TEST REPORT

Report Number : 14982436-E12V2

Applicant	:	APPLE INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A
Model	:	A3083 (Parent Model) A3292, A3293, A3294 (Variant Models)
FCC ID	:	BCG-E8666A (Parent Model) BCG-E8667A, BCG-E8668A, BCG-E8683A (Variant Models)
IC	:	579C-E8666A (Parent Model) 579C-E8667A, 579C-E8668A, 579C-E8683A (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 + A2

Date Of Issue:
2024/07/04

Prepared by:
UL Verification Services Inc.
47173 Benicia Street
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TEL: (510) 319-4000
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ACCREDITED
CERT #0751.05

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2024/07/03	Initial Issue	Chin Pang
V2	2024/07/04	Address TCB's questions, add variant models and removed duplicate rule parts.	Chin Pang

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UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: SMARTPHONE

MODEL: A3083 (Parent Model)
A3292, A3293, A3294 (Variant Models)

BRAND: APPLE

SERIAL NUMBER: V0K0XNTJJT, LDF4W3WN31, QKPYHGJC7L.

SAMPLE RECEIPT DATE: 2024/05/14

DATE TESTED: 2024/05/15- 2024/06/28

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.
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Approved & Released For
UL Verification Services Inc. By:

Chin Pang
Senior Engineer
Consumer Technology Division
UL Verification Services Inc.

Prepared By:

Tony Li
Senior Test Engineer
Consumer Technology Division
UL Verification Services Inc.

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-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	1.2%
Temperature	±0.57 %
Relative Huminity	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 cellular GSM, GPRS, EGPRS, WCDMA, LTE, 5GNR1, 5GNR2, IEEE 802.11a/b/g/n/ac/ax/be, Bluetooth (BT), Ultra-Wideband (UWB), Global Positioning System (GPS), Near-Field Communication (NFC), Narrow-Band (NB) UNII, 802.15.4, 802.15.4ab-Narrow Band (NB), Wireless Power Transfer (WPT) 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:

Antenna	Frequency Range (MHz)	Mode		kbps	E Field at 30m distance (dBuV/m)
Primary	13.56	Type B	Reader	424	27.53
			CE	424	26.81
			Tag	424	28.08
Secondary	13.56	Type B	Reader	424	3.77
			Tag	424	4.98

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, and 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, Tag and Reader, tag with 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 424kbp/s Reader mode 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.

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
laptop	Apple	Macbook Pro	C02P41RZG086	FCC DoC
Laptop AC/DC adapter	Liteon Technology	PA-1450-BA1	B123	NA
EUT AC Adapter	Apple	A1385	D292365CDYADHLHC3	NA
Tag	infineon	NA	A803493D139C	NA

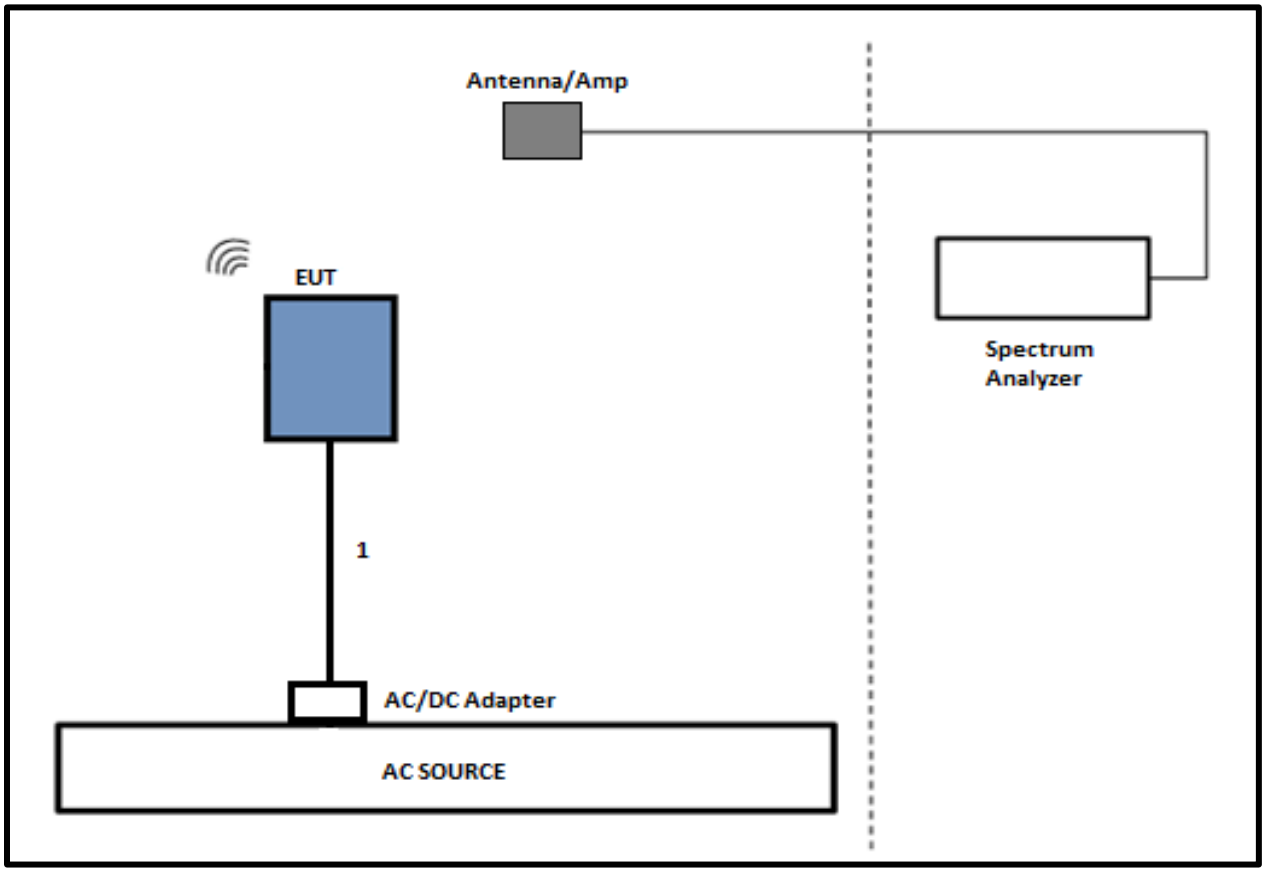
I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	1	AC	Un-Shielded	1	N/A

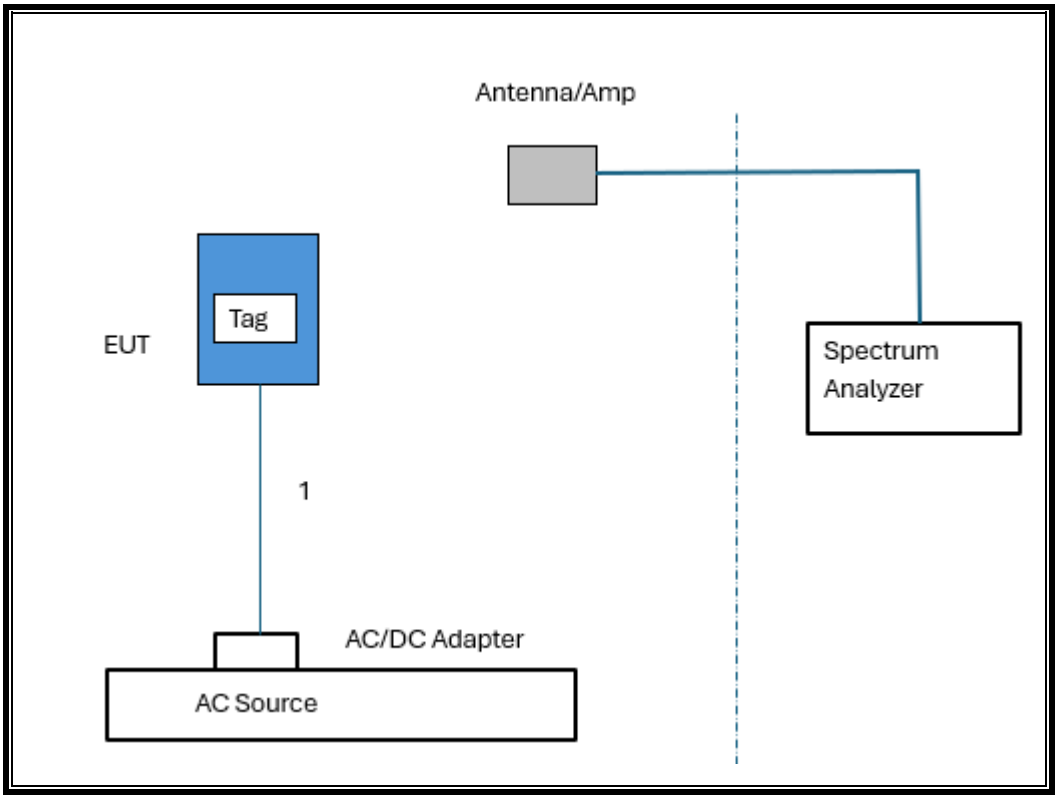
TEST SETUP

The EUT is installed in a host laptop computer during the tests. Test software exercised the radio card.

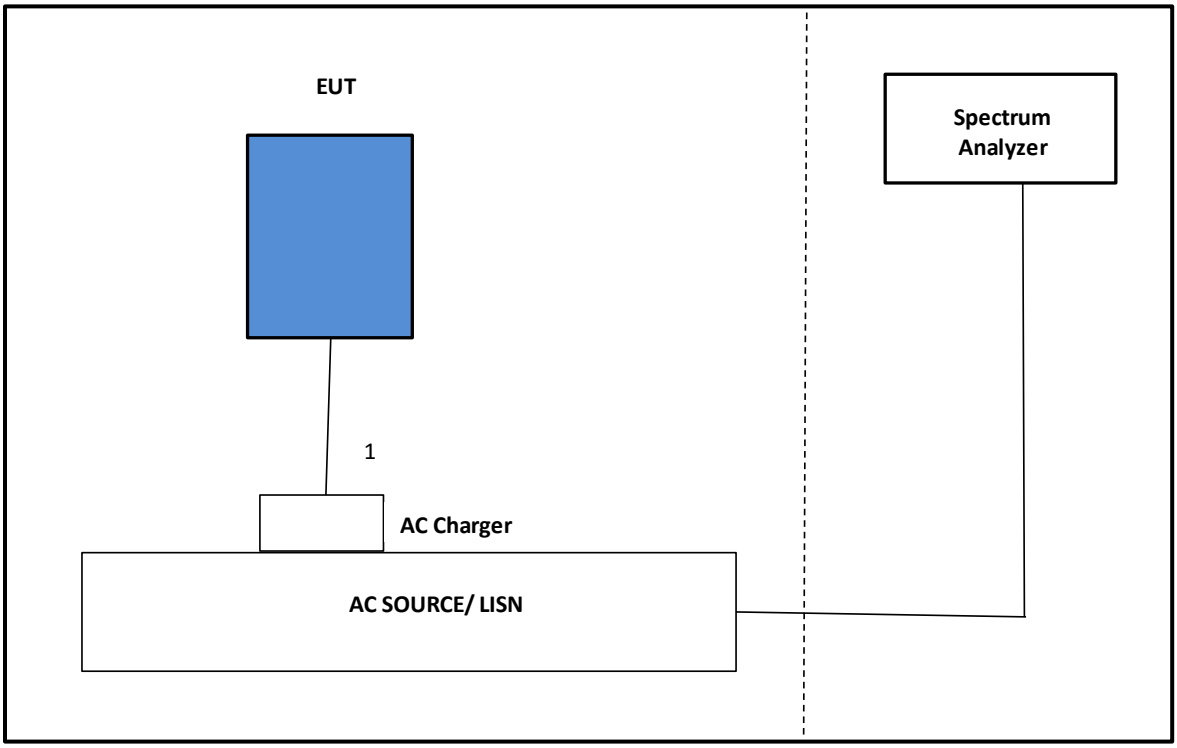
SETUP DIAGRAM FOR RADIATED TESTS (CE and Reader Mode)



SETUP DIAGRAM FOR RADIATED TESTS (EUT with Tag Mode)



SETUP DIAGRAM FOR LINE CONDUCTED TESTS



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**
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	80397	2025/01/25	2024/01/25
Antenna, Passive Loop 30Hz to 1MHz	Electro-Metrics	EM-6871	170014	2024/08/31	2023/08/31
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	170016	2024/08/31	2023/08/31
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	211062	2025/03/31	2024/03/31
Antenna, BroadBand Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	232075	2025/04/30	2024/04/30
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	230548	2025/02/28	2024/02/28
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	226862	2025/01/31	2024/01/31
*Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	82472	2024/06/30	2023/06/30
Sniffer Probes	Electro Metrics	EM-6992	N/A	N/A	N/A

AC Line Conducted					
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**	**Last Cal**
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	93091	2025/02/28	2024/02/28
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175765	2025/01/31	2024/01/31
Transient Limiter	TE	TBFL1	207996	2024/08/31	2023/08/31
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, 2023, May 1		
Conducted Software	UL	UL EMC	2020.8.16		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, 2023, Mar 3		

Note: *Testing is completed before equipment expiration date.

7. OCCUPIED 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

99% and 20dB BW

Primary Antenna

Type B (Reader Mode)

Mode kbps	Frequency (MHz)	99% Bandwidth (kHz)	20dB Bandwidth (kHz)
424	13.56	23.270	25.51

Type B (Tag Mode)

Mode kbps	Frequency (MHz)	99% Bandwidth (kHz)	20dB Bandwidth (kHz)
424	13.56	23.257	25.50

Type B (CE Mode)

Mode kbps	Frequency (MHz)	99% Bandwidth (kHz)	20dB Bandwidth (kHz)
424	13.56	22.641	26.04

Secondary Antenna

Type B (Reader Mode)

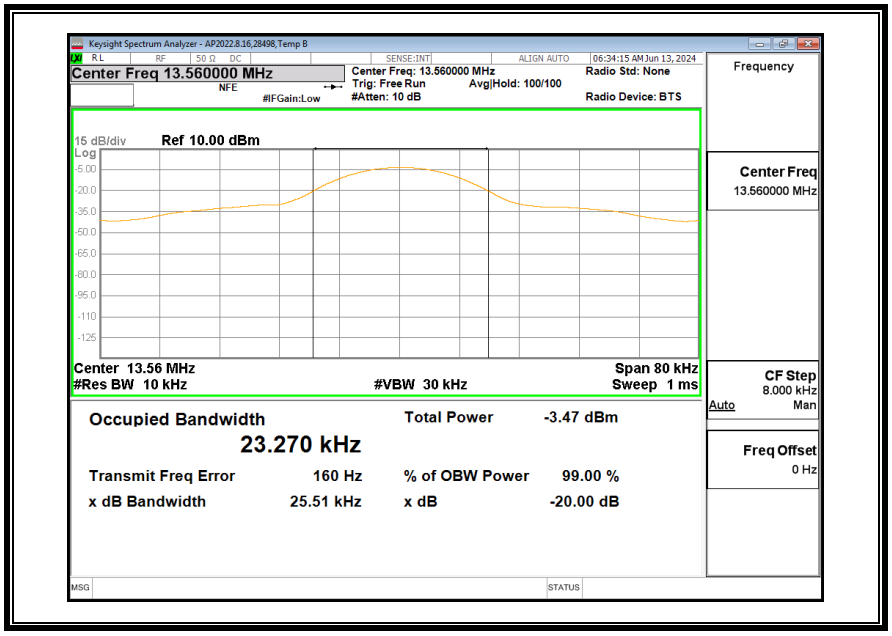
Mode kbps	Frequency (MHz)	99% Bandwidth (kHz)	20dB Bandwidth (kHz)
424	13.56	21.721	25.12

Type B (Tag Mode)

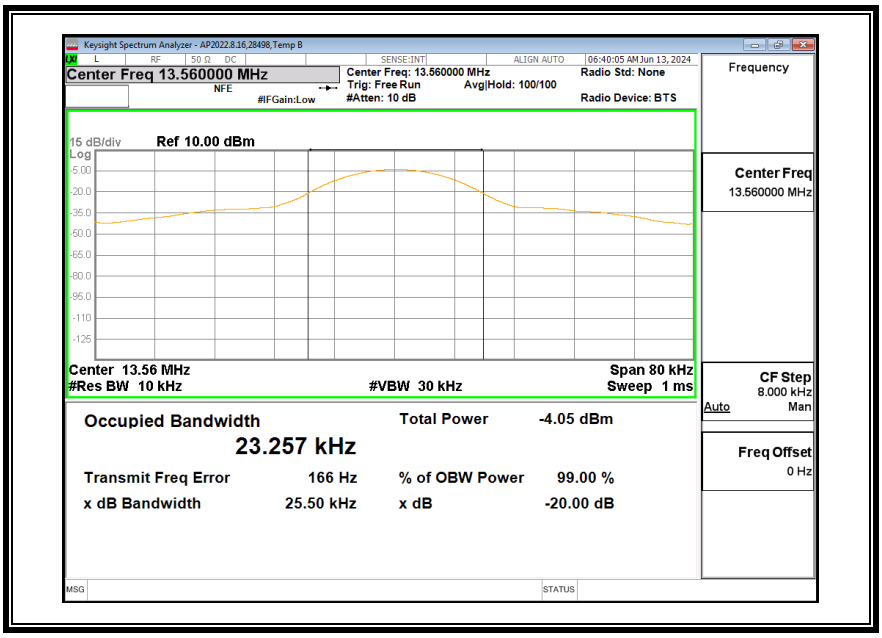
Mode kbps	Frequency (MHz)	99% Bandwidth (kHz)	20dB Bandwidth (kHz)
424	13.56	21.587	25.03

7.1. PRIMARY ANTENNA

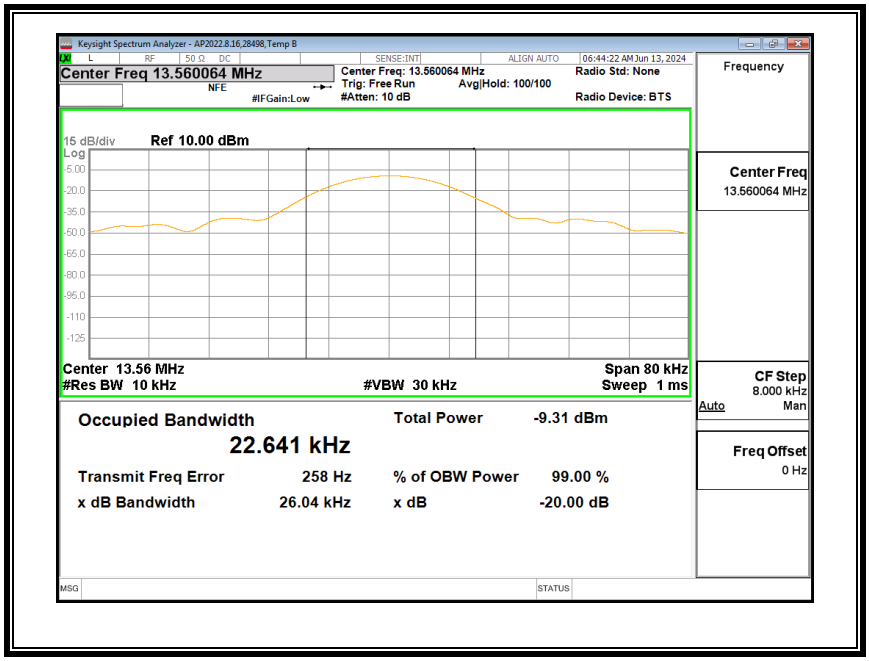
Type B (Reader Mode), 424kbps



Type B (Tag Mode), 424Kbps

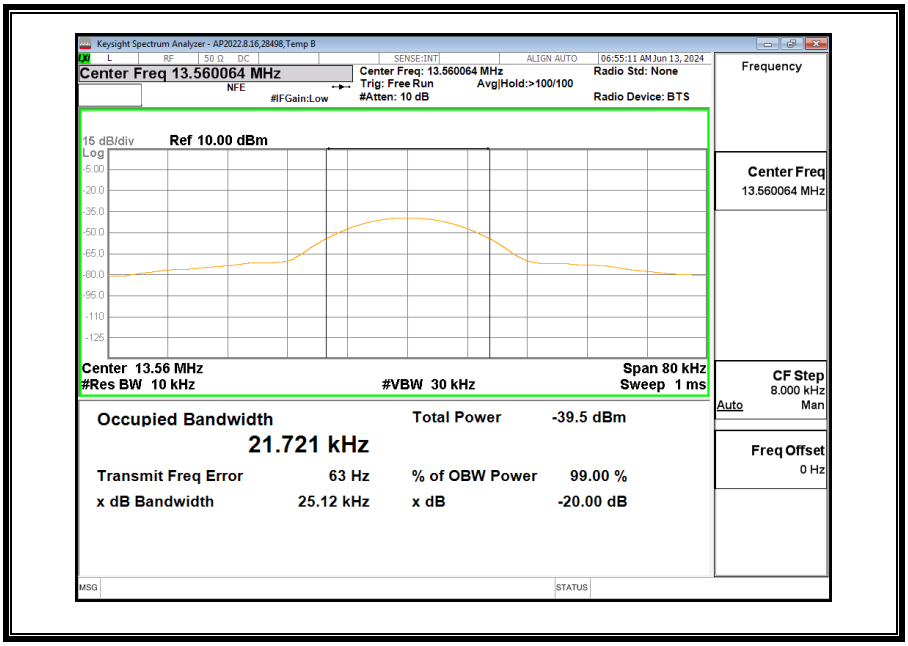


Type B (CE Mode), 424kbps

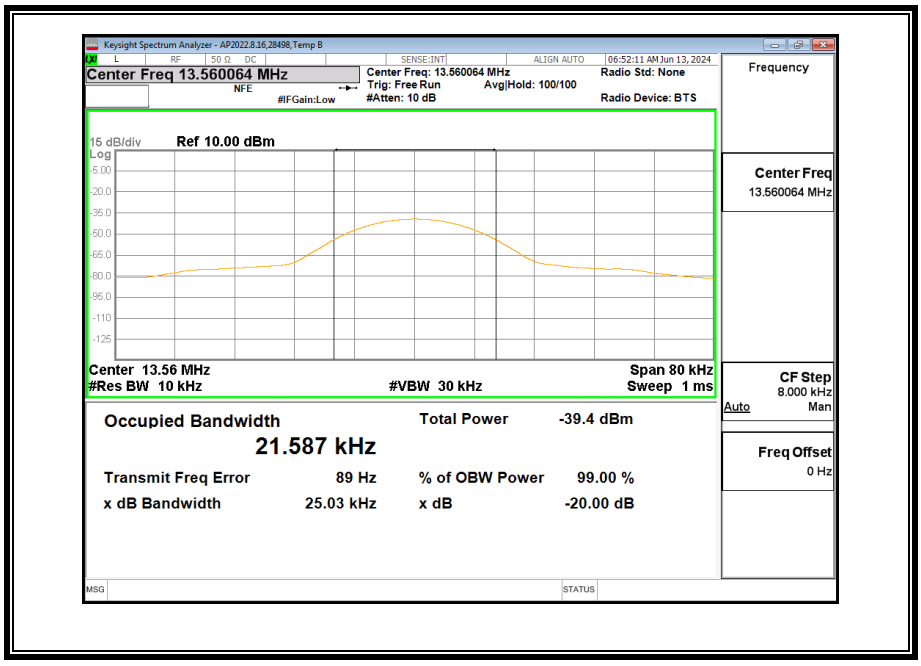


7.2. SECONDARY ANTENNA

Type B (Reader Mode), 424kbps



Type B (Tag Mode), 424kbps



8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

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)

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 (d) The provisions in §§ 15.225, 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, 2013

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

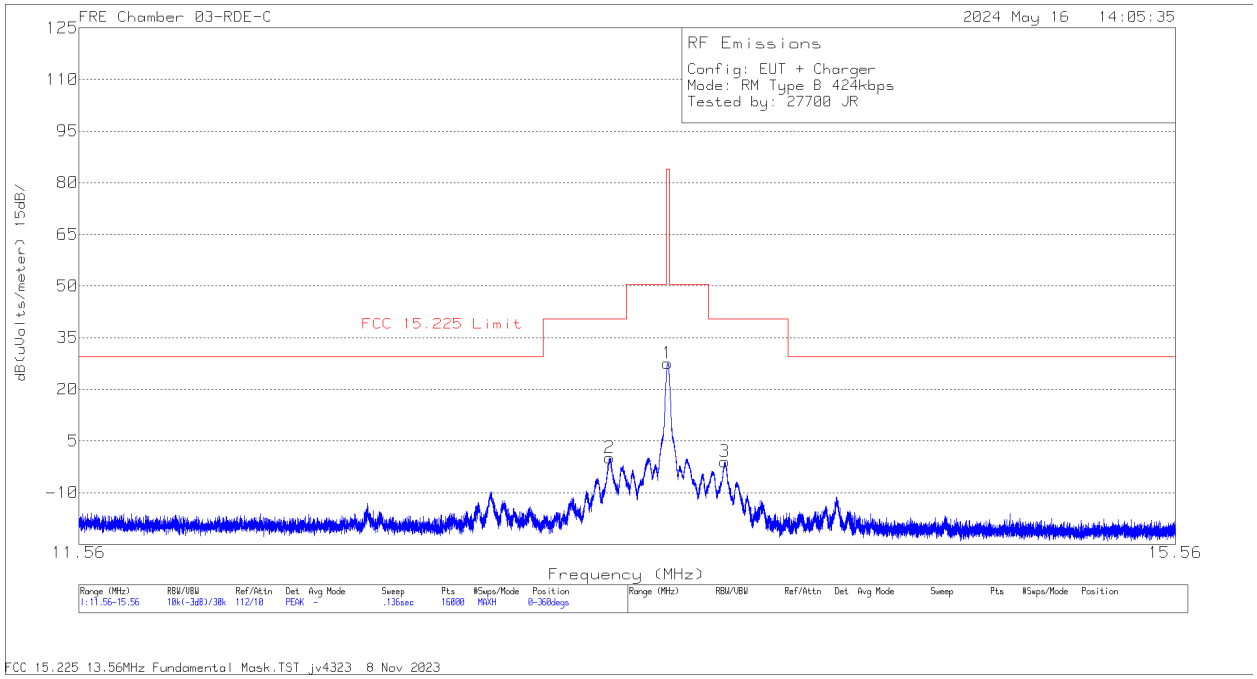
Note: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as report in the table) using free space impedance of 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.

