

# **TEST REPORT**

**Report Number. :** R14275554-E11

**Applicant :** InfoBionic, Inc  
400 Totten Pond Rd STE 315  
Waltham, MA 02451, U.S.A.

**Model(s) :** MoMe ARC Charger, MoMe ARC K3 Sensor & MoMe ARC Gateway

**FCC IDs :** 2AHLC01858, 2AHLC01857, 2AHLC01856

**EUT Description :** Charger Base, Sensor & Gateway

**Test Standard(s) :** FCC 47 CFR PART 15 SUBPART C: 2022

**Date Of Issue:**  
2023-10-03

**Prepared by:**  
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Revision History

| Rev. | Issue Date | Revisions     | Revised By   |
|------|------------|---------------|--------------|
| V1   | 2023-10-03 | Initial Issue | Noah Bennett |

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** InfoBionic, Inc  
400 Totten Pond Rd STE 315  
Waltham, MA 02451, U.S.A

**EUT DESCRIPTION:** Charger Base

**MODEL:** Mome ARC Charger, MoMe ARC K3 Sensor &  
MoMe ARC Gateway

**SERIAL NUMBER:** SIA2008, MIB2008, MIB1033

**SAMPLE RECEIPT DATE:** 2022-08-15

**DATE TESTED:** 2022-11-14 Thru 2022-11-30

| APPLICABLE STANDARDS        |              |
|-----------------------------|--------------|
| STANDARD                    | TEST RESULTS |
| FCC PART 15 SUBPART C: 2022 | Complies     |

UL LLC 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 LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document.

Approved & Released For  
UL LLC. By:

Prepared By:



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## 2. TEST RESULTS SUMMARY

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

| FCC Clause     | Requirement                  | Result                  | Comment                    |
|----------------|------------------------------|-------------------------|----------------------------|
| -              | Emission Bandwidth           | Reporting purposes only | ANSI C63.10 Section 6.9.3. |
| 15.209, 15.205 | Radiated Emissions           | Compliant               | None.                      |
| 15.207         | AC Mains Conducted Emissions | Compliant               | None.                      |

## 3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, FCC CFR 47 Part 2, and FCC CFR 47 Part 15.

## 4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, Certificate Number 0751.06, 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 checked="" type="checkbox"/> | Building<br>2800 Suite Perimeter Park Dr. Suite B<br>Morrisville, NC 27560, U.S.A | US0067     | 27265               | 825374           |

## 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> |
|------------------------------------------|------------------|
| All emissions, radiated                  | 6.01 dB          |
| Conducted Emissions (0.150-30MHz) - LISN | ±3.40 dB         |
| Humidity                                 | ±3.39 % RH       |
| Temperature                              | ±0.57°C          |
| Time                                     | ±3.39 %          |

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

### 5.4. SAMPLE CALCULATION

#### RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)  
 $36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$

#### MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.  
 $\text{dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$

## 6. EQUIPMENT UNDER TEST

### 6.1. DESCRIPTION OF EUT

The EUT is a charger of a three component ambulatory electro cardiogram that contains a WPT and BLE radio. This report covers full emissions testing for the WPT radio.

### 6.2. MAXIMUM OUTPUT POWER

The transmitter has maximum peak radiated electric field strength as follows:

| Fundamental Frequency (KHz) | Mode     | E field (300m distance) FCC (dBuV/m) | E field (30m distance) FCC (dBuV/m) |
|-----------------------------|----------|--------------------------------------|-------------------------------------|
| 1072                        | Config 2 |                                      | 7.64                                |
| 158.32                      | Config 2 | -15.76                               |                                     |

### 6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was Charger Bootloader + App: V00.1355, Sensor Bootloader + App: V00.1355. Gateway Bootloader + App: V00.1355

The test utility software used during testing was Charger Bootloader + App: V00.13555, Sensor Bootloader + App: V00.1355 and Gateway Bootloader + App: V00.1355.

## 6.4. WORST-CASE CONFIGURATION AND MODE

The EUT is a Charger base, Gateway, and Sensor device with a proprietary WPT radio at 1MHz and Qi Wireless charging at 110kHz – 200kHz.

Radiated Emissions from 9kHz to 1000MHz were performed on the EUTs in various configurations. Below is a list of configurations tested.

| Config | Mode                       | Descriptions                                                                                       |
|--------|----------------------------|----------------------------------------------------------------------------------------------------|
| 1      | Charger + Gateway          | Charger is source, Gateway is load at 110-200kHz                                                   |
| 2      | Charger + Gateway + Sensor | Charger is source, Gateway is load at 110-200kHz<br>+<br>Gateway is source, Sensor is load at 1MHz |
| 3      | Gateway + Sensor           | Gateway is source, Sensor is load at 1MHz                                                          |

AC power line conducted emissions were also investigated on the following configurations.

Note: Since the gateway and sensor cannot be plugged into AC Mains, Config 3 was excluded from AC power line conducted emissions testing.

| Config | Mode                       | Descriptions                                                                                       |
|--------|----------------------------|----------------------------------------------------------------------------------------------------|
| 1      | Charger + Gateway          | Charger is source, Gateway is load at 110-200kHz                                                   |
| 2      | Charger + Gateway + Sensor | Charger is source, Gateway is load at 110-200kHz<br>+<br>Gateway is source, Sensor is load at 1MHz |

The Fundamental of the EUT while in Config 3 was investigated in 3 orthogonal orientations, X, Y, and Z. It was determined that Z was worst case orientation. Therefore, all radiated testing in Config 3 was done in Z orientation.

While in Configs 1 and 2 with the Charger Base, the EUT was stated by the manufacturer to operate in only one orthogonal orientation, X. Therefore, all final radiated testing of Config 1 and Config 2 was performed with the EUT in X orientation.

## 6.5. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

| Support Equipment List |              |                |               |        |
|------------------------|--------------|----------------|---------------|--------|
| Description            | Manufacturer | Model          | Serial Number | FCC ID |
| AC Adapter             | HDP          | HDP12-MD05024U | N/A           | N/A    |

### I/O CABLES

| I/O Cable List |      |                      |                |            |                  |             |
|----------------|------|----------------------|----------------|------------|------------------|-------------|
| Cable No.      | Port | # of Identical Ports | Connector Type | Cable Type | Cable Length (m) | Remarks     |
| 1              | USB  | 1                    | USB            | Shielded   | <3m              | Power Cable |

### TEST SETUP

The EUT was configured to be charging via WPT and Qi during the entirety of the test.

### SETUP DIAGRAM

Please refer to R14275554-EP5 for setup diagrams

## 7. TEST AND MEASUREMENT EQUIPMENT

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

### Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

| Equipment ID | Description                                   | Manufacturer        | Model Number              | Last Cal.  | Next Cal.  |
|--------------|-----------------------------------------------|---------------------|---------------------------|------------|------------|
| CBL087       | Coax cable, RG223, N-male to BNC-male, 20-ft. | Pasternack          | PE3W06143-240             | 2022-04-05 | 2023-04-05 |
| HI0091       | Environmental Meter                           | Fisher Scientific   | 15-077-963                | 2022-07-20 | 2023-07-20 |
| LISN003      | LISN, 50-ohm/50-uH, 250uH 2-conductor, 25A    | Fischer Custom Com. | FCC-LISN-50/250-25-2-01   | 2022-08-01 | 2023-08-01 |
| 75141        | EMI Test Receiver 9kHz-7GHz                   | Rohde & Schwarz     | ESCI 7                    | 2022-08-03 | 2023-08-03 |
| ATA222       | Transient Limiter, 0.009-100MHz               | Electro-Metrics     | EM-7600                   | 2022-04-05 | 2023-04-05 |
| PS214        | AC Power Source                               | Elgar               | CW2501M                   | NA         | NA         |
| SOFTEMI      | EMI Software                                  | UL                  | Version 9.5 (04 Mar 2021) |            |            |
|              | <b>Miscellaneous (if needed)</b>              |                     |                           |            |            |
| CDECABLE001  | ANSI C63.4 1m extension cable.                | UL                  | Per Annex B of ANSI C63.4 | 2022-09-12 | 2023-09-12 |

### Test Equipment Used - Wireless Conducted Measurement Equipment

| Equipment ID       | Description          | Manufacturer          | Model Number | Last Cal.  | Next Cal.  |
|--------------------|----------------------|-----------------------|--------------|------------|------------|
| <b>Conducted 2</b> |                      |                       |              |            |            |
| SA0027             | Spectrum Analyzer    | Keysight Technologies | N9030A       | 2022-05-24 | 2023-05-24 |
| HI0090             | Environmental Meter  | Fisher Scientific     | 15-077-963   | 2022-07-20 | 2023-07-20 |
| -                  | Near Field Probe Kit | EMC Test Systems      | 7405         | -          | -          |

