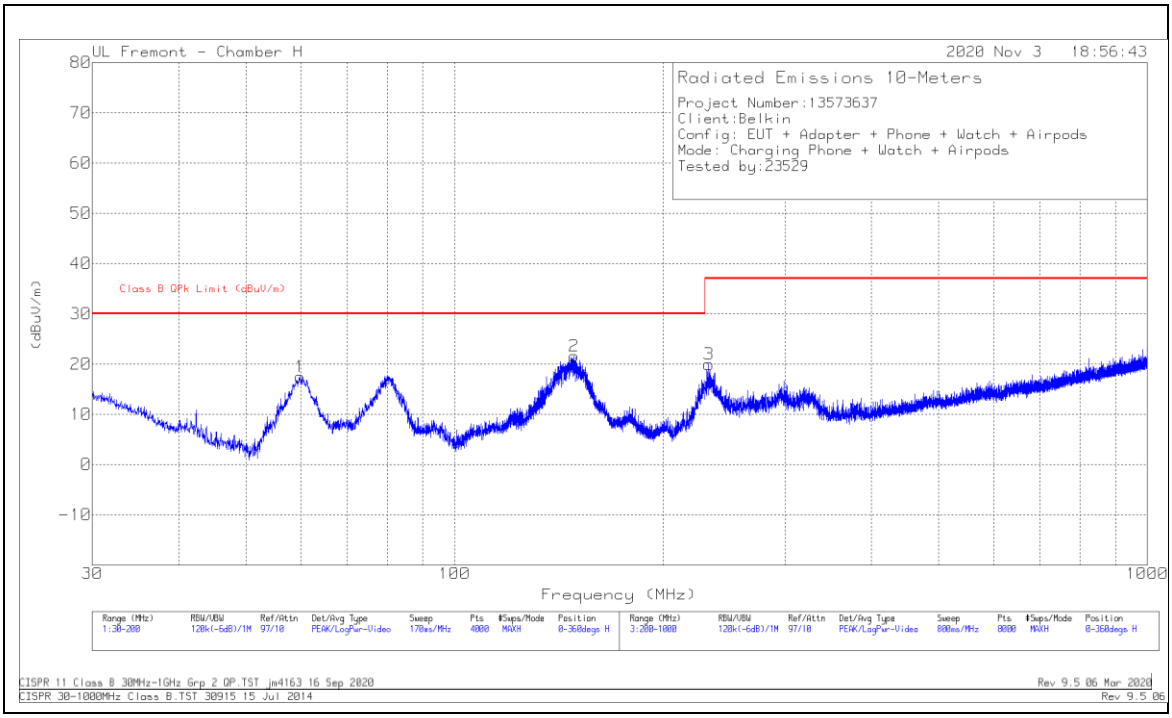
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB) 20Log	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	61.2031	43.89	Pk	13.5	-30.9	-10.5	15.99	30	-14.01	0-360	100	V
	61.2775	39.14	Qp	13.5	-30.9	-10.5	11.24	30	-18.76	63	113	V
1	61.4156	41.99	Pk	13.5	-30.9	-10.5	14.09	30	-15.91	0-360	400	H
5	75.2317	41.71	Pk	14.2	-30.7	-10.5	14.71	30	-15.29	0-360	100	V
2	149.5834	37.27	Pk	18.7	-30	-10.5	15.47	30	-14.53	0-360	100	H
3	236.7048	37.31	Pk	17.9	-29.4	-10.5	15.31	37	-21.69	0-360	100	H
6	604.7526	31.75	Pk	25.2	-27.7	-10.5	18.75	37	-18.25	0-360	100	V

