

# **TEST REPORT**

**Report Number:** R16238088-E26

**Applicant :** Samsung Electronics Co Ltd  
129, Samsung-ro, Yeongtong-gu, Suwon-si,  
Gyeonggi-do, 16677, Rep. of Korea

**Model :** SM-F976B

**FCC ID :** A3LSMF976B

**EUT Description :** GSM/WCDMA/LTE/NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be,  
UWB, WPT and NFC

**Test Standard(s) :** FCC 47 CFR PART 15 SUBPART C  
ISED RSS-210 ISSUE 11  
ISED RSS-GEN ISSUE 5 + A1 + A2

**Date Of Issue:**  
2026-05-06

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Revision History

| <u>Rev.</u> | <u>Issue<br/>Date</u> | <u>Revisions</u> | <u>Revised By</u> |
|-------------|-----------------------|------------------|-------------------|
| V1          | 2026-05-06            | Initial Issue    | Chandler Stanley  |

## TABLE OF CONTENTS

|                                                              |           |
|--------------------------------------------------------------|-----------|
| <b>1. ATTESTATION OF TEST RESULTS .....</b>                  | <b>4</b>  |
| <b>2. TEST METHODOLOGY .....</b>                             | <b>5</b>  |
| <b>3. SUMMARY OF TEST RESULTS.....</b>                       | <b>5</b>  |
| <b>4. FACILITIES AND ACCREDITATION .....</b>                 | <b>5</b>  |
| <b>5. DECISION RULES AND MEASUREMENT UNCERTAINTY .....</b>   | <b>6</b>  |
| 5.1. METROLOGICAL TRACEABILITY .....                         | 6         |
| 5.2. DECISION RULES.....                                     | 6         |
| 5.3. MEASUREMENT UNCERTAINTY.....                            | 6         |
| 5.4. SAMPLE CALCULATION .....                                | 6         |
| <b>6. EQUIPMENT UNDER TEST .....</b>                         | <b>7</b>  |
| 6.1. DESCRIPTION OF EUT .....                                | 7         |
| 6.2. MAXIMUM ELECTRIC FIELD STRENGTH.....                    | 7         |
| 6.3. SOFTWARE AND FIRMWARE.....                              | 7         |
| 6.4. WORST-CASE CONFIGURATION AND MODE.....                  | 7         |
| 6.5. DESCRIPTION OF TEST SETUP.....                          | 8         |
| <b>7. TEST AND MEASUREMENT EQUIPMENT .....</b>               | <b>9</b>  |
| <b>8. 20dB and 99% BANDWIDTH.....</b>                        | <b>11</b> |
| 8.1. Type B (Tag On) .....                                   | 11        |
| <b>9. RADIATED EMISSION TEST RESULTS.....</b>                | <b>12</b> |
| 9.1. LIMITS AND PROCEDURE .....                              | 12        |
| 9.2. FUNDAMENTAL AND SPURIOUS EMISSIONS (Below 30 MHz) ..... | 14        |
| 9.2.1. Type B (Worst-Case Configuration) .....               | 14        |
| 9.3. TX SPURIOUS EMISSION 30 TO 1000 MHz .....               | 18        |
| 9.3.1. Type B (Worst-Case Configuration) .....               | 18        |
| <b>10. FREQUENCY STABILITY.....</b>                          | <b>20</b> |
| 10.1. Worst-Case Configuration .....                         | 20        |
| <b>11. AC MAINS LINE CONDUCTED EMISSIONS .....</b>           | <b>21</b> |
| 11.1. Type B (Worst-Case Configuration).....                 | 22        |
| 11.1.1. NORMAL OPERATION, 106Kbps .....                      | 22        |
| <b>12. SETUP PHOTOS .....</b>                                | <b>24</b> |

## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** Samsung Electronics Co Ltd  
129, Samsung-ro, Yeongtong-gu, Suwon-si,  
Gyeonggi-do, 16677, Rep. of Korea

**EUT DESCRIPTION:** GSM/WCDMA/LTE/NR Phone + BT/BLE, DTS/UNII  
a/b/g/n/ac/ax/be, UWB, WPT and NFC

**MODEL:** SM-F976B

**SERIAL NUMBER:** ZBQ0066M

**SAMPLE RECEIPT DATE:** 2026-03-10

**DATE TESTED:** 2026-03-11 to 2026-04-01

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

UL 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. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the U.S. government.

Approved & Released For  
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## 2. TEST METHODOLOGY

This report contains data provided by the customer which can impact the validity of results. UL LLC is only responsible for correctly integrating customer-provided data with measurements performed by UL LLC.

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

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- FCC ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024
- ISED ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
- KDB 414788 D01 Radiated Test Site v01r01
- RSS-GEN Issue 5 + A1 + A2
- RSS-210 Issue 11 Annex B.6

## 3. SUMMARY OF TEST RESULTS

| Requirement Description           | Requirement Clause Number                                         | Result    | Remarks |
|-----------------------------------|-------------------------------------------------------------------|-----------|---------|
| Occupied Bandwidth                | FCC §15.215 (c)<br>RSS-Gen 6.7                                    | Compliant | None    |
| Fundamental Measurements.         | FCC §15.225 (a-d)<br>FCC §15.209 (d)                              |           |         |
| Tx Spurious Emissions             | IC RSS-210, Annex B.6<br>IC RSS-GEN, Section 8.9<br>(Transmitter) |           |         |
| Frequency Stability               | FCC §15.225 (e)<br>RSS-210, Annex B.6                             |           |         |
| AC Mains Line Conducted Emissions | FCC §15.207<br>IC RSS-GEN, Section 8.8                            |           |         |

## 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 type="checkbox"/>            | Building:<br>12 Laboratory Dr<br>Durham, NC 27713, U.S.A                     | US0067     | 2180C               | 825374           |
| <input checked="" type="checkbox"/> | Building:<br>2800 Perimeter Park Dr. Suite B<br>Morrisville, NC 27560, U.S.A |            | 27265               |                  |

## 5. DECISION RULES AND MEASUREMENT UNCERTAINTY

### 5.1. METROLOGICAL TRACEABILITY

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

### 5.2. DECISION RULES

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

### 5.3. MEASUREMENT UNCERTAINTY

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

| PARAMETER                                | $U_{Lab}$                   |
|------------------------------------------|-----------------------------|
| Radio Frequency (Spectrum Analyzer)      | 141.16 Hz                   |
| Occupied Channel Bandwidth               | 1.22%                       |
| RF output power, conducted               | 1.3 dB (PK)<br>0.45 dB (AV) |
| Power Spectral Density, conducted        | 2.47 dB                     |
| Unwanted Emissions, conducted            | 1.94 dB                     |
| All emissions, radiated                  | 6.01 dB                     |
| Conducted Emissions (0.150-30MHz) - LISN | 3.40 dB                     |
| Temperature                              | 0.57°C                      |
| Humidity                                 | 3.39%                       |
| DC Supply voltages                       | 1.70%                       |

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

## 6. EQUIPMENT UNDER TEST

### 6.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE/NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, UWB, WPT and NFC. This reports covers testing on the NFC radio.

