



# **TEST REPORT**

**Report Number:** 14523778-E8V2

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

**Model :** A2847 (Parent Model)  
A3093, A3094, A3096 (Variant Model)

**FCC ID :** BCG-E8431A (Parent Model)  
BCG-E8432A, BCG-E8433A, BCG-E8434A (Variant Model)

**IC :** 579C-E8431A (Parent Model)  
579C-E8432A, 579C-E8433A, 579C-E8434A (Variant Model)

**EUT Description :** SMARTPHONE

**Test Standard(s) :** FCC 47 CFR PART 15 SUBPART C  
ISED RSS-210 ISSUE 10  
ISED RSS-GEN ISSUE 5 + A1 + A2

**Date of Issue:**  
August 14, 2023

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



Revision History

| Rev. | Issue Date | Revisions                              | Revised By |
|------|------------|----------------------------------------|------------|
| V1   | 8/8/2023   | Initial Issue                          | Chin Pang  |
| V2   | 8/14/2023  | Address TCB's questions on page 5 & 10 | Chin Pang  |

## TABLE OF CONTENTS

|                                                                         |           |
|-------------------------------------------------------------------------|-----------|
| <b>1. ATTESTATION OF TEST RESULTS .....</b>                             | <b>5</b>  |
| <b>2. TEST METHODOLOGY .....</b>                                        | <b>7</b>  |
| <b>3. FACILITIES AND ACCREDITATION .....</b>                            | <b>7</b>  |
| <b>4. DECISION RULES AND MEASUREMENT UNCERTAINTY .....</b>              | <b>8</b>  |
| 4.1. METROLOGICAL TRACEABILITY .....                                    | 8         |
| 4.2. DECISION RULES.....                                                | 8         |
| 4.3. MEASUREMENT UNCERTAINTY.....                                       | 8         |
| 4.4. SAMPLE CALCULATION .....                                           | 9         |
| <b>5. EQUIPMENT UNDER TEST .....</b>                                    | <b>10</b> |
| 5.1. DESCRIPTION OF EUT .....                                           | 10        |
| 5.2. MAXIMUM E-FIELD STRENGTH .....                                     | 10        |
| 5.3. WORST-CASE CONFIGURATION AND MODE.....                             | 11        |
| 5.4. SUPPORT EQUIPMENT .....                                            | 12        |
| 5.5. SETUP DIAGRAM FOR RADIATED TESTS.....                              | 13        |
| <b>6. TEST AND MEASUREMENT EQUIPMENT .....</b>                          | <b>15</b> |
| <b>7. OCCUPIED BANDWIDTH .....</b>                                      | <b>16</b> |
| 7.1. PRIMARY ANTENNA .....                                              | 17        |
| 7.1.1. READER MODE, Type B 848 Kbps .....                               | 17        |
| 7.1.2. CE MODE, Type B 848 Kbps .....                                   | 17        |
| 7.1.3. TAG MODE, Type B 848 Kbps .....                                  | 18        |
| 7.2. SECONDARY ANTENNA .....                                            | 19        |
| 7.2.1. READER MODE, Type B 848 Kbps .....                               | 19        |
| 7.2.2. TAG MODE, Type B 848 Kbps .....                                  | 19        |
| <b>8. RADIATED EMISSION TEST RESULTS.....</b>                           | <b>20</b> |
| 8.1. LIMITS AND PROCEDURE .....                                         | 20        |
| 8.2. PRIMARY ANTENNA FUNDAMENTAL & SPURIOUS EMISSION 0.15-30 MHz.....   | 22        |
| 8.2.1. READER MODE, Type B 848 Kbps .....                               | 22        |
| 8.2.2. TAG MODE, Type B 848 Kbps .....                                  | 26        |
| 8.2.3. CE MODE, Type B 848 Kbps .....                                   | 30        |
| 8.3. PRIMARY ANTENNA TX SPURIOUS EMISSION 30-1000 MHz .....             | 34        |
| 8.3.1. READER MODE, Type B 848 Kbps .....                               | 34        |
| 8.3.2. TAG MODE, Type B 848 Kbps .....                                  | 36        |
| 8.3.3. CE MODE.....                                                     | 38        |
| 8.1. SECONDARY ANTENNA FUNDAMENTAL & SPURIOUS EMISSION 0.15-30 MHz..... | 40        |
| 8.1.1. READER MODE .....                                                | 40        |
| 8.1.2. TAG MODE .....                                                   | 44        |
| 8.2. SECONDARY ANTENNA TX SPURIOUS EMISSION 30-1000 MHz.....            | 48        |
| 8.2.1. READER MODE .....                                                | 48        |

|            |                                                |           |
|------------|------------------------------------------------|-----------|
| 8.2.2.     | TAG MODE .....                                 | 50        |
| <b>9.</b>  | <b>FREQUENCY STABILITY .....</b>               | <b>52</b> |
| 9.1.       | PRIMARY ANTENNA .....                          | 53        |
| 9.1.1.     | READER MODE .....                              | 53        |
| 9.1.2.     | TAG MODE .....                                 | 53        |
| 9.1.3.     | CE MODE .....                                  | 54        |
| 9.2.       | SECONDARY ANTENNA .....                        | 55        |
| 9.2.1.     | READER MODE .....                              | 55        |
| 9.2.2.     | TAG MODE .....                                 | 55        |
| <b>10.</b> | <b>AC MAINS LINE CONDUCTED EMISSIONS .....</b> | <b>56</b> |
| 10.1.      | PRIMARY ANTENNA .....                          | 57        |
| 10.1.1.    | READER MODE WITH ANTENNA .....                 | 57        |
| 10.1.2.    | READER MODE ANTENNA PORT TERMINATED .....      | 59        |
| 10.1.3.    | CE MODE WITH ANTENNA .....                     | 61        |
| 10.1.4.    | CE MODE ANTENNA PORT TERMINATED .....          | 63        |
| 10.1.5.    | TAG MODE WITH ANTENNA .....                    | 65        |
| 10.1.6.    | TAG MODE ANTENNA PORT TERMINATED .....         | 67        |
| 10.2.      | SECONDARY ANTENNA .....                        | 69        |
| 10.2.1.    | READER MODE WITH ANTENNA .....                 | 69        |
| 10.2.2.    | READER MODE ANTENNA PORT TERMINATED .....      | 71        |
| 10.2.3.    | TAG MODE WITH ANTENNA .....                    | 73        |
| 10.2.4.    | TAG MODE ANTENNA PORT TERMINATED .....         | 75        |
| <b>11.</b> | <b>SETUP PHOTOS .....</b>                      | <b>77</b> |

**1. ATTESTATION OF TEST RESULTS**

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

**EUT DESCRIPTION:** SMARTPHONE

**MODEL:** A2847 (Parent Model)  
A3093, A3094, A3096 (VARIANT MODEL)

**BRAND:** APPLE

**SERIAL NUMBER:** G7F97X9XVT (RADIATED)  
L3XVQ0CVF5, TM7LQ7XP37 (CONDUCTED)

**SAMPLE RECEIPT DATE:** MAY 16, 2023, JULY 13, 2023

**DATE TESTED:** MAY 18, 2023 – JULY 13, 2023

| APPLICABLE STANDARDS           |              |
|--------------------------------|--------------|
| STANDARD                       | TEST RESULTS |
| FCC PART 15 SUBPART C          | Complies     |
| ISED RSS-210 Issue 10, Annex B | Complies     |
| ISED RSS-GEN Issue 5 + A1 + A2 | Complies     |

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



---

Chin Pang  
Senior Lab Engineer  
Consumer Technology Division  
UL VERIFICATION INC..

Prepared By:



---

Francisco Guarnero  
Test Engineer  
Consumer Technology Division  
UL VERIFICATION INC..

## 2. TEST METHODOLOGY

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

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- ANSI C63.10-2013
- KDB 414788 D01 Radiated Test Site v01r01
- RSS-GEN Issue 5 + A1 + A2
- RSS-210 Issue 10

## 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<br>CABID | ISED Company<br>Number | FCC<br>Registration |
|-------------------------------------|----------------------------------------------------------|---------------|------------------------|---------------------|
| <input type="checkbox"/>            | Building 1: 47173 Benicia Street, Fremont, CA 94538, USA | US0104        | 2324A                  | 550739              |
| <input type="checkbox"/>            | Building 2: 47266 Benicia Street, Fremont, CA 94538, USA |               |                        |                     |
| <input type="checkbox"/>            | Building 3: 843 Auburn Court, Fremont, CA 94538 USA      |               |                        |                     |
| <input type="checkbox"/>            | Building 4: 47658 Kato Rd, Fremont, CA 94538 USA         |               |                        |                     |
| <input checked="" type="checkbox"/> | 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 <sub>Lab</sub> |
|----------------------------------------------------|------------------|
| 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)  
 $36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$

##### **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.  
 $36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, 5G, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wideband, GPS, NFC, 802.15.4ab-NB and MSS technologies. The rechargeable battery is not user accessible.

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

Parent Model: A2847, FCC ID: BCG-E8431A, IC ID: 579C-E8431A

Variant Model: A3093; FCC ID: BCG-E8432A, IC ID: 579C-E8432A  
 A3094; FCC ID: BCG-E8433A, IC ID: 579C-E8433A  
 A3096; FCC ID: BCG-E8434A, IC ID: 579C-E8434A

### 5.2. MAXIMUM E-FIELD STRENGTH

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

| Antenna   | Frequency Range (MHz) | Mode   |        | Kbps | E Field at 30m distance (dBuV/m) |
|-----------|-----------------------|--------|--------|------|----------------------------------|
| Primary   | 13.56                 | Type B | Reader | 848  | 28.8                             |
|           |                       |        | Tag    | 848  | 28.57                            |
|           |                       |        | CE     | 848  | 28.02                            |
| Secondary | 13.56                 | Type B | Reader | 848  | 5.17                             |
|           |                       |        | Tag    | 848  | 7.36                             |

### **5.3. WORST-CASE CONFIGURATION AND MODE**

The fundamental of the EUT was investigated under three orthogonal orientations X (Flatbed), Y (Landscape), and Z (Portrait). The Z (Portrait) orientation was determined to be the worst-case orientation. The EUT has primary and secondary antennas and worst case was investigated on the primary antenna since it has the highest power.

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, Reader, and CE 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 848 Kbps was determined to be the worst case and therefore Type B was selected for all final tests

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

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 meter open area test site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

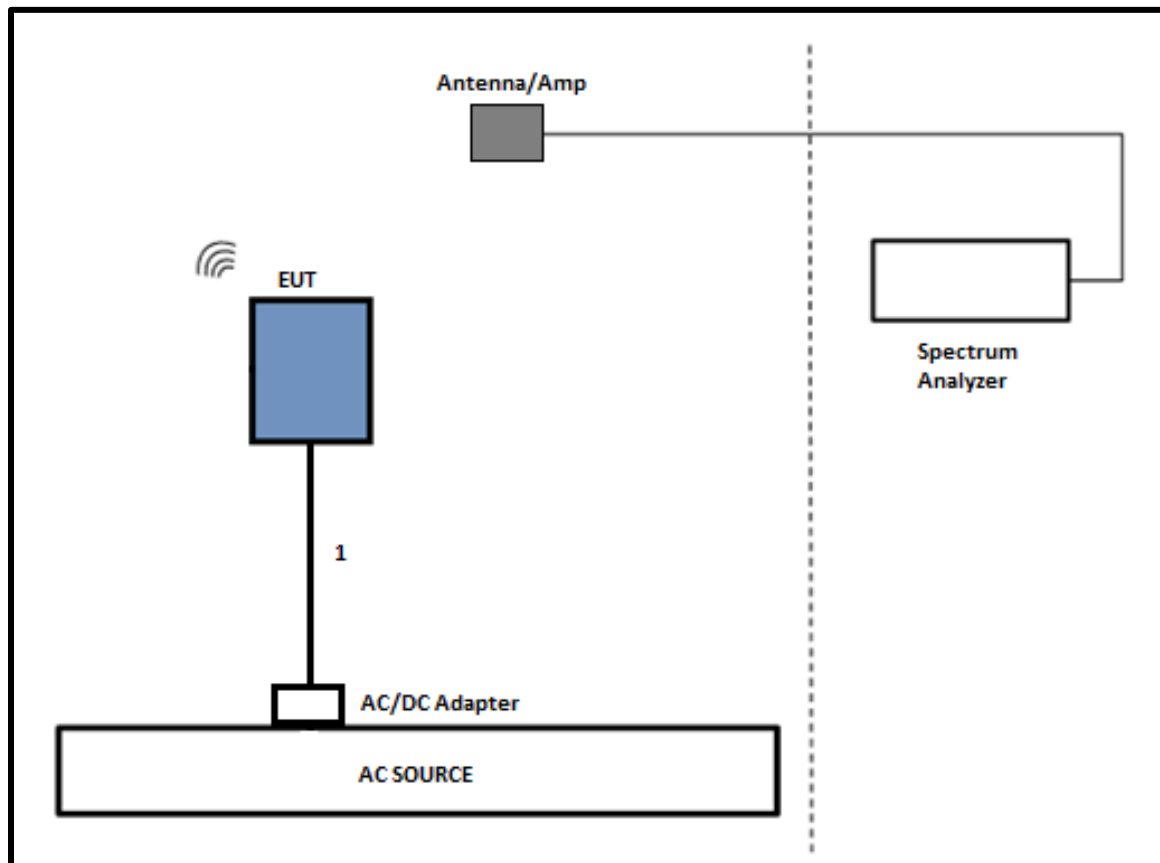
Testing was performed on the parent model and is used to support the application for the parent and variants identified in this report based on the test plan submitted and approved via KDB inquiry by the FCC and by ISED-Canada.

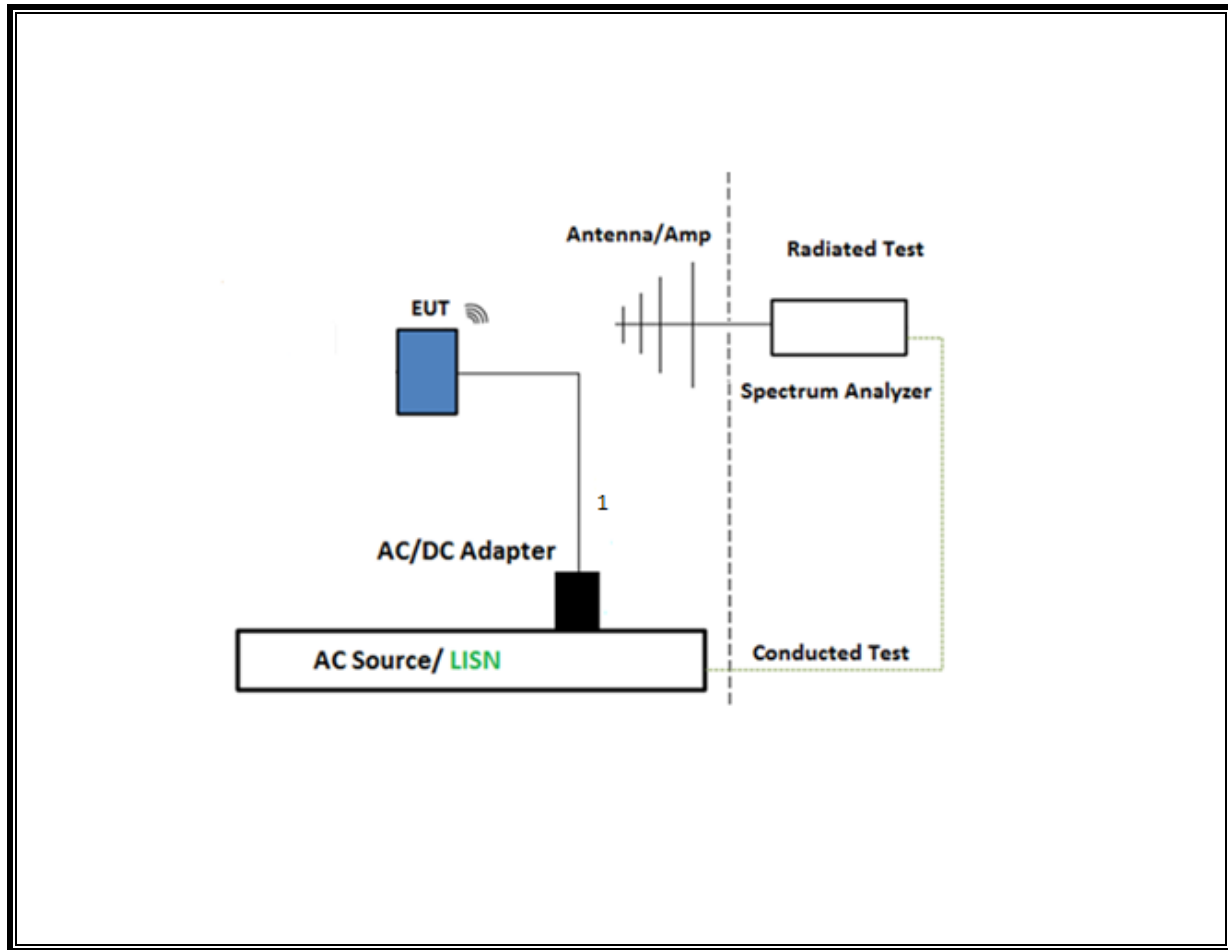
**5.4. SUPPORT EQUIPMENT**

| SUPPORT TEST EQUIPMENT                              |      |                      |                |                   |                  |             |
|-----------------------------------------------------|------|----------------------|----------------|-------------------|------------------|-------------|
| Description                                         |      | Manufacturer         | Model          | Serial Number     |                  | FCC ID/ DoC |
| Laptop                                              |      | Apple                | Macbook Pro    | C02VD7SAHV22      |                  | BCGA1708    |
| Laptop AC/DC adapter                                |      | Liteon Technology    | A1424          | NSW25679          |                  | DoC         |
| EUT AC/DC adapter                                   |      | Apple                | A1720          | C3D8417A7R93KVPA8 |                  | DoC         |
| I/O CABLES (RF RADIATED AND AC LINE CONDUCTED TEST) |      |                      |                |                   |                  |             |
| Cable No.                                           | Port | # of Identical Ports | Connector Type | Cable Type        | Cable Length (m) | Remarks     |
| 1                                                   | AC   | 1                    | AC             | Un-shielded       | 2                | N/A         |

**TEST SETUP**

The EUT setup is shown as below. Test software exercised the radio card.

**5.5. SETUP DIAGRAM FOR RADIATED TESTS**

**SETUP DIAGRAM FOR Below 1GHz and AC LINE CONDUCTED TEST**

## 6. TEST AND MEASUREMENT EQUIPMENT

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

| TEST EQUIPMENT LIST                         |                                                    |                       |        |            |            |
|---------------------------------------------|----------------------------------------------------|-----------------------|--------|------------|------------|
| Description                                 | Manufacturer                                       | Model                 | ID Num | Cal Due    | Last Cal   |
| *Antenna, Passive Loop<br>30Hz to 1MHz      | Electro-Metrics                                    | EM-6871               | 170013 | 07/28/2023 | 07/28/2022 |
| *Antenna, Passive Loop<br>100KHz - 30MHz    | Electro-Metrics                                    | EM-6872               | 170015 | 07/28/2023 | 07/28/2022 |
| Antenna, Broadband<br>Hybrid, 30MHz to 3GHz | Sunol Sciences Corp.                               | JB3                   | 224378 | 10/27/2023 | 10/27/2022 |
| Amplifier 9 KHz - 1 GHz                     | 310N                                               | SONOMA<br>INSTRUMENT  | 224490 | 12/02/2023 | 12/02/2022 |
| EMI TEST RECEIVER                           | Rohde & Schwarz                                    | ESW44                 | 201502 | 02/29/2024 | 02/29/2023 |
| Environmental Chamber                       | Cincinnati Sub Zero - division<br>of Weiss Technik | ZPHS-8-3.5-<br>SCT/WC | 89097  | 12/31/2023 | 12/31/2022 |
| Spectrum Analyzer, PSA,<br>3Hz to 26.5GHz   | Keysight Technologies Inc                          | E4440A                | 79602  | 02/29/2024 | 02/29/2023 |

| AC Line Conducted                        |                                  |                                      |                       |            |            |
|------------------------------------------|----------------------------------|--------------------------------------|-----------------------|------------|------------|
| Description                              | Manufacturer                     | Model                                | ID Num                | Cal Due    | Last Cal   |
| EMI Test Receiver 9kHz-7GHz              | Rohde & Schwarz                  | ESR                                  | 93091                 | 02/29/2024 | 02/29/2023 |
| LISN for Conducted Emissions<br>CISPR-16 | FISCHER CUSTOM<br>COMMUNICATIONS | FCC-LISN-<br>50/250-25-2-01-<br>480V | 175764                | 01/31/2024 | 01/31/2023 |
| *Transient Limiter                       | TE                               | TBFL1                                | 207996                | 07/15/2023 | 07/15/2022 |
| UL AUTOMATION SOFTWARE                   |                                  |                                      |                       |            |            |
| Radiated Software                        | UL                               | UL EMC                               | Ver 9.5, May 1 , 2023 |            |            |
| Conducted Software                       | UL                               | UL EMC                               | 2020.8.16             |            |            |
| AC Line Conducted Software               | UL                               | UL EMC                               | Ver 9.5, Mar 3, 2023  |            |            |

\*Testing is completed before equipment expiration date.

## 7. OCCUPIED BANDWIDTH

### LIMITS

None; for reporting purposes only.

### TEST PROCEDURE

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

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

### RESULTS

#### 99% and 20dB BW

##### Primary Antenna

##### **Type B (Reader Mode)**

| Mode<br>Kbps | Frequency<br>(MHz) | 99% Bandwidth<br>(KHz) | 20dB Bandwidth<br>(KHz) |
|--------------|--------------------|------------------------|-------------------------|
| 848          | 13.56              | 21.564                 | 25.04                   |

##### **Type B (CE Mode)**

| Mode<br>Kbps | Frequency<br>(MHz) | 99% Bandwidth<br>(KHz) | 20dB Bandwidth<br>(KHz) |
|--------------|--------------------|------------------------|-------------------------|
| 848          | 13.56              | 21.605                 | 25.28                   |

##### **TAG Mode**

| Mode<br>Kbps | Frequency<br>(MHz) | 99% Bandwidth<br>(KHz) | 20dB Bandwidth<br>(KHz) |
|--------------|--------------------|------------------------|-------------------------|
| 848          | 13.56              | 21.948                 | 25.35                   |

##### Secondary Antenna

##### **Type B (Reader Mode)**

| Mode<br>Kbps | Frequency<br>(MHz) | 99% Bandwidth<br>(KHz) | 20dB Bandwidth<br>(KHz) |
|--------------|--------------------|------------------------|-------------------------|
| 848          | 13.56              | 21.473                 | 24.93                   |

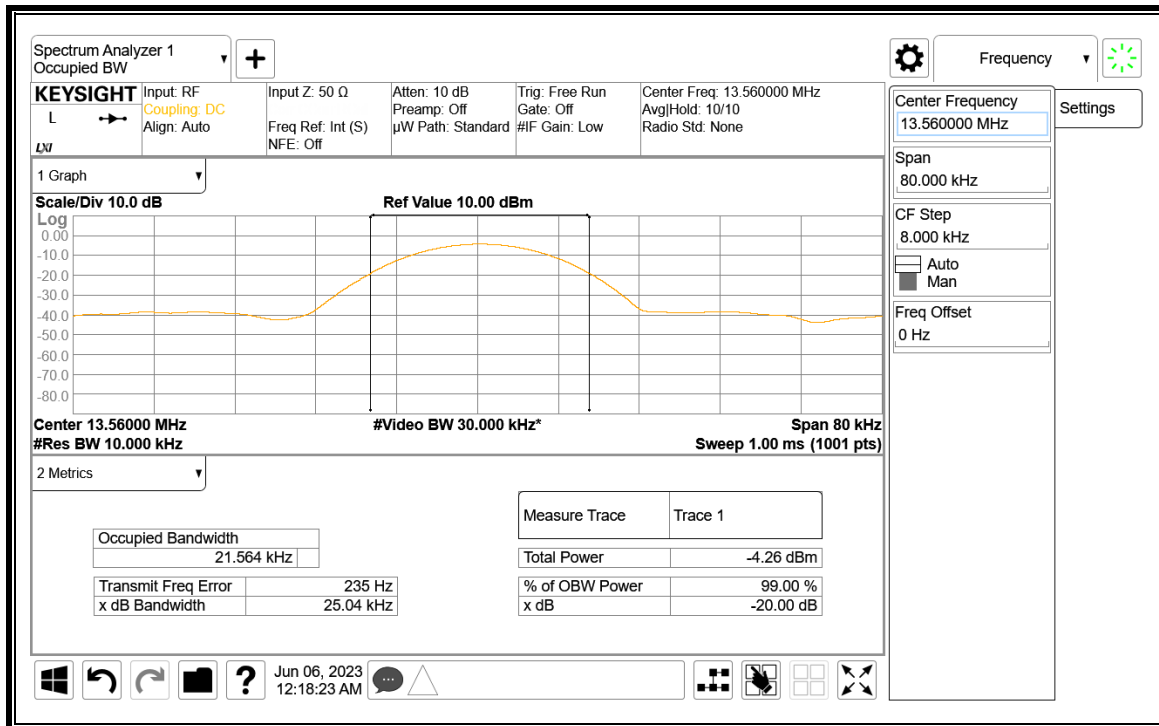
##### **TAG Mode**

| Mode<br>Kbps | Frequency<br>(MHz) | 99% Bandwidth<br>(KHz) | 20dB Bandwidth<br>(KHz) |
|--------------|--------------------|------------------------|-------------------------|
| 848          | 13.56              | 21.623                 | 25.11                   |

