

CERTIFICATION TEST REPORT

Report Number. : S-4791953314-E8V1

Applicant : SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
GYEONGGI-DO, 16677, KOREA

Model : SC-52G, SCG38

FCC ID : A3LSMS947JPN

EUT Description : GSM/WCDMA/LTE/5G NR Phone + BT/BLE,
DTS/UNII a/b/g/n/ac/ax/be, NFC, WPT and UWB

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

Date Of Issue:

2025-12-23

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Revision History

Rev.	Issue Date	Revisions	Presented By
V1	2025-12-23	Initial issue	Jaejin Lee

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.

EUT DESCRIPTION: GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, NFC, WPT and UWB

MODEL NUMBER: SC-52G, SCG38

SERIAL NUMBER: R3CY90EPFAN, R3CY90EPGSX (RADIATED)

DATE TESTED: 2025-11-27 – 2025-12-23

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
47 CFR Part 15 Subpart C	Complies

UL KOREA LTD. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL KOREA LTD. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

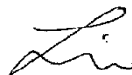
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL KOREA LTD. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL KOREA LTD. 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 IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL KOREA LTD. By:



Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Tested By:



Jaejin Lee
Suwon Lab Engineer
UL KOREA LTD.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC 47 CFR Part 2.
2. FCC 47 CFR Part 15.
3. ANSI C63.10-2020.
4. KDB 414788 D01 Radiated Test Site v01r01

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro	
☒	Chamber 1(3m semi-anechoic chamber)
☒	Chamber 2(3m semi-anechoic chamber)
☐	Chamber 3(3m semi-anechoic chamber)
☐	Chamber 4(3m Full-anechoic chamber)
☐	Chamber 5(3m Full-anechoic chamber)

UL KOREA LTD. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

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 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

Corrected Reading (dBuV) = Meter Reading (dBuV) + External Cable (dB) +
Cableloss (dB)

46.62 dBuV + 9.8 dB + 0.1 dB = 56.52 dBuV

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Occupied Bandwidth	0.04 %
Frequency Stability	5.3 x 10-8 Hz
Conducted Disturbance, 0.15 to 30 MHz	1.84 dB
Radiated Disturbance, 9 kHz to 30 MHz	2.41 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.69 dB

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

4.4. DECISION RULE

Decision rule for statement(s) of conformity is based on Clause 4.4.3 in IEC Guide 115:2023.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, NFC, WPT and UWB. This test report addresses the DXX (NFC) operational mode.

Representative model	Comparison Criteria	Derivative model
		SCG38
SC-52G	Hardware	Identical
	Software	UI modified according to Service Provider specifications

The SC-52G model was used as the representative model for final testing. All test results in this report apply to both the representative model and its derivative variants.

5.2. MAXIMUM E-FIELD STRENGTH

The testing was performed at 3 meter. The transmitter maximum E-field at 30m distance is 17.82 dBuV/m which convert from 3 meter data.

5.3. WORST-CASE CONFIGURATION AND MODE

The NFC function was tested at its' fundamental and only operational frequency of 13.56 MHz.

Worst case of antenna axis:

NFC with tag mode	NFC without tag mode
Y	Y

The fundamental level of the EUT was investigated each type and bitrate.
All test was performed worst case condition.

- ISO/IEC 14443-A(Type A) and bit rate 106 kbps

Radiated(fundamental level and spurious emissions) tests were performed both without reading a passive tag condition[test mode] and with reading a passive tag condition.

