

TEST REPORT

Report Number : 15175342-E7V2

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

Model : A3212 (PARENT MODEL)
A3408, A3409, A3410 (VARIANT MODELS)

FCC ID : BCG-E8725A (PARENT MODEL)
BCG-E8726A, BCG-E8727A, BCG-E8728A
(VARIANT MODELS)

IC : 579C-E8725A (PARENT MODEL)
579C-E8726A, 579C-E8727A, 579C-E8728A
(VARIANT MODELS)

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-210 ISSUE 11
ISED RSS-GEN ISSUE 5 + A1 + A

Date Of Issue:
2024/11/20

Prepared by:
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REPORT REVISION HISTORY

Rev.		Issue Date		Revisions		Revised By
V1		2024/11/08		Initial Issue		Chin Pang
V2		2024/11/14		Adressed TCB Questions in section 5.4 and Section 10		Alfonso Sanchez

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:

APPLE INC.
11 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A.

EUT DESCRIPTION:

SMARTPHONE

MODEL:

A3212 (PARENT MODEL)
A3408, A3409, A3410 (VARIANT MODELS)

BRAND:

APPLE

SERIAL NUMBER:

JL2GY6CXGT (Parent Model)
LKQVT2W2YG (Model 3408), QV6H6WR6YR (Model 3409), R0QQVMMXH7 (Model 3410)

SAMPLE RECEIPT DATE:

2024/08/12, 2024/11/13

DATE TESTED:

2024/09/06 – 2024/11/19

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	Complies
ISED RSS-210 Issue 11, Annex B	Complies
ISED RSS-GEN Issue 5 + A1 + A2	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:



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2. TEST METHODOLOGY

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

- FCC 47 CFR Part 2
- FCC 47 CFR Part 15
- ANSI C63.10-2020
- KDB 414788 D01 Radiated Test Site v01r01
- KDB 484596 D01 V02r03
- RSS-GEN Issue 5 + A1 + A2
- RSS-210 Issue 11

3. FACILITIES AND ACCREDITATION

UL Verification Services Inc. 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	550739
☒	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
☒	Building 3: 843 Auburn Court, Fremont, CA 94538, USA			
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA			
☐	Building 5: 47670 Kato Rd, Fremont, CA 94538, USA			

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}
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22 %
Temperature	±0.57 %
Relative Humidity	3.39 %
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%.

4.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:
Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss
36.5 dBuV + 0 dB + 10.1 dB + 0 dB = 46.6 dBuV

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with GSM, GPRS, EGPRS, WCDMA, LTE, 5GNR1, IEEE 802.11a/b/g/n/ac/ax, Bluetooth (BT), Global Positioning System (GPS), Near-Field Communication (NFC), and Mobile Satellite Service (MSS) technologies. The rechargeable battery is not user accessible. This device is not user-serviceable and requires special tools to disassemble.

5.2. MAXIMUM E-FIELD STRENGTH

The transmitter has a maximum peak radiated E-field strength as follows:

Frequency Range (MHz)	Type	Mode	Rate (Kbps)	E Field at 30m distance (dBuV/m)
13.56	B	CE	106	24.78
		Reader	106	25.02
		Reader + TAG	106	24.88

5.3. WORST-CASE CONFIGURATION AND MODE

The fundamental of the EUT was investigated under three orthogonal orientations X (Flatbed), Y (Landscape), and Z (Portrait). The Y (Landscape) orientation was determined to be the worst-case orientation.

The worst-case position of the EUT was investigated under three configurations: EUT only, EUT with power supply, EUT with earphones. The EUT with power supply configuration was determined to be worst-case configurations; therefore, all final tests were performed on the EUT with power supply.

In addition, Reader + Tag, Reader, and CE mode mode were investigated with Type A, B and F with data rates, such as 106Kbp/s, 212Kbp/s, 424Kbp/s and 848Kbp/s and ISO 15693 configuration to determine the worst case based on the highest power and spurious emissions. Type B 106Kbps was determined to be the worst case and therefore, Type B was selected for all final tests.

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 30 meter 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.

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.

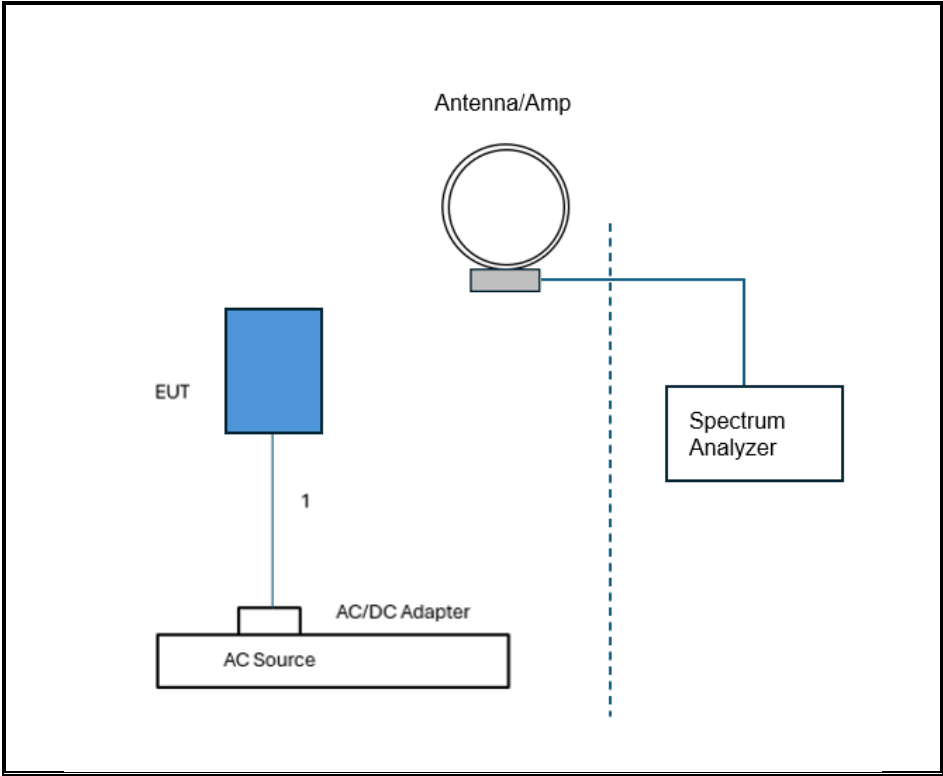
5.4. DESCRIPTION OF TEST SETUP

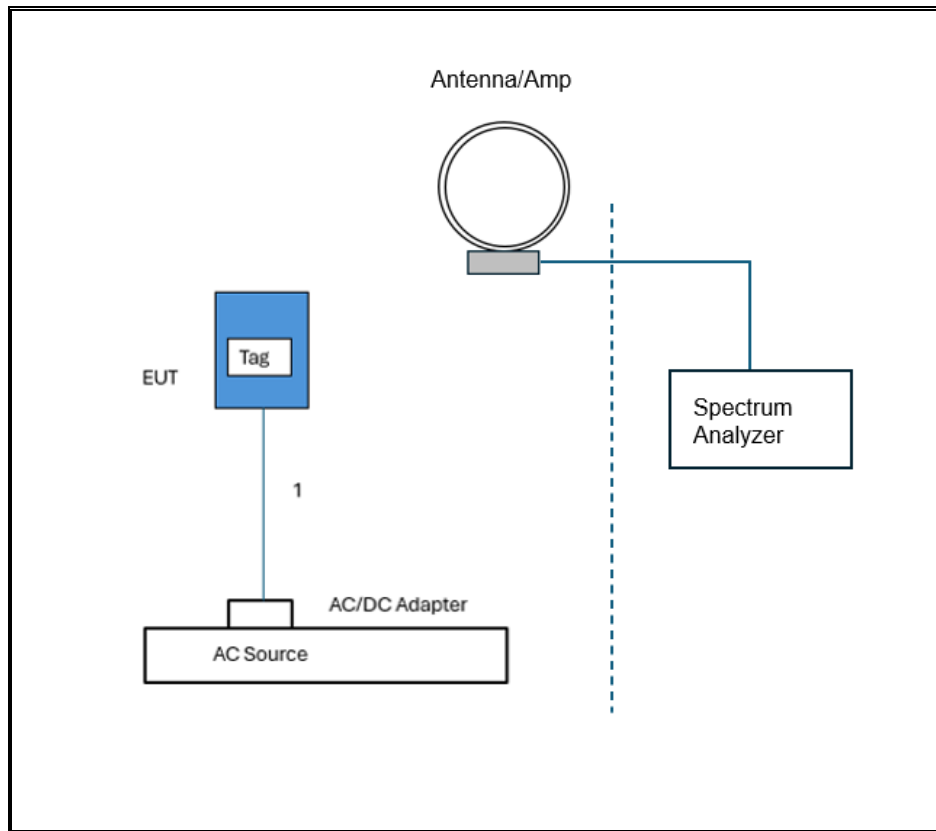
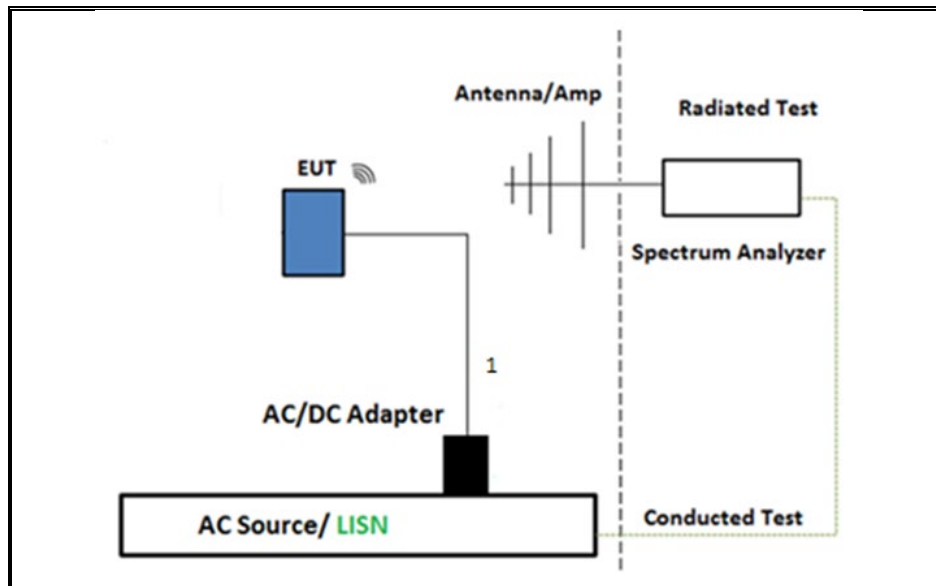
SUPPORT TEST EQUIPMENT						
Description	Manufacturer	Model	Serial Number		FCC ID/ DoC	
EUT AC/DC Adapter	Apple	A2305			DoC	
Tag	Infineon	NA	GLFG3ATBOY5SAQSH		NA	

I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	Type-C	Un-Shielded	1	N/A

I/O CABLES (RF RADIATED AND AC LINE CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	Type-C	Un-Shielded	1	N/A

SETUP DIAGRAM FOR RADIATED TESTS (CE and READER MODE)



SETUP DIAGRAM FOR RADIATED TESTS (READER + TAG MODE)**SETUP DIAGRAM FOR BELOW 1GHz and AC LINE CONDUCTED TEST**

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
Antenna, BroadBand Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	232075	2025/04/30
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	235670	2025/02/28
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	232001	2025/02/28
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	170063	2024/11/30
Antenna, BroadBand Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	204045	2025/04/30
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	216245	2025/03/31
Antenna, Passive Loop 30Hz to 1MHz	Electro-Metrics	EM-6871	170013	2025/07/31
Antenna, Passive Loop 100KHz - 30MHz	Electro-Metrics	EM-6872	170015	2025/07/31
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	82472	2025/01/25

AC LINE CONDUCTED				
Description	Manufacturer	Model	ID Number	Cal Due
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	93091	2025/02/28
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175765	2025/01/31
Transient Limiter	TE	TBFL1	207996	2025/09/01
UL AUTOMATION SOFTWARE				
Radiated Software	UL	UL EMC	Ver 9.5, May 1, 2023	
Conducted Software	UL	UL EMC	2024.2.23	
AC Line Conducted Software	UL	UL EMC	Ver 9.5, Mar 3, 2023	

* Testing was completed before equipment calibration date

7. 99% OCCUPIED BANDWIDTH AND 20dB BANDWIDTH

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

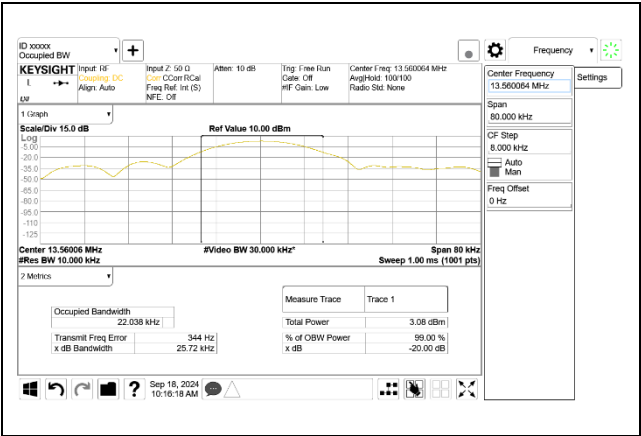
The transmitter output is connected to the spectrum analyzer. The RBW is set to 10kHz. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

Note: Because the measured signal is CW or 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.

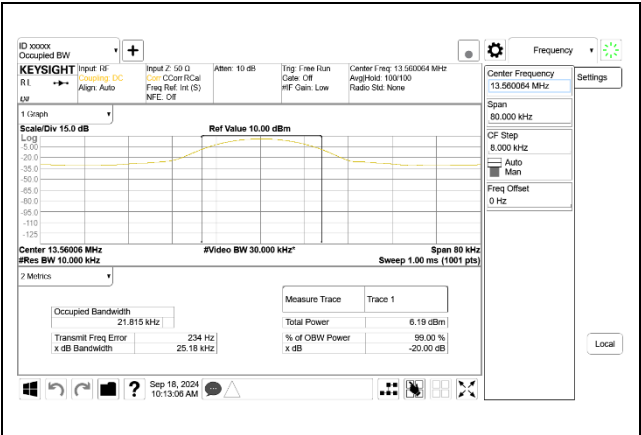
RESULTS

Type (Mode)	Rate (Kbps)	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
Type B (CE)	106	13.56	22.038	25.72
Type B (Reader)	106	13.56	21.815	25.18
Type B (Reader + TAG)	106	13.56	21.843	25.22

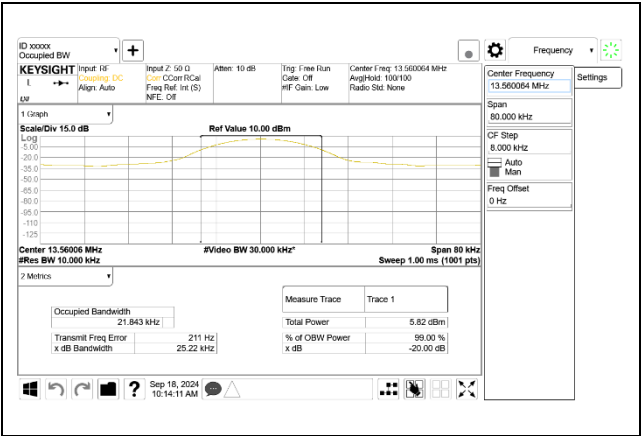
7.1. CE MODE: TYPE B, 106 Kbps



7.2. READER MODE: TYPE B, 106 Kbps



7.3. READER + TAG MODE: TYPE B, 106 Kbps



8. RADIATED EMISSION TEST RESULTS

LIMIT

§15.225

IC RSS-210, Annex B.6

IC RSS-GEN, Section 8.9 (Transmitter)

(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/ meter at 30 meters.

