

TEST REPORT

Report Number: R15980274-E3c

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

MODEL : SC-51G, SCG36

FCC ID : A3LSMS942JPN

EUT Description : GSM/WCDMA/LTE/NR 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:
2025-12-22

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
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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 Phone + BT/BLE, DTS/
UNII a/b/g/n/ac/ax/be, WPT and NFC

MODEL: SC-51G, SCG36

SERIAL NUMBER: YKA2415M, YIB0376M, YKA2427M, YKA2415M

SAMPLE RECEIPT DATE: 2025-10-07, 2025-11-19

DATE TESTED: 2025-10-23, 2025-12-01, 2025-12-18

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:



Jeff Moser
Operations Manager
Consumer, Medical and IT Segment
UL LLC

Prepared By:



Charles Moody
Operations Leader
Consumer, Medical and IT Segment
UL LLC

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
- 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. 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 Suite Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

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

4.2. DECISION RULES

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U _{Lab}
Radio Frequency (Spectrum Analyzer)	141.2 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%.

4.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

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

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

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

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

Representative Model	Difference	Derivative Model
		SCG36
SC-51G	Hardware	Same as SC-51G
	Software	Different UI

5.2. MAXIMUM ELECTRIC FIELD STENGTH

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

Fundamental Frequency (KHz)	Mode	E field (300m distance) FCC (dBuV/m)
110-148	Charging Config 2	-7.55

5.3. WORST-CASE CONFIGURATION AND MODE

The EUT is a WPT charger operating between 110-148.5kHz. Testing on the EUT was performed in the following configurations:

Config	Mode	Descriptions
1	Server: Charging Phone (parallel position)	EUT charging phone in parallel position
2	Server: Charging Phone (perpendicular)	EUT charging phone in perpendicular position
3	Server: Charging Phone (offset)	EUT Charging phone in parallel offset position
4	Server: Charging Headphones	EUT charging headphones
5	Server: Charging Watch	EUT charging watch

For all radiated emissions tests, all configurations were investigated. The device being charged was also tested at several battery percentages. It was determined that a state of <10% charged was the worst-case mode of operation. Therefore, all emissions testing was performed with the battery at <10%. All configurations were investigated for worst case emissions. Configuration 2 showed worst case emissions when the phones were offset. Therefore, final radiated emissions testing was performed in configuration 2.

Occupied Bandwidth was performed on configurations 2,4,5.

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.

5.4. 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 placed into one of the five configurations prior to testing. Either with the EUT being charged by a client Phone in a parallel, perpendicular orientation, or offset orientation, EUT charging headphones, or EUT charging watch. The EUT was left charging throughout the duration of the test.

SETUP DIAGRAM

Refer to Setup Photo Exhibit R15980274-EP1c for setup diagrams and photos.

6. TEST AND MEASUREMENT EQUIPMENT

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

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

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				
159203	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-03-05	2026-03-05
	Gain-Loss Chains				
91975	Gain-loss string: 0.009-30MHz	Various	Various	2025-05-31	2026-05-31
91978	Gain-loss string: 25-1000MHz	Various	Various	2025-05-31	2026-05-31
	Receiver & Software				
206496	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-07-29	2026-07-29
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Additional Equipment used				
239540	Environmental Meter	Fisher Scientific	15-077-963	2025-08-05	2027-08-05

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	2025-08-5	2026-08-06
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	2025-7-30	2026-07-30
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2025-7-30	2026-07-30
84681	ANSI C63.4 1m extension cable.	UL	Per Annex B of ANSI C63.4	2025-04-17	2026-04-17
PS216	AC Power Source	Elgar	CW2501M	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		