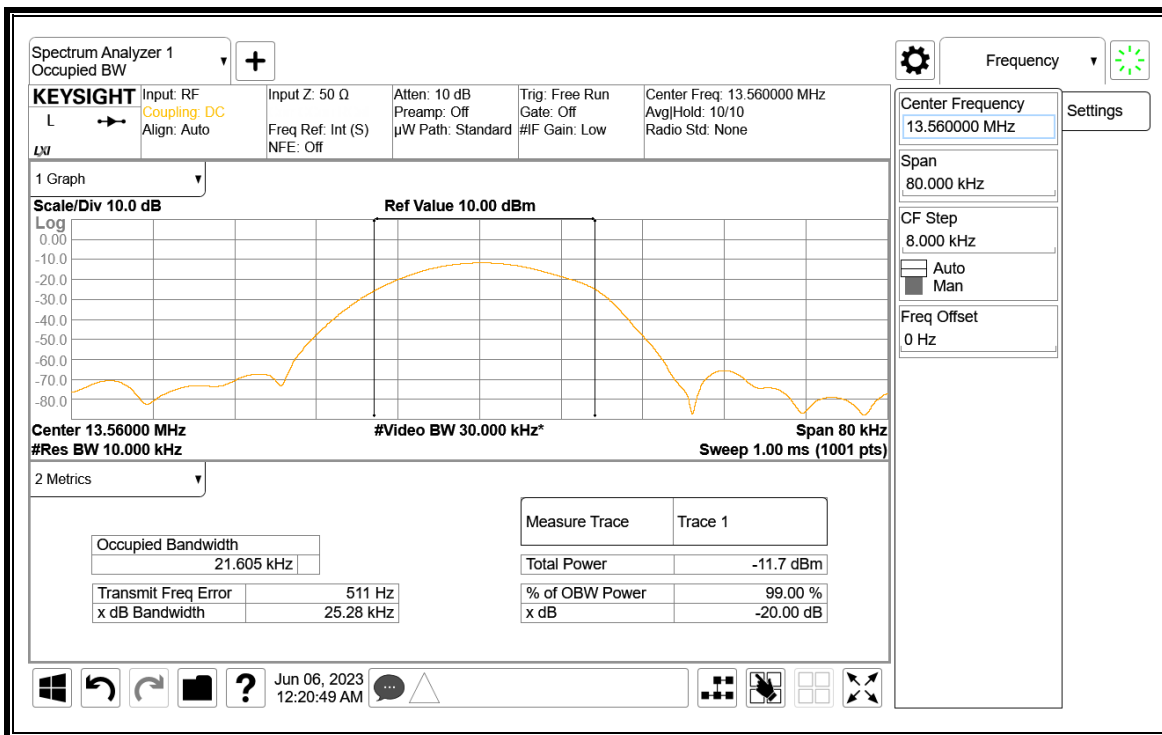


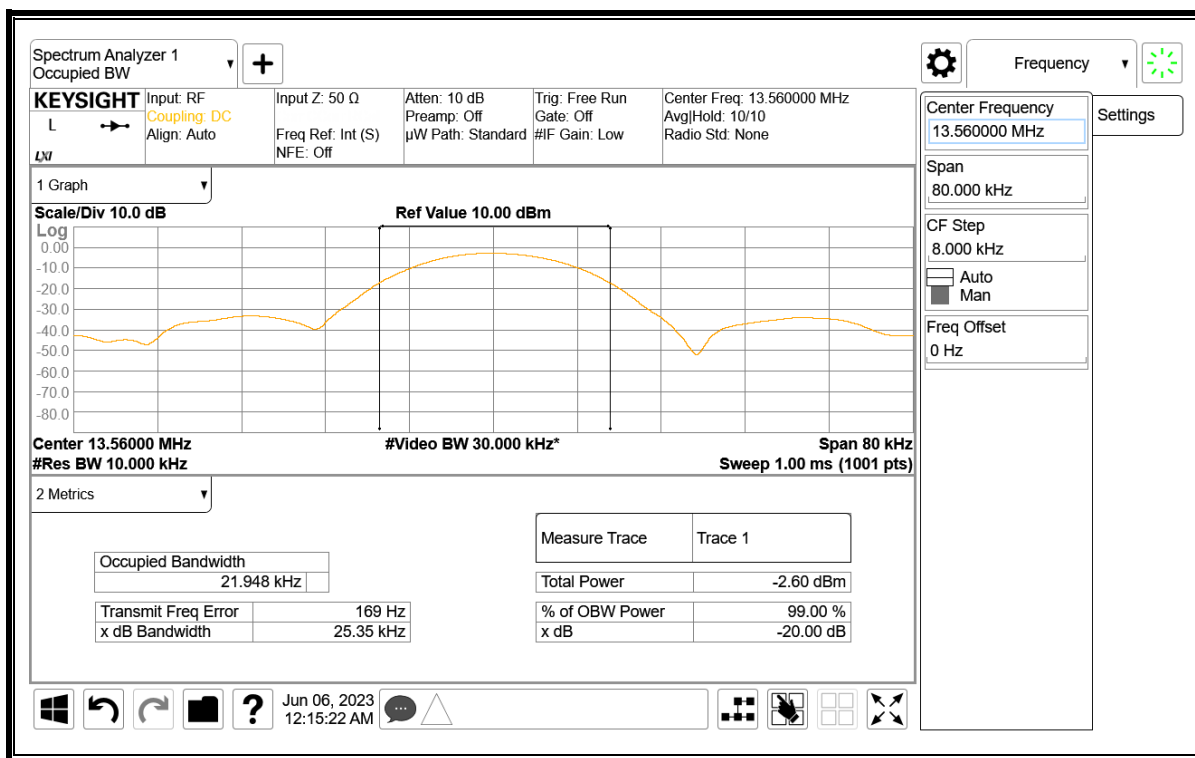
## 7.1. PRIMARY ANTENNA

### 7.1.1. READER MODE, Type B 848 Kbps



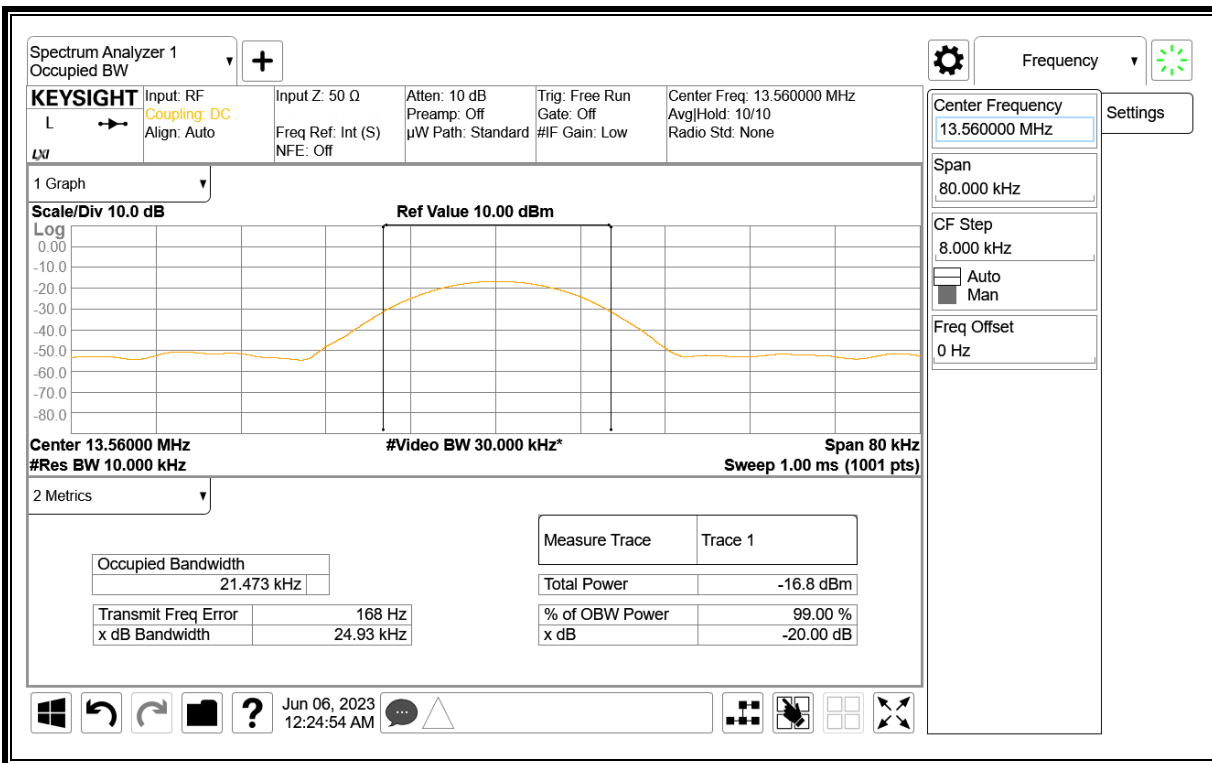
### 7.1.2. CE MODE, Type B 848 Kbps



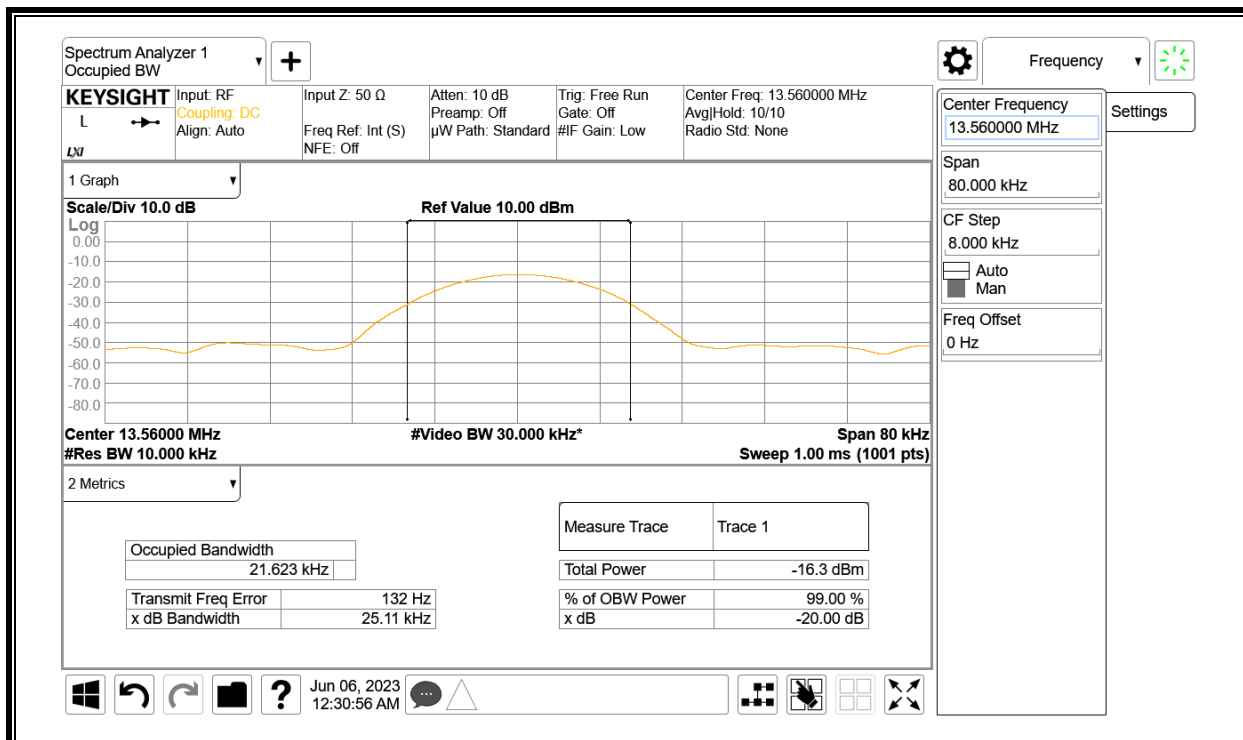
**7.1.3. TAG MODE, Type B 848 Kbps**

## 7.2. SECONDARY ANTENNA

### 7.2.1. READER MODE, Type B 848 Kbps



### 7.2.2. TAG MODE, Type B 848 Kbps



## 8. RADIATED EMISSION TEST RESULTS

### 8.1. LIMITS AND PROCEDURE

#### LIMIT

§15.225

IC RSS-210, Annex B.6

IC RSS-GEN, Section 8.9 (Transmitter)

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

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

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

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

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

| Limits for radiated disturbance of an intentional radiator |                 |                          |
|------------------------------------------------------------|-----------------|--------------------------|
| Frequency range (MHz)                                      | Limits (µV/m)   | Measurement Distance (m) |
| 0.009 – 0.490                                              | 2400 / F (kHz)  | 300                      |
| 0.490 – 1.705                                              | 24000 / F (kHz) | 30                       |
| 1.705 – 30.0                                               | 30              | 30                       |
| 30 – 88                                                    | 100**           | 3                        |
| 88 - 216                                                   | 150**           | 3                        |
| 216 – 960                                                  | 200**           | 3                        |
| Above 960                                                  | 500             | 3                        |

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

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

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

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

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.

In addition:

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

§15.209 (d) The provisions in §§ 15.225, measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

### **TEST PROCEDURE**

ANSI C63.10, 2013

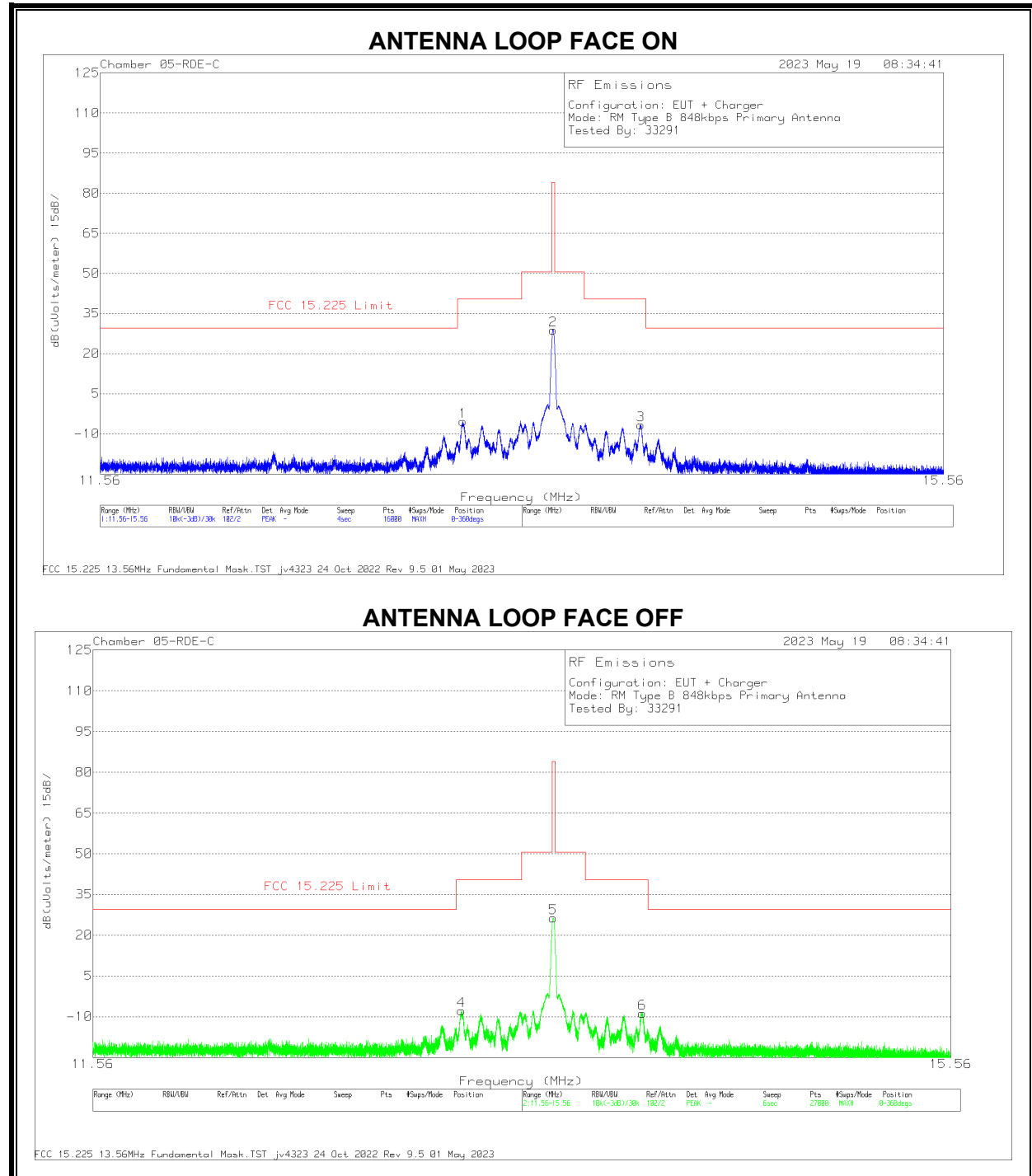
The EUT is an intentional radiator that incorporates a digital device, the highest fundamental frequency generated or used in the device is 13.56 MHz; therefore, the frequency range was investigated from 0.15 MHz to the 10<sup>th</sup> harmonic of the highest fundamental frequency, or 1000 MHz, whichever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

### **RESULTS**

## 8.2. PRIMARY ANTENNA FUNDAMENTAL & SPURIOUS EMISSION 0.15-30 MHz

### 8.2.1. READER MODE, Type B 848 Kbps

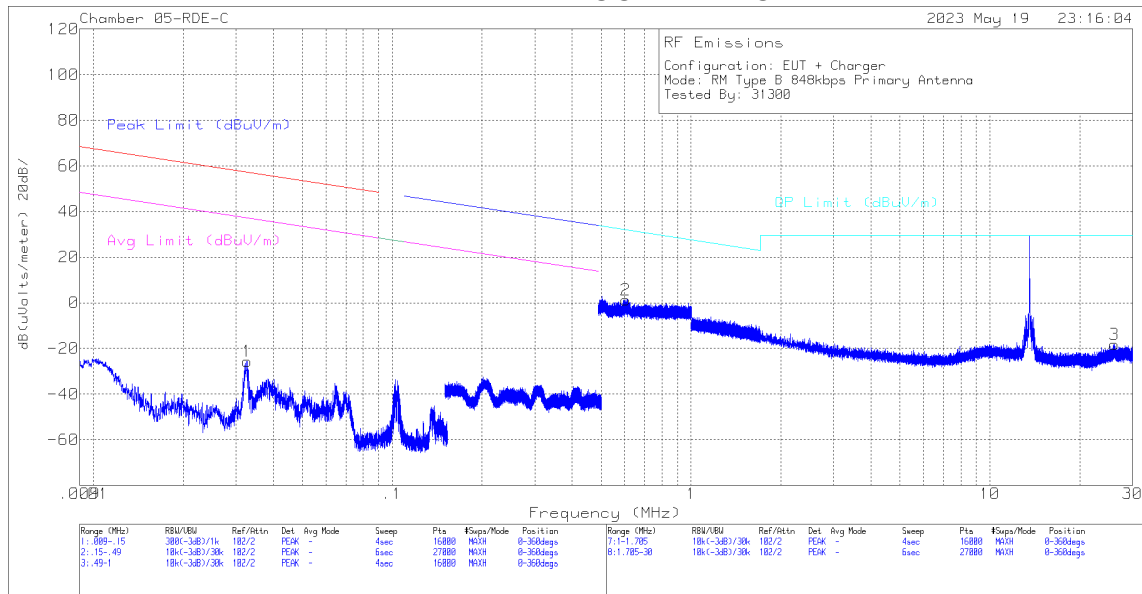
#### FUNDAMENTAL



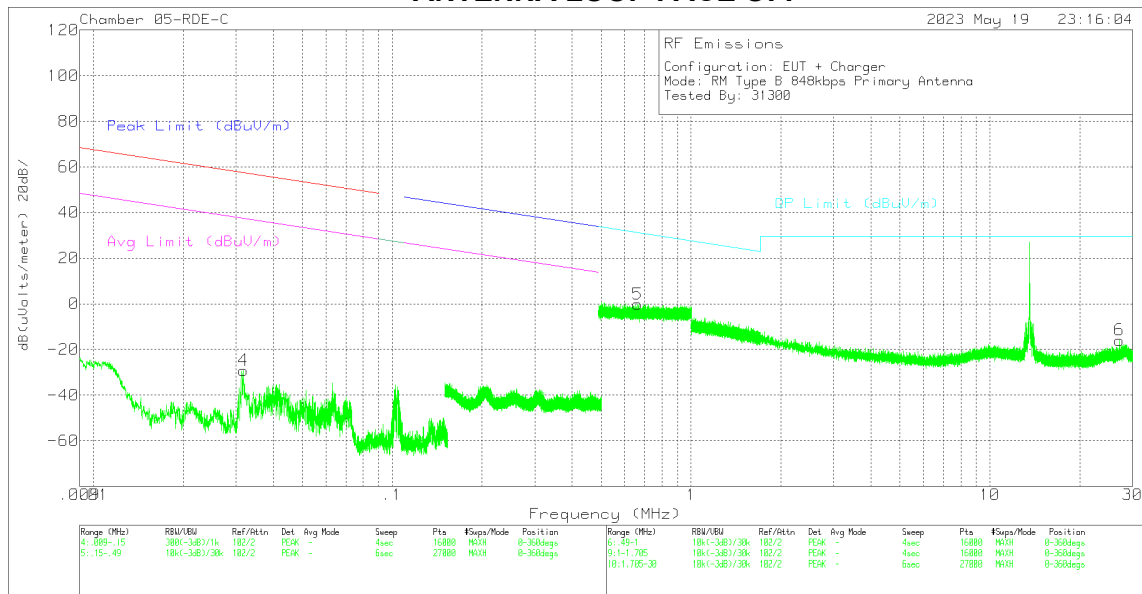
**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Amp/Cbl (dB) | Dist Corr 30m (dB) 40Log | Corrected Reading dBuV/m | FCC 15.225 Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|--------------------------|--------------------------|---------------------------|----------------|----------------|----------|
| 1      | 13.1358         | 32.09                | Pk  | 34.3                       | -31.7        | -40                      | -5.31                    | 40.51                     | -45.82         | 0-360          | Face-On  |
| 2      | 13.56           | 66.2                 | Pk  | 34.3                       | -31.7        | -40                      | 28.8                     | 84                        | -55.2          | 0-360          | Face-On  |
| 3      | 13.9848         | 30.89                | Pk  | 34.2                       | -31.7        | -40                      | -6.61                    | 40.51                     | -47.12         | 0-360          | Face-On  |
| 4      | 13.1344         | 29.56                | Pk  | 34.3                       | -31.7        | -40                      | -7.84                    | 40.51                     | -48.35         | 0-360          | Face-Off |
| 5      | 13.5587         | 63.7                 | Pk  | 34.3                       | -31.7        | -40                      | 26.3                     | 84                        | -57.7          | 0-360          | Face-Off |
| 6      | 13.9832         | 28.8                 | Pk  | 34.2                       | -31.7        | -40                      | -8.7                     | 40.51                     | -49.21         | 0-360          | Face-Off |

Pk - Peak detector

**SPURIOUS EMISSION****ANTENNA LOOP FACE ON**

FCC 15.209 Below 30MHz.TST jv4323 24 Oct 2022 Rev 9.5 01 May 2023

**ANTENNA LOOP FACE OFF**

FCC 15.209 Below 30MHz.TST jv4323 24 Oct 2022 Rev 9.5 01 May 2023

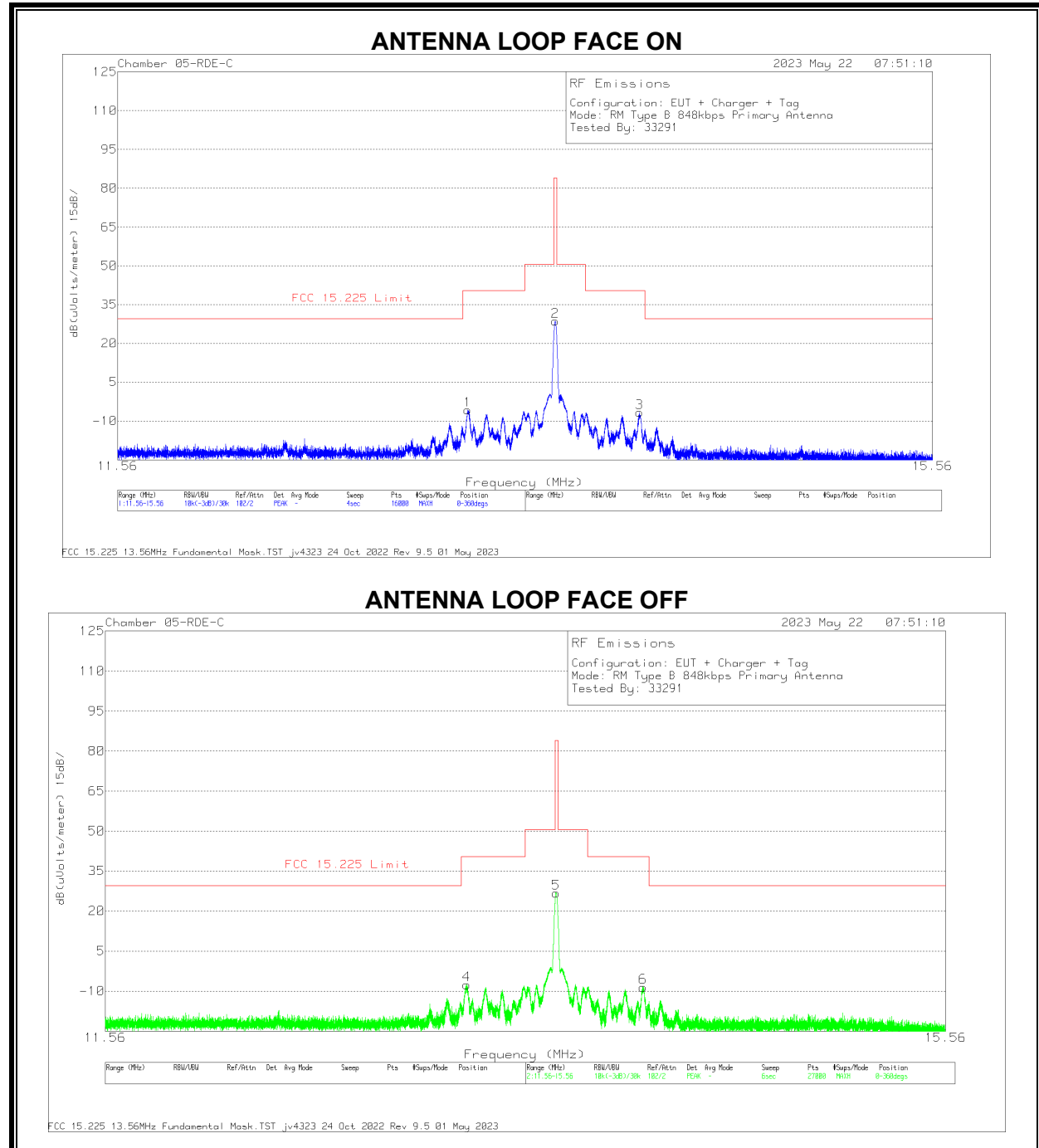


**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Cbl/Amp (dB) | Dist Corr 300m (dB) | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|---------------------|----------------------------|---------------------|-------------|--------------------|-------------|----------------|----------|
| 1      | .0327           | 28.52                | Pk  | 57.8                       | -31.9        | -80                 | -25.58                     | 57.3                | -82.88      | 37.3               | -62.88      | 0-360          | Face-On  |
| 4      | .0318           | 24.92                | Pk  | 57.9                       | -31.9        | -80                 | -29.08                     | 57.53               | -86.61      | 37.53              | -66.61      | 0-360          | Face-Off |

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Cbl/Amp (dB) | Dist Corr 30m (dB) | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|--------------------|----------------------------|-------------------|-------------|----------------|----------|
| 2      | .6055           | 17                   | Pk  | 56.3                       | -32          | -40                | 1.3                        | 31.97             | -30.67      | 0-360          | Face-On  |
| 3      | 26.0343         | 19.81                | Pk  | 33.4                       | -31.5        | -40                | -18.29                     | 29.5              | -47.79      | 0-360          | Face-On  |
| 5      | .6632           | 15.65                | Pk  | 56.3                       | -32          | -40                | -.05                       | 31.18             | -31.23      | 0-360          | Face-Off |
| 6      | 27.1232         | 22.2                 | Pk  | 33.5                       | -31.6        | -40                | -15.9                      | 29.5              | -45.4       | 0-360          | Face-Off |

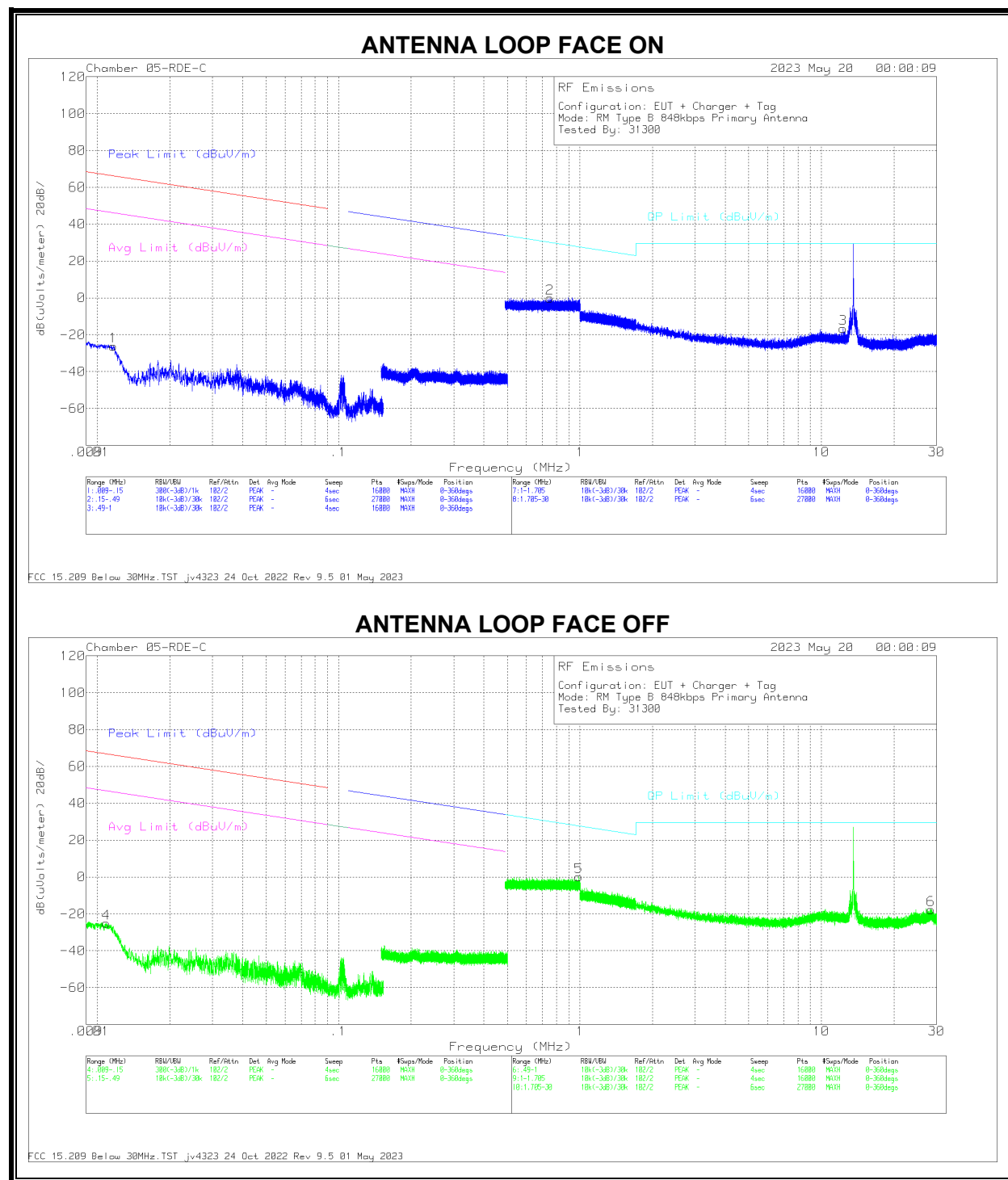
Pk - Peak detector

**8.2.2. TAG MODE, Type B 848 Kbps****FUNDAMENTAL**

**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) dB/m | Amp/Cbl (dB) | Dist Corr 30m (dB) 40Log | Corrected Reading dBuV/m | FCC 15.225 Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|--------------------------|--------------|--------------------------|--------------------------|---------------------------|----------------|----------------|----------|
| 1      | 13.1345         | 31.69                | Pk  | 34.3                     | -31.7        | -40                      | -5.71                    | 40.51                     | -46.22         | 0-360          | Face-On  |
| 2      | 13.5603         | 65.97                | Pk  | 34.3                     | -31.7        | -40                      | 28.57                    | 84                        | -55.43         | 0-360          | Face-On  |
| 3      | 13.9835         | 30.77                | Pk  | 34.2                     | -31.7        | -40                      | -6.73                    | 40.51                     | -47.24         | 0-360          | Face-On  |
| 4      | 13.1356         | 29.85                | Pk  | 34.3                     | -31.7        | -40                      | -7.55                    | 40.51                     | -48.06         | 0-360          | Face-Off |
| 5      | 13.5577         | 64.19                | Pk  | 34.3                     | -31.7        | -40                      | 26.79                    | 84                        | -57.21         | 0-360          | Face-Off |
| 6      | 13.9817         | 28.92                | Pk  | 34.2                     | -31.7        | -40                      | -8.58                    | 40.51                     | -49.09         | 0-360          | Face-Off |

Pk - Peak detector



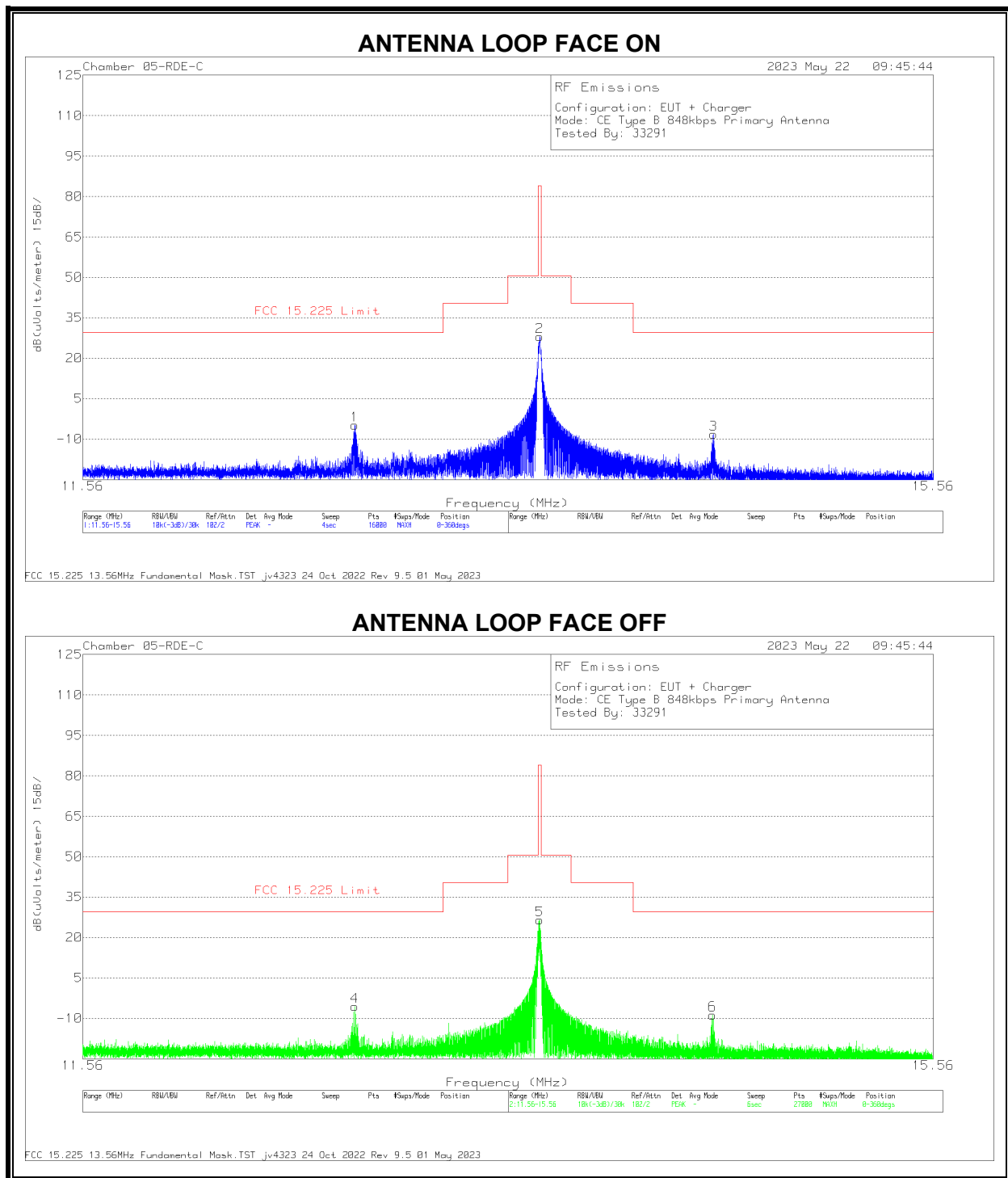
**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Cbl/Amp (dB) | Dist Corr 300m (dB) | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|---------------------|----------------------------|---------------------|-------------|--------------------|-------------|----------------|----------|
| 1      | .0117           | 24.41                | Pk  | 60.2                       | -30.7        | -80                 | -26.09                     | 66.25               | -92.34      | 46.25              | -72.34      | 0-360          | Face-On  |
| 4      | .0109           | 25.22                | Pk  | 60.3                       | -30.6        | -80                 | -25.08                     | 66.82               | -91.9       | 46.82              | -71.9       | 0-360          | Face-Off |

