TEST REPORT

Report Number : 15496249-E18V2

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

Model : A3257 (Parent Model)
A3525, A3526, A3527 (Variant Models)

Brand : APPLE

FCC ID : BCG-E8950A (Parent Model)
BCG-E8960A, BCG-E8961A, BCG-E8962A (Variant Models)

IC : 579C-E8950A (Parent Model)
579C-E8960A, 579C-E8961A, 579C-E8962A (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:
AUGUST 08, 2025

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

CERT #0751.05

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	07/28/2025	Initial Issue	Darren Aung
V2	08/08/2025	Addressed TCB Comments on Appendix A	GP Chin

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

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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: A3257 (Parent Model)
A3525, A3526, A3527 (Variant Models)

BRAND: APPLE

SERIAL NUMBER: JMLVXQ4VHX, JPGXT4LQ4X, KX7C4X7YVM

SAMPLE RECEIPT DATE: MAY 16, 2025

DATE TESTED: MAY 28, 2025 TO JULY 25, 2025

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

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

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

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

Approved & Released For
UL Verification Services Inc. By:

Frank Ibrahim
Staff Engineer
Consumer Technology Division
UL Verification Services Inc.

Prepared By:

Darren Aung
Laboratory Engineer Associate
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 C63.10-2020+Cor. 1-2023+C63.10a-2024
- KDB 414788 D01 Radiated Test Site
- RSS-GEN Issue 5 + A1 + A2
- RSS-210 Issue 11

*Note: The use of ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 does not deviate from the testing procedures of ANSI C63.10-2020

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 Humidity	3.39 %
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB

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

4.4. SAMPLE CALCULATION

RADIATED EMISSIONS

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

MAINS CONDUCTED EMISSIONS

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with 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.

5.2. SOFTWARE AND FIRMWARE

The Software and Firmware version used at test is 23A256.

5.3. 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	B	Reader	106	30.42
			CE	106	30.19
			Tag	106	30.27
Secondary	13.56	B	Reader	106	5.77
			Tag	106	6.37

5.4. 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 B 106Kbp/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.

6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Apple	Macbook Air	C2QLN093FKYR	FCC DoC
Laptop AC/DC adapter	Apple	Magsafe 2	A1436	NA
EUT AC Adapter	Apple	A2305	D292365CDYADHLHC3	NA

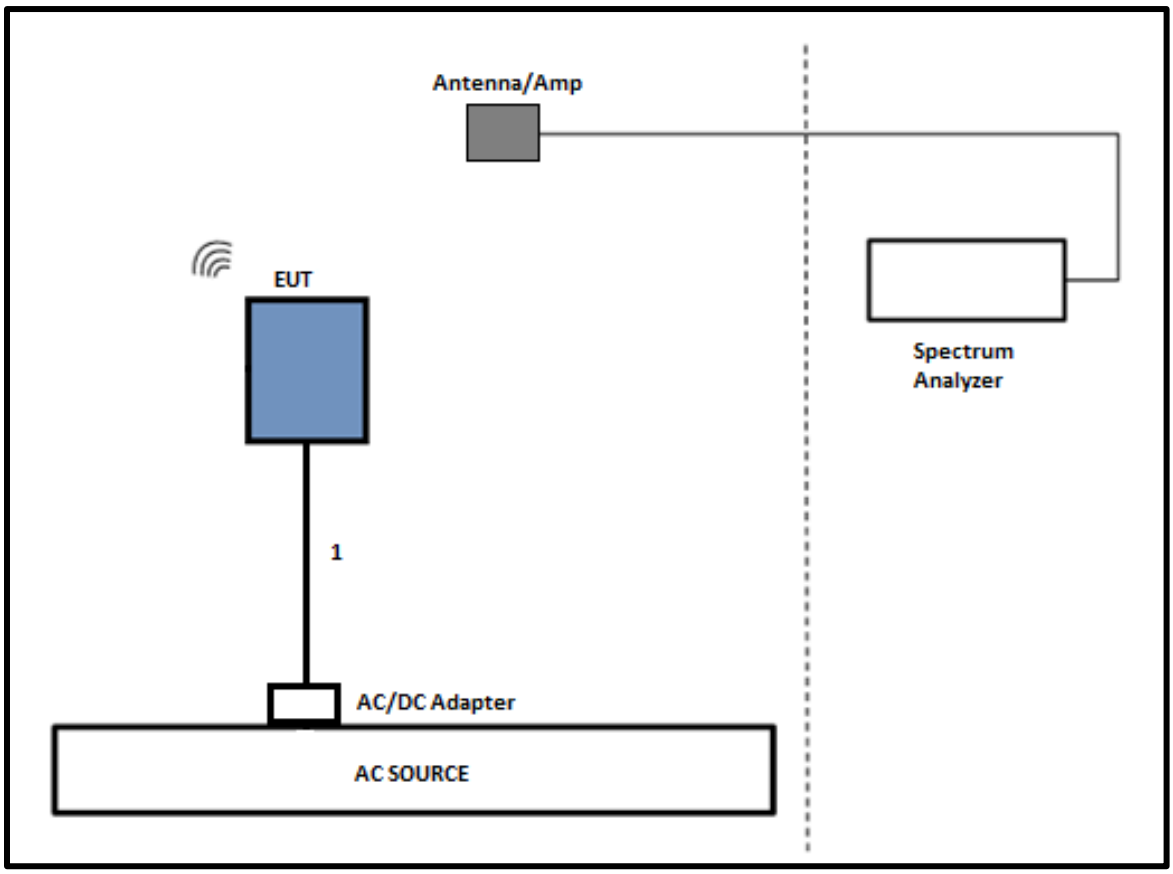
I/O CABLES

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

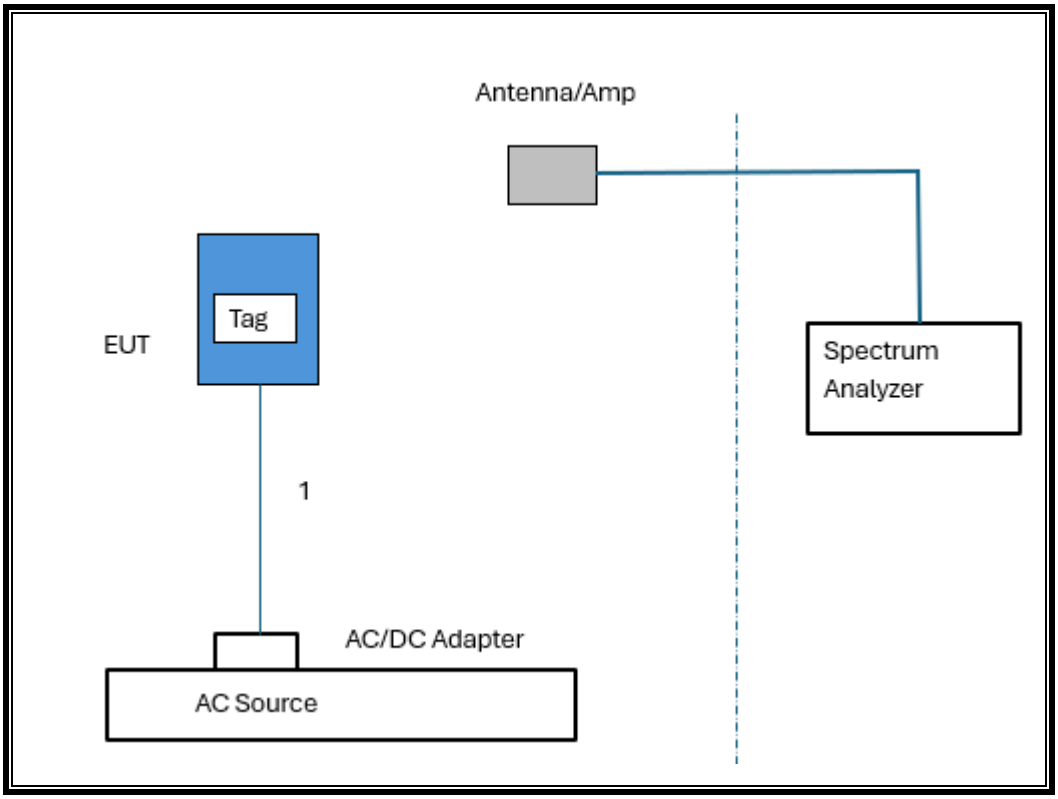
TEST SETUP

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

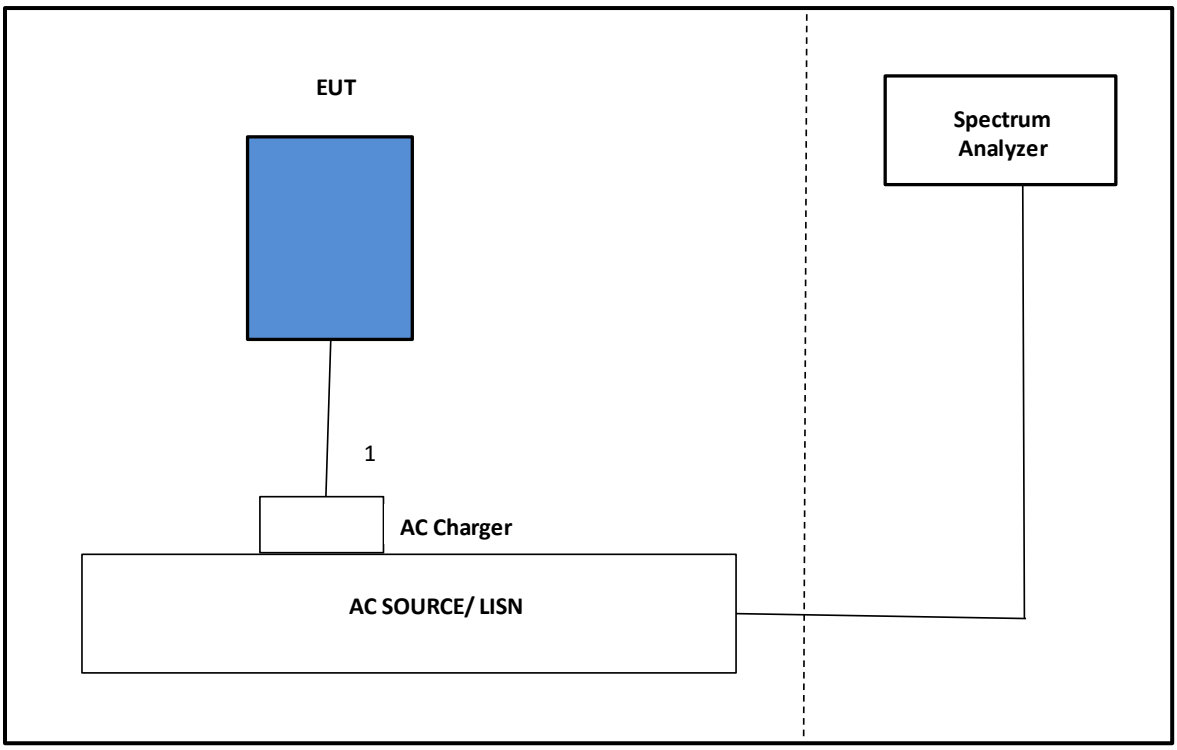
SETUP DIAGRAM FOR RADIATED TESTS



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 were 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	E4440A	79602	2026-01-31	2025-01-24
Antenna, Passive Loop 30Hz to 1MHz	Electro-Metrics	EM-6871	170014	2025-08-31	2023-08-31
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	170016	2025-08-31	2023-08-31
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	224489	2026-05-31	2024-05-14
Antenna, BroadBand Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	80508	2025-06-30	2023-06-15
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	223460	2026-02-28	2025-02-28
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	208807	2026-01-31	2025-01-31
Antenna, BroadBand Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	85150	2025-12-30	2023-05-12
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169937	2026-02-28	2025-02-11
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	89097	2025-10-31	2025-04-03
Near Field 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	17646	2026-02-28	2025-02-18
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175765	2026-01-31	2025-01-28
Transient Limiter	TE	TBFL1	207996	2025-09-30	2024-09-24

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

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

99% and 20dB BW

Primary Antenna

Type B (Reader Mode)

Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
106	13.56	22.160	25.31

Type B (CE Mode)

Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
106	13.56	21.892	25.46

Type B (Tag Mode)

Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
106	13.56	22.141	25.26

Secondary Antenna

Type B (Reader Mode)

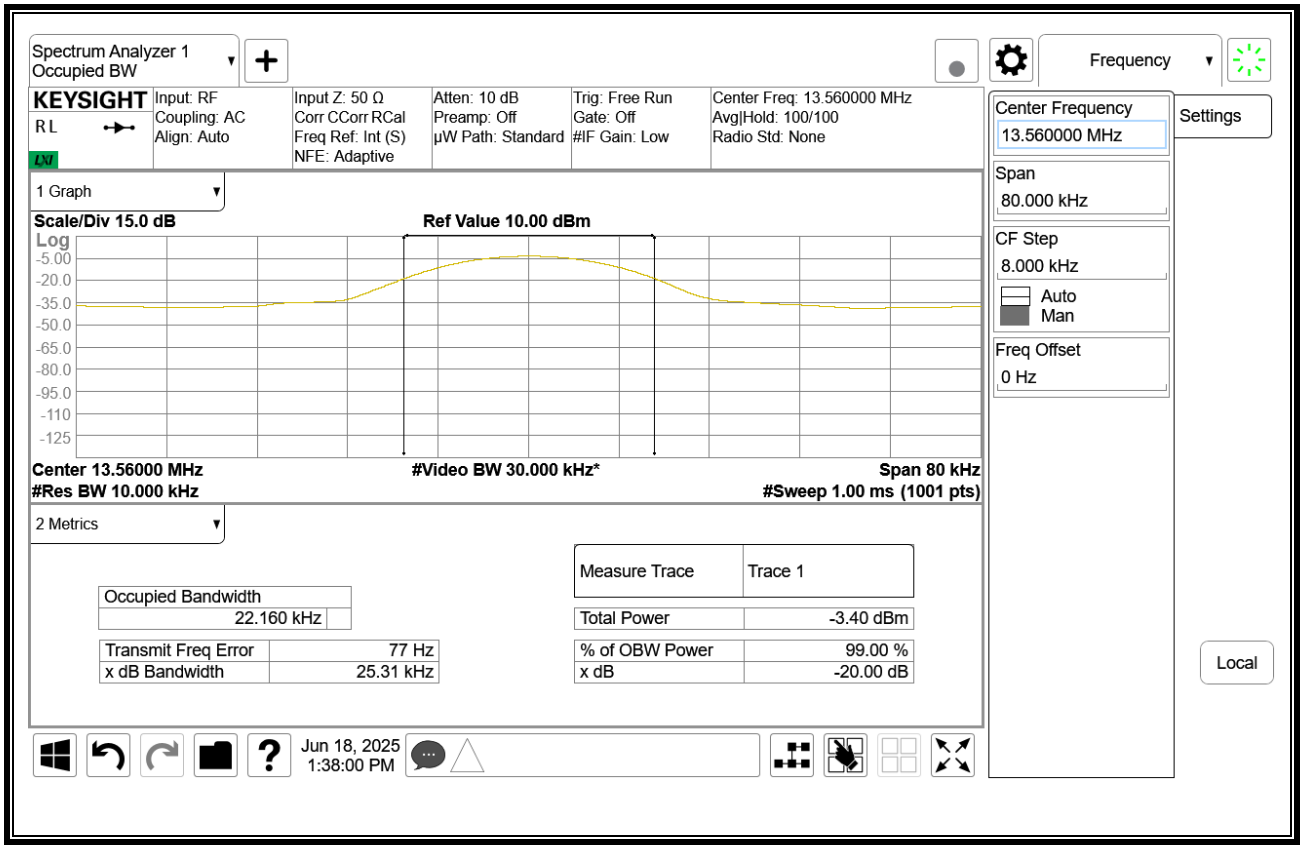
Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
106	13.56	21.958	25.19

Type B (Tag Mode)

Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
106	13.56	22.061	25.32

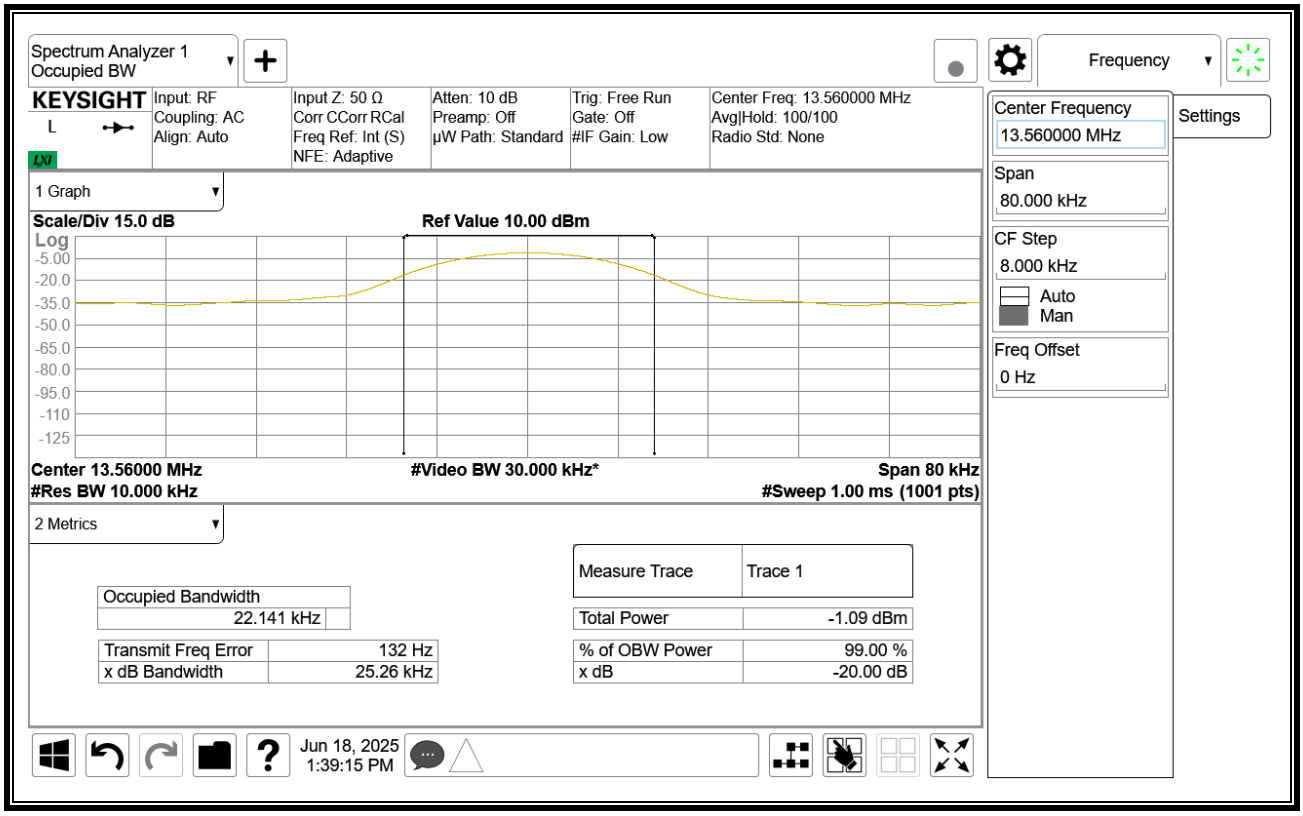
8.1. PRIMARY ANTENNA

Type B (Reader Mode),106Kbps



Type B (CE Mode),106Kbps

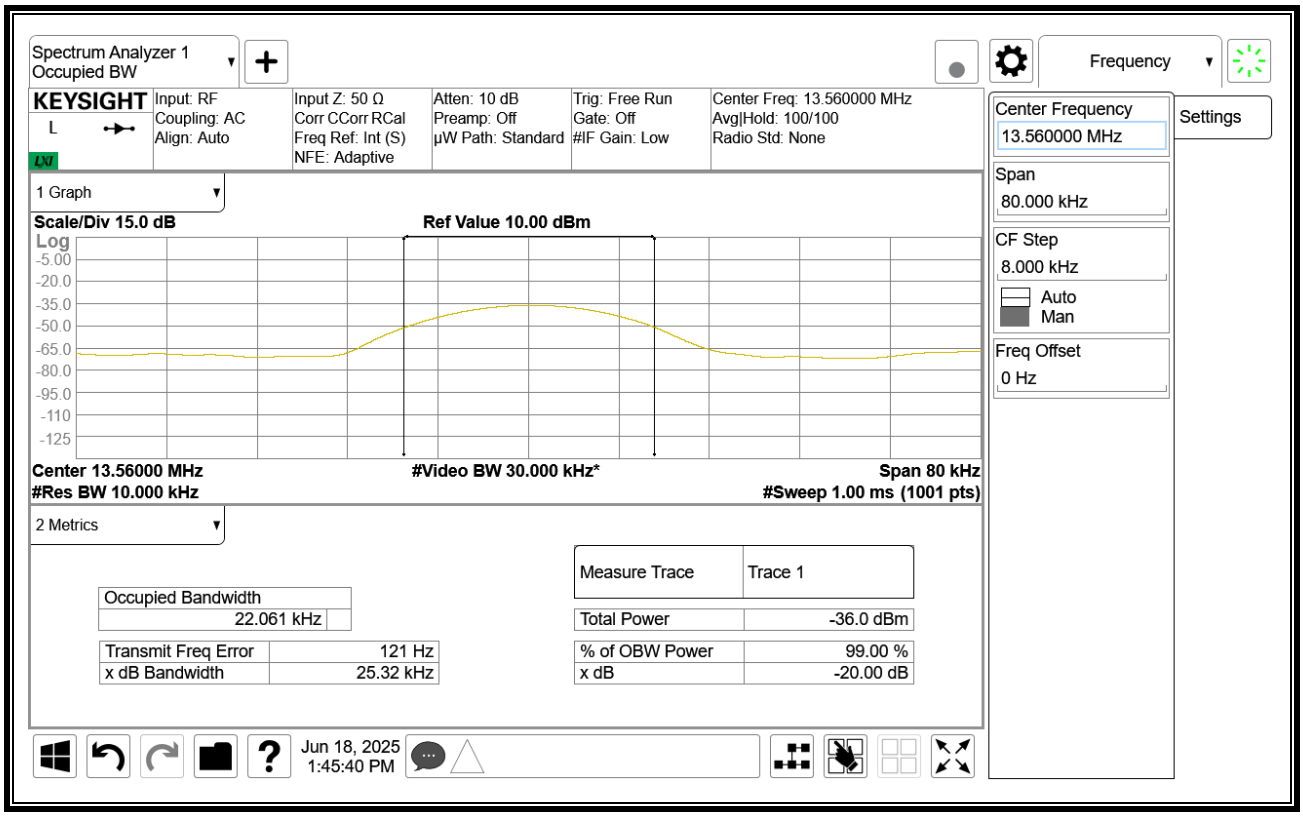
Type B (Tag Mode),106Kbps



8.2. SECONDARY ANTENNA

Type B (Reader Mode),106Kbps

Type B (Tag Mode),106Kbps



9. RADIATED EMISSION TEST RESULTS

9.1. 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 C63.10-2020+Cor. 1-2023+C63.10a-2024

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.

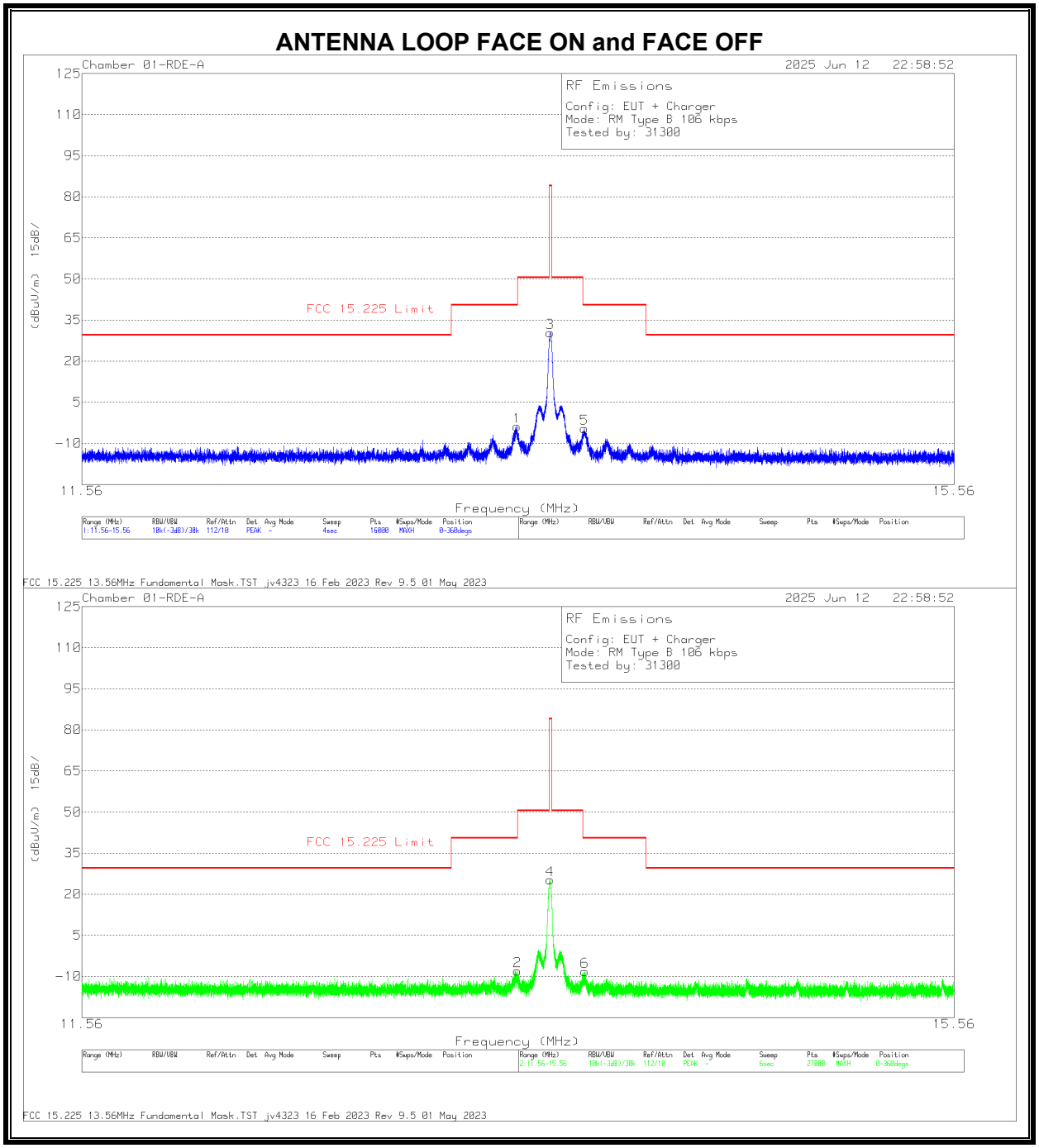
RESULTS

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.

