



# **TEST REPORT**

**Report Number :** 13571607-E21V2

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

**Model :** A2482

**FCC ID :** BCG-E3997A

**IC :** 579C-E3997A

**EUT Description :** SMARTPHONE

**Test Standard(s) :** FCC CFR 47 PART 15 SUBPART F §15.519  
ISED RSS-220 ISSUE 1 AMENDMENT 1

**Date Of Issue:**  
July 15, 2021

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Revision History

| Rev. | Issue Date | Revisions             | Revised By      |
|------|------------|-----------------------|-----------------|
| V1   | 06/22/2021 | Initial Issue         | Thu Chan        |
| V2   | 07/15/2021 | Address TCB Questions | Livius Darmawan |

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** APPLE, INC.  
ONE APPLE PARK WAY  
CUPERTINO, CA 95014, USA

**EUT DESCRIPTION:** SMARTPHONE

**MODEL:** A2482

**BRAND:** APPLE

**SERIAL NUMBERS:** K16LWMQL91; CQF9R4NQNJ

**SAMPLE RECEIPT DATES:** APRIL 20, 2021; JUNE 11, 2021

**DATE TESTED:** APRIL 20 – JUNE 18, 2021

| APPLICABLE STANDARDS             |              |
|----------------------------------|--------------|
| STANDARD                         | TEST RESULTS |
| FCC §15 Subpart F                | Complies     |
| ISED RSS-220 Issue 1 Amendment 1 | Complies     |

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

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

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

Approved & Released For  
UL Verification Services Inc. By:



Thu Chan  
Staff Engineer  
UL Verification Services Inc.

Tested By:



Alejandro Martinez  
Laboratory Engineer  
UL Verification Services Inc.

## 2. TEST RESULTS SUMMARY

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

| FCC Clause              | ISED Clause                     | Requirement                       | Result                  | Comment                   |
|-------------------------|---------------------------------|-----------------------------------|-------------------------|---------------------------|
| See Comment             |                                 | Duty Cycle                        | Reporting purposes only | ANSI C63.10 Section 11.6  |
| -                       | RSS-GEN 6.7                     | 99% OBW                           | Reporting purposes only | ANSI C63.10 Section 6.9.4 |
| 15.503 & 15.519 (b)     | RSS-220 Sect. 2                 | -10 dB BW                         | Complies                | ANSI C63.10 Section 10.1  |
| 15.519 (c) & (e)        | RSS-220 Sect. 4 (c) & 5.3.1 (d) | Pk Power & Max Avg Emissions      | Complies                | ANSI C63.10 Section 10.3  |
| 15.519 (a)(1)           | RSS-220 Sect. 5.3.1 (b)         | Cessation Time                    | Complies                | None                      |
| 15.519 (c) & 15.209 (a) | RSS-220 Sect. 3.4               | Emissions Below 960 MHz           | Complies                | ANSI C63.10 Section 10.2  |
| 15.519 (c) & (d)        | RSS-220 Sect. 5.3.1 (d) & (e)   | Emissions Above 960 MHz           | Complies                | ANSI C63.10 Section 10.3  |
| 15.207 (a)              | RSS-Gen 8.8                     | AC Power Line Conducted Emissions | Complies                | ANSI C63.10 Section 6.2   |

## 3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with CFR Title 47 Part 15 Subpart F, KDB 393764 D01 UWB FAQ v02, ISED RSS-220 Issue 1 Amendment 1 and ANSI C63.10-2013 and RSS GEN Issue 5.

## 4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

|                                     | Address                                                  | ISED CABID | ISED Company Number | FCC Registration |
|-------------------------------------|----------------------------------------------------------|------------|---------------------|------------------|
| <input type="checkbox"/>            | Building 1: 47173 Benicia Street, Fremont, CA 94538, USA | US0104     | 2324A               | 208313           |
| <input checked="" type="checkbox"/> | Building 2: 47266 Benicia Street, Fremont, CA 94538, USA | US0104     | 22541               | 208313           |
| <input checked="" type="checkbox"/> | Building 4: 47658 Kato Rd, Fremont, CA 94538, USA        | US0104     | 2324B               | 208313           |

## 5. DECISION RULES AND MEASUREMENT UNCERTAINTY

### 5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

### 5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

### 5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| PARAMETER                                           | U <sub>LAB</sub> |
|-----------------------------------------------------|------------------|
| 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          |
| Worst Case Radiated Disturbance, 1000 to 18000 MHz  | 4.73 dB          |
| Worst Case Radiated Disturbance, 18000 to 26000 MHz | 4.51 dB          |
| Worst Case Radiated Disturbance, 26000 to 40000 MHz | 5.29 dB          |

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

### 5.4. SAMPLE CALCULATION

#### RADIATED EMISSION

Where relevant, the following sample calculation is provided:

$$\begin{aligned}\text{EIRP (dBm)} &= \text{Meter Reading (dBm)} + \text{Antenna Factor (dB/m)} + \text{Pre-Amp Gain/Cbl Loss (dB)} \\ &\quad + \text{dBm-to-dBm Unit Conversion Factor @ 3m} \\ &= -60 \text{ dBm} + 28 \text{ dB/m} + (-27) \text{ dB} + 11.7 \\ &= -48.3 \text{ dBm}\end{aligned}$$

## 6. EQUIPMENT UNDER TEST

### 6.1. DESCRIPTION OF EUT

The EUT is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, 5G, CDMA, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wideband, GPS and NFC. All models support at least one UICC based SIM. The second SIM is either an UICC based p-SIM (physical SIM) or e-SIM (electronic SIM). The device supports a built-in inductive charging transmitter and receiver. The rechargeable battery is not user accessible.

This test report addresses the UWB operational mode.

The EUT has a UWB transceiver with four integral antennas (ANT 0 = UWB1, ANT 1 = UWB2, ANT 2 = ANT6/UWB0 & ANT3 = UWB3). ANT0 and ANT1 only operates on 8 GHz (Channel 9). ANT2 and ANT3 operates on 6.5 GHz (Channel 5) and 8 GHz (Channel 9). The antennas are not user accessible. Six signal configurations (CONFIG 0,1,2,3,4 & 5) are available for each ANT/CH setting.

| ANT | CH | CONFIG |
|-----|----|--------|
| 0   | 9  | 0      |
| 0   | 9  | 1      |
| 0   | 9  | 2      |
| 0   | 9  | 3      |
| 0   | 9  | 4      |
| 0   | 9  | 5      |
| 1   | 9  | 0      |
| 1   | 9  | 1      |
| 1   | 9  | 2      |
| 1   | 9  | 3      |
| 1   | 9  | 4      |
| 1   | 9  | 5      |
| 2   | 5  | 0      |
| 2   | 5  | 1      |
| 2   | 5  | 2      |
| 2   | 5  | 3      |
| 2   | 5  | 4      |
| 2   | 5  | 5      |
| 2   | 9  | 0      |
| 2   | 9  | 1      |
| 2   | 9  | 2      |
| 2   | 9  | 3      |
| 2   | 9  | 4      |
| 2   | 9  | 5      |
| 3   | 5  | 0      |
| 3   | 5  | 1      |
| 3   | 5  | 2      |
| 3   | 5  | 3      |
| 3   | 5  | 4      |
| 3   | 5  | 5      |
| 3   | 9  | 0      |
| 3   | 9  | 1      |
| 3   | 9  | 2      |
| 3   | 9  | 3      |
| 3   | 9  | 4      |
| 3   | 9  | 5      |

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.

## 6.2. MAXIMUM OUTPUT POWER

Highest Average Powers based on ANT/CH.

| ANT | CH | CONFIG | Average Power (dBm EIRP) |
|-----|----|--------|--------------------------|
| 0   | 9  | 2      | -42.38                   |
| 1   | 9  | 1      | -42.31                   |
| 2   | 5  | 4      | -42.44                   |
| 2   | 9  | 0      | -42.45                   |
| 3   | 5  | 1      | -42.33                   |
| 3   | 9  | 5      | -42.32                   |

## 6.3. DESCRIPTION OF AVAILABLE ANTENNAS

Four integral antennas are employed and the antenna gains are listed as follow:

| CH | Freq. Band | Gain (dBi)   |              |                   |              |
|----|------------|--------------|--------------|-------------------|--------------|
|    | (GHz)      | ANT 0 (UWB1) | ANT 1 (UWB2) | ANT 2 (ANT6/UWB0) | ANT 3 (UWB3) |
| 5  | 6.5        | n/a          | n/a          | -1.3              | -2.2         |
| 9  | 8.0        | 2.6          | 0.4          | 1.9               | 0.1          |

## 6.4. MODULATION

The UWB signal is BPSK pulsed modulated signal.

## 6.5. SOFTWARE AND FIRMWARE

The Software and Firmware version used at test is 19A272.

## 7. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

| SUPPORT EQUIPMENT LIST |              |              |               |
|------------------------|--------------|--------------|---------------|
| Description            | Manufacturer | Model        | Serial Number |
| Laptop + Adapter       | Apple        | Mac Book Pro | C02TK02YJ10C  |
| Kanzi – USB Adapter    | Apple        | --           | 31EF77        |
| Laptop + Adapter       | Apple        | Mac Book Pro | C02YVBP0LVDD  |
| Kanzi – USB Adapter    | Apple        | --           | 316C5F        |
| Smartphone             | Apple        | A2631        | VYKQDXM279    |

### I/O CABLES

| I/O CABLES |                      |                |             |                  |         |
|------------|----------------------|----------------|-------------|------------------|---------|
| Port       | # of Identical Ports | Connector Type | Cable Type  | Cable Length (m) | Remarks |
| AC         | 1                    | AC             | Un-shielded | 2                | N/A     |
| USB        | 1                    | USB            | Un-shielded | 1                | N/A     |

### TEST SETUP

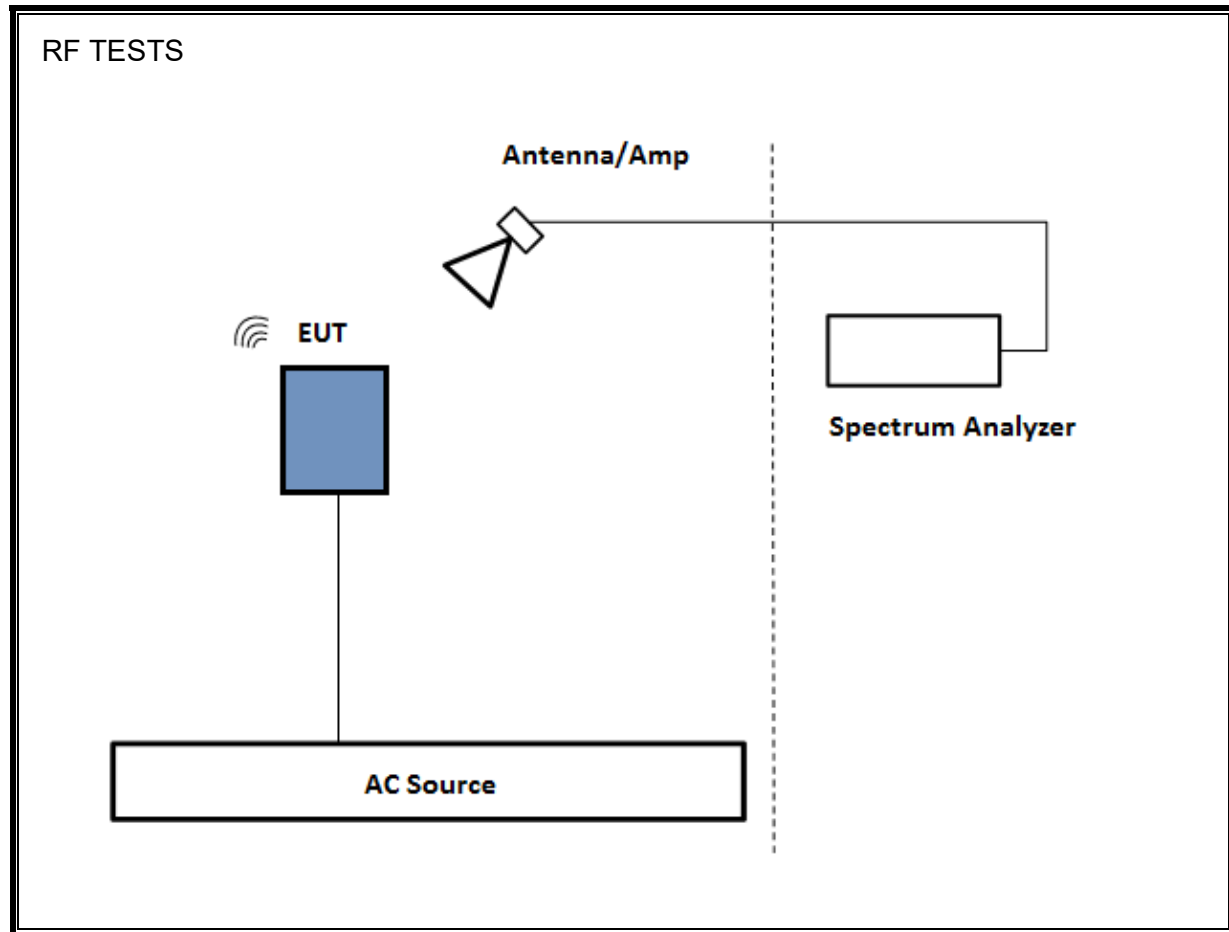
The EUT was examined at pre-scan test using a fundamental frequency in the portrait (z), landscape (y), and flatbed (x) position and the worst case orientation of individual ANT/CH/CONFIG setting was determined for final spurious emission measurement. Config 3, Payload 125 of both CH5 and CH9 on all 4 antennas were selected to test for unwanted emissions as the worst case after pre-scan.

Measurements of spurious average emissions were made with the device operating at a higher power than production power to ensure compliance. Measurements of the in-band signal (peak and average emissions, 10 dBc bandwidth, 99% bandwidth) were all made at the production power settings.

EUT was connected to AC power adapter in all test cases.

For simultaneous transmission on the same antenna of multiple channels in the UWB and WiFi, no noticeable new emission was found.

**SETUP DIAGRAM FOR TESTS**



## 8. TEST AND MEASUREMENT EQUIPMENT

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

| Test Equipment List                   |                               |                            |                       |            |            |
|---------------------------------------|-------------------------------|----------------------------|-----------------------|------------|------------|
| Description                           | Manufacturer                  | Model                      | Local ID              | Cal Date   | Cal Due    |
| EMI Test Receiver                     | Rohde & Schwarz               | ESW44                      | PRE0203383            | 2/24/2021  | 2/24/2022  |
| Horn Antenna, 1-18 GHz                | ETS Lindgren                  | 3117                       | T120                  | 4/7/2021   | 4/7/2022   |
| Preamp, 1-18 GHz                      | Miteq                         | AFS42-00101800-25-S-42     | PRE0183207            | 6/11/2020  | 6/11/2021* |
| PXA Signal Analyzer                   | Agilent                       | N9030A                     | T906                  | 1/27/2021  | 1/27/2022  |
| Hybrid Antenna, 30-2000 MHz           | SunAR                         | JB3                        | T900                  | 2/24/2021  | 2/24/2022  |
| Preamp, 0.1-1300 MHz                  | Sonoma Inst.                  | 310                        | T173                  | 7/22/2020  | 7/22/2021  |
| Horn Antenna, 1-18 GHz                | ETS Lindgren                  | 3117                       | T712                  | 3/22/2021  | 3/22/2022  |
| Preamp, 1-18 GHz                      | Miteq                         | AFS42-00101800-25-S-42     | PRE0183530            | 8/27/2020  | 8/27/2021  |
| Antenna, Active Loop 9kHz-30MHz       | ETS Lindgren                  | 6502                       | T757                  | 11/12/2020 | 11/12/2021 |
| PXA Signal Analyzer                   | Agilent                       | N9030A                     | T1454                 | 1/27/2021  | 1/27/2022  |
| Preamplifier, 1-26.5GHz               | Agilent                       | 8449B                      | T404                  | 4/19/2021  | 4/19/2022  |
| Horn Antenna, 18-26.5GHz              | ARA                           | MWH-1826/B                 | T449                  | 4/22/2021  | 4/22/2022  |
| Preamplifier, 26-40 GHz               | Miteq                         | NSTTA2640-35-HG            | T1864                 | 4/19/2021  | 4/19/2022  |
| Horn Antenna, 26-40 GHz               | ARA                           | MWH-2640/B                 | PRE0183142            | 4/22/2021  | 4/22/2022  |
| Low Pass Filter                       | Microtronics                  | LPM20143                   | 188196                | 11/3/2020  | 11/3/2021  |
| High Pass Filter, CH5                 | Wainwright Inst. GMBH         | WHW2-7100-10000-18000-40DC | 176232                | 11/3/2020  | 11/3/2021  |
| High Pass Filter, CH9                 | Wainwright Inst. GMBH         | WHW2-8165-11500-21000-40CD | 176234                | 10/26/2020 | 10/26/2021 |
| EMI Test Receiver 9kHz-7GHz           | Rohde & Schwarz               | ESR                        | T1436                 | 2/19/2021  | 2/19/2022  |
| Power Cable, Line Conducted Emissions | Pasternack Enterprises        | RG233/U                    | 202327                | 10/16/2020 | 10/16/2021 |
| LISN for Conducted Emissions CISPR-16 | FISCHER CUSTOM COMMUNICATIONS | FCC-LISN-50/250-25-2-01    | PRE0186446            | 1/20/2021  | 1/20/2022  |
| Radiated Software                     | UL                            | UL EMC                     | Ver 9.5.07, July 2020 |            |            |
| AC Line Conducted Software            | UL                            | UL EMC                     | Ver 9.5.07, July 2020 |            |            |

\*Equipment was used to perform tests prior to the calibration due date.

## **9. APPLICABLE LIMITS AND TEST RESULTS**

### **9.1. 99% BANDWIDTH**

#### **LIMIT**

None; for reporting purposes only.

#### **TEST PROCEDURE**

ANSI C63.10 Section 6.9.4

The transmitter output is connected to a spectrum analyzer. The RBW is in the range of 1% to 5% of the OBW bandwidth. The VBW is set to  $\geq 3 \times \text{RBW}$ . The sweep time is coupled.

Tabulated data provides the test results of all available test configurations. The plots of Ant 3, CONFIG 0, Payload 125 bandwidth measurement on CH5 and CH9 are presented and same measurement settings apply to the rest of test configurations.

## RESULTS

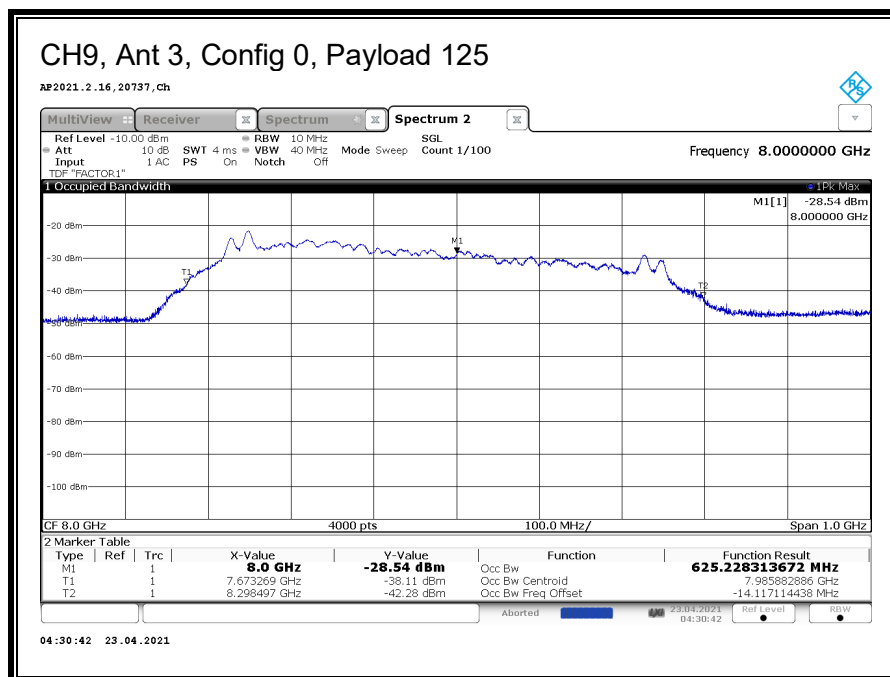
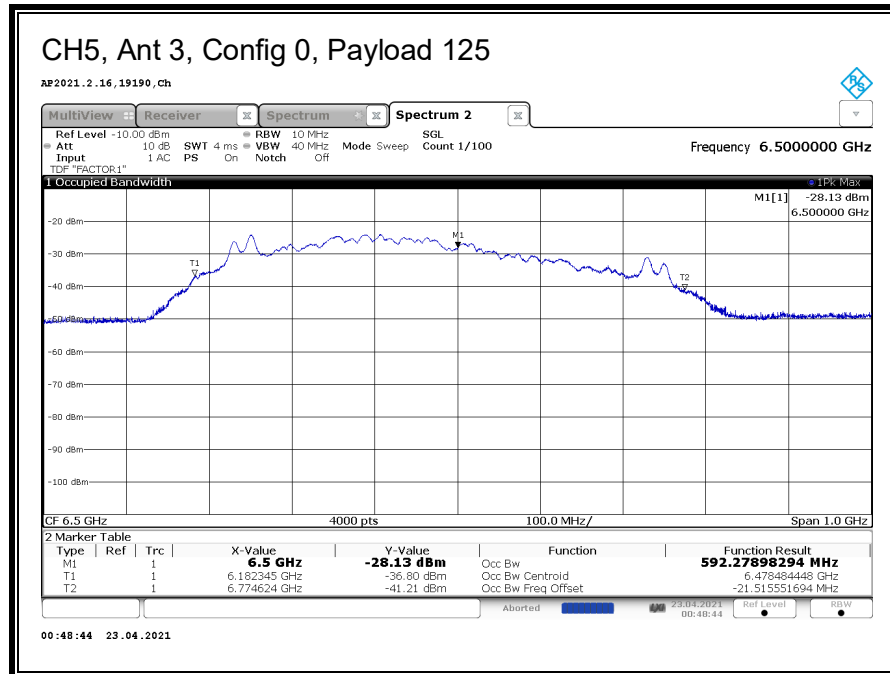
Employee IDs: 19419, 19190, 12471, 20737

Location: Chamber D

Test Date: 04/20/2021 – 04/30/2021

| ANT | CH | CONFIG | Payload | EUT<br>Orientation | Meas. Ant<br>Polarity | 99% BW<br>(MHz) |
|-----|----|--------|---------|--------------------|-----------------------|-----------------|
| 0   | 9  | 0      | 125     | Portrait           | H                     | 598.08          |
| 0   | 9  | 1      | 125     | Portrait           | H                     | 592.07          |
| 0   | 9  | 2      | 125     | Portrait           | H                     | 658.61          |
| 0   | 9  | 3      | 125     | Portrait           | H                     | 689.43          |
| 0   | 9  | 4      | 0       | Portrait           | H                     | 699.93          |
| 0   | 9  | 5      | 0       | Portrait           | H                     | 635.66          |
| 1   | 9  | 0      | 125     | Portrait           | H                     | 607.80          |
| 1   | 9  | 1      | 125     | Portrait           | H                     | 598.15          |
| 1   | 9  | 2      | 125     | Portrait           | H                     | 712.84          |
| 1   | 9  | 3      | 125     | Portrait           | H                     | 702.39          |
| 1   | 9  | 4      | 0       | Portrait           | H                     | 711.94          |
| 1   | 9  | 5      | 0       | Portrait           | H                     | 654.21          |
| 2   | 5  | 0      | 125     | Flatbed            | V                     | 592.11          |
| 2   | 5  | 1      | 125     | Flatbed            | V                     | 589.90          |
| 2   | 5  | 2      | 125     | Flatbed            | V                     | 612.90          |
| 2   | 5  | 3      | 125     | Flatbed            | V                     | 614.42          |
| 2   | 5  | 4      | 0       | Flatbed            | V                     | 616.39          |
| 2   | 5  | 5      | 0       | Flatbed            | V                     | 593.84          |
| 2   | 9  | 0      | 125     | Portrait           | H                     | 597.63          |
| 2   | 9  | 1      | 125     | Portrait           | H                     | 593.97          |
| 2   | 9  | 2      | 125     | Portrait           | H                     | 647.68          |
| 2   | 9  | 3      | 125     | Portrait           | H                     | 644.65          |
| 2   | 9  | 4      | 0       | Portrait           | H                     | 668.09          |
| 2   | 9  | 5      | 0       | Portrait           | H                     | 614.63          |
| 3   | 5  | 0      | 125     | Portrait           | H                     | 592.28          |
| 3   | 5  | 1      | 125     | Portrait           | H                     | 577.36          |
| 3   | 5  | 2      | 125     | Portrait           | H                     | 638.47          |
| 3   | 5  | 3      | 125     | Portrait           | H                     | 658.71          |
| 3   | 5  | 4      | 0       | Portrait           | H                     | 691.57          |
| 3   | 5  | 5      | 0       | Portrait           | H                     | 618.66          |
| 3   | 9  | 0      | 125     | Landscape          | V                     | 625.23          |
| 3   | 9  | 1      | 125     | Landscape          | V                     | 609.29          |
| 3   | 9  | 2      | 125     | Landscape          | V                     | 737.39          |
| 3   | 9  | 3      | 125     | Landscape          | V                     | 742.03          |
| 3   | 9  | 4      | 0       | Landscape          | V                     | 737.19          |
| 3   | 9  | 5      | 0       | Landscape          | V                     | 650.62          |

**99% BW**



## 9.2. OPERATING BANDWIDTH

### LIMITS

#### FCC

§15.503 (a) *UWB bandwidth*. For the purpose of this subpart, the UWB bandwidth is the frequency band bounded by the points that are 10 dB below the highest radiated emission, as based on the complete transmission system including the antenna. The upper boundary is designated  $f_H$  and the lower boundary is designated  $f_L$ . The frequency at which the highest radiated emission occurs is designated  $f_M$ .

§15.503 (b) *Center frequency*. The center frequency,  $f_C$ , equals  $(f_H + f_L)/2$ .

§15.503 (c) *Fractional bandwidth*. The fractional bandwidth equals  $2(f_H - f_L)/(f_H + f_L)$ .

§15.503 (d) *Ultra-wideband (UWB) transmitter*. An intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500 MHz, regardless of the fractional bandwidth.

§15.519 (b) The UWB bandwidth of a device operating under the provisions of this section must be contained between 3100 MHz and 10,600 MHz.

#### RSS-220

Section 2 A *UWB device* is an intentional radiator that has either a *-10 dB bandwidth* of at least 500 MHz or a *-10 dB fractional bandwidth* greater than 0.2.

Section 5.1 (a) The *-10 dB bandwidth* of the device shall be totally contained in the band 3.1-10.6 GHz.

“-10 dB bandwidth  $B_{-10}$ ” and “-10 dB fractional bandwidth  $\mu_{-10}$ ” are defined as follows:

$$B_{-10} = f_H - f_L$$
$$\mu_{-10} = B_{-10}/f_C$$

where:

$f_M$  is the frequency of maximum UWB transmission;

$f_H$  is the highest frequency at which the power spectral density of the UWB transmission is -10 dB relative to  $f_M$ ;

$f_L$  is the lowest frequency at which the power spectral density of the UWB transmission is -10 dB relative to  $f_M$ ; and

$f_C = (f_H + f_L)/2$  is the centre frequency of the -10 dB bandwidth.

### TEST PROCEDURE

ANSI C63.10 Clause 10.1

RSS-220 Section 2 of the Annex

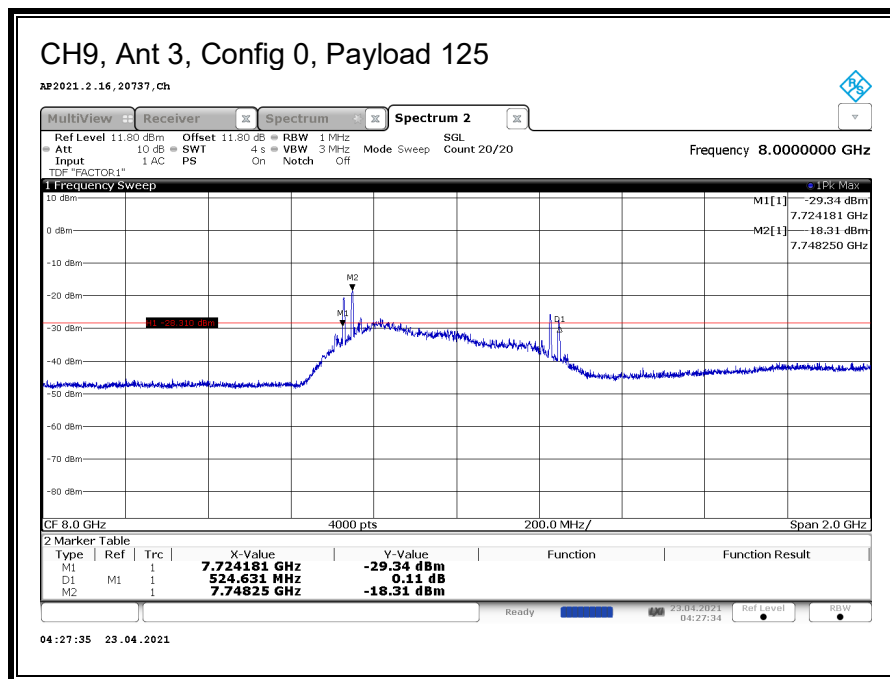
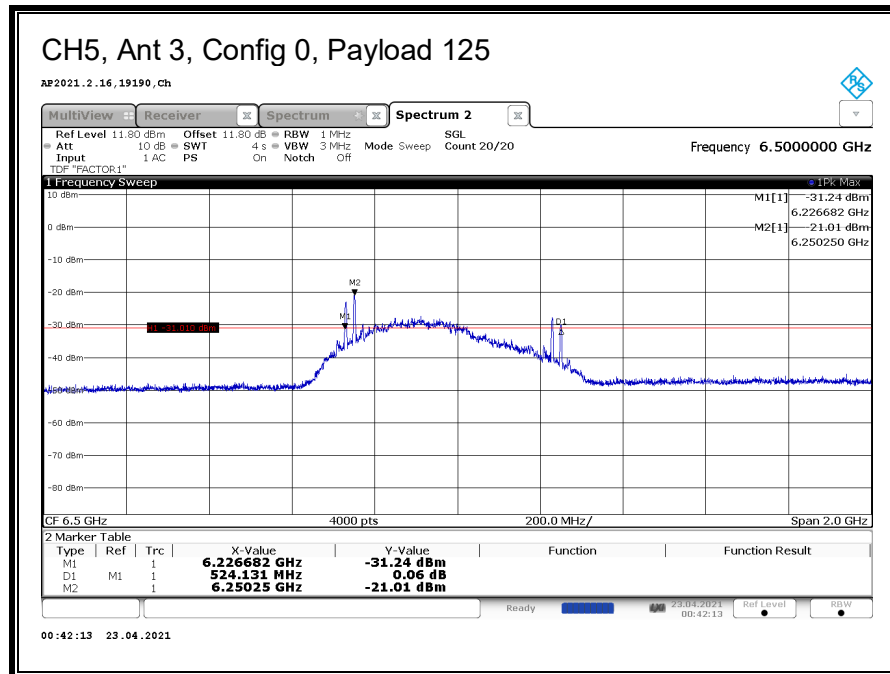
Tabulated data provides the test results of all available test configurations. The plots of Ant 3, CONFIG 0, Payload 125 bandwidth measurement on CH5 and CH9 are presented and same measurement settings apply to the rest of test configurations.