(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110– 14.010 MHz and shall not exceed the general radiated emission limits in § 15.209 as follows:

§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Limits for Radiated Disturbance of an Intentional Radiator		
Frequency Range (MHz)	Limits (µV/m)	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 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

Formula for converting the filed strength from uV/m to dBuV/m is:

Limit (dBuV/m) = 20 log limit (uV/m)

Note: The limits in 47 CFR, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as report in the table) using free space impedance of 377 Ohms. For example, the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to $Y-51.5 = Z$ dBuA/m, which has the same margin, W dB to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

In addition:

§15.209 (d) The emission limits shown the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

§15.209 (e), The provisions in §§ 15.31, §§ 15.33 and §§ 15.35 measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

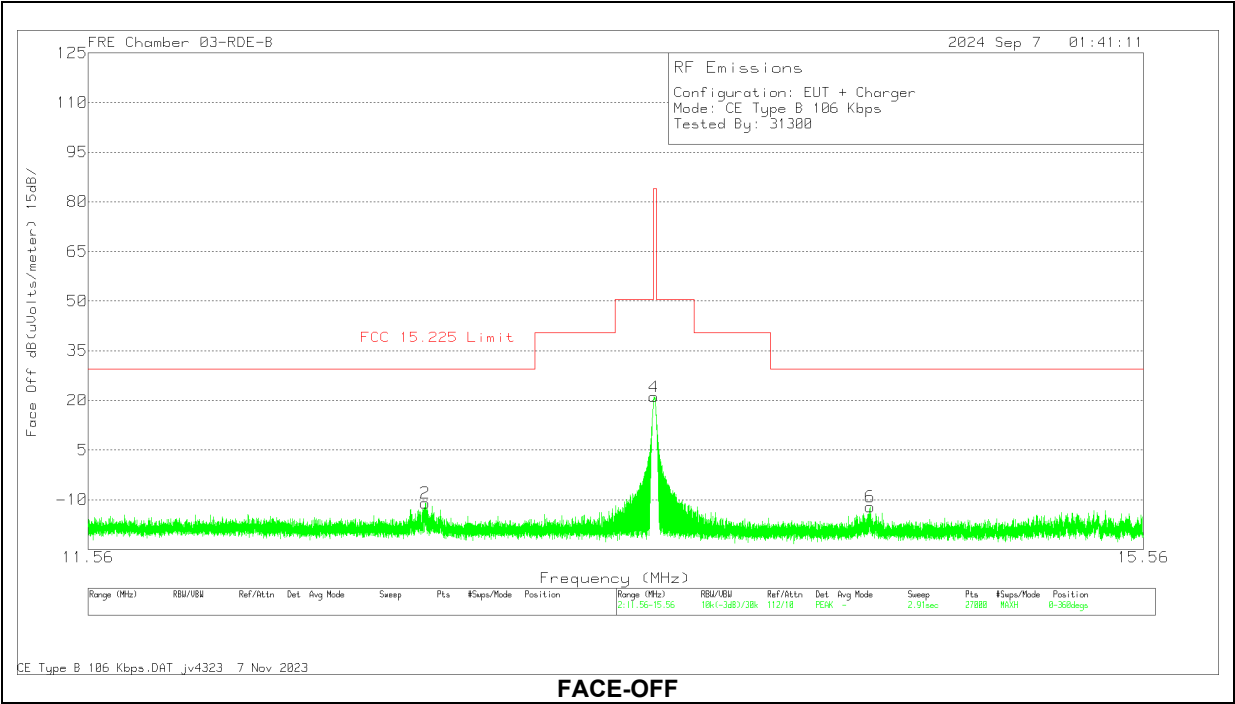
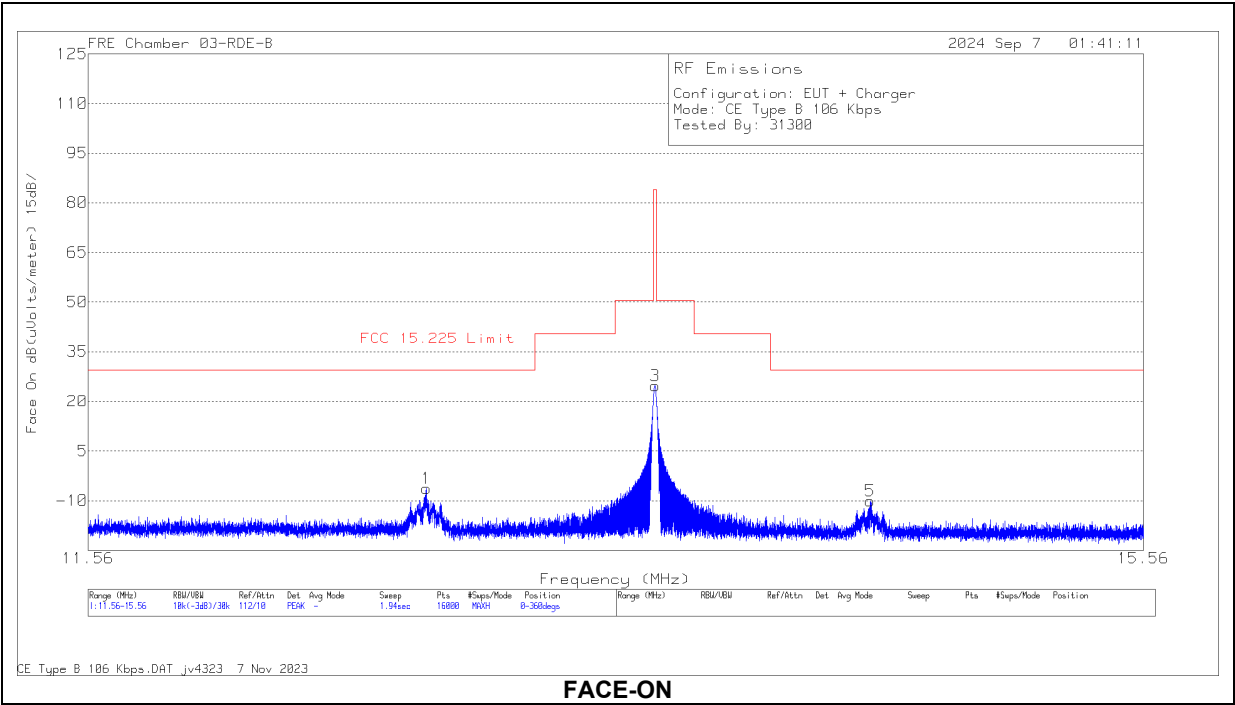
TEST PROCEDURE

ANSI C63.10, 2020

The EUT is an intentional radiator that incorporates a digital device, the highest fundamental frequency generated or used in the device is 13.56 MHz; therefore, the frequency range was investigated from 0.15 MHz to the 10th harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater.

RESULTS

8.1. CE MODE: TYPE B, 106 Kbps

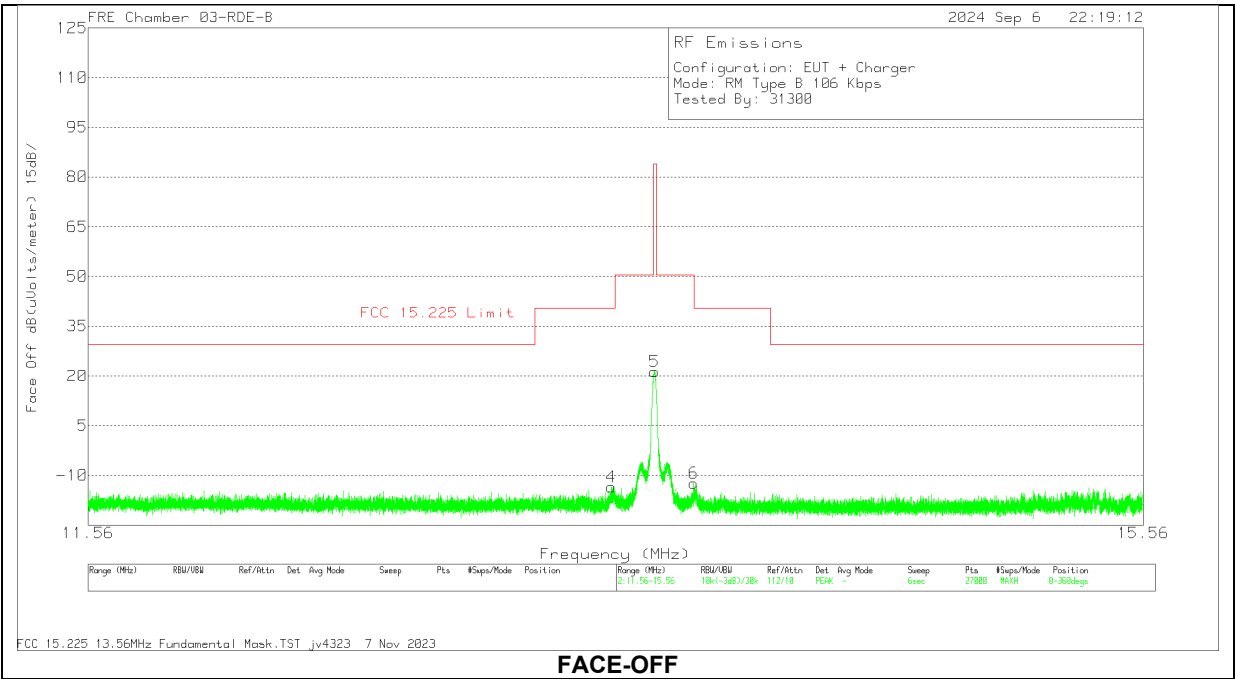
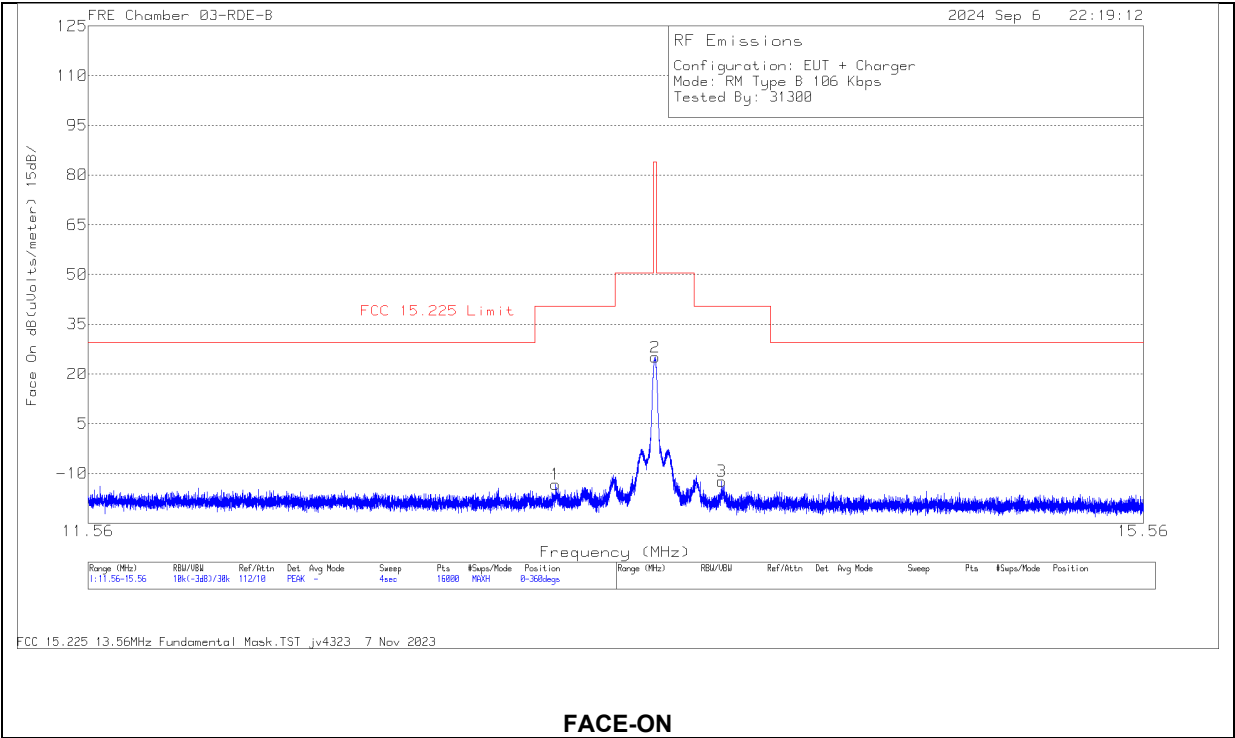


DATA

Marker	Frequen cy (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Correcte d Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
2	12.7117	26.14	Pk	34.3	-31.5	-40	-11.06	29.54	-40.6	0-360	Face-Off
1	12.7143	30.97	Pk	34.3	-31.5	-40	-6.23	29.54	-35.77	0-360	Face-On
4	13.5567	58.44	Pk	34.1	-31.5	-40	21.04	84	-62.96	0-360	Face-Off
3	13.5605	62.18	Pk	34.1	-31.5	-40	24.78	84	-59.22	0-360	Face-On
6	14.4071	25.25	Pk	34	-31.4	-40	-12.15	29.54	-41.69	0-360	Face-Off
5	14.4073	27.28	Pk	34	-31.4	-40	-10.12	29.54	-39.66	0-360	Face-On

Pk - Peak detector

8.2. READER MODE: TYPE B, 106 Kbps

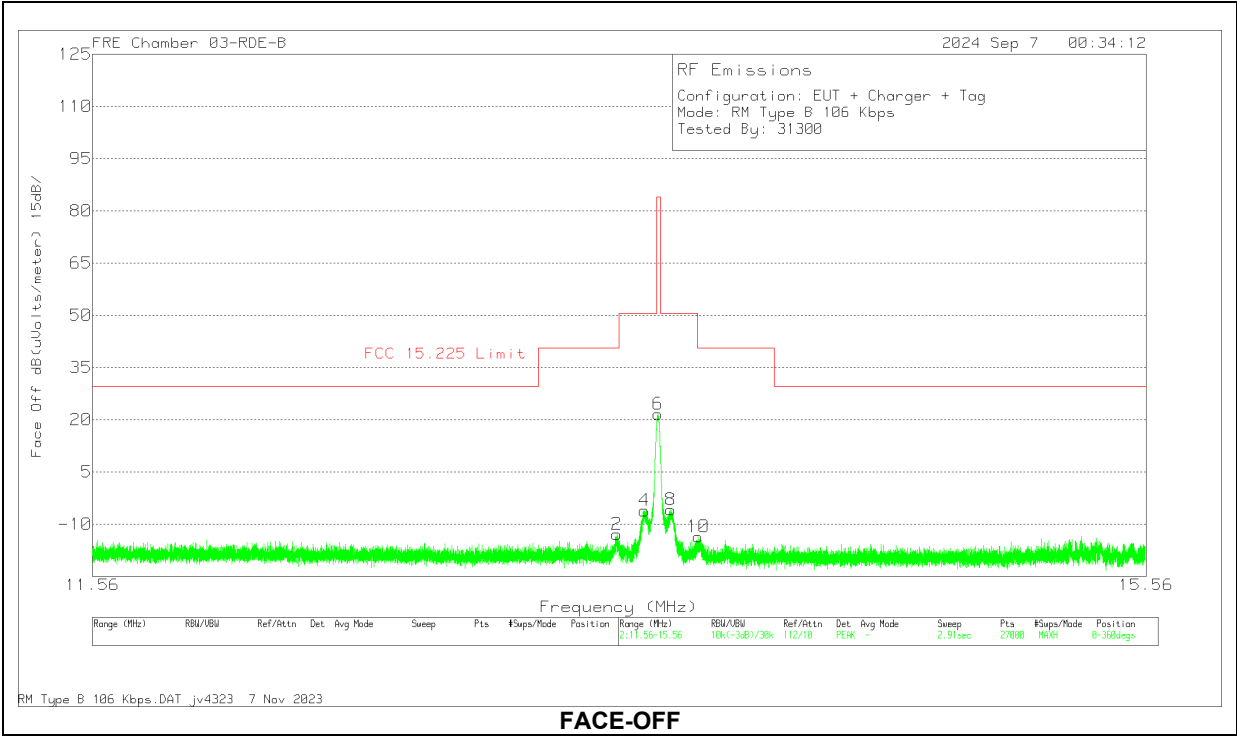
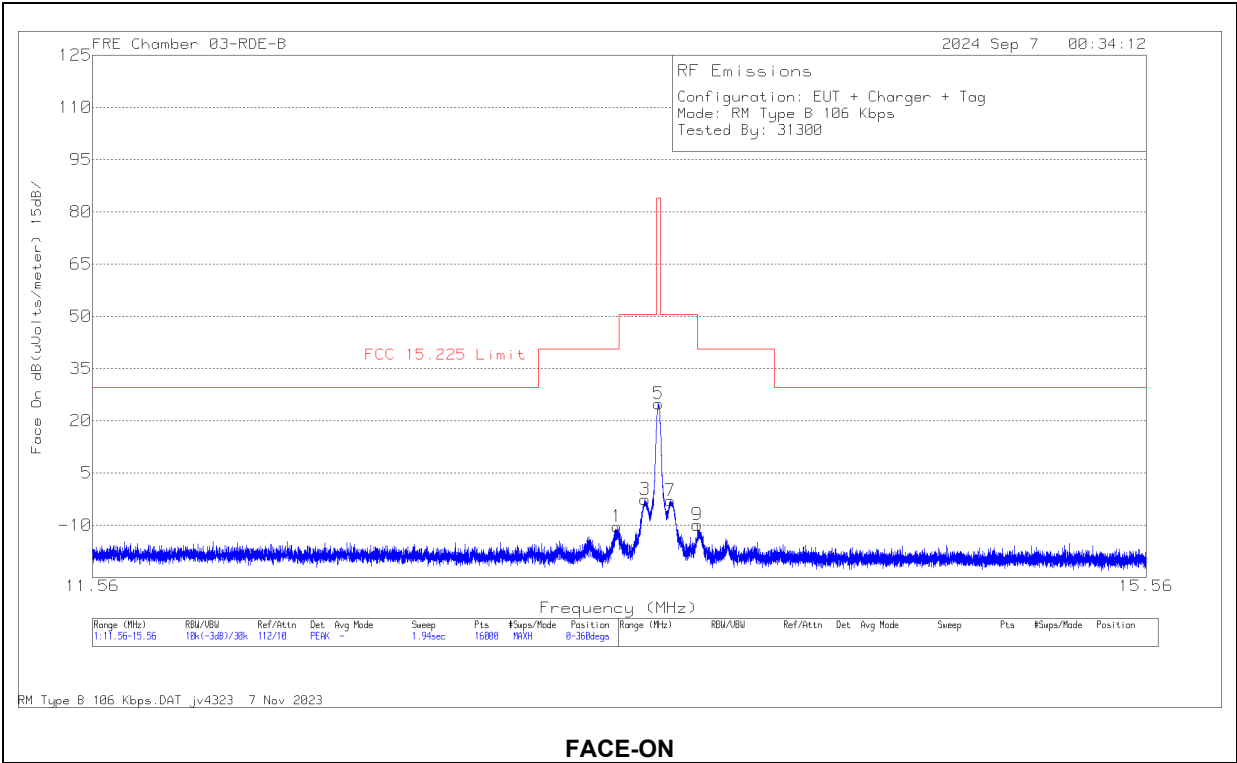


