TEST REPORT

Report Number. : 13941435-E1V3

Applicant	:	BELKIN INTERNATIONAL, INC 12045 EAST WATERFRONT DRIVE PLAYA VISTA, CA 90094, U.S.A.
Model	:	WIZ016
FCC ID	:	K7SWIZ016
EUT Description	:	WIRELESS CHARGER
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C

Date Of Issue:
November 10, 2021

Prepared by:
UL Verification Services Inc.
47173 Benicia Street
Fremont, CA 94538 U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888

ACCREDITED
CERT #0751.05

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	10/25/2021	Initial Issue	---
V2	11/9/2021	Updated EUT's description	Tina Chu
V3	11/10/2021	Updated Section 9 to address TCB's questions	Tina Chu

TABLE OF CONTENTS

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: WIZ016

BRAND: BELKIN

SERIAL NUMBER: 47R10F69B00263 and 47R10F69BQ0224

SAMPLE RECEIPT DATE: SEPTEMBER 27, 2021

DATE TESTED: OCTOBER 04, 2021 TO OCTOBER 20,2021

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART C	Complies

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

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

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released For
UL Verification Services Inc. By:

Francisco de Anda
Staff Engineer
Consumer Technology Division
UL Verification Services Inc.

Prepared By:

Glenn Escano
Test Engineer
Consumer Technology Division
UL Verification Services Inc.

Reviewed By:

Tina Chu
Senior Project Engineer
Consumer Technology Division
UL Verification Services Inc.

2. TEST METHODOLOGY

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

The tests documented in this report were performed in accordance with:
ANSI C63.10-2013
FCC CFR 47 Part 2
FCC CFR 47 Part 15
KDB 414788 D01 Radiated Test Site v01r01

3. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	208313
☐	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA	US0104	22541	208313
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA	US0104	2324B	208313

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 (E-field)	2.84 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz (H-field)	2.87 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

5.1. DESCRIPTION OF EUT

The EUT is a 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 a new iPhone at 360kHz (15W power), legacy iPhone at 127.7kHz (7.5W), AirPods Charging case at 127.7kHz (1W), 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 either 326.5kHz or 1.778MHz with a maximum power 5W in charging status.
EUT is powered by AC/DC adapter only.

5.2. MAXIMUM E-FIELD AND H-FIELD STRENGTH

The transmitter has maximum peak radiated electric as follows:

Fundamental Frequency (KHz)	E field (300m distance) FCC (dBuV/m)
360 (New iPhone)	-25.19
127.7 (Legacy iPhone)	-11.82
127.7 (AirPods Charging Case)	-5.75
110.5 to 148.5 (AirPods Charging Case)	-6.03
326.5 (Legacy Watch)	-25.14
1778 (New Watch)	9.83

5.3. SOFTWARE AND FIRMWARE

The firmware version installed in the EUT during testing was:
360kHz/127.7kHz: V2.09
110.5 to 148.5Hz: V1.0
326kHz /1.778MHz: V1.96

5.4. WORST-CASE CONFIGURATION

EUT is a desktop charger. For all tests, the EUT was connected to an AC/DC power adapter.

The EUT's third coil charging pad can be positioned in two orthogonal orientations X (flatbed) and Y (tilt). The inner base of the EUT can be elevated as an option. The worst orientation is as follows:

1) Standby mode: tilt in the upright position with the inner base elevated.
2) Operating mode: flatbed position in charging mode with the inner base elevated.

Worst case orientation of the client devices have been investigated as follow:

1) iPhone (Legacy and New): front microphone on top of iPhone facing EUT charging cable.
2) Airpod: 270 degree @ 1st coil, 0 degree @ 2nd coil
3) Apple Watch: in landscape position with the digital crown/home button is on top

Testing for coils 1 and 3, testing is based on direct contact with no shifts in position due to the embedded magnet in the charger pad. Coil 2 has no magnetic hold. The AirPods Charging Case is placed at the maximum power position during the testing.

For the entire radiated emissions test, the EUT was tested in desktop position in the following configurations. While charging, client devices were between 20% to 50% state of charge

AC power line conducted testing and radiated spurious emission 30MHz to 1GHz was performed on Configuration 1 and 9 at EUT minimum and maximum load respectively only as worse case.

Config	Mode	Descriptions	Client
1	Standby mode @360kHz @110.5kHz to 148.5kHz @326.5kHz	EUT stand alone, powered by AC/DC adapter. Tilt up/base elevated	None
2	Operating @360kHz	Direct contact during charging between the EUT & WPT Client, EUT is powered by AC/DC adapter.Flatbed /base elevated	1st coil: iPhone 12
3	Operating @127.7kHz		1st coil: Legacy iPhone
4	Operating @127.7kHz		1st coil: AirPods Charging Case with AirPods charging inside
5	Operating @110.5kHz to 148.5kHz		2nd coil: AirPods Charging Case with AirPods charging inside
6	Operating @326.5kHz		3rd coil: Legacy Apple Watch (Series 4, 5)
7	Operating @1.778MHz		3rd coil: New Apple Watch (Series 7)
8	Operating @360kHz, @110.5kHz to 148.5kHz @326.5kHz	Direct contact during charging between the EUT & WPT Clients, EUT is powered by AC/DC adapter. Flatbed /base elevated	1st coil: iPhone 12, 2nd coil: AirPods Charging Case with AirPods charging inside, 3rd coil: Legacy Apple Watch
9	Operating @360kHz, @110.5kHz to 148.5kHz @1.778MHz		1st coil: iPhone 12, 2nd coil:AirPods Charging Case with AirPods charging inside, 3rd coil: New Apple Watch
10	Operating @127.7kHz, @110.5kHz to 148.5kHz @326.5kHz		1st coil: Legacy iPhone 2nd coil AirPods Charging Case with AirPods charging inside, 3rd coil: Legacy Apple Watch
11	Operating @127.7kHz, @110.5kHz to 148.5kHz @1.778MHz		1st coil: Legacy iPhone 2nd coil AirPods Charging Case with AirPods charging inside, 3rd coil: New Apple Watch
12	Operating @127.7kHz, @110.5kHz to 148.5kHz and 326.5kHz		1st coil: AirPods Charging Case with AirPods charging inside, 2nd coil AirPods Charging Case with AirPods charging inside, 3rd coil: Legacy Apple Watch
13	Operating @127.7kHz, @110.5kHz to 148.5kHz and 1.778MHz		1st coil: AirPods Charging Case with AirPods charging inside, 2nd coil AirPods Charging Case with AirPods charging inside, 3rd coil: New 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, Passive Loop 30Hz - 1MHz	ELECTRO-METRICS	EM-6871	29637	05/24/2022	05/24/2021
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	29640	05/24/2022	05/24/2021
Antenna, Passive Loop 30Hz - 1MHz	ELECTRO-METRICS	EM-6871	PRE0179465	07/29/2022	07/29/2021
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	PRE0179467	07/29/2022	07/29/2021
Antenna, Broadband Hybrid, 30MHz to 2000MHz w/4dB	Sunol Sciences Crop.	JB3	202301	10/27/2021	10/27/2020
Antenna, Broadband Hybrid, 30MHz to 2000MHz w/4dB	Sunol Sciences Crop.	JB3	174373	12/02/2021	12/02/2020
Amplifier, 10kHz to 1GHz, 32dB	Sonoma Instrument	310	175953	01/21/2022	01/21/2021
Amplifier, 10kHz to 1GHz, 32dB	Sonoma Instrument	310	T300	03/02/2022	03/02/2021
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179367	02/21/2022	02/21/2021
EMI TEST RECEIVER, with B8 option	Rohde & Schwarz	ESW44	PRE0179377	02/23/2022	02/23/2021

AC Line Conducted					
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**	**Last Cal**
LISN	Fischer Custom Communications, Inc	FCC-LISN-50/250-25-2-01-480V	PRE0186447	01/20/2022	01/20/2021
EMI TEST RECEIVER	Rohde & Schwarz	ESR	T1436	02/19/2022	02/19/2021
Transient Limiter	TE	TBFL1	207996	06/01/2022	06/01/2021
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Rev 9.5, Apr 30, 2020 / Oct., 20 2019		
AC Line Conducted Software	UL	UL EMC	Rev 9.5, 07 Jul 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.

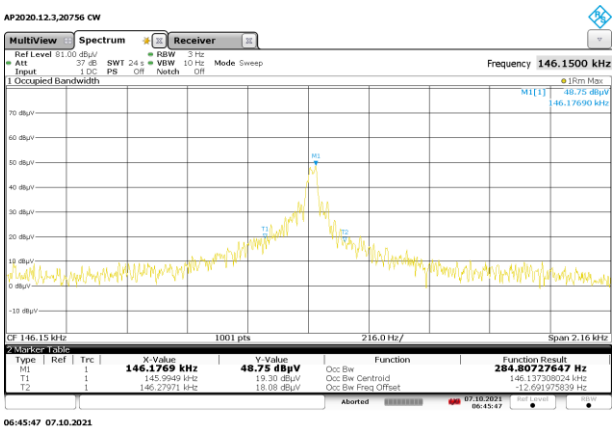
Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

RESULTS

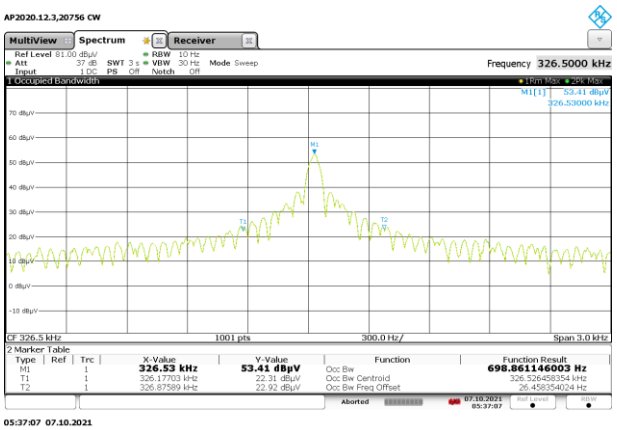
Test Engineer:	10629 RL

Configuration	Frequency (kHz)	99% Bandwidth (Hz)
1	146.2	284.8073
1	326.5	698.8611
2	360	658.1136
3	127.7	656.9949
4	127.7	657.4706
5	147.8	681.9792
6	326.5	656.8710
7	1778	658.0262

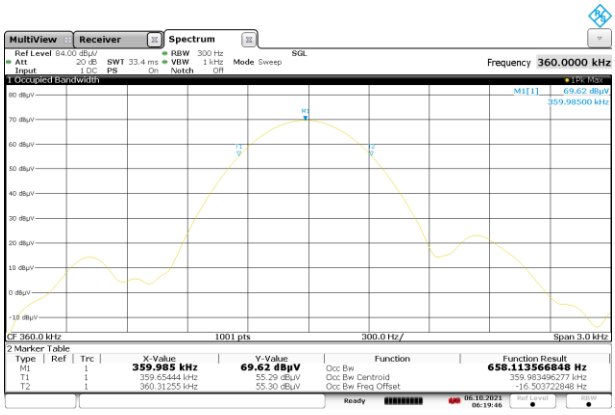
Configuration 1, 1st coil: N/A due to no intended radiator.



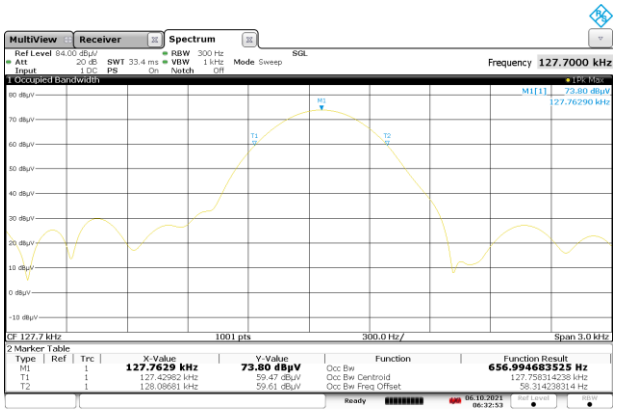
CONFIGURATION 1 (110.5kHz – 148.5kHz)



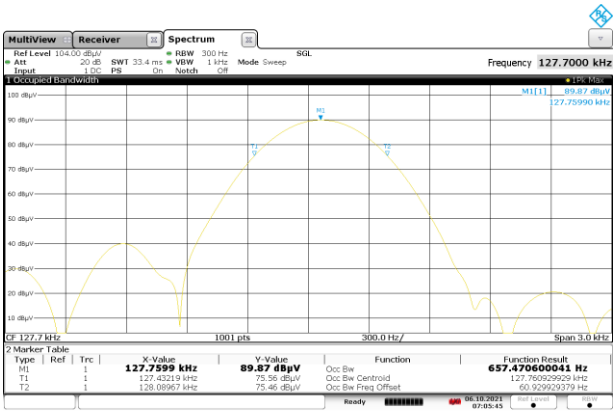
CONFIGURATION 1 (326.5kHz)



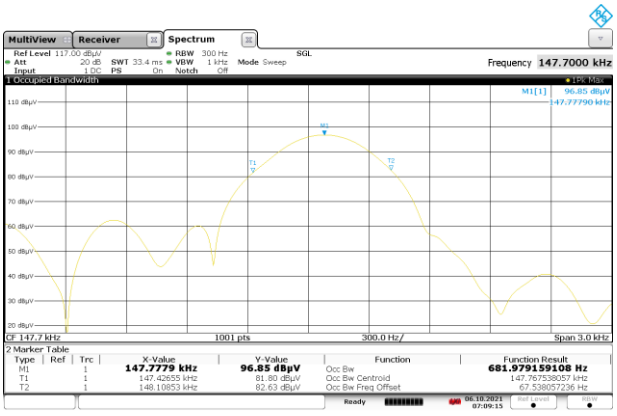
CONFIGURATION 2 (360kHz)



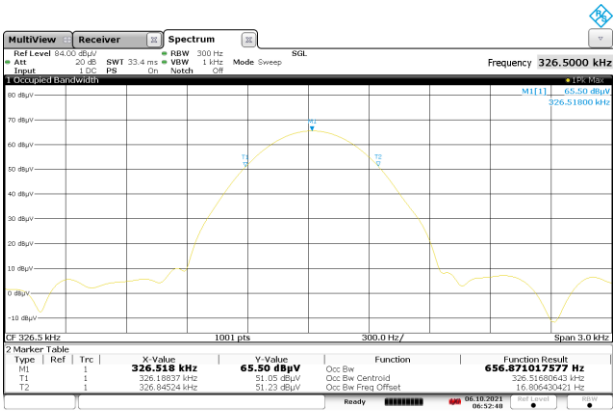
CONFIGURATION 3 (127.7kHz)



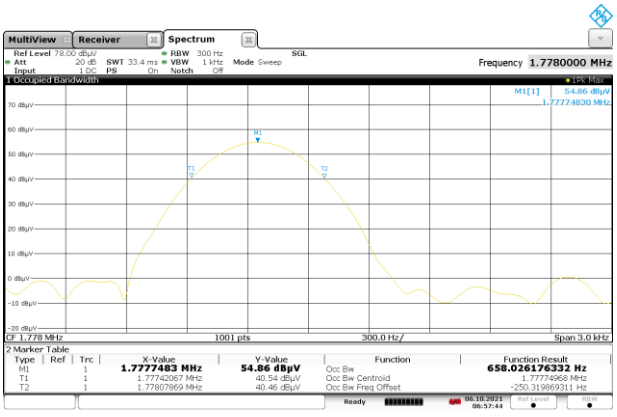
CONFIGURATION 4 (127.7kHz)



CONFIGURATION 5 (110.5kHz to 148.5kHz)



CONFIGURATION 6 (326.5kHz)



CONFIGURATION 7 (1.778MHz)

8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMIT

FCC §15.209 (a)

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.		