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 2)

| Equip. ID | Description                      | Manufacturer/Brand   | Model Number                  | Last Cal.  | Next Cal.  |
|-----------|----------------------------------|----------------------|-------------------------------|------------|------------|
|           | <b>0.009-30MHz</b>               |                      |                               |            |            |
| AT0079    | Active Loop Antenna              | ETS-Lindgren         | 6502                          | 2022-09-12 | 2023-09-12 |
|           | <b>30-1000 MHz</b>               |                      |                               |            |            |
| AT0074    | Hybrid Broadband Antenna         | Sunol Sciences Corp. | JB3                           | 2022-09-07 | 2023-09-07 |
|           | <b>Gain-Loss Chains</b>          |                      |                               |            |            |
| C2-SAC01  | Gain-loss string: 0.009-30MHz    | Various              | Various                       | 2022-05-10 | 2023-05-10 |
| C2-SAC02  | Gain-loss string: 25-1000MHz     | Various              | Various                       | 2022-05-10 | 2023-05-10 |
|           | <b>Receiver &amp; Software</b>   |                      |                               |            |            |
| 197955    | Spectrum Analyzer                | Rohde & Schwarz      | ESW44                         | 2022-03-08 | 2023-03-08 |
| SOFTMI    | EMI Software                     | UL                   | Version 9.5 (18 Oct 2021)     |            |            |
|           | <b>Additional Equipment used</b> |                      |                               |            |            |
| 200540    | Environmental Meter              | Fisher Scientific    | 15-077-963<br>(s/n 181474409) | 2021-09-27 | 2022-09-27 |

## 8. EMISSION BANDWIDTH

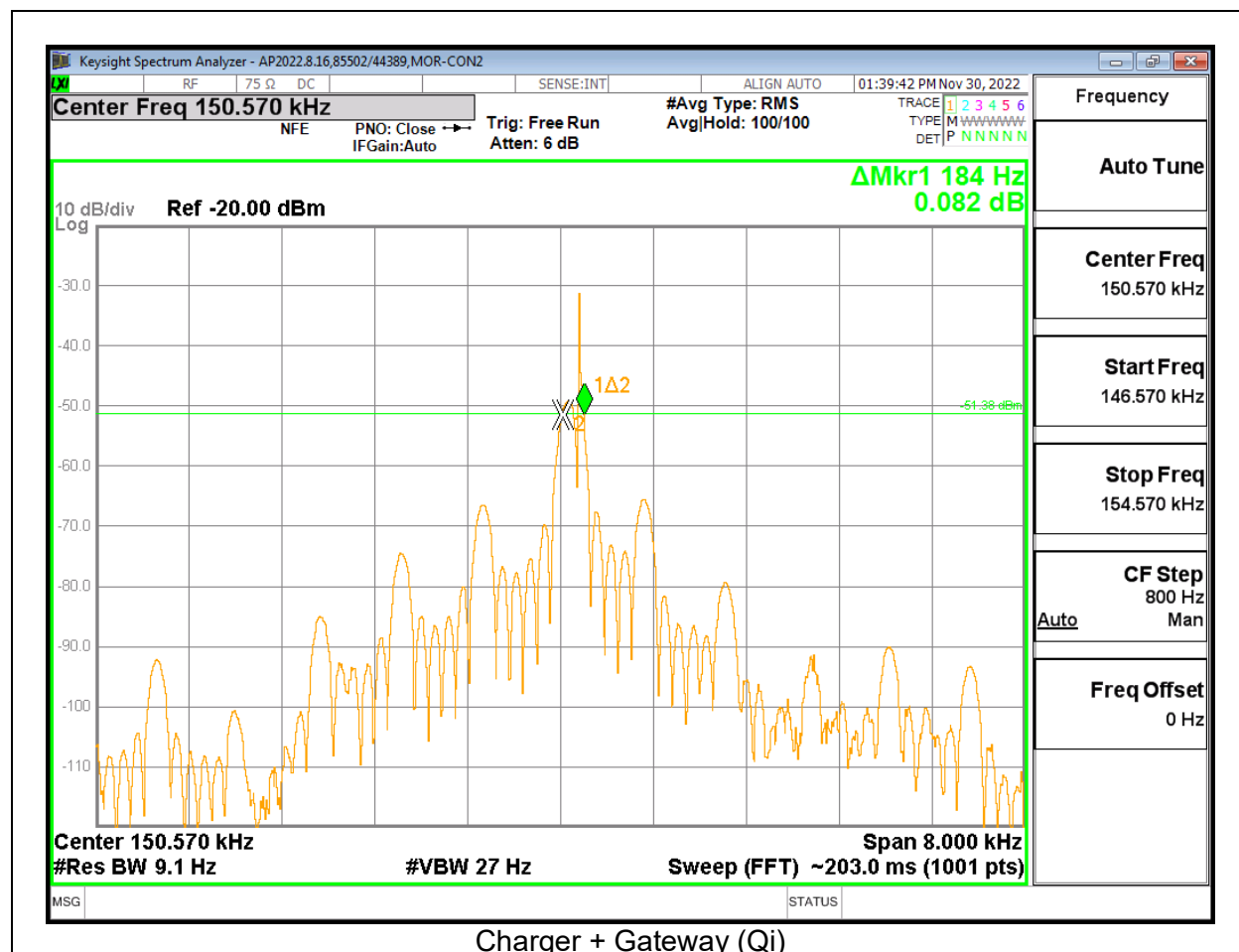
### TEST PROCEDURE

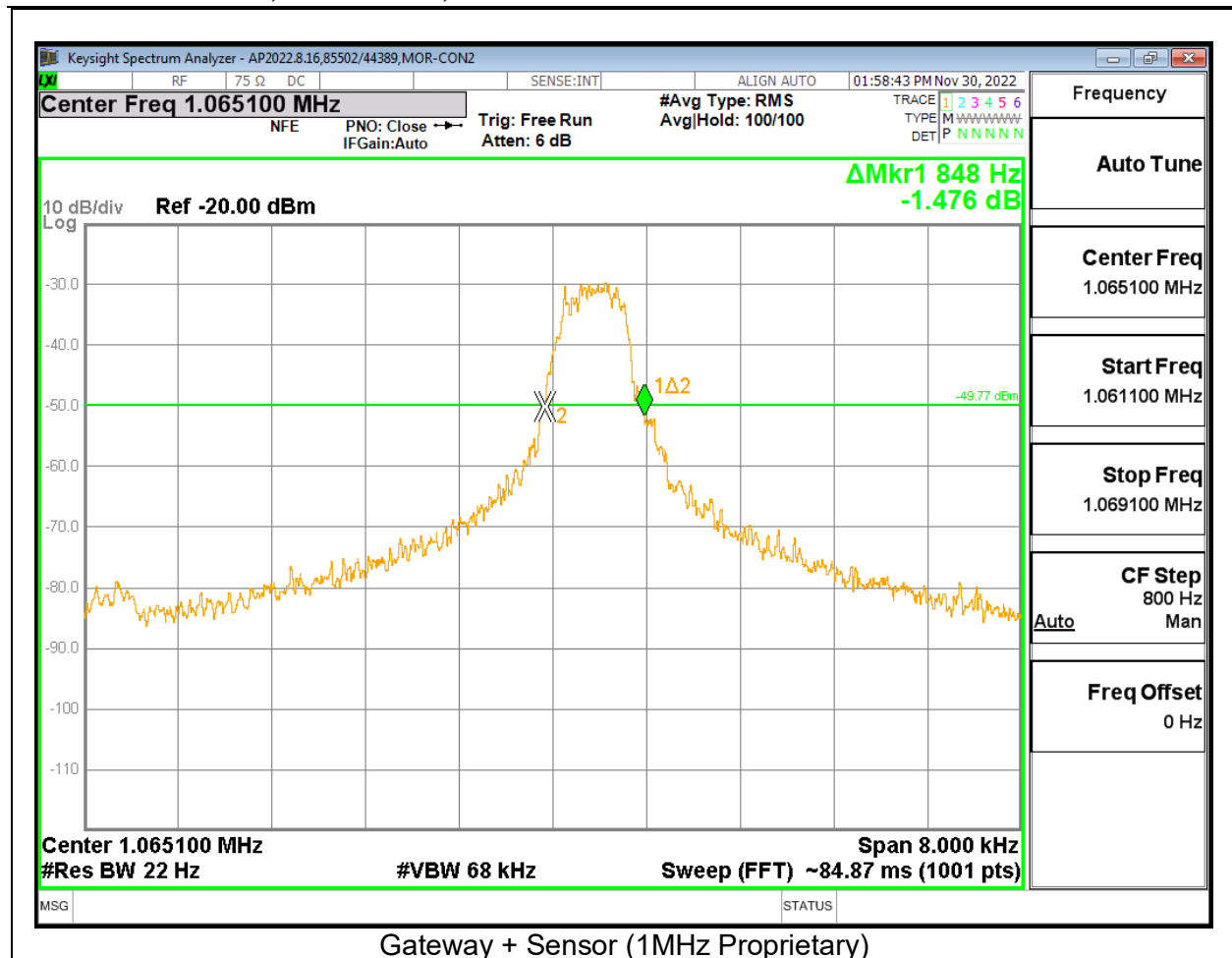
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1-5% of the 99% BW. The VBW is set to 3 times the RBW. The sweep time is coupled.