### 6.2. MAXIMUM ELECTRIC FIELD STRENGTH

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

| Frequency Range<br>(MHz) | Mode   | Kbps | E Field at 30m distance<br>(dBuV/m) |
|--------------------------|--------|------|-------------------------------------|
| 13.56                    | Type B | 106  | 10.25                               |

### 6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was F976USQU0AZB7.

### 6.4. WORST-CASE CONFIGURATION AND MODE

The manufacturer has declared that the worst case mode is Type B, 106 kbps. The EUT was investigated for tag on, tag on with separation, and tag off. The worst-case configuration was tested and reported.

The EUT can open 180 degrees. Fully closed, fully opened 180 degrees, and open 90 degrees were investigated, and it was found that open 90 degrees was worst case.

Additionally, the EUT was investigated in three orthogonal orientations X, Y, and Z. It was determined that the X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in the X orientation with the mode set to Type B, 106 kbps.

## 6.5. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

| Support Equipment List |                    |                     |               |        |
|------------------------|--------------------|---------------------|---------------|--------|
| Description            | Manufacturer       | Model               | Serial Number | FCC ID |
| Power Adapter          | Sony               | XQZ-UC11-010-236-21 | NA            | NA     |
| Badge 13.56 MHz        | NXP Semiconductors | NA                  | NA            | NA     |

### I/O CABLES

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

### TEST SETUP

The EUT is configured using its own built-in software.

### SETUP DIAGRAM

Refer to R16238088-EP1d for setup diagrams

## 7. TEST AND MEASUREMENT EQUIPMENT

### Test Equipment Used - Wireless Conducted Measurement Equipment

| Equipment ID              | Description           | Manufacturer          | Model Number      | Last Cal.        | Next Cal.  |
|---------------------------|-----------------------|-----------------------|-------------------|------------------|------------|
| Conducted Room 2          |                       |                       |                   |                  |            |
| 90410                     | Spectrum Analyzer     | Keysight Technologies | N9030A            | 2025-07-10       | 2026-07-10 |
| 248881                    | Environmental Meter   | Control Company       | 06-662-4          | 2024-04-10       | 2026-04-10 |
| 76023                     | Temp/Humid Chamber    | Cincinnati Sub-Zero   | ZPH-8-3.5-SCT/AC  | 2026-01-29       | 2027-01-29 |
| SOFTEMI                   | Antenna Port Software | UL                    | Version 2024.2.23 |                  |            |
| Additional Equipment used |                       |                       |                   |                  |            |
| NA                        | Near Field Probe Kit  | EMC Test Systems      | 7405              | Cal not required |            |

Note: All equipment was in calibration at the time of tests.

### Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 4)

| Equip. ID                 | Description                   | Manufacturer/Brand   | Model Number              | Last Cal.  | Next Cal.  |
|---------------------------|-------------------------------|----------------------|---------------------------|------------|------------|
| 0.009-30MHz               |                               |                      |                           |            |            |
| 65682                     | Active Loop Antenna           | ETS-Lindgren         | 6502                      | 2025-10-14 | 2027-10-14 |
| 30-1000 MHz               |                               |                      |                           |            |            |
| 90628                     | Hybrid Broadband Antenna      | Sunol Sciences Corp. | JB3                       | 2026-02-09 | 2028-02-09 |
| Gain-Loss Chains          |                               |                      |                           |            |            |
| 207638                    | Gain-loss string: 0.009-30MHz | Various              | Various                   | 2025-06-13 | 2026-06-13 |
| 207639                    | Gain-loss string: 25-1000MHz  | Various              | Various                   | 2025-06-13 | 2026-06-13 |
| Receiver & Software       |                               |                      |                           |            |            |
| 197954                    | Spectrum Analyzer             | Rohde & Schwarz      | ESW44                     | 2025-04-21 | 2026-04-21 |
| SOFTEMI                   | EMI Software                  | UL                   | Version 9.5 (18 Oct 2021) |            |            |
| Additional Equipment used |                               |                      |                           |            |            |
| 241204                    | Environmental Meter           | Fisher Scientific    | 15-077-963                | 2025-08-05 | 2027-08-05 |

Note: All equipment was in calibration at the time of tests.

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             | 2025-04-17 | 2026-04-17 |
| 179892                    | Environmental Meter                           | Fisher Scientific   | 15-077-963                | 2025-08-05 | 2026-08-05 |
| 80391                     | LISN, 50-ohm/50-uH, 250uH 2-conductor, 25A    | Fischer Custom Com. | FCC-LISN-50/250-25-2-01   | 2025-09-29 | 2026-09-29 |
| 52859                     | Transient Limiter, 0.009-100MHz               | Electro-Metrics     | EM-7600                   | 2025-07-30 | 2026-07-30 |
| PS214                     | AC Power Source                               | Elgar               | CW2501M                   | NA         | NA         |
| SOFTEMI                   | EMI Software                                  | UL                  | Version 9.5 (18 Oct 2021) |            |            |
| Miscellaneous (if needed) |                                               |                     |                           |            |            |
| 84681                     | ANSI C63.4 1m extension cable.                | UL                  | Per Annex B of ANSI C63.4 | 2025-04-17 | 2026-04-17 |

Note: All equipment was in calibration at the time of tests.

## 8. 20dB and 99% BANDWIDTH

### LIMITS

§15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

### TEST PROCEDURE

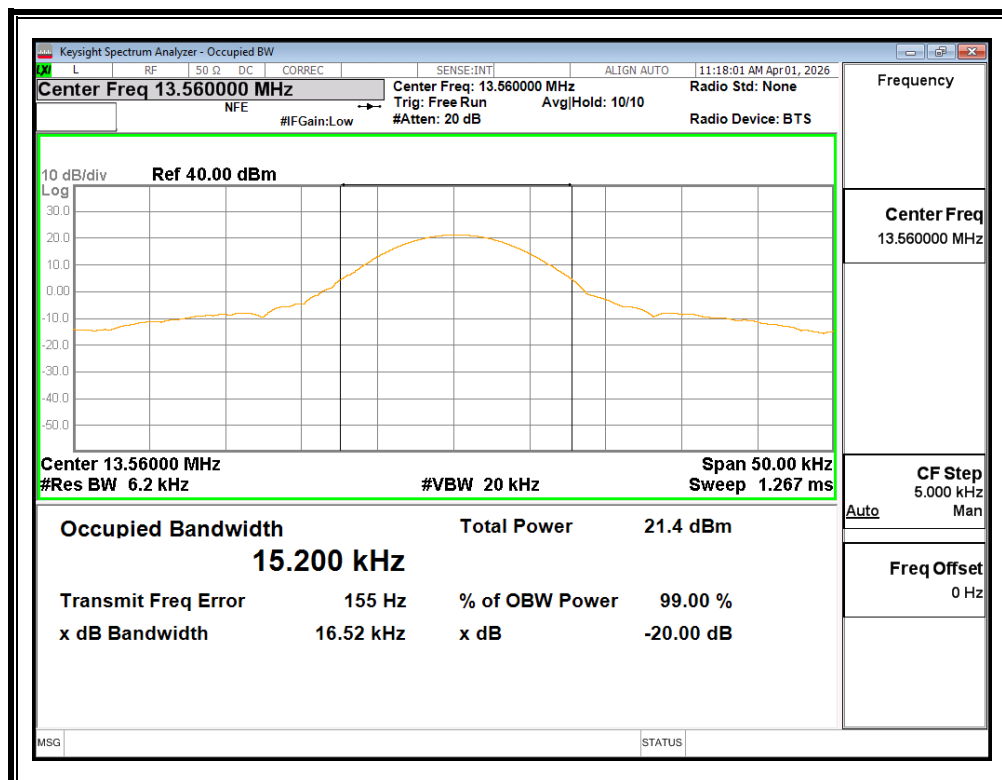
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1-5% of the 20dB bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