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.

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. Blue color trace on plots: Parallel orientation. Green color trace on plots: Perpendicular orientation.

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

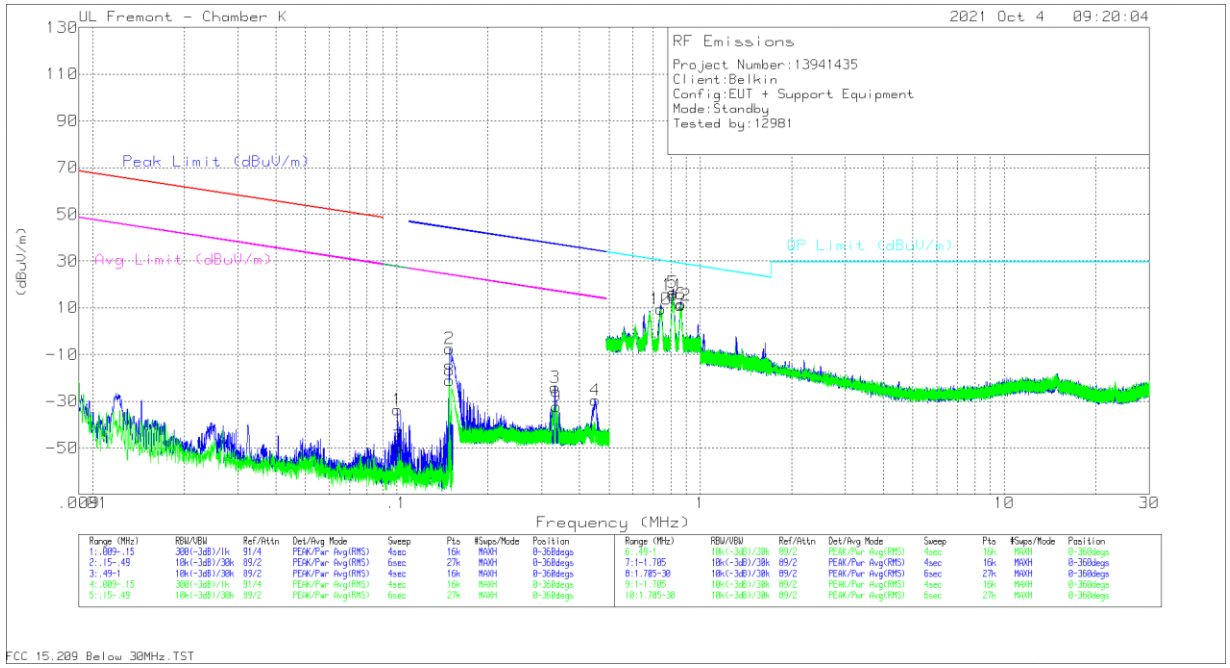
Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

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 (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.10081	23.1	Pk	55.6	-32.3	-80	-33.6	27.54	-61.14	-	-	-	-	0-360	Face-On
2	.14925	48.67	Pk	55.9	-32.2	-80	-7.63	-	-	44.14	-51.77	24.14	-31.77	0-360	Face-On
3	.3327	31.9	Pk	56.2	-32.2	-80	-24.1	-	-	37.17	-61.27	17.17	-41.27	0-360	Face-On
4	.45034	26.31	Pk	56.2	-32.2	-80	-29.69	-	-	34.53	-64.22	14.53	-44.22	0-360	Face-On
7	.10158	7.36	Pk	55.6	-32.3	-80	-49.34	27.47	-76.81	-	-	-	-	0-360	Face-Off
8	.1492	35.21	Pk	55.9	-32.2	-80	-21.09	-	-	44.15	-65.24	24.15	-45.24	0-360	Face-Off
9	.3355	23.74	Pk	56.2	-32.2	-80	-32.26	-	-	37.1	-69.36	17.1	-49.36	0-360	Face-Off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
5	.81038	32.54	Pk	56.2	-32.2	-40	16.54	29.44	-12.9	0-360	Face-On
6	.86291	27.58	Pk	56.2	-32.2	-40	11.58	28.9	-17.32	0-360	Face-On
10	.73986	25.34	Pk	56.2	-32.2	-40	9.34	30.23	-20.89	0-360	Face-Off
11	.81202	31.35	Pk	56.2	-32.2	-40	15.35	29.42	-14.07	0-360	Face-Off
12	.86155	27.06	Pk	56.2	-32.2	-40	11.06	28.91	-17.85	0-360	Face-Off

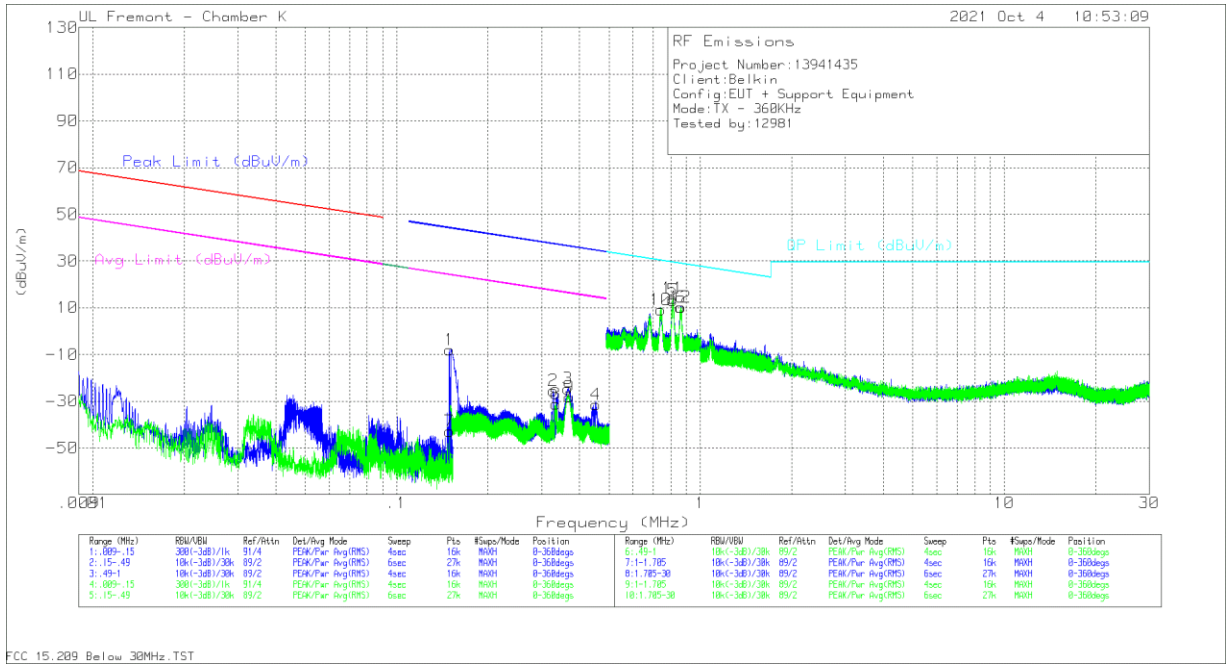
Pk - Peak detector

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
2	.14625	50.57	Pk	55.9	-32.2	-80	-5.73	44.32	-50.05	24.32	-30.05	263	Face-On
3	.32583	32.79	Pk	56.2	-32.2	-80	-23.21	37.35	-60.56	17.35	-40.56	82	Face-On
8	.14628	34.83	Pk	55.9	-32.2	-80	-21.47	44.32	-65.79	24.32	-45.79	352	Face-Off
9	.32672	24.71	Pk	56.2	-32.2	-80	-31.29	37.33	-68.62	17.33	-48.62	359	Face-Off

Pk - Peak detector

8.2.2. CONFIGURATION 2: OPERATING MODE WITH iPhone (360kHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.14918	48.16	Pk	55.9	-32.2	-80	-8.14	44.15	-52.29	24.15	-32.29	0-360	Face-On
2	.32793	30.56	Pk	56.2	-32.2	-80	-25.44	37.29	-62.73	17.29	-42.73	0-360	Face-On
3	.36658	31.42	Pk	56.2	-32.2	-80	-24.58	36.33	-60.91	16.33	-40.91	0-360	Face-On
4	.45273	24.5	Pk	56.2	-32.2	-80	-31.5	34.49	-65.99	14.49	-45.99	0-360	Face-On
7	.14959	13.4	Pk	55.9	-32.2	-80	-42.9	44.12	-87.02	24.12	-67.02	0-360	Face-Off
8	.33385	24.81	Pk	56.2	-32.2	-80	-31.19	37.14	-68.33	17.14	-48.33	0-360	Face-Off
9	.36934	27.88	Pk	56.2	-32.2	-80	-28.12	36.26	-64.38	16.26	-44.38	0-360	Face-Off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
5	.81138	29.22	Pk	56.2	-32.2	-40	13.22	29.43	-16.21	0-360	Face-On
6	.86338	26.21	Pk	56.2	-32.2	-40	10.21	28.89	-18.68	0-360	Face-On
10	.74126	25.16	Pk	56.2	-32.2	-40	9.16	30.21	-21.05	0-360	Face-Off
11	.81195	30.14	Pk	56.2	-32.2	-40	14.14	29.43	-15.29	0-360	Face-Off
12	.86037	26.22	Pk	56.2	-32.2	-40	10.22	28.92	-18.7	0-360	Face-Off

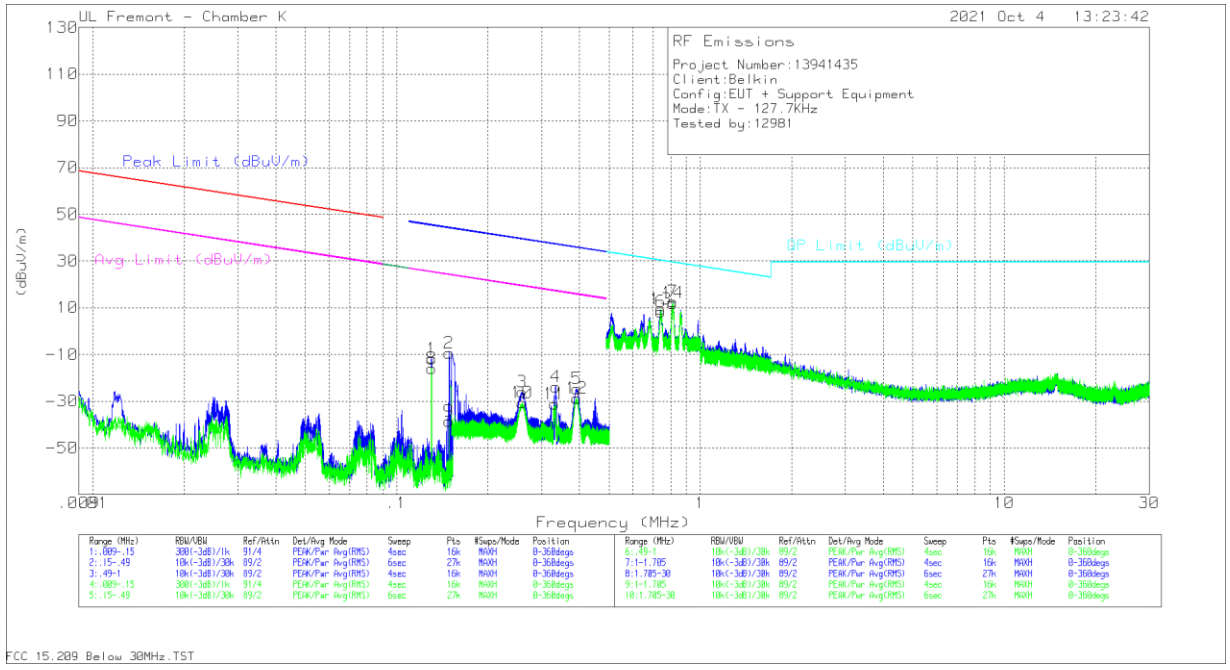
Pk - Peak detector

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.14597	51.26	Pk	55.9	-32.2	-80	-5.04	44.34	-49.38	24.34	-29.38	261	Face-On
2	.32769	17.95	Pk	56.2	-32.2	-80	-38.05	37.3	-75.35	17.3	-55.35	261	Face-On
3	.36039	30.81	Pk	56.2	-32.2	-80	**-25.19**	36.47	-61.66	16.47	-41.66	131	Face-On
7	.14602	33.51	Pk	55.9	-32.2	-80	-22.79	44.34	-67.13	24.34	-47.13	333	Face-Off
8	.32725	24.68	Pk	56.2	-32.2	-80	-31.32	37.31	-68.63	17.31	-48.63	342	Face-Off
9	.36003	27.65	Pk	56.2	-32.2	-80	-28.35	36.48	-64.83	16.48	-44.83	227	Face-Off