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Cbl/Amp (dB) | Dist Corr 30m (dB) | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|--------------------|----------------------------|-------------------|-------------|----------------|----------|
| 2      | .752            | 15.61                | Pk  | 56.3                       | -32          | -40                | -.09                       | 30.09             | -30.18      | 0-360          | Face-On  |
| 3      | 12.2877         | 20.55                | Pk  | 34.5                       | -31.6        | -40                | -16.55                     | 29.5              | -46.05      | 0-360          | Face-On  |
| 5      | .9891           | 15.85                | Pk  | 56.4                       | -32          | -40                | .25                        | 27.72             | -27.47      | 0-360          | Face-Off |
| 6      | 28.407          | 20.19                | Pk  | 33.6                       | -31.6        | -40                | -17.81                     | 29.5              | -47.31      | 0-360          | Face-Off |

Pk - Peak detector

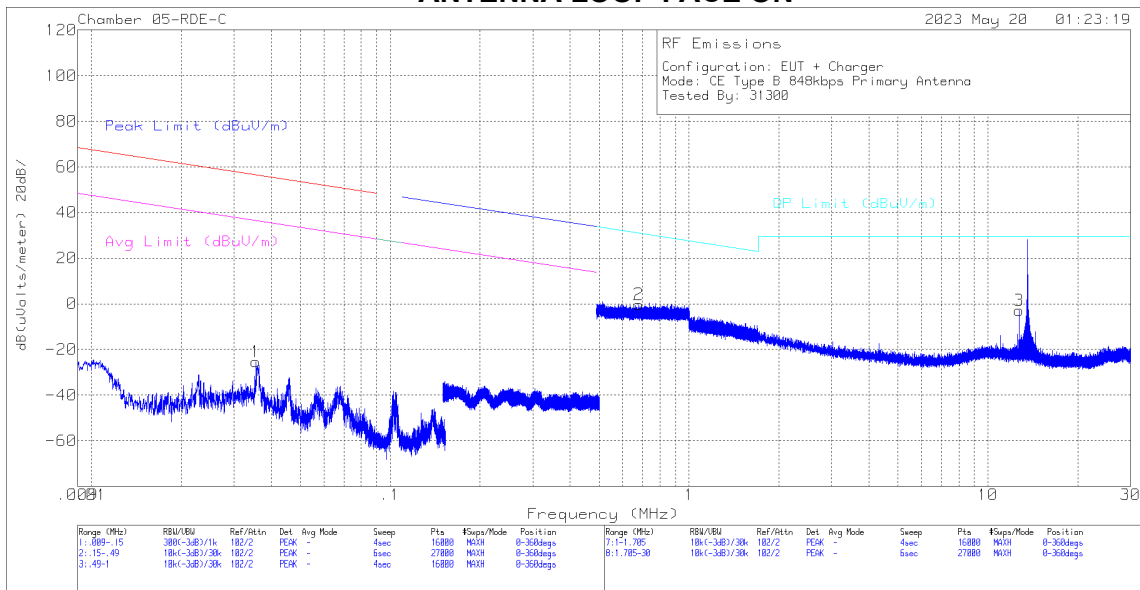
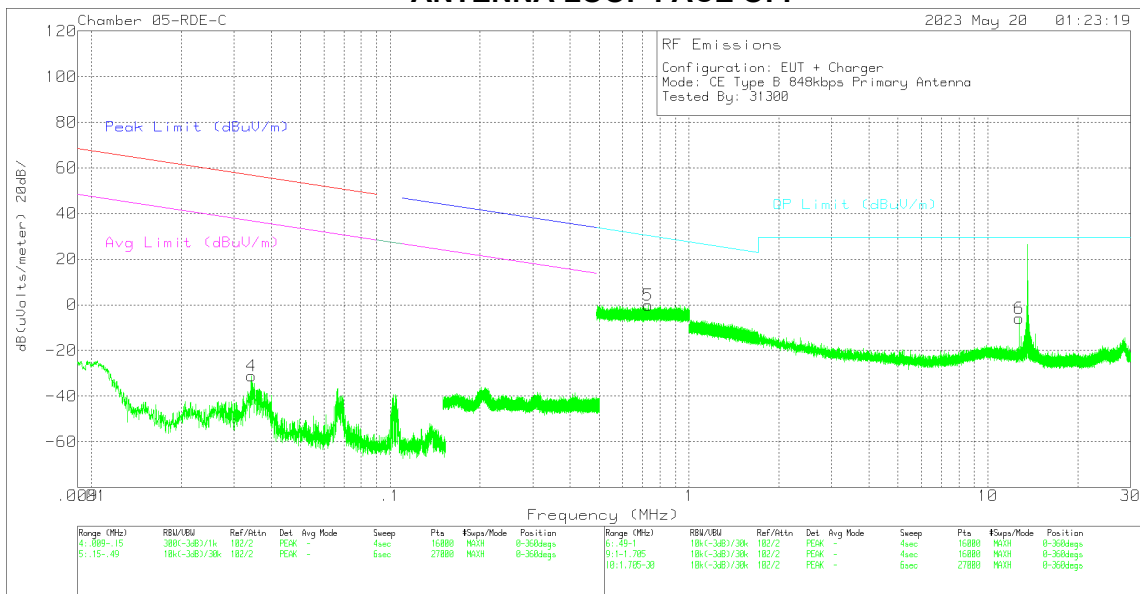
Note: Marker 5 and 6 are from Fundamental signals.

**8.2.3. CE MODE, Type B 848 Kbps****FUNDAMENTAL**

**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Amp/Cbl (dB) | Dist Corr 30m (dB) 40Log | Corrected Reading (dBuV/m) | FCC 15.225 Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|--------------------------|----------------------------|---------------------------|----------------|----------------|----------|
| 1      | 12.7128         | 32.56                | Pk  | 34.4                       | -31.8        | -40                      | -4.84                      | 29.54                     | -34.38         | 0-360          | Face-On  |
| 2      | 13.5613         | 65.42                | Pk  | 34.3                       | -31.7        | -40                      | 28.02                      | 84                        | -55.98         | 0-360          | Face-On  |
| 3      | 14.409          | 29.4                 | Pk  | 34.1                       | -31.7        | -40                      | -8.2                       | 29.54                     | -37.74         | 0-360          | Face-On  |
| 4      | 12.7117         | 31.83                | Pk  | 34.4                       | -31.8        | -40                      | -5.57                      | 29.54                     | -35.11         | 0-360          | Face-Off |
| 5      | 13.5593         | 63.86                | Pk  | 34.3                       | -31.7        | -40                      | 26.46                      | 84                        | -57.54         | 0-360          | Face-Off |
| 6      | 14.405          | 28.94                | Pk  | 34.1                       | -31.7        | -40                      | -8.66                      | 29.54                     | -38.2          | 0-360          | Face-Off |

Pk - Peak detector

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

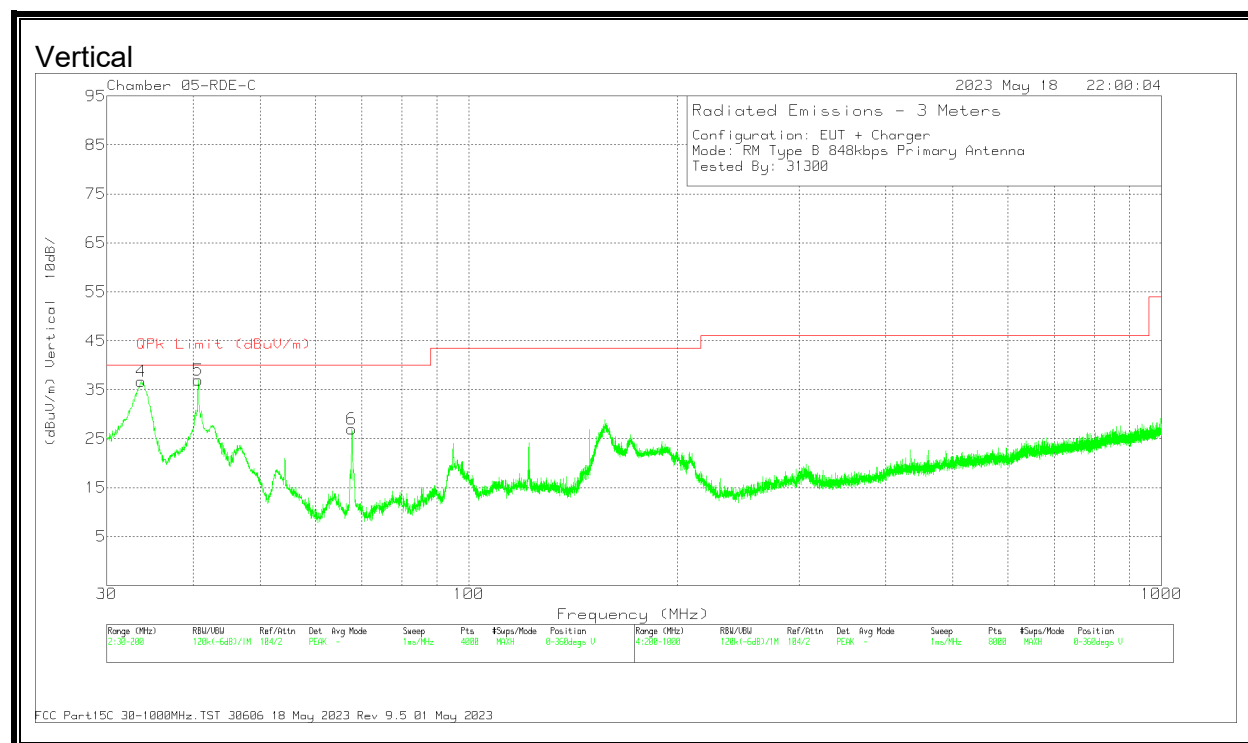
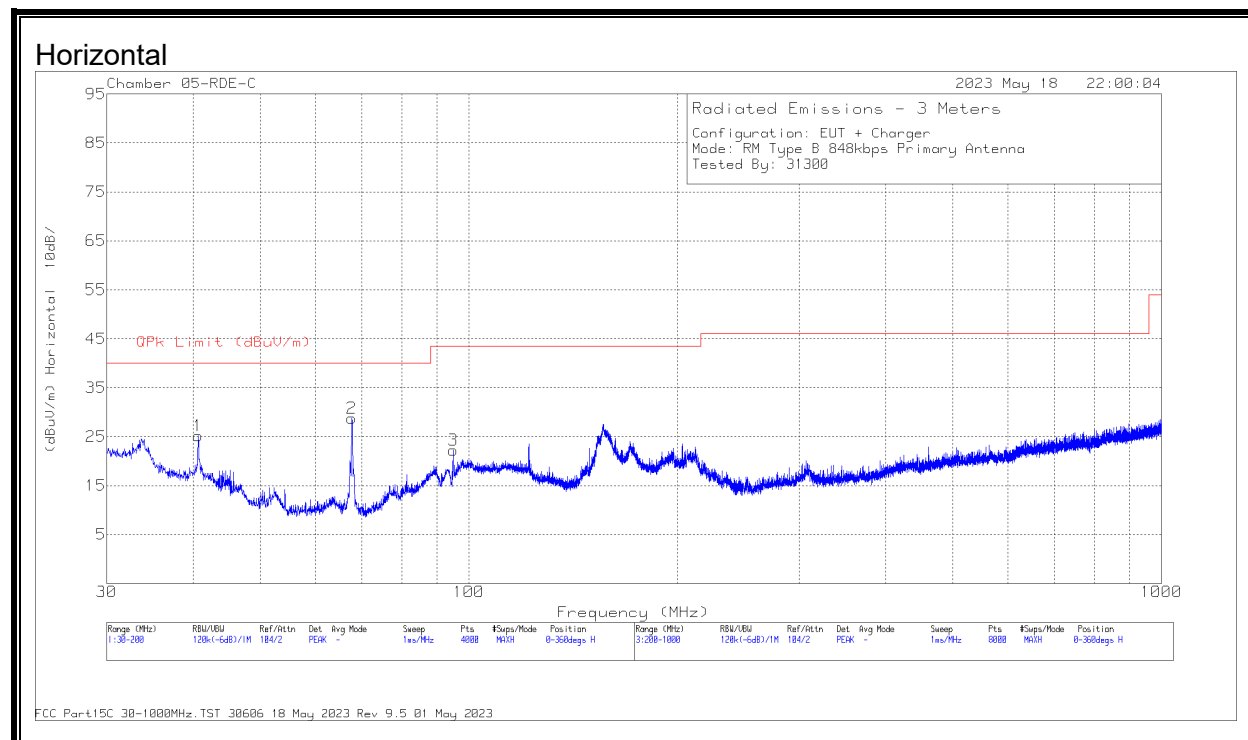


**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Cbl/Amp (dB) | Dist Corr 300m (dB) | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|---------------------|----------------------------|---------------------|-------------|--------------------|-------------|----------------|----------|
| 1      | .0356           | 28.91                | Pk  | 57.6                       | -31.9        | -80                 | -25.39                     | 56.57               | -81.96      | 36.57              | -61.96      | 0-360          | Face-On  |
| 4      | .0343           | 22.99                | Pk  | 57.7                       | -31.9        | -80                 | -31.21                     | 56.87               | -88.08      | 36.87              | -68.08      | 0-360          | Face-Off |

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Cbl/Amp (dB) | Dist Corr 30m (dB) | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|--------------------|----------------------------|-------------------|-------------|----------------|----------|
| 2      | .6785           | 15.44                | Pk  | 56.3                       | -32          | -40                | -.26                       | 30.98             | -31.24      | 0-360          | Face-On  |
| 3      | 12.7142         | 34.53                | Pk  | 34.4                       | -31.8        | -40                | -2.87                      | 29.5              | -32.37      | 0-360          | Face-On  |
| 5      | .7286           | 15.59                | Pk  | 56.3                       | -32          | -40                | -.11                       | 30.36             | -30.47      | 0-360          | Face-Off |
| 6      | 12.7101         | 31.39                | Pk  | 34.4                       | -31.8        | -40                | -6.01                      | 29.5              | -35.51      | 0-360          | Face-Off |

Pk - Peak detector

**8.3. PRIMARY ANTENNA TX SPURIOUS EMISSION 30-1000 MHz****8.3.1. READER MODE, Type B 848 Kbps****SPURIOUS EMISSION**

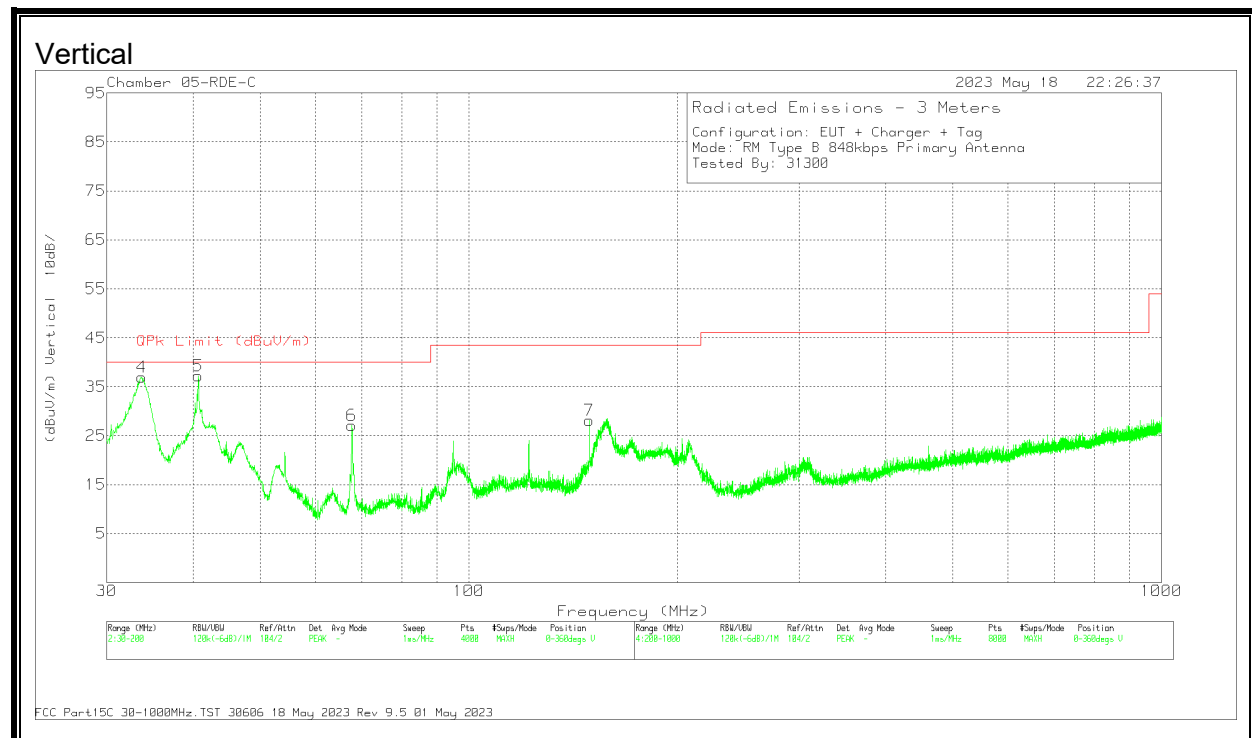
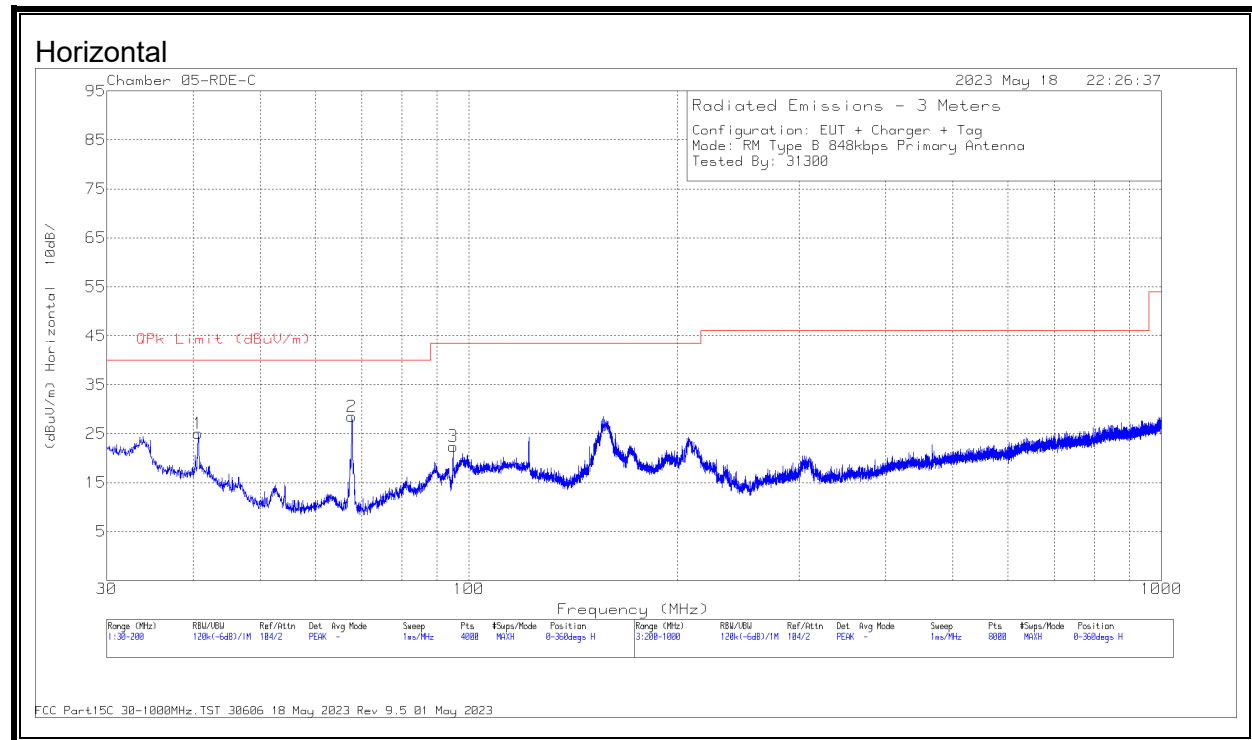
**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | 224378 ACF (dB) 10mH | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 40.6703         | 37.74                | Pk  | 19                   | -31.5        | 25.24                      | 40                 | -14.76      | 0-360          | 299         | H        |
| 2      | 67.7923         | 45.94                | Pk  | 14                   | -31.2        | 28.74                      | 40                 | -11.26      | 0-360          | 299         | H        |
| 3      | 94.9143         | 38.31                | Pk  | 15.1                 | -31.2        | 22.21                      | 43.52              | -21.31      | 0-360          | 198         | H        |
| 4      | 33.6134         | 43.89                | Pk  | 24.2                 | -31.4        | 36.69                      | 40                 | -3.31       | 0-360          | 102         | V        |
| 5      | 40.6703         | 49.45                | Pk  | 19                   | -31.5        | 36.95                      | 40                 | -3.05       | 0-360          | 102         | V        |
| 6      | 67.7923         | 44.19                | Pk  | 14                   | -31.2        | 26.99                      | 40                 | -13.01      | 0-360          | 102         | V        |

| Frequency (MHz) | Meter Reading (dBuV) | Det | 224378 ACF (dB) 10mH | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 33.9348         | 41.63                | Qp  | 24                   | -31.4        | 34.23                      | 40                 | -5.77       | 174            | 103         | V        |
| 40.68           | 46.81                | Qp  | 19                   | -31.5        | 34.31                      | 40                 | -5.69       | 302            | 105         | V        |

Pk - Peak detector

Qp - Quasi-Peak detector

**8.3.2. TAG MODE, Type B 848 Kbps****SPURIOUS EMISSION**

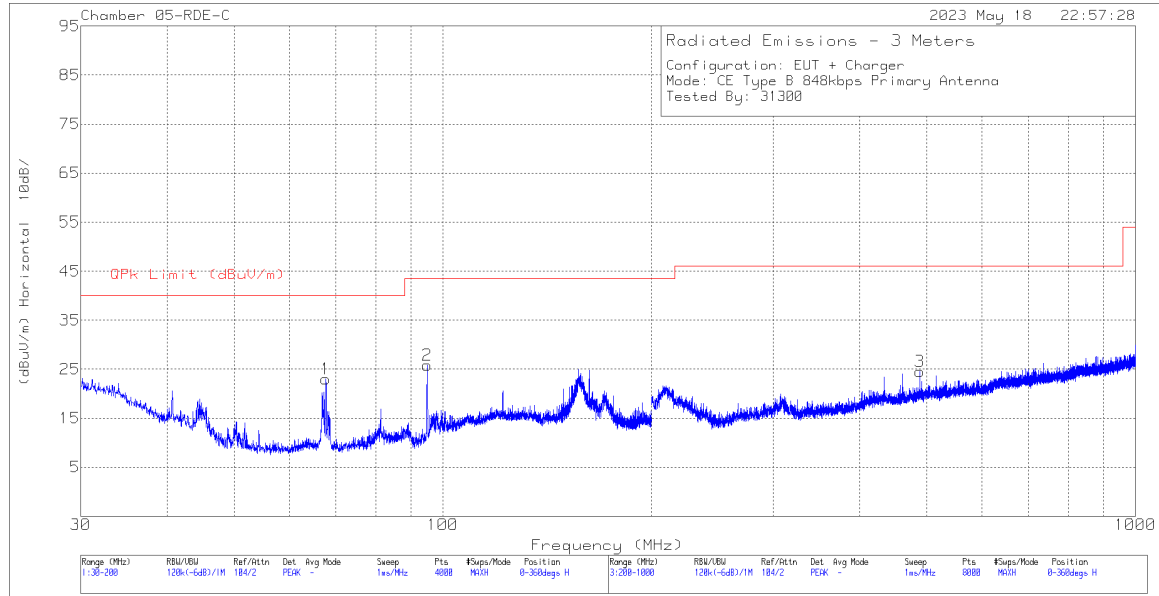
**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | 224378 ACF (dB) 10mH | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 40.6703         | 37.51                | Pk  | 19                   | -31.5        | 25.01                      | 40                 | -14.99      | 0-360          | 398         | H        |
| 2      | 67.7923         | 45.74                | Pk  | 14                   | -31.2        | 28.54                      | 40                 | -11.46      | 0-360          | 299         | H        |
| 3      | 94.9143         | 38.53                | Pk  | 15.1                 | -31.2        | 22.43                      | 43.52              | -21.09      | 0-360          | 198         | H        |
| 4      | 33.6985         | 44.12                | Pk  | 24.2                 | -31.4        | 36.92                      | 40                 | -3.08       | 0-360          | 102         | V        |
| 5      | 40.6703         | 49.71                | Pk  | 19                   | -31.5        | 37.21                      | 40                 | -2.79       | 0-360          | 102         | V        |
| 6      | 67.7923         | 44.29                | Pk  | 14                   | -31.2        | 27.09                      | 40                 | -12.91      | 0-360          | 102         | V        |
| 7      | 149.158         | 40.6                 | Pk  | 18.6                 | -31.1        | 28.1                       | 43.52              | -15.42      | 0-360          | 102         | V        |

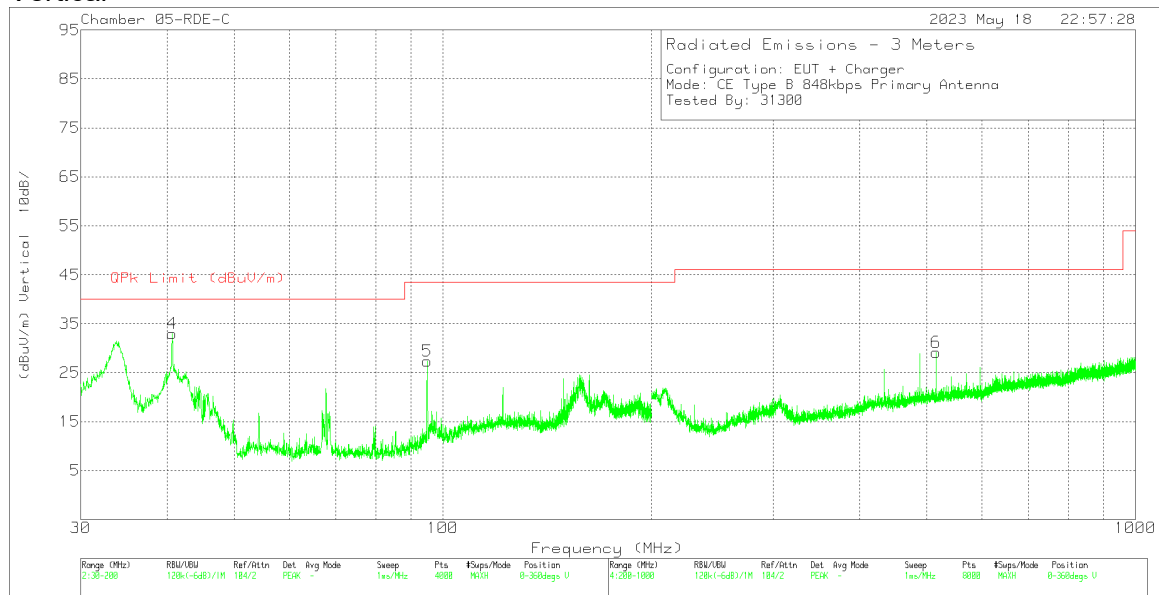
| Frequency (MHz) | Meter Reading (dBuV) | Det | 224378 ACF (dB) 10mH | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 33.7601         | 41.67                | Qp  | 24.1                 | -31.4        | 34.37                      | 40                 | -5.63       | 159            | 103         | V        |
| 40.6884         | 47.22                | Qp  | 19                   | -31.5        | 34.72                      | 40                 | -5.28       | 287            | 103         | V        |

Pk - Peak detector

Qp - Quasi-Peak detector

**8.3.3. CE MODE****Horizontal**

FCC Part15C 30-1000MHz.TST 30606 18 May 2023 Rev 9.5 01 May 2023

**Vertical**

FCC Part15C 30-1000MHz.TST 30606 18 May 2023 Rev 9.5 01 May 2023

**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | 224378 ACF (dB) 10mH | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 67.7923         | 40.17                | Pk  | 14                   | -31.2        | 22.97                      | 40                 | -17.03      | 0-360          | 298         | H        |
| 2      | 94.9143         | 41.9                 | Pk  | 15.1                 | -31.2        | 25.8                       | 43.52              | -17.72      | 0-360          | 198         | H        |
| 3      | 488.137         | 30.95                | Pk  | 23.7                 | -30.1        | 24.55                      | 46.02              | -21.47      | 0-360          | 102         | H        |
| 4      | 40.6278         | 45.45                | Pk  | 19                   | -31.5        | 32.95                      | 40                 | -7.05       | 0-360          | 102         | V        |
| 5      | 94.9143         | 43.42                | Pk  | 15.1                 | -31.2        | 27.32                      | 43.52              | -16.2       | 0-360          | 102         | V        |
| 6      | 515.241         | 35.49                | Pk  | 23.7                 | -30          | 29.19                      | 46.02              | -16.83      | 0-360          | 102         | V        |

| Frequency (MHz) | Meter Reading (dBuV) | Det | 224378 ACF (dB) 10mH | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 33.7134         | 33.8                 | Qp  | 24.2                 | -31.4        | 26.6                       | 40                 | -13.4       | 83             | 108         | V        |
| 40.6699         | 43.73                | Qp  | 19                   | -31.5        | 31.23                      | 40                 | -8.77       | 234            | 105         | V        |

