

TEST REPORT

Report Number. : R15980274-E4

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

Model : SM-S942U, SM-S942U1

FCC ID : A3LSMS942U

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

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 4
ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:
2025-11-29

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2025-11-29	Initial Issue	Manish Baral

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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/SCS/NTN Phone + BT/BLE, DTS/UNII
a/b/g/n/ac/ax/be, WPT and NFC

MODEL: SM-S942U, SM-S942U1

SERIAL NUMBER: YHK0046M, YHK0177M, YHK0082M, YHK0065M,
YHK0076M, YHK0074M, YHK0129M, YHK0161M,
YHK0165M, YK60135M

SAMPLE RECEIPT DATE: 2025-09-09, 2025-09-11, 2025-09-19, 2025-09-22, 2025-10-01,
2025-10-07, 2025-11-18

DATE TESTED: 2025-10-10, 2025-11-21 TO 2025-11-25

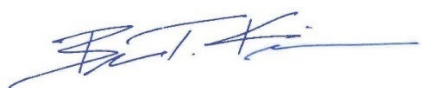
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	Complies
ISED RSS-210 Issue 11, Annex B	Complies
ISED RSS-GEN Issue 5 + A1 + A2	Complies

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.

Approved & Released For
UL LLC By:



Brian Kiewra
Project Engineer
Consumer Technology Division
UL LLC

Prepared By:



Manish Baral
Engineer
Consumer Technology Division
UL LLC

2. TEST METHODOLOGY

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

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

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- ANSI C63.10-2020+A1:2023+Corr: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) RSS-Gen 6.7	Compliant	None
Fundamental Measurements.	FCC §15.225 (a-d) FCC §15.209 (d)		
Tx Spurious Emissions	IC RSS-210, Annex B.6 IC RSS-GEN, Section 8.9 (Transmitter)		
Frequency Stability	FCC §15.225 (e) RSS-210, Annex B.6		
AC Mains Line Conducted Emissions	FCC §15.207 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
☐	Building: 12 Laboratory Dr Durham, NC 27713, U.S.A	US0067	2180C	825374
☒	Building: 2800 Perimeter Park Dr. Suite B 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) 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/SCS/NTN Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, WPT and NFC. This reports covers the NFC testing.

6.2. MAXIMUM OUTPUT POWER

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

6.2.1. EUT WITH AC/DC ADAPTER

Frequency Range (MHz)	Mode		Kbps	E Field at 30m distance (dBuV/m)
13.56	Type B	Tag On	106	17

6.3. WORST-CASE CONFIGURATION AND MODE

The manufacturer had declared that the worst case mode was Tag on, Type B, 106 kbps. In addition, the fundamental of the EUT was investigated with Tag on and Tag on with separation. It was determined that Tag on with separation was worst case.

For NFC, the fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that the Y orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Y orientation with the mode set to Type B, 106 kbps, and Tag on with separation.

This report covers 2 models, the model differences and the representative model is shown below:

Representative Model	Difference	Derivative Model
		SM-S942U1
SM-S942U	Hardware	Same as SM-S942U
	Software	Different UI

6.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Power Adapter	Flextronics	G-1000-US	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	Phone to power adapter

TEST SETUP

The EUT is configured using its own built-in software

SETUP DIAGRAM

Refer to R15980274-EP1 for setup diagrams

7. TEST AND MEASUREMENT EQUIPMENT

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 1)

Equip. ID	Description	Manufacturer	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				
90629	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-01-30	2026-01-30
	Gain-Loss Chains				
91974	Gain-loss string: 0.009-30MHz	Various	Various	2025-05-31	2026-05-31
91976	Gain-loss string: 25-1000MHz	Various	Various	2025-05-31	2026-05-31
	Receiver & Software				
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-05-12	2026-05-12
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Additional Equipment used				
241205	Environmental Meter	Fisher Scientific	15-077-963	2025-08-05	2027-08-05

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
Conducted Room 2					
90410	Spectrum Analyzer MY54410168	Keysight Technologies	N9030A	2025-07-10	2026-07-10
76023	Temp/Humid Chamber ZP1132808	Cincinnati Sub-Zero	ZPH-8-3.5-SCT/AC	2025-04-09	2026-04-09
248881	Environmental Meter 240303668	Control Company	06-662-4	2024-04-10	2026-04-10
91212	True RMS Multimeter MY54140026	Agilent	U1232A	2025-07-30	2026-07-30
-	DC Power Supply MY58426145	Keysight Technologies	E3633A	-	-
SOFTEMI	Antenna Port Software	UL	Version 2024.2.23	-	-
Additional Equipment used					
-	Near Field Probe Kit	EMC Test systems	7405	-	-

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	2025-08-06	2026-08-06
72095	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2025-08-01	2026-08-01
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
75141	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2025-07-30	2026-07-30
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2025-07-30	2026-07-30
PS216	AC Power Source	Elgar	CW2501M	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		