8.2. PRIMARY ANTENNA FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 - 30 MHz), EUT WITH AC/DC ADAPTER

8.2.1. READER MODE, TYPE B 424Kbps

FUNDAMENTAL

ANTENNA LOOP FACE ON



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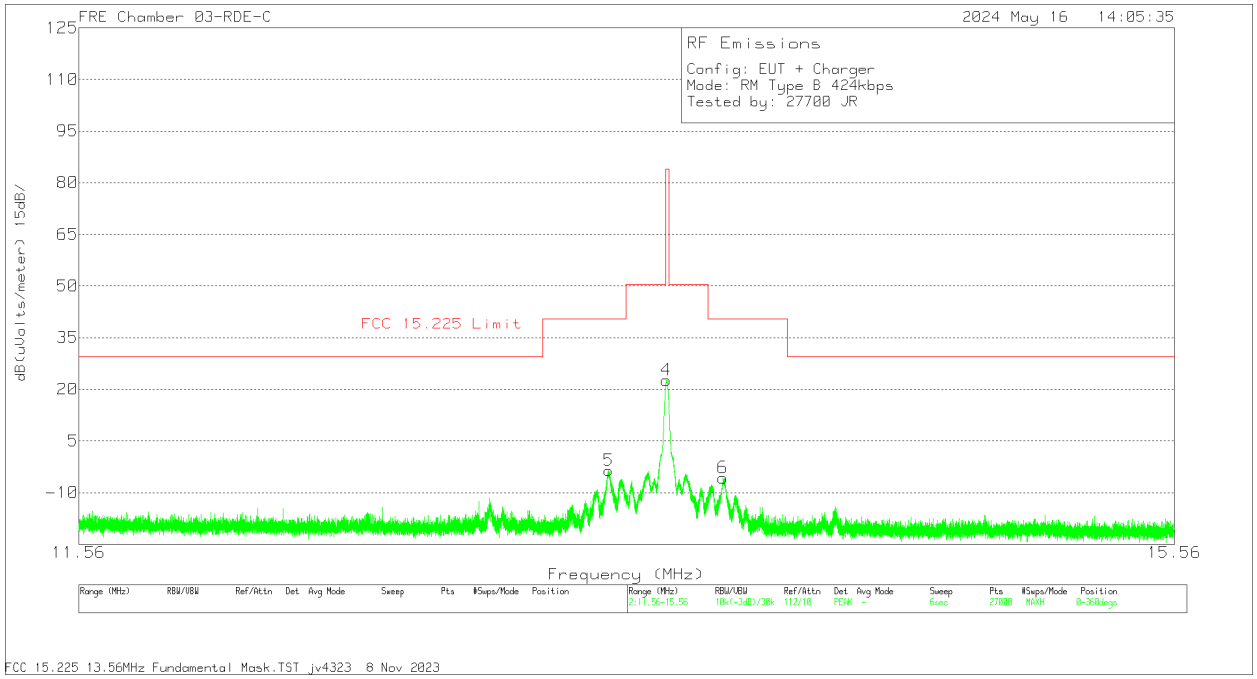


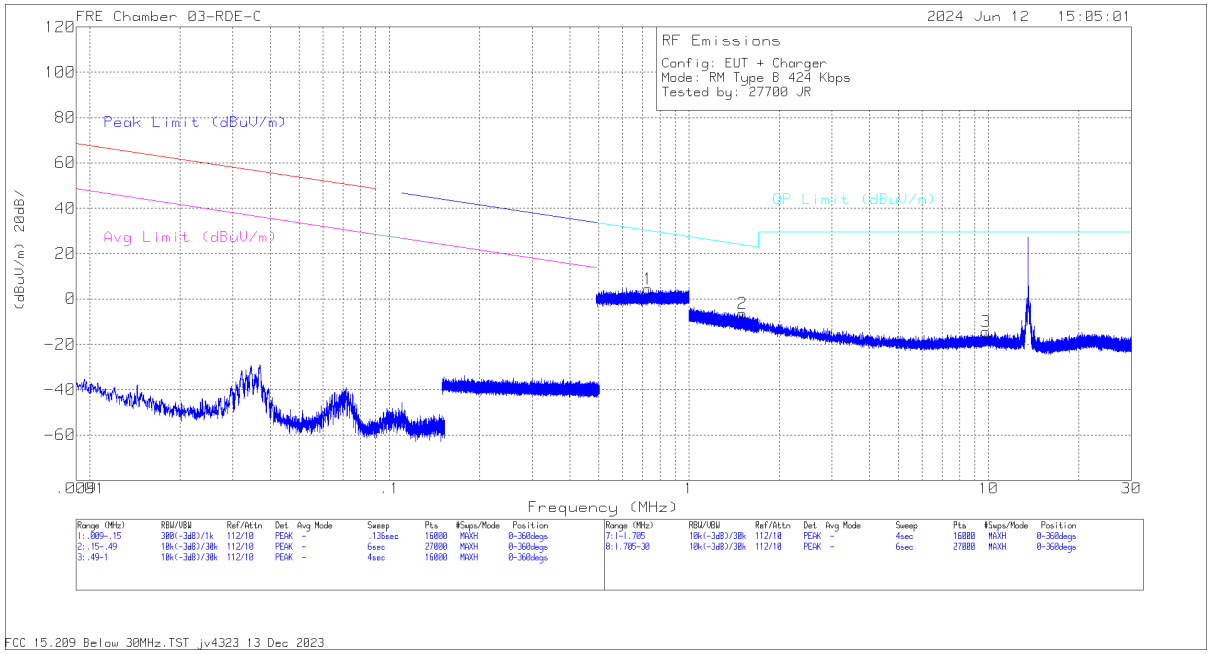
DATA:

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
1	13.5598	65.43	Pk	34.3	-32.2	-40	27.53	84	-56.47	0-360	Face On
2	13.347	37.77	Pk	34.4	-32	-40	.17	40.51	-40.34	0-360	Face On
3	13.7718	36.9	Pk	34.3	-32.2	-40	-1	40.51	-41.51	0-360	Face On
4	13.5576	60.51	Pk	34.3	-32.2	-40	22.61	84	-61.39	0-360	Face Off
5	13.3464	34.03	Pk	34.4	-32	-40	-3.57	40.51	-44.08	0-360	Face Off
6	13.767	32.14	Pk	34.3	-32.2	-40	-5.76	40.51	-46.27	0-360	Face Off

Pk - Peak detector

SPURIOUS EMISSION

ANTENNA LOOP FACE ON



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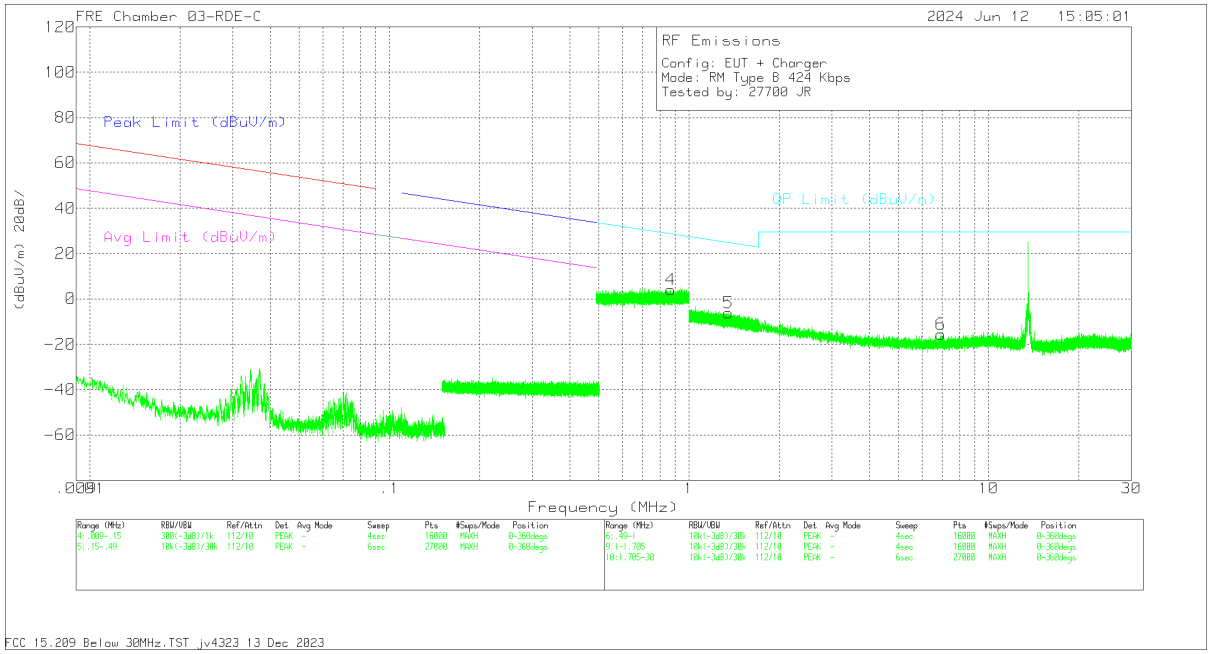


DATA:

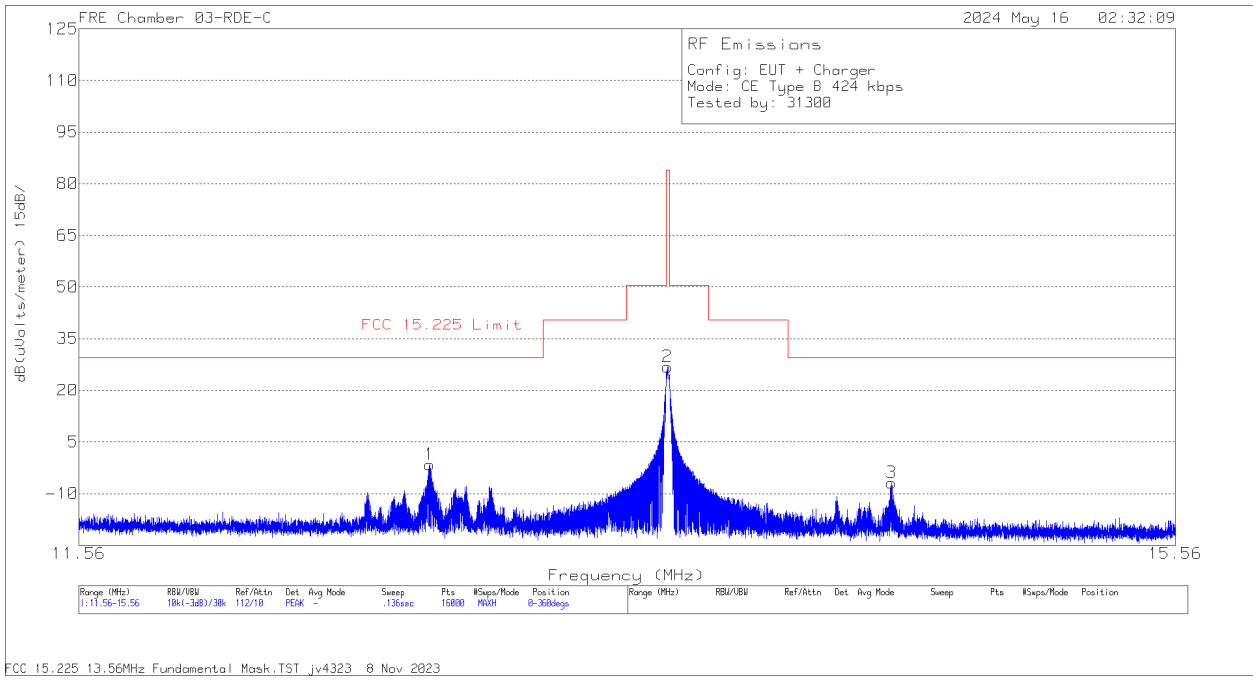
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna H(dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.7296	20.48	Pk	56.4	-32.6	-40	4.28	30.35	-26.07	0-360	Face On
2	1.5091	21.99	Pk	44.1	-32.5	-40	-6.41	24.06	-30.47	0-360	Face On
3	9.8281	22.57	Pk	34.9	-32	-40	-14.53	29.5	-44.03	0-360	Face On
4	.8678	20.36	Pk	56.5	-32.7	-40	4.16	28.85	-24.69	0-360	Face Off
5	1.3539	21.53	Pk	44.9	-32.5	-40	-6.07	25	-31.07	0-360	Face Off
6	6.9471	21.46	Pk	34.9	-32	-40	-15.64	29.5	-45.14	0-360	Face Off

Pk - Peak detector

8.2.2. CE MODE, TYPE B 424kbps

FUNDAMENTAL 424kbps

ANTENNA LOOP FACE ON



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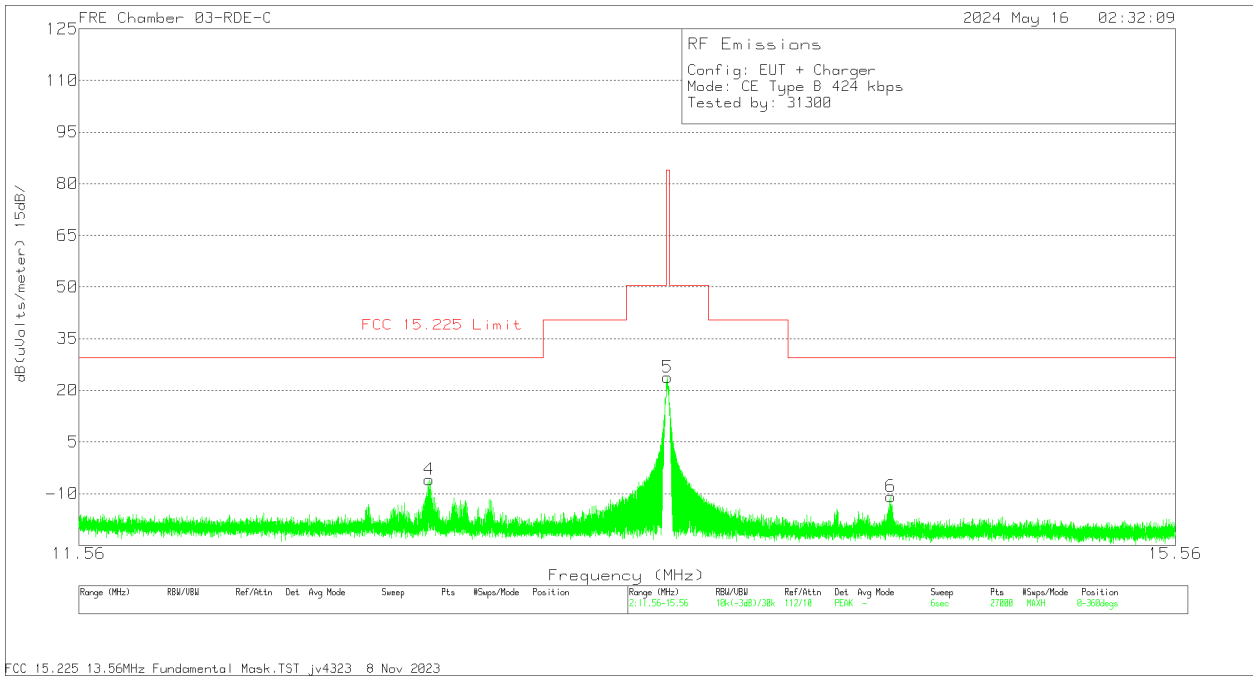


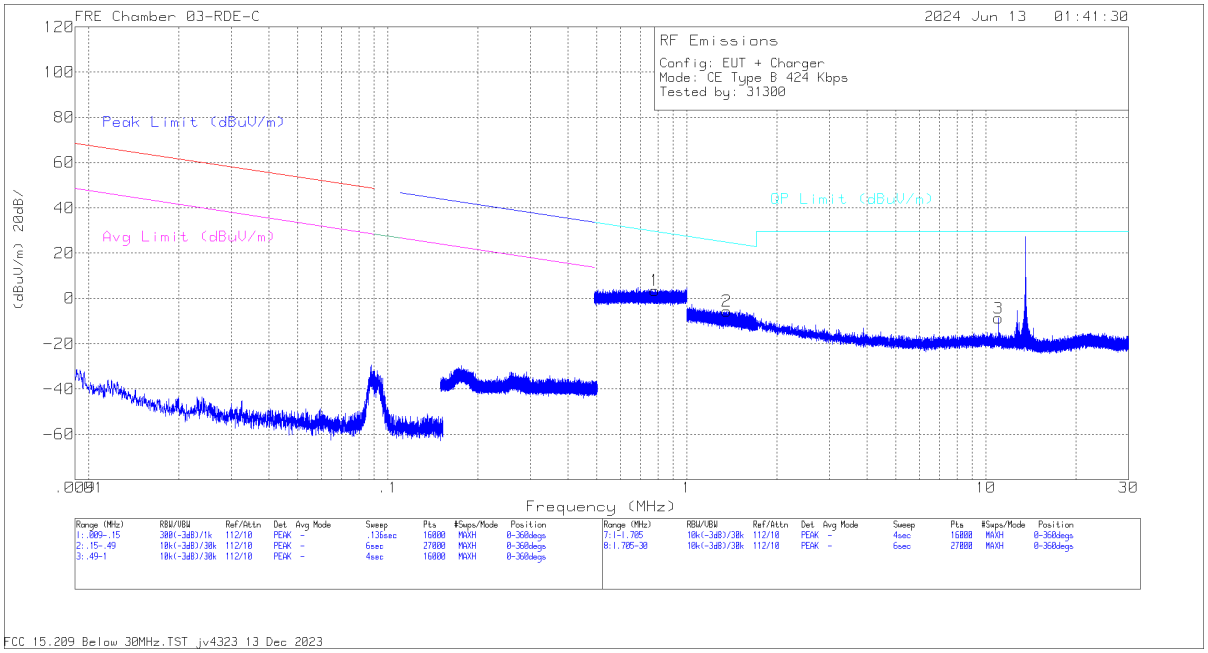
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
1	12.7128	36.08	Pk	34.5	-32.2	-40	-1.62	29.54	-31.16	0-360	Face On
2	13.5598	64.71	Pk	34.3	-32.2	-40	26.81	84	-57.19	0-360	Face On
3	14.4083	30.83	Pk	34.2	-31.9	-40	-6.87	29.54	-36.41	0-360	Face On
4	12.7111	31.74	Pk	34.5	-32.1	-40	-5.86	29.54	-35.4	0-360	Face Off
5	13.5582	61.63	Pk	34.3	-32.2	-40	23.73	84	-60.27	0-360	Face Off
6	14.4052	26.85	Pk	34.2	-31.9	-40	-10.85	29.54	-40.39	0-360	Face Off

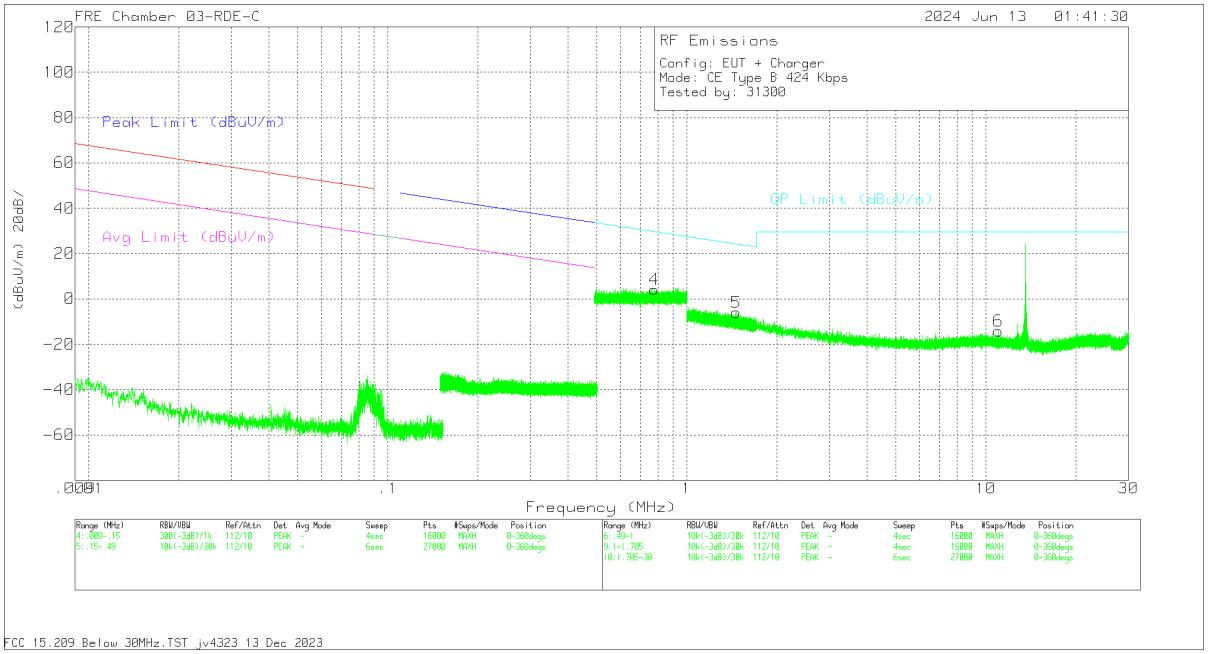
Pk - Peak detector

SPURIOUS EMISSION

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



DATA

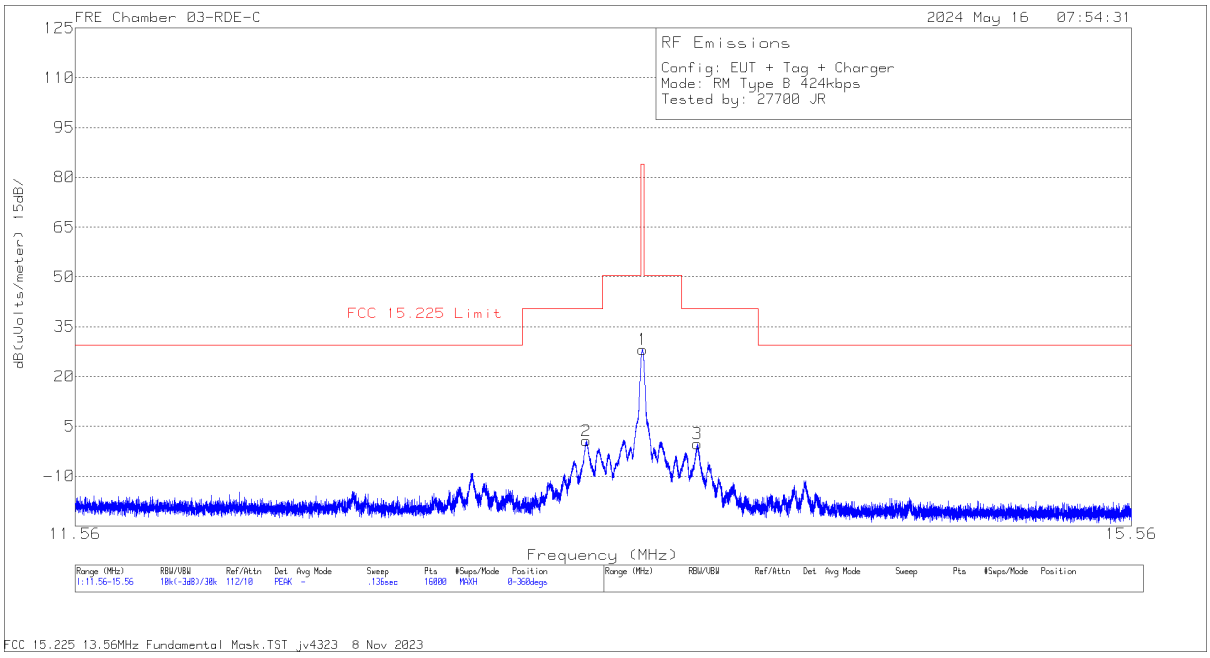
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna H(dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.7829	19.74	Pk	56.4	-32.6	-40	3.54	29.74	-26.2	0-360	Face On
2	1.3633	21.97	Pk	44.9	-32.5	-40	-5.63	24.94	-30.57	0-360	Face On
3	11.0196	28.73	Pk	34.8	-32.3	-40	-8.77	29.5	-38.27	0-360	Face On
4	.7767	20.4	Pk	56.4	-32.6	-40	4.2	29.81	-25.61	0-360	Face Off
5	1.4599	22.38	Pk	44.3	-32.7	-40	-6.02	24.34	-30.36	0-360	Face Off
6	11.0165	23.23	Pk	34.8	-32.3	-40	-14.27	29.5	-43.77	0-360	Face Off