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(ACF) (dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degr)	Polarity
1	13.187	23.86	Pk	34.2	-31.4	-40	-13.34	40.51	-53.85	0-360	Face-On
4	13.3946	23.82	Pk	34.2	-31.5	-40	-13.48	40.51	-53.99	0-360	Face-Off
5	13.5579	58.78	Pk	34.1	-31.5	-40	21.38	84	-62.62	0-360	Face-Off
2	13.5605	62.42	Pk	34.1	-31.5	-40	25.02	84	-58.98	0-360	Face-On
6	13.7093	24.96	Pk	34.1	-31.4	-40	-12.34	50.5	-62.84	0-360	Face-Off
3	13.8185	25.23	Pk	34.1	-31.7	-40	-12.37	40.51	-52.88	0-360	Face-On

Pk - Peak detector

8.3. READER + TAG MODE: TYPE B, 106 Kbps



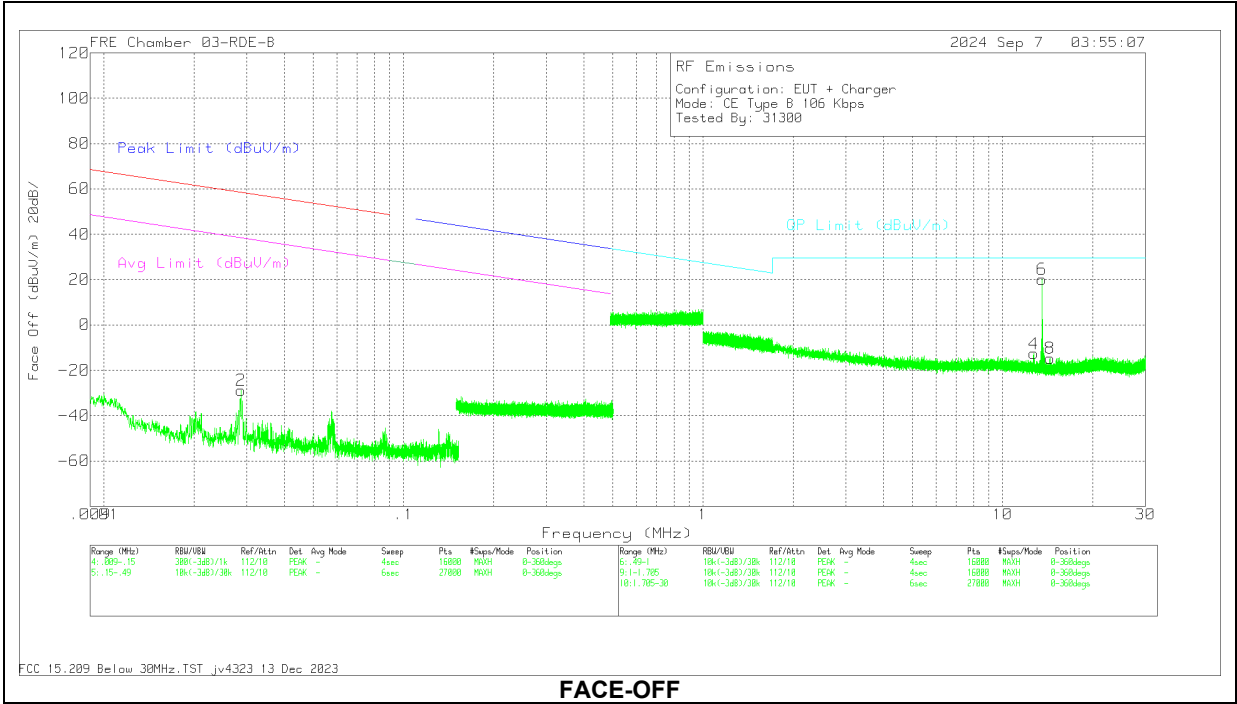
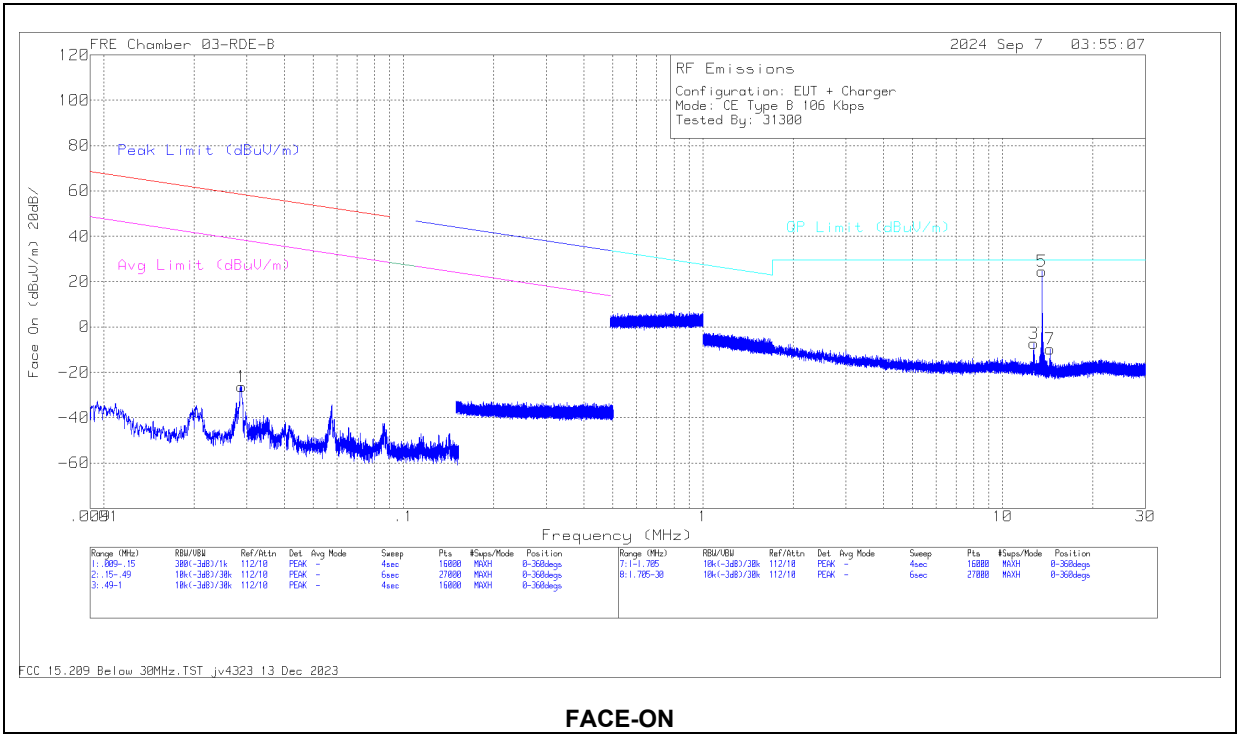
DATA

Marker	Frequen cy (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Correcte d Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
2	13.402	24.42	Pk	34.2	-31.5	-40	-12.88	40.51	-53.39	0-360	Face-Off
1	13.4035	26.92	Pk	34.2	-31.5	-40	-10.38	40.51	-50.89	0-360	Face-On
4	13.5065	31.28	Pk	34.1	-31.5	-40	-6.12	50.5	-56.62	0-360	Face-Off
3	13.509	34.83	Pk	34.1	-31.5	-40	-2.57	50.5	-53.07	0-360	Face-On
6	13.5583	59	Pk	34.1	-31.5	-40	21.6	84	-62.4	0-360	Face-Off
5	13.5605	62.28	Pk	34.1	-31.5	-40	24.88	84	-59.12	0-360	Face-On
7	13.6068	34.32	Pk	34.1	-31.4	-40	-2.98	50.5	-53.48	0-360	Face-On
8	13.6073	31.42	Pk	34.1	-31.4	-40	-5.88	50.5	-56.38	0-360	Face-Off
9	13.7095	27.39	Pk	34.1	-31.4	-40	-9.91	50.5	-60.41	0-360	Face-On
10	13.7133	23.76	Pk	34.1	-31.5	-40	-13.64	40.51	-54.15	0-360	Face-Off

Pk - Peak detector

8.4. SPURIOUS EMISSION 0.009-30 MHz

8.4.1. CE MODE: TYPE B, 106 Kbps



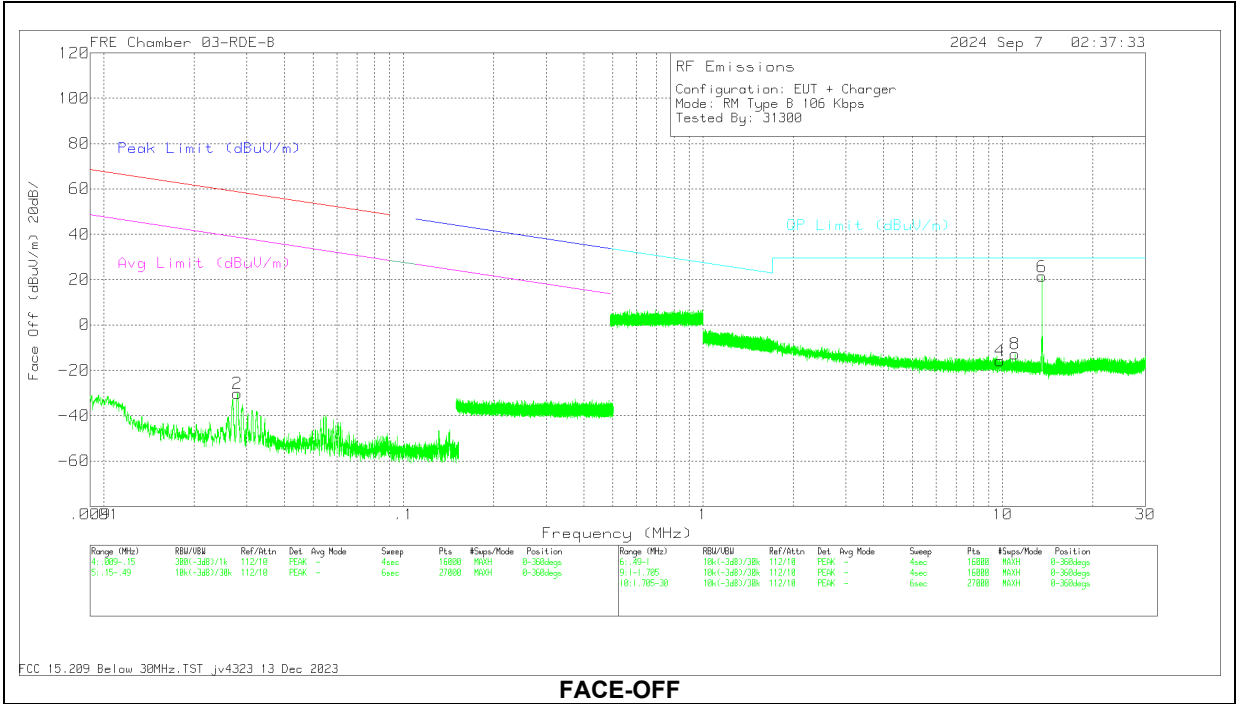
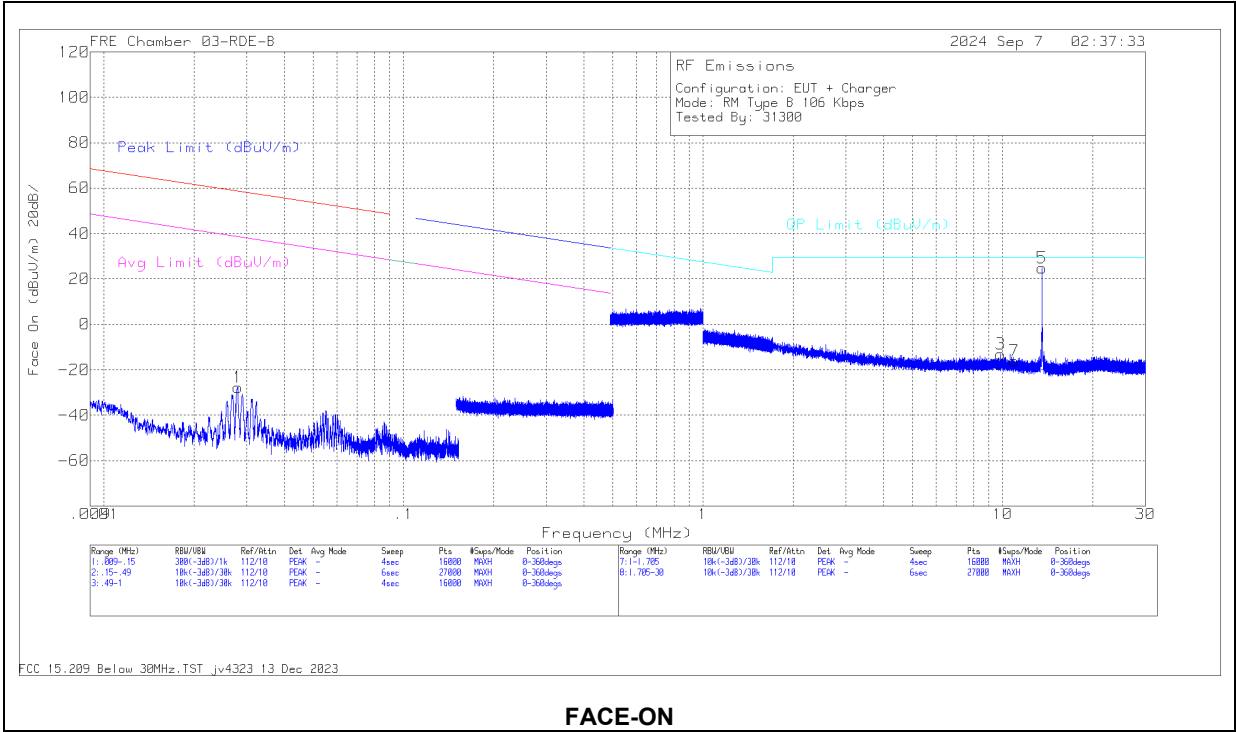
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	CBL AMP (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
2	.0287	25.3	Pk	57.9	-32	-80	-28.8	58.42	-87.22	38.42	-67.22	0-360	Face-Off
1	.0288	27.85	Pk	57.9	-32	-80	-26.25	58.4	-84.65	38.4	-64.65	0-360	Face-On

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
3	12.7153	29.83	Pk	34.3	-31.5	-40	-7.37	29.5	-36.87	0-360	Face-On
4	12.7174	24.53	Pk	34.3	-31.5	-40	-12.67	29.5	-42.17	0-360	Face-Off
6	13.56	57.58	Pk	34.1	-31.5	-40	20.18	29.5	-9.32	0-360	Face-Off
5	13.561	61.97	Pk	34.1	-31.5	-40	24.57	29.5	-4.93	0-360	Face-On
8	14.4036	22.51	Pk	34	-31.3	-40	-14.79	29.5	-44.29	0-360	Face-Off
7	14.4078	27.67	Pk	34	-31.4	-40	-9.73	29.5	-39.23	0-360	Face-On

