

TEST REPORT

Report Number: 15941282-E9V2

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

Model : A3575 (Parent)
A3634, A3635 (Variants)

Brand : APPLE

FCC ID : BCG-E9145A (Parent)
BCG-E9147A, BCG-E9148A (Variants)

IC : 579C-E9145A (Parent)
579C-E9147A, 579C-E9148A (Variants)

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:
2025-12-19

Prepared by:
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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2025-12-11	Initial Issue	---
V2	2025-12-19	Addressed TCB Comments in Appendix A	Benjamin D.

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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.
Model	A3575 (Parent) A3634, A3635 (Variants)
Brand	APPLE
FCC ID	BCG-E9145A (Parent) BCG-E9147A, BCG-E9148A (Variants)
IC	579C- E9145A (Parent) 579C-E9147A, 579C-E9148A (Variants)
EUT Description	SMARTPHONE
Serial Number	FK4KVKD7K2, Y79WQ0FRJ9
Sample Receipt Date	2025-09-10
Date Tested	2025-09-10 TO 2025-11-19
Applicable Standards	FCC 47 CFR PART 15 SUBPART C ISED RSS-210 Issue 11, Annex B ISED RSS-GEN Issue 5 + A1 + A2
Test Results	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.	
Approved & Released By: 	Prepared By: 
Thu Chan Staff Engineer UL Verification Services Inc.	Benjamin Dobbins Senior Test Engineer UL Verification Services Inc.

2. TEST SUMMARY

FCC Clause	ISED Clause	Requirement	Result	Comment
15.215 (c), 2.1049	RSS-GEN 6.7	20dB BW/99% OBW	Reporting purposes only	ANSI C63.10 Sections 6.9.2 and 6.9.3
15.225 (a) (b) (c)	RSS-210 Annex B.6 (a) (i, ii, iii)	Field strength of fundamental emissions	Complies	None
15.225 (d), 15.209	RSS-210 Annex B.6 (a) (iv) RSS-GEN 8.9	Radiated Spurious Emissions	Complies	None
15.225 (e)	RSS-210 Annex B.6 (b)	Frequemcy Stability	Complies	None
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	Complies	None

3. TEST METHODOLOGY

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

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15C
- KDB 414788 D01 Radiated Test Site
- KDB 484596 D01 Referencing Test Data
- RSS-GEN Issue 5 + A1 + A2
- RSS-210 Issue 11
- ANSI C63.10-2020 (FCC)
- ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+ Errata to C63.10a-2024 (ISED)

4. 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			

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. 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.

5.2. 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.).

5.3. 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 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%.

5.4. 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

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with GSM, GPRS, EGPRS, WCDMA, LTE, 5G NR1, 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.

6.2. 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 F	Reader	26.37
			CE	26.36
			Tag	26.32
Secondary	13.56	Type F	Reader	4.54
			Tag	3.69

6.3. SOFTWARE AND FIRMWARE

The Software and Firmware version used at test is LuckD23D90.

6.4. 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 two configurations: 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, 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 F 424kbp/s Reader mode was determined to be the worst case and therefore Type F 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.

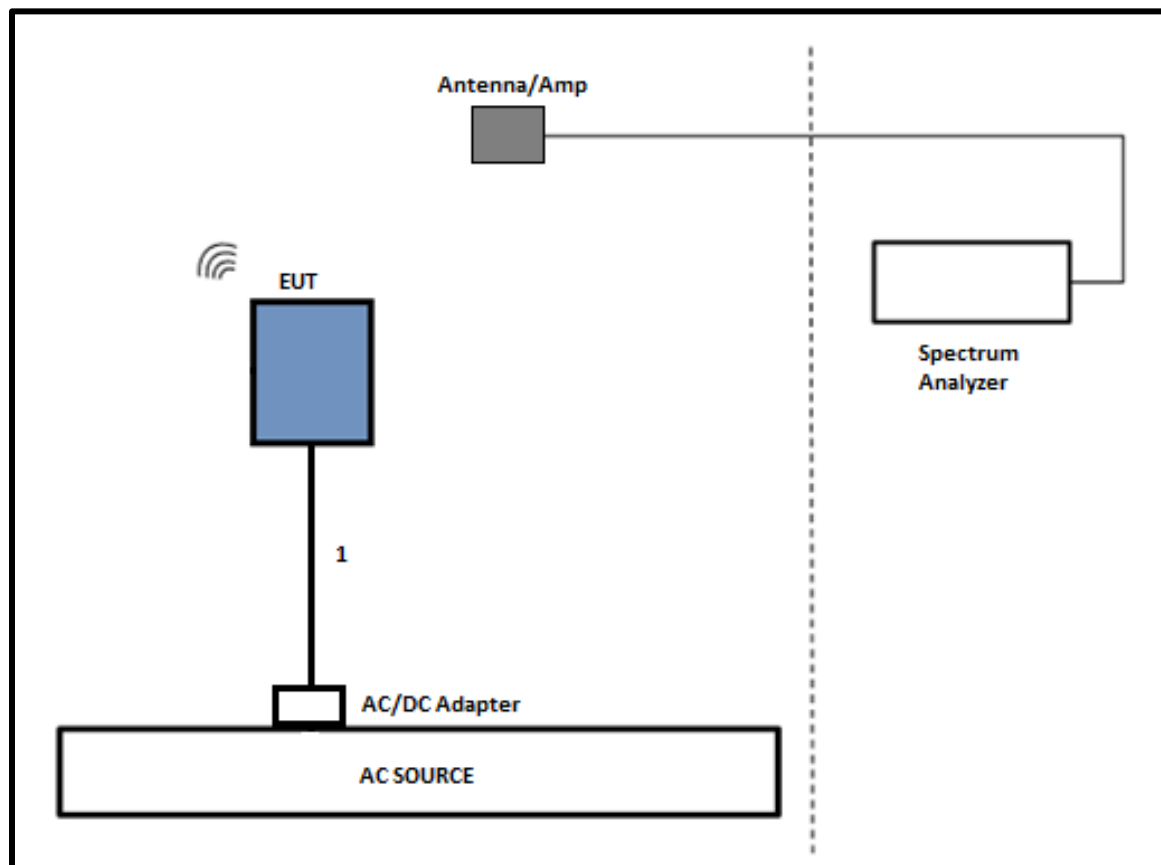
6.5. DESCRIPTION OF TEST SETUP

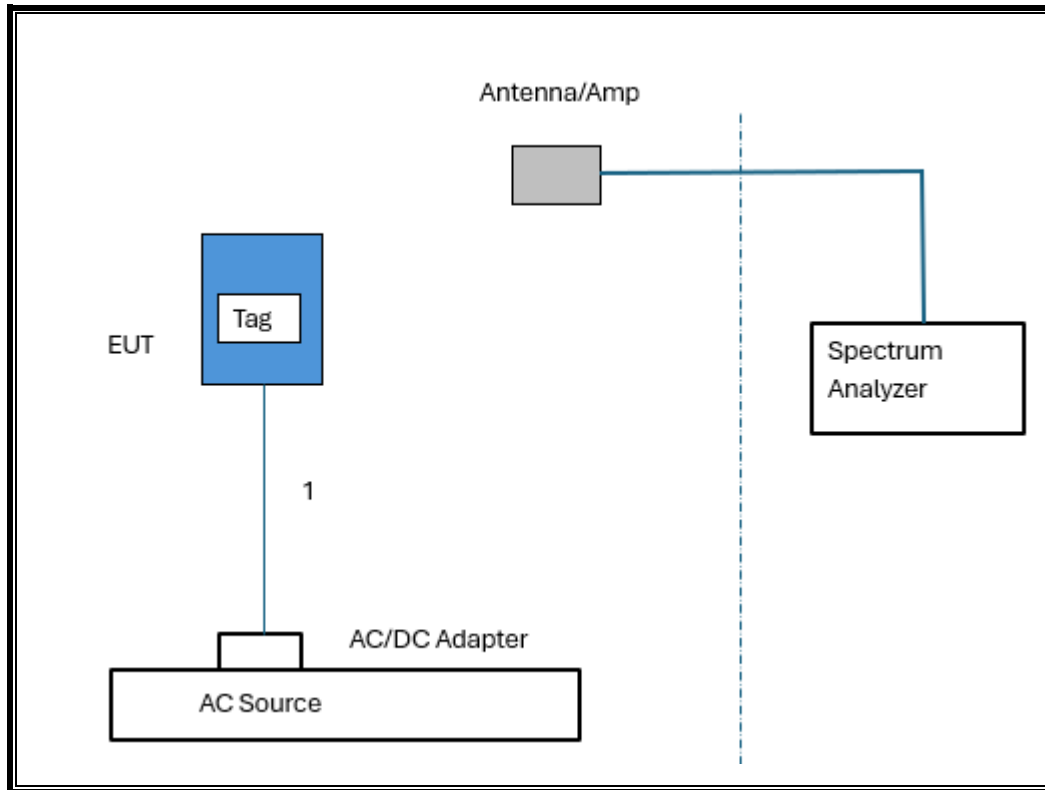
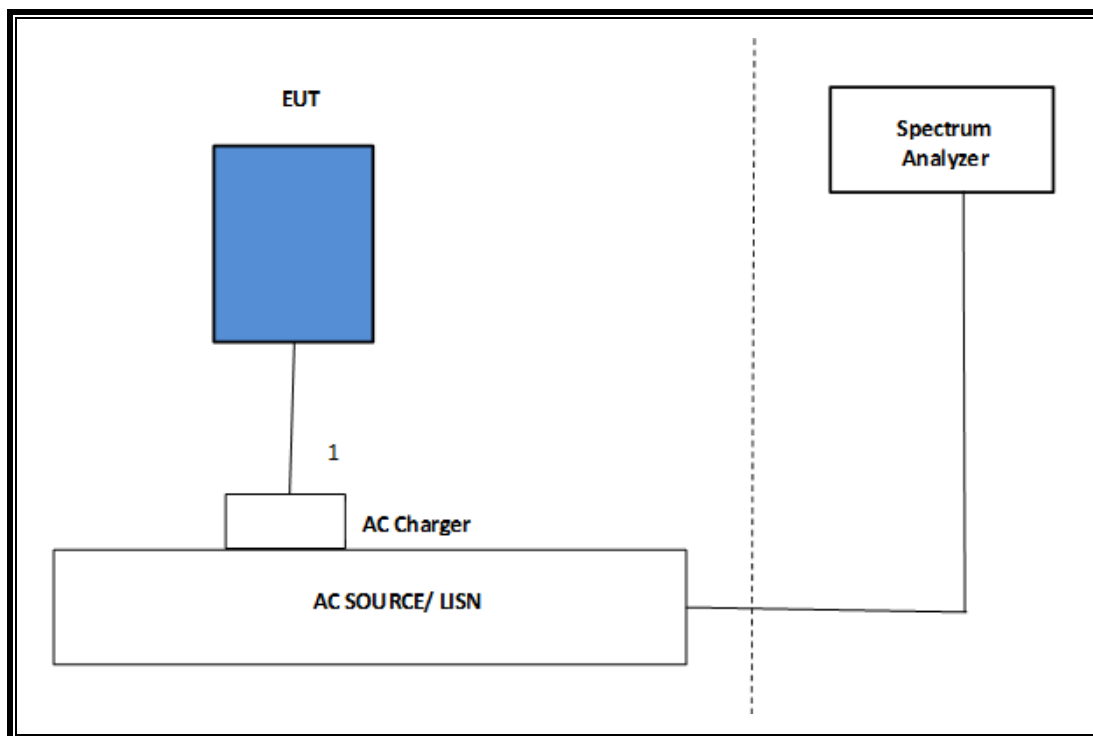
SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
Laptop		Apple	Macbook Air	C2QLN093FKYR		FCC DoC
Laptop AC/DC adapter		Apple	Magsafe 2	A1436		NA
EUT AC/DC Adapter		Apple	A2305	D292365CDYADHLHC3		NA
I/O CABLES (RADIATED EMISSIONS/ AC LINE CONDUCTED)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC	1	USB-Type C	Shielded	1	-

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



SETUP DIAGRAM FOR RADIATED TESTS (EUT with Tag Mode)**SETUP DIAGRAM FOR LINE CONDUCTED TESTS**

7. TEST AND MEASUREMENT EQUIPMENT

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

RADIATED EMISSIONS TEST EQUIPMENT LIST				
Description	Manufacturer	Model	ID Num	Cal Due
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	E4440A	222074	2026-01-31
Antenna, Passive Loop 30Hz to 1MHz	Electro-Metrics	EM-6871	29637	2026-09-30
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	29640	2026-09-30
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	212011	2026-02-28
Antenna, BroadBand Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	202301	2027-02-28
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	235266	2026-02-28
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	82472	2026-03-31
Near Field Probes	Electro Metrics	EM-6992	N/A	N/A
AC MAINS LINE CONDUCTED EMISSIONS TEST EQUIPMENT LIST				
Description	Manufacturer	Model	ID Num	Cal Due
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	17646	2026-02-28
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175765	2026-01-31
Transient Limiter	TE	TBFL1	207996	2026-09-30
UL AUTOMATION SOFTWARE				
Radiated Software	UL	UL EMC	Ver 9.5, Mar 6, 2020	
Conducted Software	UL	UL EMC	2020.2.26	
AC Line Conducted Software	UL	UL EMC	Ver 9.5, February 21, 2020	

Note: For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

8. OCCUPIED BANDWIDTH

LIMITS

None; for reporting purposes only.

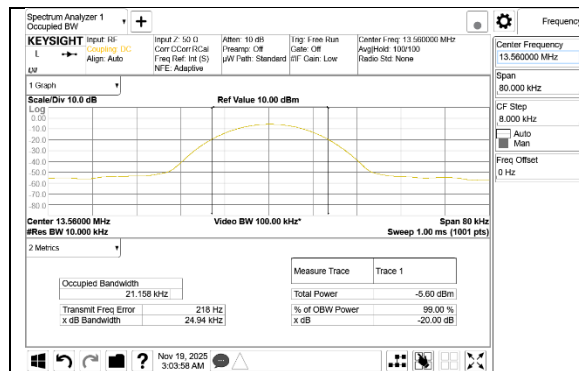
TEST PROCEDURE

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.

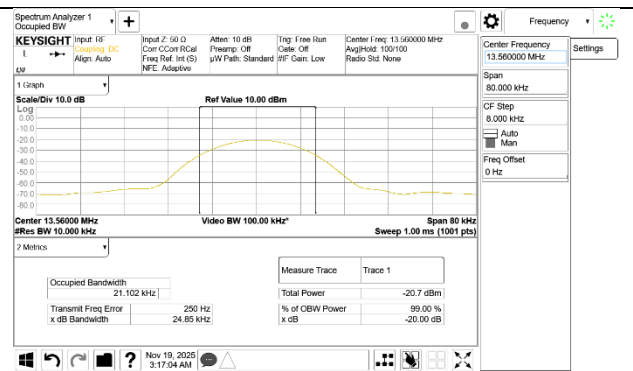
Note: Because the measured signal is CW or CW-like adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW

RESULTS

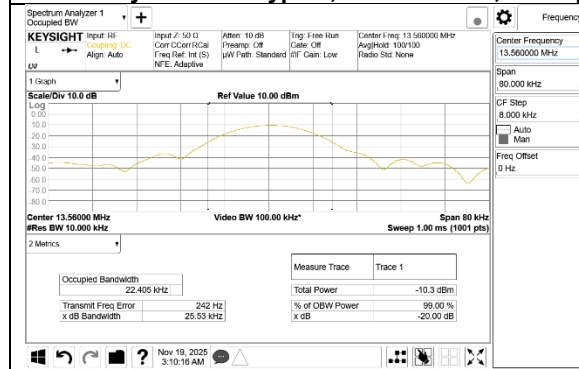
Antenna	Type	Mode	kbps	Frequency (MHz)	99% Bandwidth (kHz)	20dB Bandwidth (kHz)
Primary	F	Reader	424	13.56	21.158	24.94
		CE	424	13.56	22.405	25.53
		Tag	424	13.56	21.120	24.90
Secondary	F	Reader	424	13.56	21.102	24.85
		Tag	424	13.56	21.134	24.90



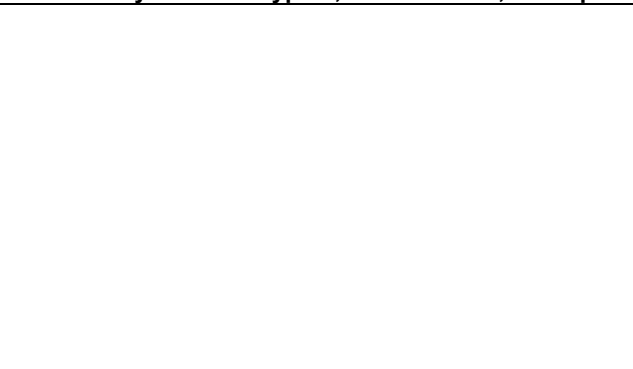
Primary Antenna Type F, Reader Mode, 424kbps



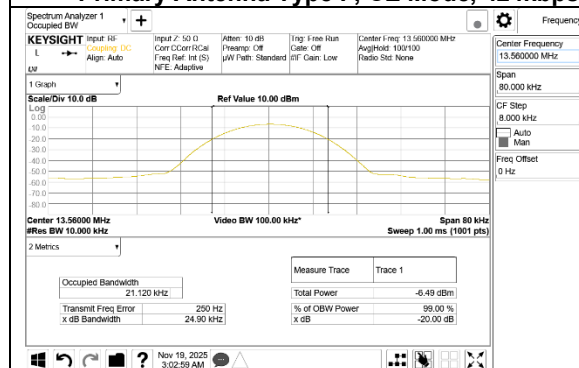
Secondary Antenna Type F, Reader Mode, 424kbps



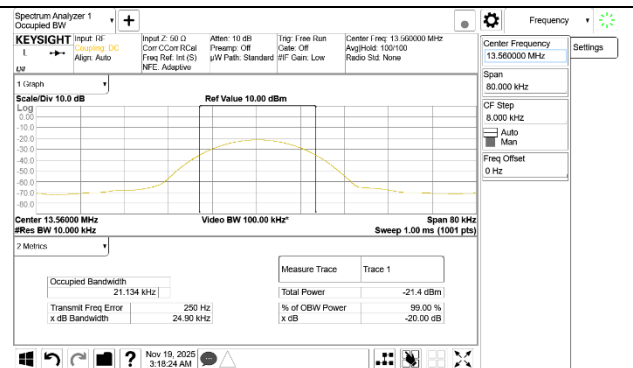
Primary Antenna Type F, CE Mode, 424kbps



Secondary Antenna Type F, Tag Mode, 424kbps



Primary Antenna Type F, Tag Mode, 424kbps



9. 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 field 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

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.

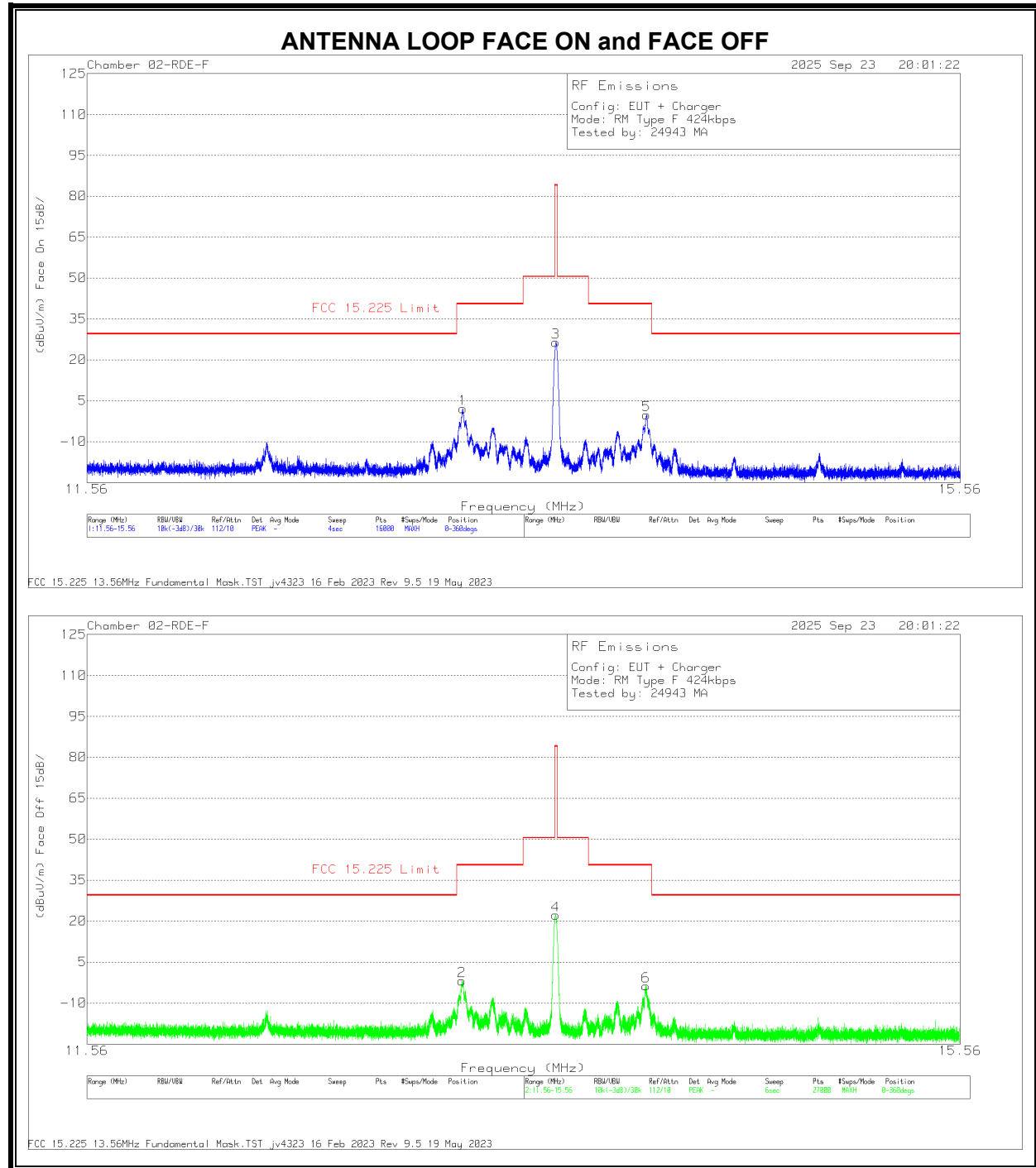
RESULTS

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.

