



CERTIFICATION TEST REPORT

Report Number. : 14040863-E14V4

Applicant : APPLE, INC.
ONE APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A.

Model : A2650 (Parent Model, Full Test)
A2889, A2890, A2891, A2892 (Variant Models)

FCC ID : BCG-E8140A (Parent Model)
BCG-E8150A, BCG-E8151A, BCG-E8152A (Variant Models)

IC : 579C-E8140A (Parent Model)
579C-E8150A, 579C-E8151A, 579C-E8152A (Variant Models)

EUT Description : Smartphone

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-216 ISSUE 2
ISED RSS-GEN ISSUE 5 + A1 + A2

Date of Issue:
August 11, 2022

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	6/23/2022	Initial Issue	Chin Pang
V2	6/27/2022	Address TCB questions on page 8 & 21	Chin Pang
V3	7/9/2022	Address page 14, 15-21, 27-30	Chin Pang
V4	8/11/2022	Update Section 9 AC Line, 8.2.1 & 8.3.1	Chin Pang

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: APPLE, INC.
ONE APPLE PARK WAY
CUPERTINO, CA 95014,

EUT DESCRIPTION: SMARTPHONE

MODEL: A2650 (Parent Model)
A2889, A2890, A2891, A2892 (Variant Models)

BRAND: APPLE

FCC ID: BCG-E8140A (Parent Model)
BCG-E8150A, BCG-E8151A, BCG-E8152A (Variant Models)

IC: 579C-E8140A (Parent Model)
579C-E8150A, 579C-E8151A, 579C-E8152A (Variant Models)

SERIAL NUMBER: TT76X77GPD

SAMPLE RECEIPT DATE: MAY 20, 2022

DATE TESTED: MAY 20 – JUNE 21, 2022

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	Complies
ISED RSS-216 Issue 2	Complies
ISED RSS-GEN Issue 5 + A1 + A2	Complies

UL LLC 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 LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC 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 LLC. By:



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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with:

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- ANSI C63.10-2013
- KDB 414788 D01 Radiated Test Site v01r01
- RSS-GEN Issue 5 + A1 + A2
- RSS-216 Issue 2

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	US0104	2324A	550739
☒	Building 2: 47266 Benicia Street, Fremont, CA 94538	US0104	22541	550739
☐	Building 4: 47658 Kato Rd, Fremont, CA 94538	US0104	2324B	550739

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	UNCERTAINTY
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	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, 5G, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wideband, GPS, NFC and MSS. All models except reference model support at least one UICC based SIM. The second SIM is either an UICC based p-SIM (physical SIM) or e-SIM (electronic SIM). The device supports a built-in inductive charging transmitter and receiver. The rechargeable battery is not user accessible.

Testing was performed on the parent model and is used to support the application for the parent and variants identified in this report based on the test plan submitted and approved via KDB inquiry by the FCC and by ISED-Canada.

The Model and FCC/IC ID covered by this report includes:

Parent Model: A2650, FCC ID: BCG-E8140A, IC: 579C-E8140A

Variant Models: A2889, FCC ID: BCG-E8150A, IC: 579C-E8150A
 A2890; FCC ID: BCG-E8151A, IC: 579C-E8151A
 A2891 & A2892, FCC ID: BCG-E8152A, IC: 579C-E8152A

5.2. MAXIMUM E-FIELD and H-FIELD

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

Fundamental Frequency (KHz)	Mode	E field (300m distance) FCC (dBuV/m)	H field (3m distance) IC (dBuA/m)
360	Standby	-46.12	-12.46
	Operating	-24.72	1.4

5.3. WORST-CASE CONFIGURATION AND MODE

The EUT is a smartphone which connected to the AC/DC adapter via USB-C cable, and the inductive charging coil to charge WPT accessories (Load). For the entire radiated emissions test, the EUT was investigated on the following configuration during the test: 1. At its natural orientation with EUT set at center location on Load, 2. At its natural orientation with EUT including a case set at center location on load. The worst case was natural orientation with EUT including a case set at center location on load.

Mode	Descriptions
Standby	EUT with Case powered by AC/DC adapter
Operating	EUT with Case and Load powered by AC/DC adapter

For below 30MHz & 1GHz tests EUT was connected to AC power adapter as the worst case, For AC line conducted emission, test was investigated with AC power adapter.

The EUT was tested on standby and operation modes. During operational mode, EUT was tested with load.

For below 30MHz testing, investigation was done on three antenna orientations: RX antenna Face-on, Face-off and horizontal (parallel to ground). The worst-case configurations were determined on RX antenna Face-on and Face-off; therefore, all final tests were performed using these two orientations.

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

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT & PERIPHERALS

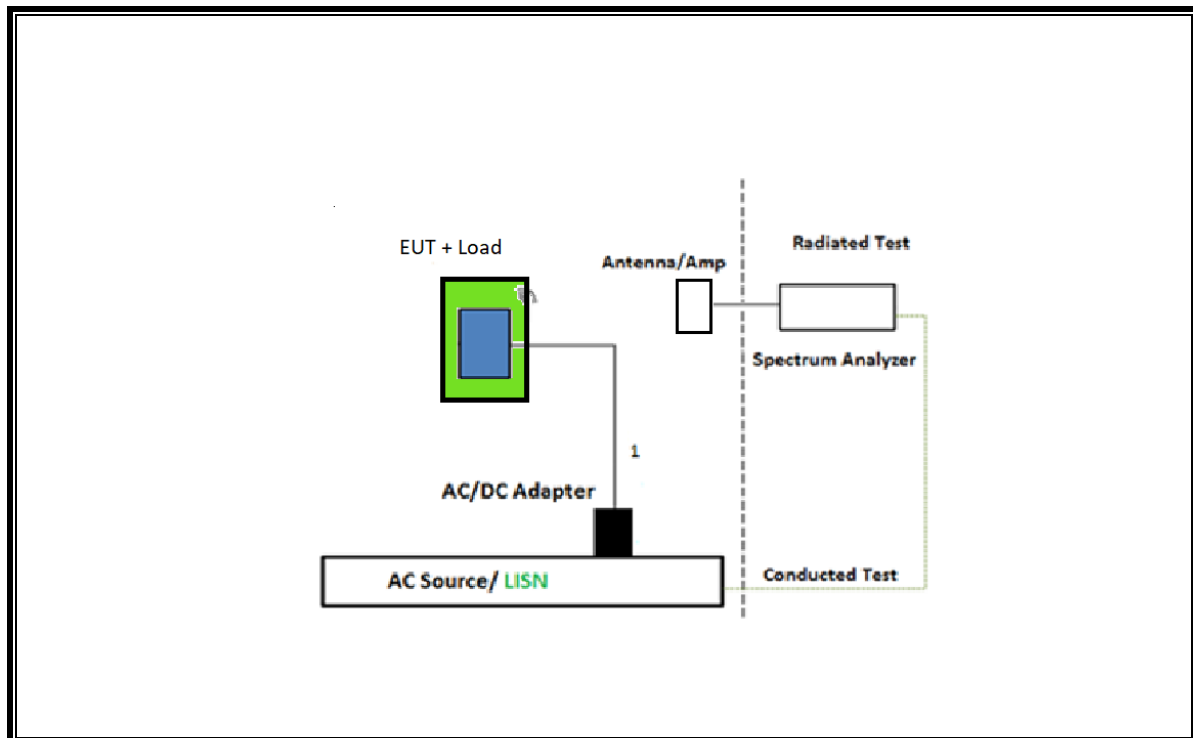
SUPPORT EQUIPMENT & PERIPHERALS LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
AC/DC adapter	Apple	A2305	C4H748200RXH80MAY	DoC
WPT Accessory (Load)	Apple	A2384	DNDF66EN0NLJ	BCGA2384
WPT Accessory	Apple	Silicon Case	C03241PE0MACDKZ0133	DoC

I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC	1	USBC	Un-shielded	1	5W Power Supply

TEST SETUP

OPERATING MODE PHONE WITH LOAD



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment were utilized for the tests documented in this report:

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
Antenna, Passive Loop 30Hz to 1MHz	Electro-Metrics	EM-6871	PRE0179465	07/29/2022	07/29/2021
Antenna, Passive Loop 100KHz to 30MHz	ETS-Lindgren	EM-6872	PRE0179467	07/29/2022	07/29/2021
Antenna, Broadband Hybrid, 30MHz to 2000MHz w/4dB	Sunol Sciences Crop.	JB1	80714	08/20/2022	08/20/2021
Amplifier, 9kHz to 1GHz, 32dB	Sonoma Instrument	310N	84489	07/20/2022	07/20/2021
Sniffer Probes	Electro Metrics	EM-6992	N/A	N/A	N/A
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A-544	85313	01/30/2023	01/30/2022

AC Line Conducted					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	93091	02/21/2023	02/21/2022
Power Cable, Line Conducted Emissions	UL	PR1	T861	10/27/2022	10/27/2021
LISN for Conducted Emissions	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01	175765	01/26/2023	01/26/2022
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, 21 Jan 2022		
Conducted Software	UL	UL EMC	Ver 9.5, 21 Jan 2022		