### RESULTS

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

#### 8.1. Type B (Tag On)

| Mode<br>kbps | Frequency<br>(MHz) | 99% Bandwidth<br>(kHz) | 20dB Bandwidth<br>(kHz) |
|--------------|--------------------|------------------------|-------------------------|
| 106          | 13.56              | 15.20                  | 16.52                   |



## 9. RADIATED EMISSION TEST RESULTS

### 9.1. LIMITS AND PROCEDURE

#### LIMIT

FCC §15.225

IC RSS-210, Annex B.6

IC RSS-GEN, Section 8.9 (Transmitter)

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

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

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

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

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

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

RSS-GEN, Section 8.9 and 8.10.

| Frequency Range (MHz) | Field Strength Limit (uA/m) at 3 m | Field Strength Limit (dBuA/m) at 3 m |
|-----------------------|------------------------------------|--------------------------------------|
| 0.009-0.490           | 6.37/F(kHz) @ 300 m                | -                                    |
| 0.490-1.705           | 63.7/F(kHz) @ 30 m                 | -                                    |
| 1.705 - 30            | 0.08 @ 30m                         | -                                    |
| Frequency Range (MHz) | Field Strength Limit (uV/m) at 3 m | Field Strength Limit (dBuV/m) at 3 m |
| 30 - 88               | 100                                | 40                                   |
| 88 - 216              | 150                                | 43.5                                 |
| 216 - 960             | 200                                | 46                                   |
| Above 960             | 500                                | 54                                   |

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz,

174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

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

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

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

In addition:

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

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

### **TEST PROCEDURE**

ANSI C63.10 - 2020

The EUT is an intentional radiator that incorporates a digital device, the highest fundamental frequency generated or used in the device is 13.56 MHz; therefore, the frequency range was investigated from 9kHz to the 10<sup>th</sup> harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater.

Note: For all Below 30MHz test data, all measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were  $40 \cdot \log(\text{test distance} / \text{specification distance})$ .

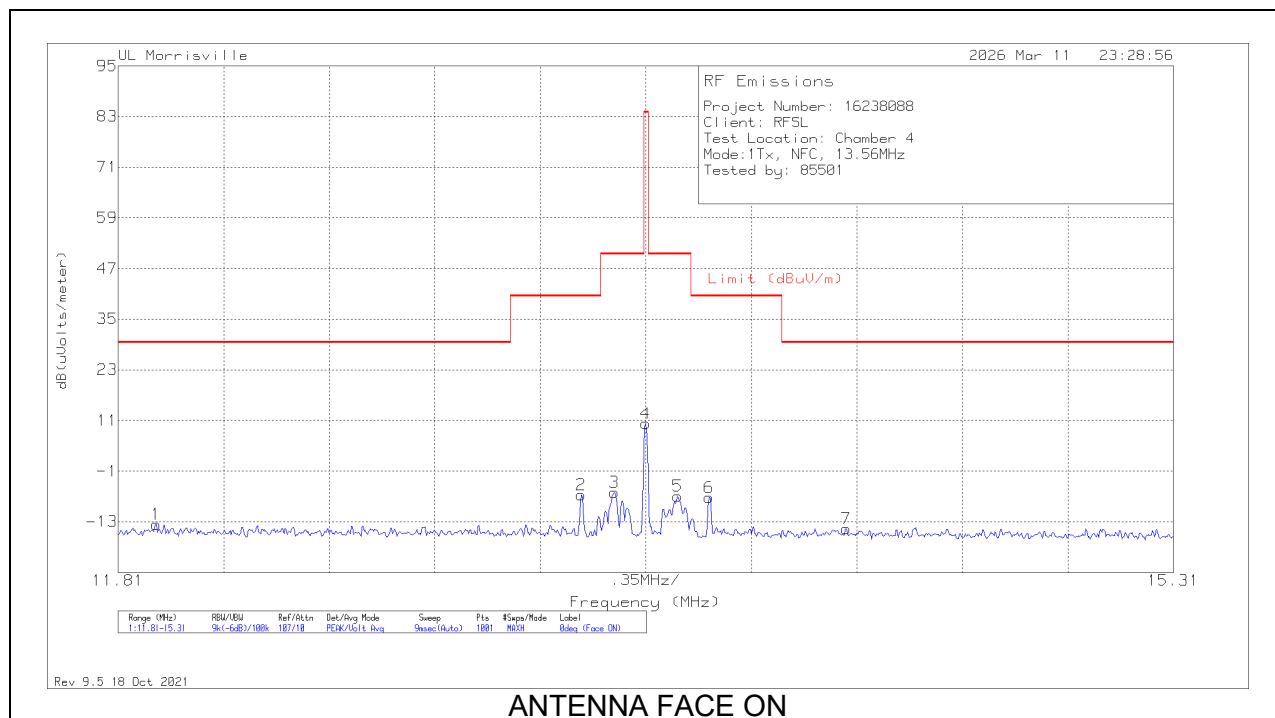
Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area test site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field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