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

9.2.1. READER MODE, TYPE B 106kbps

FUNDAMENTAL



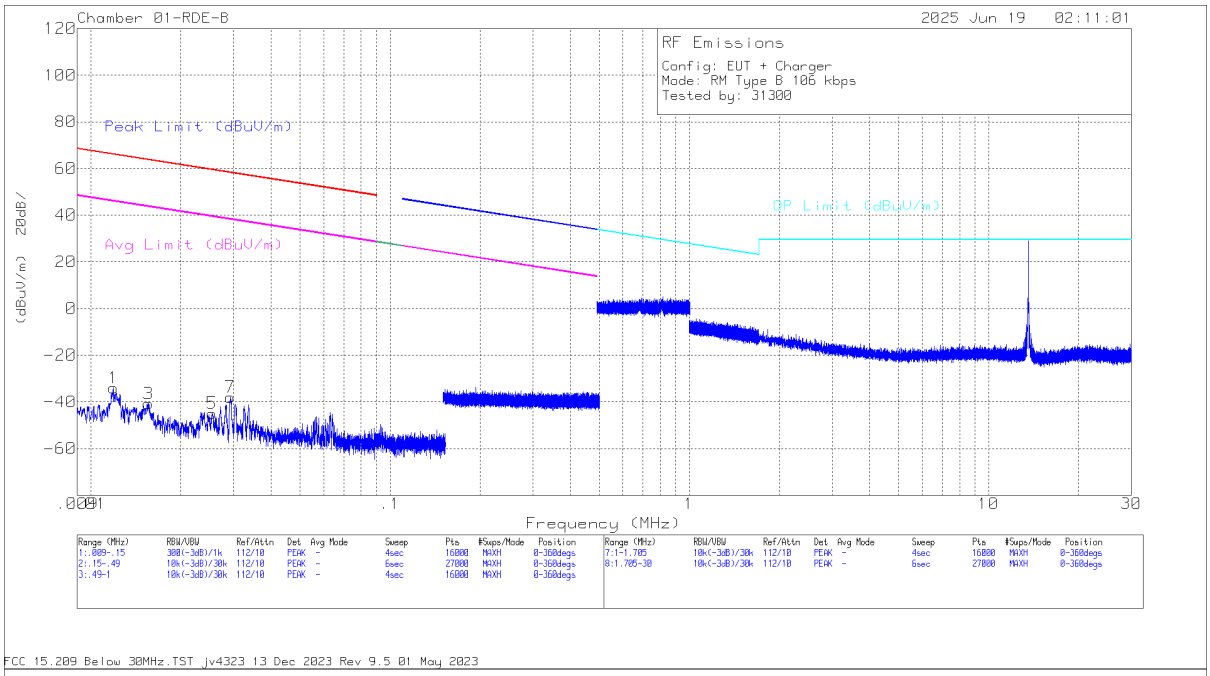
Trace Markers

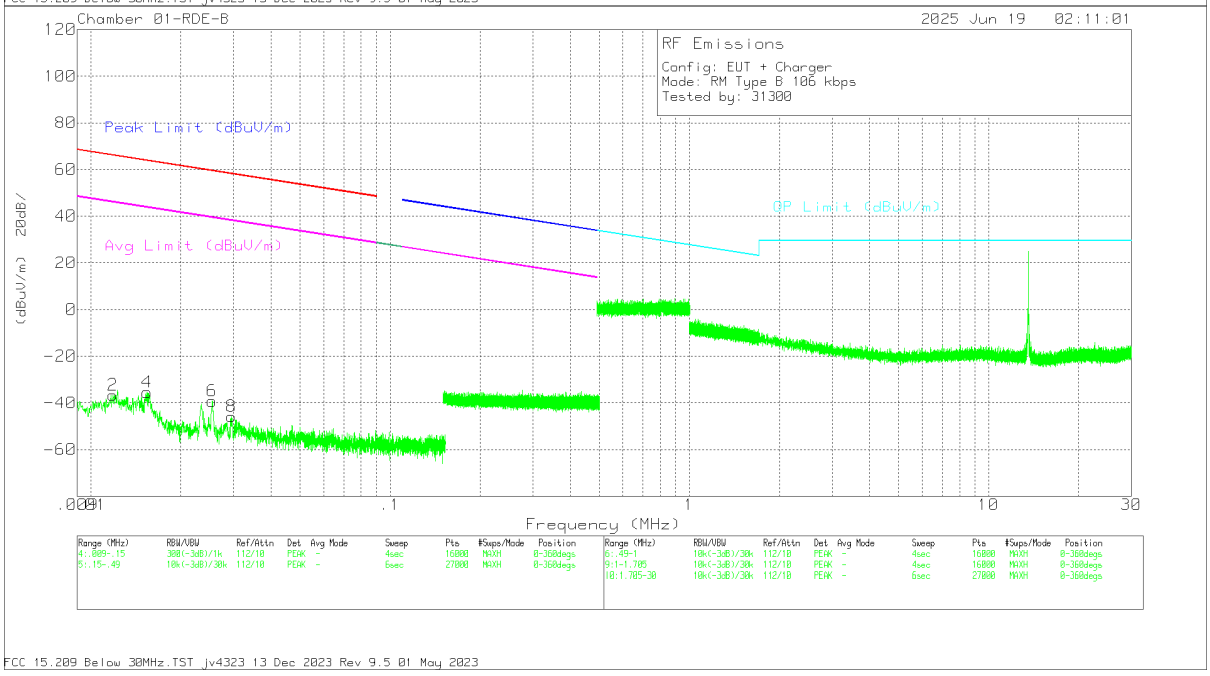
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E (dB/m)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
1	13.4055	28.88	Pk	33.8	-26.6	-40	-3.92	40.51	-44.43	0-360
2	13.4081	24.85	Pk	33.8	-26.6	-40	-7.95	40.51	-48.46	0-360
3	13.5598	63.22	Pk	33.8	-26.6	-40	30.42	84	-53.58	0-360
4	13.5582	58.02	Pk	33.8	-26.6	-40	25.22	84	-58.78	0-360
5	13.7175	28.3	Pk	33.7	-26.6	-40	-4.6	40.51	-45.11	0-360
6	13.7199	24.77	Pk	33.7	-26.6	-40	-8.13	40.51	-48.64	0-360

Pk - Peak detector

SPURIOUS EMISSION

ANTENNA LOOP FACE ON AND OFF





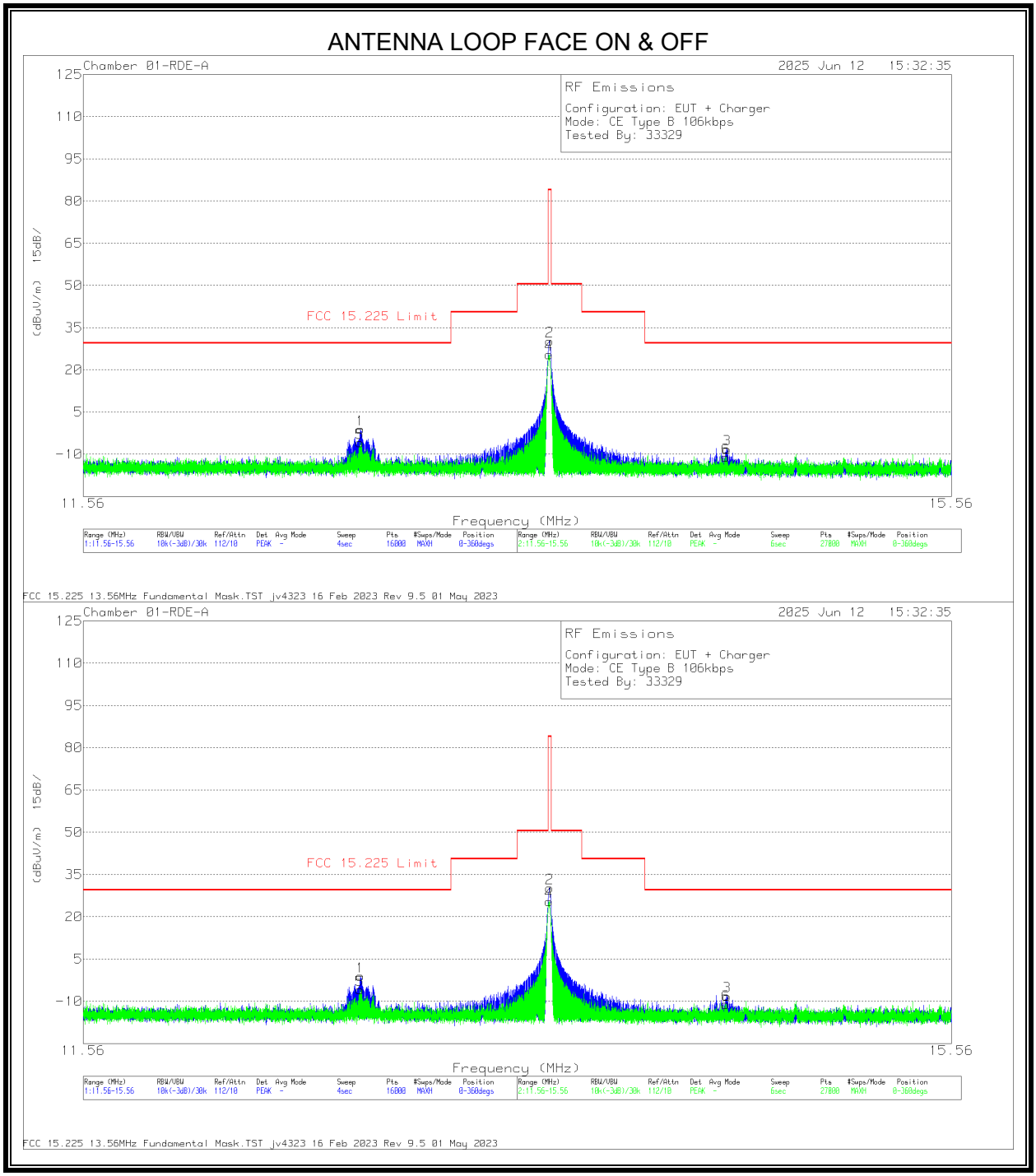
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	Amp/Cbl (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.0119	17.05	Pk	60.3	-31.4	-80	-34.05	66.09	-100.14	46.09	-80.14	0-360	Face-On
2	.0118	14.43	Pk	60.3	-31.4	-80	-36.67	66.11	-102.78	46.11	-82.78	0-360	Face-Off
3	.0156	11.26	Pk	59.8	-31.8	-80	-40.74	63.74	-104.48	43.74	-84.48	0-360	Face-On
4	.0154	16.44	Pk	59.8	-31.7	-80	-35.46	63.82	-99.28	43.82	-79.28	0-360	Face-Off
5	.0254	8.49	Pk	58.6	-32.1	-80	-45.01	59.5	-104.51	39.5	-84.51	0-360	Face-On
6	.0254	14.29	Pk	58.6	-32.1	-80	-39.21	59.48	-98.69	39.48	-78.69	0-360	Face-Off
7	.0293	15.92	Pk	58.2	-32.1	-80	-37.98	58.26	-96.24	38.26	-76.24	0-360	Face-On
8	.0295	8.18	Pk	58.1	-32.1	-80	-45.82	58.2	-104.02	38.2	-84.02	0-360	Face-Off

Pk - Peak detector

9.2.2. CE MODE, TYPE B 106kbps

FUNDAMENTAL



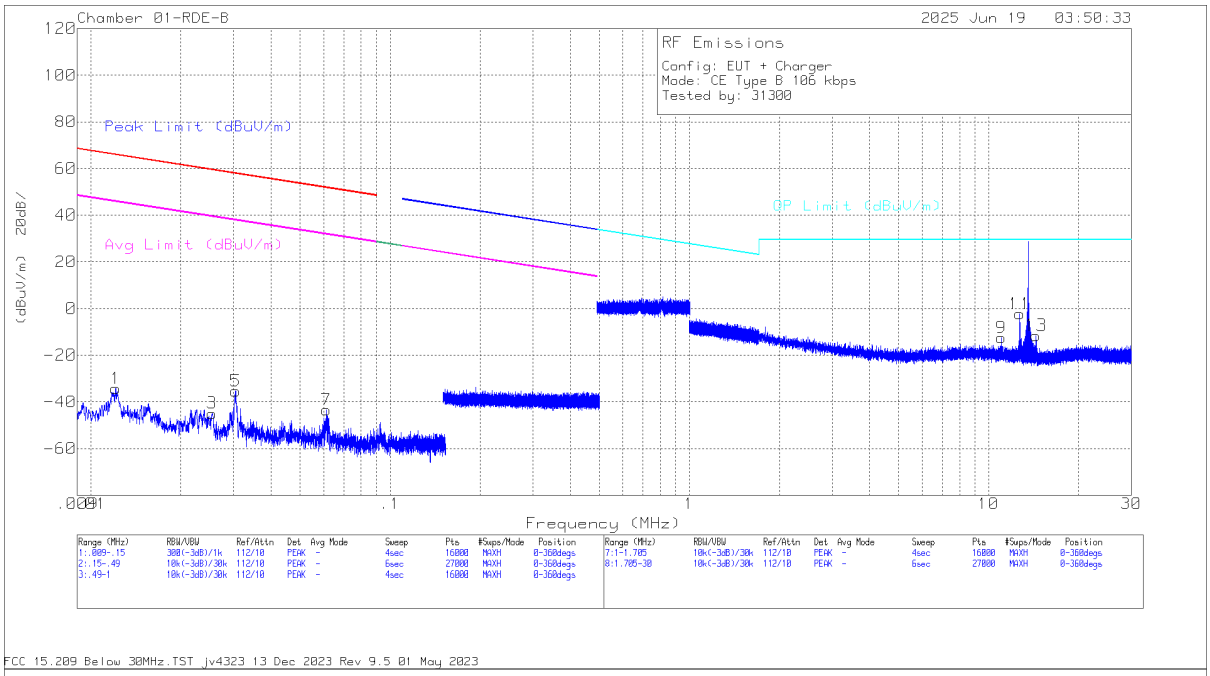
Trace Markers

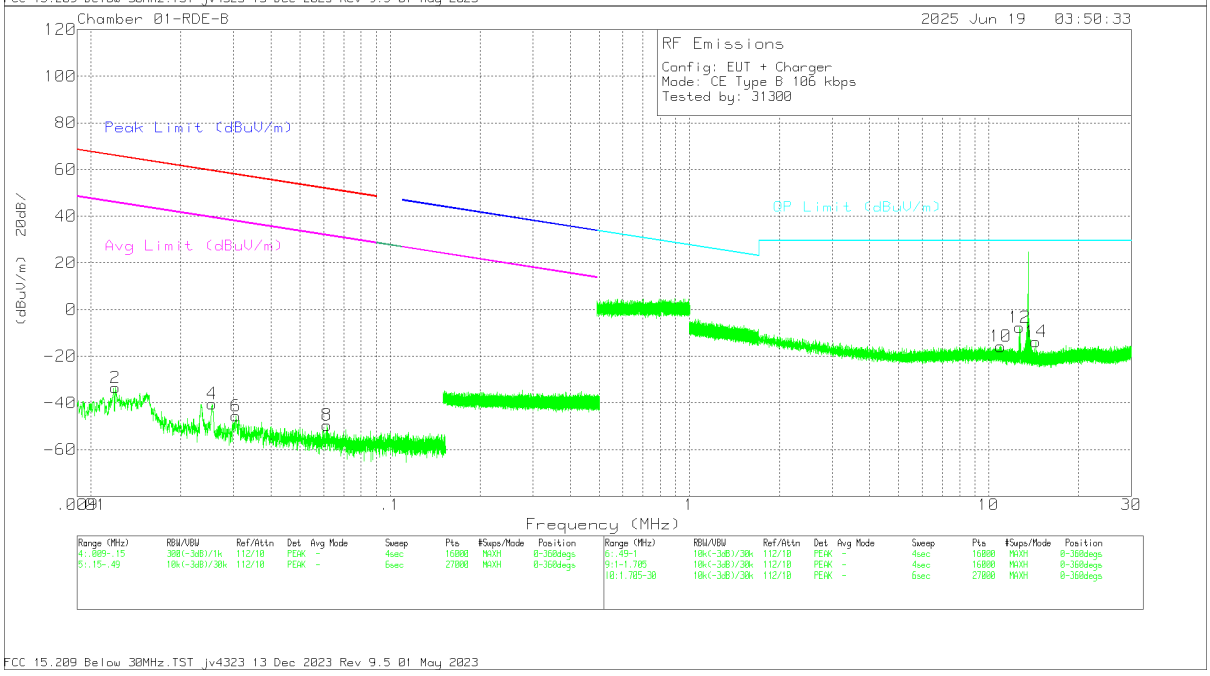
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)	Polarity
1	12.7105	31.54	Pk	33.9	-26.6	-40	-1.16	29.54	-30.7	0-360	
2	13.5603	62.99	Pk	33.8	-26.6	-40	30.19	84	-53.81	0-360	
3	14.4095	24.79	Pk	33.6	-26.6	-40	-8.21	29.54	-37.75	0-360	
4	13.5583	58.21	Pk	33.8	-26.6	-40	25.41	84	-58.59	0-360	
5	12.7083	26.77	Pk	33.9	-26.6	-40	-5.93	29.54	-35.47	0-360	
6	14.4041	21.93	Pk	33.6	-26.6	-40	-11.07	29.54	-40.61	0-360	

Pk - Peak detector

SPURIOUS EMISSION

ANTENNA LOOP FACE ON AND OFF





Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	Amp/Cbl (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.0121	16.91	Pk	60.2	-31.4	-80	-34.29	65.93	-100.22	45.93	-80.22	0-360	Face-On
2	.0121	17.73	Pk	60.2	-31.4	-80	-33.47	65.94	-99.41	45.94	-79.41	0-360	Face-On
3	.0254	8.61	Pk	58.6	-32.1	-80	-44.89	59.48	-104.37	39.48	-84.37	0-360	Face-On
4	.0254	13.11	Pk	58.6	-32.1	-80	-40.39	59.49	-99.88	39.49	-79.88	0-360	Face-On
5	.0305	18.74	Pk	58	-32.1	-80	-35.36	57.91	-93.27	37.91	-73.27	0-360	Face-On
6	.0306	8.53	Pk	58	-32.1	-80	-45.57	57.88	-103.45	37.88	-83.45	0-360	Face-On
7	.0612	12.57	Pk	56.3	-32.3	-80	-43.43	51.85	-95.28	31.85	-75.28	0-360	Face-Off
8	.0614	6.48	Pk	56.3	-32.3	-80	-49.52	51.82	-101.34	31.82	-81.34	0-360	Face-Off

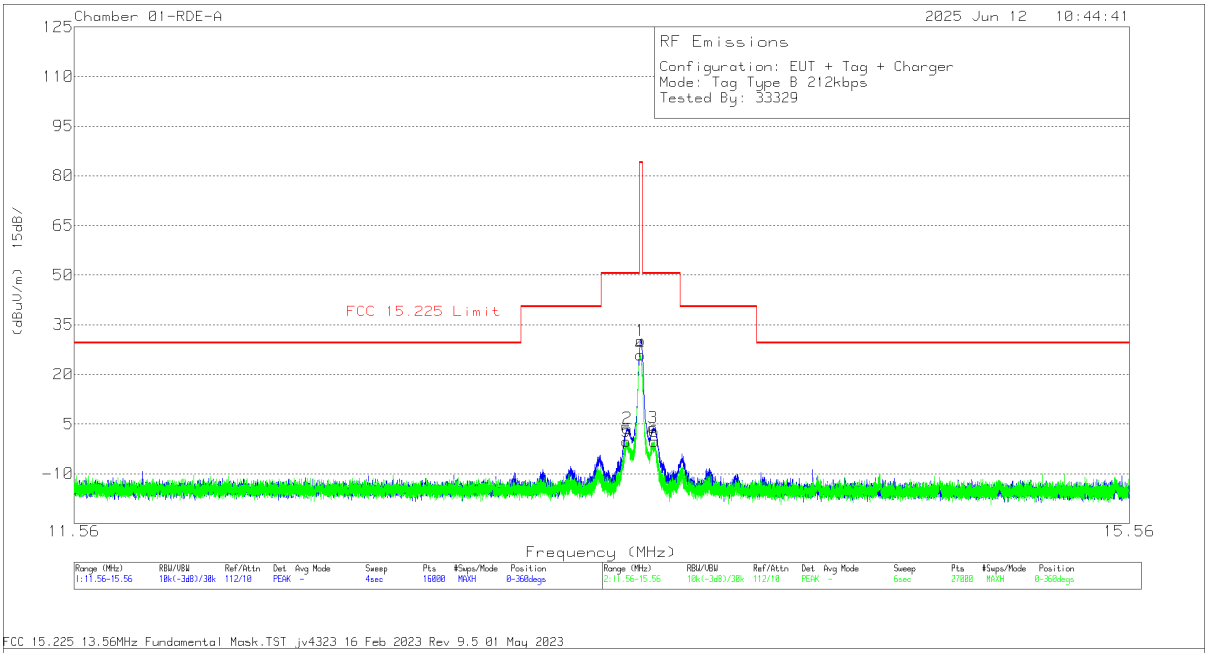
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
9	11.0133	25.15	Pk	34.3	-31.9	-40	-12.45	29.5	-41.95	0-360	Face-On
10	10.9798	21.81	Pk	34.3	-31.9	-40	-15.79	29.5	-45.29	0-360	Face-Off
11	12.7121	35.62	Pk	34	-31.9	-40	-2.28	29.5	-31.78	0-360	Face-On
12	12.708	30.22	Pk	34	-31.9	-40	-7.68	29.5	-37.18	0-360	Face-Off
13	14.4078	26.52	Pk	33.7	-31.8	-40	-11.58	29.5	-41.08	0-360	Face-On
14	14.412	24.31	Pk	33.7	-31.8	-40	-13.79	29.5	-43.29	0-360	Face-Off