7. 20 dB BANDWIDTH

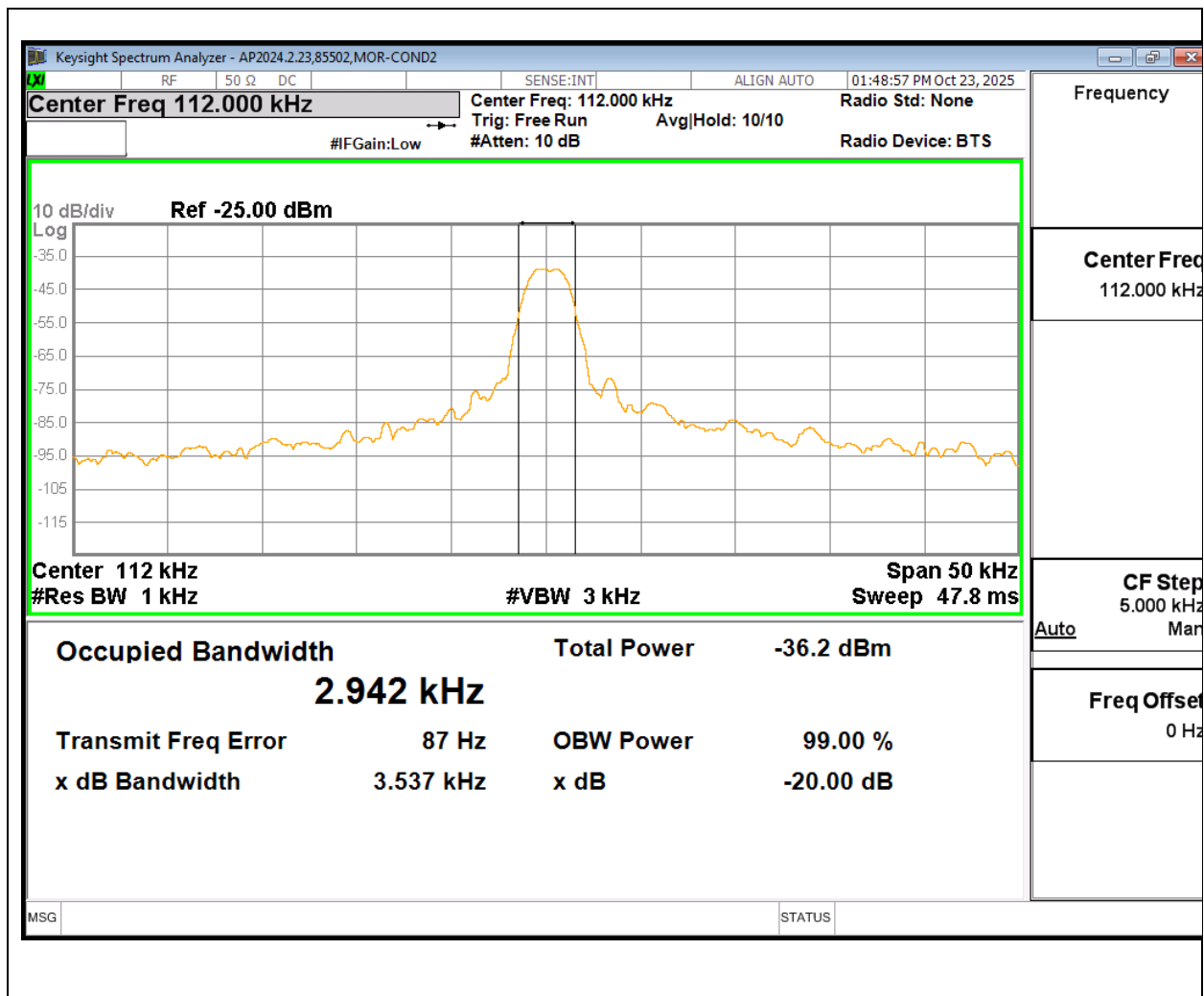
TEST PROCEDURE

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 20dB bandwidth function is utilized.