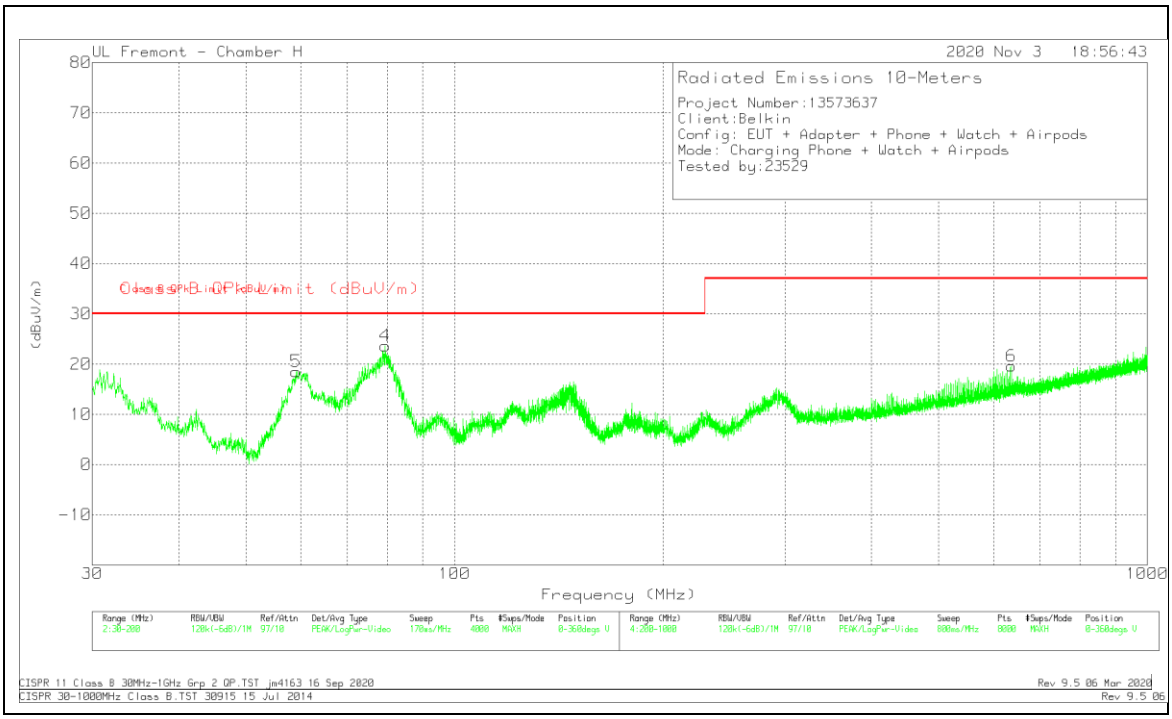
Pk - Peak detector
Qp - Quasi-Peak detector

8.5.8. CONFIGURATION 8: OPERATING MODE WITH iPhone + AirPods Charging Case + Apple Watch

HORIZONTAL PLOT



VERTICAL PLOT



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB) 20Log	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	59.0775	46.49	Pk	13.4	-30.9	-10.5	18.49	30	-11.51	0-360	100	V
1	59.8427	45.38	Pk	13.5	-30.9	-10.5	17.48	30	-12.52	0-360	300	H
4	79.4403	50.84	Pk	14	-30.7	-10.5	23.64	30	-6.36	0-360	100	V
	79.0539	45.53	Qp	14	-30.7	-10.5	18.33	30	-11.67	0	105	V
2	148.9033	43.39	Pk	18.7	-30	-10.5	21.59	30	-8.41	0-360	200	H
3	232.9043	42.03	Pk	17.7	-29.3	-10.5	19.93	37	-17.07	0-360	100	H
6	636.7568	31.61	Pk	26	-27.5	-10.5	19.61	37	-17.39	0-360	99	V

Pk - Peak detector
Qp - Quasi-Peak detector

9. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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.

ICES-001 Issue 5 Table 1

Table 1: Conducted emission limits for induction cooking appliances (AC mains terminals)				
Frequency range (MHz)	Appliances rated 120 V, without an earth connection Quasi-peak (dBµV)	Appliances rated 120 V, without an earth connection Average (dBµV)	All other appliances Quasi-peak (dBµV)	All other appliances Average (dBµV)
0.009 – 0.05	122	—	110	—
0.05 – 0.15	102 to 92 *	—	90 to 80 *	—
0.15 – 0.5	72 to 62 *	62 to 52 *	66 to 56 *	56 to 46 *
0.5 – 5	56	46	56	46
5 – 30	60	50	60	50
Note: The more stringent limit applies at transition frequencies. *The limit level in dBµV decreases linearly with the logarithm of 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.