Pk - Peak detector

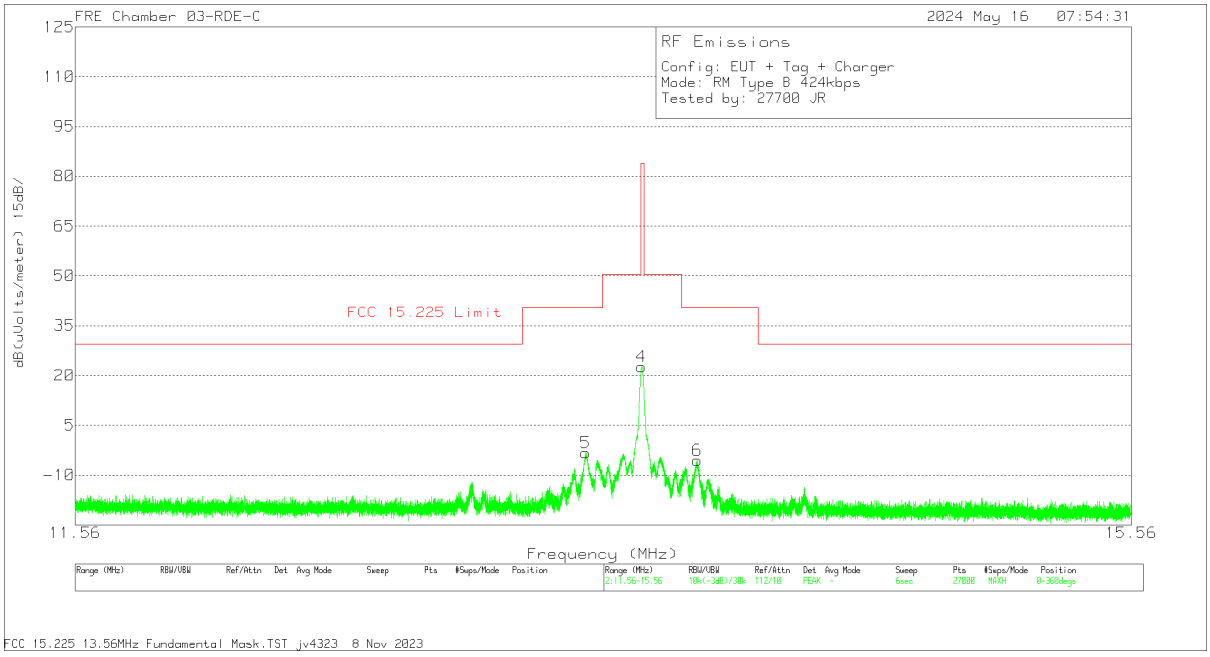
8.2.3. TAG MODE, TYPE B 424kbps

FUNDAMENTAL

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



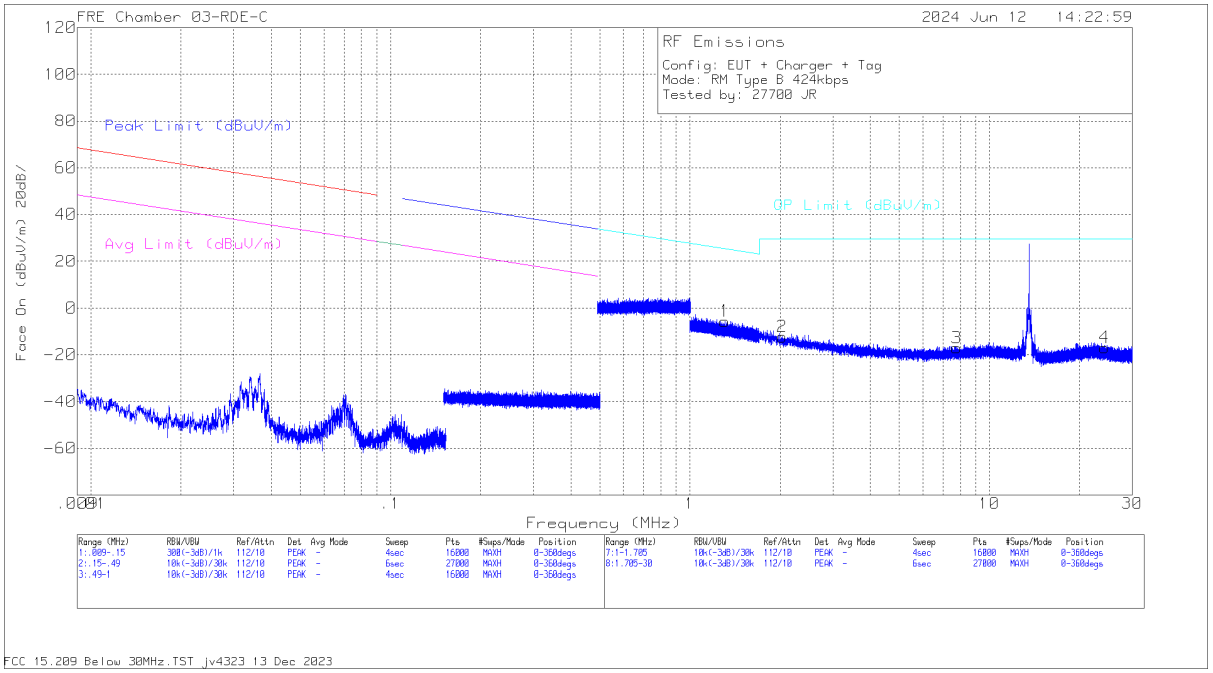
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)	Polarity
1	13.5603	65.98	Pk	34.3	-32.2	-40	28.08	84	-55.92	0-360	Face On
2	13.347	38.21	Pk	34.4	-32	-40	.61	40.51	-39.9	0-360	Face On
3	13.7718	37.68	Pk	34.3	-32.2	-40	-.22	40.51	-40.73	0-360	Face On
4	13.5573	60.6	Pk	34.3	-32.2	-40	22.7	84	-61.3	0-360	Face Off
5	13.3462	34.26	Pk	34.4	-32	-40	-3.34	40.51	-43.85	0-360	Face Off
6	13.7714	32.36	Pk	34.3	-32.2	-40	-5.54	40.51	-46.05	0-360	Face Off

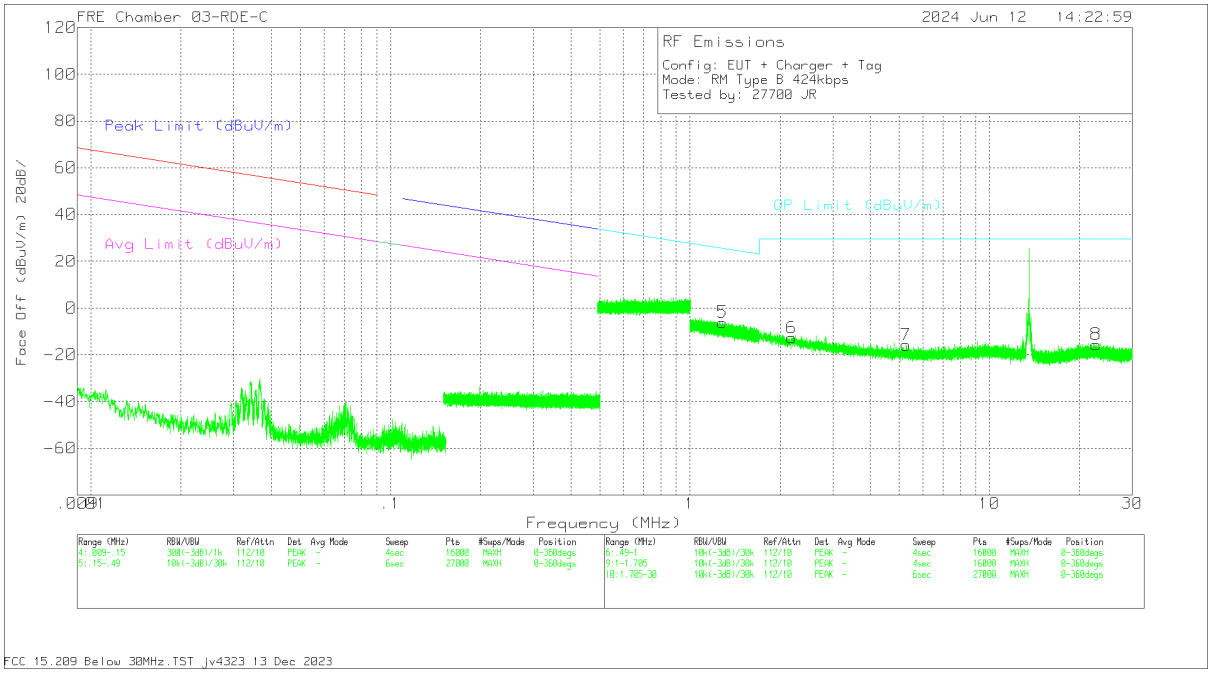
Pk - Peak detector

SPURIOUS EMISSION

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



DATA

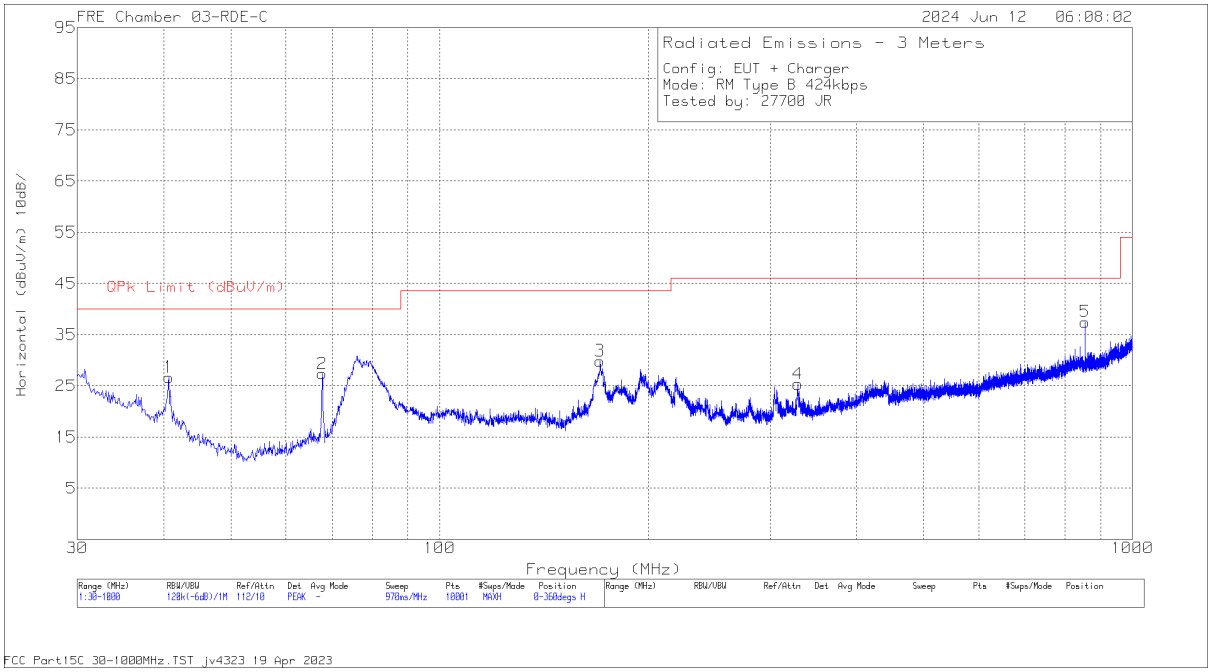
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	POlarity
1	1.3071	22.07	Pk	45.1	-32.8	-40	-5.63	25.3	-30.93	0-360	Face On
2	2.0351	18.81	Pk	41.4	-32.5	-40	-12.29	29.5	-41.79	0-360	Face On
3	7.7687	20.32	Pk	34.8	-32.2	-40	-17.08	29.5	-46.58	0-360	Face On
4	24.2695	20.86	Pk	33.8	-31.6	-40	-16.94	29.5	-46.44	0-360	Face On
5	1.2848	21.33	Pk	45.3	-32.8	-40	-6.17	25.45	-31.62	0-360	Face Off
6	2.1839	18.83	Pk	41	-32.6	-40	-12.77	29.5	-42.27	0-360	Face Off
7	5.2577	20.74	Pk	35.8	-32.3	-40	-15.76	29.5	-45.26	0-360	Face Off
8	22.7164	22.11	Pk	34	-31.7	-40	-15.59	29.5	-45.09	0-360	Face Off

Pk - Peak detector

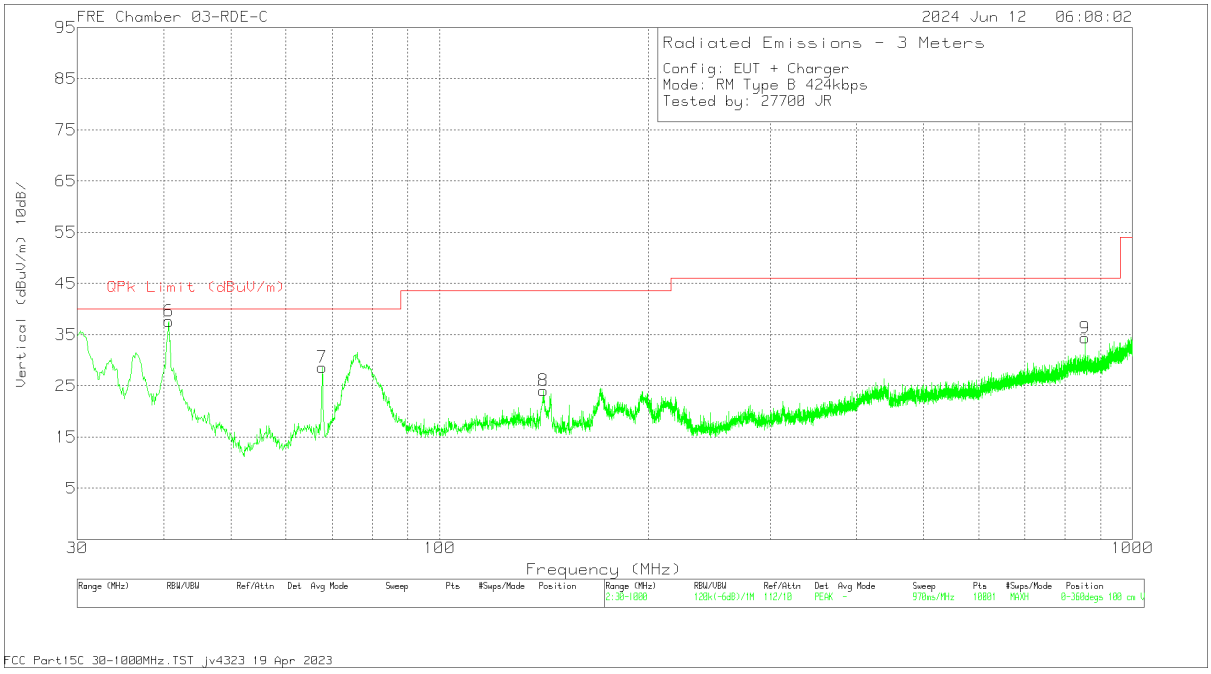
8.2.4. TX SPURIOUS EMISSION 30 TO 1000 MHz, EUT WITH AC/DC ADAPTER

Type B (Reader Mode), SPURIOUS EMISSION

Horizontal



Vertical



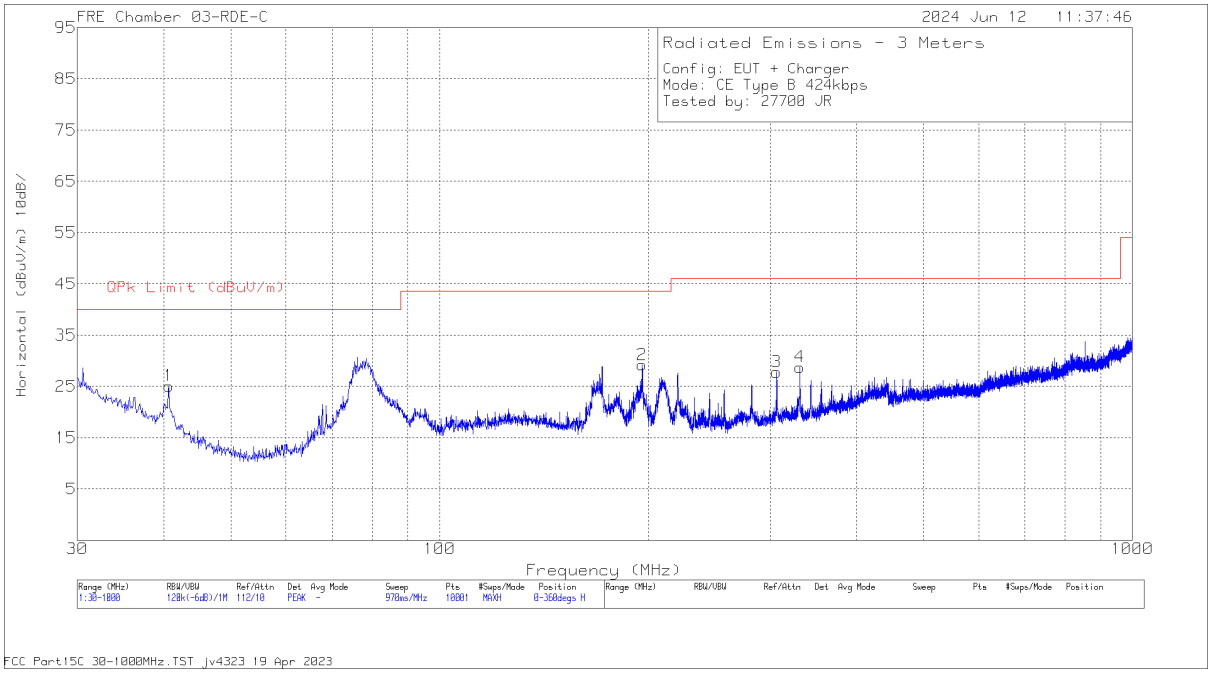
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	232075 ACF (dB/m)	CBL AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.67	38.58	Pk	19.4	-31.3	26.68	40	-13.32	0-360	199	H
2	67.733	44.24	Pk	14.1	-31	27.34	40	-12.66	0-360	398	H
3	* 170.553	42.46	Pk	17.8	-30.4	29.86	43.52	-13.66	0-360	199	H
4	* 329.342	34.76	Pk	19.9	-29.3	25.36	46.02	-20.66	0-360	100	H
5	854.306	36.88	Pk	27.8	-27.2	37.48	46.02	-8.54	0-360	100	H
6	40.67	49.52	Pk	19.4	-31.3	37.62	40	-2.38	0-360	100	V
	40.67	49.16	Qp	19.4	-31.3	37.26	40	-2.74	253	104	V
7	67.733	45.53	Pk	14.1	-31	28.63	40	-11.37	0-360	100	V
8	141.162	34.97	Pk	19.3	-30.2	24.07	43.52	-19.45	0-360	100	V
9	854.306	33.75	Pk	27.8	-27.2	34.35	46.02	-11.67	0-360	100	V

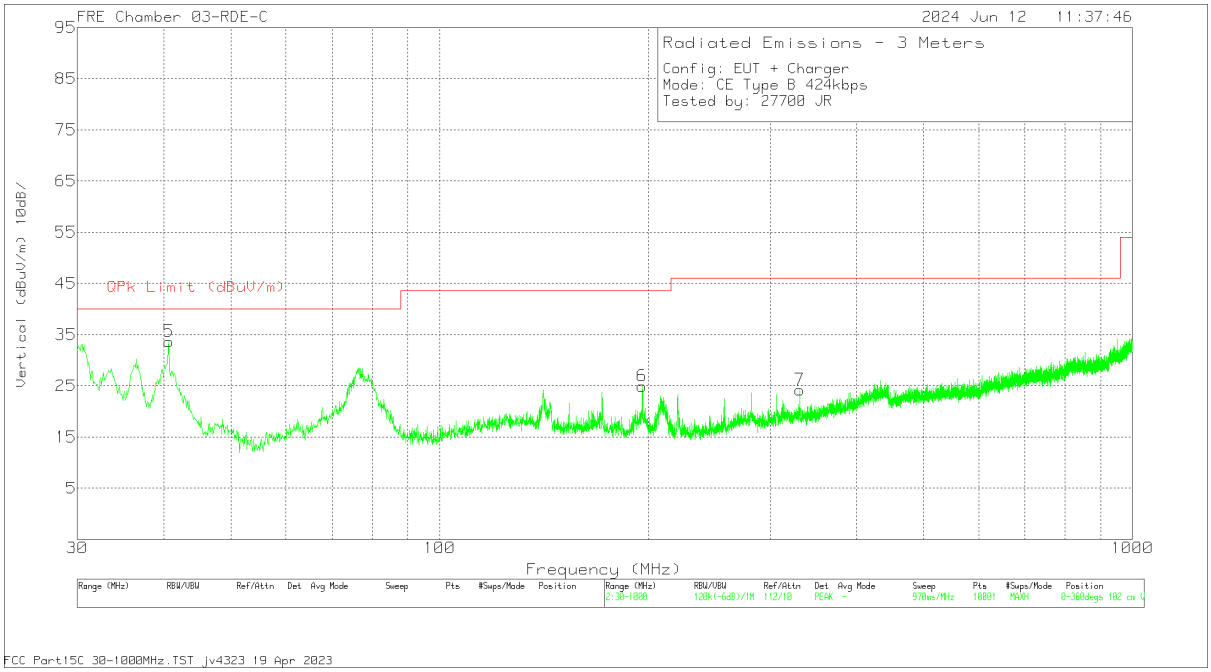
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Type B (CE Mode),SPURIOUS EMISSION