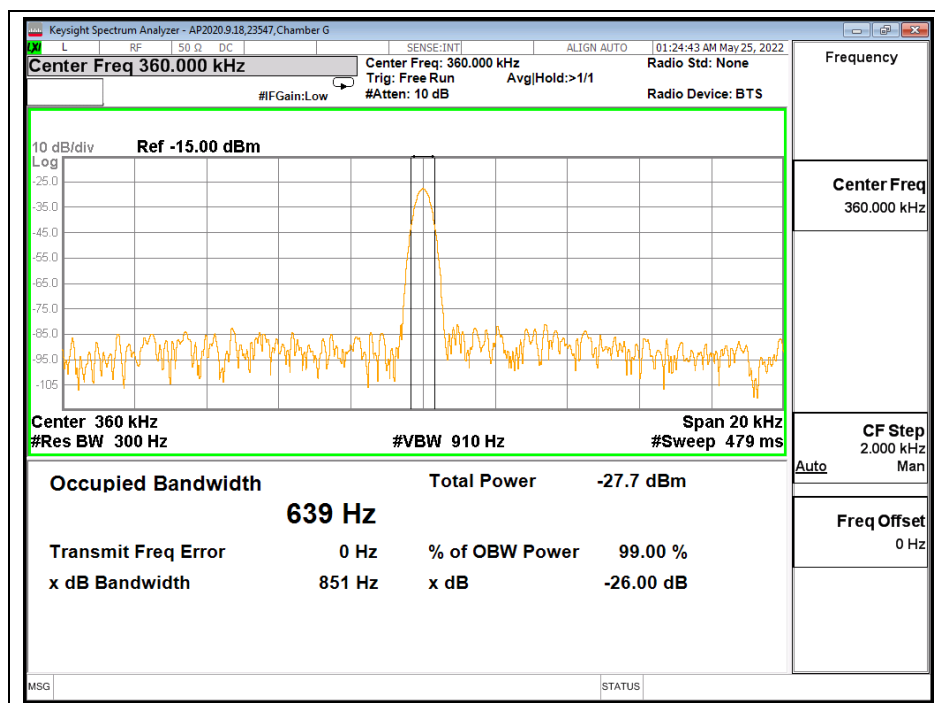
7. OCCUPIED BANDWIDTH

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



8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.209 (a)

ICES-001 Section 3.3.4, 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 range (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

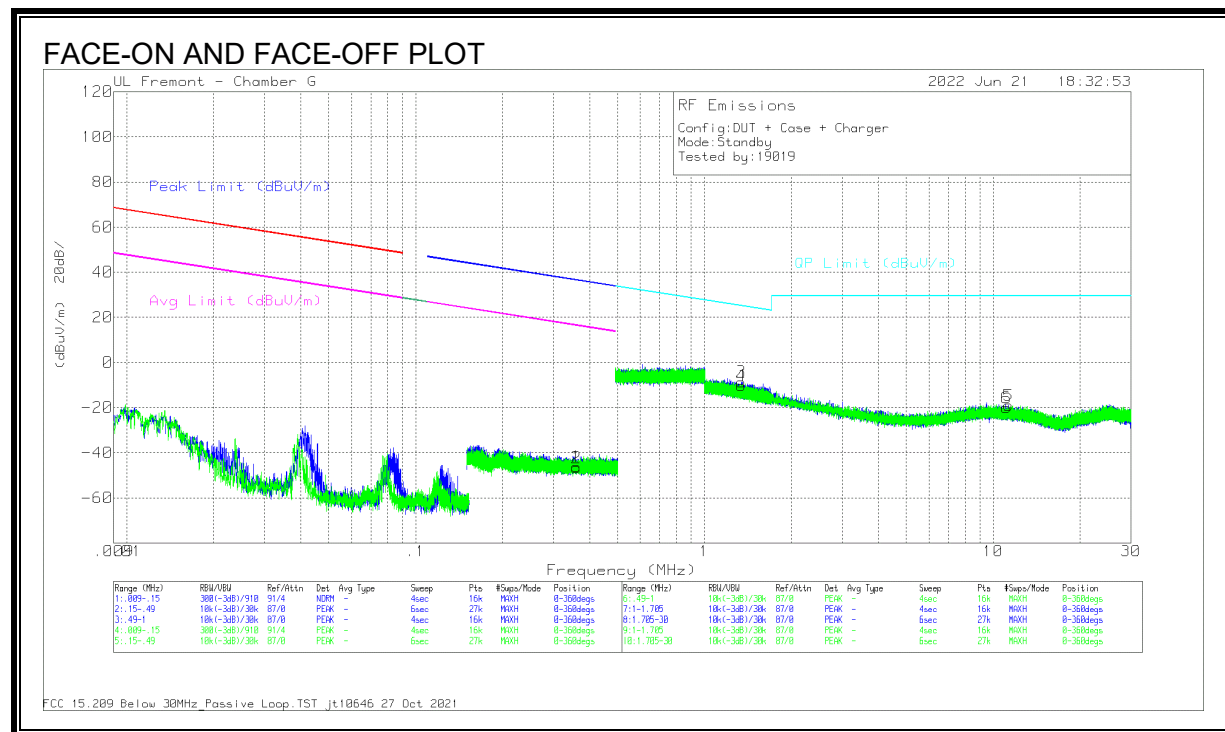
Frequency range (MHz)	OATS or SAC * 10 m measurement distance Quasi-peak (dBμV/m)	OATS or SAC * 3 m measurement distance Quasi-peak (dBμV/m)	FAR * 3 m measurement distance Quasi-peak (dBμV/m)
30 – 230	30	40	42 to 35**
230 – 1000	37	47	42
Note: The more stringent limit applies at the transition frequency. * 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.			

RESULTS

8.2.Standby

8.2.1. FCC TX FUNDAMENTAL & SPURIOUS EMISSIONS (9 kHz - 30 MHz)

Standby



DATA

Radiated Emissions

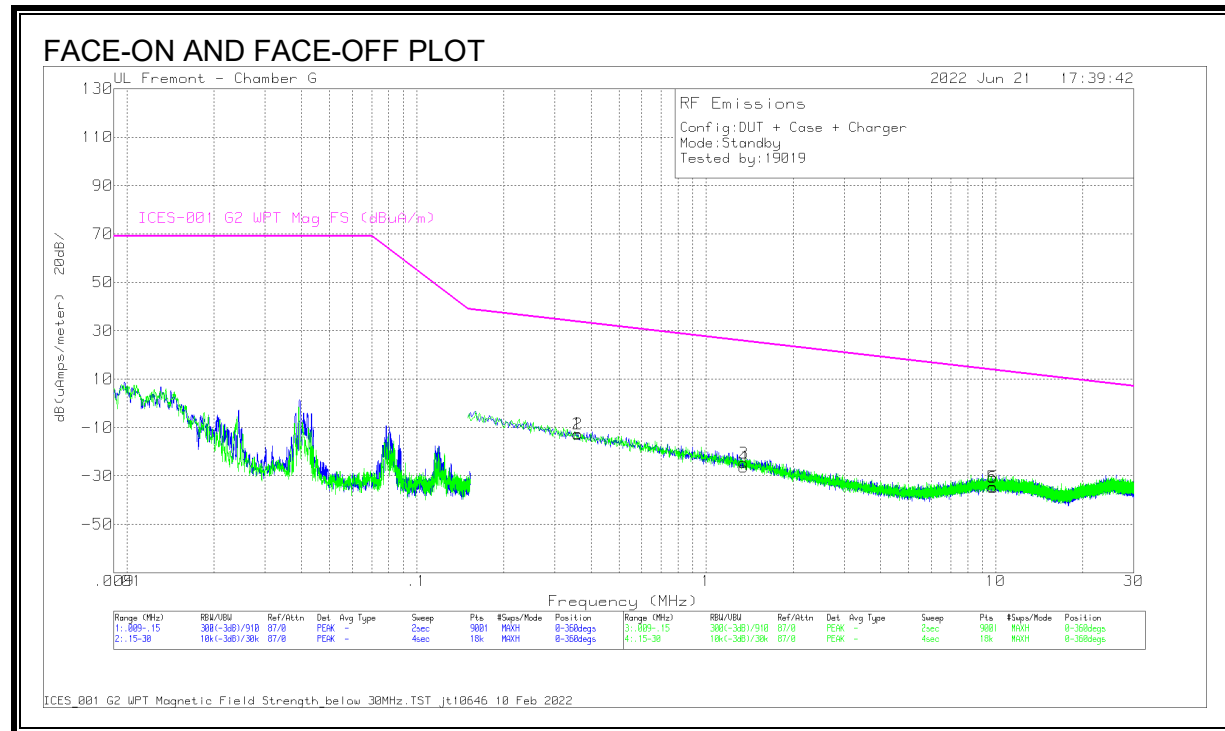
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables w/T834 (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.3609	9.68	Pk	56.2	-32	-80	-46.12	36.46	-82.58	16.46	-62.58	0-360	Face-On
2	.3609	9.21	Pk	56.2	-32	-80	-46.59	36.46	-83.05	16.46	-63.05	0-360	Face-Off

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables w/T834 (dB)	Dist Corr 30m (dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
3	1.3417	18.17	Pk	45.1	-31.9	-40	-8.63	25.08	-33.71	0-360	Face-On
4	1.3428	16.54	Pk	45.1	-31.9	-40	-10.26	25.07	-35.33	0-360	Face-Off
6	11.1139	16.84	Pk	34.8	-31.6	-40	-19.96	29.5	-49.46	0-360	Face-Off
5	11.2816	17.91	Pk	34.7	-31.6	-40	-18.99	29.5	-48.49	0-360	Face-On