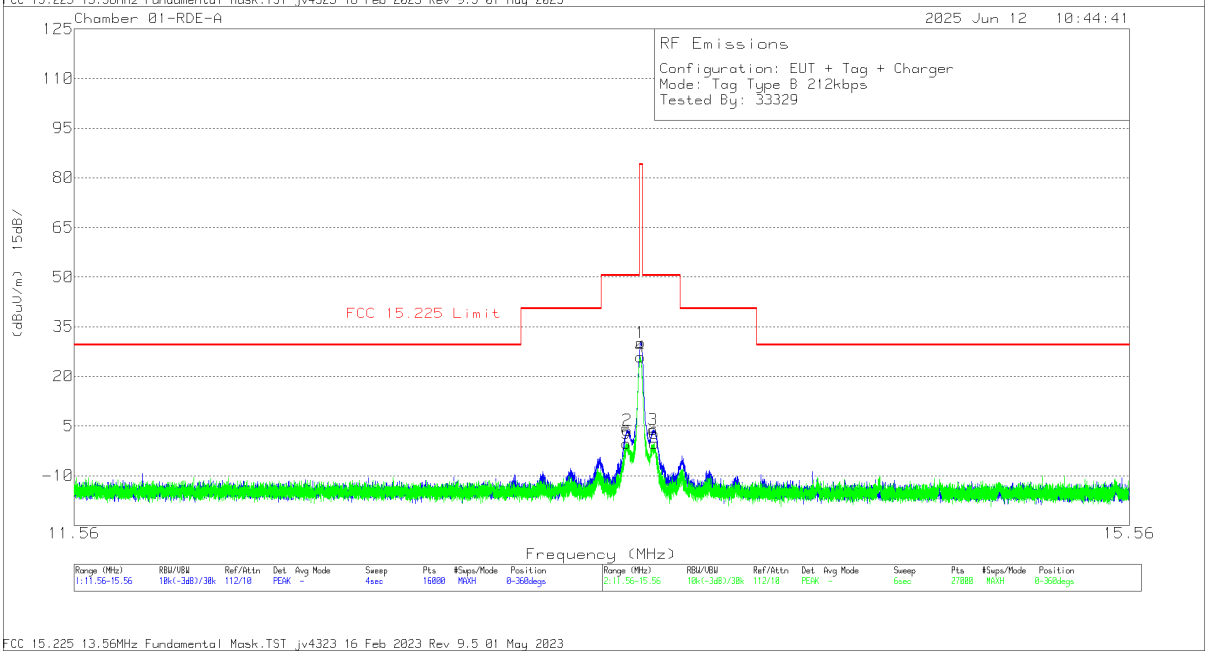
Pk - Peak detector

9.2.3. Tag MODE, TYPE B 106kbps

FUNDAMENTAL

ANTENNA LOOP FACE ON AND OFF





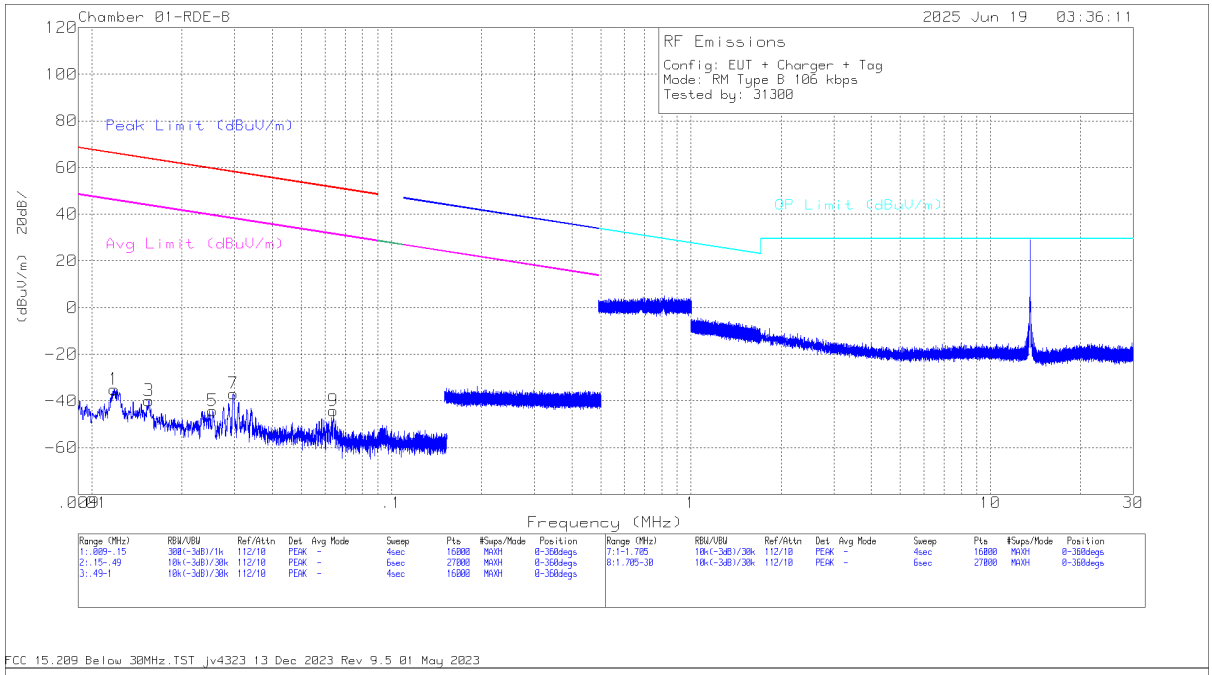
Trace Markers

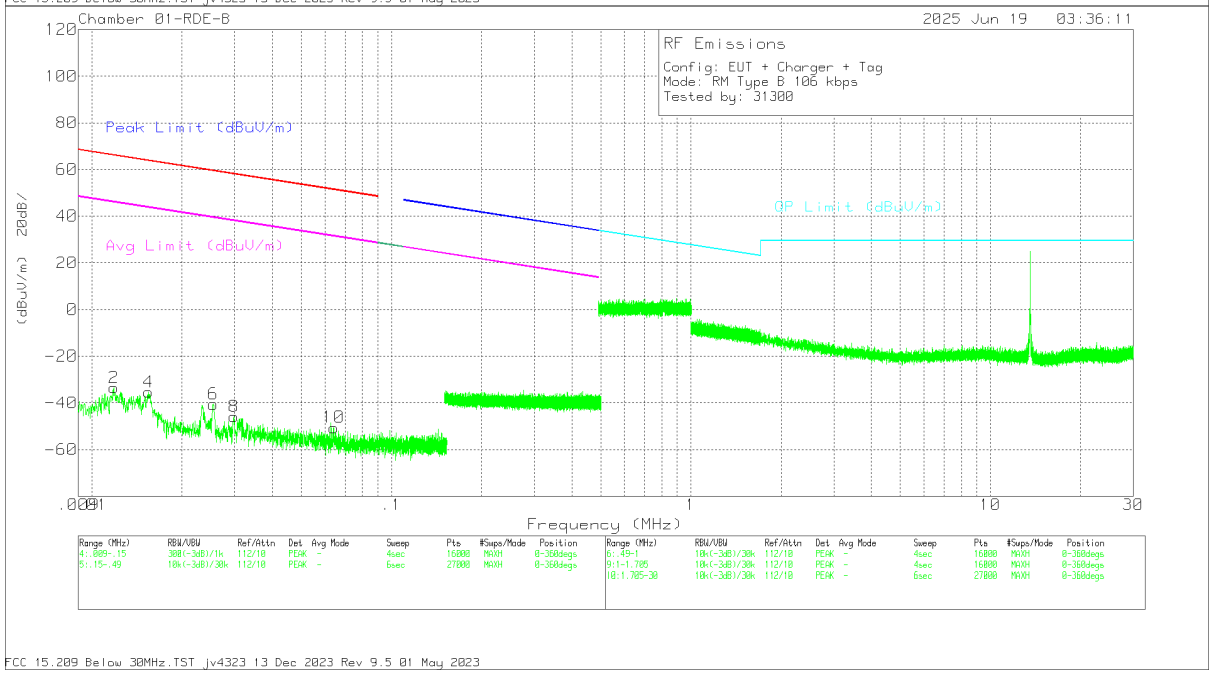
Markers	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)	Polarity
1	13.56	63.07	Pk	33.8	-26.6	-40	30.27	84	-53.73	0-360	Face-On
2	13.5083	36.55	Pk	33.8	-26.6	-40	3.75	50.5	-46.75	0-360	Face-Off
3	13.6065	36.67	Pk	33.8	-26.6	-40	3.87	50.5	-46.63	0-360	Face-On
4	13.5582	58.68	Pk	33.8	-26.6	-40	25.88	84	-58.12	0-360	Face-Off
5	13.5052	32.61	Pk	33.8	-26.6	-40	-.19	50.5	-50.69	0-360	Face-On
6	13.612	32.52	Pk	33.8	-26.6	-40	-.28	50.5	-50.78	0-360	Face-Off

Pk - Peak detector

SPURIOUS EMISSION

ANTENNA LOOP FACE ON AND OFF





Trace Markers

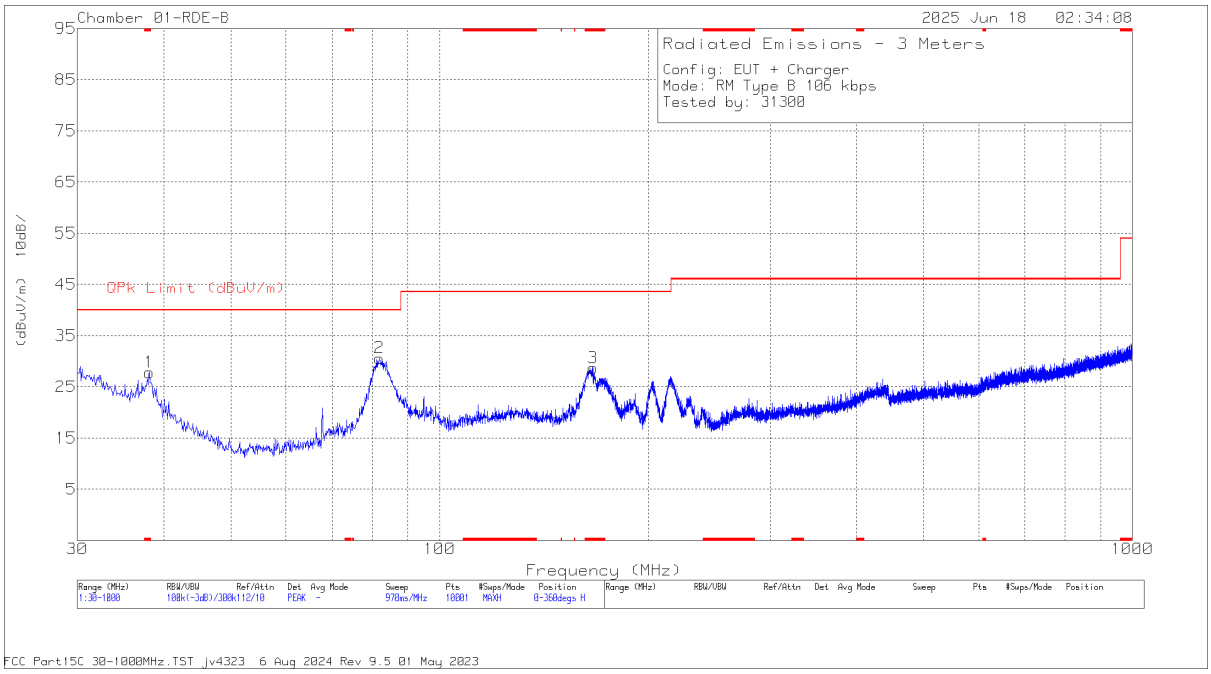
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	Amp/Cbl (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.0119	16.1	Pk	60.3	-31.4	-80	-35	66.1	-101.1	46.1	-81.1	0-360	Face-On
2	.0118	17.65	Pk	60.3	-31.4	-80	-33.45	66.13	-99.58	46.13	-79.58	0-360	Face-Off
3	.0155	12	Pk	59.8	-31.7	-80	-39.9	63.78	-103.68	43.78	-83.68	0-360	Face-On
4	.0155	16.52	Pk	59.8	-31.7	-80	-35.38	63.8	-99.18	43.8	-79.18	0-360	Face-Off
5	.0253	9.32	Pk	58.6	-32.1	-80	-44.18	59.52	-103.7	39.52	-83.7	0-360	Face-On
6	.0254	12.94	Pk	58.6	-32.1	-80	-40.56	59.48	-100.04	39.48	-80.04	0-360	Face-Off
7	.0296	17.19	Pk	58.1	-32.1	-80	-36.81	58.15	-94.96	38.15	-74.96	0-360	Face-On
8	.0298	8.11	Pk	58.1	-32.1	-80	-45.89	58.11	-104	38.11	-84	0-360	Face-Off
9	.064	11.94	Pk	56.2	-32.3	-80	-44.16	51.47	-95.63	31.47	-75.63	0-360	Face-On
10	.0641	5.54	Pk	56.2	-32.3	-80	-50.56	51.44	-102	31.44	-82	0-360	Face-Off

Pk - Peak detector

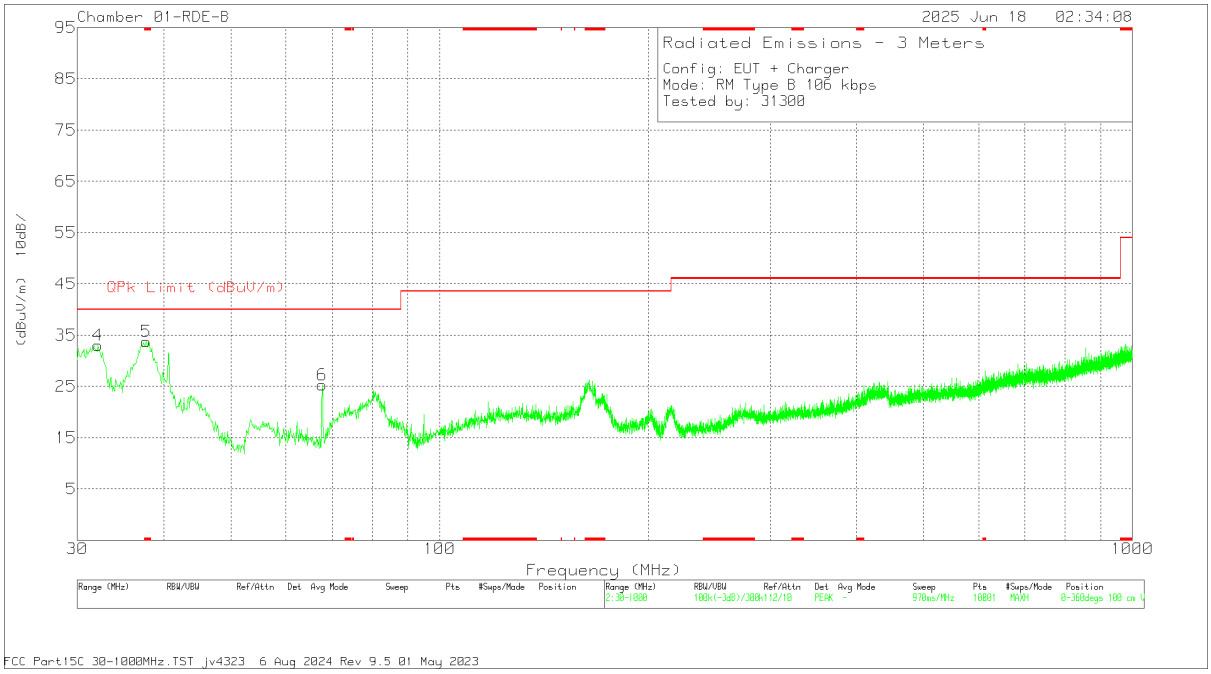
9.3. TX SPURIOUS EMISSION 30 TO 1000 MHz, EUT WITH AC/DC ADAPTER

9.3.1. Type B (Reader Mode), SPURIOUS EMISSION 106Kbps

Horizontal



Vertical



DATA

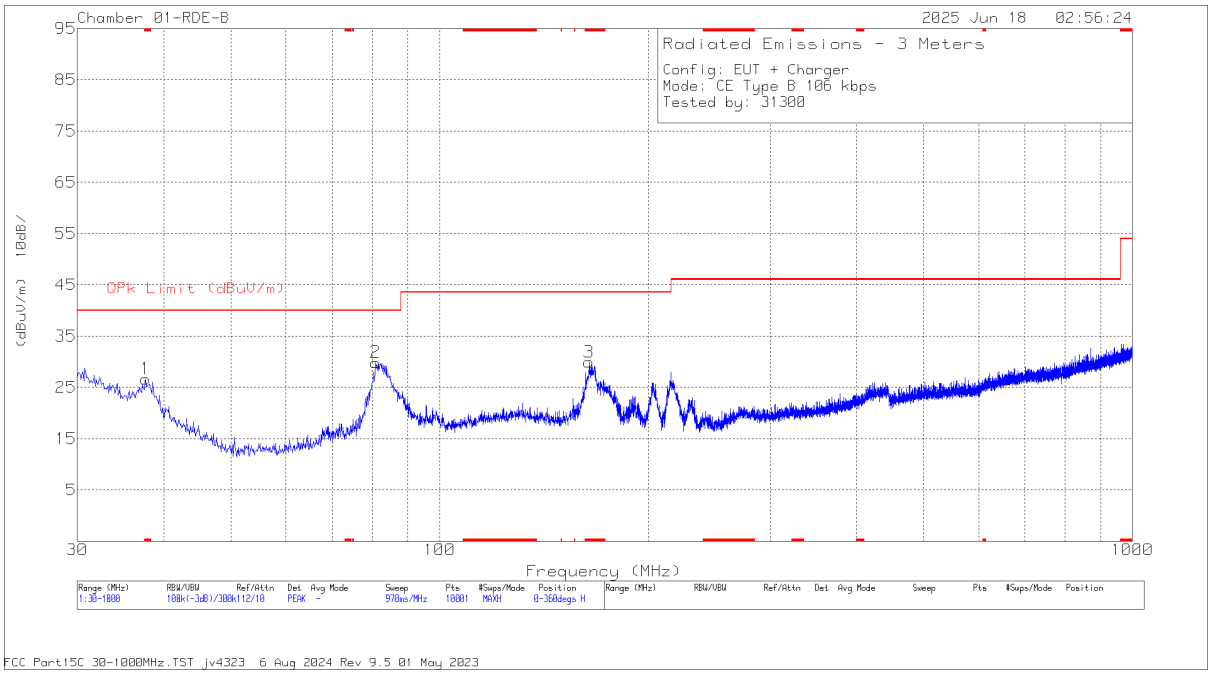
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80508 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	38.148	37.31	Pk	21.9	-31.4	27.81	40	-12.19	0-360	299	H
2	81.895	48.22	Pk	13.3	-30.9	30.62	40	-9.38	0-360	199	H
3	166.479	41.08	Pk	17.9	-30.3	28.68	43.52	-14.84	0-360	199	H
4	32.134	38.68	Pk	25.8	-31.5	32.98	40	-7.02	0-360	100	V
5	37.76	42.92	Pk	22.2	-31.4	33.72	40	-6.28	0-360	100	V
5	38.0812	39.1	Qp	21.9	-31.4	29.6	40	-10.4	107	108	V
6	67.733	42.06	Pk	14.3	-31.1	25.26	40	-14.74	0-360	100	V

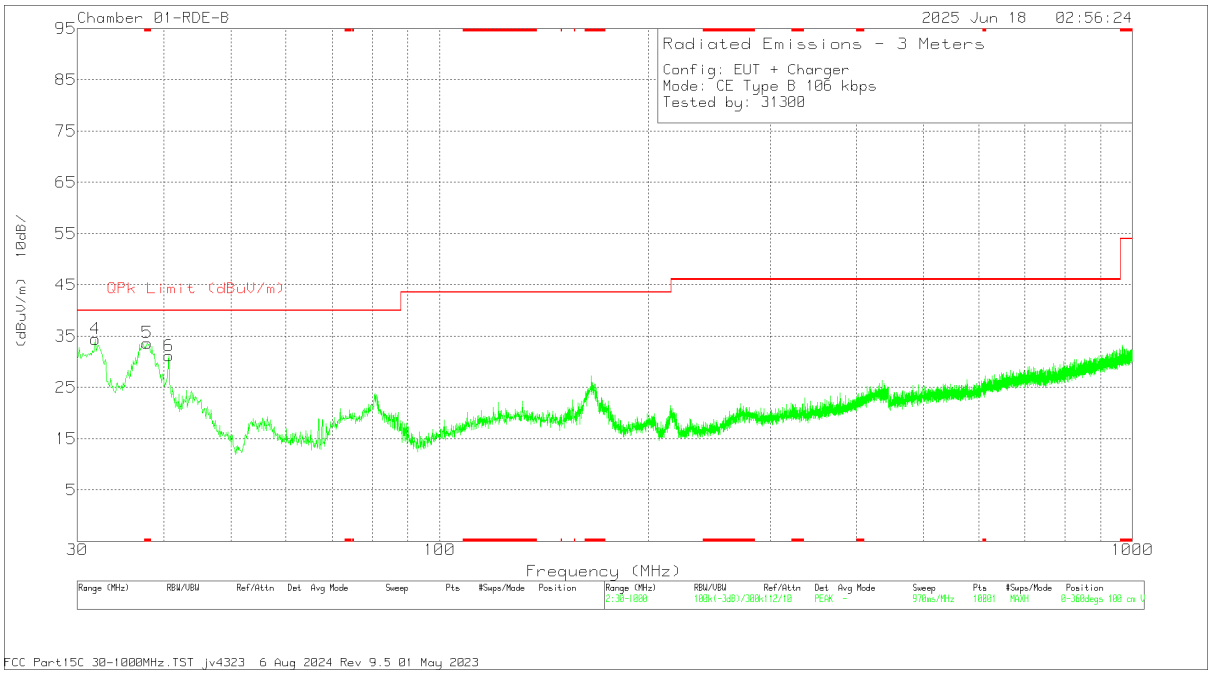
Pk - Peak detector
Qp - Quasi-Peak detector

9.3.2. Type B (CE Mode), SPURIOUS EMISSION 106Kbps

Horizontal



Vertical



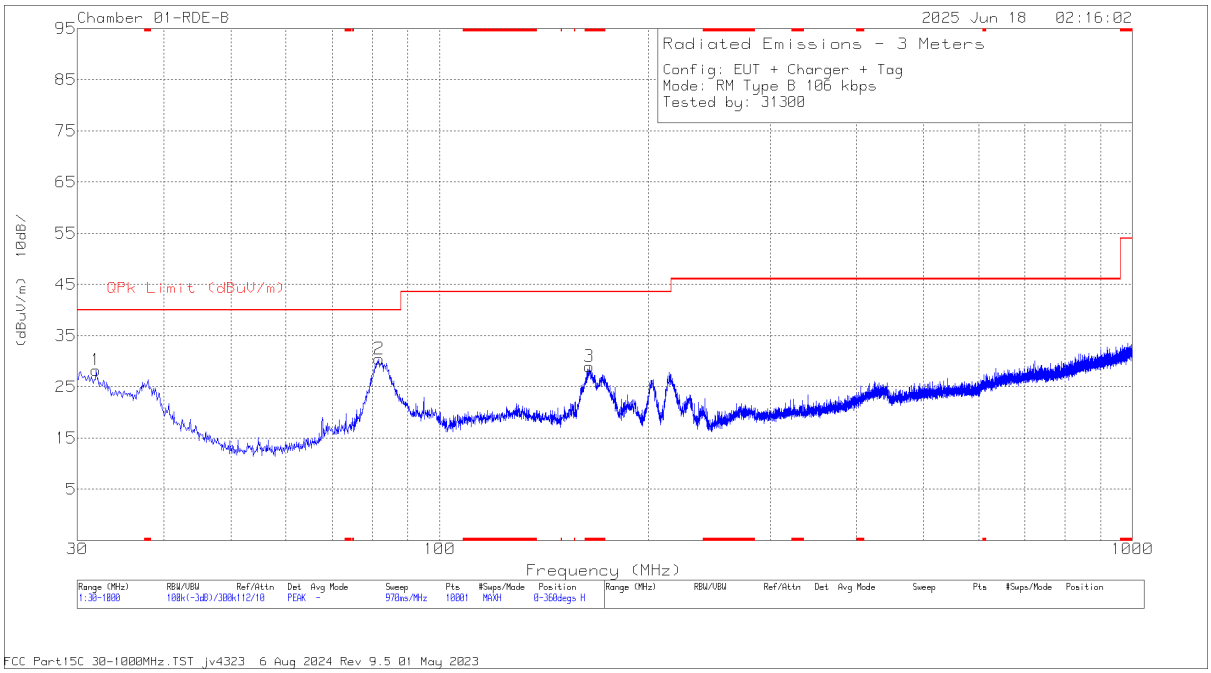
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80508 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	37.663	35.85	Pk	22.2	-31.4	26.65	40	-13.35	0-360	199	H
2	80.925	47.37	Pk	13.4	-30.9	29.87	40	-10.13	0-360	399	H
3	164.345	42.32	Pk	17.9	-30.3	29.92	43.52	-13.6	0-360	199	H
4	31.843	39.93	Pk	26	-31.5	34.43	40	-5.57	0-360	100	V
4	31.9734	34.26	Qp	25.9	-31.5	28.66	40	-11.34	97	107	V
5	37.857	42.98	Pk	22.1	-31.4	33.68	40	-6.32	0-360	100	V
5	38.0818	38.59	Qp	21.9	-31.4	29.09	40	-10.91	119	115	V
6	40.67	42.55	Pk	20	-31.4	31.15	40	-8.85	0-360	100	V

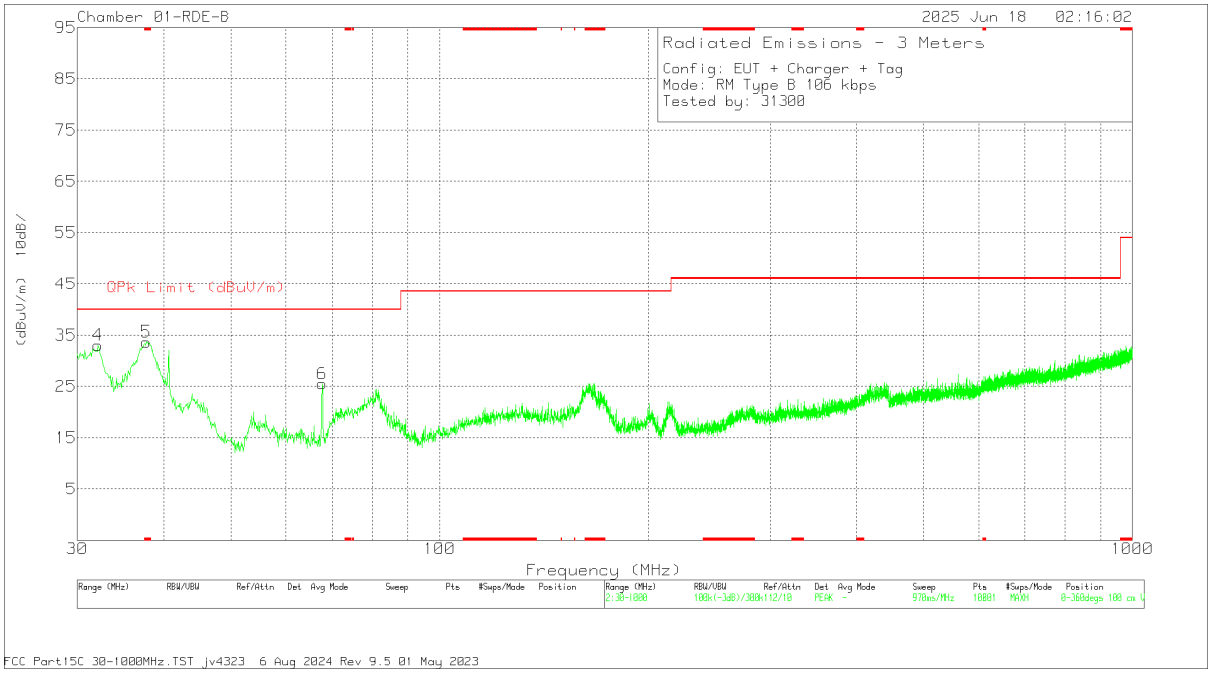
Pk - Peak detector
Qp - Quasi-Peak detector