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

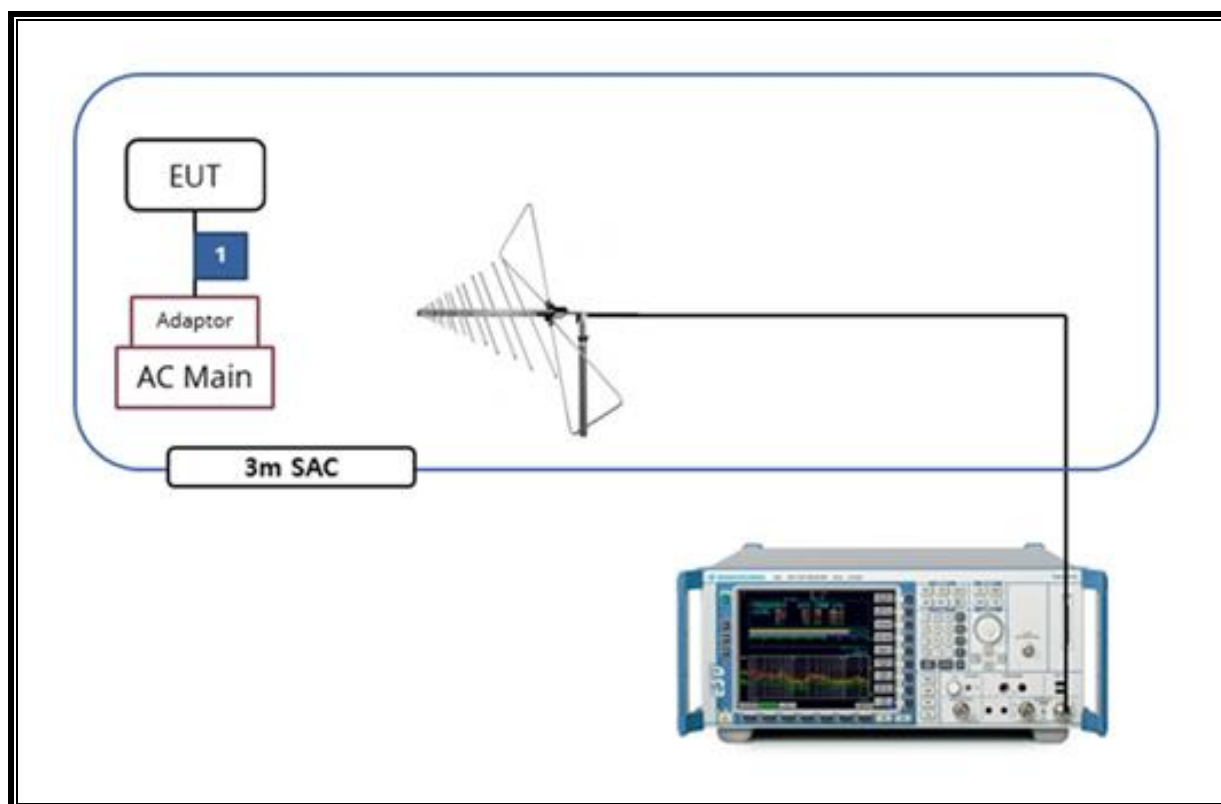
Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-T2510	N/A	N/A
Data Cable	SAMSUNG	EP-DN980	N/A	N/A

I/O CABLE

I/O Cable List						
Cable No.	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	C Type	Shielded	1.0 m	N/A

The EUT is a stand-alone device configured and tested in a worst-case setup.

SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	S/N	Cal Due
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB 9163	845	2026-07-30
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB 9163	749	2026-08-12
Preamplifier, 1000 MHz	Sonoma	310N	341282	2026-07-21
Preamplifier, 1000 MHz	Sonoma	310N	351741	2026-07-21
Spectrum Analyzer, 7 GHz	Agilent / HP	N9010A	MY54200580	2026-07-21
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9030A	MY54170614	2026-07-21
EMI Test Receiver, 40 GHz	R&S	ESU40	100439	2026-07-21
EMI Test Receiver, 40 GHz	R&S	ESU40	100457	2026-07-21
EMI Test Receive	R&S	ESW 8	101227	2026-07-17
DC Power Supply	Agilent / HP	E3640A	MY54226395	2026-07-23
Temperature Chamber	ESPEC	SH-642	93001109	2026-07-21
LISN	R&S	ENV216	101836	2026-07-22
LISN	R&S	ENV216	101837	2026-07-22
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2E	100900	2027-07-24
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