Horizontal



Vertical



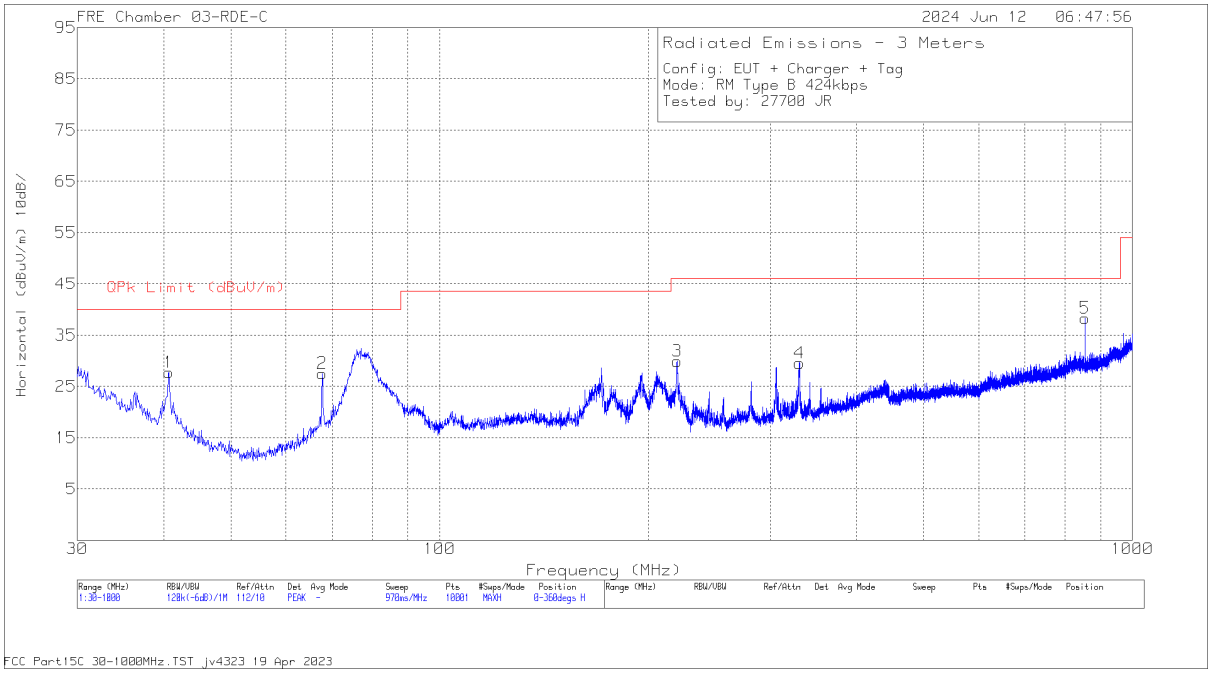
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	232075 ACF (dB/m)	CBL AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.67	37	Pk	19.4	-31.3	25.1	40	-14.9	0-360	199	H
2	196.161	41.28	Pk	18.1	-30.2	29.18	43.52	-14.34	0-360	199	H
3	306.741	37.82	Pk	19.5	-29.5	27.82	46.02	-18.2	0-360	104	H
4	* 331.379	38.38	Pk	19.9	-29.5	28.78	46.02	-17.24	0-360	104	H
5	40.67	45.57	Pk	19.4	-31.3	33.67	40	-6.33	0-360	102	V
6	196.161	37.07	Pk	18.1	-30.2	24.97	43.52	-18.55	0-360	198	V
7	* 331.282	33.82	Pk	19.9	-29.5	24.22	46.02	-21.8	0-360	102	V

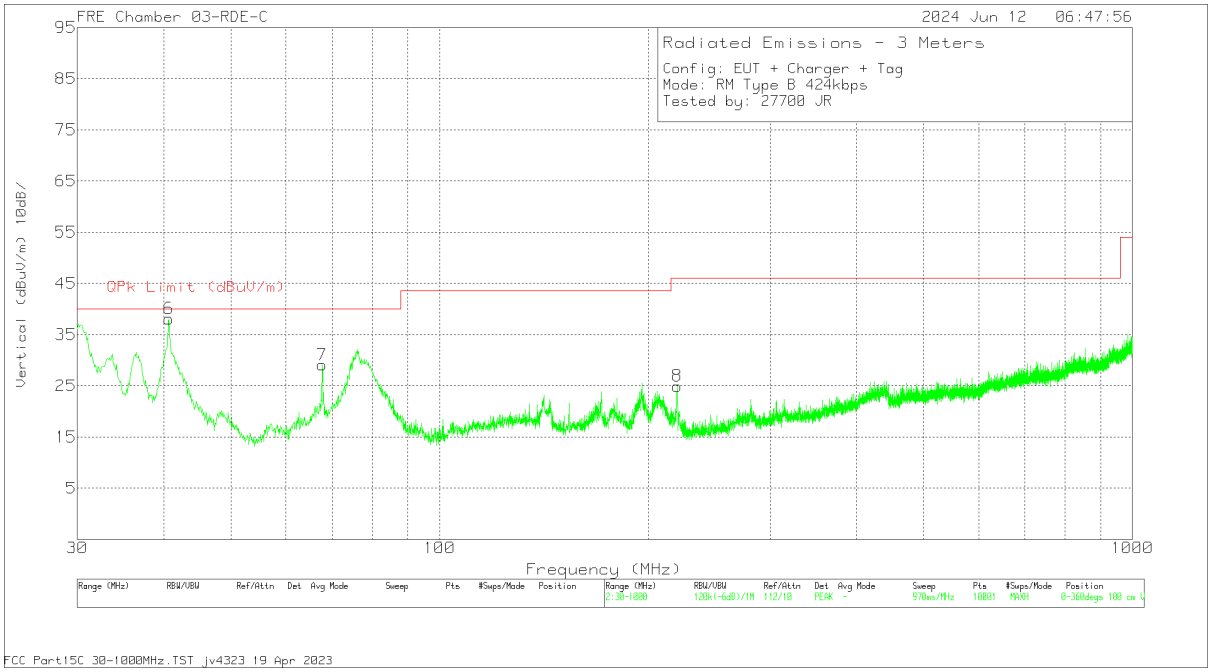
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Type B (Tag Mode),SPURIOUS EMISSION

Horizontal



Vertical



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	232075 ACF (dB/m)	CBL AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.67	39.61	Pk	19.4	-31.3	27.71	40	-12.29	0-360	199	H
2	67.733	44.41	Pk	14.1	-31	27.51	40	-12.49	0-360	199	H
3	220.508	43.31	Pk	16.6	-30	29.91	46.02	-16.11	0-360	199	H
4	* 330.894	39.14	Pk	19.9	-29.5	29.54	46.02	-16.48	0-360	99	H
5	854.306	37.7	Pk	27.8	-27.2	38.3	46.02	-7.72	0-360	298	H
6	40.67	50.01	Pk	19.4	-31.3	38.11	40	-1.89	0-360	100	V
	40.67	49.82	Qp	19.4	-31.3	37.92	40	-2.08	253	104	V
7	67.733	45.97	Pk	14.1	-31	29.07	40	-10.93	0-360	100	V
8	220.508	38.36	Pk	16.6	-30	24.96	46.02	-21.06	0-360	199	V

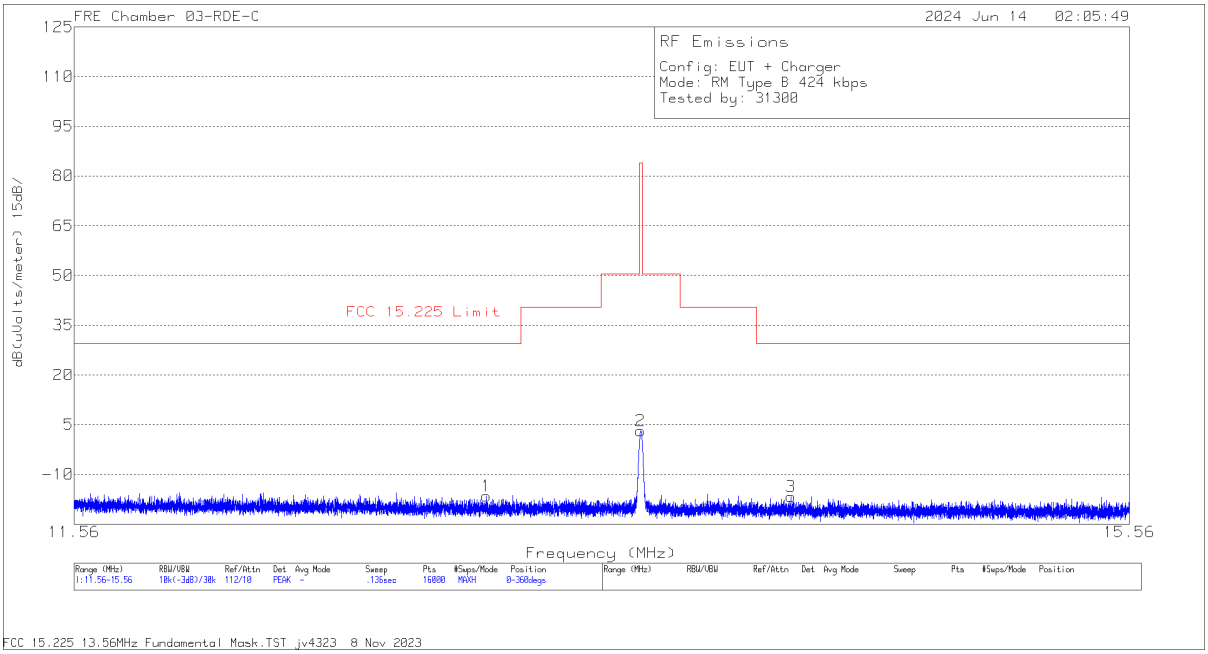
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Qp - Quasi-Peak detector

8.3. SECONDARY ANTENNA FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 - 30 MHz), EUT WITH AC/DC ADAPTER

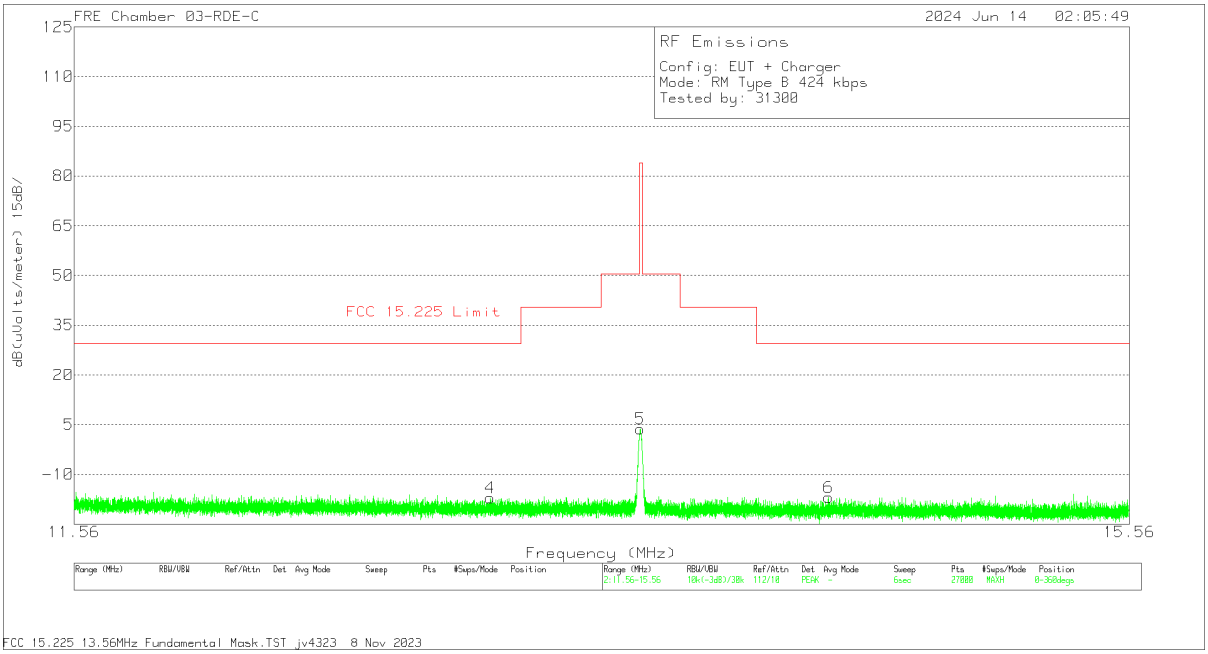
8.3.1. READER MODE, TYPE B 424kbps

FUNDAMENTAL

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



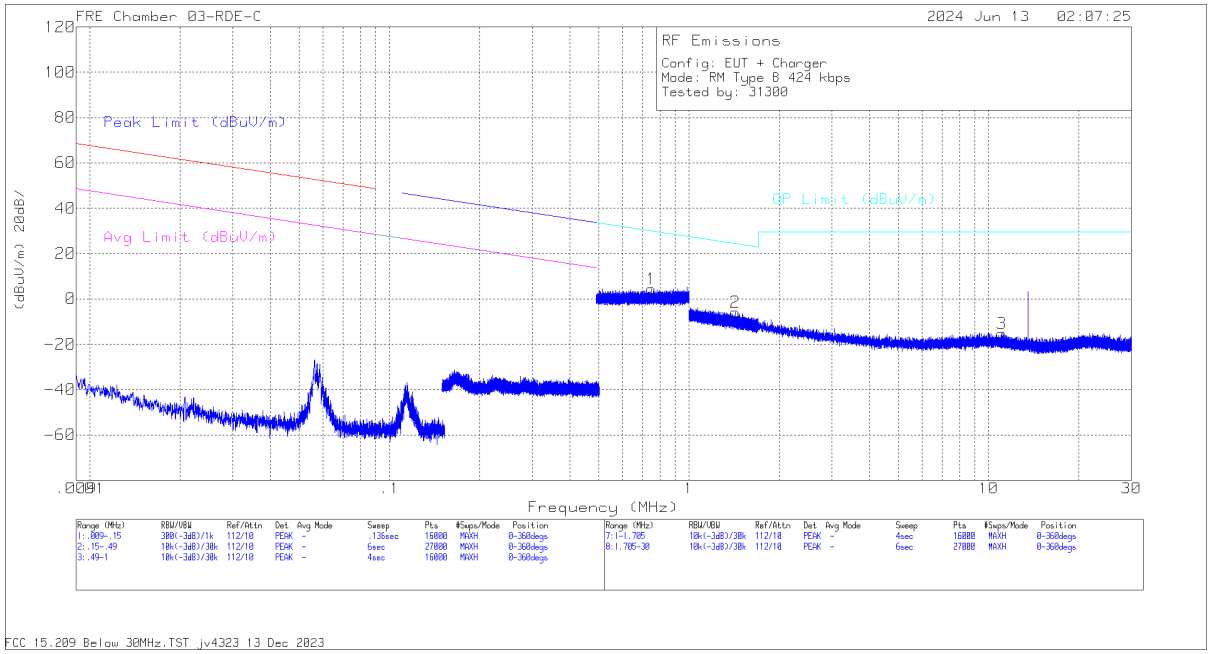
DATA:

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
1	12.9835	21.36	Pk	34.4	-32.2	-40	-16.44	29.54	-45.98	0-360	Face On
2	13.5593	41.07	Pk	34.3	-32.2	-40	3.17	84	-80.83	0-360	Face On
3	14.1455	21.04	Pk	34.2	-31.9	-40	-16.66	29.54	-46.2	0-360	Face On
4	12.9965	20.75	Pk	34.4	-32.2	-40	-17.05	29.54	-46.59	0-360	Face Off
5	13.5577	41.67	Pk	34.3	-32.2	-40	3.77	84	-80.23	0-360	Face Off
6	14.2959	20.62	Pk	34.2	-31.8	-40	-16.98	29.54	-46.52	0-360	Face Off

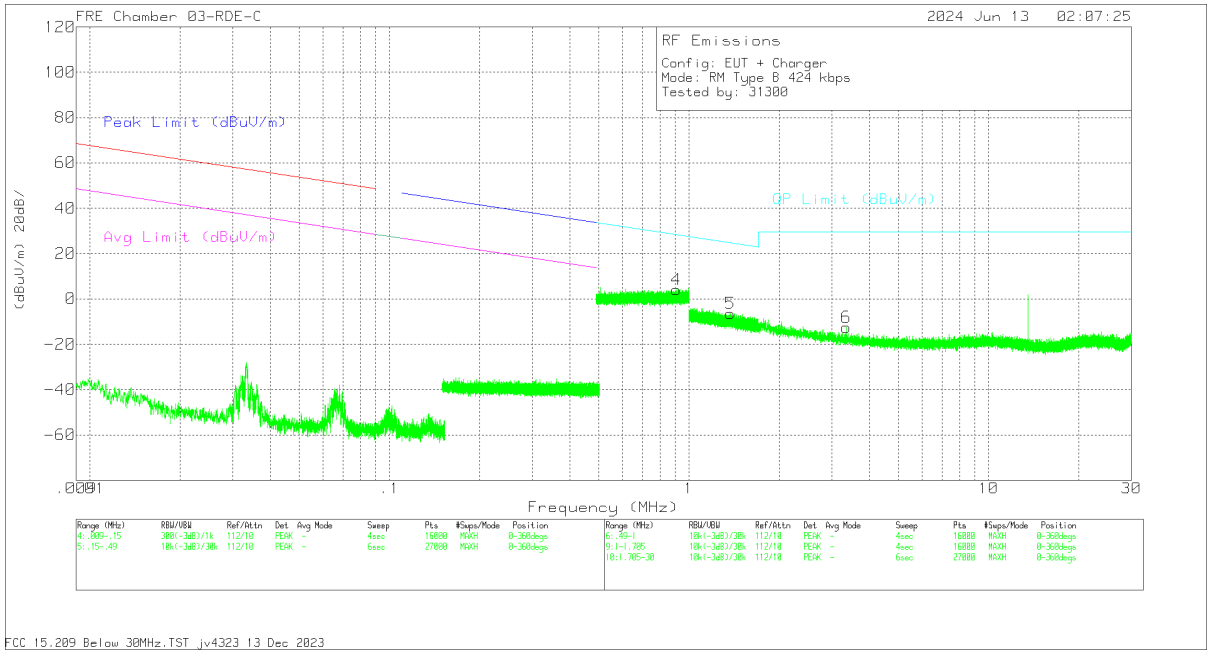
Pk - Peak detector

SPURIOUS EMISSION

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



DATA:

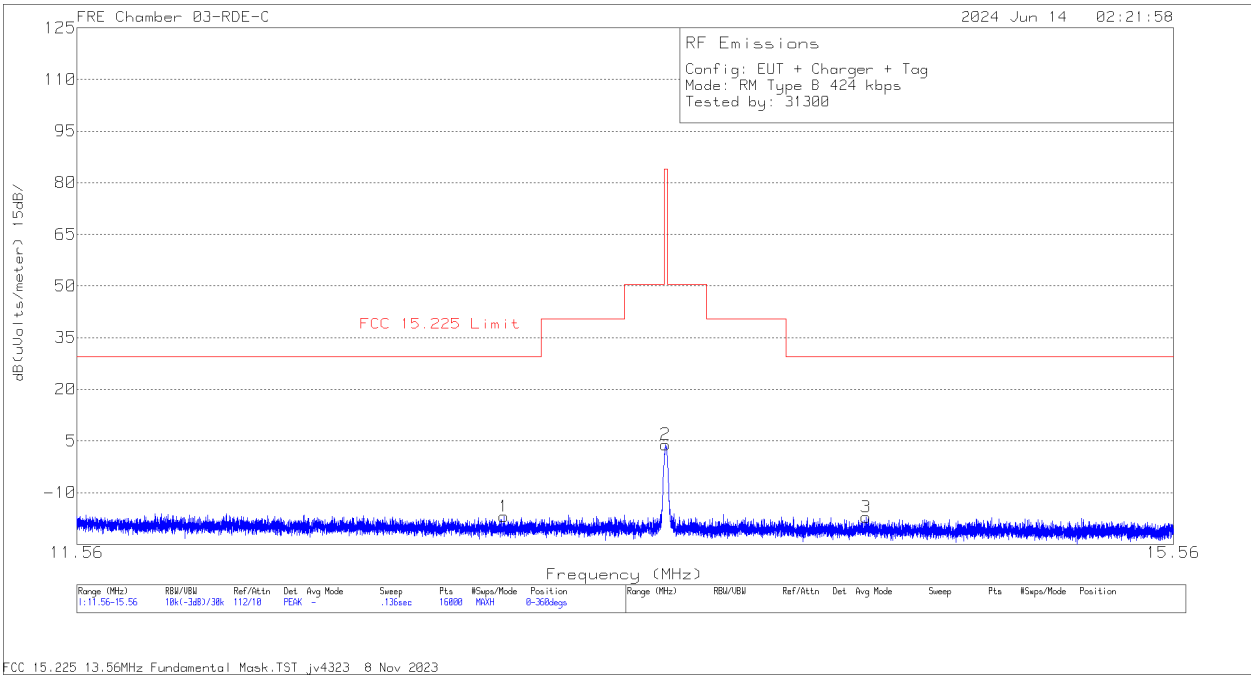
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna H(dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.7493	20.43	Pk	56.4	-32.5	-40	4.33	30.12	-25.79	0-360	Face On
2	1.4263	22.37	Pk	44.5	-32.7	-40	-5.83	24.55	-30.38	0-360	Face On
3	11.05	22.19	Pk	34.8	-32.3	-40	-15.31	29.5	-44.81	0-360	Face On
4	.9064	20.09	Pk	56.5	-32.6	-40	3.99	28.47	-24.48	0-360	Face Off
5	1.3725	21.32	Pk	44.8	-32.5	-40	-6.38	24.88	-31.26	0-360	Face Off
6	3.3483	21.78	Pk	38.2	-32.4	-40	-12.42	29.5	-41.92	0-360	Face Off