9.3.3. Type B (Tag Mode), SPURIOUS EMISSION 106Kbps

Horizontal



Vertical



Trace Markers

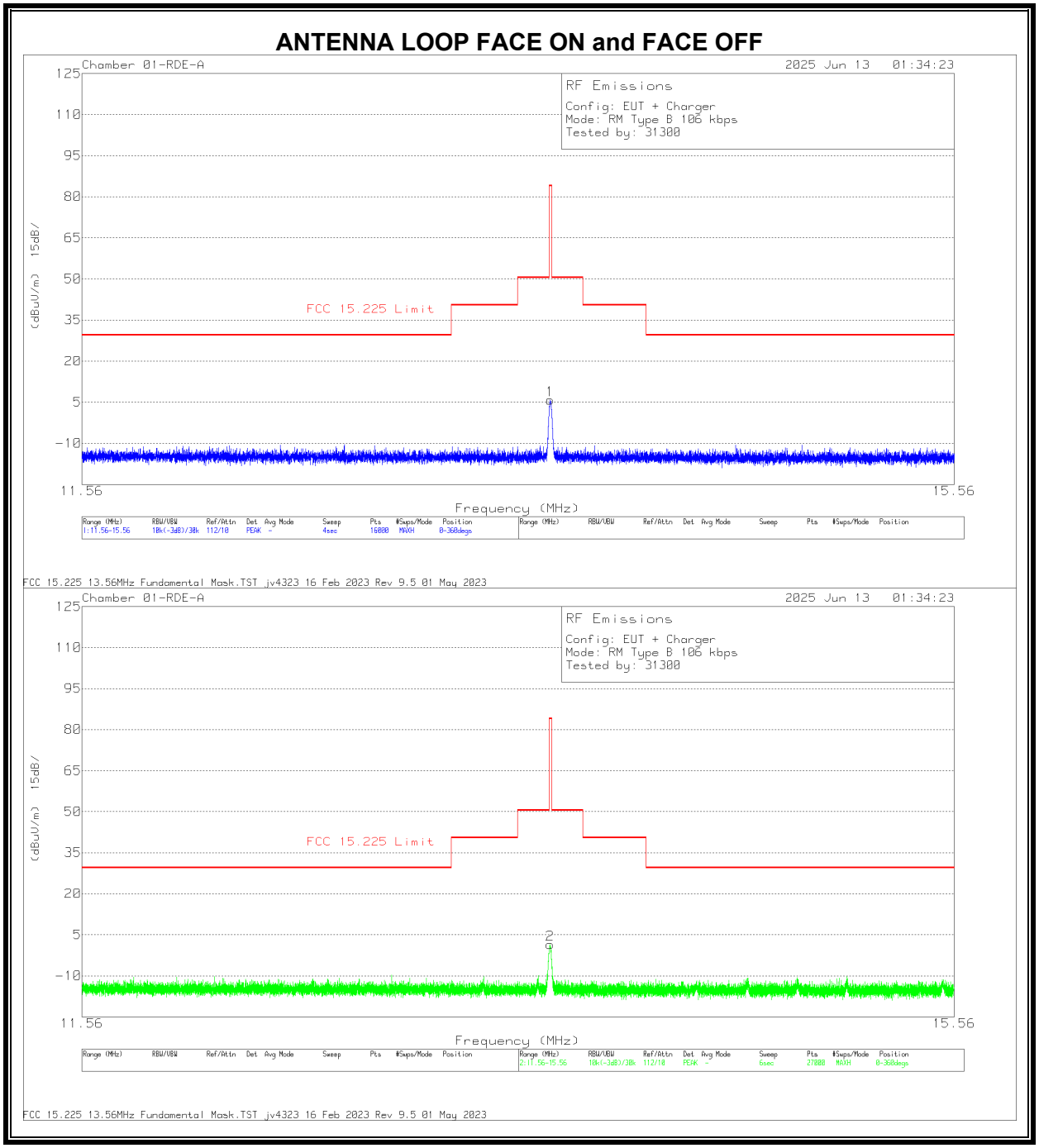
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80508 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.94	33.88	Pk	25.9	-31.5	28.28	40	-11.72	0-360	98	H
2	81.798	48.07	Pk	13.3	-30.9	30.47	40	-9.53	0-360	399	H
3	164.636	41.4	Pk	17.9	-30.3	29	43.52	-14.52	0-360	199	H
4	32.134	38.72	Pk	25.8	-31.5	33.02	40	-6.98	0-360	100	V
5	37.76	42.84	Pk	22.2	-31.4	33.64	40	-6.36	0-360	100	V
5	37.76	39.19	Qp	22.2	-31.4	29.99	40	-10.01	95	109	V
6	67.733	42.32	Pk	14.3	-31.1	25.52	40	-14.48	0-360	100	V

Pk - Peak detector
Qp - Quasi-Peak detector

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

9.4.1. READER MODE, TYPE B 106Kbps

FUNDAMENTAL



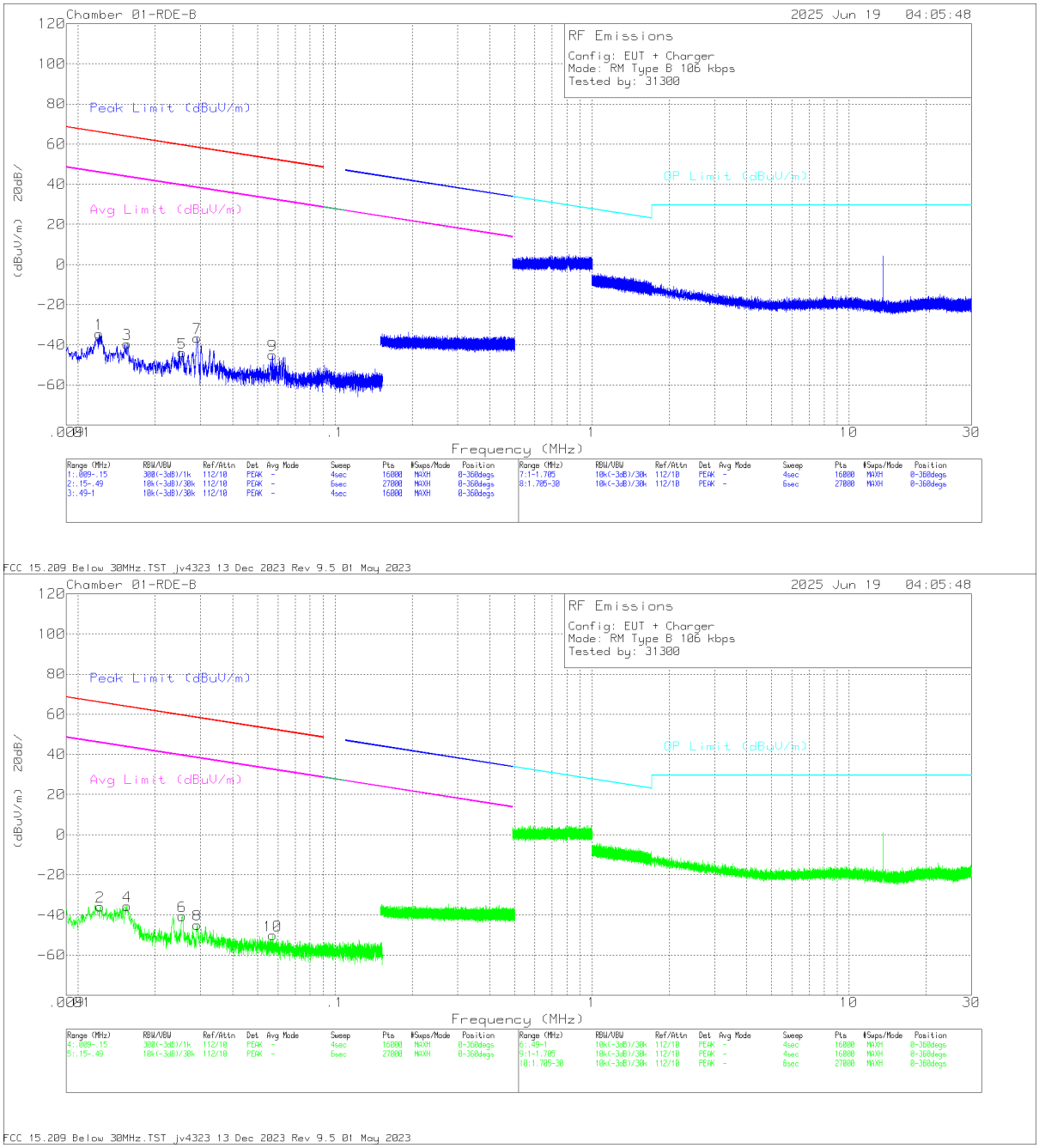
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)	Polarity
1	13.56	38.57	Pk	33.8	-26.6	-40	5.77	84	-78.23	0-360	Face-On
2	13.5589	34.25	Pk	33.8	-26.6	-40	1.45	84	-82.55	0-360	Face-Off

Pk - Peak detector

SPURIOUS EMISSION

ANTENNA LOOP FACE ON AND OFF



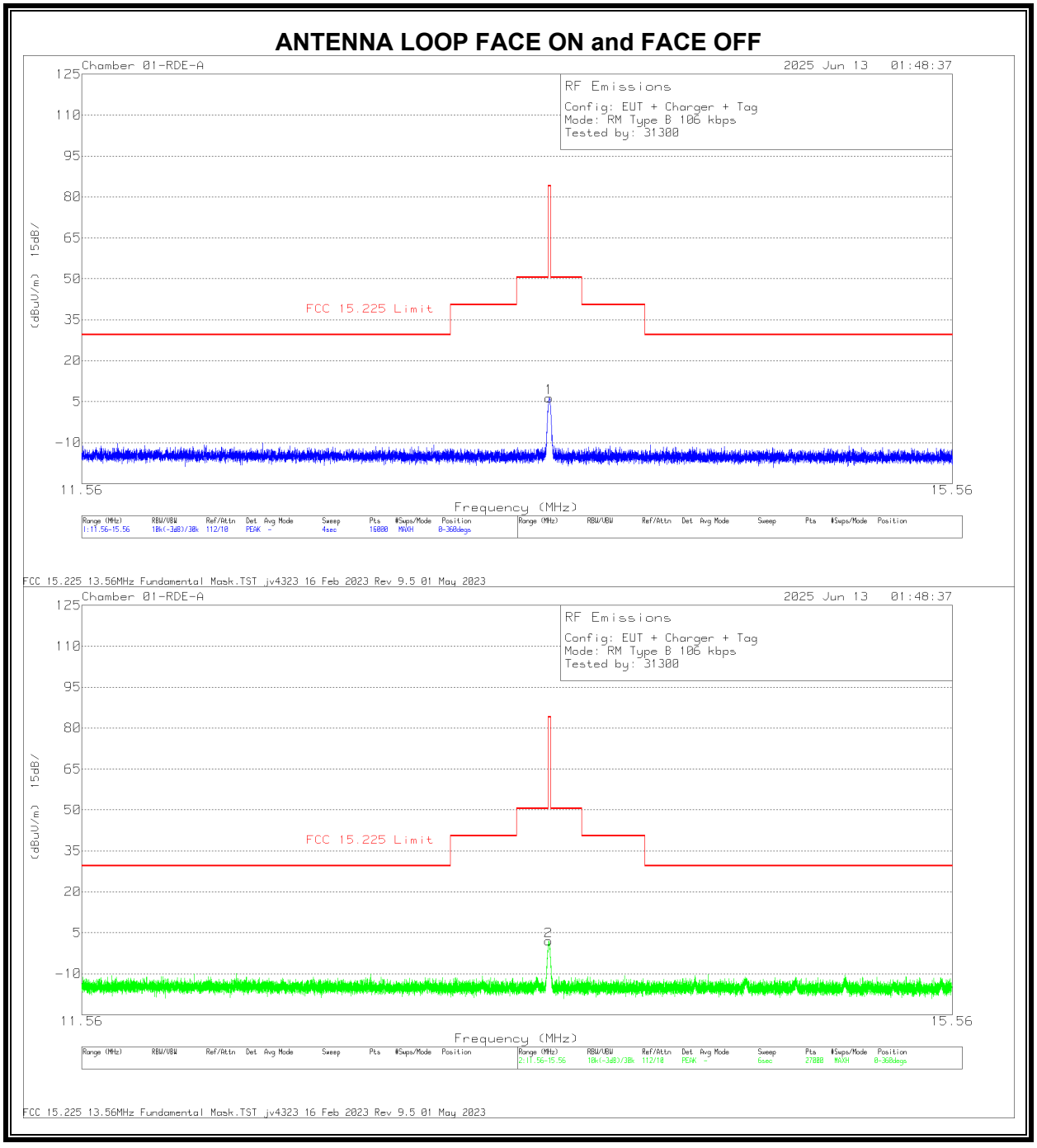
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	Amp/Cbl (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.0121	16.71	Pk	60.2	-31.4	-80	-34.49	65.94	-100.43	45.94	-80.43	0-360	Face-On
2	.0122	15.39	Pk	60.2	-31.4	-80	-35.81	65.85	-101.66	45.85	-81.66	0-360	Face-Off
3	.0155	12.31	Pk	59.8	-31.7	-80	-39.59	63.78	-103.37	43.78	-83.37	0-360	Face-On
4	.0155	16.34	Pk	59.8	-31.7	-80	-35.56	63.78	-99.34	43.78	-79.34	0-360	Face-Off
5	.0254	9.55	Pk	58.6	-32.1	-80	-43.95	59.49	-103.44	39.49	-83.44	0-360	Face-On
6	.0254	12.97	Pk	58.6	-32.1	-80	-40.53	59.48	-100.01	39.48	-80.01	0-360	Face-Off
7	.0291	17.32	Pk	58.2	-32.1	-80	-36.58	58.3	-94.88	38.3	-74.88	0-360	Face-On
8	.0291	9	Pk	58.2	-32.1	-80	-44.9	58.3	-103.2	38.3	-83.2	0-360	Face-Off
9	.0571	10.63	Pk	56.6	-32.2	-80	-44.97	52.45	-97.42	32.45	-77.42	0-360	Face-On
10	.0573	5.52	Pk	56.5	-32.2	-80	-50.18	52.43	-102.61	32.43	-82.61	0-360	Face-Off

Pk - Peak detector

9.4.2. Tag MODE, TYPE B 106Kbps

FUNDAMENTAL



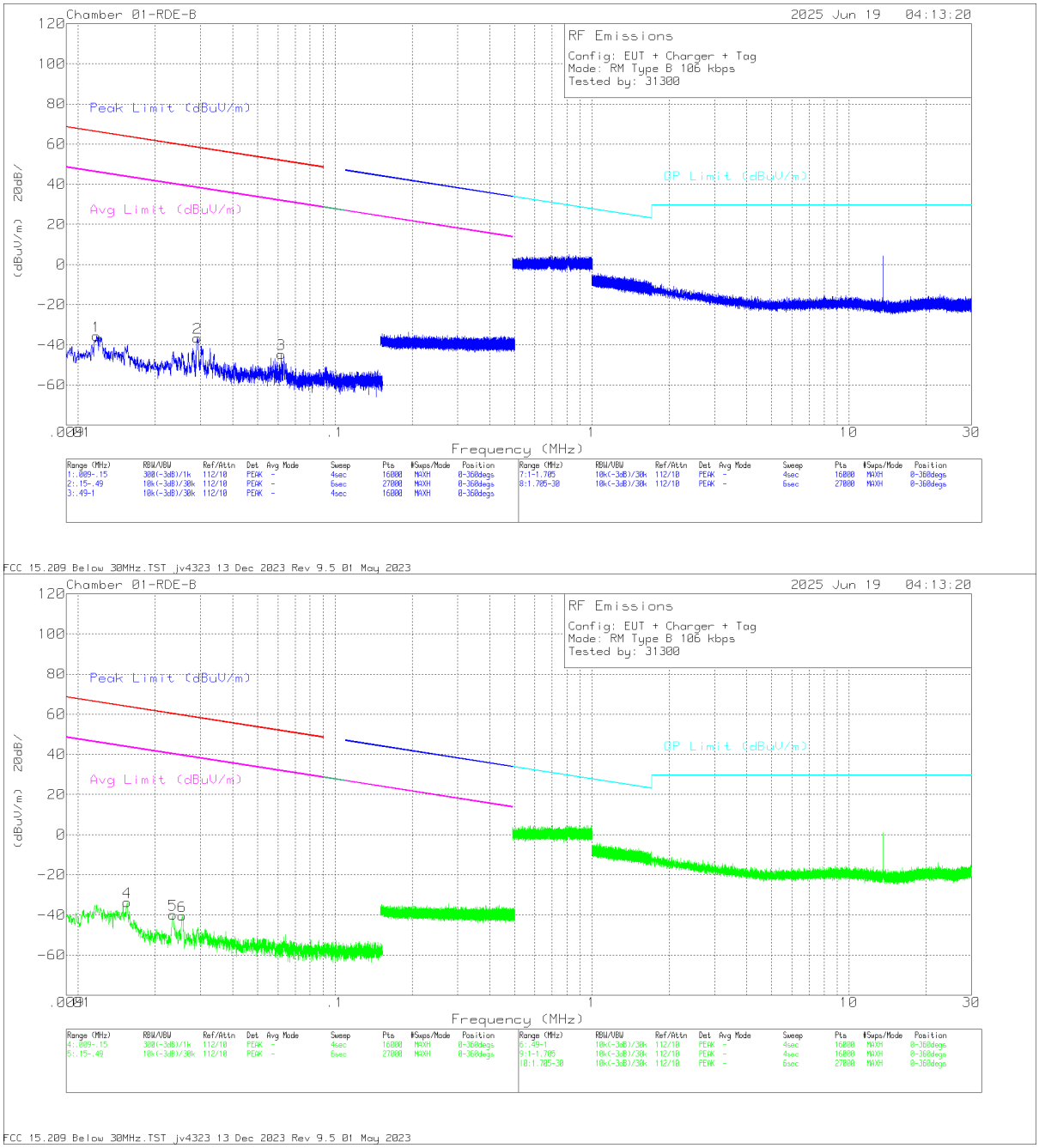
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(dB/m)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)	Polarity
1	13.5599	39.17	Pk	33.8	-26.6	-40	6.37	84	-77.63	0-360	Face-On
2	13.5571	34.74	Pk	33.8	-26.6	-40	1.94	84	-82.06	0-360	Face-Off

Pk - Peak detector

SPURIOUS EMISSION

ANTENNA LOOP FACE ON AND OFF



Trace Markers

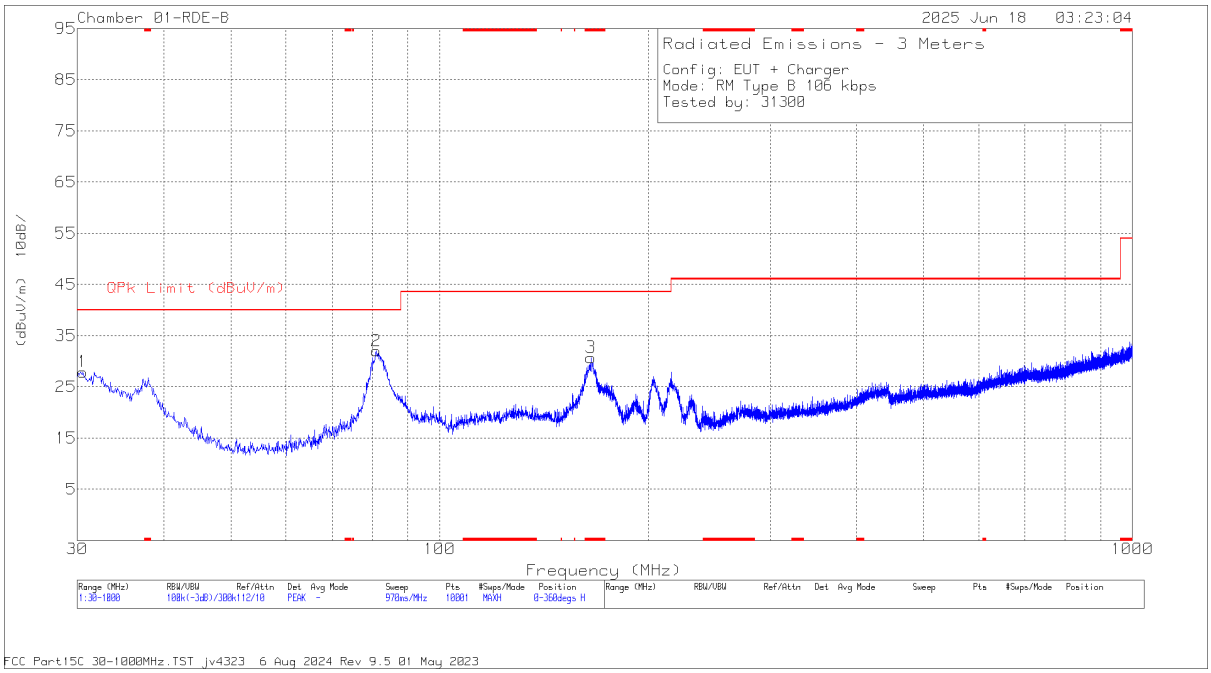
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E(ACF) (dB/m)	Amp/Cbl (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.0118	15.49	Pk	60.3	-31.4	-80	-35.61	66.15	-101.76	46.15	-81.76	0-360	Face-On
2	.0292	17.35	Pk	58.2	-32.1	-80	-36.55	58.29	-94.84	38.29	-74.84	0-360	Face-Off
3	.0619	11.47	Pk	56.2	-32.3	-80	-44.63	51.75	-96.38	31.75	-76.38	0-360	Face-On
4	.0155	18.37	Pk	59.8	-31.8	-80	-33.63	63.76	-97.39	43.76	-77.39	0-360	Face-Off
5	.0234	13.56	Pk	58.8	-32.2	-80	-39.84	60.21	-100.05	40.21	-80.05	0-360	Face-On
6	.0254	13.04	Pk	58.6	-32.1	-80	-40.46	59.49	-99.95	39.49	-79.95	0-360	Face-Off

Pk - Peak detector

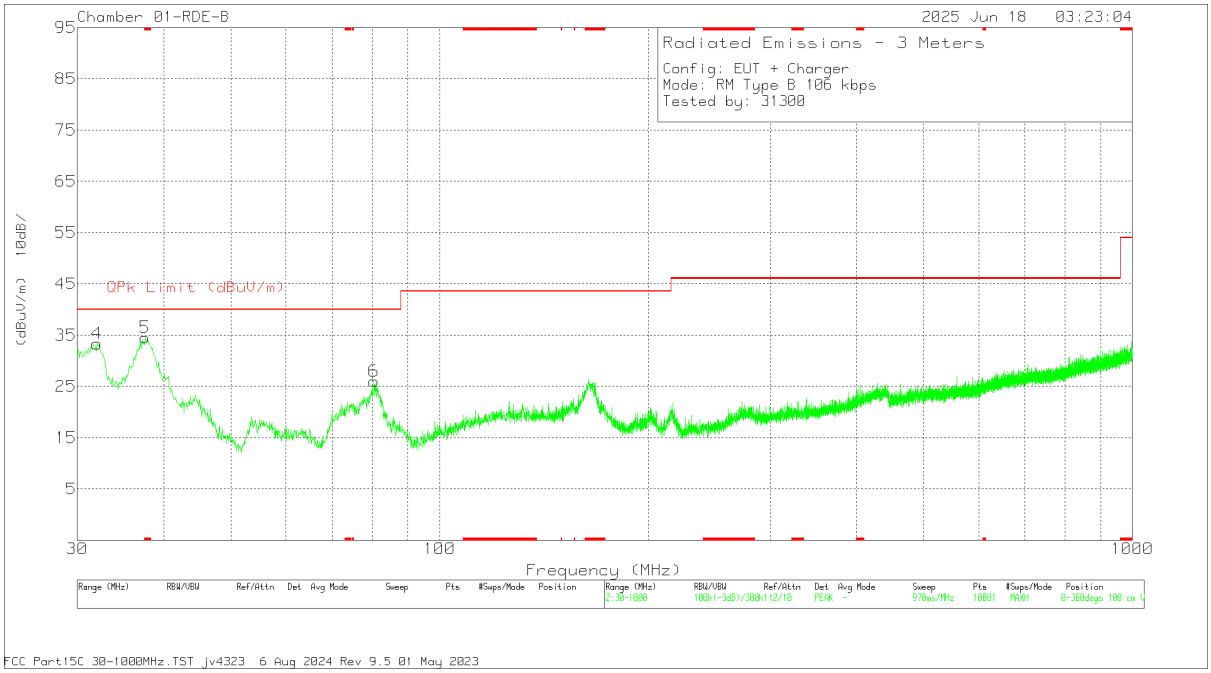
9.5. TX SPURIOUS EMISSION 30 TO 1000 MHz, EUT WITH AC/DC ADAPTER

9.5.1. Type B (Reader Mode), SPURIOUS EMISSION 106Kbps

Horizontal



Vertical



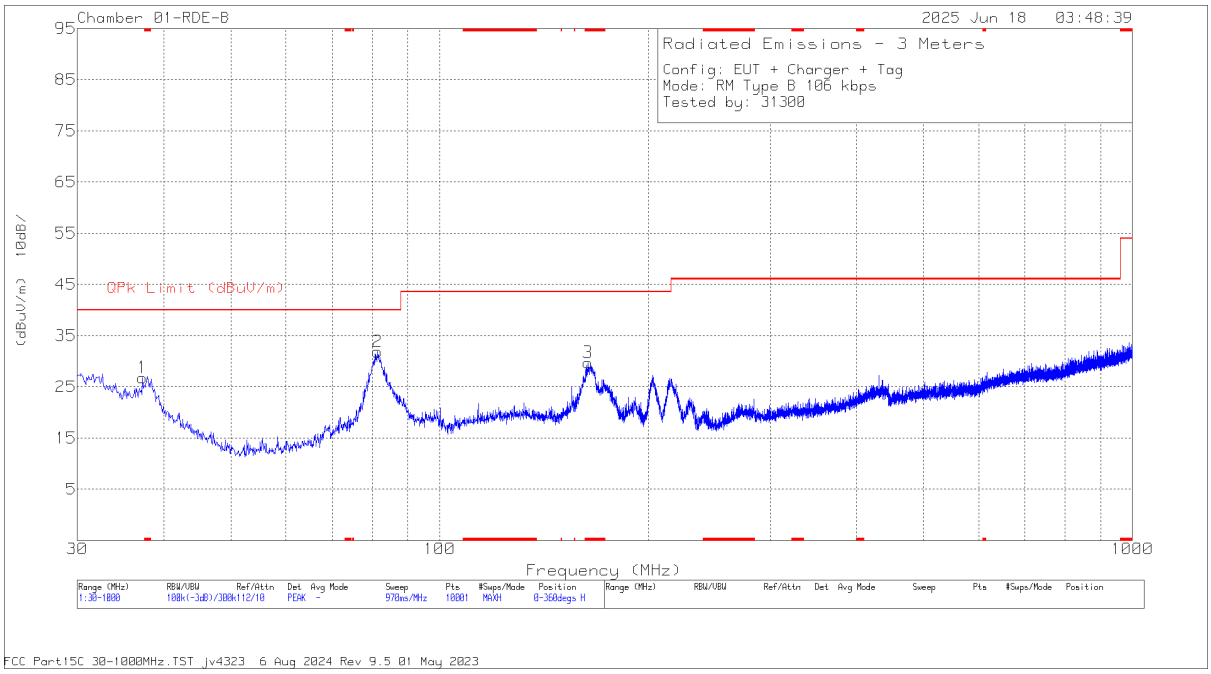
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80508 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.582	32.61	Pk	26.8	-31.5	27.91	40	-12.09	0-360	98	H
2	81.022	49.51	Pk	13.4	-30.9	32.01	40	-7.99	0-360	399	H
3	165.412	43.13	Pk	17.9	-30.3	30.73	43.52	-12.79	0-360	199	H
4	32.037	38.94	Pk	25.9	-31.5	33.34	40	-6.66	0-360	100	V
4	32.3602	34.41	Qp	25.7	-31.5	28.61	40	-11.39	102	104	V
5	37.566	43.6	Pk	22.3	-31.4	34.5	40	-5.5	0-360	100	V
5	37.8364	39.62	Qp	22.1	-31.4	30.32	40	-9.68	113	109	V
6	80.44	43.6	Pk	13.4	-31	26	40	-14	0-360	100	V