7. 20dB 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

§15.225

Operation within the band 13.110 – 14.010MHz

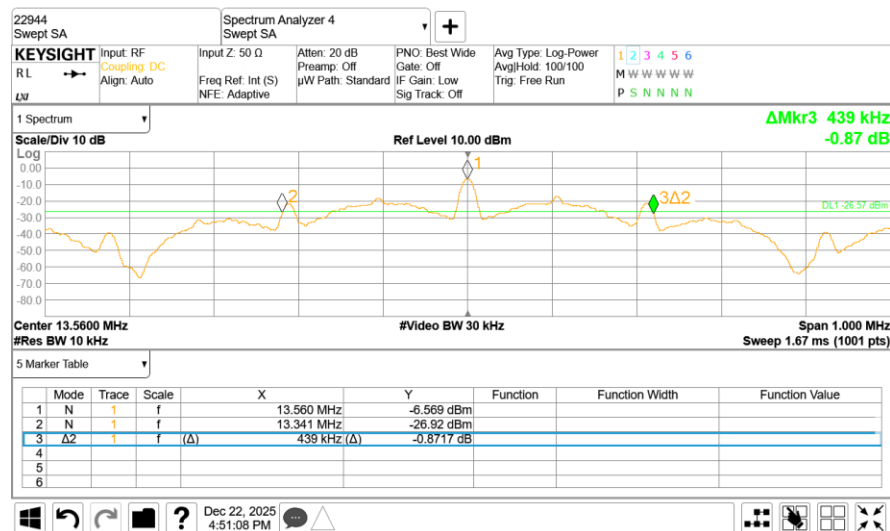
TEST PROCEDURE

The spectrum analyzer connected receive antenna and the EUT placed on near the receive antenna. The RBW is set to 1-5% of emission BW. The VBW is set to 3 times the RBW. The sweep time is coupled.

RESULTS

Frequency [MHz]	20 dB Bandwidth [kHz]
13.56	439

20dB Bandwidth Plot



8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMIT

§15.225

(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

** 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

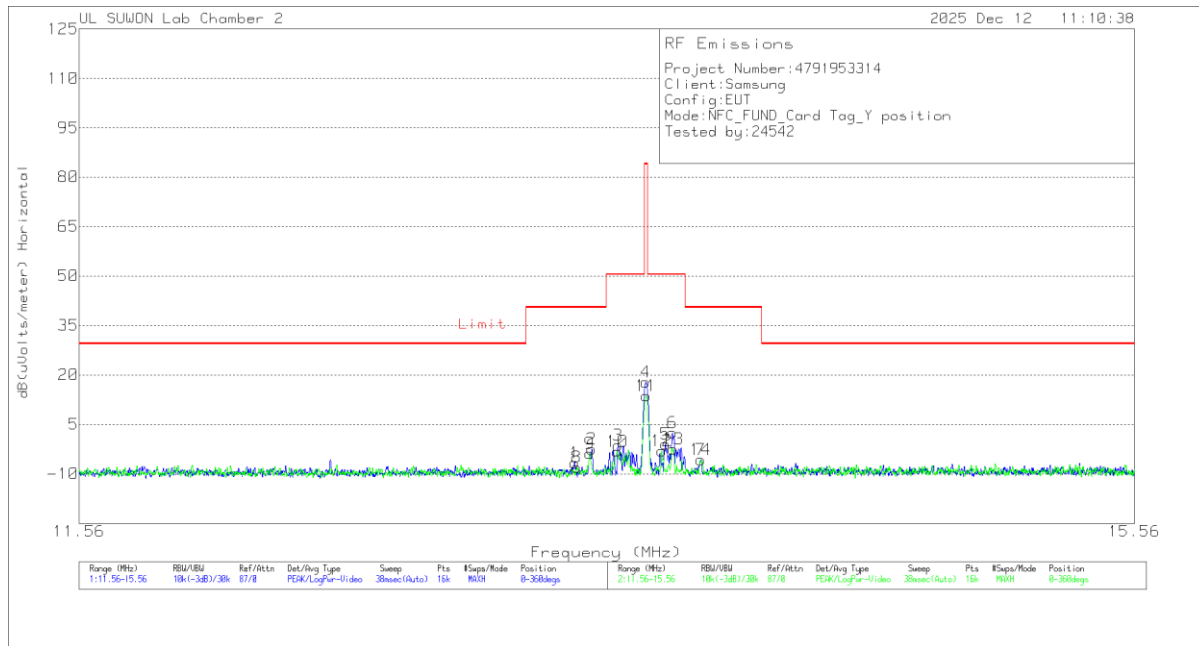
The EUT is an intentional radiator that incorporates a digital device. The highest fundamental frequency generated or used in the device is 13.56 MHz. The frequency range was investigated from 0.15 MHz to the 10th harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater (1000MHz)