9.1. PRIMARY ANTENNA FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 - 30 MHz)

9.1.1. READER MODE, TYPE F, 424 kbps

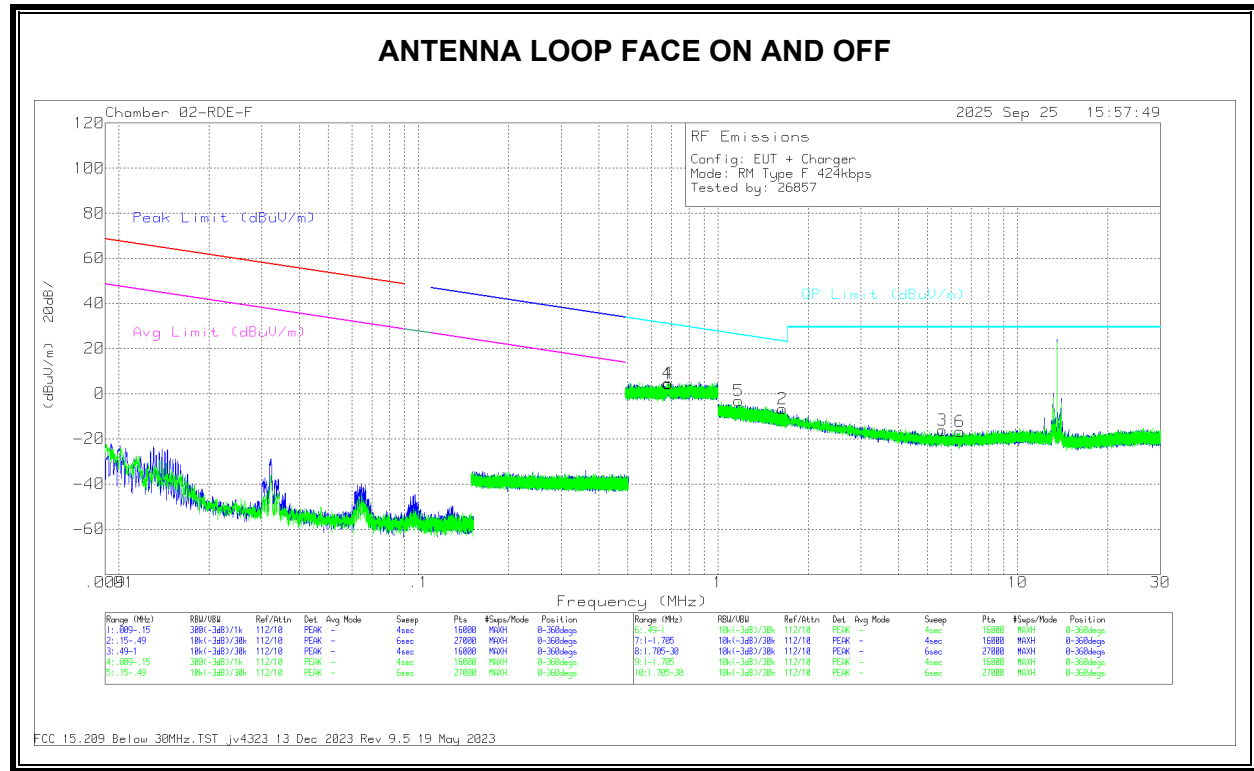
FUNDAMENTAL



Trace Markers

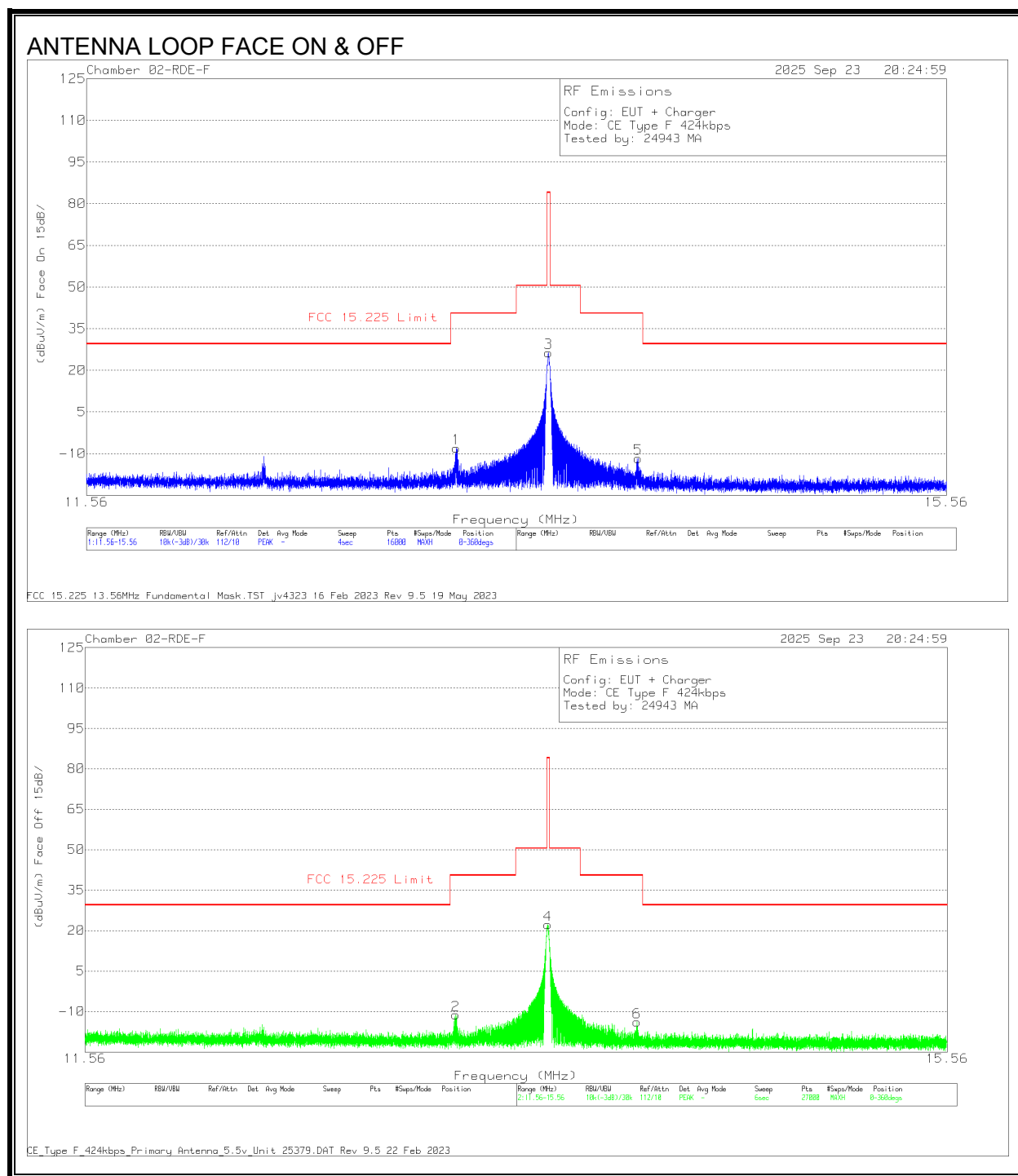
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E (dB/m)	CBL/AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Face
2	13.1331	36.27	Pk	33.9	-32	-40	-1.83	40.51	-42.34	0-360	Off
1	13.1365	40.29	Pk	33.9	-32	-40	2.19	40.51	-38.32	0-360	On
4	13.5583	60.36	Pk	33.9	-32.1	-40	22.16	84	-61.84	0-360	Off
3	13.5595	64.57	Pk	33.9	-32.1	-40	26.37	84	-57.63	0-360	On
6	13.9822	34.51	Pk	33.8	-32	-40	-3.69	40.51	-44.2	0-360	Off
5	13.983	38.03	Pk	33.8	-32	-40	-.17	40.51	-40.68	0-360	On

Pk - Peak detector

SPURIOUS EMISSION**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E (dB/m)	CBL/AMP (dB)	Dist Corr 30m (dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Face
1	.6825	20.61	Pk	56.4	-32.5	-40	4.51	30.93	-26.42	0-360	On
2	1.6417	22.52	Pk	43.2	-32.3	-40	-6.58	23.33	-29.91	0-360	On
3	5.6078	20.82	Pk	35	-31.9	-40	-16.08	29.5	-45.58	0-360	On
4	.6808	20.9	Pk	56.4	-32.5	-40	4.8	30.95	-26.15	0-360	Off
5	1.1698	23.73	Pk	45.7	-32.5	-40	-3.07	26.26	-29.33	0-360	Off
6	6.4304	20.98	Pk	34.7	-32.3	-40	-16.62	29.5	-46.12	0-360	Off

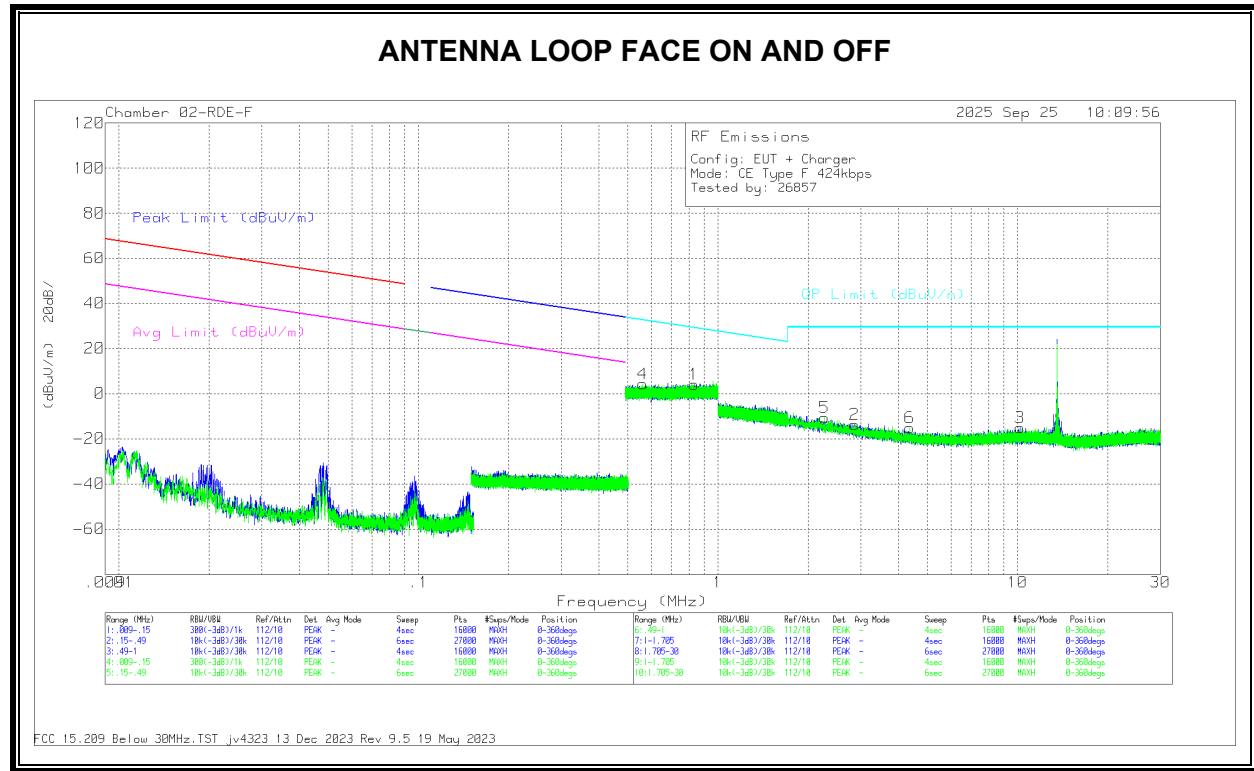
Pk - Peak detector

9.1.2. CE MODE, TYPE F, 424 kbps**FUNDAMENTAL**

Trace Markers

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)
1	13.1348	30.07	Pk	33.9	-32	-40	-8.03	40.51	-48.54	0-360
2	13.134	27	Pk	33.9	-32	-40	-11.1	40.51	-51.61	0-360
3	13.56	64.56	Pk	33.9	-32.1	-40	26.36	84	-57.64	0-360
4	13.5583	60.5	Pk	33.9	-32.1	-40	22.3	84	-61.7	0-360
5	13.987	26.49	Pk	33.8	-32	-40	-11.71	40.51	-52.22	0-360
6	13.9826	24.44	Pk	33.8	-32	-40	-13.76	40.51	-54.27	0-360

Pk - Peak detector

SPURIOUS EMISSION**Trace Markers**

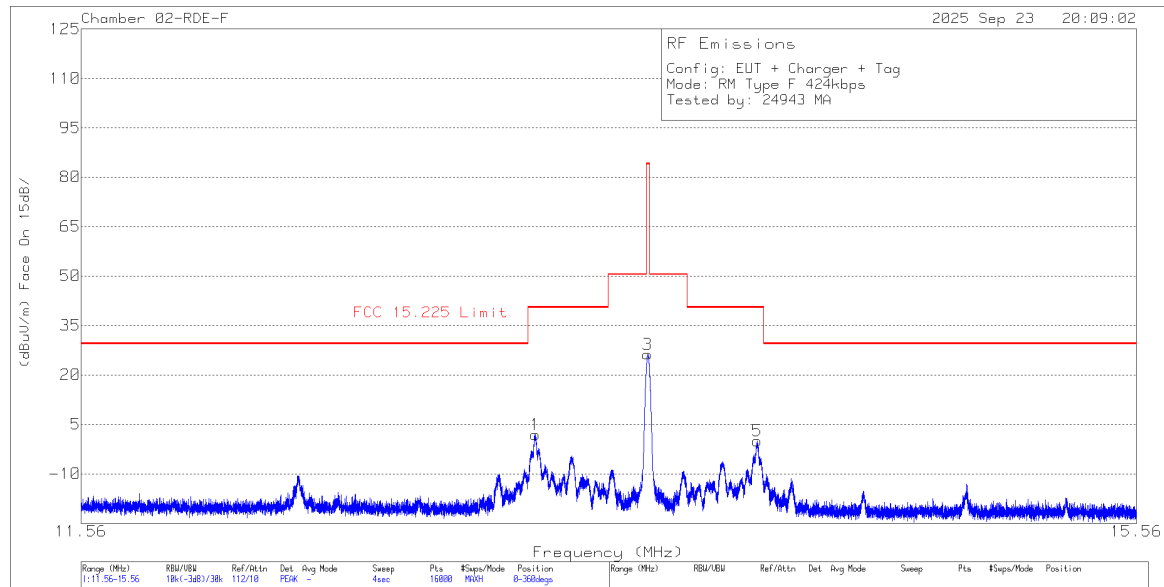
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E (dB/m)	CBL/AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Face
1	.8326	20.03	Pk	56.5	-32.4	-40	4.13	29.21	-25.08	0-360	On
2	2.8568	19.57	Pk	38.9	-32.2	-40	-13.73	29.5	-43.23	0-360	On
3	10.1718	22.62	Pk	34.3	-32	-40	-15.08	29.5	-44.58	0-360	On
4	.5609	20.2	Pk	56.4	-32.3	-40	4.3	32.63	-28.33	0-360	Off
5	2.2709	21.23	Pk	40.6	-32.3	-40	-10.47	29.5	-39.97	0-360	Off
6	4.3743	20.95	Pk	36.2	-32.1	-40	-14.95	29.5	-44.45	0-360	Off

Pk - Peak detector

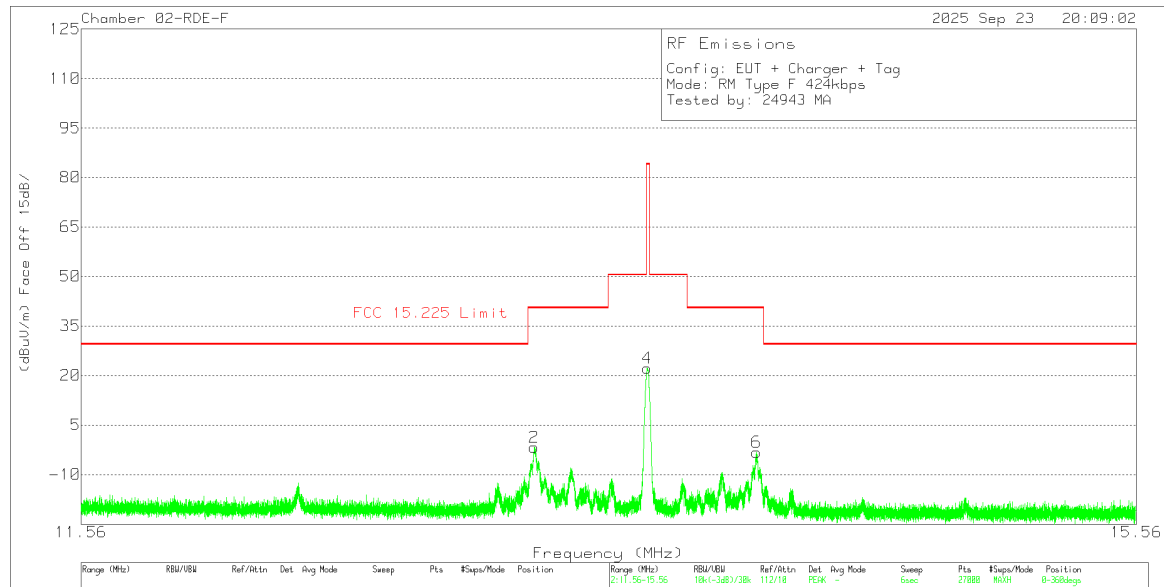
9.1.3. TAG MODE, TYPE F, 424 kbps

FUNDAMENTAL

ANTENNA LOOP FACE ON AND OFF



FCC 15.225 13.56MHz Fundamental Mask.TST_jv4323 16 Feb 2023 Rev 9.5 19 May 2023

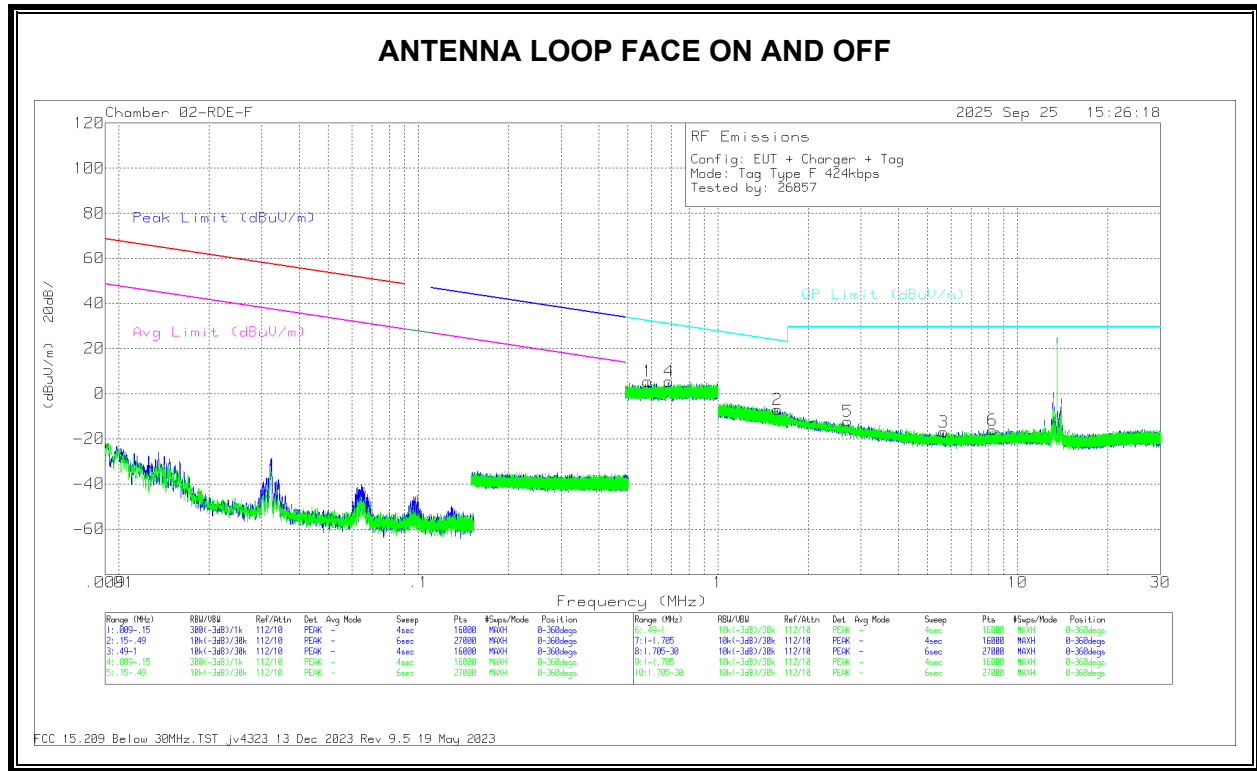


FCC 15.225 13.56MHz Fundamental Mask.TST_jv4323 16 Feb 2023 Rev 9.5 19 May 2023

Trace Markers

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)	Face
2	13.1331	36.34	Pk	33.9	-32	-40	-1.76	40.51	-42.27	0-360	Off
1	13.1365	40.09	Pk	33.9	-32	-40	1.99	40.51	-38.52	0-360	On
4	13.5577	60.45	Pk	33.9	-32.1	-40	22.25	84	-61.75	0-360	Off
3	13.5595	64.52	Pk	33.9	-32.1	-40	26.32	84	-57.68	0-360	On
6	13.9814	35.01	Pk	33.8	-32	-40	-3.19	40.51	-43.7	0-360	Off
5	13.9848	38.28	Pk	33.8	-32	-40	.08	40.51	-40.43	0-360	On

Pk - Peak detector

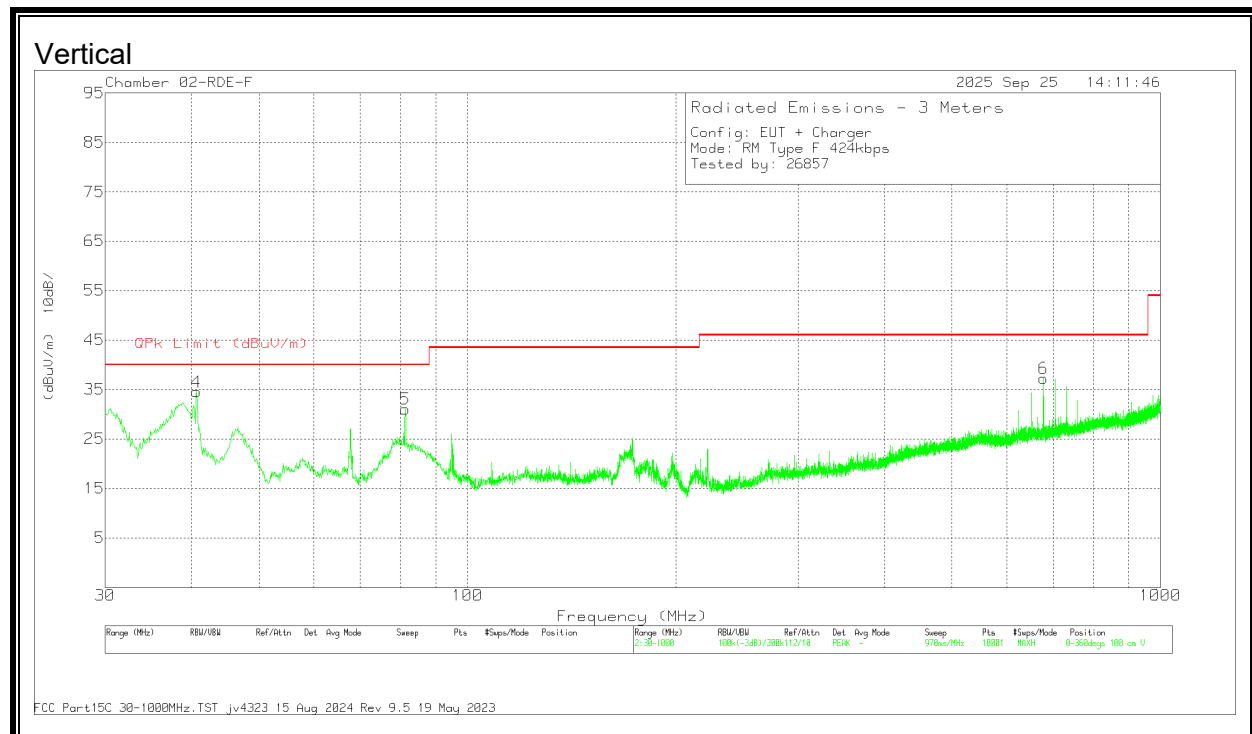
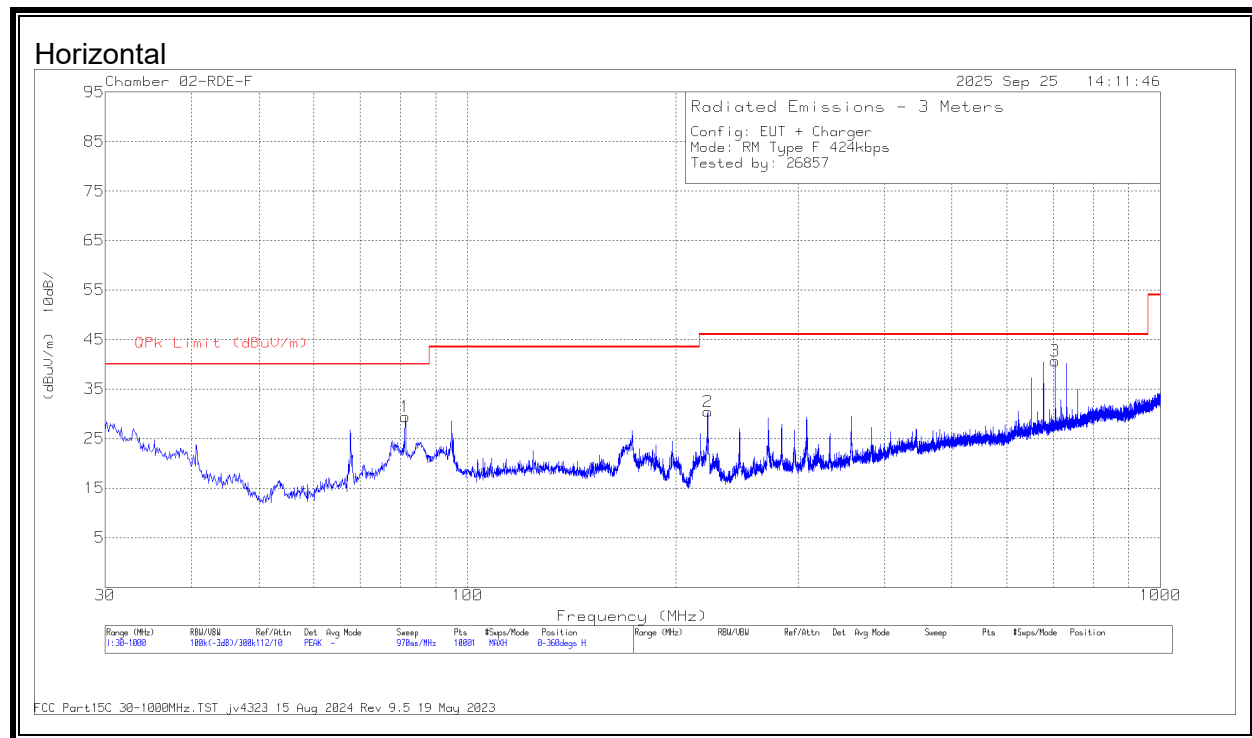
SPURIOUS EMISSION**Trace Markers**

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)	Face
1	.584	21.37	Pk	56.4	-32.3	-40	5.47	32.28	-26.81	0-360	On
2	1.5798	22.07	Pk	43.5	-32.5	-40	-6.93	23.66	-30.59	0-360	On
3	5.6612	20.24	Pk	35	-32.1	-40	-16.86	29.5	-46.36	0-360	On
4	.6875	21.67	Pk	56.4	-32.5	-40	5.57	30.87	-25.3	0-360	Off
5	2.7079	20.67	Pk	39.4	-32.2	-40	-12.13	29.5	-41.63	0-360	Off
6	8.2602	21.98	Pk	34.2	-32.2	-40	-16.02	29.5	-45.52	0-360	Off