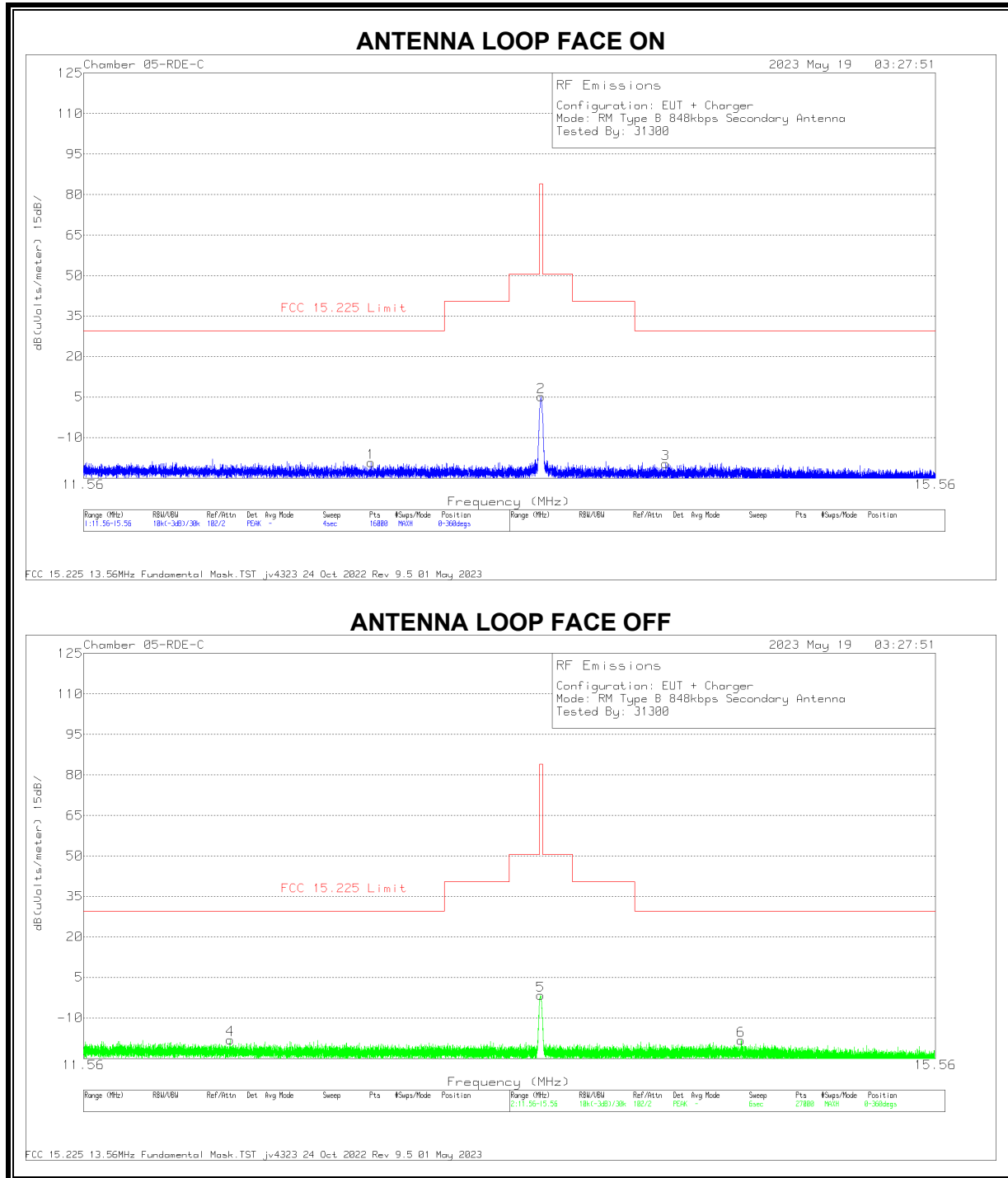
Pk - Peak detector

Qp - Quasi-Peak detector

## 8.1. SECONDARY ANTENNA FUNDAMENTAL & SPURIOUS EMISSION 0.15-30 MHz

### 8.1.1. READER MODE

#### FUNDAMENTAL

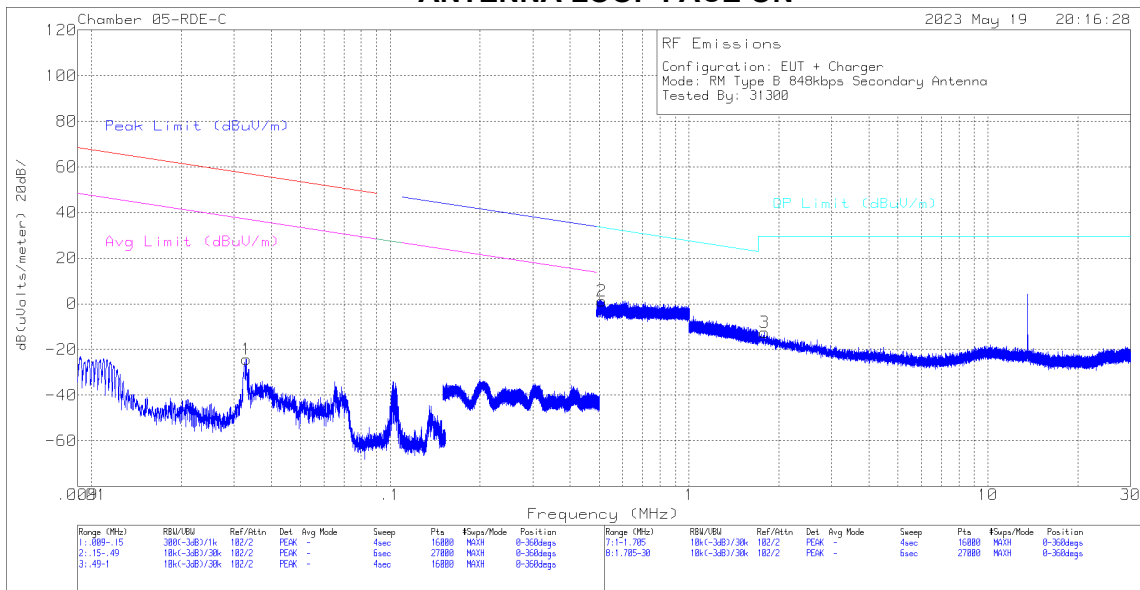




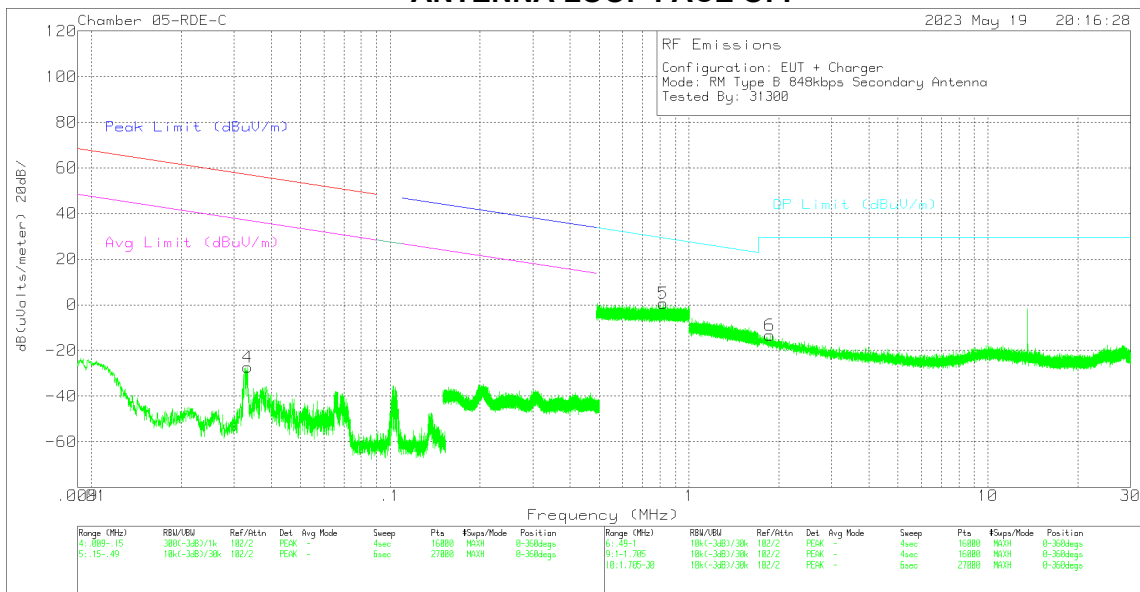
**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBUV) | Det | Loop Antenna E(ACF) (dB/m) | Amp/Cbl (dB) | Dist Corr 30m (dB) 40Log | Corrected Reading dB(uVolts/meter) | FCC 15.225 Limit (dBUV/m) | PK Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|--------------------------|------------------------------------|---------------------------|----------------|----------------|----------|
| 1      | 12.7793         | 18.1                 | Pk  | 34.4                       | -31.7        | -40                      | -19.2                              | 29.54                     | -48.74         | 0-360          | Face-On  |
| 2      | 13.56           | 42.57                | Pk  | 34.3                       | -31.7        | -40                      | 5.17                               | 84                        | -78.83         | 0-360          | Face-On  |
| 3      | 14.163          | 17.86                | Pk  | 34.2                       | -31.7        | -40                      | -19.64                             | 29.54                     | -49.18         | 0-360          | Face-On  |
| 4      | 12.1678         | 19.16                | Pk  | 34.6                       | -31.8        | -40                      | -18.04                             | 29.54                     | -47.58         | 0-360          | Face-Off |
| 5      | 13.5582         | 35.74                | Pk  | 34.3                       | -31.7        | -40                      | -1.66                              | 84                        | -85.66         | 0-360          | Face-Off |
| 6      | 14.541          | 19.22                | Pk  | 34.1                       | -31.7        | -40                      | -18.38                             | 29.54                     | -47.92         | 0-360          | Face-Off |

Pk - Peak detector

**SPURIOUS EMISSION****ANTENNA LOOP FACE ON**

FCC 15.209 Below 30MHz.TST jv4323 24 Oct 2022 Rev 9.5 01 May 2023

**ANTENNA LOOP FACE OFF**

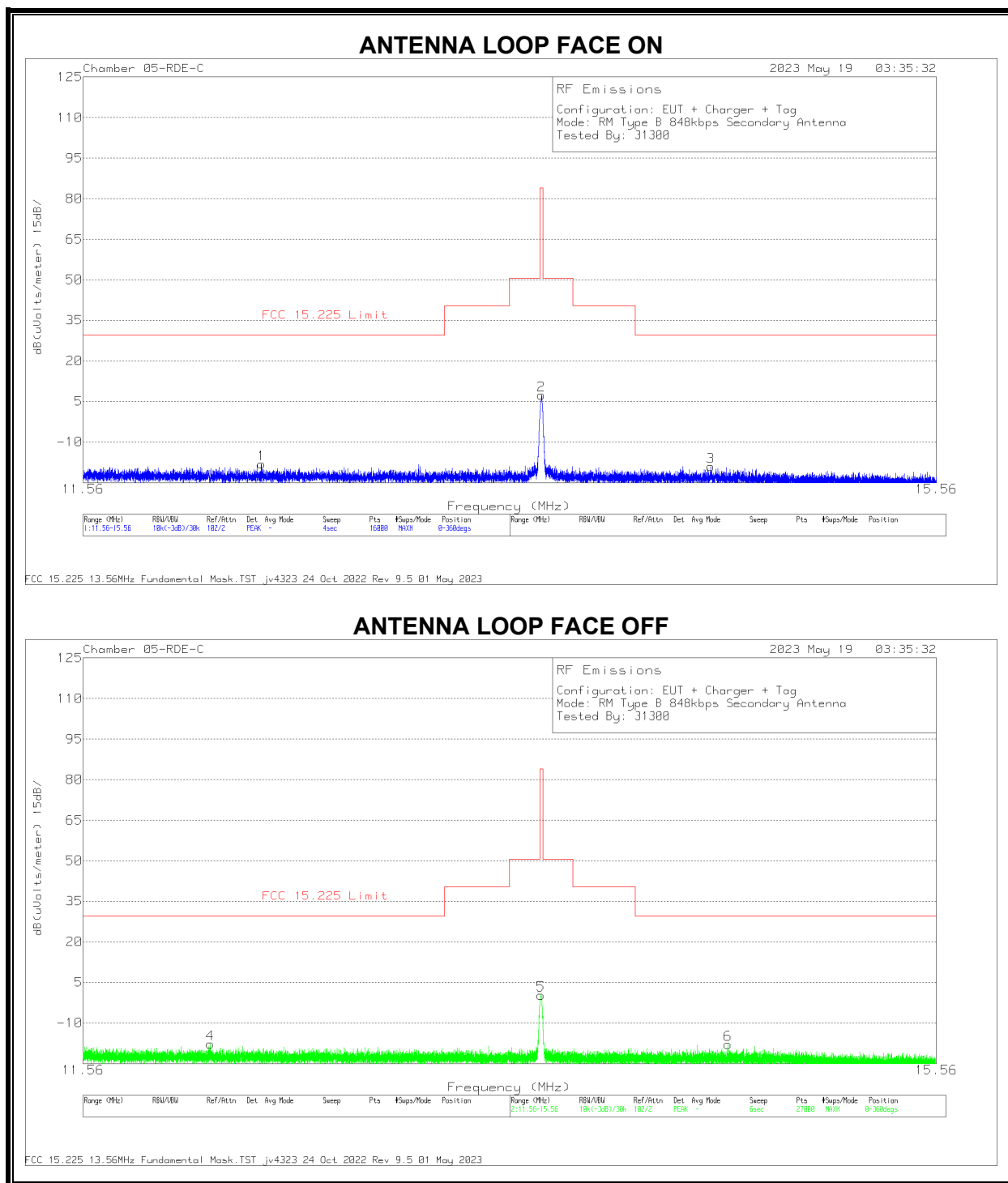
FCC 15.209 Below 30MHz.TST jv4323 24 Oct 2022 Rev 9.5 01 May 2023

**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Cbl/Amp (dB) | Dist Corr 300m (dB) | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|---------------------|----------------------------|---------------------|-------------|--------------------|-------------|----------------|----------|
| 1      | .033            | 29.79                | Pk  | 57.8                       | -31.9        | -80                 | -24.31                     | 57.22               | -81.53      | 37.22              | -61.53      | 0-360          | Face-On  |
| 4      | .0333           | 26.76                | Pk  | 57.8                       | -31.9        | -80                 | -27.34                     | 57.12               | -84.46      | 37.12              | -64.46      | 0-360          | Face-Off |

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Cbl/Amp (dB) | Dist Corr 30m (dB) | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|--------------------|----------------------------|-------------------|-------------|----------------|----------|
| 2      | .5119           | 17.12                | Pk  | 56.2                       | -32.1        | -40                | 1.22                       | 33.42             | -32.2       | 0-360          | Face-On  |
| 3      | 1.7857          | 16.72                | Pk  | 42.7                       | -32          | -40                | -12.58                     | 29.5              | -42.08      | 0-360          | Face-On  |
| 5      | .8182           | 16.2                 | Pk  | 56.4                       | -31.9        | -40                | .7                         | 29.36             | -28.66      | 0-360          | Face-Off |
| 6      | 1.8633          | 16.43                | Pk  | 42.3                       | -31.9        | -40                | -13.17                     | 29.5              | -42.67      | 0-360          | Face-Off |

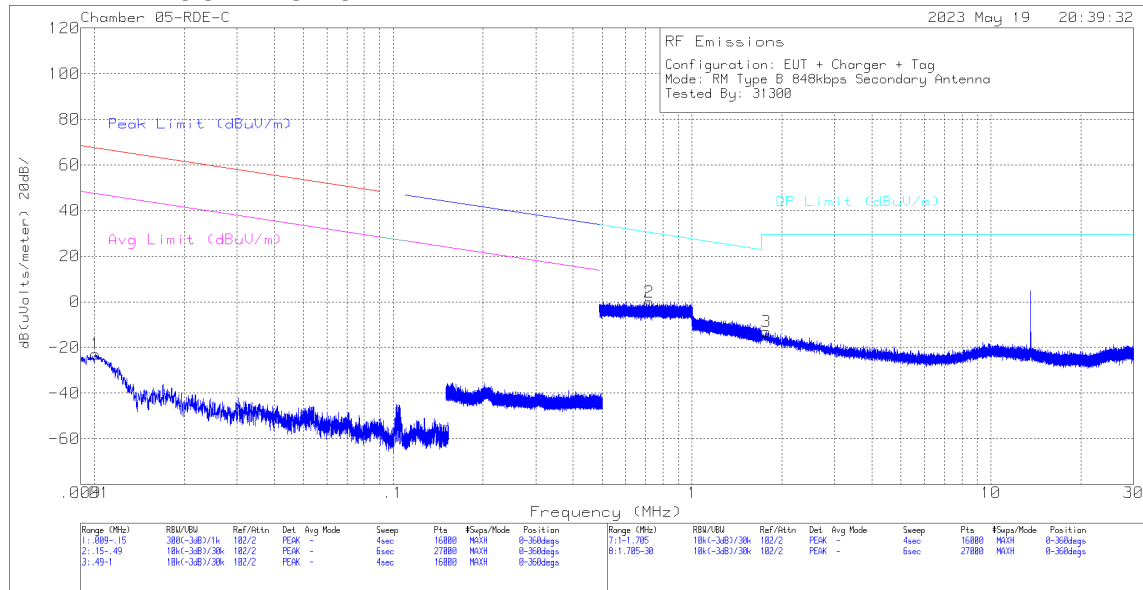
Pk - Peak detector

**8.1.2. TAG MODE****FUNDAMENTAL**

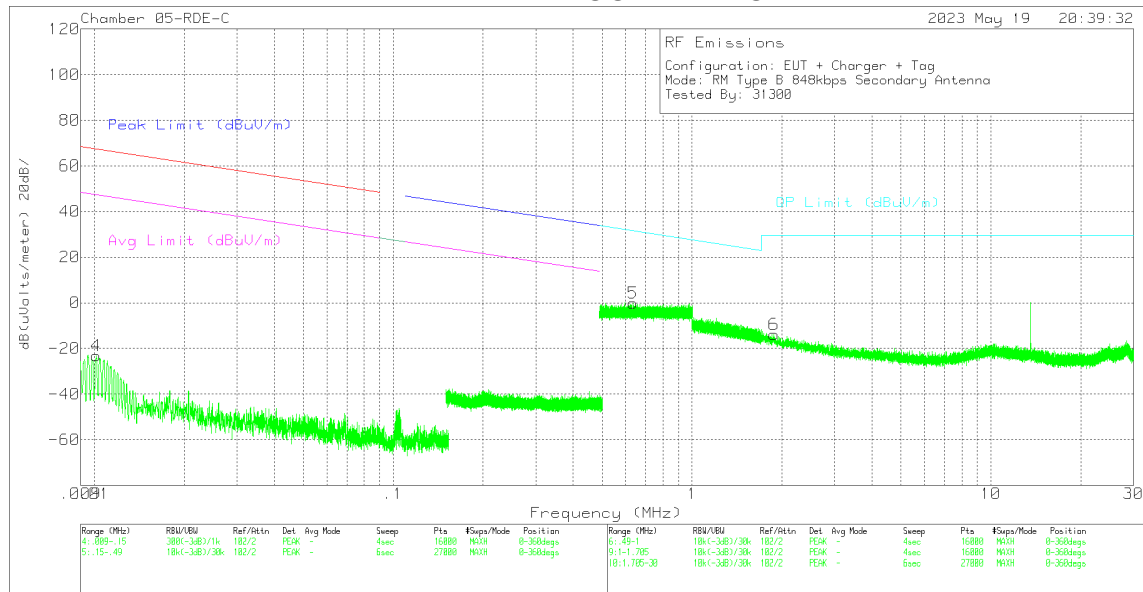
**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Amp/Cbl (dB) | Dist Corr 30m (dB) 40Log | Corrected Reading dB(uVolts/meter) | FCC 15.225 Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|--------------------------|------------------------------------|---------------------------|----------------|----------------|----------|
| 1      | 12.3            | 19.08                | Pk  | 34.5                       | -31.7        | -40                      | -18.12                             | 29.54                     | -47.66         | 0-360          | Face-On  |
| 2      | 13.56           | 44.76                | Pk  | 34.3                       | -31.7        | -40                      | 7.36                               | 84                        | -76.64         | 0-360          | Face-On  |
| 3      | 14.3835         | 18.58                | Pk  | 34.1                       | -31.7        | -40                      | -19.02                             | 29.54                     | -48.56         | 0-360          | Face-On  |
| 4      | 12.0827         | 19.37                | Pk  | 34.6                       | -31.7        | -40                      | -17.73                             | 29.54                     | -47.27         | 0-360          | Face-Off |
| 5      | 13.5579         | 37.75                | Pk  | 34.3                       | -31.7        | -40                      | .35                                | 84                        | -83.65         | 0-360          | Face-Off |
| 6      | 14.4716         | 19.66                | Pk  | 34.1                       | -31.7        | -40                      | -17.94                             | 29.54                     | -47.48         | 0-360          | Face-Off |

Pk - Peak detector

**SPURIOUS EMISSION****ANTENNA LOOP FACE ON**

FCC 15.209 Below 30MHz.TST jv4323 24 Oct 2022 Rev 9.5 01 May 2023

**ANTENNA LOOP FACE OFF**

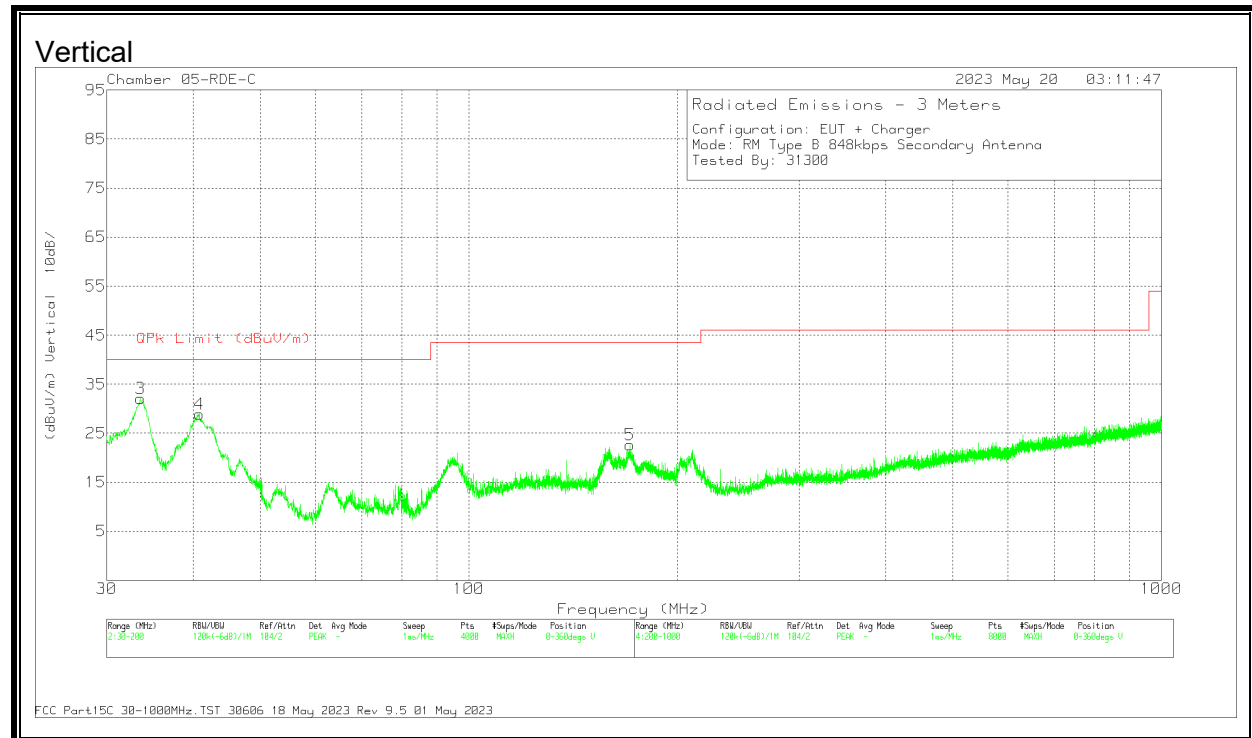
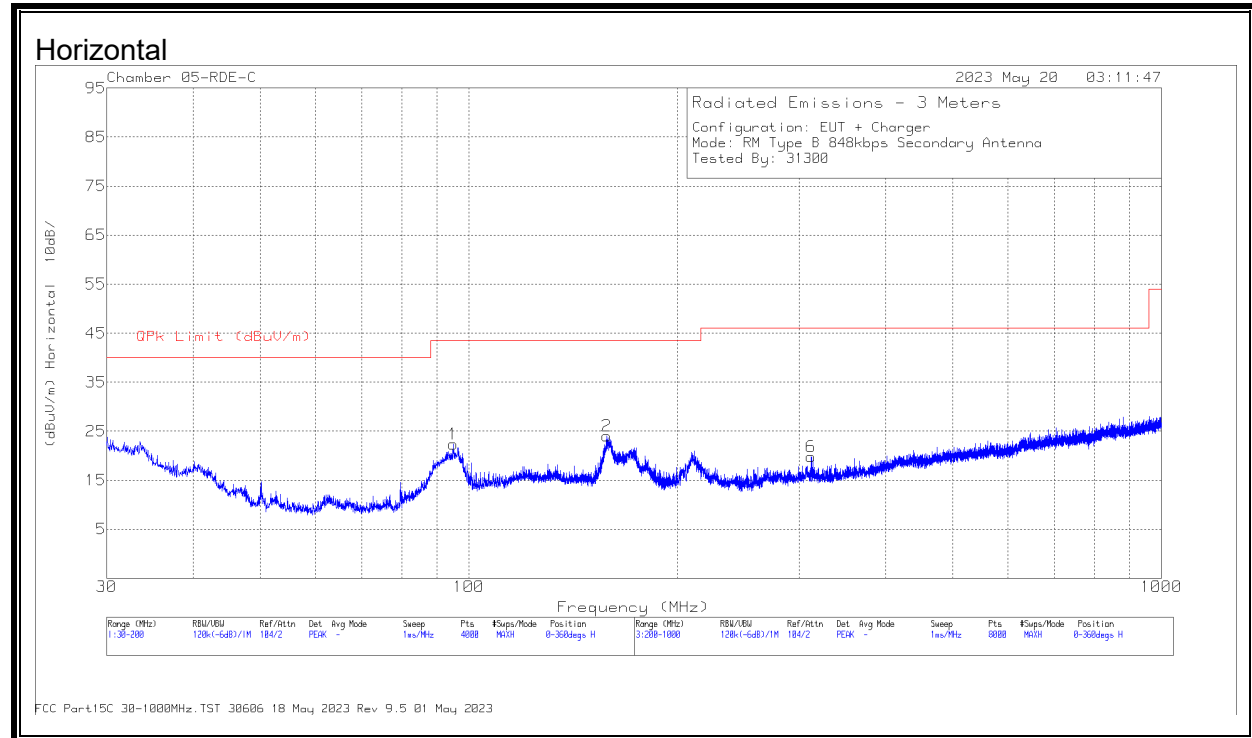
FCC 15.209 Below 30MHz.TST jv4323 24 Oct 2022 Rev 9.5 01 May 2023

**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Cbl/Amp (dB) | Dist Corr 300m (dB) | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|---------------------|----------------------------|---------------------|-------------|--------------------|-------------|----------------|----------|
| 1      | .0101           | 27.25                | Pk  | 60.4                       | -30.5        | -80                 | -22.85                     | 67.5                | -90.35      | 47.5               | -70.35      | 0-360          | Face-On  |
| 4      | .0102           | 27.02                | Pk  | 60.4                       | -30.5        | -80                 | -23.08                     | 67.45               | -90.53      | 47.45              | -70.53      | 0-360          | Face-Off |

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna E(ACF) (dB/m) | Cbl/Amp (dB) | Dist Corr 30m (dB) | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Polarity |
|--------|-----------------|----------------------|-----|----------------------------|--------------|--------------------|----------------------------|-------------------|-------------|----------------|----------|
| 2      | .7177           | 15.67                | Pk  | 56.3                       | -32          | -40                | -.03                       | 30.5              | -30.53      | 0-360          | Face-On  |
| 3      | 1.7679          | 16.24                | Pk  | 42.8                       | -32          | -40                | -12.96                     | 29.5              | -42.46      | 0-360          | Face-On  |
| 5      | .6336           | 15.48                | Pk  | 56.3                       | -32          | -40                | -.22                       | 31.57             | -31.79      | 0-360          | Face-Off |
| 6      | 1.8811          | 15.76                | Pk  | 42.2                       | -31.9        | -40                | -13.94                     | 29.5              | -43.44      | 0-360          | Face-Off |

Pk - Peak detector

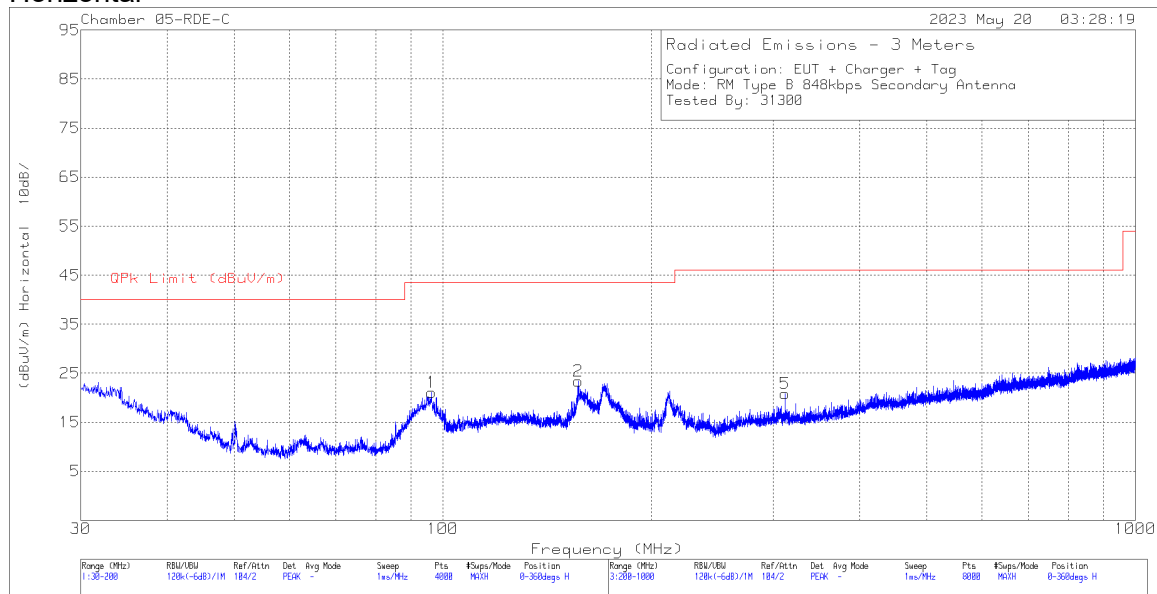
**8.2. SECONDARY ANTENNA TX SPURIOUS EMISSION 30-1000 MHz****8.2.1. READER MODE**