- a) Set the RBW = 100 Hz for the emissions below 150kHz
9 kHz for the emissions between 150kHz and 30MHz
(The minimum RBW setting value for the Spectrum analyzer is 10 kHz)
100 kHz for the emissions between 30MHz and 1GHz
(The minimum RBW setting value for the Spectrum analyzer is 120 kHz)
- b) Set VBW $\geq 3 \times$ RBW;
- c) Sweep time = Auto;
- d) Detector = Peak;
- e) Trace mode = Max Hold;

RESULTS

No non-compliance noted:

8.1.1. FUNDAMENTAL AND SPURIOUS EMISSIONS [EUT with passive TAG mode]



Trace Markers

Face on

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Factor(dB/m)	Dist Corr 30m(dB)	Cable Loss (dB)	Corrected Reading (dBuV)	FCC 15.225 Limit (dBuV)	Margin (dB)	Azimuth (Degs)
1	13.29013	12.73	Pk	20.1	-40	.5	-6.67	40.51	-47.18	0-360
2	13.35513	16.97	Pk	20.1	-40	.5	-2.43	40.51	-42.94	0-360
3	13.45438	18.1	Pk	20.1	-40	.5	-1.3	50.5	-51.8	0-360
**4	13.56	37.36	Pk	20.1	-40	.5	17.96	84	-66.04	0-360
5	13.63513	18.34	Pk	20.1	-40	.6	-96	50.5	-51.46	0-360
6	13.66225	21.74	Pk	20.1	-40	.6	2.44	50.5	-48.06	0-360
7	13.77213	13.61	Pk	20.1	-40	.6	-5.69	40.51	-46.2	0-360

Face off

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Factor(dB/m)	Dist Corr 30m(dB)	Cable Loss (dB)	Corrected Reading (dBuV)	FCC 15.225 Limit (dBuV)	Margin (dB)	Azimuth (Degs)
8	13.29863	11.43	Pk	20.1	-40	.5	-7.97	40.51	-48.48	0-360
9	13.34763	15.57	Pk	20.1	-40	.5	-3.83	40.51	-44.34	0-360
10	13.45063	16.28	Pk	20.1	-40	.5	-3.12	50.5	-53.62	0-360
**11	13.56063	33.16	Pk	20.1	-40	.5	13.76	84	-70.24	0-360
12	13.62075	16.22	Pk	20.1	-40	.6	-3.08	50.5	-53.58	0-360
13	13.66488	16.8	Pk	20.1	-40	.6	-2.5	50.5	-53	0-360
14	13.77113	13.69	Pk	20.1	-40	.6	-5.61	40.51	-46.12	0-360