Pk - Peak detector

9.2. PRIMARY ANTENNA TX SPURIOUS EMISSION 30 TO 1000 MHz

9.2.1. READER MODE, TYPE F, 424 kbps

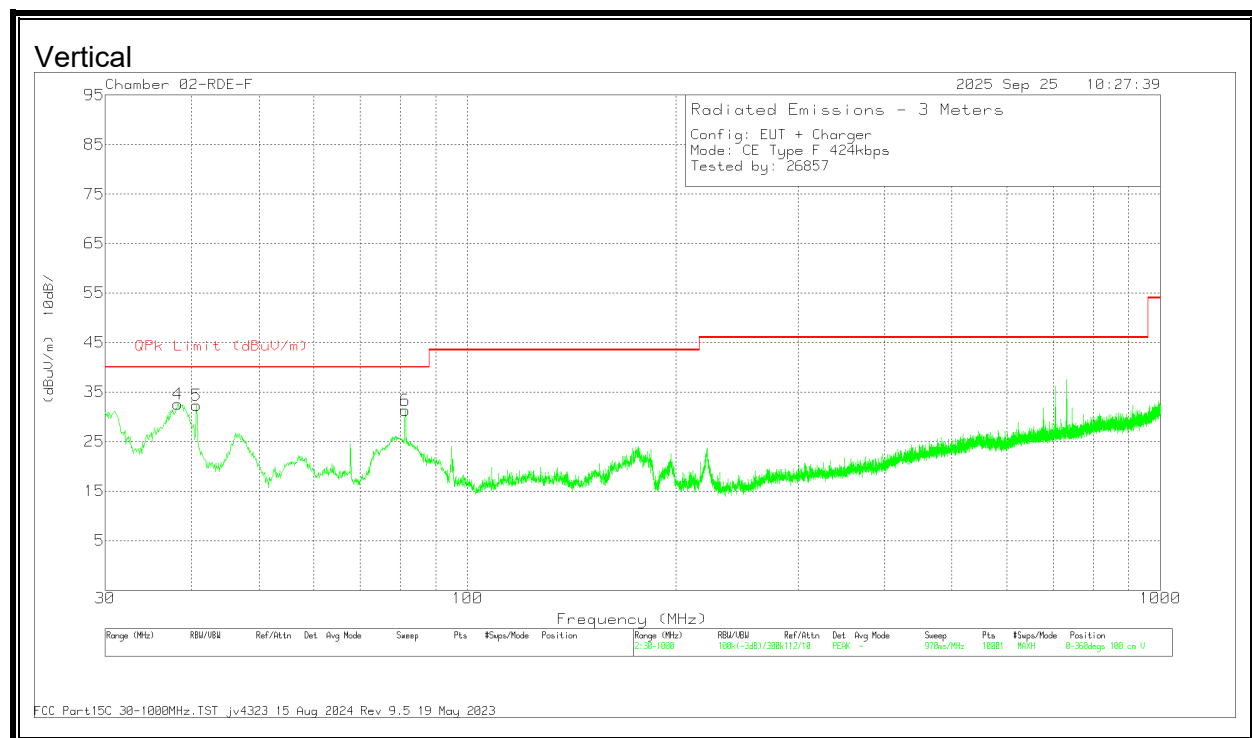
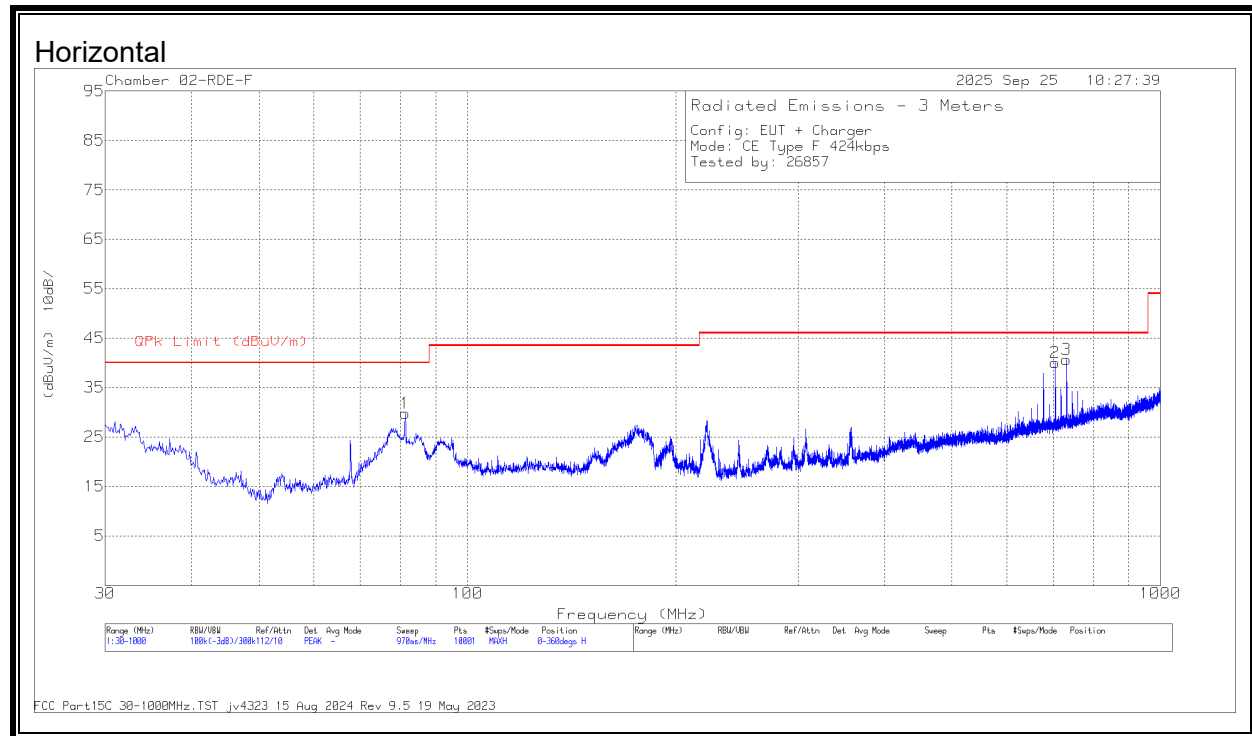


DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	81.313	47.2	Pk	13.3	-31.1	29.4	40	-10.6	0-360	199	H
2	222.157	44.28	Pk	16.6	-30.4	30.48	46.02	-15.54	0-360	99	H
3	705.124	42.84	Qp	26	-28.5	40.34	46.02	-5.68	121	105	H
4	40.6848	45.76	Qp	19.1	-31.4	33.46	40	-6.54	83	115	V
5	81.313	48.82	Pk	13.3	-31.1	31.02	40	-8.98	0-360	100	V
6	678.057	40.31	Pk	25.6	-28.6	37.31	46.02	-8.71	0-360	100	V

Pk - Peak detector

Qp - Quasi-Peak detector

9.2.2. CE MODE, TYPE F, 424 kbps

Trace Markers

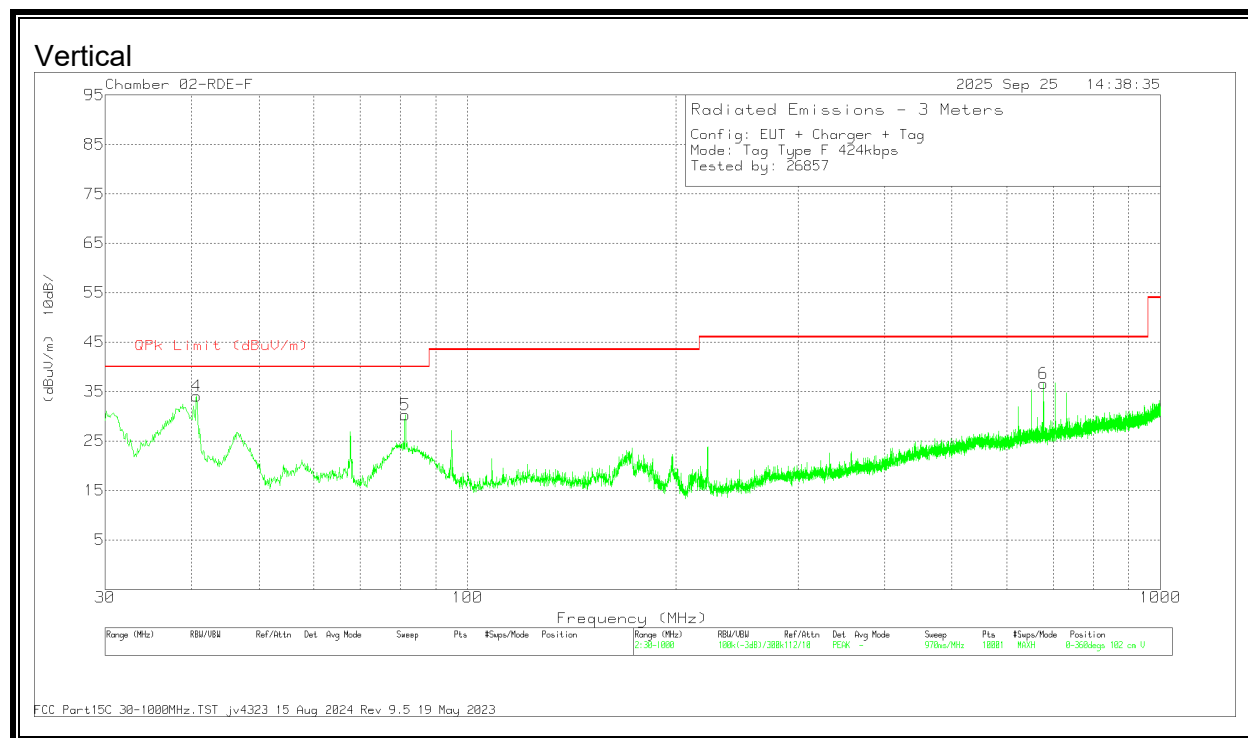
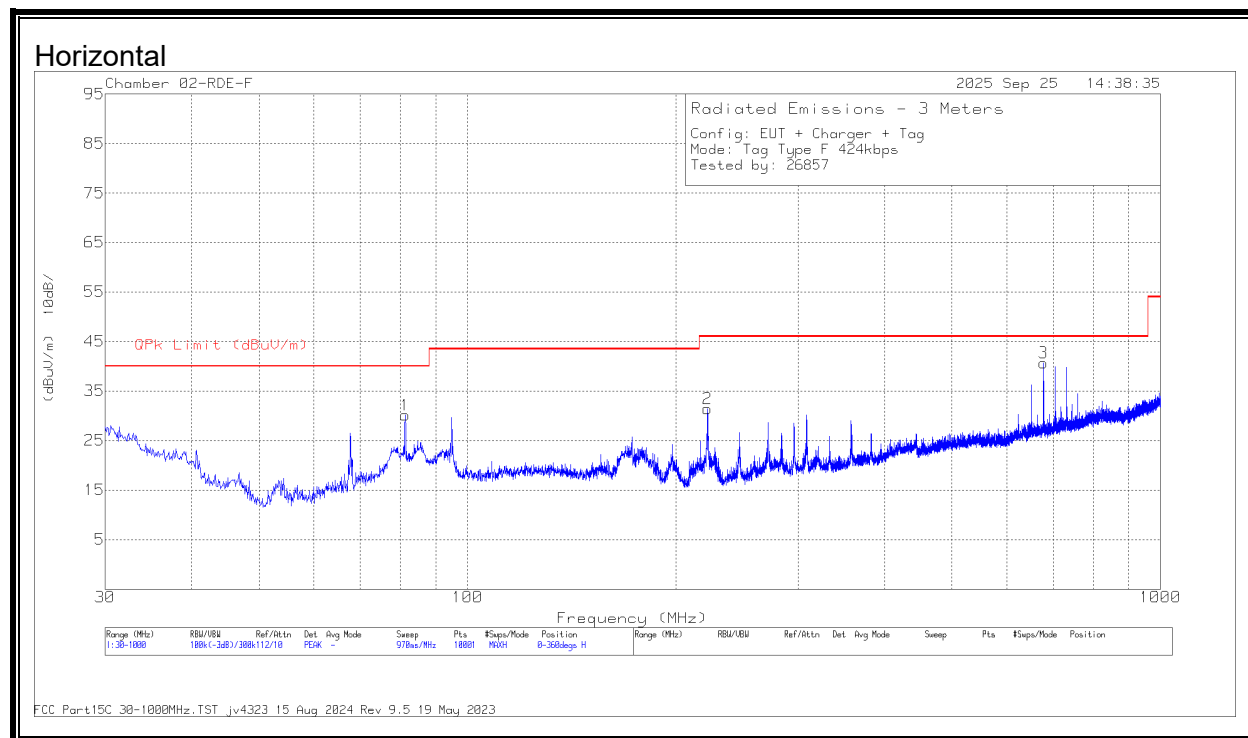
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	81.313	47.59	Pk	13.3	-31.1	29.79	40	-10.21	0-360	299	H
2	705.133	44.66	Qp	26	-28.5	42.16	46.02	-3.86	178	103	H
3	732.238	43.67	Qp	26.4	-28.1	41.97	46.02	-4.05	146	100	H
4	* 38.148	43.01	Pk	21	-31.4	32.61	40	-7.39	0-360	100	V
5	40.67	44.65	Pk	19.1	-31.4	32.35	40	-7.65	0-360	100	V
6	81.313	49.08	Pk	13.3	-31.1	31.28	40	-8.72	0-360	100	V

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

Pk - Peak detector

Qp - Quasi-Peak detector

9.2.3. TAG MODE, TYPE F, 424 kbps



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	81.313	47.92	Pk	13.3	-31.1	30.12	40	-9.88	0-360	199	H
2	222.06	45.26	Pk	16.6	-30.4	31.46	46.02	-14.56	0-360	98	H
3	678.007	44.37	Qp	25.6	-28.6	41.37	46.02	-4.65	125	118	H
4	40.6804	45.74	Qp	19.1	-31.4	33.44	40	-6.56	114	109	V
5	81.313	48.13	Pk	13.3	-31.1	30.33	40	-9.67	0-360	102	V
6	678.057	39.6	Pk	25.6	-28.6	36.6	46.02	-9.42	0-360	199	V

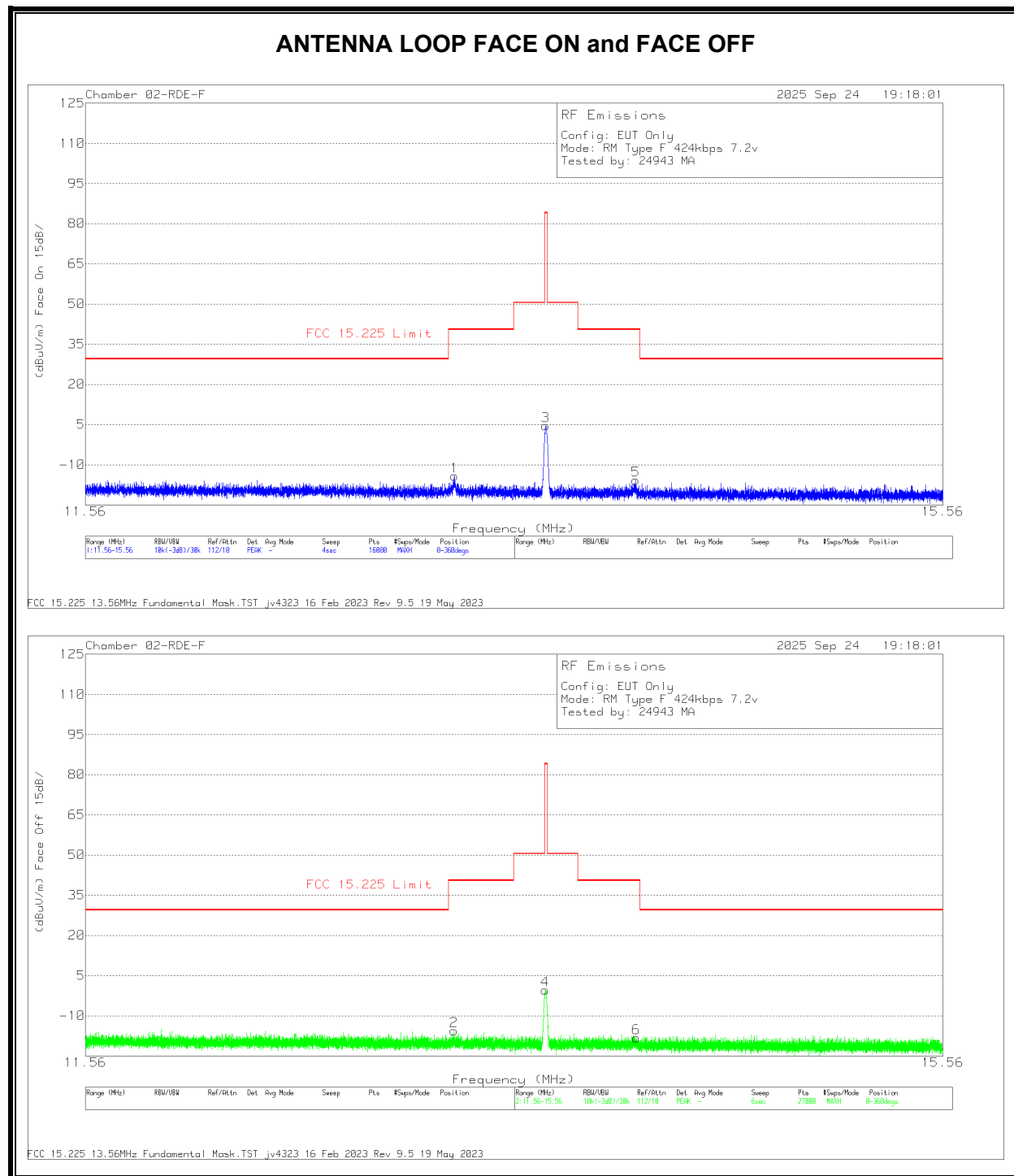
Pk - Peak detector

Qp - Quasi-Peak detector

9.3. SECONDARY ANTENNA FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 - 30 MHz)

9.3.1. READER MODE, TYPE F, 424 kbps

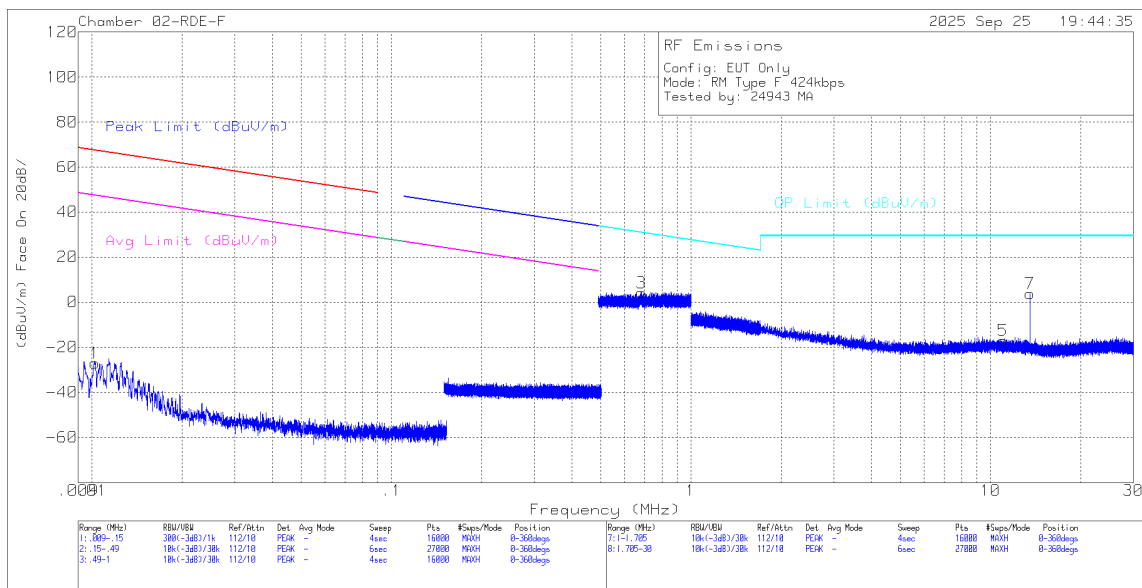
FUNDAMENTAL



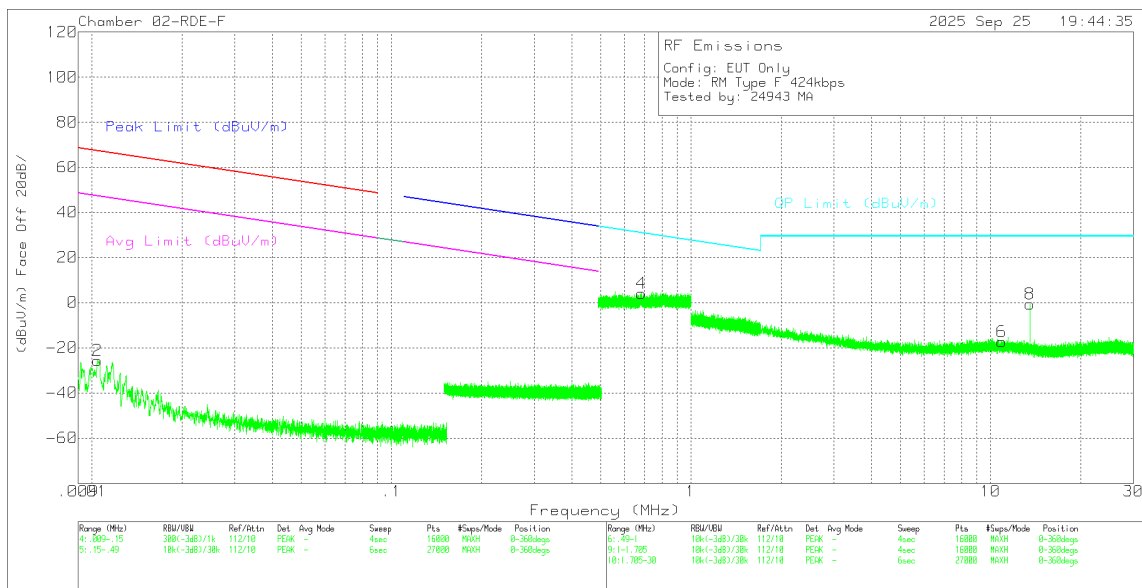
Trace Markers

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)	Face
2	13.1352	22.49	Pk	33.9	-32	-40	-15.61	40.51	-56.12	0-360	Off
1	13.1378	23.87	Pk	33.9	-32	-40	-14.23	40.51	-54.74	0-360	On
4	13.5567	37.79	Pk	33.9	-32.1	-40	-.41	84	-84.41	0-360	Off
3	13.5598	42.74	Pk	33.9	-32.1	-40	4.54	84	-79.46	0-360	On
5	13.9895	22.47	Pk	33.8	-32	-40	-15.73	40.51	-56.24	0-360	On
6	13.9912	20.04	Pk	33.8	-32	-40	-18.16	40.51	-58.67	0-360	Off