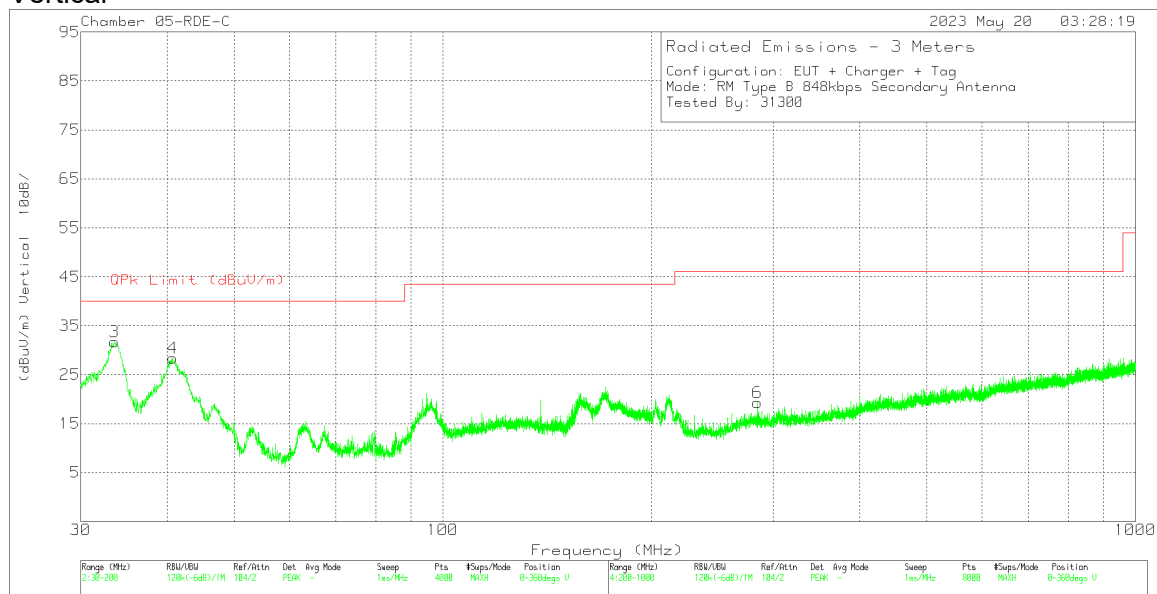
**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | 224378 ACF (dB) 10mH | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 94.9143         | 38.49                | Pk  | 15.1                 | -31.2        | 22.39                      | 43.52              | -21.13      | 0-360          | 198         | H        |
| 2      | 158.171         | 36.41                | Pk  | 18.4                 | -30.8        | 24.01                      | 43.52              | -19.51      | 0-360          | 198         | H        |
| 3      | 33.5709         | 39.16                | Pk  | 24.3                 | -31.4        | 32.06                      | 40                 | -7.94       | 0-360          | 102         | V        |
| 4      | 40.7978         | 41.48                | Pk  | 18.9                 | -31.5        | 28.88                      | 40                 | -11.12      | 0-360          | 102         | V        |
| 5      | 170.966         | 35.6                 | Pk  | 17.8                 | -30.8        | 22.6                       | 43.52              | -20.92      | 0-360          | 102         | V        |
| 6      | 311.815         | 30.56                | Pk  | 19.7                 | -30.4        | 19.86                      | 46.02              | -26.16      | 0-360          | 102         | H        |

Pk - Peak detector

**8.2.2. TAG MODE****Horizontal**

FCC Part15C 30-1000MHz.TST 30606 18 May 2023 Rev 9.5 01 May 2023

**Vertical**

FCC Part15C 30-1000MHz.TST 30606 18 May 2023 Rev 9.5 01 May 2023

**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | 224378 ACF (dB) 10mH | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 96.3172         | 36.75                | Pk  | 15.5                 | -31.1        | 21.15                      | 43.52              | -22.37      | 0-360          | 198         | H        |
| 2      | 156.98          | 35.76                | Pk  | 18.4                 | -30.8        | 23.36                      | 43.52              | -20.16      | 0-360          | 198         | H        |
| 3      | 33.5709         | 38.86                | Pk  | 24.3                 | -31.4        | 31.76                      | 40                 | -8.24       | 0-360          | 102         | V        |
| 4      | 40.7128         | 40.83                | Pk  | 19                   | -31.5        | 28.33                      | 40                 | -11.67      | 0-360          | 102         | V        |
| 5      | 311.815         | 31.56                | Pk  | 19.7                 | -30.4        | 20.86                      | 46.02              | -25.16      | 0-360          | 102         | H        |
| 6      | 284.911         | 30.63                | Pk  | 19.2                 | -30.5        | 19.33                      | 46.02              | -26.69      | 0-360          | 198         | V        |

Pk - Peak detector

## 9. 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  $\pm 0.01\%$  ( $\pm 100$  ppm).

### TEST PROCEDURE

ANSI C63.10-2013 Clause 6.8

### RESULTS

No non-compliance noted.

|            |       |              |            |
|------------|-------|--------------|------------|
| <b>ID:</b> | 30606 | <b>Date:</b> | 07/11/2023 |
|------------|-------|--------------|------------|

**9.1. PRIMARY ANTENNA****9.1.1. READER MODE**

| Reference Frequency: EUT Channel 13.56 MHz @ 20°C |             |                                               |              |                 |              |                  |              |                  |              |                             |
|---------------------------------------------------|-------------|-----------------------------------------------|--------------|-----------------|--------------|------------------|--------------|------------------|--------------|-----------------------------|
| Limit: $\pm 100$ 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)                 |
| <b>3.80</b>                                       | 50          | 13.559979                                     | 2.876        | 13.56           | 1.327        | 13.560015        | 0.221        | 13.560033        | -1.106       | $\pm 100$                   |
|                                                   | 40          | 13.559991                                     | 1.991        | 13.559979       | 2.876        | 13.559985        | 2.434        | 13.559991        | 1.991        | $\pm 100$                   |
|                                                   | 30          | 13.560006                                     | 0.885        | 13.559985       | 2.434        | 13.559979        | 2.876        | 13.559979        | 2.876        | $\pm 100$                   |
|                                                   | <b>20</b>   | <b>13.560018</b>                              | <b>0.000</b> | <b>13.55997</b> | <b>3.540</b> | <b>13.559985</b> | <b>2.434</b> | <b>13.559982</b> | <b>2.655</b> | <b><math>\pm 100</math></b> |
|                                                   | 10          | 13.560006                                     | 0.885        | 13.559988       | 2.212        | 13.559988        | 2.212        | 13.559988        | 2.212        | $\pm 100$                   |
|                                                   | 0           | 13.560063                                     | -3.319       | 13.560021       | -0.221       | 13.560018        | 0.000        | 13.560021        | -0.221       | $\pm 100$                   |
|                                                   | -10         | 13.560093                                     | -5.531       | 13.560057       | -2.876       | 13.560051        | -2.434       | 13.560054        | -2.655       | $\pm 100$                   |
|                                                   | -20         | 13.560105                                     | -6.416       | 13.560084       | -4.867       | 13.560078        | -4.425       | 13.560081        | -4.646       | $\pm 100$                   |
| 3.23                                              | 20          | 13.560039                                     | -1.549       | 13.560015       | 0.221        | 13.560003        | 1.106        | 13.559991        | 1.991        | $\pm 100$                   |
| 4.37                                              | 20          | 13.560024                                     | -0.442       | 13.559991       | 1.991        | 13.559988        | 2.212        | 13.559985        | 2.434        | $\pm 100$                   |

**9.1.2. TAG MODE**

| Reference Frequency: EUT Channel 13.56 MHz @ 20°C |             |                                               |              |                  |              |                  |              |                  |              |                             |
|---------------------------------------------------|-------------|-----------------------------------------------|--------------|------------------|--------------|------------------|--------------|------------------|--------------|-----------------------------|
| Limit: $\pm 100$ 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)                 |
| <b>3.80</b>                                       | 50          | 13.559976                                     | 1.549        | 13.559984        | 0.959        | 13.560012        | -1.106       | 13.56003         | -2.434       | $\pm 100$                   |
|                                                   | 40          | 13.559994                                     | 0.221        | 13.559976        | 1.549        | 13.559982        | 1.106        | 13.559988        | 0.664        | $\pm 100$                   |
|                                                   | 30          | 13.560006                                     | -0.664       | 13.559979        | 1.327        | 13.559976        | 1.549        | 13.559976        | 1.549        | $\pm 100$                   |
|                                                   | <b>20</b>   | <b>13.559997</b>                              | <b>0.000</b> | <b>13.559985</b> | <b>0.885</b> | <b>13.559982</b> | <b>1.106</b> | <b>13.559979</b> | <b>1.327</b> | <b><math>\pm 100</math></b> |
|                                                   | 10          | 13.560018                                     | -1.549       | 13.559985        | 0.885        | 13.559982        | 1.106        | 13.559985        | 0.885        | $\pm 100$                   |
|                                                   | 0           | 13.560048                                     | -3.761       | 13.560012        | -1.106       | 13.560009        | -0.885       | 13.560012        | -1.106       | $\pm 100$                   |
|                                                   | -10         | 13.560078                                     | -5.973       | 13.560048        | -3.761       | 13.560045        | -3.540       | 13.560045        | -3.540       | $\pm 100$                   |
|                                                   | -20         | 13.560096                                     | -7.301       | 13.560081        | -6.195       | 13.560075        | -5.752       | 13.560075        | -5.752       | $\pm 100$                   |
| 3.23                                              | 20          | 13.560075                                     | -5.752       | 13.560024        | -1.991       | 13.560003        | -0.442       | 13.559991        | 0.442        | $\pm 100$                   |
| 4.37                                              | 20          | 13.560009                                     | -0.885       | 13.559994        | 0.221        | 13.559988        | 0.664        | 13.559985        | 0.885        | $\pm 100$                   |

**9.1.3. CE MODE**

| Reference Frequency: EUT Channel 13.56 MHz @ 20°C |             |                                               |              |                  |              |                  |               |                  |              |                             |
|---------------------------------------------------|-------------|-----------------------------------------------|--------------|------------------|--------------|------------------|---------------|------------------|--------------|-----------------------------|
| Limit: $\pm 100$ 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)                 |
| <b>3.80</b>                                       | 50          | 13.559988                                     | 1.549        | 13.559937        | 5.310        | 13.559973        | 2.655         | 13.560048        | -2.876       | $\pm 100$                   |
|                                                   | 40          | 13.559955                                     | 3.982        | 13.560021        | -0.885       | 13.56            | 0.664         | 13.559979        | 2.212        | $\pm 100$                   |
|                                                   | 30          | 13.560027                                     | -1.327       | 13.560009        | 0.000        | 13.559985        | 1.770         | 13.559988        | 1.549        | $\pm 100$                   |
|                                                   | <b>20</b>   | <b>13.560009</b>                              | <b>0.000</b> | <b>13.559967</b> | <b>3.097</b> | <b>13.560057</b> | <b>-3.540</b> | <b>13.560006</b> | <b>0.221</b> | <b><math>\pm 100</math></b> |
|                                                   | 10          | 13.559958                                     | 3.761        | 13.560054        | -3.319       | 13.559916        | 6.858         | 13.560027        | -1.327       | $\pm 100$                   |
|                                                   | 0           | 13.560045                                     | -2.655       | 13.560048        | -2.876       | 13.560072        | -4.646        | 13.560018        | -0.664       | $\pm 100$                   |
|                                                   | -10         | 13.560138                                     | -9.513       | 13.560114        | -7.743       | 13.56009         | -5.973        | 13.560108        | -7.301       | $\pm 100$                   |
|                                                   | -20         | 13.560096                                     | -6.416       | 13.560006        | 0.221        | 13.560135        | -9.292        | 13.560141        | -9.735       | $\pm 100$                   |
| 3.23                                              | 20          | 13.559952                                     | 4.204        | 13.560009        | 0.000        | 13.559991        | 1.327         | 13.560006        | 0.221        | $\pm 100$                   |
| 4.37                                              | 20          | 13.560015                                     | -0.442       | 13.560018        | -0.664       | 13.560018        | -0.664        | 13.560054        | -3.319       | $\pm 100$                   |

**9.2. SECONDARY ANTENNA****9.2.1. READER MODE**

| Reference Frequency: EUT Channel 13.56 MHz @ 20°C |             |                                               |              |                  |               |                  |               |                  |               |                             |
|---------------------------------------------------|-------------|-----------------------------------------------|--------------|------------------|---------------|------------------|---------------|------------------|---------------|-----------------------------|
| Limit: $\pm 100$ 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)                 |
| <b>3.80</b>                                       | 50          | 13.559962                                     | -1.695       | 13.559967        | -2.082        | 13.559970        | -2.251        | 13.559972        | -2.403        | $\pm 100$                   |
|                                                   | 40          | 13.559931                                     | 0.575        | 13.559932        | 0.530         | 13.559932        | 0.515         | 13.559932        | 0.486         | $\pm 100$                   |
|                                                   | 30          | 13.559928                                     | 0.840        | 13.559927        | 0.855         | 13.559927        | 0.887         | 13.55993         | 0.899         | $\pm 100$                   |
|                                                   | <b>20</b>   | <b>13.559939</b>                              | <b>0.000</b> | <b>13.559941</b> | <b>-0.147</b> | <b>13.559943</b> | <b>-0.295</b> | <b>13.559945</b> | <b>-0.442</b> | <b><math>\pm 100</math></b> |
|                                                   | 10          | 13.559940                                     | -0.074       | 13.559945        | -0.474        | 13.559947        | -0.574        | 13.559948        | -0.657        | $\pm 100$                   |
|                                                   | 0           | 13.559959                                     | -1.473       | 13.559967        | -2.056        | 13.559968        | -2.144        | 13.559969        | -2.206        | $\pm 100$                   |
|                                                   | -10         | 13.559985                                     | -3.405       | 13.559996        | -4.187        | 13.560002        | -4.640        | 13.560000        | -4.534        | $\pm 100$                   |
|                                                   | -20         | 13.560024                                     | -6.238       | 13.560026        | -6.431        | 13.560033        | -6.911        | 13.560034        | -7.040        | $\pm 100$                   |
| 3.23                                              | 20          | 13.559944                                     | -0.369       | 13.559943        | -0.295        | 13.559944        | -0.350        | 13.559943        | -0.320        | $\pm 100$                   |
| 4.37                                              | 20          | 13.559944                                     | -0.352       | 13.559944        | -0.350        | 13.559944        | -0.345        | 13.559944        | -0.337        | $\pm 100$                   |

**9.2.2. TAG MODE**

| Reference Frequency: EUT Channel 13.56 MHz @ 20°C |             |                                               |              |                    |               |                    |               |                    |               |                             |
|---------------------------------------------------|-------------|-----------------------------------------------|--------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|-----------------------------|
| Limit: $\pm 100$ 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)                 |
| <b>3.80</b>                                       | 50          | 13.55995494                                   | -1.322       | 13.55995817        | -1.560        | 13.55996077        | -1.751        | 13.55996755        | -2.251        | $\pm 100$                   |
|                                                   | 40          | 13.55992617                                   | 0.800        | 13.55992723        | 0.722         | 13.55992882        | 0.605         | 13.55992987        | 0.527         | $\pm 100$                   |
|                                                   | 30          | 13.55993103                                   | 0.442        | 13.55992952        | 0.553         | 13.55992717        | 0.727         | 13.55992645        | 0.780         | $\pm 100$                   |
|                                                   | <b>20</b>   | <b>13.55993702</b>                            | <b>0.000</b> | <b>13.55993804</b> | <b>-0.075</b> | <b>13.55993844</b> | <b>-0.105</b> | <b>13.55993845</b> | <b>-0.105</b> | <b><math>\pm 100</math></b> |
|                                                   | 10          | 13.55992817                                   | 0.653        | 13.55992999        | 0.518         | 13.55993281        | 0.311         | 13.55993852        | -0.110        | $\pm 100$                   |
|                                                   | 0           | 13.5599624                                    | -1.872       | 13.55996513        | -2.073        | 13.55992714        | 0.729         | 13.55997571        | -2.853        | $\pm 100$                   |
|                                                   | -10         | 13.56001419                                   | -5.690       | 13.56002417        | -6.427        | 13.56002711        | -6.643        | 13.56002933        | -6.808        | $\pm 100$                   |
|                                                   | -20         | 13.56004784                                   | -8.173       | 13.56005132        | -8.429        | 13.5600547         | -8.678        | 13.56005691        | -8.841        | $\pm 100$                   |
| 3.23                                              | 20          | 13.55993801                                   | -0.073       | 13.55993775        | -0.054        | 13.55993761        | -0.043        | 13.55993749        | -0.034        | $\pm 100$                   |
| 4.37                                              | 20          | 13.55993833                                   | -0.097       | 13.55993845        | -0.105        | 13.55993846        | -0.106        | 13.55993847        | -0.107        | $\pm 100$                   |

## 10. AC MAINS LINE CONDUCTED EMISSIONS

### LIMITS

§15.207

IC RSS-GEN, Section 8.8

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 $\mu$ 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<br>(MHz)                                                                                                                                                         | Limits (dB $\mu$ 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:<br>1. The lower limit shall apply at the transition frequencies<br>2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz. |                     |          |

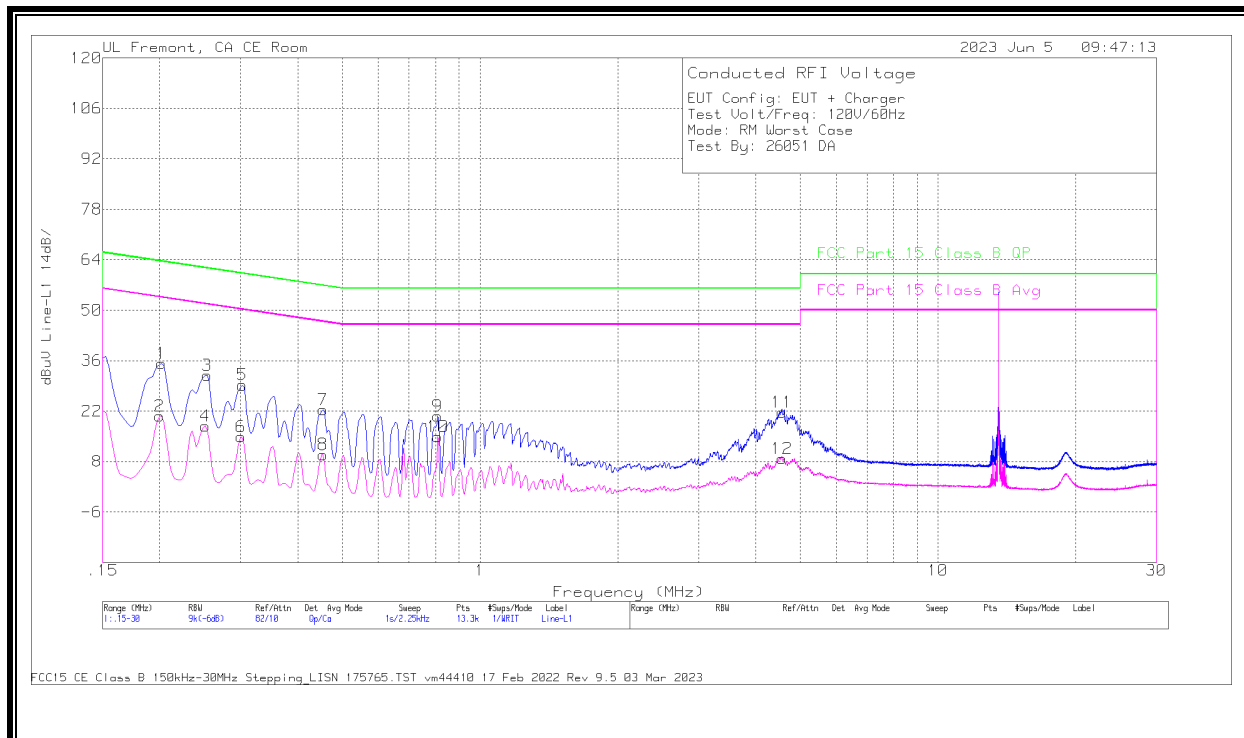
### TEST PROCEDURE

ANSI C63.10:2013

### RESULTS

No non-compliance noted:



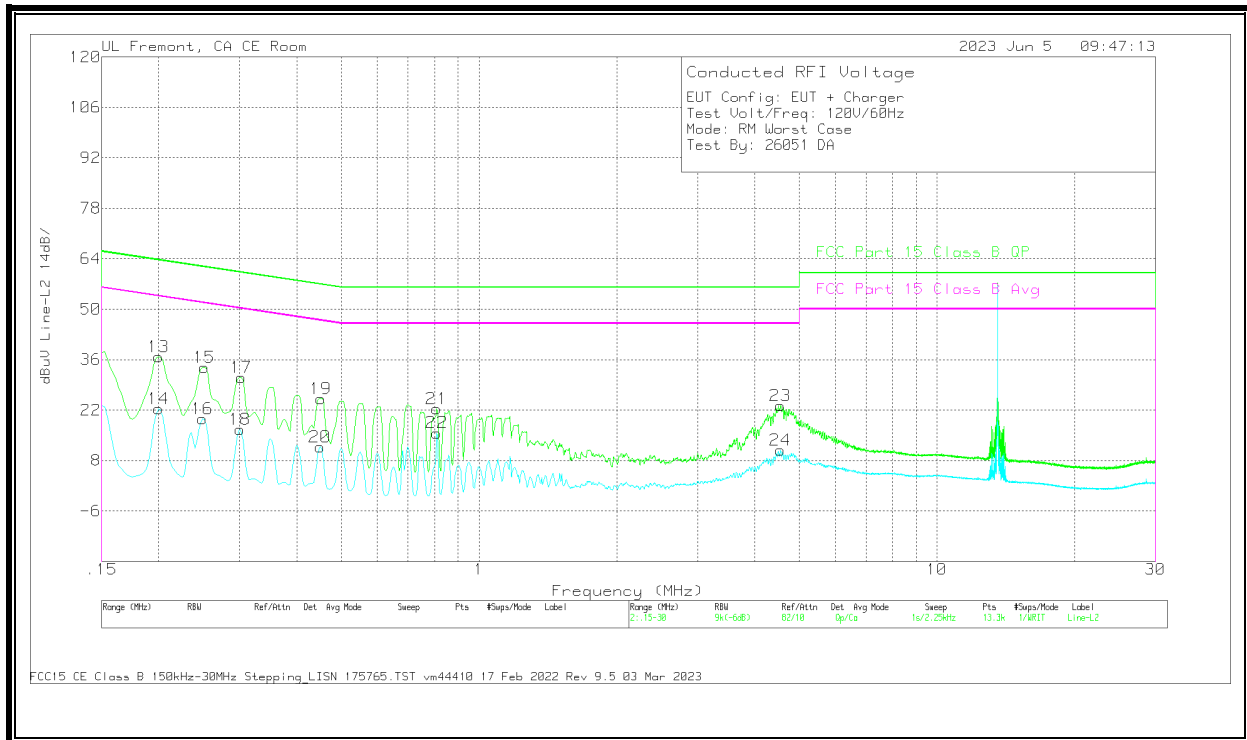
**10.1. PRIMARY ANTENNA****10.1.1. READER MODE WITH ANTENNA****LINE 1 RESULTS****Worst Emission**

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |                |                          |                                   |                        |                          |             |                           |                      |
|------------------------------|-----------------|----------------------|-----|----------------|--------------------------|-----------------------------------|------------------------|--------------------------|-------------|---------------------------|----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L1 LISN.csv dB | C1&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | CISPR 32 Class B QP dBuV | Margin (dB) | CISPR 32 Class B Avg dBuV | Av(CISPR)Margin (dB) |
| 1                            | .2018           | 25.87                | Qp  | 0              | 0                        | 9.4                               | 35.27                  | 63.54                    | -28.27      | -                         | -                    |
| 2                            | .1995           | 11.28                | Ca  | 0              | 0                        | 9.4                               | 20.68                  | -                        | -           | 53.63                     | -32.95               |
| 3                            | .2535           | 22.7                 | Qp  | 0              | 0                        | 9.3                               | 32                     | 61.64                    | -29.64      | -                         | -                    |
| 4                            | .2513           | 8.53                 | Ca  | 0              | 0                        | 9.3                               | 17.83                  | -                        | -           | 51.72                     | -33.89               |
| 5                            | .303            | 19.93                | Qp  | 0              | 0                        | 9.3                               | 29.23                  | 60.16                    | -30.93      | -                         | -                    |
| 6                            | .3008           | 5.62                 | Ca  | 0              | 0                        | 9.3                               | 14.92                  | -                        | -           | 50.22                     | -35.3                |
| 7                            | .4538           | 12.89                | Qp  | 0              | .1                       | 9.3                               | 22.29                  | 56.81                    | -34.52      | -                         | -                    |
| 8                            | .4538           | .53                  | Ca  | 0              | .1                       | 9.3                               | 9.93                   | -                        | -           | 46.81                     | -36.88               |
| 9                            | .8093           | 11.19                | Qp  | 0              | .1                       | 9.3                               | 20.59                  | 56                       | -35.41      | -                         | -                    |
| 10                           | .8093           | 5.51                 | Ca  | 0              | .1                       | 9.3                               | 14.91                  | -                        | -           | 46                        | -31.09               |
| 11                           | 4.5713          | 12.24                | Qp  | 0              | .1                       | 9.3                               | 21.64                  | 56                       | -34.36      | -                         | -                    |
| 12                           | 4.5713          | -.59                 | Ca  | 0              | .1                       | 9.3                               | 8.81                   | -                        | -           | 46                        | -37.19               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

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

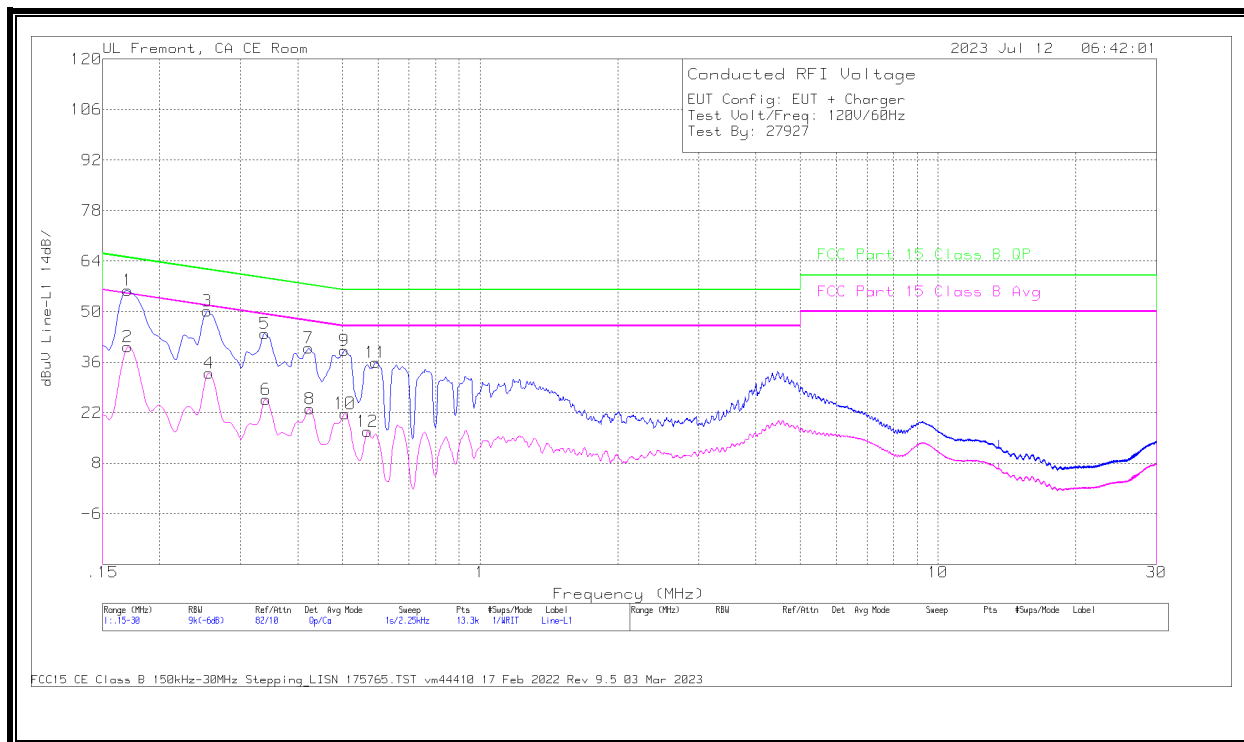
**LINE 2 RESULTS****Worst Emission**

| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |            |                          |                                   |                        |                             |                |                              |                       |
|------------------------------|-----------------|----------------------|-----|------------|--------------------------|-----------------------------------|------------------------|-----------------------------|----------------|------------------------------|-----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L2_LISN dB | C2&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | FCC Part 15 Class B QP dBuV | QP Margin (dB) | FCC Part 15 Class B Avg dBuV | Av(CISPR)M argin (dB) |
| 13                           | .1995           | 27.36                | Qp  | 0          | 0                        | 9.4                               | 36.76                  | 63.63                       | -26.87         | -                            | -                     |
| 14                           | .1995           | 12.92                | Ca  | 0          | 0                        | 9.4                               | 22.32                  | -                           | -              | 53.63                        | -31.31                |
| 15                           | .2513           | 24.52                | Qp  | 0          | 0                        | 9.3                               | 33.82                  | 61.72                       | -27.9          | -                            | -                     |
| 16                           | .249            | 10.24                | Ca  | 0          | 0                        | 9.3                               | 19.54                  | -                           | -              | 51.79                        | -32.25                |
| 17                           | .303            | 21.73                | Qp  | 0          | 0                        | 9.3                               | 31.03                  | 60.16                       | -29.13         | -                            | -                     |
| 18                           | .3008           | 7.33                 | Ca  | 0          | 0                        | 9.3                               | 16.63                  | -                           | -              | 50.22                        | -33.59                |
| 19                           | .4515           | 15.77                | Qp  | 0          | .1                       | 9.3                               | 25.17                  | 56.85                       | -31.68         | -                            | -                     |
| 20                           | .4493           | 2.39                 | Ca  | 0          | .1                       | 9.3                               | 11.79                  | -                           | -              | 46.89                        | -35.1                 |
| 21                           | .8093           | 12.92                | Qp  | 0          | .1                       | 9.3                               | 22.32                  | 56                          | -33.68         | -                            | -                     |
| 22                           | .8093           | 6.27                 | Ca  | 0          | .1                       | 9.3                               | 15.67                  | -                           | -              | 46                           | -30.33                |
| 23                           | 4.5555          | 13.89                | Qp  | 0          | .1                       | 9.3                               | 23.29                  | 56                          | -32.71         | -                            | -                     |
| 24                           | 4.551           | 1.45                 | Ca  | 0          | .1                       | 9.3                               | 10.85                  | -                           | -              | 46                           | -35.15                |