PK – Peak Detector

8.2.2. IC/ ICES-001 TX FUNDAMENTAL & SPURIOUS EMISSIONS (9 kHz - 30 MHz)

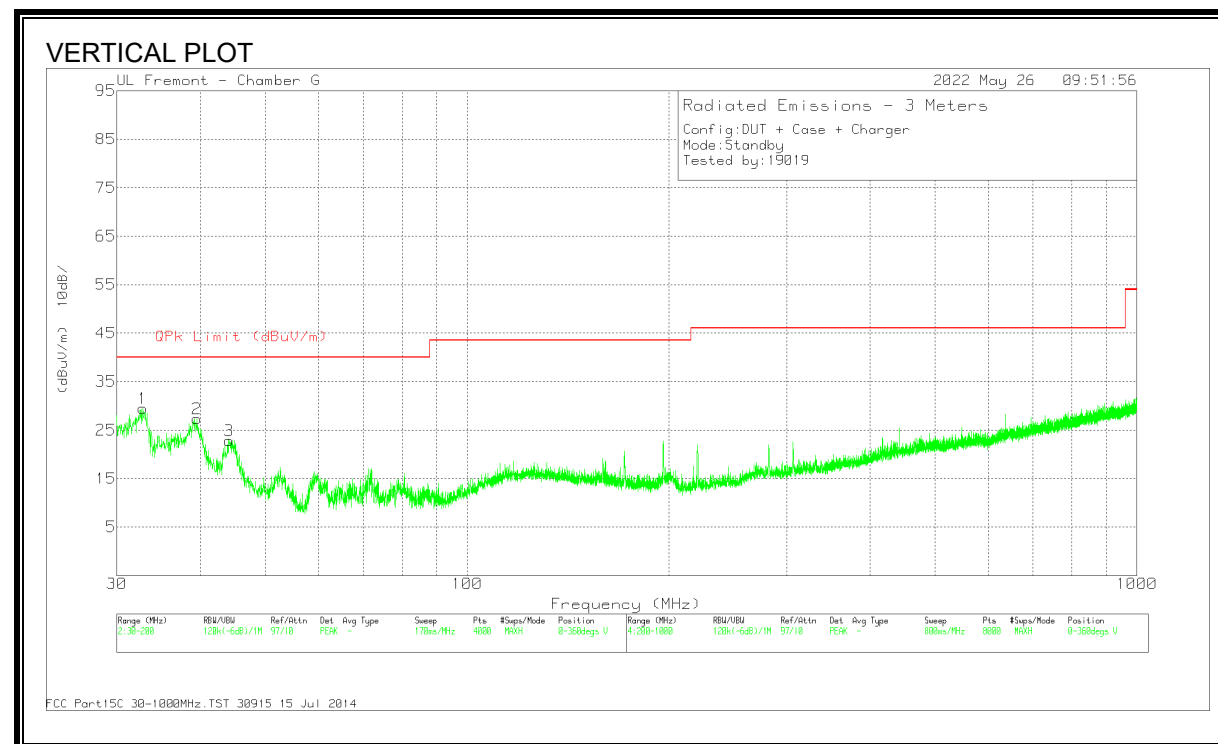
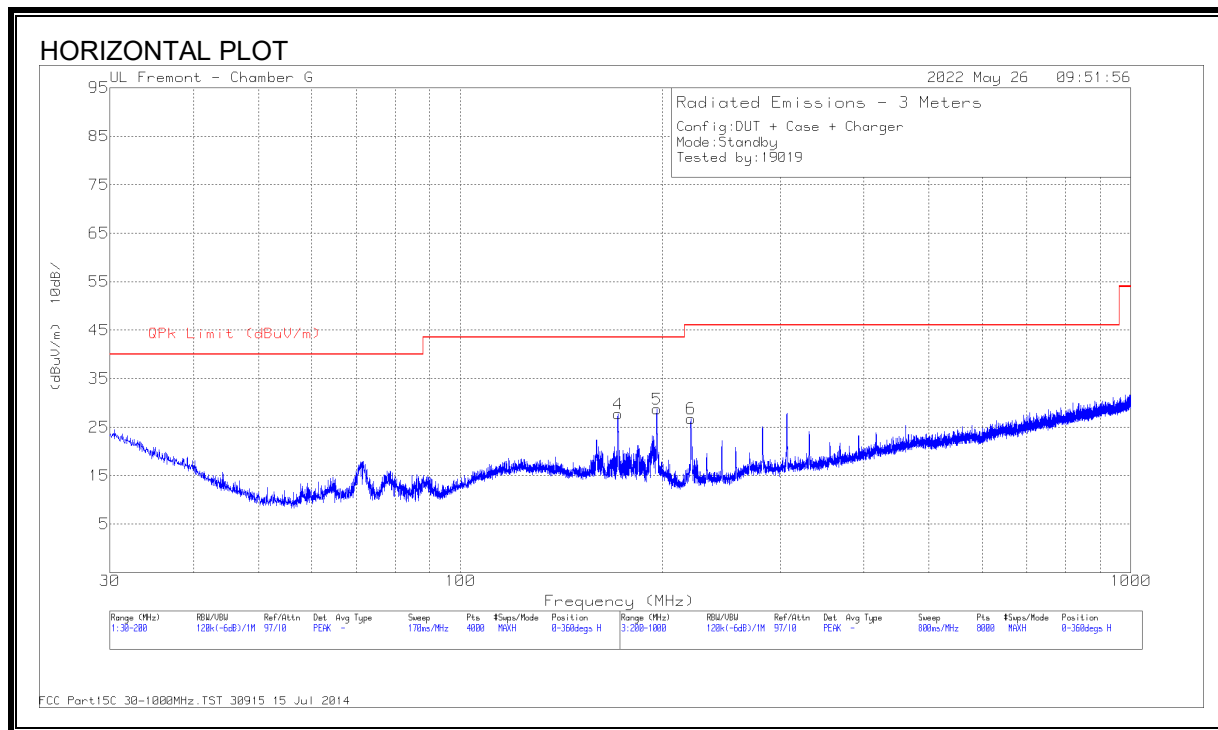
Standby



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables w/T834 (dB)	Corrected Reading dBuA/m	ICES-001 G2 WPT Mag FS dBuA/m	Margin (dB)	Azimuth (Degs)	Polarity
1	.3606	16.04	Pk	3.5	-32	-12.46	33.7	-46.16	0-360	Face-on
2	.3606	15.79	Pk	3.5	-32	-12.71	33.7	-46.41	0-360	Face-off
3	1.3487	13.61	Pk	-6.4	-31.9	-24.69	25.74	-50.43	0-360	Face-on
4	1.3487	12	Pk	-6.4	-31.9	-26.3	25.74	-52.04	0-360	Face-off
6	9.7681	13.52	Pk	-16.6	-31.7	-34.78	13.78	-48.56	0-360	Face-off
5	9.773	13.88	Pk	-16.6	-31.7	-34.42	13.77	-48.19	0-360	Face-on