### **RESULTS**

## 9.2. FUNDAMENTAL AND SPURIOUS EMISSIONS (Below 30 MHz)

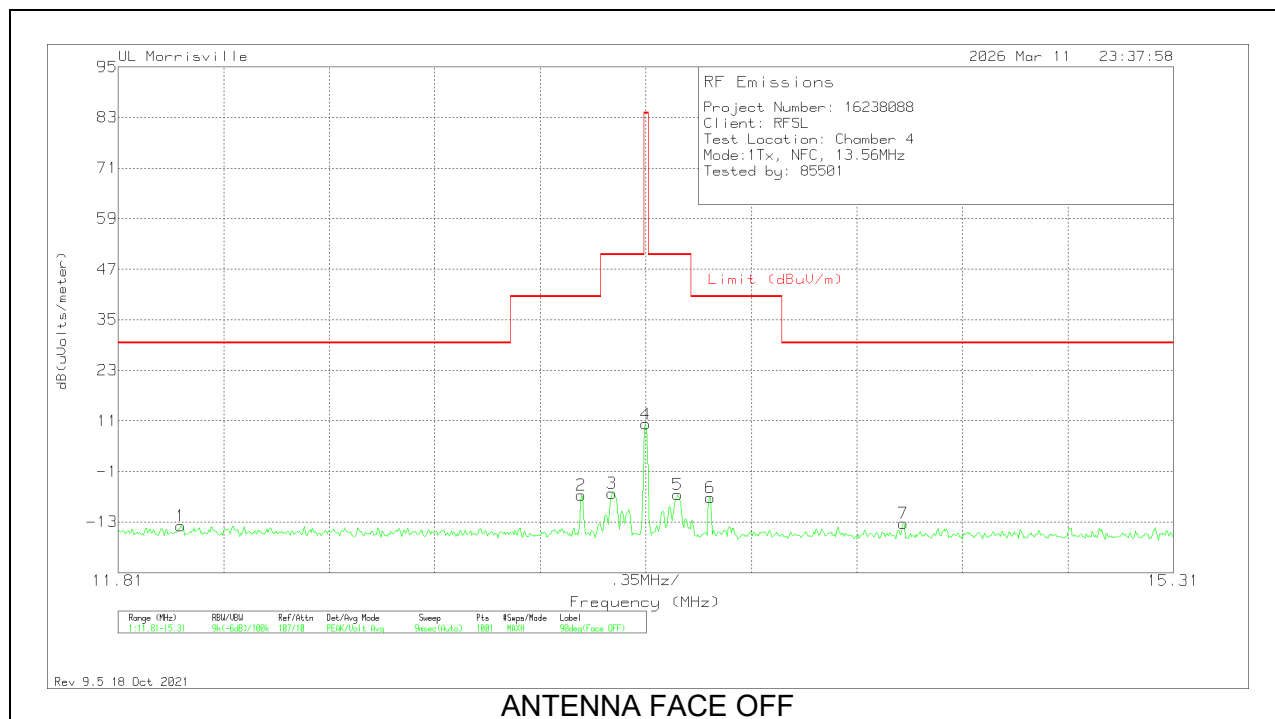
### 9.2.1. Type B (Worst-Case Configuration)

#### FUNDAMENTAL 106Kbps



| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | ANT (dB/m) | Gain/Loss (dB) | Dist. Corr. Factor (dB) | Corrected Reading dB(uVolts/meter) | Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Loop Angle |
|--------|-----------------|----------------------|-----|------------|----------------|-------------------------|------------------------------------|----------------|-------------|----------------|-------------|------------|
| 1      | 11.936          | 16.44                | Pk  | 9.6        | .4             | -40                     | -13.56                             | 29.5           | -43.06      | 290            | 100         | 0 degs     |
| 2      | 13.3465         | 23.7                 | Pk  | 9.3        | .4             | -40                     | -6.6                               | 40.5           | -47.1       | 290            | 100         | 0 degs     |
| 3      | 13.455          | 24.26                | Pk  | 9.3        | .4             | -40                     | -6.04                              | 50.5           | -56.54      | 290            | 100         | 0 degs     |
| 4      | 13.56           | 40.65                | Pk  | 9.2        | .4             | -40                     | 10.25                              | 84             | -73.75      | 290            | 100         | 0 degs     |
| 5      | 13.665          | 23.47                | Pk  | 9.2        | .4             | -40                     | -6.93                              | 50.5           | -57.43      | 290            | 100         | 0 degs     |
| 6      | 13.77           | 23.12                | Pk  | 9.2        | .4             | -40                     | -7.28                              | 40.5           | -47.78      | 290            | 100         | 0 degs     |
| 7      | 14.225          | 15.87                | Pk  | 9.1        | .4             | -40                     | -14.63                             | 29.5           | -44.13      | 290            | 100         | 0 degs     |

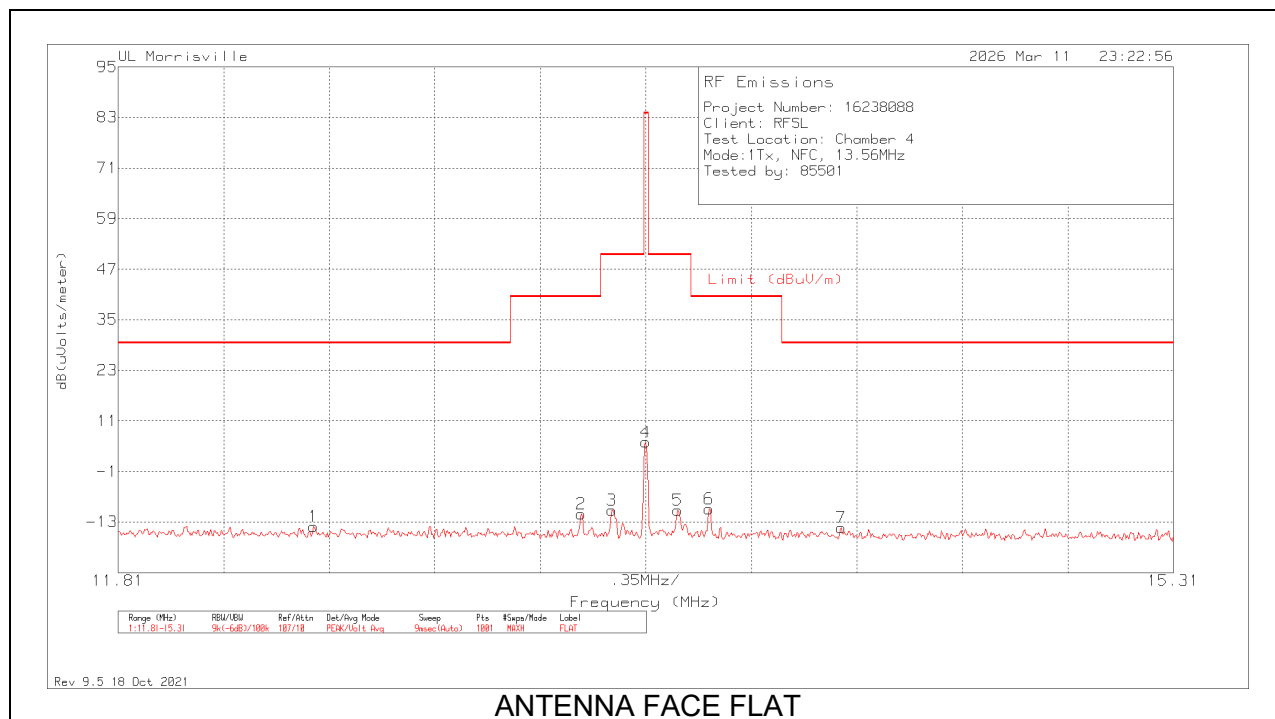
Pk - Peak detector



### ANTENNA FACE OFF

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | ANT (dB/m) | Gain/Loss (dB) | Dist. Corr. Factor (dB) | Corrected Reading dB(uVolts/meter) | Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Loop Angle |
|--------|-----------------|----------------------|-----|------------|----------------|-------------------------|------------------------------------|----------------|-------------|----------------|-------------|------------|
| 1      | 12.0165         | 16.16                | Pk  | 9.5        | .4             | -40                     | -13.94                             | 29.5           | -43.44      | 14             | 100         | 90 degs    |
| 2      | 13.3465         | 23.7                 | Pk  | 9.3        | .4             | -40                     | -6.6                               | 40.5           | -47.1       | 14             | 100         | 90 degs    |
| 3      | 13.448          | 24.17                | Pk  | 9.3        | .4             | -40                     | -6.13                              | 50.5           | -56.63      | 14             | 100         | 90 degs    |
| 4      | 13.56           | 40.64                | Pk  | 9.2        | .4             | -40                     | 10.24                              | 84             | -73.76      | 14             | 100         | 90 degs    |
| 5      | 13.665          | 23.96                | Pk  | 9.2        | .4             | -40                     | -6.44                              | 50.5           | -56.94      | 14             | 100         | 90 degs    |
| 6      | 13.7735         | 23.22                | Pk  | 9.2        | .4             | -40                     | -7.18                              | 40.5           | -47.68      | 14             | 100         | 90 degs    |
| 7      | 14.414          | 17.22                | Pk  | 9.1        | .4             | -40                     | -13.28                             | 29.5           | -42.78      | 14             | 100         | 90 degs    |