Pk - Peak detector

SPURIOUS EMISSION**ANTENNA LOOP FACE ON AND OFF**

FCC 15.209 Below 30MHz.TST_jv4323 13 Dec 2023 Rev 9.5 19 May 2023

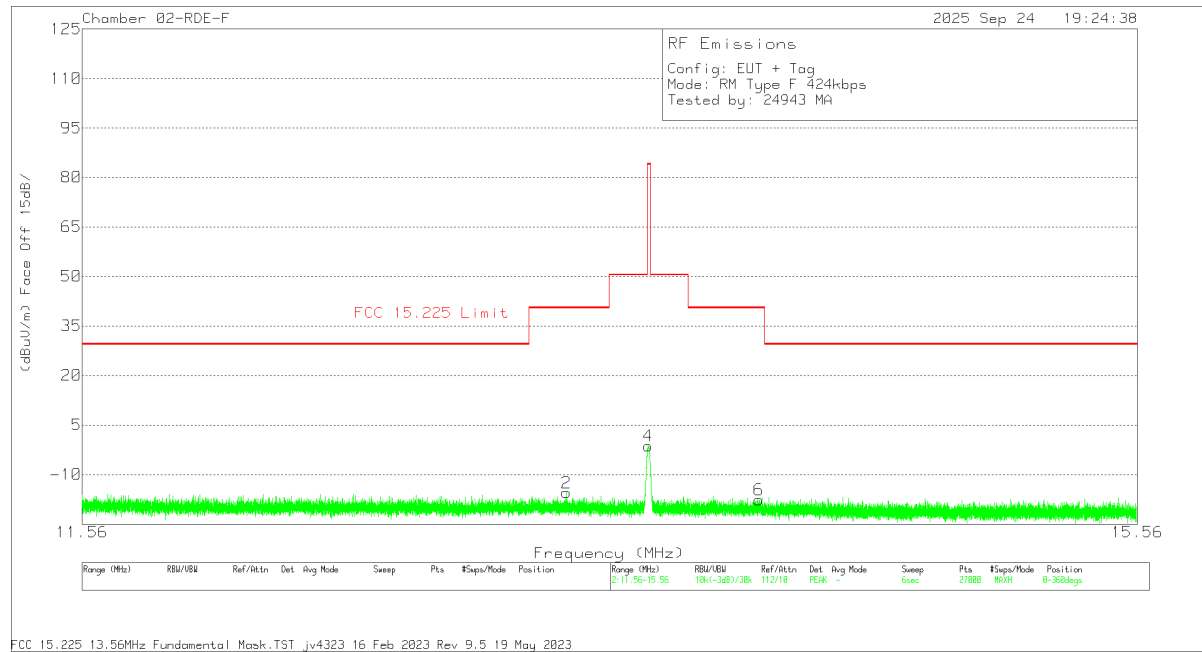
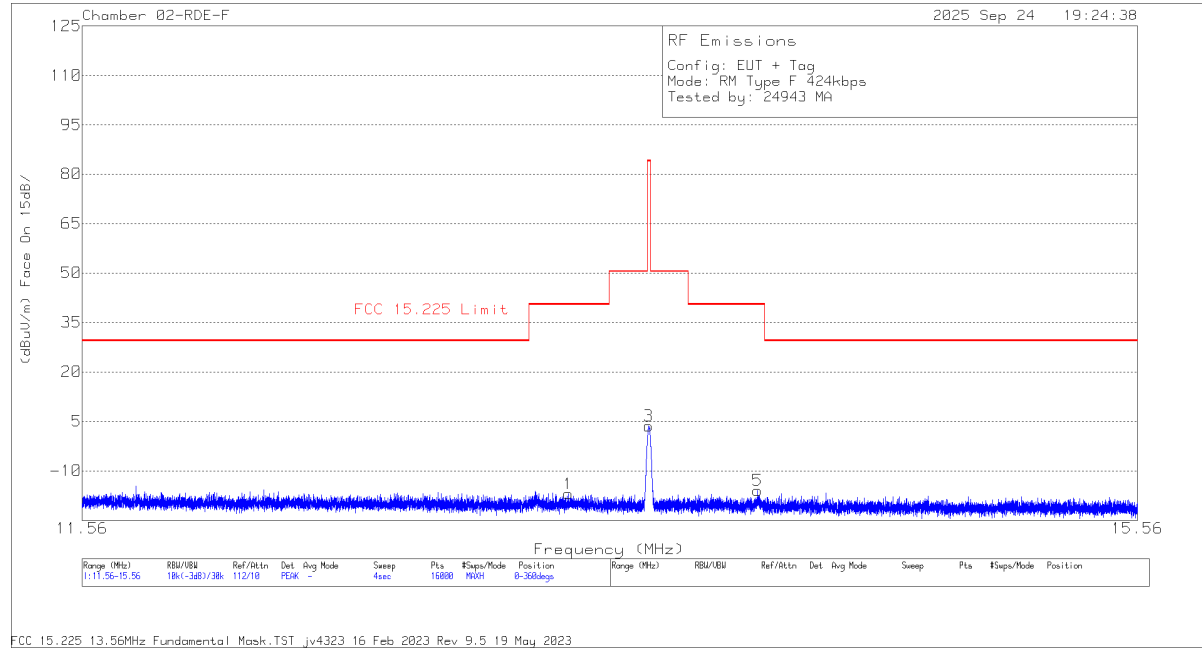


FCC 15.209 Below 30MHz.TST_jv4323 13 Dec 2023 Rev 9.5 19 May 2023

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E (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)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Face
1	.0103	21.3	Pk	60.6	-28.8	-80	-26.9	67.36	-94.26	47.36	-74.26	-	-	0-360	On
2	.0105	22.89	Pk	60.5	-28.9	-80	-25.51	67.2	-92.71	47.2	-72.71	-	-	0-360	Off
4	.683	20.22	Pk	56.4	-32.5	-40	4.12	-	-	-	-	30.92	-26.8	0-360	Off
3	.6837	20.37	Pk	56.4	-32.5	-40	4.27	-	-	-	-	30.91	-26.64	0-360	On
6	10.9274	20.86	Pk	34.2	-32.3	-40	-17.24	-	-	-	-	29.5	-46.74	0-360	Off
5	10.9871	21.11	Pk	34.2	-32.4	-40	-17.09	-	-	-	-	29.5	-46.59	0-360	On
7	13.561	42.21	Pk	33.8	-32.1	-40	3.91	-	-	-	-	29.5	-25.59	0-360	On
8	13.561	37.76	Pk	33.8	-32.1	-40	-.54	-	-	-	-	29.5	-30.04	0-360	Off

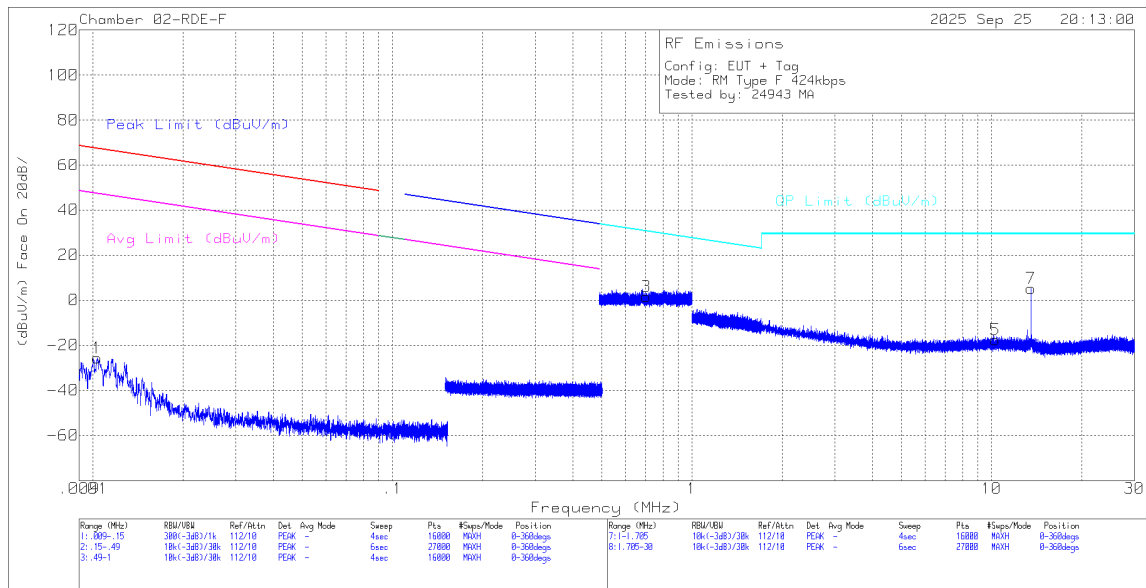
Pk - Peak detector

9.3.2. TAG MODE, TYPE F, 424 kbps**FUNDAMENTAL****ANTENNA LOOP FACE ON and FACE OFF**

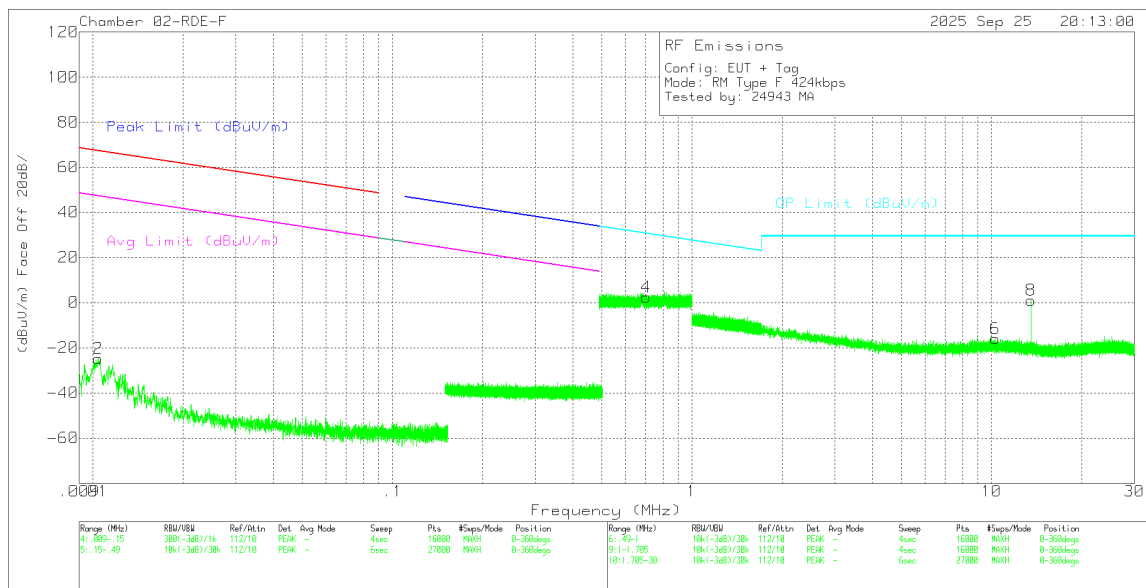
Trace Markers

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)	Face
2	13.2479	22.44	Pk	33.9	-31.8	-40	-15.46	40.51	-55.97	0-360	Off
1	13.2558	20.94	Pk	33.9	-31.8	-40	-16.96	40.51	-57.47	0-360	On
4	13.5577	36.84	Pk	33.9	-32.1	-40	-1.36	84	-85.36	0-360	Off
3	13.56	41.89	Pk	33.9	-32.1	-40	3.69	84	-80.31	0-360	On
5	13.9825	22.31	Pk	33.8	-32	-40	-15.89	40.51	-56.4	0-360	On
6	13.9872	20.59	Pk	33.8	-32	-40	-17.61	40.51	-58.12	0-360	Off

Pk - Peak detector

SPURIOUS EMISSION**ANTENNA LOOP FACE ON AND OFF**

FCC 15.209 Below 30MHz.TST_jv4323 13 Dec 2023 Rev 9.5 19 May 2023



FCC 15.209 Below 30MHz.TST_jv4323 13 Dec 2023 Rev 9.5 19 May 2023

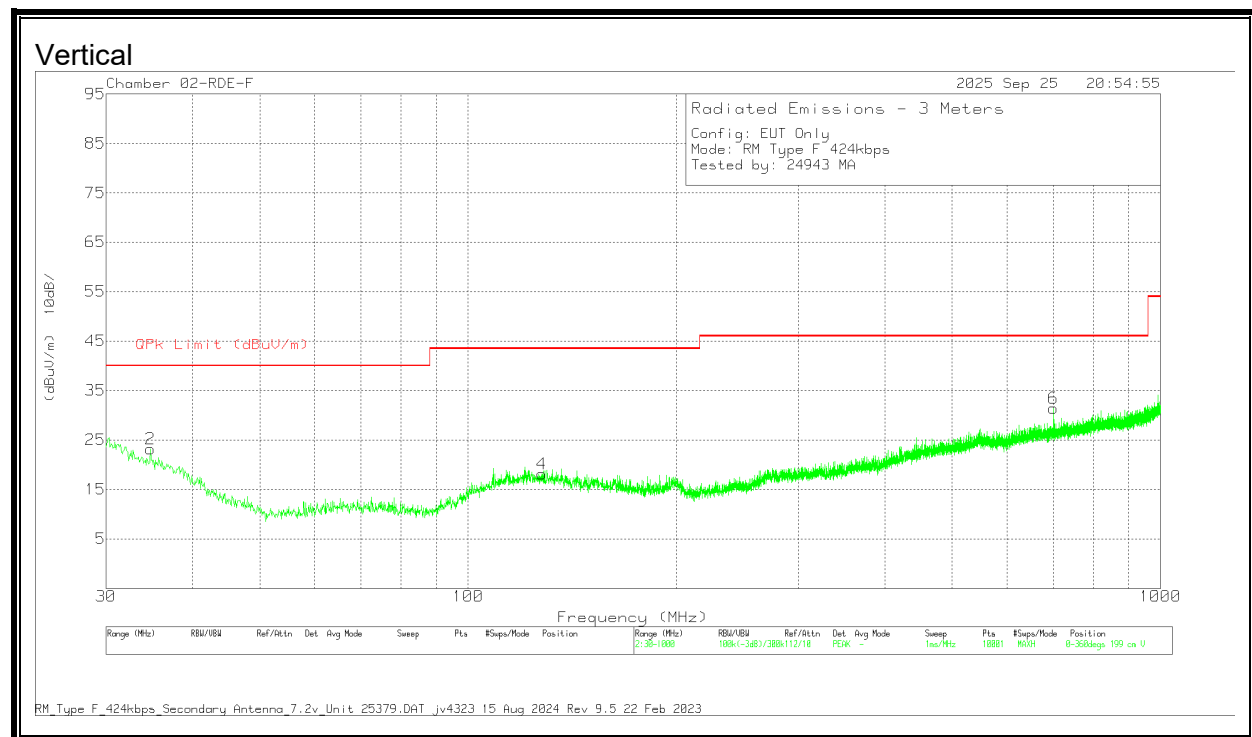
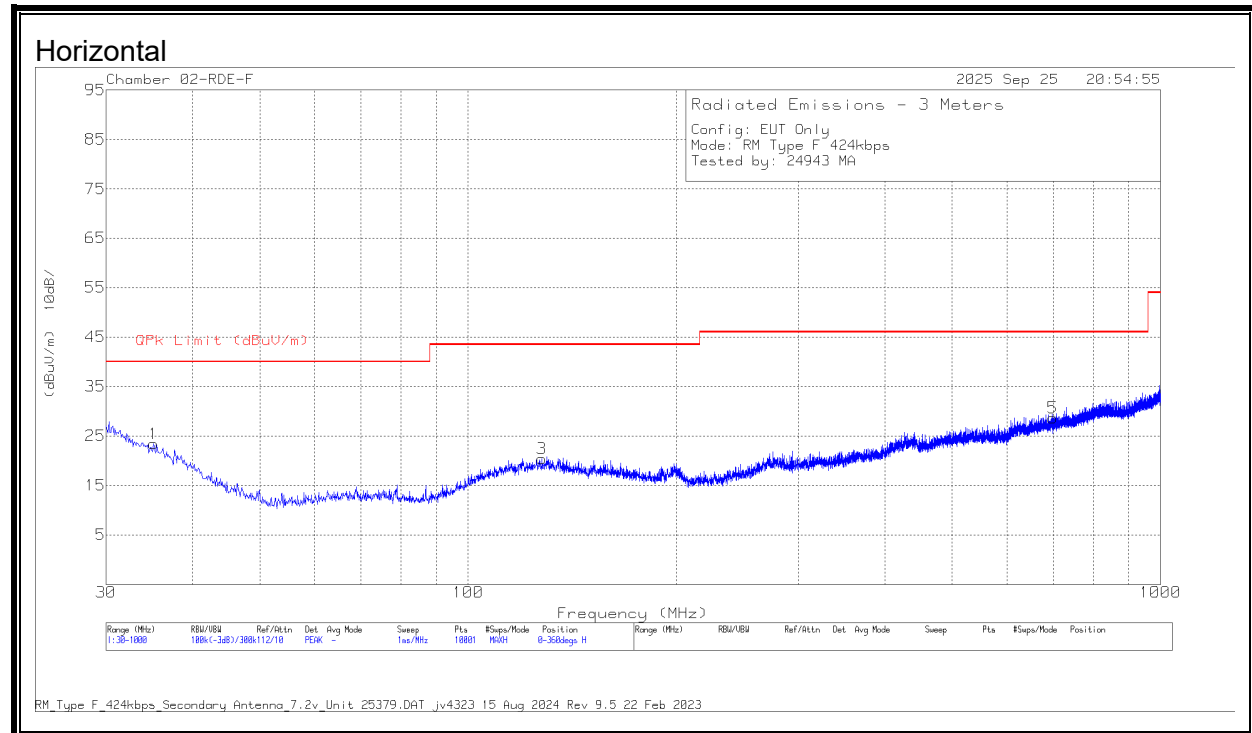
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E (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)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Face
1	.0103	22.64	Pk	60.5	-28.8	-80	-25.66	67.31	-92.97	47.31	-72.97	-	-	0-360	On
2	.0104	23.48	Pk	60.5	-28.8	-80	-24.82	67.23	-92.05	47.23	-72.05	-	-	0-360	Off
4	.7034	18.39	Pk	56.5	-32.5	-40	2.39	-	-	-	-	30.67	-28.28	0-360	Off
3	.7039	17.69	Pk	56.5	-32.5	-40	1.69	-	-	-	-	30.66	-28.97	0-360	On
5	10.2818	20.28	Pk	34.3	-32.2	-40	-17.62	-	-	-	-	29.5	-47.12	0-360	On
6	10.2955	21.93	Pk	34.3	-32.2	-40	-15.97	-	-	-	-	29.5	-45.47	0-360	Off
8	13.56	39.41	Pk	33.8	-32.1	-40	1.11	-	-	-	-	29.5	-28.39	0-360	Off
7	13.561	43.64	Pk	33.8	-32.1	-40	5.34	-	-	-	-	29.5	-24.16	0-360	On

Pk - Peak detector

9.4. SECONDARY ANTENNA TX SPURIOUS EMISSION 30 TO 1000 MHz

9.4.1. READER MODE, TPYE F, 424 kbps



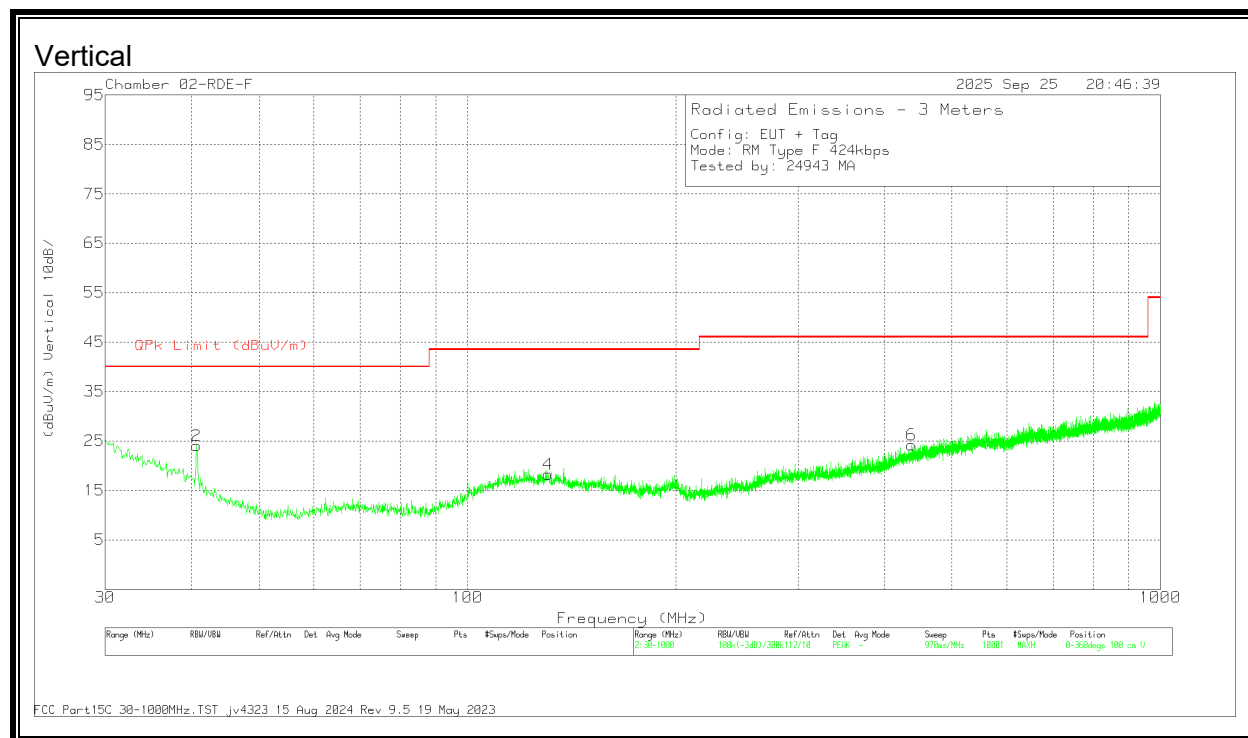
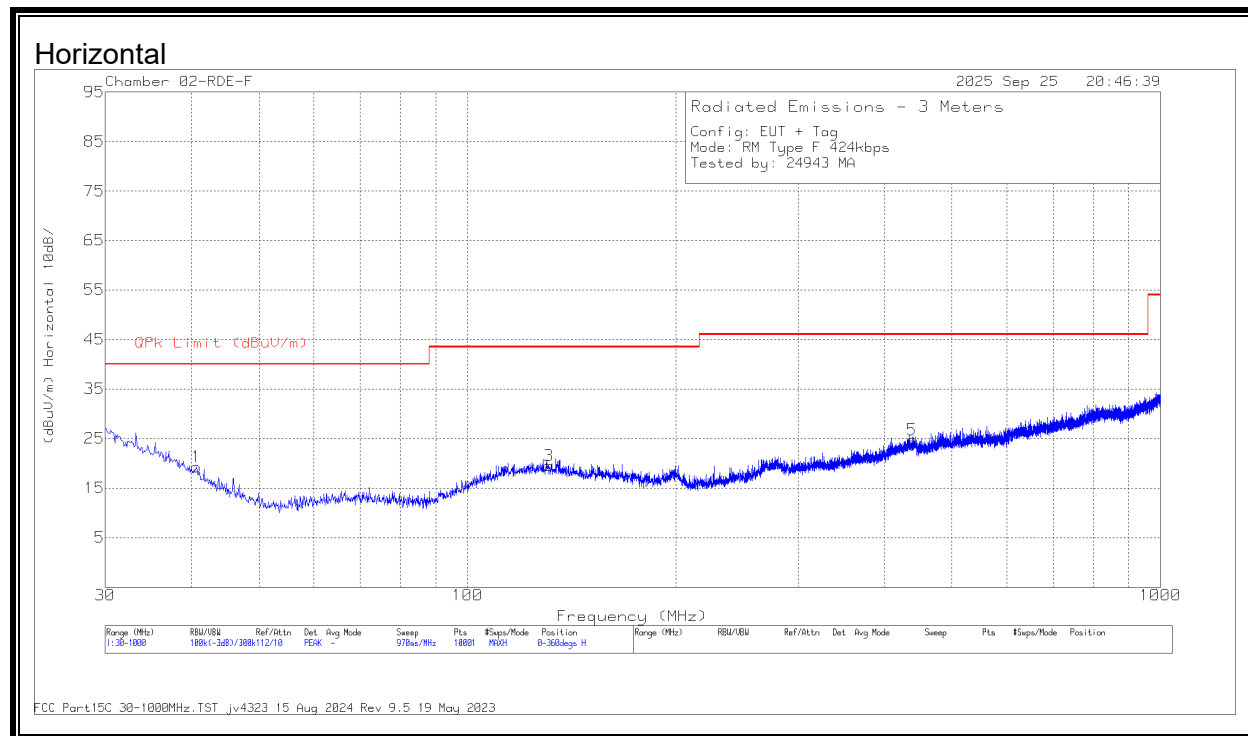
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 127.776	31.41	Pk	19.7	-30.7	20.41	43.52	-23.11	0-360	299	H
4	* 127.776	29.19	Pk	19.7	-30.7	18.19	43.52	-25.33	0-360	199	V
2	34.753	31.09	Pk	23.7	-31.6	23.19	40	-16.81	0-360	100	V
1	35.141	31.61	Pk	23.4	-31.6	23.41	40	-16.59	0-360	99	H
5	699.3	31.37	Pk	25.9	-28.6	28.67	46.02	-17.35	0-360	199	H
6	700.27	34	Pk	25.9	-28.5	31.4	46.02	-14.62	0-360	100	V

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

Pk - Peak detector

9.4.2. TAG MODE, TYPE F, 424 kbps



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 130.88	30.92	Pk	19.6	-31	19.52	43.52	-24	0-360	101	H
4	* 130.783	29.52	Pk	19.6	-30.9	18.22	43.52	-25.3	0-360	199	V
1	40.67	31.54	Pk	19.1	-31.4	19.24	40	-20.76	0-360	400	H
2	40.67	36.34	Pk	19.1	-31.4	24.04	40	-15.96	0-360	100	V
6	437.497	31	Pk	22.5	-29.3	24.2	46.02	-21.82	0-360	199	V
5	437.885	31.66	Pk	22.5	-29.4	24.76	46.02	-21.26	0-360	400	H

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

Pk - Peak detector

10. FREQUENCY STABILITY

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ 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 $\pm 0.01\%$ (± 100 ppm).