8. OCCUPIED 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.

RESULTS

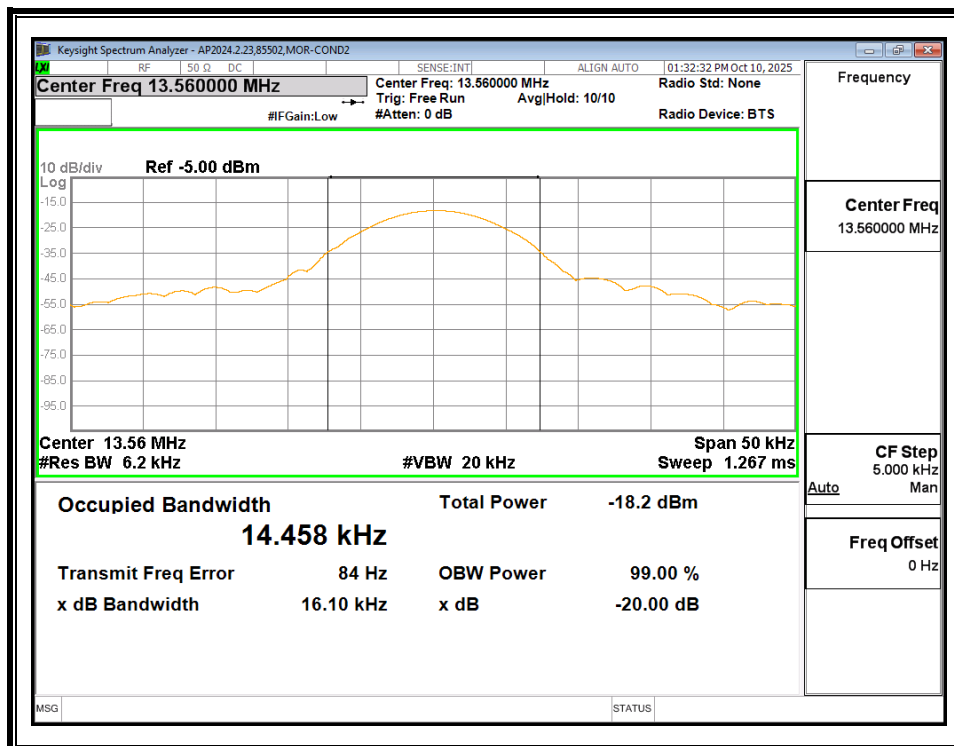
99% and 20dB BW

Type B (Tag Mode)

Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
106	13.56	14.458	16.10

8.1. Type B (Tag Mode)

106Kbps



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 filed strength from uV/m to dBuV/m is:

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

In addition:

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

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

TEST PROCEDURE

ANSI C63.10 - 2020

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 10th 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 $40 \cdot \log(\text{test distance} / \text{specification distance})$.

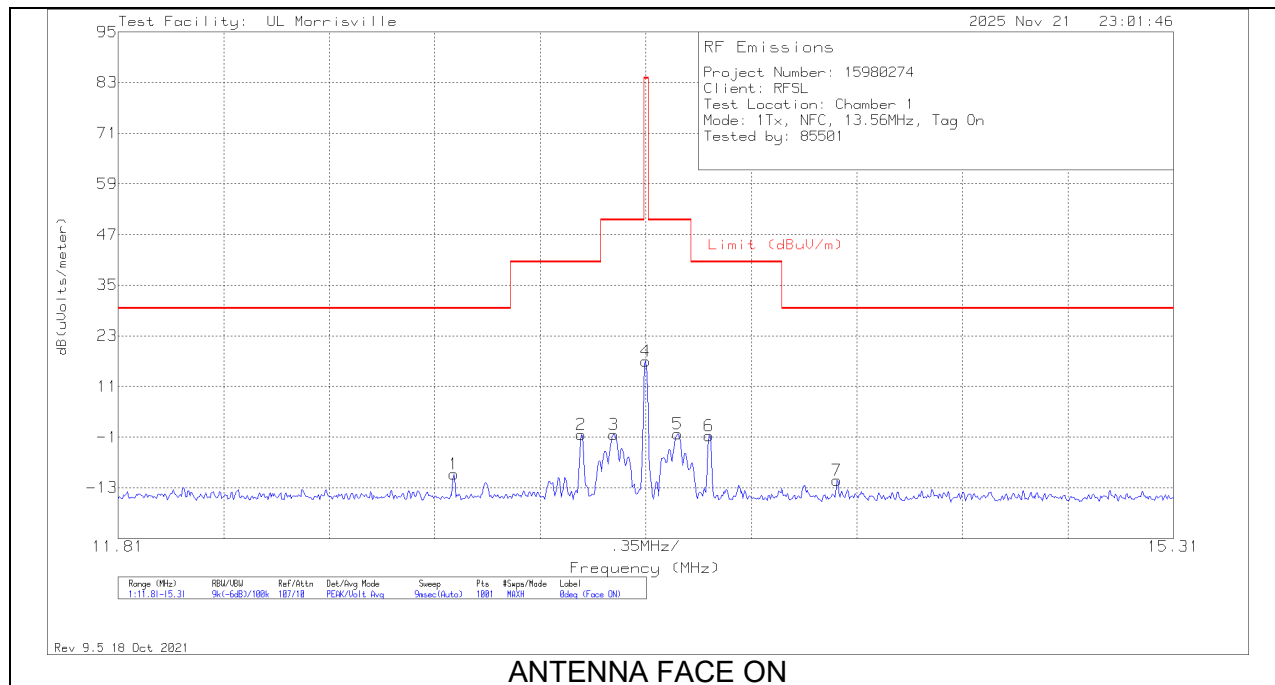
Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area test site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field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