## RESULTS

Employee IDs: 19419, 19190, 12471, 20737  
Location: Chamber D  
Test Date: 04/20/2021 – 04/30/2021

| ANT | CH | CONFIG | Payload | EUT Orientation | Meas. Ant Polarity | FM (GHz) | FL (GHz) | FH (GHz) | FC (GHz) | OBW (MHz) | Min. OBW (MHz) | OBW Margin (MHz) | OBW Pass/Fail |
|-----|----|--------|---------|-----------------|--------------------|----------|----------|----------|----------|-----------|----------------|------------------|---------------|
| 0   | 9  | 0      | 125     | Portrait        | H                  | 7.748    | 7.724    | 8.250    | 7.987    | 525.63    | 500            | 25.63            | P             |
| 0   | 9  | 1      | 125     | Portrait        | H                  | 7.748    | 7.724    | 8.250    | 7.987    | 525.63    | 500            | 25.63            | P             |
| 0   | 9  | 2      | 125     | Portrait        | H                  | 7.748    | 7.726    | 8.249    | 7.987    | 523.13    | 500            | 23.13            | P             |
| 0   | 9  | 3      | 125     | Portrait        | H                  | 7.748    | 7.726    | 8.248    | 7.987    | 522.63    | 500            | 22.63            | P             |
| 0   | 9  | 4      | 0       | Portrait        | H                  | 7.748    | 7.724    | 8.250    | 7.987    | 525.63    | 500            | 25.63            | P             |
| 0   | 9  | 5      | 0       | Portrait        | H                  | 7.748    | 7.723    | 8.251    | 7.987    | 527.63    | 500            | 27.63            | P             |
| 1   | 9  | 0      | 125     | Portrait        | H                  | 7.748    | 7.724    | 8.250    | 7.987    | 525.63    | 500            | 25.63            | P             |
| 1   | 9  | 1      | 125     | Portrait        | H                  | 7.748    | 7.724    | 8.250    | 7.987    | 525.63    | 500            | 25.63            | P             |
| 1   | 9  | 2      | 125     | Portrait        | H                  | 7.748    | 7.726    | 8.248    | 7.987    | 522.63    | 500            | 22.63            | P             |
| 1   | 9  | 3      | 125     | Portrait        | H                  | 7.748    | 7.726    | 8.248    | 7.987    | 522.63    | 500            | 22.63            | P             |
| 1   | 9  | 4      | 0       | Portrait        | H                  | 7.748    | 7.724    | 8.250    | 7.987    | 525.63    | 500            | 25.63            | P             |
| 1   | 9  | 5      | 0       | Portrait        | H                  | 7.748    | 7.723    | 8.251    | 7.987    | 527.63    | 500            | 27.63            | P             |
| 2   | 5  | 0      | 125     | Flatbed         | V                  | 6.251    | 6.226    | 6.753    | 6.489    | 526.63    | 500            | 26.63            | P             |
| 2   | 5  | 1      | 125     | Flatbed         | V                  | 6.251    | 6.227    | 6.752    | 6.489    | 525.63    | 500            | 25.63            | P             |
| 2   | 5  | 2      | 125     | Flatbed         | V                  | 6.250    | 6.228    | 6.751    | 6.489    | 523.63    | 500            | 23.63            | P             |
| 2   | 5  | 3      | 125     | Flatbed         | V                  | 6.250    | 6.228    | 6.751    | 6.489    | 522.63    | 500            | 22.63            | P             |
| 2   | 5  | 4      | 0       | Flatbed         | V                  | 6.250    | 6.226    | 6.752    | 6.489    | 526.13    | 500            | 26.13            | P             |
| 2   | 5  | 5      | 0       | Flatbed         | V                  | 6.251    | 6.225    | 6.754    | 6.489    | 528.63    | 500            | 28.63            | P             |
| 2   | 9  | 0      | 125     | Portrait        | H                  | 8.227    | 7.725    | 8.250    | 7.987    | 525.63    | 500            | 25.63            | P             |
| 2   | 9  | 1      | 125     | Portrait        | H                  | 8.226    | 7.724    | 8.250    | 7.987    | 526.13    | 500            | 26.13            | P             |
| 2   | 9  | 2      | 125     | Portrait        | H                  | 8.227    | 7.725    | 8.249    | 7.987    | 523.63    | 500            | 23.63            | P             |
| 2   | 9  | 3      | 125     | Portrait        | H                  | 8.226    | 7.726    | 8.249    | 7.987    | 522.63    | 500            | 22.63            | P             |
| 2   | 9  | 4      | 0       | Portrait        | H                  | 8.226    | 7.725    | 8.250    | 7.987    | 525.63    | 500            | 25.63            | P             |
| 2   | 9  | 5      | 0       | Portrait        | H                  | 8.226    | 7.724    | 8.251    | 7.987    | 527.63    | 500            | 27.63            | P             |
| 3   | 5  | 0      | 125     | Portrait        | H                  | 6.250    | 6.227    | 6.751    | 6.489    | 524.13    | 500            | 24.13            | P             |
| 3   | 5  | 1      | 125     | Portrait        | H                  | 6.251    | 6.227    | 6.751    | 6.489    | 524.63    | 500            | 24.63            | P             |
| 3   | 5  | 2      | 125     | Portrait        | H                  | 6.250    | 6.228    | 6.750    | 6.489    | 522.63    | 500            | 22.63            | P             |
| 3   | 5  | 3      | 125     | Portrait        | H                  | 6.250    | 6.228    | 6.750    | 6.489    | 522.13    | 500            | 22.13            | P             |
| 3   | 5  | 4      | 0       | Portrait        | H                  | 6.250    | 6.226    | 6.751    | 6.489    | 525.13    | 500            | 25.13            | P             |
| 3   | 5  | 5      | 0       | Portrait        | H                  | 6.251    | 6.225    | 6.751    | 6.488    | 526.13    | 500            | 26.13            | P             |
| 3   | 9  | 0      | 125     | Landscape       | V                  | 7.748    | 7.724    | 8.249    | 7.986    | 524.63    | 500            | 24.63            | P             |
| 3   | 9  | 1      | 125     | Landscape       | V                  | 7.748    | 7.724    | 8.249    | 7.986    | 524.63    | 500            | 24.63            | P             |
| 3   | 9  | 2      | 125     | Landscape       | V                  | 7.748    | 7.725    | 8.248    | 7.987    | 523.13    | 500            | 23.13            | P             |
| 3   | 9  | 3      | 125     | Landscape       | V                  | 7.748    | 7.726    | 8.248    | 7.987    | 522.13    | 500            | 22.13            | P             |
| 3   | 9  | 4      | 0       | Landscape       | V                  | 7.748    | 7.724    | 8.249    | 7.986    | 524.63    | 500            | 24.63            | P             |
| 3   | 9  | 5      | 0       | Landscape       | V                  | 7.748    | 7.723    | 8.249    | 7.986    | 526.13    | 500            | 26.13            | P             |

## RESULTS



### 9.3. PEAK POWER AND MAXIMUM AVERAGE EMISSIONS

#### LIMITS

#### FCC

15.519 (e) There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth centered on the frequency at which the highest radiated emission occurs,  $f_m$ . That limit is 0 dBm EIRP.

15.519 (c) The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

| Frequency in MHz | EIRP in dBm |
|------------------|-------------|
| 3100 - 10600     | -41.3       |

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Annex, Section 4 (c) Peak measurements shall be made in addition to average measurements. Transmissions shall not exceed 0 dBm e.i.r.p. in any 50 MHz bandwidth when the average limit is -41.3 dBm/MHz.

Section 5.3.1 (d) Radiated emissions above 960 MHz from a device shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz.

| Frequency       | E.I.R.P. in a Resolution Bandwidth of 1 MHz |
|-----------------|---------------------------------------------|
| 4.75 – 10.6 GHz | -41.3 dBm                                   |

#### TEST PROCEDURE

ANSI C63.10 Clause 10.3

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Peak EIPR power is measured using RBW of 50 MHz.

The radiated emissions of 6 - 9 GHz frequency band are performed at 3-meter test distance.

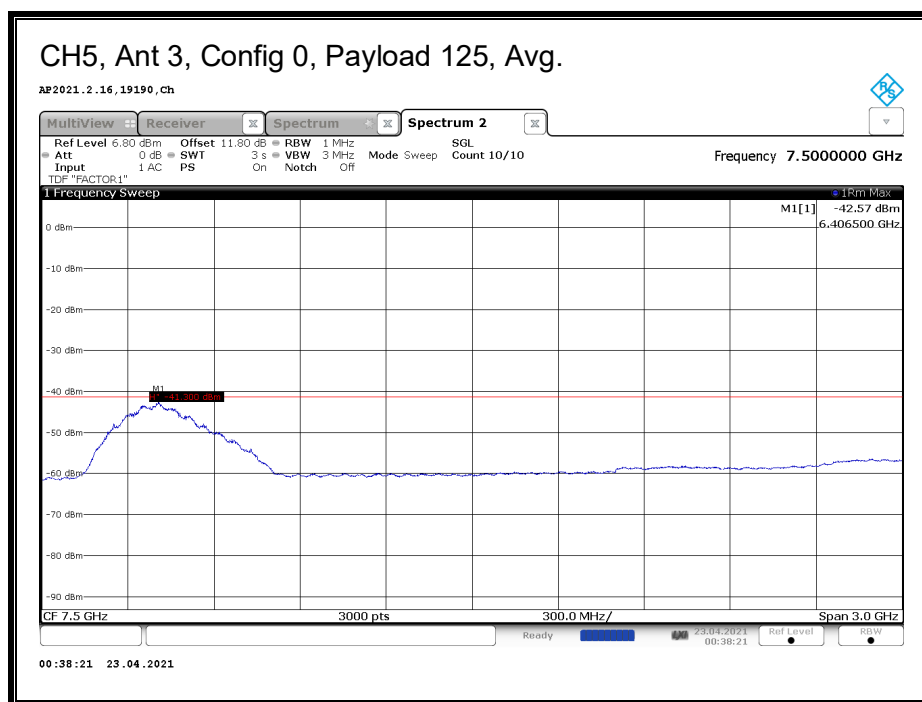
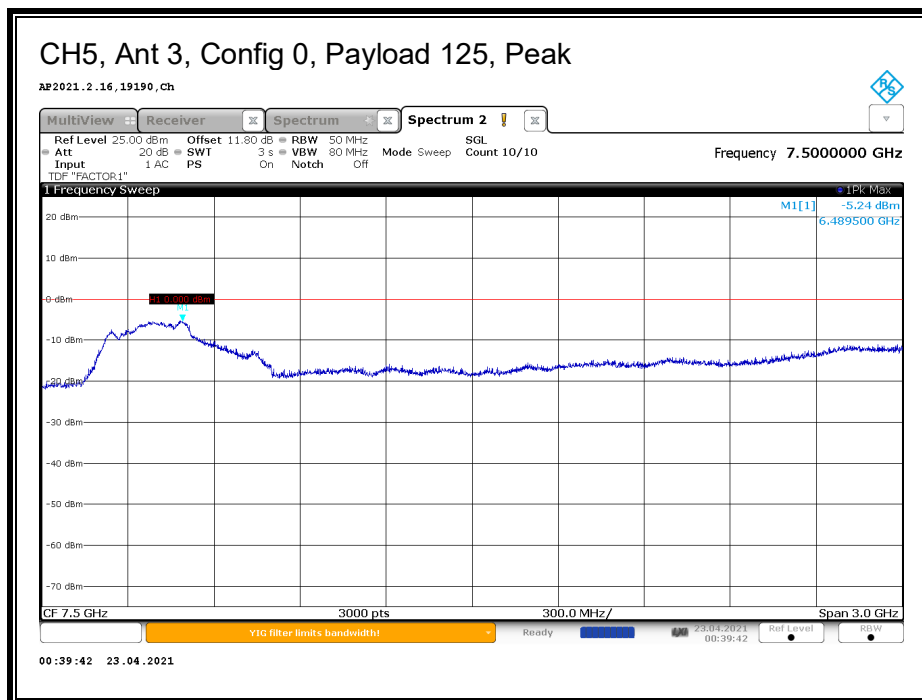
Tabulated data provides the test results of all available test configurations. The plots of Ant 3, CONFIG 0, Payload 125 power measurement on CH5 and CH9 are presented and same measurement settings apply to the rest of test configurations.

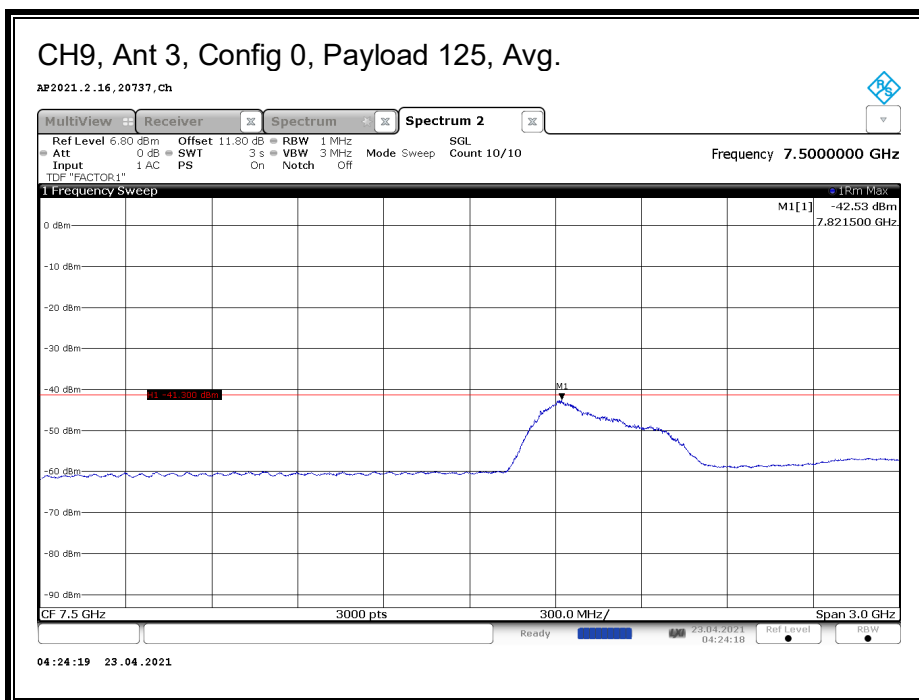
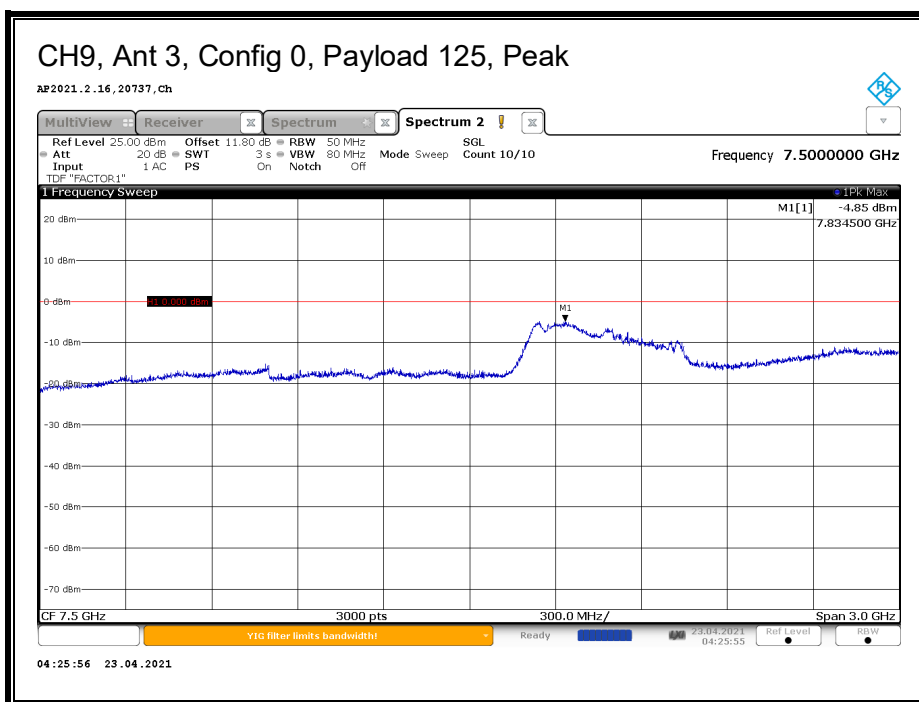
## RESULTS

Employee IDs: 19419, 19190, 12471, 20737  
Location: Chamber D  
Test Date: 04/20/2021 – 04/30/2021

| ANT | CH | CONFIG | Payload | EUT Orientation | Meas. Ant. Polarity | Peak EIRP Power |                        |                           |             | Average EIRP Power |                     |                     |             |
|-----|----|--------|---------|-----------------|---------------------|-----------------|------------------------|---------------------------|-------------|--------------------|---------------------|---------------------|-------------|
|     |    |        |         |                 |                     | FM (GHz)        | Peak Power (dBm/50MHz) | Peak Limit (0 dBm/50 MHz) | Margin (dB) | FM (GHz)           | Avg Power (dBm/MHz) | Avg Limit (dBm/MHz) | Margin (dB) |
| 0   | 9  | 0      | 125     | Portrait        | H                   | 7.9785          | -3.46                  | 0                         | -3.46       | 7.9115             | -42.47              | -41.3               | -1.18       |
| 0   | 9  | 1      | 125     | Portrait        | H                   | 7.9745          | -2.90                  | 0                         | -2.90       | 7.9145             | -42.54              | -41.3               | -1.24       |
| 0   | 9  | 2      | 125     | Portrait        | H                   | 7.9935          | -6.57                  | 0                         | -6.57       | 7.8745             | -42.38              | -41.3               | -1.08       |
| 0   | 9  | 3      | 125     | Portrait        | H                   | 7.9965          | -6.74                  | 0                         | -6.74       | 7.9125             | -42.69              | -41.3               | -1.39       |
| 0   | 9  | 4      | 0       | Portrait        | H                   | 7.7395          | -6.33                  | 0                         | -6.33       | 7.9165             | -42.60              | -41.3               | -1.30       |
| 0   | 9  | 5      | 0       | Portrait        | H                   | 7.7425          | -4.85                  | 0                         | -4.85       | 7.9175             | -42.70              | -41.3               | -1.40       |
| 1   | 9  | 0      | 125     | Portrait        | H                   | 7.8565          | -4.73                  | 0                         | -4.73       | 7.8585             | -42.38              | -41.3               | -1.08       |
| 1   | 9  | 1      | 125     | Portrait        | H                   | 7.8635          | -3.51                  | 0                         | -3.51       | 7.8585             | -42.31              | -41.3               | -1.01       |
| 1   | 9  | 2      | 125     | Portrait        | H                   | 7.8615          | -8.02                  | 0                         | -8.02       | 7.8635             | -42.63              | -41.3               | -1.33       |
| 1   | 9  | 3      | 125     | Portrait        | H                   | 7.8655          | -7.28                  | 0                         | -7.28       | 7.8575             | -42.48              | -41.3               | -1.18       |
| 1   | 9  | 4      | 0       | Portrait        | H                   | 7.7395          | -5.88                  | 0                         | -5.88       | 7.8535             | -42.52              | -41.3               | -1.22       |
| 1   | 9  | 5      | 0       | Portrait        | H                   | 7.7335          | -4.72                  | 0                         | -4.72       | 7.8675             | -42.64              | -41.3               | -1.34       |
| 2   | 5  | 0      | 125     | Flatbed         | V                   | 6.4835          | -3.55                  | 0                         | -3.55       | 6.3525             | -42.61              | -41.3               | -1.31       |
| 2   | 5  | 1      | 125     | Flatbed         | V                   | 6.4925          | -2.52                  | 0                         | -2.52       | 6.4655             | -42.46              | -41.3               | -1.16       |
| 2   | 5  | 2      | 125     | Flatbed         | V                   | 6.4905          | -6.73                  | 0                         | -6.73       | 6.3545             | -42.62              | -41.3               | -1.32       |
| 2   | 5  | 3      | 125     | Flatbed         | V                   | 6.4825          | -6.51                  | 0                         | -6.51       | 6.3525             | -42.53              | -41.3               | -1.23       |
| 2   | 5  | 4      | 0       | Flatbed         | V                   | 6.2385          | -6.27                  | 0                         | -6.27       | 6.4075             | -42.44              | -41.3               | -1.14       |
| 2   | 5  | 5      | 0       | Flatbed         | V                   | 6.2445          | -4.41                  | 0                         | -4.41       | 6.3545             | -42.86              | -41.3               | -1.56       |
| 2   | 9  | 0      | 125     | Portrait        | H                   | 8.2275          | -3.35                  | 0                         | -3.35       | 8.0365             | -42.45              | -41.3               | -1.15       |
| 2   | 9  | 1      | 125     | Portrait        | H                   | 8.0695          | -2.01                  | 0                         | -2.01       | 8.0365             | -42.46              | -41.3               | -1.16       |
| 2   | 9  | 2      | 125     | Portrait        | H                   | 7.9845          | -6.33                  | 0                         | -6.33       | 8.0325             | -42.89              | -41.3               | -1.59       |
| 2   | 9  | 3      | 125     | Portrait        | H                   | 7.9855          | -6.20                  | 0                         | -6.20       | 8.0345             | -42.75              | -41.3               | -1.45       |
| 2   | 9  | 4      | 0       | Portrait        | H                   | 8.2255          | -2.79                  | 0                         | -2.80       | 8.0295             | -43.11              | -41.3               | -1.81       |
| 2   | 9  | 5      | 0       | Portrait        | H                   | 8.2225          | -1.86                  | 0                         | -1.86       | 8.0285             | -42.77              | -41.3               | -1.47       |
| 3   | 5  | 0      | 125     | Portrait        | H                   | 6.4895          | -5.24                  | 0                         | -5.24       | 6.4065             | -42.57              | -41.3               | -1.27       |
| 3   | 5  | 1      | 125     | Portrait        | H                   | 6.3895          | -3.86                  | 0                         | -3.86       | 6.4065             | -42.33              | -41.3               | -1.04       |
| 3   | 5  | 2      | 125     | Portrait        | H                   | 6.4855          | -8.02                  | 0                         | -8.03       | 6.4075             | -42.44              | -41.3               | -1.14       |
| 3   | 5  | 3      | 125     | Portrait        | H                   | 6.4845          | -8.34                  | 0                         | -8.34       | 6.4065             | -42.97              | -41.3               | -1.67       |
| 3   | 5  | 4      | 0       | Portrait        | H                   | 6.2445          | -7.52                  | 0                         | -7.52       | 6.4065             | -42.68              | -41.3               | -1.38       |
| 3   | 5  | 5      | 0       | Portrait        | H                   | 6.2475          | -5.95                  | 0                         | -5.95       | 6.4055             | -42.65              | -41.3               | -1.35       |
| 3   | 9  | 0      | 125     | Landscape       | V                   | 7.8345          | -4.85                  | 0                         | -4.85       | 7.8215             | -42.53              | -41.3               | -1.23       |
| 3   | 9  | 1      | 125     | Landscape       | V                   | 7.7395          | -3.53                  | 0                         | -3.53       | 7.8205             | -42.50              | -41.3               | -1.20       |
| 3   | 9  | 2      | 125     | Landscape       | V                   | 7.8195          | -8.09                  | 0                         | -8.09       | 7.8125             | -42.45              | -41.3               | -1.15       |
| 3   | 9  | 3      | 125     | Landscape       | V                   | 7.8105          | -8.11                  | 0                         | -8.11       | 7.8135             | -42.76              | -41.3               | -1.46       |
| 3   | 9  | 4      | 0       | Landscape       | V                   | 7.7365          | -4.79                  | 0                         | -4.79       | 7.8205             | -42.58              | -41.3               | -1.28       |
| 3   | 9  | 5      | 0       | Landscape       | V                   | 7.7385          | -2.84                  | 0                         | -2.84       | 7.8165             | -42.32              | -41.3               | -1.02       |

## RESULTS





## **9.4. CESSATION TIME**

### **LIMITS**

#### **FCC**

§15.519(a)(1) A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

#### **RSS-220**

Section 5.3.1 (b) The device is to transmit only when it is sending information to an associated receiver. The device shall cease transmission of information within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB device at least every 10 seconds or the UWB device shall cease transmitting any information other than periodic signals used for the establishment or re-establishment of a communication link with an associated receiver.

### **TEST PROCEDURES**

\* Initiator = EUT

\* Responder = associated receiver

Transmissions are monitored for two cases:

1. The Initiator ends the UWB link.
2. The Responder ends the UWB link.

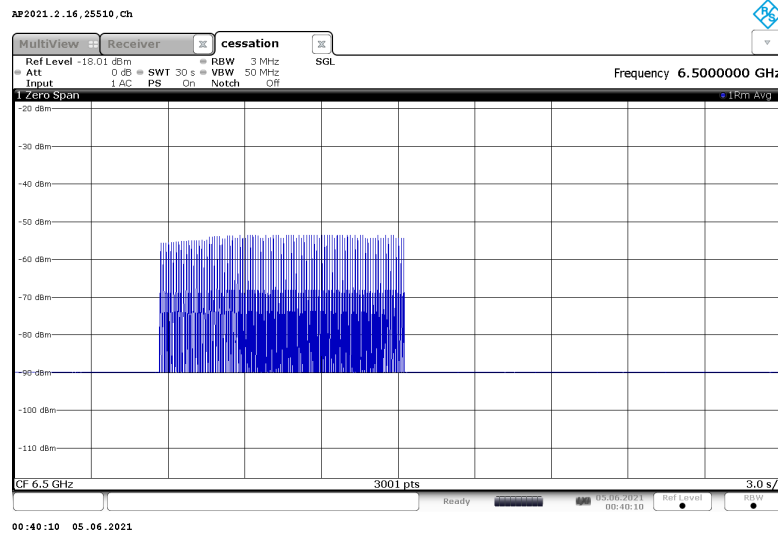
## **RESULTS**

Employee ID: 19419  
Location: Chamber D  
Test Date: 06/04/2021

### Signal Levels on all Plots

- Initiator is Low Amplitude
- Responder is High Amplitude

### Case 1: Initiator ends the UWB link



## **RESULT**

- All devices, including the Responder, cease transmissions

The screenshot shows the NP2021.2.16, 25510.1ch software interface. The top panel displays the 'Receiver' and 'Cessation' tabs. The 'Receiver' tab shows settings for Ref Level (-18.01 dBm), Att (0 dB), Input (1 AC), PS (On), and Notch (Off). The 'Cessation' tab shows settings for RBW (3 MHz), VBW (50 MHz), and SGL. The main display is a spectrum plot titled 'Zero Span' showing a signal centered around 6.5 GHz. The plot has a frequency span of 3001 pts and a power range from -110 dBm to -20 dBm. The signal is characterized by a dense, noisy band between -60 dBm and -80 dBm, and a lower-level signal around -90 dBm. The interface includes various control panels for Receiver, Cessation, and SGL, as well as status indicators like 'Ready' and 'US:06:2021 00:43:24'.

- Responder ends the link, Initiator stops Acknowledgements but continues Polling.
  - Responder ceases transmissions, does not respond to Polling Signals.

HP2021.2.16, 25510.Ch

Multiview Receiver Cessation SQL

Ref Level -18.01 dBm BW 3 MHz  
 Att 0 dB SWT 3 s VBW 50 MHz  
 Input 1 AG PS On Notch Off

Frequency 6.500000 GHz

Zero Span 10m Avg

CF 6.5 GHz 3001 pts

Ready 05-05-2021 00:44:43 Ref Level 300.0 ms

00:44:43 05.06.2021

- Shows Link Traffic, Acknowledgements and Polling Signals while Link is established
- Shows Polling Signals after Link has ended

## 9.5. EMISSIONS BELOW 960 MHz

### LIMITS

#### FCC

§15.519 (c) The radiated emissions at or below 960 MHz from a device operating under the provisions of this section shall not exceed the emission levels in §15.209. The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

15.209 (a)

| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|-----------------|-----------------------------------|-------------------------------|
| 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                             |

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Section 3.4 Radiated emissions at or below 960 MHz for all subclasses of UWB device shall not exceed the following limits. Measurements of radiated emissions at and below 960 MHz are to be made using a CISPR quasi-peak detector. CISPR measurement bandwidth specifications are to be used.

| Frequency (MHz) | Field Strength (Microvolts/m) | Measurement Distance (Metres) | E.i.r.p. (dBmW)                       |
|-----------------|-------------------------------|-------------------------------|---------------------------------------|
| 0.009-0.490     | 2,400/F<br>(F in kHz)         | 300                           | $10 \log (17.28 / F^2)$<br>(F in kHz) |
| 0.490-1.705     | 24,000/F<br>(F in kHz)        | 30                            | $10 \log (17.28 / F^2)$<br>(F in kHz) |
| 1.705-30        | 30                            | 30                            | -45.7                                 |
| 30-88           | 100                           | 3                             | -55.2                                 |
| 88-216          | 150                           | 3                             | -51.7                                 |
| 216-960         | 200                           | 3                             | -49.2                                 |

**Note:** The emission limits for the bands 9-90 kHz and 110-490 kHz are based on measurements employing an average emissions detector.

## **TEST PROCEDURE**

ANSI C63.10 Clause 10.2

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Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 3m from the EUT.

For below 30 MHz 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.

A final test is made at any frequencies at which emissions are found. During this final scan, the antenna is kept no further from the EUT than the maximum distance calculated for each band that yields a minimum system noise floor.

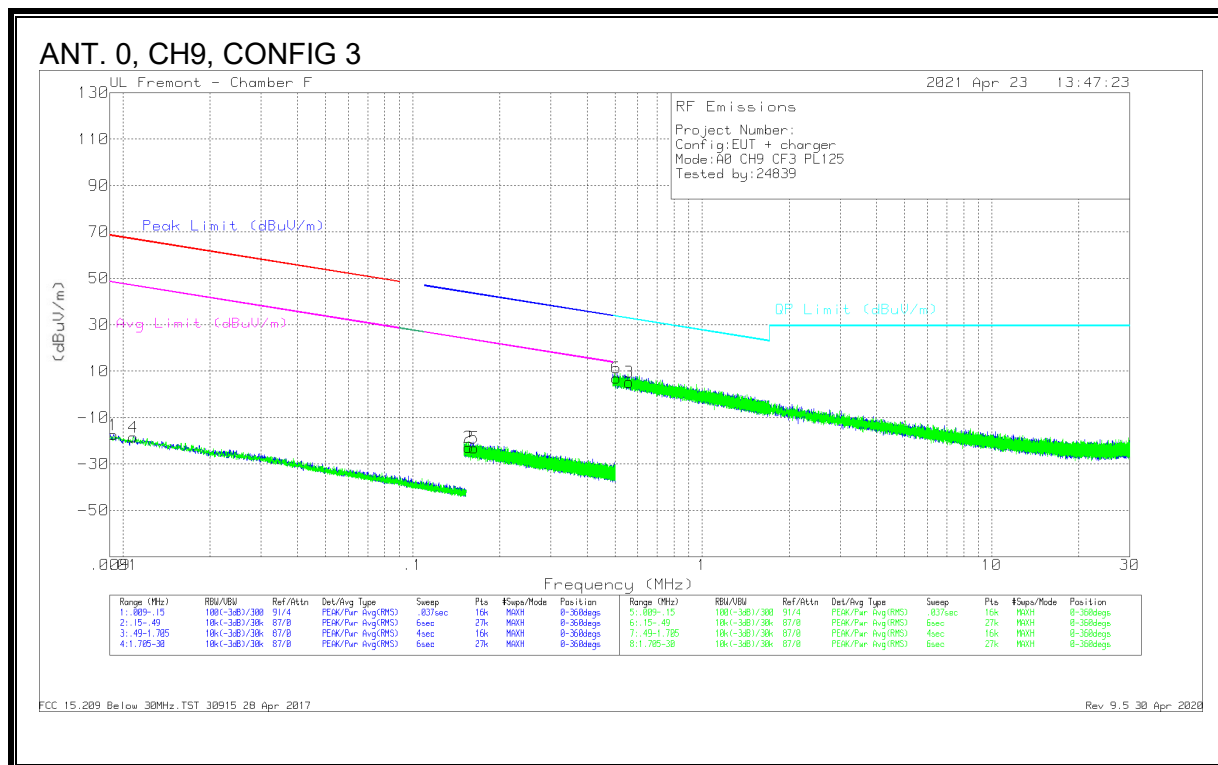
## **RESULTS**

Employee IDs: 19419, 19190, 12471, 20737  
Location: Chamber F  
Test Date: 04/20/2021 – 05/10/2021

### **Emissions Summary**

| Ant | CH | Config | Payload | Power Setting | Frequency Range |              |
|-----|----|--------|---------|---------------|-----------------|--------------|
|     |    |        |         |               | 9 kHz - 30 MHz  | 30 - 960 MHz |
| 0   | 9  | 3      | 125     | Max           | PASS            | PASS         |
| 1   | 9  | 3      | 125     | Max           | PASS            | PASS         |
| 2   | 5  | 3      | 125     | Max           | PASS            | PASS         |
| 2   | 9  | 3      | 125     | Max           | PASS            | PASS         |
| 3   | 5  | 3      | 125     | Max           | PASS            | PASS         |
| 3   | 9  | 3      | 125     | Max           | PASS            | PASS         |