TEST PROCEDURE

ANSI C63.10 Clause 6.8

RESULTS

ID:	24943	Date:	2025-11-17
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10.1. PRIMARY ANTENNA

READER MODE, TYPE F, 424 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	13.560120666	-1.860	13.560120169	-1.823	13.560119225	-1.754	13.560117450	-1.623	± 100
	40	13.560115250	-1.461	13.560116590	-1.559	13.560118019	-1.665	13.560119431	-1.769	± 100
	30	13.560094123	0.097	13.560097033	-0.117	13.560100689	-0.387	13.560104566	-0.673	± 100
	20	13.560095444	0.000	13.560096059	-0.045	13.560096599	-0.085	13.560097151	-0.126	± 100
	10	13.560090513	0.364	13.560088223	0.533	13.560085832	0.709	13.560083011	0.917	± 100
	0	13.560070666	1.827	13.560068166	2.012	13.560064800	2.260	13.560061628	2.494	± 100
	-10	13.560047701	3.521	13.560043995	3.794	13.560041321	3.991	13.560038565	4.195	± 100
	-20	13.560028830	4.913	13.560027041	5.044	13.560025001	5.195	13.560023151	5.331	± 100
3.23	20	13.560038601	4.192	13.560042276	3.921	13.560040181	4.075	13.560039498	4.126	± 100
4.37	20	13.560033260	4.586	13.560038679	4.186	13.560040119	4.080	13.560041452	3.982	± 100

CE MODE, TYPE F, 424 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	13.56037163	-12.670	13.5603695	-12.512	13.56032483	-9.218	13.56030172	-7.514	± 100
	40	13.56034706	-10.857	13.56032504	-9.234	13.560357	-11.591	13.56026231	-4.607	± 100
	30	13.56036847	-12.437	13.56030125	-7.479	13.56035672	-11.570	13.56021577	-1.175	± 100
	20	13.56019983	0.000	13.56027875	-5.820	13.56025706	-4.220	13.56026999	-5.174	± 100
	10	13.56032112	-8.945	13.56026156	-4.552	13.56027631	-5.640	13.56015312	3.445	± 100
	0	13.56034609	-10.786	13.56033716	-10.127	13.56034663	-10.826	13.56031871	-8.767	± 100
	-10	13.56034094	-10.406	13.56034588	-10.770	13.56021777	-1.322	13.56038906	-13.955	± 100
	-20	13.56029736	-7.192	13.56016995	2.204	13.56031125	-8.216	13.56028552	-6.319	± 100
3.23	20	13.5601398	4.427	13.56016065	2.890	13.56013416	4.843	13.56022363	-1.755	± 100
4.37	20	13.56017622	1.742	13.56012444	5.560	13.56015032	3.652	13.56018414	1.157	± 100

TAG MODE, TYPE F, 424 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	13.56012035	-2.186	13.56011968	-2.137	13.56011863	-2.059	13.56011675	-1.921	± 100
	40	13.56011452	-1.756	13.56011619	-1.879	13.56011787	-2.003	13.5601193	-2.109	± 100
	30	13.56008336	0.542	13.56008986	0.063	13.56009576	-0.372	13.56010184	-0.821	± 100
	20	13.56009071	0.000	13.56009212	-0.104	13.56009335	-0.195	13.56009482	-0.303	± 100
	10	13.56008866	0.151	13.56008583	0.360	13.56008244	0.610	13.56007905	0.860	± 100
	0	13.56006653	1.783	13.56006283	2.056	13.56005937	2.311	13.56005564	2.586	± 100
	-10	13.56004211	3.584	13.56003939	3.785	13.56003654	3.995	13.5600337	4.204	± 100
	-20	13.56002353	4.954	13.56002218	5.054	13.56002091	5.147	13.56001979	5.230	± 100
3.23	20	13.56004094	3.670	13.5600484	3.120	13.56002875	4.569	13.56002779	4.640	± 100
4.37	20	13.56004129	3.645	13.56004614	3.287	13.56004811	3.142	13.56004928	3.055	± 100

10.2. SECONDARY ANTENNA

READER MODE, TYPE F, 424 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	13.560135543	-1.552	13.560135179	-1.525	13.560134191	-1.452	13.560132178	-1.304	± 100
	40	13.560127254	-0.941	13.560129407	-1.099	13.560131878	-1.282	13.560133995	-1.438	± 100
	30	13.560093660	1.537	13.560099489	1.107	13.560107022	0.551	13.560114297	0.015	± 100
	20	13.560114498	0.000	13.560114061	0.032	13.560113657	0.062	13.560113522	0.072	± 100
	10	13.560107717	0.500	13.560105146	0.690	13.560102105	0.914	13.560098590	1.173	± 100
	0	13.560082893	2.331	13.560080455	2.511	13.560076301	2.817	13.560073277	3.040	± 100
	-10	13.560063490	3.762	13.560060482	3.983	13.560056979	4.242	13.560053118	4.527	± 100
	-20	13.560041446	5.387	13.560039596	5.524	13.560037881	5.650	13.560037224	5.699	± 100
3.23	20	13.560094797	1.453	13.560104070	0.769	13.560153793	-2.898	13.560112986	0.112	± 100
4.37	20	13.560101154	0.984	13.560104152	0.763	13.560105595	0.657	13.560105006	0.700	± 100

TAG MODE, TYPE F, 424 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	13.56013541	-1.616	13.56013481	-1.572	13.56013365	-1.486	13.56013165	-1.338	± 100
	40	13.56012811	-1.077	13.56013049	-1.253	13.56013242	-1.395	13.5601341	-1.519	± 100
	30	13.56009411	1.430	13.56010118	0.908	13.56010917	0.319	13.56011639	-0.213	± 100
	20	13.5601135	0.000	13.56011319	0.023	13.56011296	0.040	13.56011248	0.075	± 100
	10	13.5601048	0.642	13.56010181	0.862	13.56009871	1.091	13.56009551	1.327	± 100
	0	13.56009146	1.626	13.56008523	2.085	13.56008002	2.469	13.56007426	2.894	± 100
	-10	13.5600585	4.056	13.56005583	4.253	13.56005272	4.483	13.56004972	4.704	± 100
	-20	13.56003957	5.452	13.56003759	5.598	13.5600364	5.686	13.56003493	5.794	± 100
3.23	20	13.56004406	5.121	13.56005637	4.213	13.56005566	4.265	13.56005641	4.210	± 100
4.37	20	13.5600571	4.159	13.56005876	4.037	13.5600591	4.012	13.56005937	3.992	± 100

11. 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 50 μ H/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 (dB μ V)	
	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

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.

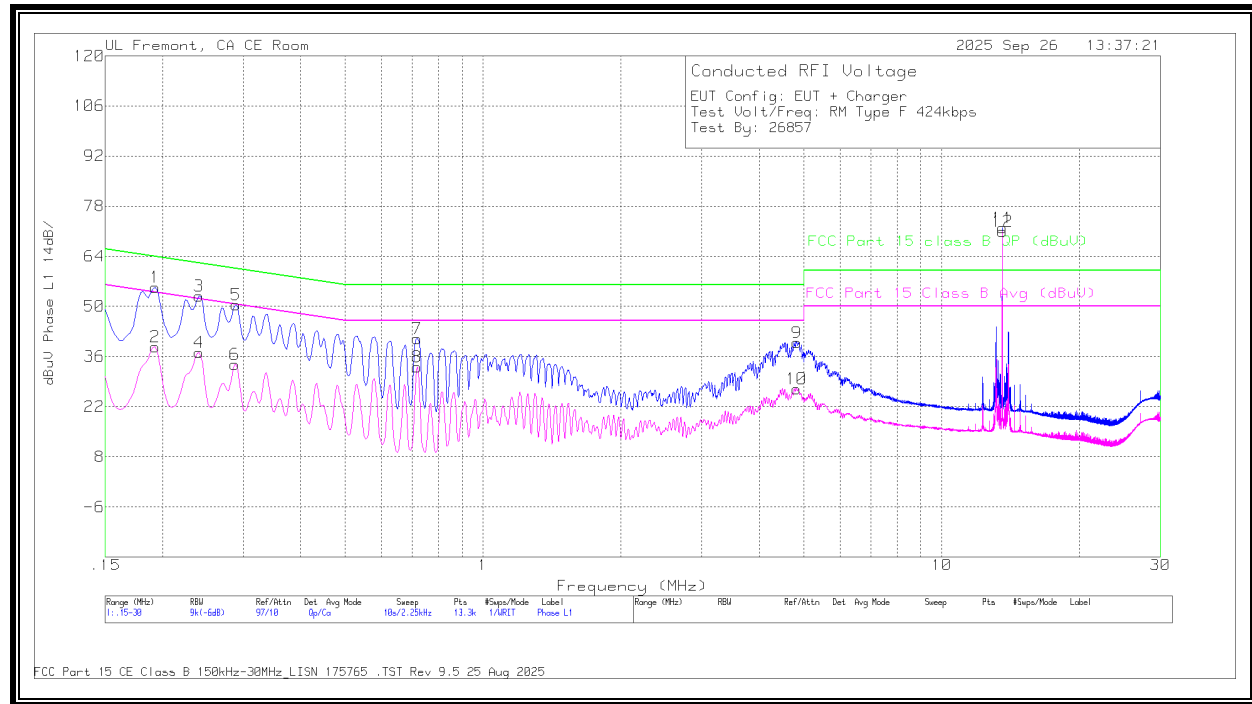
Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

11.1. PRIMARY ANTENNA

11.1.1. READER MODE: Type F, 424 kbps

LINE 1 RESULTS



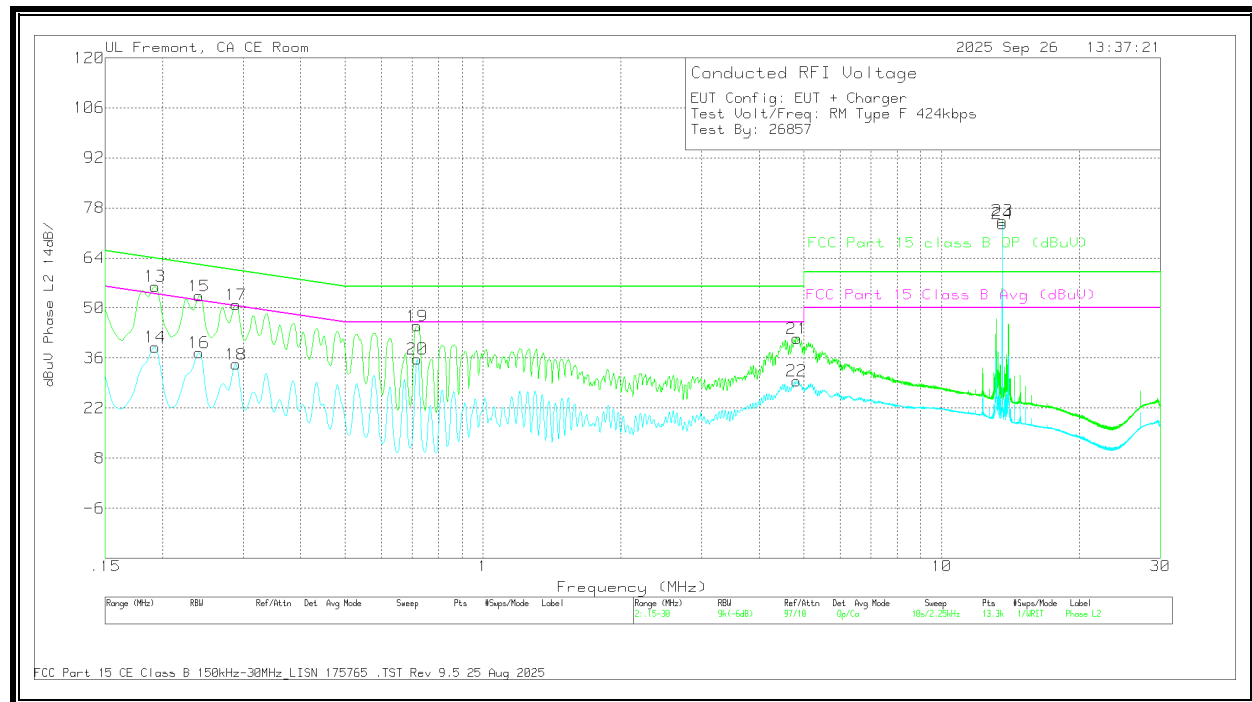
Worst Emission

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.1928	19.2	Ca	9.4	.1	10	38.7	53.92	-15.22	-	-
4	.24	17.7	Ca	9.4	0	10	37.1	52.1	-15	-	-
6	.2873	14.4	Ca	9.4	0	10	33.8	50.6	-16.8	-	-
8	.7193	13.73	Ca	9.3	0	10	33.03	46	-12.97	-	-
10	4.8278	7.62	Ca	9.4	0	10	27.02	46	-18.98	-	-
12	13.56	51.35	Ca	9.5	.1	10	70.95	50	20.95	-	-
1	.1928	35.86	Qp	9.4	.1	10	55.36	-	-	63.92	-8.56
3	.24	33.46	Qp	9.4	0	10	52.86	-	-	62.1	-9.24
5	.2895	31.05	Qp	9.4	0	10	50.45	-	-	60.54	-10.09
7	.7193	21.74	Qp	9.3	0	10	41.04	-	-	56	-14.96
9	4.8368	20.45	Qp	9.4	0	10	39.85	-	-	56	-16.15
11	13.56	52.32	Qp	9.5	.1	10	71.92	-	-	60	11.92

Qp - Quasi-Peak detector

Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.1.2 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

LINE 2 RESULTS**Worst Emission**

Range 2: Phase L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
14	.1928	19.58	Ca	9.4	0	10	38.98	53.92	-14.94	-	-
16	.24	18	Ca	9.4	0	10	37.4	52.1	-14.7	-	-
18	.2895	14.93	Ca	9.3	0	10	34.23	50.54	-16.31	-	-
20	.7193	16.37	Ca	9.3	0	10	35.67	46	-10.33	-	-
22	4.8278	10.14	Ca	9.4	0	10	29.54	46	-16.46	-	-
24	13.56	54.04	Ca	9.5	.1	10	73.64	50	23.64	-	-
13	.1928	36.6	Qp	9.4	0	10	56	-	-	63.92	-7.92
15	.24	33.93	Qp	9.4	0	10	53.33	-	-	62.1	-8.77
17	.2895	31.59	Qp	9.3	0	10	50.89	-	-	60.54	-9.65
19	.7193	25.62	Qp	9.3	0	10	44.92	-	-	56	-11.08
21	4.8368	22.02	Qp	9.4	0	10	41.42	-	-	56	-14.58
23	13.56	54.86	Qp	9.5	.1	10	74.46	-	-	60	14.46

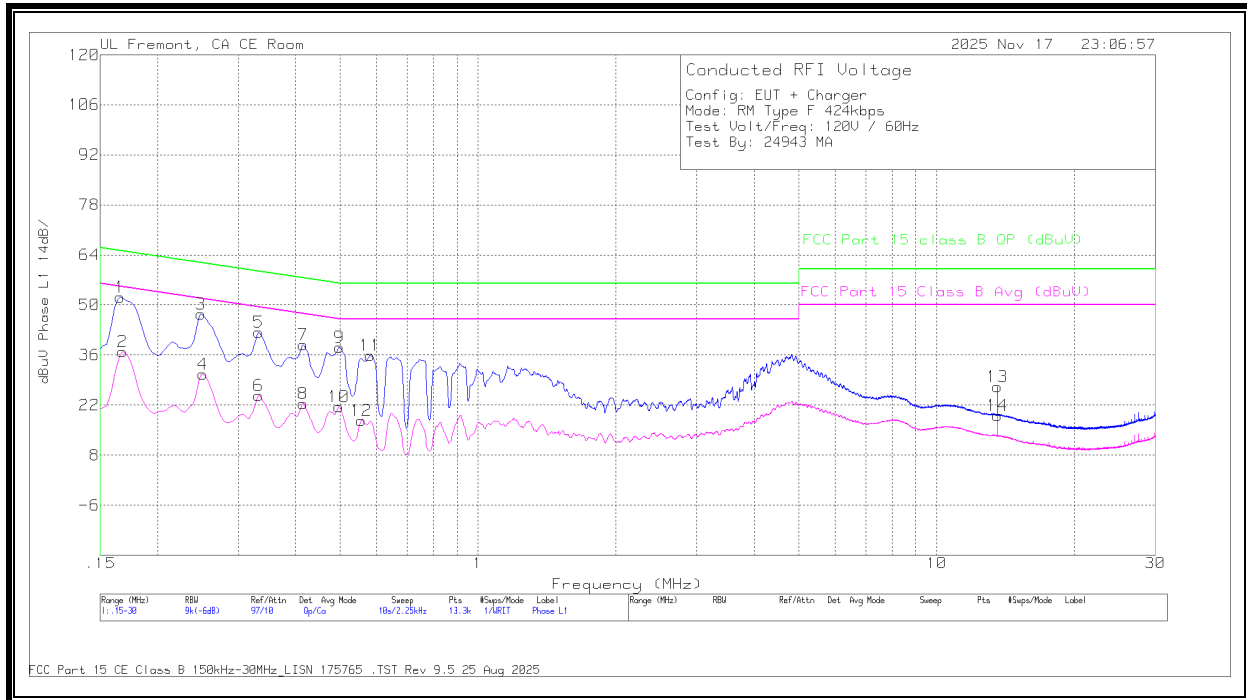
Qp - Quasi-Peak detector

Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. The data under the following section 11.1.2 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

11.1.2. READER MODE: Type F, 424 kbps (ANTENNA PORT TERMINATED)

LINE 1 RESULTS

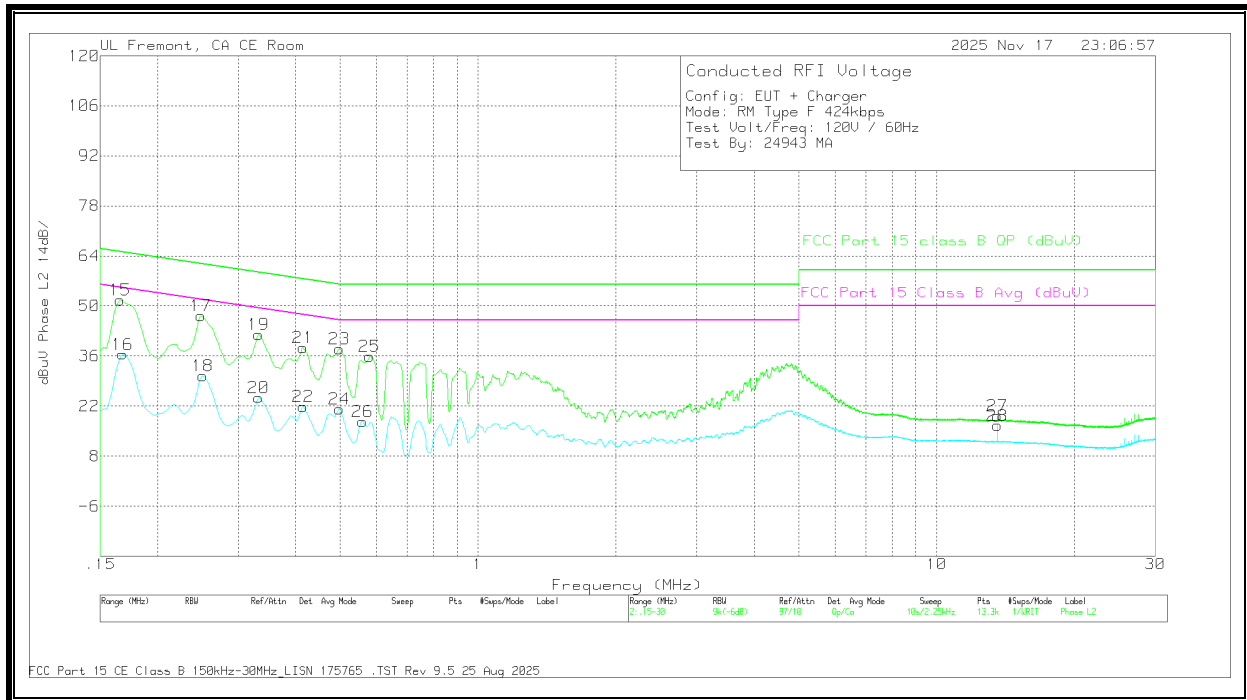


Worst Emission

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.168	17.39	Ca	9.4	.1	10	36.89	55.06	-18.17	-	-
4	.2513	11.29	Ca	9.4	0	10	30.69	51.72	-21.03	-	-
6	.3323	5.32	Ca	9.4	0	10	24.72	49.39	-24.67	-	-
8	.4155	3.07	Ca	9.4	0	10	22.47	47.54	-25.07	-	-
10	.4965	2.09	Ca	9.4	0	10	21.49	46.06	-24.57	-	-
12	.5573	-1.64	Ca	9.3	0	10	17.66	46	-28.34	-	-
14	13.56	-.59	Ca	9.5	.1	10	19.01	50	-30.99	-	-
1	.1658	32.73	Qp	9.4	.1	10	52.23	-	-	65.17	-12.94
3	.249	28.07	Qp	9.4	0	10	47.47	-	-	61.79	-14.32
5	.3323	23	Qp	9.4	0	10	42.4	-	-	59.39	-16.99
7	.4155	19.54	Qp	9.4	0	10	38.94	-	-	57.54	-18.6
9	.4988	18.89	Qp	9.3	0	10	38.19	-	-	56.02	-17.83
11	.582	16.6	Qp	9.3	0	10	35.9	-	-	56	-20.1
13	13.56	7.51	Qp	9.5	.1	10	27.11	-	-	60	-32.89

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS**Worst Emission**

Range 2: Phase L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
16	.168	17	Ca	9.4	.1	10	36.5	55.06	-18.56	-	-
18	.2513	11.04	Ca	9.4	0	10	30.44	51.72	-21.28	-	-
20	.3323	5.1	Ca	9.3	0	10	24.4	49.39	-24.99	-	-
22	.4155	2.52	Ca	9.3	0	10	21.82	47.54	-25.72	-	-
24	.4988	1.93	Ca	9.3	0	10	21.23	46.02	-24.79	-	-
26	.5595	-1.7	Ca	9.3	0	10	17.6	46	-28.4	-	-
28	13.56	-3.07	Ca	9.5	.1	10	16.53	50	-33.47	-	-
15	.1658	32.11	Qp	9.4	.1	10	51.61	-	-	65.17	-13.56
17	.249	27.88	Qp	9.4	0	10	47.28	-	-	61.79	-14.51
19	.3323	22.75	Qp	9.3	0	10	42.05	-	-	59.39	-17.34
21	.4155	19.06	Qp	9.3	0	10	38.36	-	-	57.54	-19.18
23	.4988	18.7	Qp	9.3	0	10	38	-	-	56.02	-18.02
25	.5798	16.59	Qp	9.3	0	10	35.89	-	-	56	-20.11
27	13.56	-3.39	Qp	9.5	.1	10	19.21	-	-	60	-40.79

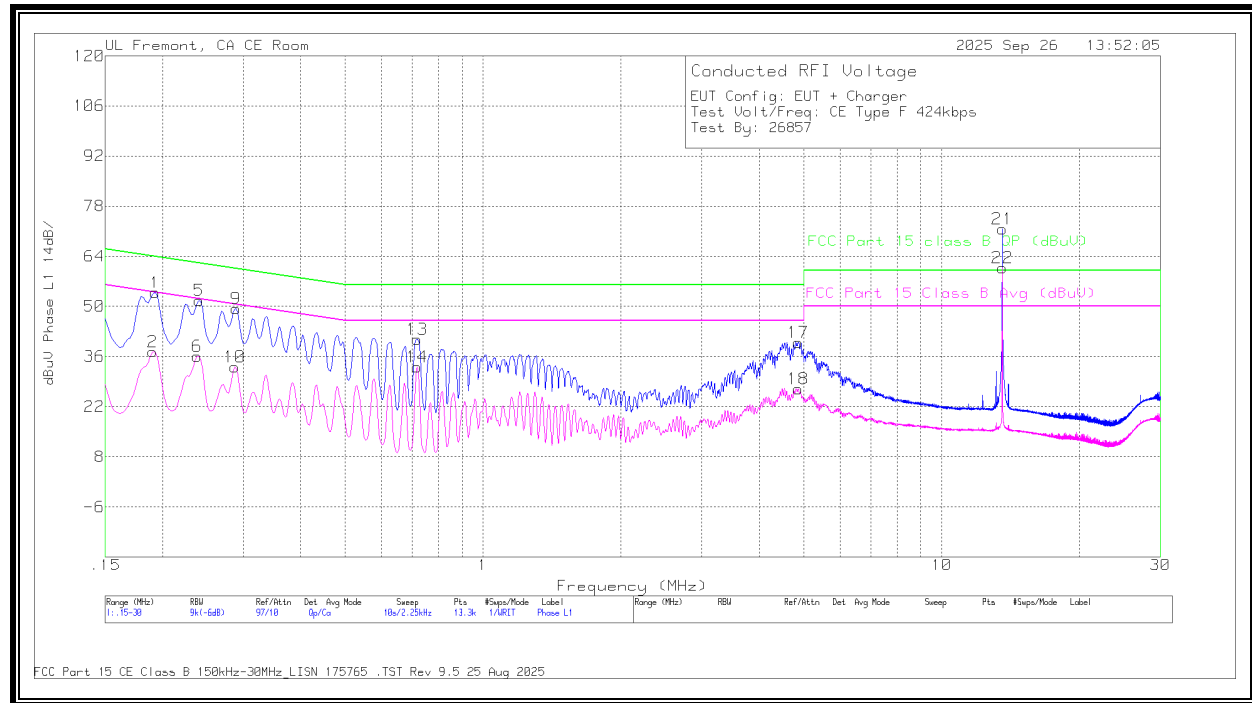
Qp - Quasi-Peak detector

Ca - CISPR average detection

11.1.3. CE MODE: Type F, 424 kbps

NORMAL OPERATION

LINE 1 RESULTS



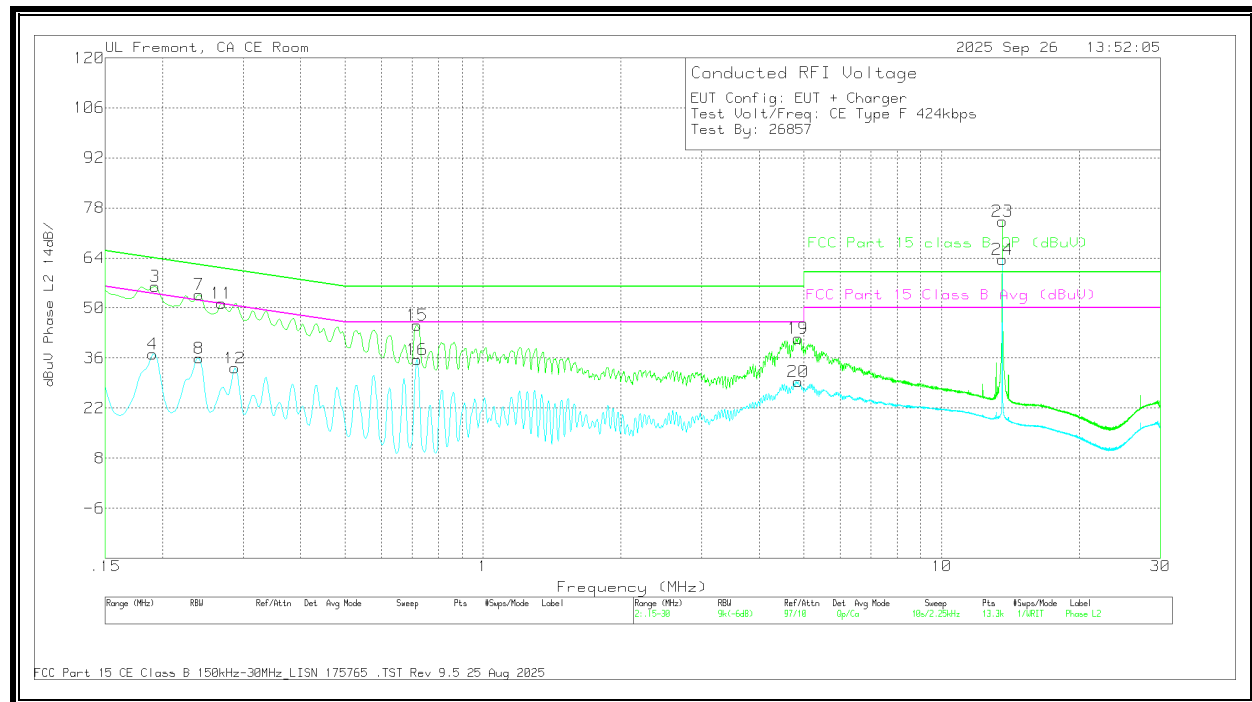
Worst Emission

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.1905	17.87	Ca	9.4	.1	10	37.37	54.01	-16.64	-	-
6	.2378	16.72	Ca	9.4	0	10	36.12	52.17	-16.05	-	-
10	.2873	13.62	Ca	9.4	0	10	33.02	50.6	-17.58	-	-
14	.7193	13.8	Ca	9.3	0	10	33.1	46	-12.9	-	-
18	4.8683	7.52	Ca	9.4	0	10	26.92	46	-19.08	-	-
22	13.56	41.23	Ca	9.5	.1	10	60.83	50	10.83	-	-
1	.1928	34.36	Qp	9.4	.1	10	53.86	-	-	63.92	-10.06
5	.24	32.24	Qp	9.4	0	10	51.64	-	-	62.1	-10.46
9	.2895	30.03	Qp	9.4	0	10	49.43	-	-	60.54	-11.11
13	.7193	21.57	Qp	9.3	0	10	40.87	-	-	56	-15.13
17	4.8683	20.49	Qp	9.4	0	10	39.89	-	-	56	-16.11
21	13.56	52.01	Qp	9.5	.1	10	71.61	-	-	60	11.61