RESULTS

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

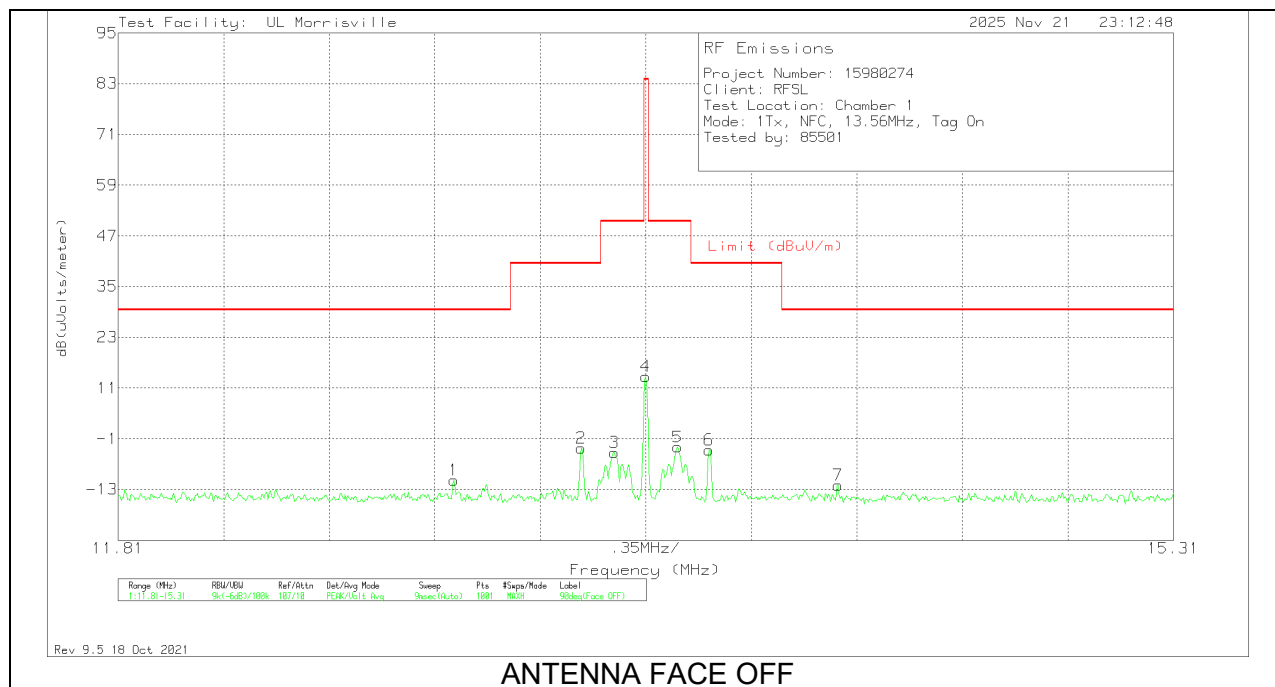
9.2.1. Type B (Tag Mode)

FUNDAMENTAL 106Kbps



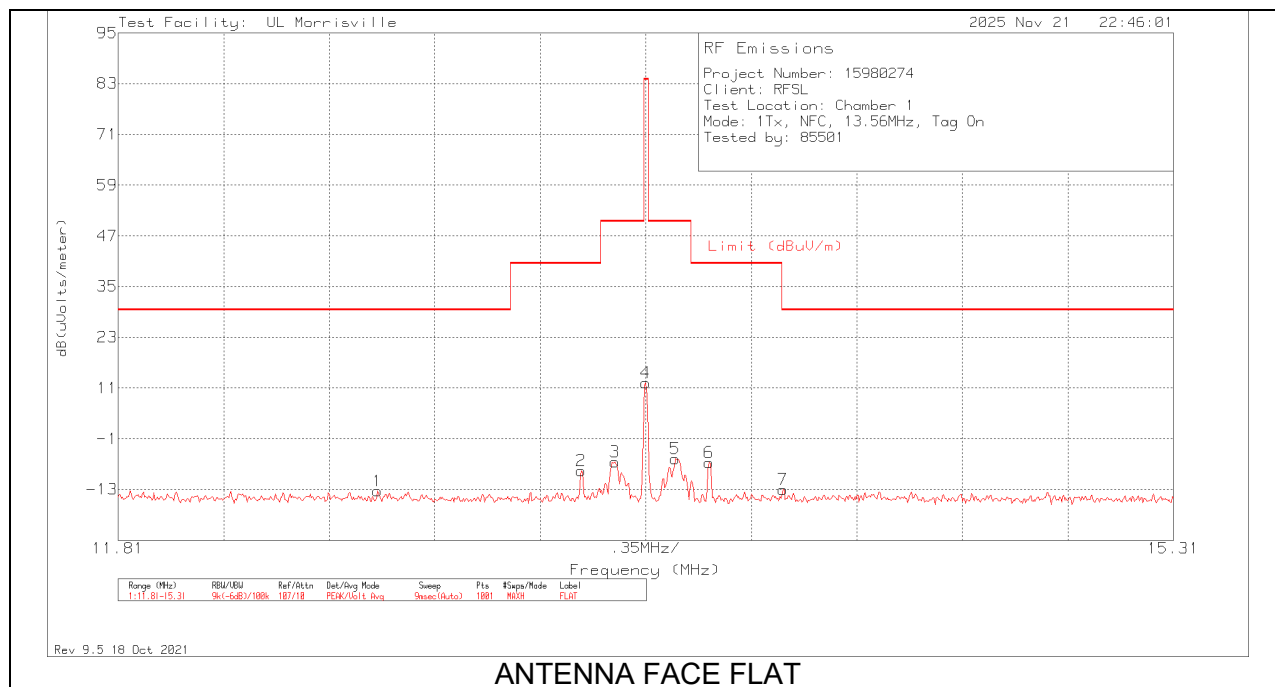
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	12.923	19.04	Pk	10.6	.6	-40	-9.76	29.5	-39.26	245	0 degs
2	13.3465	28.44	Pk	10.6	.6	-40	-.36	40.5	-40.86	245	0 degs
3	13.45325	28.42	Pk	10.6	.6	-40	-.38	50.5	-50.88	245	0 degs
4	13.56	45.8	Pk	10.6	.6	-40	17	84	-67	245	0 degs
5	13.665	28.61	Pk	10.6	.6	-40	-.19	50.5	-50.69	245	0 degs
6	13.77	28.07	Pk	10.6	.6	-40	-.73	40.5	-41.23	245	0 degs
7	14.1935	17.56	Pk	10.6	.6	-40	-11.24	29.5	-40.74	245	0 degs