PK – Peak Detector

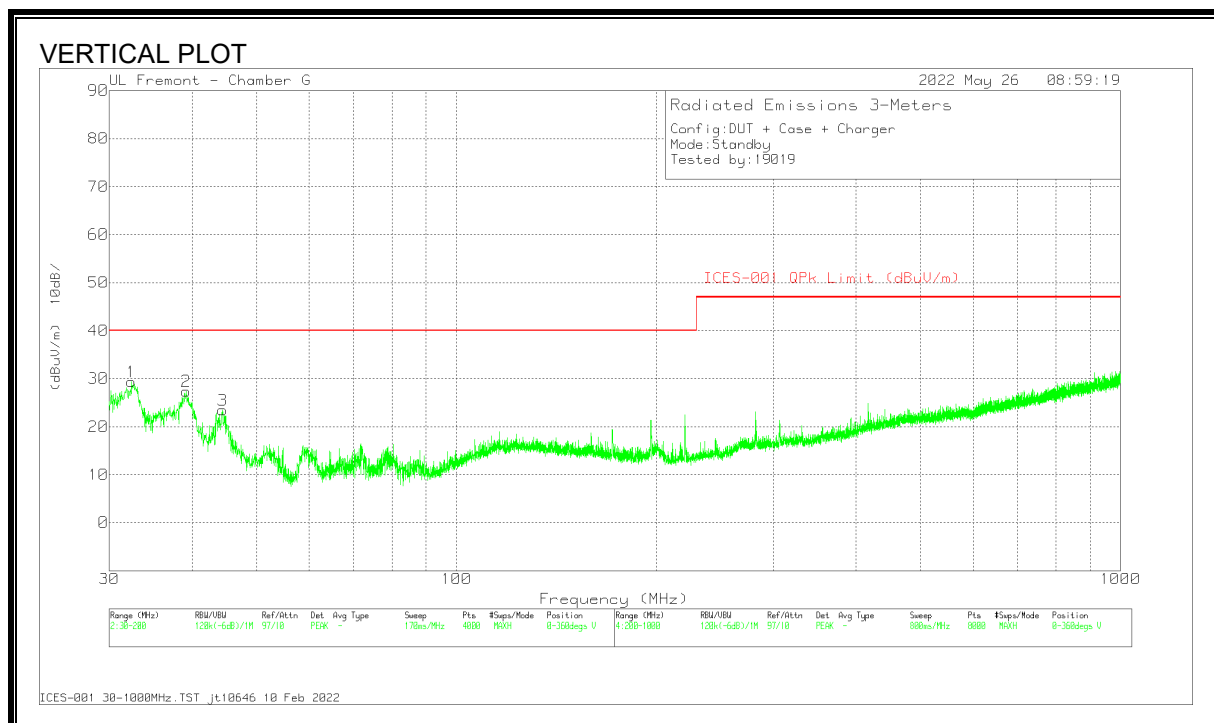
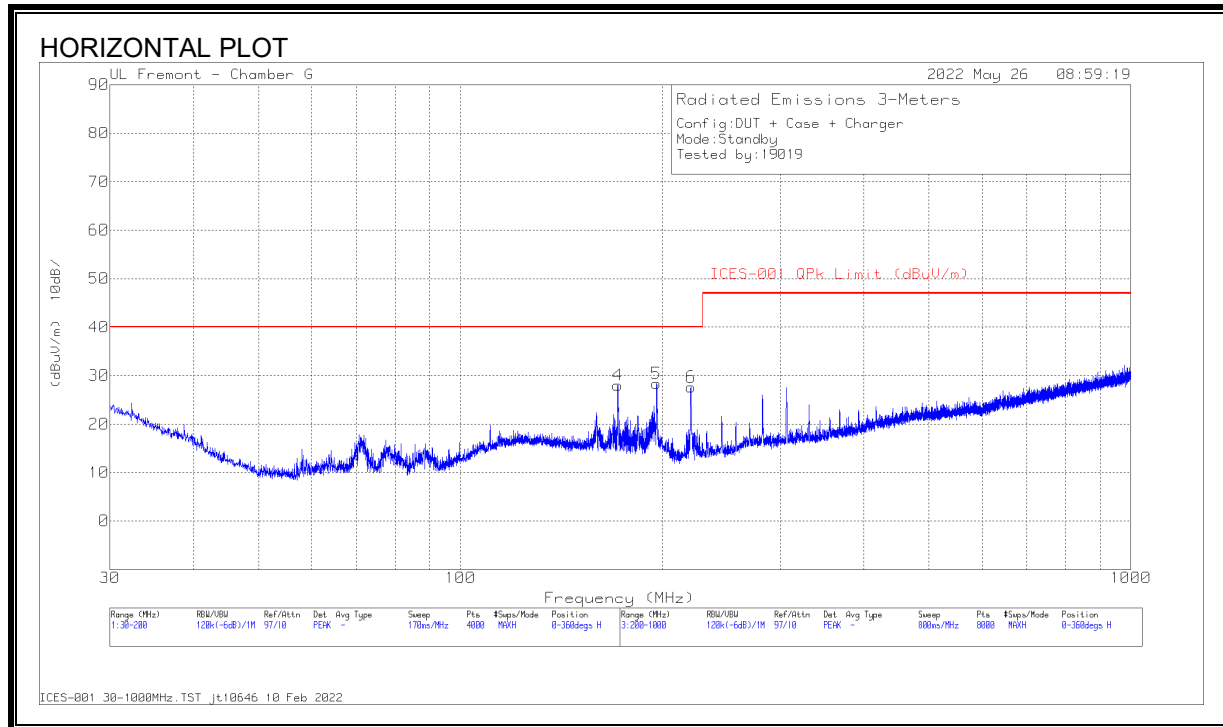
8.2.3. FCC TX SPURIOUS EMISSION (30 - 1000 MHz)**Standby**

DATA**Radiated Emissions**

Frequency (MHz)	Meter Reading (dBuV)	Det	AF 80714 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 171.74	39.58	Qp	17.6	-30	27.18	43.52	-16.34	357	144	H
32.8837	28.85	Qp	25.1	-31.3	22.65	40	-17.35	227	104	V
39.2343	30.57	Qp	20.2	-31.2	19.57	40	-20.43	359	103	V
44.7561	30.67	Qp	16.3	-31.1	15.87	40	-24.13	82	103	V
196.34	38.77	Qp	18.1	-29.8	27.07	43.52	-16.45	4	118	H
220.759	38.73	Qp	16.5	-29.7	25.53	46.02	-20.49	79	105	H

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

Qp - Quasi-Peak detector

8.2.4. IC/ ICES-001 TX SPURIOUS EMISSION (30 - 1000 MHz)**Standby**

DATA**Radiated Emissions**

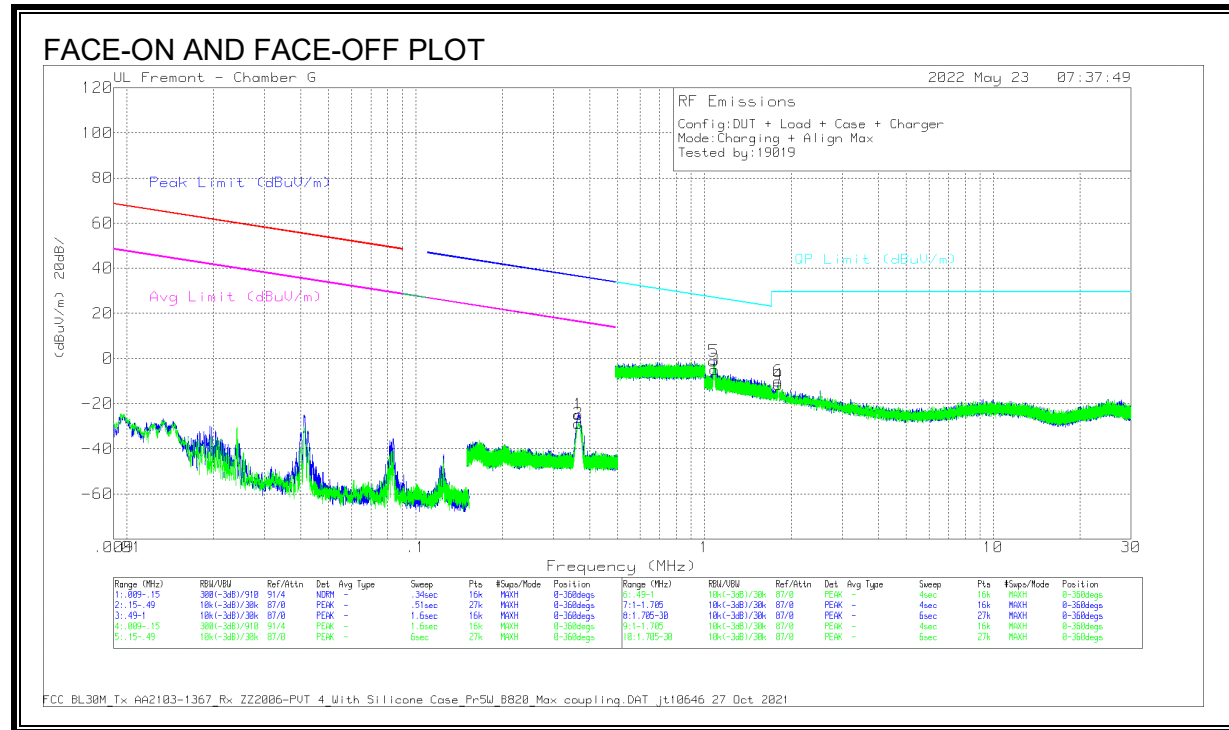
Frequency (MHz)	Meter Reading (dBuV)	Det	AF 80714 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	ICES-001 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
32.6811	29.92	Qp	25.2	-31.3	23.82	40	-16.18	194	105	V
38.9796	32.07	Qp	20.4	-31.2	21.27	40	-18.73	270	101	V
44.6253	31.5	Qp	16.4	-31.1	16.8	40	-23.2	59	107	V
171.791	39.47	Qp	17.6	-30	27.07	40	-12.93	6	188	H
196.308	38.61	Qp	18.1	-29.8	26.91	40	-13.09	345	136	H
220.803	39.76	Qp	16.5	-29.7	26.56	40	-13.44	349	138	H