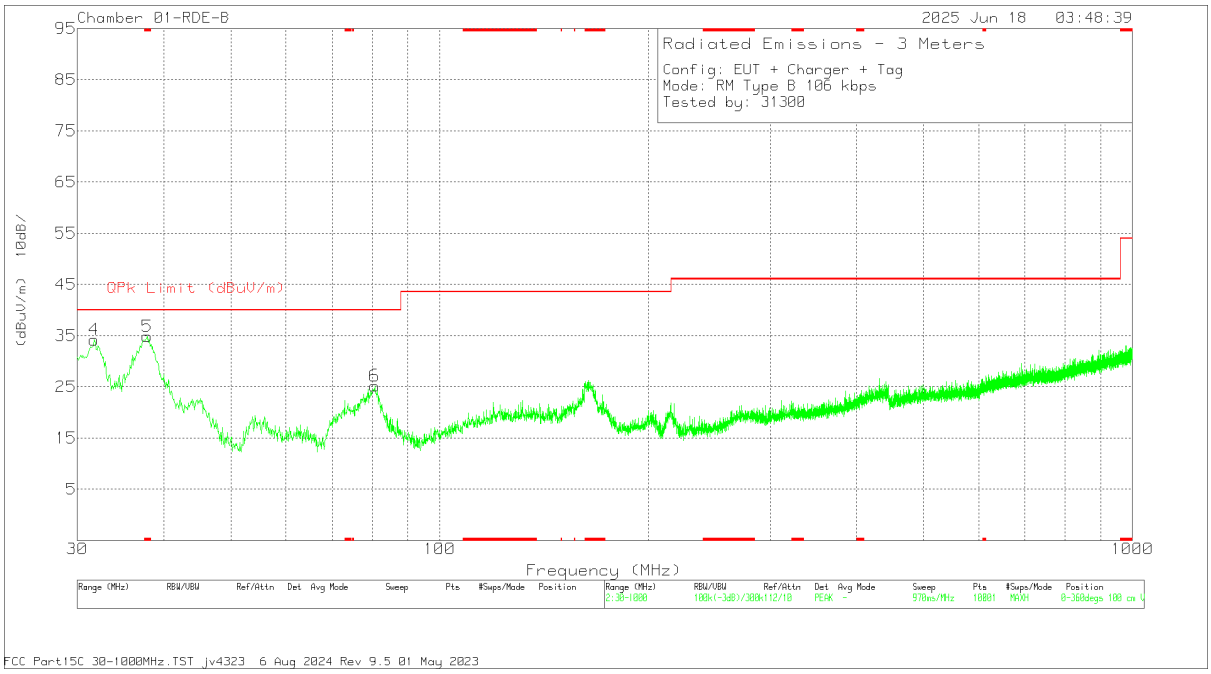
Pk - Peak detector
Qp - Quasi-Peak detector

9.5.2. Type B (Tag Mode), SPURIOUS EMISSION 106Kbps

Horizontal



Vertical



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80508 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	37.275	35.67	Pk	22.5	-31.4	26.77	40	-13.23	0-360	199	H
2	81.41	49.36	Pk	13.4	-30.9	31.86	40	-8.14	0-360	199	H
3	163.86	42.12	Pk	17.9	-30.3	29.72	43.52	-13.8	0-360	199	H
4	31.746	39.59	Pk	26.1	-31.5	34.19	40	-5.81	0-360	100	V
4	32.2206	34.13	Qp	25.8	-31.5	28.43	40	-11.57	123	118	V
5	37.857	44.13	Pk	22.1	-31.4	34.83	40	-5.17	0-360	100	V
5	37.8102	39.78	Qp	22.1	-31.4	30.48	40	-9.52	113	106	V
6	80.634	42.68	Pk	13.4	-30.9	25.18	40	-14.82	0-360	100	V

Pk - Peak detector

10. FREQUENCY STABILITY

LIMIT

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

IC RSS-210, Annex B.6
Carrier frequency stability shall be maintained to ±0.01% (±100 ppm).

TEST PROCEDURE

ANSI C63.10-2020 Clause 6.8

RESULTS

ID:	31300	**Date:**	07-02-2025

10.1. PRIMARY ANTENNA

READER MODE, TYPE B 106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC										
Limit: ± 100 ppm = 1.35600 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measured with Time Elapsed								
(VAC)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
	50	13.559878054	8.301	13.559877782	8.321	13.559877675	8.329	13.559877525	8.340	± 100
	40	13.559893802	7.140	13.559893380	7.171	13.559892977	7.201	13.559892651	7.225	± 100
	30	13.559910733	5.891	13.559910425	5.914	13.559910269	5.925	13.559910092	5.938	± 100
3.80	***20***	***13.559990616***	***0.000***	***13.559984857***	***0.425***	***13.559984029***	***0.486***	***13.559983245***	***0.544***	***± 100***
	10	13.559912029	5.796	13.559914315	5.627	13.559914658	5.602	13.559915114	5.568	± 100
	0	13.559960682	2.208	13.559961387	2.156	13.559961916	2.117	13.559962434	2.078	± 100
	-10	13.559985281	0.393	13.559986623	0.294	13.559987429	0.235	13.559988238	0.175	± 100
	-20	13.560056922	-4.890	13.560057807	-4.955	13.560060785	-5.175	13.560062259	-5.283	± 100
3.23	20	13.559974947	1.156	13.559974023	1.224	13.559973344	1.274	13.559972777	1.316	± 100
4.37	20	13.559969181	1.581	13.559968465	1.634	13.559967930	1.673	13.559967540	1.702	± 100

CE MODE, TYPE B 106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC										
Limit: ± 100 ppm = 1.35600 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measured with Time Elapsed								
(VAC)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
	50	13.560154205	5.744	13.560149941	6.059	13.560156413	5.581	13.560193290	2.862	± 100
	40	13.560233283	-0.088	13.560207837	1.789	13.560190151	3.093	13.560203633	2.099	± 100
	30	13.560253800	-1.601	13.560244165	-0.890	13.560195825	2.675	13.560202958	2.149	± 100
3.80	**20**	13.560232096	0.000	13.560290258	-4.289	13.560210704	1.578	13.560273065	-3.021	**± 100**
	10	13.560291147	-4.355	13.560343546	-8.219	13.560417667	-13.685	13.560374971	-10.537	± 100
	0	13.560129463	7.569	13.560232524	-0.032	13.560433673	-14.866	13.560340802	-8.017	± 100
	-10	13.560267856	-2.637	13.560271630	-2.915	13.560321674	-6.606	13.560265306	-2.449	± 100
	-20	13.560328180	-7.086	13.560326753	-6.981	13.560354961	-9.061	13.560266387	-2.529	± 100
3.23	20	13.560266755	-2.556	13.560210539	1.590	13.560216650	1.139	13.560207078	1.845	± 100
4.37	20	13.560298062	-4.865	13.560231076	0.075	13.560233544	-0.107	13.560249793	-1.305	± 100

Tag MODE, TYPE B 106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC										
Limit: ± 100 ppm = 1.35600 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measured with Time Elapsed								
(VAC)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
	50	13.559876362	8.017	13.559876468	8.009	13.559876588	8.001	13.55987665	7.996	± 100
	40	13.559875418	8.087	13.559875407	8.088	13.559875464	8.083	13.55987541	8.088	± 100
	30	13.559893260	6.771	13.559893113	6.782	13.559892999	6.790	13.55989164	6.891	± 100
3.80	**20**	13.559985076	***0.000***	13.559977306	***0.573***	13.559975203	***0.728***	13.55996561	***1.435***	***± 100***
	10	13.559897057	6.491	13.559897677	6.445	13.559897997	6.422	13.55989879	6.364	± 100
	0	13.559938491	3.435	13.559944908	2.962	13.559945436	2.923	13.55994586	2.892	± 100
	-10	13.559984028	0.077	13.559985313	-0.017	13.559985954	-0.065	13.55998671	-0.120	± 100
	-20	13.560056071	-5.236	13.560057829	-5.365	13.560058366	-5.405	13.56005898	-5.450	± 100
3.23	20	13.559959314	1.900	13.559958376	1.969	13.559957179	2.057	13.55994905	2.657	± 100
4.37	20	13.559947378	2.780	13.559946547	2.841	13.559946148	2.871	13.55994114	3.240	± 100

10.2. SECONDARY ANTENNA

READER MODE, TYPE B 106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC										
Limit: ± 100 ppm = 1.35600 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measured with Time Elapsed								
(VAC)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
	50	13.55994567	1.131	13.55994827	0.939	13.55995141	0.708	13.559957	0.296	± 100
	40	13.55994551	1.143	13.55994534	1.155	13.55994542	1.149	13.55994587	1.116	± 100
	30	13.559953861	0.527	13.559952311	0.641	13.559950874	0.747	13.559949471	0.851	± 100
3.80	**20**	***13.559961007***	***0.000***	***13.559961068***	***-0.004***	***13.559961123***	***-0.009***	***13.559961198***	***-0.014***	***± 100***
	10	13.559950546	0.771	13.559954879	0.452	13.559959891	0.082	13.559966275	-0.388	± 100
	0	13.559979831	-1.388	13.559984986	-1.768	13.559989673	-2.114	13.559995168	-2.519	± 100
	-10	13.56001084	-3.675	13.56001422	-3.924	13.56001738	-4.157	13.56002055	-4.391	± 100
	-20	13.560027895	-4.933	13.560030350	-5.114	13.56003219	-5.249	13.56003223	-5.253	± 100
3.23	20	13.559989223	-2.081	13.559984493	-1.732	13.55998420	-1.710	13.559983921	-1.690	± 100
4.37	20	13.56001068	-3.663	13.56000258	-3.066	13.55999837	-2.755	13.55992704	2.505	± 100

Tag MODE, TYPE B 106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC										
Limit: ± 100 ppm = 1.35600 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measured with Time Elapsed								
(VAC)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
	50	13.559948795	2.457	13.559949047	2.439	13.559950925	2.300	13.559953917	2.079	± 100
	40	13.559949456	2.408	13.559949200	2.427	13.559947879	2.525	13.559946761	2.607	± 100
	30	13.559962381	1.455	13.559961612	1.512	13.559958803	1.719	13.559956908	1.859	± 100
3.80	**20**	***13.559982115***	***0.000***	***13.559979024***	***0.228***	***13.559978912***	***0.236***	***13.559976149***	***0.440***	***± 100***
	10	13.559950396	2.339	13.559951447	2.262	13.559951759	2.239	13.559951971	2.223	± 100
	0	13.559962817	1.423	13.559963259	1.391	13.559964275	1.316	13.559965097	1.255	± 100
	-10	13.559977898	0.311	13.559978844	0.241	13.559979511	0.192	13.559979921	0.162	± 100
	-20	13.560013660	-2.326	13.560014126	-2.361	13.560014429	-2.383	13.560014684	-2.402	± 100
3.23	20	13.559975177	0.512	13.559974585	0.555	13.559973239	0.655	13.559972139	0.736	± 100
4.37	20	13.559971861	0.756	13.559971092	0.813	13.559970991	0.820	13.559969969	0.896	± 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 50μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

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

TEST PROCEDURE

ANSI C63.10:2020

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.

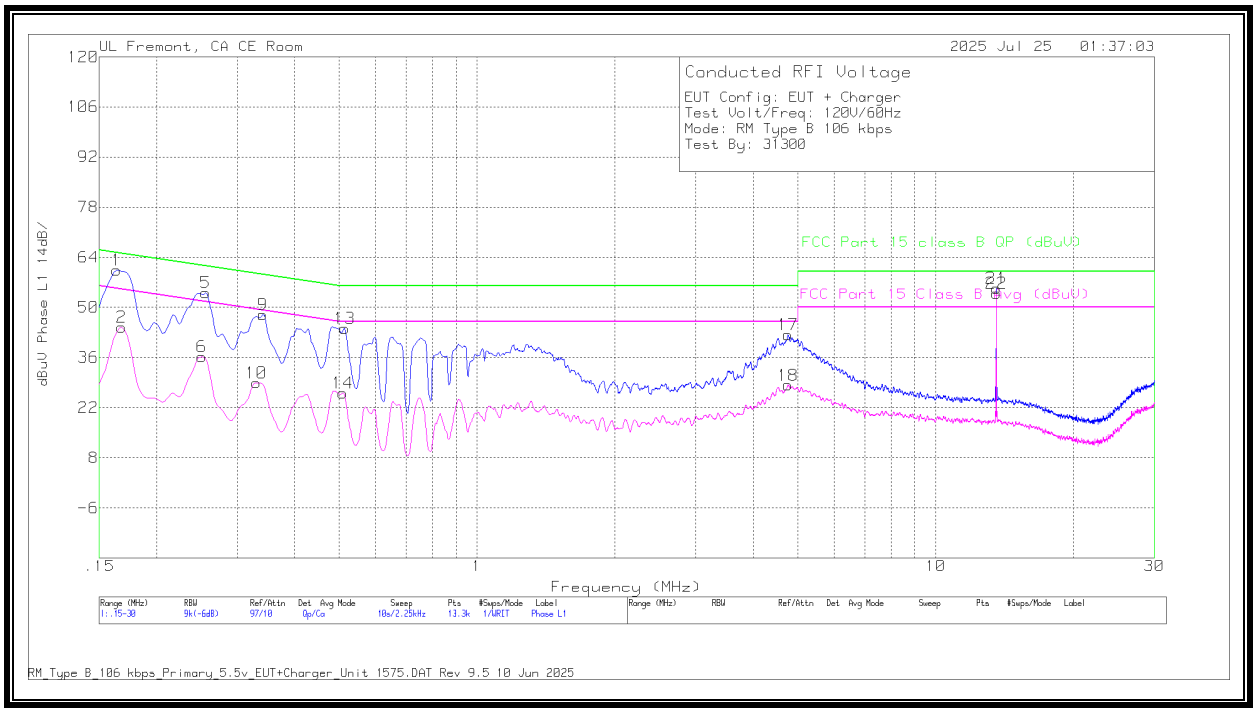
Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

11.1. PRIMARY ANTENNA

11.1.1. READER MODE: Type B, 106 Kbps

LINE 1 RESULTS



Worst Emission

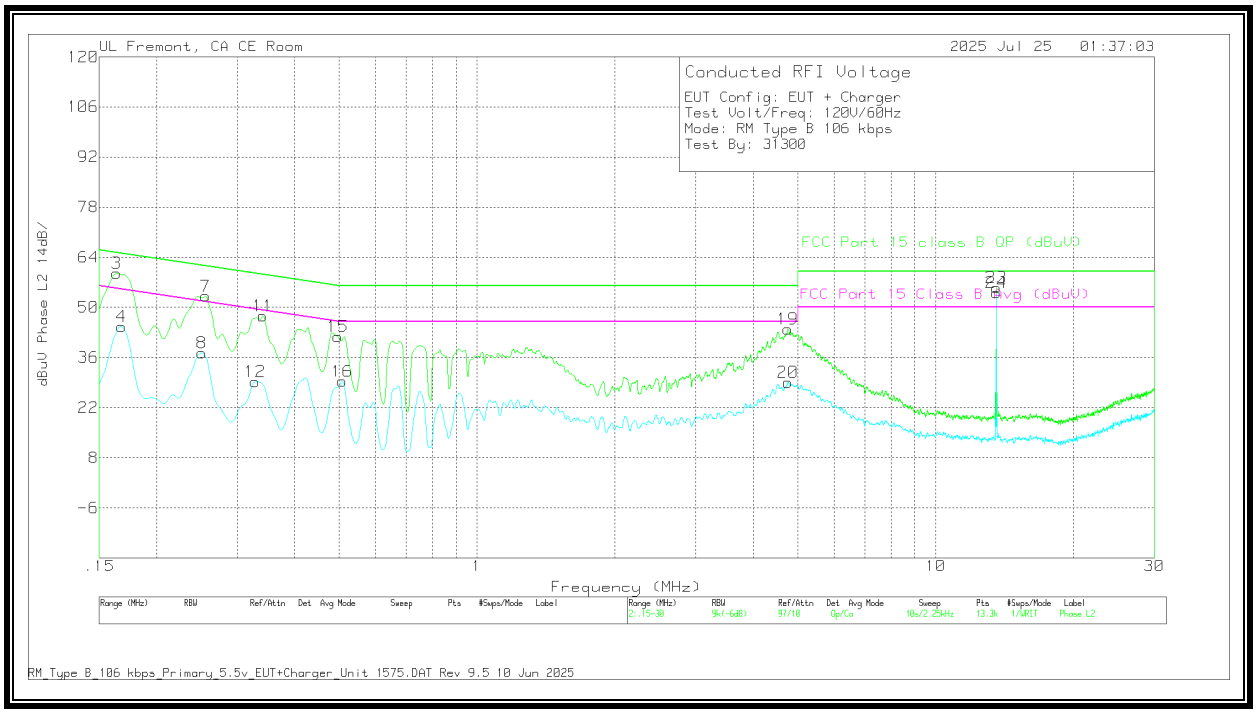
Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	25.43	Ca	.4	.1	8.5	10	44.43	55.06	-10.63	-	-
6	.2513	18.09	Ca	-.1	0	8.2	10	36.19	51.72	-15.53	-	-
10	.33	10.96	Ca	-.2	0	8.2	10	28.96	49.45	-20.49	-	-
14	.51	8.33	Ca	-.2	0	7.9	10	26.03	46	-19.97	-	-
18	4.767	9.57	Ca	.2	0	8.5	10	28.27	46	-17.73	-	-
22	13.56	35.4	Ca	.2	.1	8.2	10	53.9	50	3.9	-	-
1	.1635	41.4	Qp	.4	.1	8.5	10	60.4	-	-	65.28	-4.88
5	.2558	35.97	Qp	-.1	0	8.2	10	54.07	-	-	61.57	-7.5
9	.3413	29.99	Qp	-.3	0	8.3	10	47.99	-	-	59.17	-11.18
13	.5145	26.53	Qp	-.2	0	7.8	10	44.13	-	-	56	-11.87
17	4.767	23.69	Qp	.2	0	8.5	10	42.39	-	-	56	-13.61
21	13.56	36.9	Qp	.2	.1	8.2	10	55.4	-	-	60	-4.6

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 lowering below the limit line.

LINE 2 RESULTS



Worst Emission

Trace Markers

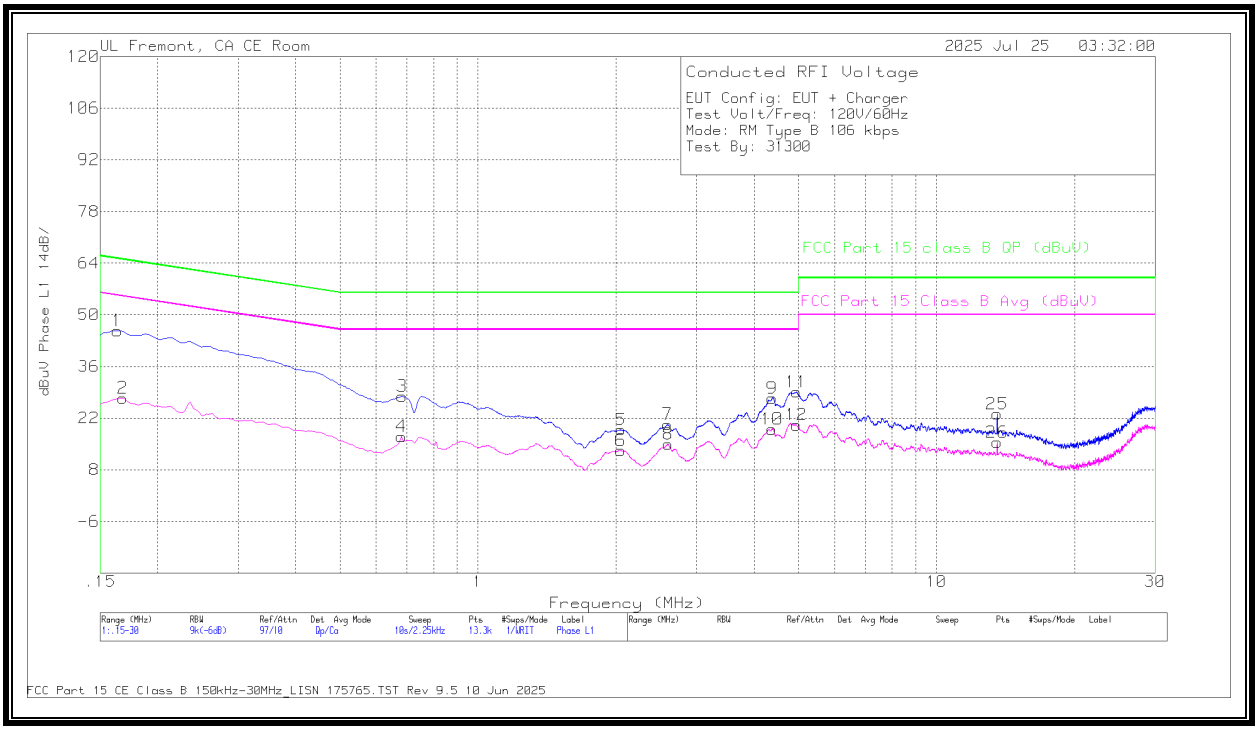
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
4	.168	25.66	Ca	.4	.1	8.5	10	44.66	55.06	-10.4	-	-
8	.2513	19.19	Ca	-.1	0	8.2	10	37.29	51.72	-14.43	-	-
12	.3278	11.28	Ca	-.2	0	8.2	10	29.28	49.51	-20.23	-	-
16	.5078	11.63	Ca	-.2	0	7.9	10	29.33	46	-16.67	-	-
20	4.767	10.4	Ca	.2	0	8.5	10	29.1	46	-16.9	-	-
24	13.56	35.61	Ca	.2	.1	8.2	10	54.11	50	4.11	-	-
3	.1635	40.5	Qp	.4	.1	8.5	10	59.5	-	-	65.28	-5.78
7	.2558	35.05	Qp	-.1	0	8.2	10	53.15	-	-	61.57	-8.42
11	.3413	29.57	Qp	-.3	0	8.3	10	47.57	-	-	59.17	-11.6
15	.4965	24	Qp	-.1	0	8	10	41.9	-	-	56.06	-14.16
19	4.7603	25.25	Qp	.2	0	8.5	10	43.95	-	-	56	-12.05
23	13.56	37.03	Qp	.2	.1	8.2	10	55.53	-	-	60	-4.47

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 B, 106 Kbps (ANTENNA PORT TERMINATED)