Pk - Peak detector



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)	Loop Angle
1	12.923	17.99	Pk	10.6	.6	-40	-10.81	29.5	-40.31	166	90 degs
2	13.3465	25.56	Pk	10.6	.6	-40	-3.24	40.5	-43.74	166	90 degs
3	13.455	24.57	Pk	10.6	.6	-40	-4.23	50.5	-54.73	166	90 degs
4	13.56	42.48	Pk	10.6	.6	-40	13.68	84	-70.32	166	90 degs
5	13.665	25.82	Pk	10.6	.6	-40	-2.98	50.5	-53.48	166	90 degs
6	13.77	25.15	Pk	10.6	.6	-40	-3.65	40.5	-44.15	166	90 degs
7	14.197	16.81	Pk	10.6	.6	-40	-11.99	29.5	-41.49	166	90 degs

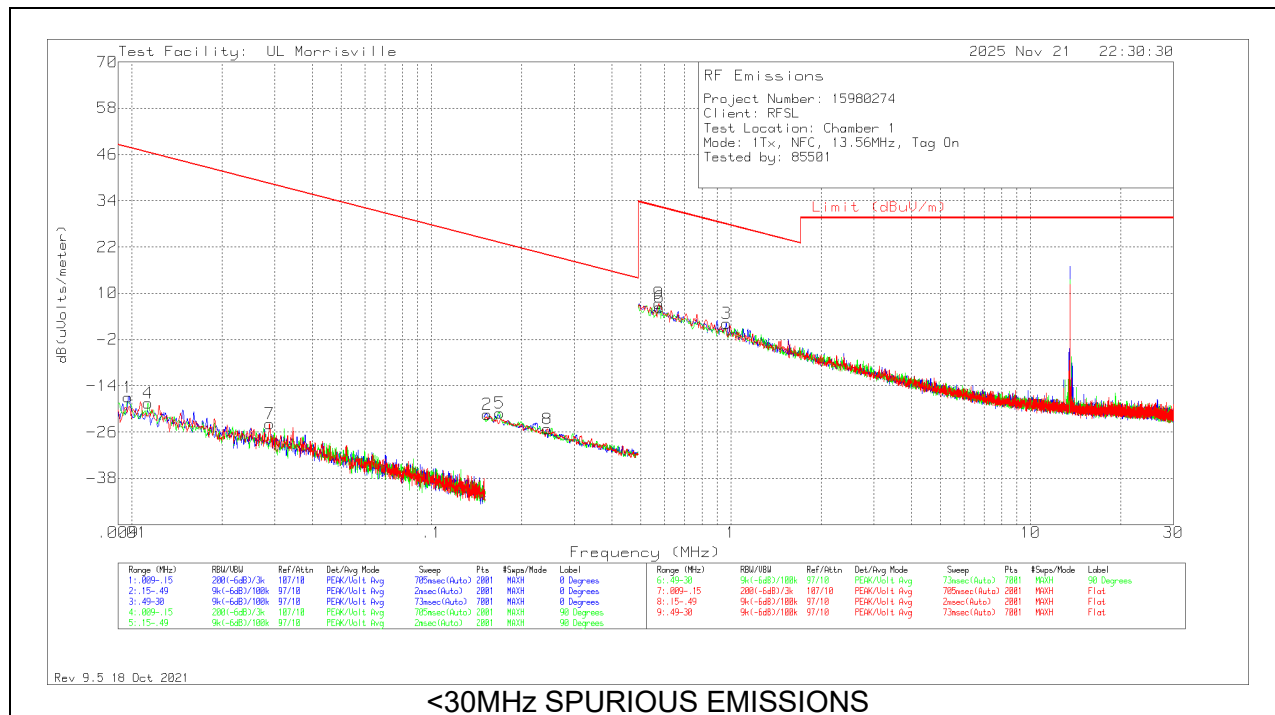
Pk - Peak detector



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)	Loop Angle
1	12.671	15.43	Pk	10.6	.6	-40	-13.37	29.5	-42.87	325	Flat
2	13.3465	20.28	Pk	10.6	.6	-40	-8.52	40.5	-49.02	325	Flat
3	13.4585	22.3	Pk	10.6	.6	-40	-6.5	50.5	-57	325	Flat
4	13.56	41.09	Pk	10.6	.6	-40	12.29	84	-71.71	325	Flat
5	13.658	23.11	Pk	10.6	.6	-40	-5.69	50.5	-56.19	325	Flat
6	13.77	22.17	Pk	10.6	.6	-40	-6.63	40.5	-47.13	325	Flat
7	14.015	15.8	Pk	10.6	.6	-40	-13	29.5	-42.5	325	Flat