Pk - Peak detector

8.2.3. CONFIGURATION 3: OPERATING MODE WITH iPhone (127.7kHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.13029	44.59	Pk	55.8	-32.2	-80	-11.81	45.33	-57.14	25.33	-37.14	0-360	Face-On
2	.14889	46.79	Pk	55.9	-32.2	-80	-9.51	44.17	-53.68	24.17	-33.68	0-360	Face-On
3	.25936	30.05	Pk	56.2	-32.2	-80	-25.95	39.34	-65.29	19.34	-45.29	0-360	Face-On
4	.33385	32.21	Pk	56.2	-32.2	-80	-23.79	37.14	-60.93	17.14	-40.93	0-360	Face-On
5	.39151	31.37	Pk	56.2	-32.2	-80	-24.63	35.75	-60.38	15.75	-40.38	0-360	Face-On
8	.13029	40.53	Pk	55.8	-32.2	-80	-15.87	45.33	-61.2	25.33	-41.2	0-360	Face-Off
9	.14887	17.85	Pk	55.9	-32.2	-80	-38.45	44.17	-82.62	24.17	-62.62	0-360	Face-Off
10	.2592	25.25	Pk	56.2	-32.2	-80	-30.75	39.34	-70.09	19.34	-50.09	0-360	Face-Off
11	.33088	24.89	Pk	56.2	-32.2	-80	-31.11	37.22	-68.33	17.22	-48.33	0-360	Face-Off
12	.39218	27.2	Pk	56.2	-32.2	-80	-28.8	35.74	-64.54	15.74	-44.54	0-360	Face-Off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
6	.74126	24.2	Pk	56.2	-32.2	-40	8.2	30.21	-22.01	0-360	Face-On
7	.81182	28.58	Pk	56.2	-32.2	-40	12.58	29.43	-16.85	0-360	Face-On
13	.73998	25.33	Pk	56.2	-32.2	-40	9.33	30.23	-20.9	0-360	Face-Off
14	.81157	27.98	Pk	56.2	-32.2	-40	11.98	29.43	-17.45	0-360	Face-Off

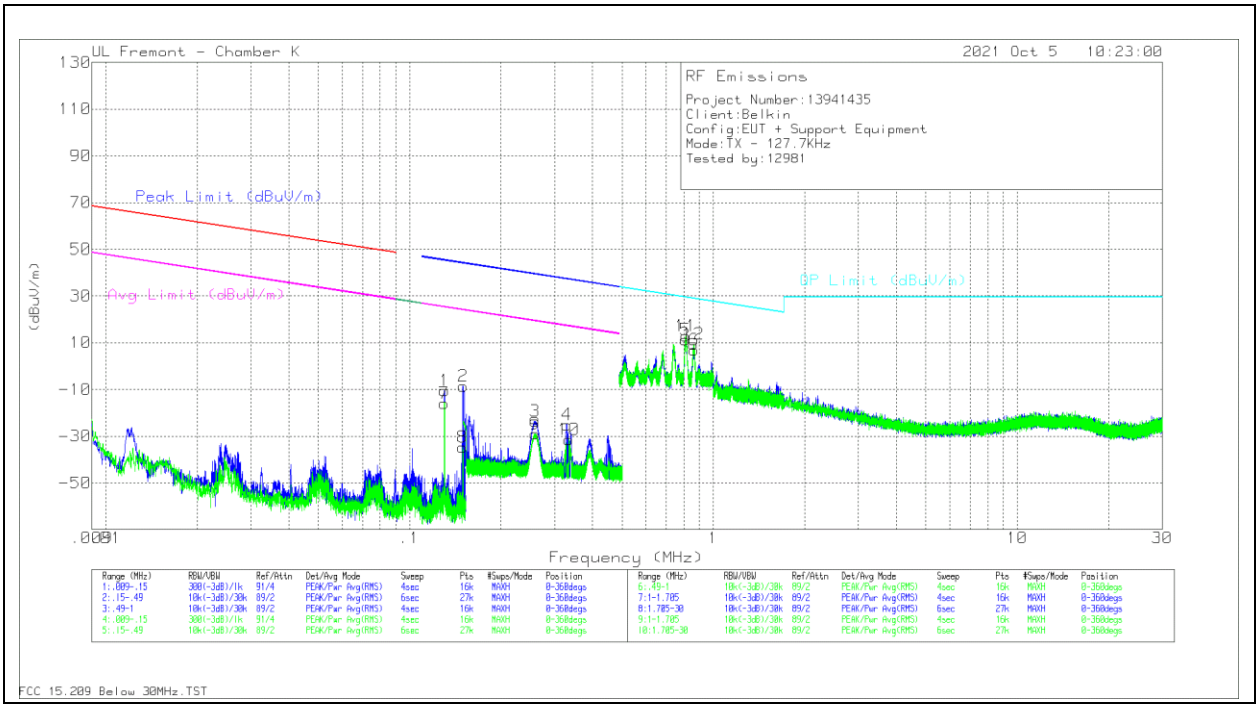
Pk - Peak detector

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.12777	44.58	Pk	55.8	-32.2	-80	**-11.82**	45.5	-57.32	25.5	-37.32	290	Face-On
2	.14605	50.97	Pk	55.9	-32.2	-80	-5.33	44.33	-49.66	24.33	-29.66	266	Face-On
4	.32636	32.75	Pk	56.2	-32.2	-80	-23.25	37.34	-60.59	17.34	-40.59	58	Face-On
8	.12777	39.99	Pk	55.8	-32.2	-80	-16.41	45.5	-61.91	25.5	-41.91	206	Face-Off
9	.14605	33.83	Pk	55.9	-32.2	-80	-22.47	44.33	-66.8	24.33	-46.8	342	Face-Off
11	.32716	24.94	Pk	56.2	-32.2	-80	-31.06	37.32	-68.38	17.32	-48.38	168	Face-Off

Pk - Peak detector

8.2.4. CONFIGURATION 4: OPERATING MODE WITH AirPods Charging Case (127.7kHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.13029	45.79	Pk	55.8	-32.2	-80	-10.61	45.33	-55.94	25.33	-35.94	0-360	Face-on
2	.14985	47.72	Pk	55.9	-32.2	-80	-8.58	44.11	-52.69	24.11	-32.69	0-360	Face-on
3	.25911	32.53	Pk	56.2	-32.2	-80	-23.47	39.34	-62.81	19.34	-42.81	0-360	Face-on
4	.32893	30.92	Pk	56.2	-32.2	-80	-25.08	37.27	-62.35	17.27	-42.35	0-360	Face-on
7	.13025	40.57	Pk	55.8	-32.2	-80	-15.83	45.33	-61.16	25.33	-41.16	0-360	Face-off
8	.1498	21.57	Pk	55.9	-32.2	-80	-34.73	44.11	-78.84	24.11	-58.84	0-360	Face-off
9	.25836	27.07	Pk	56.2	-32.2	-80	-28.93	39.37	-68.3	19.37	-48.3	0-360	Face-off
10	.33418	24.56	Pk	56.2	-32.2	-80	-31.44	37.13	-68.57	17.13	-48.57	0-360	Face-off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
5	.80846	27.38	Pk	56.2	-32.2	-40	11.38	29.46	-18.08	0-360	Face-on
6	.86386	23.03	Pk	56.2	-32.2	-40	7.03	28.89	-21.86	0-360	Face-on
11	.81189	28.94	Pk	56.2	-32.2	-40	12.94	29.43	-16.49	0-360	Face-off
12	.86139	25.35	Pk	56.2	-32.2	-40	9.35	28.91	-19.56	0-360	Face-off

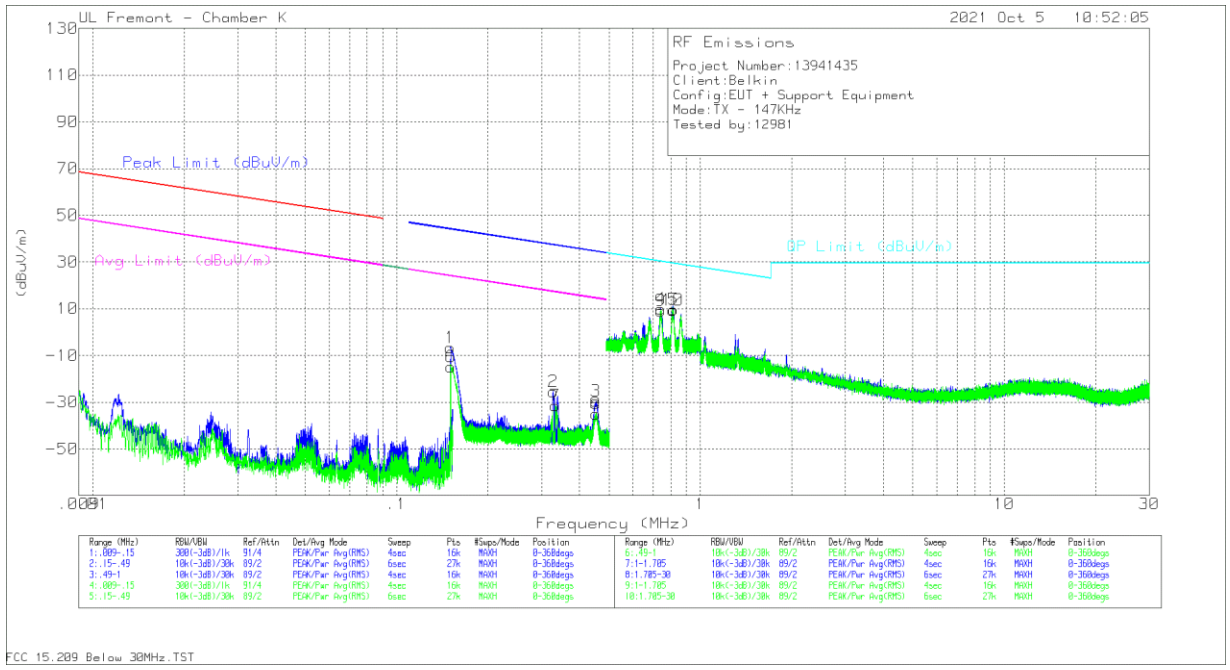
Pk - Peak detector

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.12777	45.97	Pk	55.8	-32.2	-80	-10.43	45.5	-55.93	25.5	-35.93	74	Face-on
2	.14694	50.55	Pk	55.9	-32.2	-80	**-5.75**	44.28	-50.03	24.28	-30.03	232	Face-on
4	.32666	32.98	Pk	56.2	-32.2	-80	-23.0	37.33	-60.35	17.33	-40.35	80	Face-on
7	.12777	40.93	Pk	55.8	-32.2	-80	-15.47	45.5	-60.97	25.5	-40.97	170	Face-off
8	.14691	34.31	Pk	55.9	-32.2	-80	-21.99	44.28	-66.27	24.28	-46.27	152	Face-off
10	.32522	25.6	Pk	56.2	-32.2	-80	-30.4	37.37	-67.77	17.37	-47.77	360	Face-off

Pk - Peak detector

8.2.5. CONFIGURATION 5: OPERATING MODE WITH AirPods Charging Case (110.5kHz to 148.5kHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.15047	49.58	Pk	55.9	-32.2	-80	-6.72	44.07	-50.79	24.07	-30.79	0-360	Face-on
2	.32818	30.49	Pk	56.2	-32.2	-80	-25.51	37.29	-62.8	17.29	-42.8	0-360	Face-on
3	.45284	26.41	Pk	56.2	-32.2	-80	-29.59	34.49	-64.08	14.49	-44.08	0-360	Face-on
6	.15088	41.35	Pk	55.9	-32.2	-80	-14.95	44.05	-59	24.05	-39	0-360	Face-off
7	.33265	24.58	Pk	56.2	-32.2	-80	-31.42	37.17	-68.59	17.17	-48.59	0-360	Face-off
8	.45326	21.06	Pk	56.2	-32.2	-80	-34.94	34.48	-69.42	14.48	-49.42	0-360	Face-off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
4	.74104	25.98	Pk	56.2	-32.2	-40	9.98	30.22	-20.24	0-360	Face-on
5	.81512	25.63	Pk	56.2	-32.1	-40	9.73	29.39	-19.66	0-360	Face-on
9	.7397	25.05	Pk	56.2	-32.2	-40	9.05	30.23	-21.18	0-360	Face-off
10	.81096	25.37	Pk	56.2	-32.2	-40	9.37	29.44	-20.07	0-360	Face-off