### EUT SETUP

| Config | Mode                             | Descriptions                                                                                       |
|--------|----------------------------------|----------------------------------------------------------------------------------------------------|
| 2      | Charger +<br>Gateway +<br>Sensor | Charger is source, Gateway is load at 110-200kHz<br>+<br>Gateway is source, Sensor is load at 1MHz |

### RESULTS





## 9. RADIATED EMISSION TEST RESULTS

### 9.1. LIMITS AND PROCEDURE

#### LIMIT

FCC §15.209 (a)

| Frequency (MHz)                                                | Field Strength (microvolts/meter) | Measurement Distance (m) |
|----------------------------------------------------------------|-----------------------------------|--------------------------|
| 0.009–0.490                                                    | 2400/F(kHz)                       | 300                      |
| 0.490–1.705                                                    | 24000/F(kHz)                      | 30                       |
| 1.705–30.0                                                     | 30                                | 30                       |
| 30–88                                                          | 100                               | 3                        |
| 88 to 216                                                      | 150                               | 3                        |
| 216 to 960                                                     | 200                               | 3                        |
| Above 960 MHz                                                  | 500                               | 3                        |
| Note: The lower limit shall apply at the transition frequency. |                                   |                          |

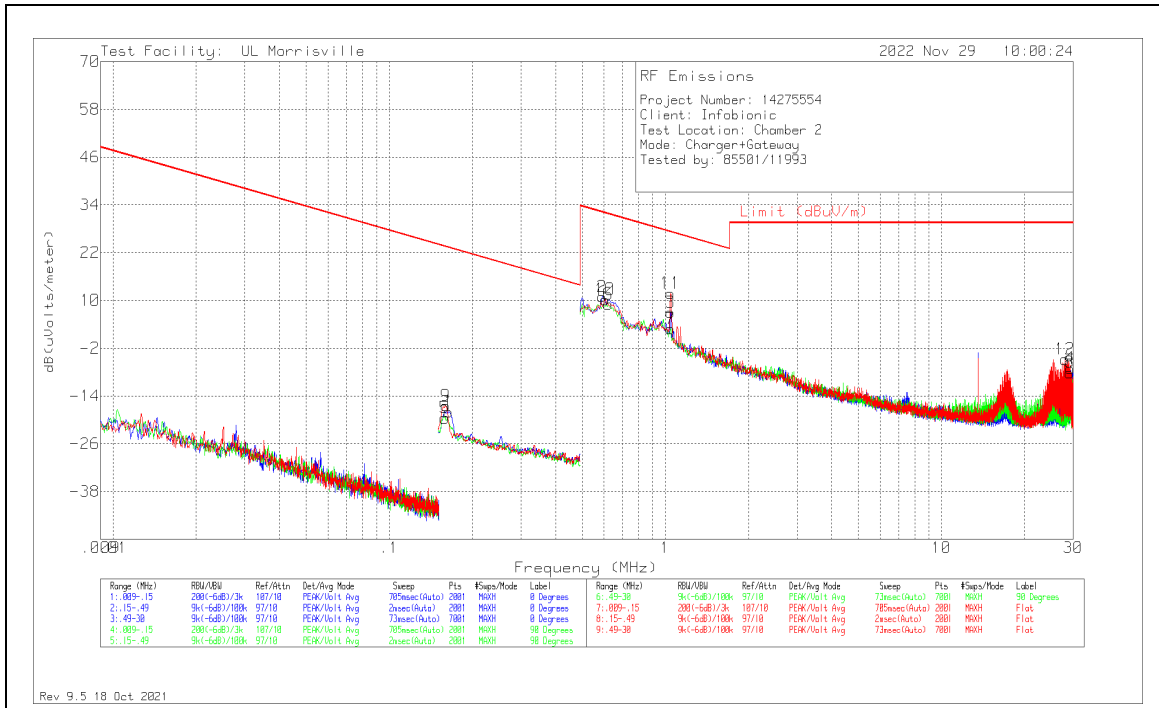
For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements in the 30-1000MHz range, 9kHz for peak and/or quasi-peak detection measurements in the 0.15-30MHz range and 200Hz for peak and/or quasi-peak detection measurements in the 9 to 150kHz range. Peak detection is used unless otherwise noted as quasi-peak or average (9-90kHz and 110-490kHz).

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 300 m 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 D01.

#### RESULTS

## 9.2. FCC TX FUNDAMENTAL AND SPURIOUS EMISSIONS FROM 9 kHz TO 30 MHz

### 9.2.1. CONFIG 1



### DATA

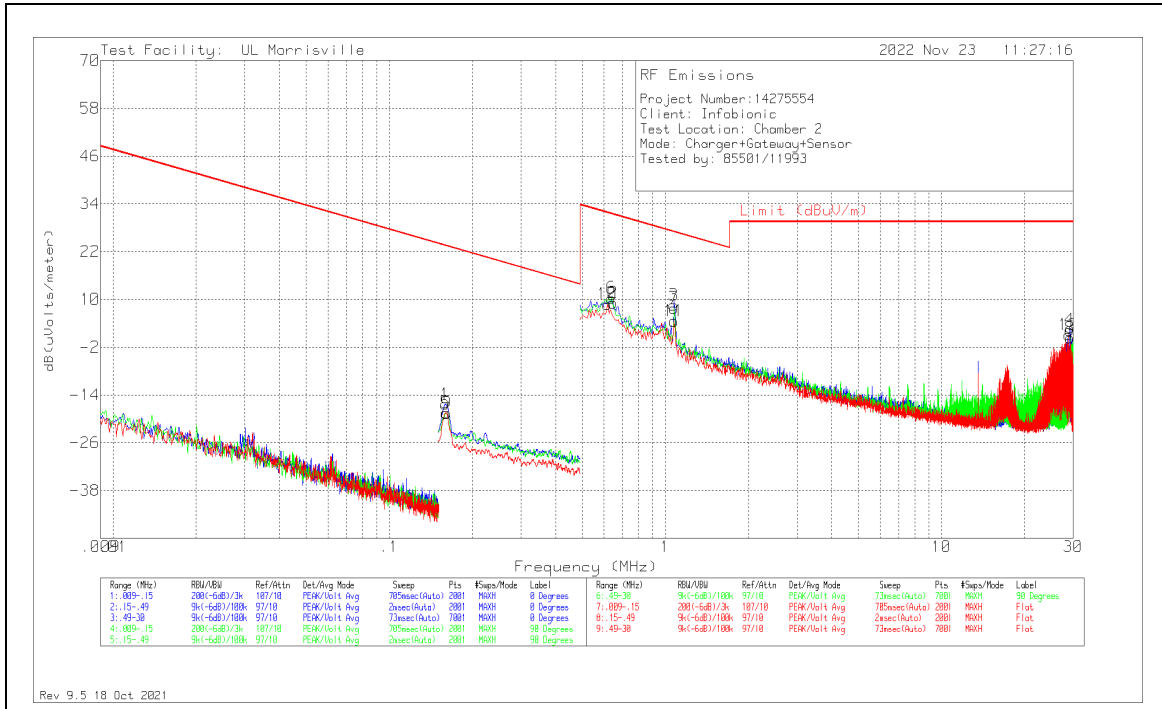
| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AT0079 (dB/m) | Gain/Loss (dB) | Dist. Corr. Factor (dB) | Corrected Reading dB(uVolts/meter) | Av/QP Limit (dBuV/m) | Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Loop Angle |
|--------|-----------------|----------------------|-----|---------------|----------------|-------------------------|------------------------------------|----------------------|-------------------|-------------|----------------|------------|
| 5      | .15595          | 49.87                | Av  | 11.1          | .1             | -80                     | -18.93                             | 23.74                | 43.74             | -42.67      | 24             | 90 degs    |
| 9      | .15811          | 51.36                | Av  | 11.1          | .1             | -80                     | -17.44                             | 23.63                | 43.63             | -41.07      | 306            | Flat       |
| 1      | .15906          | 51.62                | Av  | 11.1          | .1             | -80                     | -17.18                             | 23.57                | 43.57             | -40.75      | 298            | 0 degs     |
| 2      | .59118          | 39.62                | Pk  | 11.1          | .2             | -40                     | 10.92                              | 32.17                | -                 | -21.25      | 0-360          | 0 degs     |
| 10     | .60383          | 38.87                | Pk  | 11.1          | .2             | -40                     | 10.17                              | 31.99                | -                 | -21.82      | 0-360          | Flat       |
| 6      | .6207           | 37.77                | Pk  | 11.1          | .2             | -40                     | 9.07                               | 31.75                | -                 | -22.68      | 0-360          | 90 degs    |
| 3      | 1.04698         | 31.03                | Qp  | 11.4          | .2             | -40                     | 2.63                               | 27.21                | -                 | -24.58      | 221            | 0 degs     |
| 11     | 1.04734         | 32.98                | Qp  | 11.4          | .2             | -40                     | 4.58                               | 27.2                 | -                 | -22.62      | 186            | Flat       |
| 7      | 1.04649         | 27.75                | Qp  | 11.4          | .2             | -40                     | -.65                               | 27.21                | -                 | -27.86      | 132            | 90 degs    |
| 12     | 28.04156        | 25.31                | Pk  | 8.8           | 1.1            | -40                     | -4.79                              | 29.54                | -                 | -34.33      | 0-360          | Flat       |
| 8      | 29.13772        | 22.26                | Pk  | 8.5           | 1.1            | -40                     | -8.14                              | 29.54                | -                 | -37.68      | 0-360          | 90 degs    |
| 4      | 29.25155        | 23.35                | Pk  | 8.5           | 1.1            | -40                     | -7.05                              | 29.54                | -                 | -36.59      | 0-360          | 0 degs     |