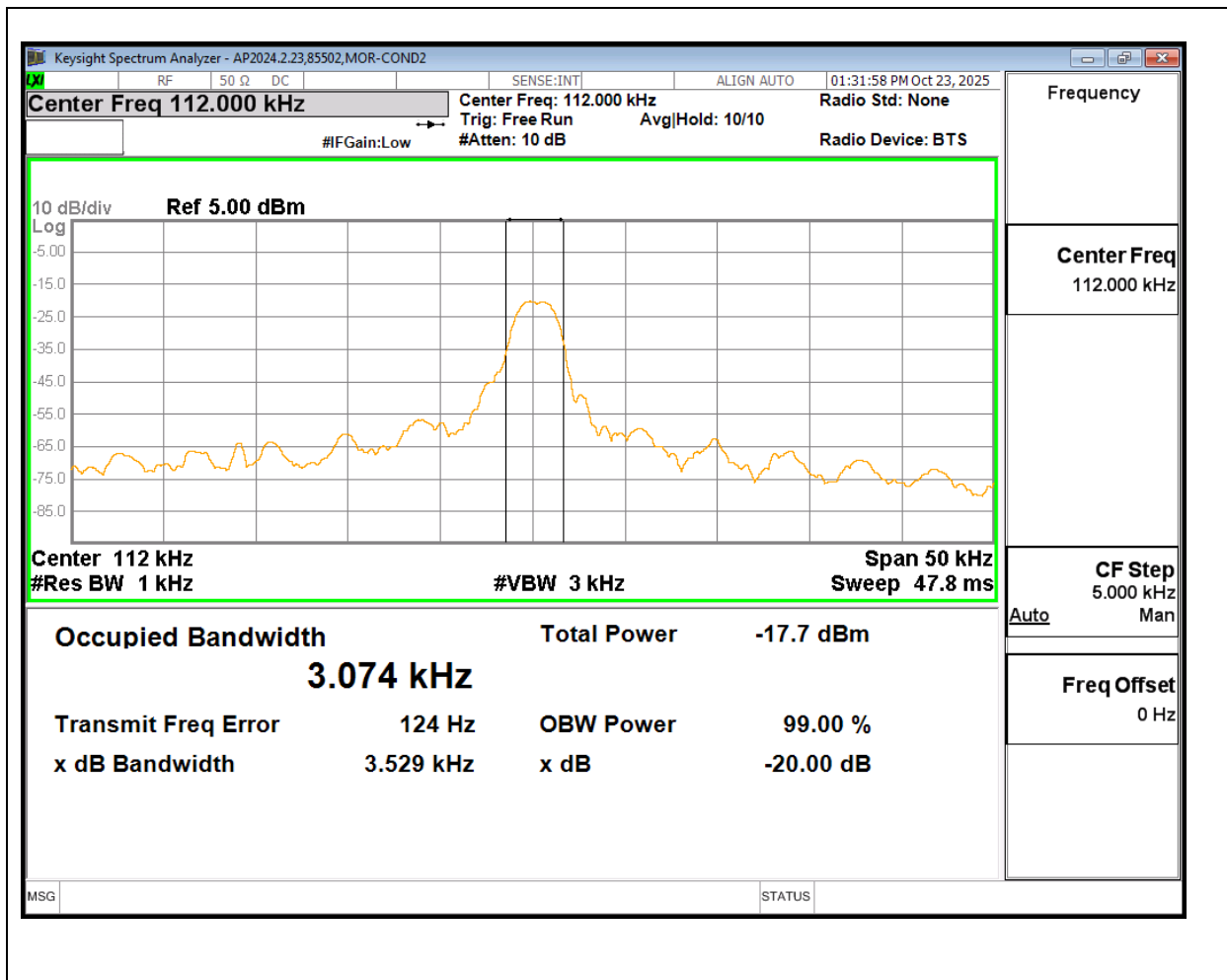
Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