## 9.5.1. EMISSIONS, 9 kHz – 30 MHz



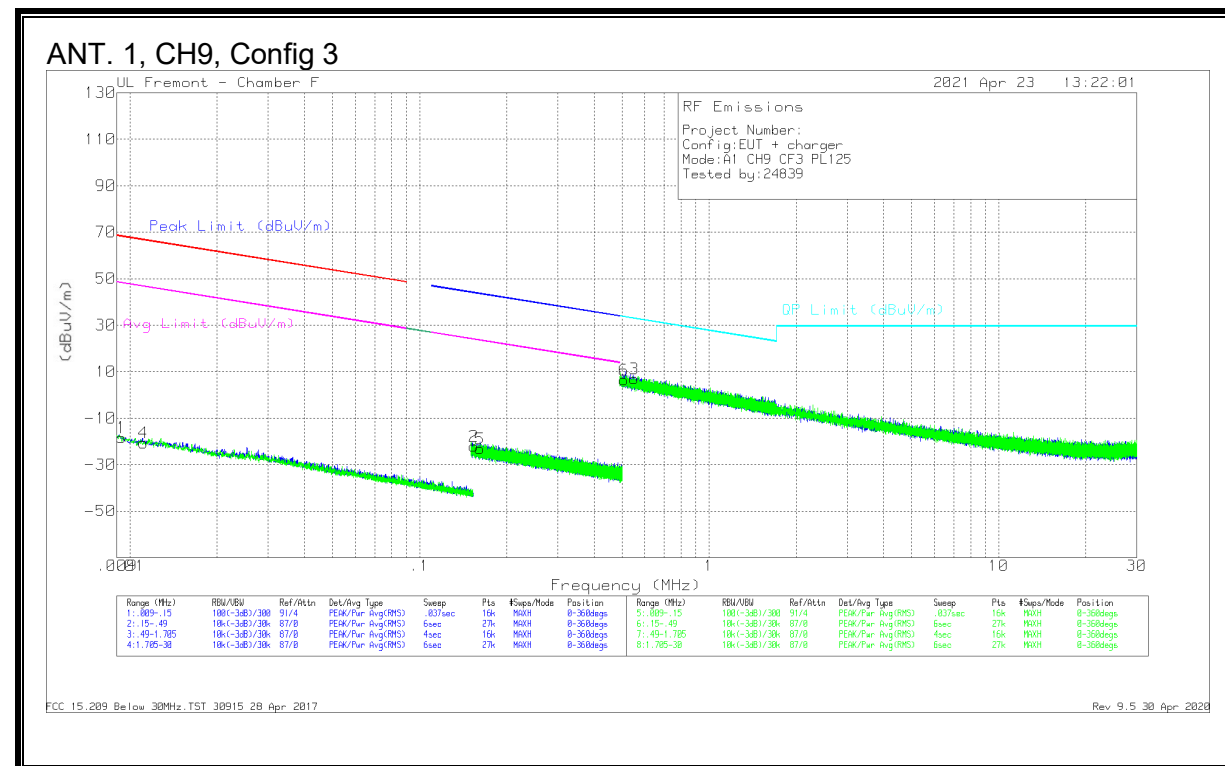
### Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr 300m | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|----------------|----------------------------|---------------------|-------------|--------------------|-------------|---------------------|-------------|--------------------|-------------|----------------|--------------|
| 1      | .00927          | 42.77                | Pk  | 19.8               | 0           | -80            | -17.43                     | 68.24               | -85.67      | 48.24              | -65.67      | -                   | -           | -                  | -           | 0-360          | On           |
| 2      | .15627          | 46                   | Pk  | 11.1               | .1          | -80            | -22.8                      | -                   | -           | -                  | -           | 43.74               | -66.54      | 23.74              | -46.54      | 0-360          | On           |
| 4      | .01096          | 42.81                | Pk  | 18.7               | 0           | -80            | -18.49                     | 66.87               | -85.36      | 46.87              | -65.36      | -                   | -           | -                  | -           | 0-360          | Off          |
| 5      | .16335          | 45.69                | Pk  | 11.1               | .1          | -80            | -23.11                     | -                   | -           | -                  | -           | 43.36               | -66.47      | 23.36              | -46.47      | 0-360          | Off          |

### Pk - Peak detector

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr (dB) 40Log | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|----------------------|----------------------------|-------------------|-------------|----------------|--------------|
| 3      | .55924          | 34.16                | Pk  | 11                 | .1          | -40                  | 5.26                       | 32.66             | -27.4       | 0-360          | On           |
| 6      | .50543          | 35.97                | Pk  | 11                 | .1          | -40                  | 7.07                       | 33.53             | -26.46      | 0-360          | Off          |

### Pk - Peak detector



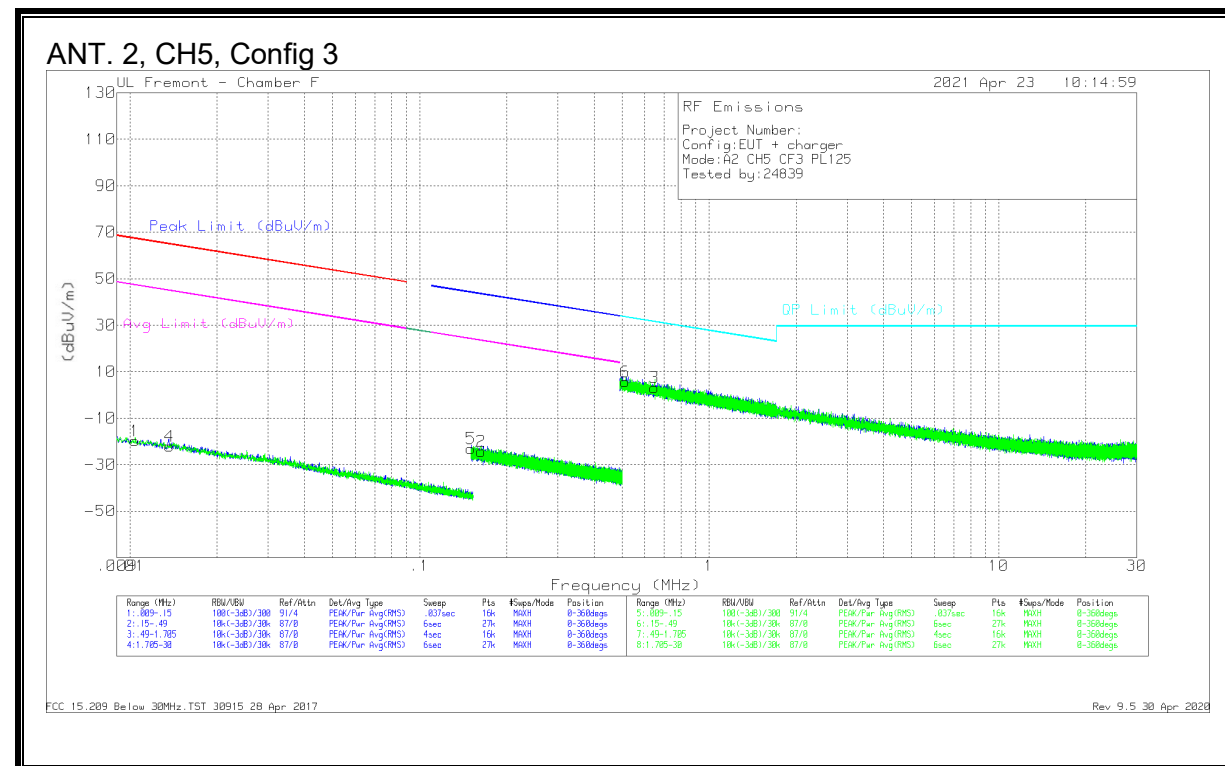
## Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr 300m | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|----------------|----------------------------|---------------------|-------------|--------------------|-------------|---------------------|-------------|--------------------|-------------|----------------|--------------|
| 1      | .00936          | 41.9                 | Pk  | 19.7               | 0           | -80            | -18.4                      | 68.16               | -86.56      | 48.16              | -86.56      | 43.87               | -65.99      | 23.87              | -45.99      | 0-360          | On           |
| 2      | .15411          | 46.68                | Pk  | 11.1               | -1          | -80            | -22.12                     | 66.67               | -87.28      | 46.67              | -87.28      | 43.45               | -66.63      | 23.45              | -46.63      | 0-360          | On           |
| 4      | .01111          | 40.79                | Pk  | 18.6               | 0           | -80            | -20.61                     | 66.67               | -87.28      | 46.67              | -87.28      | 43.45               | -66.63      | 23.45              | -46.63      | 0-360          | Off          |
| 5      | .16171          | 45.62                | Pk  | 11.1               | -1          | -80            | -23.18                     | 66.67               | -87.28      | 46.67              | -87.28      | 43.45               | -66.63      | 23.45              | -46.63      | 0-360          | Off          |

## Pk - Peak detector

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr (dB) 40Log | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|----------------------|----------------------------|-------------------|-------------|----------------|--------------|
| 3      | .55202          | 35.82                | Pk  | 11                 | .1          | -40                  | 6.92                       | 32.77             | -25.85      | 0-360          | On           |
| 6      | .50832          | 35.28                | Pk  | 11                 | .1          | -40                  | 6.38                       | 33.48             | -27.1       | 0-360          | Off          |

## Pk - Peak detector



## Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr 300m | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|----------------|----------------------------|---------------------|-------------|--------------------|-------------|---------------------|-------------|--------------------|-------------|----------------|--------------|
| 1      | .0104           | -41.44               | Pk  | 18.8               | 0           | -80            | -19.76                     | 67.24               | -87         | 47.24              | -67         | -                   | -           | -                  | -           | 0-360          | On           |
| 2      | .16326          | 44.51                | Pk  | 11.1               | -1          | -80            | -24.29                     | -                   | -           | -                  | -           | 43.36               | -67.65      | 23.36              | -47.65      | 0-360          | On           |
| 4      | .0137           | 40.38                | Pk  | 17.5               | 0           | -80            | -22.12                     | 64.85               | -86.97      | 44.85              | -66.97      | -                   | -           | -                  | -           | 0-360          | Off          |
| 5      | .1503           | 45.72                | Pk  | 11.1               | -1          | -80            | -23.08                     | -                   | -           | -                  | -           | 44.08               | -67.16      | 24.08              | -47.16      | 0-360          | Off          |

## Pk - Peak detector

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr 40Log | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|-----------------|----------------------------|-------------------|-------------|----------------|--------------|
| 3      | .64648          | 32.04                | Pk  | 11                 | .1          | -40             | 3.14                       | 31.4              | -28.26      | 0-360          | On           |
| 6      | .51333          | 34.52                | Pk  | 11                 | .1          | -40             | 5.62                       | 33.4              | -27.78      | 0-360          | Off          |

## Pk - Peak detector

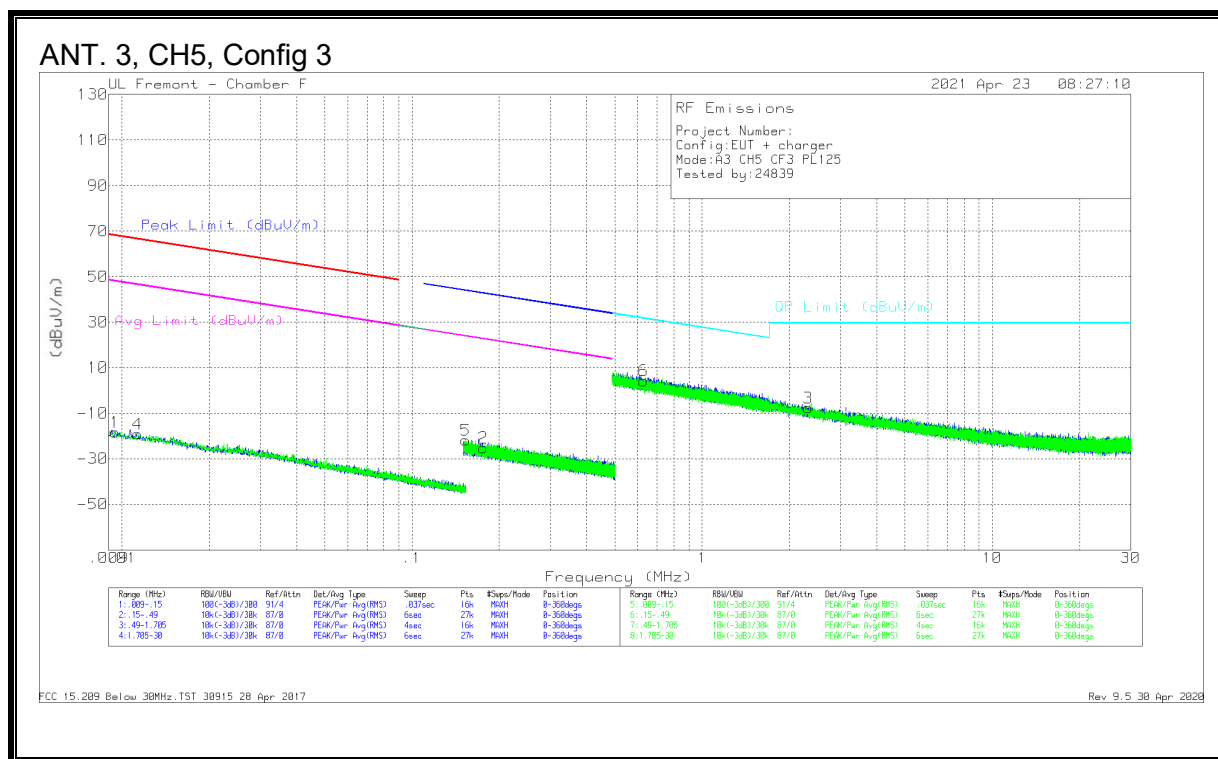


| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loos. Antenna (dBm) | Cables (dB) | Dist. Corr 300m | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|---------------------|-------------|-----------------|----------------------------|---------------------|-------------|--------------------|-------------|---------------------|-------------|--------------------|-------------|----------------|--------------|
| 1      | 0094            | 42.3                 | Pk  | 19.7                | 0           | -80             | -18                        | 68.13               | -86.13      | 48.13              | -66.13      | -                   | -           | -                  | -           | 0-360          | On           |
| 2      | 15468           | 45.82                | Pk  | 11.1                | -1          | -80             | -22.98                     | -                   | -           | -                  | -           | 43.83               | -66.81      | 23.83              | -46.81      | 0-360          | On           |
| 3      | 01266           | 41.72                | Pk  | 17.9                | 0           | -80             | -20.38                     | 65.53               | -85.91      | 45.53              | -65.91      | -                   | -           | -                  | -           | 0-360          | Off          |
| 4      | 11              | 1                    | Pk  | 1                   | -1          | -80             | -18                        | -                   | -           | -                  | -           | 42.24               | -67.41      | 22.24              | -47.41      | 0-360          | Off          |

Pk - Peak detector

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr (dB) 40Log | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|----------------------|----------------------------|-------------------|-------------|----------------|--------------|
| 3      | 5359            | 35.16                | Pk  | 11                 | .1          | -40                  | 6.26                       | 33.02             | -26.76      | 0-360          | On           |
| 6      | 4987.4          | 33.81                | Pk  | 11                 | .1          | -40                  | 4.91                       | 33.65             | -28.74      | 0-360          | Off          |

Pk - Peak detector



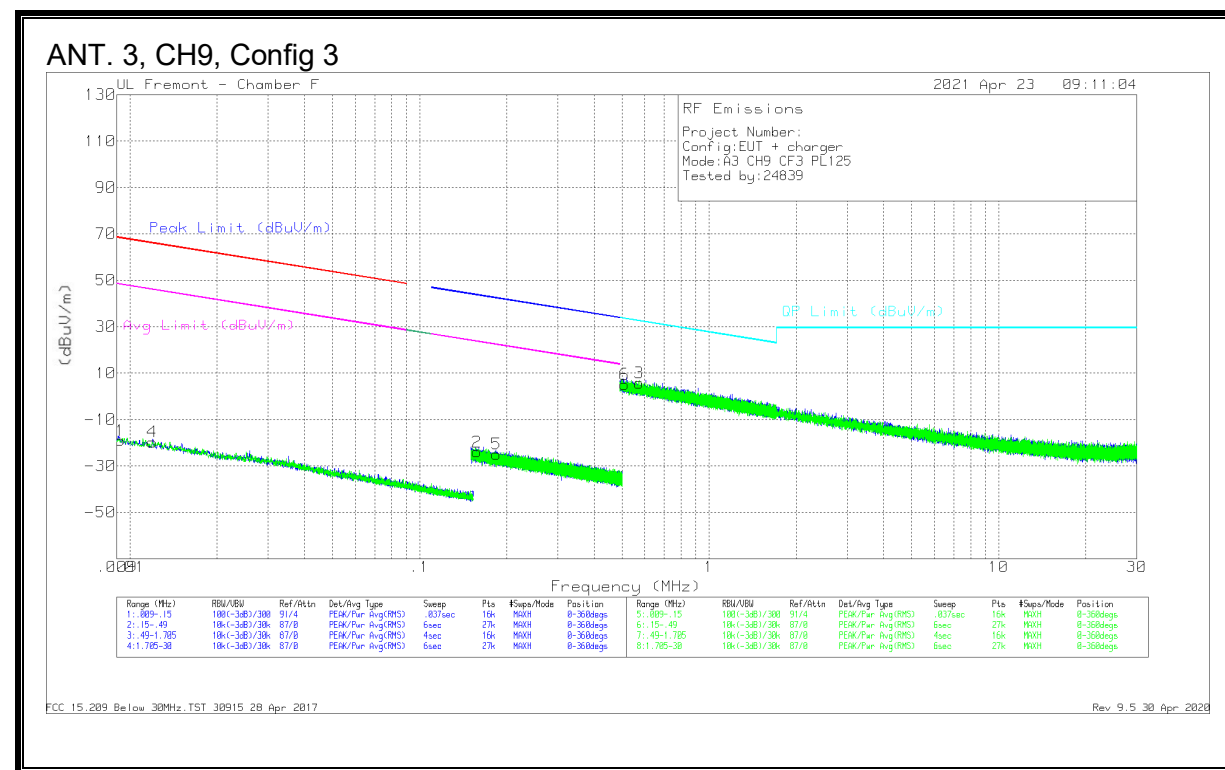
## Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr 300m | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|----------------|----------------------------|---------------------|-------------|--------------------|-------------|---------------------|-------------|--------------------|-------------|----------------|--------------|
| 1      | .0095           | 42.05                | Pk  | 19.6               | 0           | -80            | -18.35                     | 68.03               | -86.38      | 48.03              | -66.38      | -                   | -           | -                  | -           | 0-360          | On           |
| 2      | .1759           | 43.69                | Pk  | 11.1               | .1          | -80            | -25.11                     | -                   | -           | -                  | -           | 42.72               | -67.83      | 22.72              | -47.83      | 0-360          | On           |
| 4      | .01135          | 42.48                | Pk  | 18.5               | 0           | -80            | -19.02                     | 66.49               | -85.51      | 46.49              | -65.51      | -                   | -           | -                  | -           | 0-360          | Off          |
| 5      | .15341          | 47.1                 | Pk  | 11.1               | .1          | -80            | -21.7                      | -                   | -           | -                  | -           | 43.91               | -65.61      | 23.91              | -45.61      | 0-360          | Off          |

## Pk - Peak detector

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr (dB) | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|----------------|----------------------------|-------------------|-------------|----------------|--------------|
| 3      | 2.32018         | 20.99                | Pk  | 11.3               | .2          | -40            | -7.51                      | 29.5              | -37.01      | 0-360          | On           |
| 6      | .62908          | 33.16                | Pk  | 11                 | .1          | -40            | 4.26                       | 31.64             | -27.38      | 0-360          | Off          |

## Pk - Peak detector



## Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr 300m | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|----------------|----------------------------|---------------------|-------------|--------------------|-------------|---------------------|-------------|--------------------|-------------|----------------|--------------|
| 1      | .00925          | 41.2                 | Pk  | 19.8               | 0           | -80            | -19                        | 68.26               | -87.26      | 48.26              | -67.26      | -                   | -           | -                  | -           | 0-360          | On           |
| 2      | .1579           | 44.86                | Pk  | 11.1               | .1          | -80            | -23.94                     | -                   | -           | 43.65              | -67.59      | 23.65               | -47.59      | 0-360              | On          | On             | On           |
| 4      | .01193          | 42.16                | Pk  | 18.2               | 0           | -80            | -19.64                     | 66.05               | -85.69      | 46.05              | -66.69      | -                   | -           | -                  | -           | 0-360          | Off          |
| 5      | .18415          | 44.03                | Pk  | 11                 | .1          | -80            | -24.87                     | -                   | -           | 42.32              | -67.19      | 22.32               | -47.19      | 0-360              | Off         | Off            | Off          |

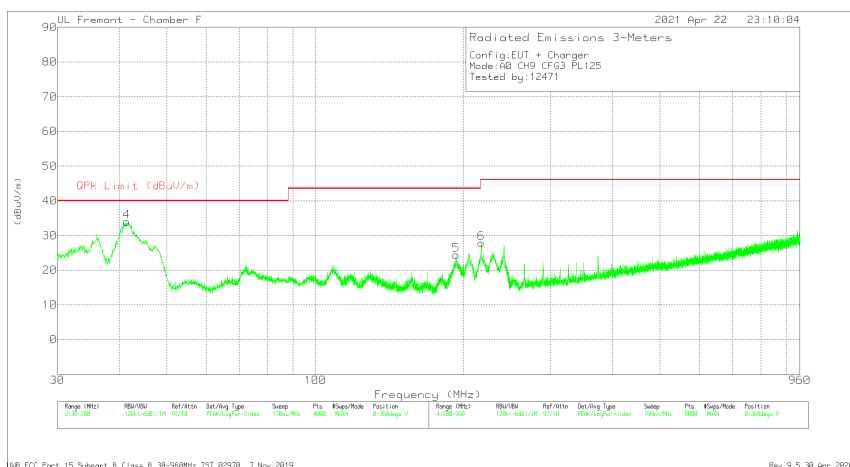
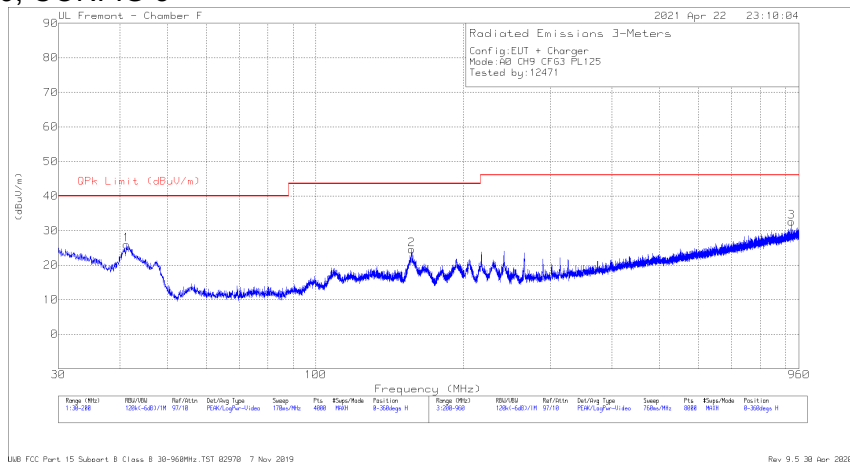
## Pk - Peak detector

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dBm) | Cables (dB) | Dist Corr (dB) 40Log | Corrected Reading (dBuV/m) | QP Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Antenna Face |
|--------|-----------------|----------------------|-----|--------------------|-------------|----------------------|----------------------------|-------------------|-------------|----------------|--------------|
| 3      | .57322          | 34.68                | Pk  | 11                 | .1          | -40                  | 5.78                       | 32.44             | -26.66      | 0-360          | On           |
| 6      | .51075          | 34.02                | Pk  | 11                 | .1          | -40                  | 5.12                       | 33.44             | -28.32      | 0-360          | Off          |

## Pk - Peak detector

## 9.5.2. EMISSIONS, 30 - 960 MHz

### ANT. 0, CH9, CONFIG 3



### Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AF (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|-----------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 41.2654         | 37.84                | Pk  | 19.9      | -31.8        | 25.94                      | 40                 | -14.06      | 0-360          | 400         | H        |
| 2      | 156.7253        | 37.37                | Pk  | 18        | -30.8        | 24.57                      | 43.52              | -18.95      | 0-360          | 301         | H        |
| 4      | 41.4355         | 45.96                | Pk  | 19.8      | -31.8        | 33.96                      | 40                 | -6.04       | 0-360          | 100         | V        |
| 5      | 193.0297        | 37.48                | Pk  | 17.3      | -30.4        | 24.38                      | 43.52              | -19.14      | 0-360          | 100         | V        |
| 3      | 926.7468        | 30.62                | Pk  | 28.5      | -26.5        | 32.62                      | 46.02              | -13.4       | 0-360          | 300         | H        |
| 6      | 217.1022        | 41.34                | Pk  | 16.8      | -30.3        | 27.84                      | 46.02              | -18.18      | 0-360          | 99          | V        |

Pk - Peak detector

UL Fremont - Chamber F

2021 Apr 22 23:40:28

Radiated Emissions 3-Meters  
 Config:EUT + Charger  
 Mode:AI CH5 CFS3 FL125  
 Tested by:12471

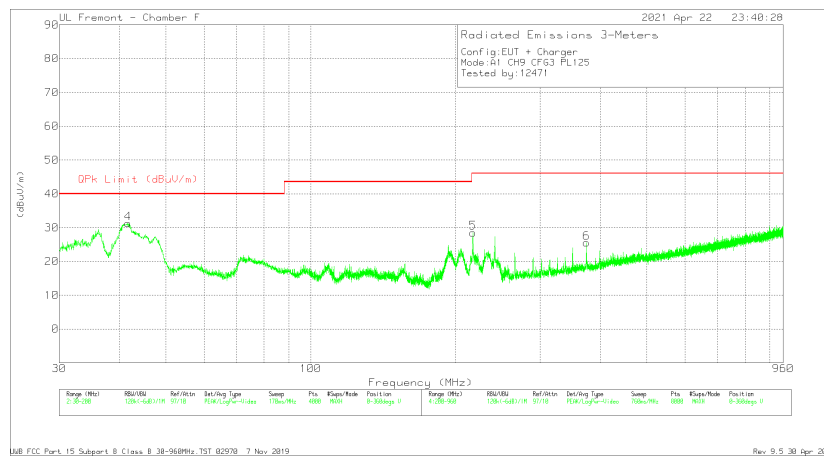
OPh Limit (dBμV/m)

Frequency (MHz)

| Range (MHz) | RBW (dB) | Avg/Std     | Det/Key Type   | Span | Pre  | Video Rate | Post Lim | Range (MHz) | RBW (dB) | Avg/Std     | Det/Key Type   | Span | Pre  | Video Rate | Post Lim |
|-------------|----------|-------------|----------------|------|------|------------|----------|-------------|----------|-------------|----------------|------|------|------------|----------|
| 1-30-MHz    | 120      | GdE11K 9719 | Peak/LogP+11dB | 170  | None | 4000       | None     | 100-300-MHz | 120      | GdE11K 9719 | Peak/LogP+11dB | 700  | None | 4000       | None     |

ULB FCC Part 15 Subpart B Class B 38-268MHz TST 02970 7 Nov 2019

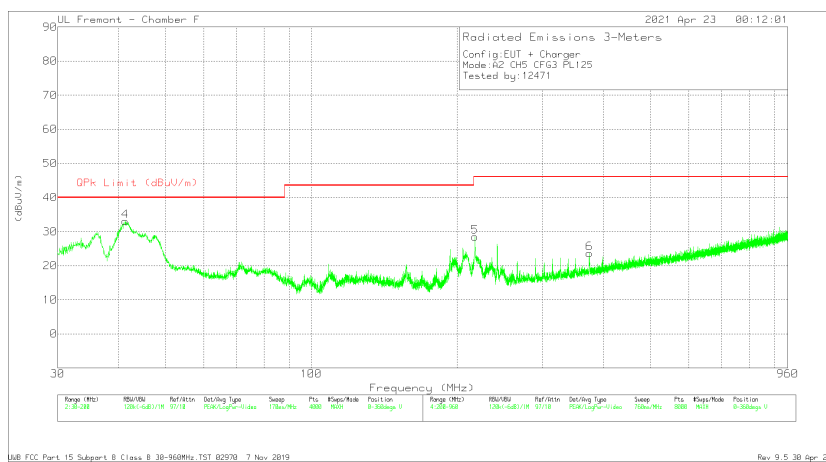
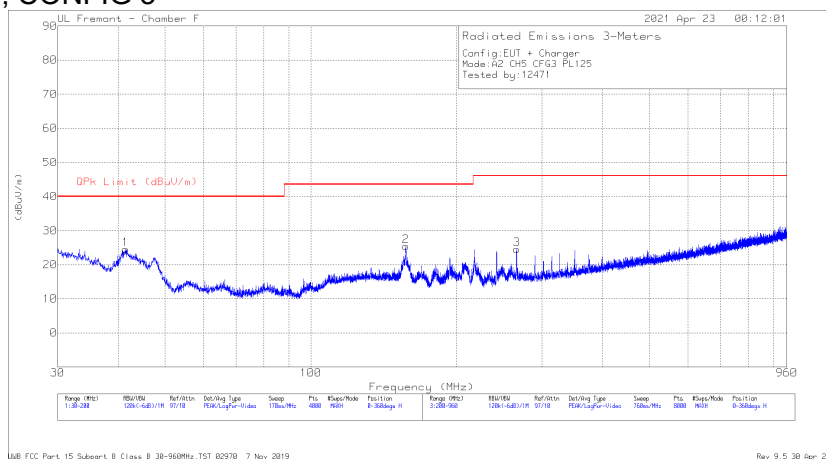
Rev: 9.5.38 (p.1)



| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AF (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPK Limit (dBuV/m) | Margin (dB) | Azimuth (Degr) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|-----------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 157.0654        | 38.69                | Pk  | 18        | -30.8        | 25.89                      | 43.52              | -17.63      | 0-360          | 200         | H        |
| 4      | 41.733          | 43.62                | Pk  | 19.5      | -31.8        | 31.32                      | 40                 | -8.68       | 0-360          | 100         | V        |
| 2      | 241.3302        | 37.37                | Pk  | 17.6      | -30.2        | 24.77                      | 46.02              | -21.25      | 0-360          | 99          | H        |
| 3      | 954.6803        | 28.87                | Pk  | 28.8      | -26.3        | 31.37                      | 46.02              | -14.65      | 0-360          | 301         | H        |
| 5      | 217.5772        | 41.95                | Pk  | 16.9      | -30.3        | 28.55                      | 46.02              | -17.47      | 0-360          | 99          | V        |
| 6      | 374.442         | 33.95                | Pk  | 21.1      | -29.5        | 25.55                      | 46.02              | -20.47      | 0-360          | 99          | V        |

UL VERIFICATION SERVICES INC  
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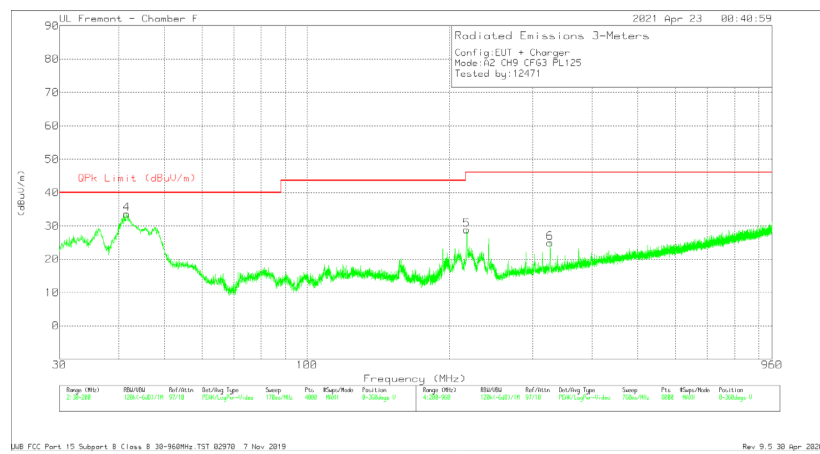
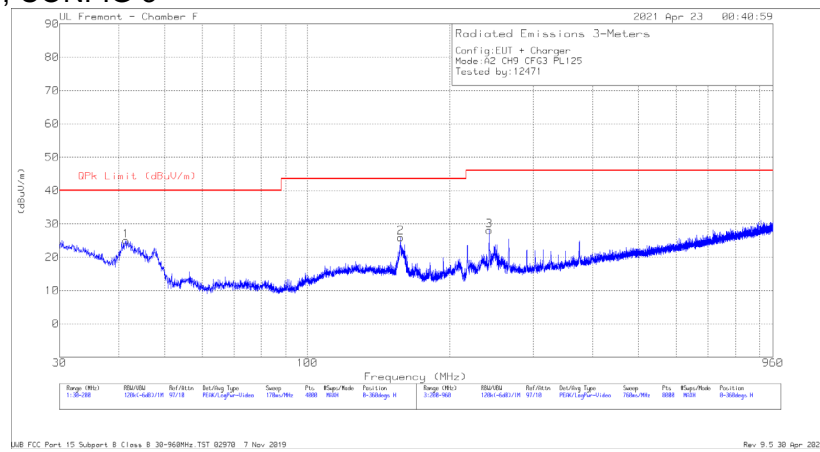
### ANT 2, CH5, CONFIG 3



### Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBUV) | Det | AF (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBUV/m) | QPk Limit (dBUV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|-----------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 41.4355         | 36.49                | Pk  | 19.8      | -31.8        | 24.49                      | 40                 | -15.51      | 0-360          | 400         | H        |
| 2      | 157.0654        | 38.17                | Pk  | 18        | -30.8        | 25.37                      | 43.52              | -18.15      | 0-360          | 201         | H        |
| 4      | 41.3504         | 45.07                | Pk  | 19.8      | -31.8        | 33.07                      | 40                 | -6.93       | 0-360          | 100         | V        |
| 3      | 265.8433        | 35.76                | Pk  | 18.9      | -30.1        | 24.56                      | 46.02              | -21.46      | 0-360          | 99          | H        |
| 5      | 217.4822        | 41.95                | Pk  | 16.8      | -30.3        | 28.45                      | 46.02              | -17.57      | 0-360          | 99          | V        |
| 6      | 374.7271        | 32.09                | Pk  | 21.1      | -29.5        | 23.69                      | 46.02              | -22.33      | 0-360          | 99          | V        |