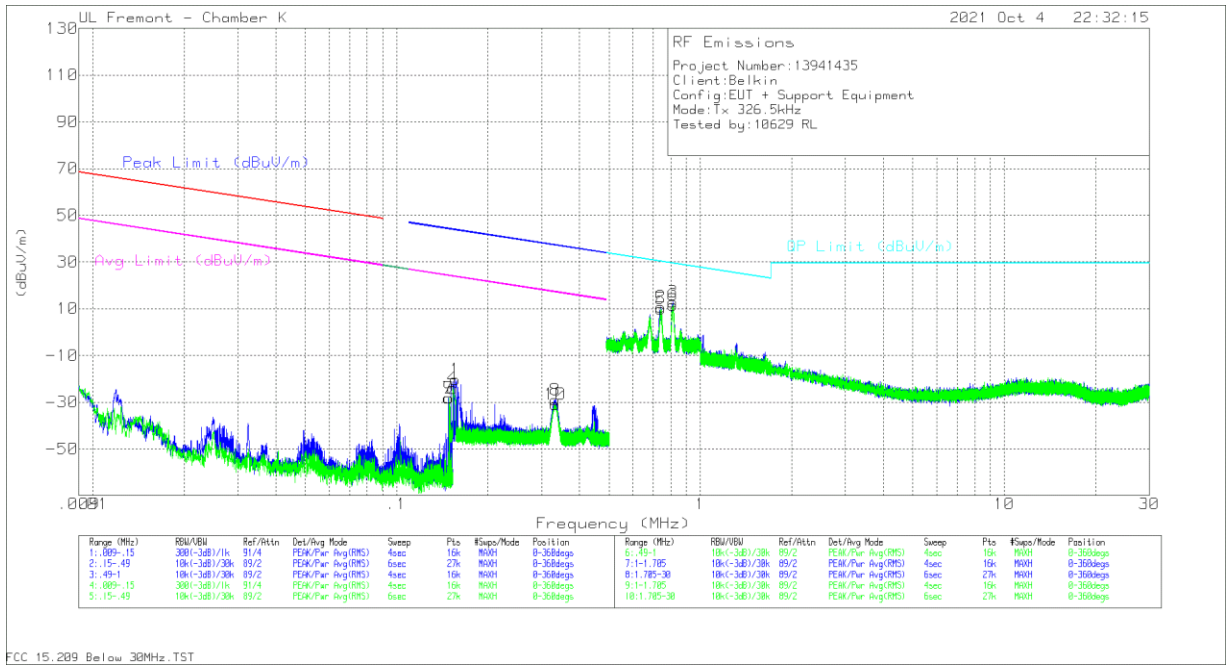
Pk - Peak detector

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.14776	50.27	Pk	55.9	-32.2	-80	**-6.03**	44.23	-50.26	24.23	-30.26	347	Face-on
2	.3259	32.77	Pk	56.2	-32.2	-80	-23.23	37.35	-60.58	17.35	-40.58	55	Face-on
6	.14775	42.54	Pk	55.9	-32.2	-80	-13.76	44.23	-57.99	24.23	-37.99	73	Face-off
7	.32605	25.5	Pk	56.2	-32.2	-80	-30.5	37.34	-67.84	17.34	-47.84	355	Face-off

Pk - Peak detector

8.2.6. CONFIGURATION 6: OPERATING MODE WITH Apple Watch (326.5kHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
7	.14798	28.2	Pk	55.9	-32.2	-80	-28.1	44.22	-72.32	24.22	-52.32	0-360	Face On
1	.15594	36.11	Pk	55.9	-32.2	-80	-20.19	43.76	-63.95	23.76	-43.95	0-360	Face On
8	.33325	26.97	Pk	56.2	-32.2	-80	-29.03	37.15	-66.18	17.15	-46.18	0-360	Face On
9	.14897	28.02	Pk	55.9	-32.2	-80	-28.28	44.16	-72.44	24.16	-52.44	0-360	Face Off
4	.15304	32.32	Pk	55.9	-32.2	-80	-23.98	43.93	-67.91	23.93	-47.91	0-360	Face Off
10	.33218	24.97	Pk	56.2	-32.2	-80	-31.03	37.18	-68.21	17.18	-48.21	0-360	Face Off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
2	.74133	26.8	Pk	56.2	-32.2	-40	10.8	30.21	-19.41	0-360	Face On
3	.81256	28.84	Pk	56.2	-32.2	-40	12.84	29.42	-16.58	0-360	Face On
5	.74075	25.87	Pk	56.2	-32.2	-40	9.87	30.22	-20.35	0-360	Face Off
6	.81144	27.58	Pk	56.2	-32.2	-40	11.58	29.43	-17.85	0-360	Face Off

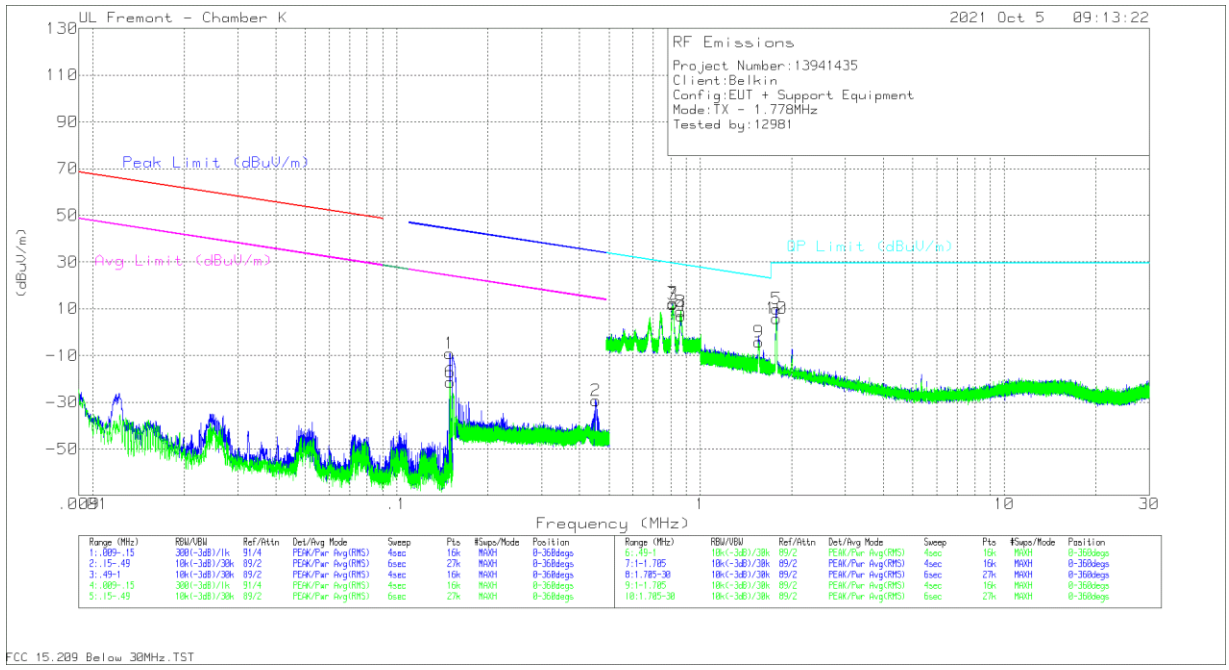
Pk - Peak detector

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
7	.14606	50.69	Pk	55.9	-32.2	-80	-5.61	44.33	-49.94	24.33	-29.94	264	Face On
8	.14601	34.9	Pk	55.9	-32.2	-80	-21.4	44.34	-65.74	24.34	-45.74	176	Face On
9	.32731	30.86	Pk	56.2	-32.2	-80	**-25.14**	37.31	-62.45	17.31	-42.45	51	Face Off
10	.32569	27.73	Pk	56.2	-32.2	-80	-28.27	37.35	-65.62	17.35	-45.62	126	Face Off

Pk - Peak detector

8.2.7. CONFIGURATION 7: OPERATING MODE WITH Apple Watch (1.778MHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.14982	47.1	Pk	55.9	-32.2	-80	-9.2	44.11	-53.31	24.11	-33.31	0-360	Face-on
2	.45263	26.64	Pk	56.2	-32.2	-80	-29.36	34.49	-63.85	14.49	-43.85	0-360	Face-on
6	.14986	34.88	Pk	55.9	-32.2	-80	-21.42	44.11	-65.53	24.11	-45.53	0-360	Face-off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
3	.81141	27.97	Pk	56.2	-32.2	-40	11.97	29.43	-17.46	0-360	Face-on
4	.86328	23.07	Pk	56.2	-32.2	-40	7.07	28.89	-21.82	0-360	Face-on
7	.81182	28.33	Pk	56.2	-32.2	-40	12.33	29.43	-17.1	0-360	Face-off
8	.86178	24.93	Pk	56.2	-32.2	-40	8.93	28.91	-19.98	0-360	Face-off
5	1.77679	39.23	Pk	42.7	-32.1	-40	9.83	29.5	-19.67	0-360	Face-on
9	1.55554	24.11	Pk	43.8	-32.1	-40	-4.19	23.79	-27.98	0-360	Face-off
10	1.77731	35.24	Pk	42.7	-32.1	-40	5.84	29.5	-23.66	0-360	Face-off

Pk - Peak detector

Radiated Emissions

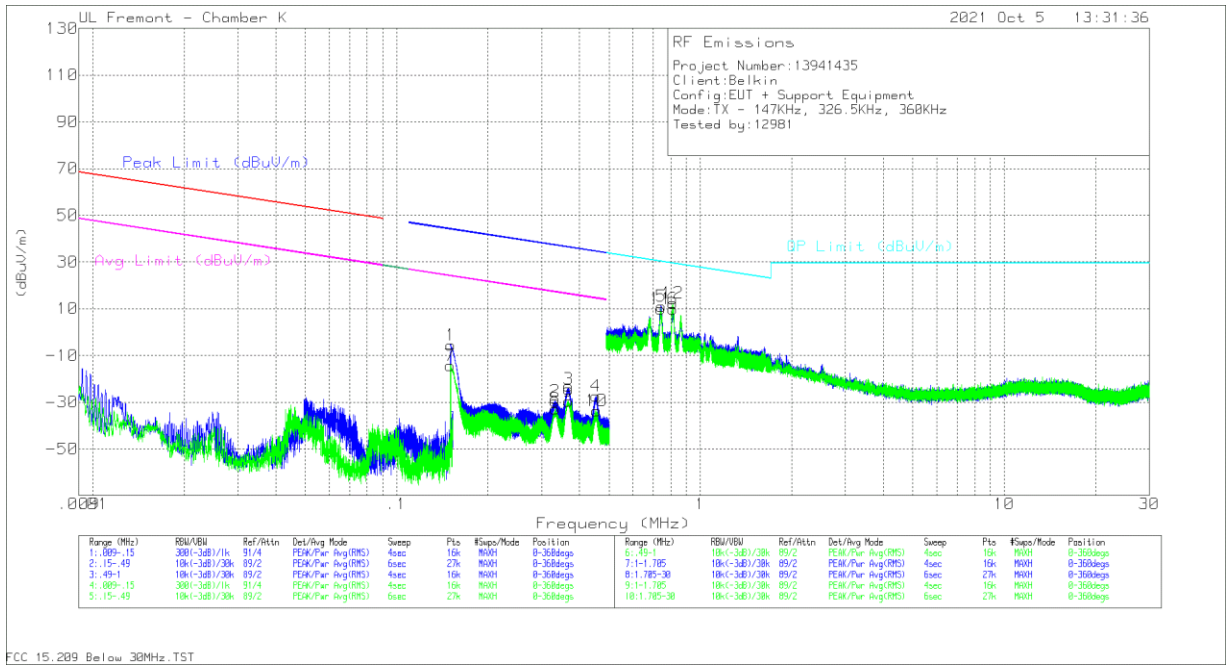
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.14689	50.72	Pk	55.9	-32.2	-80	-5.58	44.28	-49.86	24.28	-29.86	249	Face-on
6	.14691	35.32	Pk	55.9	-32.2	-80	-20.98	44.28	-65.26	24.28	-45.26	155	Face-off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
5	1.77787	39.07	Pk	42.7	-32.1	-40	9.67	29.5	-19.83	93	Face-on
10	1.77695	35.33	Pk	42.7	-32.1	-40	5.93	29.5	-23.57	1	Face-off

Pk - Peak detector

8.2.8. CONFIGURATION 8: OPERATING MODE WITH iPhone (360kHz) + AirPods Charging Case + Apple Watch (326.5kHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.1509	50.63	Pk	55.9	-32.2	-80	-5.67	44.05	-49.72	24.05	-29.72	0-360	Face-on
2	.33217	26.55	Pk	56.2	-32.2	-80	-29.45	37.18	-66.63	17.18	-46.63	0-360	Face-on
3	.36827	31.6	Pk	56.2	-32.2	-80	-24.4	36.29	-60.69	16.29	-40.69	0-360	Face-on
4	.45286	28.61	Pk	56.2	-32.2	-80	-27.39	34.49	-61.88	14.49	-41.88	0-360	Face-on
7	.15028	42.02	Pk	55.9	-32.2	-80	-14.28	44.08	-58.36	24.08	-38.36	0-360	Face-off
8	.33194	23.26	Pk	56.2	-32.2	-80	-32.74	37.19	-69.93	17.19	-49.93	0-360	Face-off
9	.36824	26.4	Pk	56.2	-32.2	-80	-29.6	36.29	-65.89	16.29	-45.89	0-360	Face-off
10	.45455	22.24	Pk	56.2	-32.2	-80	-33.76	34.45	-68.21	14.45	-48.21	0-360	Face-off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
5	.74296	27.14	Pk	56.2	-32.2	-40	11.14	30.19	-19.05	0-360	Face-on
6	.81218	26.04	Pk	56.2	-32.2	-40	10.04	29.42	-19.38	0-360	Face-on
11	.74072	25.83	Pk	56.2	-32.2	-40	9.83	30.22	-20.39	0-360	Face-off
12	.81102	28.5	Pk	56.2	-32.2	-40	12.5	29.44	-16.94	0-360	Face-off