LINE 1 RESULTS



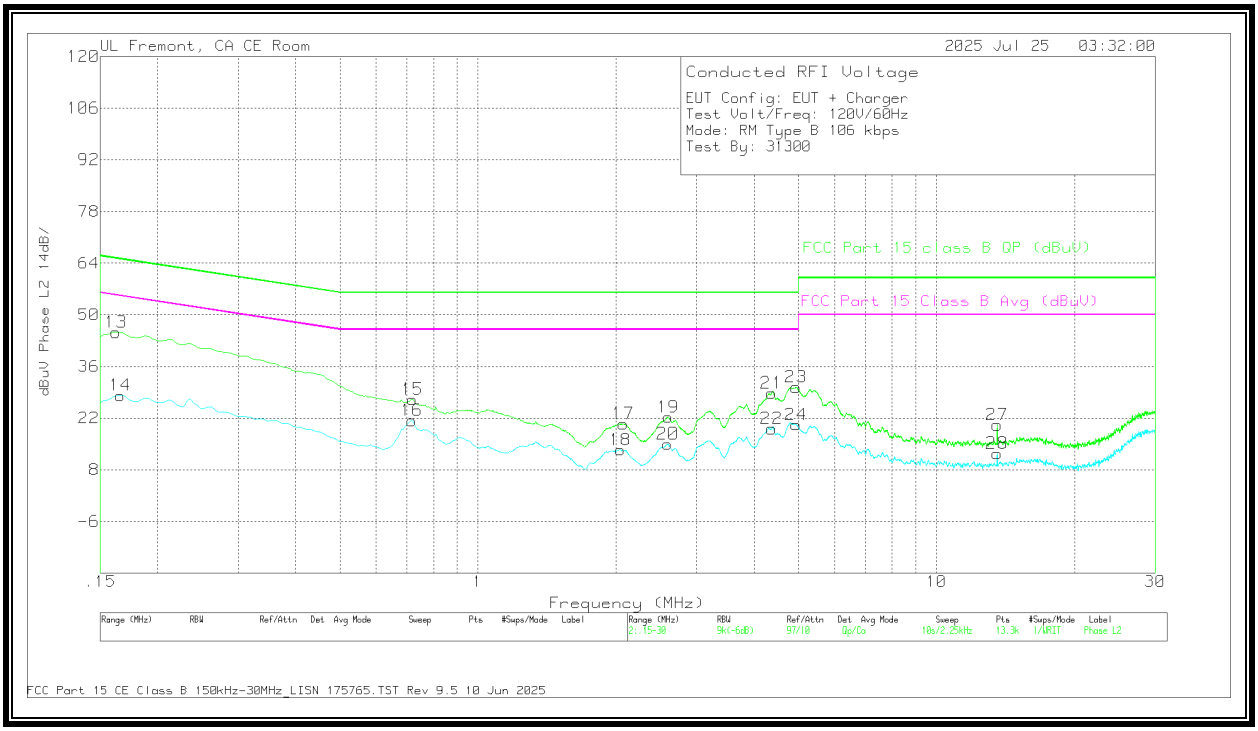
Worst Emission

Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	8.4	Ca	.4	.1	8.5	10	27.4	55.06	-27.66	-	-
4	.681	-1.51	Ca	.2	0	8.3	10	16.99	46	-29.01	-	-
6	2.0479	-5.15	Ca	0	0	8.4	10	13.25	46	-32.75	-	-
8	2.598	-4.18	Ca	.2	0	8.9	10	14.92	46	-31.08	-	-
10	4.38	-.02	Ca	.6	0	8.4	10	18.98	46	-27.02	-	-
12	4.9493	1.65	Ca	.2	0	8.3	10	20.15	46	-25.85	-	-
26	13.56	-3.08	Ca	.2	.1	8.2	10	15.42	50	-34.58	-	-
1	.1635	26.67	Qp	.4	.1	8.5	10	45.67	-	-	65.28	-19.61
3	.6833	9.41	Qp	.2	0	8.3	10	27.91	-	-	56	-28.09
5	2.0513	.42	Qp	0	0	8.4	10	18.82	-	-	56	-37.18
7	2.5935	1.28	Qp	.2	0	8.8	10	20.28	-	-	56	-35.72
9	4.3823	8.38	Qp	.6	0	8.4	10	27.38	-	-	56	-28.62
11	4.9448	10.57	Qp	.2	0	8.3	10	29.07	-	-	56	-26.93
25	13.56	4.58	Qp	.2	.1	8.2	10	23.08	-	-	60	-36.92

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



Worst Emission

Trace Markers

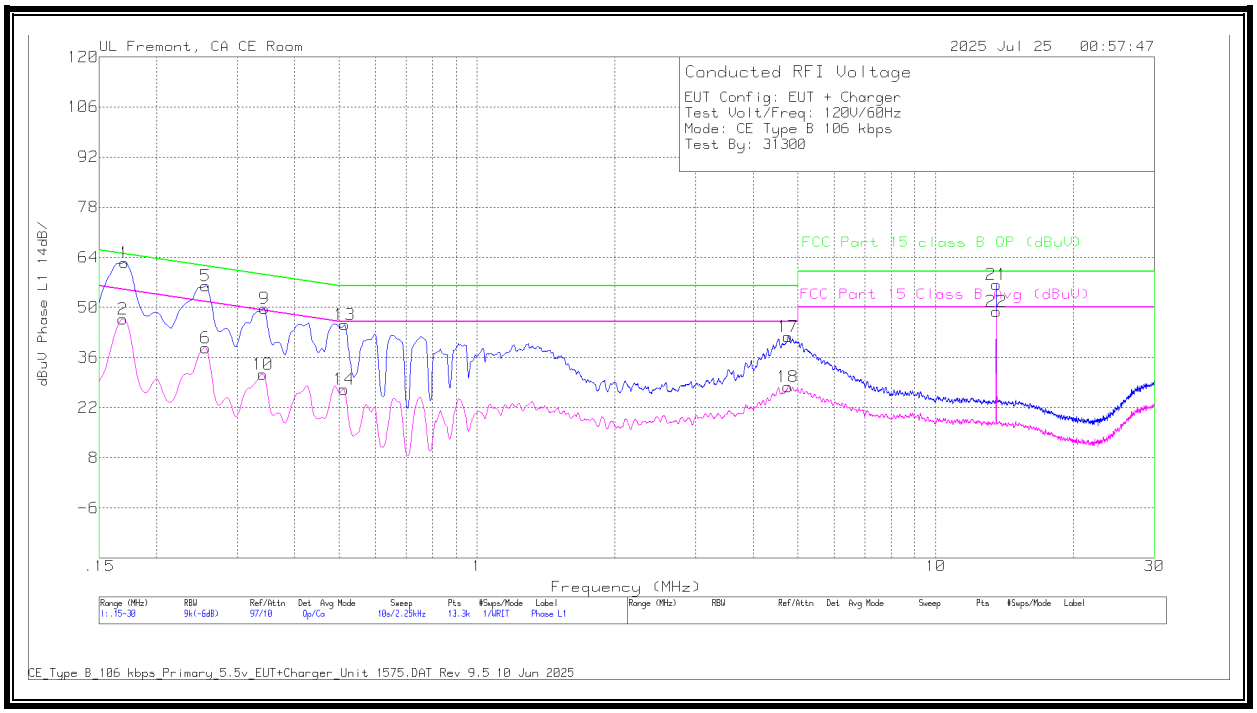
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
14	.1658	9.14	Ca	.4	.1	8.5	10	28.14	55.17	-27.03	-	-
16	.717	2.84	Ca	.2	0	8.3	10	21.34	46	-24.66	-	-
18	2.0456	-5.04	Ca	0	0	8.4	10	13.36	46	-32.64	-	-
20	2.5935	-4.04	Ca	.2	0	8.8	10	14.96	46	-31.04	-	-
22	4.3688	.54	Ca	.4	0	8.2	10	19.14	46	-26.86	-	-
24	4.9391	1.81	Ca	.2	0	8.2	10	20.21	46	-25.79	-	-
28	13.56	-6.11	Ca	.2	.1	8.2	10	12.39	50	-37.61	-	-
13	.1624	26.24	Qp	.4	.1	8.5	10	45.24	-	-	65.34	-20.1
15	.7193	8.46	Qp	.2	0	8.4	10	27.06	-	-	56	-28.94
17	2.0738	1.84	Qp	.1	0	8.5	10	20.44	-	-	56	-35.56
19	2.598	3.17	Qp	.2	0	8.9	10	22.27	-	-	56	-33.73
21	4.3688	10.16	Qp	.4	0	8.2	10	28.76	-	-	56	-27.24
23	4.9403	11.98	Qp	.2	0	8.2	10	30.38	-	-	56	-25.62
27	13.56	1.65	Qp	.2	.1	8.2	10	20.15	-	-	60	-39.85

Qp - Quasi-Peak detector
Ca - CISPR average detection

11.1.3. CE MODE: Type B, 106 Kbps

NORMAL OPERATION

LINE 1 RESULTS



Worst Emission

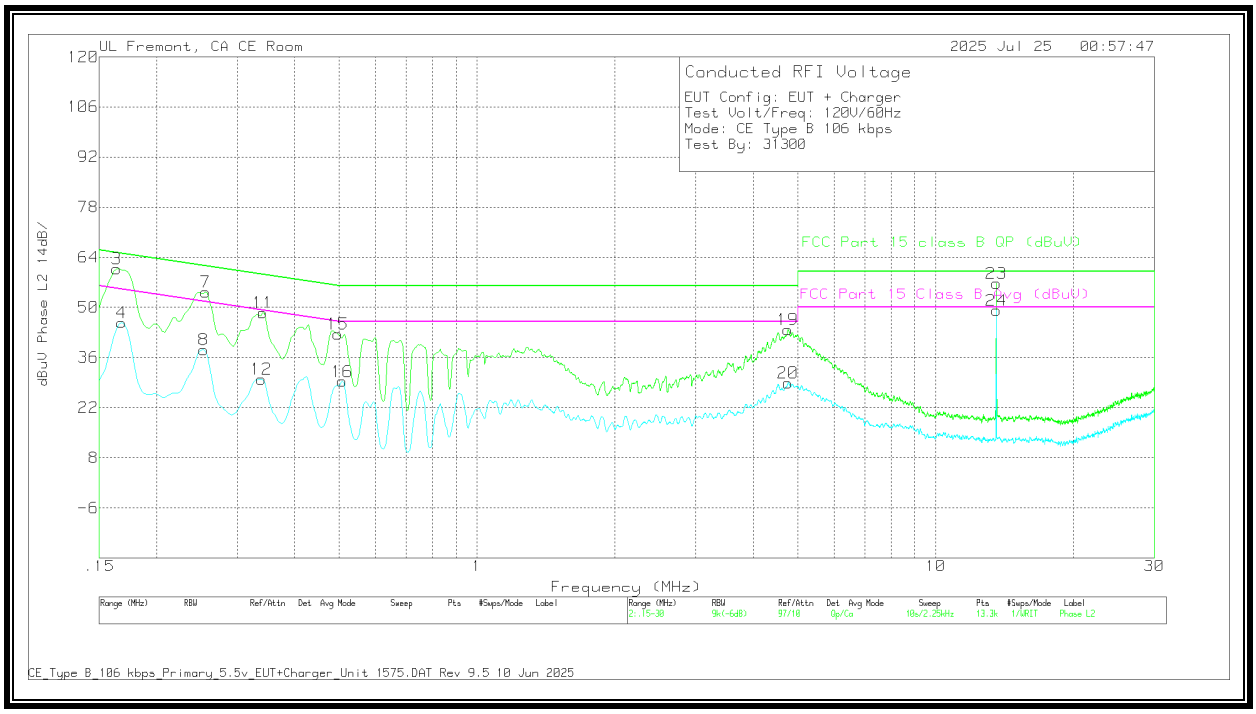
Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	.1691	27.9	Ca	.3	.1	8.5	10	46.8	55	-8.2	-	-
6	.2558	20.65	Ca	-.1	0	8.2	10	38.75	51.57	-12.82	-	-
10	.3413	13.37	Ca	-.3	0	8.3	10	31.37	49.17	-17.8	-	-
14	.5123	9.37	Ca	-.2	0	7.9	10	27.07	46	-18.93	-	-
18	4.7659	9.14	Ca	.2	0	8.5	10	27.84	46	-18.16	-	-
22	13.56	30.32	Ca	.2	.1	8.2	10	48.82	50	-1.18	-	-
1	.1703	43.57	Qp	.3	.1	8.5	10	62.47	-	-	64.95	-2.48
5	.2558	37.9	Qp	-.1	0	8.2	10	56	-	-	61.57	-5.57
9	.3435	31.75	Qp	-.3	0	8.3	10	49.75	-	-	59.12	-9.37
13	.5145	27.55	Qp	-.2	0	7.8	10	45.15	-	-	56	-10.85
17	4.767	23.22	Qp	.2	0	8.5	10	41.92	-	-	56	-14.08
21	13.56	37.86	Qp	.2	.1	8.2	10	56.36	-	-	60	-3.64

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

Trace Markers

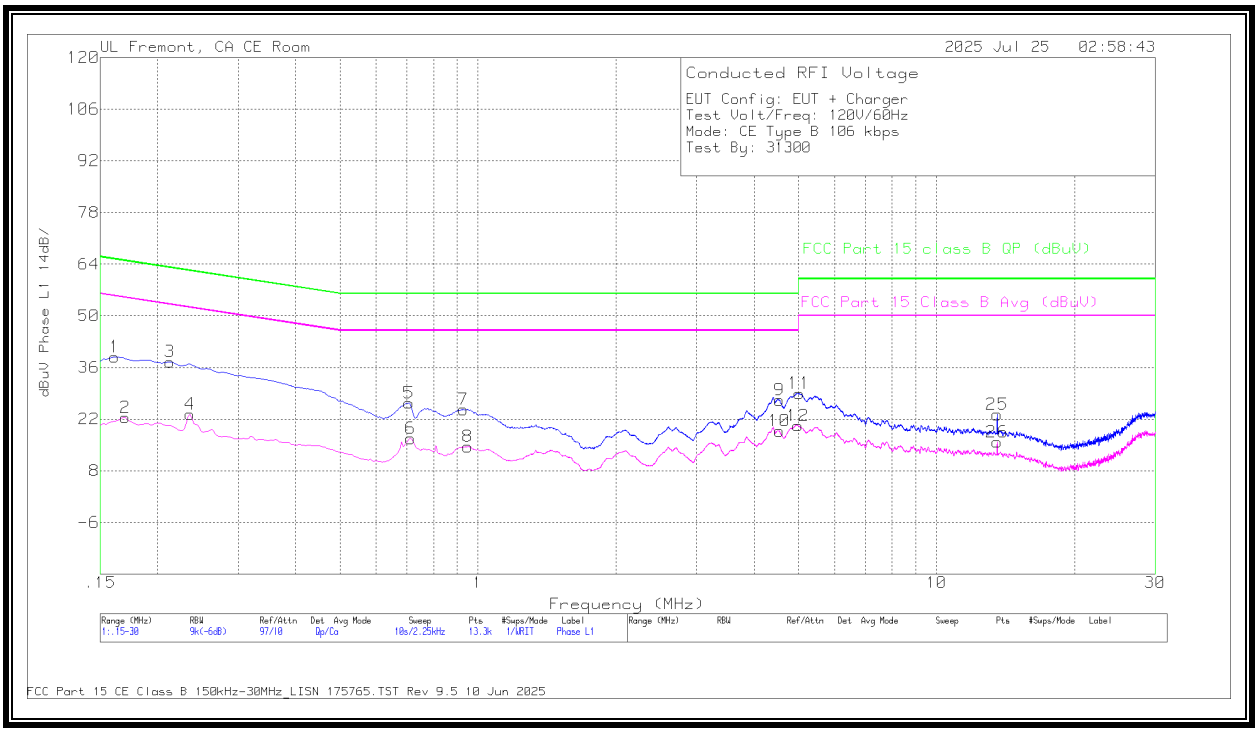
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
4	.168	26.78	Ca	.4	.1	8.5	10	45.78	55.06	-9.28	-	-
8	.2535	20.01	Ca	-.1	0	8.2	10	38.11	51.64	-13.53	-	-
12	.339	11.97	Ca	-.3	0	8.3	10	29.97	49.23	-19.26	-	-
16	.5078	11.62	Ca	-.2	0	7.9	10	29.32	46	-16.68	-	-
20	4.767	10.13	Ca	.2	0	8.5	10	28.83	46	-17.17	-	-
24	13.56	30.63	Ca	.2	.1	8.2	10	49.13	50	-.87	-	-
3	.1635	41.74	Qp	.4	.1	8.5	10	60.74	-	-	65.28	-4.54
7	.2558	36.19	Qp	-.1	0	8.2	10	54.29	-	-	61.57	-7.28
11	.3413	30.45	Qp	-.3	0	8.3	10	48.45	-	-	59.17	-10.72
15	.4965	24.71	Qp	-.1	0	8	10	42.61	-	-	56.06	-13.45
19	4.7648	25.13	Qp	.2	0	8.5	10	43.83	-	-	56	-12.17
23	13.56	38.17	Qp	.2	.1	8.2	10	56.67	-	-	60	-3.33

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 B, 106 Kbps (ANTENNA PORT TERMINATED)

LINE 1 RESULTS



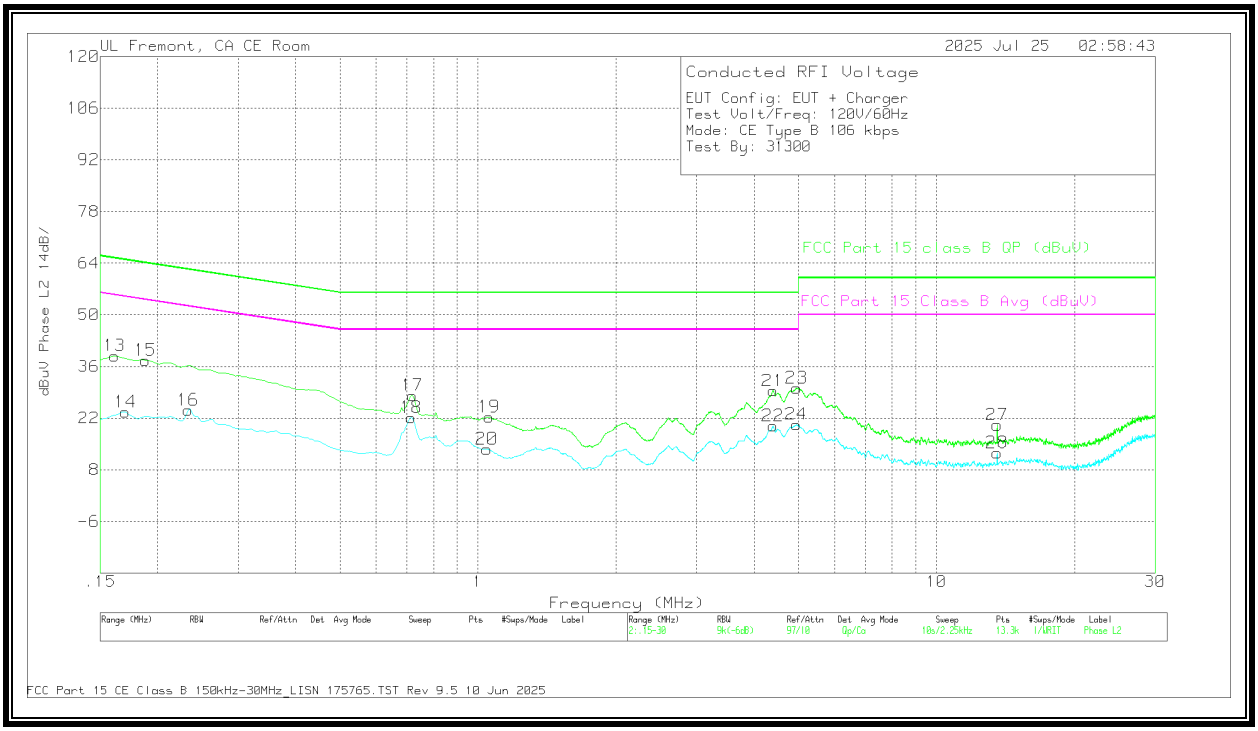
Worst Emission

Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	.1703	3.54	Ca	.3	.1	8.5	10	22.44	54.95	-32.51	-	-
4	.2355	5	Ca	0	0	8.3	10	23.3	52.25	-28.95	-	-
6	.7125	-1.76	Ca	.2	0	8.3	10	16.74	46	-29.26	-	-
8	.9488	-4.06	Ca	.3	0	8.3	10	14.54	46	-31.46	-	-
10	4.5398	-.21	Ca	.3	0	8.7	10	18.79	46	-27.21	-	-
12	4.9875	1.78	Ca	.1	0	8.3	10	20.18	46	-25.82	-	-
26	13.56	-2.71	Ca	.2	.1	8.2	10	15.79	50	-34.21	-	-
1	.1613	19.82	Qp	.4	.1	8.5	10	38.82	-	-	65.4	-26.58
3	.213	19.23	Qp	0	0	8.3	10	37.53	-	-	63.09	-25.56
5	.7069	7.82	Qp	.2	0	8.3	10	26.32	-	-	56	-29.68
7	.9285	6.01	Qp	.2	0	8.4	10	24.61	-	-	56	-31.39
9	4.5443	8.15	Qp	.3	0	8.7	10	27.15	-	-	56	-28.85
11	5.019	10.54	Qp	.1	0	8.3	10	28.94	-	-	60	-31.06
25	13.56	4.73	Qp	.2	.1	8.2	10	23.23	-	-	60	-36.77

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



Worst Emission

Trace Markers

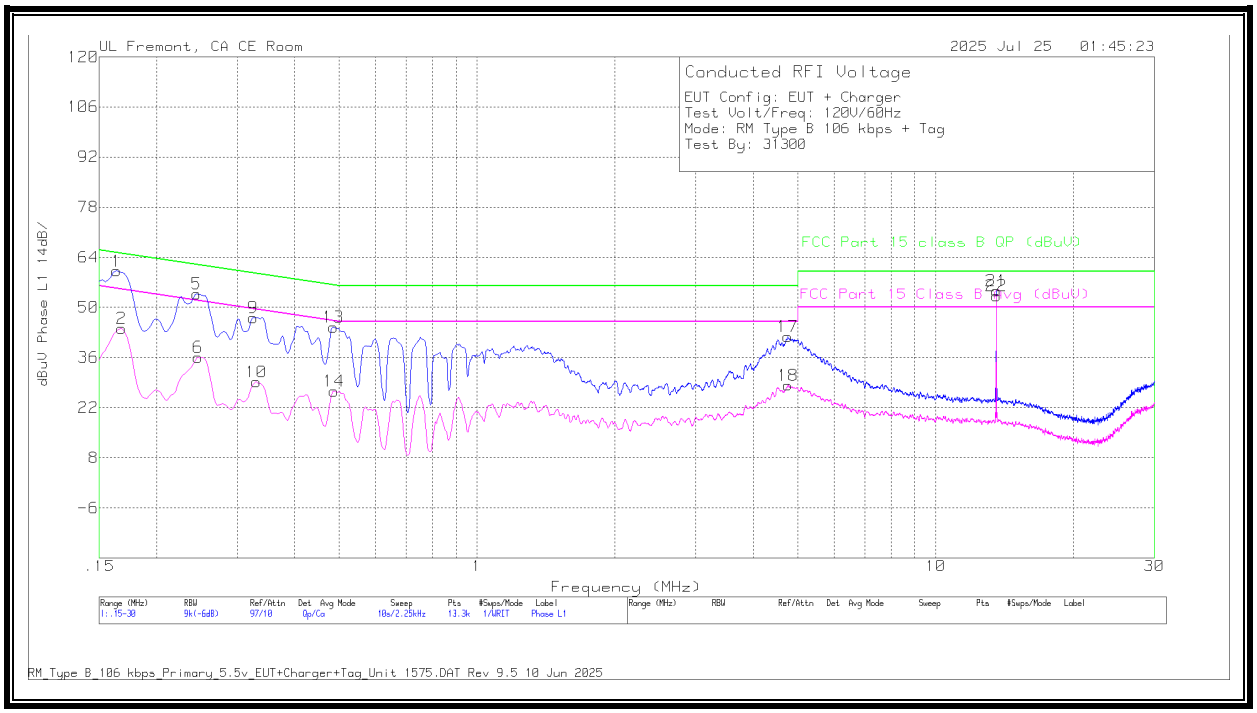
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
14	.1703	4.84	Ca	.3	0	8.5	10	23.64	54.95	-31.31	-	-
16	.2333	5.85	Ca	0	0	8.3	10	24.15	52.33	-28.18	-	-
18	.7148	3.63	Ca	.2	0	8.3	10	22.13	46	-23.87	-	-
20	1.0455	-5.08	Ca	.4	0	8.3	10	13.62	46	-32.38	-	-
22	4.398	.49	Ca	.8	0	8.6	10	19.89	46	-26.11	-	-
24	4.9448	1.8	Ca	.2	0	8.3	10	20.3	46	-25.7	-	-
28	13.56	-5.89	Ca	.2	.1	8.2	10	12.61	50	-37.39	-	-
13	.1613	19.88	Qp	.4	.1	8.5	10	38.88	-	-	65.4	-26.52
15	.1883	19.07	Qp	.2	0	8.4	10	37.67	-	-	64.11	-26.44
17	.7193	9.54	Qp	.2	0	8.4	10	28.14	-	-	56	-27.86
19	1.0568	3.62	Qp	.4	0	8.3	10	22.32	-	-	56	-33.68
21	4.398	10.02	Qp	.8	0	8.6	10	29.42	-	-	56	-26.58
23	4.956	11.67	Qp	.2	0	8.3	10	30.17	-	-	56	-25.83
27	13.56	1.66	Qp	.2	.1	8.2	10	20.16	-	-	60	-39.84