Qp - Quasi-Peak detector

Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.1.4 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

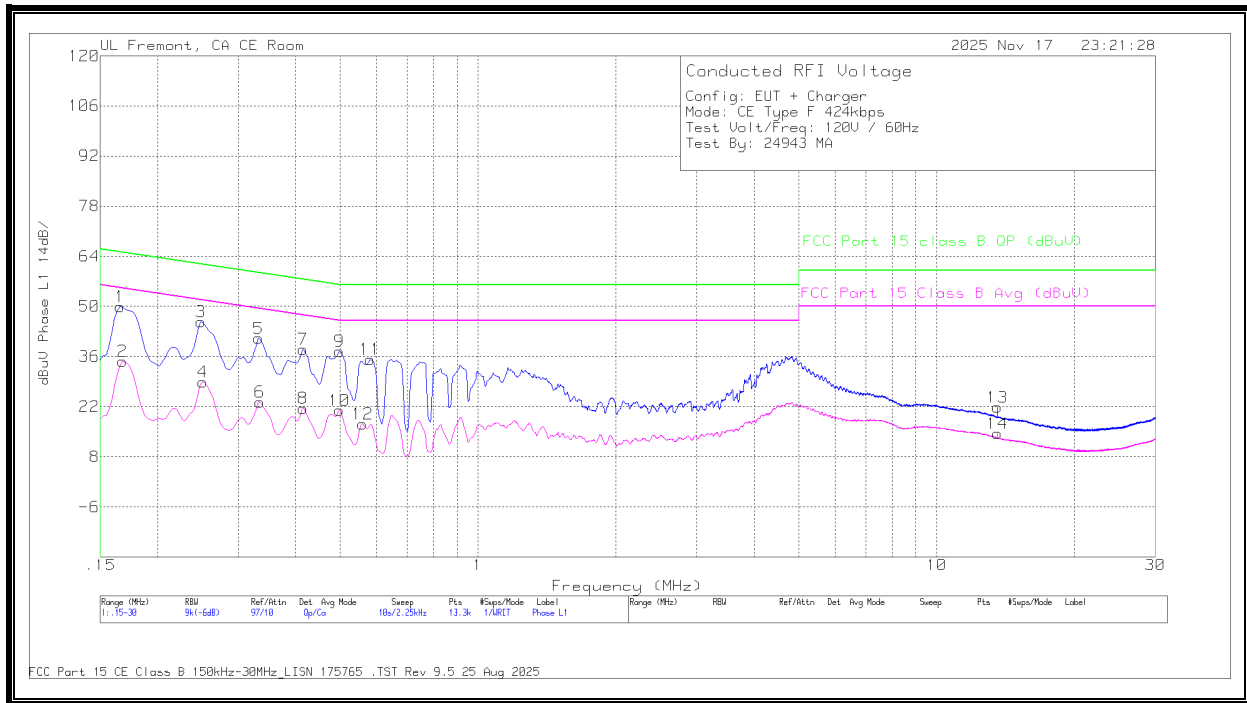
LINE 2 RESULTS**Worst Emission**

Range 2: Phase L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limter no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
4	.1905	17.66	Ca	9.4	0	10	37.06	54.01	-16.95	-	-
8	.24	16.57	Ca	9.4	0	10	35.97	52.1	-16.13	-	-
12	.2873	13.78	Ca	9.4	0	10	33.18	50.6	-17.42	-	-
16	.7193	16.26	Ca	9.3	0	10	35.56	46	-10.44	-	-
20	4.8649	10.02	Ca	9.4	0	10	29.42	46	-16.58	-	-
24	13.56	43.94	Ca	9.5	.1	10	63.54	50	13.54	-	-
3	.1928	36.61	Qp	9.4	0	10	56.01	-	-	63.92	-7.91
7	.24	34.38	Qp	9.4	0	10	53.78	-	-	62.1	-8.32
11	.2693	31.93	Qp	9.4	0	10	51.33	-	-	61.14	-9.81
15	.7193	25.93	Qp	9.3	0	10	45.23	-	-	56	-10.77
19	4.8593	22.04	Qp	9.4	0	10	41.44	-	-	56	-14.56
23	13.56	54.71	Qp	9.5	.1	10	74.31	-	-	60	14.31

Qp - Quasi-Peak detector

Ca - CISPR average detection

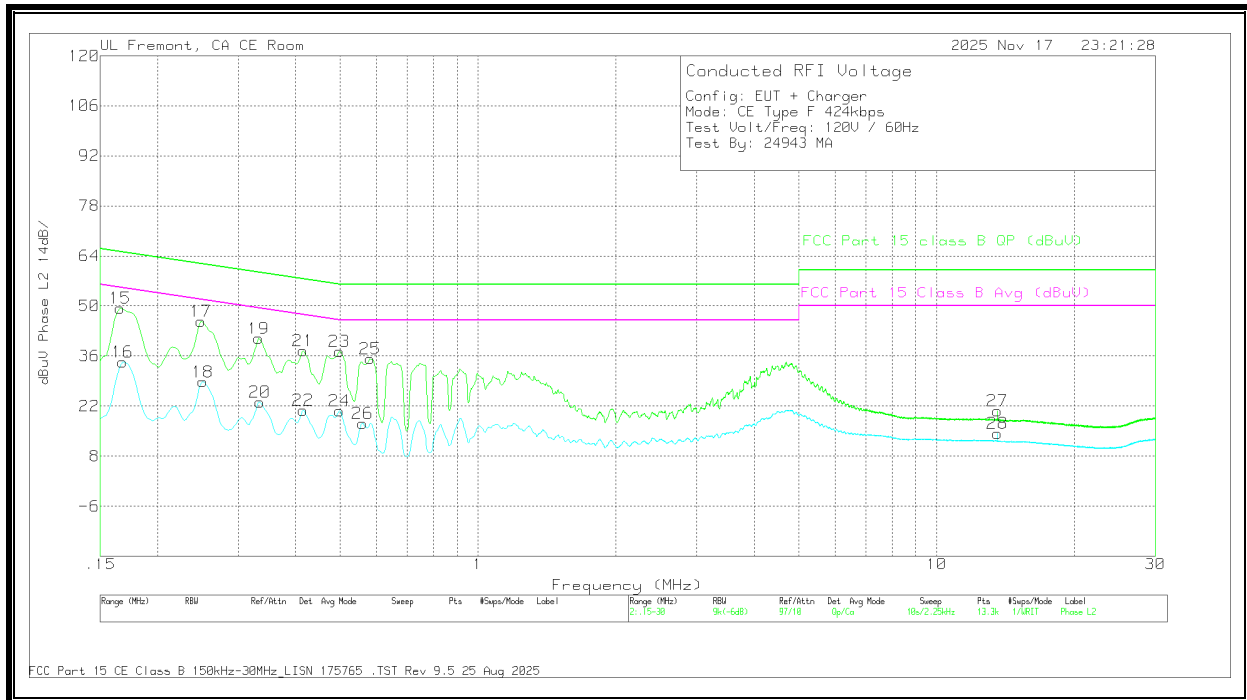
Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.1.4 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

11.1.4. CE MODE: Type F, 424 kbps (ANTENNA PORT TERMINATED)**LINE 1 RESULTS****Worst Emission**

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limiter no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.168	15.13	Ca	9.4	.1	10	34.63	55.06	-20.43	-	-
4	.2513	9.54	Ca	9.4	0	10	28.94	51.72	-22.78	-	-
6	.3345	3.9	Ca	9.4	0	10	23.3	49.34	-26.04	-	-
8	.4155	2.17	Ca	9.4	0	10	21.57	47.54	-25.97	-	-
10	.4988	1.62	Ca	9.3	0	10	20.92	46.02	-25.1	-	-
12	.5595	-2.22	Ca	9.3	0	10	17.08	46	-28.92	-	-
14	13.56	-5.16	Ca	9.5	.1	10	14.44	50	-35.56	-	-
1	.1658	30.38	Qp	9.4	.1	10	49.88	-	-	65.17	-15.29
3	.249	26.28	Qp	9.4	0	10	45.68	-	-	61.79	-16.11
5	.3323	21.66	Qp	9.4	0	10	41.06	-	-	59.39	-18.33
7	.4155	18.58	Qp	9.4	0	10	37.98	-	-	57.54	-19.56
9	.4988	18.18	Qp	9.3	0	10	37.48	-	-	56.02	-18.54
11	.582	15.87	Qp	9.3	0	10	35.17	-	-	56	-20.83
13	13.56	2.19	Qp	9.5	.1	10	21.79	-	-	60	-38.21

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS**Worst Emission**

Range 2: Phase L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
16	.168	14.8	Ca	9.4	.1	10	34.3	55.06	-20.76	-	-
18	.2513	9.39	Ca	9.4	0	10	28.79	51.72	-22.93	-	-
20	.3345	3.75	Ca	9.3	0	10	23.05	49.34	-26.29	-	-
22	.4155	1.59	Ca	9.3	0	10	20.89	47.54	-26.65	-	-
24	.4988	1.38	Ca	9.3	0	10	20.68	46.02	-25.34	-	-
26	.5595	-2.14	Ca	9.3	0	10	17.16	46	-28.84	-	-
28	13.56	-5.26	Ca	9.5	.1	10	14.34	50	-35.66	-	-
15	.1658	29.91	Qp	9.4	.1	10	49.41	-	-	65.17	-15.76
17	.249	26.34	Qp	9.4	0	10	45.74	-	-	61.79	-16.05
19	.3323	21.59	Qp	9.3	0	10	40.89	-	-	59.39	-18.5
21	.4155	18.23	Qp	9.3	0	10	37.53	-	-	57.54	-20.01
23	.4988	18.06	Qp	9.3	0	10	37.36	-	-	56.02	-18.66
25	.582	15.97	Qp	9.3	0	10	35.27	-	-	56	-20.73
27	13.56	1.08	Qp	9.5	.1	10	20.68	-	-	60	-39.32

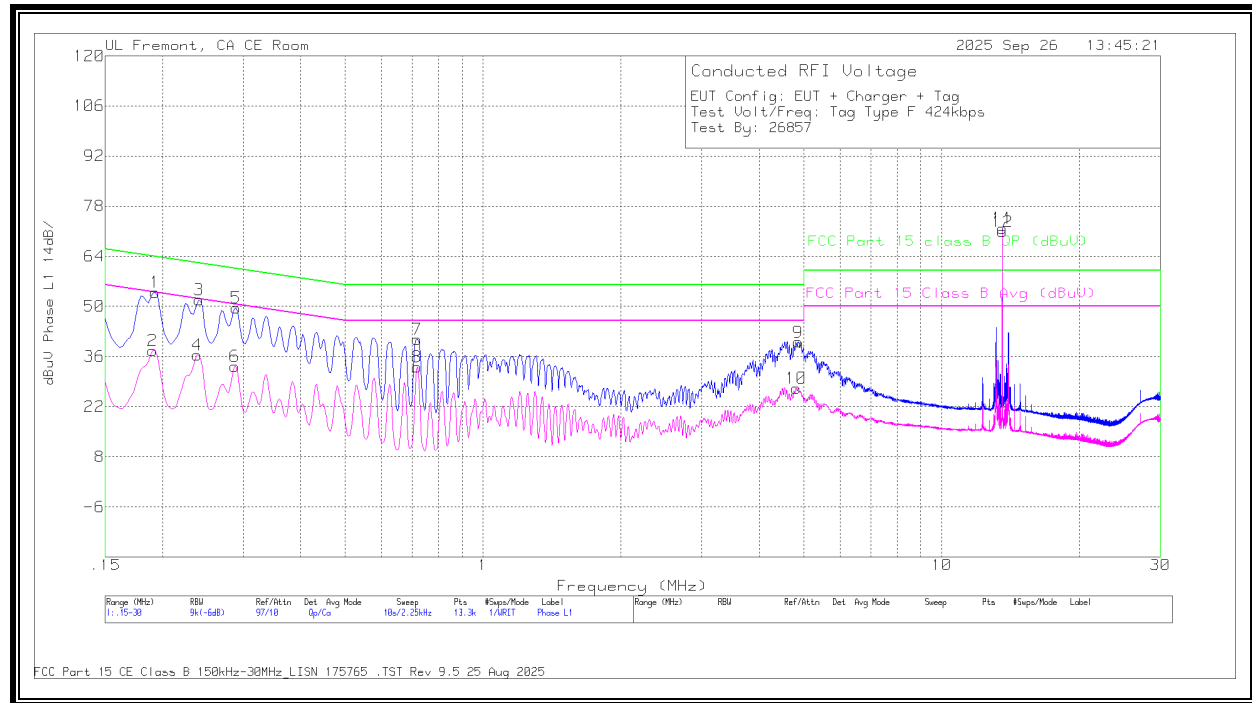
Qp - Quasi-Peak detector

Ca - CISPR average detection

11.1.5. TAG MODE: Type F, 424 kbps

NORMAL OPERATION

LINE 1 RESULTS



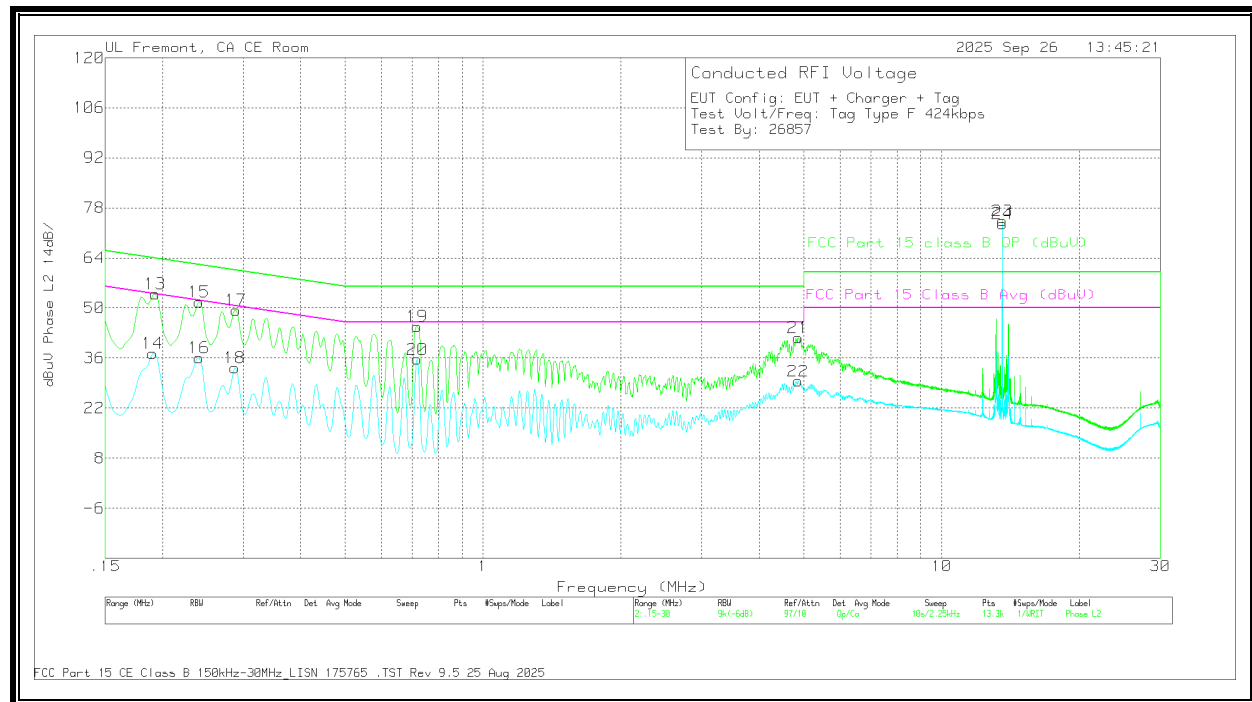
Worst Emission

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.1905	18.12	Ca	9.4	.1	10	37.62	54.01	-16.39	-	-
4	.2378	16.95	Ca	9.4	0	10	36.35	52.17	-15.82	-	-
6	.2873	13.83	Ca	9.4	0	10	33.23	50.6	-17.37	-	-
8	.7193	13.82	Ca	9.3	0	10	33.12	46	-12.88	-	-
10	4.8131	7.68	Ca	9.4	0	10	27.08	46	-18.92	-	-
12	13.56	51.26	Ca	9.5	.1	10	70.86	50	20.86	-	-
1	.1928	34.51	Qp	9.4	.1	10	54.01	-	-	63.92	-9.91
3	.24	32.38	Qp	9.4	0	10	51.78	-	-	62.1	-10.32
5	.2895	30.11	Qp	9.4	0	10	49.51	-	-	60.54	-11.03
7	.7193	21.57	Qp	9.3	0	10	40.87	-	-	56	-15.13
9	4.8593	20.61	Qp	9.4	0	10	40.01	-	-	56	-15.99
11	13.56	52.24	Qp	9.5	.1	10	71.84	-	-	60	11.84

Qp - Quasi-Peak detector

Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.1.6 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

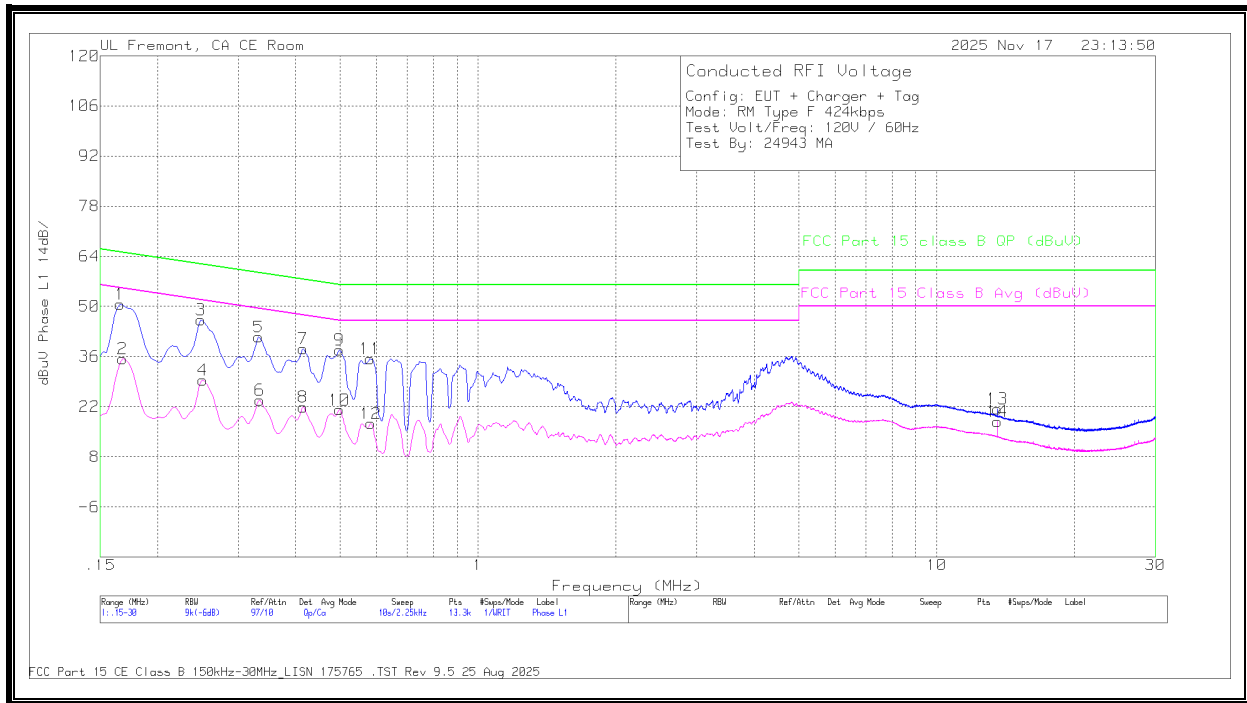
LINE 2 RESULTS**Worst Emission**

Range 2: Phase L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
14	.1905	17.83	Ca	9.4	0	10	37.23	54.01	-16.78	-	-
16	.24	16.7	Ca	9.4	0	10	36.1	52.1	-16	-	-
18	.2873	13.81	Ca	9.4	0	10	33.21	50.6	-17.39	-	-
20	.7193	16.33	Ca	9.3	0	10	35.63	46	-10.37	-	-
22	4.8671	10.11	Ca	9.4	0	10	29.51	46	-16.49	-	-
24	13.56	53.96	Ca	9.5	.1	10	73.56	50	23.56	-	-
13	.1928	34.53	Qp	9.4	0	10	53.93	-	-	63.92	-9.99
15	.24	32.22	Qp	9.4	0	10	51.62	-	-	62.1	-10.48
17	.2895	30.14	Qp	9.3	0	10	49.44	-	-	60.54	-11.1
19	.7193	25.5	Qp	9.3	0	10	44.8	-	-	56	-11.2
21	4.8705	22.24	Qp	9.4	0	10	41.64	-	-	56	-14.36
23	13.56	54.77	Qp	9.5	.1	10	74.37	-	-	60	14.37