Pk - Peak detector
Note: Marker 5 & 6 are Fundamental Frequency

8.4.2. READER MODE: TYPE B, 106 Kbps



DATA

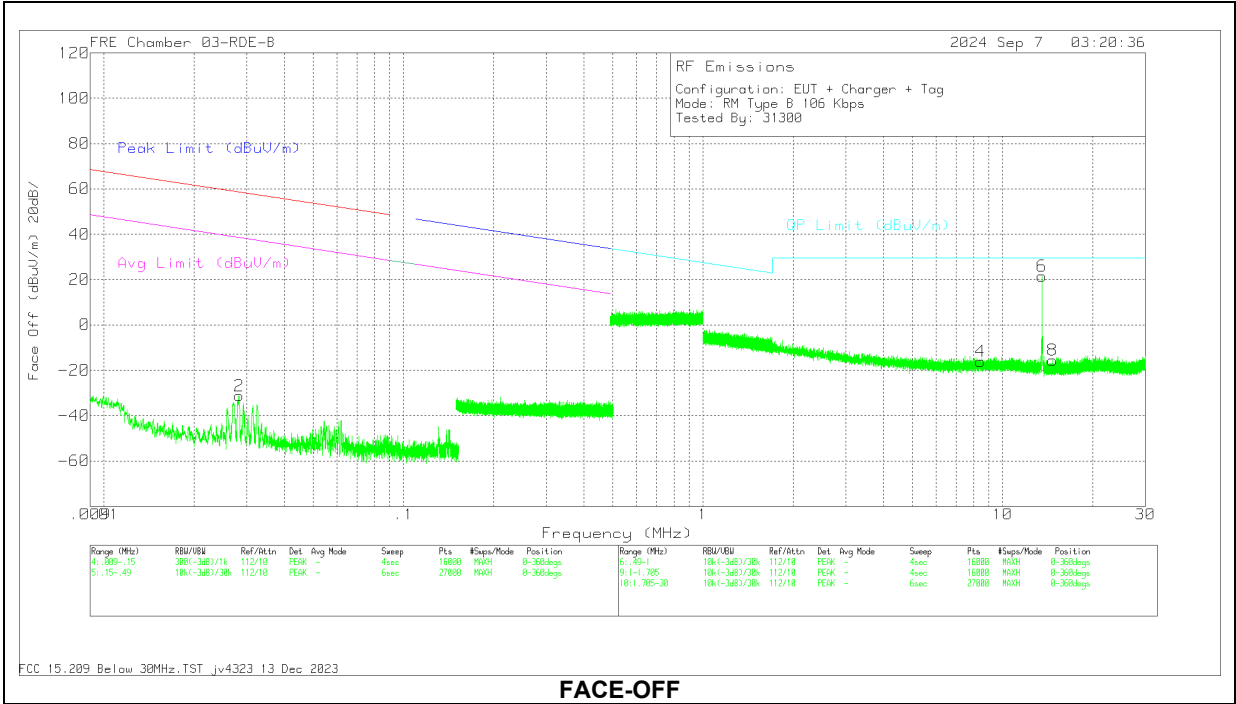
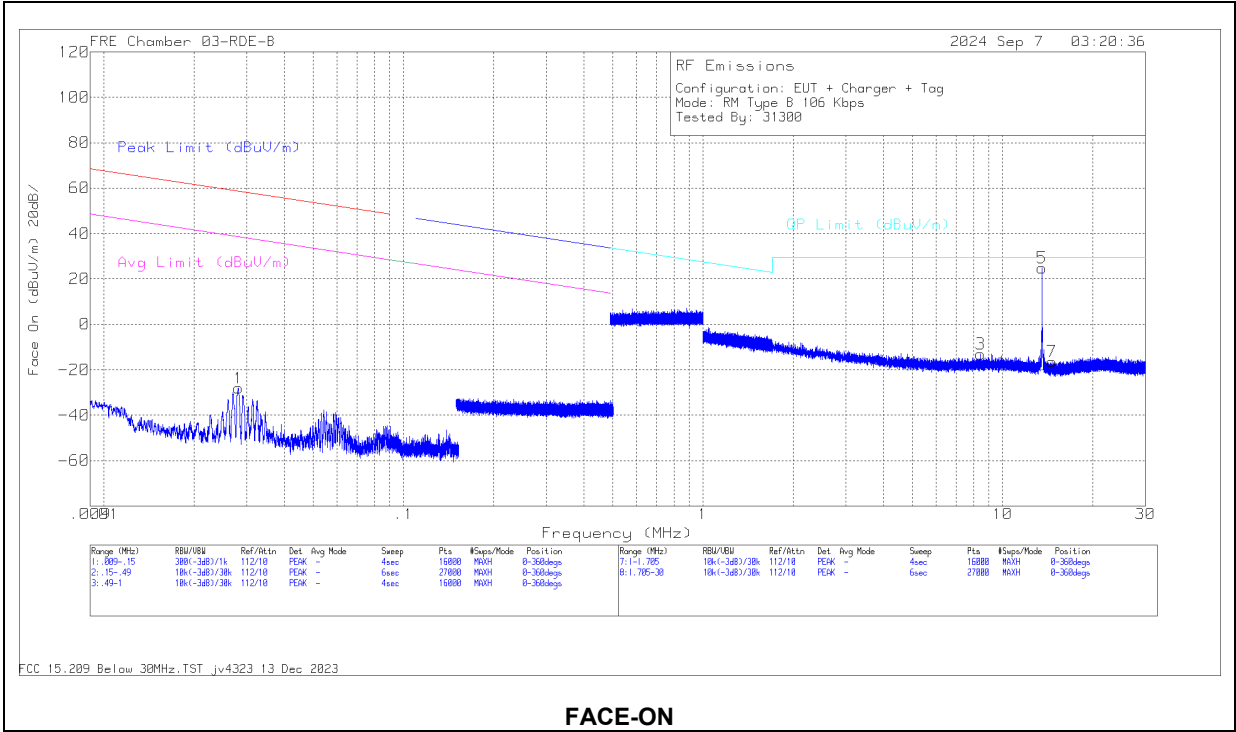
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	CBL AMP (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
2	.0279	23.95	Pk	58	-32.1	-80	-30.15	58.67	-88.82	38.67	-68.82	0-360	Face-Off
1	.028	26.47	Pk	58	-32.1	-80	-27.63	58.65	-86.28	38.65	-66.28	0-360	Face-On

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
4	9.8165	21.22	Pk	34.7	-31.7	-40	-15.78	29.5	-45.28	0-360	Face-Off
3	9.8595	24.08	Pk	34.7	-31.8	-40	-13.02	29.5	-42.52	0-360	Face-On
7	10.9389	20.63	Pk	34.6	-31.4	-40	-16.17	29.5	-45.67	0-360	Face-On
8	10.9882	24.02	Pk	34.6	-31.5	-40	-12.88	29.5	-42.38	0-360	Face-Off
5	13.5589	62.14	Pk	34.1	-31.5	-40	24.74	29.5	-4.76	0-360	Face-On
6	13.56	58.77	Pk	34.1	-31.5	-40	21.37	29.5	-8.13	0-360	Face-Off

Pk - Peak detector

Note: Marker 5 & 6 are Fundamental Frequency

8.4.3. READER + TAG MODE: TYPE B, 106 Kbps



DATA

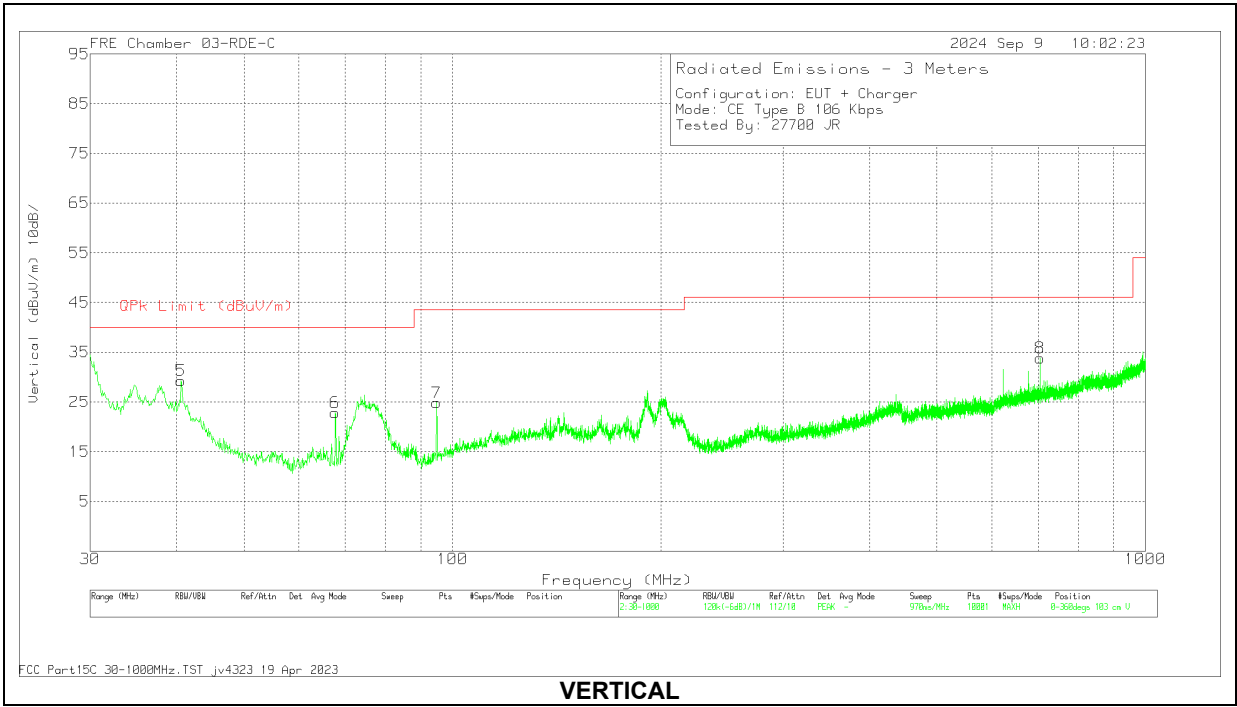
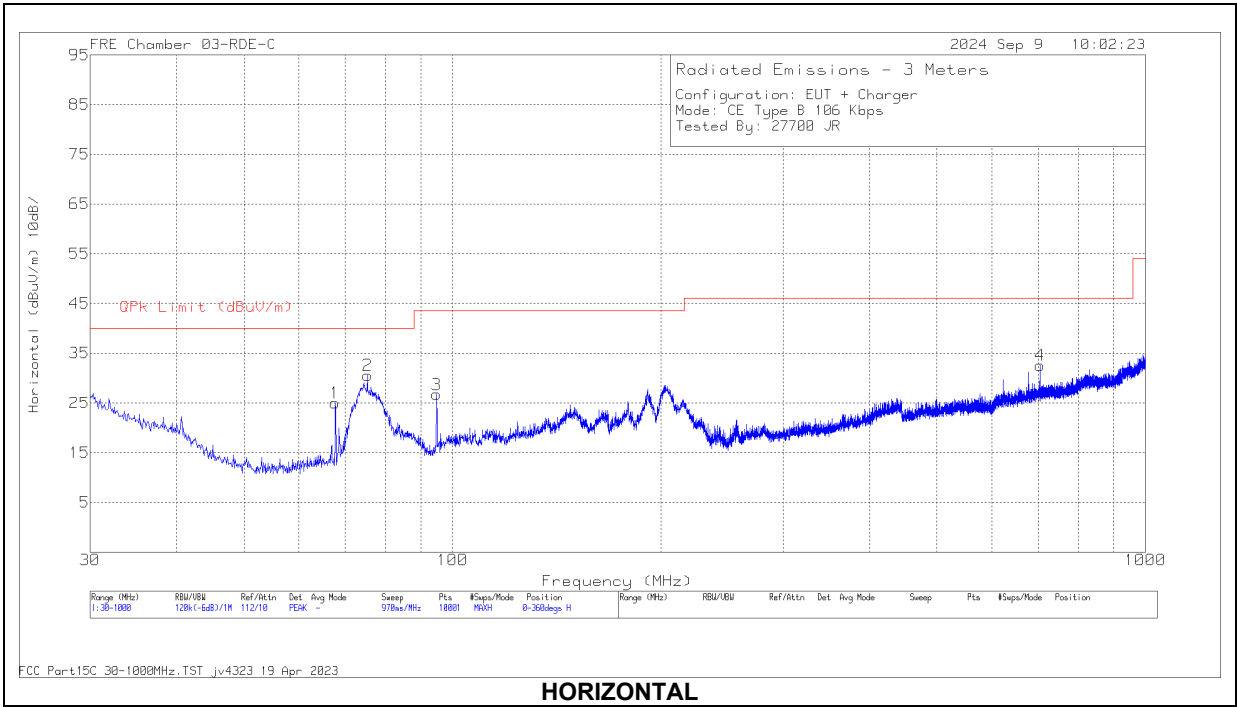
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	CBL AMP (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.0281	25.95	Pk	58	-32.1	-80	-28.15	58.61	-86.76	38.61	-66.76	0-360	Face-On
2	.0283	22.88	Pk	58	-32.1	-80	-31.22	58.56	-89.78	38.56	-69.78	0-360	Face-Off

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E ACF (dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
4	8.4573	21.01	Pk	34.6	-31.7	-40	-16.09	29.5	-45.59	0-360	Face-Off
3	8.4583	24.05	Pk	34.6	-31.7	-40	-13.05	29.5	-42.55	0-360	Face-On
5	13.5589	62.22	Pk	34.1	-31.5	-40	24.82	29.5	-4.68	0-360	Face-On
6	13.56	58.8	Pk	34.1	-31.5	-40	21.4	29.5	-8.1	0-360	Face-Off
7	14.652	21.12	Pk	33.9	-31.4	-40	-16.38	29.5	-45.88	0-360	Face-On
8	14.673	22.03	Pk	33.9	-31.4	-40	-15.47	29.5	-44.97	0-360	Face-Off

Pk - Peak detector
Note: Marker 5 & 6 are Fundamental Frequency

8.5. TX SPURIOUS EMISSION 30-1000 MHz

8.5.1. CE MODE: TYPE B, 106 Kbps

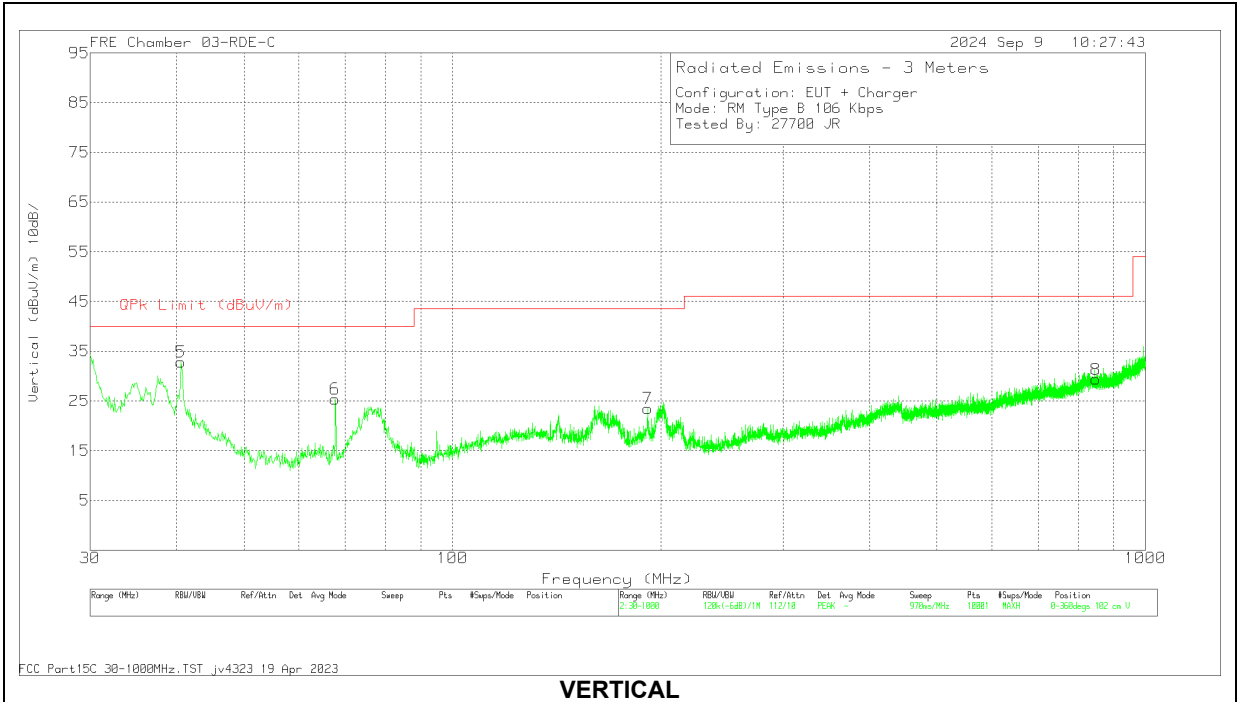
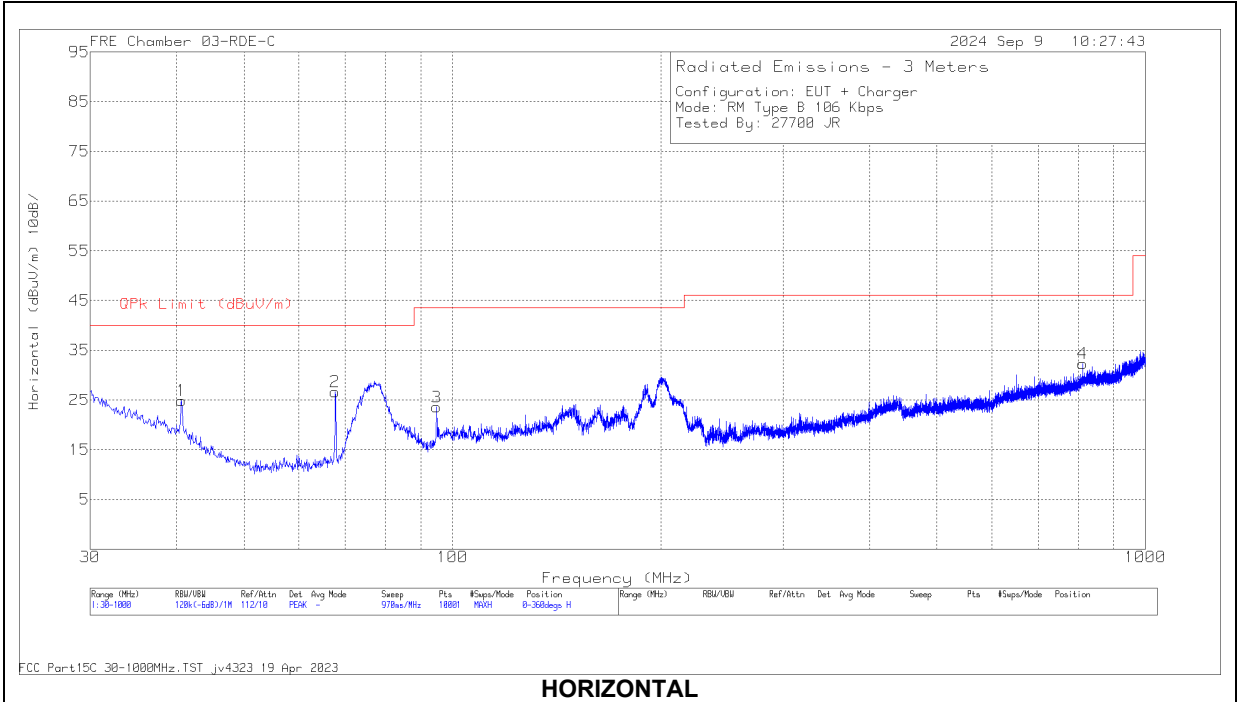