Qp - Quasi-Peak detector

8.3.EUT With Load

8.3.1. FCC TX FUNDAMENTAL & SPURIOUS EMISSIONS (9 kHz - 30 MHz)

OPERATING WITH LOAD



DATA

Radiated Emissions

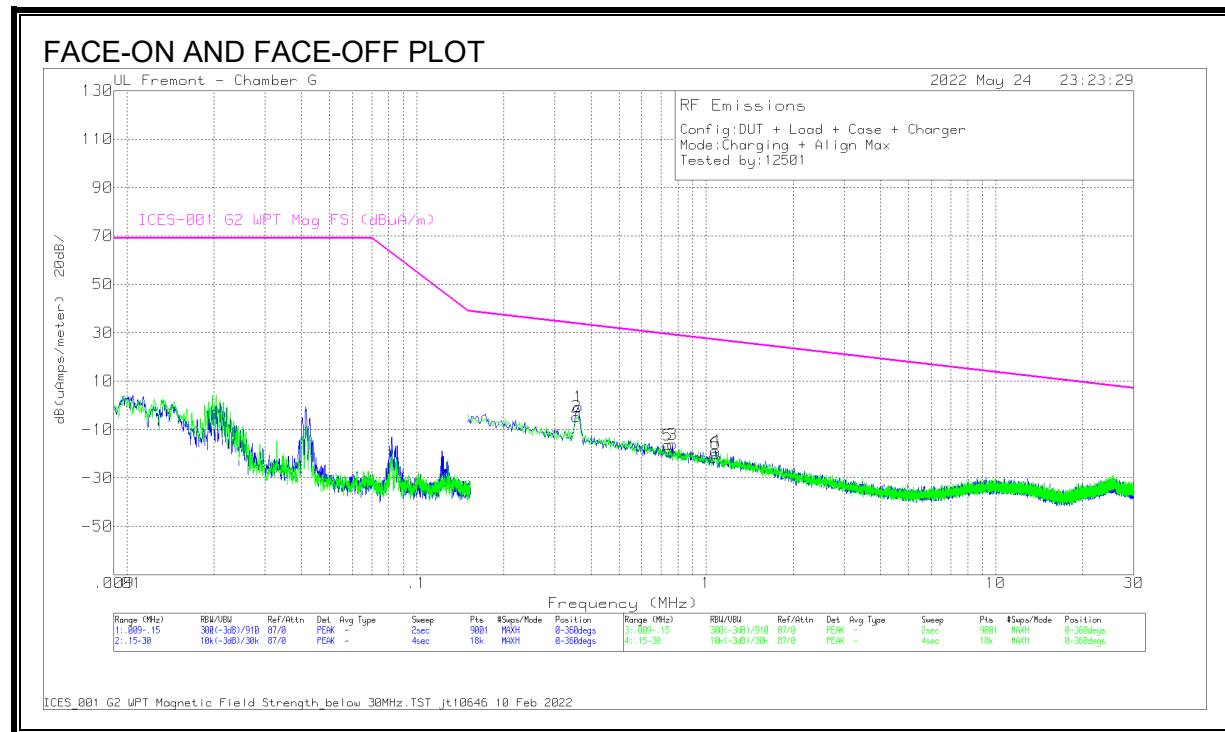
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables w/T834 (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.3664	31.08	Pk	56.2	-32	-80	-24.72	36.33	-61.05	16.33	-41.05	0-360	Face-On
2	.3664	27.04	Pk	56.2	-32	-80	-28.76	36.33	-65.09	16.33	-45.09	0-360	Face-Off

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables w/T834 (dB)	Dist Corr 30m (dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
5	1.0771	24.43	Pk	46.5	-32	-40	-1.07	26.98	-28.05	0-360	Face-On
3	1.0851	20.72	Pk	46.4	-32	-40	-4.88	26.91	-31.79	0-360	Face-On
6	1.7993	19.27	Pk	42.7	-31.9	-40	-9.93	29.5	-39.43	0-360	Face-Off
4	1.8004	17.74	Pk	42.7	-31.9	-40	-11.46	29.5	-40.96	0-360	Face-Off

Pk - Peak detector

8.3.2. IC/ ICES-001 TX FUNDAMENTAL & SPURIOUS EMISSIONS (9 kHz - 30 MHz)

OPERATING WITH LOAD



DATA

Radiated Emissions

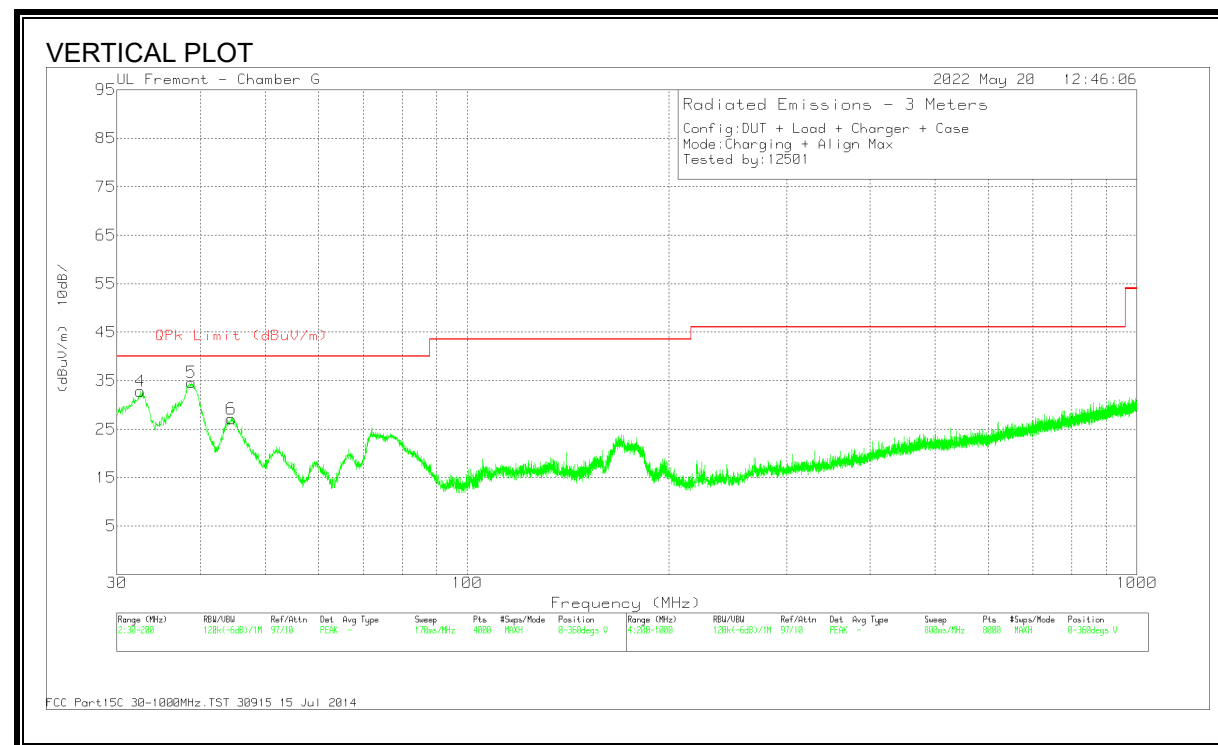
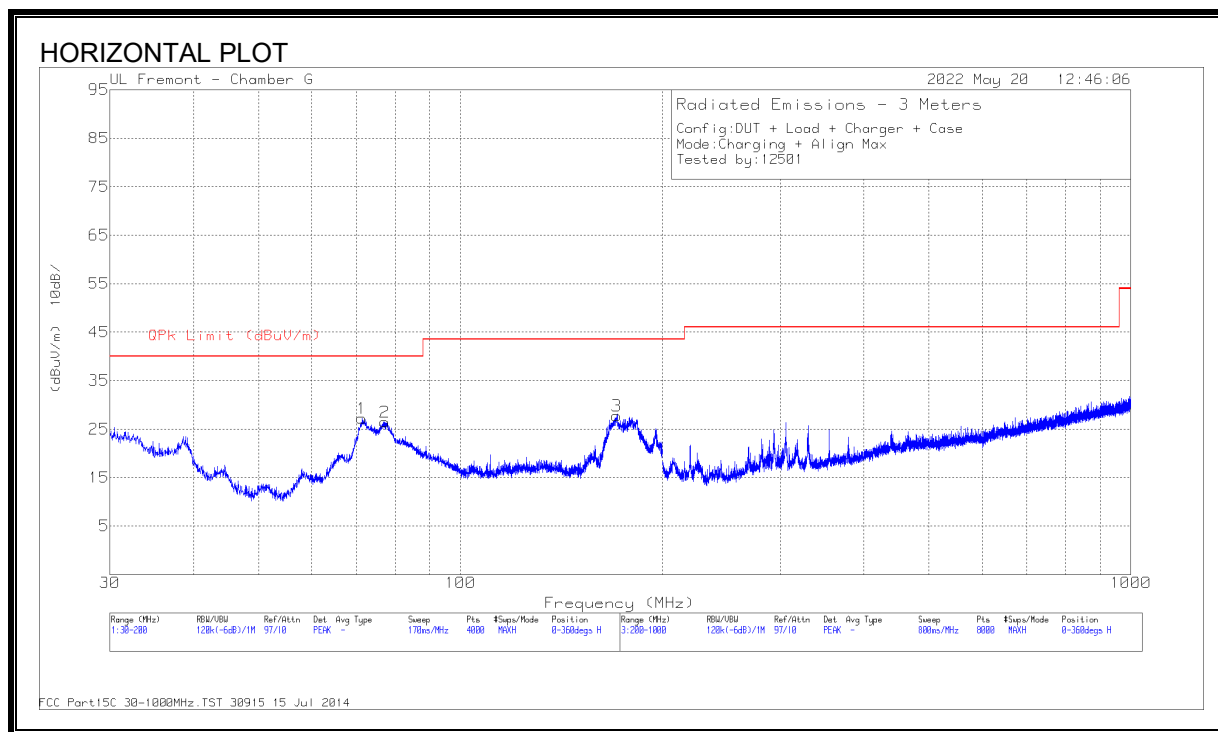
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables w/T834 (dB)	Corrected Reading dBuA/m	ICES-001 G2 WPT Mag FS dBuA/m	Margin (dB)	Azimuth (Degs)	Antenna Orientation
1	.3602	29.8	Pk	3.6	-32	1.4	33.71	-32.31	315	Face-on
	.3607	28.95	Qp	3.5	-32	.45	33.7	-33.25	315	
2	.3593	26.06	Pk	3.6	-32	-2.34	33.72	-36.06	229	Face-off
	.3599	24.81	Qp	3.6	-32	-3.59	33.71	-37.3	229	
5	.7379	10.71	Qp	-2.4	-32	-23.69	29.38	-53.07	327	Face-off
3	.7718	10.48	Qp	-2.8	-32	-24.32	29.11	-53.43	156	Face-on
4	1.0792	15.13	Qp	-5	-32	-21.87	27.08	-48.95	244	Face-on
6	1.0799	14.87	Qp	-5	-32	-22.13	27.08	-49.21	70	Face-off