Pk - Peak detector

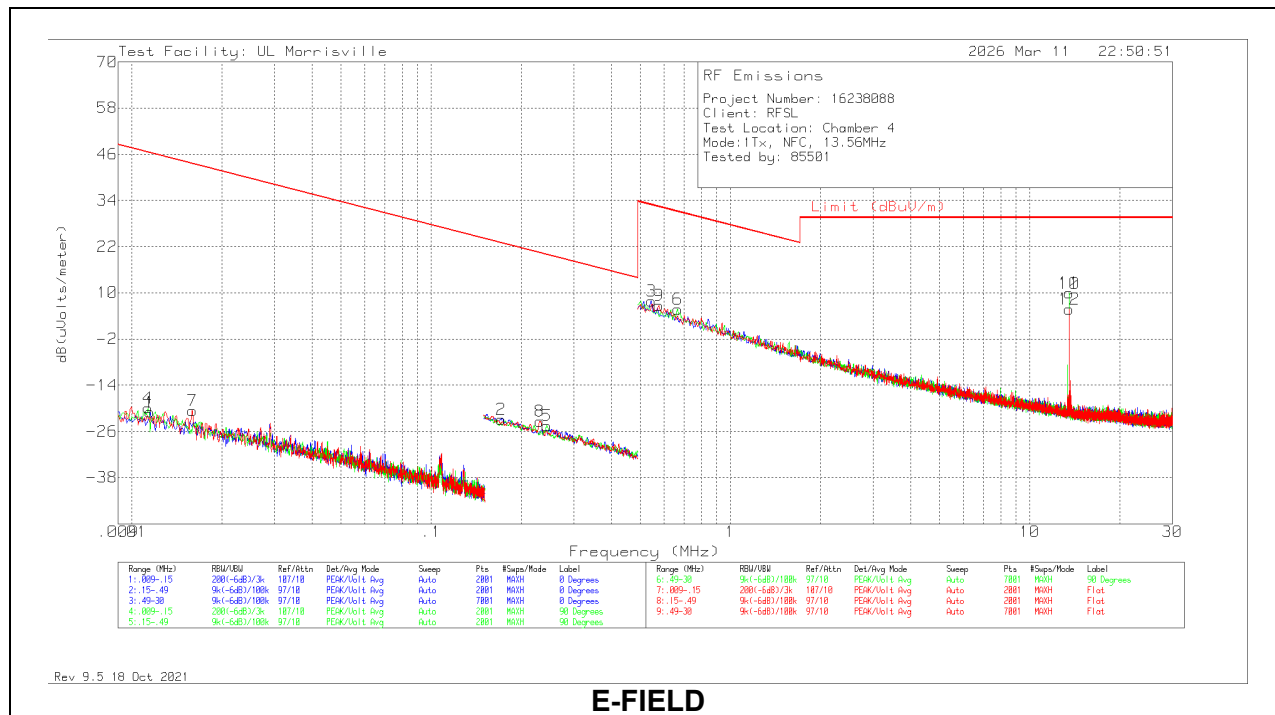


### ANTENNA FACE FLAT

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | ANT (dB/m) | Gain/Loss (dB) | Dist. Corr. Factor (dB) | Corrected Reading dB(uVolts/meter) | Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Loop Angle |
|--------|-----------------|----------------------|-----|------------|----------------|-------------------------|------------------------------------|----------------|-------------|----------------|-------------|------------|
| 1      | 12.4575         | 16.02                | Pk  | 9.5        | .4             | -40                     | -14.08                             | 29.5           | -43.58      | 296            | 100         | Flat       |
| 2      | 13.3465         | 19.27                | Pk  | 9.3        | .4             | -40                     | -11.03                             | 40.5           | -51.53      | 296            | 100         | Flat       |
| 3      | 13.448          | 20.14                | Pk  | 9.3        | .4             | -40                     | -10.16                             | 50.5           | -60.66      | 296            | 100         | Flat       |
| 4      | 13.56           | 36.34                | Pk  | 9.2        | .4             | -40                     | 5.94                               | 84             | -78.06      | 296            | 100         | Flat       |
| 5      | 13.665          | 20.16                | Pk  | 9.2        | .4             | -40                     | -10.24                             | 50.5           | -60.74      | 296            | 100         | Flat       |
| 6      | 13.77           | 20.5                 | Pk  | 9.2        | .4             | -40                     | -9.9                               | 40.5           | -50.4       | 296            | 100         | Flat       |
| 7      | 14.2075         | 16.19                | Pk  | 9.1        | .4             | -40                     | -14.31                             | 29.5           | -43.81      | 296            | 100         | Flat       |

Pk - Peak detector

## SPURIOUS EMISSION – E FIELD



## E-FIELD

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | ANT (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 |
|--------|-----------------|----------------------|-----|------------|----------------|-------------------------|------------------------------------|----------------------|-------------------|-------------|----------------|------------|
| 4      | .01134          | 42.92                | Pk  | 17.2       | 0              | -80                     | -19.88                             | 46.51                | 66.51             | -66.39      | 0-360          | 90 degs    |
| 1      | .01149          | 41.89                | Pk  | 17.1       | 0              | -80                     | -21.01                             | 46.4                 | 66.4              | -67.41      | 0-360          | 0 degs     |
| 7      | .01596          | 44.22                | Pk  | 15.2       | 0              | -80                     | -20.58                             | 43.55                | 63.55             | -64.13      | 0-360          | Flat       |
| 2      | .17159          | 46.38                | Pk  | 10.8       | 0              | -80                     | -22.82                             | 22.91                | 42.91             | -45.73      | 0-360          | 0 degs     |
| 8      | .23058          | 45.73                | Pk  | 10.8       | .1             | -80                     | -23.37                             | 20.35                | 40.35             | -43.72      | 0-360          | Flat       |
| 5      | .24359          | 44.58                | Pk  | 10.8       | .1             | -80                     | -24.52                             | 19.87                | 39.87             | -44.39      | 0-360          | 90 degs    |
| 3      | .54481          | 36.92                | Pk  | 10.8       | .1             | -40                     | 7.82                               | 32.88                | -                 | -25.06      | 0-360          | 0 degs     |
| 9      | .57854          | 35.83                | Pk  | 10.8       | .1             | -40                     | 6.73                               | 32.36                | -                 | -25.63      | 0-360          | Flat       |
| 6      | .66707          | 34.77                | Pk  | 10.9       | .1             | -40                     | 5.77                               | 31.12                | -                 | -25.35      | 0-360          | 90 degs    |
| 10*    | 13.5596         | 40.3                 | Pk  | 9.2        | .4             | -40                     | 9.9                                | -                    | -                 | -19.64      | 0-360          | 0 degs     |
| 11*    | 13.5596         | 40.39                | Pk  | 9.2        | .4             | -40                     | 9.99                               | -                    | -                 | -19.55      | 0-360          | 90 degs    |
| 12*    | 13.5596         | 36.11                | Pk  | 9.2        | .4             | -40                     | 5.71                               | -                    | -                 | -23.83      | 0-360          | Flat       |