Pk - Peak detector

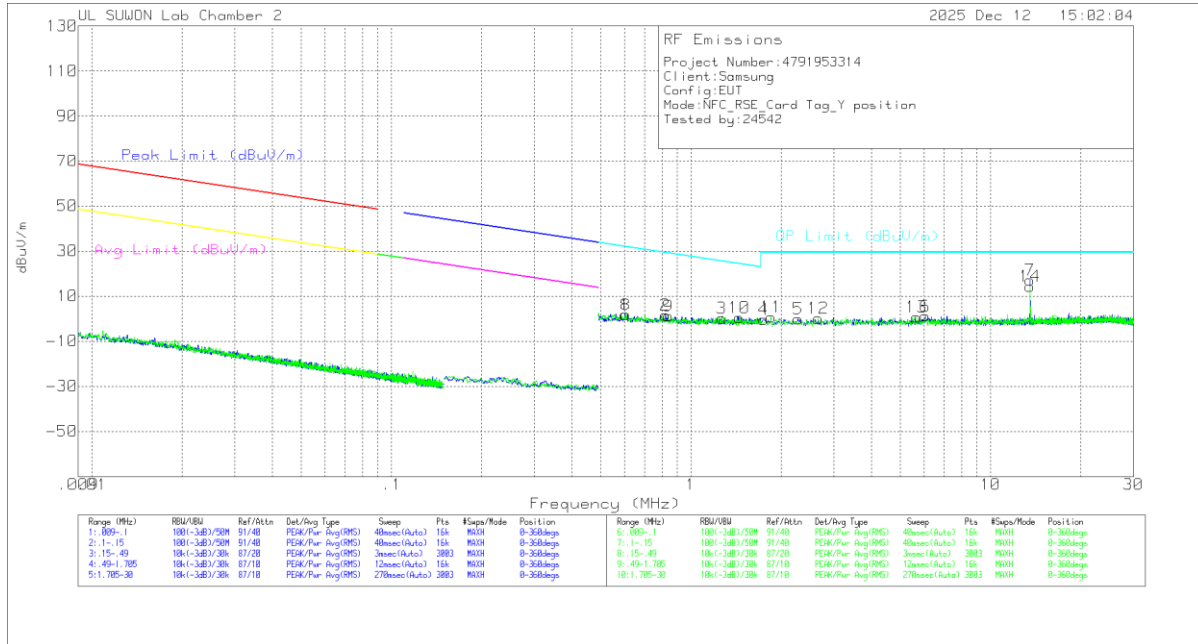
**Fundamental

Note 1 : Although these tests were performed other than open filed test site, adequate comparison measurements were confirmed against 30 m open are 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.

Note 2: Radiated test were investigated with three receiving antenna axes: Face-on, Face-off and horizontal (parallel to the ground plane) and the worse orientations of Face-on and Face-off were set for final test.

8.1.2. SPURIOUS EMISSION 0.009 TO 30 MHz [EUT with passive TAG mode]



Trace Markers

Face on

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Factor(dB/m)	Cable Loss(dB)	Dist Corr 30m(dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.60256	21.8	Pk	19.9	.1	-40	1.8	32.01	-30.21	0-360
2	.8214	21.44	Pk	19.9	.2	-40	1.54	29.33	-27.79	0-360
3	1.26341	20.08	Pk	19.9	.2	-40	.18	25.6	-25.42	0-360
4	1.75213	19.51	Pk	20	.2	-40	-.29	29.5	-29.79	0-360
5	2.27993	19.81	Pk	20	.2	-40	.01	29.5	-29.49	0-360
6	6.04993	20.71	Pk	20.1	.4	-40	1.21	29.5	-28.29	0-360
**7	13.56165	36.75	Pk	20	.5	-40	17.25	29.5	-12.25	0-360

Face off

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Factor(dB/m)	Cable Loss(dB)	Dist Corr 30m(dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
8	.60476	21.78	Pk	19.9	.1	-40	1.78	31.98	-30.2	0-360
9	.83911	21.13	Pk	19.9	.2	-40	1.23	29.14	-27.91	0-360
10	1.45091	20.42	Pk	19.9	.2	-40	.52	24.4	-23.88	0-360
11	1.8558	20.7	Pk	20	.2	-40	.9	29.5	-28.6	0-360
12	2.65693	19.84	Pk	20.1	.3	-40	.24	29.5	-29.26	0-360
13	5.65408	20.39	Pk	20.1	.4	-40	.89	29.5	-28.61	0-360
**14	13.56165	33.9	Pk	20	.5	-40	14.4	29.5	-15.1	0-360

Pk - Peak detector

**Fundamental

Note 1: The data for marker number 7 and 14 are the fundamental signal.