RESULTS

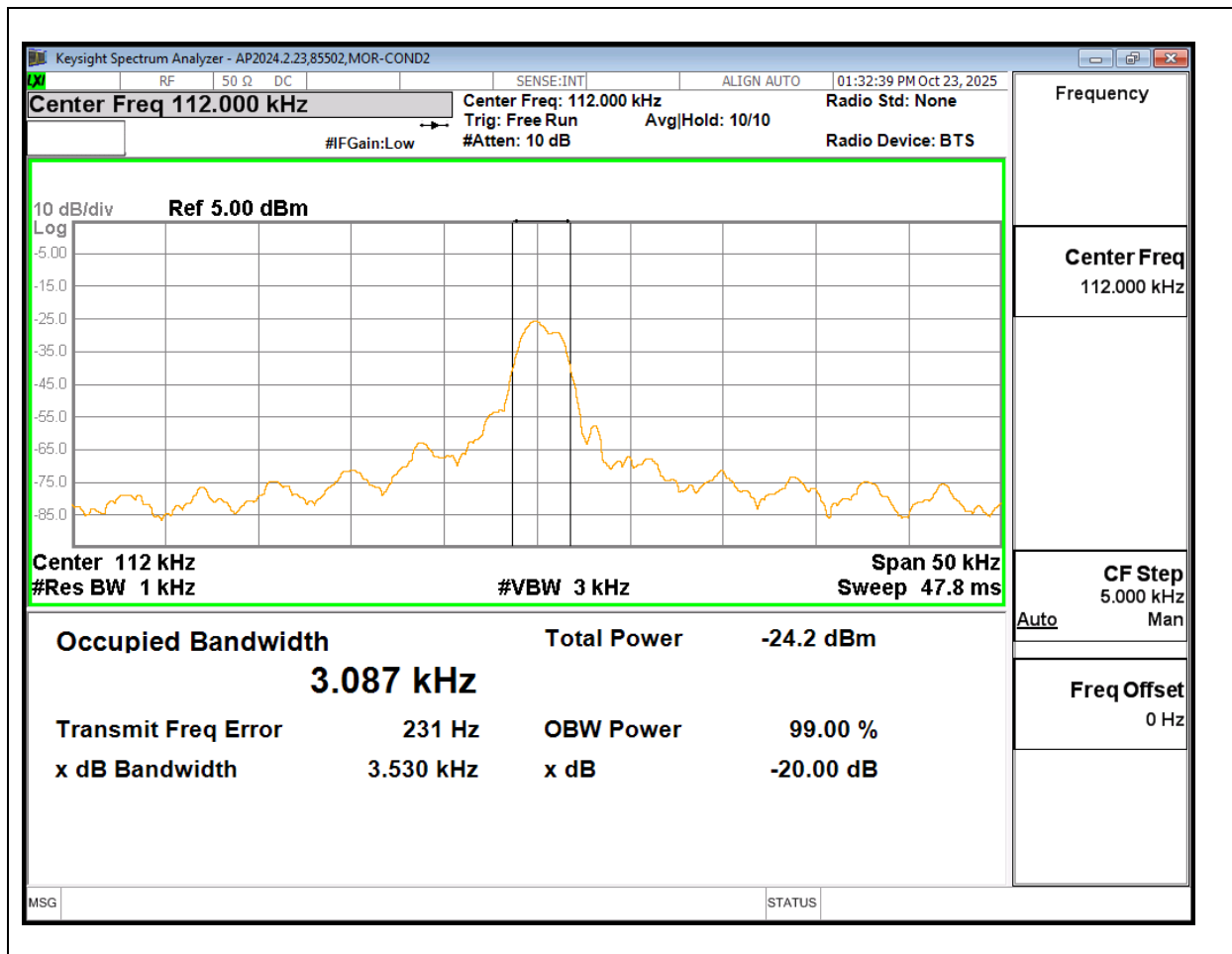
7.1.1. CONFIG 2



7.1.2. CONFIG 4



7.1.3. CONFIG 5



8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMIT

FCC §15.209 (a)

ICES-001 Section 6.2, IC RSS-216 6.2.2, and IC RSS-GEN Sections 8.9 and 8.10.