Pk - Peak detector

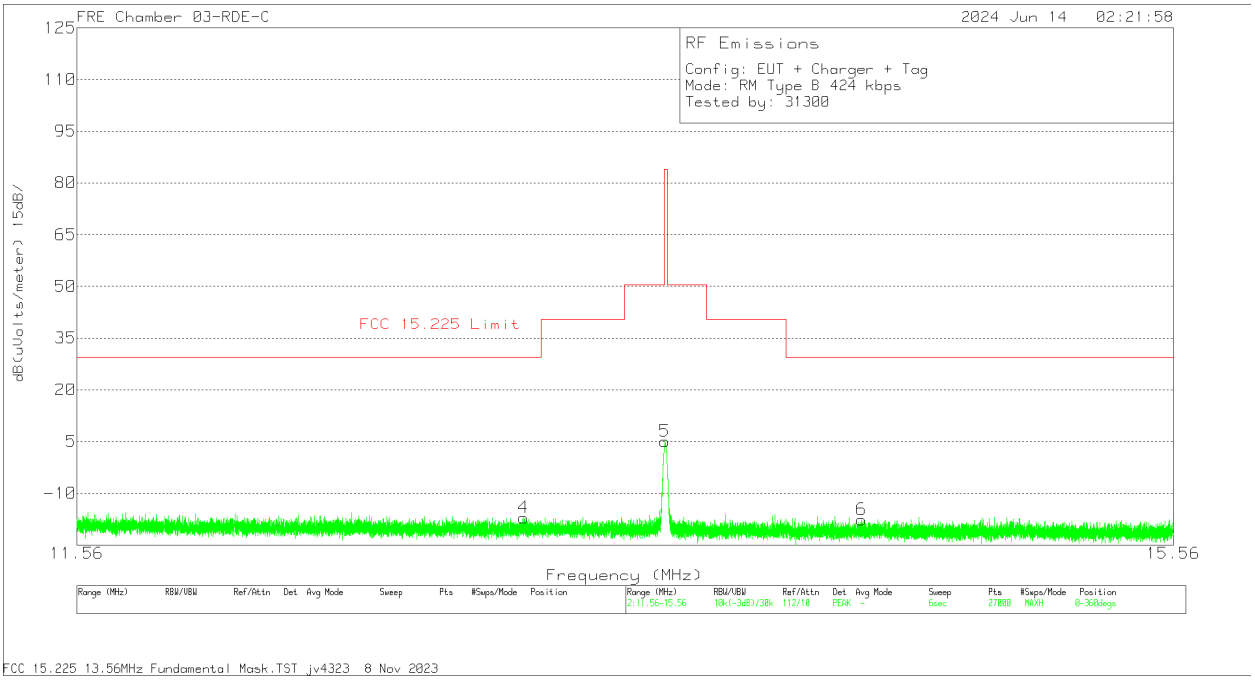
8.3.2. TAG MODE, TYPE B 424kbps

FUNDAMENTAL

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



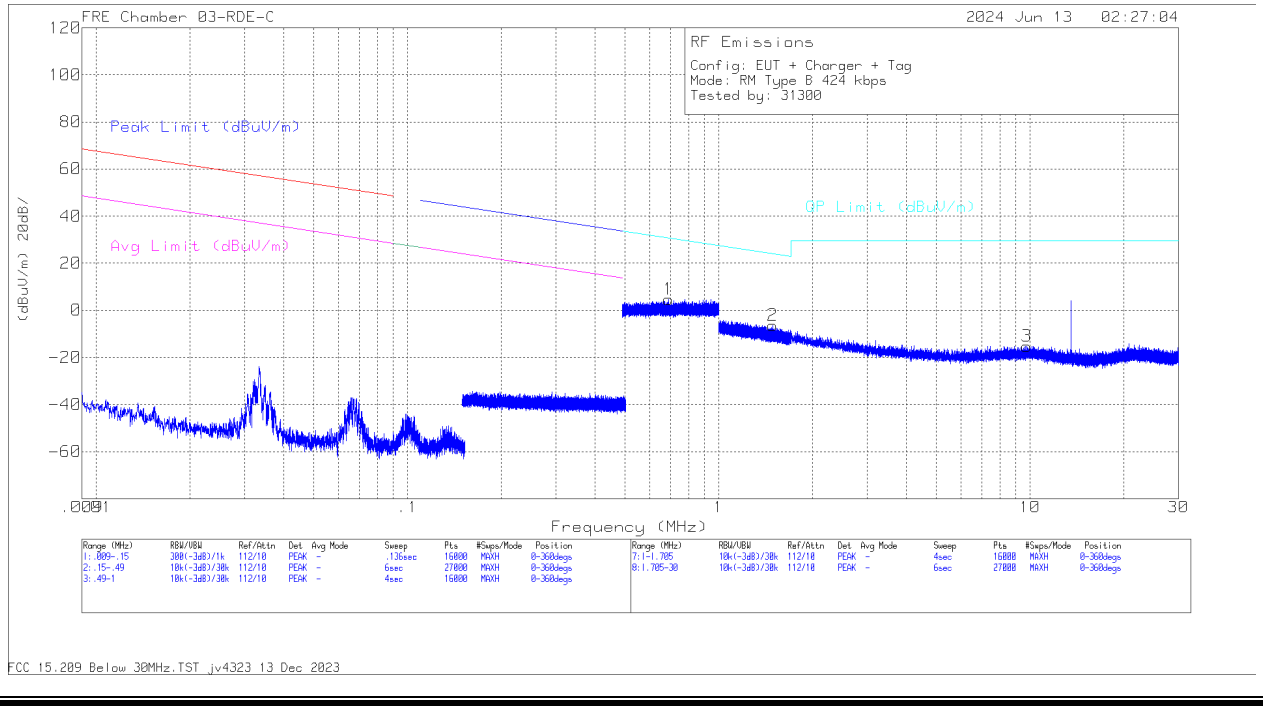
DATA:

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Polarity
1	12.9785	20.81	Pk	34.4	-32.2	-40	-16.99	29.54	-46.53	0-360	Face On
2	13.5595	41.75	Pk	34.3	-32.2	-40	3.85	84	-80.15	0-360	Face Off
3	14.3158	20.43	Pk	34.2	-31.8	-40	-17.17	29.54	-46.71	0-360	Face On
4	13.0471	20.5	Pk	34.4	-32	-40	-17.1	29.54	-46.64	0-360	Face Off
5	13.557	42.88	Pk	34.3	-32.2	-40	4.98	84	-79.02	0-360	Face On
6	14.2974	20.02	Pk	34.2	-31.8	-40	-17.58	29.54	-47.12	0-360	Face Off

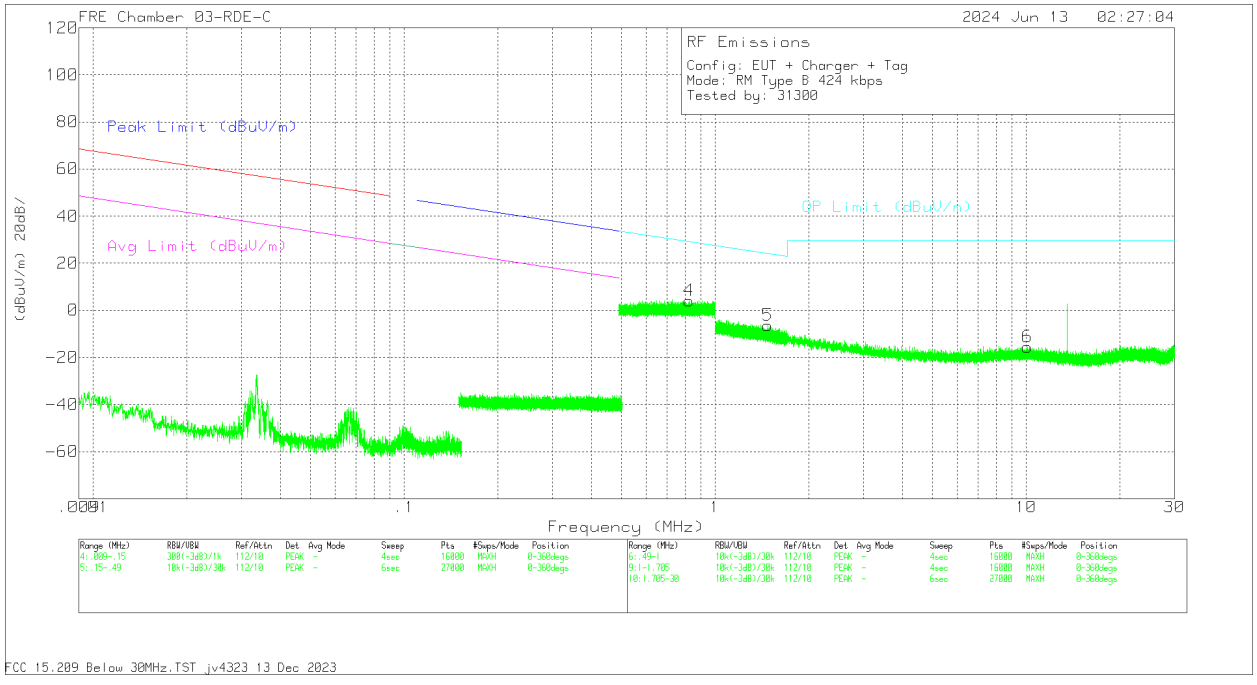
Pk - Peak detector

SPURIOUS EMISSION

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



DATA:

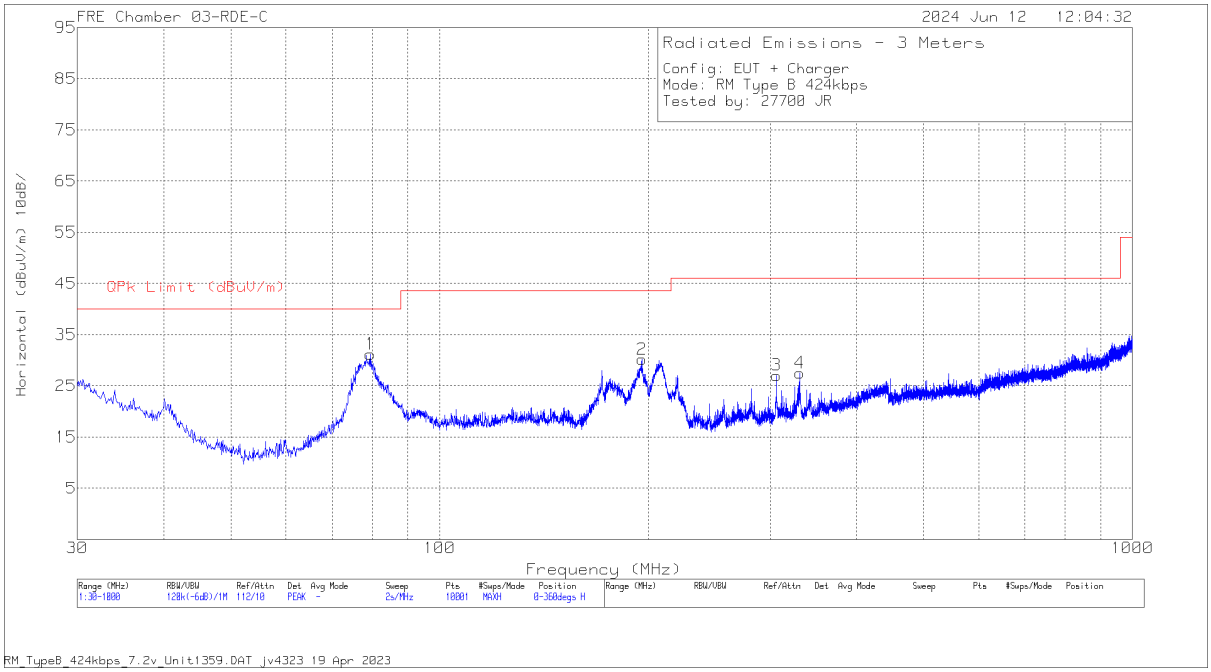
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna H(dB/m)	CBL AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.6914	20.94	Pk	56.4	-32.7	-40	4.64	30.82	-26.18	0-360	Face On
2	1.4906	21.87	Pk	44.2	-32.5	-40	-6.43	24.16	-30.59	0-360	Face On
3	9.7757	21.8	Pk	34.8	-32	-40	-15.4	29.5	-44.9	0-360	Face On
4	.8256	20.32	Pk	56.5	-32.8	-40	4.02	29.28	-25.26	0-360	Face Off
5	1.4756	21.83	Pk	44.3	-32.6	-40	-6.47	24.25	-30.72	0-360	Face Off
6	10.0932	21.64	Pk	34.9	-32	-40	-15.46	29.5	-44.96	0-360	Face Off

Pk - Peak detector

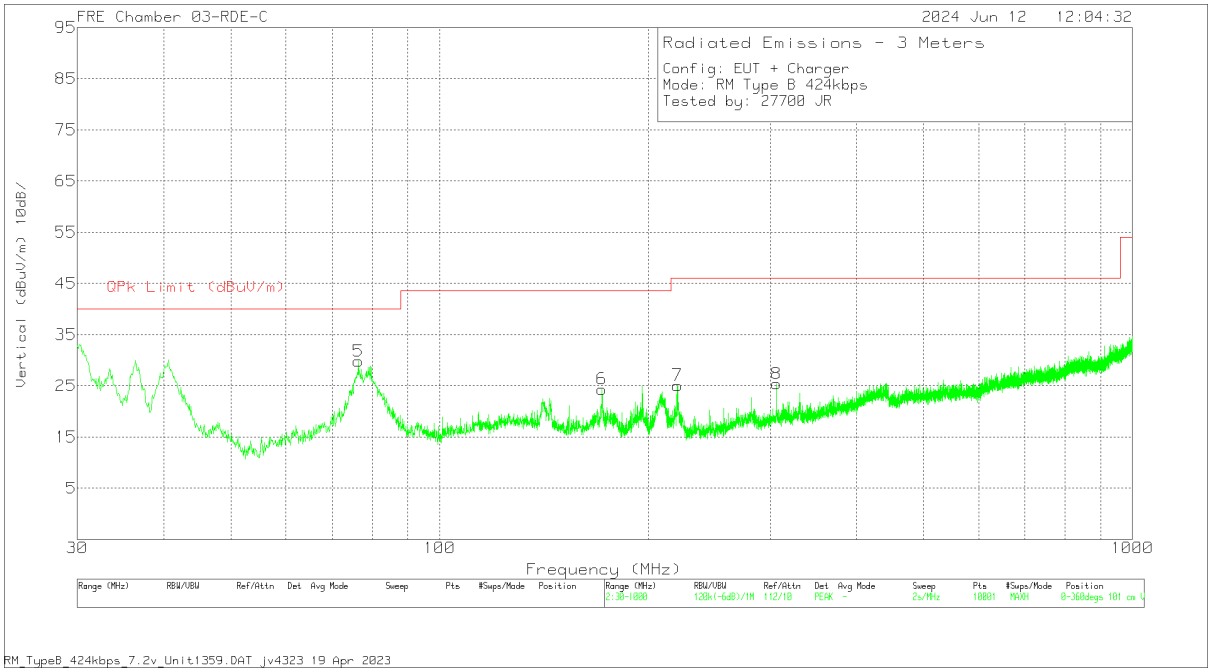
8.3.3. TX SPURIOUS EMISSION 30 TO 1000 MHz, EUT WITH AC/DC ADAPTER

Type B (Reader Mode),SPURIOUS EMISSION 424kbps

Horizontal



Vertical



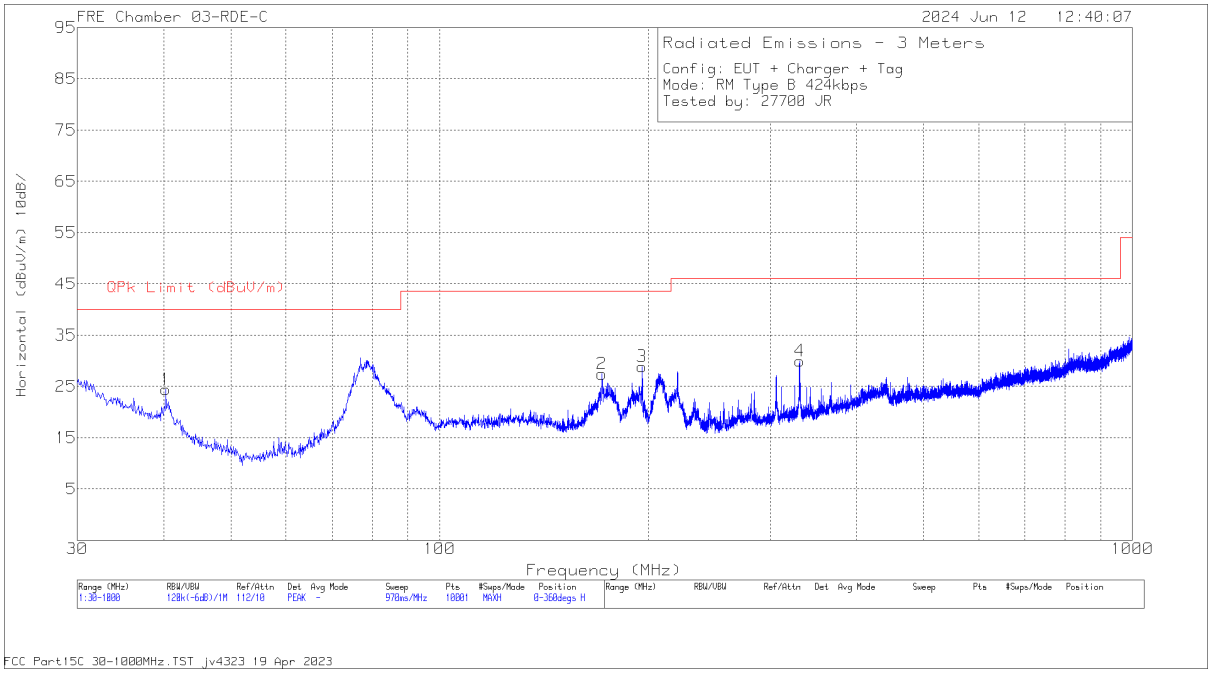
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	232075 ACF (dB/m)	CBL AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	79.47	48.72	Pk	13.5	-31	31.22	40	-8.78	0-360	298	H
2	196.064	42.26	Pk	18.1	-30.2	30.16	43.52	-13.36	0-360	199	H
3	306.547	37.15	Pk	19.5	-29.6	27.05	46.02	-18.97	0-360	101	H
4	* 330.991	37.11	Pk	19.9	-29.5	27.51	46.02	-18.51	0-360	101	H
5	76.366	46.92	Pk	13.8	-30.9	29.82	40	-10.18	0-360	101	V
6	* 171.62	36.85	Pk	17.8	-30.3	24.35	43.52	-19.17	0-360	199	V
7	220.605	38.45	Pk	16.6	-30	25.05	46.02	-20.97	0-360	101	V
8	306.45	35.6	Pk	19.4	-29.6	25.4	46.02	-20.62	0-360	199	V

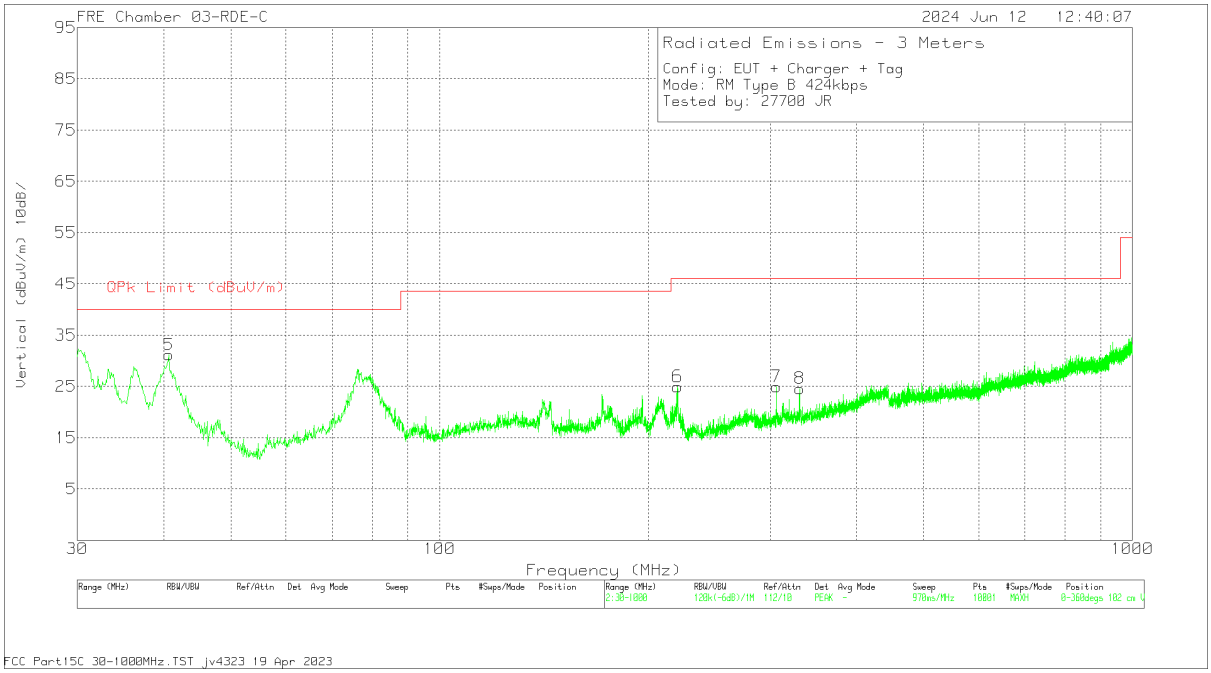
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

Type B (Tag Mode),SPURIOUS EMISSION 424kbps

Horizontal



Vertical



DATA:

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	232075 ACF (dB/m)	CBL AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.282	36.02	Pk	19.7	-31.3	24.42	40	-15.58	0-360	199	H
2	* 171.62	39.94	Pk	17.8	-30.3	27.44	43.52	-16.08	0-360	199	H
3	196.161	40.95	Pk	18.1	-30.2	28.85	43.52	-14.67	0-360	199	H
4	* 331.088	39.56	Pk	19.9	-29.5	29.96	46.02	-16.06	0-360	101	H
5	40.67	43.07	Pk	19.4	-31.3	31.17	40	-8.83	0-360	102	V
6	220.605	38.35	Pk	16.6	-30	24.95	46.02	-21.07	0-360	102	V
7	306.353	35.26	Pk	19.4	-29.7	24.96	46.02	-21.06	0-360	102	V
8	* 330.991	34.19	Pk	19.9	-29.5	24.59	46.02	-21.43	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - 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 C63.10-2013 Clause 6.8

RESULTS

No non-compliance noted.