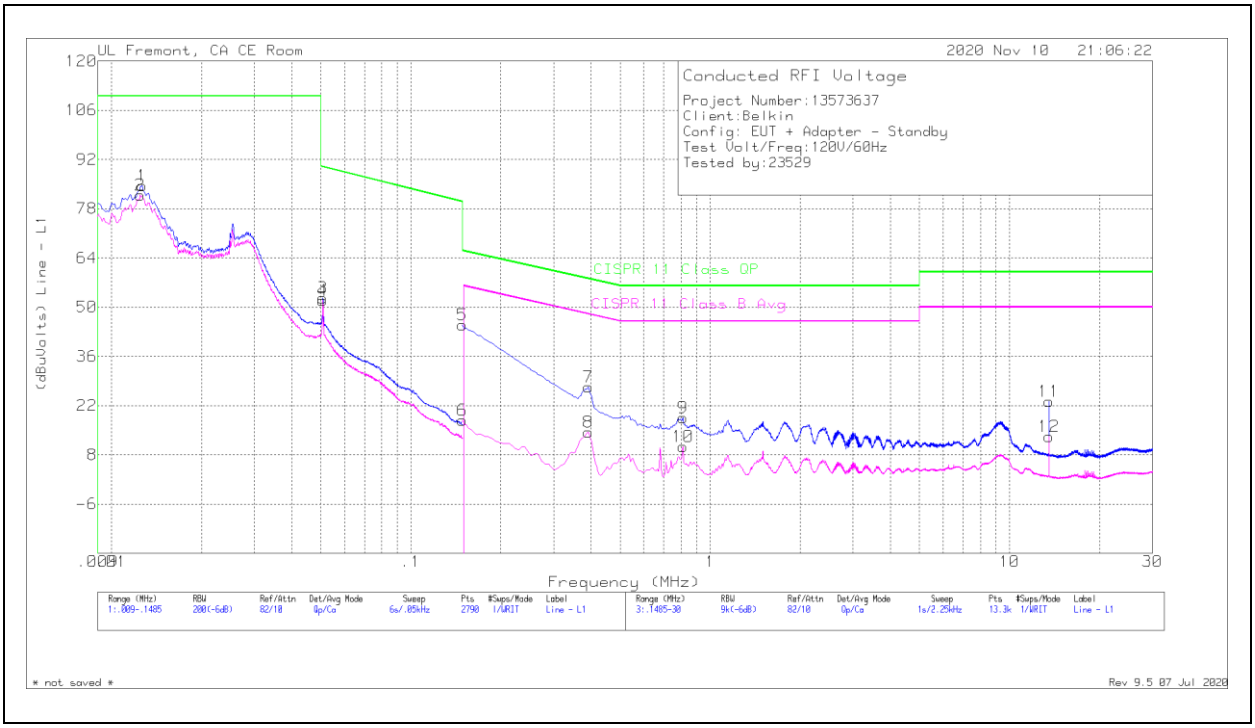
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

9.1.1. CONFIGURATION 1: STANDBY MODE

LINE 1 RESULTS



WORST EMISSIONS

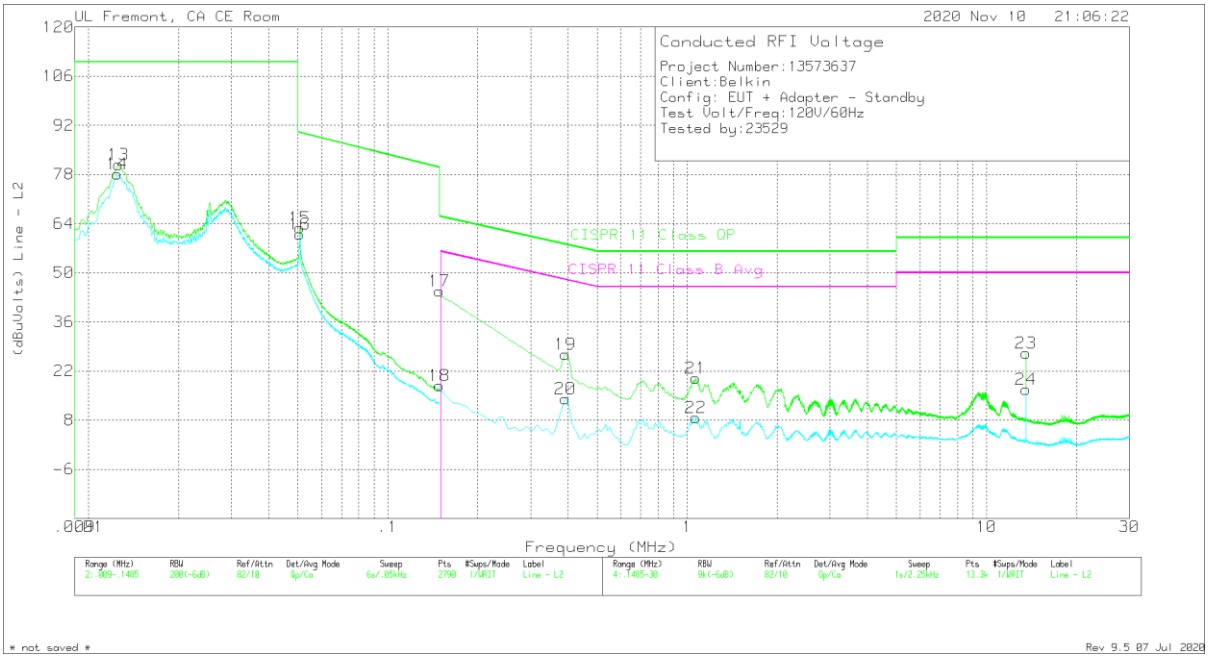
Range 1: Line - L1 .009 - .1485MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186446 LISN L1	LC Cables C1&C3 dB	Limiter (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP	Margin (dB)	CISPR 11 Class B Avg	Margin (dB)
1	.01265	73.92	Qp	.1	0	10.6	84.62	110	-25.38	-	-
2	.0125	71.21	Ca	.1	0	10.6	81.91	-	-	-	-
3	.05085	42.28	Qp	.1	0	10.2	52.58	89.85	-37.27	-	-
4	.0508	41.68	Ca	.1	0	10.2	51.98	-	-	-	-