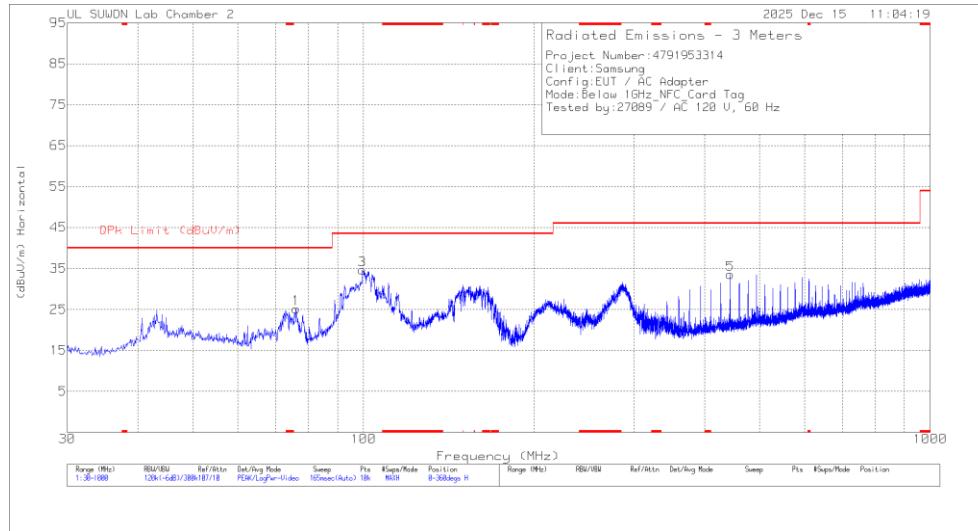
Please refer to section 8.1.1 about the fundamental level.

Frequency range 0.009MHz ~ 0.490MHz, only noise floor level and more than 20dB margin.

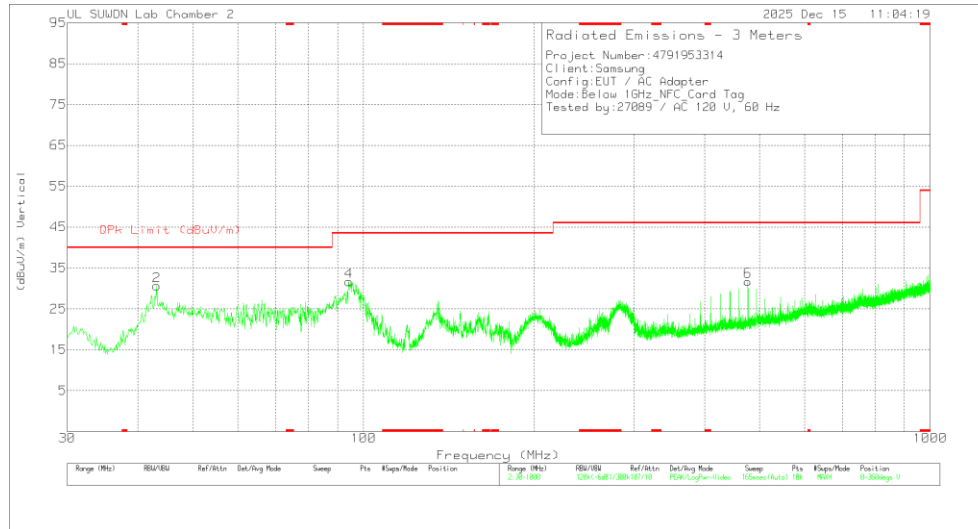
Note 2: Radiated test were investigated with three receiving antenna axes: Face-on, Face-off and horizontal (parallel to the ground plane) and the worse orientations of Face-on and Face-off were set for final test.