ID:	31300	**Date:**	06/28/2024

9.1. PRIMARY ANTENNA

READER MODE, TYPE B 424Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20°C										
Limit: ± 100 ppm = 1.35600 KHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed 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)
	50	13.55993257	-2.125	13.55994105	-2.751	13.55995189	-3.550	13.55996723	-4.682	± 100
	40	13.55989612	0.562	13.55989838	0.396	13.55990171	0.150	13.55990691	-0.234	± 100
	30	13.55989498	0.646	13.5598938	0.734	13.5598928	0.807	13.55989226	0.847	± 100
3.80	***20***	***13.55990375***	***0.000***	***13.55990335***	***0.029***	***13.55990283***	***0.067***	***13.55990236***	***0.102***	***± 100***
	10	13.5598994	0.321	13.55990189	0.137	13.55990542	-0.124	13.55991061	-0.506	± 100
	0	13.55994081	-2.733	13.55994479	-3.027	13.55994981	-3.397	13.55995651	-3.891	± 100
	-10	13.55998126	-5.717	13.55998782	-6.200	13.55999545	-6.763	13.56000465	-7.441	± 100
	-20	13.56003546	-9.713	13.56004234	-10.221	13.56005022	-10.802	13.56005988	-11.515	± 100
3.23	20	13.56002615	-9.027	13.560025	-8.942	13.560024	-8.868	13.560024	-8.868	± 100
4.37	20	13.55996265	-4.344	13.5599528	-3.618	13.55994204	-2.824	13.55993018	-1.949	± 100

CE MODE, TYPE B 424Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20°C										
Limit: ± 100 ppm = 1.35600 KHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed 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)
	50	13.560033	-0.590	13.560027	-0.147	13.560021	0.295	13.559988	2.729	± 100
	40	13.560003	1.622	13.559994	2.286	13.559943	6.047	13.559979	3.392	± 100
	30	13.560048	-1.696	13.560084	-4.351	13.560048	-1.696	13.559946	5.826	± 100
3.80	***20***	***13.560025***	***0.000***	***13.560044***	***-1.401***	***13.560048***	***-1.696***	***13.560055***	***-2.212***	***± 100***
	10	13.559994	2.286	13.560093	-5.015	13.560093	-5.015	13.560141	-8.555	± 100
	0	13.560069	-3.245	13.560135	-8.112	13.560117	-6.785	13.560042	-1.254	± 100
	-10	13.560132	-7.891	13.560081	-4.130	13.560051	-1.917	13.560048	-1.696	± 100
	-20	13.560039	-1.032	13.560132	-7.891	13.560114	-6.563	13.56015	-9.218	± 100
3.23	20	13.560343	-23.451	13.560341	-23.304	13.560321	-21.829	13.560347	-23.746	± 100
4.37	20	13.560111	-6.342	13.560063	-2.802	13.560111	-6.342	13.560114	-6.563	± 100

TAG MODE, TYPE B 424Kbps

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)
	50	13.55993457	-0.602	13.55994298	-1.222	13.55994913	-1.676	13.55996045	-2.510	± 100
	40	13.55989751	2.131	13.55989999	1.948	13.55990339	1.698	13.55990878	1.300	± 100
	30	13.55989745	2.135	13.55989557	2.274	13.55989373	2.410	13.55989243	2.505	± 100
3.80	***20***	***13.55992641***	***0.000***	***13.55991792***	***0.626***	***13.55991408***	***0.909***	***13.55990991***	***1.217***	***± 100***
	10	13.55990086	1.884	13.55990389	1.660	13.55990807	1.352	13.5599141	0.907	± 100
	0	13.55993077	-0.322	13.5599365	-0.744	13.55994402	-1.299	13.55995401	-2.035	± 100
	-10	13.55998123	-4.043	13.55988323	3.184	13.55999728	-5.227	13.56000792	-6.011	± 100
	-20	13.56003846	-8.263	13.56004574	-8.801	13.56005439	-9.438	13.56006498	-10.220	± 100
3.23	20	13.5600235	-7.160	13.5600231	-7.131	13.5600243	-7.219	13.5600233	-7.146	± 100
4.37	20	13.5599771	-3.738	13.5599542	-2.050	13.5599511	-1.821	13.5599574	-2.286	± 100

9.2. SECONDARY ANTENNA

READER MODE, TYPE B 424Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20°C										
Limit: ± 100 ppm = 1.35600 KHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed 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)
	50	13.559974	-0.959	13.559975	-1.032	13.559982	-1.549	13.559981	-1.475	± 100
	40	13.559947	1.032	13.559948	0.959	13.559948	0.959	13.559948	0.959	± 100
	30	13.559948	0.959	13.559947	1.032	13.559948	0.959	13.559948	0.959	± 100
3.80	***20***	***13.559961***	***0.000***	***13.559966***	***-0.369***	***13.559954***	***0.516***	***13.559942***	***1.401***	***± 100***
	10	13.559973	-0.885	13.559961	0.000	13.559964	-0.221	13.559979	-1.327	± 100
	0	13.559991	-2.212	13.559994	-2.434	13.559997	-2.655	13.560003	-3.097	± 100
	-10	13.560027	-4.867	13.560033	-5.310	13.560039	-5.752	13.560039	-5.752	± 100
	-20	13.560057	-7.080	13.560048	-6.416	13.560063	-7.522	13.560069	-7.965	± 100
3.23	20	13.559921	2.950	13.559923	2.802	13.559924	2.729	13.559925	2.655	± 100
4.37	20	13.559964	-0.221	13.559979	-1.327	13.559961	0.000	13.559949	0.885	± 100

TAG MODE, TYPE B 424Kbps

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)
	50	13.559901	4.867	13.559905	4.572	13.559907	4.425	13.559915	3.835	± 100
	40	13.559907	4.425	13.559902	4.794	13.559898	5.088	13.559898	5.088	± 100
	30	13.559956	0.811	13.559955	0.885	13.559952	1.106	13.559955	0.885	± 100
3.80	***20***	***13.559967***	***0.000***	***13.559962***	***0.369***	***13.559968***	***-0.074***	***13.559969***	***-0.147***	***± 100***
	10	13.559913	3.982	13.559919	3.540	13.559925	3.097	13.559934	2.434	± 100
	0	13.559961	0.442	13.559967	0.000	13.559973	-0.442	13.559979	-0.885	± 100
	-10	13.560006	-2.876	13.560009	-3.097	13.560015	-3.540	13.560024	-4.204	± 100
	-20	13.560065	-7.227	13.560066	-7.301	13.560065	-7.227	13.560065	-7.227	± 100
3.23	20	13.559958	0.664	13.559944	1.696	13.559935	2.360	13.559915	3.835	± 100
4.37	20	13.559946	1.549	13.559943	1.770	13.559945	1.622	13.559937	2.212	± 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 C63.10:2013

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.

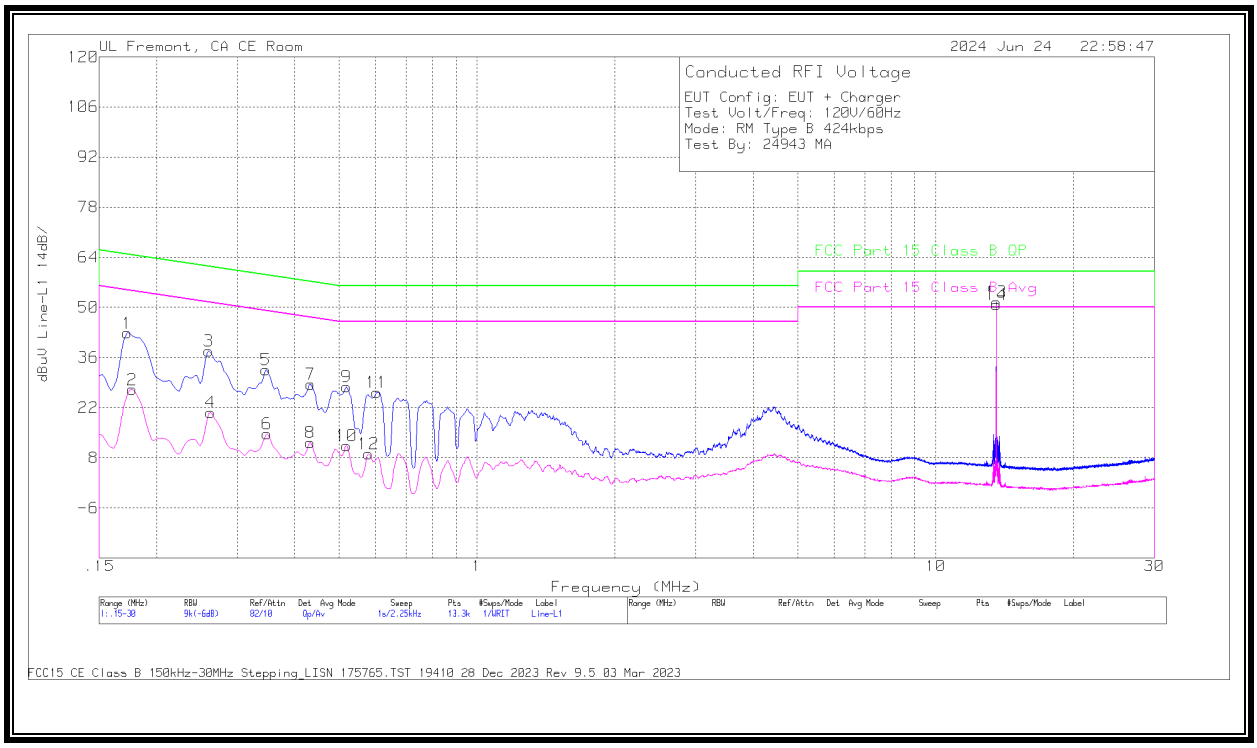
RESULTS

No non-compliance noted:

10.1. PRIMARY ANTENNA

10.1.1. READER MODE, NORMAL OPERATION

LINE 1 RESULTS

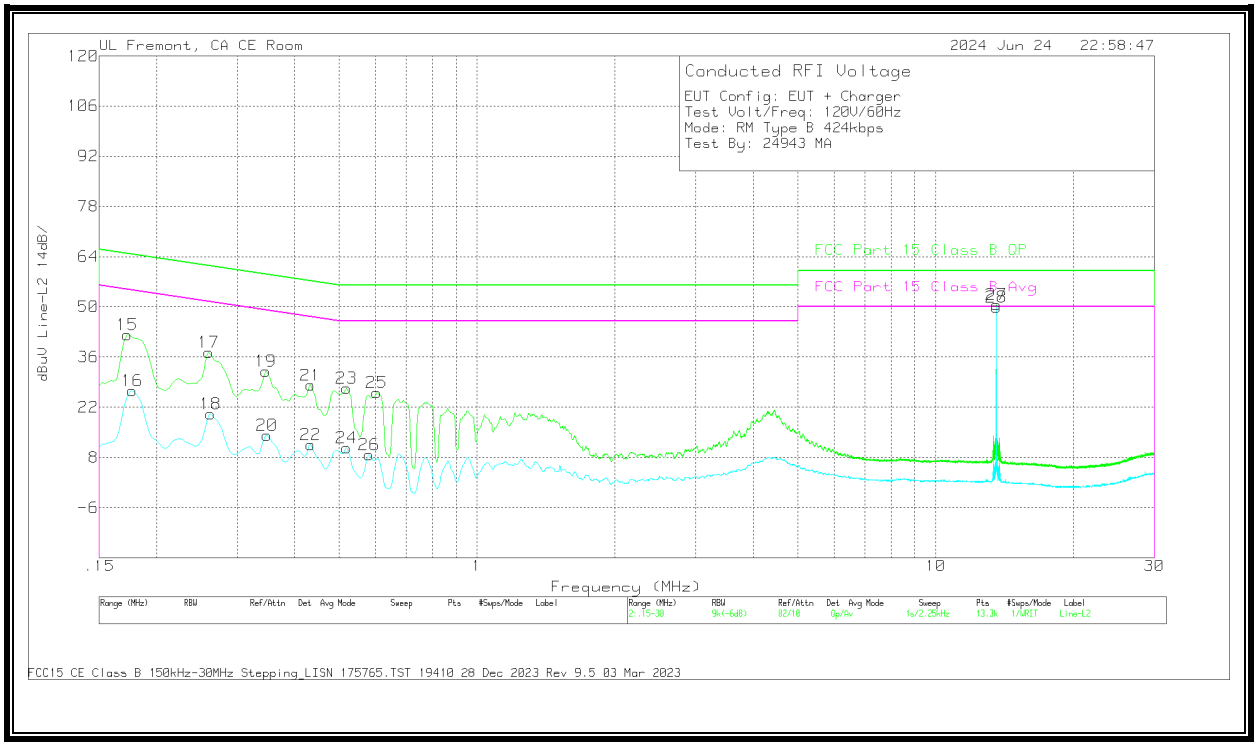


Worst Emission

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	.177	17.44	Av	.1	.1	9.4	27.04	-	-	54.63	-27.59
4	.2625	11.24	Av	0	0	9.4	20.64	-	-	51.35	-30.71
6	.348	5.25	Av	0	0	9.4	14.65	-	-	49.01	-34.36
8	.4324	2.85	Av	0	.1	9.3	12.25	-	-	47.21	-34.96
10	.519	2.06	Av	0	0	9.3	11.36	-	-	46	-34.64
12	.5798	-.36	Av	0	0	9.4	9.04	-	-	46	-36.96
14	13.56	40.93	Av	.1	.3	9.5	50.83	-	-	**50**	**.83**
1	.1725	33.21	Qp	.1	0	9.5	42.81	64.84	-22.03	-	-
3	.2603	28.48	Qp	0	0	9.4	37.88	61.42	-23.54	-	-
5	.3458	23.2	Qp	0	0	9.4	32.6	59.06	-26.46	-	-
7	.4335	19.18	Qp	0	.1	9.3	28.58	57.19	-28.61	-	-
9	.519	18.48	Qp	0	0	9.3	27.78	56	-28.22	-	-
11	.6045	16.92	Qp	0	0	9.4	26.32	56	-29.68	-	-
13	13.56	41.55	Qp	.1	.3	9.5	51.45	60	-8.55	-	-

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 10.1.2 indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 2 RESULTS



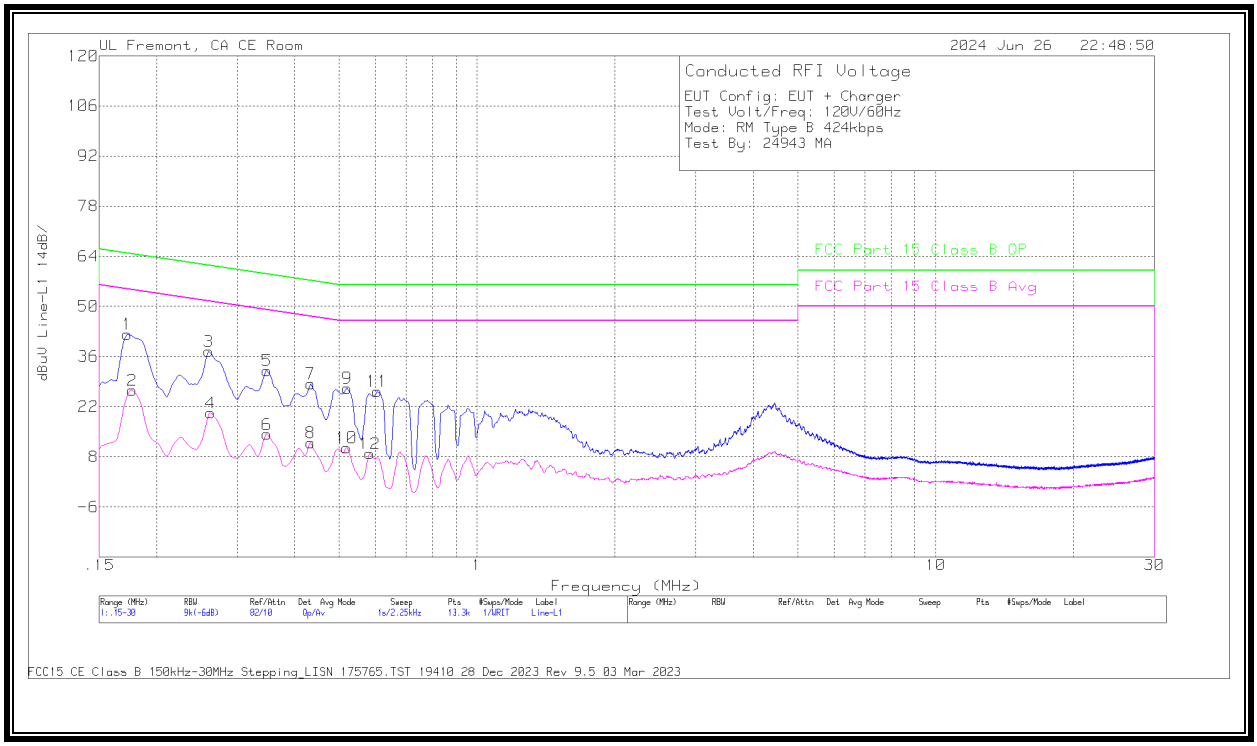
Worst Emission

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)
16	.177	17.06	Av	0	.1	9.4	26.56	-	-	54.63	-28.07
18	.2625	10.66	Av	0	0	9.4	20.06	-	-	51.35	-31.29
20	.348	4.73	Av	0	.1	9.4	14.23	-	-	49.01	-34.78
22	.4335	2.24	Av	0	0	9.3	11.54	-	-	47.19	-35.65
24	.519	1.35	Av	0	0	9.3	10.65	-	-	46	-35.35
26	.582	-.76	Av	0	.1	9.4	8.74	-	-	46	-37.26
28	13.56	40.1	Av	.1	.2	9.5	49.9	-	-	50	-.1
15	.1725	32.71	Qp	0	0	9.5	42.21	64.84	-22.63	-	-
17	.2603	27.96	Qp	0	0	9.4	37.36	61.42	-24.06	-	-
19	.3458	22.59	Qp	0	.1	9.4	32.09	59.06	-26.97	-	-
21	.4335	18.81	Qp	0	0	9.3	28.11	57.19	-29.08	-	-
23	.519	17.96	Qp	0	0	9.3	27.26	56	-28.74	-	-
25	.6045	16.64	Qp	0	.1	9.4	26.14	56	-29.86	-	-
27	13.56	40.87	Qp	.1	.2	9.5	50.67	60	-9.33	-	-

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

10.1.2. READER MODE WITH ANTENNA PORT TERMINATED, 424Kbps

LINE 1 RESULTS

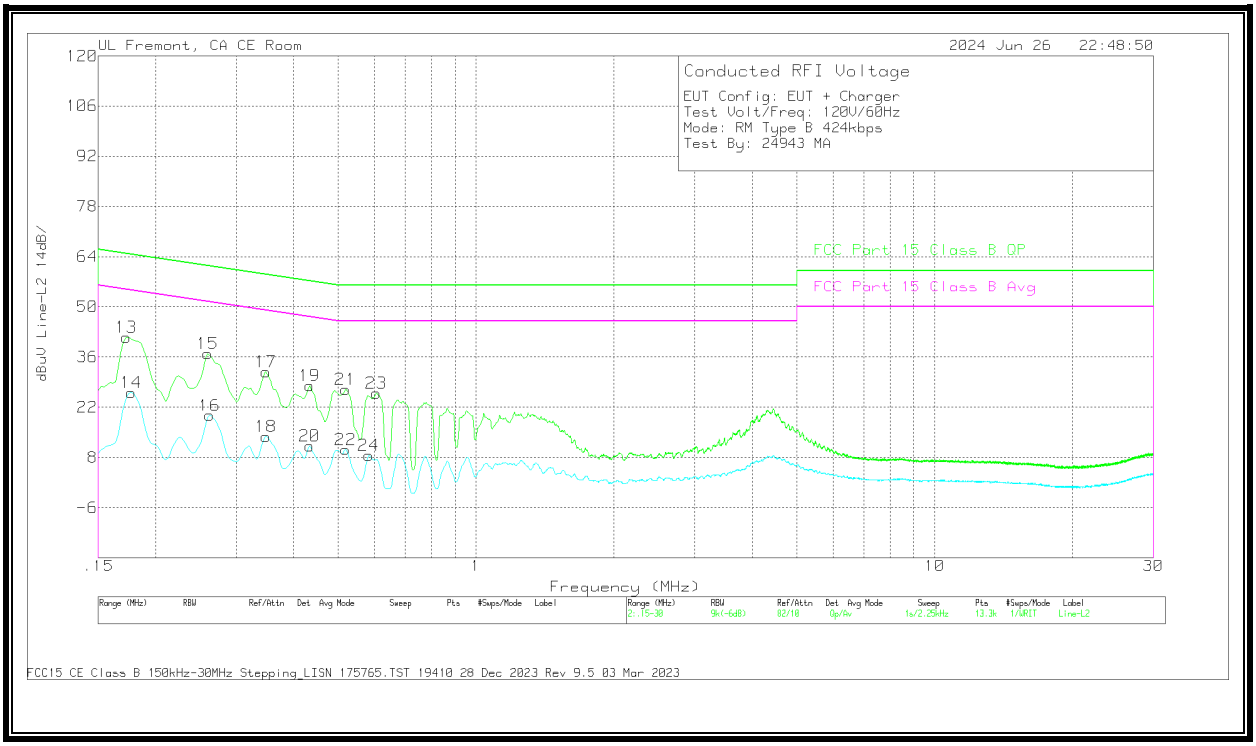


Worst Emission

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	.177	16.92	Av	.1	.1	9.4	26.52	-	-	54.63	-28.11
4	.2625	10.81	Av	0	0	9.4	20.21	-	-	51.35	-31.14
6	.348	4.85	Av	0	0	9.4	14.25	-	-	49.01	-34.76
8	.4335	2.48	Av	0	.1	9.3	11.88	-	-	47.19	-35.31
10	.5201	1.22	Av	0	0	9.3	10.52	-	-	46	-35.48
12	.5843	-.58	Av	0	0	9.4	8.82	-	-	46	-37.18
1	.1725	32.56	Qp	.1	0	9.5	42.16	64.84	-22.68	-	-
3	.2603	27.99	Qp	0	0	9.4	37.39	61.42	-24.03	-	-
5	.348	22.71	Qp	0	0	9.4	32.11	59.01	-26.9	-	-
7	.4335	18.98	Qp	0	.1	9.3	28.38	57.19	-28.81	-	-
9	.5213	17.83	Qp	0	0	9.3	27.13	56	-28.87	-	-
11	.6068	16.82	Qp	0	0	9.4	26.22	56	-29.78	-	-

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



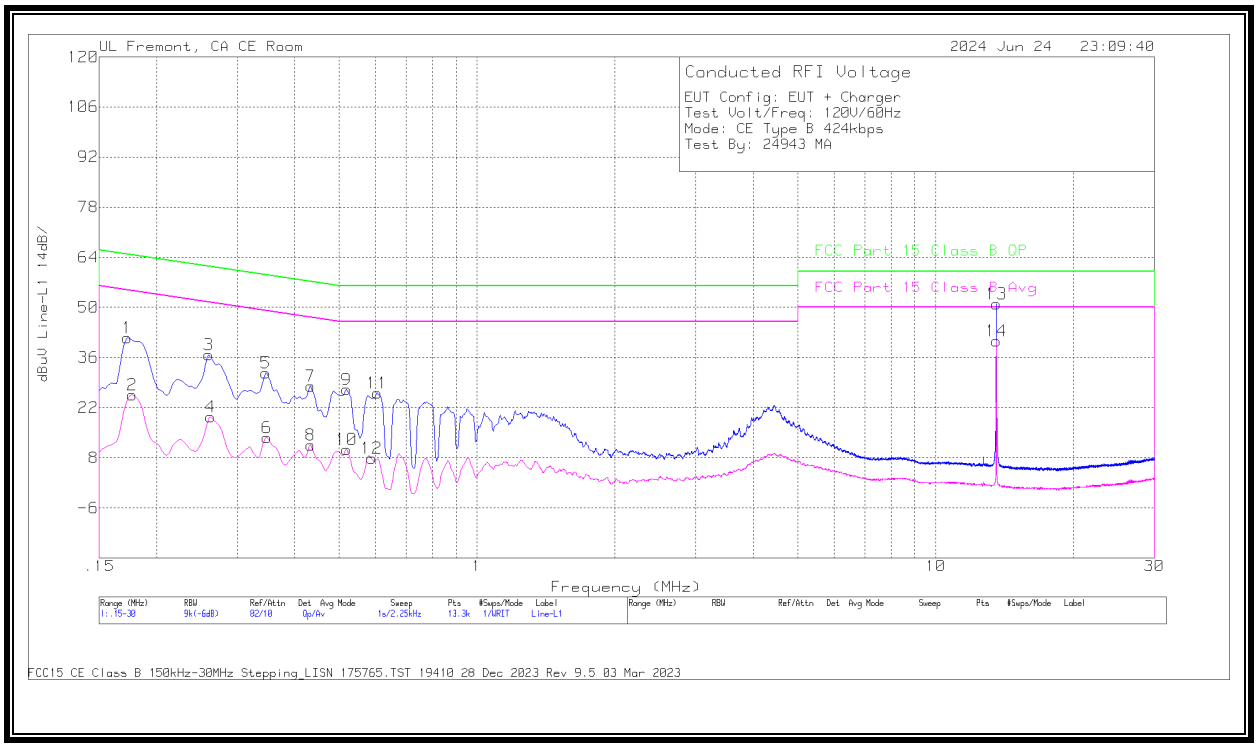
Worst Emission

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)
14	.177	16.65	Av	0	.1	9.4	26.15	-	-	54.63	-28.48
16	.2625	10.29	Av	0	0	9.4	19.69	-	-	51.35	-31.66
18	.348	4.36	Av	0	.1	9.4	13.86	-	-	49.01	-35.15
20	.4335	1.83	Av	0	0	9.3	11.13	-	-	47.19	-36.06
22	.5201	.91	Av	0	0	9.3	10.21	-	-	46	-35.79
24	.5843	-.97	Av	0	.1	9.4	8.53	-	-	46	-37.47
13	.1725	32.04	Qp	0	0	9.5	41.54	64.84	-23.3	-	-
15	.2603	27.57	Qp	0	0	9.4	36.97	61.42	-24.45	-	-
17	.348	22.31	Qp	0	.1	9.4	31.81	59.01	-27.2	-	-
19	.4335	18.72	Qp	0	0	9.3	28.02	57.19	-29.17	-	-
21	.519	17.65	Qp	0	0	9.3	26.95	56	-29.05	-	-
23	.6068	16.39	Qp	0	.1	9.4	25.89	56	-30.11	-	-