Qp - Quasi-Peak detector
Ca - CISPR average detection

11.1.5. TAG MODE: Type B, 106 kbps

NORMAL OPERATION

LINE 1 RESULTS



Worst Emission

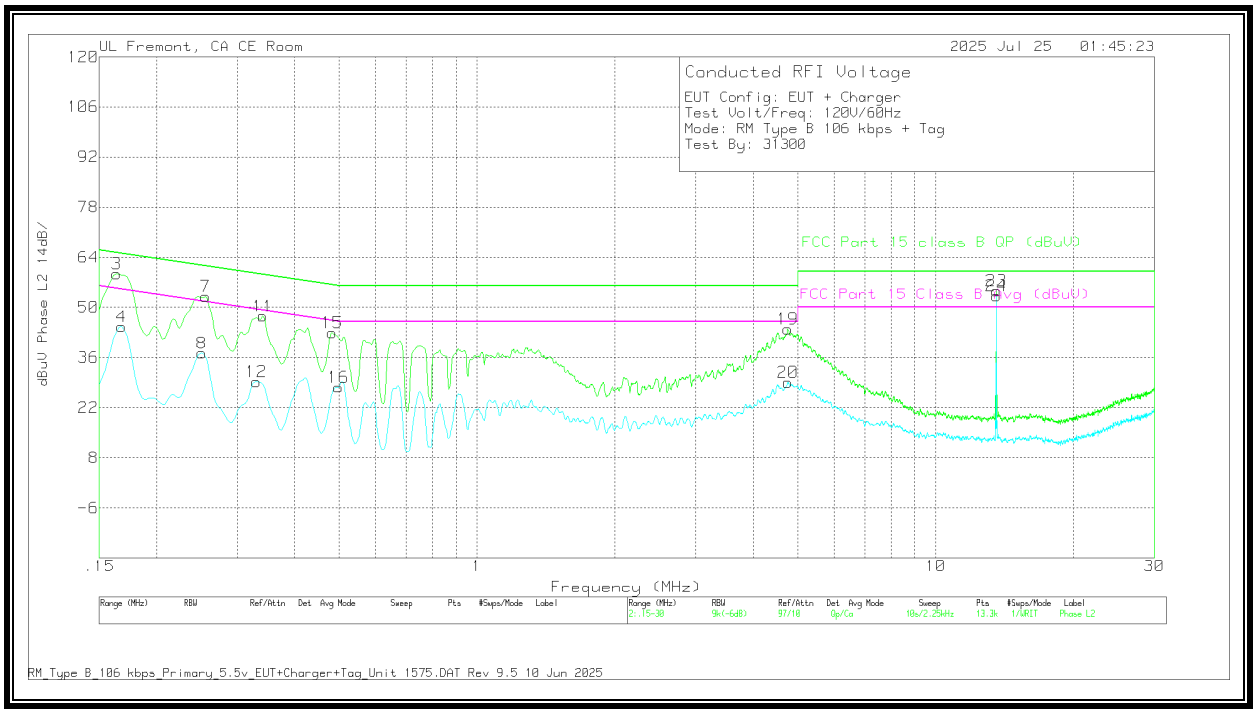
Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	25.12	Ca	.4	.1	8.5	10	44.12	55.06	-10.94	-	-
6	.2468	17.99	Ca	-.1	0	8.2	10	36.09	51.87	-15.78	-	-
10	.33	11.16	Ca	-.2	0	8.2	10	29.16	49.45	-20.29	-	-
14	.4875	8.47	Ca	0	0	8.2	10	26.67	46.21	-19.54	-	-
18	4.767	9.56	Ca	.2	0	8.5	10	28.26	46	-17.74	-	-
22	13.56	34.72	Ca	.2	.1	8.2	10	53.22	50	3.22	-	-
1	.1635	41.16	Qp	.4	.1	8.5	10	60.16	-	-	65.28	-5.12
5	.2445	35.64	Qp	-.1	0	8.2	10	53.74	-	-	61.94	-8.2
9	.3255	29.17	Qp	-.2	0	8.2	10	47.17	-	-	59.57	-12.4
13	.4864	26.27	Qp	0	0	8.2	10	44.47	-	-	56.23	-11.76
17	4.7648	23.11	Qp	.2	0	8.5	10	41.81	-	-	56	-14.19
21	13.56	36.21	Qp	.2	.1	8.2	10	54.71	-	-	60	-5.29

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

Trace Markers

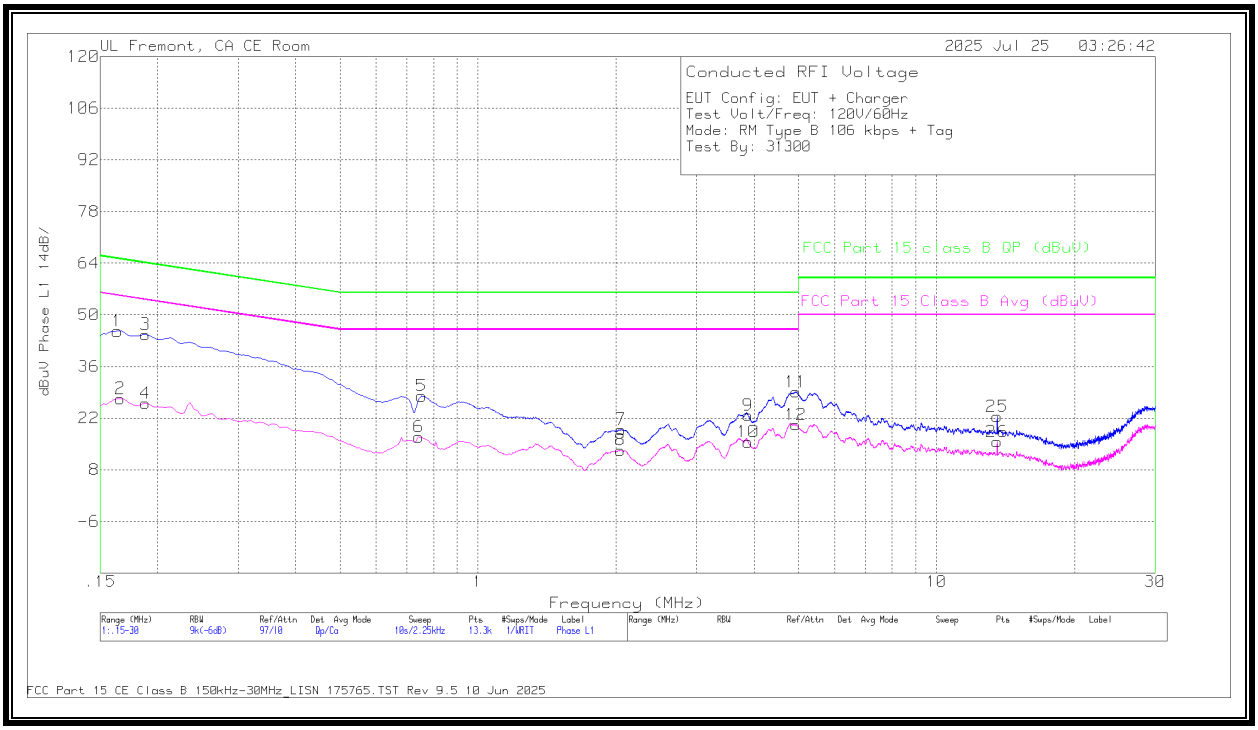
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
4	.168	25.58	Ca	.4	.1	8.5	10	44.58	55.06	-10.48	-	-
8	.2513	19.11	Ca	-.1	0	8.2	10	37.21	51.72	-14.51	-	-
12	.33	11.26	Ca	-.2	0	8.2	10	29.26	49.45	-20.19	-	-
16	.4988	9.93	Ca	-.1	0	7.9	10	27.73	46.02	-18.29	-	-
20	4.767	10.33	Ca	.2	0	8.5	10	29.03	46	-16.97	-	-
24	13.56	34.76	Ca	.2	.1	8.2	10	53.26	50	3.26	-	-
3	.1635	40.43	Qp	.4	.1	8.5	10	59.43	-	-	65.28	-5.85
7	.2558	35.01	Qp	-.1	0	8.2	10	53.11	-	-	61.57	-8.46
11	.3413	29.55	Qp	-.3	0	8.3	10	47.55	-	-	59.17	-11.62
15	.483	24.7	Qp	0	0	8.2	10	42.9	-	-	56.29	-13.39
19	4.7603	25.22	Qp	.2	0	8.5	10	43.92	-	-	56	-12.08
23	13.56	36.2	Qp	.2	.1	8.2	10	54.7	-	-	60	-5.3

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 B, 106 Kbps (ANTENNA PORT TERMINATED)

LINE 1 RESULTS



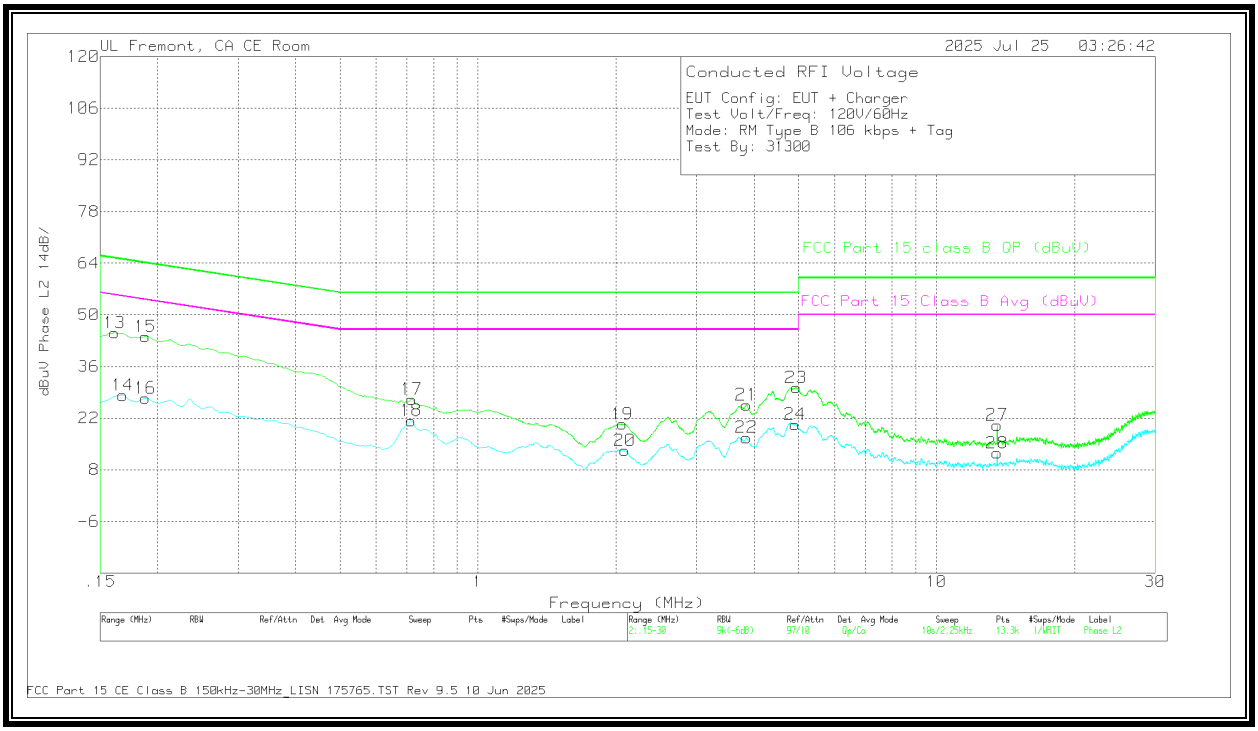
Worst Emission

Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	.1658	8.27	Ca	.4	.1	8.5	10	27.27	55.17	-27.9	-	-
4	.1883	7.28	Ca	.2	.1	8.4	10	25.98	54.11	-28.13	-	-
6	.7418	-1.69	Ca	.1	0	8.5	10	16.91	46	-29.09	-	-
8	2.0445	-5.09	Ca	0	0	8.4	10	13.31	46	-32.69	-	-
10	3.8828	-2.86	Ca	.1	0	8.3	10	15.54	46	-30.46	-	-
12	4.9335	1.8	Ca	.2	0	8.2	10	20.2	46	-25.8	-	-
26	13.56	-2.91	Ca	.2	.1	8.2	10	15.59	50	-34.41	-	-
1	.1635	26.57	Qp	.4	.1	8.5	10	45.57	-	-	65.28	-19.71
3	.1883	25.95	Qp	.2	.1	8.4	10	44.65	-	-	64.11	-19.46
5	.753	9.31	Qp	.1	0	8.6	10	28.01	-	-	56	-27.99
7	2.049	.48	Qp	0	0	8.4	10	18.88	-	-	56	-37.12
9	3.8828	4.38	Qp	.1	0	8.3	10	22.78	-	-	56	-33.22
11	4.9313	10.69	Qp	.2	0	8.2	10	29.09	-	-	56	-26.91
25	13.56	3.94	Qp	.2	.1	8.2	10	22.44	-	-	60	-37.56

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



Worst Emission

Trace Markers

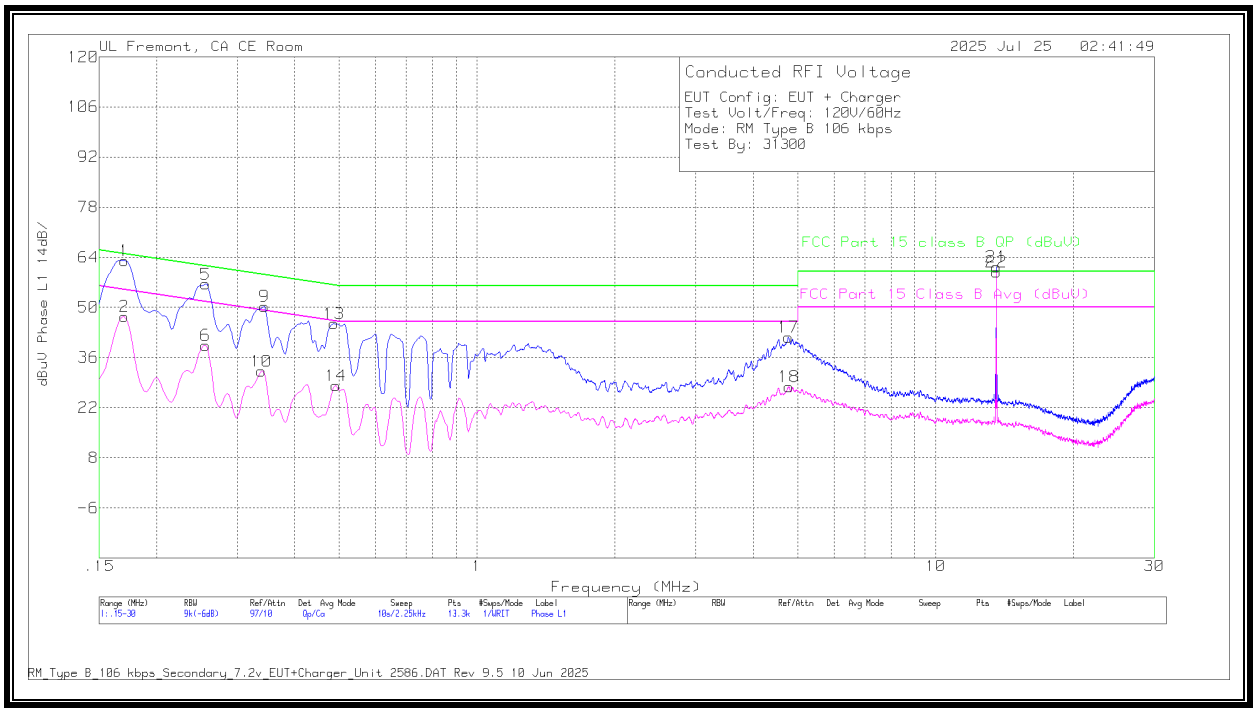
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
14	.168	9.17	Ca	.4	.1	8.5	10	28.17	55.06	-26.89	-	-
16	.1883	8.8	Ca	.2	0	8.4	10	27.4	54.11	-26.71	-	-
18	.7148	2.81	Ca	.2	0	8.3	10	21.31	46	-24.69	-	-
20	2.0895	-5.6	Ca	.2	0	8.6	10	13.2	46	-32.8	-	-
22	3.849	-2.17	Ca	.4	0	8.5	10	16.73	46	-29.27	-	-
24	4.9155	2.07	Ca	.2	0	8	10	20.27	46	-25.73	-	-
28	13.56	-5.95	Ca	.2	.1	8.2	10	12.55	50	-37.45	-	-
13	.1613	26.09	Qp	.4	.1	8.5	10	45.09	-	-	65.4	-20.31
15	.1883	25.48	Qp	.2	0	8.4	10	44.08	-	-	64.11	-20.03
17	.717	8.58	Qp	.2	0	8.3	10	27.08	-	-	56	-28.92
19	2.0625	1.79	Qp	.1	0	8.5	10	20.39	-	-	56	-35.61
21	3.8513	6.66	Qp	.4	0	8.5	10	25.56	-	-	56	-30.44
23	4.9425	11.85	Qp	.2	0	8.2	10	30.25	-	-	56	-25.75
27	13.56	1.6	Qp	.2	.1	8.2	10	20.1	-	-	60	-39.9

Qp - Quasi-Peak detector
Ca - CISPR average detection

11.2. SECONDARY ANTENNA

11.2.1. READER MODE: TYPE B, 106 KBPS

LINE 1 RESULTS



Worst Emission

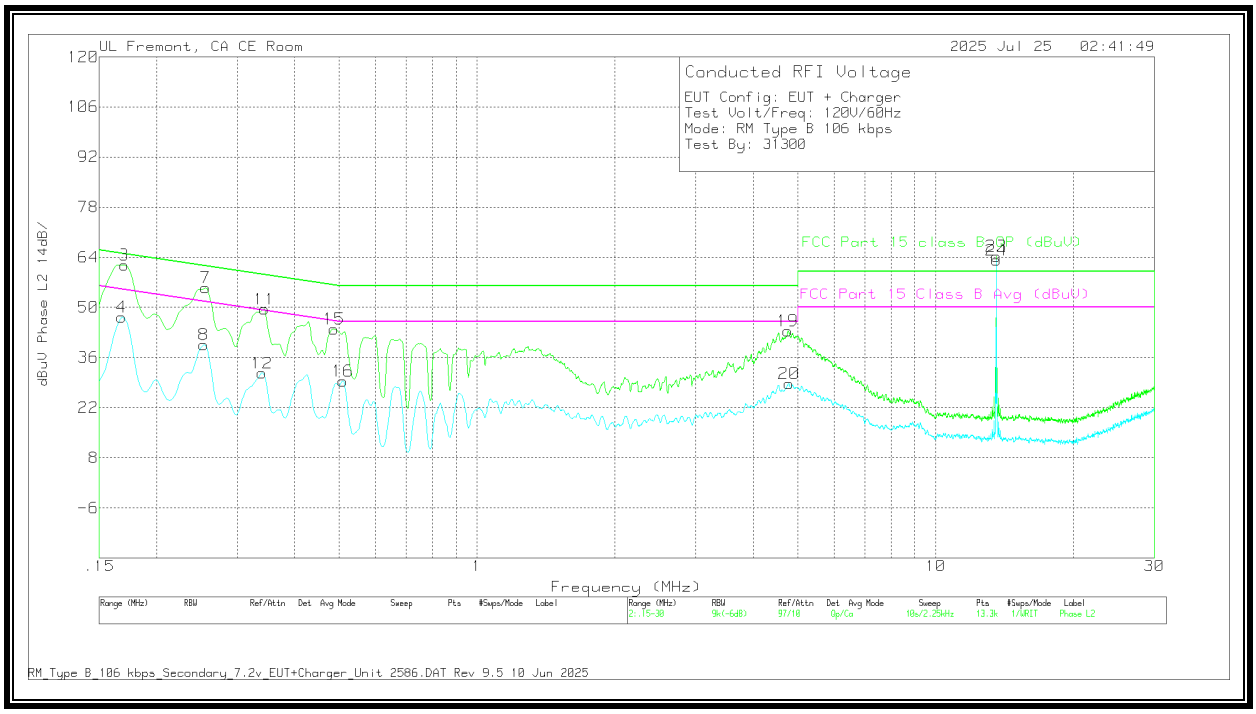
Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	.1703	28.51	Ca	.3	.1	8.5	10	47.41	54.95	-7.54	-	-
6	.2558	21.36	Ca	-.1	0	8.2	10	39.46	51.57	-12.11	-	-
10	.339	14.14	Ca	-.3	0	8.3	10	32.14	49.23	-17.09	-	-
14	.492	10.11	Ca	-.1	0	8.1	10	28.11	46.13	-18.02	-	-
18	4.7895	9.12	Ca	.3	0	8.4	10	27.82	46	-18.18	-	-
22	13.56	41.36	Ca	.2	.1	8.2	10	59.86	50	9.86	-	-
1	.1703	44.21	Qp	.3	.1	8.5	10	63.11	-	-	64.95	-1.84
5	.2558	38.38	Qp	-.1	0	8.2	10	56.48	-	-	61.57	-5.09
9	.3435	32.29	Qp	-.3	0	8.3	10	50.29	-	-	59.12	-8.83
13	.4875	27.25	Qp	0	0	8.2	10	45.45	-	-	56.21	-10.76
17	4.776	22.96	Qp	.3	0	8.4	10	41.66	-	-	56	-14.34
21	13.56	42.85	Qp	.2	.1	8.2	10	61.35	-	-	60	1.35

Qp - Quasi-Peak detector
Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.2.2 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

LINE 2 RESULTS



Worst Emission

Trace Markers

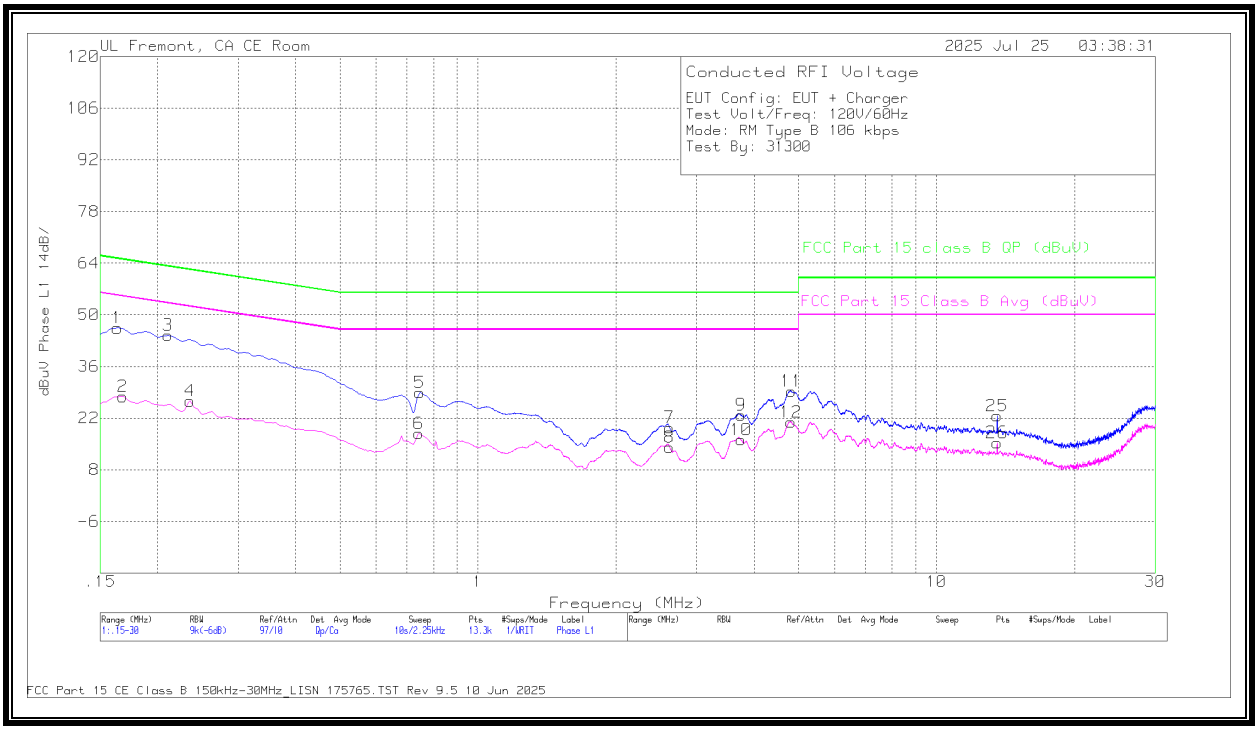
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
4	.168	28.23	Ca	.4	.1	8.5	10	47.23	55.06	-7.83	-	-
8	.2535	21.42	Ca	-.1	0	8.2	10	39.52	51.64	-12.12	-	-
12	.3401	13.6	Ca	-.3	0	8.3	10	31.6	49.2	-17.6	-	-
16	.51	11.73	Ca	-.2	0	7.9	10	29.43	46	-16.57	-	-
20	4.7873	9.99	Ca	.3	0	8.4	10	28.69	46	-17.31	-	-
24	13.56	44.65	Ca	.2	.1	8.2	10	63.15	50	13.15	-	-
3	.1703	43.08	Qp	.3	0	8.5	10	61.88	-	-	64.95	-3.07
7	.2558	37.38	Qp	-.1	0	8.2	10	55.48	-	-	61.57	-6.09
11	.3435	31.49	Qp	-.3	0	8.3	10	49.49	-	-	59.12	-9.63
15	.4875	25.73	Qp	0	0	8.2	10	43.93	-	-	56.21	-12.28
19	4.7648	24.74	Qp	.2	0	8.5	10	43.44	-	-	56	-12.56
23	13.56	45.76	Qp	.2	.1	8.2	10	64.26	-	-	60	4.26

Qp - Quasi-Peak detector
Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.2.4 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