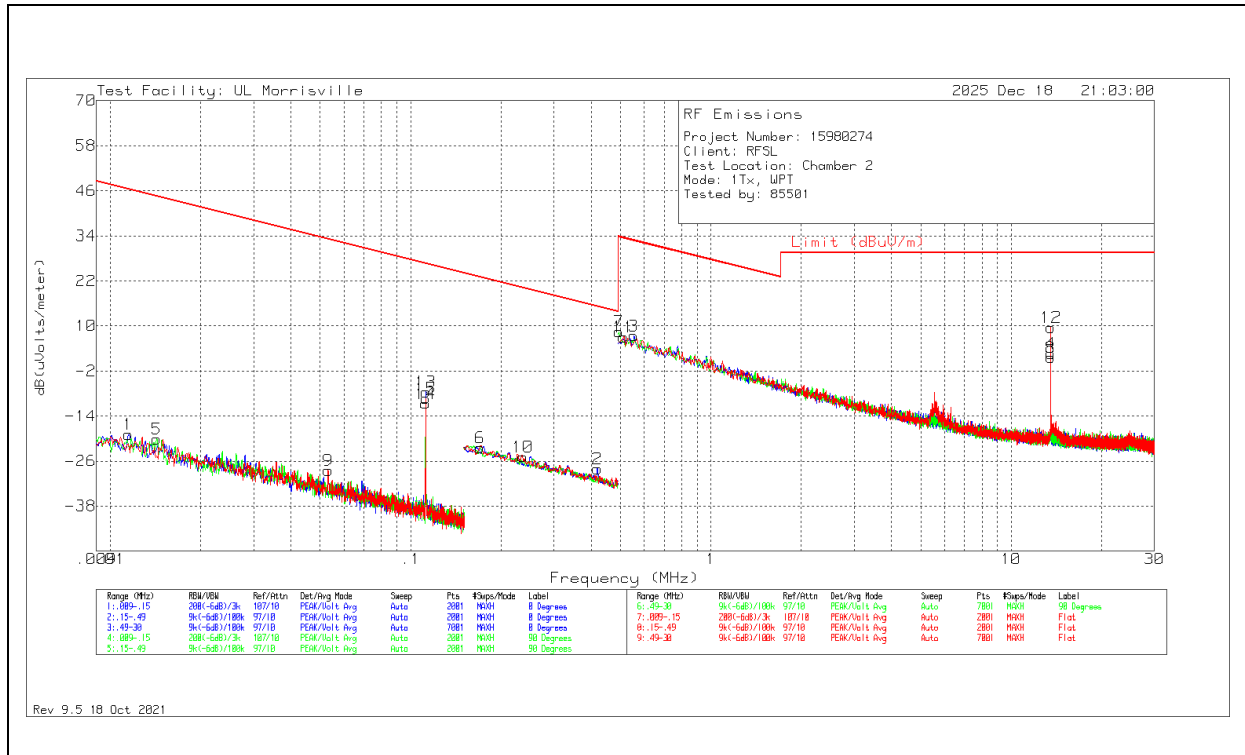
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (m)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100	3
88 to 216	150	3
216 to 960	200	3
Above 960 MHz	500	3
Note: The lower limit shall apply at the transition frequency.		

RESULTS

8.2. FCC IC TX FUNDAMENTAL AND SPURIOUS EMISSIONS FROM 9 kHz TO 30 MHz

Note: 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 $40 \cdot \log(\text{test distance} / \text{specification distance})$.