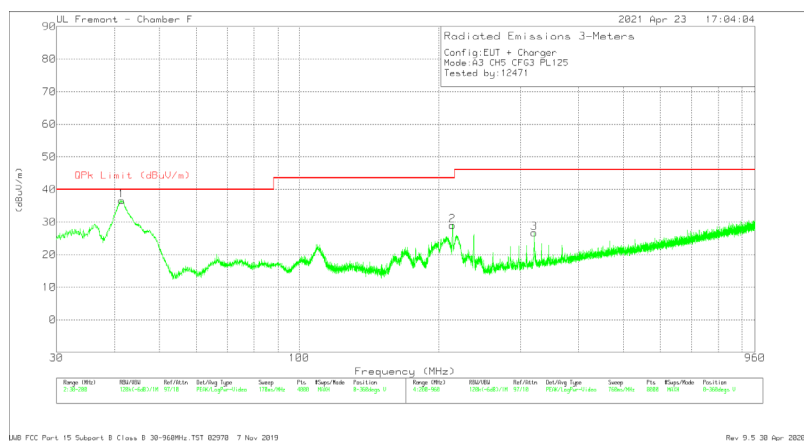
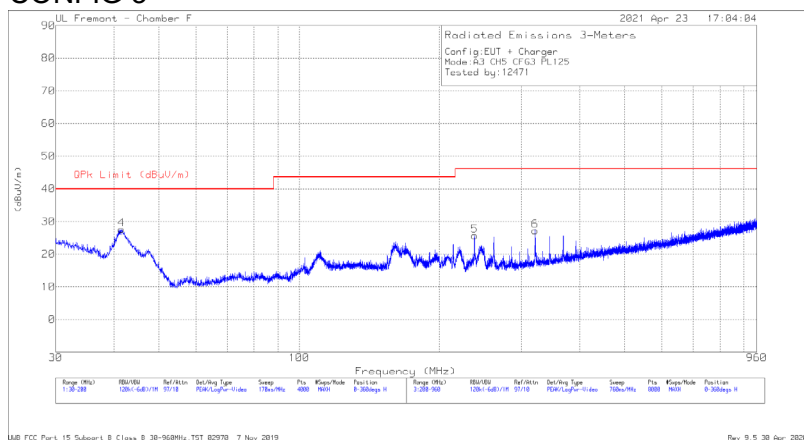
Pk - Peak detector



| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AF (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPK Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|-----------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 41.4355         | 37.06                | Pk  | 19.8      | -31.8        | 25.06                      | 40                 | -14.94      | 0-360          | 400         | H        |
| 2      | 157.2779        | 38.8                 | Pk  | 18        | -30.8        | 26                         | 43.52              | -17.52      | 0-360          | 201         | H        |
| 4      | 41.648          | 45.83                | Pk  | 19.6      | -31.8        | 33.63                      | 40                 | -6.37       | 0-360          | 100         | V        |
| 3      | 241.9953        | 40.67                | Pk  | 17.6      | -30.2        | 28.07                      | 46.02              | -17.95      | 0-360          | 99          | H        |
| 5      | 217.6722        | 42.27                | Pk  | 16.9      | -30.3        | 28.87                      | 46.02              | -17.15      | 0-360          | 99          | V        |
| 6      | 326.2709        | 34.66                | Pk  | 20        | -29.7        | 24.96                      | 46.02              | -21.06      | 0-360          | 99          | V        |

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### ANT. 3, CH5, CONFIG 3



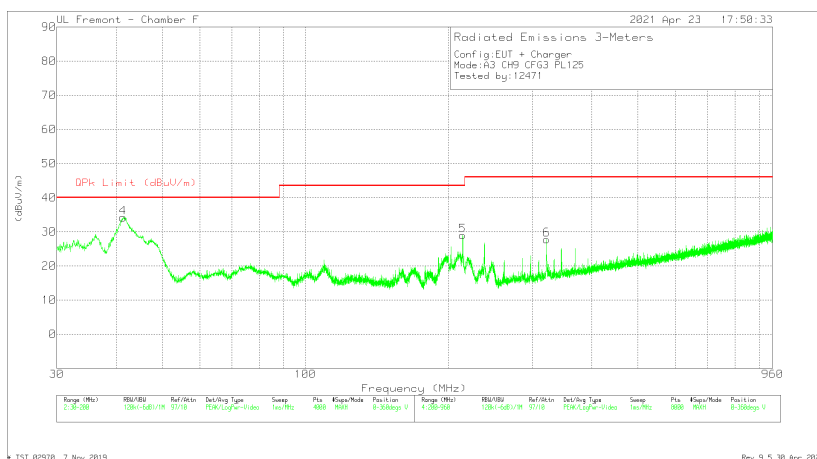
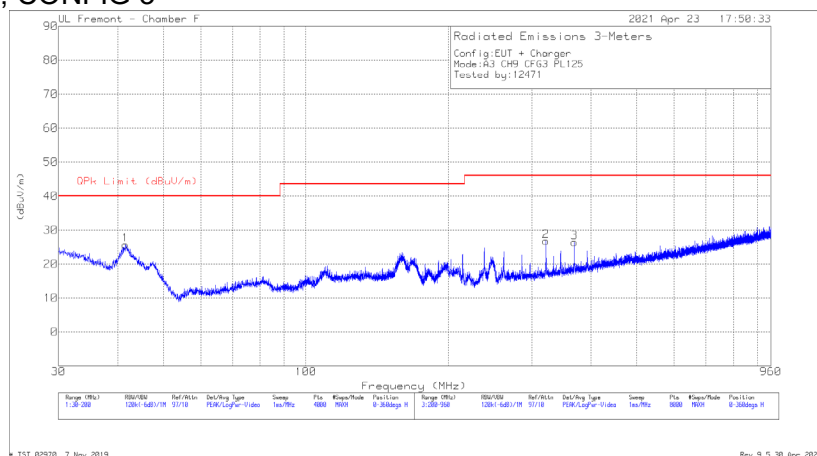
### Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AF (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|-----------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 4      | 41.5205         | 39.7                 | Pk  | 19.7      | -31.8        | 27.6                       | 40                 | -12.4       | 0-360          | 400         | H        |
| 1      | 41.4355         | 48.7                 | Pk  | 19.8      | -31.8        | 36.7                       | 40                 | -3.3        | 0-360          | 100         | V        |
|        | 41.6942         | 42.08                | Qp  | 19.5      | -31.8        | 29.78                      | 40                 | -10.22      | 360            | 101         | V        |
| 5      | 237.9098        | 38.35                | Pk  | 17.5      | -30.2        | 25.65                      | 46.02              | -20.37      | 0-360          | 99          | H        |
| 6      | 321.1403        | 36.86                | Pk  | 20        | -29.7        | 27.16                      | 46.02              | -18.86      | 0-360          | 99          | H        |
| 2      | 213.9668        | 42.7                 | Pk  | 16.7      | -30.4        | 29                         | 43.52              | -14.52      | 0-360          | 99          | V        |
| 3      | 321.1403        | 36.39                | Pk  | 20        | -29.7        | 26.69                      | 46.02              | -19.33      | 0-360          | 99          | V        |

Pk - Peak detector

Qp - Quasi-Peak detector

### ANT. 3, CH9, CONFIG 3



### Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AF (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|-----------|--------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 41.563          | 37.86                | Pk  | 19.6      | -31.8        | 25.66                      | 40                 | -14.34      | 0-360          | 300         | H        |
| 4      | 41.3504         | 46.18                | Pk  | 19.8      | -31.8        | 34.18                      | 40                 | -5.82       | 0-360          | 100         | V        |
|        | 41.7203         | 42.25                | Qp  | 19.5      | -31.8        | 29.95                      | 40                 | -10.05      | 0              | 101         | V        |
| 2      | 321.4253        | 36.54                | Pk  | 20        | -29.8        | 26.74                      | 46.02              | -19.28      | 0-360          | 99          | H        |
| 3      | 369.0263        | 34.9                 | Pk  | 21        | -29.5        | 26.4                       | 46.02              | -19.62      | 0-360          | 99          | H        |
| 5      | 214.1568        | 42.67                | Pk  | 16.7      | -30.4        | 28.97                      | 43.52              | -14.55      | 0-360          | 99          | V        |
| 6      | 321.3303        | 37.46                | Pk  | 20        | -29.7        | 27.76                      | 46.02              | -18.26      | 0-360          | 99          | V        |

Pk - Peak detector

Qp - Quasi-Peak detector

## 9.6. AVERAGE EMISSIONS ABOVE 960 MHz

### LIMITS

### FCC

15.519 (c)

| Frequency in MHz | EIRP in dBm |
|------------------|-------------|
| 960-1610         | -75.3       |
| 1610-1990        | -63.3       |
| 1990-3100        | -61.3       |
| 3100-10600       | -41.3       |
| Above 10600      | -61.3       |

§15.519 (d) In addition to the radiated emission limits specified in the table in paragraph (c) of this section, UWB transmitters operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1 kHz:

| Frequency in MHz | EIRP in dBm |
|------------------|-------------|
| 1164-1240        | -85.3       |
| 1559-1610        | -85.3       |

### RSS-220

Section 5.3.1 (d) Radiated emissions above 960 MHz from a device shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz.

| <b>Hand-held (Outdoor) Communication, Measurement, Location Sensing, and Tracking Devices</b> |                                             |
|-----------------------------------------------------------------------------------------------|---------------------------------------------|
| Frequency                                                                                     | E.i.r.p. in a Resolution Bandwidth of 1 MHz |
| 960-1 610 MHz                                                                                 | -75.3 dBm                                   |
| 1.61-4.75 GHz                                                                                 | -70.0 dBm                                   |
| 4.75-10.6 GHz                                                                                 | -41.3 dBm                                   |
| Above 10.6 GHz                                                                                | -61.3 dBm                                   |

Section 5.3.1 (e) In addition to the limits specified in paragraph (d) of this section, radiated emissions shall not exceed the following average limits when measured using a resolution bandwidth greater than or equal to 1 kHz. The measurements shall demonstrate compliance with the stated limits at whatever resolution bandwidth is used.

| Frequency       | E.i.r.p. in a Resolution Bandwidth of no less than 1 kHz |
|-----------------|----------------------------------------------------------|
| 1 164-1 240 MHz | -85.3 dBm                                                |
| 1 559-1 610 MHz | -85.3 dBm                                                |

## **TEST PROCEDURE**

ANSI C63.10 Clause 10.3.

RSS-220 Annex

Exploratory measurements for all frequency ranges are performed with the measurement antenna at close distances to the EUT as described in ANSI C63.10 6.6.4.2. Where emissions are observed the measurement antenna is then positioned at a height of 1.5m and a distance of 0.5m from the EUT and final measurements are made at the frequencies observed in the exploratory scans using the alternative measurement procedures detailed in ANSI C63.10 section 6.6.5. If no emissions are observed, a plot is made at a test distance of 0.5m from the EUT to show the measurement system noise floor.

### **PROCEDURE FOR 0.96 TO 6 GHz**

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 0.5m from the EUT.

A low pass filter with a cut off frequency of 6 GHz is used to suppress the fundamental and perform measurement for 0.96 - 6 GHz.

### **RESULTS FOR 6 GHz TO 9 GHz**

The 6 - 9 GHz frequency band is covered in Section 9.3.

### **PROCEDURE FOR 9 GHz TO 18 GHz**

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 0.5m from the EUT.

A high pass filter with pass band frequency beyond 9 GHz is used to suppress the fundamental and perform measurement for 9 - 18 GHz.

### **PROCEDURE FOR 1.164 TO 1.240 GHz**

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 0.5m from the EUT.

RBW = 120 kHz & VBW = 360 kHz were used at pre-scan.

A low pass filter with a cut off frequency of 6 GHz is used to suppress the fundamental and perform measurement for 1.164 – 1.240 GHz.

### **PROCEDURE FOR 1.559 TO 1.610 GHz**

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 0.5m from the EUT.

RBW = 120 kHz & VBW = 360 kHz were used at pre-scan.

A low pass filter with a cut off frequency of 6 GHz is used to suppress the fundamental and perform measurement for 1.559 – 1.610 GHz.

### **PROCEDURE FOR 18 GHz TO 40 GHz**

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 0.5m from the EUT.

A final test is made at any frequencies at which emissions are found. During this final scan, the antenna is kept no further from the EUT than the maximum distance calculated for each band that yields a minimum system noise floor.

Distance Correction Factor from 3m to 0.5m =  $20 \cdot \log(0.5\text{m}/3\text{m}) = -15.56 \text{ dB}$

## **RESULTS**

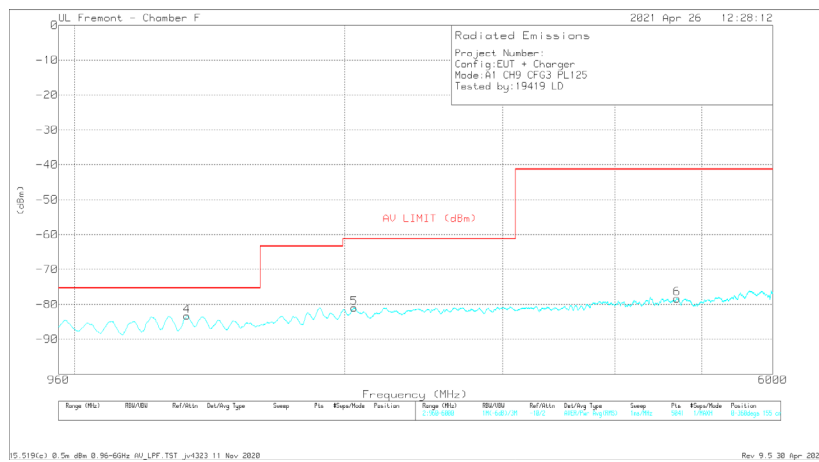
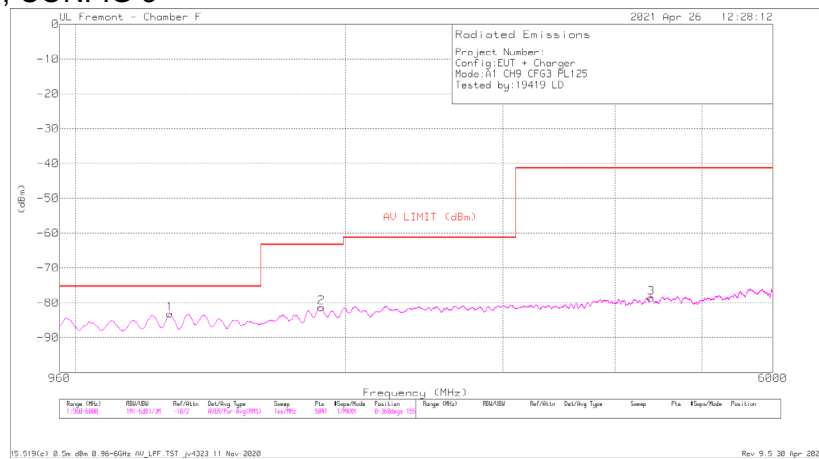
Employee IDs: 19419, 19190, 12471, 20737  
Location: Chamber F  
Test Date: 04/20/2021 – 05/07/2021

### **Average Emissions Summary**

| Ant | CH | Config | Payload | Power Setting | 1164 - 1240 MHz | 1559 - 1610 MHz | 0.96 - 18 GHz | 18 - 26 GHz | 26 - 40 GHz |
|-----|----|--------|---------|---------------|-----------------|-----------------|---------------|-------------|-------------|
| 0   | 9  | 3      | 125     | Max           | PASS            | PASS            | PASS          | PASS        | PASS        |
| 1   | 9  | 3      | 125     | Max           | PASS            | PASS            | PASS          | PASS        | PASS        |
| 2   | 5  | 3      | 125     | Max           | PASS            | PASS            | PASS          | PASS        | PASS        |
| 2   | 9  | 3      | 125     | Max           | PASS            | PASS            | PASS          | PASS        | PASS        |
| 3   | 5  | 3      | 125     | Max           | PASS            | PASS            | PASS          | PASS        | PASS        |
| 3   | 9  | 3      | 125     | Max           | PASS            | PASS            | PASS          | PASS        | PASS        |



### ANT. 1, CH9, CONFIG 3



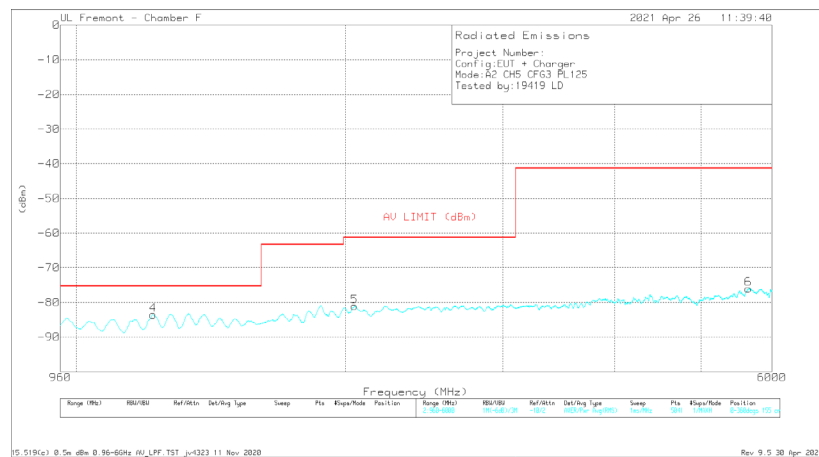
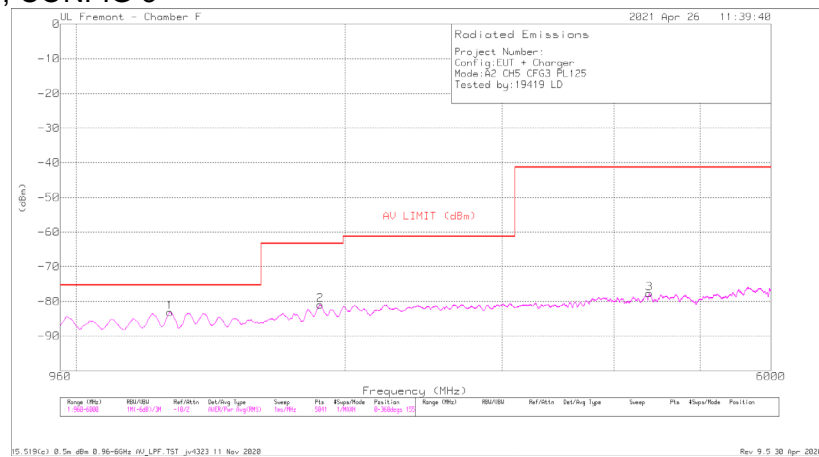
### Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LFP (dB) | EIRP (dBm) | FCC15.519(c) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 1274.5          | -63.22              | RMS | 29        | -45.3        | -15.6                | 11.8                   | .2              | -83.12     | -75.3                       | -7.82       | 141            | 155         | H        |
| 2      | 1881            | -63.37              | RMS | 30.6      | -45          | -15.6                | 11.8                   | .3              | -81.27     | -63.3                       | -17.97      | 229            | 155         | H        |
| 3      | 4390            | -65.57              | RMS | 33.9      | -43.6        | -15.6                | 11.8                   | .5              | -78.57     | -41.3                       | -37.27      | 96             | 155         | H        |
| 4      | 1335            | -63.28              | RMS | 29        | -45.3        | -15.6                | 11.8                   | .1              | -83.28     | -75.3                       | -7.98       | 154            | 155         | V        |
| 5      | 2049            | -63.38              | RMS | 31.3      | -45.4        | -15.6                | 11.8                   | .3              | -80.98     | -61.3                       | -19.68      | 132            | 155         | V        |
| 6      | 4692            | -65.21              | RMS | 34.1      | -43.9        | -15.6                | 11.8                   | .5              | -78.31     | -41.3                       | -37.01      | 110            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.

## ANT. 2, CH5, CONFIG 3



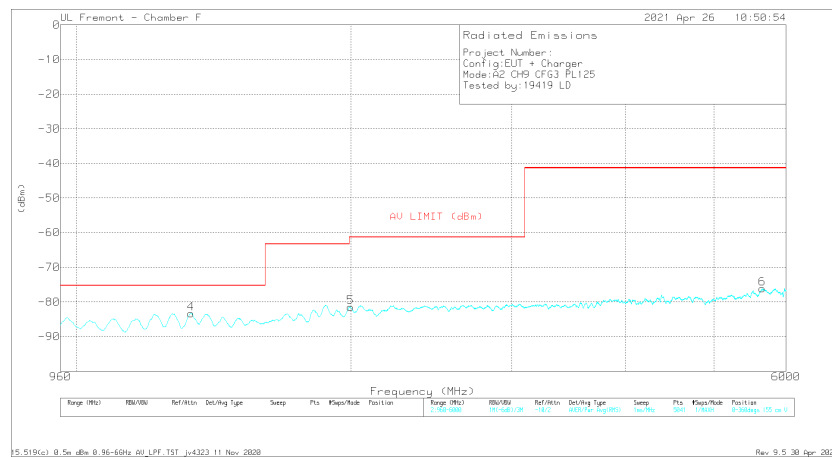
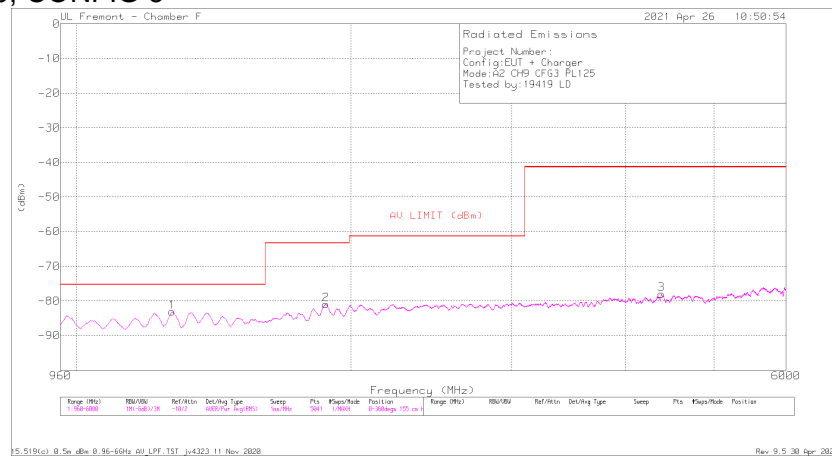
## Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(c) ERP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|----------------------------|-------------|----------------|-------------|----------|
| 1      | 1273            | -63.19              | RMS | 29        | -45.3        | -15.6                | 11.8                   | 2               | -83.09     | -75.3                      | -7.79       | 53             | 155         | H        |
| 2      | 1876            | -63.28              | RMS | 30.8      | -45          | -15.6                | 11.8                   | 3               | -80.98     | -63.3                      | -17.68      | 294            | 155         | H        |
| 3      | 4383            | -65.06              | RMS | 33.9      | -43.2        | -15.6                | 11.8                   | 5               | -77.66     | -41.3                      | -36.36      | 97             | 155         | H        |
| 4      | 1219            | -63.17              | RMS | 28.5      | -45.3        | -15.6                | 11.8                   | 2               | -83.57     | -75.3                      | -8.27       | 264            | 155         | V        |
| 5      | 2048            | -63.5               | RMS | 31.3      | -45.4        | -15.6                | 11.8                   | 3               | -81.1      | -61.3                      | -19.8       | 197            | 155         | V        |
| 6      | 5646            | -67.84              | RMS | 35        | -41.4        | -15.6                | 11.8                   | 2               | -76.04     | -41.3                      | -34.74      | 242            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH5 fundamental signal.

### ANT. 2, CH9, CONFIG 3



### Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(c) ERP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|----------------------------|-------------|----------------|-------------|----------|
| 1      | 1273            | -63.25              | RMS | 29        | -45.3        | -15.6                | 11.8                   | .2              | -83.15     | -75.3                      | -7.85       | 360            | 155         | H        |
| 2      | 1877            | -63.3               | RMS | 30.8      | -45          | -15.6                | 11.8                   | .3              | -81        | -63.3                      | -17.7       | 273            | 155         | H        |
| 3      | 4381            | -65.44              | RMS | 33.9      | -43.2        | -15.6                | 11.8                   | .5              | -78.04     | -41.3                      | -36.74      | 360            | 155         | H        |
| 4      | 1335            | -63.3               | RMS | 29        | -45.3        | -15.6                | 11.8                   | .1              | -83.3      | -75.3                      | -8          | 330            | 155         | V        |
| 5      | 1997            | -63.86              | RMS | 31.3      | -45.4        | -15.6                | 11.8                   | .3              | -81.46     | -61.3                      | -20.16      | 132            | 155         | V        |
| 6      | 5652            | -67.87              | RMS | 34.9      | -41.4        | -15.6                | 11.8                   | .2              | -76.17     | -41.3                      | -34.87      | 308            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.

UL Fremont - Chamber F

2021 Apr 26 08:31:48

Radiated Emissions

Project Number:  
ConfigEUI + Charger  
Mode: A3 CH5 CF63 PL125  
Tested by: 19419 LD

CdBm

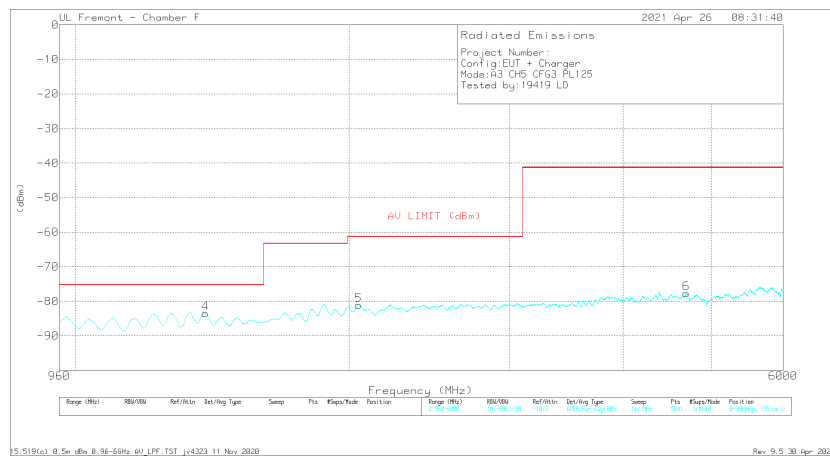
AV LIMIT (dBm)

Frequency (MHz)

| Range (Hz) | RBW (Hz)  | Ref/Int | Det/Ref Type | Sweep | Fit  | Edge/Rate | Position      |
|------------|-----------|---------|--------------|-------|------|-----------|---------------|
| 1.50e+08   | 90.00e+03 | Mag     | AVG/PPK      | Sweep | 100% | 1.00e+03  | 2.50e+03 100% |

5.519(c) 0.5u dBm 8.96-66Hz AU LFF TST [v4303 11 Nov 2020]

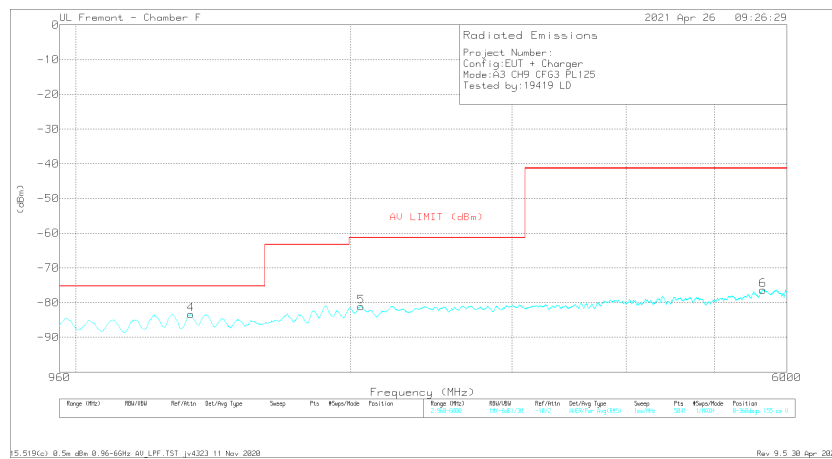
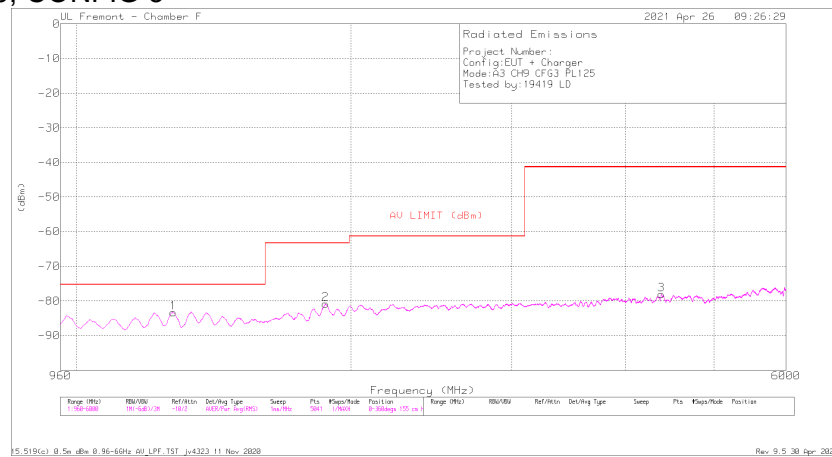
Rev: 9.5.30 Apr 2020



| Marker | Frequency (MHz) | Meter Reading (dBm) | Det | AF (dBm) | Amp/CN1 (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(C) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 1336            | -63.09              | RMS | 29       | -45.3        | -15.6                | 11.8                   | 1               | -83.09     | -75.3                       | -7.79       | 141            | 155         | H        |
| 2      | 1878            | -63.23              | RMS | 30.7     | -45          | -15.6                | 11.8                   | 3               | -81.03     | -63.3                       | -17.73      | 185            | 155         | H        |
| 3      | 4381            | -64.88              | RMS | 33.9     | -43.2        | -15.6                | 11.8                   | 5               | -77.48     | -41.3                       | -36.18      | 295            | 155         | H        |
| 4      | 1390            | -63.41              | RMS | 28.8     | -45.2        | -15.6                | 11.8                   | 2               | -83.41     | -75.3                       | -8.11       | 154            | 155         | V        |
| 5      | 2048            | -63.45              | RMS | 31.3     | -45.4        | -15.6                | 11.8                   | 3               | -81.05     | -61.3                       | -19.75      | 87             | 155         | V        |
| 6      | 4694            | -64.64              | RMS | 34.2     | -43.9        | -15.6                | 11.8                   | 5               | -77.64     | -41.3                       | -36.34      | 44             | 155         | V        |

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH5 fundamental signal.

### ANT. 3, CH9, CONFIG 3



### Trace Markers

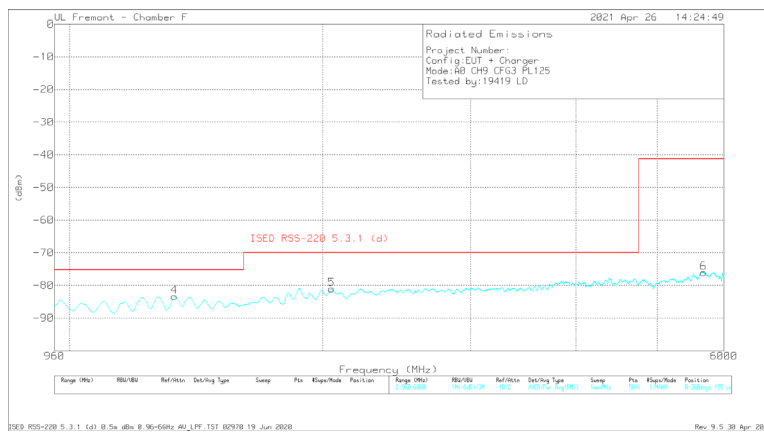
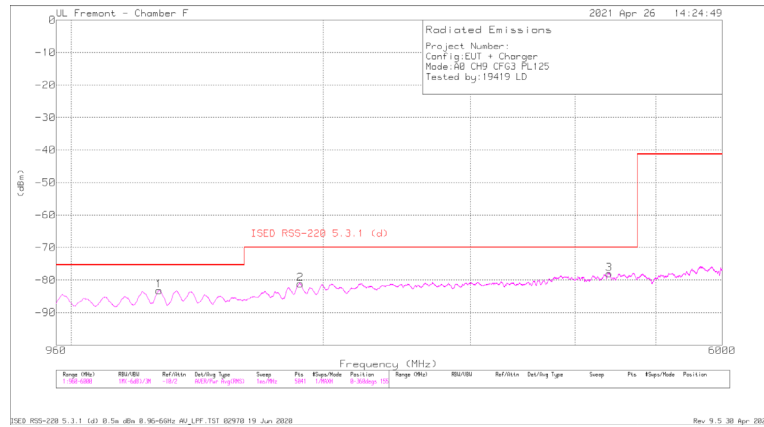
| Marker | Frequency (MHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(c) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 1277            | -63.59              | RMS | 29.1      | -45.3        | -15.6                | 11.8                   | .2              | -83.39     | -75.3                       | -8.09       | 53             | 155         | H        |
| 2      | 1875            | -63.09              | RMS | 30.8      | -45.1        | -15.6                | 11.8                   | .3              | -80.89     | -63.3                       | -17.59      | 206            | 155         | H        |
| 3      | 4382            | -65.49              | RMS | 33.9      | -43.2        | -15.6                | 11.8                   | .5              | -78.09     | -41.3                       | -36.79      | 185            | 155         | H        |
| 4      | 1337            | -63.29              | RMS | 29        | -45.3        | -15.6                | 11.8                   | .1              | -83.29     | -75.3                       | -7.99       | 176            | 155         | V        |
| 5      | 2053            | -63.46              | RMS | 31.3      | -45.4        | -15.6                | 11.8                   | .3              | -81.06     | -61.3                       | -19.76      | 264            | 155         | V        |
| 6      | 5648            | -67.98              | RMS | 34.9      | -41.5        | -15.6                | 11.8                   | 2               | -76.38     | -41.3                       | -35.08      | 132            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 6 GHz to suppress CH9 fundamental signal.