DATA

Marker	Frequen cy (MHz)	Meter Reading (dBuV)	Det	232075 ACF (dB/m)	CBL AMP (dB)	Correcte d Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	40.573	41.05	Pk	19.5	-31.3	29.25	40	-10.75	0-360	103	V
1	67.733	41.89	Pk	14.1	-31	24.99	40	-15.01	0-360	399	H
6	67.733	39.72	Pk	14.1	-31	22.82	40	-17.18	0-360	103	V
2	75.396	47.65	Pk	13.9	-31	30.55	40	-9.45	0-360	299	H
	77.6323	44.07	Qp	13.6	-30.9	26.77	40	-13.23	231	214	H
3	94.893	42	Pk	15.3	-30.6	26.7	43.52	-16.82	0-360	299	H
7	94.893	40.12	Pk	15.3	-30.6	24.82	43.52	-18.7	0-360	103	V
4	705.12	34.32	Pk	26.3	-28	32.62	46.02	-13.4	0-360	103	H
8	705.12	35.5	Pk	26.3	-28	33.8	46.02	-12.22	0-360	103	V

Pk - Peak detector
Qp - Quasi-Peak detector

8.5.2. READER MODE: TYPE B, 106 Kbps

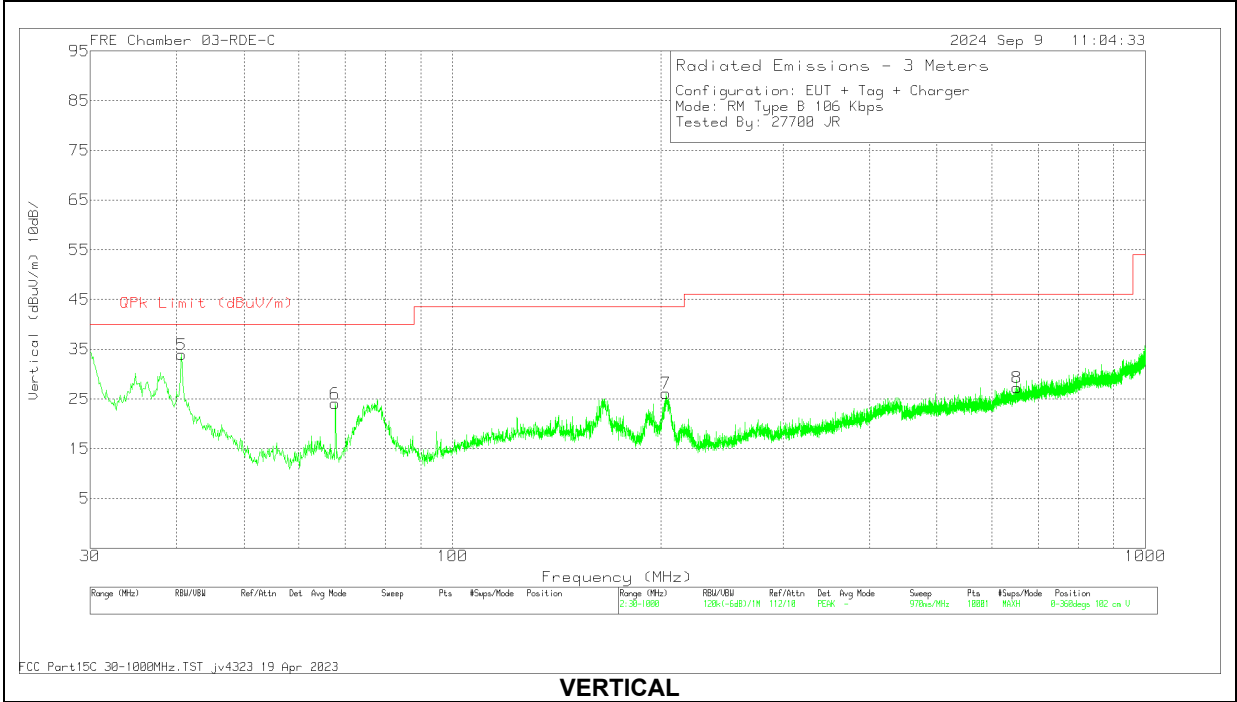
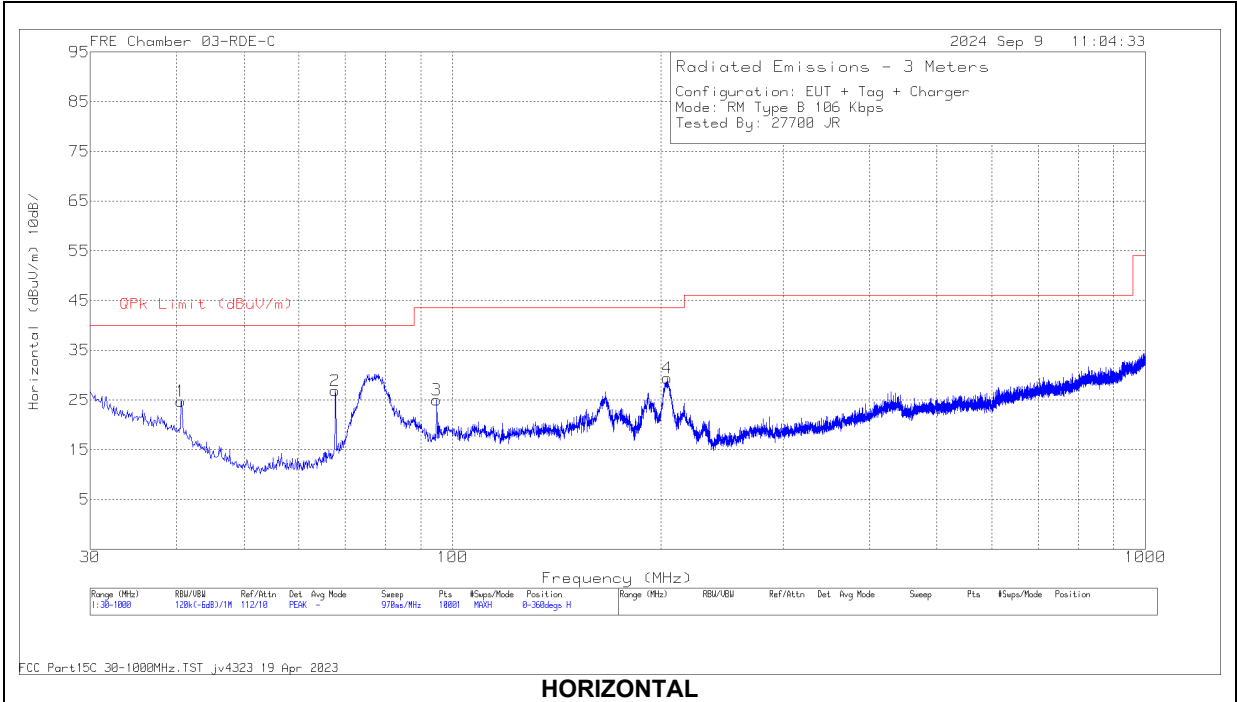


DATA

Marker	Frequen cy (MHz)	Meter Reading (dBuV)	Det	232075 ACF (dB/m)	CBL AMP (dB)	Correcte d Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	40.573	44.64	Pk	19.5	-31.3	32.84	40	-7.16	0-360	102	V
1	40.67	36.75	Pk	19.4	-31.3	24.85	40	-15.15	0-360	299	H
2	67.733	43.51	Pk	14.1	-31	26.61	40	-13.39	0-360	299	H
6	67.733	42.27	Pk	14.1	-31	25.37	40	-14.63	0-360	102	V
3	94.893	38.85	Pk	15.3	-30.6	23.55	43.52	-19.97	0-360	299	H
7	191.214	36.01	Pk	17.6	-30.1	23.51	43.52	-20.01	0-360	102	V
4	812.014	32.21	Pk	27.4	-27.3	32.31	46.02	-13.71	0-360	198	H
8	848.777	28.65	Pk	27.7	-27	29.35	46.02	-16.67	0-360	199	V

Pk - Peak detector

8.5.3. READER + TAG MODE: TYPE B, 106 Kbps



DATA

Marker	Frequen cy (MHz)	Meter Reading (dBuV)	Det	232075 ACF (dB/m)	CBL AMP (dB)	Correcte d Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.573	36.54	Pk	19.5	-31.3	24.74	40	-15.26	0-360	299	H
5	40.67	45.8	Pk	19.4	-31.3	33.9	40	-6.1	0-360	102	V
	40.6934	44.04	Qp	19.4	-31.3	32.14	40	-7.86	281	110	V
2	67.733	43.74	Pk	14.1	-31	26.84	40	-13.16	0-360	398	H
6	67.733	40.95	Pk	14.1	-31	24.05	40	-15.95	0-360	102	V
3	94.893	40.27	Pk	15.3	-30.6	24.97	43.52	-18.55	0-360	198	H
7	203.339	38.79	Pk	17.4	-30.1	26.09	43.52	-17.43	0-360	102	V
4	203.921	42.21	Pk	17.2	-30	29.41	43.52	-14.11	0-360	102	H
8	653.031	29.99	Pk	25.4	-28.1	27.29	46.02	-18.73	0-360	102	V

Pk - Peak detector
Qp - Quasi-Peak detector

9. FREQUENCY STABILITY

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency, over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

IC RSS-210, Annex B.6

Carrier frequency stability shall be maintained to ±0.01% (±100 ppm).

TEST PROCEDURE

ANSI C63.10-2020 Clause 6.8

RESULTS

No non-compliance noted.

ID:	27700	Date:	2024/10/08
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9.1. CE MODE: TYPE B, 106 Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20°C										
Limit: ± 100 ppm = 1.35600 KHz										
Power Supply	Envir. Temp	Frequency Deviation Measured with Time Elapse								
(VAC)	(°C)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.56012809	-1.260	13.56012548	-1.068	13.56012388	-0.949	13.56012309	-0.892	± 100
	40	13.5601291	-1.335	13.56012899	-1.326	13.56012903	-1.330	13.56012902	-1.328	± 100
	30	13.56011476	-0.277	13.56011697	-0.440	13.56011827	-0.536	13.56011984	-0.652	± 100
	20	13.560111	0.000	13.56011023	0.057	13.5601097	0.096	13.56010936	0.121	± 100
	10	13.56012179	-0.795	13.56011846	-0.550	13.56011465	-0.269	13.56011321	-0.163	± 100
	0	13.56010225	0.646	13.56010146	0.704	13.56010107	0.733	13.56009954	0.845	± 100
	-10	13.56008616	1.832	13.56008381	2.005	13.56008122	2.197	13.56007916	2.348	± 100
	-20	13.56007853	2.394	13.56007746	2.474	13.56007754	2.468	13.56007625	2.563	± 100
3.23	20	13.56010568	0.392	13.56010912	0.139	13.56010332	0.566	13.56010408	0.510	± 100
4.37	20	13.56010944	0.115	13.56010945	0.115	13.56010941	0.117	13.56010953	0.108	± 100

9.2. READER MODE: TYPE B, 106 Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20°C										
Limit: ± 100 ppm = 1.35600 KHz										
Power Supply	Envir. Temp	Frequency Deviation Measured with Time Elapse								
(VAC)	(°C)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.56012906	-0.906	13.56012834	-0.852	13.5601264	-0.710	13.56012279	-0.443	± 100
	40	13.56012746	-0.788	13.56012819	-0.841	13.56012863	-0.874	13.56012885	-0.890	± 100
	30	13.56011851	-0.127	13.56011993	-0.232	13.56012225	-0.403	13.56012402	-0.534	± 100
	20	13.56011678	0.000	13.56011577	0.074	13.56011619	0.044	13.56011694	-0.011	± 100
	10	13.56012488	-0.597	13.56012206	-0.389	13.56011879	-0.148	13.56011487	0.141	± 100
	0	13.56010477	0.886	13.56010187	1.100	13.56009926	1.292	13.56009625	1.514	± 100
	-10	13.56008689	2.205	13.56008532	2.320	13.5600837	2.439	13.56008204	2.562	± 100
	-20	13.56007774	2.879	13.56007744	2.901	13.56007736	2.907	13.56007744	2.901	± 100
3.23	20	13.56011381	0.219	13.56011514	0.121	13.56011244	0.320	13.56011623	0.041	± 100
4.37	20	13.56011641	0.027	13.56011639	0.029	13.56011666	0.009	13.56011689	-0.008	± 100

9.3. TAG MODE: TYPE B, 106 Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20°C										
Limit: ± 100 ppm = 1.35600 KHz										
Power Supply	Envir. Temp	Frequency Deviation Measured with Time Elapse								
(VAC)	(°C)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.56012299	-0.002	13.56012191	0.077	13.5601202	0.204	13.56011788	0.375	± 100
	40	13.5601289	-0.438	13.56012891	-0.438	13.56012883	-0.432	13.56012857	-0.414	± 100
	30	13.56012336	-0.029	13.56012394	-0.072	13.56012478	-0.134	13.56012563	-0.197	± 100
	20	13.56012296	0.000	13.56012167	0.095	13.56011995	0.222	13.56011803	0.363	± 100
	10	13.56012571	-0.203	13.56012265	0.023	13.56011756	0.399	13.56011108	0.876	± 100
	0	13.56010291	1.479	13.56010014	1.683	13.56009629	1.967	13.56009221	2.268	± 100
	-10	13.56008591	2.733	13.56008428	2.853	13.5600819	3.029	13.56007984	3.180	± 100
	-20	13.56007837	3.289	13.56007771	3.337	13.56007758	3.347	13.56007756	3.348	± 100
3.23	20	13.56010404	1.396	13.56009596	1.992	13.56010632	1.227	13.56010978	0.972	± 100
4.37	20	13.56011099	0.883	13.56011257	0.766	13.56011356	0.694	13.56011489	0.595	± 100

10. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

§15.207
IC RSS-GEN, Section 8.8

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

TEST PROCEDURE

ANSI C63.10:2020

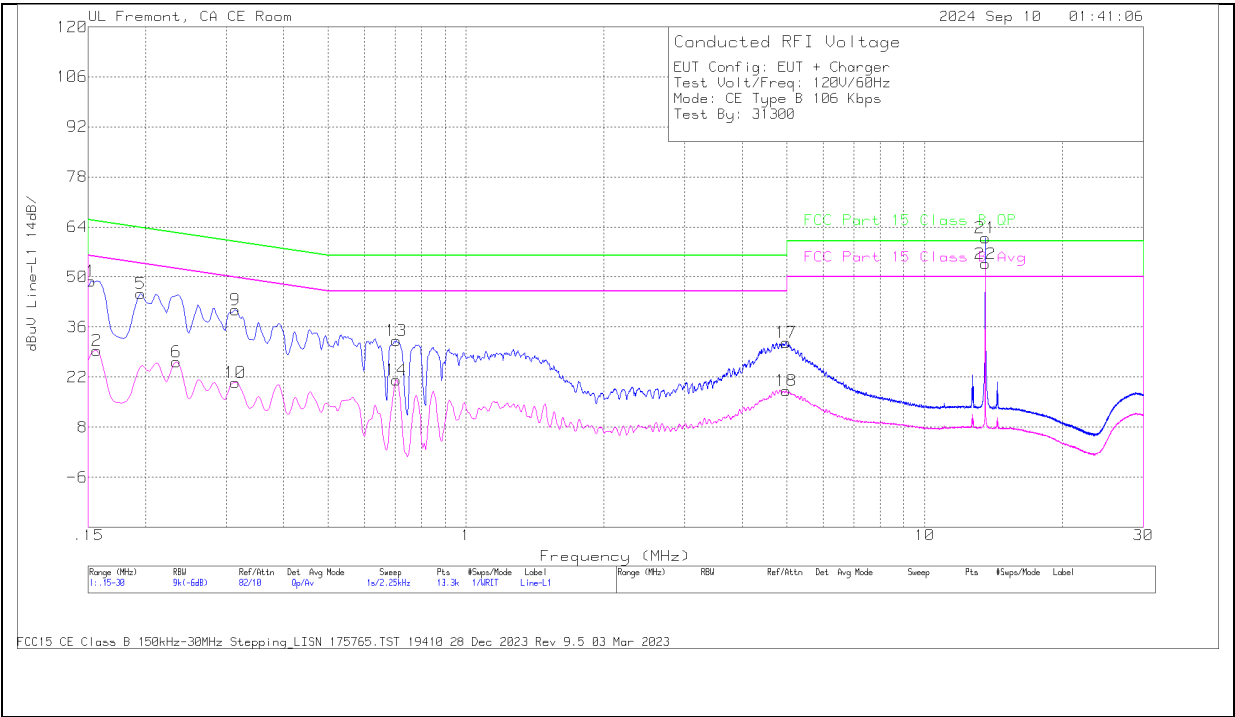
RESULTS

No non-compliance noted.