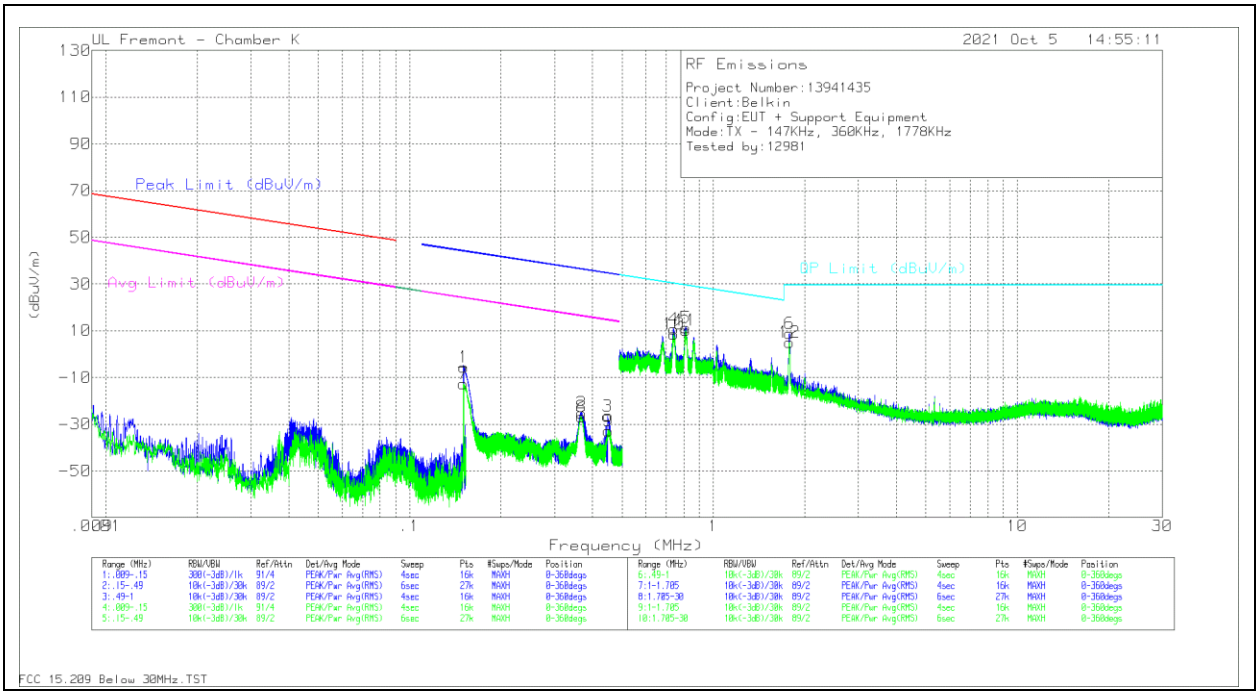
Pk - Peak detector

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.1476	50.75	Pk	55.9	-32.2	-80	-5.55	44.24	-49.79	24.24	-29.79	332	Face-on
2	.32581	26.2	Pk	56.2	-32.2	-80	-29.8	37.35	-67.15	17.35	-47.15	79	Face-on
3	.36039	28.55	Pk	56.2	-32.2	-80	-27.45	36.47	-63.92	16.47	-43.92	152	Face-on
7	.14667	45.44	Pk	55.9	-32.2	-80	-10.86	44.3	-55.16	24.3	-35.16	249	Face-off
8	.32588	23.56	Pk	56.2	-32.2	-80	-32.44	37.35	-69.79	17.35	-49.79	166	Face-off
9	.35948	25.82	Pk	56.2	-32.2	-80	-30.18	36.5	-66.68	16.5	-46.68	255	Face-off

Pk - Peak detector

8.2.9. CONFIGURATION 9: OPERATING MODE WITH iPhone (360kHz) + AirPods Charging Case + Apple Watch (1.778MHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.15065	50.67	Pk	55.9	-32.2	-80	-5.63	44.06	-49.69	24.06	-29.69	0-360	Face-on
2	.36801	30.83	Pk	56.2	-32.2	-80	-25.17	36.29	-61.46	16.29	-41.46	0-360	Face-on
3	.44858	29.32	Pk	56.2	-32.2	-80	-26.68	34.57	-61.25	14.57	-41.25	0-360	Face-on
7	.1502	43.74	Pk	55.9	-32.2	-80	-12.56	44.09	-56.65	24.09	-36.65	0-360	Face-off
8	.36832	29.25	Pk	56.2	-32.2	-80	-26.75	36.28	-63.03	16.28	-43.03	0-360	Face-off
9	.45091	23.17	Pk	56.2	-32.2	-80	-32.83	34.52	-67.35	14.52	-47.35	0-360	Face-off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
4	.74088	26.75	Pk	56.2	-32.2	-40	10.75	30.22	-19.47	0-360	Face-on
5	.81157	27.33	Pk	56.2	-32.2	-40	11.33	29.43	-18.1	0-360	Face-on
10	.74043	24.54	Pk	56.2	-32.2	-40	8.54	30.22	-21.68	0-360	Face-off
11	.81102	26.09	Pk	56.2	-32.2	-40	10.09	29.44	-19.35	0-360	Face-off
6	1.77731	38.15	Pk	42.7	-32.1	-40	8.75	29.5	-20.75	0-360	Face-on
12	1.77836	34.46	Pk	42.7	-32.1	-40	5.06	29.5	-24.44	0-360	Face-off

Pk - Peak detector

Radiated Emissions

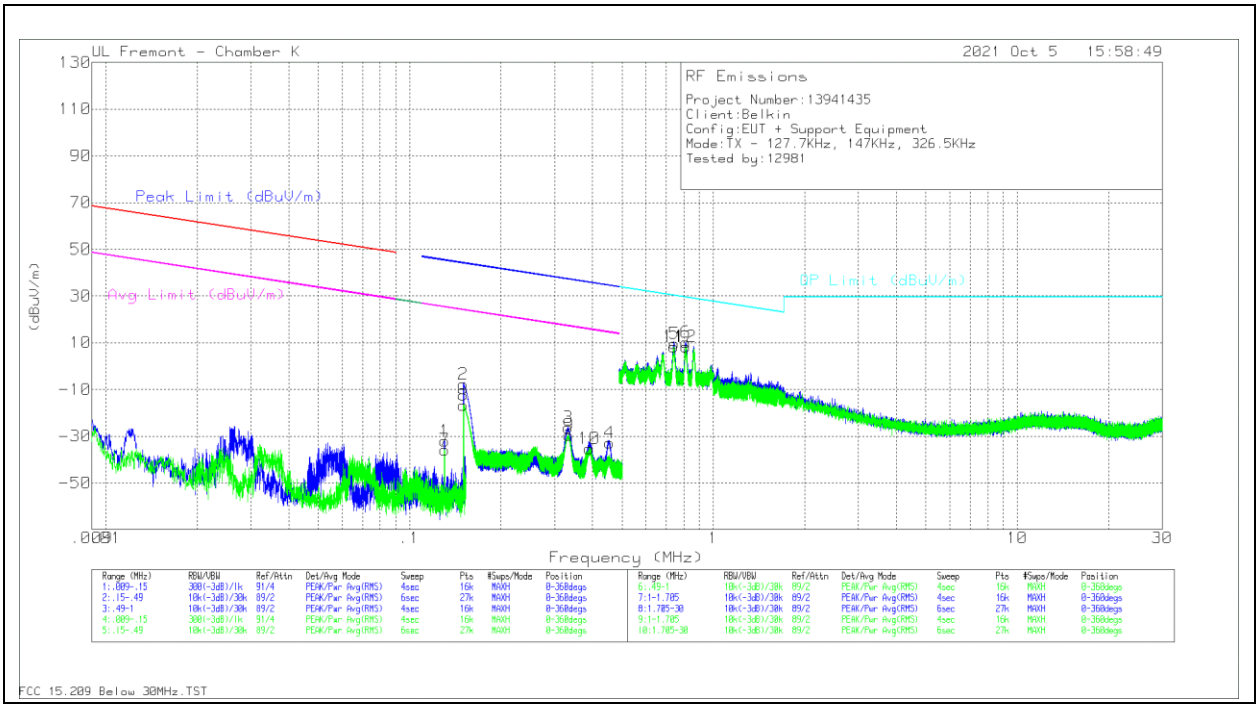
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.14664	54.08	Pk	55.9	-32.2	-80	-2.22	44.3	-46.52	24.3	-26.52	334	Face-on
2	.35938	30.06	Pk	56.2	-32.2	-80	-25.94	36.5	-62.44	16.5	-42.44	117	Face-on
7	.14756	43.98	Pk	55.9	-32.2	-80	-12.32	44.24	-56.56	24.24	-36.56	62	Face-off
8	.35913	27.49	Pk	56.2	-32.2	-80	-28.51	36.5	-65.01	16.5	-45.01	217	Face-off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
6	1.77807	38.72	Pk	42.7	-32.1	-40	9.32	29.5	-20.18	81	Face-on
12	1.7786	34.92	Pk	42.7	-32.1	-40	5.52	29.5	-23.98	164	Face-off

Pk - Peak detector

8.2.10. CONFIGURATION 10: OPERATING MODE WITH iPhone (127.7kHz) + AirPods Charging Case + Apple Watch (326.5kHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.13029	24.44	Pk	55.8	-32.2	-80	-31.96	45.33	-77.29	25.33	-57.29	0-360	Face-On
2	.15043	48.63	Pk	55.9	-32.2	-80	-7.67	44.08	-51.75	24.08	-31.75	0-360	Face-On
3	.33249	29.57	Pk	56.2	-32.2	-80	-26.43	37.17	-63.6	17.17	-43.6	0-360	Face-On
4	.45566	23.06	Pk	56.2	-32.2	-80	-32.94	34.43	-67.37	14.43	-47.37	0-360	Face-On
7	.1303	20.63	Pk	55.8	-32.2	-80	-35.77	45.33	-81.1	25.33	-61.1	0-360	Face-Off
8	.15035	39.56	Pk	55.9	-32.2	-80	-16.74	44.08	-60.82	24.08	-40.82	0-360	Face-Off
9	.33357	26.4	Pk	56.2	-32.2	-80	-29.6	37.15	-66.75	17.15	-46.75	0-360	Face-Off
10	.3899	20.79	Pk	56.2	-32.2	-80	-35.21	35.79	-71	15.79	-51	0-360	Face-Off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
5	.7428	25.7	Pk	56.2	-32.2	-40	9.7	30.2	-20.5	0-360	Face-On
6	.81118	26.22	Pk	56.2	-32.2	-40	10.22	29.43	-19.21	0-360	Face-On
11	.74056	24.41	Pk	56.2	-32.2	-40	8.41	30.22	-21.81	0-360	Face-Off
12	.81227	24.25	Pk	56.2	-32.2	-40	8.25	29.42	-21.17	0-360	Face-Off

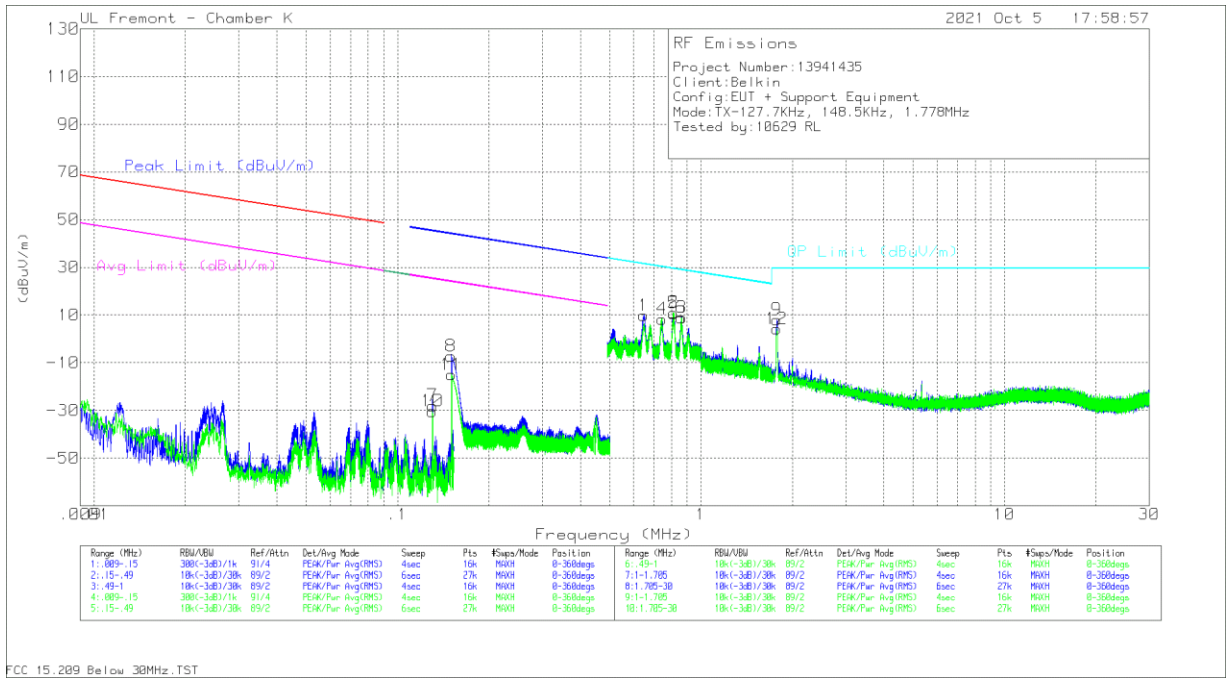
Pk - Peak detector

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.12776	25.9	Pk	55.8	-32.2	-80	-30.5	45.5	-76	25.5	-56	26	Face-On
2	.14761	49.31	Pk	55.9	-32.2	-80	-6.99	44.24	-51.23	24.24	-31.23	0	Face-On
3	.32721	33.86	Pk	56.2	-32.2	-80	-22.14	37.31	-59.45	17.31	-39.45	133	Face-On
7	.12774	20.59	Pk	55.8	-32.2	-80	-35.81	45.5	-81.31	25.5	-61.31	309	Face-Off
8	.14672	43.95	Pk	55.9	-32.2	-80	-12.35	44.29	-56.64	24.29	-36.64	74	Face-Off
9	.32673	29.59	Pk	56.2	-32.2	-80	-26.41	37.33	-63.74	17.33	-43.74	229	Face-Off