## 9.6.1.2. RSS-220 5.3.1 (d)

### ANT. 0, CH9, CONFIG 3



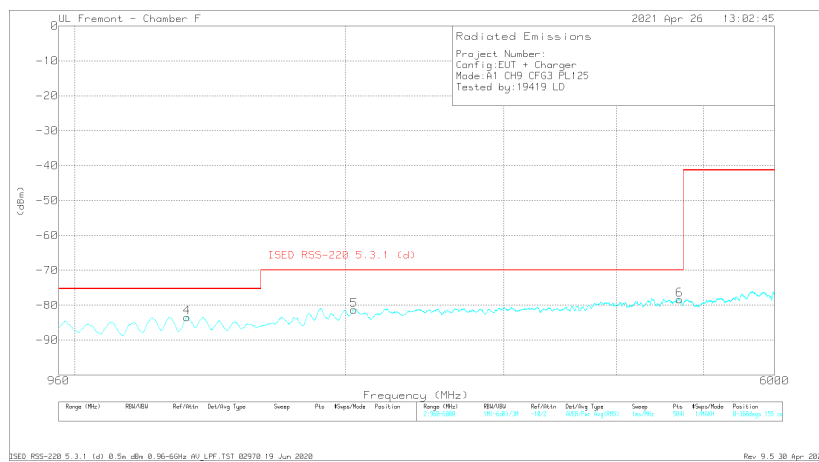
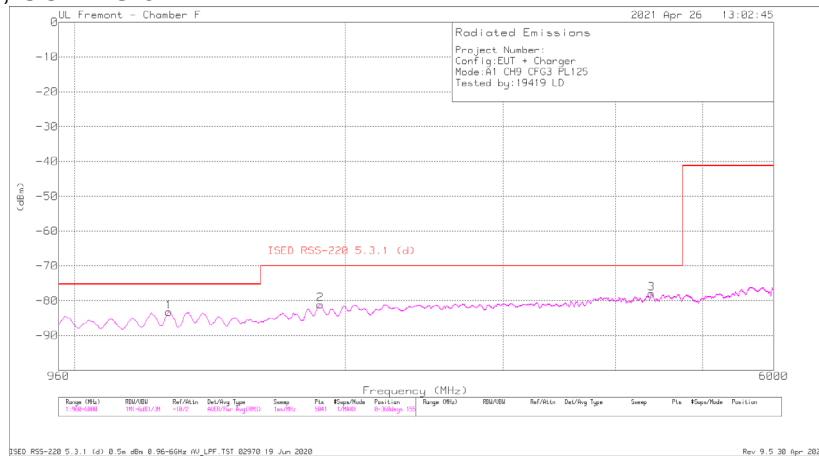
### Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LFF (dB) | Corrected Reading (dBm) | ISSED RSS-220 5.3.1 (d) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|-------------------------|-------------------------|-------------|----------------|-------------|----------|
| 1      | 1274            | -63.29              | RMS | 29        | -45.3        | -15.6                | 11.8                   | 2               | -83.19                  | -75.3                   | -7.89       | 338            | 155         | H        |
| 2      | 1879            | -63.33              | RMS | 30.7      | -45          | -15.6                | 11.8                   | 3               | -81.13                  | -70                     | -11.13      | 97             | 155         | H        |
| 3      | 4396            | -64.94              | RMS | 33.9      | -43.7        | -15.6                | 11.8                   | 5               | -78.04                  | -70                     | -8.04       | 140            | 155         | H        |
| 4      | 1333            | -63.26              | RMS | 28.9      | -45.3        | -15.6                | 11.8                   | 1               | -83.36                  | -75.3                   | -8.06       | 198            | 155         | V        |
| 5      | 2049            | -63.45              | RMS | 31.3      | -45.4        | -15.6                | 11.8                   | 3               | -81.05                  | -70                     | -11.05      | 21             | 155         | V        |
| 6      | 5674            | -67.35              | RMS | 34.9      | -41.8        | -15.6                | 11.8                   | 2               | -76.05                  | -41.3                   | -34.75      | 220            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.

## ANT. 1, CH9, CONFIG 3



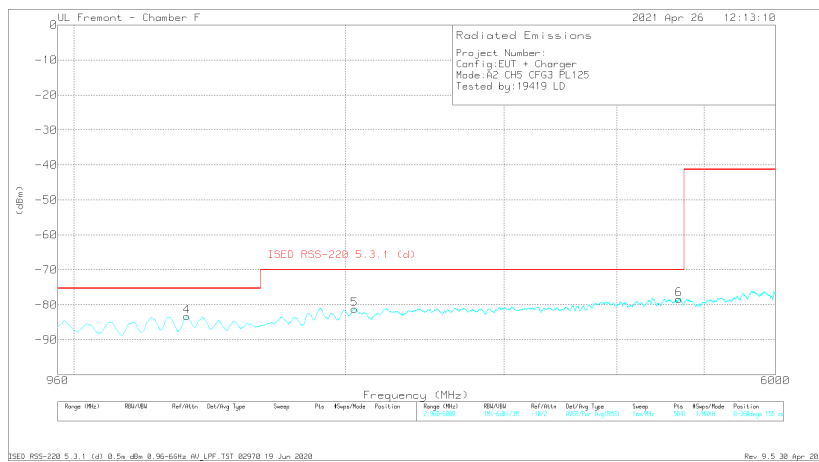
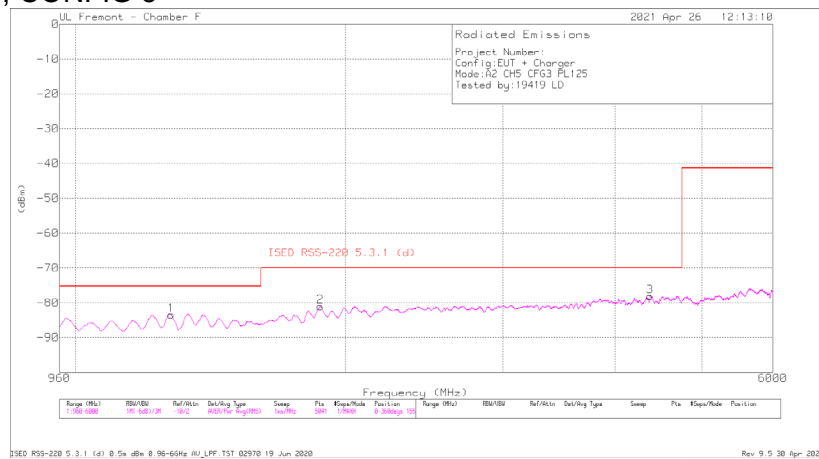
## Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | Corrected Reading (dBm) | ISED RSS-220 5.3.1 (d) | Margin (dB) | Altitude (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|-------------------------|------------------------|-------------|-----------------|-------------|----------|
| 1      | 1273            | -63.3               | RMS | 29        | -45.3        | -15.6                | 11.8                   | 2               | -83.2                   | -75.3                  | -7.9        | 360             | 155         | H        |
| 2      | 1877            | -63.31              | RMS | 30.8      | -45          | -15.6                | 11.8                   | 3               | -81.01                  | -70                    | -11.01      | 52              | 155         | H        |
| 3      | 4386            | -65.13              | RMS | 33.9      | -43.4        | -15.6                | 11.8                   | 5               | -77.93                  | -70                    | -7.93       | 339             | 155         | H        |
| 4      | 1333.5          | -63.37              | RMS | 28.9      | -45.3        | -15.6                | 11.8                   | 1               | -83.47                  | -75.3                  | -8.17       | 132             | 155         | V        |
| 5      | 2044            | -63.72              | RMS | 31.3      | -45.4        | -15.6                | 11.8                   | 3               | -81.32                  | -70                    | -11.32      | 264             | 155         | V        |
| 6      | 4703            | -65.56              | RMS | 34.1      | -43.6        | -15.6                | 11.8                   | 5               | -78.36                  | -70                    | -8.36       | 308             | 155         | V        |

## RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.

## ANT. 2, CH5, CONFIG 3



## Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LFP (dB) | Corrected Reading (dBm) | ISED RSS-220 5.3.1 (d) | Margin (dB) | Altitude (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|-------------------------|------------------------|-------------|-----------------|-------------|----------|
| 1      | 1279            | -63.57              | RMS | 29.1      | -45.4        | -15.6                | 11.8                   | 2               | -83.47                  | -75.3                  | -8.17       | 360             | 155         | H        |
| 2      | 1876.5          | -63.36              | RMS | 30.8      | -45          | -15.6                | 11.8                   | 3               | -81.06                  | -70                    | -11.06      | 317             | 155         | H        |
| 3      | 4377            | -65.26              | RMS | 33.9      | -43.5        | -15.6                | 11.8                   | 5               | -78.16                  | -70                    | -8.16       | 317             | 155         | H        |
| 4      | 1335            | -63.3               | RMS | 29        | -45.3        | -15.6                | 11.8                   | 1               | -83.3                   | -75.3                  | -8          | 242             | 155         | V        |
| 5      | 2048            | -63.62              | RMS | 31.3      | -45.4        | -15.6                | 11.8                   | 3               | -81.22                  | -70                    | -11.22      | 198             | 155         | V        |
| 6      | 4688            | -65.17              | RMS | 34.1      | -44          | -15.6                | 11.8                   | 5               | -78.37                  | -70                    | -8.37       | 1               | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH5 fundamental signal.

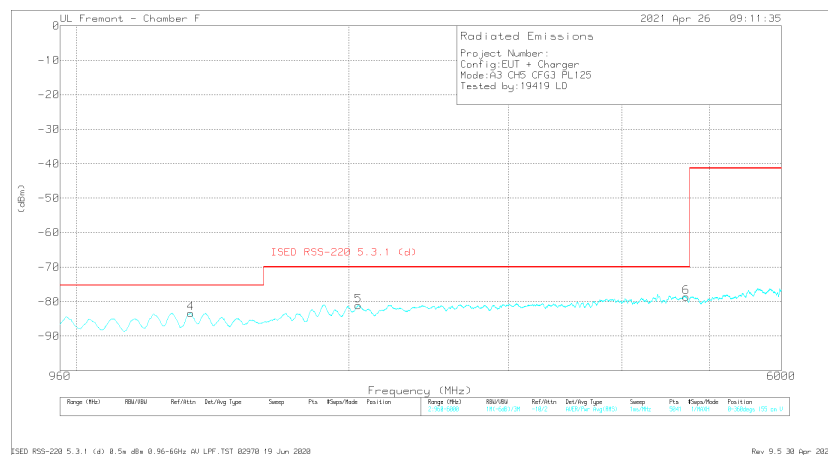
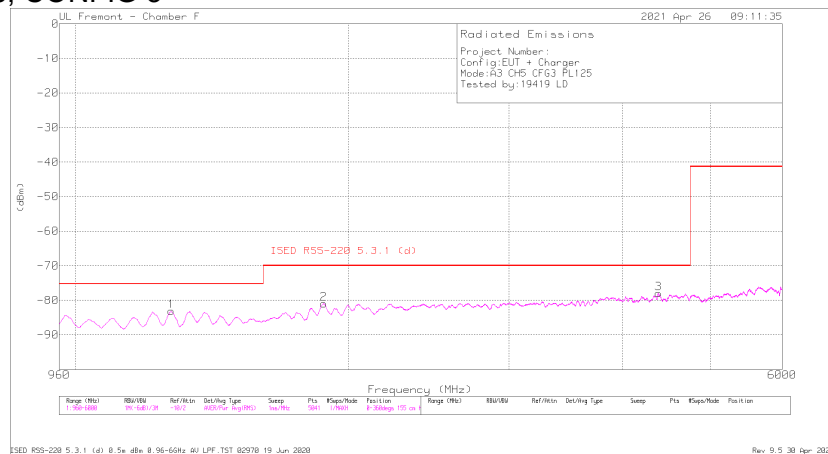


| Marker | Frequency (Mhz) | Measuring (Mhz) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 18196 LPF (dB) | Corrected Reading (dBm) | ISED RSS-220 5.3.1 (dB) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|-----------------|-----|-----------|--------------|----------------------|------------------------|----------------|-------------------------|-------------------------|-------------|----------------|-------------|----------|
| 1      | 1275            | -63.36          | RMS | 29        | -45.3        | -15.6                | 11.8                   | 2              | -83.26                  | -75.3                   | -7.96       | 74             | 155         | H        |
| 2      | 1882.5          | -63.4           | RMS | 30.6      | -45          | -15.6                | 11.8                   | 3              | -81.3                   | -70                     | -11.3       | 251            | 155         | H        |
| 3      | 4366            | -65.19          | RMS | 33.9      | -43.4        | -15.6                | 11.8                   | 5              | -77.99                  | -70                     | -7.99       | 360            | 155         | H        |
| 4      | 1337            | -63.13          | RMS | 29        | -45.3        | -15.6                | 11.8                   | -1.3           | -83.13                  | -75.3                   | 7.83        | 176            | 155         | V        |
| 5      | 2056            | -63.75          | RMS | 31.3      | -45.4        | -15.6                | 11.8                   | 3              | -81.35                  | -70                     | -11.35      | 263            | 155         | V        |
| 6      | 4818            | -65.56          | RMS | 34.2      | -43.7        | -15.6                | 11.8                   | 6              | -78.26                  | -41.3                   | -36.96      | 126            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.

### ANT. 3, CH5, CONFIG 3



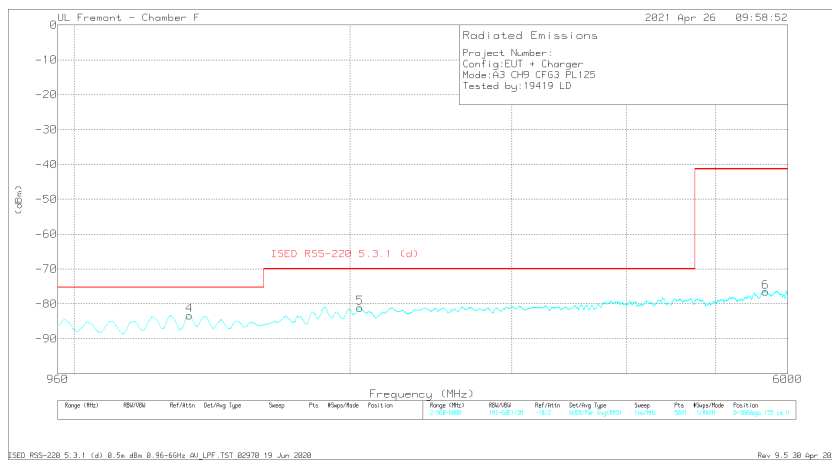
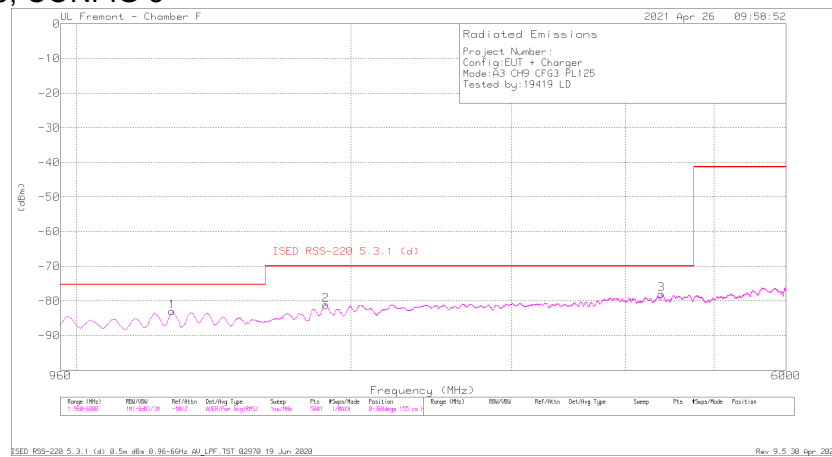
### Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBm) | Det | AF (dBm) | Amp/Chl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | Corrected Reading (dBm) | ISED RSS-228 5.3.1 (d) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|----------|--------------|----------------------|------------------------|-----------------|-------------------------|------------------------|-------------|----------------|-------------|----------|
| 1      | 1275            | -63.23              | RMS | 29       | -45.3        | -15.6                | 11.8                   | .2              | -83.13                  | -75.3                  | -7.83       | 185            | 155         | H        |
| 2      | 1878            | -63.19              | RMS | 30.7     | -45          | -15.6                | 11.8                   | .3              | -80.99                  | -70                    | -10.99      | 360            | 155         | H        |
| 3      | 4383            | -65.36              | RMS | 33.9     | -43.2        | -15.6                | 11.8                   | .5              | -77.96                  | -70                    | -7.96       | 317            | 155         | H        |
| 4      | 1337.5          | -63.5               | RMS | 29.1     | -45.3        | -15.6                | 11.8                   | .1              | -83.4                   | -75.3                  | -8.1        | 198            | 155         | V        |
| 5      | 2048            | -63.45              | RMS | 31.3     | -45.4        | -15.6                | 11.8                   | .3              | -81.05                  | -70                    | -11.05      | 330            | 155         | V        |
| 6      | 4712            | -65.86              | RMS | 34.1     | -43.6        | -15.6                | 11.8                   | .6              | -78.66                  | -70                    | -8.66       | 154            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 6 GHz to suppress CH5 fundamental signal.

### ANT. 3, CH9, CONFIG 3



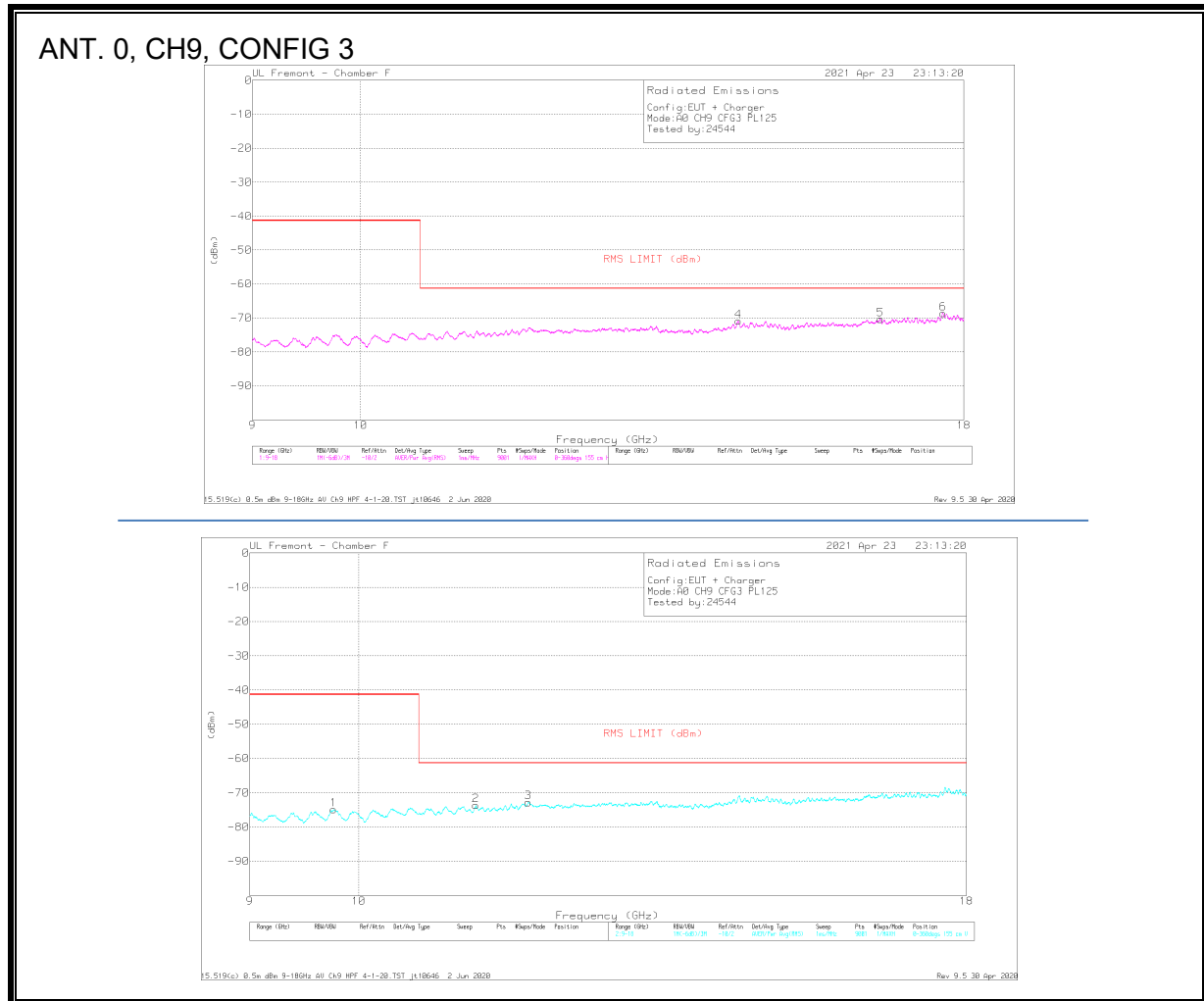
### Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | Corrected Reading (dBm) | ISED RSS-228 5.3.1 (d) | Margin (dB) | Altitude (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|-------------------------|------------------------|-------------|-----------------|-------------|----------|
| 1      | 1273            | -63.12              | RMS | 29        | -45.3        | -15.6                | 11.8                   | 2               | -83.02                  | -75.3                  | -7.72       | 97              | 155         | H        |
| 2      | 1878            | -63.31              | RMS | 30.7      | -45          | -15.6                | 11.8                   | 3               | -81.11                  | -70                    | -11.11      | 75              | 155         | H        |
| 3      | 4382            | -65.39              | RMS | 33.9      | -43.2        | -15.6                | 11.8                   | 5               | -77.99                  | -70                    | -7.99       | 207             | 155         | H        |
| 4      | 1336            | -63.28              | RMS | 29        | -45.3        | -15.6                | 11.8                   | .1              | -83.28                  | -75.3                  | -7.98       | 198             | 155         | V        |
| 5      | 2050            | -63.44              | RMS | 31.3      | -45.4        | -15.6                | 11.8                   | 3               | -81.04                  | -70                    | -11.04      | 198             | 155         | V        |
| 6      | 5678            | -67.75              | RMS | 34.9      | -41.8        | -15.6                | 11.8                   | 2               | -76.45                  | -41.3                  | -35.15      | 242             | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 6 GHz to suppress CH9 fundamental signal.

## 9.6.2. AVERAGE EMISSIONS, 9 – 18 GHz



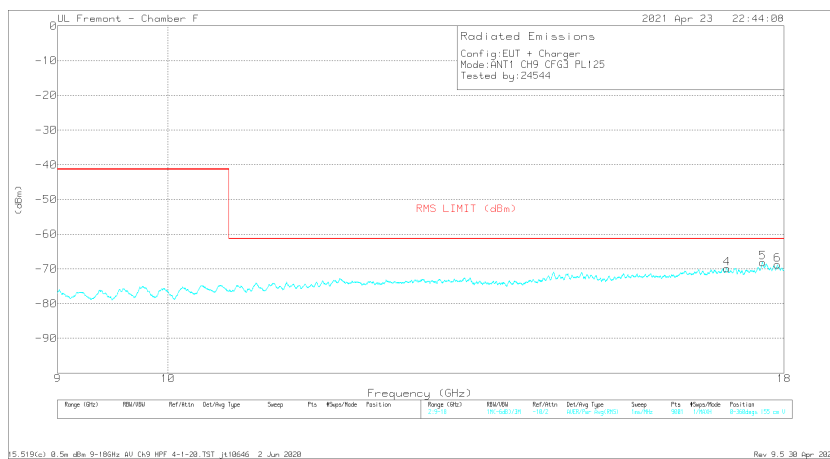
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | CH9_HP (dB) | EIRP (dBm) | FCC15.519(c) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 4      | 14.45           | -71.9               | RMS | 39.8      | -35.4        | -15.6                | 11.8                   | .4          | -70.9      | -61.3                       | -9.6        | 160            | 155         | H        |
| 5      | 16.599          | -71.64              | RMS | 41.2      | -36.6        | -15.6                | 11.8                   | .5          | -70.34     | -61.3                       | -9.04       | 291            | 155         | H        |
| 6      | 17.643          | -71.85              | RMS | 41.5      | -35          | -15.6                | 11.8                   | .5          | -68.65     | -61.3                       | -7.35       | 269            | 155         | H        |
| 1      | 9.761           | -68.88              | RMS | 36.8      | -39          | -15.6                | 11.8                   | 0           | -74.88     | -41.3                       | -33.58      | 245            | 155         | V        |
| 2      | 11.2            | -71.16              | RMS | 37.9      | -37.1        | -15.6                | 11.8                   | .5          | -73.66     | -61.3                       | -12.36      | 133            | 155         | V        |
| 3      | 11.781          | -70.91              | RMS | 38.9      | -37.4        | -15.6                | 11.8                   | .4          | -72.81     | -61.3                       | -11.51      | 221            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a high-pass filter with pass-band frequency starting at 9 GHz to suppress CH9 fundamental signal.

### ANT. 1, CH9, CONFIG 3



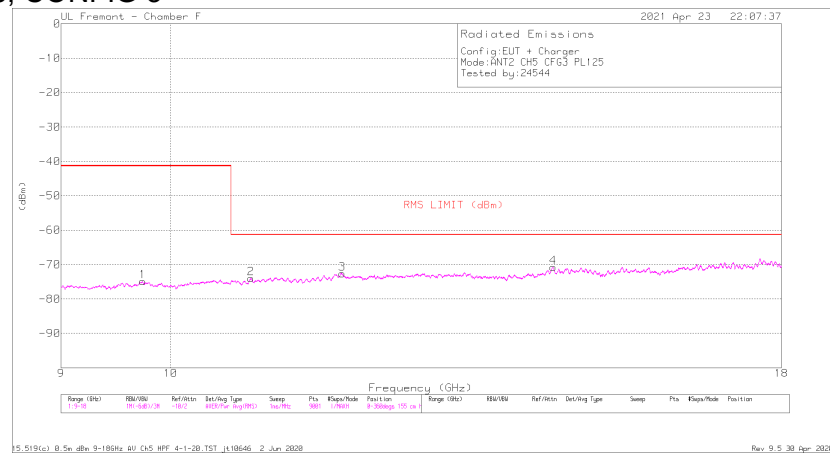
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | CH9_HP (dB) | EIRP (dBm) | FCC15.519(c) ERP RMS (dBm) | Margin (dB) | Altitude (m) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-------------|------------|----------------------------|-------------|--------------|-------------|----------|
| 1      | 10.88           | -70.39              | RMS | 37.8      | -37.7        | -15.6                | 11.8                   | 0           | -74.09     | -61.3                      | -12.79      | 1            | 155         | H        |
| 2      | 14.445          | -71.69              | RMS | 39.7      | -35.5        | -15.6                | 11.8                   | .3          | -70.99     | -61.3                      | -9.69       | 1            | 155         | H        |
| 3      | 14.842          | -71.75              | RMS | 40.1      | -36.4        | -15.6                | 11.8                   | .8          | -71.05     | -61.3                      | -9.75       | 21           | 155         | H        |
| 4      | 17.05           | -71.37              | RMS | 41.3      | -36.4        | -15.6                | 11.8                   | .4          | -69.87     | -61.3                      | -8.57       | 317          | 155         | V        |
| 5      | 17.638          | -71.55              | RMS | 41.4      | -34.7        | -15.6                | 11.8                   | .5          | -68.15     | -61.3                      | -6.85       | 339          | 155         | V        |
| 6      | 17.887          | -71.16              | RMS | 41.5      | -35.8        | -15.6                | 11.8                   | .5          | -68.76     | -61.3                      | -7.46       | 118          | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a high-pass filter with pass-band frequency starting at 9 GHz to suppress CH9 fundamental signal.

### ANT. 2, CH5, CONFIG 3



### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | CH5_HPF (dB) | EIRP (dBm) | FCC15.519(c) ERP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|--------------|------------|----------------------------|-------------|----------------|-------------|----------|
| 1      | 9.736           | -70.02              | RMS | 36.8      | -38.6        | -15.6                | 11.8                   | .7           | -74.92     | -41.3                      | -33.62      | 75             | 155         | H        |
| 2      | 10.805          | -71.48              | RMS | 37.8      | -37.1        | -15.6                | 11.8                   | .6           | -73.98     | -61.3                      | -12.68      | 251            | 155         | H        |
| 3      | 11.795          | -70.92              | RMS | 38.9      | -37.4        | -15.6                | 11.8                   | .6           | -72.62     | -61.3                      | -11.32      | 163            | 155         | H        |
| 4      | 14.451          | -71.87              | RMS | 39.8      | -35.4        | -15.6                | 11.8                   | .5           | -70.77     | -61.3                      | -9.47       | 338            | 155         | H        |
| 5      | 17.051          | -71.11              | RMS | 41.3      | -36.4        | -15.6                | 11.8                   | .6           | -69.41     | -61.3                      | -8.11       | 220            | 155         | V        |
| 6      | 17.642          | -71.99              | RMS | 41.5      | -34.9        | -15.6                | 11.8                   | .6           | -68.59     | -61.3                      | -7.29       | 132            | 155         | V        |

RMS - RMS detection

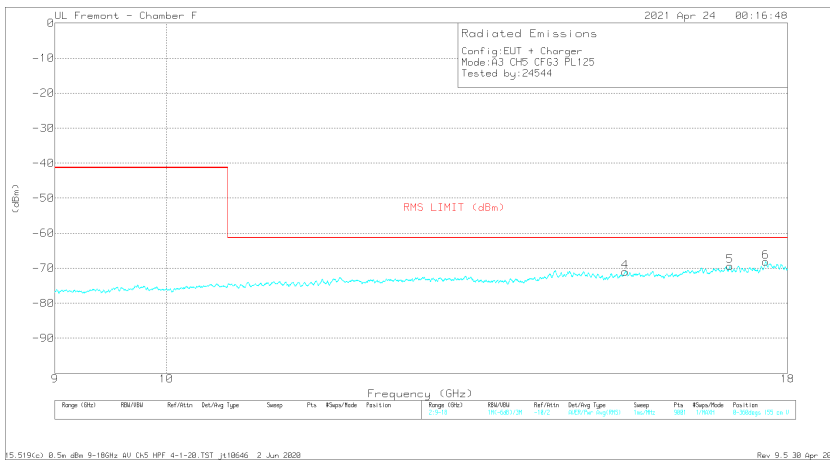
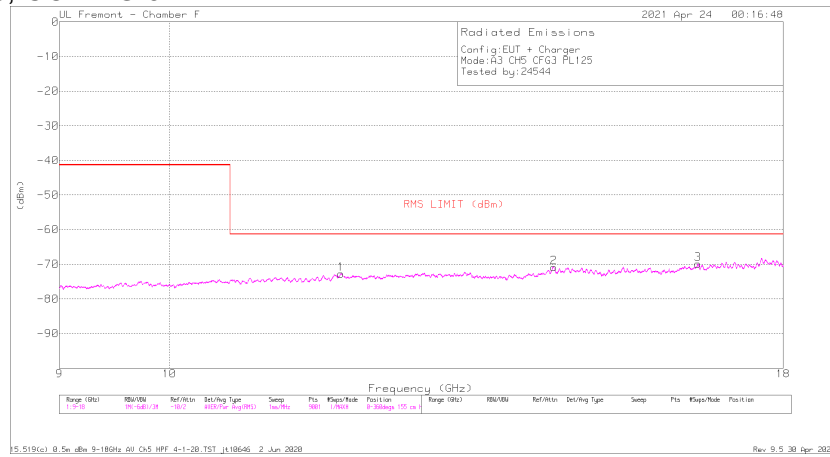
\*Note: Test was performed with a high-pass filter with pass-band frequency starting at 9 GHz to suppress CH5 fundamental signal.



| Marker | Frequency (GHz) | Mez Reading (dBm) | Det | AF (dB/m) | AmpCbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | Ch9_HPF (dB) | EIRP (dBm) | FCC15.519(c) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|-------------------|-----|-----------|-------------|----------------------|------------------------|--------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 9.761           | -68.91            | RMS | 36.8      | -39         | -15.6                | 11.8                   | 0            | -74.91     | -41.3                       | -33.61      | 132            | 155         | H        |
| 2      | 14.451          | -71.91            | RMS | 39.8      | -35.4       | -15.6                | 11.8                   | 4            | -70.91     | -61.3                       | -9.61       | 66             | 155         | H        |
| 3      | 17.636          | -71.91            | RMS | 41.4      | -72         | -15.6                | 11.8                   | 4            | -71.91     | -61.3                       | -7.2        | 220            | 155         | H        |
| 4      | 10.881          | -70.31            | RMS | 37.8      | -37.7       | -15.6                | 11.8                   | 0            | -74.01     | -61.3                       | -12.71      | 252            | 155         | V        |
| 5      | 14.847          | -71.6             | RMS | 40.1      | -36.5       | -15.6                | 11.8                   | 8            | -71        | -61.3                       | -9.7        | 161            | 155         | V        |
| 6      | 17.696          | -71.63            | RMS | 41.5      | -36.2       | -15.6                | 11.8                   | 4            | -68.73     | -61.3                       | -7.43       | 269            | 155         | V        |

\*Note: Test was performed with a high-pass filter with pass-band frequency starting at 9 GHz to suppress CH9 fundamental signal.