Pk - Peak detector

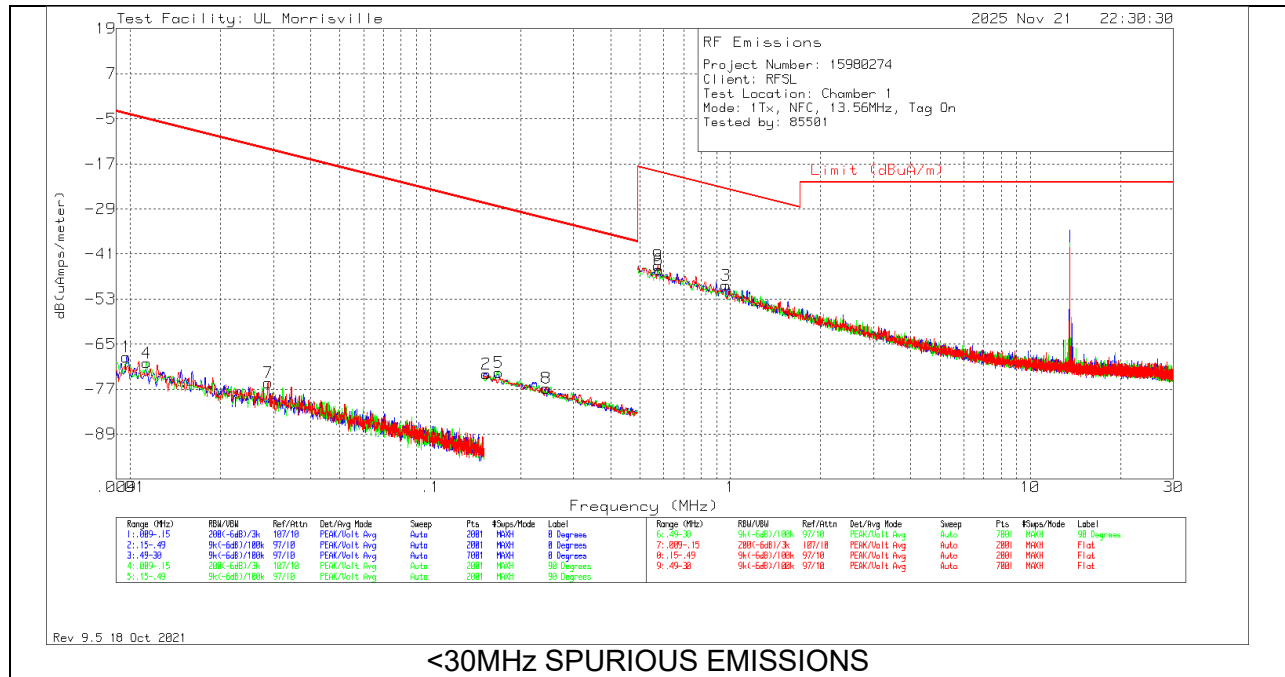
SPURIOUS EMISSION – E FIELD



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
1	.00971	43.75	Pk	19.2	.1	-80	-16.95	47.86	67.86	-64.81	0-360	0 degs
4	.01134	43.09	Pk	18.3	.1	-80	-18.51	46.51	66.51	-65.02	0-360	90 degs
7	.02881	42.88	Pk	13.2	.1	-80	-23.82	38.41	58.41	-62.23	0-360	Flat
2	.15357	47.45	Pk	11	.1	-80	-21.45	23.88	43.88	-45.33	0-360	0 degs
5	.16904	47.77	Pk	11	.1	-80	-21.13	23.04	43.04	-44.17	0-360	90 degs
8	.24401	43.77	Pk	10.9	.1	-80	-25.23	19.86	39.86	-45.09	0-360	Flat
9	.57432	36.3	Pk	11	.1	-40	7.4	32.42	-	-25.02	0-360	Flat
6	.57854	35.24	Pk	11	.1	-40	6.34	32.36	-	-26.02	0-360	90 degs
3	.96641	31.08	Pk	11	.1	-40	2.18	27.9	-	-25.72	0-360	0 degs