Pk - Peak detector

Qp - Quasi-Peak detector

Av - Average detection

## 9.2.2. CONFIG 2



## DATA

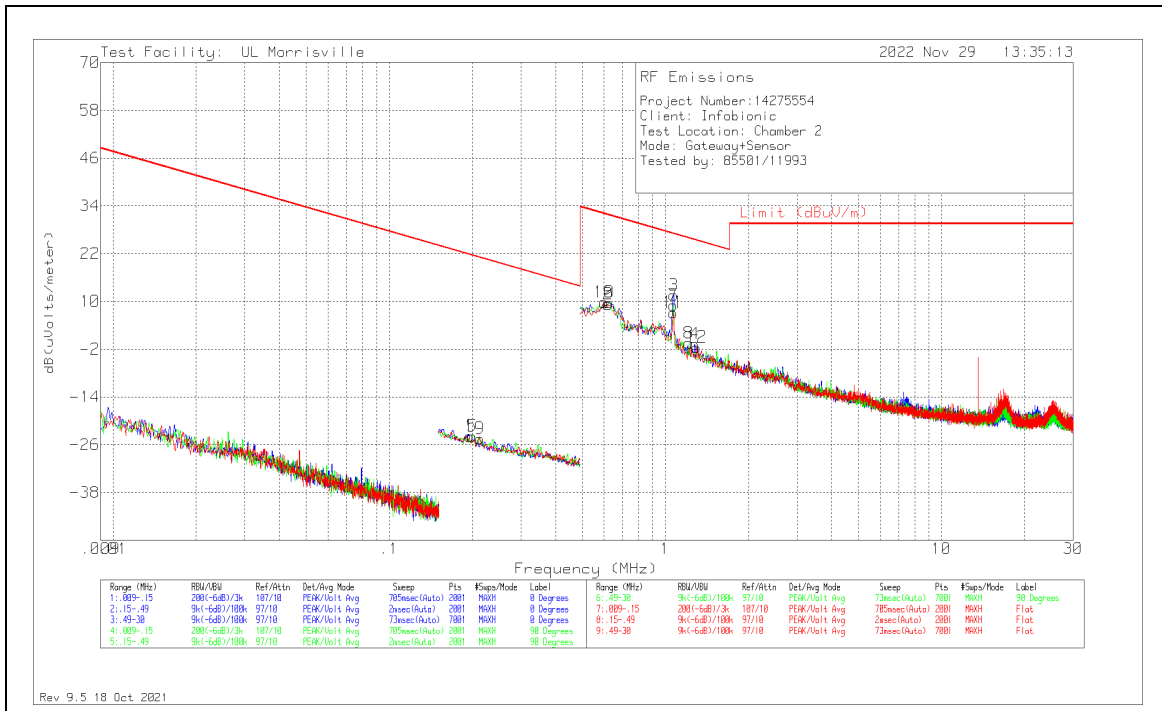
| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AT0079 (dB/m) | Gain/Loss (dB) | Dist. Corr. Factor (dB) | Corrected Reading dB(uVolts/meter) | Av/QP Limit (dBuV/m) | Pk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Loop Angle |
|--------|-----------------|----------------------|-----|---------------|----------------|-------------------------|------------------------------------|----------------------|-------------------|-------------|----------------|------------|
| 1      | .1619           | 52.65                | Av  | 11.2          | .1             | -80                     | -16.05                             | 23.42                | 43.42             | -39.47      | 302            | 0 degs     |
| 5      | .16047          | 50.35                | Av  | 11.2          | .1             | -80                     | -18.35                             | 23.5                 | 43.50             | -41.85      | 14             | 90 degs    |
| 9      | .15832          | 52.94                | Av  | 11.2          | .1             | -80                     | -15.76                             | 23.61                | 43.61             | -39.37      | 291            | Flat       |
| 10     | .61648          | 37.39                | Pk  | 11.2          | .2             | -40                     | 8.79                               | 31.81                | -                 | -23.02      | 0-360          | Flat       |
| 6      | .63756          | 38.84                | Pk  | 11.3          | .2             | -40                     | 10.34                              | 31.51                | -                 | -21.17      | 0-360          | 90 degs    |
| 2      | .64599          | 37.66                | Pk  | 11.3          | .2             | -40                     | 9.16                               | 31.4                 | -                 | -22.24      | 0-360          | 0 degs     |
| 3      | 1.07135         | 34.49                | Qp  | 11.3          | .2             | -40                     | 5.99                               | 27.01                | -                 | -21.02      | 256            | Flat       |
| 7      | 1.07228         | 36.14                | Qp  | 11.3          | .2             | -40                     | 7.64                               | 27                   | -                 | -19.36      | 236            | 0 degs     |
| 11     | 1.07052         | 34.03                | Qp  | 11.3          | .2             | -40                     | 5.53                               | 27.01                | -                 | -21.48      | 167            | 90 degs    |
| 12     | 28.81309        | 32.11                | Pk  | 7.9           | 1.1            | -40                     | 1.11                               | 29.54                | -                 | -28.43      | 0-360          | Flat       |
| 4      | 29.11242        | 33.33                | Pk  | 7.9           | 1.1            | -40                     | 2.33                               | 29.54                | --                | -27.21      | 0-360          | 0 degs     |
| 8      | 29.32322        | 31.4                 | Pk  | 7.8           | 1.1            | -40                     | .3                                 | 29.54                | -                 | -29.24      | 0-360          | 90 degs    |

Pk – Peak detector

Qp - Quasi-Peak detector

Av - Average detection

### 9.2.3. CONFIG 3



### DATA

| Marker | Frequency (MHz) | Meter Reading (dBUV) | Det | AT0079 (dB/m) | Gain/Loss (dB) | Dist. Corr. Factor (dB) | Corrected Reading dB(uVolts/meter) | Qp/Av Limit (dBUV/m) | Pk Limit (dBUV/m) | Margin (dB) | Azimuth (Degs) | Loop Angle |
|--------|-----------------|----------------------|-----|---------------|----------------|-------------------------|------------------------------------|----------------------|-------------------|-------------|----------------|------------|
| 1      | .19488          | 44.94                | Pk  | 11.1          | .1             | -80                     | -23.86                             | 21.81                | 41.81             | -45.67      | 0-360          | 0 degs     |
| 5      | .19981          | 44.95                | Pk  | 11.1          | .1             | -80                     | -23.85                             | 21.59                | 41.59             | -45.44      | 0-360          | 90 degs    |
| 9      | .21307          | 44.31                | Pk  | 11.1          | .1             | -80                     | -24.49                             | 21.03                | 41.03             | -45.52      | 0-360          | Flat       |
| 10     | .59962          | 38.48                | Pk  | 11.1          | .2             | -40                     | 9.78                               | 32.05                | -                 | -22.27      | 0-360          | Flat       |
| 2      | .6207           | 38                   | Pk  | 11.1          | .2             | -40                     | 9.3                                | 31.75                | -                 | -22.45      | 0-360          | 0 degs     |
| 6      | .62491          | 38.46                | Pk  | 11.1          | .2             | -40                     | 9.76                               | 31.69                | -                 | -21.93      | 0-360          | 90 degs    |
| 7      | 1.06633         | 34.71                | Qp  | 11.4          | .2             | -40                     | 6.31                               | 27.05                | -                 | -20.74      | 161            | 90 degs    |
| 11     | 1.06497         | 26.12                | Qp  | 11.4          | .2             | -40                     | -2.28                              | 27.06                | -                 | -29.34      | 47             | Flat       |
| 3      | 1.06501         | 27.89                | Qp  | 11.4          | .2             | -40                     | -.51                               | 27.06                | -                 | -27.57      | 211            | 0 degs     |
| 8      | 1.21515         | 27.93                | Pk  | 11.4          | .2             | -40                     | -.47                               | 25.91                | -                 | -26.38      | 0-360          | 90 degs    |
| 4      | 1.27839         | 27.72                | Pk  | 11.4          | .2             | -40                     | -.68                               | 25.47                | -                 | -26.15      | 0-360          | 0 degs     |
| 12     | 1.29947         | 26.89                | Pk  | 11.4          | .2             | -40                     | -1.51                              | 25.33                | -                 | -26.84      | 0-360          | Flat       |