### ANT. 3, CH5, CONFIG 3



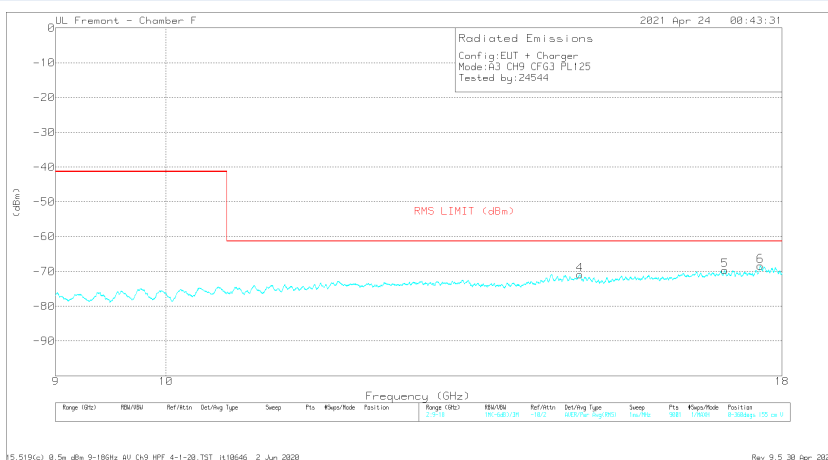
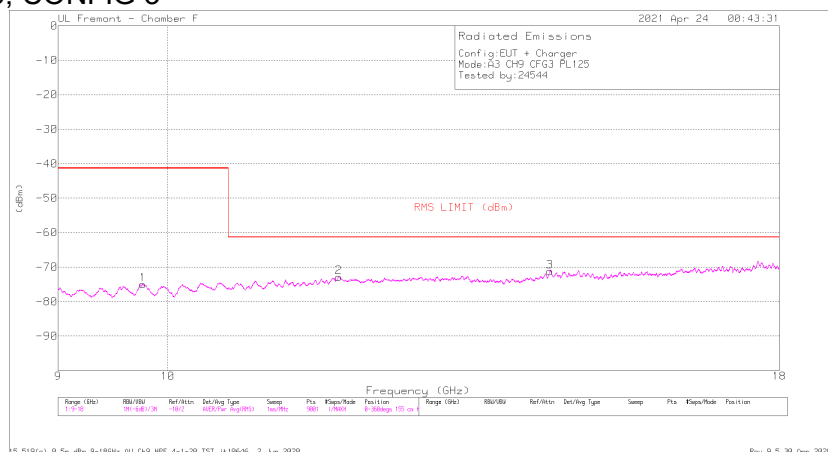
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | CH5_HPF (dB) | EIRP (dBm) | FCC15.519(c) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|--------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 11.787          | -71.04              | RMS | 38.9      | -37.4        | -15.6                | 11.8                   | .6           | -72.74     | -61.3                       | -11.44      | 185            | 155         | H        |
| 2      | 14.454          | -71.84              | RMS | 39.8      | -35.5        | -15.6                | 11.8                   | .5           | -70.84     | -61.3                       | -9.54       | 163            | 155         | H        |
| 3      | 16.593          | -71.43              | RMS | 41.2      | -36.5        | -15.6                | 11.8                   | .6           | -69.93     | -61.3                       | -8.63       | 360            | 155         | H        |
| 4      | 15.4395         | -70.95              | RMS | 40.3      | -37.1        | -15.6                | 11.8                   | .5           | -71.05     | -61.3                       | -9.75       | 330            | 155         | V        |
| 5      | 17.044          | -71.14              | RMS | 41.3      | -36.4        | -15.6                | 11.8                   | .6           | -69.44     | -61.3                       | -8.14       | 1              | 155         | V        |
| 6      | 17.632          | -71.83              | RMS | 41.5      | -34.6        | -15.6                | 11.8                   | .6           | -68.13     | -61.3                       | -6.83       | 110            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a high-pass filter with pass-band frequency starting at 9 GHz to suppress CH5 fundamental signal.

### ANT. 3, CH9, CONFIG 3



### Trace Markers

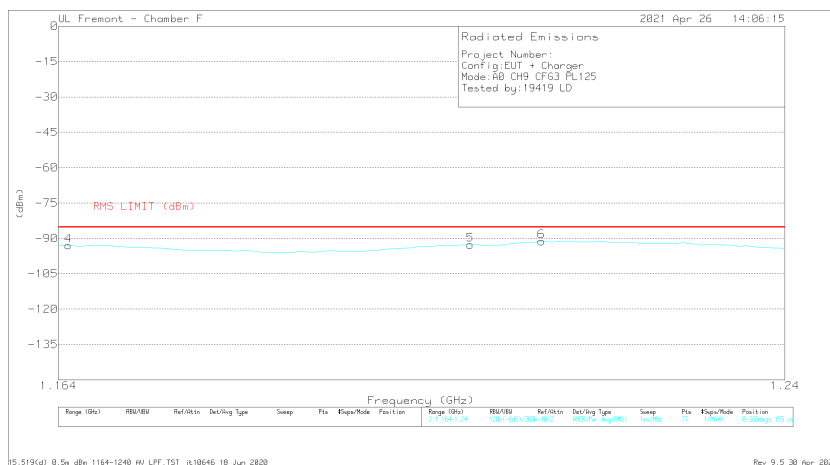
| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | CH9_HPF (dB) | Corrected Reading (dBm) | FCC15.519(c) ERP RMS (dBm) | Margin (dB) | Altitude (Dops) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|--------------|-------------------------|----------------------------|-------------|-----------------|-------------|----------|
| 1      | 9.763           | -68.97              | RMS | 36.8      | -39          | -15.6                | 11.8                   | 0            | -74.97                  | -41.3                      | -33.67      | 22              | 155         | H        |
| 2      | 11.787          | -71.02              | RMS | 38.9      | -37.4        | -15.6                | 11.8                   | 5            | -72.82                  | -61.3                      | -11.52      | 286             | 155         | H        |
| 3      | 14.437          | -71.8               | RMS | 39.7      | -35.6        | -15.6                | 11.8                   | 3            | -71.2                   | -61.3                      | -9.9        | 110             | 155         | H        |
| 4      | 14.842          | -71.63              | RMS | 40.1      | -36.4        | -15.6                | 11.8                   | 8            | -70.93                  | -61.3                      | -9.63       | 140             | 155         | V        |
| 5      | 17.048          | -71.14              | RMS | 41.3      | -36.4        | -15.6                | 11.8                   | 4            | -69.64                  | -61.3                      | -8.34       | 228             | 155         | V        |
| 6      | 17.632          | -71.83              | RMS | 41.5      | -34.6        | -15.6                | 11.8                   | 4            | -68.33                  | -61.3                      | -7.03       | 163             | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a high-pass filter with pass-band frequency starting at 9 GHz to surpress CH9 fundamental signal.

### 9.6.3. AVERAGE EMISSIONS, 1.164 – 1.240 GHz

#### ANT. 0, CH9, CONFIG 3



#### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(d) ERP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|----------------------------|-------------|----------------|-------------|----------|
| 1      | 1.168           | -73.03              | RMS | 28.6      | -45.4        | -15.6                | 11.8                   | -2              | -93.43     | -85.3                      | -8.13       | 31             | 155         | H        |
| 2      | 1.208           | -72.67              | RMS | 29.5      | -45.3        | -15.6                | 11.8                   | -2              | -92.07     | -85.3                      | -6.77       | 295            | 155         | H        |
| 3      | 1.216           | -72.28              | RMS | 29.9      | -45.2        | -15.6                | 11.8                   | -2              | -91.18     | -85.3                      | -5.88       | 163            | 155         | H        |
| 4      | 1.165           | -72.51              | RMS | 28.5      | -45.4        | -15.6                | 11.8                   | -2              | -93.01     | -85.3                      | -7.71       | 307            | 155         | V        |
| 5      | 1.2055          | -73.5               | RMS | 29.6      | -45.2        | -15.6                | 11.8                   | -2              | -92.7      | -85.3                      | -7.4        | 198            | 155         | V        |
| 6      | 1.214           | -72.22              | RMS | 29.8      | -45.2        | -15.6                | 11.8                   | -2              | -91.22     | -85.3                      | -5.92       | 22             | 155         | V        |

#### RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.

### ANT. 1, CH9, CONFIG 3



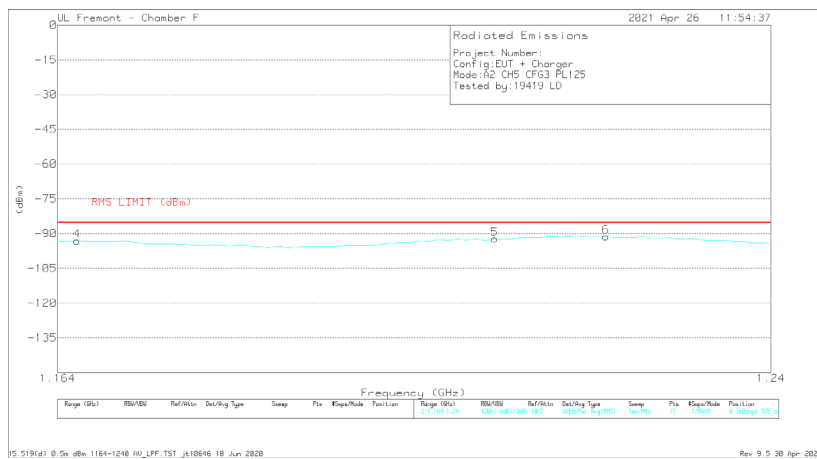
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 155196 LPF (dB) | EIRP (dBm) | FCC15.519(d) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 1.166           | -73                 | RMS | 28.5      | -45.4        | -15.6                | 11.8                   | 2               | -93.5      | -85.3                       | -8.2        | 75             | 155         | H        |
| 2      | 1.204           | -73.1               | RMS | 29.6      | -45.2        | -15.6                | 11.8                   | 2               | -92.3      | -85.3                       | -7          | 53             | 155         | H        |
| 3      | 1.218           | -72.15              | RMS | 29.9      | -45.2        | -15.6                | 11.8                   | 2               | -91.05     | -85.3                       | -5.75       | 317            | 155         | H        |
| 4      | 1.165           | -72.51              | RMS | 28.5      | -45.4        | -15.6                | 11.8                   | 2               | -93.01     | -85.3                       | -7.71       | 66             | 155         | V        |
| 5      | 1.203           | -73.36              | RMS | 29.6      | -45.2        | -15.6                | 11.8                   | 2               | -92.56     | -85.3                       | -7.26       | 264            | 155         | V        |
| 6      | 1.22            | -71.95              | RMS | 29.9      | -45.3        | -15.6                | 11.8                   | 2               | -90.95     | -85.3                       | -5.65       | 220            | 155         | V        |

### RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.

## ANT. 2, CH5, CONFIG 3



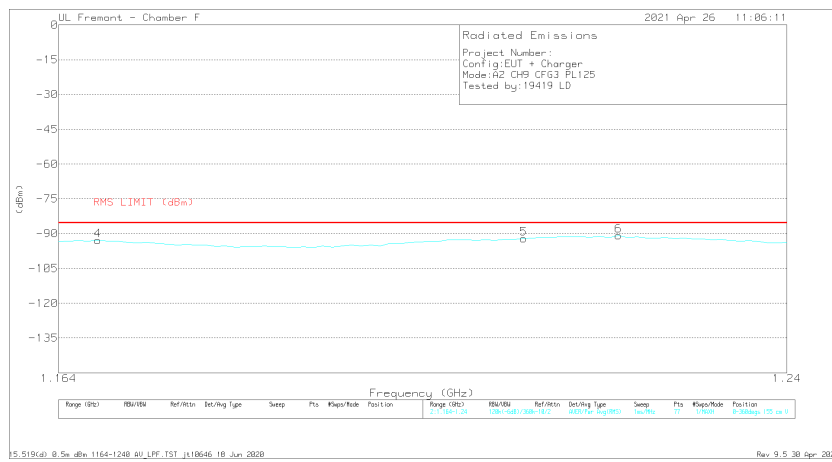
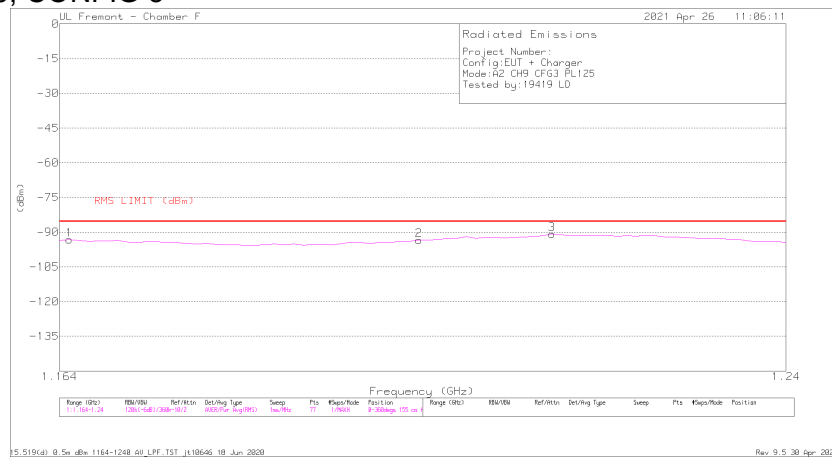
## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(d) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 1.166           | -72.75              | RMS | 28.5      | -45.4        | -15.6                | 11.8                   | -2              | -93.25     | -85.3                       | -7.95       | 118            | 155         | H        |
| 2      | 1.215           | -71.85              | RMS | 29.8      | -45.2        | -15.6                | 11.8                   | -2              | -90.85     | -85.3                       | -5.55       | 251            | 155         | H        |
| 3      | 1.22            | -71.87              | RMS | 29.9      | -45.3        | -15.6                | 11.8                   | -2              | -90.87     | -85.3                       | -5.57       | 141            | 155         | H        |
| 4      | 1.166           | -72.59              | RMS | 28.5      | -45.4        | -15.6                | 11.8                   | -2              | -93.09     | -85.3                       | -7.79       | 44             | 155         | V        |
| 5      | 1.21            | -72.99              | RMS | 29.6      | -45.3        | -15.6                | 11.8                   | -2              | -92.29     | -85.3                       | -6.99       | 263            | 155         | V        |
| 6      | 1.222           | -72.3               | RMS | 29.9      | -45.3        | -15.6                | 11.8                   | -2              | -91.3      | -85.3                       | -6          | 22             | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH5 fundamental signal.

### ANT. 2, CH9, CONFIG 3



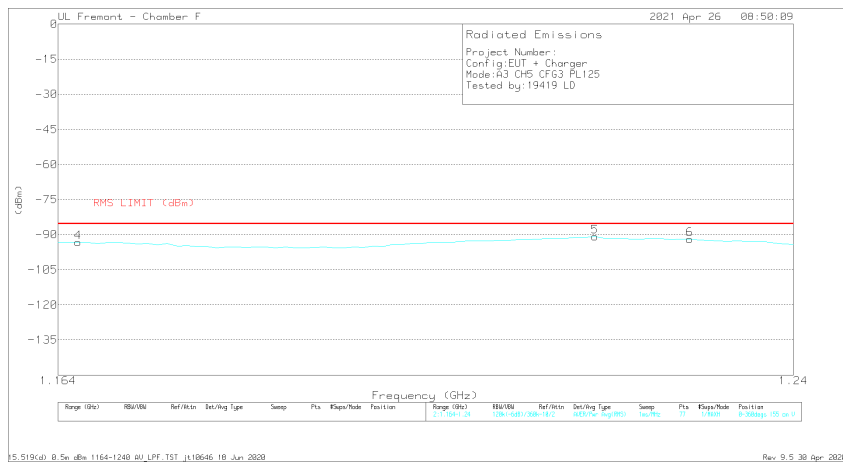
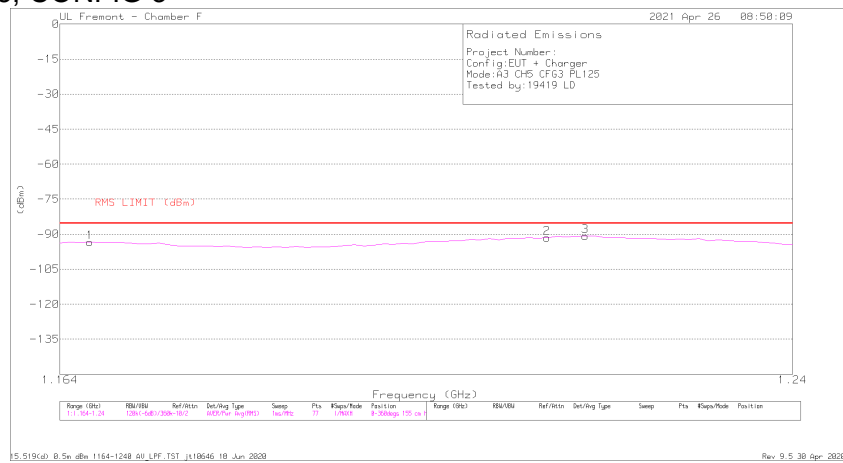
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LFF (dB) | EIRP (dBm) | FCC15.519(d) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 1.165           | -72.81              | RMS | 28.5      | -45.4        | -15.6                | 11.8                   | 2               | -93.31     | -85.3                       | -8.01       | 317            | 155         | H        |
| 2      | 1.201           | -74.31              | RMS | 29.6      | -45.1        | -15.6                | 11.8                   | 2               | -93.41     | -85.3                       | -8.11       | 97             | 155         | H        |
| 3      | 1.215           | -71.86              | RMS | 29.8      | -45.2        | -15.6                | 11.8                   | 2               | -90.86     | -85.3                       | -5.56       | 295            | 155         | H        |
| 4      | 1.168           | -72.49              | RMS | 28.6      | -45.4        | -15.6                | 11.8                   | 2               | -92.89     | -85.3                       | -7.59       | 110            | 155         | V        |
| 5      | 1.212           | -73.09              | RMS | 29.7      | -45.2        | -15.6                | 11.8                   | 2               | -92.19     | -85.3                       | -6.89       | 286            | 155         | V        |
| 6      | 1.222           | -71.85              | RMS | 29.9      | -45.3        | -15.6                | 11.8                   | 2               | -90.85     | -85.3                       | -5.55       | 330            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.

### ANT. 3, CH5, CONFIG 3



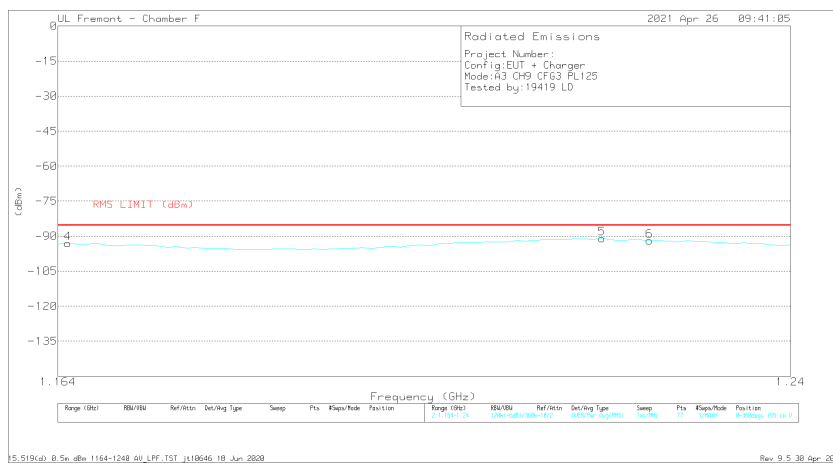
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(d) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 1.167           | -73                 | RMS | 28.6      | -45.4        | -15.6                | 11.8                   | -2              | -93.4      | -85.3                       | -8.1        | 316            | 155         | H        |
| 2      | 1.214           | -72.52              | RMS | 29.8      | -45.2        | -15.6                | 11.8                   | -2              | -91.52     | -85.3                       | -6.22       | 316            | 155         | H        |
| 3      | 1.218           | -71.92              | RMS | 29.9      | -45.2        | -15.6                | 11.8                   | -2              | -90.82     | -85.3                       | -5.52       | 53             | 155         | H        |
| 4      | 1.166           | -72.68              | RMS | 28.5      | -45.4        | -15.6                | 11.8                   | -2              | -93.18     | -85.3                       | -7.88       | 220            | 155         | V        |
| 5      | 1.219           | -71.77              | RMS | 29.9      | -45.3        | -15.6                | 11.8                   | -2              | -90.77     | -85.3                       | -5.47       | 286            | 155         | V        |
| 6      | 1.229           | -72.68              | RMS | 29.8      | -45.4        | -15.6                | 11.8                   | -2              | -91.88     | -85.3                       | -6.58       | 153            | 155         | V        |

### RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH5 fundamental signal.

### ANT. 3, CH9, CONFIG 3



### Trace Markers

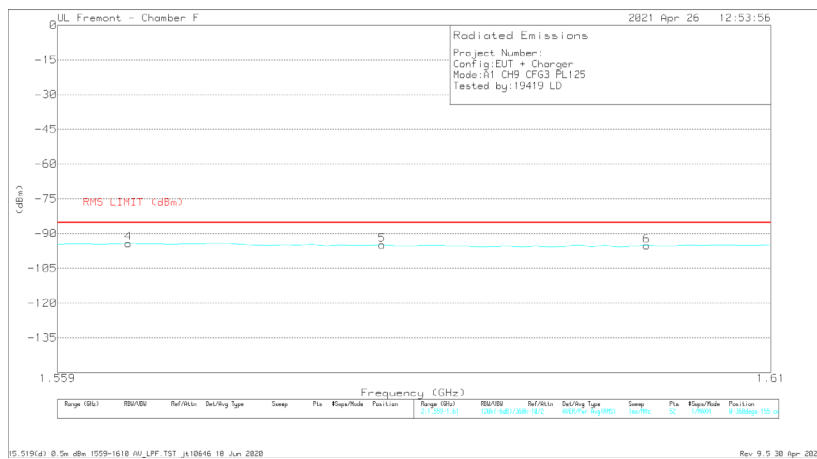
| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(d) EIRP RMS (dBm) | Margin (dB) | Altitude (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|-----------------|-------------|----------|
| 1      | 1.167           | -73.06              | RMS | 28.6      | -45.4        | -15.6                | 11.8                   | 2               | -93.46     | -85.3                       | -8.16       | 184             | 155         | H        |
| 2      | 1.216           | -72.43              | RMS | 29.9      | -45.2        | -15.6                | 11.8                   | 2               | -91.33     | -85.3                       | -6.03       | 206             | 155         | H        |
| 3      | 1.218           | -71.5               | RMS | 29.9      | -45.2        | -15.6                | 11.8                   | 2               | -90.4      | -85.3                       | -5.1        | 31              | 155         | H        |
| 4      | 1.165           | -72.49              | RMS | 28.5      | -45.4        | -15.6                | 11.8                   | 2               | -92.99     | -85.3                       | -7.69       | 176             | 155         | V        |
| 5      | 1.22            | -72.04              | RMS | 29.9      | -45.3        | -15.6                | 11.8                   | 2               | -91.04     | -85.3                       | -5.74       | 176             | 155         | V        |
| 6      | 1.225           | -72.71              | RMS | 29.8      | -45.4        | -15.6                | 11.8                   | 2               | -91.91     | -85.3                       | -6.61       | 22              | 155         | V        |

### RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.



### ANT. 1, CH9, CONFIG 3



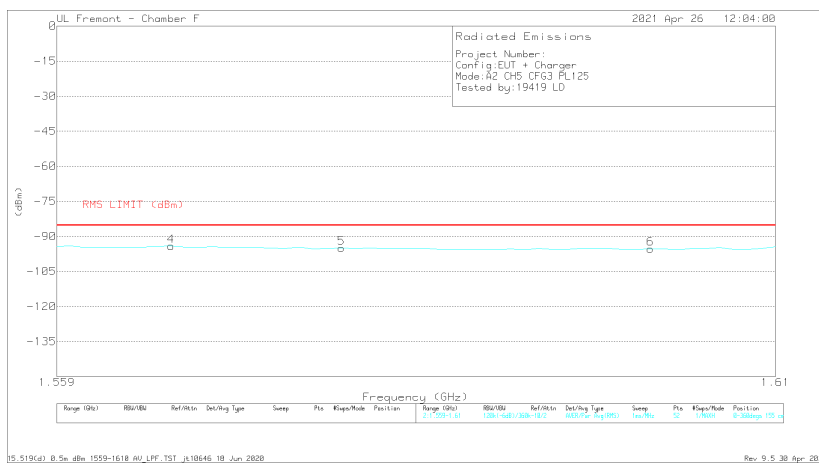
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(d) ERP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|----------------------------|-------------|----------------|-------------|----------|
| 1      | 1.561           | -73.62              | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | 2               | -94.52     | -85.3                      | -9.22       | 185            | 155         | H        |
| 2      | 1.578           | -73.8               | RMS | 28        | -45.3        | -15.6                | 11.8                   | 2               | -94.7      | -85.3                      | -9.4        | 316            | 155         | H        |
| 3      | 1.597           | -74.48              | RMS | 28        | -45.2        | -15.6                | 11.8                   | 2               | -95.28     | -85.3                      | -9.98       | 316            | 155         | H        |
| 4      | 1.564           | -73.3               | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | 2               | -94.2      | -85.3                      | -8.9        | 242            | 155         | V        |
| 5      | 1.582           | -73.99              | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | 2               | -94.89     | -85.3                      | -9.59       | 242            | 155         | V        |
| 6      | 1.601           | -74.3               | RMS | 28        | -45.3        | -15.6                | 11.8                   | 2               | -95.2      | -85.3                      | -9.9        | 110            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.

## ANT. 2, CH5, CONFIG 3



## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dBm) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(d) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 1.561           | -73.65              | RMS | 27.9     | -45.2        | -15.6                | 11.8                   | 2               | -94.55     | -85.3                       | -9.25       | 295            | 155         | H        |
| 2      | 1.582           | -74.16              | RMS | 27.9     | -45.2        | -15.6                | 11.8                   | 2               | -95.06     | -85.3                       | -9.76       | 360            | 155         | H        |
| 3      | 1.593           | -73.95              | RMS | 28       | -45.2        | -15.6                | 11.8                   | 2               | -94.75     | -85.3                       | -9.45       | 119            | 155         | H        |
| 4      | 1.567           | -73.25              | RMS | 27.9     | -45.2        | -15.6                | 11.8                   | 2               | -94.15     | -85.3                       | -8.85       | 66             | 155         | V        |
| 5      | 1.579           | -74.08              | RMS | 28       | -45.3        | -15.6                | 11.8                   | 2               | -94.98     | -85.3                       | -9.68       | 66             | 155         | V        |
| 6      | 1.601           | -74.39              | RMS | 28       | -45.3        | -15.6                | 11.8                   | 2               | -95.29     | -85.3                       | -9.99       | 1              | 155         | V        |

## RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH5 fundamental signal.

### ANT. 2, CH9, CONFIG 3



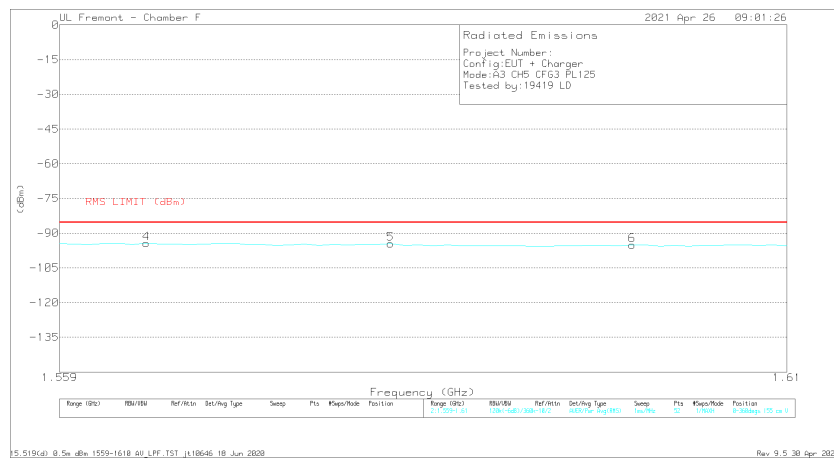
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 155196 LFF (dB) | EIRP (dBm) | FCC15.519(d) EIRP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 1.562           | -73.38              | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | 2               | -94.28     | -85.3                       | -8.98       | 295            | 155         | H        |
| 2      | 1.573           | -73.87              | RMS | 28        | -45.2        | -15.6                | 11.8                   | 2               | -94.67     | -85.3                       | -9.37       | 140            | 155         | H        |
| 3      | 1.594           | -74.17              | RMS | 28        | -45.2        | -15.6                | 11.8                   | 2               | -94.97     | -85.3                       | -9.67       | 53             | 155         | H        |
| 4      | 1.565           | -73.24              | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | 2               | -94.14     | -85.3                       | -8.84       | 308            | 155         | V        |
| 5      | 1.583           | -73.98              | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | 2               | -94.88     | -85.3                       | -9.58       | 1              | 155         | V        |
| 6      | 1.6             | -74.26              | RMS | 28        | -45.3        | -15.6                | 11.8                   | 2               | -95.16     | -85.3                       | -9.86       | 198            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 5.4 GHz to suppress CH9 fundamental signal.

### ANT. 3, CH5, CONFIG 3



### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(d) EIRP RMS (dBm) | Margin (dB) | Acimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|-----------------------------|-------------|----------------|-------------|----------|
| 1      | 1.5635          | -73.48              | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | .2              | -94.38     | -85.3                       | -9.08       | 141            | 155         | H        |
| 2      | 1.583           | -73.98              | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | .2              | -94.88     | -85.3                       | -9.58       | 251            | 155         | H        |
| 3      | 1.592           | -73.82              | RMS | 28        | -45.3        | -15.6                | 11.8                   | .2              | -94.72     | -85.3                       | -9.42       | 316            | 155         | H        |
| 4      | 1.565           | -73.48              | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | .2              | -94.38     | -85.3                       | -9.08       | 242            | 155         | V        |
| 5      | 1.582           | -73.7               | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | .2              | -94.6      | -85.3                       | -9.3        | 86             | 155         | V        |
| 6      | 1.599           | -74.37              | RMS | 28        | -45.2        | -15.6                | 11.8                   | .2              | -95.17     | -85.3                       | -9.87       | 0              | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 6 GHz to surpress CH5 fundamental signal.