Qp - Quasi-Peak detector

Ca - CISPR average detection

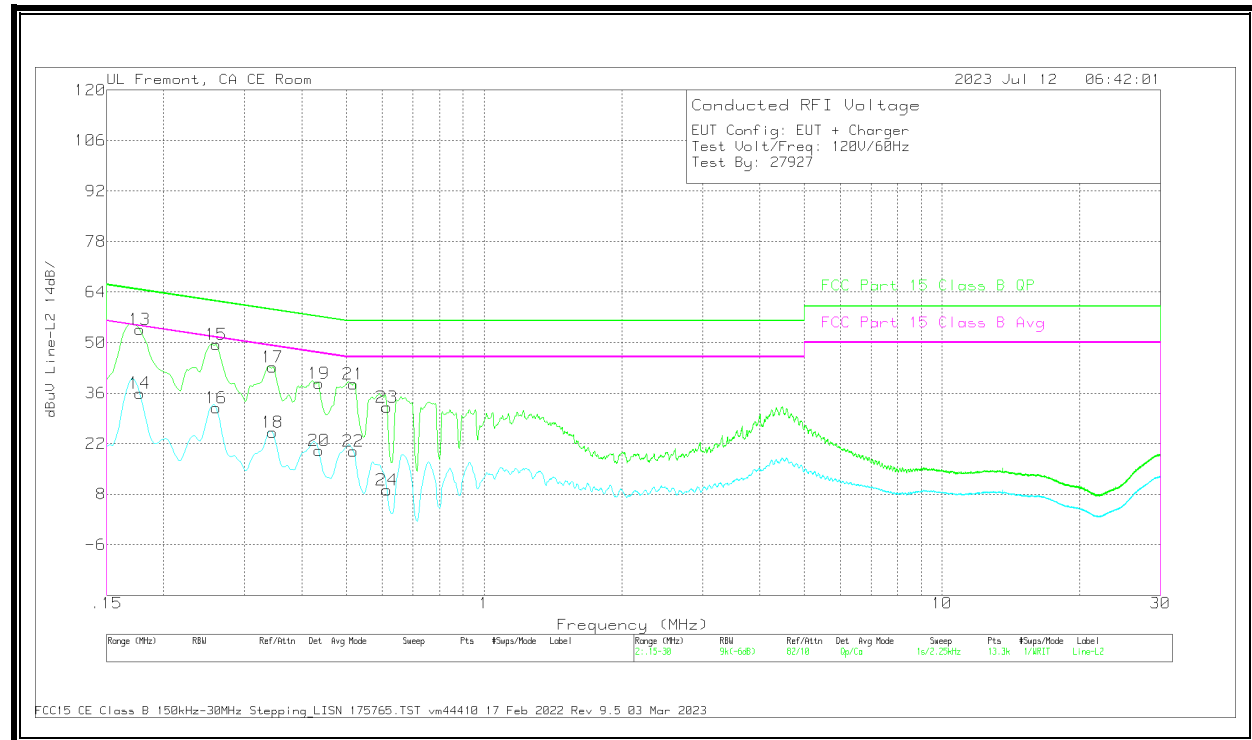
Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicates that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

**10.1.2. READER MODE ANTENNA PORT TERMINATED****LINE 1 RESULTS****Worst Emission**

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |                |                          |                                   |                        |                          |             |                           |                      |
|------------------------------|-----------------|----------------------|-----|----------------|--------------------------|-----------------------------------|------------------------|--------------------------|-------------|---------------------------|----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L1_LISN.csv dB | C1&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | CISPR 32 Class B QP dBuV | Margin (dB) | CISPR 32 Class B Avg dBuV | Av(CISPR)Margin (dB) |
| 1                            | .1703           | 46.45                | Qp  | 0              | 0                        | 9.4                               | 55.85                  | 64.95                    | -9.1        | -                         | -                    |
| 2                            | .1703           | 30.79                | Ca  | 0              | 0                        | 9.4                               | 40.19                  | -                        | -           | 54.95                     | -14.76               |
| 3                            | .2535           | 40.83                | Qp  | 0              | 0                        | 9.3                               | 50.13                  | 61.64                    | -11.51      | -                         | -                    |
| 4                            | .2558           | 23.72                | Ca  | 0              | 0                        | 9.3                               | 33.02                  | -                        | -           | 51.57                     | -18.55               |
| 5                            | .339            | 34.69                | Qp  | 0              | 0                        | 9.3                               | 43.99                  | 59.23                    | -15.24      | -                         | -                    |
| 6                            | .3413           | 16.34                | Ca  | 0              | .1                       | 9.3                               | 25.74                  | -                        | -           | 49.17                     | -23.43               |
| 7                            | .4223           | 30.52                | Qp  | 0              | .1                       | 9.3                               | 39.92                  | 57.4                     | -17.48      | -                         | -                    |
| 8                            | .4245           | 13.73                | Ca  | 0              | .1                       | 9.3                               | 23.13                  | -                        | -           | 47.36                     | -24.23               |
| 9                            | .5055           | 29.84                | Qp  | 0              | .1                       | 9.3                               | 39.24                  | 56                       | -16.76      | -                         | -                    |
| 10                           | .5078           | 12.35                | Ca  | 0              | .1                       | 9.3                               | 21.75                  | -                        | -           | 46                        | -24.25               |
| 11                           | .591            | 26.58                | Qp  | 0              | .1                       | 9.3                               | 35.98                  | 56                       | -20.02      | -                         | -                    |
| 12                           | .5685           | 7.32                 | Ca  | 0              | .1                       | 9.3                               | 16.72                  | -                        | -           | 46                        | -29.28               |

Qp - Quasi-Peak detector

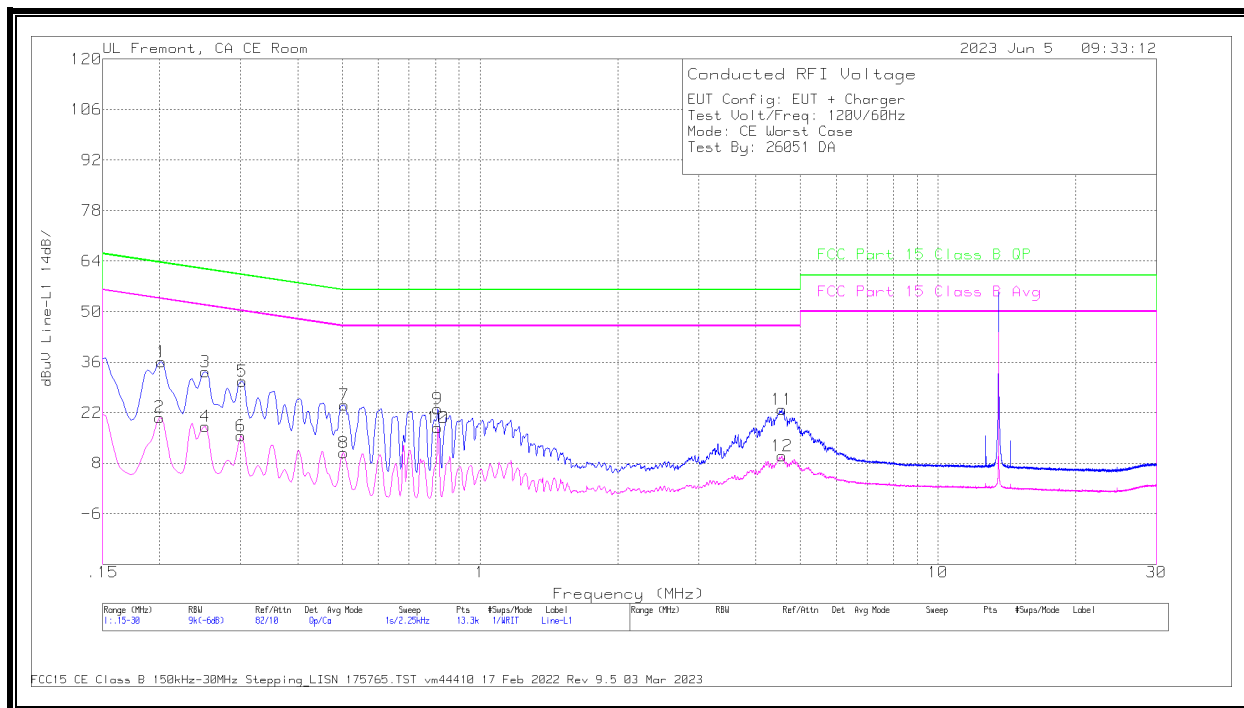
Ca - CISPR average detection

**LINE 2 RESULTS****Worst Emission**

| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |            |                          |                                   |                        |                             |                |                              |                       |
|------------------------------|-----------------|----------------------|-----|------------|--------------------------|-----------------------------------|------------------------|-----------------------------|----------------|------------------------------|-----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L2_LISN dB | C2&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | FCC Part 15 Class B QP dBuV | QP Margin (dB) | FCC Part 15 Class B Avg dBuV | Av(CISPR)M argin (dB) |
| 13                           | .177            | 44.21                | Qp  | 0          | 0                        | 9.4                               | 53.61                  | 64.63                       | -11.02         | -                            | -                     |
| 14                           | .177            | 26.6                 | Ca  | 0          | 0                        | 9.4                               | 36                     | -                           | -              | 54.63                        | -18.63                |
| 15                           | .2603           | 40.24                | Qp  | 0          | 0                        | 9.3                               | 49.54                  | 61.42                       | -11.88         | -                            | -                     |
| 16                           | .2603           | 22.63                | Ca  | 0          | 0                        | 9.3                               | 31.93                  | -                           | -              | 51.42                        | -19.49                |
| 17                           | .3458           | 33.96                | Qp  | 0          | 0                        | 9.3                               | 43.26                  | 59.06                       | -15.8          | -                            | -                     |
| 18                           | .3458           | 15.83                | Ca  | 0          | 0                        | 9.3                               | 25.13                  | -                           | -              | 49.06                        | -23.93                |
| 19                           | .4358           | 29.29                | Qp  | 0          | .1                       | 9.3                               | 38.69                  | 57.14                       | -18.45         | -                            | -                     |
| 20                           | .4358           | 10.64                | Ca  | 0          | .1                       | 9.3                               | 20.04                  | -                           | -              | 47.14                        | -27.1                 |
| 21                           | .519            | 29.11                | Qp  | 0          | .1                       | 9.3                               | 38.51                  | 56                          | -17.49         | -                            | -                     |
| 22                           | .519            | 10.58                | Ca  | 0          | .1                       | 9.3                               | 19.98                  | -                           | -              | 46                           | -26.02                |
| 23                           | .6135           | 22.69                | Qp  | 0          | .1                       | 9.3                               | 32.09                  | 56                          | -23.91         | -                            | -                     |
| 24                           | .6135           | -17                  | Ca  | 0          | .1                       | 9.3                               | 9.23                   | -                           | -              | 46                           | -36.77                |

Qp - Quasi-Peak detector

Ca - CISPR average detection

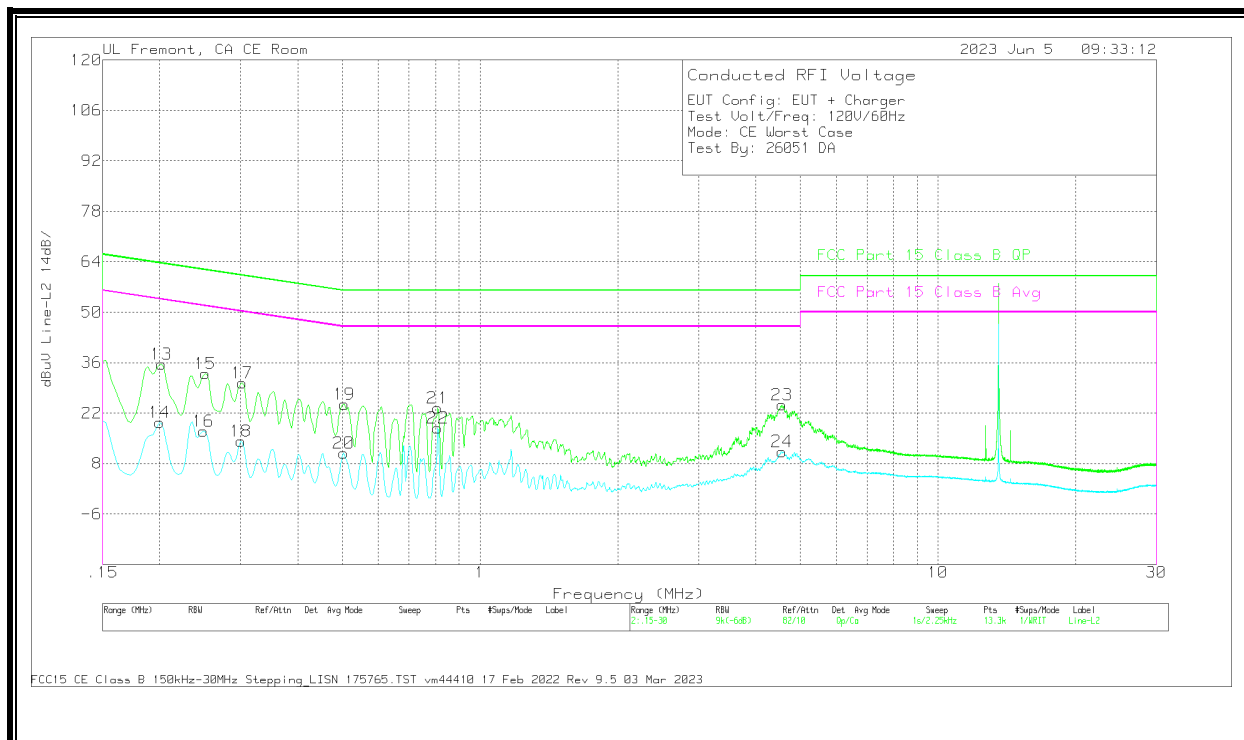
**10.1.3. CE MODE WITH ANTENNA****LINE 1 RESULTS****Worst Emission**

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |                |                          |                                   |                        |                          |             |                           |                      |
|------------------------------|-----------------|----------------------|-----|----------------|--------------------------|-----------------------------------|------------------------|--------------------------|-------------|---------------------------|----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L1_LISN.csv dB | C1&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | CISPR 32 Class B QP dBuV | Margin (dB) | CISPR 32 Class B Avg dBuV | Av(CISPR)Margin (dB) |
| 1                            | .2018           | 26.62                | Qp  | 0              | 0                        | 9.4                               | 36.02                  | 63.54                    | -27.52      | -                         | -                    |
| 2                            | .1995           | 11.31                | Ca  | 0              | 0                        | 9.4                               | 20.71                  | -                        | -           | 53.63                     | -32.92               |
| 3                            | .2513           | 23.96                | Qp  | 0              | 0                        | 9.3                               | 33.26                  | 61.72                    | -28.46      | -                         | -                    |
| 4                            | .2513           | 8.85                 | Ca  | 0              | 0                        | 9.3                               | 18.15                  | -                        | -           | 51.72                     | -33.57               |
| 5                            | .303            | 21.36                | Qp  | 0              | 0                        | 9.3                               | 30.66                  | 60.16                    | -29.5       | -                         | -                    |
| 6                            | .3008           | 6.28                 | Ca  | 0              | 0                        | 9.3                               | 15.58                  | -                        | -           | 50.22                     | -34.64               |
| 7                            | .5055           | 14.77                | Qp  | 0              | .1                       | 9.3                               | 24.17                  | 56                       | -31.83      | -                         | -                    |
| 8                            | .5033           | 1.54                 | Ca  | 0              | .1                       | 9.3                               | 10.94                  | -                        | -           | 46                        | -35.06               |
| 9                            | .8093           | 13.65                | Qp  | 0              | .1                       | 9.3                               | 23.05                  | 56                       | -32.95      | -                         | -                    |
| 10                           | .8093           | 8.39                 | Ca  | 0              | .1                       | 9.3                               | 17.79                  | -                        | -           | 46                        | -28.21               |
| 11                           | 4.56            | 13.51                | Qp  | 0              | .1                       | 9.3                               | 22.91                  | 56                       | -33.09      | -                         | -                    |
| 12                           | 4.56            | .55                  | Ca  | 0              | .1                       | 9.3                               | 9.95                   | -                        | -           | 46                        | -36.05               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

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

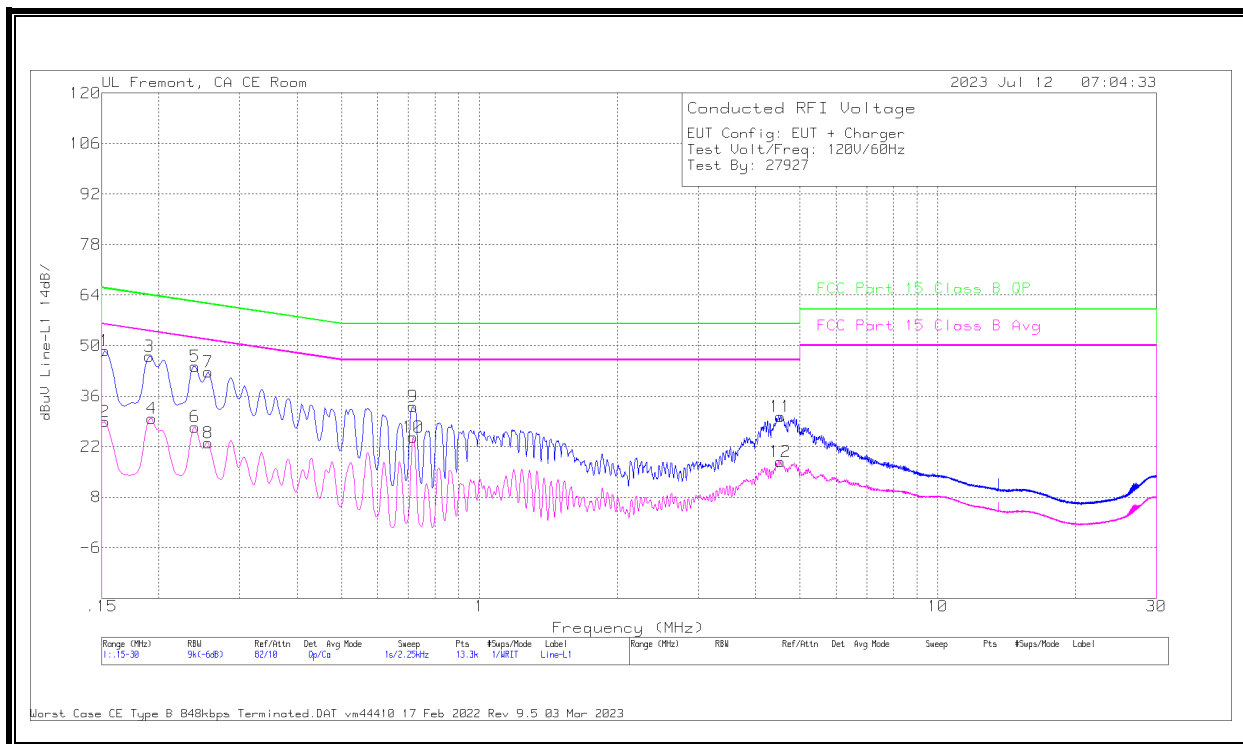
**LINE 2 RESULTS****Worst Emission**

| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |            |                          |                                   |                        |                             |                |                              |                       |
|------------------------------|-----------------|----------------------|-----|------------|--------------------------|-----------------------------------|------------------------|-----------------------------|----------------|------------------------------|-----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L2_LISN dB | C2&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | FCC Part 15 Class B QP dBuV | QP Margin (dB) | FCC Part 15 Class B Avg dBuV | Av(CISPR)M argin (dB) |
| 13                           | .2018           | 26.25                | Qp  | 0          | 0                        | 9.4                               | 35.65                  | 63.54                       | -27.89         | -                            | -                     |
| 14                           | .1995           | 9.93                 | Ca  | 0          | 0                        | 9.4                               | 19.33                  | -                           | -              | 53.63                        | -34.3                 |
| 15                           | .2513           | 23.64                | Qp  | 0          | 0                        | 9.3                               | 32.94                  | 61.72                       | -28.78         | -                            | -                     |
| 16                           | .249            | 7.61                 | Ca  | 0          | 0                        | 9.3                               | 16.91                  | -                           | -              | 51.79                        | -34.88                |
| 17                           | .303            | 21.13                | Qp  | 0          | 0                        | 9.3                               | 30.43                  | 60.16                       | -29.73         | -                            | -                     |
| 18                           | .3008           | 4.91                 | Ca  | 0          | 0                        | 9.3                               | 14.21                  | -                           | -              | 50.22                        | -36.01                |
| 19                           | .5055           | 15.11                | Qp  | 0          | .1                       | 9.3                               | 24.51                  | 56                          | -31.49         | -                            | -                     |
| 20                           | .5033           | 1.44                 | Ca  | 0          | .1                       | 9.3                               | 10.84                  | -                           | -              | 46                           | -35.16                |
| 21                           | .8093           | 14.05                | Qp  | 0          | .1                       | 9.3                               | 23.45                  | 56                          | -32.55         | -                            | -                     |
| 22                           | .8093           | 8.46                 | Ca  | 0          | .1                       | 9.3                               | 17.86                  | -                           | -              | 46                           | -28.14                |
| 23                           | 4.569           | 14.87                | Qp  | 0          | .1                       | 9.3                               | 24.27                  | 56                          | -31.73         | -                            | -                     |
| 24                           | 4.56            | 1.92                 | Ca  | 0          | .1                       | 9.3                               | 11.32                  | -                           | -              | 46                           | -34.68                |

Qp - Quasi-Peak detector

Ca - CISPR average detection

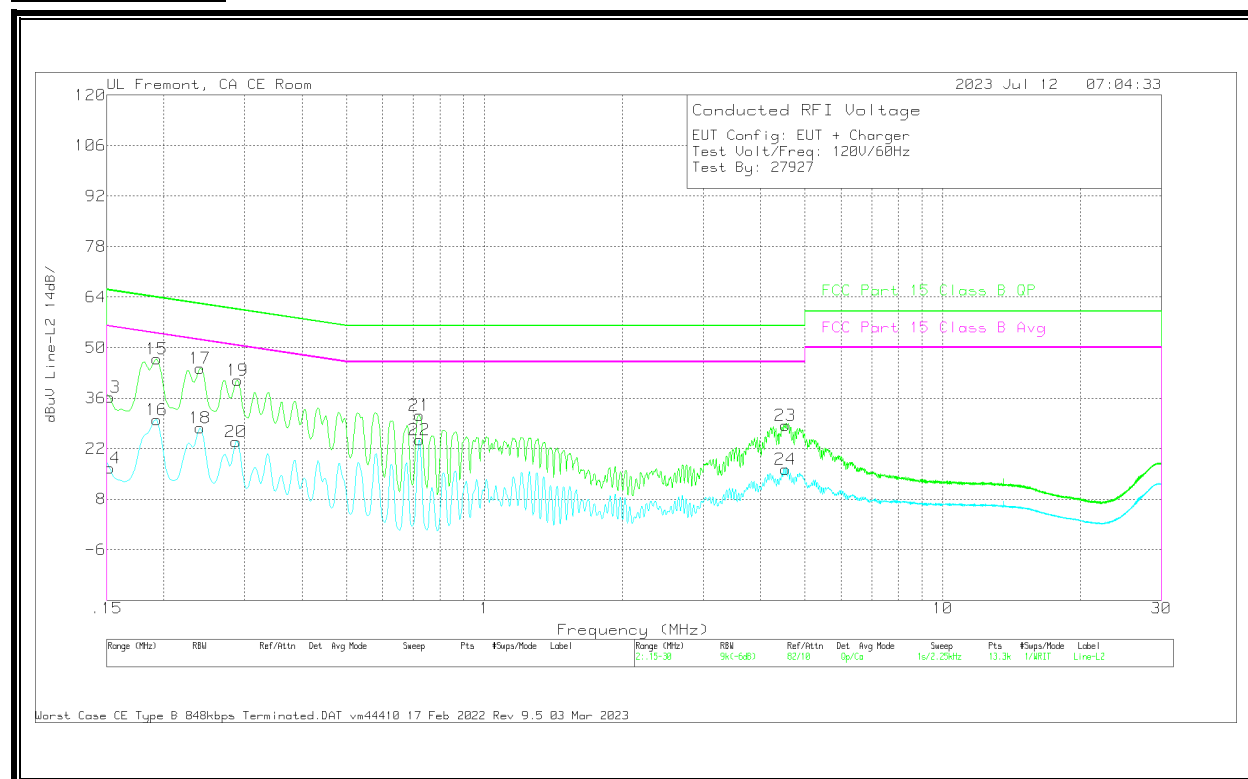
Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicates that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

**10.1.4. CE MODE ANTENNA PORT TERMINATED****LINE 1 RESULTS****Worst Emission**

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |                |                          |                                   |                        |                          |             |                           |                      |
|------------------------------|-----------------|----------------------|-----|----------------|--------------------------|-----------------------------------|------------------------|--------------------------|-------------|---------------------------|----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L1_LISN csv dB | C1&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | CISPR 32 Class B QP dBuV | Margin (dB) | CISPR 32 Class B Avg dBuV | Av(CISPR)Margin (dB) |
| 1                            | .1523           | 39.14                | Qp  | 0              | 0                        | 9.4                               | 48.54                  | 65.88                    | -17.34      | -                         | -                    |
| 2                            | .1523           | 19.63                | Ca  | 0              | 0                        | 9.4                               | 29.03                  | -                        | -           | 55.88                     | -26.85               |
| 3                            | .1905           | 37.71                | Qp  | 0              | 0                        | 9.4                               | 47.11                  | 64.01                    | -16.9       | -                         | -                    |
| 4                            | .1928           | 20.42                | Ca  | 0              | 0                        | 9.4                               | 29.82                  | -                        | -           | 53.92                     | -24.1                |
| 5                            | .24             | 35.01                | Qp  | 0              | 0                        | 9.3                               | 44.31                  | 62.1                     | -17.79      | -                         | -                    |
| 6                            | .24             | 18.19                | Ca  | 0              | 0                        | 9.3                               | 27.49                  | -                        | -           | 52.1                      | -24.61               |
| 7                            | .2558           | 33.4                 | Qp  | 0              | 0                        | 9.3                               | 42.7                   | 61.57                    | -18.87      | -                         | -                    |
| 8                            | .2558           | 13.81                | Ca  | 0              | 0                        | 9.3                               | 23.11                  | -                        | -           | 51.57                     | -28.46               |
| 9                            | .717            | 23.78                | Qp  | 0              | .1                       | 9.3                               | 33.18                  | 56                       | -22.82      | -                         | -                    |
| 10                           | .717            | 15.28                | Ca  | 0              | .1                       | 9.3                               | 24.68                  | -                        | -           | 46                        | -21.32               |
| 11                           | 4.542           | 20.95                | Qp  | 0              | .1                       | 9.3                               | 30.35                  | 56                       | -25.65      | -                         | -                    |
| 12                           | 4.542           | 8.46                 | Ca  | 0              | .1                       | 9.3                               | 17.86                  | -                        | -           | 46                        | -28.14               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

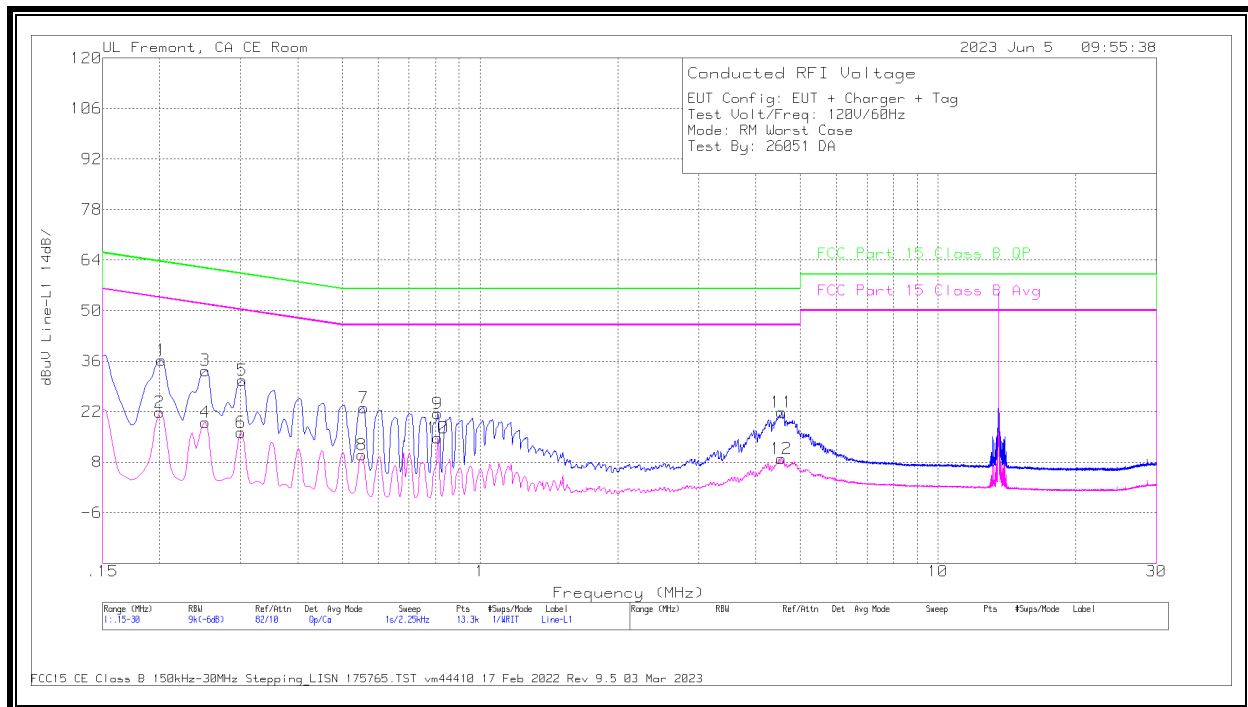
**LINE 2 RESULTS****Worst Emission**

| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |            |                          |                                   |                        |                             |                |                              |                       |
|------------------------------|-----------------|----------------------|-----|------------|--------------------------|-----------------------------------|------------------------|-----------------------------|----------------|------------------------------|-----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L2_LISN dB | C2&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | FCC Part 15 Class B QP dBuV | QP Margin (dB) | FCC Part 15 Class B Avg dBuV | Av(CISPR)M argin (dB) |
| 13                           | .1523           | 26.83                | Qp  | 0          | 0                        | 9.4                               | 36.23                  | 65.88                       | -29.65         | -                            | -                     |
| 14                           | .1523           | 7.27                 | Ca  | 0          | 0                        | 9.4                               | 16.67                  | -                           | -              | 55.88                        | -39.21                |
| 15                           | .1928           | 37.53                | Qp  | 0          | 0                        | 9.4                               | 46.93                  | 63.92                       | -16.99         | -                            | -                     |
| 16                           | .1928           | 20.54                | Ca  | 0          | 0                        | 9.4                               | 29.94                  | -                           | -              | 53.92                        | -23.98                |
| 17                           | .24             | 35                   | Qp  | 0          | 0                        | 9.3                               | 44.3                   | 62.1                        | -17.8          | -                            | -                     |
| 18                           | .24             | 18.47                | Ca  | 0          | 0                        | 9.3                               | 27.77                  | -                           | -              | 52.1                         | -24.33                |
| 19                           | .2895           | 31.67                | Qp  | 0          | 0                        | 9.3                               | 40.97                  | 60.54                       | -19.57         | -                            | -                     |
| 20                           | .2873           | 14.63                | Ca  | 0          | 0                        | 9.3                               | 23.93                  | -                           | -              | 50.6                         | -26.67                |
| 21                           | .7215           | 21.81                | Qp  | 0          | .1                       | 9.3                               | 31.21                  | 56                          | -24.79         | -                            | -                     |
| 22                           | .7215           | 14.97                | Ca  | 0          | .1                       | 9.3                               | 24.37                  | -                           | -              | 46                           | -21.63                |
| 23                           | 4.542           | 19.01                | Qp  | 0          | .1                       | 9.3                               | 28.41                  | 56                          | -27.59         | -                            | -                     |
| 24                           | 4.542           | 6.82                 | Ca  | 0          | .1                       | 9.3                               | 16.22                  | -                           | -              | 46                           | -29.78                |