PK – Peak Detector

Qp - Quasi-Peak detector

8.3.3. FCC TX SPURIOUS EMISSION (30 - 1000 MHz)

OPERATING WITH LOAD



DATA**Radiated Emissions**

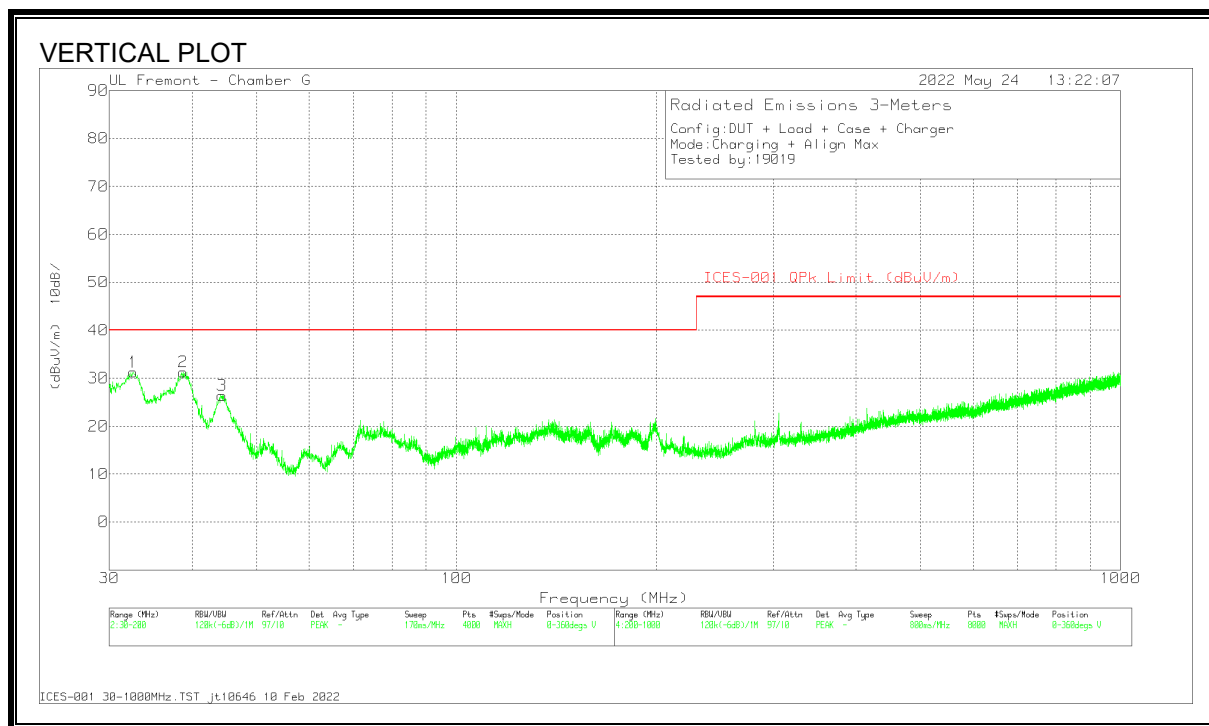
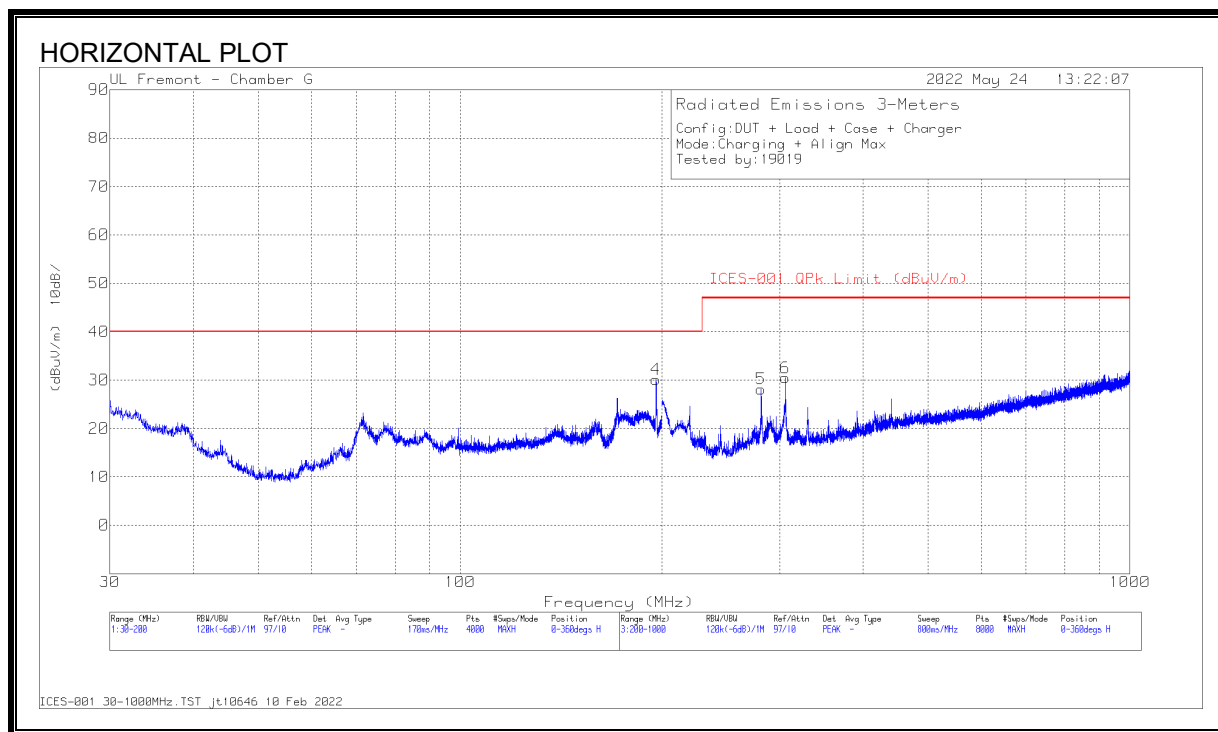
Frequency (MHz)	Meter Reading (dBuV)	Det	AF 80714 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 171.104	37.41	Qp	17.7	-30	25.11	43.52	-18.41	358	129	H
32.5347	34.97	Qp	25.3	-31.3	28.97	40	-11.03	209	100	V
38.8813	42.2	Qp	20.5	-31.2	31.5	40	-8.5	16	100	V
44.6387	38.33	Qp	16.4	-31.1	23.63	40	-16.37	78	100	V
71.2922	41.03	Qp	14	-30.9	24.13	40	-15.87	330	252	H
77.0177	41.35	Qp	13.6	-30.8	24.15	40	-15.85	315	253	H

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

Qp - Quasi-Peak detector

8.3.4. IC/ ICES-001 TX SPURIOUS EMISSION (30 - 1000 MHz)

OPERATING WITH LOAD



DATA**Radiated Emissions**

Frequency (MHz)	Meter Reading (dBuV)	Det	AF 80714 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	ICES-001 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
32.7582	33.2	Qp	25.1	-31.3	27	40	-13	238	101	V
44.4099	37.42	Qp	16.5	-31.1	22.82	40	-17.18	27	102	V
44.6327	37.67	Qp	16.4	-31.1	22.97	40	-17.03	49	102	V
195.424	37.31	Qp	17.9	-29.8	25.41	40	-14.59	164	106	H
281.051	36.3	Qp	19.2	-29.2	26.3	47	-20.7	112	109	H
305.364	39.36	Qp	19.3	-29.2	29.46	47	-17.54	113	106	H

Qp - Quasi-Peak detector

9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	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 100 V, without an earth connection Quasi-peak (dB μ V)	Appliances rated 100 V, without an earth connection Average (dB μ V)	All other appliances Quasi-peak (dB μ V)	All other appliances Average (dB μ V)
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 dB μ V 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.