Range 3: Line - L1 .1485 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186446 LISN L1	LC Cables C1&C3 dB	Limiter (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP	Margin (dB)	CISPR 11 Class B Avg	Margin (dB)
5	.1485	34.8	Qp	.1	0	10.1	45	66	-21	-	-
6	.1485	7.59	Ca	.1	0	10.1	17.79	-	-	56	- 38.21
7	.3915	17.14	Qp	0	0	10.1	27.24	58.01	-30.77	-	-
8	.3915	4.29	Ca	0	0	10.1	14.39	-	-	48.03	-33.64
9	.81	8.37	Qp	0	.1	10.1	18.57	56	-37.43	-	-
10	.81	.11	Ca	0	.1	10.1	10.31	-	-	46	-35.69
11	13.56075	12.6	Qp	.1	.2	10.2	23.1	60	-36.9	-	-
12	13.56075	2.7	Ca	.1	.2	10.2	13.2	-	-	50	-36.8

LINE 2 RESULTS

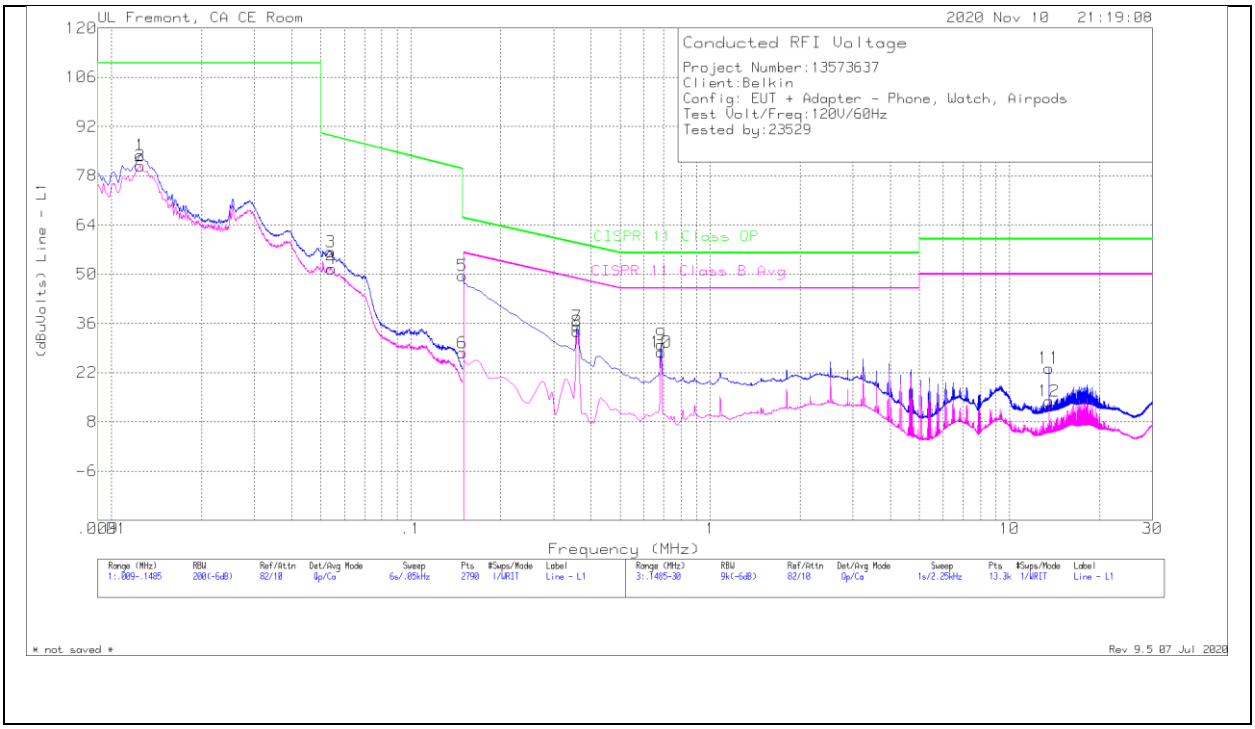


WORST EMISSIONS

Range 2: Line - L2 .009 - .1485MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186446 LISN L2	LC Cables C2&C3 dB	Limiter (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP	Margin (dB)	CISPR 11 Class B Avg	Margin (dB)
13	.0126	70.12	Qp	.1	0	10.6	80.82	110	-29.18	-	-
14	.0125	67.46	Ca	.1	0	10.6	78.16	-	-	-	-
15	.05085	52.5	Qp	.1	0	10.2	62.8	89.85	-27.05	-	-
16	.05083	50.75	Ca	.1	0	10.2	61.05	-	-	-	-
Range 4: Line - L2 .1485 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186446 LISN L2	LC Cables C2&C3 dB	Limiter (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP	Margin (dB)	CISPR 11 Class B Avg	Margin (dB)
17	.1485	34.53	Qp	.1	0	10.1	44.73	66	-21.27	-	-
18	.1485	7.62	Ca	.1	0	10.1	17.82	-	-	56	- 38.18
19	.3915	16.69	Qp	0	0	10.1	26.79	58.01	-31.22	-	-
20	.3915	3.96	Ca	0	0	10.1	14.06	-	-	48.03	-33.97
21	1.06875	9.72	Qp	0	.1	10.1	19.92	56	-36.08	-	-
22	1.06875	-1.48	Ca	0	.1	10.1	8.72	-	-	46	-37.28
23	13.56075	16.63	Qp	.1	.2	10.2	27.13	60	-32.87	-	-
24	13.56075	6.3	Ca	.1	.2	10.2	16.8	-	-	50	-33.2