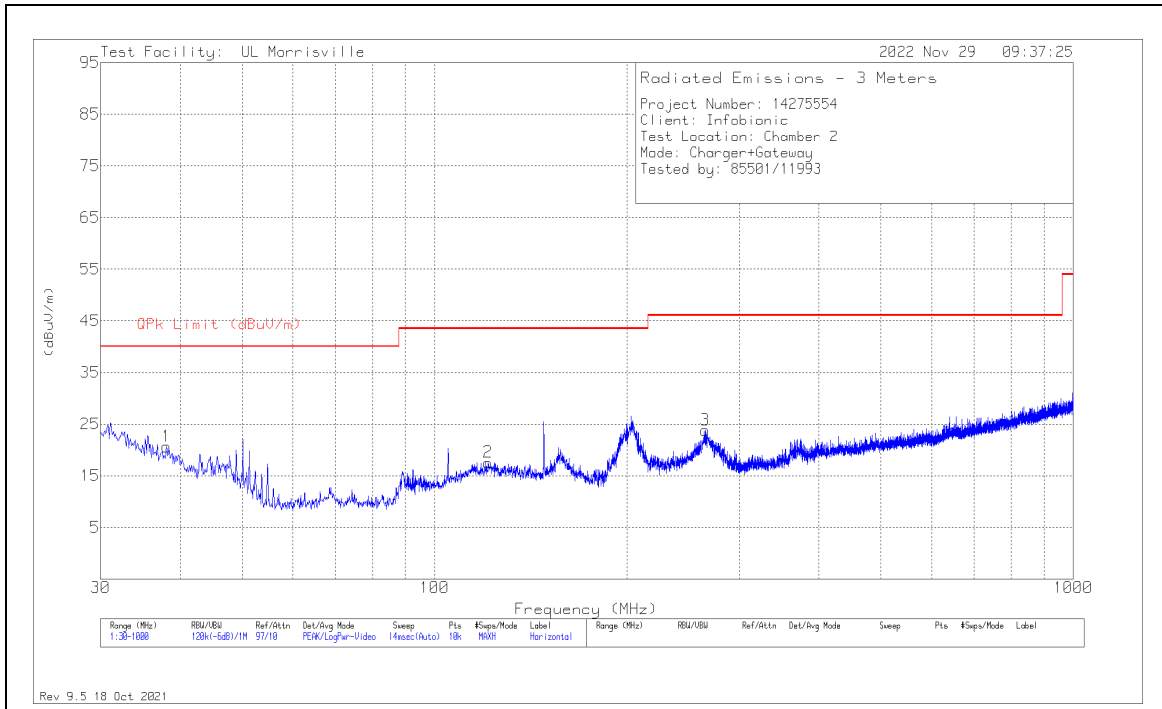
Pk - Peak detector

Qp - Quasi-Peak detector

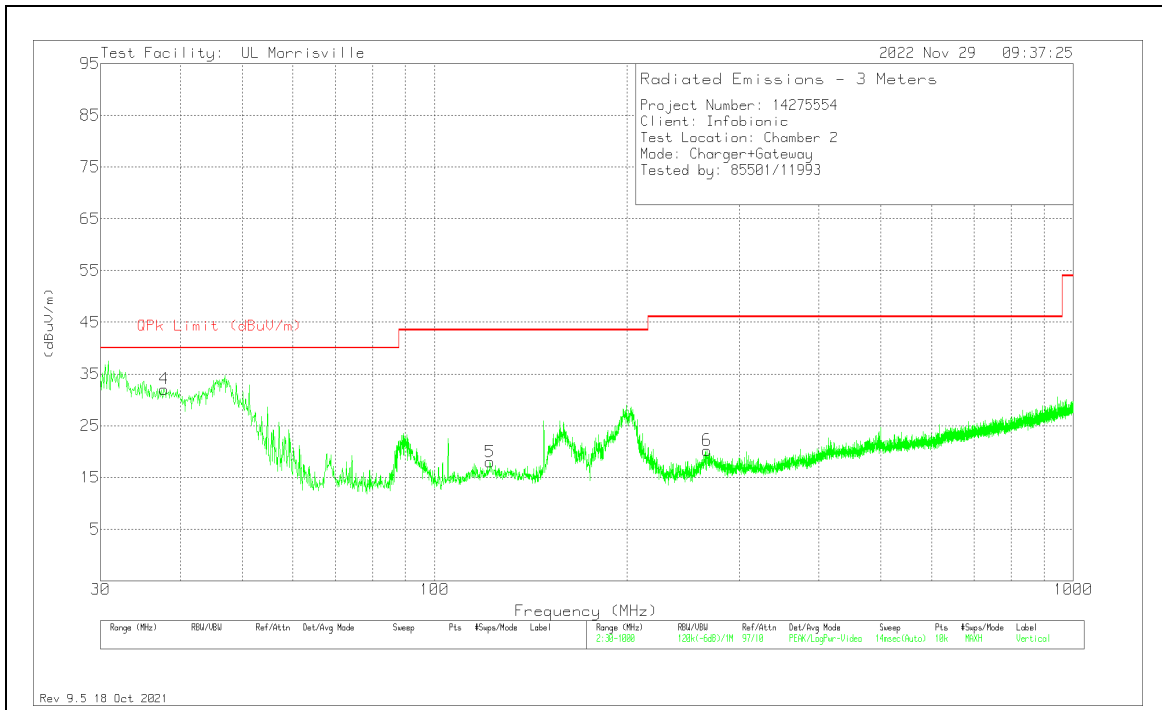
### 9.3. FCC TX SPURIOUS EMISSION 30 TO 1000 MHz

#### 9.3.1. CONFIG 1

##### HORIZONTAL PLOT



##### VERTICAL PLOT



**DATA**

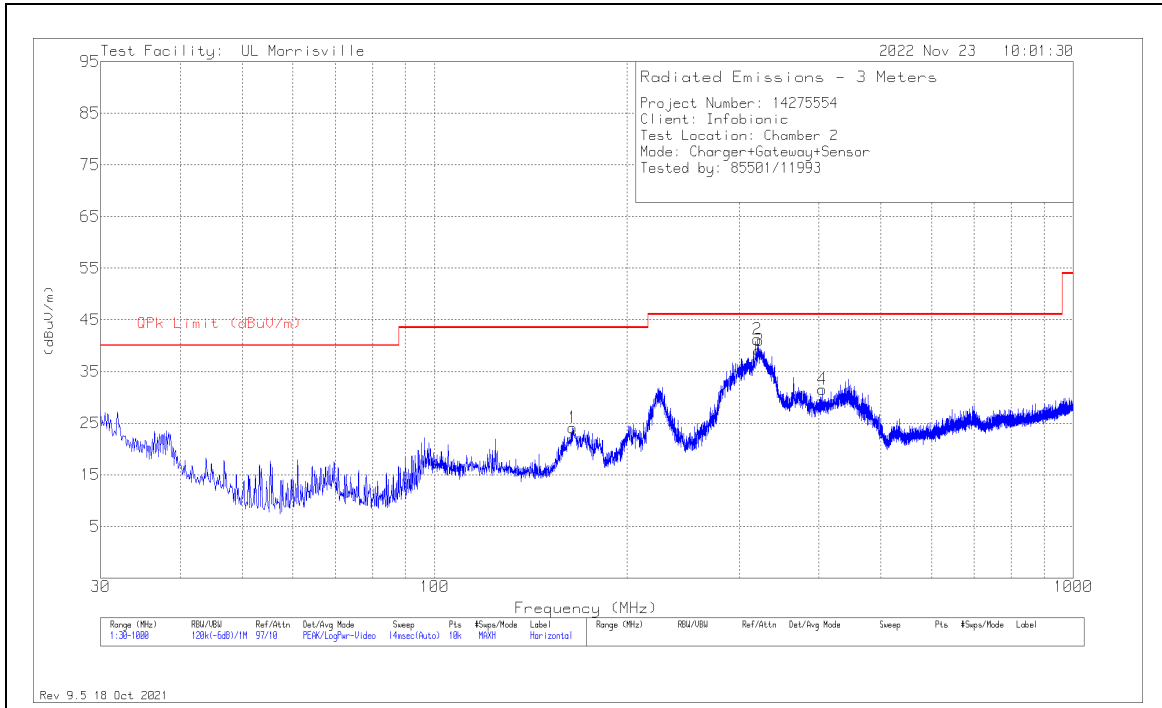
| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AT0073 (dB/m) | Gain/Loss (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|---------------|----------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | * ** 38.051     | 30.65                | Pk  | 21.3          | -31.3          | 20.65                      | 40                 | -19.35      | 0-360          | 399         | H        |
| 2      | * ** 121.374    | 27.97                | Pk  | 19.9          | -30.3          | 17.57                      | 43.52              | -25.95      | 0-360          | 99          | H        |
| 3      | * ** 265.613    | 33.8                 | Pk  | 19            | -29            | 23.8                       | 46.02              | -22.22      | 0-360          | 99          | H        |
| 4      | * ** 37.76      | 41.87                | Pk  | 21.5          | -31.3          | 32.07                      | 40                 | -7.93       | 0-360          | 101         | V        |
| 5      | * ** 122.15     | 28.3                 | Pk  | 20            | -30.3          | 18                         | 43.52              | -25.52      | 0-360          | 299         | V        |
| 6      | * ** 267.068    | 30.02                | Pk  | 19.1          | -28.9          | 20.22                      | 46.02              | -25.8       | 0-360          | 199         | V        |