Qp - Quasi-Peak detector

Ca - CISPR average detection

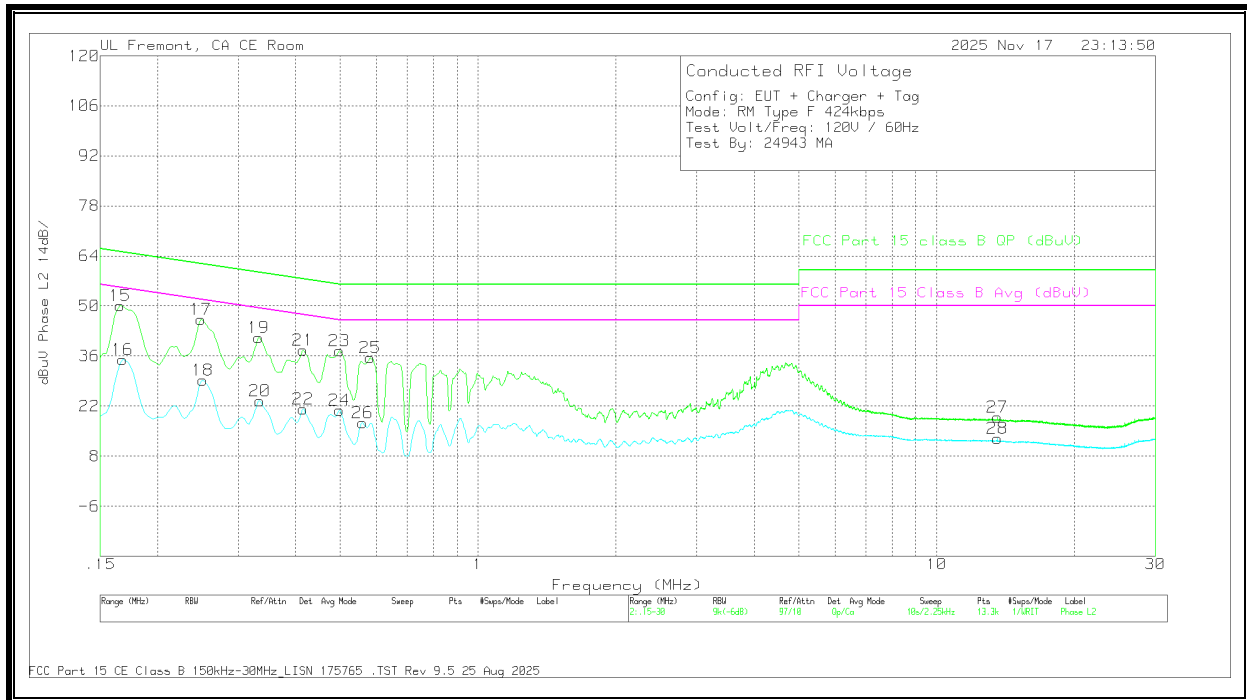
Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.1.6 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

11.1.6. TAG MODE: Type F, 424 kbps (ANTENNA PORT TERMINATED)**LINE 1 RESULTS****Worst Emission**

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limiter no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.168	15.84	Ca	9.4	.1	10	35.34	55.06	-19.72	-	-
4	.2513	10.08	Ca	9.4	0	10	29.48	51.72	-22.24	-	-
6	.3345	4.34	Ca	9.4	0	10	23.74	49.34	-25.6	-	-
8	.4155	2.45	Ca	9.4	0	10	21.85	47.54	-25.69	-	-
10	.4988	1.78	Ca	9.3	0	10	21.08	46.02	-24.94	-	-
12	.5843	-2.06	Ca	9.3	0	10	17.24	46	-28.76	-	-
14	13.56	-1.78	Ca	9.5	.1	10	17.82	50	-32.18	-	-
1	.1658	31.11	Qp	9.4	.1	10	50.61	-	-	65.17	-14.56
3	.249	26.79	Qp	9.4	0	10	46.19	-	-	61.79	-15.6
5	.3323	22.03	Qp	9.4	0	10	41.43	-	-	59.39	-17.96
7	.4155	18.81	Qp	9.4	0	10	38.21	-	-	57.54	-19.33
9	.4988	18.45	Qp	9.3	0	10	37.75	-	-	56.02	-18.27
11	.582	16.1	Qp	9.3	0	10	35.4	-	-	56	-20.6
13	13.56	1.7	Qp	9.5	.1	10	21.3	-	-	60	-38.7

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS**Worst Emission**

Range 2: Phase L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
16	.168	15.45	Ca	9.4	.1	10	34.95	55.06	-20.11	-	-
18	.2513	9.89	Ca	9.4	0	10	29.29	51.72	-22.43	-	-
20	.3345	4.17	Ca	9.3	0	10	23.47	49.34	-25.87	-	-
22	.4155	1.82	Ca	9.3	0	10	21.12	47.54	-26.42	-	-
24	.4988	1.54	Ca	9.3	0	10	20.84	46.02	-25.18	-	-
26	.5595	-1.99	Ca	9.3	0	10	17.31	46	-28.69	-	-
28	13.56	-6.61	Ca	9.5	.1	10	12.99	50	-37.01	-	-
15	.1658	30.6	Qp	9.4	.1	10	50.1	-	-	65.17	-15.07
17	.249	26.8	Qp	9.4	0	10	46.2	-	-	61.79	-15.59
19	.3323	21.9	Qp	9.3	0	10	41.2	-	-	59.39	-18.19
21	.4155	18.41	Qp	9.3	0	10	37.71	-	-	57.54	-19.83
23	.4988	18.19	Qp	9.3	0	10	37.49	-	-	56.02	-18.53
25	.582	16.18	Qp	9.3	0	10	35.48	-	-	56	-20.52
27	13.56	-6.66	Qp	9.5	.1	10	18.94	-	-	60	-41.06

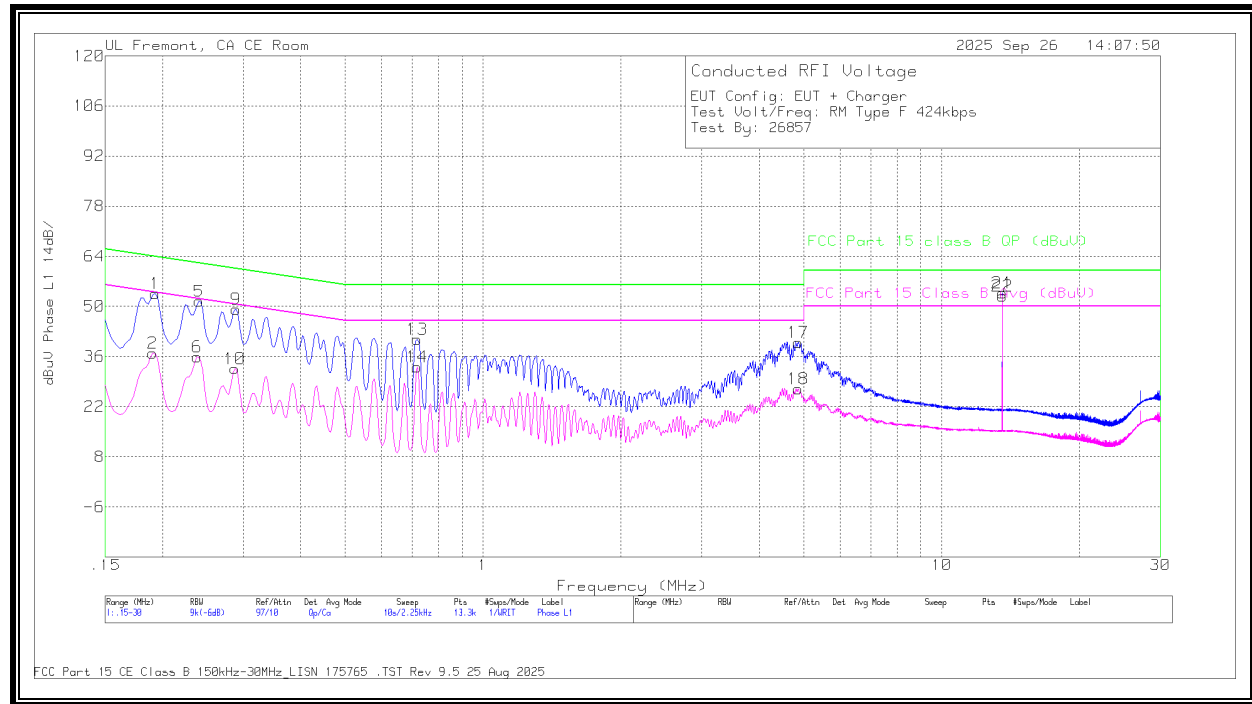
Qp - Quasi-Peak detector

Ca - CISPR average detection

11.2. SECONDARY ANTENNA

11.2.1. READER MODE: Type F, 424 kbps

LINE 1 RESULTS



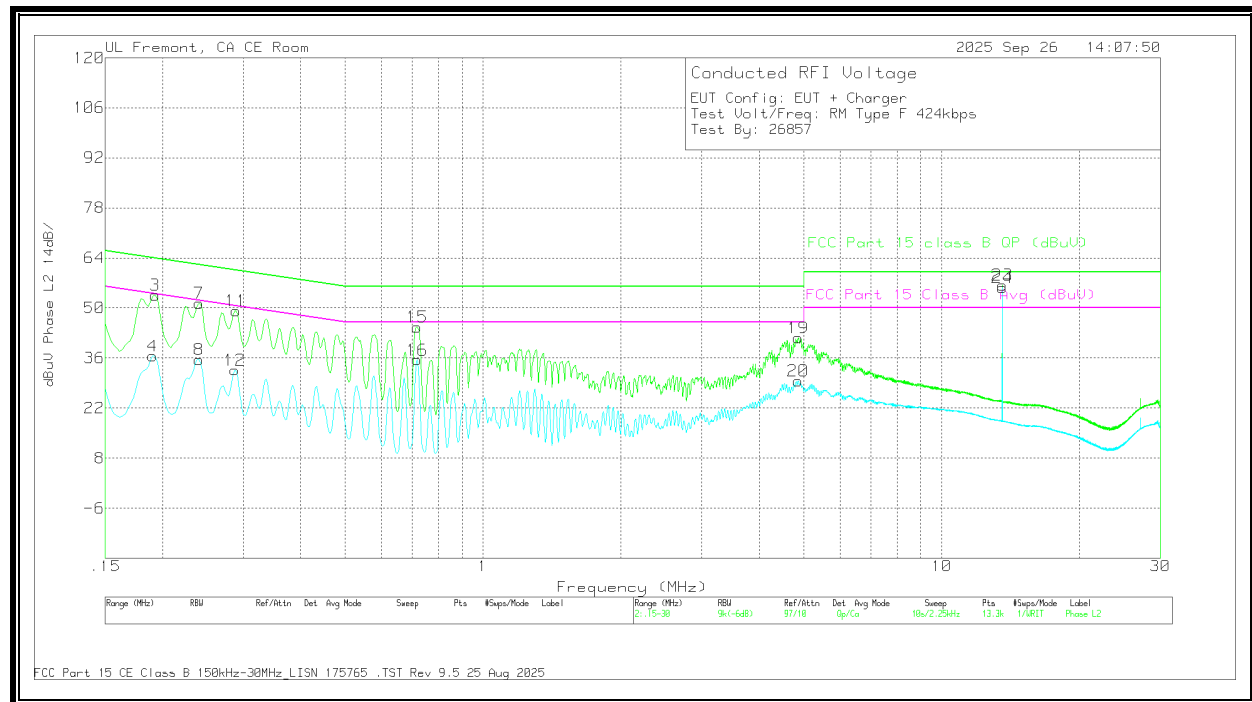
Worst Emission

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.1905	17.45	Ca	9.4	.1	10	36.95	54.01	-17.06	-	-
6	.2378	16.44	Ca	9.4	0	10	35.84	52.17	-16.33	-	-
10	.2873	13.24	Ca	9.4	0	10	32.64	50.6	-17.96	-	-
14	.7193	13.78	Ca	9.3	0	10	33.08	46	-12.92	-	-
18	4.8683	7.56	Ca	9.4	0	10	26.96	46	-19.04	-	-
22	13.56	33.33	Ca	9.5	.1	10	52.93	50	2.93	-	-
1	.1928	34.09	Qp	9.4	.1	10	53.59	-	-	63.92	-10.33
5	.24	32.01	Qp	9.4	0	10	51.41	-	-	62.1	-10.69
9	.2895	29.84	Qp	9.4	0	10	49.24	-	-	60.54	-11.3
13	.7193	21.46	Qp	9.3	0	10	40.76	-	-	56	-15.24
17	4.866	20.53	Qp	9.4	0	10	39.93	-	-	56	-16.07
21	13.56	34.15	Qp	9.5	.1	10	53.75	-	-	60	-6.25

Qp - Quasi-Peak detector

Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.1.2 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

LINE 2 RESULTS**Worst Emission**

Range 2: Phase L2.15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
4	.1905	17.12	Ca	9.4	0	10	36.52	54.01	-17.49	-	-
8	.24	16.11	Ca	9.4	0	10	35.51	52.1	-16.59	-	-
12	.2873	13.24	Ca	9.4	0	10	32.64	50.6	-17.96	-	-
16	.7193	16.15	Ca	9.3	0	10	35.45	46	-10.55	-	-
20	4.866	10.14	Ca	9.4	0	10	29.54	46	-16.46	-	-
24	13.56	36.05	Ca	9.5	.1	10	55.65	50	5.65	-	-
3	.1928	34.13	Qp	9.4	0	10	53.53	-	-	63.92	-10.39
7	.24	31.89	Qp	9.4	0	10	51.29	-	-	62.1	-10.81
11	.2895	29.9	Qp	9.3	0	10	49.2	-	-	60.54	-11.34
15	.7193	25.39	Qp	9.3	0	10	44.69	-	-	56	-11.31
19	4.866	22.2	Qp	9.4	0	10	41.6	-	-	56	-14.4
23	13.56	36.74	Qp	9.5	.1	10	56.34	-	-	60	-3.66

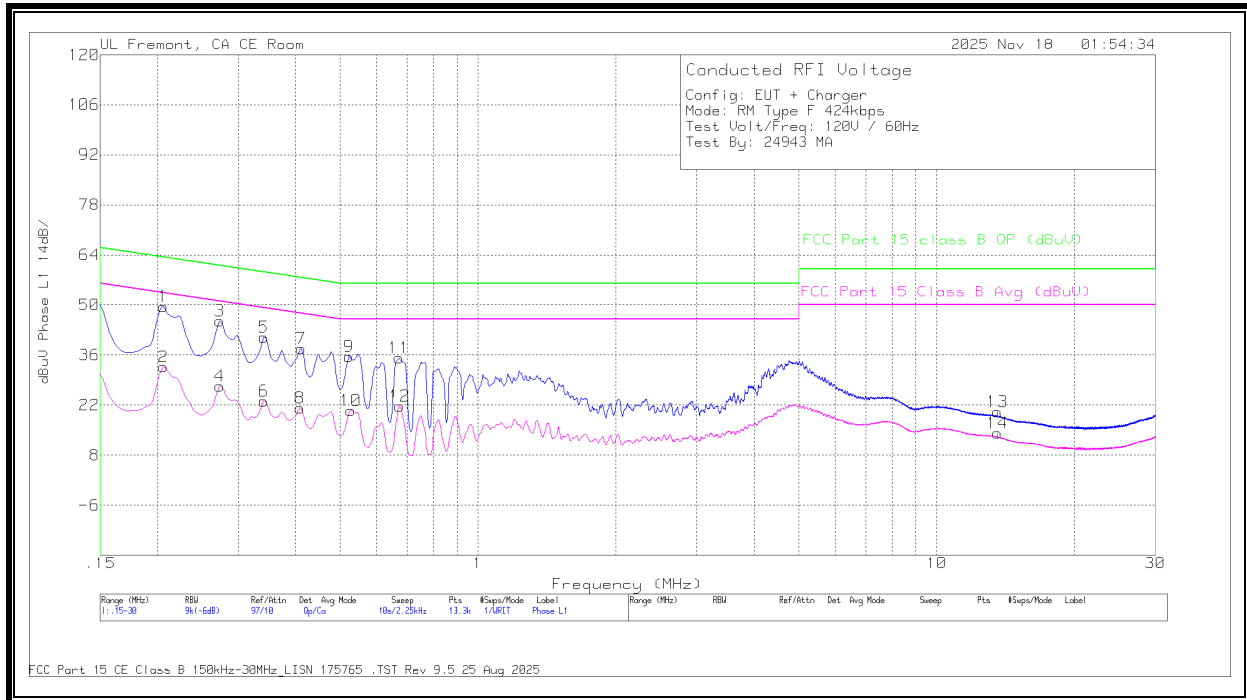
Qp - Quasi-Peak detector

Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. The data under the following section 11.1.2 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

11.2.2. READER MODE: Type F, 424 kbps (ANTENNA PORT TERMINATED)

LINE 1 RESULTS

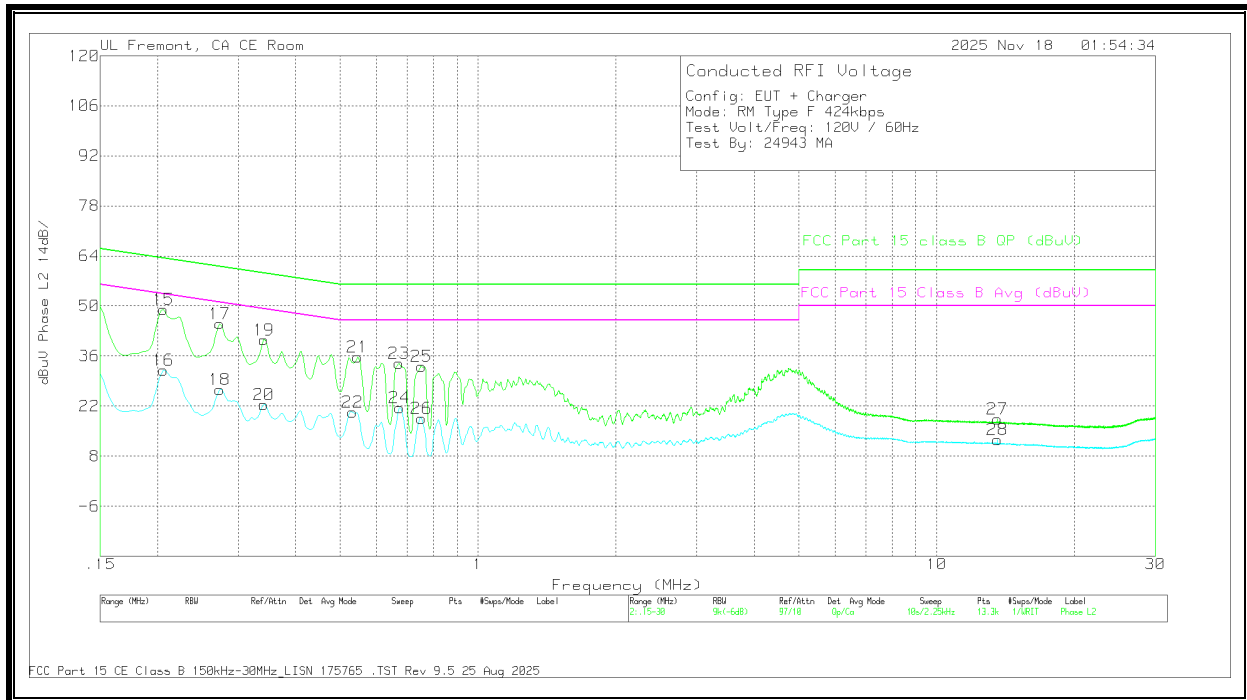


Worst Emission

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.2063	13.26	Ca	9.4	0	10	32.66	53.35	-20.69	-	-
4	.2738	7.89	Ca	9.4	0	10	27.29	51	-23.71	-	-
6	.3413	3.68	Ca	9.4	0	10	23.08	49.17	-26.09	-	-
8	.4088	1.76	Ca	9.4	0	10	21.16	47.67	-26.51	-	-
10	.528	1.21	Ca	9.3	0	10	20.51	46	-25.49	-	-
12	.6743	2.44	Ca	9.3	0	10	21.74	46	-24.26	-	-
14	13.56	-5.48	Ca	9.5	.1	10	14.12	50	-35.88	-	-
1	.2063	30.13	Qp	9.4	0	10	49.53	-	-	63.35	-13.82
3	.2738	26.1	Qp	9.4	0	10	45.5	-	-	61	-15.5
5	.3413	21.6	Qp	9.4	0	10	41	-	-	59.17	-18.17
7	.411	18.43	Qp	9.4	0	10	37.83	-	-	57.63	-19.8
9	.5235	16.23	Qp	9.3	0	10	35.53	-	-	56	-20.47
11	.672	15.94	Qp	9.3	0	10	35.24	-	-	56	-20.76
13	13.56	.5	Qp	9.5	.1	10	20.1	-	-	60	-39.9

Qp - Quasi-Peak detector

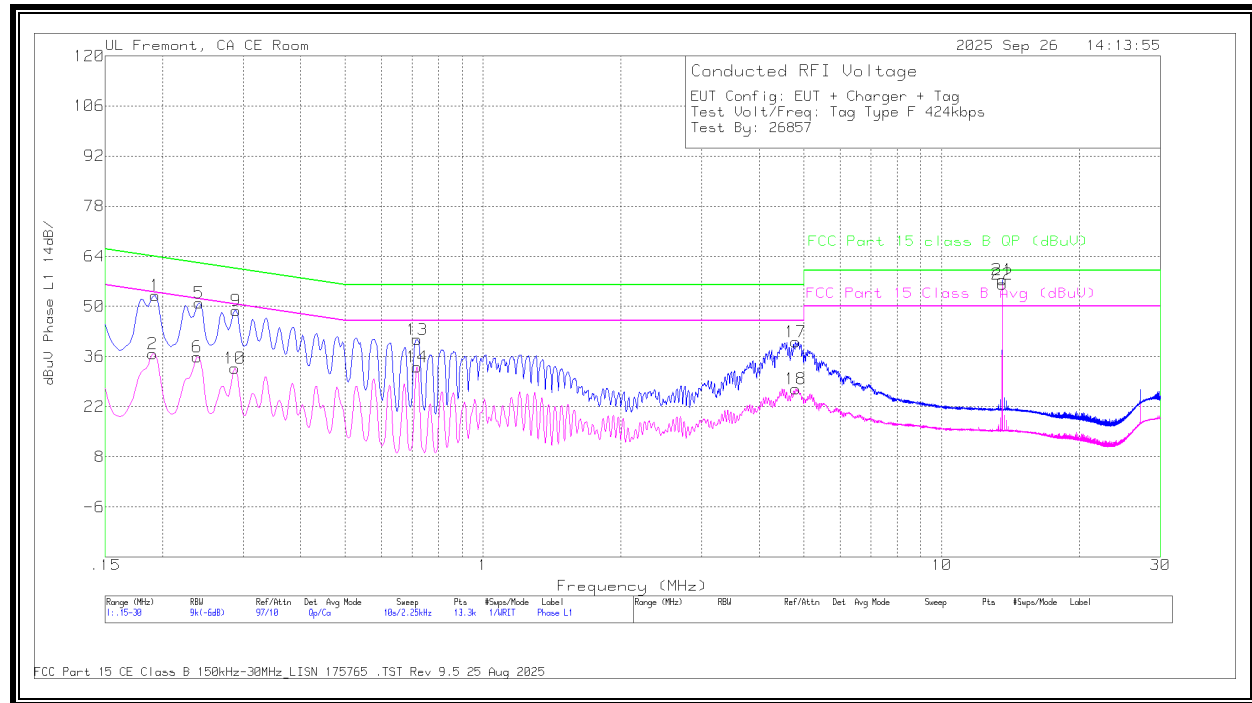
Ca - CISPR average detection

LINE 2 RESULTS**Worst Emission**

Range 2: Phase L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
16	.2063	12.58	Ca	9.4	0	10	31.98	53.35	-21.37	-	-
18	.2738	7.26	Ca	9.4	0	10	26.66	51	-24.34	-	-
20	.3413	3.08	Ca	9.3	0	10	22.38	49.17	-26.79	-	-
22	.5325	.98	Ca	9.3	0	10	20.28	46	-25.72	-	-
24	.6743	2.28	Ca	9.3	0	10	21.58	46	-24.42	-	-
26	.753	-.74	Ca	9.3	0	10	18.56	46	-27.44	-	-
28	13.56	-7.05	Ca	9.5	.1	10	12.55	50	-37.45	-	-
15	.2063	29.64	Qp	9.4	0	10	49.04	-	-	63.35	-14.31
17	.2738	25.68	Qp	9.4	0	10	45.08	-	-	61	-15.92
19	.3413	21.23	Qp	9.3	0	10	40.53	-	-	59.17	-18.64
21	.546	16.38	Qp	9.3	0	10	35.68	-	-	56	-20.32
23	.672	14.62	Qp	9.3	0	10	33.92	-	-	56	-22.08
25	.753	13.84	Qp	9.3	0	10	33.14	-	-	56	-22.86
27	13.56	-1.3	Qp	9.5	.1	10	18.3	-	-	60	-41.7

Qp - Quasi-Peak detector

Ca - CISPR average detection

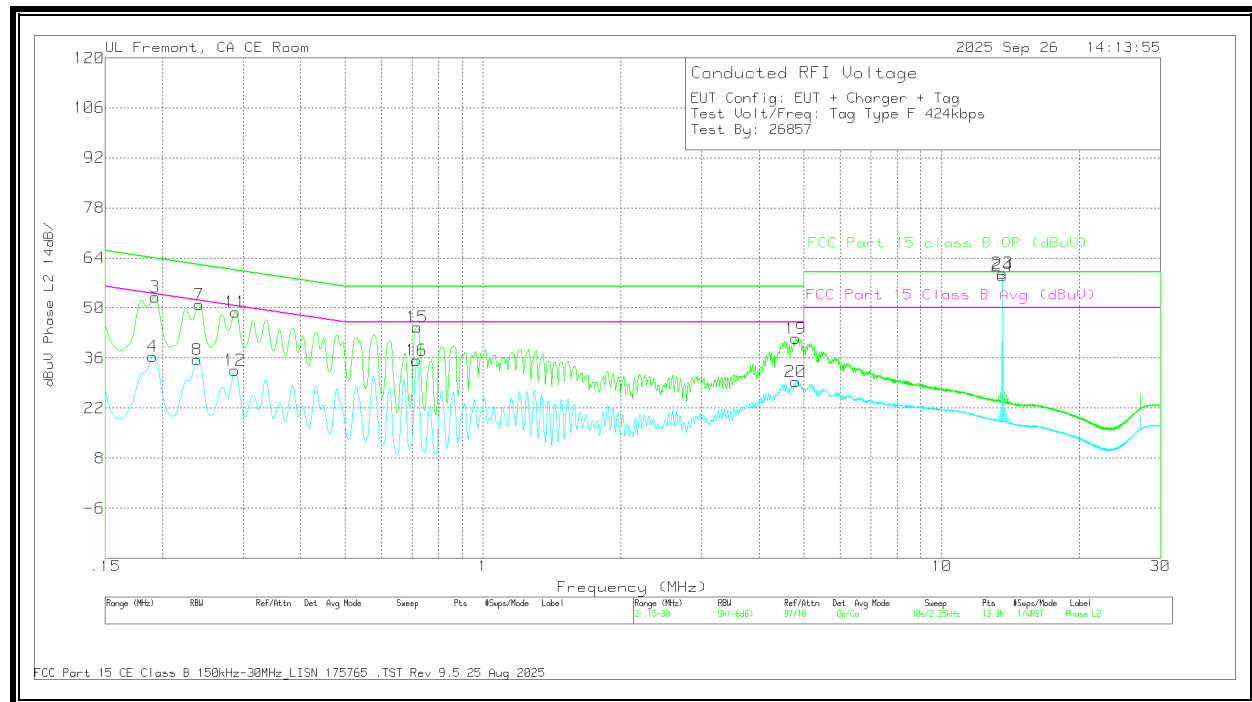
11.2.3. TAG MODE: Type F, 424 kbps**NORMAL OPERATION****LINE 1 RESULTS****Worst Emission**