8.1.3. TX SPURIOUS EMISSION 30 TO 1000 MHz [EUT with passive TAG mode]

HORIZONTAL



VERTICAL

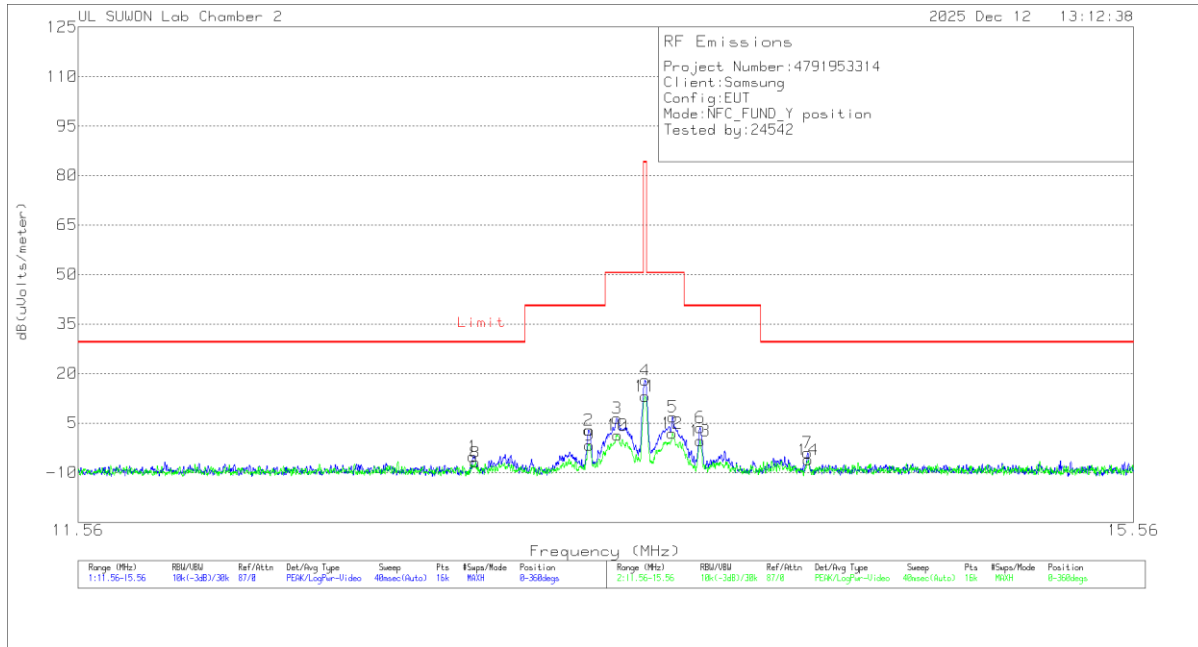


Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Factor (dB/m)	Below 1G Path Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	76.075	43.51	Pk	13.1	-31.5	25.11	40	-14.89	0-360	100	H
3	99.549	48.83	Pk	17.3	-31.5	34.63	43.52	-8.89	0-360	200	H
5	443.511	41.51	Pk	22	-30	33.51	46.02	-12.51	0-360	100	H
2	43.192	43.01	Pk	19.3	-31.7	30.61	40	-9.39	0-360	100	V
4	94.214	46.62	Pk	16.4	-31.4	31.62	43.52	-11.9	0-360	100	V
6	476.879	39.03	Pk	22.4	-29.7	31.73	46.02	-14.29	0-360	100	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

8.1.4. FUNDAMENTAL AND SPURIOUS EMISSIONS) [EUT without passive TAG mode]



Trace Markers

Face on

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Factor(dB/m)	Dist Corr 30m(dB)	Cable Loss (dB)	Corrected Reading (dBuV)	FCC 15.225 Limit (dBuV)	Margin (dB)	Azimuth (Degs)
1	12.91938	14.29	Pk	20.1	-40	.5	-5.11	29.54	-34.65	0-360
2	13.34675	22.34	Pk	20.1	-40	.5	2.94	40.51	-37.57	0-360
3	13.45388	25.92	Pk	20.1	-40	.5	6.52	50.5	-43.98	0-360
**4	13.56063	37.38	Pk	20.1	-40	.5	17.98	84	-66.02	0-360
5	13.66613	26.16	Pk	20.1	-40	.6	6.86	50.5	-43.64	0-360
6	13.77238	22.94	Pk	20.1	-40	.6	3.64	40.51	-36.87	0-360
7	14.196	15.3	Pk	20.1	-40	.6	-4	29.54	-33.54	0-360