Qp - Quasi-Peak detector

Ca - CISPR average detection



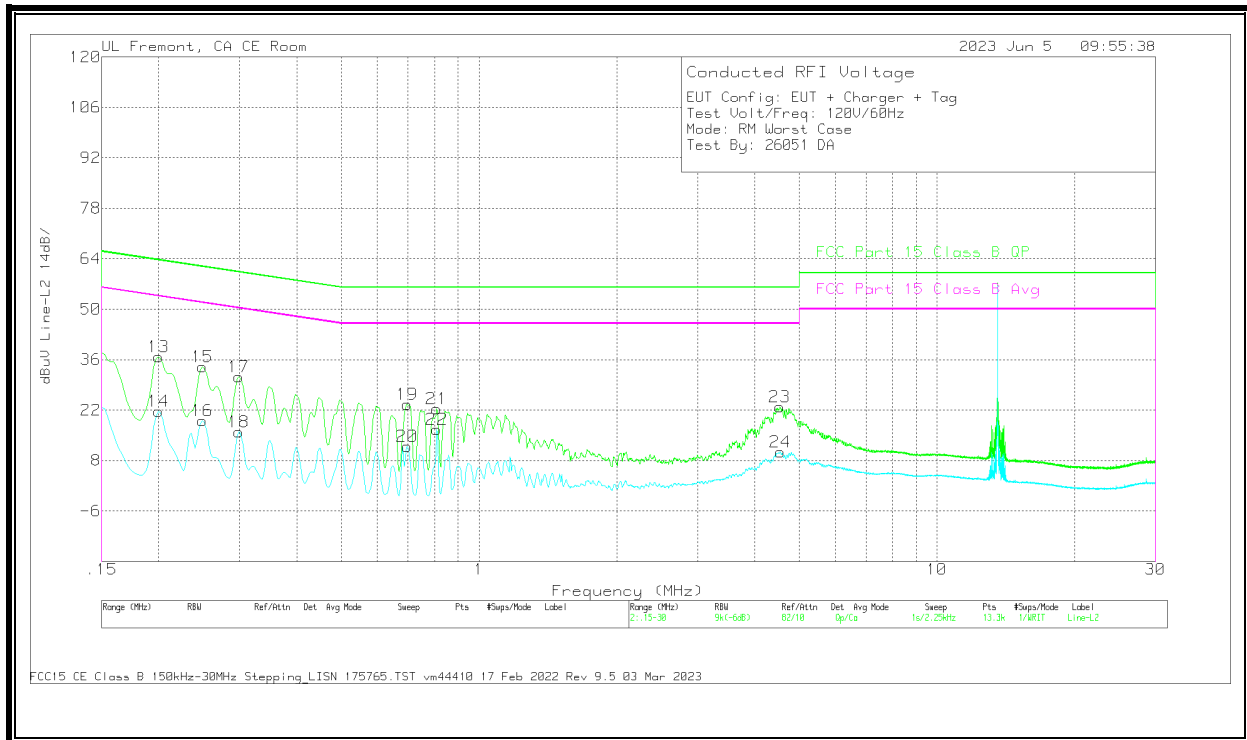
**10.1.5. TAG MODE WITH ANTENNA****LINE 1 RESULTS****Worst Emission**

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |                |                          |                                   |                        |                          |             |                           |                      |
|------------------------------|-----------------|----------------------|-----|----------------|--------------------------|-----------------------------------|------------------------|--------------------------|-------------|---------------------------|----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L1_L1SN.csv dB | C1&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | CISPR 32 Class B QP dBuV | Margin (dB) | CISPR 32 Class B Avg dBuV | Av(CISPR)Margin (dB) |
| 1                            | .2018           | 26.88                | Qp  | 0              | 0                        | 9.4                               | 36.28                  | 63.54                    | -27.26      | -                         | -                    |
| 2                            | .1995           | 12.37                | Ca  | 0              | 0                        | 9.4                               | 21.77                  | -                        | -           | 53.63                     | -31.86               |
| 3                            | .2513           | 24.1                 | Qp  | 0              | 0                        | 9.3                               | 33.4                   | 61.72                    | -28.32      | -                         | -                    |
| 4                            | .2513           | 9.7                  | Ca  | 0              | 0                        | 9.3                               | 19                     | -                        | -           | 51.72                     | -32.72               |
| 5                            | .303            | 21.45                | Qp  | 0              | 0                        | 9.3                               | 30.75                  | 60.16                    | -29.41      | -                         | -                    |
| 6                            | .3008           | 7.02                 | Ca  | 0              | 0                        | 9.3                               | 16.32                  | -                        | -           | 50.22                     | -33.9                |
| 7                            | .5573           | 13.69                | Qp  | 0              | .1                       | 9.3                               | 23.09                  | 56                       | -32.91      | -                         | -                    |
| 8                            | .5528           | .63                  | Ca  | 0              | .1                       | 9.3                               | 10.03                  | -                        | -           | 46                        | -35.97               |
| 9                            | .8093           | 12.16                | Qp  | 0              | .1                       | 9.3                               | 21.56                  | 56                       | -34.44      | -                         | -                    |
| 10                           | .8093           | 5.31                 | Ca  | 0              | .1                       | 9.3                               | 14.71                  | -                        | -           | 46                        | -31.29               |
| 11                           | 4.5578          | 12.47                | Qp  | 0              | .1                       | 9.3                               | 21.87                  | 56                       | -34.13      | -                         | -                    |
| 12                           | 4.5555          | -.37                 | Ca  | 0              | .1                       | 9.3                               | 9.03                   | -                        | -           | 46                        | -36.97               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

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

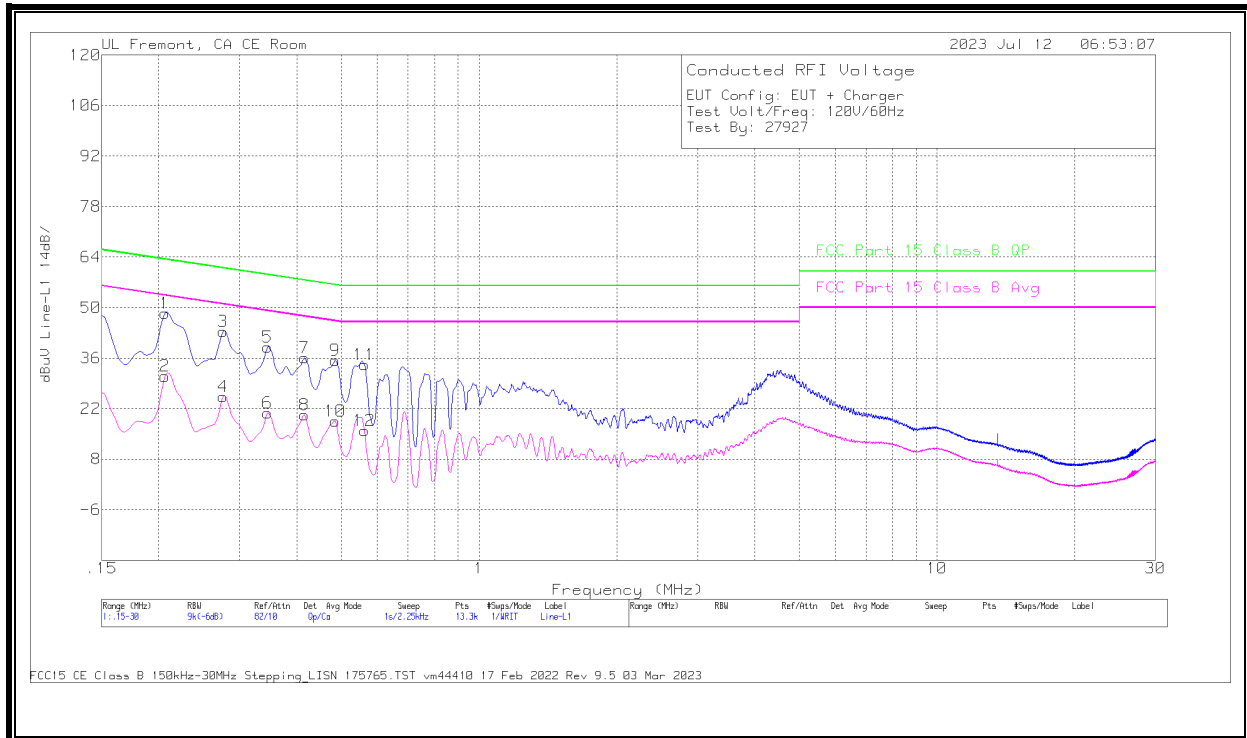
**LINE 2 RESULTS****Worst Emission**

| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |            |                          |                                   |                        |                             |                |                              |                       |
|------------------------------|-----------------|----------------------|-----|------------|--------------------------|-----------------------------------|------------------------|-----------------------------|----------------|------------------------------|-----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L2_LISN dB | C2&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | FCC Part 15 Class B QP dBuV | QP Margin (dB) | FCC Part 15 Class B Avg dBuV | Av(CISPR)M argin (dB) |
| 13                           | .1995           | 27.38                | Qp  | 0          | 0                        | 9.4                               | 36.78                  | 63.63                       | -26.85         | -                            | -                     |
| 14                           | .1995           | 12.26                | Ca  | 0          | 0                        | 9.4                               | 21.66                  | -                           | -              | 53.63                        | -31.97                |
| 15                           | .249            | 24.67                | Qp  | 0          | 0                        | 9.3                               | 33.97                  | 61.79                       | -27.82         | -                            | -                     |
| 16                           | .249            | 9.73                 | Ca  | 0          | 0                        | 9.3                               | 19.03                  | -                           | -              | 51.79                        | -32.76                |
| 17                           | .2985           | 21.91                | Qp  | 0          | 0                        | 9.3                               | 31.21                  | 60.28                       | -29.07         | -                            | -                     |
| 18                           | .2985           | 6.63                 | Ca  | 0          | 0                        | 9.3                               | 15.93                  | -                           | -              | 50.28                        | -34.35                |
| 19                           | .6968           | 14.12                | Qp  | 0          | .1                       | 9.3                               | 23.52                  | 56                          | -32.48         | -                            | -                     |
| 20                           | .6968           | 2.55                 | Ca  | 0          | .1                       | 9.3                               | 11.95                  | -                           | -              | 46                           | -34.05                |
| 21                           | .8093           | 12.94                | Qp  | 0          | .1                       | 9.3                               | 22.34                  | 56                          | -33.66         | -                            | -                     |
| 22                           | .8093           | 7.23                 | Ca  | 0          | .1                       | 9.3                               | 16.63                  | -                           | -              | 46                           | -29.37                |
| 23                           | 4.5409          | 13.41                | Qp  | 0          | .1                       | 9.3                               | 22.81                  | 56                          | -33.19         | -                            | -                     |
| 24                           | 4.5488          | 1.02                 | Ca  | 0          | .1                       | 9.3                               | 10.42                  | -                           | -              | 46                           | -35.58                |

Qp - Quasi-Peak detector

Ca - CISPR average detection

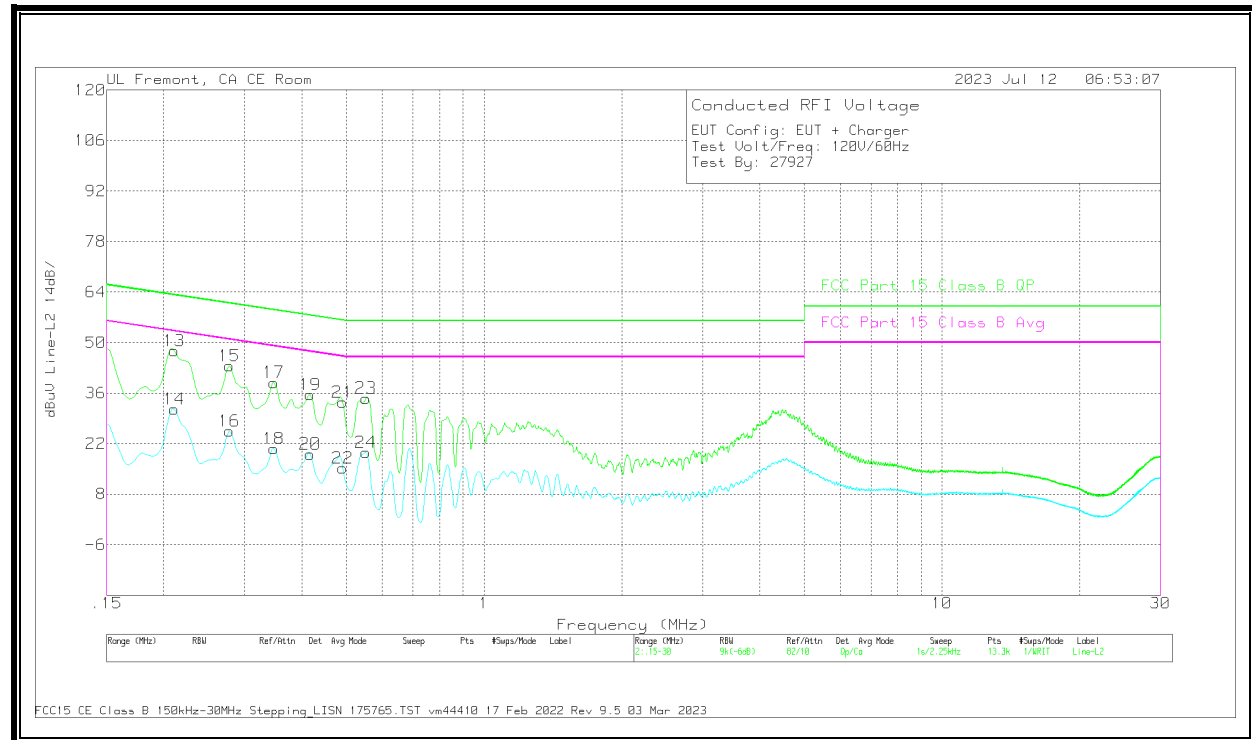
Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicates that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

**10.1.6. TAG MODE ANTENNA PORT TERMINATED****LINE 1 RESULTS****Worst Emission**

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |                |                          |                                   |                        |                          |             |                           |                      |
|------------------------------|-----------------|----------------------|-----|----------------|--------------------------|-----------------------------------|------------------------|--------------------------|-------------|---------------------------|----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L1_LISN.csv dB | C1&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | CISPR 32 Class B QP dBuV | Margin (dB) | CISPR 32 Class B Avg dBuV | Av(CISPR)Margin (dB) |
| 1                            | .2063           | 38.98                | Qp  | 0              | 0                        | 9.4                               | 48.38                  | 63.35                    | -14.97      | -                         | -                    |
| 2                            | .2063           | 21.57                | Ca  | 0              | 0                        | 9.4                               | 30.97                  | -                        | -           | 53.35                     | -22.38               |
| 3                            | .276            | 34.12                | Qp  | 0              | 0                        | 9.3                               | 43.42                  | 60.94                    | -17.52      | -                         | -                    |
| 4                            | .276            | 16                   | Ca  | 0              | 0                        | 9.3                               | 25.3                   | -                        | -           | 50.94                     | -25.64               |
| 5                            | .3458           | 29.69                | Qp  | 0              | .1                       | 9.3                               | 39.09                  | 59.06                    | -19.97      | -                         | -                    |
| 6                            | .3458           | 11.41                | Ca  | 0              | .1                       | 9.3                               | 20.81                  | -                        | -           | 49.06                     | -28.25               |
| 7                            | .4155           | 26.65                | Qp  | 0              | .1                       | 9.3                               | 36.05                  | 57.54                    | -21.49      | -                         | -                    |
| 8                            | .4155           | 10.94                | Ca  | 0              | .1                       | 9.3                               | 20.34                  | -                        | -           | 47.54                     | -27.2                |
| 9                            | .4853           | 26.02                | Qp  | 0              | .1                       | 9.3                               | 35.42                  | 56.25                    | -20.83      | -                         | -                    |
| 10                           | .4853           | 9.08                 | Ca  | 0              | .1                       | 9.3                               | 18.48                  | -                        | -           | 46.25                     | -27.77               |
| 11                           | .5618           | 24.76                | Qp  | 0              | .1                       | 9.3                               | 34.16                  | 56                       | -21.84      | -                         | -                    |
| 12                           | .5618           | 6.45                 | Ca  | 0              | .1                       | 9.3                               | 15.85                  | -                        | -           | 46                        | -30.15               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

**LINE 2 RESULTS****Worst Emission**

Range 2: Line-L2 .15 - 30MHz

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | L2_LISN dB | C2&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | FCC Part 15 Class B QP dBuV | QP Margin (dB) | FCC Part 15 Class B Avg dBuV | Av(CISPR)M argin (dB) |
|--------|-----------------|----------------------|-----|------------|--------------------------|-----------------------------------|------------------------|-----------------------------|----------------|------------------------------|-----------------------|
| 13     | .2108           | 38.34                | Qp  | 0          | 0                        | 9.4                               | 47.74                  | 63.18                       | -15.44         | -                            | -                     |
| 14     | .2108           | 22.21                | Ca  | 0          | 0                        | 9.4                               | 31.61                  | -                           | -              | 53.18                        | -21.57                |
| 15     | .2783           | 34.23                | Qp  | 0          | 0                        | 9.3                               | 43.53                  | 60.87                       | -17.34         | -                            | -                     |
| 16     | .2783           | 16.2                 | Ca  | 0          | 0                        | 9.3                               | 25.5                   | -                           | -              | 50.87                        | -25.37                |
| 17     | .348            | 29.66                | Qp  | 0          | 0                        | 9.3                               | 38.96                  | 59.01                       | -20.05         | -                            | -                     |
| 18     | .348            | 11.32                | Ca  | 0          | 0                        | 9.3                               | 20.62                  | -                           | -              | 49.01                        | -28.39                |
| 19     | .4178           | 26.12                | Qp  | 0          | .1                       | 9.3                               | 35.52                  | 57.49                       | -21.97         | -                            | -                     |
| 20     | .4178           | 9.74                 | Ca  | 0          | .1                       | 9.3                               | 19.14                  | -                           | -              | 47.49                        | -28.35                |
| 21     | .492            | 24.04                | Qp  | 0          | .1                       | 9.3                               | 33.44                  | 56.13                       | -22.69         | -                            | -                     |
| 22     | .492            | 5.8                  | Ca  | 0          | .1                       | 9.3                               | 15.2                   | -                           | -              | 46.13                        | -30.93                |
| 23     | .5528           | 25.21                | Qp  | 0          | .1                       | 9.3                               | 34.61                  | 56                          | -21.39         | -                            | -                     |
| 24     | .5528           | 10.2                 | Ca  | 0          | .1                       | 9.3                               | 19.6                   | -                           | -              | 46                           | -26.4                 |

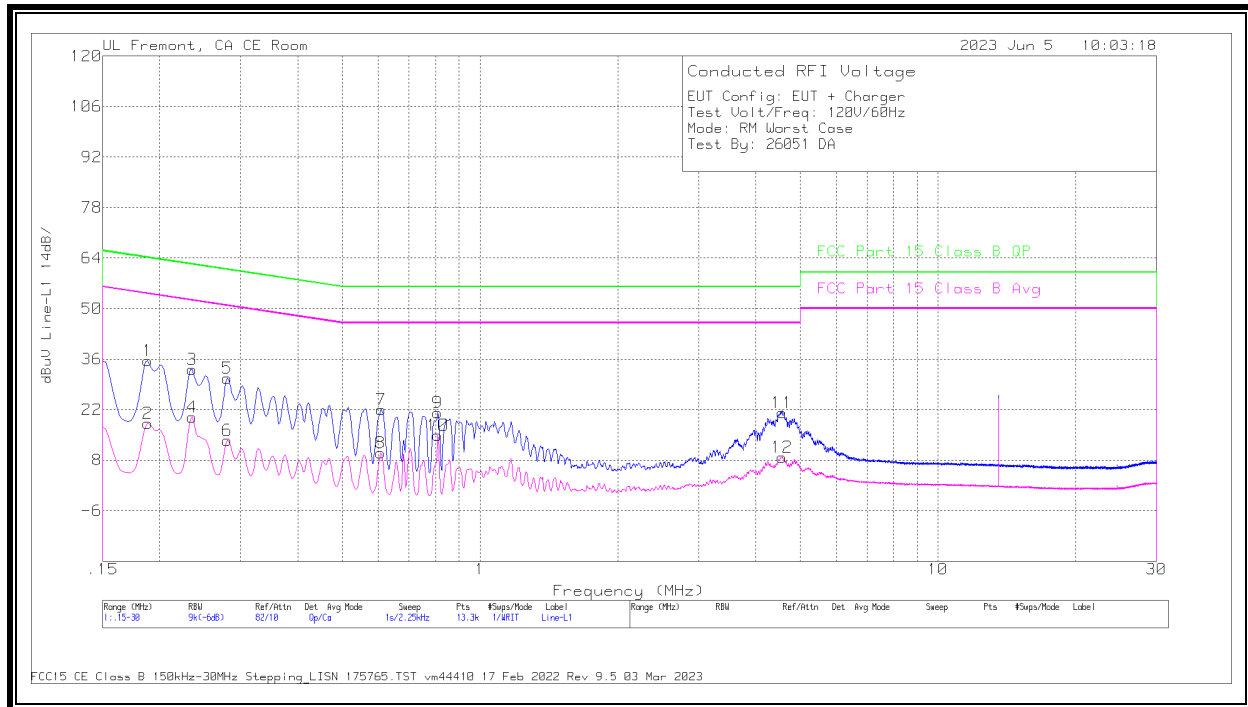
Qp - Quasi-Peak detector

Ca - CISPR average detection

## 10.2. SECONDARY ANTENNA

### 10.2.1. READER MODE WITH ANTENNA

#### LINE 1 RESULTS



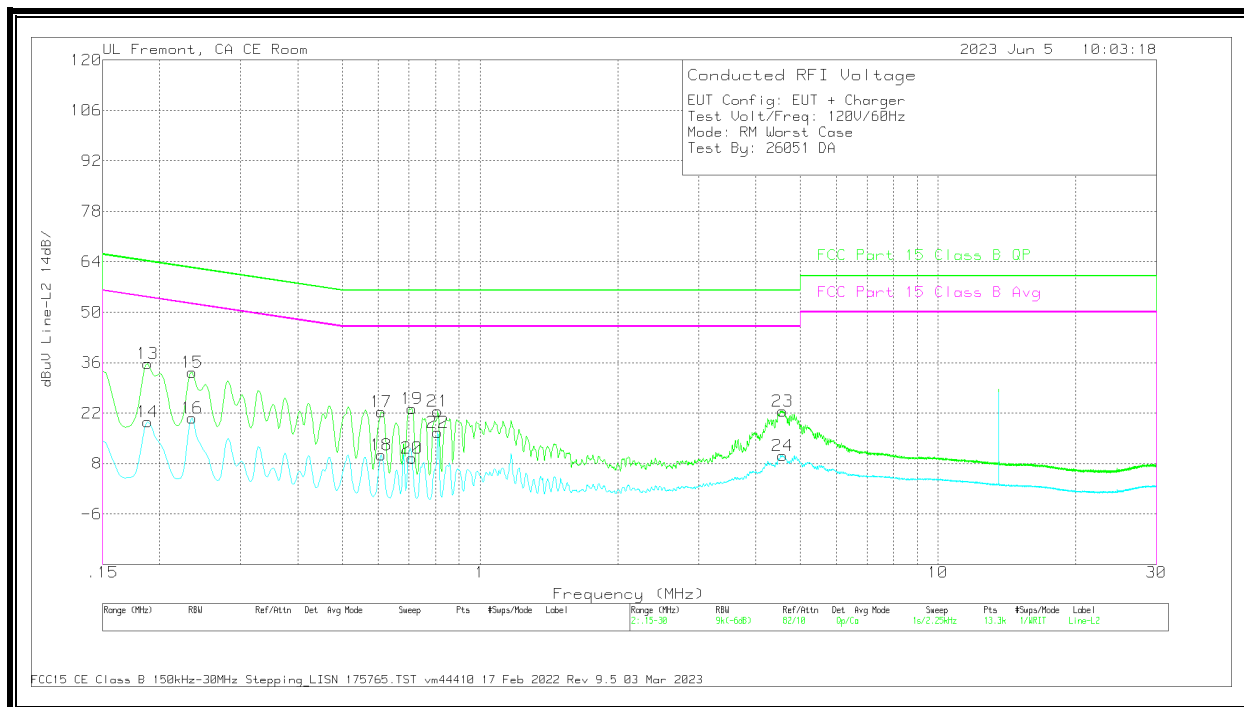
#### Worst Emission

| Range 1: Line-L1 15 - 30MHz |                 |                      |     |                |                          |                                   |                        |                          |             |                           |                      |
|-----------------------------|-----------------|----------------------|-----|----------------|--------------------------|-----------------------------------|------------------------|--------------------------|-------------|---------------------------|----------------------|
| Marker                      | Frequency (MHz) | Meter Reading (dBuV) | Det | L1_LISN.csv dB | C1&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | CISPR 32 Class B QP dBuV | Margin (dB) | CISPR 32 Class B Avg dBuV | Av(CISPR)Margin (dB) |
| 1                           | .1883           | 26.15                | Qp  | 0              | 0                        | 9.4                               | 35.55                  | 64.11                    | -28.56      | -                         | -                    |
| 2                           | .1883           | 8.82                 | Ca  | 0              | 0                        | 9.4                               | 18.22                  | -                        | -           | 54.11                     | -35.89               |
| 3                           | .2355           | 23.85                | Qp  | 0              | 0                        | 9.3                               | 33.15                  | 62.25                    | -29.1       | -                         | -                    |
| 4                           | .2355           | 10.57                | Ca  | 0              | 0                        | 9.3                               | 19.87                  | -                        | -           | 52.25                     | -32.38               |
| 5                           | .2805           | 21.46                | Qp  | 0              | 0                        | 9.3                               | 30.76                  | 60.8                     | -30.04      | -                         | -                    |
| 6                           | .2805           | 4.12                 | Ca  | 0              | 0                        | 9.3                               | 13.42                  | -                        | -           | 50.8                      | -37.38               |
| 7                           | .609            | 12.65                | Qp  | 0              | .1                       | 9.3                               | 22.05                  | 56                       | -33.95      | -                         | -                    |
| 8                           | .6068           | .59                  | Ca  | 0              | .1                       | 9.3                               | 9.99                   | -                        | -           | 46                        | -36.01               |
| 9                           | .8093           | 11.73                | Qp  | 0              | .1                       | 9.3                               | 21.13                  | 56                       | -34.87      | -                         | -                    |
| 10                          | .8093           | 5.47                 | Ca  | 0              | .1                       | 9.3                               | 14.87                  | -                        | -           | 46                        | -31.13               |
| 11                          | 4.5713          | 11.81                | Qp  | 0              | .1                       | 9.3                               | 21.21                  | 56                       | -34.79      | -                         | -                    |
| 12                          | 4.5701          | -.61                 | Ca  | 0              | .1                       | 9.3                               | 8.79                   | -                        | -           | 46                        | -37.21               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

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

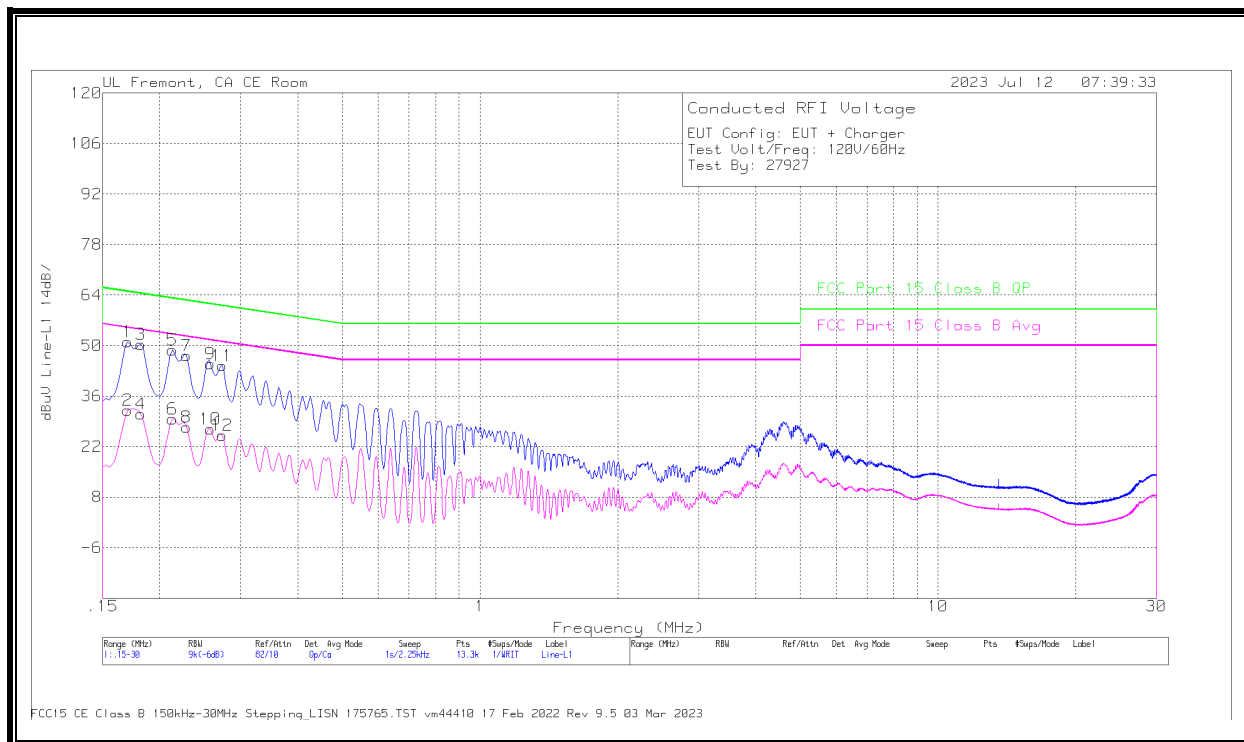
**LINE 2 RESULTS****Worst Emission**

| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |            |                          |                                   |                        |                             |                |                              |                       |
|------------------------------|-----------------|----------------------|-----|------------|--------------------------|-----------------------------------|------------------------|-----------------------------|----------------|------------------------------|-----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L2_LISN dB | C2&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | FCC Part 15 Class B QP dBuV | QP Margin (dB) | FCC Part 15 Class B Avg dBuV | Av(CISPR)M argin (dB) |
| 13                           | .1883           | 26.28                | Qp  | 0          | 0                        | 9.4                               | 35.68                  | 64.11                       | -28.43         | -                            | -                     |
| 14                           | .1883           | 10.2                 | Ca  | 0          | 0                        | 9.4                               | 19.6                   | -                           | -              | 54.11                        | -34.51                |
| 15                           | .2355           | 24.04                | Qp  | 0          | 0                        | 9.3                               | 33.34                  | 62.25                       | -28.91         | -                            | -                     |
| 16                           | .2355           | 11.38                | Ca  | 0          | 0                        | 9.3                               | 20.68                  | -                           | -              | 52.25                        | -31.57                |
| 17                           | .609            | 13.03                | Qp  | 0          | .1                       | 9.3                               | 22.43                  | 56                          | -33.57         | -                            | -                     |
| 18                           | .609            | .96                  | Ca  | 0          | .1                       | 9.3                               | 10.36                  | -                           | -              | 46                           | -35.64                |
| 19                           | .7103           | 13.78                | Qp  | 0          | .1                       | 9.3                               | 23.18                  | 56                          | -32.82         | -                            | -                     |
| 20                           | .7103           | .14                  | Ca  | 0          | .1                       | 9.3                               | 9.54                   | -                           | -              | 46                           | -36.46                |
| 21                           | .8093           | 13.14                | Qp  | 0          | .1                       | 9.3                               | 22.54                  | 56                          | -33.46         | -                            | -                     |
| 22                           | .8093           | 7.2                  | Ca  | 0          | .1                       | 9.3                               | 16.6                   | -                           | -              | 46                           | -29.4                 |
| 23                           | 4.5758          | 13.07                | Qp  | 0          | .1                       | 9.3                               | 22.47                  | 56                          | -33.53         | -                            | -                     |
| 24                           | 4.5758          | .87                  | Ca  | 0          | .1                       | 9.3                               | 10.27                  | -                           | -              | 46                           | -35.73                |