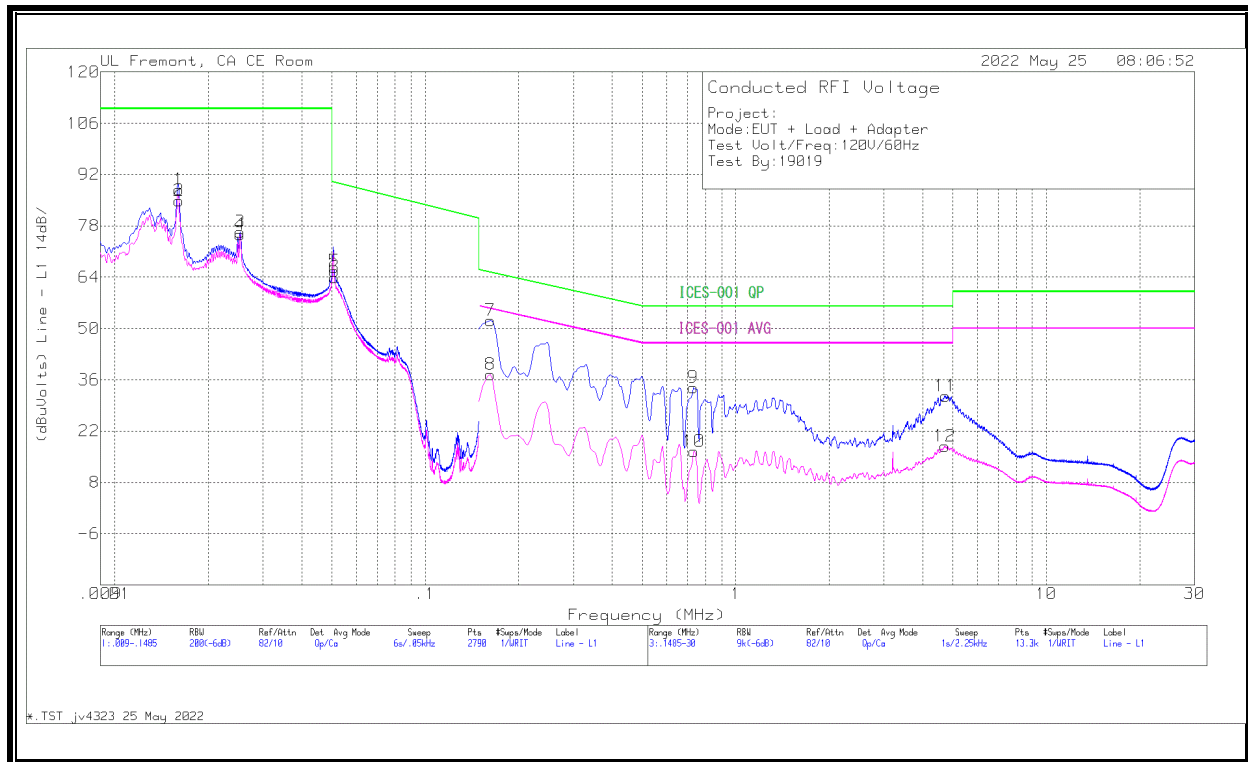
RESULTS

Note: The limits on the plots from 150kHz – 30MHz cover both ICES-001 and FCC Part 15.207.

9.1. Standby

9.1.1. STANDBY MODE POWERED BY AC/DC ADAPTER

LINE 1 RESULTS



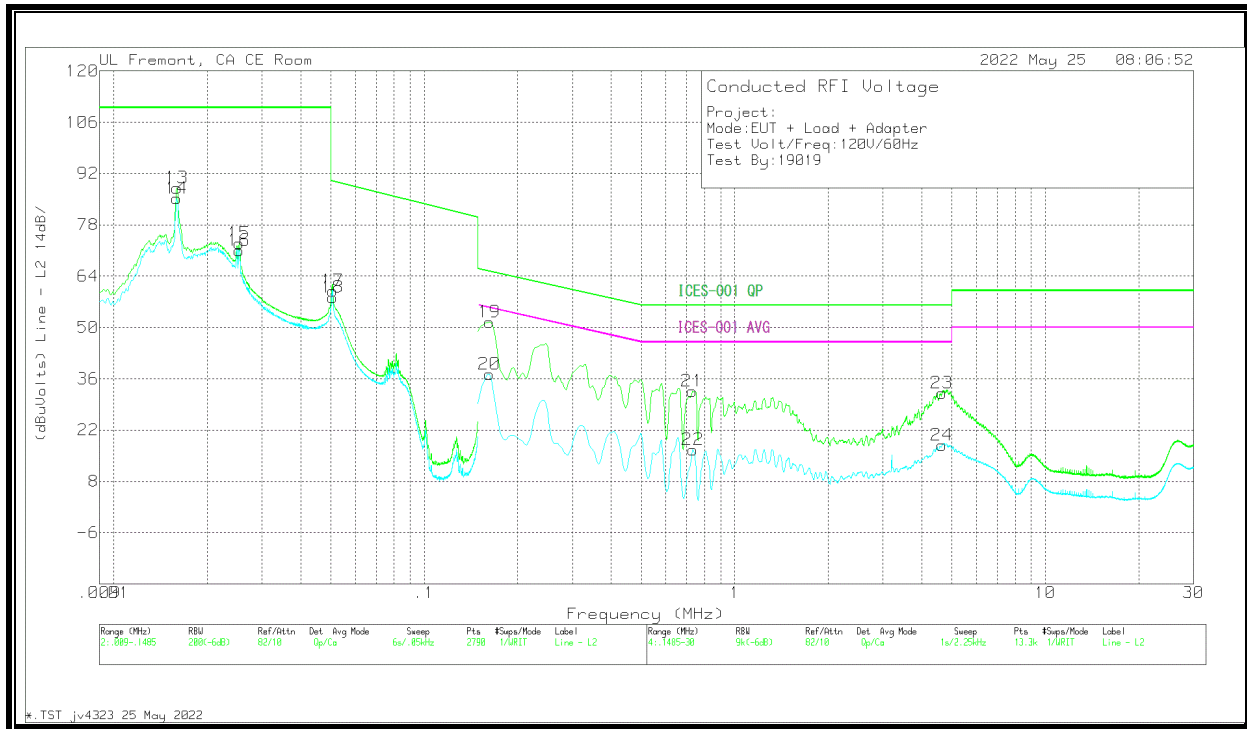
WORST EMISSIONS

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

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	175765 LISN L1 (dB)	C1&C3 cable dB	TekBox Limiter TBFL1 Model 207 (dB)	Corrected Reading dBuV	CISPR 11 Class QP dBuV	Margin (dB)	CISPR 11 Class B Avg dBuV	Margin (dB)
2	.0161	69.94	Ca	2.7	0	12.3	84.94	-	-	-	-
4	.0253	62.13	Ca	1.5	0	12	75.63	-	-	-	-
6	.051	52.42	Ca	.3	0	11.2	63.92	-	-	-	-
1	.0161	72.9	Qp	2.7	0	12.3	87.9	110	-22.1	-	-
3	.0253	62.88	Qp	1.5	0	12	76.38	110	-33.62	-	-
5	.051	54.13	Qp	.3	0	11.2	65.63	89.82	-24.19	-	-

Range 3: Line - L1 .1485 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	175765 LISN L1 (dB)	C1&C3 cable dB	TekBox Limiter TBFL1 Model 207 (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP dBuV	Margin (dB)	CISPR 11 Class B Avg dBuV	Margin (dB)
8	.162	27.88	Ca	.1	0	9.4	37.38	-	-	55.36	-17.98
10	.7335	7.12	Ca	0	.1	9.3	16.52	-	-	46	-29.48
12	4.7115	8.5	Ca	0	.1	9.3	17.9	-	-	46	-28.1
7	.162	42.63	Qp	.1	0	9.4	52.13	65.28	-13.15	-	-
9	.7313	24.42	Qp	0	.1	9.3	33.82	56	-22.18	-	-
11	4.725	22.17	Qp	0	.1	9.3	31.57	56	-24.43	-	-

Line 2 Results**WORST EMISSIONS****Range 2: Line - L2 .009 - .1485MHz**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	175765 LISN L2 (dB)	C2&C3 cable dB	TekBox Limiter TBFL1 Model 207 (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP dBuV	Margin (dB)	CISPR 11 Class B Avg dBuV	Margin (dB)
14	.016	70.48	Ca	2.5	0	12.3	85.28	-	-	-	-
16	.0254	57.67	Ca	1.4	0	12	71.07	-	-	-	-
18	.0508	46.73	Ca	.3	0	11.2	58.23	-	-	-	-
13	.016	73.18	Qp	2.5	0	12.3	87.98	110	-22.02	-	-
15	.0254	59.56	Qp	1.4	0	12	72.96	110	-37.04	-	-
17	.0508	48.47	Qp	.3	0	11.2	59.97	89.86	-29.89	-	-