Note: 13.56 MHz is the fundamental frequency of the EUT. Data under the following section indicates that when the antenna port is terminated, the fundamental amplitude is lowered below the limit line.

10.1. CE MODE: TYPE B, 106 Kbps

LINE 1 RESULTS



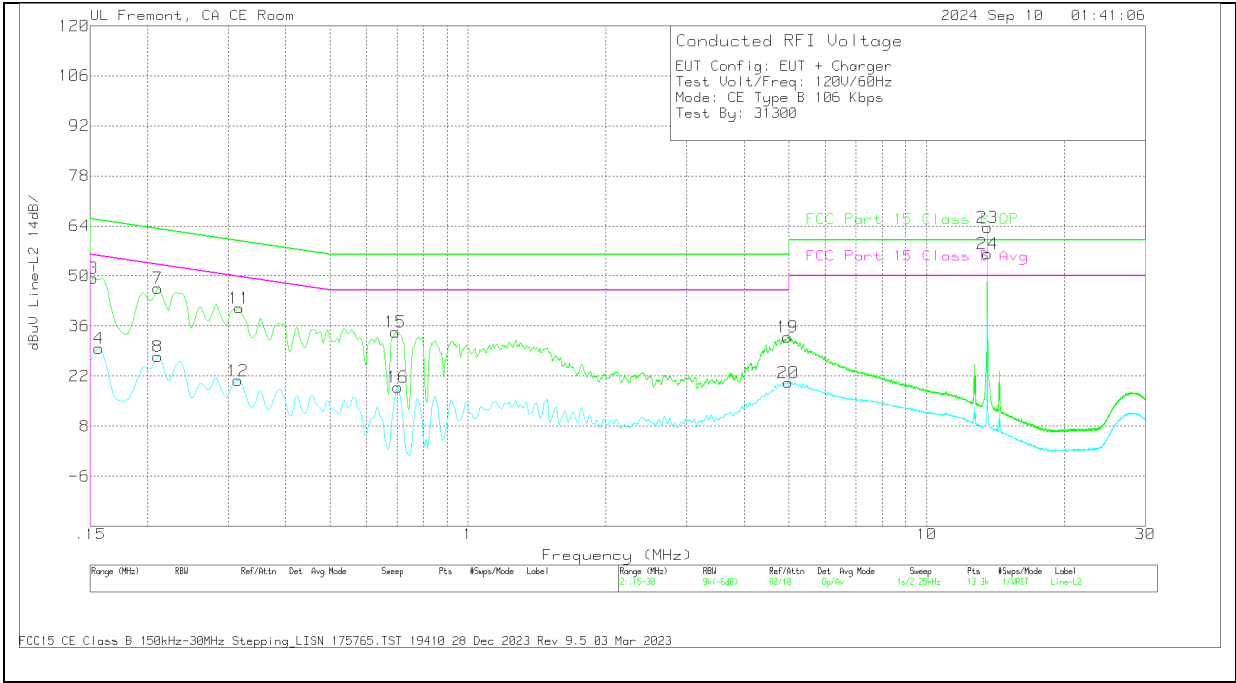
DATA

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
2	.1568	19.84	Av	.1	0	9.5	29.44	-	-	55.63	-26.19
6	.2333	16.81	Av	0	0	9.4	26.21	-	-	52.33	-26.12
10	.3143	11.03	Av	0	.1	9.4	20.53	-	-	49.86	-29.33
14	.7058	11.82	Av	0	.1	9.3	21.22	-	-	46	-24.78
18	4.9886	8.64	Av	0	.1	9.4	18.14	-	-	46	-27.86
22	13.56	43.79	Av	.1	.3	9.5	53.69	-	-	50	3.69
1	.1523	39.26	Qp	.1	0	9.5	48.86	65.88	-17.02	-	-
5	.195	35.74	Qp	.1	.1	9.4	45.34	63.82	-18.48	-	-
9	.3143	31.26	Qp	0	.1	9.4	40.76	59.86	-19.1	-	-
13	.7058	22.85	Qp	0	.1	9.3	32.25	56	-23.75	-	-
17	4.9943	22.23	Qp	0	.1	9.4	31.73	56	-24.27	-	-
21	13.56	51.11	Qp	.1	.3	9.5	61.01	60	1.01	-	-

Note: 13.56 MHz is the fundamental frequency of the EUT. Data under the following section indicates that when the antenna port is terminated, the fundamental amplitude is lowered below the limit line.

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



DATA

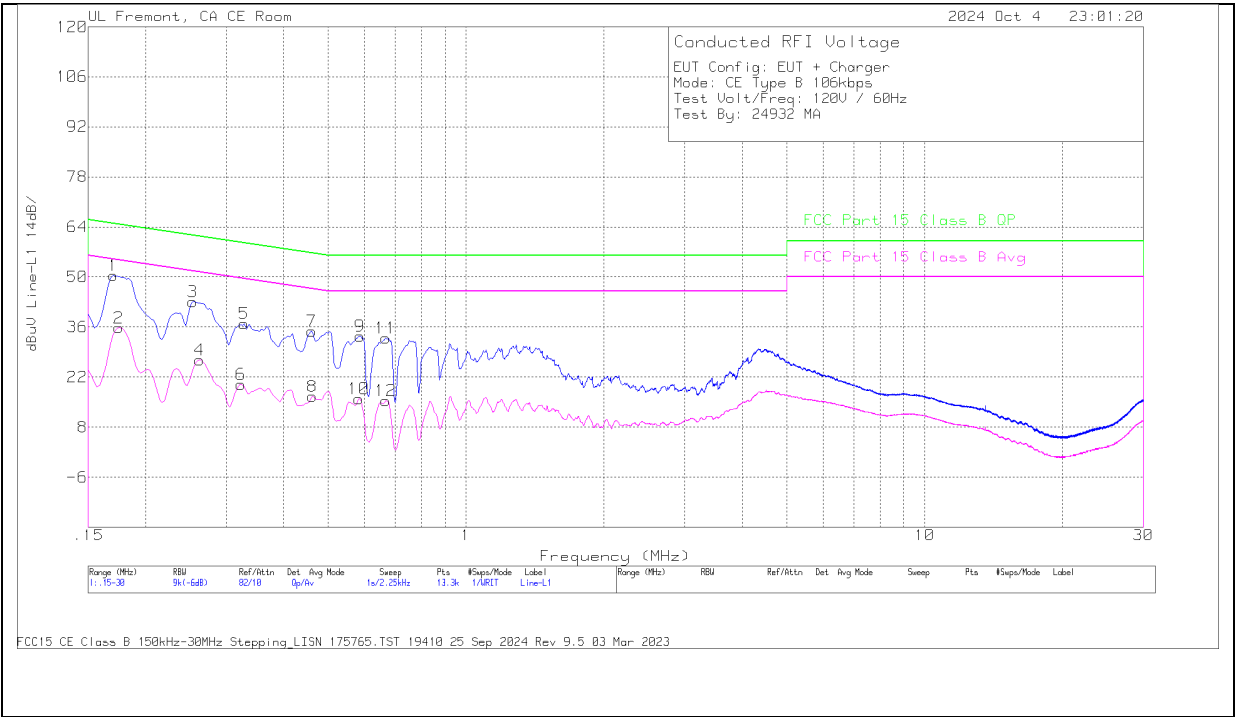
Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
4	.1568	20.14	Av	.1	0	9.5	29.74	-	-	55.63	-25.89
8	.2108	17.91	Av	0	.1	9.4	27.41	-	-	53.18	-25.77
12	.3154	11.23	Av	0	.1	9.4	20.73	-	-	49.83	-29.1
16	.7035	9.61	Av	0	0	9.3	18.91	-	-	46	-27.09
20	4.9909	10.7	Av	0	.1	9.4	20.2	-	-	46	-25.8
24	13.56	46.44	Av	.1	.2	9.5	56.24	-	-	50	6.24
3	.1523	39.74	Qp	.1	0	9.5	49.34	65.88	-16.54	-	-
7	.2108	37.03	Qp	0	.1	9.4	46.53	63.18	-16.65	-	-
11	.3165	31.55	Qp	0	.1	9.4	41.05	59.8	-18.75	-	-
15	.6945	24.97	Qp	0	0	9.3	34.27	56	-21.73	-	-
19	4.974	23.25	Qp	0	.2	9.4	32.85	56	-23.15	-	-
23	13.56	53.75	Qp	.1	.2	9.5	63.55	60	3.55	-	-

Note: 13.56 MHz is the fundamental frequency of the EUT. Data under the following section indicates that when the antenna port is terminated, the fundamental amplitude is lowered below the limit line.

Qp - Quasi-Peak detector
Av - Average detection

10.2. CE MODE: TYPE B, 106 Kbps (ANTENNA PORT TERMINATED)

LINE 1 RESULTS

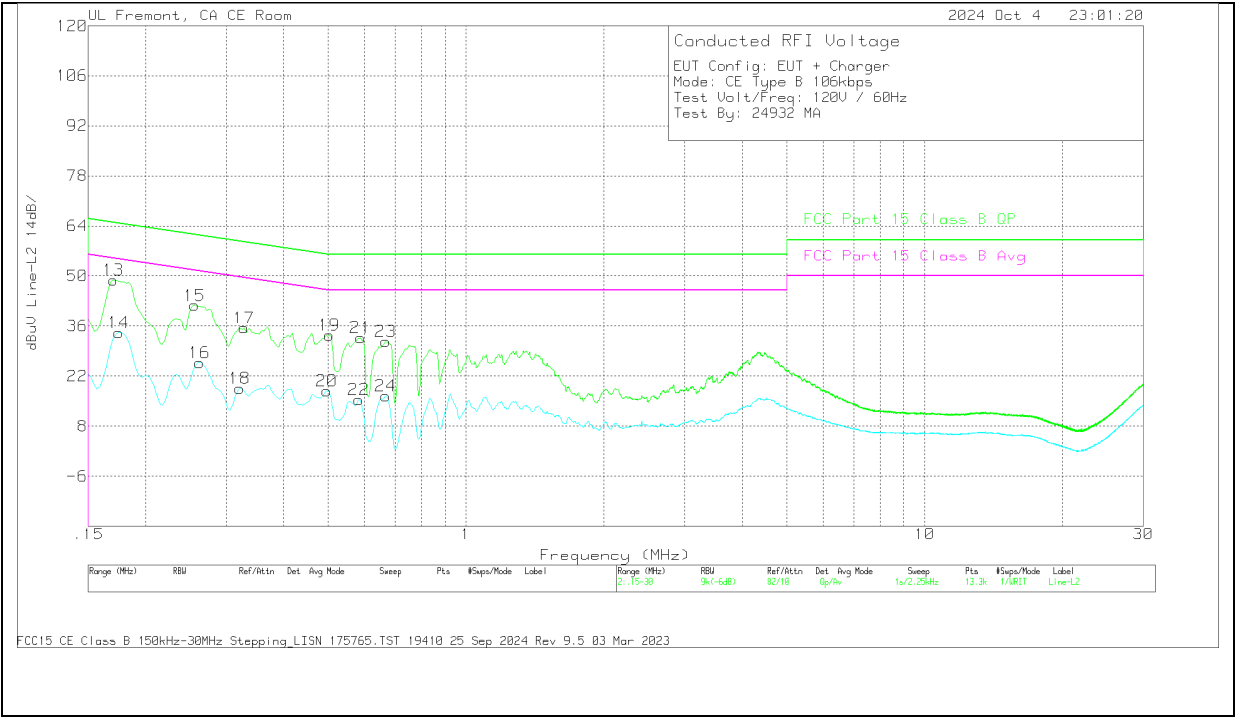


DATA

Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 1 C3_C1_Lim iter no Pad_UL (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
2	.1748	26.3	Av	.1	9.4	35.8	-	-	54.73	-18.93
4	.2625	17.33	Av	0	9.4	26.73	-	-	51.35	-24.62
6	.3233	10.59	Av	0	9.4	19.99	-	-	49.62	-29.63
8	.4628	7.24	Av	0	9.3	16.54	-	-	46.64	-30.1
10	.5843	6.61	Av	0	9.3	15.91	-	-	46	-30.09
12	.6686	6.07	Av	0	9.3	15.37	-	-	46	-30.63
1	.1703	40.89	Qp	.1	9.4	50.39	64.95	-14.56	-	-
3	.2535	33.69	Qp	0	9.4	43.09	61.64	-18.55	-	-
5	.3278	27.54	Qp	0	9.4	36.94	59.51	-22.57	-	-
7	.4605	25.48	Qp	0	9.4	34.88	56.68	-21.8	-	-
9	.5865	24.2	Qp	0	9.3	33.5	56	-22.5	-	-
11	.6675	23.65	Qp	0	9.3	32.95	56	-23.05	-	-

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



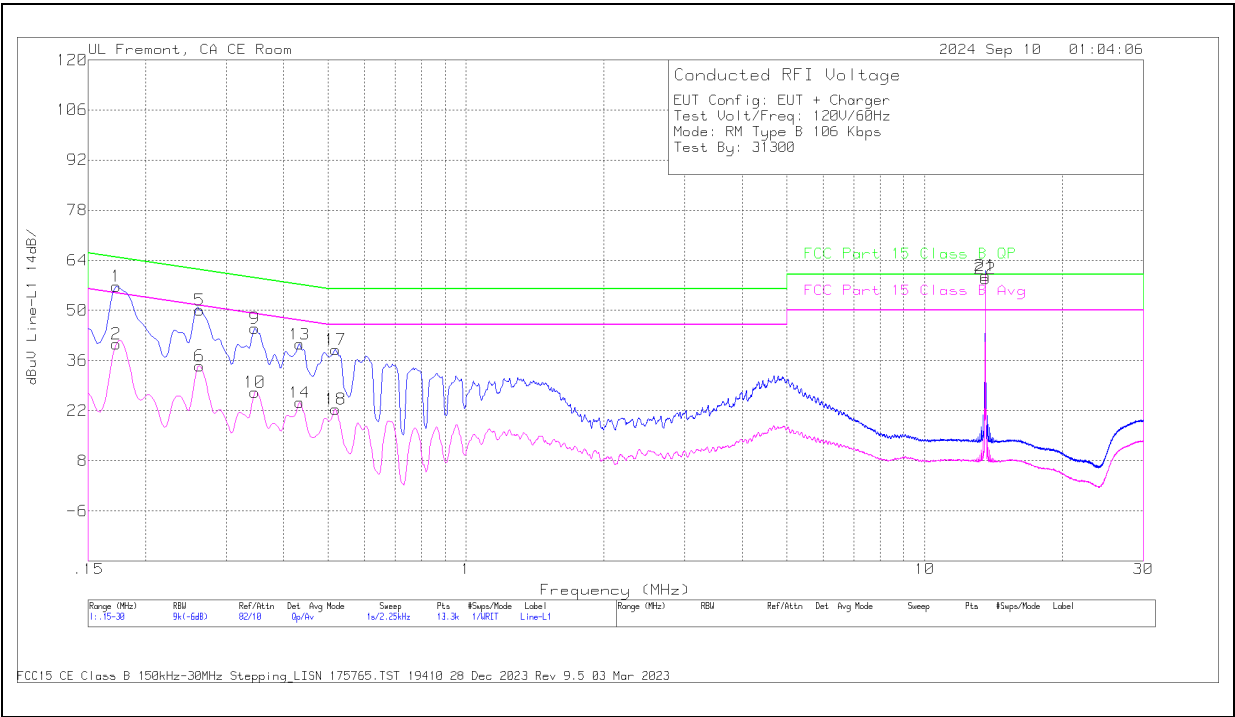
DATA

Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 2 C3_C2_Lim iter no Pad_UL (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
14	.1748	24.81	Av	0	9.4	34.21	-	-	54.73	-20.52
16	.2625	16.4	Av	0	9.4	25.8	-	-	51.35	-25.55
18	.321	9.26	Av	0	9.3	18.56	-	-	49.68	-31.12
20	.4965	8.48	Av	0	9.3	17.78	-	-	46.06	-28.28
22	.5843	6.02	Av	0	9.3	15.32	-	-	46	-30.68
24	.6686	7.08	Av	0	9.3	16.38	-	-	46	-29.62
13	.1703	39.51	Qp	0	9.4	48.91	64.95	-16.04	-	-
15	.2558	32.36	Qp	0	9.4	41.76	61.57	-19.81	-	-
17	.3278	26.16	Qp	0	9.3	35.46	59.51	-24.05	-	-
19	.5033	24.09	Qp	0	9.3	33.39	56	-22.61	-	-
21	.5888	23.37	Qp	0	9.3	32.67	56	-23.33	-	-
23	.6675	22.43	Qp	0	9.3	31.73	56	-24.27	-	-