Pk - Peak detector

8.2.11. CONFIGURATION 11: OPERATING MODE WITH iPhone (127.7kHz) + AirPods Charging Case + Apple Watch (1.778MHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Orientation
7	.13045	28.42	Pk	55.8	-32.2	-80	-27.98	45.32	-73.3	25.32	-53.3	0-360	Face On
8	.15005	49.06	Pk	55.9	-32.2	-80	-7.24	44.1	-51.34	24.1	-31.34	0-360	Face On
10	.13029	26.11	Pk	55.8	-32.2	-80	-30.29	45.33	-75.62	25.33	-55.62	0-360	Face Off
11	.15058	41.3	Pk	55.9	-32.2	-80	-15	44.07	-59.07	24.07	-39.07	0-360	Face Off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Orientation
1	.6476	25.72	Pk	56.2	-32.1	-40	9.82	31.38	-21.56	0-360	Face On
2	.81141	27.02	Pk	56.2	-32.2	-40	11.02	29.43	-18.41	0-360	Face On
3	.86277	24.94	Pk	56.2	-32.2	-40	8.94	28.9	-19.96	0-360	Face On
4	.74296	24.31	Pk	56.2	-32.2	-40	8.31	30.19	-21.88	0-360	Face Off
5	.81154	26.8	Pk	56.2	-32.2	-40	10.8	29.43	-18.63	0-360	Face Off
6	.86181	24.89	Pk	56.2	-32.2	-40	8.89	28.91	-20.02	0-360	Face Off
9	1.77731	37.38	Pk	42.7	-32.1	-40	7.98	29.5	-21.52	0-360	Face On
12	1.77626	33.61	Pk	42.7	-32.1	-40	4.21	29.5	-25.29	0-360	Face Off

Pk - Peak detector

Radiated Emissions

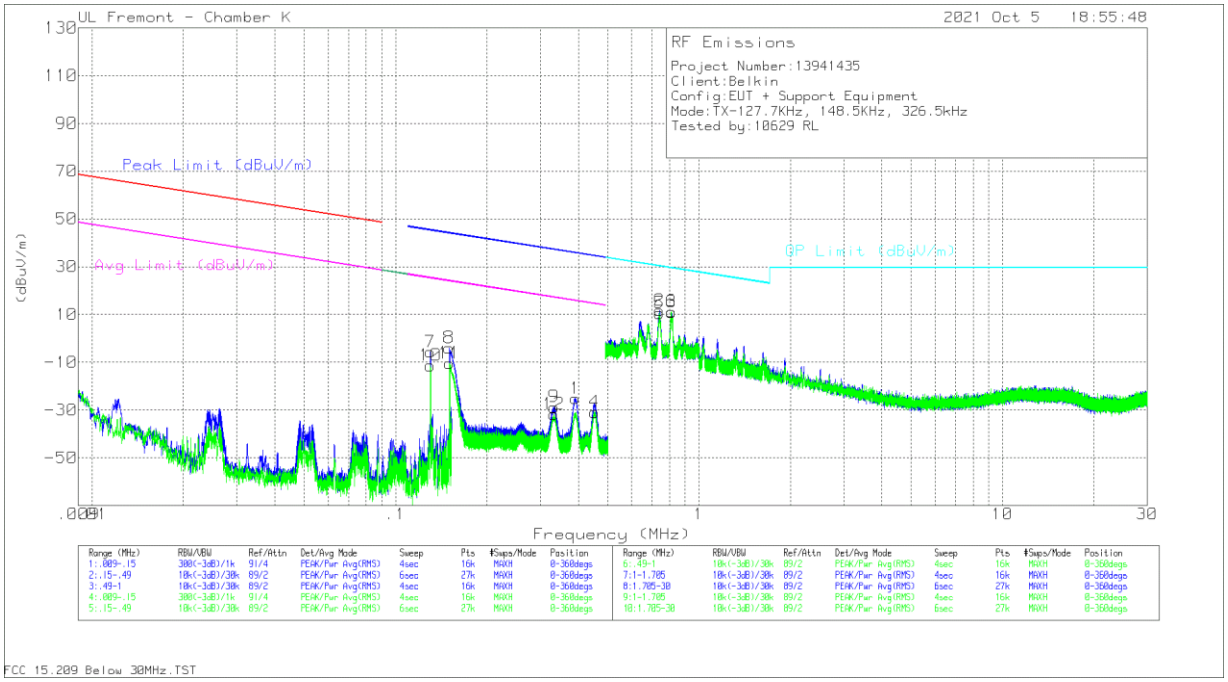
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Orientation
7	.12777	32.06	Pk	55.8	-32.2	-80	-24.34	45.5	-69.84	25.5	-49.84	169	Face On
8	.12775	26.7	Pk	55.8	-32.2	-80	-29.7	45.5	-75.2	25.5	-55.2	260	Face Off
10	.14761	52.38	Pk	55.9	-32.2	-80	-3.92	44.24	-48.16	24.24	-28.16	331	Face On
11	.14762	44.9	Pk	55.9	-32.2	-80	-11.4	44.24	-55.64	24.24	-35.64	252	Face Off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Orientation
9	1.77715	38.15	Pk	42.7	-32.1	-40	8.75	29.5	-20.75	76	Face On
12	1.77735	34.54	Pk	42.7	-32.1	-40	5.14	29.5	-24.36	144	Face Off

Pk - Peak detector

8.2.12. CONFIGURATION 12: OPERATING MODE WITH AirPods Charging Case (127.7kHz) + AirPods Charging Case (110.5kHz to 148.5kHz) + Apple Watch (326.5kHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Orientation
7	.13029	50.69	Pk	55.8	-32.2	-80	-5.71	45.33	-51.04	25.33	-31.04	0-360	Face On
1	.392	30.85	Pk	56.2	-32.2	-80	-25.15	35.74	-60.89	15.74	-40.89	0-360	Face On
8	.15008	52.35	Pk	55.9	-32.2	-80	-3.95	44.1	-48.05	24.1	-28.05	0-360	Face On
9	.33301	27.25	Pk	56.2	-32.2	-80	-28.75	37.16	-65.91	17.16	-45.91	0-360	Face On
10	.1303	45.04	Pk	55.8	-32.2	-80	-11.36	45.33	-56.69	25.33	-36.69	0-360	Face Off
4	.4518	25.14	Pk	56.2	-32.2	-80	-30.86	34.51	-65.37	14.51	-45.37	0-360	Face Off
11	.15021	45.86	Pk	55.9	-32.2	-80	-10.44	44.09	-54.53	24.09	-34.53	0-360	Face Off
12	.33235	24.22	Pk	56.2	-32.2	-80	-31.78	37.18	-68.96	17.18	-48.96	0-360	Face Off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Orientation
2	.73963	27.69	Pk	56.2	-32.2	-40	11.69	30.23	-18.54	0-360	Face On
3	.81195	27.05	Pk	56.2	-32.2	-40	11.05	29.43	-18.38	0-360	Face On
5	.74136	26.56	Pk	56.2	-32.2	-40	10.56	30.21	-19.65	0-360	Face Off
6	.81166	27.31	Pk	56.2	-32.2	-40	11.31	29.43	-18.12	0-360	Face Off

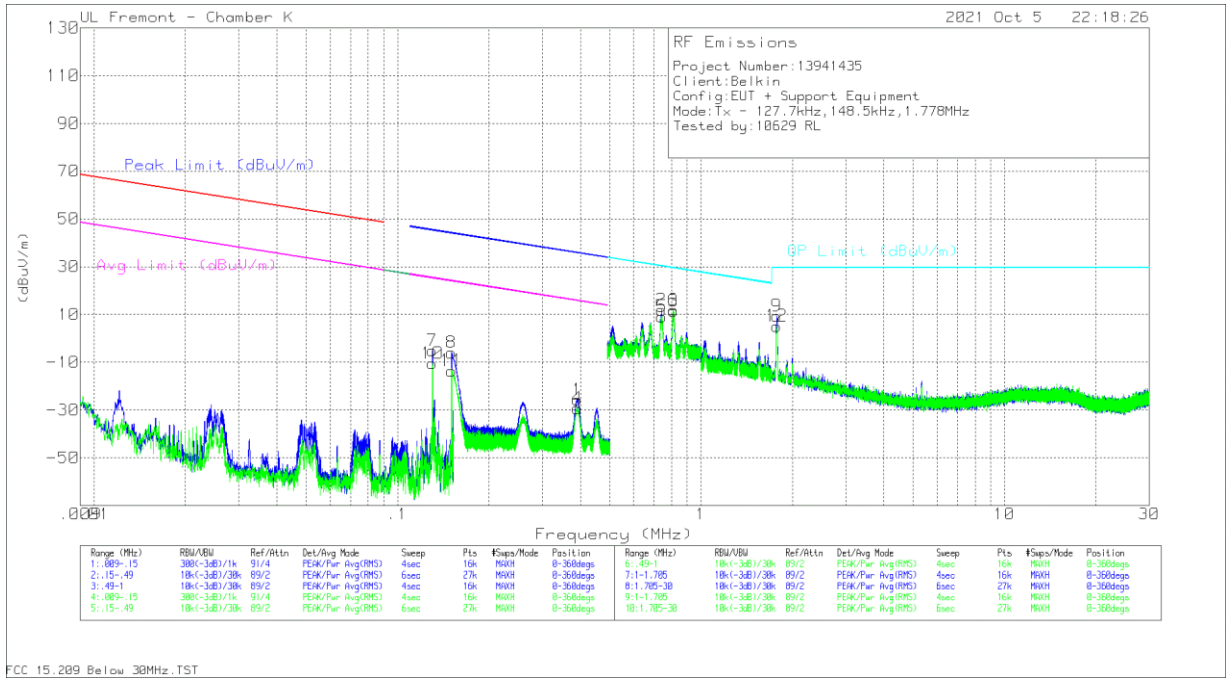
Pk - Peak detector

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Azimuth (Degs)	Orientation
7	.12777	50.79	Pk	55.8	-32.2	-80	-5.61	45.5	-51.11	25.5	-31.11	Face On
10	.12777	45.98	Pk	55.8	-32.2	-80	-10.42	45.5	-55.92	25.5	-35.92	Face Off
8	.14769	50.56	Pk	55.9	-32.2	-80	-5.74	44.24	-49.98	24.24	-29.98	Face On
11	.1477	46.59	Pk	55.9	-32.2	-80	-9.71	44.24	-53.95	24.24	-33.95	Face Off
9	.32614	28.05	Pk	56.2	-32.2	-80	-27.95	37.34	-65.29	17.34	-45.29	Face On
12	.32596	25.08	Pk	56.2	-32.2	-80	-30.92	37.35	-68.27	17.35	-48.27	Face Off

Pk - Peak detector

8.2.13. CONFIGURATION 13: OPERATING MODE WITH AirPods Charging Case (127.7kHz) + AirPods Charging Case (110.5kHz to 148.5kHz) + Apple Watch (1.778MHz)



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Orientaion
7	.13029	51.27	Pk	55.8	-32.2	-80	-5.13	45.33	-50.46	25.33	-30.46	0-360	Face On
1	.39105	30.27	Pk	56.2	-32.2	-80	-25.73	35.76	-61.49	15.76	-41.49	0-360	Face On
8	.15055	50.28	Pk	55.9	-32.2	-80	-6.02	44.07	-50.09	24.07	-30.09	0-360	Face On
10	.13029	45.93	Pk	55.8	-32.2	-80	-10.47	45.33	-55.8	25.33	-35.8	0-360	Face Off
4	.39151	26.75	Pk	56.2	-32.2	-80	-29.25	35.75	-65	15.75	-45	0-360	Face Off
11	.15066	42.73	Pk	55.9	-32.2	-80	-13.57	44.06	-57.63	24.06	-37.63	0-360	Face Off

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Orientaion
2	.74197	27.88	Pk	56.2	-32.2	-40	11.88	30.21	-18.33	0-360	Face On
3	.81074	27.42	Pk	56.2	-32.2	-40	11.42	29.44	-18.02	0-360	Face On
5	.74283	25.07	Pk	56.2	-32.2	-40	9.07	30.2	-21.13	0-360	Face Off
6	.81064	27.94	Pk	56.2	-32.2	-40	11.94	29.44	-17.5	0-360	Face Off
9	1.77626	38.73	Pk	42.7	-32.1	-40	9.33	29.5	-20.17	0-360	Face On
12	1.77731	34.52	Pk	42.7	-32.1	-40	5.12	29.5	-24.38	0-360	Face Off

Pk - Peak detector

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Orientaion
7	.12777	45.94	Pk	55.8	-32.2	-80	-10.46	45.5	-55.96	25.5	-35.96	59	Face On
10	.12776	40.67	Pk	55.8	-32.2	-80	-15.73	45.5	-61.23	25.5	-41.23	326	Face Off
8	.14769	50.95	Pk	55.9	-32.2	-80	-5.35	44.24	-49.59	24.24	-29.59	185	Face On
11	.1477	43.71	Pk	55.9	-32.2	-80	-12.59	44.24	-56.83	24.24	-36.83	275	Face Off

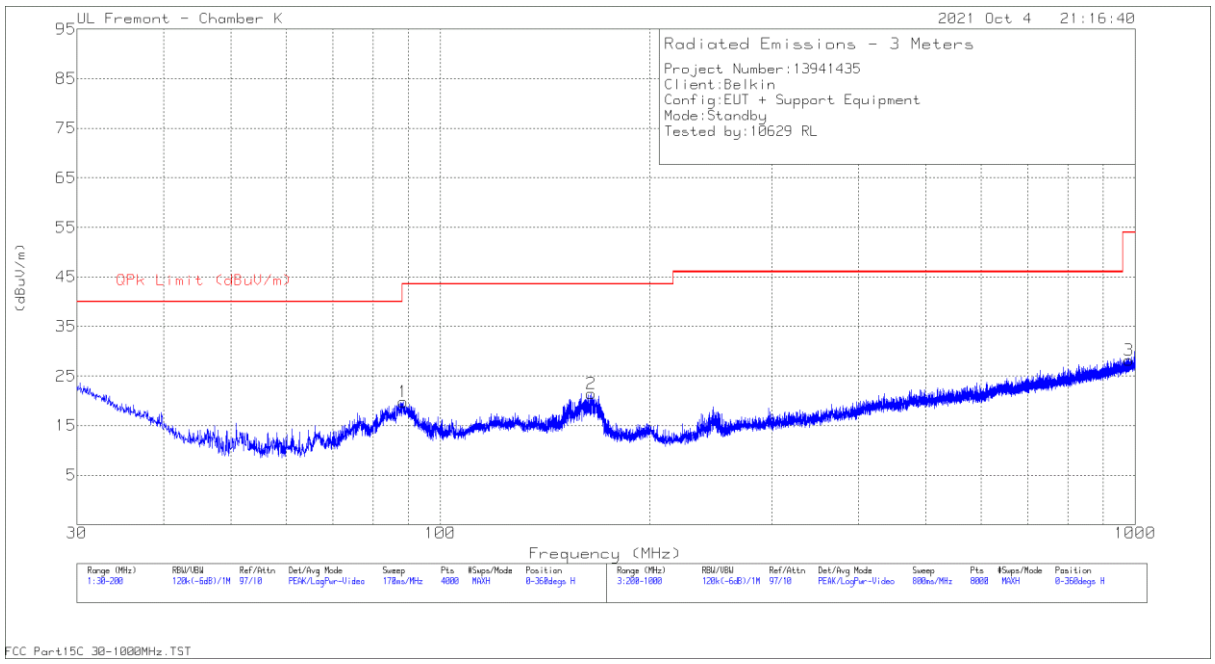
Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (E ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Orientaion
9	1.77832	35.02	Pk	42.7	-32.1	-40	5.62	29.5	-23.88	11	Face On
12	1.77862	38.9	Pk	42.7	-32.1	-40	9.5	29.5	-20	78	Face Off