Qp - Quasi-Peak detector

Ca - CISPR average detection

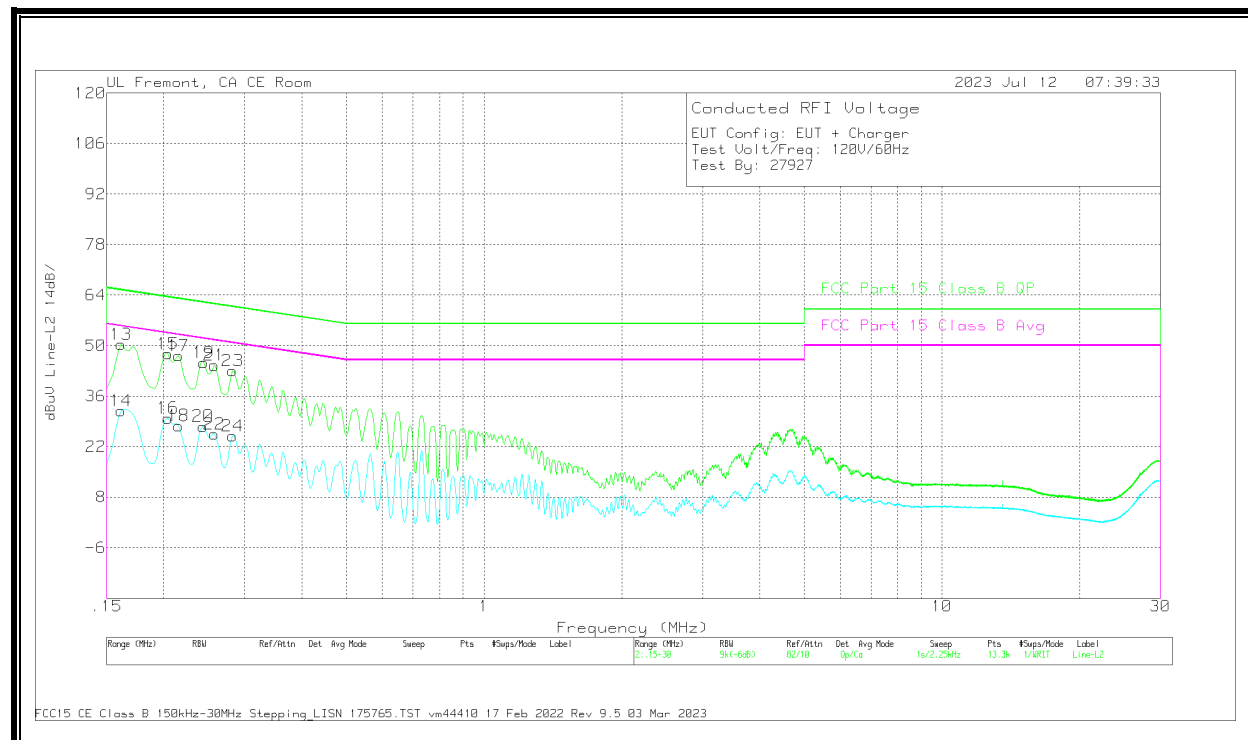
Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicates that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

**10.2.2. READER MODE ANTENNA PORT TERMINATED****LINE 1 RESULTS****Worst Emission**

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |                |                          |                                   |                        |                          |             |                           |                      |
|------------------------------|-----------------|----------------------|-----|----------------|--------------------------|-----------------------------------|------------------------|--------------------------|-------------|---------------------------|----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L1_L1SN.csv dB | C1&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | CISPR 32 Class B QP dBuV | Margin (dB) | CISPR 32 Class B Avg dBuV | Av(CISPR)Margin (dB) |
| 1                            | .1703           | 41.71                | Qp  | 0              | 0                        | 9.4                               | 51.11                  | 64.95                    | -13.84      | -                         | -                    |
| 2                            | .1703           | 22.67                | Ca  | 0              | 0                        | 9.4                               | 32.07                  | -                        | -           | 54.95                     | -22.88               |
| 3                            | .1815           | 40.94                | Qp  | 0              | 0                        | 9.4                               | 50.34                  | 64.42                    | -14.08      | -                         | -                    |
| 4                            | .1815           | 21.66                | Ca  | 0              | 0                        | 9.4                               | 31.06                  | -                        | -           | 54.42                     | -23.36               |
| 5                            | .213            | 39.32                | Qp  | 0              | 0                        | 9.4                               | 48.72                  | 63.09                    | -14.37      | -                         | -                    |
| 6                            | .213            | 20.28                | Ca  | 0              | 0                        | 9.4                               | 29.68                  | -                        | -           | 53.09                     | -23.41               |
| 7                            | .2288           | 37.85                | Qp  | 0              | 0                        | 9.3                               | 47.15                  | 62.49                    | -15.34      | -                         | -                    |
| 8                            | .2288           | 18.18                | Ca  | 0              | 0                        | 9.3                               | 27.48                  | -                        | -           | 52.49                     | -25.01               |
| 9                            | .258            | 35.68                | Qp  | 0              | 0                        | 9.3                               | 44.98                  | 61.5                     | -16.52      | -                         | -                    |
| 10                           | .258            | 17.57                | Ca  | 0              | 0                        | 9.3                               | 26.87                  | -                        | -           | 51.5                      | -24.63               |
| 11                           | .2738           | 35.15                | Qp  | 0              | 0                        | 9.3                               | 44.45                  | 61                       | -16.55      | -                         | -                    |
| 12                           | .2738           | 15.83                | Ca  | 0              | 0                        | 9.3                               | 25.13                  | -                        | -           | 51                        | -25.87               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

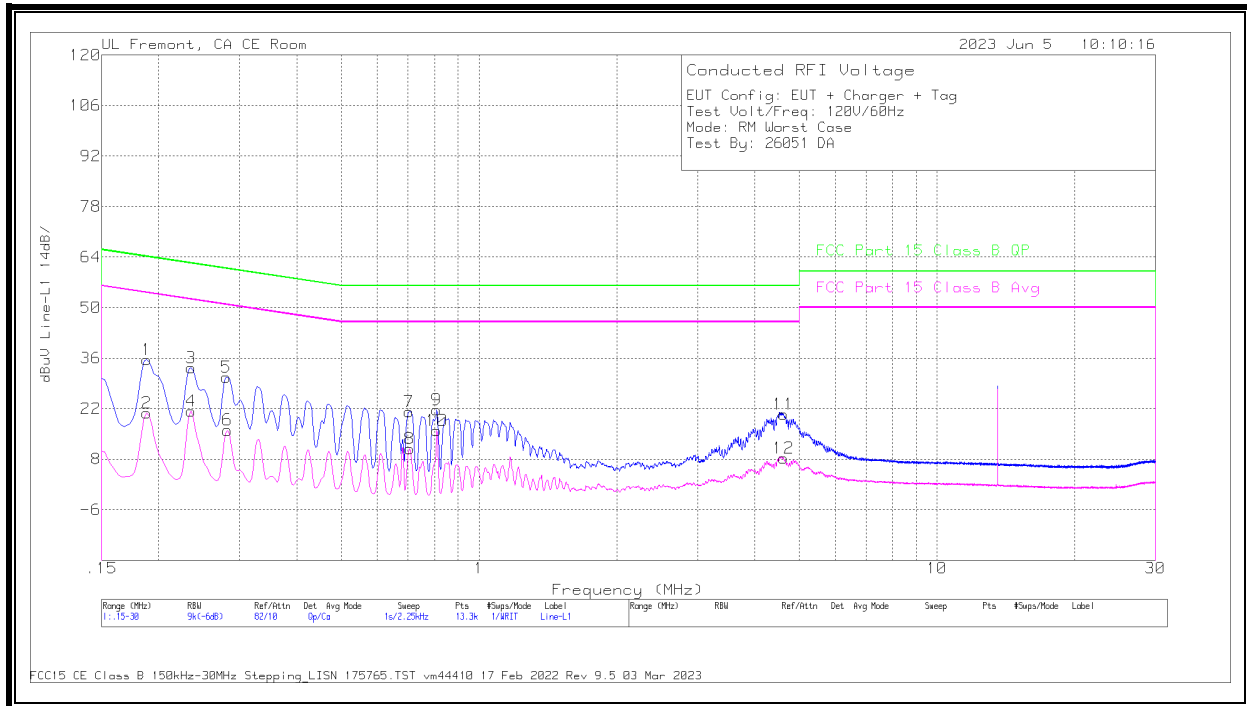
**LINE 2 RESULTS****Worst Emission**

| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |            |                          |                                   |                        |                             |                |                              |                       |
|------------------------------|-----------------|----------------------|-----|------------|--------------------------|-----------------------------------|------------------------|-----------------------------|----------------|------------------------------|-----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L2_LISN dB | C2&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | FCC Part 15 Class B QP dBuV | QP Margin (dB) | FCC Part 15 Class B Avg dBuV | Av(CISPR)M argin (dB) |
| 13                           | .1613           | 40.87                | Qp  | 0          | 0                        | 9.4                               | 50.27                  | 65.4                        | -15.13         | -                            | -                     |
| 14                           | .1613           | 22.51                | Ca  | 0          | 0                        | 9.4                               | 31.91                  | -                           | -              | 55.4                         | -23.49                |
| 15                           | .204            | 38.32                | Qp  | 0          | 0                        | 9.4                               | 47.72                  | 63.45                       | -15.73         | -                            | -                     |
| 16                           | .204            | 20.52                | Ca  | 0          | 0                        | 9.4                               | 29.92                  | -                           | -              | 53.45                        | -23.53                |
| 17                           | .2153           | 37.88                | Qp  | 0          | 0                        | 9.3                               | 47.18                  | 63                          | -15.82         | -                            | -                     |
| 18                           | .2153           | 18.53                | Ca  | 0          | 0                        | 9.3                               | 27.83                  | -                           | -              | 53                           | -25.17                |
| 19                           | .2445           | 36.04                | Qp  | 0          | 0                        | 9.3                               | 45.34                  | 61.94                       | -16.6          | -                            | -                     |
| 20                           | .2434           | 18.36                | Ca  | 0          | 0                        | 9.3                               | 27.66                  | -                           | -              | 51.98                        | -24.32                |
| 21                           | .258            | 35.23                | Qp  | 0          | 0                        | 9.3                               | 44.53                  | 61.5                        | -16.97         | -                            | -                     |
| 22                           | .258            | 16.23                | Ca  | 0          | 0                        | 9.3                               | 25.53                  | -                           | -              | 51.5                         | -25.97                |
| 23                           | .2828           | 33.78                | Qp  | 0          | 0                        | 9.3                               | 43.08                  | 60.73                       | -17.65         | -                            | -                     |
| 24                           | .2828           | 15.73                | Ca  | 0          | 0                        | 9.3                               | 25.03                  | -                           | -              | 50.73                        | -25.7                 |

Qp - Quasi-Peak detector

Ca - CISPR average detection



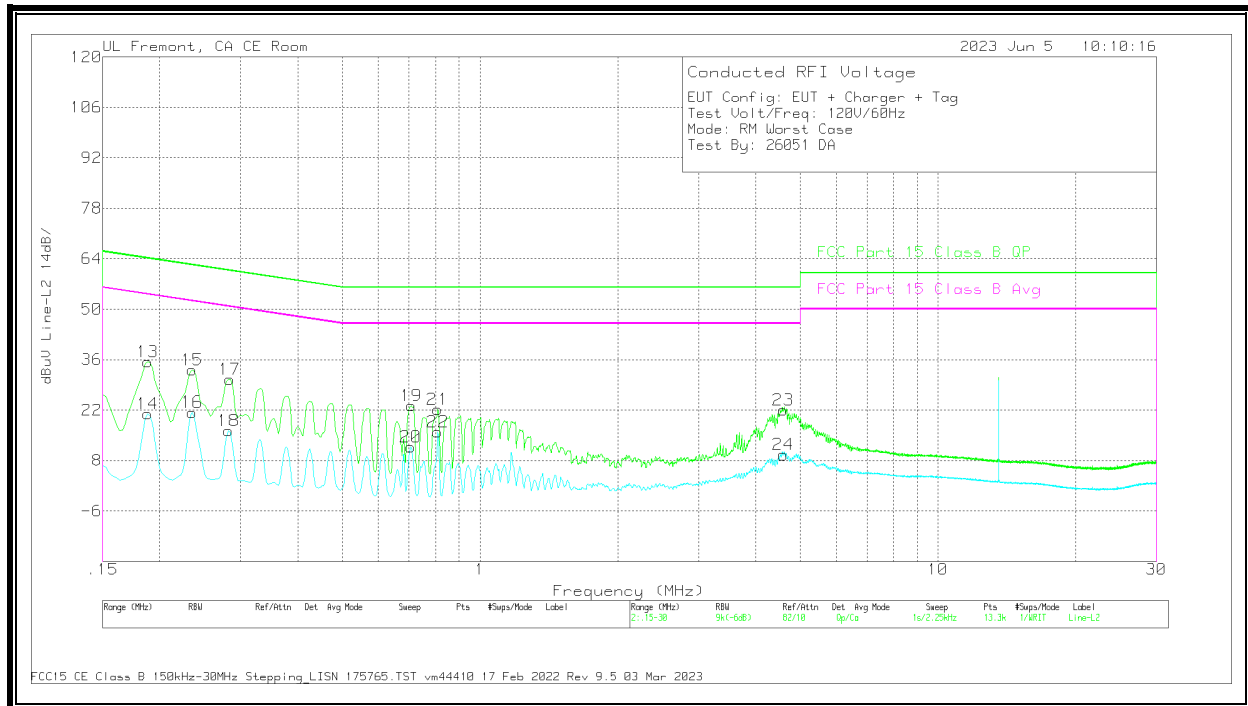
**10.2.3. TAG MODE WITH ANTENNA****LINE 1 RESULTS****Worst Emission**

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |                |                          |                                   |                        |                          |             |                           |                      |
|------------------------------|-----------------|----------------------|-----|----------------|--------------------------|-----------------------------------|------------------------|--------------------------|-------------|---------------------------|----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L1_LISN.csv dB | C1&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | CISPR 32 Class B QP dBuV | Margin (dB) | CISPR 32 Class B Avg dBuV | Av(CISPR)Margin (dB) |
| 1                            | .1883           | 26.24                | Qp  | 0              | 0                        | 9.4                               | 35.64                  | 64.11                    | -28.47      | -                         | -                    |
| 2                            | .1883           | 11.38                | Ca  | 0              | 0                        | 9.4                               | 20.78                  | -                        | -           | 54.11                     | -33.33               |
| 3                            | .2355           | 24.04                | Qp  | 0              | 0                        | 9.3                               | 33.34                  | 62.25                    | -28.91      | -                         | -                    |
| 4                            | .2355           | 12.01                | Ca  | 0              | 0                        | 9.3                               | 21.31                  | -                        | -           | 52.25                     | -30.94               |
| 5                            | .2805           | 21.44                | Qp  | 0              | 0                        | 9.3                               | 30.74                  | 60.8                     | -30.06      | -                         | -                    |
| 6                            | .2828           | 6.72                 | Ca  | 0              | 0                        | 9.3                               | 16.02                  | -                        | -           | 50.73                     | -34.71               |
| 7                            | .7035           | 11.75                | Qp  | 0              | .1                       | 9.3                               | 21.15                  | 56                       | -34.85      | -                         | -                    |
| 8                            | .7058           | 1.48                 | Ca  | 0              | .1                       | 9.3                               | 10.88                  | -                        | -           | 46                        | -35.12               |
| 9                            | .8093           | 12.23                | Qp  | 0              | .1                       | 9.3                               | 21.63                  | 56                       | -34.37      | -                         | -                    |
| 10                           | .8093           | 6.59                 | Ca  | 0              | .1                       | 9.3                               | 15.99                  | -                        | -           | 46                        | -30.01               |
| 11                           | 4.6253          | 10.99                | Qp  | 0              | .1                       | 9.3                               | 20.39                  | 56                       | -35.61      | -                         | -                    |
| 12                           | 4.6185          | -1.13                | Ca  | 0              | .1                       | 9.3                               | 8.27                   | -                        | -           | 46                        | -37.73               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

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

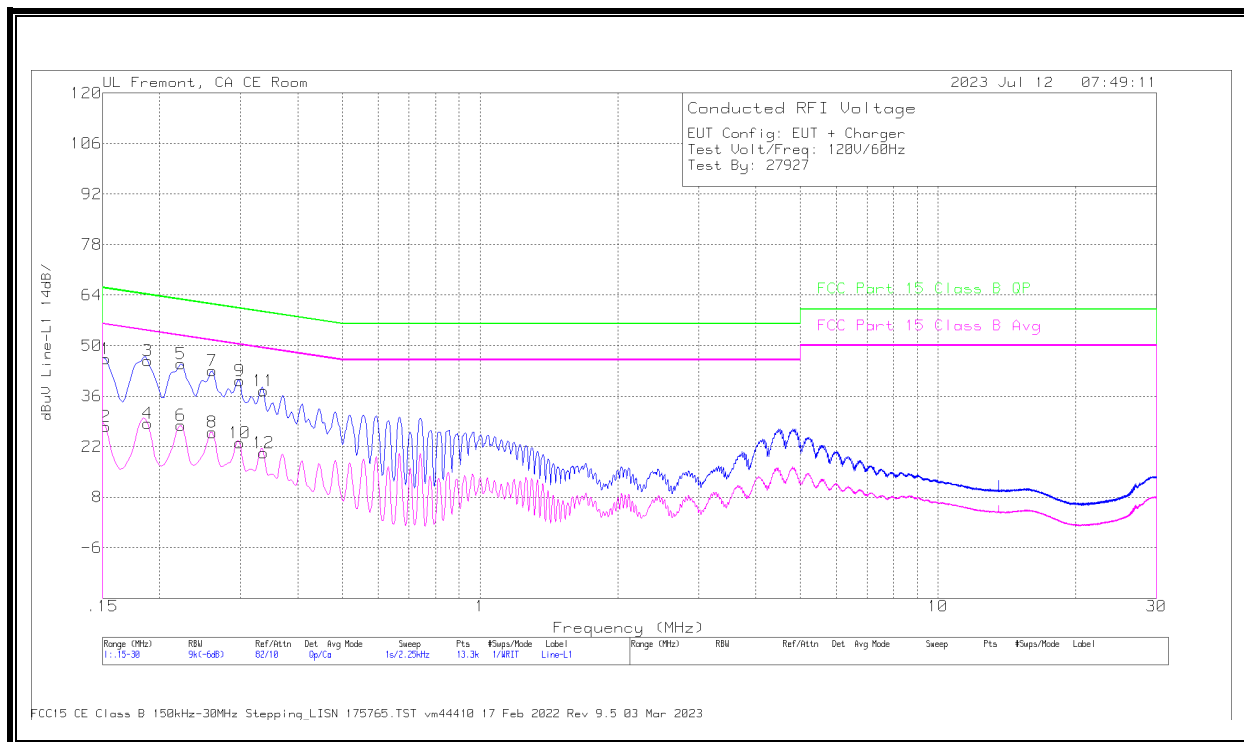
**LINE 2 RESULTS****Worst Emission**

| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |            |                          |                                   |                        |                             |                |                              |                       |
|------------------------------|-----------------|----------------------|-----|------------|--------------------------|-----------------------------------|------------------------|-----------------------------|----------------|------------------------------|-----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L2_LISN dB | C2&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | FCC Part 15 Class B QP dBuV | QP Margin (dB) | FCC Part 15 Class B Avg dBuV | Av(CISPR)M argin (dB) |
| 13                           | .1883           | 25.95                | Qp  | 0          | 0                        | 9.4                               | 35.35                  | 64.11                       | -28.76         | -                            | -                     |
| 14                           | .1883           | 11.58                | Ca  | 0          | 0                        | 9.4                               | 20.98                  | -                           | -              | 54.11                        | -33.13                |
| 15                           | .2355           | 23.79                | Qp  | 0          | 0                        | 9.3                               | 33.09                  | 62.25                       | -29.16         | -                            | -                     |
| 16                           | .2355           | 12.1                 | Ca  | 0          | 0                        | 9.3                               | 21.4                   | -                           | -              | 52.25                        | -30.85                |
| 17                           | .2839           | 21.3                 | Qp  | 0          | 0                        | 9.3                               | 30.6                   | 60.7                        | -30.1          | -                            | -                     |
| 18                           | .2828           | 7                    | Ca  | 0          | 0                        | 9.3                               | 16.3                   | -                           | -              | 50.73                        | -34.43                |
| 19                           | .708            | 13.78                | Qp  | 0          | .1                       | 9.3                               | 23.18                  | 56                          | -32.82         | -                            | -                     |
| 20                           | .7058           | 2.36                 | Ca  | 0          | .1                       | 9.3                               | 11.76                  | -                           | -              | 46                           | -34.24                |
| 21                           | .8093           | 12.84                | Qp  | 0          | .1                       | 9.3                               | 22.24                  | 56                          | -33.76         | -                            | -                     |
| 22                           | .8093           | 6.54                 | Ca  | 0          | .1                       | 9.3                               | 15.94                  | -                           | -              | 46                           | -30.06                |
| 23                           | 4.5983          | 12.55                | Qp  | 0          | .1                       | 9.3                               | 21.95                  | 56                          | -34.05         | -                            | -                     |
| 24                           | 4.5983          | .19                  | Ca  | 0          | .1                       | 9.3                               | 9.59                   | -                           | -              | 46                           | -36.41                |

Qp - Quasi-Peak detector

Ca - CISPR average detection

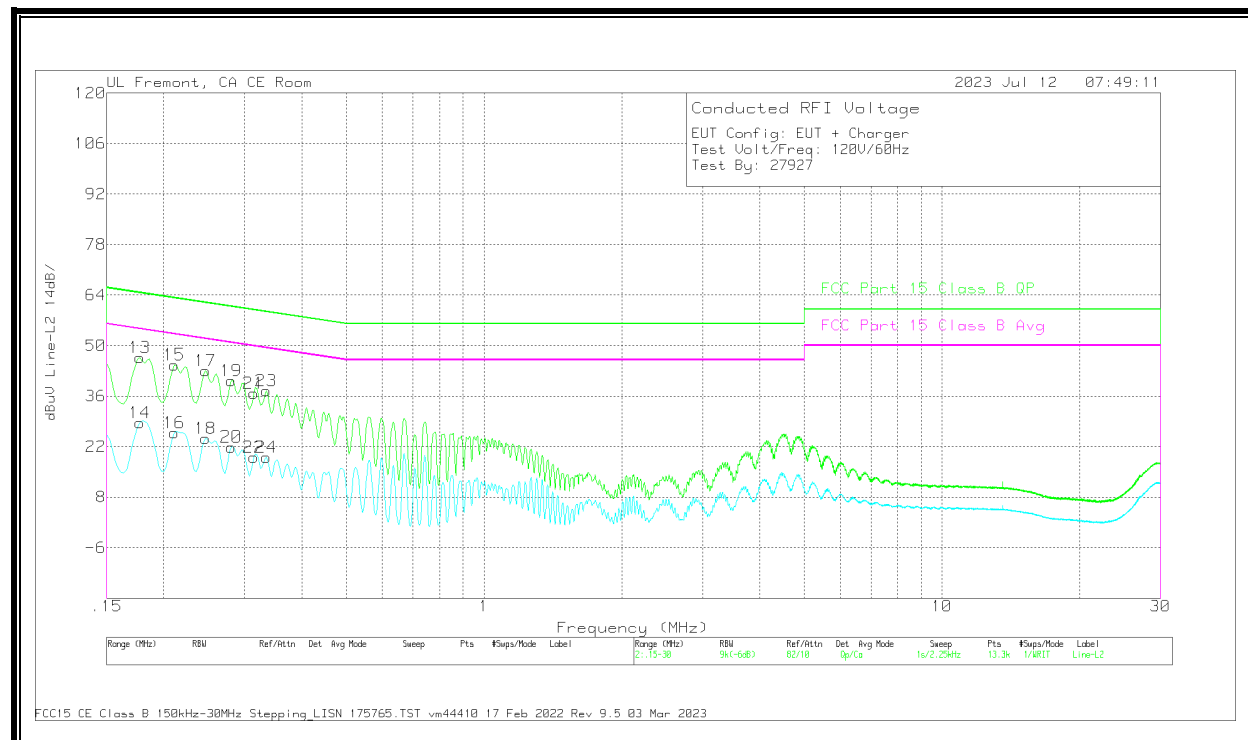
Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicates that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

**10.2.4. TAG MODE ANTENNA PORT TERMINATED****LINE 1 RESULTS****Worst Emission**

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |                |                          |                                   |                        |                          |             |                           |                      |
|------------------------------|-----------------|----------------------|-----|----------------|--------------------------|-----------------------------------|------------------------|--------------------------|-------------|---------------------------|----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L1_L1SN.csv dB | C1&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | CISPR 32 Class B QP dBuV | Margin (dB) | CISPR 32 Class B Avg dBuV | Av(CISPR)Margin (dB) |
| 1                            | .1523           | 36.96                | Qp  | 0              | 0                        | 9.4                               | 46.36                  | 65.88                    | -19.52      | -                         | -                    |
| 2                            | .1523           | 18.15                | Ca  | 0              | 0                        | 9.4                               | 27.55                  | -                        | -           | 55.88                     | -28.33               |
| 3                            | .1883           | 36.35                | Qp  | 0              | 0                        | 9.4                               | 45.75                  | 64.11                    | -18.36      | -                         | -                    |
| 4                            | .1883           | 19.02                | Ca  | 0              | 0                        | 9.4                               | 28.42                  | -                        | -           | 54.11                     | -25.69               |
| 5                            | .222            | 35.71                | Qp  | 0              | 0                        | 9.3                               | 45.01                  | 62.74                    | -17.73      | -                         | -                    |
| 6                            | .222            | 18.59                | Ca  | 0              | 0                        | 9.3                               | 27.89                  | -                        | -           | 52.74                     | -24.85               |
| 7                            | .2603           | 33.72                | Qp  | 0              | 0                        | 9.3                               | 43.02                  | 61.42                    | -18.4       | -                         | -                    |
| 8                            | .2603           | 16.63                | Ca  | 0              | 0                        | 9.3                               | 25.93                  | -                        | -           | 51.42                     | -25.49               |
| 9                            | .2985           | 31.04                | Qp  | 0              | 0                        | 9.3                               | 40.34                  | 60.28                    | -19.94      | -                         | -                    |
| 10                           | .2985           | 13.78                | Ca  | 0              | 0                        | 9.3                               | 23.08                  | -                        | -           | 50.28                     | -27.2                |
| 11                           | .3368           | 28.17                | Qp  | 0              | 0                        | 9.3                               | 37.47                  | 59.28                    | -21.81      | -                         | -                    |
| 12                           | .3368           | 11.02                | Ca  | 0              | 0                        | 9.3                               | 20.32                  | -                        | -           | 49.28                     | -28.96               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

**LINE 2 RESULTS****Worst Emission**

| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |            |                          |                                   |                        |                             |                |                              |                       |
|------------------------------|-----------------|----------------------|-----|------------|--------------------------|-----------------------------------|------------------------|-----------------------------|----------------|------------------------------|-----------------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | L2_LISN dB | C2&C3 cable path loss dB | 207996 Limiter with short cabl dB | Corrected Reading dBuV | FCC Part 15 Class B QP dBuV | QP Margin (dB) | FCC Part 15 Class B Avg dBuV | Av(CISPR)M argin (dB) |
| 13                           | .177            | 37.3                 | Qp  | 0          | 0                        | 9.4                               | 46.7                   | 64.63                       | -17.93         | -                            | -                     |
| 14                           | .177            | 19.19                | Ca  | 0          | 0                        | 9.4                               | 28.59                  | -                           | -              | 54.63                        | -26.04                |
| 15                           | .2108           | 35.29                | Qp  | 0          | 0                        | 9.4                               | 44.69                  | 63.18                       | -18.49         | -                            | -                     |
| 16                           | .2108           | 16.44                | Ca  | 0          | 0                        | 9.4                               | 25.84                  | -                           | -              | 53.18                        | -27.34                |
| 17                           | .2468           | 33.68                | Qp  | 0          | 0                        | 9.3                               | 42.98                  | 61.87                       | -18.89         | -                            | -                     |
| 18                           | .2468           | 15.04                | Ca  | 0          | 0                        | 9.3                               | 24.34                  | -                           | -              | 51.87                        | -27.53                |
| 19                           | .2805           | 31.03                | Qp  | 0          | 0                        | 9.3                               | 40.33                  | 60.8                        | -20.47         | -                            | -                     |
| 20                           | .2805           | 12.62                | Ca  | 0          | 0                        | 9.3                               | 21.92                  | -                           | -              | 50.8                         | -28.88                |
| 21                           | .3143           | 27.55                | Qp  | 0          | 0                        | 9.3                               | 36.85                  | 59.86                       | -23.01         | -                            | -                     |
| 22                           | .3143           | 9.75                 | Ca  | 0          | 0                        | 9.3                               | 19.05                  | -                           | -              | 49.86                        | -30.81                |
| 23                           | .3345           | 28.23                | Qp  | 0          | 0                        | 9.3                               | 37.53                  | 59.34                       | -21.81         | -                            | -                     |
| 24                           | .3345           | 9.68                 | Ca  | 0          | 0                        | 9.3                               | 18.98                  | -                           | -              | 49.34                        | -30.36                |

Qp - Quasi-Peak detector

Ca - CISPR average detection

---

## 11. SETUP PHOTOS

Please refer to 14523778-EP1V1 for setup photos.

**END OF TEST REPORT**