Pk - Peak detector

SPURIOUS EMISSION – H FIELD



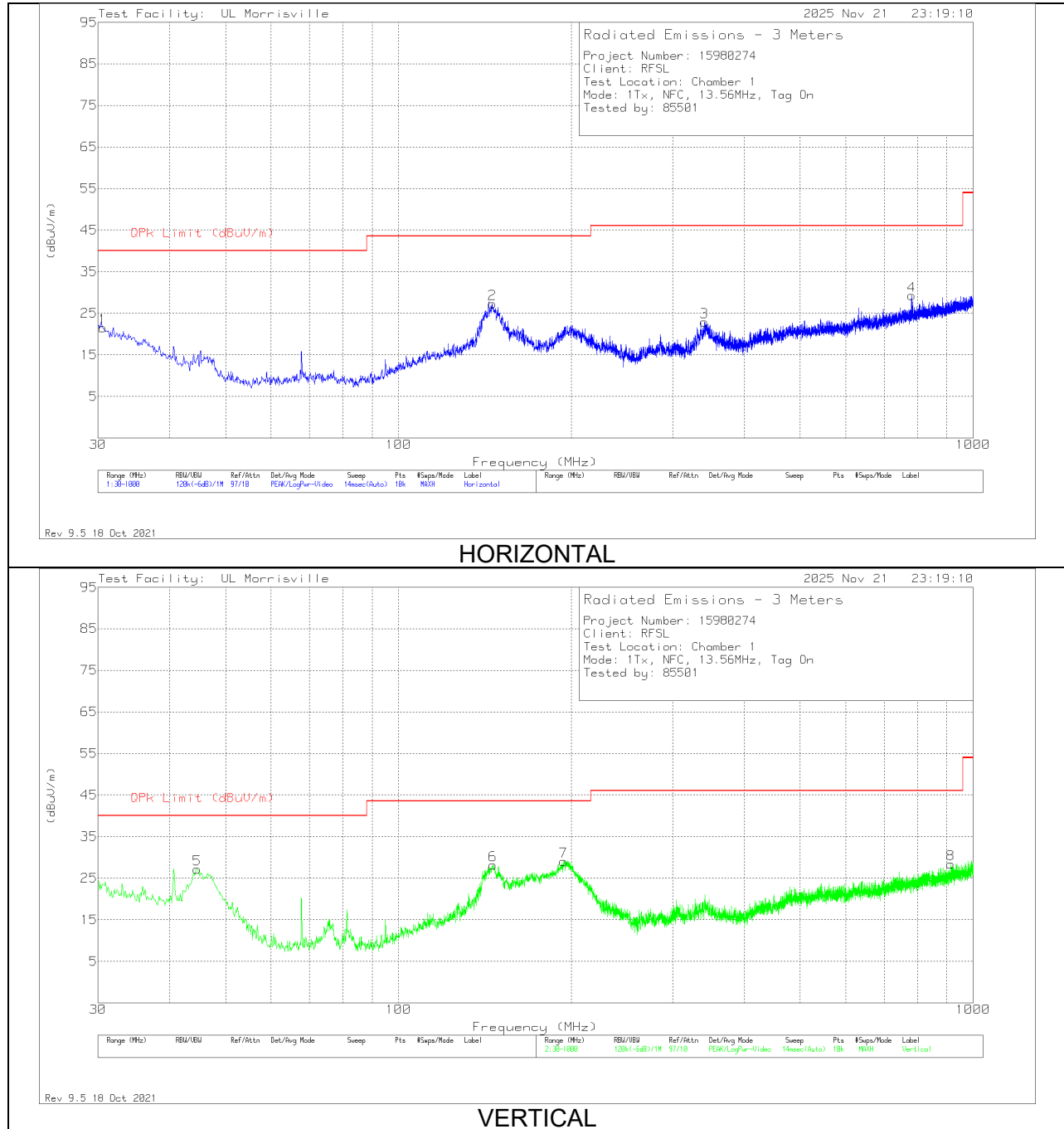
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ANT (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uAmps/meter)	QP/AV Limit (dBuA/m)	PK Limit (dBuA/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
1	.00971	43.75	Pk	-32.3	.1	-80	-68.45	-3.64	16.36	-64.81	0-360	0 degs
4	.01134	43.09	Pk	-33.2	.1	-80	-70.01	-4.99	15.01	-65.02	0-360	90 degs
7	.02881	42.88	Pk	-38.3	.1	-80	-75.32	-13.09	6.91	-62.23	0-360	Flat
2	.15357	47.45	Pk	-40.5	.1	-80	-72.95	-27.62	-7.62	-45.33	0-360	0 degs
5	.16904	47.77	Pk	-40.5	.1	-80	-72.63	-28.46	-8.46	-44.17	0-360	90 degs
8	.24401	43.77	Pk	-40.6	.1	-80	-76.73	-31.64	-11.64	-45.09	0-360	Flat
9	.57432	36.3	Pk	-40.5	.1	-40	-44.1	-19.08	-	-25.02	0-360	Flat
6	.57854	35.24	Pk	-40.5	.1	-40	-45.16	-19.14	-	-26.02	0-360	90 degs
3	.96641	31.08	Pk	-40.5	.1	-40	-49.32	-23.6	-	-25.72	0-360	0 degs

Pk - Peak detector

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

9.3.1. Type B (Tag Mode)

SPURIOUS EMISSION 106Kbps



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	90629 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.582	26.23	Pk	26.5	-31.2	21.53	40	-18.47	0-360	399	H
5	44.647	42.36	Pk	16.4	-31.6	27.16	40	-12.84	0-360	100	V
2	145.624	38.64	Pk	19	-30.3	27.34	43.52	-16.18	0-360	199	H
6	146.109	39.3	Pk	19	-30.1	28.2	43.52	-15.32	0-360	100	V
7	193.833	40.29	Pk	18.3	-29.5	29.09	43.52	-14.43	0-360	100	V
3	340.982	31.92	Pk	20	-29	22.92	46.02	-23.1	0-360	99	H
4	781.265	30.03	Pk	27.3	-28.1	29.23	46.02	-16.79	0-360	199	H
8	914.543	26.26	Pk	28.5	-26.3	28.46	46.02	-17.56	0-360	100	V

Pk - Peak detector

10. FREQUENCY STABILITY

LIMIT

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

IC RSS-210, Annex B.6

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

TEST PROCEDURE

ANSI C63.10-2020 Clause 6.8

RESULTS

No non-compliance noted.