Qp - Quasi-Peak detector
Av - Average detection

10.3. READER MODE: TYPE B, 106 Kbps

LINE 1 RESULTS



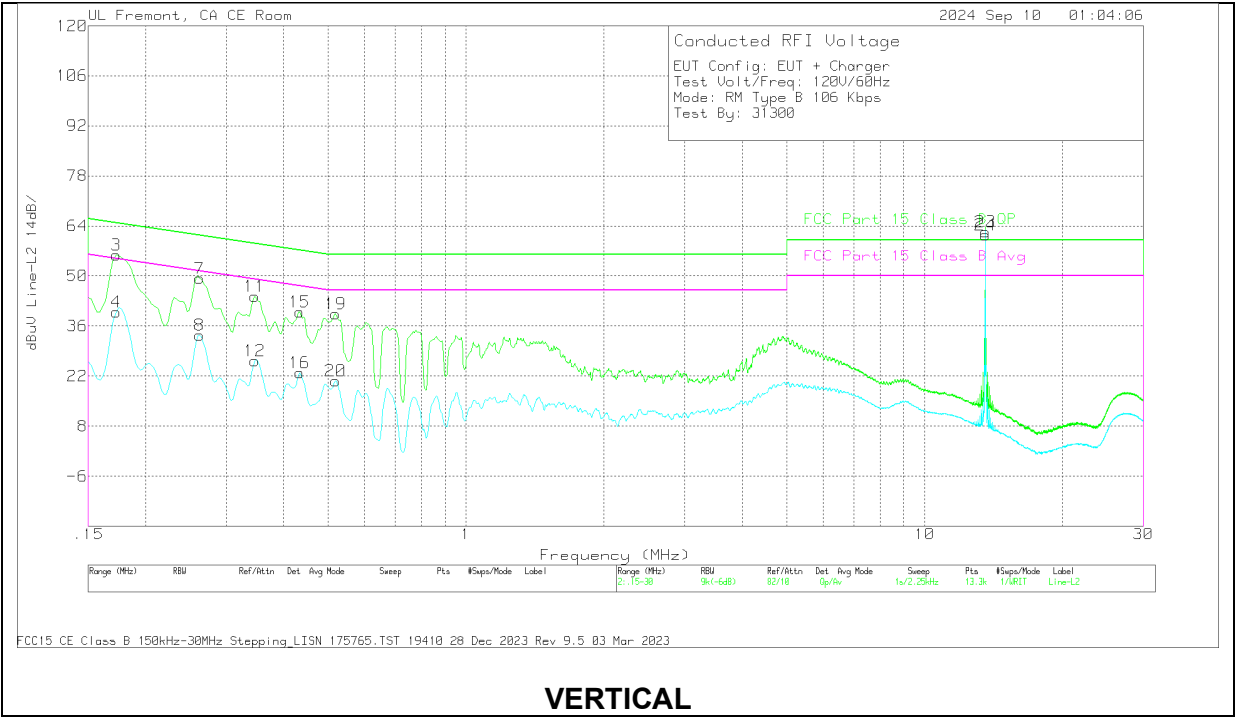
DATA

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
2	.1725	30.97	Av	.1	0	9.5	40.57	-	-	54.84	-14.27
6	.2625	25.1	Av	0	0	9.4	34.5	-	-	51.35	-16.85
10	.3458	17.68	Av	0	0	9.4	27.08	-	-	49.06	-21.98
14	.4335	14.85	Av	0	.1	9.3	24.25	-	-	47.19	-22.94
18	.519	13.06	Av	0	0	9.3	22.36	-	-	46	-23.64
22	13.5623	48.94	Av	.1	.3	9.5	58.84	-	-	50	8.84
1	.1725	47.08	Qp	.1	0	9.5	56.68	64.84	-8.16	-	-
5	.2625	40.74	Qp	0	0	9.4	50.14	61.35	-11.21	-	-
9	.3458	35.58	Qp	0	0	9.4	44.98	59.06	-14.08	-	-
13	.4335	31.14	Qp	0	.1	9.3	40.54	57.19	-16.65	-	-
17	.519	29.82	Qp	0	0	9.3	39.12	56	-16.88	-	-
21	13.5623	49.83	Qp	.1	.3	9.5	59.73	60	-.27	-	-

Note: 13.56 MHz is the fundamental frequency of the EUT. Data under the following section indicates that when the antenna port is terminated, the fundamental amplitude is lowered below the limit line.

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



DATA

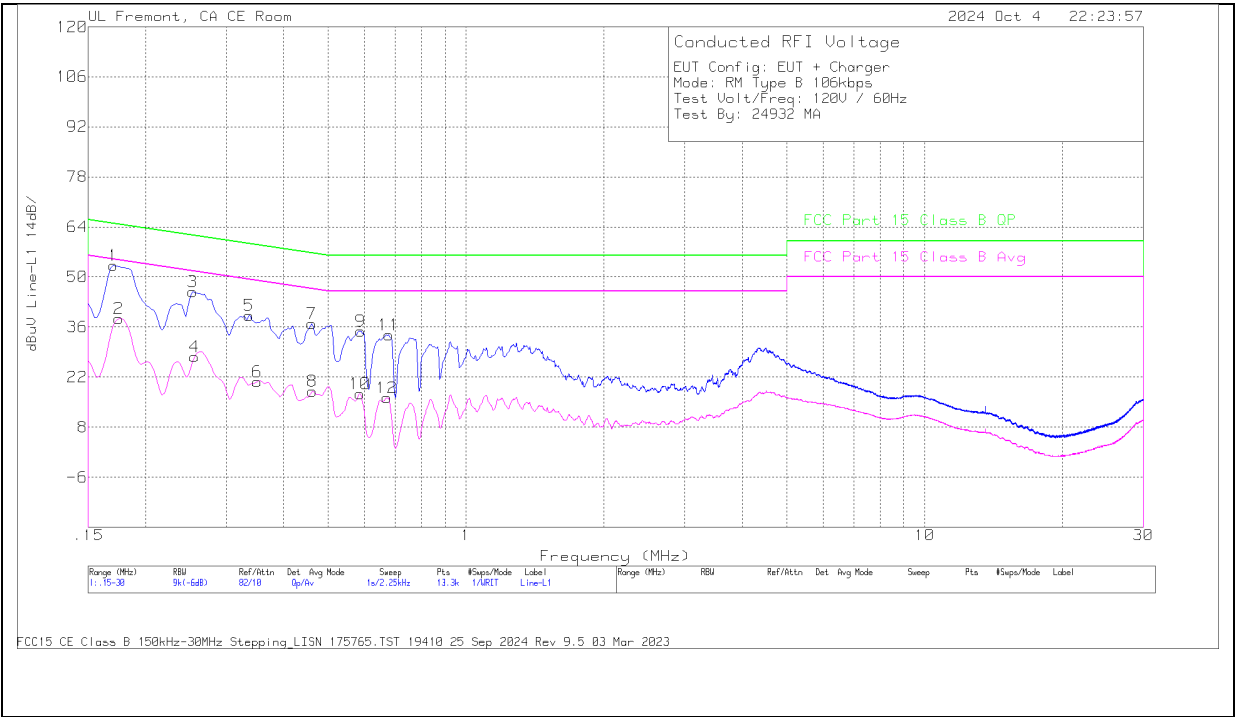
Range 2: Line-L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBUV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading dBUV	FCC Part 15 Class B QP dBUV	QP Margin (dB)	FCC Part 15 Class B Avg dBUV	Av Margin (dB)	
4	.1725	30.46	Av	0	0	9.5	39.96	-	-	54.84	-14.88	
8	.2625	24.07	Av	0	0	9.4	33.47	-	-	51.35	-17.88	
12	.3458	16.81	Av	0	.1	9.4	26.31	-	-	49.06	-22.75	
16	.4335	13.57	Av	0	0	9.3	22.87	-	-	47.19	-24.32	
20	.519	11.41	Av	0	0	9.3	20.71	-	-	46	-25.29	
24	13.5623	51.64	Av	.1	.2	9.5	61.44	-	-	50	11.44	
3	.1725	46.43	Qp	0	0	9.5	55.93	64.84	-8.91	-	-	
7	.2625	39.9	Qp	0	0	9.4	49.3	61.35	-12.05	-	-	
11	.3458	34.85	Qp	0	.1	9.4	44.35	59.06	-14.71	-	-	
15	.4335	30.67	Qp	0	0	9.3	39.97	57.19	-17.22	-	-	
19	.519	30.03	Qp	0	0	9.3	39.33	56	-16.67	-	-	
23	13.5623	52.57	Qp	.1	.2	9.5	62.37	60	2.37	-	-	

Note: 13.56 MHz is the fundamental frequency of the EUT. Data under the following section indicates that when the antenna port is terminated, the fundamental amplitude is lowered below the limit line.

Qp - Quasi-Peak detector
Av - Average detection

10.4. READER MODE: TYPE B, 106 Kbps (ANTENNA PORT TERMINATED)

LINE 1 RESULTS

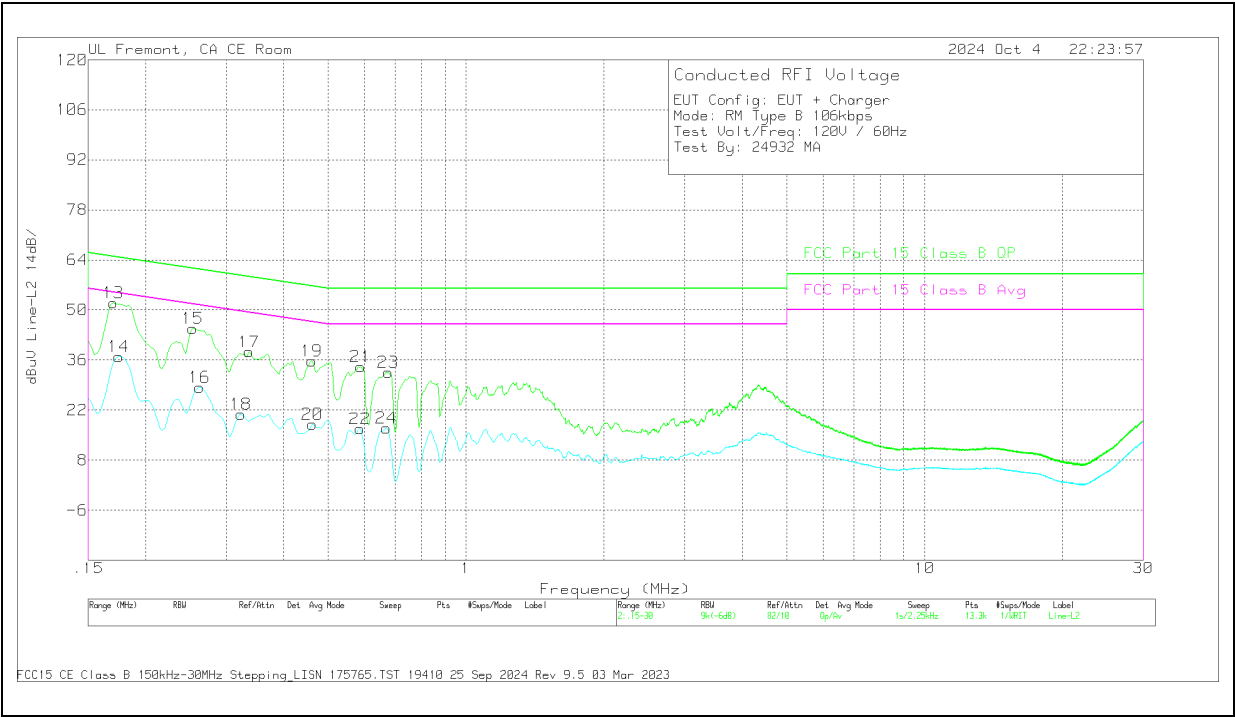


DATA

Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 1 C3_C1_Lim iter no Pad_UL (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
2	.1748	28.79	Av	.1	9.4	38.29	-	-	54.73	-16.44
4	.2558	18.33	Av	0	9.4	27.73	-	-	51.57	-23.84
6	.3503	11.32	Av	0	9.4	20.72	-	-	48.96	-28.24
8	.4628	8.7	Av	0	9.3	18	-	-	46.64	-28.64
10	.5865	7.97	Av	0	9.3	17.27	-	-	46	-28.73
12	.672	6.89	Av	0	9.3	16.19	-	-	46	-29.81
1	.1703	43.78	Qp	.1	9.4	53.28	64.95	-11.67	-	-
3	.2535	36.48	Qp	0	9.4	45.88	61.64	-15.76	-	-
5	.3368	29.87	Qp	0	9.4	39.27	59.28	-20.01	-	-
7	.4605	27.51	Qp	0	9.4	36.91	56.68	-19.77	-	-
9	.5888	25.61	Qp	0	9.3	34.91	56	-21.09	-	-
11	.6788	24.4	Qp	0	9.4	33.8	56	-22.2	-	-

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



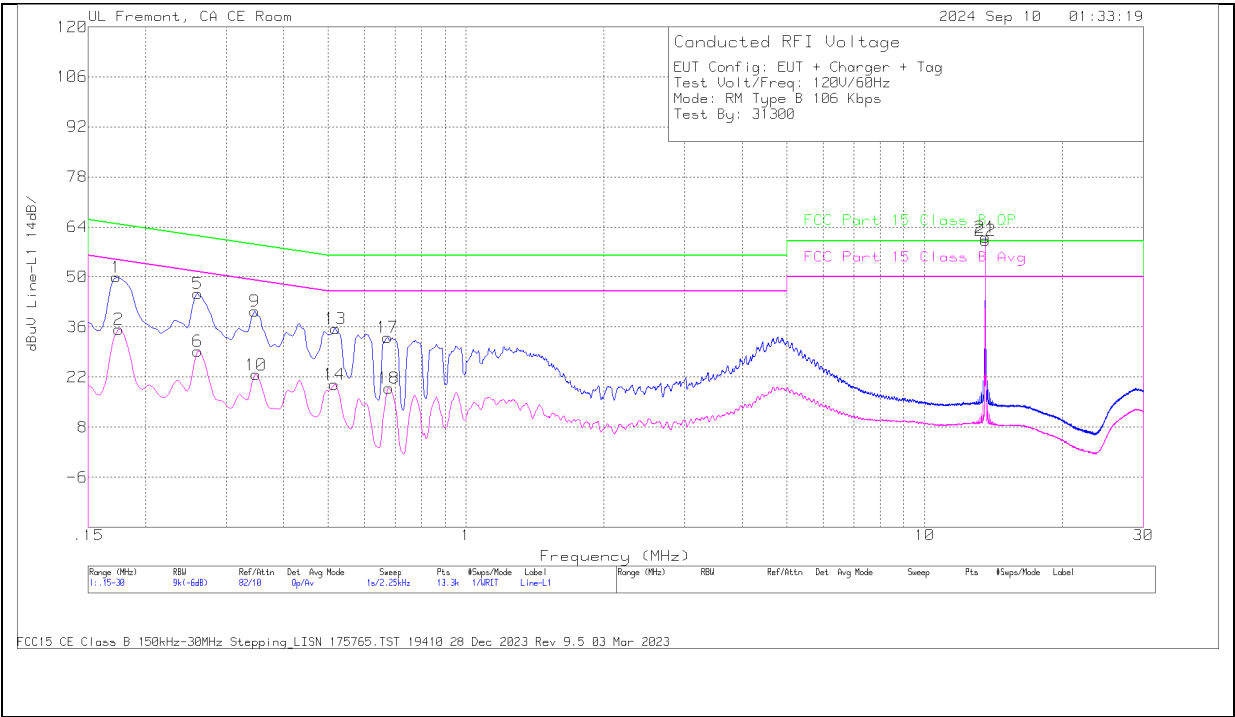
DATA

Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 2 C3_C2_Lim iter no Pad_UL (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
14	.1748	27.61	Av	0	9.4	37.01	-	-	54.73	-17.72
16	.2625	18.96	Av	0	9.4	28.36	-	-	51.35	-22.99
18	.3233	11.58	Av	0	9.3	20.88	-	-	49.62	-28.74
20	.4628	8.66	Av	0	9.3	17.96	-	-	46.64	-28.68
22	.5865	7.42	Av	0	9.3	16.72	-	-	46	-29.28
24	.6698	7.68	Av	0	9.3	16.98	-	-	46	-29.02
13	.1703	42.65	Qp	0	9.4	52.05	64.95	-12.9	-	-
15	.2535	35.5	Qp	0	9.4	44.9	61.64	-16.74	-	-
17	.3368	28.96	Qp	0	9.3	38.26	59.28	-21.02	-	-
19	.4605	26.42	Qp	0	9.3	35.72	56.68	-20.96	-	-
21	.5888	24.82	Qp	0	9.3	34.12	56	-21.88	-	-
23	.6765	23.29	Qp	0	9.3	32.59	56	-23.41	-	-