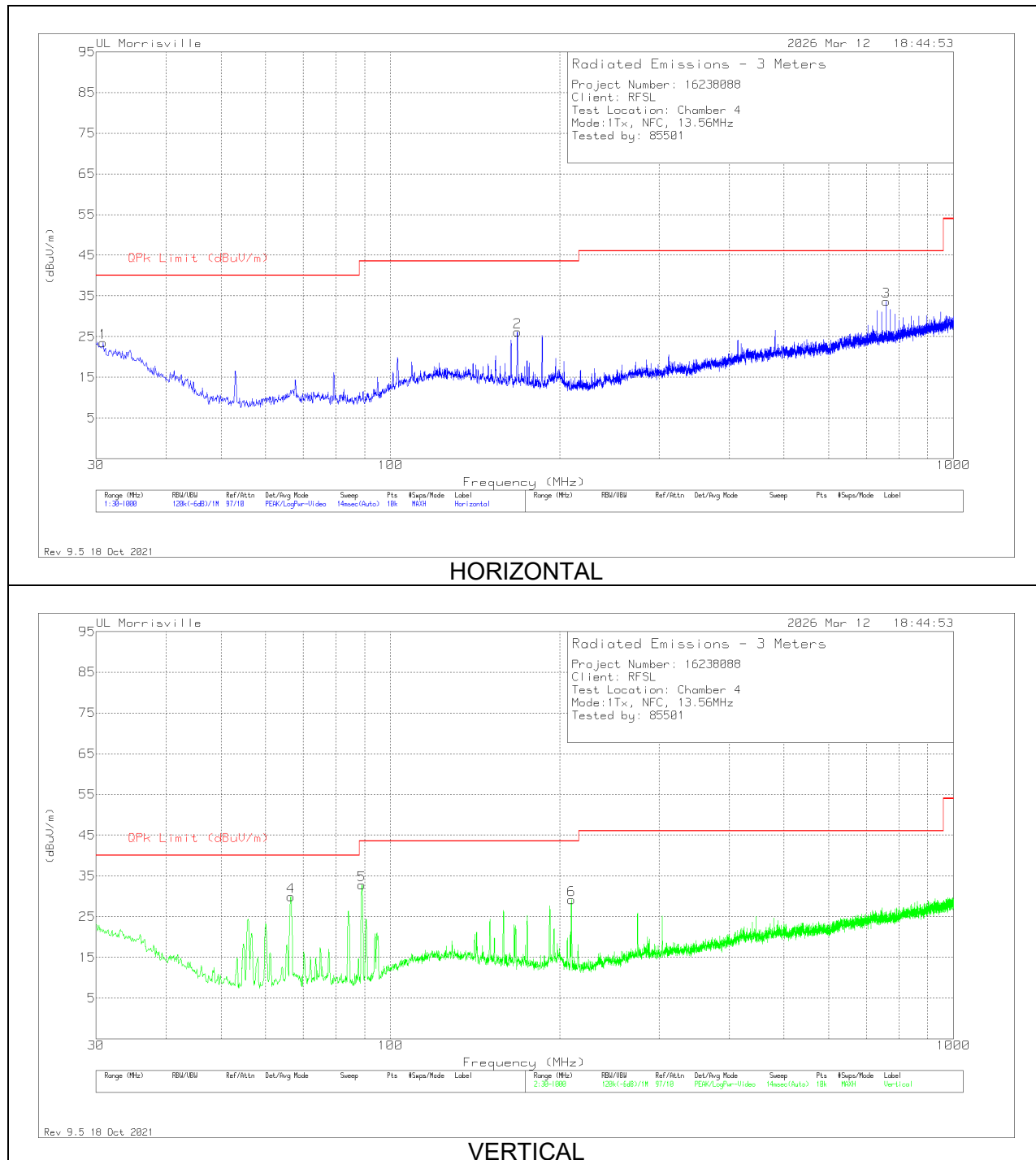
Pk - Peak detector

\*Fundamental

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

#### 9.3.1. Type B (Worst-Case Configuration)

##### SPURIOUS EMISSION 106Kbps



| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | 90628 ACF (dB/m) | Gain/Loss (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|------------------|----------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 1      | 30.873          | 29.41                | Pk  | 26.2             | -32.1          | 23.51                      | 40                 | -16.49      | 0-360          | 100         | H        |
| 4      | 66.569          | 46.28                | Pk  | 14.7             | -31.1          | 29.88                      | 40                 | -10.12      | 0-360          | 100         | V        |
| 5      | 88.976          | 50.51                | Pk  | 13.8             | -31.5          | 32.81                      | 43.52              | -10.71      | 0-360          | 100         | V        |
| 2      | 168.031         | 38.7                 | Pk  | 18               | -30.5          | 26.2                       | 43.52              | -17.32      | 0-360          | 100         | H        |
| 6      | 209.644         | 42.73                | Pk  | 16.4             | -30            | 29.13                      | 43.52              | -14.39      | 0-360          | 100         | V        |
| 3      | 759.44          | 34.49                | Pk  | 26.8             | -27.6          | 33.69                      | 46.02              | -12.33      | 0-360          | 100         | H        |

Pk - Peak detector

## 10. FREQUENCY STABILITY

### LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01\%$  of the operating frequency, over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from the maximum and minimum voltages declared by the client. For battery operated equipment, the equipment tests shall be performed using a new battery.

IC RSS-210, Annex B.6

Carrier frequency stability shall be maintained to  $\pm 0.01\%$  ( $\pm 100$  ppm).

### TEST PROCEDURE

ANSI C63.10-2020 Clause 6.8

### RESULTS

No non-compliance noted.