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

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

### 9.3.2. CONFIG 2 HORIZONTAL PLOT



### VERTICAL PLOT



**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AT0073 (dB/m) | Gain/Loss (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|---------------|----------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | * ** 164.636    | 35.6                 | Pk  | 18.2          | -29.7          | 24.1                       | 43.52              | -19.42      | 0-360          | 199         | H        |
| 3      | * ** 322.067    | 47.79                | Pk  | 20            | -28.7          | 39.09                      | 46.02              | -6.93       | 0-360          | 99          | H        |
| 4      | * ** 404.905    | 37.74                | Pk  | 21.9          | -28.1          | 31.54                      | 46.02              | -14.48      | 0-360          | 299         | H        |
| 6      | * ** 37.5308    | 48.45                | Qp  | 21.6          | -31.3          | 38.75                      | 40                 | -1.25       | 247            | 123         | V        |
| 7      | * ** 73.941     | 42.68                | Pk  | 14            | -30.8          | 25.88                      | 40                 | -14.12      | 0-360          | 101         | V        |
| 8      | * ** 325.074    | 38.3                 | Pk  | 20            | -28.7          | 29.6                       | 46.02              | -16.42      | 0-360          | 101         | V        |
| 5      | 30.097          | 46.72                | Pk  | 26.7          | -31.5          | 41.92                      | -                  | -           | 0-360          | 101         | V        |
| 2      | 320.418         | 49.93                | Pk  | 20            | -28.7          | 41.23                      | -                  | -           | 0-360          | 99          | H        |

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

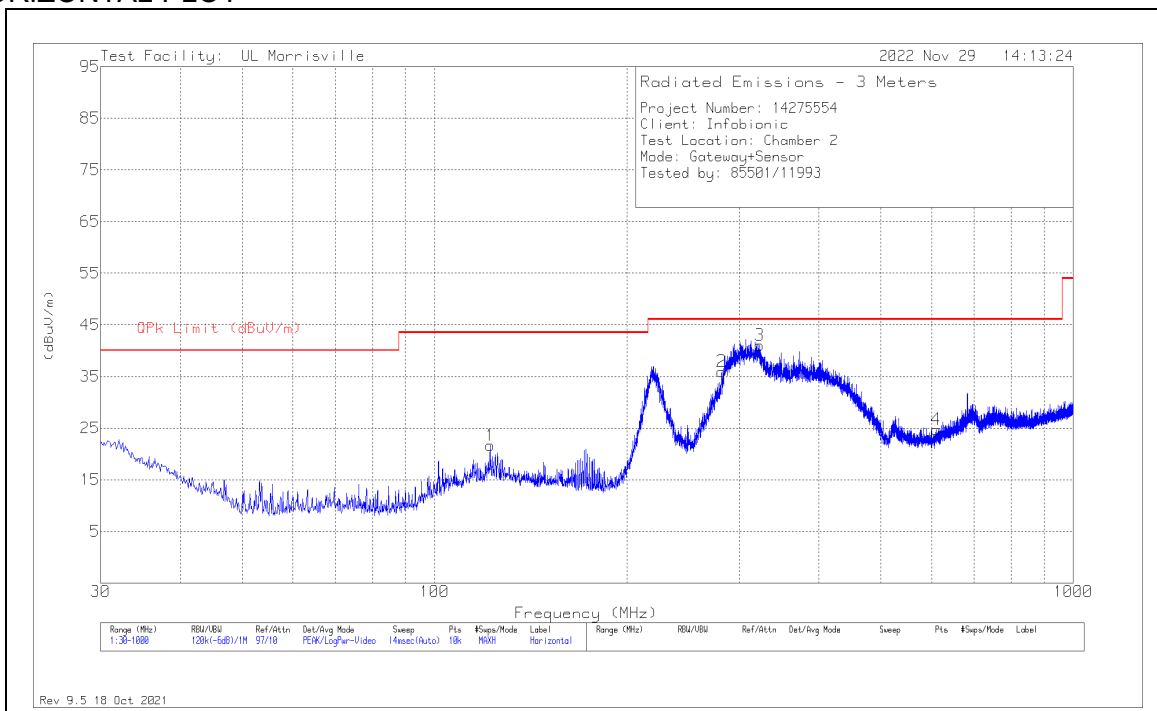
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

Qp - Quasi-Peak detector

### 9.3.3. CONFIG 3

#### HORIZONTAL PLOT



#### VERTICAL PLOT



**DATA**

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AT0073 (dB/m) | Gain/Loss (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|---------------|----------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | * ** 122.247    | 31.94                | Pk  | 20            | -30.3          | 21.64                      | 43.52              | -21.88      | 0-360          | 199         | H        |
| 2      | * ** 281.715    | 45.52                | Pk  | 19.4          | -29            | 35.92                      | 46.02              | -10.1       | 0-360          | 101         | H        |
| 3      | * ** 323.0381   | 46.69                | Qp  | 20            | -28.7          | 37.99                      | 46.02              | -8.03       | 129            | 100         | H        |
| 4      | * ** 610.254    | 27.32                | Pk  | 24.8          | -27.4          | 24.72                      | 46.02              | -21.3       | 0-360          | 299         | H        |
| 5      | * ** 125.739    | 29.09                | Pk  | 19.9          | -30.2          | 18.79                      | 43.52              | -24.73      | 0-360          | 101         | V        |
| 6      | * ** 282.782    | 33.01                | Pk  | 19.3          | -28.8          | 23.51                      | 46.02              | -22.51      | 0-360          | 101         | V        |
| 7      | * ** 322.649    | 35.74                | Pk  | 20            | -28.7          | 27.04                      | 46.02              | -18.98      | 0-360          | 101         | V        |
| 8      | * ** 609.672    | 26.08                | Pk  | 24.8          | -27.4          | 23.48                      | 46.02              | -22.54      | 0-360          | 101         | V        |

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

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

Qp - Quasi-Peak detector

## 10. AC MAINS LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207 (a)

| Frequency of Emission (MHz) | Conducted Limit (dB $\mu$ V) |            |
|-----------------------------|------------------------------|------------|
|                             | Quasi-peak                   | Average    |
| 0.15-0.5                    | 66 to 56 *                   | 56 to 46 * |
| 0.5-5                       | 56                           | 46         |
| 5-30                        | 60                           | 50         |

\*Decreases with the logarithm of the frequency.

### TEST PROCEDURE

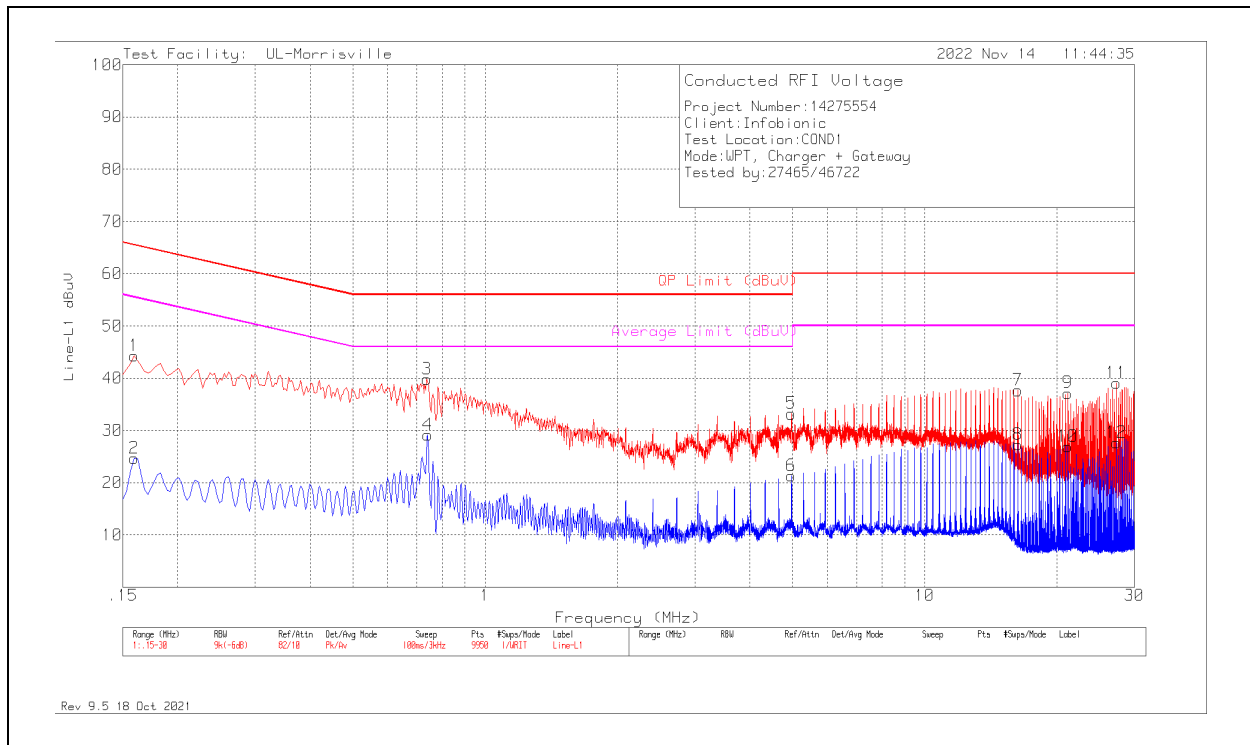
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