### ANT. 3, CH9, CONFIG 3



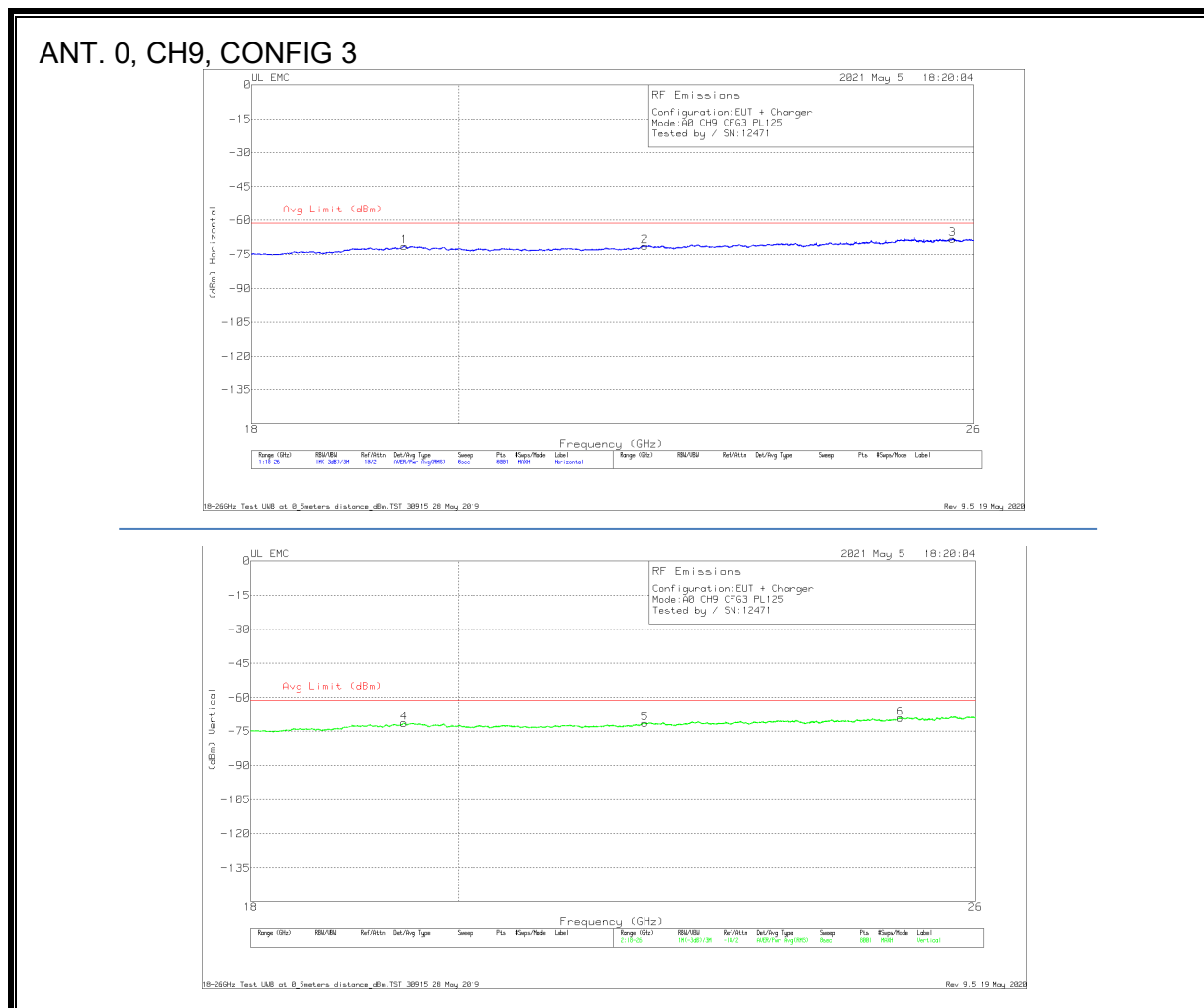
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Correction (dB) | Conversion Factor (dB) | 188196 LPF (dB) | EIRP (dBm) | FCC15.519(d) ERP RMS (dBm) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------------|------------------------|-----------------|------------|----------------------------|-------------|----------------|-------------|----------|
| 1      | 1.566           | -72.98              | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | -2              | -93.88     | -85.3                      | -8.58       | 295            | 155         | H        |
| 2      | 1.579           | -73.84              | RMS | 28        | -45.3        | -15.6                | 11.8                   | -2              | -94.74     | -85.3                      | -9.44       | 97             | 155         | H        |
| 3      | 1.593           | -74.27              | RMS | 28        | -45.2        | -15.6                | 11.8                   | -2              | -95.07     | -85.3                      | -9.77       | 229            | 155         | H        |
| 4      | 1.569           | -73.5               | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | -2              | -94.4      | -85.3                      | -9.1        | 1              | 155         | V        |
| 5      | 1.584           | -74.3               | RMS | 27.9      | -45.2        | -15.6                | 11.8                   | -2              | -95.2      | -85.3                      | -9.9        | 66             | 155         | V        |
| 6      | 1.598           | -74.04              | RMS | 28        | -45.2        | -15.6                | 11.8                   | -2              | -94.84     | -85.3                      | -9.54       | 308            | 155         | V        |

RMS - RMS detection

\*Note: Test was performed with a low-pass filter with cutoff frequency at 6 GHz to suppress CH9 fundamental signal.

## 9.6.5. AVERAGE EMISSIONS, 18 – 26 GHz

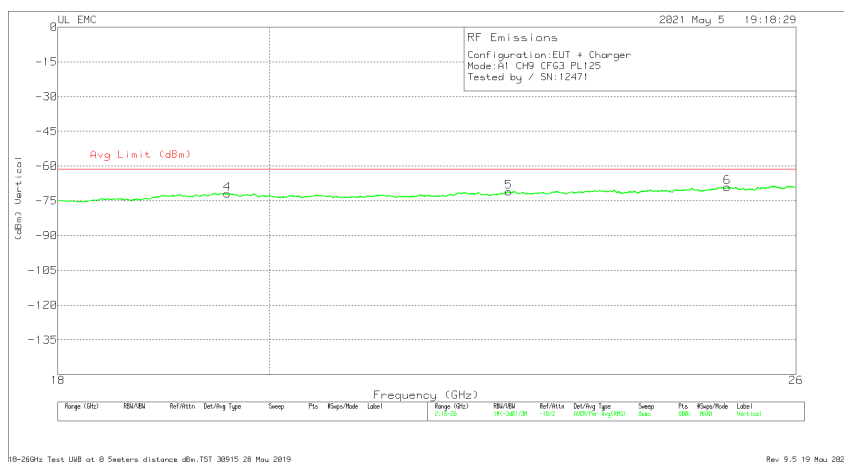
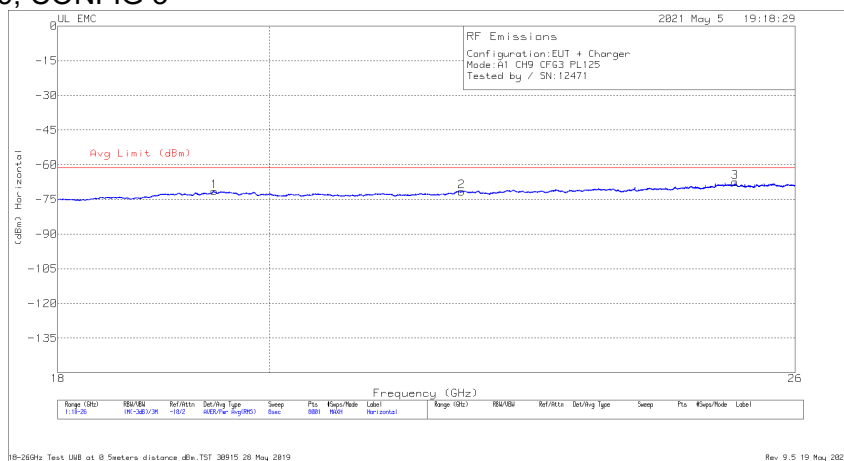


### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 19.46           | -82.61              | RMS | 32.6      | -17.6        | -15.6          | 11.8                   | -71.41     | -61.3           | -10.11      | H        |
| 2      | 21.994          | -81.58              | RMS | 33.3      | -19.3        | -15.6          | 11.8                   | -71.38     | -61.3           | -10.08      | H        |
| 3      | 25.723          | -80.57              | RMS | 34.1      | -18          | -15.6          | 11.8                   | -68.27     | -61.3           | -6.97       | H        |
| 4      | 19.46           | -82.54              | RMS | 32.6      | -17.6        | -15.6          | 11.8                   | -71.34     | -61.3           | -10.04      | V        |
| 5      | 21.987          | -81.71              | RMS | 33.3      | -19.2        | -15.6          | 11.8                   | -71.41     | -61.3           | -10.11      | V        |
| 6      | 25.028          | -81.78              | RMS | 34.1      | -17.6        | -15.6          | 11.8                   | -69.08     | -61.3           | -7.78       | V        |

RMS - RMS detection

### ANT. 1, CH9, CONFIG 3

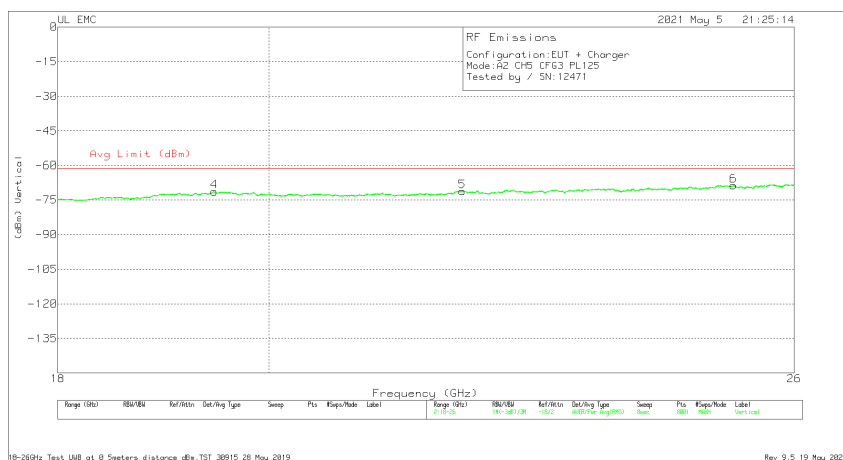
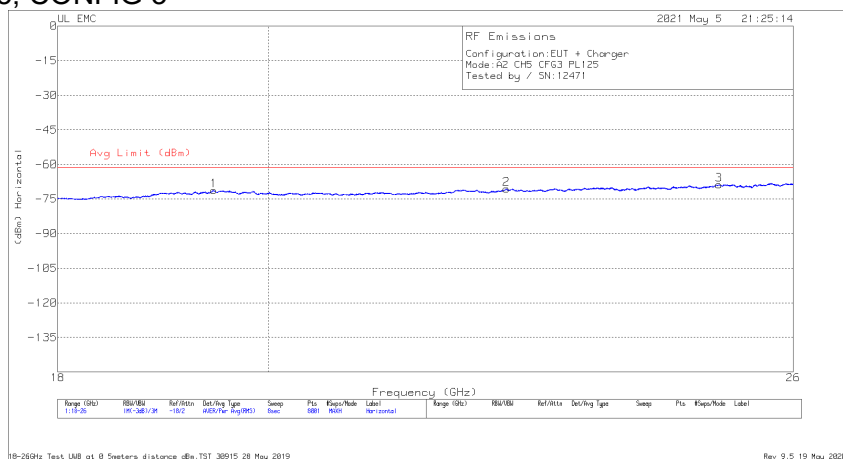


### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 19.46           | -82.58              | RMS | 32.6      | -17.6        | -15.6          | 11.8                   | -71.38     | -61.3           | -10.08      | H        |
| 2      | 22.015          | -81.84              | RMS | 33.3      | -19.2        | -15.6          | 11.8                   | -71.54     | -61.3           | -10.24      | H        |
| 3      | 25.231          | -80.24              | RMS | 34.2      | -17.6        | -15.6          | 11.8                   | -67.44     | -61.3           | -6.14       | H        |
| 4      | 19.586          | -82.18              | RMS | 32.8      | -18.7        | -15.6          | 11.8                   | -71.88     | -61.3           | -10.58      | V        |
| 5      | 22.53           | -82.11              | RMS | 33.4      | -18.5        | -15.6          | 11.8                   | -71.01     | -61.3           | -9.71       | V        |
| 6      | 25.121          | -81.74              | RMS | 34.1      | -17.6        | -15.6          | 11.8                   | -69.04     | -61.3           | -7.74       | V        |

RMS - RMS detection

### ANT. 2, CH5, CONFIG 3

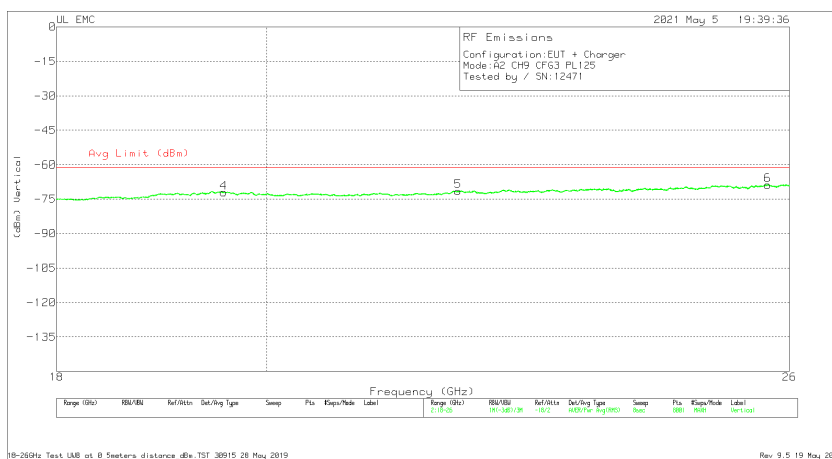
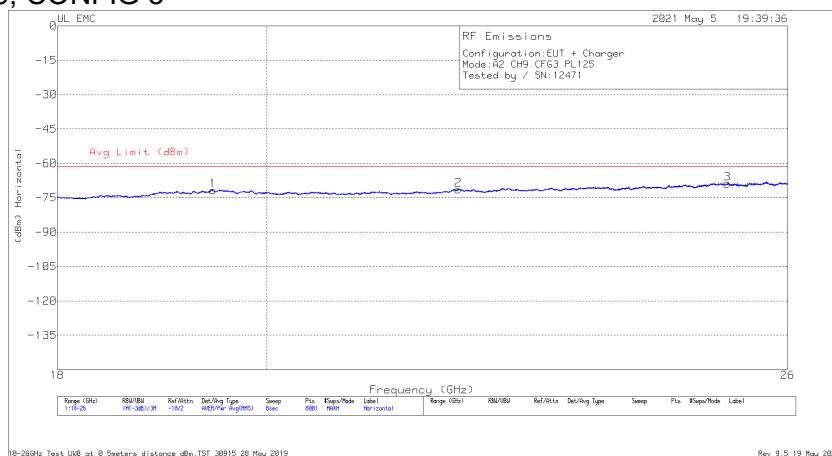


### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 19.461          | -82.42              | RMS | 32.6      | -17.6        | -15.6          | 11.8                   | -71.22     | -61.3           | -9.92       | H        |
| 2      | 22.527          | -81.75              | RMS | 33.4      | -18.4        | -15.6          | 11.8                   | -70.55     | -61.3           | -9.25       | H        |
| 3      | 25.051          | -81.59              | RMS | 34.1      | -17.5        | -15.6          | 11.8                   | -68.79     | -61.3           | -7.49       | H        |
| 4      | 19.462          | -82.53              | RMS | 32.6      | -17.6        | -15.6          | 11.8                   | -71.33     | -61.3           | -10.03      | V        |
| 5      | 22.03           | -81.79              | RMS | 33.3      | -18.9        | -15.6          | 11.8                   | -71.19     | -61.3           | -9.89       | V        |
| 6      | 25.221          | -81.35              | RMS | 34.2      | -17.7        | -15.6          | 11.8                   | -68.65     | -61.3           | -7.35       | V        |

RMS - RMS detection

### ANT. 2, CH9, CONFIG 3

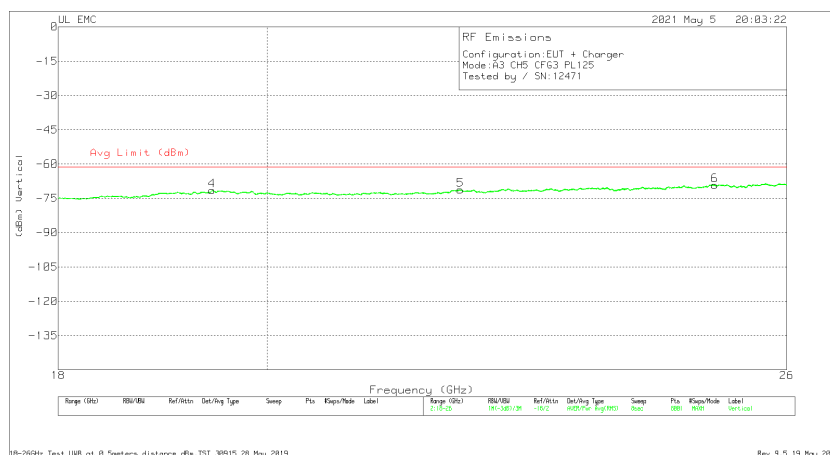
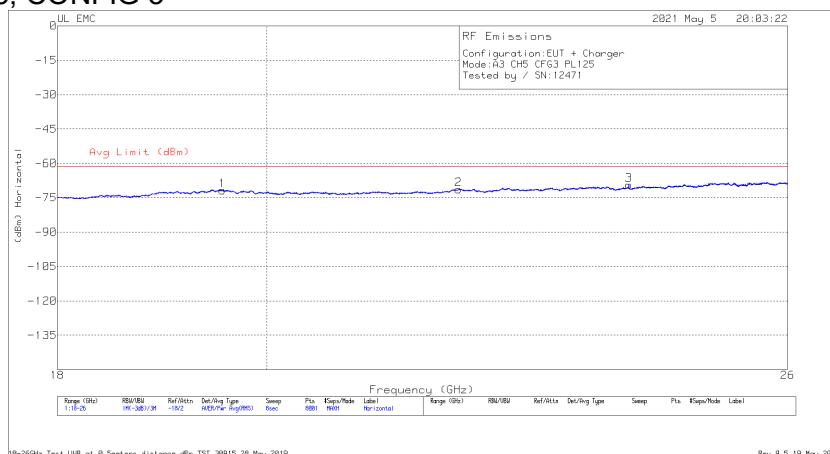


### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 19.468          | -82.83              | RMS | 32.6      | -17.7        | -15.6          | 11.8                   | -71.73     | -61.3           | -10.43      | H        |
| 2      | 22.025          | -81.91              | RMS | 33.3      | -19          | -15.6          | 11.8                   | -71.41     | -61.3           | -10.11      | H        |
| 3      | 25.221          | -81.54              | RMS | 34.2      | -17.7        | -15.6          | 11.8                   | -68.84     | -61.3           | -7.54       | H        |
| 4      | 19.576          | -82.45              | RMS | 32.8      | -18.6        | -15.6          | 11.8                   | -72.05     | -61.3           | -10.75      | V        |
| 5      | 22.017          | -81.88              | RMS | 33.3      | -19.1        | -15.6          | 11.8                   | -71.48     | -61.3           | -10.18      | V        |
| 6      | 25.718          | -81.1               | RMS | 34.1      | -18          | -15.6          | 11.8                   | -68.8      | -61.3           | -7.5        | V        |

RMS - RMS detection

### ANT. 3, CH5, CONFIG 3

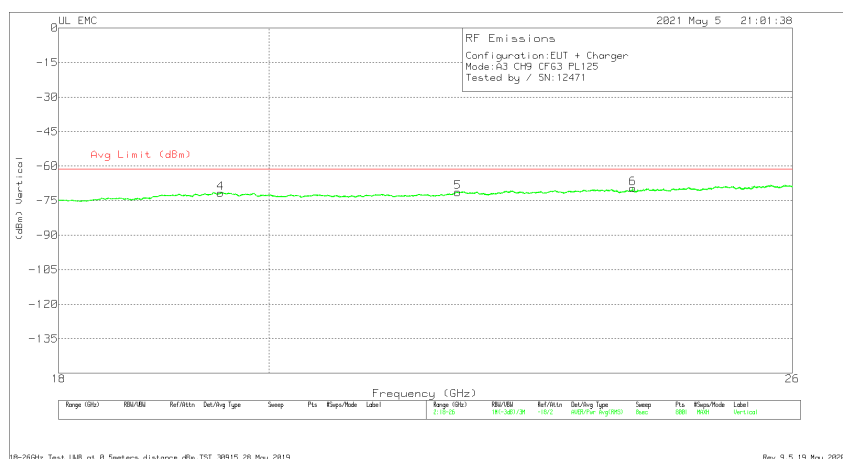
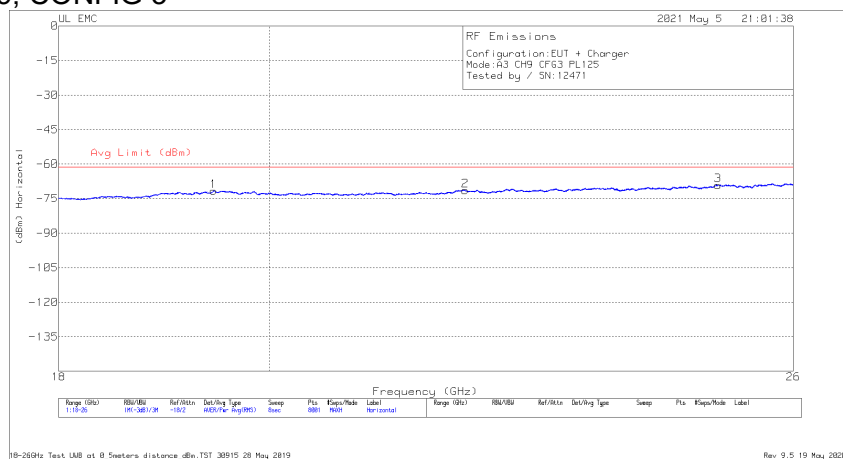


### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 19.56           | -82.26              | RMS | 32.7      | -18.4        | -15.6          | 11.8                   | -71.76     | -61.3           | -10.46      | H        |
| 2      | 22.029          | -81.93              | RMS | 33.3      | -18.9        | -15.6          | 11.8                   | -71.33     | -61.3           | -10.03      | H        |
| 3      | 24              | -81.24              | RMS | 33.8      | -18.1        | -15.6          | 11.8                   | -69.34     | -61.3           | -8.04       | H        |
| 4      | 19.453          | -82.58              | RMS | 32.6      | -17.7        | -15.6          | 11.8                   | -71.48     | -61.3           | -10.18      | V        |
| 5      | 22.049          | -81.93              | RMS | 33.3      | -18.8        | -15.6          | 11.8                   | -71.23     | -61.3           | -9.93       | V        |
| 6      | 25.071          | -81.75              | RMS | 34        | -17.7        | -15.6          | 11.8                   | -69.25     | -61.3           | -7.95       | V        |

RMS - RMS detection

### ANT. 3, CH9, CONFIG 3



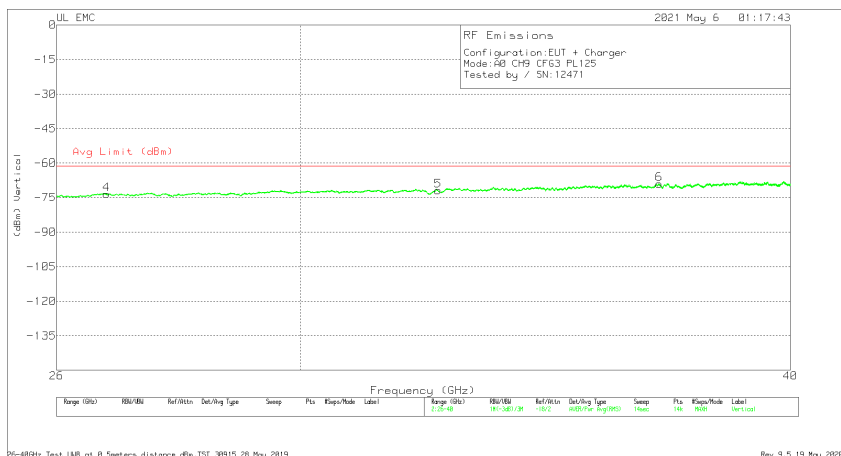
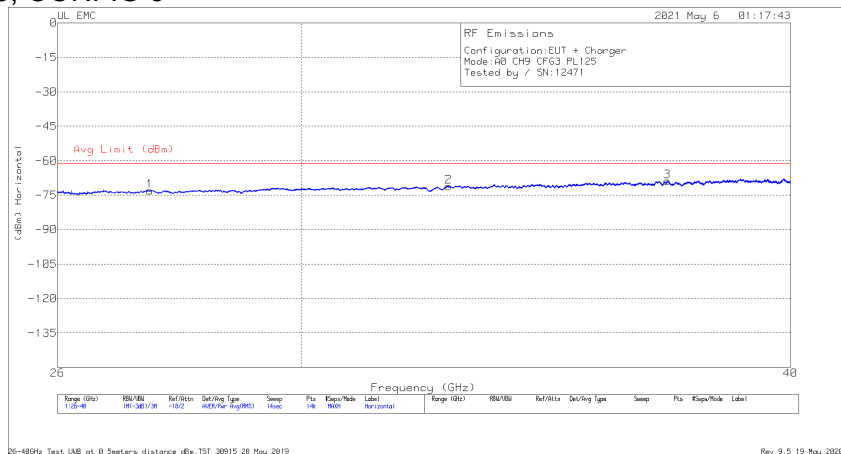
### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 19.45           | -82.63              | RMS | 32.6      | -17.8        | -15.6          | 11.8                   | -71.63     | -61.3           | -10.33      | H        |
| 2      | 22.06           | -82.08              | RMS | 33.3      | -18.8        | -15.6          | 11.8                   | -71.38     | -61.3           | -10.08      | H        |
| 3      | 25.036          | -81.89              | RMS | 34.1      | -17.6        | -15.6          | 11.8                   | -69.19     | -61.3           | -7.89       | H        |
| 4      | 19.521          | -82.42              | RMS | 32.7      | -18.1        | -15.6          | 11.8                   | -71.62     | -61.3           | -10.32      | V        |
| 5      | 21.986          | -81.61              | RMS | 33.3      | -19.2        | -15.6          | 11.8                   | -71.31     | -61.3           | -10.01      | V        |
| 6      | 24              | -81.45              | RMS | 33.8      | -18.1        | -15.6          | 11.8                   | -69.55     | -61.3           | -8.25       | V        |

RMS - RMS detection

## 9.6.6. AVERAGE EMISSIONS, 26 – 40 GHz

### ANT. 0, CH9, CONFIG 3

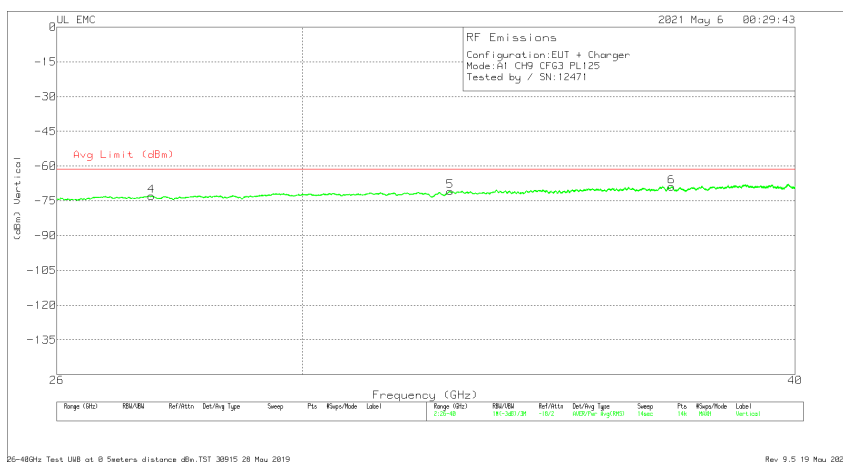
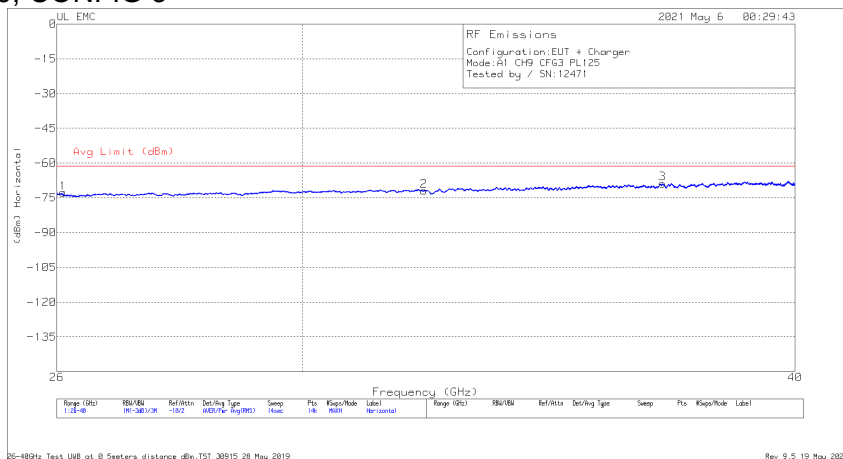


### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 27.447          | -77.52              | RMS | 35.9      | -27.7        | -15.6          | 11.8                   | -73.12     | -61.3           | -11.82      | H        |
| 2      | 32.716          | -79.67              | RMS | 37.3      | -25          | -15.6          | 11.8                   | -71.17     | -61.3           | -9.87       | H        |
| 3      | 37.202          | -79.86              | RMS | 38.2      | -23.4        | -15.6          | 11.8                   | -68.86     | -61.3           | -7.56       | H        |
| 4      | 26.774          | -76.83              | RMS | 35.9      | -28.7        | -15.6          | 11.8                   | -73.43     | -61.3           | -12.13      | V        |
| 5      | 32.522          | -80.09              | RMS | 37.2      | -25.2        | -15.6          | 11.8                   | -71.89     | -61.3           | -10.59      | V        |
| 6      | 37.033          | -80.45              | RMS | 38.1      | -22.9        | -15.6          | 11.8                   | -69.05     | -61.3           | -7.75       | V        |

RMS - RMS detection

### ANT. 1, CH9, CONFIG 3

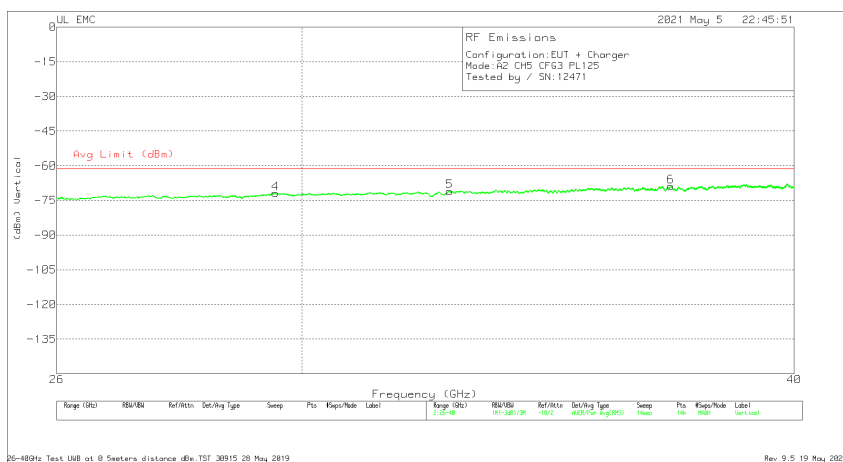
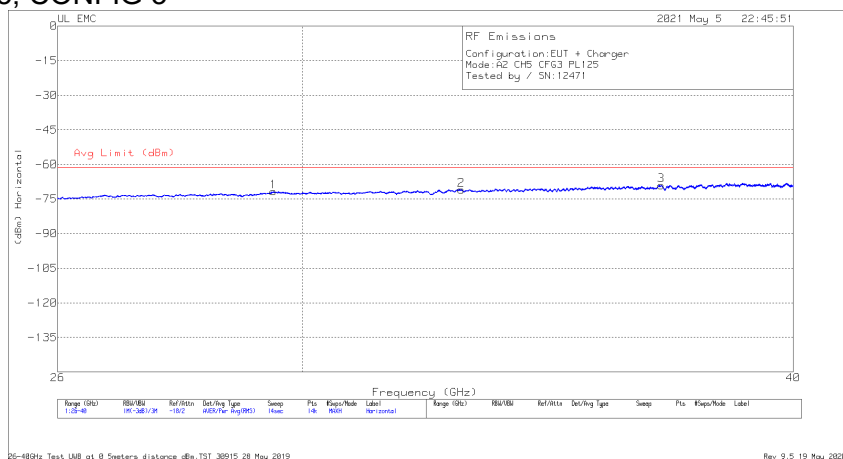


### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 26.093          | -74.93              | RMS | 35.4      | -29.4        | -15.6          | 11.8                   | -72.73     | -61.3           | -11.43      | H        |
| 2      | 32.211          | -79.35              | RMS | 36.5      | -25.3        | -15.6          | 11.8                   | -71.95     | -61.3           | -10.65      | H        |
| 3      | 37.02           | -80.22              | RMS | 38.1      | -22.9        | -15.6          | 11.8                   | -68.82     | -61.3           | -7.52       | H        |
| 4      | 27.473          | -77.54              | RMS | 36        | -27.6        | -15.6          | 11.8                   | -72.94     | -61.3           | -11.64      | V        |
| 5      | 32.707          | -79.43              | RMS | 37.4      | -25          | -15.6          | 11.8                   | -70.83     | -61.3           | -9.53       | V        |
| 6      | 37.216          | -79.95              | RMS | 38.2      | -23.3        | -15.6          | 11.8                   | -68.85     | -61.3           | -7.55       | V        |