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.1905	17.31	Ca	9.4	.1	10	36.81	54.01	-17.2	-	-
6	.2378	16.44	Ca	9.4	0	10	35.84	52.17	-16.33	-	-
10	.2873	13.3	Ca	9.4	0	10	32.7	50.6	-17.9	-	-
14	.7193	13.85	Ca	9.3	0	10	33.15	46	-12.85	-	-
18	4.8086	7.55	Ca	9.4	0	10	26.95	46	-19.05	-	-
22	13.56	36.65	Ca	9.5	.1	10	56.25	50	6.25	-	-
1	.1928	33.55	Qp	9.4	.1	10	53.05	-	-	63.92	-10.87
5	.24	31.6	Qp	9.4	0	10	51	-	-	62.1	-11.1
9	.2895	29.45	Qp	9.4	0	10	48.85	-	-	60.54	-11.69
13	.7193	21.42	Qp	9.3	0	10	40.72	-	-	56	-15.28
17	4.803	20.64	Qp	9.4	0	10	40.04	-	-	56	-15.96
21	13.56	37.79	Qp	9.5	.1	10	57.39	-	-	60	-2.61

Qp - Quasi-Peak detector

Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.1.4 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

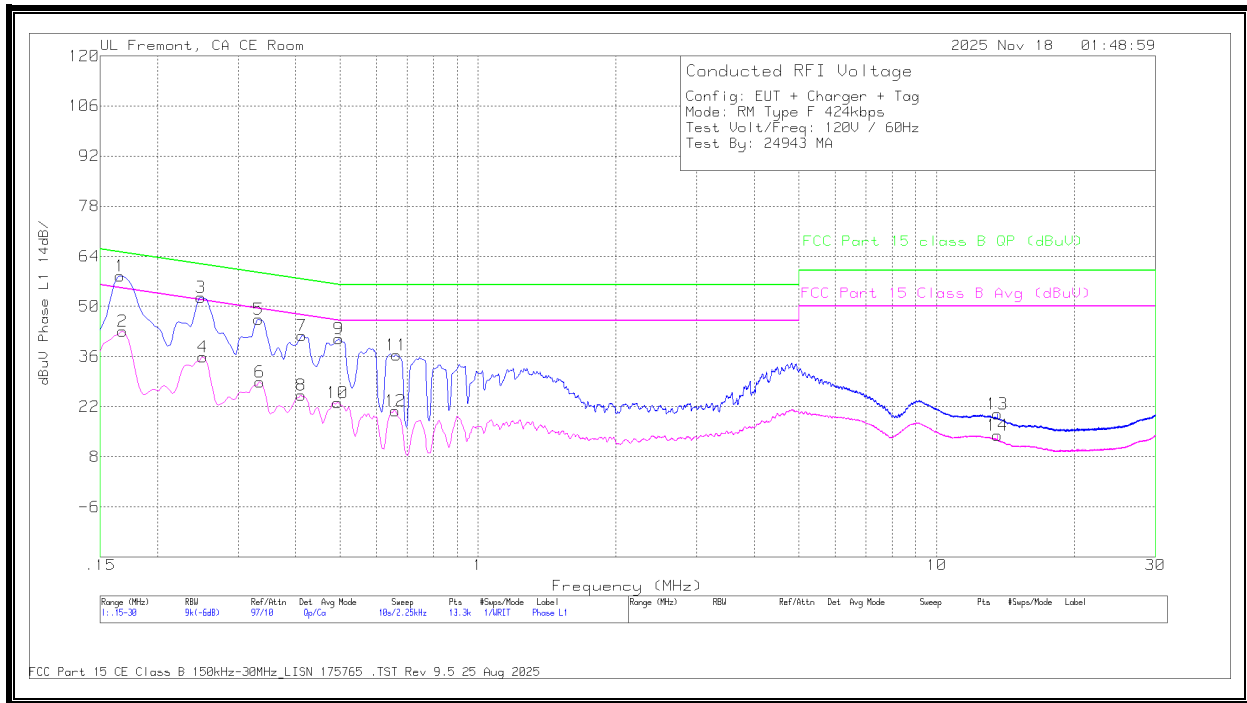
LINE 2 RESULTS**Worst Emission**

Range 2: Phase L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
4	.1905	16.96	Ca	9.4	0	10	36.36	54.01	-17.65	-	-
8	.2378	16.12	Ca	9.4	0	10	35.52	52.17	-16.65	-	-
12	.2873	13.19	Ca	9.4	0	10	32.59	50.6	-18.01	-	-
16	.717	16.01	Ca	9.3	0	10	35.31	46	-10.69	-	-
20	4.8098	10.08	Ca	9.4	0	10	29.48	46	-16.52	-	-
24	13.56	39.4	Ca	9.5	.1	10	59	50	9	-	-
3	.1928	33.67	Qp	9.4	0	10	53.07	-	-	63.92	-10.85
7	.24	31.5	Qp	9.4	0	10	50.9	-	-	62.1	-11.2
11	.2884	29.49	Qp	9.4	0	10	48.89	-	-	60.57	-11.68
15	.7193	25.34	Qp	9.3	0	10	44.64	-	-	56	-11.36
19	4.8053	22.03	Qp	9.4	0	10	41.43	-	-	56	-14.57
23	13.56	40.08	Qp	9.5	.1	10	59.68	-	-	60	-32

Qp - Quasi-Peak detector

Ca - CISPR average detection

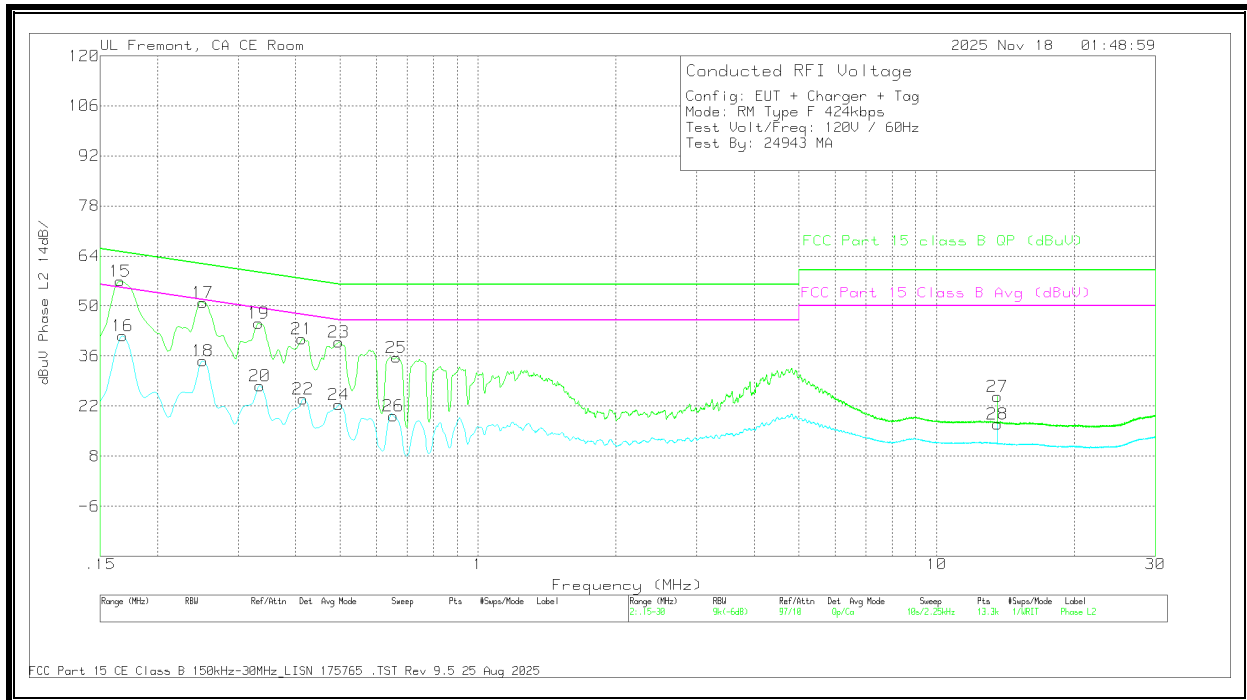
Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.1.4 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

11.2.4. TAG MODE: Type F, 424 kbps (ANTENNA PORT TERMINATED)**LINE 1 RESULTS****Worst Emission**

Range 1: Phase L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limiter no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.168	23.64	Ca	9.4	.1	10	43.14	55.06	-11.92	-	-
4	.2513	16.49	Ca	9.4	0	10	35.89	51.72	-15.83	-	-
6	.3345	9.48	Ca	9.4	0	10	28.88	49.34	-20.46	-	-
8	.411	5.77	Ca	9.4	0	10	25.17	47.63	-22.46	-	-
10	.4943	3.85	Ca	9.3	0	10	23.15	46.1	-22.95	-	-
12	.6608	1.42	Ca	9.4	0	10	20.82	46	-25.18	-	-
14	13.56	-5.58	Ca	9.5	.1	10	14.02	50	-35.98	-	-
1	.1658	39.07	Qp	9.4	.1	10	58.57	-	-	65.17	-6.6
3	.249	33.13	Qp	9.4	0	10	52.53	-	-	61.79	-9.26
5	.3323	27	Qp	9.4	0	10	46.4	-	-	59.39	-12.99
7	.4133	22.51	Qp	9.4	0	10	41.91	-	-	57.58	-15.67
9	.4965	21.52	Qp	9.4	0	10	40.92	-	-	56.06	-15.14
11	.663	16.97	Qp	9.4	0	10	36.37	-	-	56	-19.63
13	13.56	.37	Qp	9.5	.1	10	19.97	-	-	60	-40.03

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS**Worst Emission**

Range 2: Phase L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limit no Pad_UL (dB)	LISN (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
16	.168	22.16	Ca	9.4	.1	10	41.66	55.06	-13.4	-	-
18	.2513	15.3	Ca	9.4	0	10	34.7	51.72	-17.02	-	-
20	.3345	8.38	Ca	9.3	0	10	27.68	49.34	-21.66	-	-
22	.4155	4.68	Ca	9.3	0	10	23.98	47.54	-23.56	-	-
24	.4965	3.03	Ca	9.3	0	10	22.33	46.06	-23.73	-	-
26	.654	-.03	Ca	9.3	0	10	19.27	46	-26.73	-	-
28	13.56	-2.64	Ca	9.5	.1	10	16.96	50	-33.04	-	-
15	.1658	37.5	Qp	9.4	.1	10	57	-	-	65.17	-8.17
17	.2513	31.62	Qp	9.4	0	10	51.02	-	-	61.72	-10.7
19	.3323	25.87	Qp	9.3	0	10	45.17	-	-	59.39	-14.22
21	.4133	21.55	Qp	9.3	0	10	40.85	-	-	57.58	-16.73
23	.4965	20.59	Qp	9.3	0	10	39.89	-	-	56.06	-16.17
25	.663	16.32	Qp	9.3	0	10	35.62	-	-	56	-20.38
27	13.56	5.11	Qp	9.5	.1	10	24.71	-	-	60	-35.29

Qp - Quasi-Peak detector

Ca - CISPR average detection

12. SETUP PHOTOS

Please refer to 15941282-EP1V1 for setup photos.

APPENDIX A – SPOT CHECK EVALUATION

MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3575, A3634 and A3635.

These models have the same PCB layout, design, common components, antennas, antenna locations and housing cases, except for disabled/enabled cellular bands via software as shown below.

Model	FCC ID	IC ID	Feature Difference	Sim Support	Reference Model
A3575	BCG-E9145A	579C-E9145A	--	eSIM only	--
A3634	BCG-E9147A	579C-E9147A	No B14/29/71	eSIM + pSIM	A3575
A3635	BCG-E9148A	579C-E9148A	No B14/29/53/71/MSS		

The spot check plan 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 v03 equation (4).

$$d_{dB} = |V_{dB} - R_{dB}| \quad (1)$$

$$d_{dB} \leq d_{dBmax} \quad (2)$$

$$d_{dBmax}(M_{dB}) = \begin{cases} (3 + M_{dB}/20) \text{ dB} & , \text{ for } 0 \leq M_{dB} \leq 60 \text{ dB} \\ 6 \text{ dB} & , \text{ for } M_{dB} > 60 \text{ dB} \end{cases} \quad (4)$$

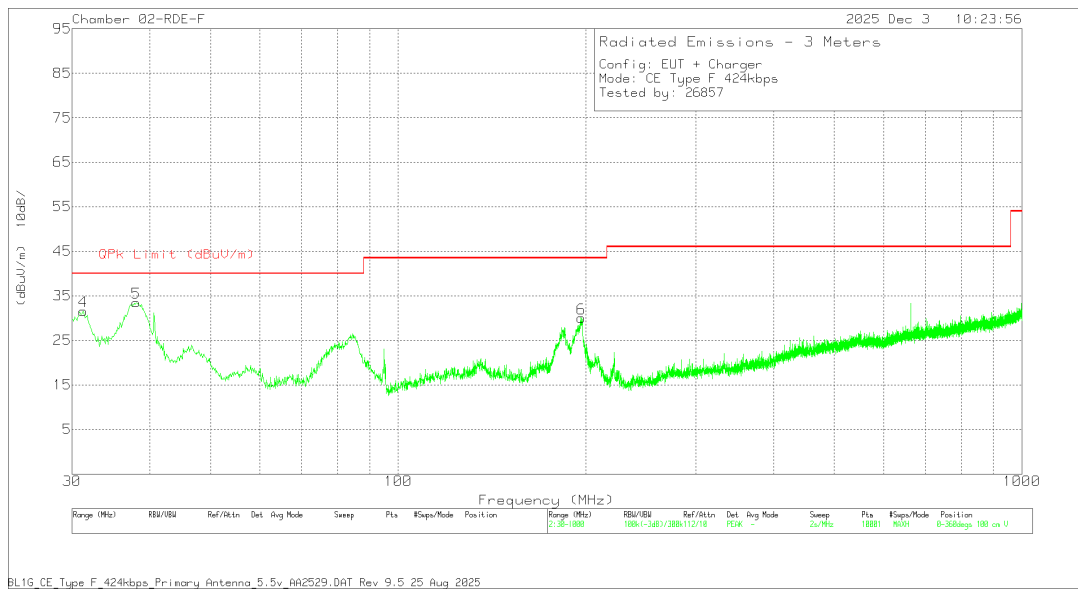
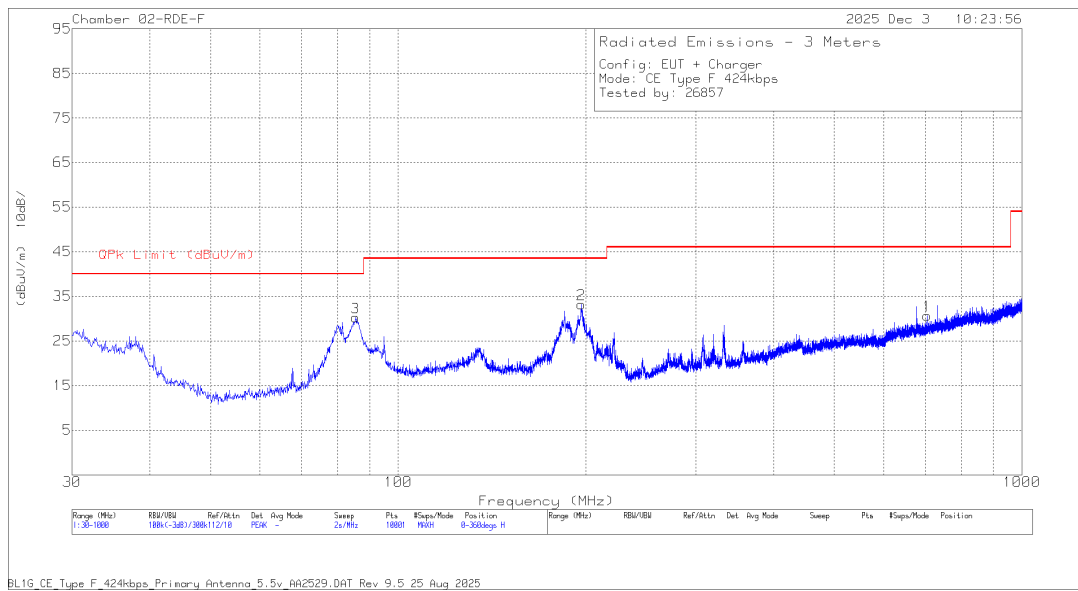
Where d_{dB} is deviation between the variant and the reference model, V_{dB} is variant spot check level, R_{dB} is the corresponding reference measurement level, d_{dBmax} is the maximum deviation d_{dB} allowed, and M_{dB} is the margin in dB.

SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3634

A3634 SPOT CHECK RESULTS								
Equipment Class / Technology	Worst Mode	Test Item	Measured Frequency (MHz)	Original Model: A3575	Sub Model: A3634	Delta (dB)	Margin	Remarks
				FCC ID : BCG-E9145A IC : 579C-E9145A	FCC ID : BCG-E9147A IC : 579C-E9147A			
DXX / NFC (FCC/IC)	Primary Ant Reader Mode Face On	E-field (30m distance) FCC (dBμV/m)	13.56	26.37	24.80	-1.57	-57.63	Note 1
	Primary Ant CE Mode QP, Hor	Out-Of-Band Emissions (dBuV/m)	705.133	42.16	34.85	-7.31	-3.86	Note 2

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

Note 2: Full test performed as the delta between reference and variant models exceeds those allowed for data referencing. Please see below for test data.



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	705.121	37.15	Qp	26	-28.3	34.85	46.02	-11.17	171	113	H
2	196.452	45.53	Pk	18	-30.3	33.23	43.52	-10.29	0-360	97	H
3	85.387	48.44	Pk	13.1	-31.3	30.24	40	-9.76	0-360	298	H
4	31.261	37.15	Pk	26.1	-31.7	31.55	40	-8.45	0-360	100	V
5	* 38.051	44.12	Pk	21.1	-31.7	33.52	40	-6.48	0-360	100	V
6	196.646	42.38	Pk	18	-30.4	29.98	43.52	-13.54	0-360	100	V

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

Pk - Peak detector

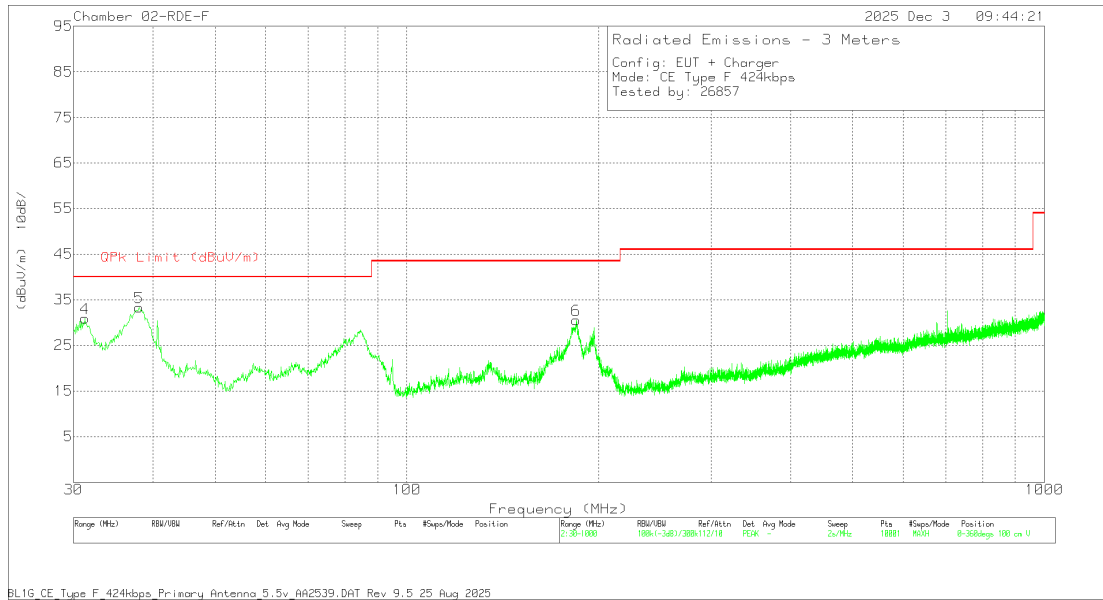
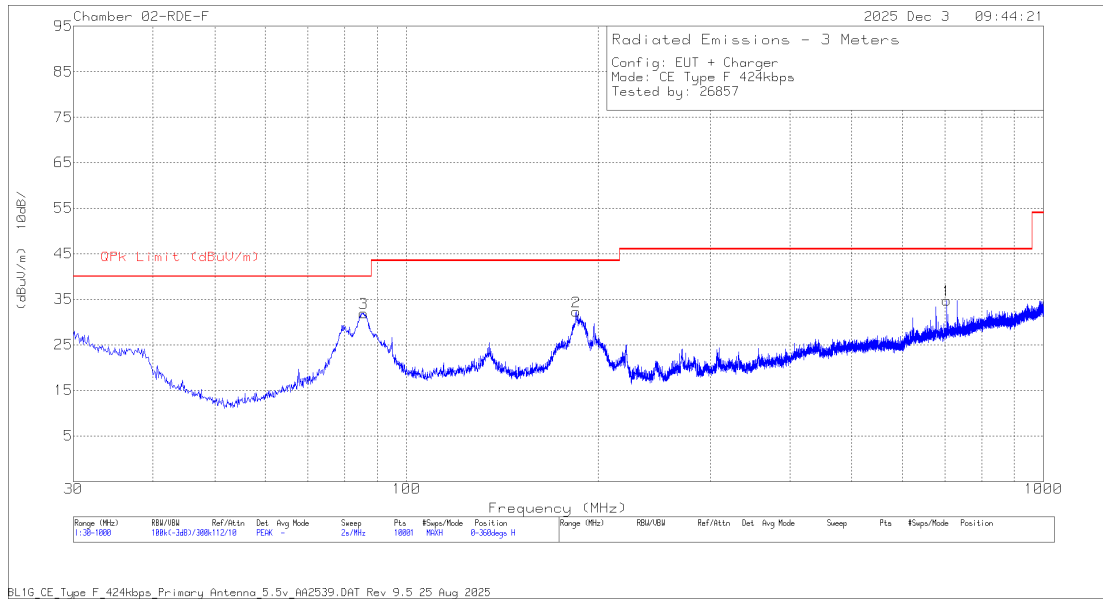
Qp - Quasi-Peak detector

SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3635

A3635 SPOT CHECK RESULTS								
Equipment Class / Technology	Worst Mode	Test Item	Measured Frequency (MHz)	Original Model: A3575	Sub Model: A3635	Delta (dB)	Margin	Remarks
				FCC ID : BCG-E9145A IC : 579C-E9145A	FCC ID : BCG-E9148A IC : 579C-E9148A			
DXX / NFC (FCC/IC)	Primary Ant Reader Mode Face On	E-field (30m distance) FCC (dB μ V/m)	13.56	26.37	24.82	-1.55	-57.63	Note 1
	Primary Ant CE Mode QP, Hor	Out-Of-Band Emissions (dBuV/m)	705.133	42.16	35.47	-6.69	-3.86	Note 2

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

Note 2: Full test performed as the delta between reference and variant models exceeds those allowed for data referencing. Please see below for test data.



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	705.121	37.77	Qp	26	-28.3	35.47	46.02	-10.55	68	104	H
2	184.521	45.67	Pk	17.1	-30.5	32.27	43.52	-11.25	0-360	99	H
3	85.678	50.06	Pk	13.2	-31.3	31.96	40	-8.04	0-360	298	H
4	31.261	36.56	Pk	26.1	-31.7	30.96	40	-9.04	0-360	100	V
5	* 38.051	43.96	Pk	21.1	-31.7	33.36	40	-6.64	0-360	100	V
6	184.23	43.83	Pk	17.1	-30.4	30.53	43.52	-12.99	0-360	100	V

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

PK - Peak detector

Qp - Quasi-Peak detector

END OF REPORT