10.1. Type B

10.1.1. Tag Mode

106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20°C Limit: ± 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)
3.88	50	13.5599597	1.976	13.5599562	2.238	13.5599549	2.334	13.5599544	2.368	± 100
3.88	40	13.5599731	0.993	13.5599688	1.304	13.5599654	1.555	13.5599635	1.695	± 100
3.88	30	13.5600060	-1.440	13.5599964	-0.730	13.5599900	-0.258	13.5599863	0.014	± 100
3.88	20	13.5599865	0.000	13.5599853	0.087	13.5599855	0.072	13.5599860	0.036	± 100
3.88	10	13.5600445	-4.275	13.5600428	-4.148	13.5600410	-4.020	13.560039	-45.532	± 100
3.88	0	13.5600461	-4.394	13.5600291	-3.142	13.5600282	-3.076	13.5600116	-1.851	± 100
3.88	-10	13.5600500	-4.682	13.5600383	-3.818	13.5600385	-3.837	13.5600234	-2.717	± 100
3.88	-20	13.5599511	2.611	13.5600500	-4.682	13.5600473	-4.483	13.5600450	-4.311	± 100
3.60	20	13.5599711	1.137	13.5599728	1.013	13.5599734	0.970	13.5599733	0.971	± 100
4.35	20	13.5599947	-0.601	13.5599896	-0.226	13.5599874	-0.068	13.5599855	0.076	± 100

Tested by:33499/84740

Test date: 2025-11-24, 2025-11-25

11. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

§15.207

IC RSS-GEN, Section 8.8

Frequency range (MHz)	Limits (dB μ 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: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

TEST PROCEDURE

ANSI C63.10:2020

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

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

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

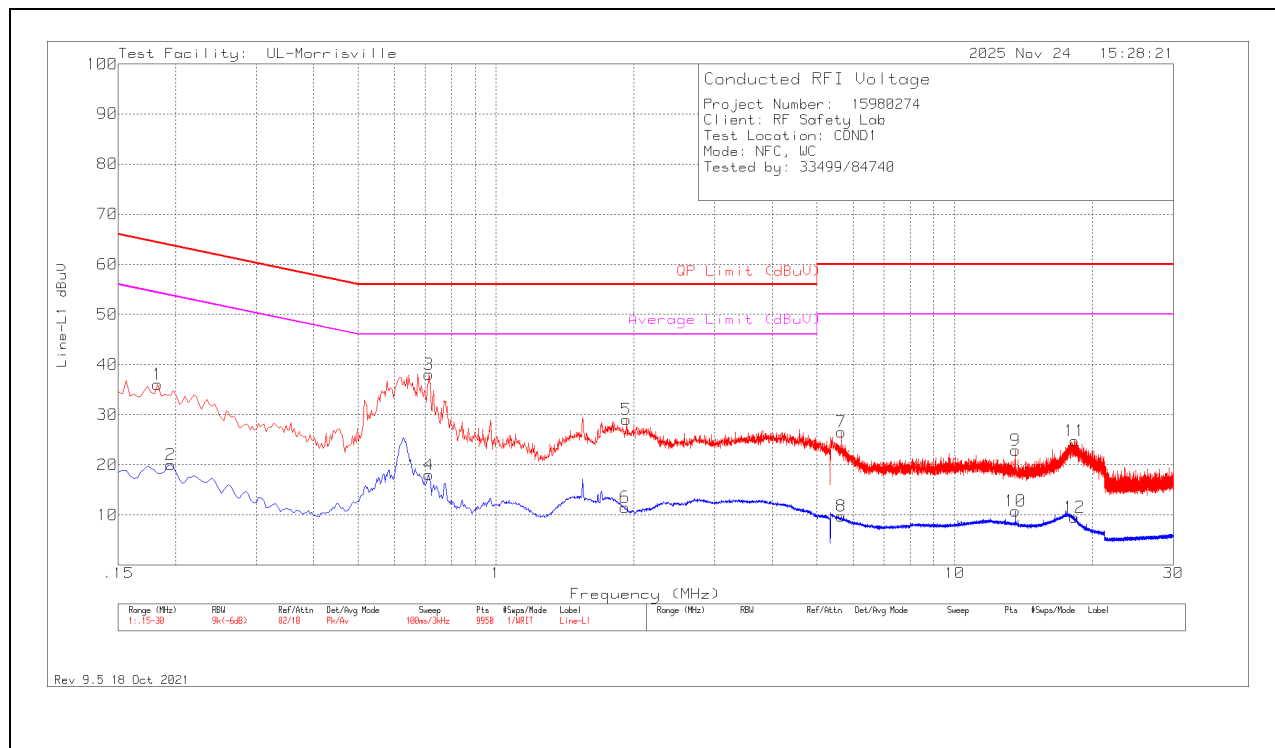
RESULTS

No non-compliance noted:

11.1. Type B (Tag Mode)

11.1.1. NORMAL OPERATION, 106Kbps

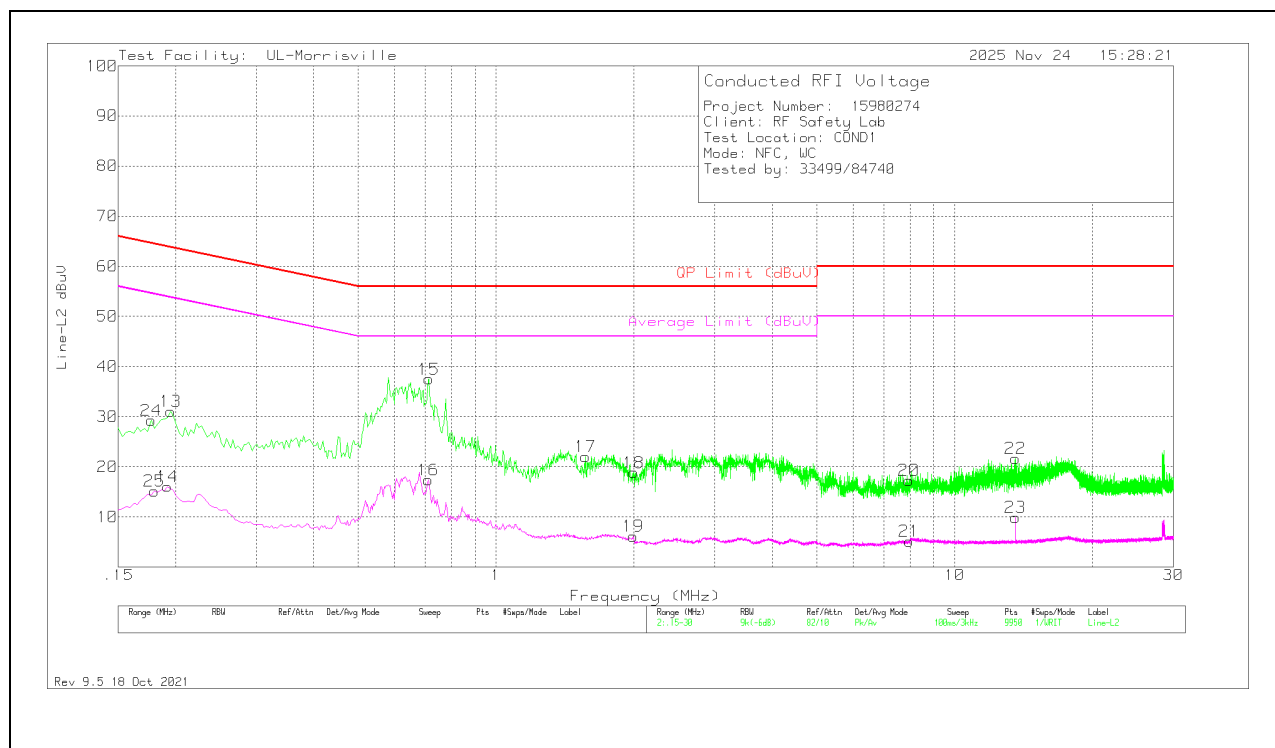
LINE 1 RESULTS



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	.183	26.12	Pk	.2	9.7	36.02	64.35	-28.33	-	-
2	.195	10.08	Av	.2	9.7	19.98	-	-	53.82	-33.84
3	.714	28.35	Pk	0	9.7	38.05	56	-17.95	-	-
4	.714	8.26	Av	0	9.7	17.96	-	-	46	-28.04
5	1.926	19.31	Pk	0	9.7	29.01	56	-26.99	-	-
6	1.911	1.86	Av	0	9.7	11.56	-	-	46	-34.44
7	5.655	16.82	Pk	0	9.7	26.52	60	-33.48	-	-
8	5.655	.03	Av	0	9.7	9.73	-	-	50	-40.27
9	13.563	13.04	Pk	.1	9.8	22.94	60	-37.06	-	-
10	13.563	.83	Av	.1	9.8	10.73	-	-	50	-39.27
11	18.273	14.91	Pk	.1	9.8	24.81	60	-35.19	-	-
12	18.252	-.43	Av	.1	9.8	9.47	-	-	50	-40.53

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)	
13	.195	21.14	Pk	.2	9.7	31.04	63.82	-32.78	-	-	
14	.192	6.17	Av	.2	9.7	16.07	-	-	53.95	-37.88	
15	.714	27.78	Pk	0	9.7	37.48	56	-18.52	-	-	
16	.711	7.64	Av	0	9.7	17.34	-	-	46	-28.66	
17	1.566	12.32	Pk	0	9.7	22.02	56	-33.98	-	-	
18	1.998	9.13	Pk	0	9.7	18.83	56	-37.17	-	-	
19	1.989	-3.54	Av	0	9.7	6.16	-	-	46	-39.84	
20	7.941	7.51	Pk	.1	9.7	17.31	60	-42.69	-	-	
21	7.962	-4.6	Av	0	9.7	5.1	-	-	50	-44.9	
22	13.563	11.73	Pk	.1	9.8	21.63	60	-38.37	-	-	
23	13.56	-.02	Av	.1	9.8	9.88	-	-	50	-40.12	
24	.177	19.33	Pk	.2	9.7	29.23	64.63	-35.4	-	-	
25	.18	5.26	Av	.2	9.7	15.16	-	-	54.49	-39.33	

Pk - Peak detector
Av - Average detection

12. SETUP PHOTOS

Refer to R15980274-EP1 for setup diagrams

END OF TEST REPORT