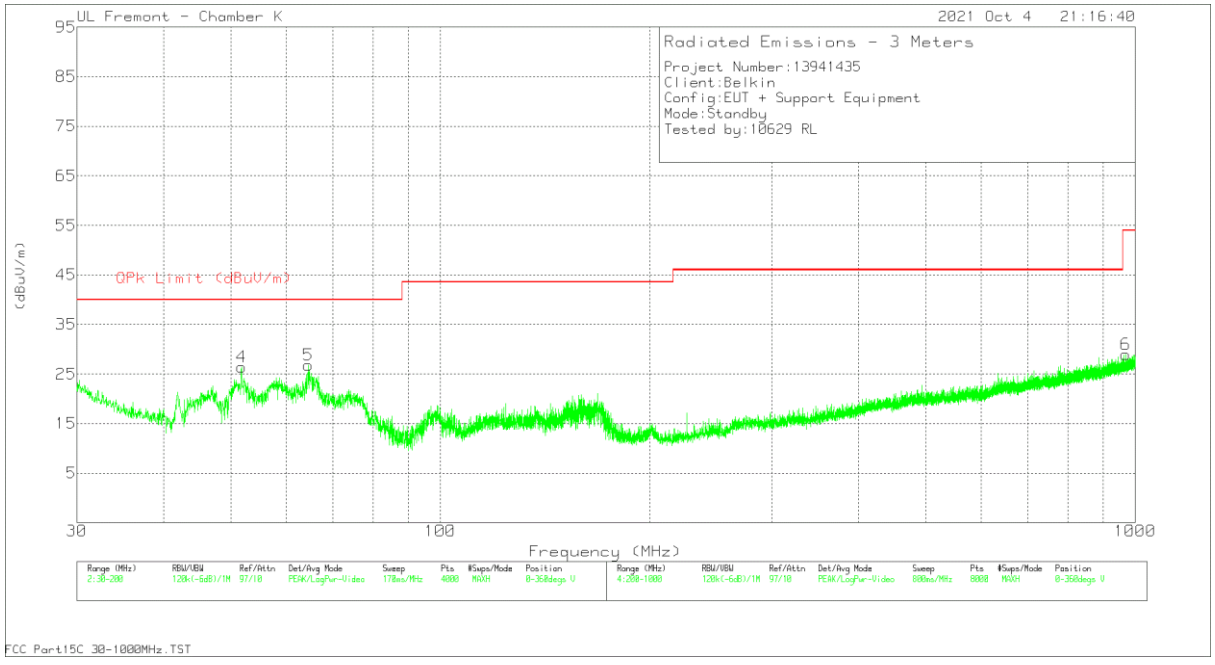
8.3. FCC TX SPURIOUS EMISSION 30 TO 1000 MHz

8.3.1. CONFIGURATION 1: STANDBY MODE

HORIZONTAL PLOT



VERTICAL PLOT



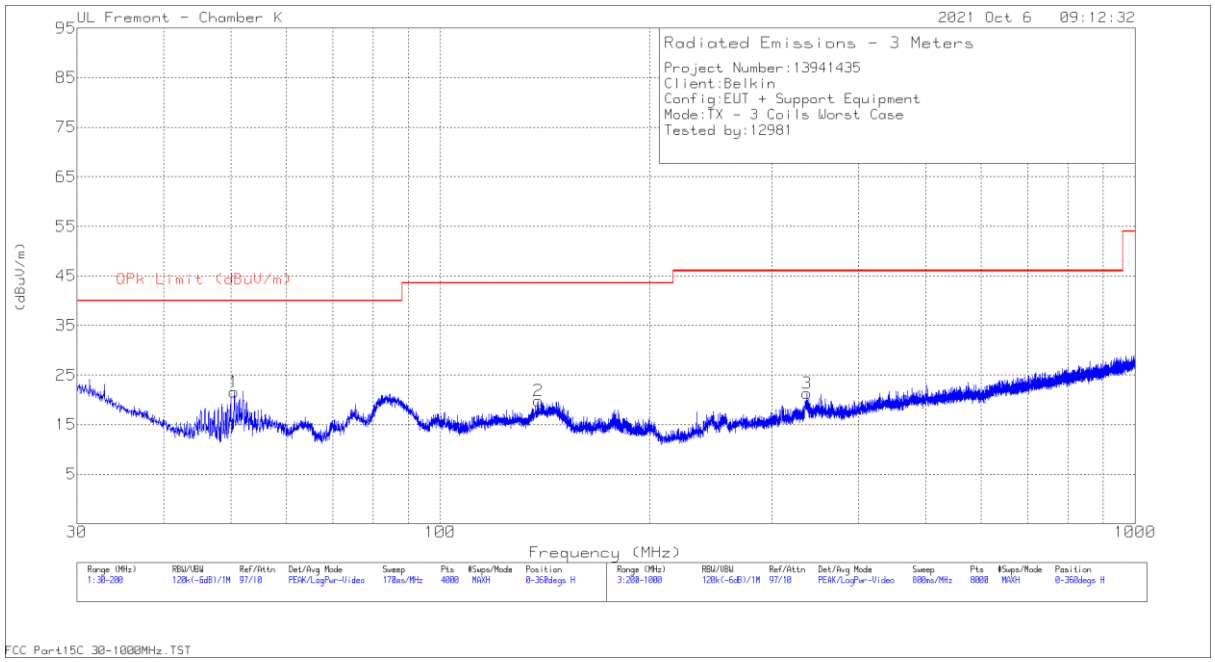
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF 202301 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	88.4951	37.41	Pk	13.4	-31	19.81	43.52	-23.71	0-360	295	H
2	* 165.0574	34.22	Pk	17.8	-30.5	21.52	43.52	-22	0-360	197	H
4	51.7656	44.47	Pk	13.2	-31.3	26.37	40	-13.63	0-360	101	V
5	64.5614	44.34	Pk	13.7	-31.2	26.84	40	-13.16	0-360	101	V
	66.0714	38.62	Qp	13.7	-31.2	21.12	40	-18.88	101	100	V
3	* 980.0014	25.35	Pk	28.9	-26	28.25	53.97	-25.72	0-360	199	H
6	* 969.8001	26.42	Pk	28.8	-26.3	28.92	53.97	-25.05	0-360	199	V

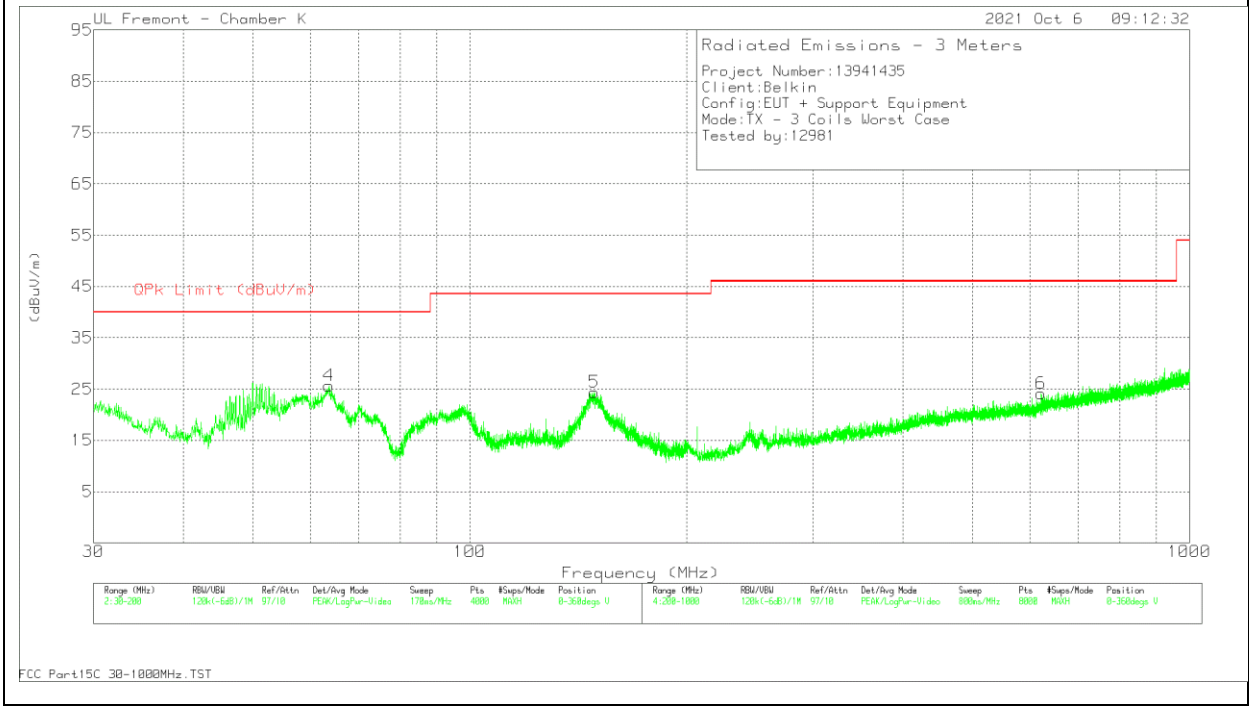
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Qp - Quasi-Peak detector

8.3.2. CONFIGURATION 9: OPERATING MODE WITH iPhone (15W) + AirPods Charging Case (1W) + Apple Watch (5W)

HORIZONTAL PLOT



VERTICAL PLOT



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF 202301 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	50.5328	39.54	Pk	13.5	-31.4	21.64	40	-18.36	0-360	393	H
2	138.3605	31.65	Pk	18.9	-30.7	19.85	43.52	-23.67	0-360	295	H
4	63.7112	43.23	Pk	13.6	-31.2	25.63	40	-14.37	0-360	100	V
	63.1677	39.58	Qp	13.5	-31.2	21.88	40	-18.12	127	106	V
5	148.8182	36.65	Pk	18.3	-30.6	24.35	43.52	-19.17	0-360	100	V
3	337.2178	31.23	Pk	19.8	-29.7	21.33	46.02	-24.69	0-360	100	H
6	622.0549	28.04	Pk	25	-28.9	24.14	46.02	-21.88	0-360	199	V

Pk - Peak detector

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

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.

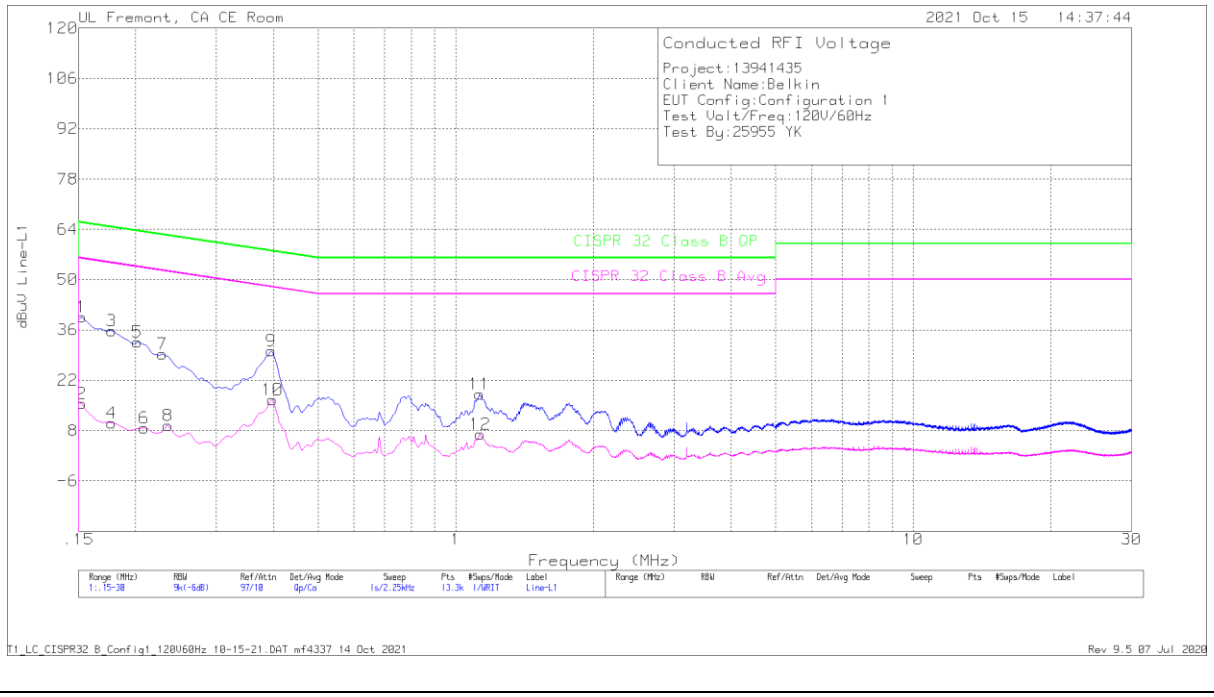
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