#### 10.1. Worst-Case Configuration

| Reference Frequency: EUT Channel 13.56 MHz @ 20°C<br>Limit: $\pm 100$ ppm = 1.356 kHz |             |                                               |              |                   |              |                   |              |                   |              |                             |
|---------------------------------------------------------------------------------------|-------------|-----------------------------------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-----------------------------|
| Power Supply                                                                          | Envir. Temp | Frequency Deviation Measured with Time Elapse |              |                   |              |                   |              |                   |              |                             |
| (Vdc)                                                                                 | (°C)        | Startup (MHz)                                 | Delta (ppm)  | @ 2 mins (MHz)    | Delta (ppm)  | @ 5 mins (MHz)    | Delta (ppm)  | @ 10 mins (MHz)   | Delta (ppm)  | Limit (ppm)                 |
| 3.89                                                                                  | 50          | 13.5599658                                    | 0.435        | 13.5599658        | 0.435        | 13.5599658        | 0.435        | 13.5599657        | 0.442        | $\pm 100$                   |
| 3.89                                                                                  | 40          | 13.5599689                                    | 0.210        | 13.5599680        | 0.277        | 13.5599674        | 0.317        | 13.5599669        | 0.354        | $\pm 100$                   |
| 3.89                                                                                  | 30          | 13.5599822                                    | -0.774       | 13.5599820        | -0.756       | 13.5599816        | -0.730       | 13.5599812        | -0.701       | $\pm 100$                   |
| 3.89                                                                                  | 20          | <b>13.5599717</b>                             | <b>0.000</b> | <b>13.5599697</b> | <b>0.145</b> | <b>13.5599704</b> | <b>0.094</b> | <b>13.5599709</b> | <b>0.056</b> | <b><math>\pm 100</math></b> |
| 3.89                                                                                  | 10          | 13.5600428                                    | -5.240       | 13.5600415        | -5.147       | 13.5600415        | -5.144       | 13.5600407        | -5.085       | $\pm 100$                   |
| 3.89                                                                                  | 0           | 13.5600615                                    | -6.622       | 13.5600613        | -6.604       | 13.5600611        | -6.589       | 13.5600610        | -6.586       | $\pm 100$                   |
| 3.89                                                                                  | -10         | 13.5600694                                    | -7.205       | 13.5600696        | -7.220       | 13.5600696        | -7.216       | 13.5600696        | -7.220       | $\pm 100$                   |
| 3.89                                                                                  | -20         | 13.5600612                                    | -6.597       | 13.5600607        | -6.563       | 13.5600603        | -6.534       | 13.5600600        | -6.512       | $\pm 100$                   |
| 3.70                                                                                  | 20          | 13.5599779                                    | -0.455       | 13.5599788        | -0.524       | 13.5599777        | -0.444       | 13.5599785        | -0.501       | $\pm 100$                   |
| 4.45                                                                                  | 20          | 13.5599744                                    | -0.200       | 13.5599737        | -0.147       | 13.5599741        | -0.178       | 13.5599722        | -0.038       | $\pm 100$                   |

Tested by: 85502

Test date: 2026-04-01

## 11. AC MAINS LINE CONDUCTED EMISSIONS

### LIMITS

§15.207

IC RSS-GEN, Section 8.8

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

### TEST PROCEDURE

ANSI C63.10:2020

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

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

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

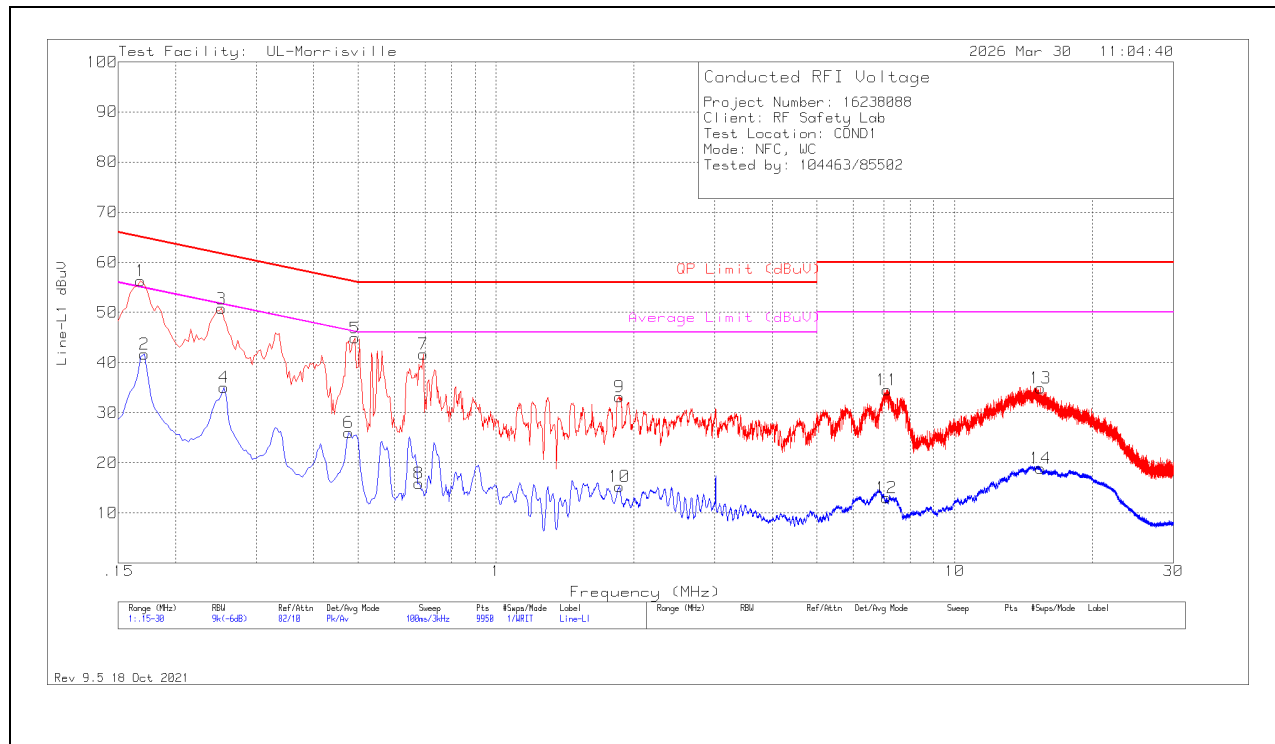
### RESULTS

No non-compliance noted:

## 11.1. Type B (Worst-Case Configuration)

### 11.1.1. NORMAL OPERATION, 106Kbps

#### LINE 1 RESULTS

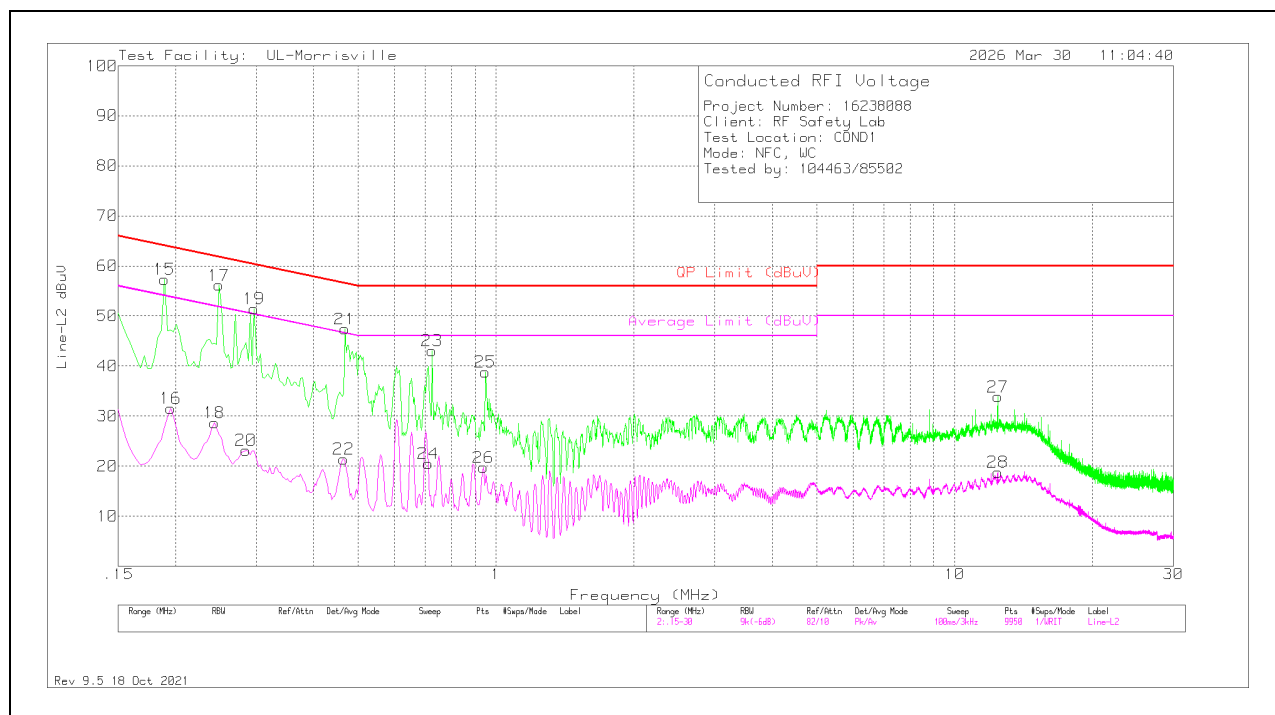


| Range 1: Line-L1 .15 - 30MHz |                 |                      |     |               |                  |                        |                 |             |                      |             |
|------------------------------|-----------------|----------------------|-----|---------------|------------------|------------------------|-----------------|-------------|----------------------|-------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | LISN VDF (dB) | Cbl/Limiter (dB) | Corrected Reading dBuV | QP Limit (dBuV) | Margin (dB) | Average Limit (dBuV) | Margin (dB) |
| 1                            | .168            | 46.39                | Pk  | .2            | 9.7              | 56.29                  | 65.06           | -8.77       | -                    | -           |
| 2                            | .171            | 31.77                | Av  | .2            | 9.7              | 41.67                  | -               | -           | 54.91                | -13.24      |
| 3                            | .252            | 40.95                | Pk  | .1            | 9.7              | 50.75                  | 61.69           | -10.94      | -                    | -           |
| 4                            | .255            | 25.28                | Av  | .1            | 9.7              | 35.08                  | -               | -           | 51.59                | -16.51      |
| 6                            | .477            | 16.28                | Av  | 0             | 9.7              | 25.98                  | -               | -           | 46.39                | -20.41      |
| 5                            | .492            | 35.18                | Pk  | 0             | 9.7              | 44.88                  | 56.13           | -11.25      | -                    | -           |
| 8                            | .678            | 6.15                 | Av  | 0             | 9.7              | 15.85                  | -               | -           | 46                   | -30.15      |
| 7                            | .693            | 31.99                | Pk  | 0             | 9.7              | 41.69                  | 56              | -14.31      | -                    | -           |
| 9                            | 1.86            | 23.43                | Pk  | 0             | 9.7              | 33.13                  | 56              | -22.87      | -                    | -           |
| 10                           | 1.86            | 5.55                 | Av  | 0             | 9.7              | 15.25                  | -               | -           | 46                   | -30.75      |
| 12                           | 7.101           | 3.33                 | Av  | 0             | 9.7              | 13.03                  | -               | -           | 50                   | -36.97      |
| 11                           | 7.125           | 24.89                | Pk  | 0             | 9.7              | 34.59                  | 60              | -25.41      | -                    | -           |
| 13                           | 15.384          | 25.06                | Pk  | .1            | 9.8              | 34.96                  | 60              | -25.04      | -                    | -           |
| 14                           | 15.402          | 8.95                 | Av  | .1            | 9.8              | 18.85                  | -               | -           | 50                   | -31.15      |

Pk - Peak detector

Av - Average detection

## LINE 2 RESULTS



| Range 2: Line-L2 .15 - 30MHz |                 |                      |     |               |                  |                        |                 |             |                      |             |
|------------------------------|-----------------|----------------------|-----|---------------|------------------|------------------------|-----------------|-------------|----------------------|-------------|
| Marker                       | Frequency (MHz) | Meter Reading (dBuV) | Det | LISN VDF (dB) | Cbl/Limiter (dB) | Corrected Reading dBuV | QP Limit (dBuV) | Margin (dB) | Average Limit (dBuV) | Margin (dB) |
| 15                           | .189            | 47.4                 | Pk  | .2            | 9.7              | 57.3                   | 64.08           | -6.78       | -                    | -           |
| 16                           | .195            | 21.68                | Av  | .2            | 9.7              | 31.58                  | -               | -           | 53.82                | -22.24      |
| 18                           | .243            | 18.84                | Av  | .1            | 9.7              | 28.64                  | -               | -           | 51.99                | -23.35      |
| 17                           | .24173          | 24.58                | Qp  | .1            | 9.7              | 34.38                  | 62.04           | -27.66      | -                    | -           |
| 20                           | .285            | 13.32                | Av  | .1            | 9.7              | 23.12                  | -               | -           | 50.67                | -27.55      |
| 19                           | .297            | 41.66                | Pk  | .1            | 9.7              | 51.46                  | 60.33           | -8.87       | -                    | -           |
| 22                           | .465            | 11.7                 | Av  | 0             | 9.7              | 21.4                   | -               | -           | 46.6                 | -25.2       |
| 21                           | .468            | 37.68                | Pk  | 0             | 9.7              | 47.38                  | 56.55           | -9.17       | -                    | -           |
| 24                           | .711            | 10.77                | Av  | 0             | 9.7              | 20.47                  | -               | -           | 46                   | -25.53      |
| 23                           | .726            | 33.33                | Pk  | 0             | 9.7              | 43.03                  | 56              | -12.97      | -                    | -           |
| 26                           | .939            | 10.01                | Av  | 0             | 9.7              | 19.71                  | -               | -           | 46                   | -26.29      |
| 25                           | .948            | 29.14                | Pk  | 0             | 9.7              | 38.84                  | 56              | -17.16      | -                    | -           |
| 27                           | 12.432          | 23.95                | Pk  | .1            | 9.8              | 33.85                  | 60              | -26.15      | -                    | -           |
| 28                           | 12.432          | 8.82                 | Av  | .1            | 9.8              | 18.72                  | -               | -           | 50                   | -31.28      |

Pk - Peak detector

Av - Average detection

Qp - Quasi-Peak detector

## 12. SETUP PHOTOS

Refer to R16238088-EP1d for setup diagrams

**END OF TEST REPORT**