RMS - RMS detection

### ANT. 2, CH5, CONFIG 3

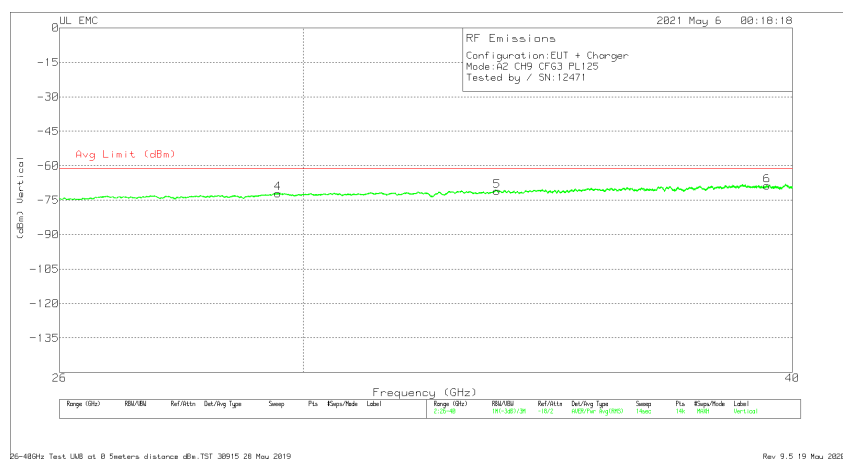
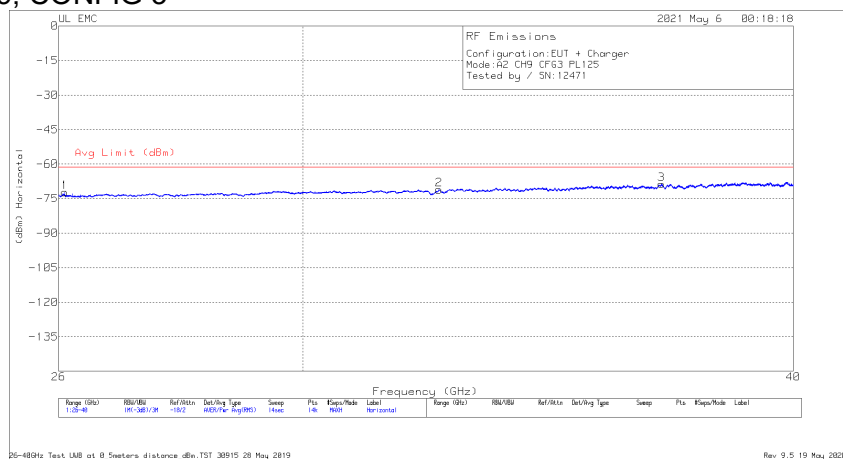


### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 29.5            | -80.21              | RMS | 37.1      | -24.8        | -15.6          | 11.8                   | -71.71     | -61.3           | -10.41      | H        |
| 2      | 32.932          | -79.63              | RMS | 37.2      | -24.7        | -15.6          | 11.8                   | -70.93     | -61.3           | -9.63       | H        |
| 3      | 37.021          | -80.44              | RMS | 38.1      | -22.9        | -15.6          | 11.8                   | -69.04     | -61.3           | -7.74       | H        |
| 4      | 29.545          | -80.46              | RMS | 37.1      | -24.7        | -15.6          | 11.8                   | -71.86     | -61.3           | -10.56      | V        |
| 5      | 32.703          | -79.6               | RMS | 37.4      | -25          | -15.6          | 11.8                   | -71        | -61.3           | -9.7        | V        |
| 6      | 37.214          | -80.02              | RMS | 38.2      | -23.3        | -15.6          | 11.8                   | -68.92     | -61.3           | -7.62       | V        |

RMS - RMS detection

### ANT. 2, CH9, CONFIG 3

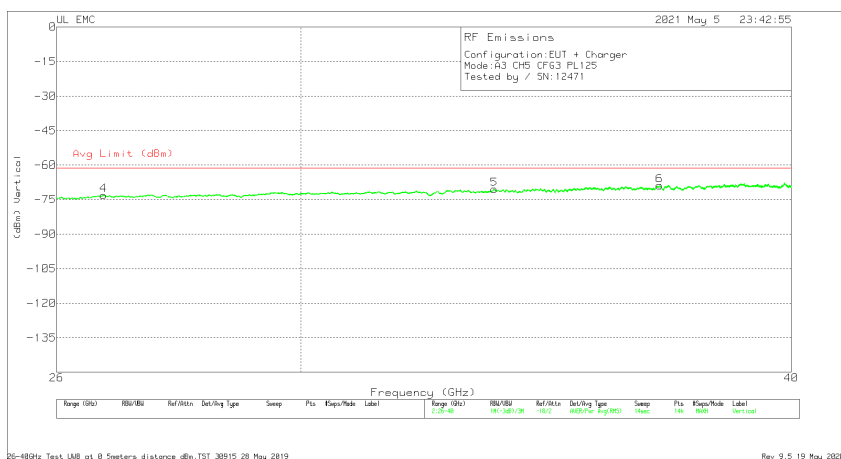
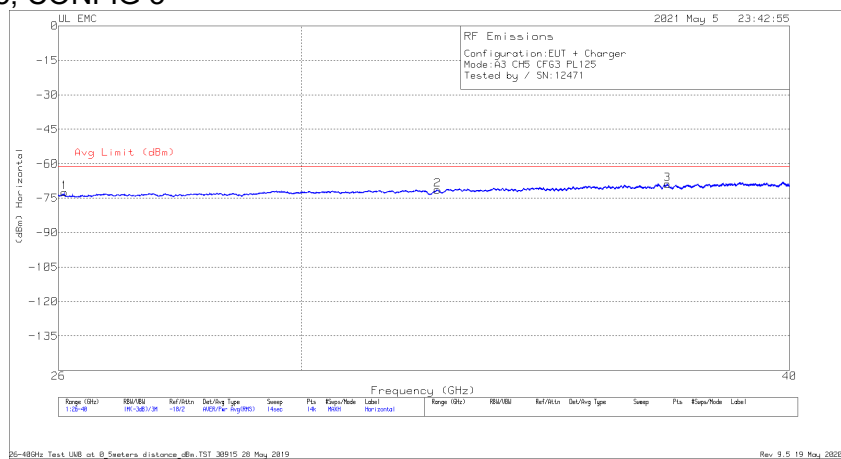


### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 26.093          | -74.42              | RMS | 35.4      | -29.4        | -15.6          | 11.8                   | -72.22     | -61.3           | -10.92      | H        |
| 2      | 32.494          | -79.51              | RMS | 37.4      | -25.2        | -15.6          | 11.8                   | -71.11     | -61.3           | -9.81       | H        |
| 3      | 37.021          | -80.1               | RMS | 38.1      | -22.9        | -15.6          | 11.8                   | -68.7      | -61.3           | -7.4        | H        |
| 4      | 29.561          | -80.39              | RMS | 37.1      | -24.9        | -15.6          | 11.8                   | -71.99     | -61.3           | -10.69      | V        |
| 5      | 33.62           | -80.03              | RMS | 37.2      | -24.3        | -15.6          | 11.8                   | -70.93     | -61.3           | -9.63       | V        |
| 6      | 39.404          | -81.22              | RMS | 38.6      | -22.2        | -15.6          | 11.8                   | -68.62     | -61.3           | -7.32       | V        |

RMS - RMS detection

### ANT. 3, CH5, CONFIG 3

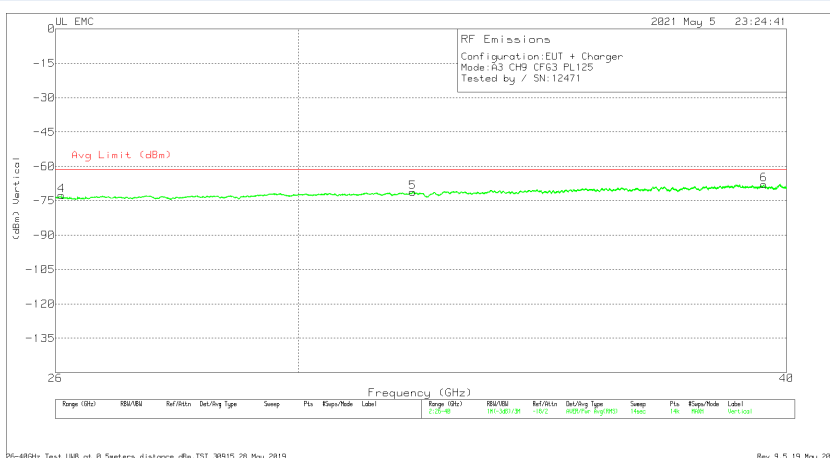
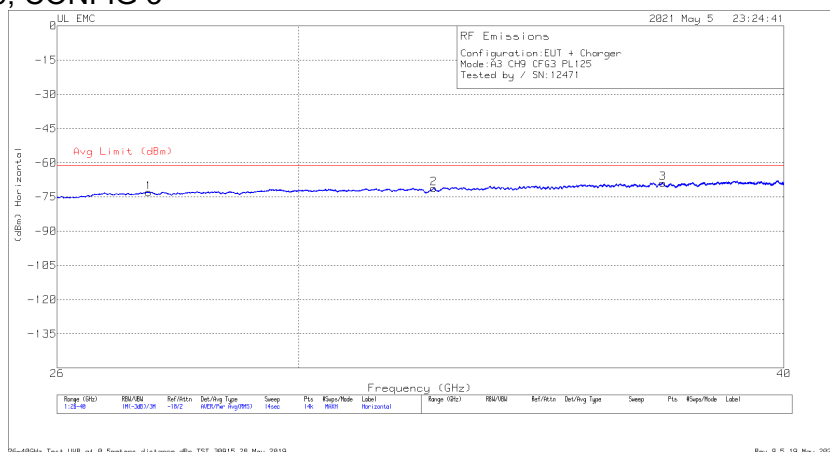


### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 26.093          | -74.64              | RMS | 35.4      | -29.4        | -15.6          | 11.8                   | -72.44     | -61.3           | -11.14      | H        |
| 2      | 32.503          | -79.75              | RMS | 37.4      | -25.2        | -15.6          | 11.8                   | -71.35     | -61.3           | -10.05      | H        |
| 3      | 37.221          | -79.94              | RMS | 38.2      | -23.3        | -15.6          | 11.8                   | -68.84     | -61.3           | -7.54       | H        |
| 4      | 26.725          | -76.38              | RMS | 35.9      | -28.8        | -15.6          | 11.8                   | -73.08     | -61.3           | -11.78      | V        |
| 5      | 33.602          | -79.54              | RMS | 37.3      | -24.4        | -15.6          | 11.8                   | -70.44     | -61.3           | -9.14       | V        |
| 6      | 37.025          | -80.24              | RMS | 38.1      | -22.9        | -15.6          | 11.8                   | -68.84     | -61.3           | -7.54       | V        |

RMS - RMS detection

### ANT. 3, CH9, CONFIG 3



### Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBm) | Det | AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Conversion Factor (dB) | EIRP (dBm) | Avg Limit (dBm) | Margin (dB) | Polarity |
|--------|-----------------|---------------------|-----|-----------|--------------|----------------|------------------------|------------|-----------------|-------------|----------|
| 1      | 27.45           | -77.34              | RMS | 35.9      | -27.7        | -15.6          | 11.8                   | -72.94     | -61.3           | -11.64      | H        |
| 2      | 32.501          | -79.55              | RMS | 37.4      | -25.2        | -15.6          | 11.8                   | -71.15     | -61.3           | -9.85       | H        |
| 3      | 37.226          | -79.78              | RMS | 38.1      | -23.4        | -15.6          | 11.8                   | -68.88     | -61.3           | -7.58       | H        |
| 4      | 26.093          | -74.77              | RMS | 35.4      | -29.4        | -15.6          | 11.8                   | -72.57     | -61.3           | -11.27      | V        |
| 5      | 32.092          | -79.31              | RMS | 36.9      | -25          | -15.6          | 11.8                   | -71.21     | -61.3           | -9.91       | V        |
| 6      | 39.468          | -80.96              | RMS | 38.3      | -21.4        | -15.6          | 11.8                   | -67.86     | -61.3           | -6.56       | V        |

RMS - RMS detection

## 9.7. AC POWER-LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207 (a) & RSS-Gen 8.8

| Frequency of Emission (MHz) | Conducted Limit (dBuV) |                       |
|-----------------------------|------------------------|-----------------------|
|                             | Quasi-peak             | Average               |
| 0.15-0.5                    | 66 to 56 <sup>*</sup>  | 56 to 46 <sup>*</sup> |
| 0.5-5                       | 56                     | 46                    |
| 5-30                        | 60                     | 50                    |

<sup>\*</sup> Decreases with the logarithm of the frequency.

### TEST PROCEDURE

ANSI C63.10 Section 6.2

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

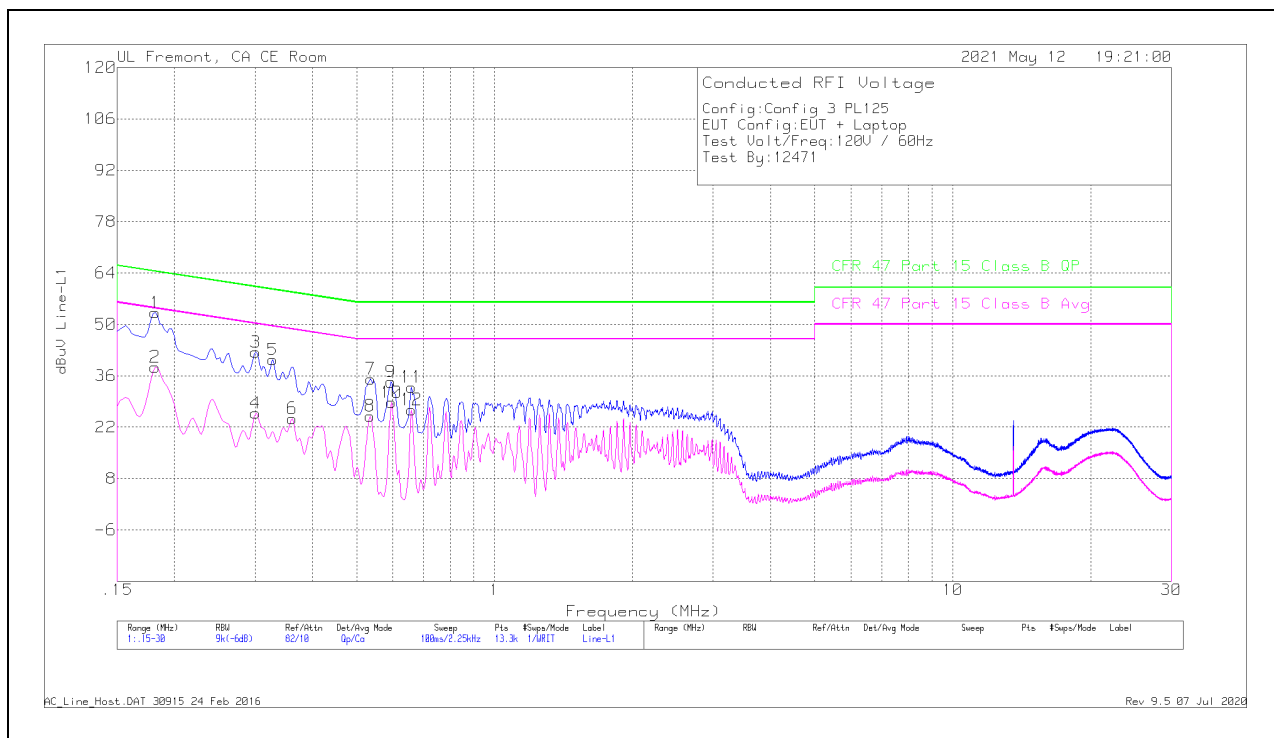
Line conducted data is recorded for both NEUTRAL and HOT lines.

### RESULTS

Employee IDs: 12471  
Location: Immunity Test Lab  
Test Date: 05/07/2021 & 05/12/2021

## 9.7.1. AC Power Line With Laptop

### LINE 1 RESULTS



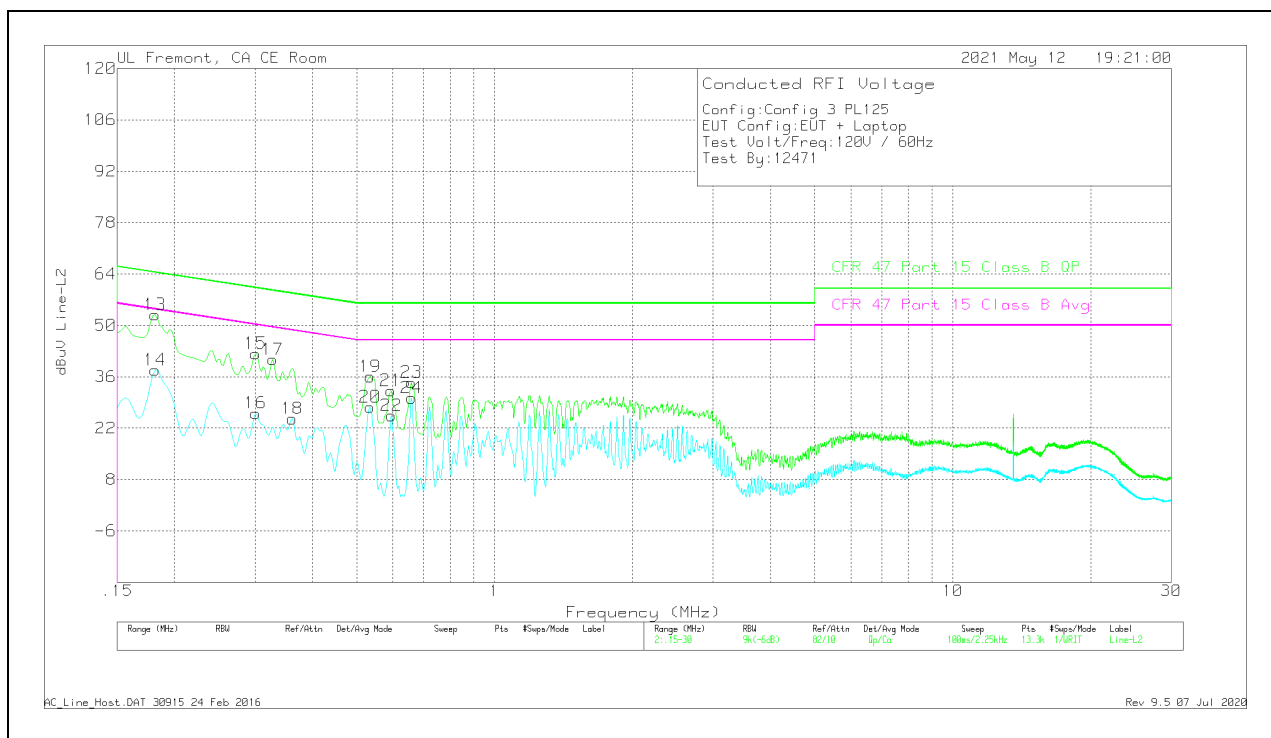
#### Range 1: Line-L1 .15 - 30MHz

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | PRE0186446 L1 | LC Cables C1&C3 dB | Limiter | Corrected Reading dBuV | CFR 47 Part 15 Class B QP | QP Margin (dB) | CFR 47 Part 15 Class B Avg | Av(CISPR)Margin (dB) |
|--------|-----------------|----------------------|-----|---------------|--------------------|---------|------------------------|---------------------------|----------------|----------------------------|----------------------|
| 1      | .1815           | 43.12                | Qp  | 0             | 0                  | 10.1    | 53.22                  | 64.42                     | -11.2          | -                          | -                    |
| 2      | .1815           | 28.26                | Ca  | 0             | 0                  | 10.1    | 38.36                  | -                         | -              | 54.42                      | -16.06               |
| 3      | .30075          | 32.32                | Qp  | 0             | 0                  | 10.1    | 42.42                  | 60.22                     | -17.8          | -                          | -                    |
| 4      | .30075          | 15.72                | Ca  | 0             | 0                  | 10.1    | 25.82                  | -                         | -              | 50.22                      | -24.4                |
| 5      | .32775          | 30.25                | Qp  | 0             | 0                  | 10.1    | 40.35                  | 59.51                     | -19.16         | -                          | -                    |
| 6      | .3615           | 14.26                | Ca  | 0             | 0                  | 10.1    | 24.36                  | -                         | -              | 48.69                      | -24.33               |
| 7      | .537            | 25.04                | Qp  | 0             | 0                  | 10.1    | 35.14                  | 56                        | -20.86         | -                          | -                    |
| 8      | .53475          | 14.94                | Ca  | 0             | 0                  | 10.1    | 25.04                  | -                         | -              | 46                         | -20.96               |
| 9      | .59325          | 24.25                | Qp  | 0             | 0                  | 10.1    | 34.35                  | 56                        | -21.65         | -                          | -                    |
| 10     | .5955           | 18.63                | Ca  | 0             | 0                  | 10.1    | 28.73                  | -                         | -              | 46                         | -17.27               |
| 11     | .6585           | 22.78                | Qp  | 0             | 0                  | 10.1    | 32.88                  | 56                        | -23.12         | -                          | -                    |
| 12     | .6585           | 16.65                | Ca  | 0             | 0                  | 10.1    | 26.75                  | -                         | -              | 46                         | -19.25               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

## LINE 2 RESULTS



### Range 2: Line-L2 .15 - 30MHz

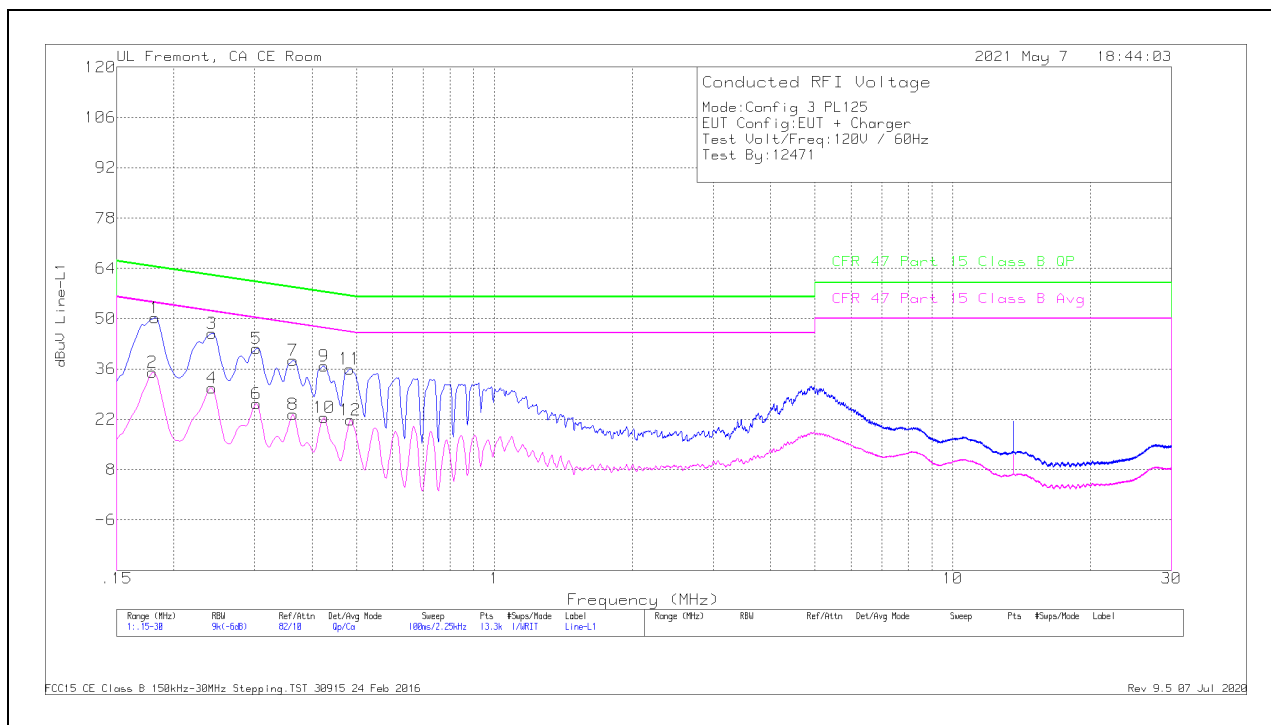
| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | PRE0186446 L2 | LC Cables C2&C3 dB | Limiter | Corrected Reading dBuV | CFR 47 Part 15 Class B QP | QP Margin (dB) | CFR 47 Part 15 Class B Avg | Av(CISPR)Margin (dB) |
|--------|-----------------|----------------------|-----|---------------|--------------------|---------|------------------------|---------------------------|----------------|----------------------------|----------------------|
| 13     | .1815           | 42.8                 | Qp  | 0             | 0                  | 10.1    | 52.9                   | 64.42                     | -11.52         | -                          | -                    |
| 14     | .1815           | 27.73                | Ca  | 0             | 0                  | 10.1    | 37.83                  | -                         | -              | 54.42                      | -16.59               |
| 15     | .30075          | 32.24                | Qp  | 0             | 0                  | 10.1    | 42.34                  | 60.22                     | -17.88         | -                          | -                    |
| 16     | .30075          | 16                   | Ca  | 0             | 0                  | 10.1    | 26.1                   | -                         | -              | 50.22                      | -24.12               |
| 17     | .32775          | 30.6                 | Qp  | 0             | 0                  | 10.1    | 40.7                   | 59.51                     | -18.81         | -                          | -                    |
| 18     | .3615           | 14.47                | Ca  | 0             | 0                  | 10.1    | 24.57                  | -                         | -              | 48.69                      | -24.12               |
| 19     | .53475          | 25.96                | Qp  | 0             | 0                  | 10.1    | 36.06                  | 56                        | -19.94         | -                          | -                    |
| 20     | .53475          | 17.66                | Ca  | 0             | 0                  | 10.1    | 27.76                  | -                         | -              | 46                         | -18.24               |
| 21     | .59325          | 22.14                | Qp  | 0             | 0                  | 10.1    | 32.24                  | 56                        | -23.76         | -                          | -                    |
| 22     | .5955           | 15.35                | Ca  | 0             | 0                  | 10.1    | 25.45                  | -                         | -              | 46                         | -20.55               |
| 23     | .6585           | 24.36                | Qp  | 0             | 0                  | 10.1    | 34.46                  | 56                        | -21.54         | -                          | -                    |
| 24     | .6585           | 20.14                | Ca  | 0             | 0                  | 10.1    | 30.24                  | -                         | -              | 46                         | -15.76               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

## 9.7.2. AC Power Line With AC/DC Adapter

### LINE 1 RESULTS



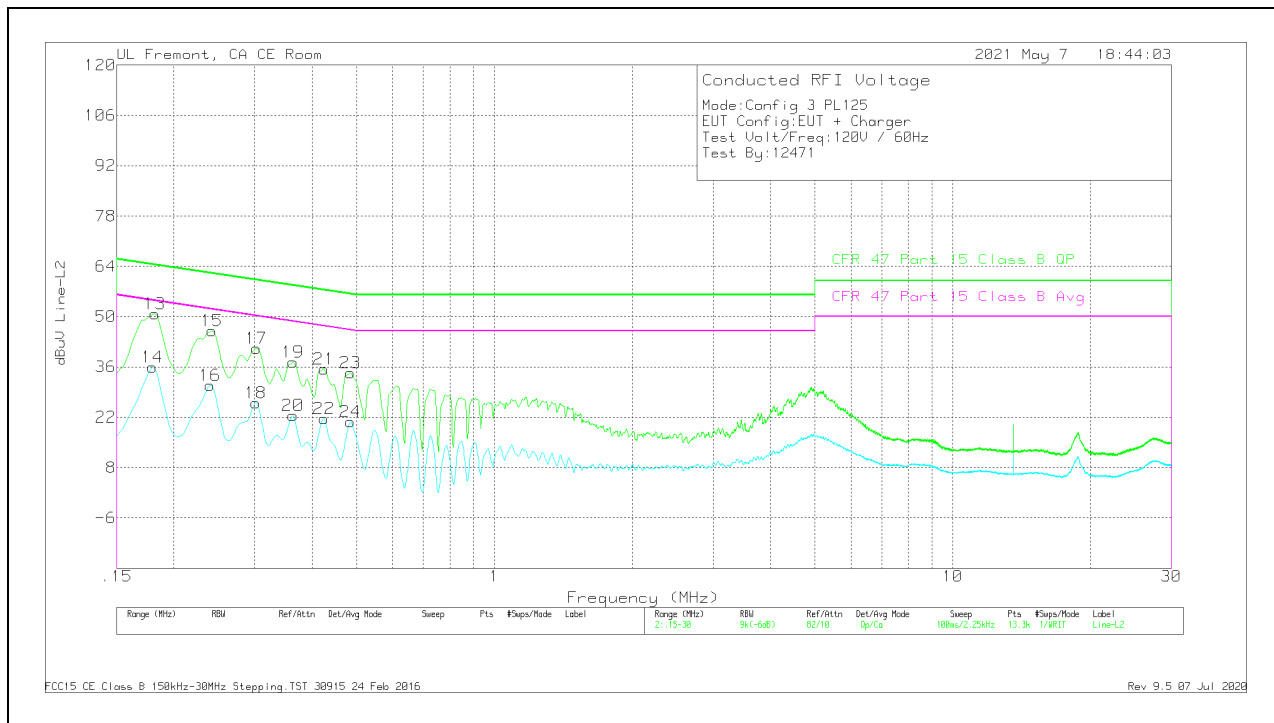
#### Range 1: Line-L1 .15 - 30MHz

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | PRE0186446 L1 | LC Cables C1&C3 dB | Limiter | Corrected Reading dBuV | CFR 47 Part 15 Class B QP | QP Margin (dB) | CFR 47 Part 15 Class B Avg | Av(CISPR)M argin (dB) |
|--------|-----------------|----------------------|-----|---------------|--------------------|---------|------------------------|---------------------------|----------------|----------------------------|-----------------------|
| 1      | .1815           | 40.08                | Qp  | 0             | 0                  | 10.1    | 50.18                  | 64.42                     | -14.24         | -                          | -                     |
| 2      | .17925          | 25.01                | Ca  | 0             | 0                  | 10.1    | 35.11                  | -                         | -              | 54.52                      | -19.41                |
| 3      | .24225          | 35.86                | Qp  | 0             | 0                  | 10.1    | 45.96                  | 62.02                     | -16.06         | -                          | -                     |
| 4      | .24225          | 20.66                | Ca  | 0             | 0                  | 10.1    | 30.76                  | -                         | -              | 52.02                      | -21.26                |
| 5      | .303            | 31.58                | Qp  | 0             | 0                  | 10.1    | 41.68                  | 60.16                     | -18.48         | -                          | -                     |
| 6      | .303            | 16.22                | Ca  | 0             | 0                  | 10.1    | 26.32                  | -                         | -              | 50.16                      | -23.84                |
| 7      | .36375          | 28.3                 | Qp  | 0             | 0                  | 10.1    | 38.4                   | 58.64                     | -20.24         | -                          | -                     |
| 8      | .36375          | 13.26                | Ca  | 0             | 0                  | 10.1    | 23.36                  | -                         | -              | 48.64                      | -25.28                |
| 9      | .4245           | 26.7                 | Qp  | 0             | 0                  | 10.1    | 36.8                   | 57.36                     | -20.56         | -                          | -                     |
| 10     | .4245           | 12.48                | Ca  | 0             | 0                  | 10.1    | 22.58                  | -                         | -              | 47.36                      | -24.78                |
| 11     | .483            | 25.93                | Qp  | 0             | 0                  | 10.1    | 36.03                  | 56.29                     | -20.26         | -                          | -                     |
| 12     | .48525          | 11.7                 | Ca  | 0             | 0                  | 10.1    | 21.8                   | -                         | -              | 46.25                      | -24.45                |

Qp - Quasi-Peak detector

Ca - CISPR average detection

## LINE 2 RESULTS



### Range 2: Line-L2 .15 - 30MHz

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | PRE0186446 L2 | LC Cables C2&C3 dB | Limiter | Corrected Reading dBuV | CFR 47 Part 15 Class B QP | QP Margin (dB) | CFR 47 Part 15 Class B Avg | Av(CISPR)Margin (dB) |
|--------|-----------------|----------------------|-----|---------------|--------------------|---------|------------------------|---------------------------|----------------|----------------------------|----------------------|
| 13     | .1815           | 40.69                | Qp  | 0             | 0                  | 10.1    | 50.79                  | 64.42                     | -13.63         | -                          | -                    |
| 14     | .17925          | 25.79                | Ca  | 0             | 0                  | 10.1    | 35.89                  | -                         | -              | 54.52                      | -18.63               |
| 15     | .24225          | 35.95                | Qp  | 0             | 0                  | 10.1    | 46.05                  | 62.02                     | -15.97         | -                          | -                    |
| 16     | .24             | 20.86                | Ca  | 0             | 0                  | 10.1    | 30.96                  | -                         | -              | 52.1                       | -21.14               |
| 17     | .303            | 31.09                | Qp  | 0             | 0                  | 10.1    | 41.19                  | 60.16                     | -18.97         | -                          | -                    |
| 18     | .30188          | 15.89                | Ca  | 0             | 0                  | 10.1    | 25.99                  | -                         | -              | 50.19                      | -24.2                |
| 19     | .36375          | 27.25                | Qp  | 0             | 0                  | 10.1    | 37.35                  | 58.64                     | -21.29         | -                          | -                    |
| 20     | .36375          | 12.42                | Ca  | 0             | 0                  | 10.1    | 22.52                  | -                         | -              | 48.64                      | -26.12               |
| 21     | .4245           | 25.39                | Qp  | 0             | 0                  | 10.1    | 35.49                  | 57.36                     | -21.87         | -                          | -                    |
| 22     | .4245           | 11.49                | Ca  | 0             | 0                  | 10.1    | 21.59                  | -                         | -              | 47.36                      | -25.77               |
| 23     | .48525          | 24.3                 | Qp  | 0             | 0                  | 10.1    | 34.4                   | 56.25                     | -21.85         | -                          | -                    |
| 24     | .48525          | 10.71                | Ca  | 0             | 0                  | 10.1    | 20.81                  | -                         | -              | 46.25                      | -25.44               |

Qp - Quasi-Peak detector

Ca - CISPR average detection

## END OF REPORT

## **10. SETUP PHOTOS**

Please refer to 13571607-EP21V1 for setup photos.

**END OF REPORT**