9.1. CONFIGURATION 1: STANDBY MODE

LINE 1 RESULTS

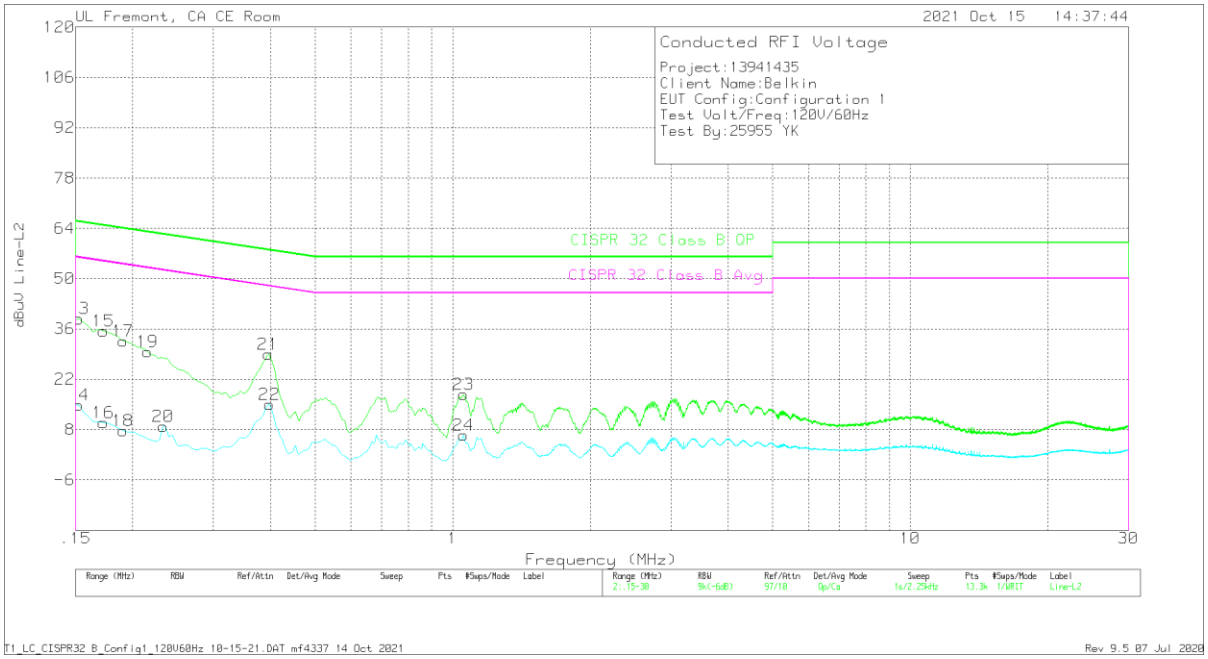


WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186447 L1	LC Cables C1&C3 dB	TekBox Limiter TBFL1 Model 207	Corrected Reading dBuV	CISPR 32 Class B QP	Margin (dB)	CISPR 32 Class B Avg	Margin (dB)
2	.15225	5.96	Ca	.1	0	9.4	15.46	-	-	55.88	-40.42
4	.177	.7	Ca	0	0	9.4	10.1	-	-	54.63	-44.53
6	.2085	-.56	Ca	0	0	9.3	8.74	-	-	53.26	-44.52
8	.2355	.06	Ca	0	0	9.3	9.36	-	-	52.25	-42.89
10	.3975	7.2	Ca	0	0	9.3	16.5	-	-	47.91	-31.41
12	1.131	-2.4	Ca	0	.1	9.3	7	-	-	46	-39
1	.15225	30.1	Qp	.1	0	9.4	39.6	65.88	-26.28	-	-
3	.177	26.37	Qp	0	0	9.4	35.77	64.63	-28.86	-	-
5	.20175	23.3	Qp	0	0	9.3	32.6	63.54	-30.94	-	-
7	.22875	20.05	Qp	0	0	9.3	29.35	62.49	-33.14	-	-
9	.39525	20.9	Qp	0	0	9.3	30.2	57.95	-27.75	-	-
11	1.1265	8.71	Qp	0	.1	9.3	18.11	56	-37.89	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



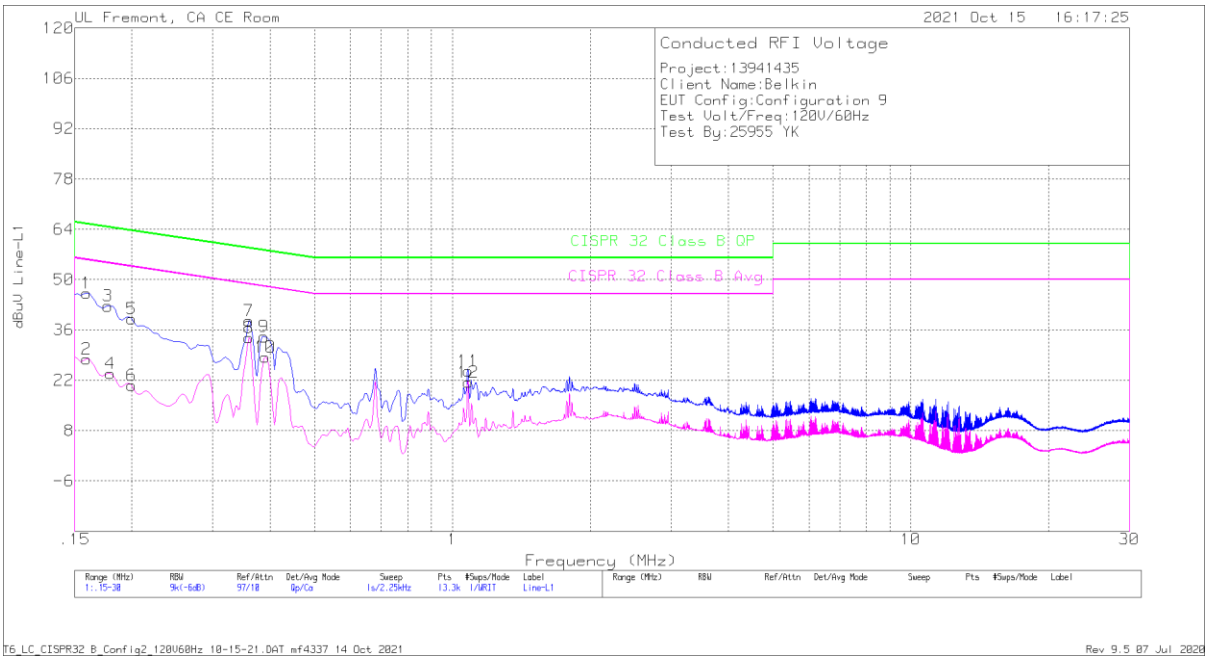
WORST EMISSIONS

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186447 L2	LC Cables C2&C3 dB	TekBox Limiter TBFL1 Model 207	Corrected Reading dBuV	CISPR 32 Class B QP	Margin (dB)	CISPR 32 Class B Avg	Margin (dB)
14	.15225	5.43	Ca	0	0	9.4	14.83	-	-	55.88	-41.05
16	.1725	.58	Ca	0	0	9.4	9.98	-	-	54.84	-44.86
18	.1905	-1.64	Ca	0	0	9.3	7.66	-	-	54.01	-46.35
20	.23325	-.33	Ca	0	0	9.3	8.97	-	-	52.33	-43.36
22	.3975	5.68	Ca	0	0	9.3	14.98	-	-	47.91	-32.93
24	1.0545	-2.97	Ca	0	.1	9.3	6.43	-	-	46	-39.57
13	.15225	29.43	Qp	0	0	9.4	38.83	65.88	-27.05	-	-
15	.1725	26.05	Qp	0	0	9.4	35.45	64.84	-29.39	-	-
17	.1905	23.39	Qp	0	0	9.3	32.69	64.01	-31.32	-	-
19	.21525	20.43	Qp	0	0	9.3	29.73	63	-33.27	-	-
21	.39525	19.64	Qp	0	0	9.3	28.94	57.95	-29.01	-	-
23	1.05675	8.37	Qp	0	.1	9.3	17.77	56	-38.23	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

9.2. CONFIGURATION 9: OPERATING MODE WITH iPhone (15W) + AirPods Charging Case (1W) + Apple Watch (5W)

LINE 1 RESULTS

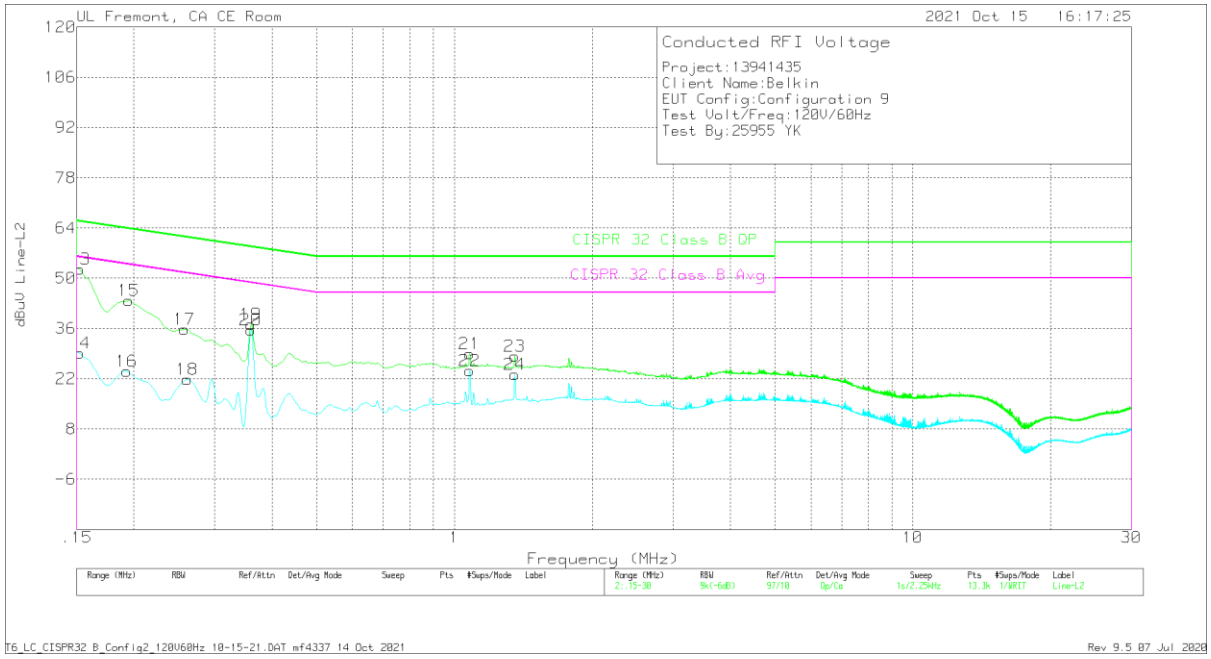


WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186447 L1	LC Cables C1&C3 dB	TekBox Limiter TBFL1 Model 207	Corrected Reading dBuV	CISPR 32 Class B QP	Margin (dB)	CISPR 32 Class B Avg	Margin (dB)
2	.159	18.5	Ca	.1	0	9.4	28	-	-	55.52	-27.52
4	.17925	14.55	Ca	0	0	9.4	23.95	-	-	54.52	-30.57
6	.1995	11.22	Ca	0	0	9.3	20.52	-	-	53.63	-33.11
8	.35925	24.57	Ca	0	0	9.3	33.87	-	-	48.75	-14.88
10	.39075	19.18	Ca	0	0	9.3	28.48	-	-	48.05	-19.57
12	1.0815	12.13	Ca	0	.1	9.3	21.53	-	-	46	-24.47
1	.159	36.82	Qp	.1	0	9.4	46.32	65.52	-19.2	-	-
3	.177	33.27	Qp	0	0	9.4	42.67	64.63	-21.96	-	-
5	.1995	29.71	Qp	0	0	9.3	39.01	63.63	-24.62	-	-
7	.35925	29.32	Qp	0	0	9.3	38.62	58.75	-20.13	-	-
9	.3885	24.82	Qp	0	0	9.3	34.12	58.1	-23.98	-	-
11	1.0815	15.28	Qp	0	.1	9.3	24.68	56	-31.32	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



WORST EMISSIONS

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	PRE0186447 L2	LC Cables C2&C3 dB	TekBox Limiter TBFL1 Model 207	Corrected Reading dBuV	CISPR 32 Class B QP	Margin (dB)	CISPR 32 Class B Avg	Margin (dB)
14	.15225	19.79	Ca	0	0	9.4	29.19	-	-	55.88	-26.69
16	.19275	14.71	Ca	0	0	9.3	24.01	-	-	53.92	-29.91
18	.26138	12.46	Ca	0	0	9.3	21.76	-	-	51.39	-29.63
20	.35925	26.27	Ca	0	0	9.3	35.57	-	-	48.75	-13.18
22	1.07925	14.84	Ca	0	.1	9.3	24.24	-	-	46	-21.76
24	1.356	13.88	Ca	0	.1	9.3	23.28	-	-	46	-22.72
13	.15225	43.09	Qp	0	0	9.4	52.49	65.88	-13.39	-	-
15	.195	34.43	Qp	0	0	9.3	43.73	63.82	-20.09	-	-
17	.258	26.51	Qp	0	0	9.3	35.81	61.5	-25.69	-	-
19	.35925	27.87	Qp	0	0	9.3	37.17	58.75	-21.58	-	-
21	1.07925	19.61	Qp	0	.1	9.3	29.01	56	-26.99	-	-
23	1.356	18.87	Qp	0	.1	9.3	28.27	56	-27.73	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

10. DESCRIPTION OF TEST SETUP AND SETUP PHOTOS

Please refer to 13941435-EP1 (FCC) for description of test up and setup photo.

END OF TEST REPORT