11.2.2. READER MODE: Type B, 106 Kbps (ANTENNA PORT TERMINATED)

LINE 1 RESULTS



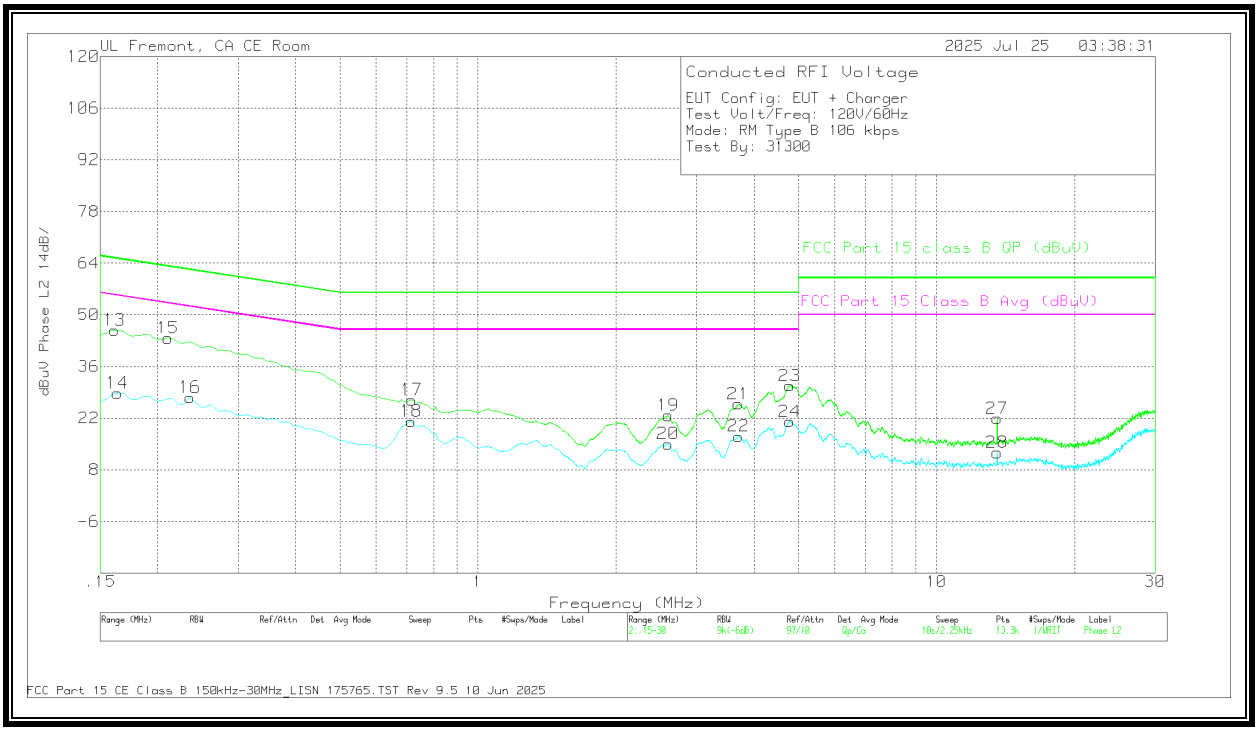
Worst Emission

Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	8.85	Ca	.4	.1	8.5	10	27.85	55.06	-27.21	-	-
4	.2355	8.34	Ca	0	0	8.3	10	26.64	52.25	-25.61	-	-
6	.7429	-.81	Ca	.1	0	8.5	10	17.79	46	-28.21	-	-
8	2.6183	-4.53	Ca	.1	0	8.5	10	14.07	46	-31.93	-	-
10	3.75	-1.6	Ca	-.5	0	8.2	10	16.1	46	-29.9	-	-
12	4.8165	2.49	Ca	.1	0	8.3	10	20.89	46	-25.11	-	-
26	13.56	-3.2	Ca	.2	.1	8.2	10	15.3	50	-34.7	-	-
1	.1635	27.41	Qp	.4	.1	8.5	10	46.41	-	-	65.28	-18.87
3	.2108	25.97	Qp	.1	0	8.4	10	44.47	-	-	63.18	-18.71
5	.7463	10.2	Qp	.1	0	8.6	10	28.9	-	-	56	-27.1
7	2.6183	.82	Qp	.1	0	8.5	10	19.42	-	-	56	-36.58
9	3.75	5.12	Qp	-.5	0	8.2	10	22.82	-	-	56	-33.18
11	4.8233	10.87	Qp	.1	0	8.3	10	29.27	-	-	56	-26.73
25	13.56	4.09	Qp	.2	.1	8.2	10	22.59	-	-	60	-37.41

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



Worst Emission

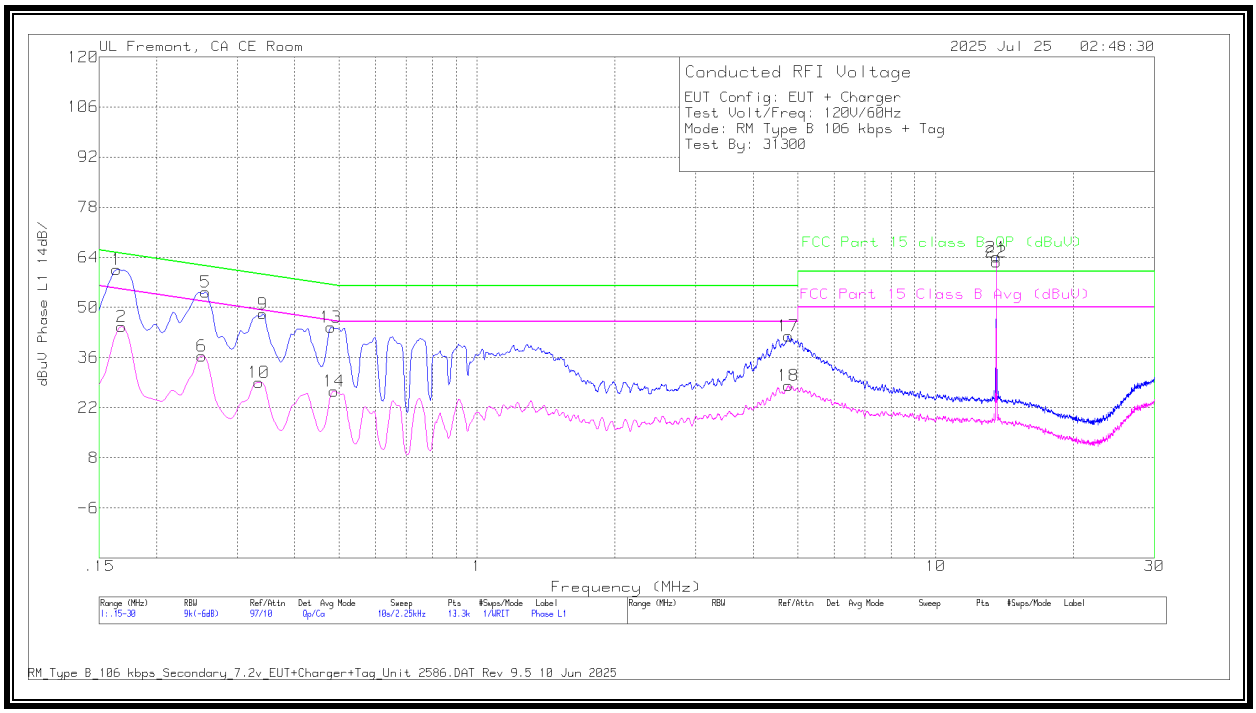
Trace Markers

Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	.1635	9.77	Ca	.4	.1	8.5	10	28.77	55.28	-26.51	-	-
16	.2355	9.31	Ca	0	0	8.3	10	27.61	52.25	-24.64	-	-
18	.7148	2.62	Ca	.2	0	8.3	10	21.12	46	-24.88	-	-
20	2.5969	-4.09	Ca	.2	0	8.9	10	15.01	46	-30.99	-	-
22	3.7005	-1.24	Ca	0	0	8.3	10	17.06	46	-28.94	-	-
24	4.785	2.35	Ca	.3	0	8.4	10	21.05	46	-24.95	-	-
28	13.56	-5.84	Ca	.2	.1	8.2	10	12.66	50	-37.34	-	-
13	.1613	26.84	Qp	.4	.1	8.5	10	45.84	-	-	65.4	-19.56
15	.2108	25.19	Qp	.1	0	8.4	10	43.69	-	-	63.18	-19.49
17	.717	8.41	Qp	.2	0	8.3	10	26.91	-	-	56	-29.09
19	2.598	3.62	Qp	.2	0	8.9	10	22.72	-	-	56	-33.28
21	3.696	7.52	Qp	0	0	8.3	10	25.82	-	-	56	-30.18
23	4.785	12.09	Qp	.3	0	8.4	10	30.79	-	-	56	-25.21
27	13.56	3.4	Qp	.2	.1	8.2	10	21.9	-	-	60	-38.1

Qp - Quasi-Peak detector
Ca - CISPR average detection

11.2.3. TAG MODE: Type B, 106 Kbps

LINE 1 RESULTS



Worst Emission

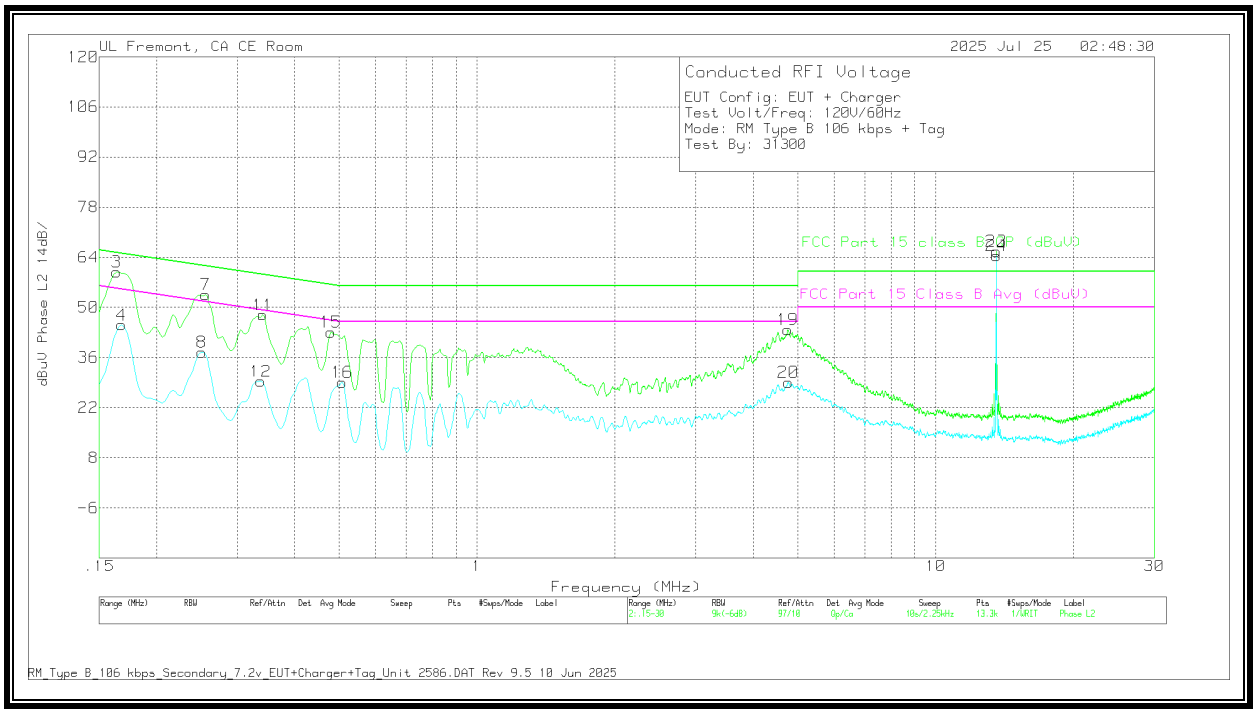
Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	25.64	Ca	.4	.1	8.5	10	44.64	55.06	-10.42	-	-
6	.2513	18.34	Ca	-.1	0	8.2	10	36.44	51.72	-15.28	-	-
10	.3345	11.07	Ca	-.3	0	8.3	10	29.07	49.34	-20.27	-	-
14	.4875	8.38	Ca	0	0	8.2	10	26.58	46.21	-19.63	-	-
18	4.776	9.46	Ca	.3	0	8.4	10	28.16	46	-17.84	-	-
22	13.56	44.22	Ca	.2	.1	8.2	10	62.72	**50**	**12.72**	-	-
1	.1635	41.57	Qp	.4	.1	8.5	10	60.57	-	-	65.28	-4.71
5	.2558	36.2	Qp	-.1	0	8.2	10	54.3	-	-	61.57	-7.27
9	.3413	30.24	Qp	-.3	0	8.3	10	48.24	-	-	59.17	-10.93
13	.4808	26.2	Qp	0	0	8.3	10	44.5	-	-	56.33	-11.83
17	4.7693	23.32	Qp	.2	0	8.5	10	42.02	-	-	56	-13.98
21	13.56	45.52	Qp	.2	.1	8.2	10	64.02	-	-	**60**	**4.02**

Qp - Quasi-Peak detector
Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.2.4 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

LINE 2 RESULTS



Worst Emission

Trace Markers

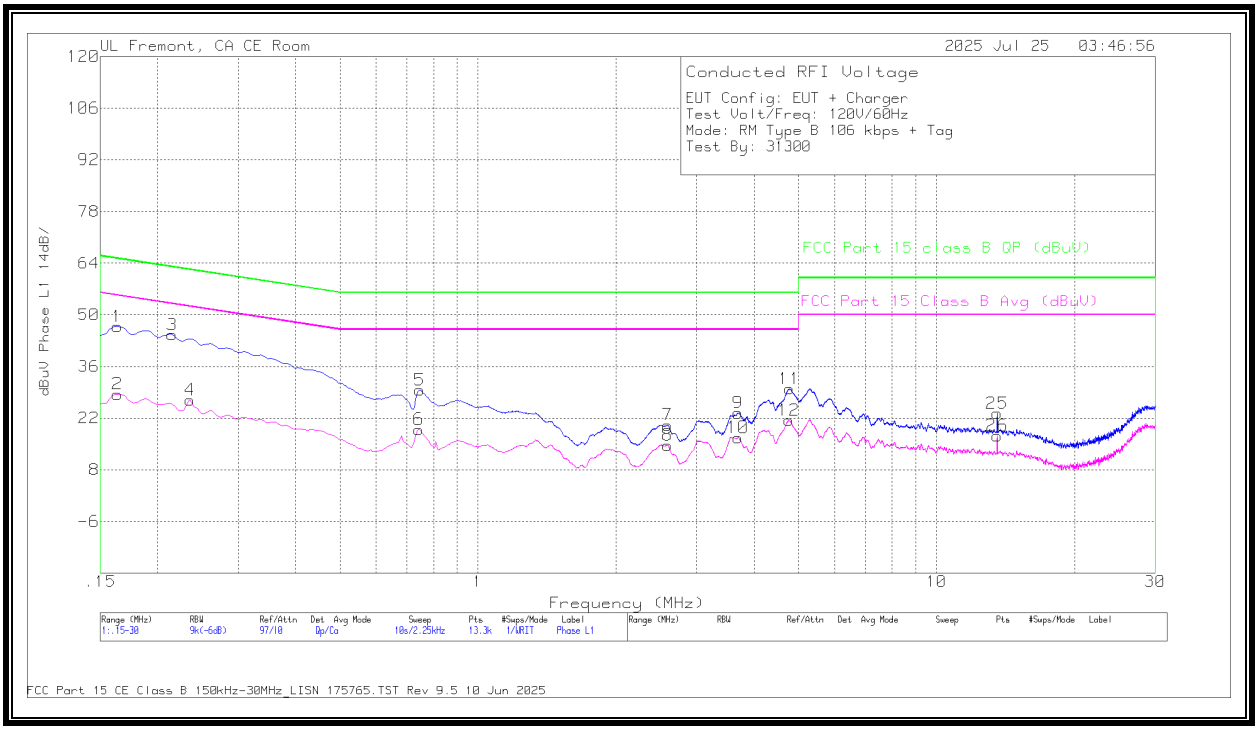
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
4	.168	26.09	Ca	.4	.1	8.5	10	45.09	55.06	-9.97	-	-
8	.2513	19.41	Ca	-.1	0	8.2	10	37.51	51.72	-14.21	-	-
12	.3379	11.33	Ca	-.3	0	8.3	10	29.33	49.26	-19.93	-	-
16	.5078	11.31	Ca	-.2	0	7.9	10	29.01	46	-16.99	-	-
20	4.7715	10.31	Ca	.2	0	8.5	10	29.01	46	-16.99	-	-
24	13.56	46.01	Ca	.2	.1	8.2	10	64.51	50	14.51	-	-
3	.1635	40.86	Qp	.4	.1	8.5	10	59.86	-	-	65.28	-5.42
7	.2558	35.49	Qp	-.1	0	8.2	10	53.59	-	-	61.57	-7.98
11	.3413	29.9	Qp	-.3	0	8.3	10	47.9	-	-	59.17	-11.27
15	.4808	24.78	Qp	0	0	8.3	10	43.08	-	-	56.33	-13.25
19	4.7603	25.01	Qp	.2	0	8.5	10	43.71	-	-	56	-12.29
23	13.56	47.13	Qp	.2	.1	8.2	10	65.63	-	-	60	5.63

Qp - Quasi-Peak detector
Ca - CISPR average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section 11.2.4 indicates that when the antenna terminal is terminated, the fundamental amplitude is below the limit line.

11.2.4. TAG MODE: Type B, 106 Kbps (ANTENNA PORT TERMINATED)

LINE 1 RESULTS



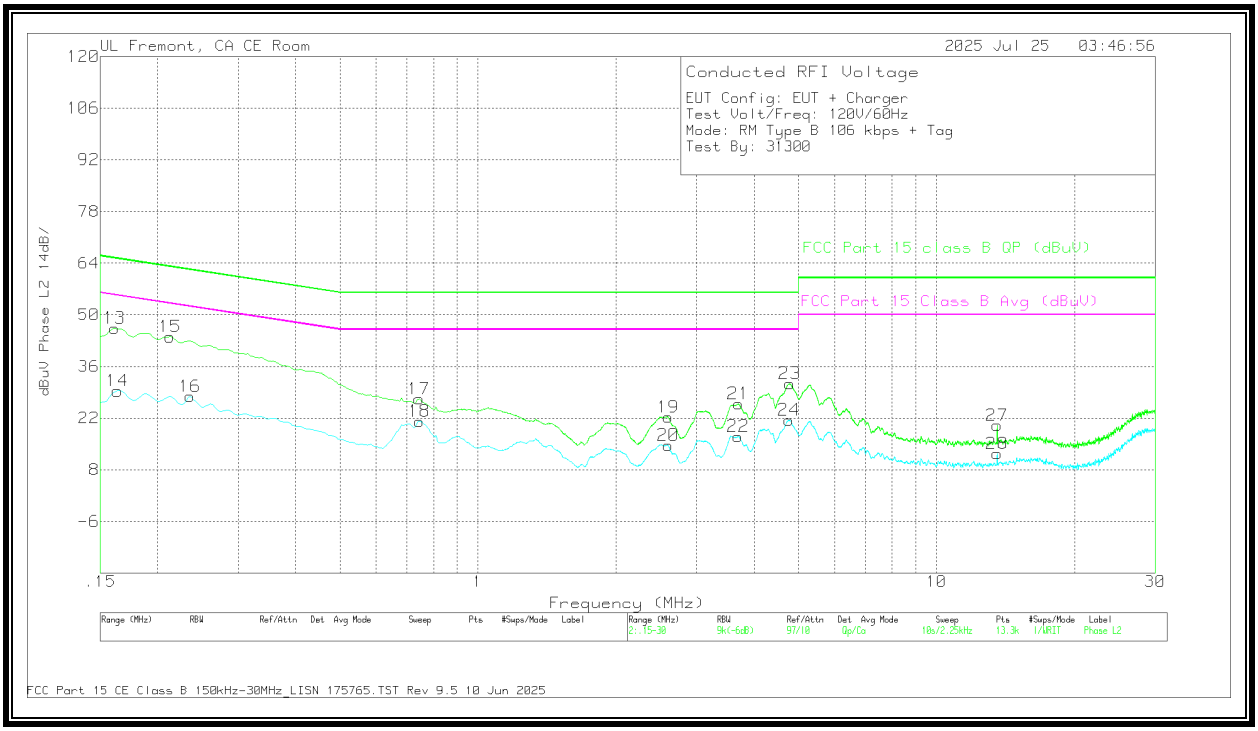
Worst Emission

Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	.1635	9.48	Ca	.4	.1	8.5	10	28.48	55.28	-26.8	-	-
4	.2355	8.6	Ca	0	0	8.3	10	26.9	52.25	-25.35	-	-
6	.7418	.3	Ca	.1	0	8.5	10	18.9	46	-27.1	-	-
8	2.589	-4.35	Ca	.2	0	8.8	10	14.65	46	-31.35	-	-
10	3.687	-1.54	Ca	0	0	8.2	10	16.66	46	-29.34	-	-
12	4.7614	2.7	Ca	.2	0	8.5	10	21.4	46	-24.6	-	-
26	13.56	-1.28	Ca	.2	.1	8.2	10	17.22	50	-32.78	-	-
1	.1635	27.82	Qp	.4	.1	8.5	10	46.82	-	-	65.28	-18.46
3	.2153	26.3	Qp	0	0	8.3	10	44.6	-	-	63	-18.4
5	.7463	10.87	Qp	.1	0	8.6	10	29.57	-	-	56	-26.43
7	2.589	1.12	Qp	.2	0	8.8	10	20.12	-	-	56	-35.88
9	3.6893	5.21	Qp	0	0	8.2	10	23.41	-	-	56	-32.59
11	4.7783	11.22	Qp	.3	0	8.4	10	29.92	-	-	56	-26.08
25	13.56	4.77	Qp	.2	.1	8.2	10	23.27	-	-	60	-36.73

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



Worst Emission

Trace Markers

Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(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	.1635	10.37	Ca	.4	.1	8.5	10	29.37	55.28	-25.91	-	-
16	.2355	9.56	Ca	0	0	8.3	10	27.86	52.25	-24.39	-	-
18	.7451	2.43	Ca	.1	0	8.6	10	21.13	46	-24.87	-	-
20	2.6003	-4.48	Ca	.2	0	8.9	10	14.62	46	-31.38	-	-
22	3.6938	-1.18	Ca	0	0	8.2	10	17.02	46	-28.98	-	-
24	4.7693	2.75	Ca	.2	0	8.5	10	21.45	46	-24.55	-	-
28	13.56	-6.14	Ca	.2	.1	8.2	10	12.36	50	-37.64	-	-
13	.1613	27.37	Qp	.4	.1	8.5	10	46.37	-	-	65.4	-19.03
15	.213	25.75	Qp	0	0	8.3	10	44.05	-	-	63.09	-19.04
17	.744	8.48	Qp	.1	0	8.6	10	27.18	-	-	56	-28.82
19	2.5991	3.17	Qp	.2	0	8.9	10	22.27	-	-	56	-33.73
21	3.6983	7.57	Qp	0	0	8.3	10	25.87	-	-	56	-30.13
23	4.7873	12.62	Qp	.3	0	8.4	10	31.32	-	-	56	-24.68
27	13.56	1.54	Qp	.2	.1	8.2	10	20.04	-	-	60	-39.96

Qp - Quasi-Peak detector
Ca - CISPR average detection

12. SETUP PHOTOS

Please refer to 15496249-EP1V1 for setup photos.

13. APPENDIX A – SPOT CHECK EVALUATION

13.1. MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3257, A3525, A3526 and A3527.

These models have the same PCB layout, design, common components, antennas, antenna locations and housing cases, except for FR2 is removed from variants and disabled/enabled cellular bands via software as shown below.

Model	FCC ID	IC ID	Feature Difference	Sim Support	Reference Model
A3257	BCG-E8950A	579C-E8950A	-With FR2/LTE/5GNR B14/29/71 -No B11/21 -With UL MIMO (n41/48/77)	eSIM	-
A3525	BCG-E8960A	579C-E8960A	-Without FR2 -Added B11/21 -No UL MIMO	eSIM	A3257
A3526	BCG-E8961A	579C-E8961A	-Without FR2 -No LTE/5GNR B14/29/71 -No LTE B11/21 -No UL MIMO	eSIM+pSIM	
A3527	BCG-E8962A	579C-E8962A	-Without FR2 -No LTE/5GNR B14/29/71 -No LTE B11/21 -With UL MIMO (n41/78/79) -No MSS / 5GNR B53	pSIM+pSIM	

The spot check plan, approved by the FCC inquiry, allows for data reuse from the reference model where the variant model data meets the limits and has not changed by more than the criteria from KDB 484596 D01 v03 equation (4).

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

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

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

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.

13.2. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3525

A3525 SPOT CHECK RESULTS								
Equipment Class / Technology	Worst Mode	Test Item	Measured Frequency (MHz)	Original Model: A3257	Sub Model: A3525	Delta (dB or MHz)	Margin	Remarks
				FCC ID : BCG-E8950A IC : 579C-E8950A	FCC ID: BCG-E8960A IC : 579C-E8960A			
DXX / NFC (FCC/IC)	Operating	E-field (30m distance) FCC (dBµV/m)	13.5598	30.42	30.87	0.45	-53.13	Note 1
		Out-Of-Band Emissions (dBuV/m)	37.76	29.99	30.12	0.13	-9.88	Note 1

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.

13.3. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3526

A3526 SPOT CHECK RESULTS								
Equipment Class / Technology	Worst Mode	Test Item	Measured Frequency (MHz)	Original Model: A3257	Sub Model: A3526	Delta (dB or MHz)	Margin	Remarks
				FCC ID : BCG-E8950A IC : 579C-E8950A	FCC ID: BCG-E8961A IC : 579C-E8961A			
DXX / NFC (FCC/IC)	Operating	E-field (30m distance) FCC (dBµV/m)	13.5598	30.42	30.81	0.39	-53.19	Note 1
		Out-Of-Band Emissions (dBuV/m)	37.76	29.99	28.94	-1.05	-11.06	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.
Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596.
The value for the variant model is the maximized signal level across all three device orientations.

13.4. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3527

A3527 SPOT CHECK RESULTS								
Equipment Class / Technology	Worst Mode	Test Item	Measured Frequency (MHz)	Original Model: A3257	Sub Model: A3527	Delta (dB or MHz)	Margin	Remarks
				FCC ID : BCG-E8950A IC : 579C-E8950A	FCC ID: BCG-E8962A IC : 579C-E8962A			
DXX / NFC (FCC/IC)	Operating	E-field (30m distance) FCC (dBµV/m)	13.5598	30.42	31.34	0.92	-52.66	Note 1
		Out-Of-Band Emissions (dBuV/m)	37.76	29.99	28.72	-1.27	-11.28	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.
Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596.
The value for the variant model is the maximized signal level across all three device orientations.

END OF REPORT