Qp - Quasi-Peak detector
Av - Average detection

10.5. READER + TAG MODE: TYPE B, 106 Kbps

LINE 1 RESULTS



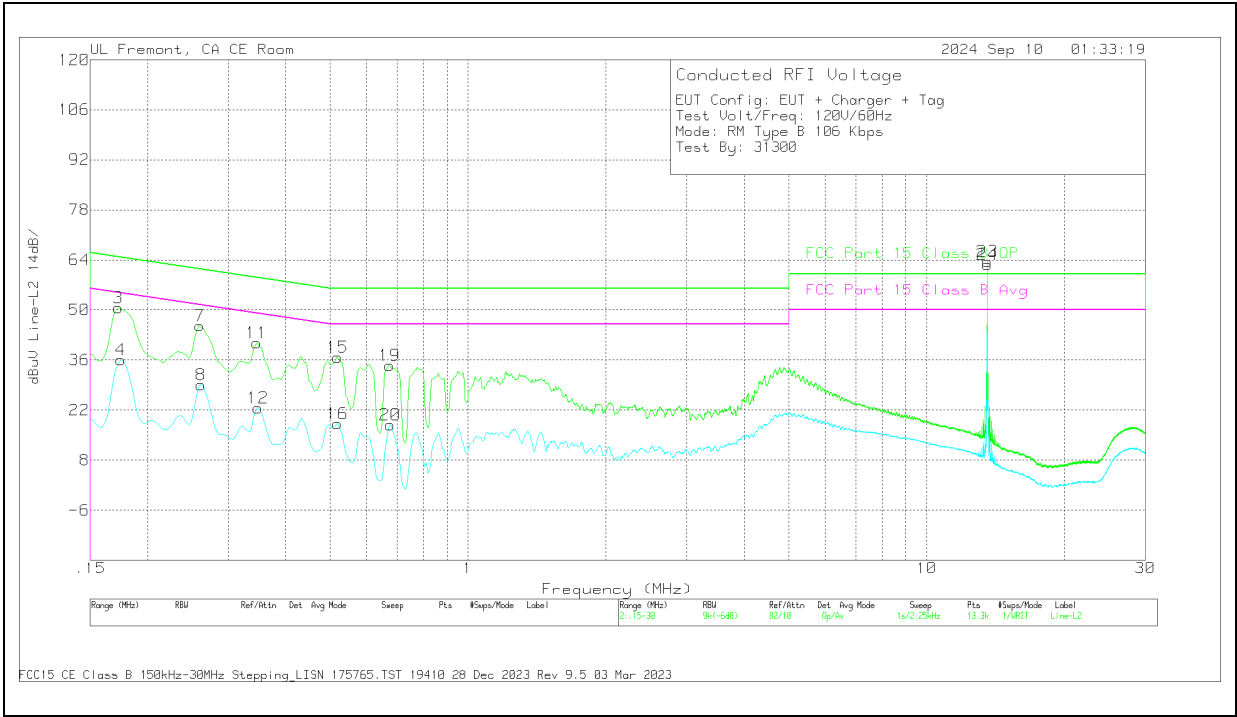
DATA

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
2	.1748	25.84	Av	.1	0	9.5	35.44	-	-	54.73	-19.29
6	.2603	19.78	Av	0	0	9.4	29.18	-	-	51.42	-22.24
10	.348	13.26	Av	0	0	9.4	22.66	-	-	49.01	-26.35
14	.5168	10.61	Av	0	0	9.3	19.91	-	-	46	-26.09
18	.6788	9.5	Av	0	.1	9.3	18.9	-	-	46	-27.1
22	13.56	50.33	Av	.1	.3	9.5	60.23	-	-	50	10.23
1	.1725	40.39	Qp	.1	0	9.5	49.99	64.84	-14.85	-	-
5	.2603	35.91	Qp	0	0	9.4	45.31	61.42	-16.11	-	-
9	.3458	30.99	Qp	0	0	9.4	40.39	59.06	-18.67	-	-
13	.519	26.22	Qp	0	0	9.3	35.52	56	-20.48	-	-
17	.6743	23.56	Qp	0	.1	9.4	33.06	56	-22.94	-	-
21	13.56	51.18	Qp	.1	.3	9.5	61.08	60	1.08	-	-

Note: 13.56 MHz is the fundamental frequency of the EUT. Data under the following section indicates that when the antenna port is terminated, the fundamental amplitude is lowered below the limit line.

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



DATA

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBUV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading dBUV	FCC Part 15 Class B QP dBUV	QP Margin (dB)	FCC Part 15 Class B Avg dBUV	Av Margin (dB)
4	.1748	26.55	Av	0	0	9.5	36.05	-	-	54.73	-18.68
8	.2614	19.72	Av	0	0	9.4	29.12	-	-	51.39	-22.27
12	.348	13.05	Av	0	.1	9.4	22.55	-	-	49.01	-26.46
16	.519	8.85	Av	0	0	9.3	18.15	-	-	46	-27.85
20	.6765	8.54	Av	0	0	9.3	17.84	-	-	46	-28.16
24	13.56	52.89	Av	.1	.2	9.5	62.69	-	-	50	12.69
3	.1725	41.05	Qp	0	0	9.5	50.55	64.84	-14.29	-	-
7	.2603	36.21	Qp	0	0	9.4	45.61	61.42	-15.81	-	-
11	.3458	31.3	Qp	0	.1	9.4	40.8	59.06	-18.26	-	-
15	.519	27.44	Qp	0	0	9.3	36.74	56	-19.26	-	-
19	.6743	24.93	Qp	0	.1	9.4	34.43	56	-21.57	-	-
23	13.56	53.78	Qp	.1	.2	9.5	63.58	60	3.58	-	-

Note: 13.56 MHz is the fundamental frequency of the EUT. Data under the following section indicates that when the antenna port is terminated, the fundamental amplitude is lowered below the limit line.

Qp - Quasi-Peak detector
Av - Average detection

10.6. READER + TAG MODE: TYPE B, 106 Kbps (ANTENNA PORT TERMINATED)

LINE 1 RESULTS

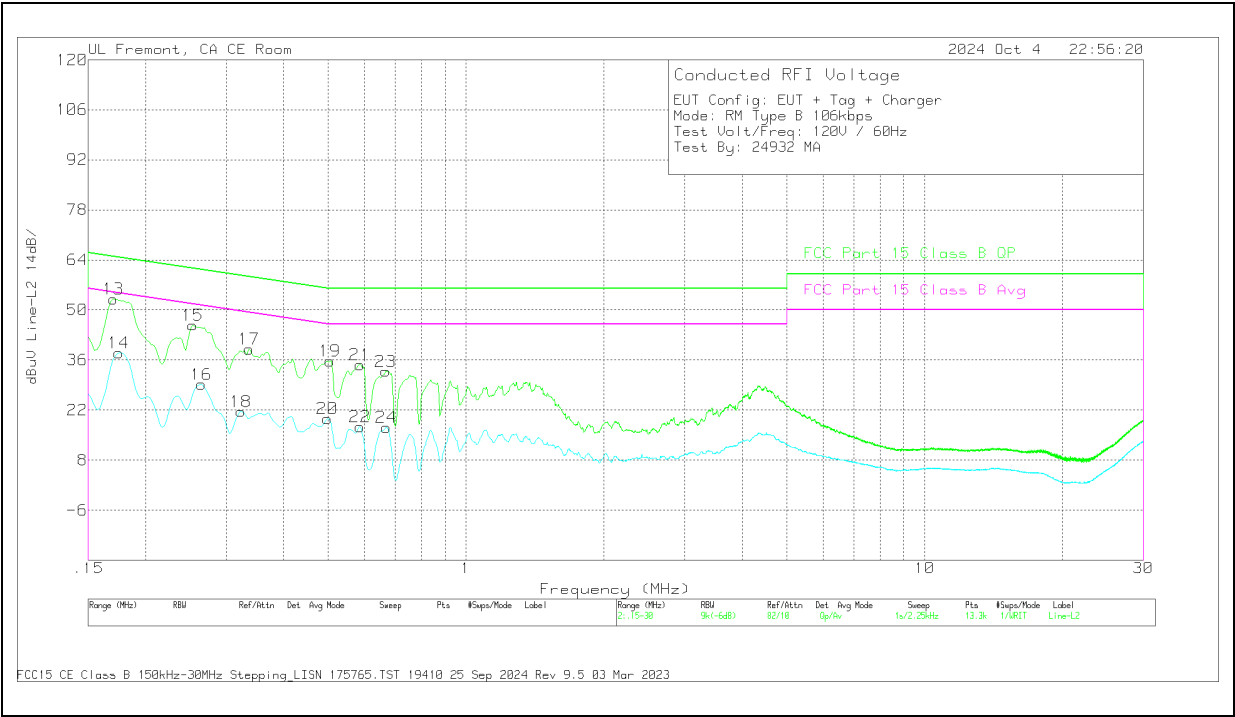


DATA

Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 1 C3_C1_Lim iter no Pad_UL (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
2	.177	29.62	Av	.1	9.4	39.12	-	-	54.63	-15.51
4	.2648	19.9	Av	0	9.4	29.3	-	-	51.28	-21.98
6	.3233	12.25	Av	0	9.4	21.65	-	-	49.62	-27.97
8	.501	9.03	Av	0	9.3	18.33	-	-	46	-27.67
10	.5865	6.46	Av	0	9.3	15.76	-	-	46	-30.24
12	.6495	5.92	Av	0	9.4	15.32	-	-	46	-30.68
1	.1703	44.68	Qp	.1	9.4	54.18	64.95	-10.77	-	-
3	.2535	36.71	Qp	0	9.4	46.11	61.64	-15.53	-	-
5	.3368	29.58	Qp	0	9.4	38.98	59.28	-20.3	-	-
7	.5078	25.93	Qp	0	9.3	35.23	56	-20.77	-	-
9	.5843	23.65	Qp	0	9.3	32.95	56	-23.05	-	-
11	.6675	22.29	Qp	0	9.3	31.59	56	-24.41	-	-

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



DATA

Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Line 2 C3_C2_Lim iter no Pad_UL (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
14	.1748	28.61	Av	0	9.4	38.01	-	-	54.73	-16.72
16	.2648	19.75	Av	0	9.4	29.15	-	-	51.28	-22.13
18	.3233	12.3	Av	0	9.3	21.6	-	-	49.62	-28.02
20	.4988	10.24	Av	0	9.3	19.54	-	-	46.02	-26.48
22	.5865	7.97	Av	0	9.3	17.27	-	-	46	-28.73
24	.6698	7.89	Av	0	9.3	17.19	-	-	46	-28.81
13	.1703	43.68	Qp	0	9.4	53.08	64.95	-11.87	-	-
15	.2535	36.38	Qp	0	9.4	45.78	61.64	-15.86	-	-
17	.3368	29.78	Qp	0	9.3	39.08	59.28	-20.2	-	-
19	.5055	26.4	Qp	0	9.3	35.7	56	-20.3	-	-
21	.5876	25.35	Qp	0	9.3	34.65	56	-21.35	-	-
23	.6675	23.52	Qp	0	9.3	32.82	56	-23.18	-	-

Qp - Quasi-Peak detector
Av - Average detection

11. SPOT CHECK EVALUATION

11.1. MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3212, A3408, A3409 and A3410.

A3212, A3408, A3409 and A3410 are highly similar, with the only difference being the supported cellular bands.

Model	FCC ID	IC ID	B14/29/71	MCC B53/n53	Sim Support	Reference Model
A3212	BCG-E8725A	579C-E8725A	Yes	Yes	eSIM	-
A3408	BCG-E8726A	579C-E8726A	Yes	Yes	eSIM+pSIM	A3212
A3409	BCG-E8727A	579C-E8727A	No	Yes	eSIM+pSIM	
A3410	BCG-E8728A	579C-E8728A	No	No	pSIM+pSIM	

Note:

- _ All models have the same PCB layout, circuit design, common components, antennas and antenna locations across their respective reference model table above. The cellular modem, Wi-Fi, BT, NFC and MSS transmitters are identical.
 - _ Remove of LTE/NR (B14/29/53/71) and MSS bands is done by de-population of directly related components.
- The spot check plan, approved by the FCC inquiry, allows for data reuse from the reference model where the variant model data meets the limits and has not changed by more than the criteria from KDB 484596 D01 v02r03 equation (2).

$$d_{dB} = |V_{dB} - R_{dB}| \leq (3 + M_{dB} / 20) \text{ dB} \quad , \text{ for } 0 \leq M_{dB} \leq 60 \text{ dB}$$
$$d_{dB} = |V_{dB} - R_{dB}| = 6 \text{ dB} \quad , \text{ for } M_{dB} > 60 \text{ dB}$$

(2)

Where: d_{dB} deviation from Reference data, V_{dB} variant spot check level, and R_{dB} measurement level

11.2. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3408

A3408 SPOT CHECK RESULTS										
Equipment Class	Frequency (MHz)	Mode	Data Rate	Test Item	Measured Frequency (MHz)	Original Model: A3212	Sub Model: A3408	Delta (dB)	Margin	Remarks
						FCC ID : BCG-E8725A IC : 579C-E8725A	FCC ID : BCG-E8726A IC : 579C-E8726A			
DXX	13.56	Reader	106 Kbps	Fundamental Field Strength (dBuV/m)	Fundamental	25.02	24.59	-0.43	-4.98	Note 1
				RSE (dBuV/m)	0.09 to 30	-12.88	-16.40	-3.52	-42.38	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (2) in KDB 484596. Additional tests not required.
Note 2: Deviation from reference to variant exceeds the value allowed by equation (2) in KDB 484596. Additional tests performed on second channel.

11.3. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3409

A3409 SPOT CHECK RESULTS										
Equipment Class	Frequency (MHz)	Mode	Data Rate	Test Item	Measured Frequency (MHz)	Original Model: A3212	Sub Model: A3409	Delta (dB)	Margin	Remarks
						FCC ID : BCG-E8725A IC : 579C-E8725A	FCC ID : BCG-E8727A IC : 579C-E8727A			
DXX	13.56	Reader	106 Kbps	Fundamental Field Strength (dBuV/m)	Fundamental	25.02	23.74	-1.28	-4.98	Note 1
				RSE (dBuV/m)	0.09 to 30	-12.88	-15.28	-2.40	-42.38	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (2) in KDB 484596. Additional tests not required.
Note 2: Deviation from reference to variant exceeds the value allowed by equation (2) in KDB 484596. Additional tests performed on second channel.

11.4. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3410

A3410 SPOT CHECK RESULTS										
Equipment Class	Frequency (MHz)	Mode	Data Rate	Test Item	Measured Frequency (MHz)	Original Model: A3212	Sub Model: A3410	Delta (dB)	Margin	Remarks
						FCC ID : BCG-E8725A IC : 579C-E8725A	FCC ID : BCG-E8728A IC : 579C-E8728A			
DXX	13.56	Reader	106 Kbps	Fundamental Field Strength (dBuV/m)	Fundamental	25.02	24.25	-0.77	-4.98	Note 1
				RSE (dBuV/m)	0.09 to 30	-12.88	-16.15	-3.27	-42.38	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (2) in KDB 484596. Additional tests not required.
Note 2: Deviation from reference to variant exceeds the value allowed by equation (2) in KDB 484596. Additional tests performed on second channel.

12. SETUP PHOTOS

Please refer to 15175342-EP1V1 for setup photos.

END OF TEST REPORT