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

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

### RESULTS

# 10.1.1. CONFIG 1 LINE 1 RESULTS



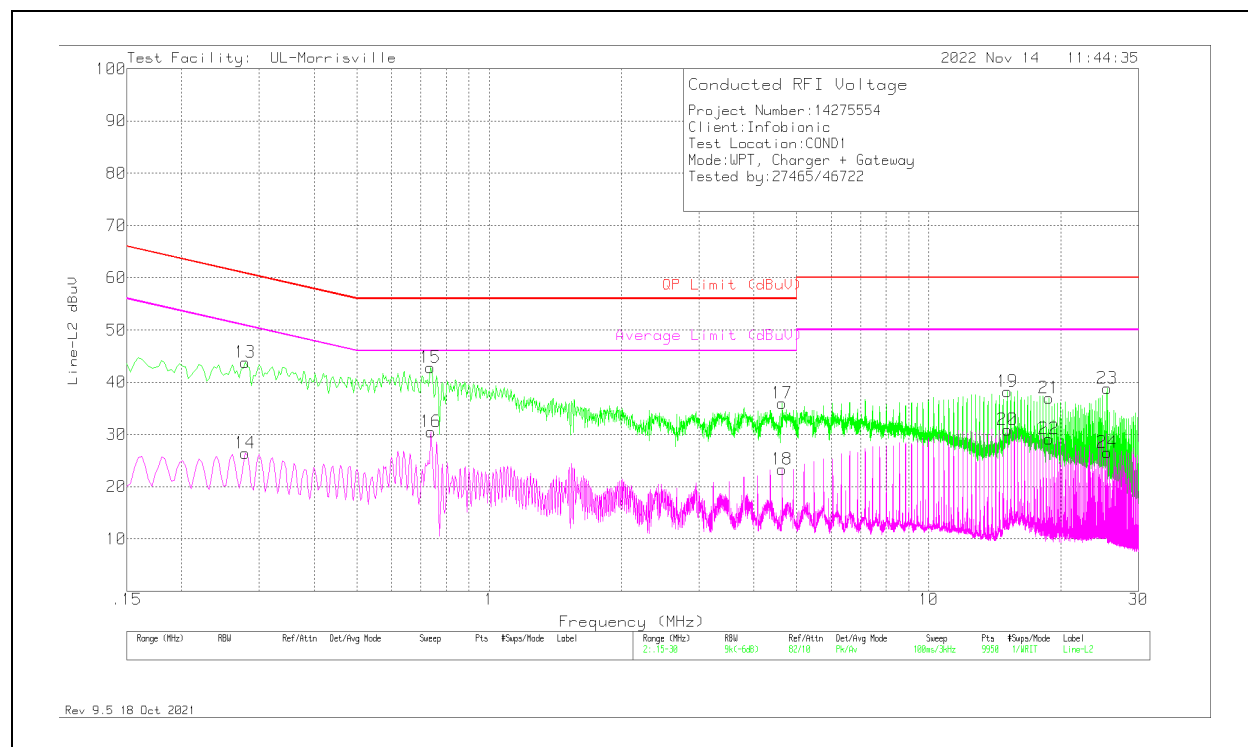
## WORST EMISSIONS

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |               |                  |                        |                 |             |                      |             |
|------------------------------|-----------------|----------------------|-----|---------------|------------------|------------------------|-----------------|-------------|----------------------|-------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | LISN VCF (dB) | Cbl/Limiter (dB) | Corrected Reading dBuV | QP Limit (dBuV) | Margin (dB) | Average Limit (dBuV) | Margin (dB) |
| 1                            | .159            | 34.31                | Pk  | .2            | 9.8              | 44.31                  | 65.52           | -21.21      | -                    | -           |
| 2                            | .159            | 14.62                | Av  | .2            | 9.8              | 24.62                  | -               | -           | 55.52                | -30.9       |
| 3                            | .738            | 29.99                | Pk  | 0             | 9.8              | 39.79                  | 56              | -16.21      | -                    | -           |
| 4                            | .741            | 19.32                | Av  | 0             | 9.8              | 29.12                  | -               | -           | 46                   | -16.88      |
| 5                            | 4.977           | 23.28                | Pk  | 0             | 9.9              | 33.18                  | 56              | -22.82      | -                    | -           |
| 6                            | 4.977           | 11.41                | Av  | 0             | 9.9              | 21.31                  | -               | -           | 46                   | -24.69      |
| 7                            | 16.275          | 27.45                | Pk  | .1            | 10.1             | 37.65                  | 60              | -22.35      | -                    | -           |
| 8                            | 16.275          | 17.06                | Av  | .1            | 10.1             | 27.26                  | -               | -           | 50                   | -22.74      |
| 9                            | 21.174          | 26.75                | Pk  | .2            | 10.2             | 37.15                  | 60              | -22.85      | -                    | -           |
| 10                           | 21.174          | 16.52                | Av  | .2            | 10.2             | 26.92                  | -               | -           | 50                   | -23.08      |
| 11                           | 27.276          | 28.59                | Pk  | .3            | 10.2             | 39.09                  | 60              | -20.91      | -                    | -           |
| 12                           | 27.276          | 17.19                | Av  | .3            | 10.2             | 27.69                  | -               | -           | 50                   | -22.31      |

Pk - Peak detector

Av - Average detection

## LINE 2 RESULTS



## WORST EMISSIONS

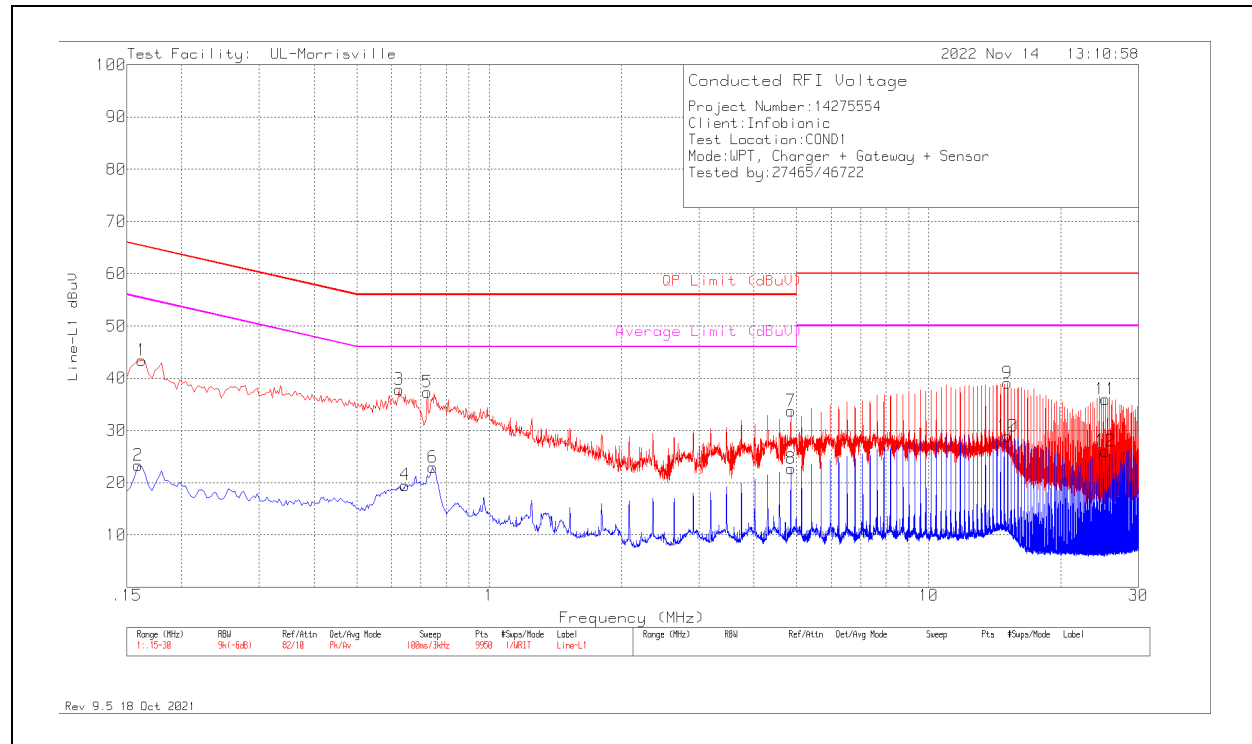
| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |               |                  |                        |                 |             |                      |             |
|------------------------------|-----------------|----------------------|-----|---------------|------------------|------------------------|-----------------|-------------|----------------------|-------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | LISN VCF (dB) | Cbl/Limiter (dB) | Corrected Reading dBuV | QP Limit (dBuV) | Margin (dB) | Average Limit (dBuV) | Margin (dB) |
| 13                           | .279            | 33.87                | Pk  | .1            | 9.8              | 43.77                  | 60.85           | -17.08      | -                    | -           |
| 14                           | .279            | 16.56                | Av  | .1            | 9.8              | 26.46                  | -               | -           | 50.85                | -24.39      |
| 15                           | .735            | 33.01                | Pk  | 0             | 9.8              | 42.81                  | 56              | -13.19      | -                    | -           |
| 16                           | .738            | 20.71                | Av  | 0             | 9.8              | 30.51                  | -               | -           | 46                   | -15.49      |
| 17                           | 4.638           | 26.03                | Pk  | 0             | 9.9              | 35.93                  | 56              | -20.07      | -                    | -           |
| 18                           | 4.641           | 13.38                | Av  | 0             | 9.9              | 23.28                  | -               | -           | 46                   | -22.72      |
| 19                           | 15.096          | 27.99                | Pk  | .1            | 10.1             | 38.19                  | 60              | -21.81      | -                    | -           |
| 20                           | 15.096          | 20.69                | Av  | .1            | 10.1             | 30.89                  | -               | -           | 50                   | -19.11      |
| 21                           | 18.765          | 26.72                | Pk  | .1            | 10.1             | 36.92                  | 60              | -23.08      | -                    | -           |
| 22                           | 18.762          | 18.91                | Av  | .1            | 10.1             | 29.11                  | -               | -           | 50                   | -20.89      |
| 23                           | 25.476          | 28.38                | Pk  | .2            | 10.2             | 38.78                  | 60              | -21.22      | -                    | -           |
| 24                           | 25.479          | 16.16                | Av  | .2            | 10.2             | 26.56                  | -               | -           | 50                   | -23.44      |