9.1.2. CONFIGURATION 8: OPERATING MODE WITH iPhone + AirPods Charging Case + Apple Watch

LINE 1 RESULTS



WORST EMISSIONS

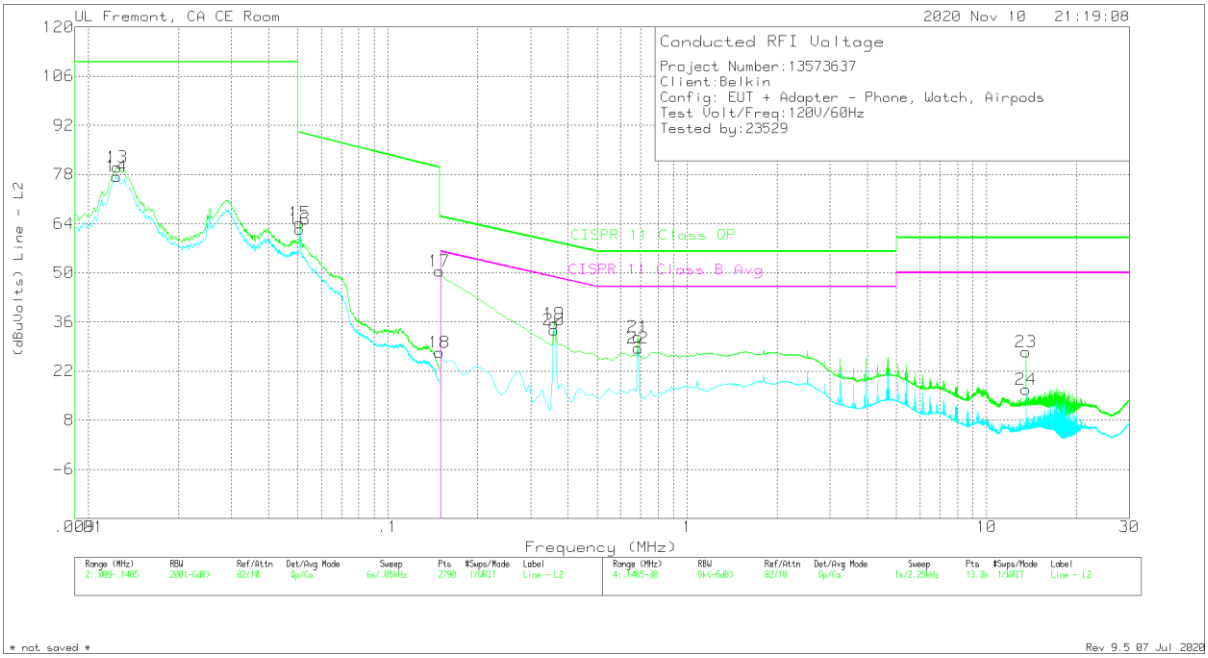
Range 1: Line - L1 .009 - .1485MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186446 LISN L1	LC Cables C1&C3 dB	Limiter (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP	Margin (dB)	CISPR 11 Class B Avg	Margin (dB)
1	.0125	73.15	Qp	.1	0	10.6	83.85	110	-26.15	-	-
2	.0125	70.09	Ca	.1	0	10.6	80.79	-	-	-	-
3	.0541	46.11	Qp	.1	0	10.2	56.41	89.28	-32.87	-	-
4	.05425	41.3	Ca	.1	0	10.2	51.6	-	-	-	-

Range 3: Line - L1 .1485 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186446 LISN L1	LC Cables C1&C3 dB	Limiter (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP	Margin (dB)	CISPR 11 Class B Avg	Margin (dB)
5	.1485	39.36	Qp	.1	0	10.1	49.56	66	-16.44	-	-
6	.1485	17.36	Ca	.1	0	10.1	27.56	-	-	56	- 28.44
7	.36	24.97	Qp	0	0	10.1	35.07	58.71	-23.64	-	-
8	.36	23.54	Ca	0	0	10.1	33.64	-	-	48.73	-15.09
9	.684	19.87	Qp	0	0	10.1	29.97	56	-26.03	-	-
10	.684	17.75	Ca	0	0	10.1	27.85	-	-	46	-18.15
11	13.56075	12.76	Qp	.1	.2	10.2	23.26	60	-36.74	-	-
12	13.56075	3.44	Ca	.1	.2	10.2	13.94	-	-	50	-36.06

LINE 2 RESULTS



WORST EMISSIONS

Range 2: Line - L2 .009 - .1485MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186446 LISN L2	LC Cables C2&C3 dB	Limiter (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP	Margin (dB)	CISPR 11 Class B Avg	Margin (dB)
13	.0125	69.44	Qp	.1	0	10.6	80.14	110	-29.86	-	-
14	.0124	66.66	Ca	.1	0	10.6	77.36	-	-	-	-
15	.05085	53.88	Qp	.1	0	10.2	64.18	89.85	-25.67	-	-
16	.05085	52.2	Ca	.1	0	10.2	62.5	-	-	-	-
Range 4: Line - L2 .1485 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186446 LISN L2	LC Cables C2&C3 dB	Limiter (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP	Margin (dB)	CISPR 11 Class B Avg	Margin (dB)
17	.1485	40.29	Qp	.1	0	10.1	50.49	66	-15.51	-	-
18	.1485	17.16	Ca	.1	0	10.1	27.36	-	-	56	- 28.64
19	.36	25.45	Qp	0	0	10.1	35.55	58.71	-23.16	-	-
20	.36	23.53	Ca	0	0	10.1	33.63	-	-	48.73	-15.1
21	.684	21.66	Qp	0	0	10.1	31.76	56	-24.24	-	-
22	.684	18.38	Ca	0	0	10.1	28.48	-	-	46	-17.52
23	13.56075	16.89	Qp	.1	.2	10.2	27.39	60	-32.61	-	-
24	13.56075	6.3	Ca	.1	.2	10.2	16.8	-	-	50	-33.2

10. SETUP PHOTOS

Please refer to 13573637-EP1V2 for setup photos

END OF TEST REPORT