8.2.1. CONFIG 2



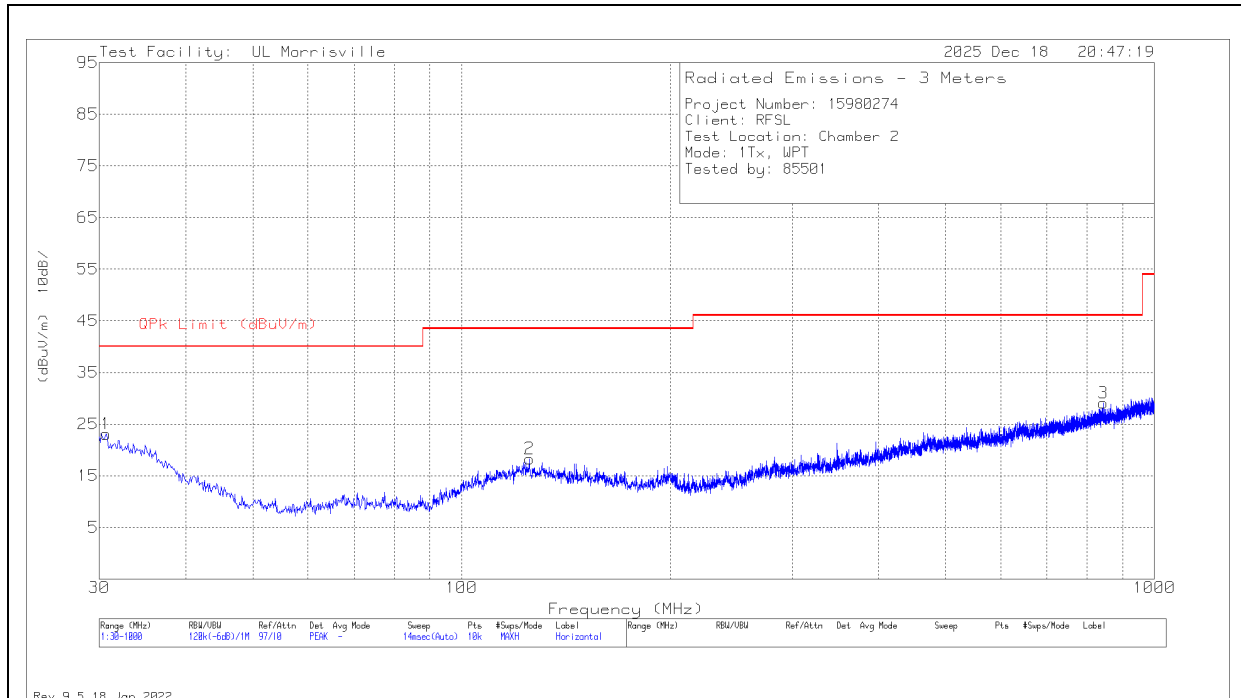
DATA

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	.01149	42.81	Pk	18.2	.1	-80	-18.89	46.4	-65.29	0-360	0 degs
5	.01425	43	Pk	16.8	.1	-80	-20.1	44.53	-64.63	0-360	90 degs
9	.05309	39.91	Pk	11.5	.1	-80	-28.49	33.1	-61.59	0-360	Flat
14	.11223	58.14	Pk	11.1	.1	-80	-10.66	26.6	-37.26	0-360	90 degs
13	.11231	61.25	Pk	11.1	.1	-80	-7.55	26.6	-34.15	0-360	0 degs
15	.11231	59.48	Pk	11.1	.1	-80	-9.32	26.6	-35.92	0-360	Flat
6	.17032	46.42	Pk	11	.1	-80	-22.48	22.98	-45.46	0-360	90 degs
10	.23619	44.12	Pk	10.9	.1	-80	-24.88	20.14	-45.02	0-360	Flat
2	.41877	40.87	Pk	11	.1	-80	-28.03	15.16	-43.19	0-360	0 degs
7	.49422	37.36	Pk	11	.1	-40	8.46	33.73	-25.27	0-360	90 degs
11	.51108	35.99	Pk	11	.1	-40	7.09	33.43	-26.34	0-360	Flat
3	.55324	36.25	Pk	11	.1	-40	7.35	32.75	-25.4	0-360	0 degs
4	13.5596	31.49	Pk	10.6	.6	-40	2.69	29.54	-26.85	0-360	0 degs
8	13.5596	30.42	Pk	10.6	.6	-40	1.62	29.54	-27.92	0-360	90 degs
12	13.5596	38.41	Pk	10.6	.6	-40	9.61	29.54	-19.93	0-360	Flat

Pk - Peak detector

8.3. FCC IC TX SPURIOUS EMISSIONS FROM 30 TO 1000 MHz

8.3.1. CONFIG 2



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	159203 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	30.388	27.21	Pk	27.1	-31.3	23.01	40	-16.99	0-360	100	V
1	30.679	27.88	Pk	26.9	-31.7	23.08	40	-16.92	0-360	299	H
2	125.351	28.79	Pk	20.4	-30.9	18.29	43.52	-25.23	0-360	199	H
5	171.911	37.22	Pk	18.1	-29.6	25.72	43.52	-17.8	0-360	100	V
3	843.636	27.07	Pk	28.5	-26.5	29.07	46.02	-16.95	0-360	101	H
6	941.606	26.21	Pk	29.5	-25.2	30.51	46.02	-15.51	0-360	299	V

Pk - Peak detector

9. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)
RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dB μ 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.