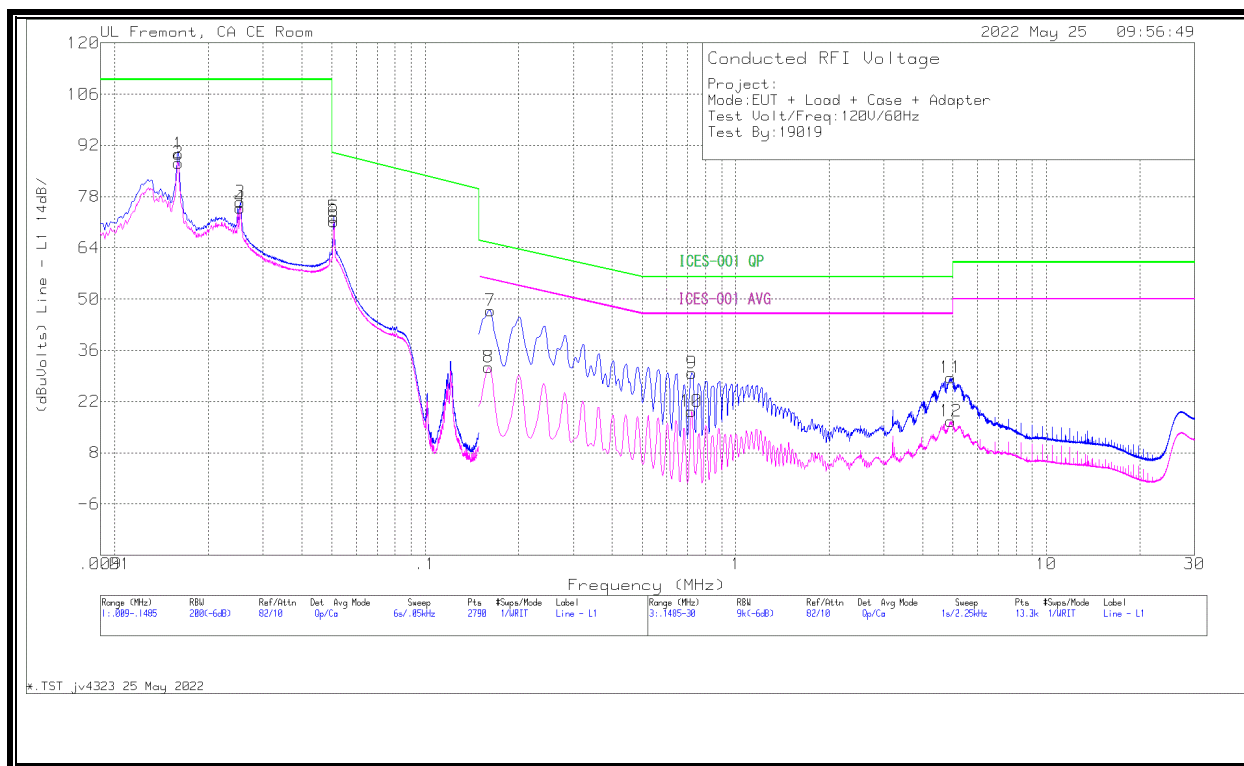
Range 4: Line - L2 .1485 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	175765 LISN L2 (dB)	C2&C3 cable dB	TekBox Limiter TBFL1 Model 207 (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP dBuV	Margin (dB)	CISPR 11 Class B Avg dBuV	Margin (dB)
20	.162	27.68	Ca	.1	0	9.4	37.18	-	-	55.36	-18.18
22	.7335	7.26	Ca	0	.1	9.3	16.66	-	-	46	-29.34
24	4.644	8.46	Ca	0	.1	9.3	17.86	-	-	46	-28.14
19	.162	41.94	Qp	.1	0	9.4	51.44	65.28	-13.84	-	-
21	.7313	23.29	Qp	0	.1	9.3	32.69	56	-23.31	-	-
23	4.644	22.72	Qp	0	.1	9.3	32.12	56	-23.88	-	-

9.2. EUT With Load

9.2.1. OPERATING MODE WITH LOAD POWERED BY AC/DC ADAPTER

LINE 1 RESULTS



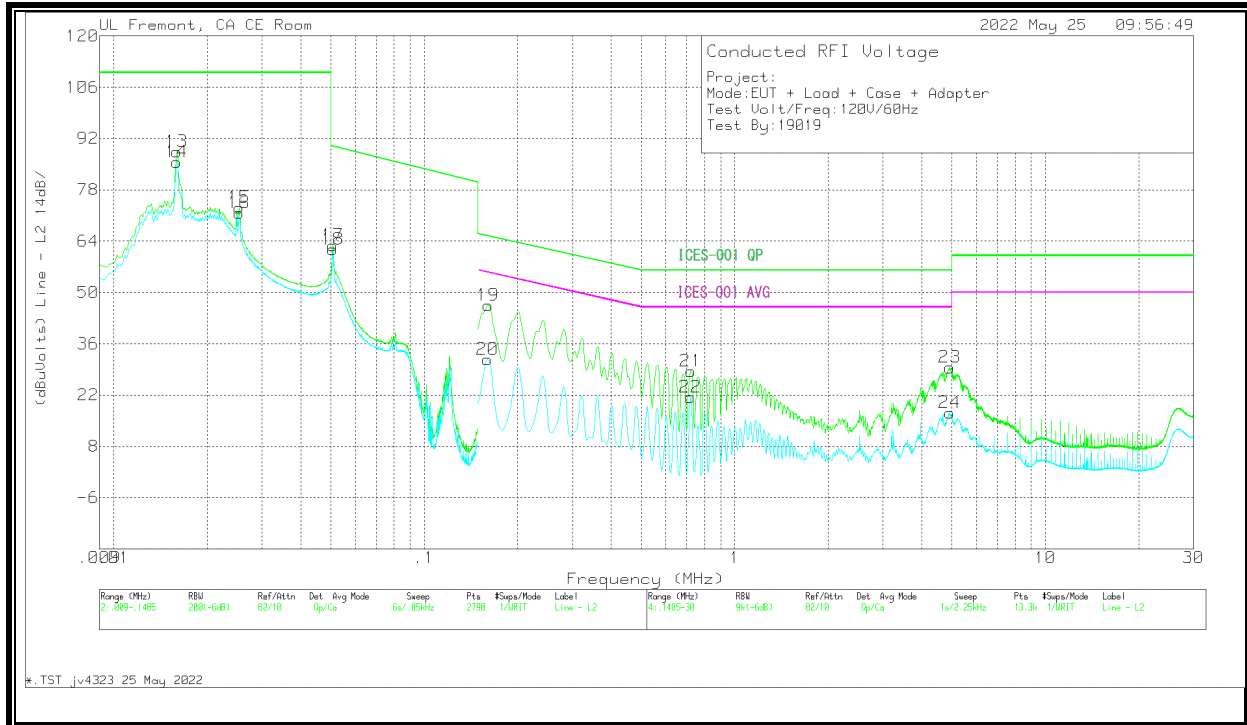
WORST EMISSIONS

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

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	175765 LISN L1 (dB)	C1&C3 cable dB	TekBox Limiter TBFL1 Model 207 (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP dBuV	Margin (dB)	CISPR 11 Class B Avg dBuV	Margin (dB)
2	.0161	72.19	Ca	2.7	0	12.3	87.19	-	-	-	-
4	.0253	61.41	Ca	1.5	0	12	74.91	-	-	-	-
6	.0508	59.54	Ca	.4	0	11.2	71.14	-	-	-	-
1	.0161	74.73	Qp	2.7	0	12.3	89.73	110	-20.27	-	-
3	.0254	62.95	Qp	1.5	0	12	76.45	110	-33.55	-	-
5	.0508	60.81	Qp	.4	0	11.2	72.41	89.86	-17.45	-	-

Range 3: Line - L1 .1485 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	175765 LISN L1 (dB)	C1&C3 cable dB	TekBox Limiter TBFL1 Model 207 (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP dBuV	Margin (dB)	CISPR 11 Class B Avg dBuV	Margin (dB)
8	.1598	21.87	Ca	.1	0	9.4	31.37	-	-	55.48	-24.11
10	.72	9.86	Ca	0	.1	9.3	19.26	-	-	46	-26.74
12	4.9275	7.27	Ca	0	.1	9.3	16.67	-	-	46	-29.33
7	.162	37.38	Qp	.1	0	9.4	46.88	65.28	-18.4	-	-
9	.7211	20.39	Qp	0	.1	9.3	29.79	56	-26.21	-	-
11	4.9298	19.08	Qp	0	.1	9.3	28.48	56	-27.52	-	-

LINE 2 RESULTS**WORST EMISSIONS****Range 2: Line - L2 .009 - .1485MHz**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	175765 LISN L2 (dB)	C2&C3 cable dB	TekBox Limiter TBFL1 Model 207 (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP dBuV	Margin (dB)	CISPR 11 Class B Avg dBuV	Margin (dB)
14	.016	70.83	Ca	2.5	0	12.3	85.63	-	-	-	-
16	.0253	58.36	Ca	1.4	0	12	71.76	-	-	-	-
18	.0509	50.22	Ca	.3	0	11.2	61.72	-	-	-	-
13	.016	73.61	Qp	2.5	0	12.3	88.41	110	-21.59	-	-
15	.0254	59.7	Qp	1.4	0	12	73.1	110	-36.9	-	-
17	.0509	51.33	Qp	.3	0	11.2	62.83	89.85	-27.02	-	-

Range 4: Line - L2 .1485 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	175765 LISN L2 (dB)	C2&C3 cable dB	TekBox Limiter TBFL1 Model 207 (dB)	Corrected Reading (dBuVolts)	CISPR 11 Class QP dBuV	Margin (dB)	CISPR 11 Class B Avg dBuV	Margin (dB)
20	.1598	22.25	Ca	.1	0	9.4	31.75	-	-	55.48	-23.73
22	.72	12.07	Ca	0	.1	9.3	21.47	-	-	46	-24.53
24	4.9253	7.68	Ca	0	.1	9.3	17.08	-	-	46	-28.92
19	.1609	36.93	Qp	.1	0	9.4	46.43	65.34	-18.91	-	-
21	.7223	19.1	Qp	0	.1	9.3	28.5	56	-27.5	-	-
23	4.9253	20.11	Qp	0	.1	9.3	29.51	56	-26.49	-	-

10. SETUP PHOTOS

Please refer to 14040863-EP1V1 for setup photos

END OF TEST REPORT