Pk - Peak detector

Av - Average detection

## 10.1.2. CONFIG 2

### LINE 1 RESULTS



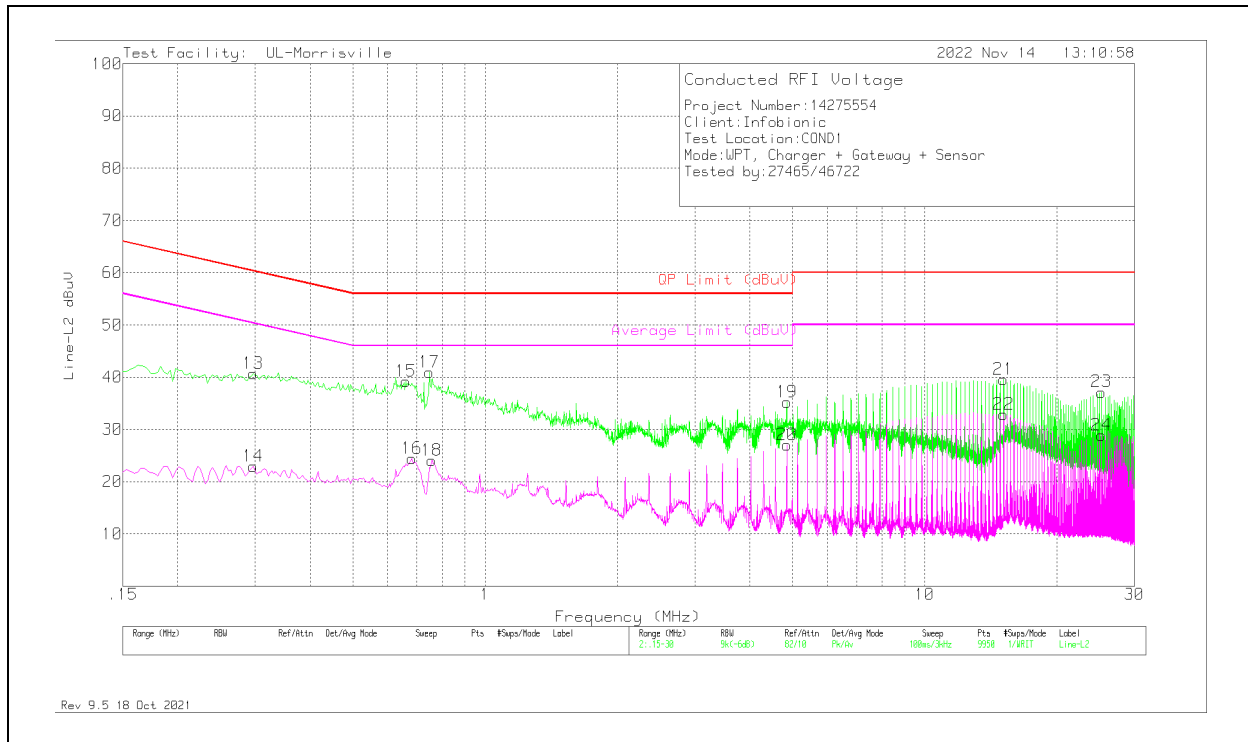
## WORST EMISSIONS

| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |               |                  |                        |                 |             |                      |             |
|------------------------------|-----------------|----------------------|-----|---------------|------------------|------------------------|-----------------|-------------|----------------------|-------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | LISN VCF (dB) | Cbl/Limiter (dB) | Corrected Reading dBuV | QP Limit (dBuV) | Margin (dB) | Average Limit (dBuV) | Margin (dB) |
| 1                            | .162            | 33.38                | Pk  | .2            | 9.8              | 43.38                  | 65.36           | -21.98      | -                    | -           |
| 2                            | .159            | 13.31                | Av  | .2            | 9.8              | 23.31                  | -               | -           | 55.52                | -32.21      |
| 3                            | .624            | 28.01                | Pk  | 0             | 9.8              | 37.81                  | 56              | -18.19      | -                    | -           |
| 4                            | .645            | 9.72                 | Av  | 0             | 9.8              | 19.52                  | -               | -           | 46                   | -26.48      |
| 5                            | .723            | 27.57                | Pk  | 0             | 9.8              | 37.37                  | 56              | -18.63      | -                    | -           |
| 6                            | .744            | 13.08                | Av  | 0             | 9.8              | 22.88                  | -               | -           | 46                   | -23.12      |
| 7                            | 4.857           | 23.78                | Pk  | 0             | 9.9              | 33.68                  | 56              | -22.32      | -                    | -           |
| 8                            | 4.857           | 12.78                | Av  | 0             | 9.9              | 22.68                  | -               | -           | 46                   | -23.32      |
| 9                            | 15.123          | 28.9                 | Pk  | .1            | 10.1             | 39.1                   | 60              | -20.9       | -                    | -           |
| 10                           | 15.123          | 18.68                | Av  | .1            | 10.1             | 28.88                  | -               | -           | 50                   | -21.12      |
| 11                           | 25.251          | 25.52                | Pk  | .2            | 10.2             | 35.92                  | 60              | -24.08      | -                    | -           |
| 12                           | 25.251          | 15.62                | Av  | .2            | 10.2             | 26.02                  | -               | -           | 50                   | -23.98      |

Pk - Peak detector

Av - Average detection

## LINE 2 RESULTS



## WORST EMISSIONS

| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |               |                  |                        |                 |             |                      |             |
|------------------------------|-----------------|----------------------|-----|---------------|------------------|------------------------|-----------------|-------------|----------------------|-------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | LISN VCF (dB) | Cbl/Limiter (dB) | Corrected Reading dBuV | QP Limit (dBuV) | Margin (dB) | Average Limit (dBuV) | Margin (dB) |
| 13                           | .297            | 30.78                | Pk  | .1            | 9.8              | 40.68                  | 60.33           | -19.65      | -                    | -           |
| 14                           | .297            | 13.03                | Av  | .1            | 9.8              | 22.93                  | -               | -           | 50.33                | -27.4       |
| 15                           | .66             | 29.42                | Pk  | 0             | 9.8              | 39.22                  | 56              | -16.78      | -                    | -           |
| 16                           | .681            | 14.61                | Av  | 0             | 9.8              | 24.41                  | -               | -           | 46                   | -21.59      |
| 17                           | .747            | 31.11                | Pk  | 0             | 9.8              | 40.91                  | 56              | -15.09      | -                    | -           |
| 18                           | .756            | 14.29                | Av  | 0             | 9.8              | 24.09                  | -               | -           | 46                   | -21.91      |
| 19                           | 4.857           | 25.32                | Pk  | 0             | 9.9              | 35.22                  | 56              | -20.78      | -                    | -           |
| 20                           | 4.857           | 17.16                | Av  | 0             | 9.9              | 27.06                  | -               | -           | 46                   | -18.94      |
| 21                           | 15.123          | 29.38                | Pk  | .1            | 10.1             | 39.58                  | 60              | -20.42      | -                    | -           |
| 22                           | 15.123          | 22.71                | Av  | .1            | 10.1             | 32.91                  | -               | -           | 50                   | -17.09      |
| 23                           | 25.251          | 26.75                | Pk  | .2            | 10.2             | 37.15                  | 60              | -22.85      | -                    | -           |
| 24                           | 25.251          | 18.5                 | Av  | .2            | 10.2             | 28.9                   | -               | -           | 50                   | -21.1       |

Pk - Peak detector

Av - Average detection

## **11. SETUP PHOTOS**

Please refer to R14275554-EP5 for setup photos

**END OF TEST REPORT**