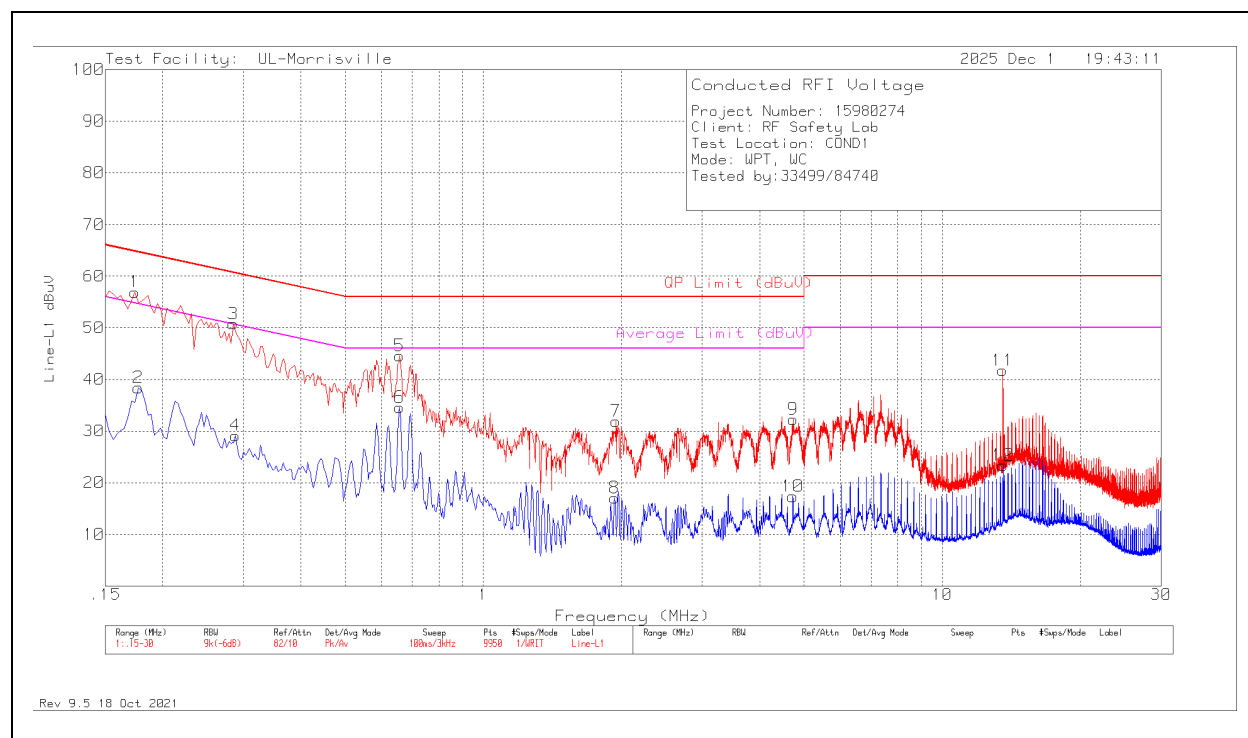
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