Qp - Quasi-Peak detector
Av - Average detection

10.1.3. CE MODE, TYPE B 424Kbps, NORMAL OPERATION

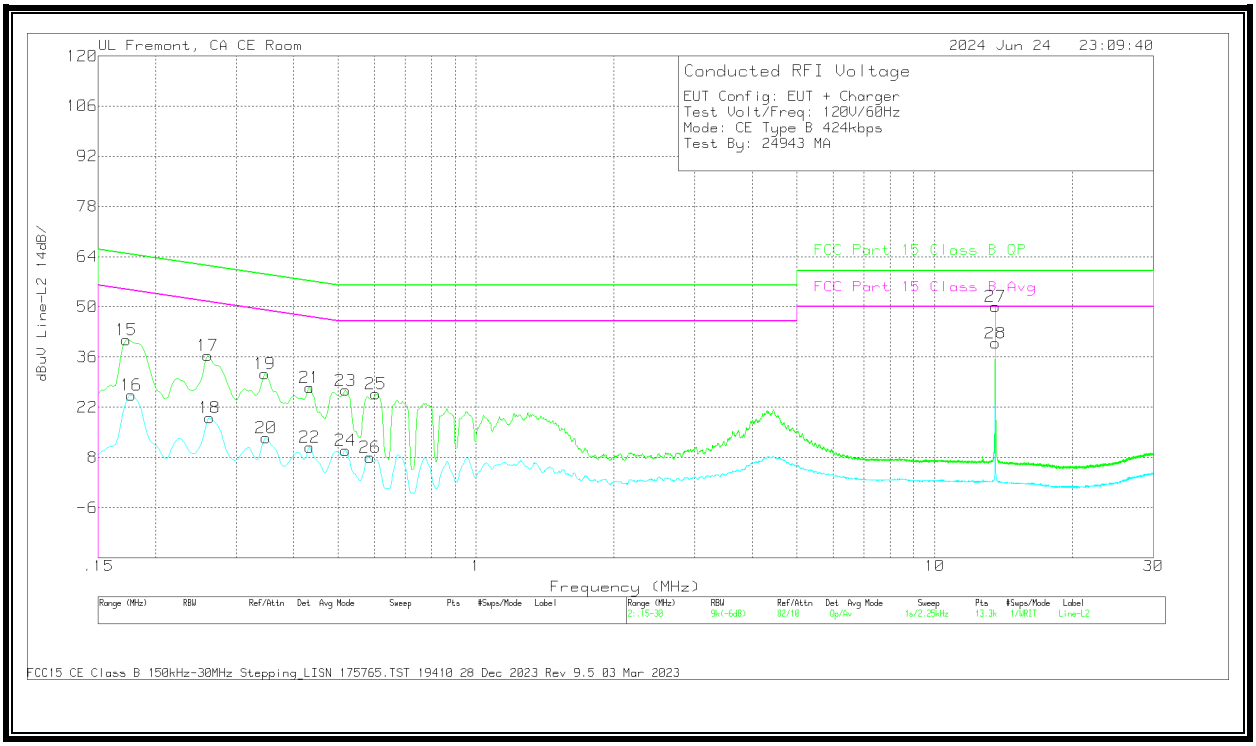
LINE 1 RESULTS



Worst Emission

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	.177	16	Av	.1	.1	9.4	25.6	-	-	54.63	-29.03
4	.2625	9.97	Av	0	0	9.4	19.37	-	-	51.35	-31.98
6	.348	4.31	Av	0	0	9.4	13.71	-	-	49.01	-35.3
8	.4335	2.17	Av	0	.1	9.3	11.57	-	-	47.19	-35.62
10	.519	1.04	Av	0	0	9.3	10.34	-	-	46	-35.66
12	.5888	-1.61	Av	0	0	9.4	7.79	-	-	46	-38.21
14	13.56	30.76	Av	.1	.3	9.5	40.66	-	-	50	-9.34
1	.1725	31.88	Qp	.1	0	9.5	41.48	64.84	-23.36	-	-
3	.2603	27.38	Qp	0	0	9.4	36.78	61.42	-24.64	-	-
5	.3458	22.3	Qp	0	0	9.4	31.7	59.06	-27.36	-	-
7	.4335	18.59	Qp	0	.1	9.3	27.99	57.19	-29.2	-	-
9	.519	17.75	Qp	0	0	9.3	27.05	56	-28.95	-	-
11	.6068	16.68	Qp	0	0	9.4	26.08	56	-29.92	-	-
13	13.56	41.04	Qp	.1	.3	9.5	50.94	60	-9.06	-	-

LINE 2 RESULTS



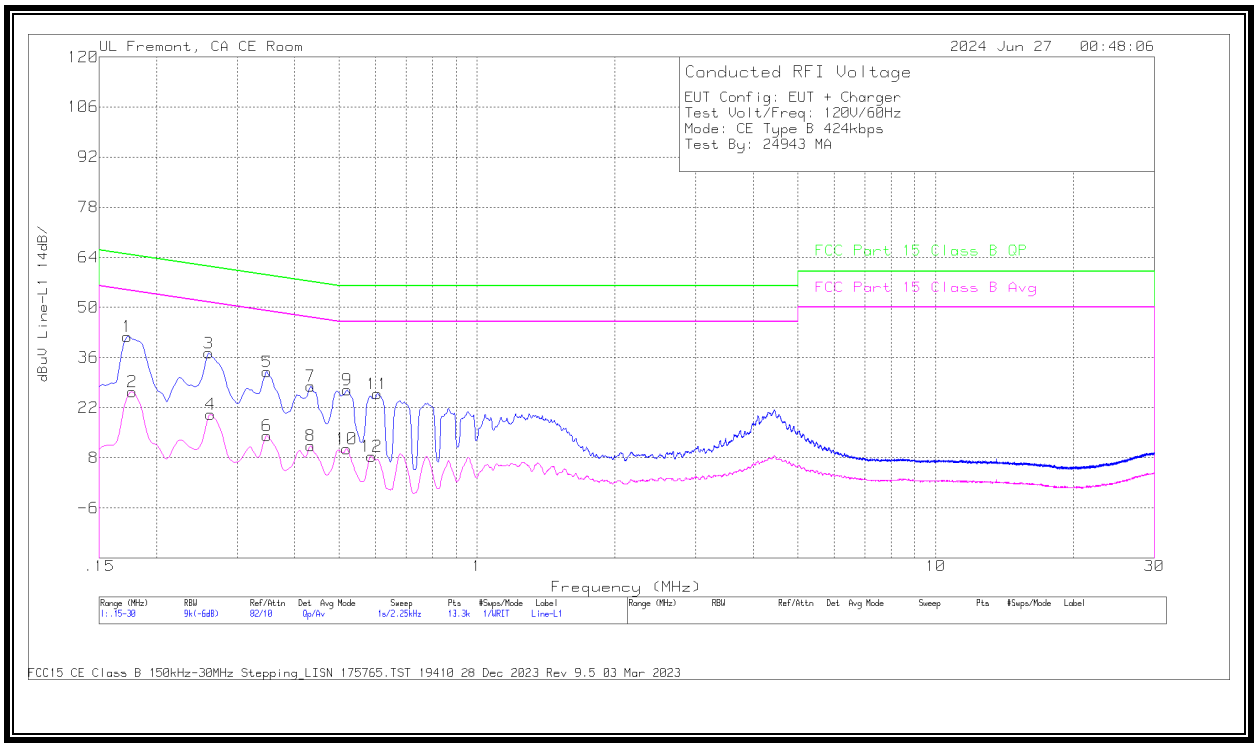
Worst Emission

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)
16	.177	15.88	Av	0	.1	9.4	25.38	-	-	54.63	-29.25
18	.2625	9.64	Av	0	0	9.4	19.04	-	-	51.35	-32.31
20	.348	3.92	Av	0	.1	9.4	13.42	-	-	49.01	-35.59
22	.4335	1.58	Av	0	0	9.3	10.88	-	-	47.19	-36.31
24	.519	.72	Av	0	0	9.3	10.02	-	-	46	-35.98
26	.5865	-1.54	Av	0	.1	9.4	7.96	-	-	46	-38.04
28	13.56	30.05	Av	.1	.2	9.5	39.85	-	-	50	-10.15
15	.1725	31.35	Qp	0	0	9.5	40.85	64.84	-23.99	-	-
17	.2603	27	Qp	0	0	9.4	36.4	61.42	-25.02	-	-
19	.3458	21.84	Qp	0	.1	9.4	31.34	59.06	-27.72	-	-
21	.4335	18.24	Qp	0	0	9.3	27.54	57.19	-29.65	-	-
23	.519	17.39	Qp	0	0	9.3	26.69	56	-29.31	-	-
25	.6045	16.18	Qp	0	.1	9.4	25.68	56	-30.32	-	-
27	13.56	40.35	Qp	.1	.2	9.5	50.15	60	-9.85	-	-

Qp - Quasi-Peak detector
Av - Average detection

10.1.4. CE MODE WITH ANTENNA PORT TERMINATED, 424Kbps

LINE 1 RESULTS

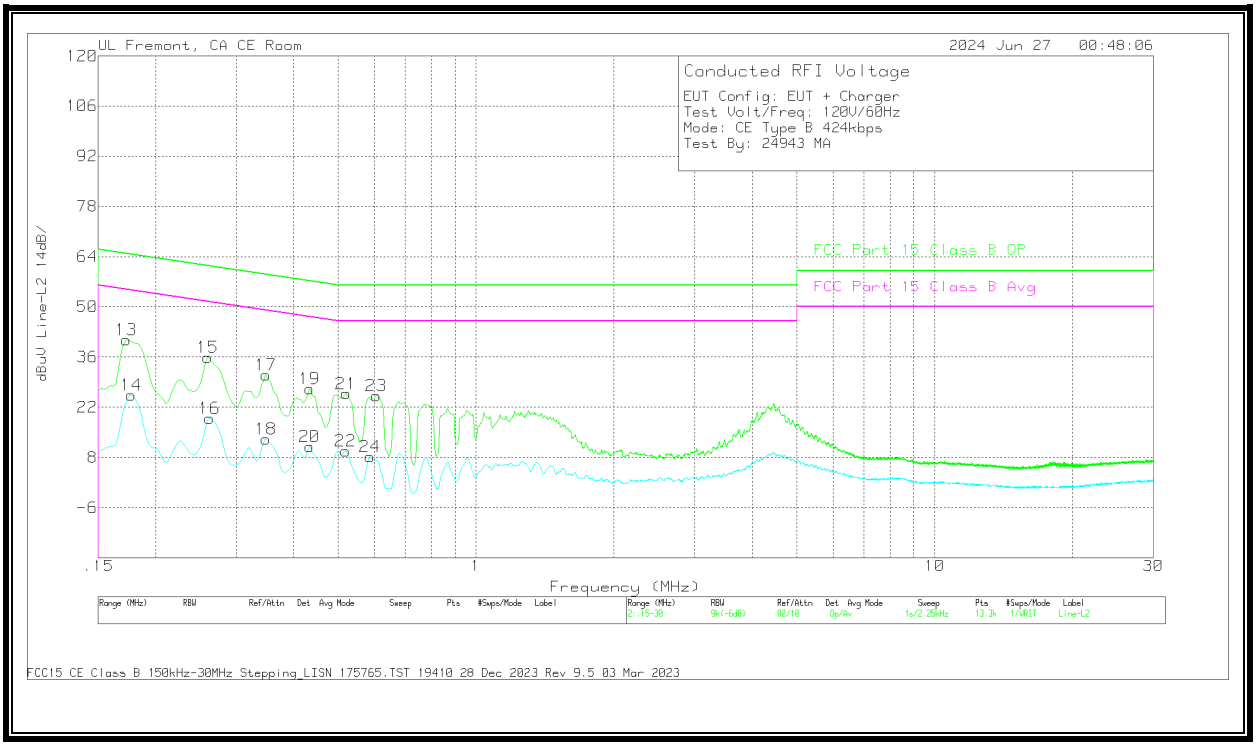


Worst Emission

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	.177	16.84	Av	.1	.1	9.4	26.44	-	-	54.63	-28.19
4	.2625	10.72	Av	0	0	9.4	20.12	-	-	51.35	-31.23
6	.348	4.74	Av	0	0	9.4	14.14	-	-	49.01	-34.87
8	.4335	2.01	Av	0	.1	9.3	11.41	-	-	47.19	-35.78
10	.519	1.22	Av	0	0	9.3	10.52	-	-	46	-35.48
12	.5888	-1.02	Av	0	0	9.4	8.38	-	-	46	-37.62
1	.1725	32.22	Qp	.1	0	9.5	41.82	64.84	-23.02	-	-
3	.2603	27.81	Qp	0	0	9.4	37.21	61.42	-24.21	-	-
5	.348	22.56	Qp	0	0	9.4	31.96	59.01	-27.05	-	-
7	.4335	18.68	Qp	0	.1	9.3	28.08	57.19	-29.11	-	-
9	.5213	17.59	Qp	0	0	9.3	26.89	56	-29.11	-	-
11	.6068	16.42	Qp	0	0	9.4	25.82	56	-30.18	-	-

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



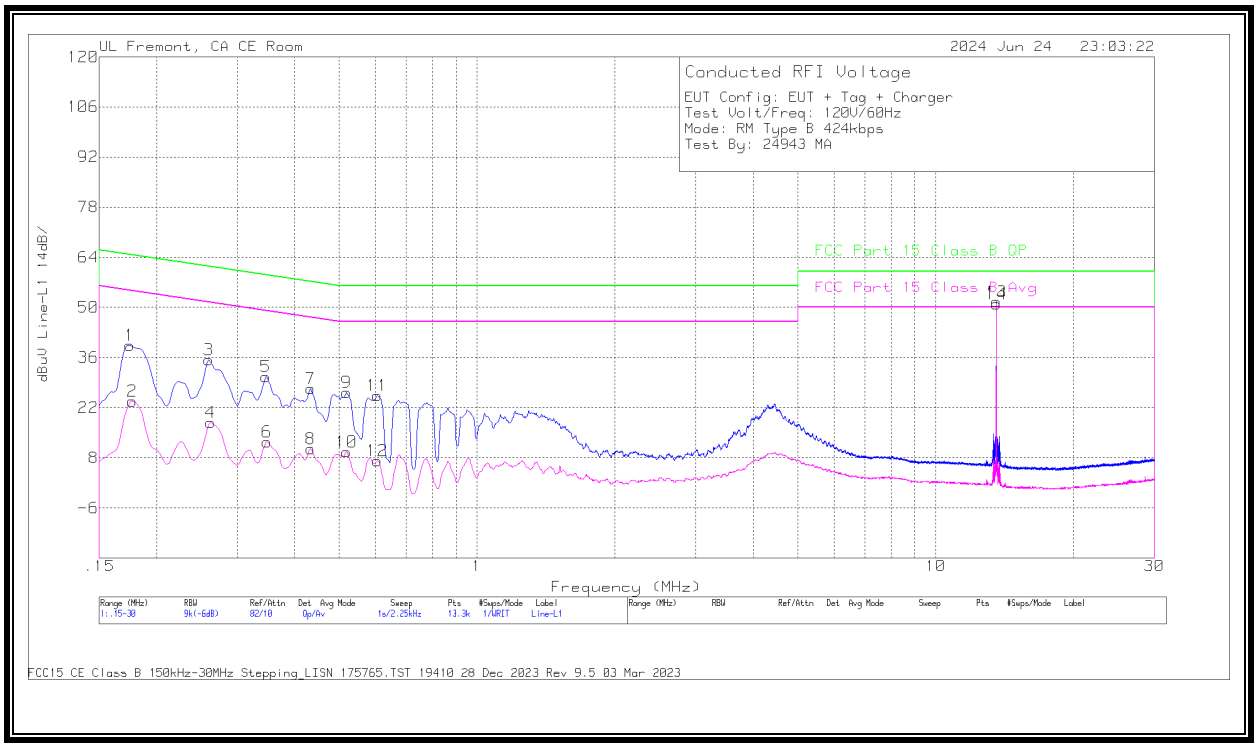
Worst Emission

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)
14	.177	15.83	Av	0	.1	9.4	25.33	-	-	54.63	-29.3
16	.2625	9.44	Av	0	0	9.4	18.84	-	-	51.35	-32.51
18	.348	3.59	Av	0	.1	9.4	13.09	-	-	49.01	-35.92
20	.4335	1.75	Av	0	0	9.3	11.05	-	-	47.19	-36.14
22	.5201	.53	Av	0	0	9.3	9.83	-	-	46	-36.17
24	.5865	-1.3	Av	0	.1	9.4	8.2	-	-	46	-37.8
13	.1725	31.25	Qp	0	0	9.5	40.75	64.84	-24.09	-	-
15	.2603	26.51	Qp	0	0	9.4	35.91	61.42	-25.51	-	-
17	.348	21.42	Qp	0	.1	9.4	30.92	59.01	-28.09	-	-
19	.4335	17.8	Qp	0	0	9.3	27.1	57.19	-30.09	-	-
21	.5213	16.51	Qp	0	0	9.3	25.81	56	-30.19	-	-
23	.6068	15.69	Qp	0	.1	9.4	25.19	56	-30.81	-	-

Qp - Quasi-Peak detector
Av - Average detection

10.1.5. TAG MODE, NORMAL OPERATION

LINE 1 RESULTS

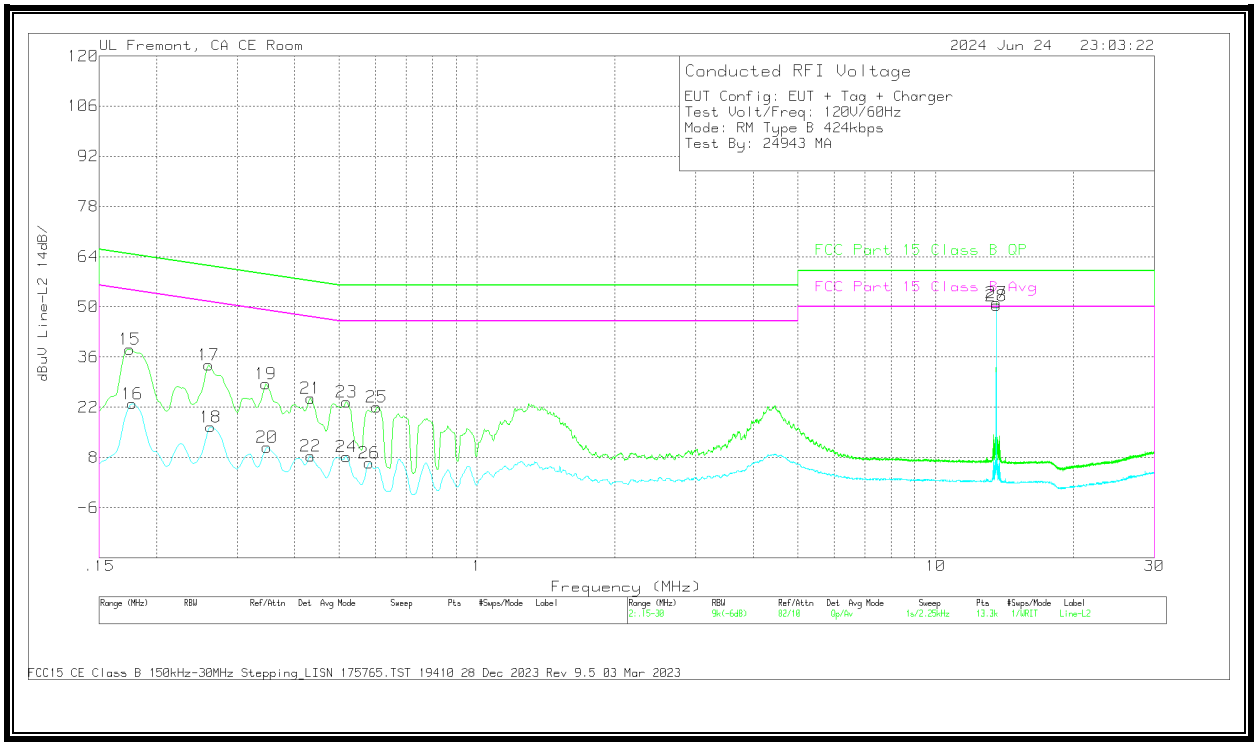


Worst Emission

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	.177	14.27	Av	.1	.1	9.4	23.87	-	-	54.63	-30.76
4	.2625	8.38	Av	0	0	9.4	17.78	-	-	51.35	-33.57
6	.348	3.05	Av	0	0	9.4	12.45	-	-	49.01	-36.56
8	.4335	1.07	Av	0	.1	9.3	10.47	-	-	47.19	-36.72
10	.519	.38	Av	0	0	9.3	9.68	-	-	46	-36.32
12	.6068	-2.24	Av	0	0	9.4	7.16	-	-	46	-38.84
14	13.56	41.06	Av	.1	.3	9.5	50.96	-	-	**50**	**.96**
1	.1748	29.87	Qp	.1	0	9.5	39.47	64.73	-25.26	-	-
3	.2603	25.91	Qp	0	0	9.4	35.31	61.42	-26.11	-	-
5	.3458	21.17	Qp	0	0	9.4	30.57	59.06	-28.49	-	-
7	.4335	17.84	Qp	0	.1	9.3	27.24	57.19	-29.95	-	-
9	.519	16.89	Qp	0	0	9.3	26.19	56	-29.81	-	-
11	.6068	15.97	Qp	0	0	9.4	25.37	56	-30.63	-	-
13	13.56	41.68	Qp	.1	.3	9.5	51.58	60	-8.42	-	-

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



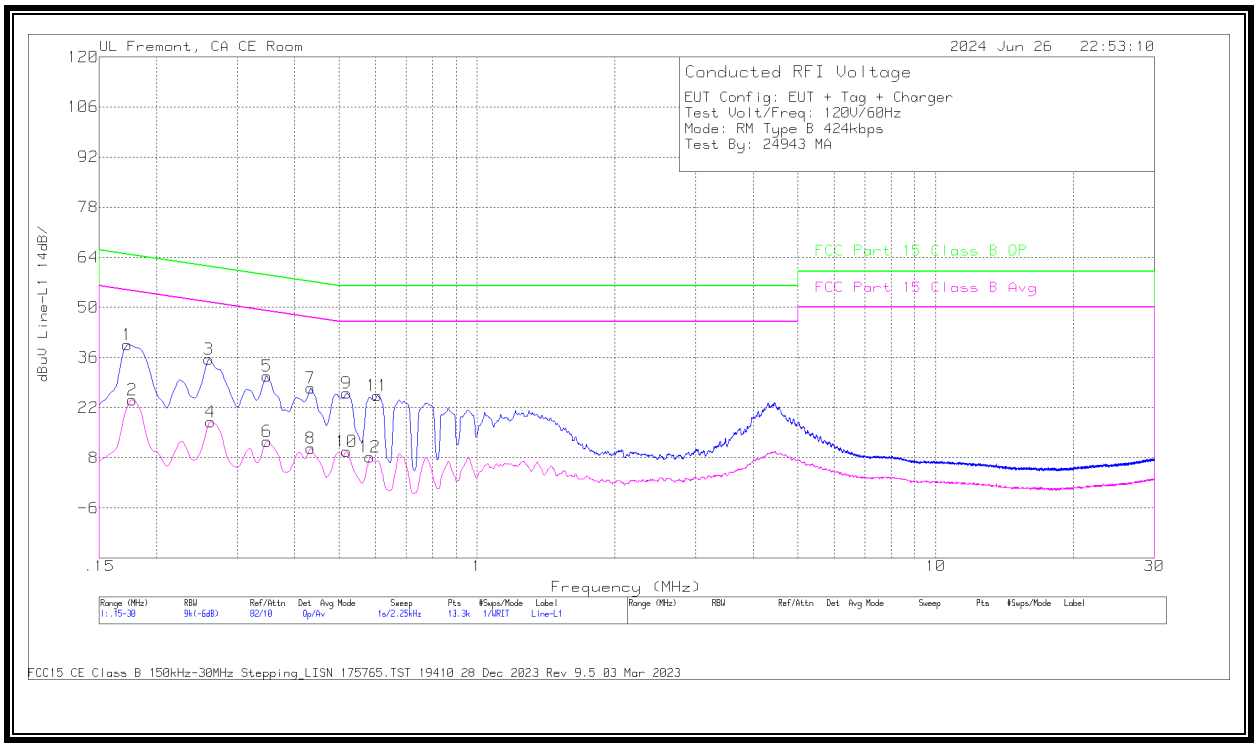
Worst Emission

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)
16	.177	13.5	Av	0	.1	9.4	23	-	-	54.63	-31.63
18	.2625	7.12	Av	0	0	9.4	16.52	-	-	51.35	-34.83
20	.348	1.3	Av	0	.1	9.4	10.8	-	-	49.01	-38.21
22	.4335	-.87	Av	0	0	9.3	8.43	-	-	47.19	-38.76
24	.519	-1.03	Av	0	0	9.3	8.27	-	-	46	-37.73
26	.582	-3	Av	0	.1	9.4	6.5	-	-	46	-39.5
28	13.56	40.55	Av	.1	.2	9.5	50.35	-	-	**50**	**.35**
15	.1748	28.71	Qp	0	0	9.5	38.21	64.73	-26.52	-	-
17	.2603	24.33	Qp	0	0	9.4	33.73	61.42	-27.69	-	-
19	.3458	18.98	Qp	0	.1	9.4	28.48	59.06	-30.58	-	-
21	.4335	15.21	Qp	0	0	9.3	24.51	57.19	-32.68	-	-
23	.519	14.18	Qp	0	0	9.3	23.48	56	-32.52	-	-
25	.6045	12.53	Qp	0	.1	9.4	22.03	56	-33.97	-	-
27	13.56	41.34	Qp	.1	.2	9.5	51.14	60	-8.86	-	-