9.1.1. CONFIG 2

LINE 1 RESULTS

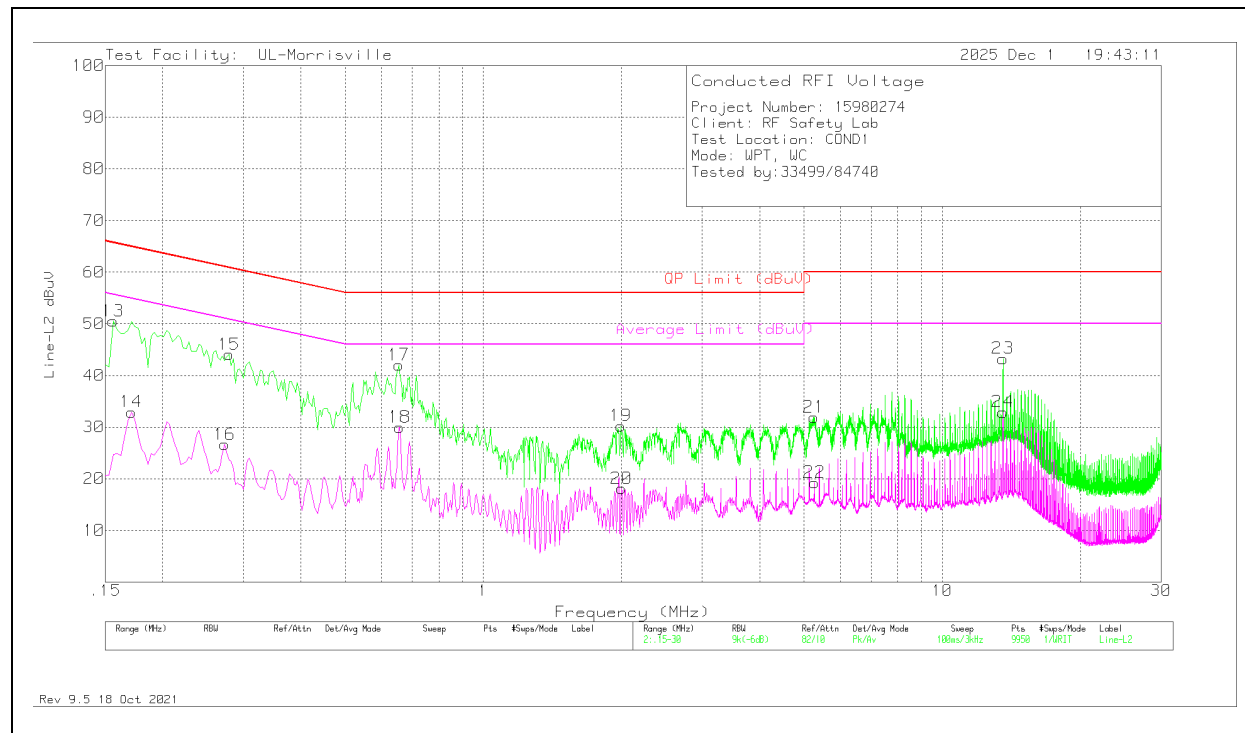


WORST EMISSIONS

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	.174	47.03	Pk	.2	9.7	56.93	64.77	-7.84	-	-
2	.177	28.52	Av	.2	9.7	38.42	-	-	54.63	-16.21
3	.285	40.98	Pk	.1	9.7	50.78	60.67	-9.89	-	-
4	.288	19.35	Av	.1	9.7	29.15	-	-	50.58	-21.43
5	.657	34.88	Pk	0	9.7	44.58	56	-11.42	-	-
6	.657	24.91	Av	0	9.7	34.61	-	-	46	-11.39
7	1.944	22.23	Pk	0	9.7	31.93	56	-24.07	-	-
8	1.932	7.36	Av	0	9.7	17.06	-	-	46	-28.94
9	4.731	22.57	Pk	0	9.7	32.27	56	-23.73	-	-
10	4.725	7.65	Av	0	9.7	17.35	-	-	46	-28.65
11	13.554	31.85	Pk	.1	9.8	41.75	60	-18.25	-	-
12	13.56	13.48	Av	.1	9.8	23.38	-	-	50	-26.62

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 VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.156	40.63	Pk	.2	9.7	50.53	65.67	-15.14	-	-
14	.171	23.03	Av	.2	9.7	32.93	-	-	54.91	-21.98
15	.279	34.25	Pk	.1	9.7	44.05	60.85	-16.8	-	-
16	.273	16.83	Av	.1	9.7	26.63	-	-	51.03	-24.4
17	.654	32.32	Pk	0	9.7	42.02	56	-13.98	-	-
18	.657	20.28	Av	0	9.7	29.98	-	-	46	-16.02
19	1.992	20.55	Pk	0	9.7	30.25	56	-25.75	-	-
20	2.001	8.42	Av	0	9.7	18.12	-	-	46	-27.88
21	5.253	22.22	Pk	0	9.7	31.92	60	-28.08	-	-
22	5.265	9.56	Av	0	9.7	19.26	-	-	50	-30.74
23	13.56	33.38	Pk	.1	9.8	43.28	60	-16.72	-	-
24	13.56	23.03	Av	.1	9.8	32.93	-	-	50	-17.07

Pk - Peak detector

Av - Average detection

10. SETUP PHOTOS

Refer to Setup Photo Exhibit R15980274-EP1c for setup diagrams and photos.

END OF TEST REPORT