Qp - Quasi-Peak detector
Av - Average detection

10.1.6. TAG MODE WITH ANTENNA PORT TERMINATED, 424Kbps

LINE 1 RESULTS

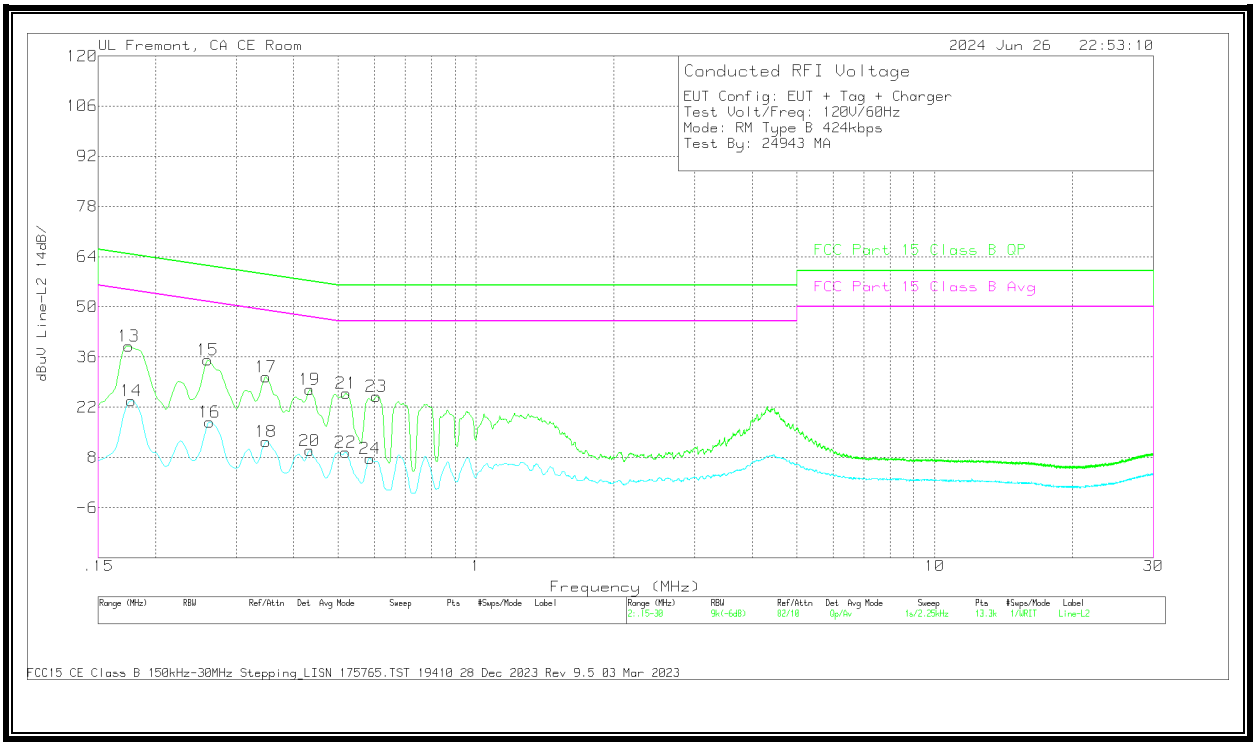


Worst Emission

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	.177	14.54	Av	.1	.1	9.4	24.14	-	-	54.63	-30.49
4	.2625	8.68	Av	0	0	9.4	18.08	-	-	51.35	-33.27
6	.348	3.12	Av	0	0	9.4	12.52	-	-	49.01	-36.49
8	.4335	1.25	Av	0	.1	9.3	10.65	-	-	47.19	-36.54
10	.519	.48	Av	0	0	9.3	9.78	-	-	46	-36.22
12	.5843	-1.26	Av	0	0	9.4	8.14	-	-	46	-37.86
1	.1725	30.04	Qp	.1	0	9.5	39.64	64.84	-25.2	-	-
3	.2603	26.18	Qp	0	0	9.4	35.58	61.42	-25.84	-	-
5	.348	21.42	Qp	0	0	9.4	30.82	59.01	-28.19	-	-
7	.4335	18.04	Qp	0	.1	9.3	27.44	57.19	-29.75	-	-
9	.519	16.81	Qp	0	0	9.3	26.11	56	-29.89	-	-
11	.6068	16	Qp	0	0	9.4	25.4	56	-30.6	-	-

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



Worst Emission

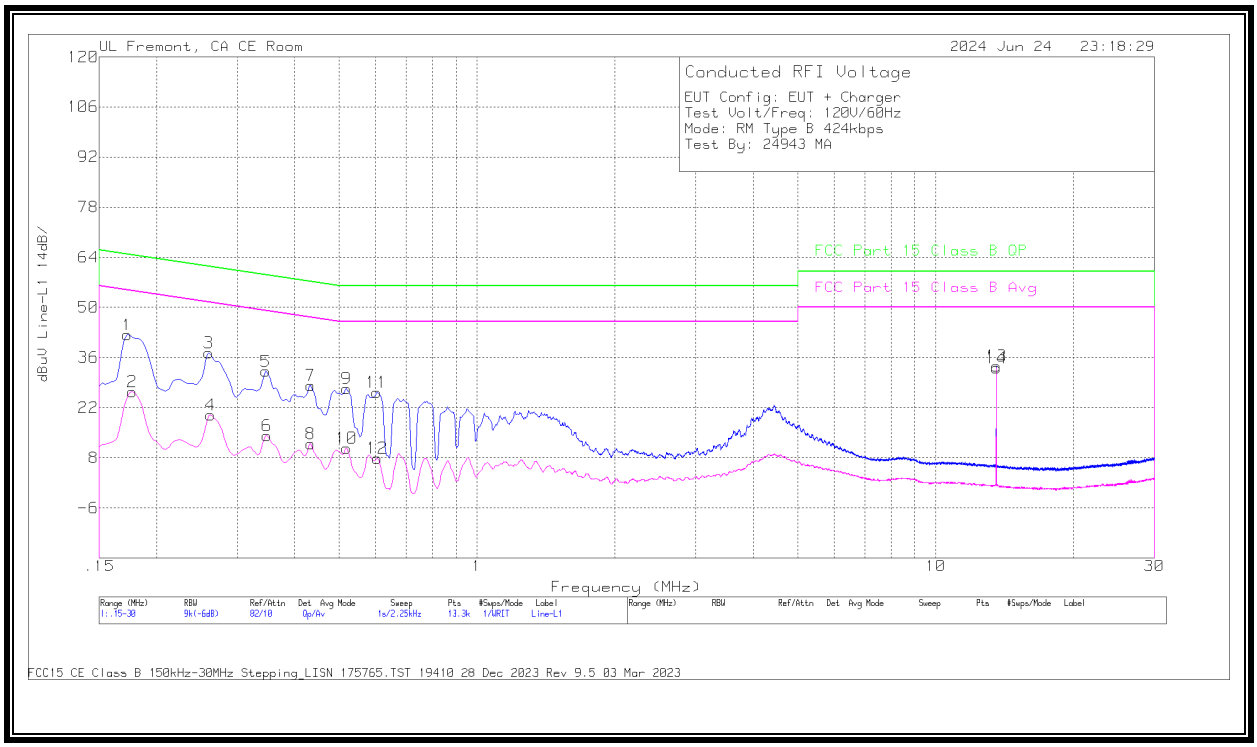
Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	Cbl (dB)	Trns Limiter (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	Av Margin (dB)
14	.177	14.34	Av	0	.1	9.4	23.84	-	-	54.63	-30.79
16	.2625	8.49	Av	0	0	9.4	17.89	-	-	51.35	-33.46
18	.348	2.89	Av	0	.1	9.4	12.39	-	-	49.01	-36.62
20	.4335	.58	Av	0	0	9.3	9.88	-	-	47.19	-37.31
22	.5201	.14	Av	0	0	9.3	9.44	-	-	46	-36.56
24	.5865	-1.79	Av	0	.1	9.4	7.71	-	-	46	-38.29
13	.1748	29.6	Qp	0	0	9.5	39.1	64.73	-25.63	-	-
15	.2603	25.84	Qp	0	0	9.4	35.24	61.42	-26.18	-	-
17	.348	21.01	Qp	0	.1	9.4	30.51	59.01	-28.5	-	-
19	.4335	17.62	Qp	0	0	9.3	26.92	57.19	-30.27	-	-
21	.5213	16.66	Qp	0	0	9.3	25.96	56	-30.04	-	-
23	.6068	15.57	Qp	0	.1	9.4	25.07	56	-30.93	-	-

Qp - Quasi-Peak detector
Av - Average detection

10.2. SECONDARY ANTENNA

10.2.1. READER MODE, NORMAL OPERATION

LINE 1 RESULTS

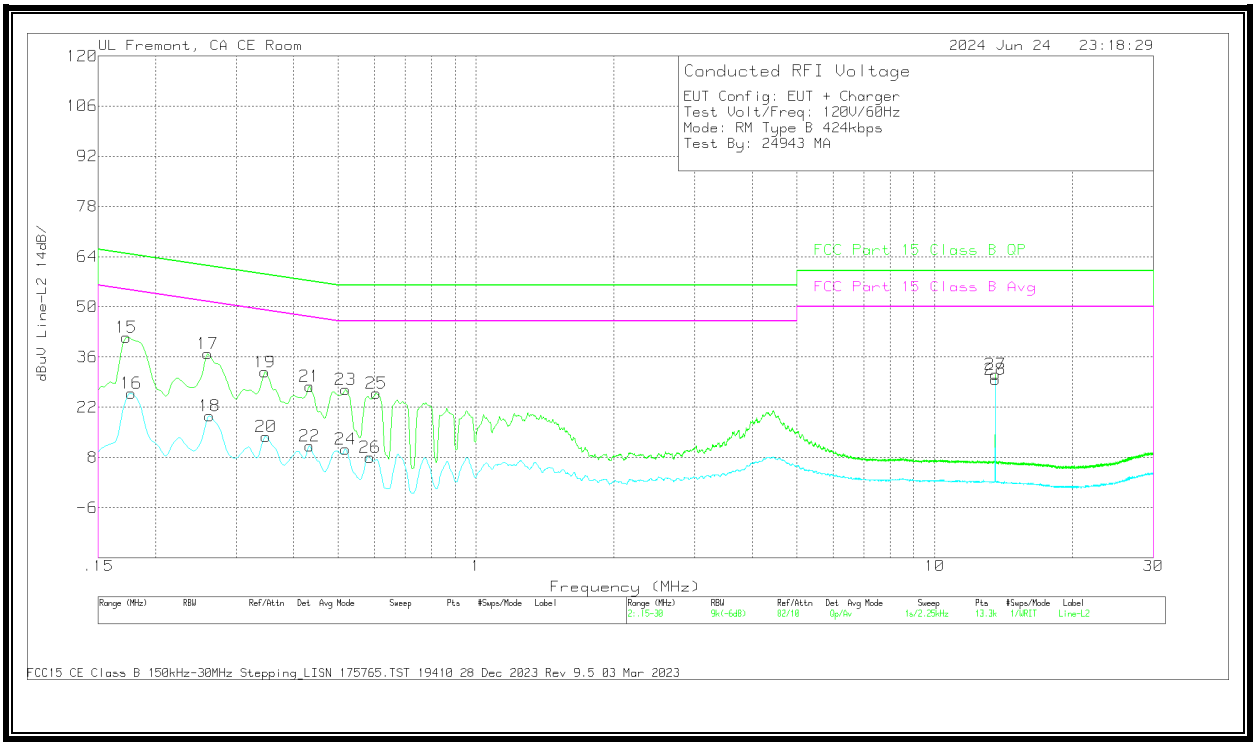


Worst Emission

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	.177	16.89	Av	.1	.1	9.4	26.49	-	-	54.63	-28.14
4	.2625	10.6	Av	0	0	9.4	20	-	-	51.35	-31.35
6	.348	4.79	Av	0	0	9.4	14.19	-	-	49.01	-34.82
8	.4335	2.48	Av	0	.1	9.3	11.88	-	-	47.19	-35.31
10	.519	1.31	Av	0	0	9.3	10.61	-	-	46	-35.39
12	.6056	-1.6	Av	0	0	9.4	7.8	-	-	46	-38.2
14	13.56	23.18	Av	.1	.3	9.5	33.08	-	-	50	-16.92
1	.1725	32.69	Qp	.1	0	9.5	42.29	64.84	-22.55	-	-
3	.2603	27.96	Qp	0	0	9.4	37.36	61.42	-24.06	-	-
5	.3458	22.72	Qp	0	0	9.4	32.12	59.06	-26.94	-	-
7	.4335	18.85	Qp	0	.1	9.3	28.25	57.19	-28.94	-	-
9	.519	18.07	Qp	0	0	9.3	27.37	56	-28.63	-	-
11	.6045	16.9	Qp	0	0	9.4	26.3	56	-29.7	-	-
13	13.56	23.71	Qp	.1	.3	9.5	33.61	60	-26.39	-	-

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



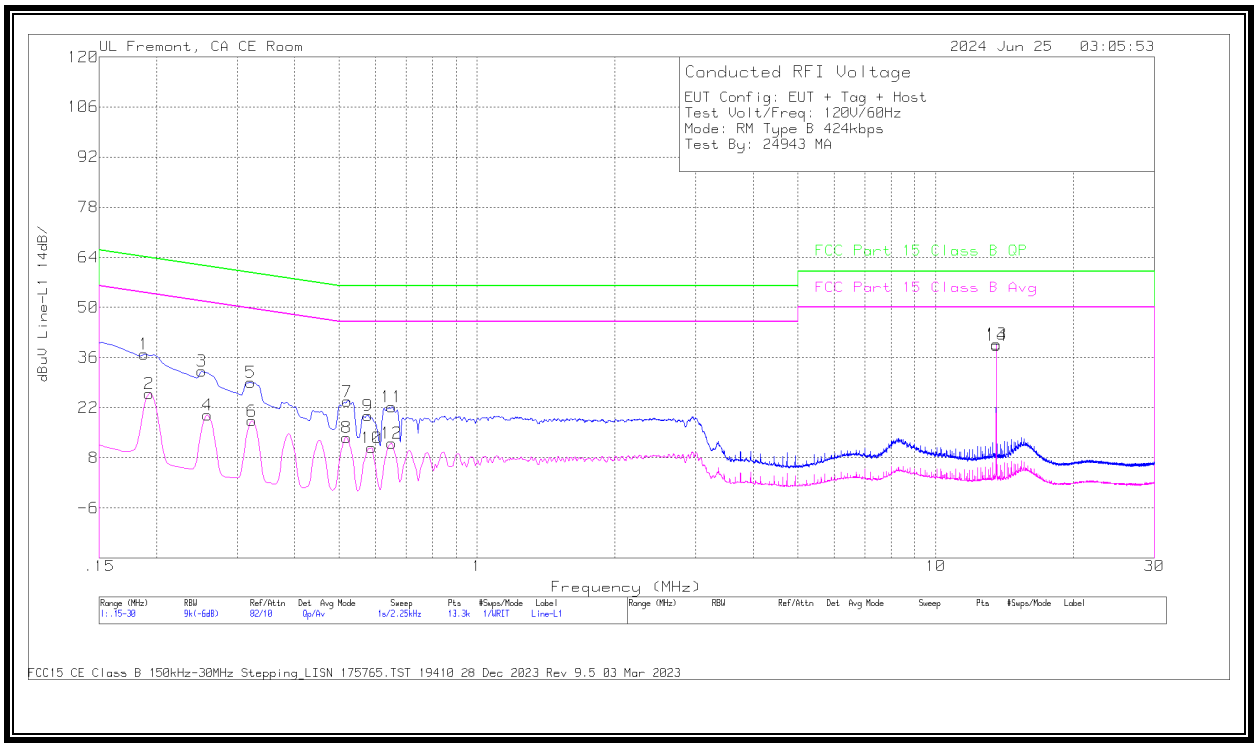
Worst Emission

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)
16	.177	16.37	Av	0	.1	9.4	25.87	-	-	54.63	-28.76
18	.2625	10.13	Av	0	0	9.4	19.53	-	-	51.35	-31.82
20	.348	4.3	Av	0	.1	9.4	13.8	-	-	49.01	-35.21
22	.4335	1.91	Av	0	0	9.3	11.21	-	-	47.19	-35.98
24	.519	1	Av	0	0	9.3	10.3	-	-	46	-35.7
26	.5865	-1.42	Av	0	.1	9.4	8.08	-	-	46	-37.92
28	13.56	19.9	Av	.1	.2	9.5	29.7	-	-	50	-20.3
15	.1725	32.04	Qp	0	0	9.5	41.54	64.84	-23.3	-	-
17	.2603	27.48	Qp	0	0	9.4	36.88	61.42	-24.54	-	-
19	.3458	22.29	Qp	0	.1	9.4	31.79	59.06	-27.27	-	-
21	.4335	18.6	Qp	0	0	9.3	27.9	57.19	-29.29	-	-
23	.519	17.6	Qp	0	0	9.3	26.9	56	-29.1	-	-
25	.6068	16.37	Qp	0	.1	9.4	25.87	56	-30.13	-	-
27	13.56	21.4	Qp	.1	.2	9.5	31.2	60	-28.8	-	-

Qp - Quasi-Peak detector
Av - Average detection

10.2.2. TAG MODE NORMAL OPERATION

LINE 1 RESULTS

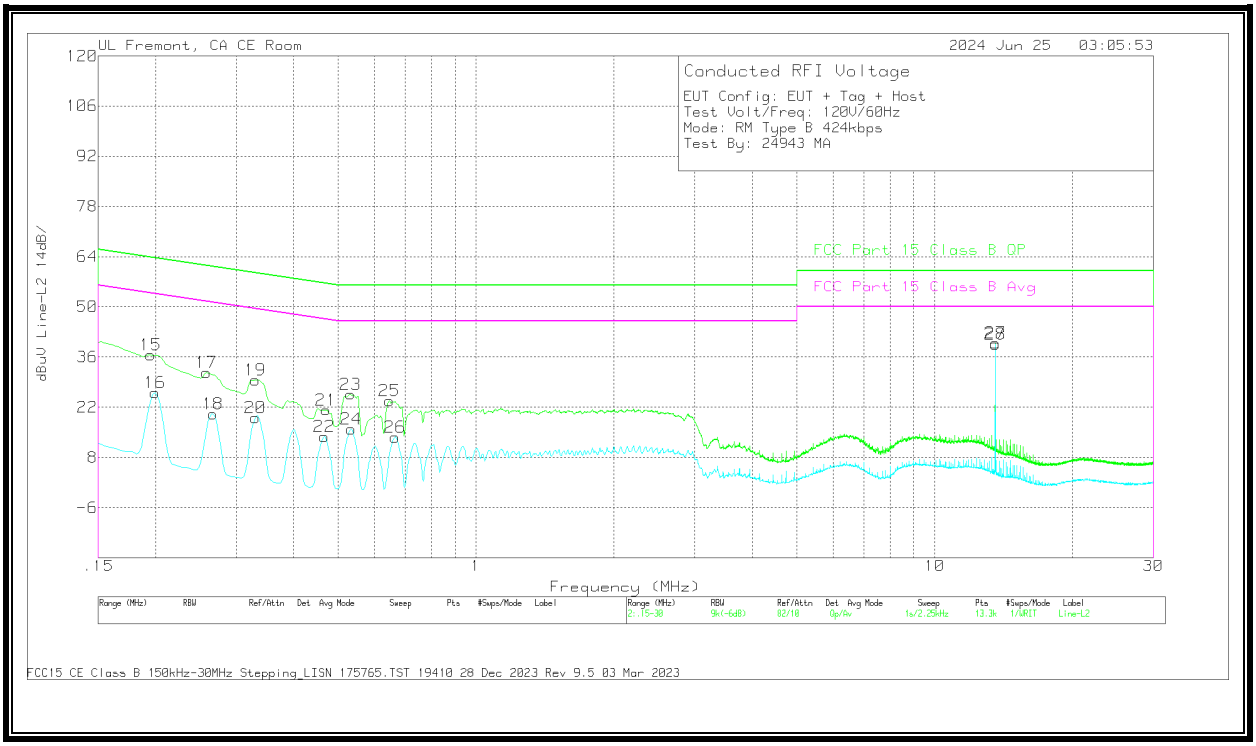


Worst Emission

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	.1928	16.35	Av	.1	.1	9.4	25.95	-	-	53.92	-27.97
4	.258	10.52	Av	0	0	9.4	19.92	-	-	51.5	-31.58
6	.3233	8.78	Av	0	.1	9.4	18.28	-	-	49.62	-31.34
8	.519	4.32	Av	0	0	9.3	13.62	-	-	46	-32.38
10	.5888	1.36	Av	0	0	9.4	10.76	-	-	46	-35.24
12	.6506	2.51	Av	0	.1	9.4	12.01	-	-	46	-33.99
14	13.56	29.52	Av	.1	.3	9.5	39.42	-	-	50	-10.58
1	.1883	27.4	Qp	.1	.1	9.4	37	64.11	-27.11	-	-
3	.2513	22.79	Qp	0	0	9.4	32.19	61.72	-29.53	-	-
5	.321	19.57	Qp	0	.1	9.4	29.07	59.68	-30.61	-	-
7	.5213	14.41	Qp	0	0	9.3	23.71	56	-32.29	-	-
9	.5775	10.39	Qp	0	0	9.4	19.79	56	-36.21	-	-
11	.6518	12.71	Qp	0	.1	9.4	22.21	56	-33.79	-	-
13	13.56	29.83	Qp	.1	.3	9.5	39.73	60	-20.27	-	-

Qp - Quasi-Peak detector
Av - Average detection

LINE 2 RESULTS



Worst Emission

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)
16	.1995	16.52	Av	0	.1	9.4	26.02	-	-	53.63	-27.61
18	.267	10.75	Av	0	0	9.4	20.15	-	-	51.21	-31.06
20	.33	9.53	Av	0	.1	9.4	19.03	-	-	49.45	-30.42
22	.4673	4.52	Av	0	0	9.3	13.82	-	-	46.56	-32.74
24	.5348	6.56	Av	0	0	9.3	15.86	-	-	46	-30.14
26	.6653	4.17	Av	0	.1	9.4	13.67	-	-	46	-32.33
28	13.56	29.82	Av	.1	.2	9.5	39.62	-	-	50	-10.38
15	.195	27.08	Qp	0	.1	9.4	36.58	63.82	-27.24	-	-
17	.258	22.24	Qp	0	0	9.4	31.64	61.5	-29.86	-	-
19	.33	20.08	Qp	0	.1	9.4	29.58	59.45	-29.87	-	-
21	.4718	11.95	Qp	0	0	9.3	21.25	56.48	-35.23	-	-
23	.5325	16.33	Qp	0	0	9.3	25.63	56	-30.37	-	-
25	.6473	14.36	Qp	0	.1	9.4	23.86	56	-32.14	-	-
27	13.56	30.14	Qp	.1	.2	9.5	39.94	60	-20.06	-	-

Qp - Quasi-Peak detector
Av - Average detection

11. SETUP PHOTOS

Please refer to 14982436-EP1V1 for setup photos.

END OF TEST REPORT