Face off

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Factor(dB/m)	Dist Corr 30m(dB)	Cable Loss (dB)	Corrected Reading (dBuV)	FCC 15.225 Limit (dBuV)	Margin (dB)	Azimuth (Degs)
8	12.92863	12.5	Pk	20.1	-40	.5	-6.9	29.54	-36.44	0-360
9	13.351	17.79	Pk	20.1	-40	.5	-1.61	40.51	-42.12	0-360
10	13.45588	20.74	Pk	20.1	-40	.5	1.34	50.5	-49.16	0-360
**11	13.56063	32.5	Pk	20.1	-40	.5	13.1	84	-70.9	0-360
12	13.66563	21.25	Pk	20.1	-40	.6	1.95	50.5	-48.55	0-360
13	13.77238	19	Pk	20.1	-40	.6	-.3	40.51	-40.81	0-360
14	14.19863	13.17	Pk	20.1	-40	.6	-6.13	29.54	-35.67	0-360

Pk - Peak detector

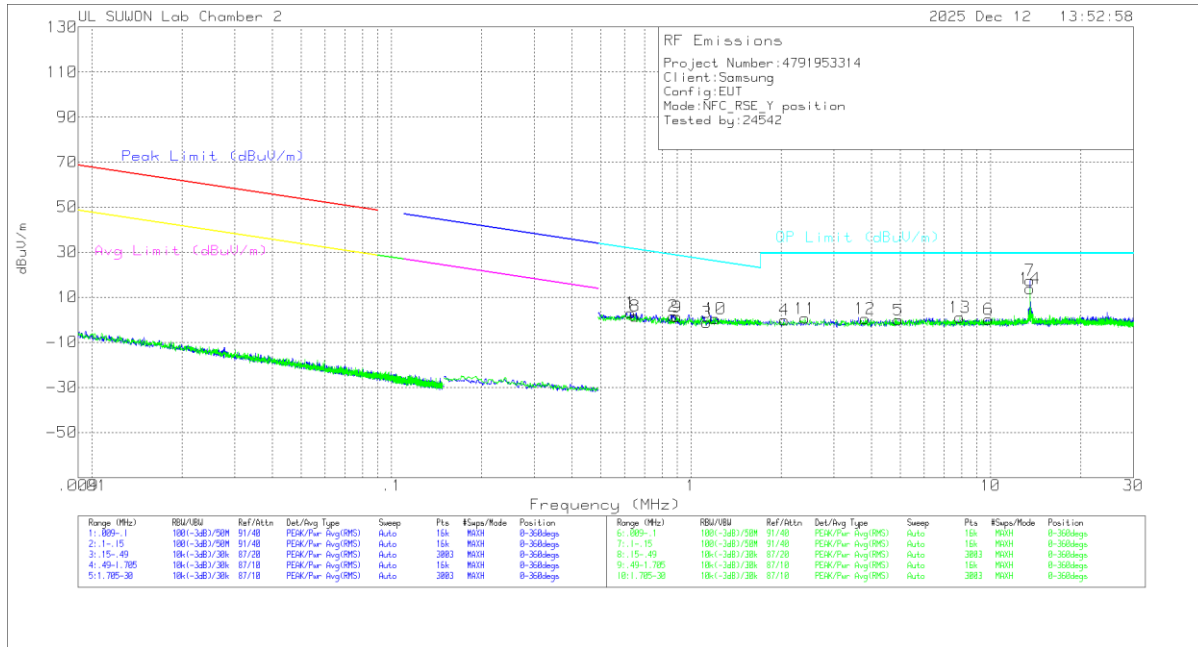
**Fundamental

Note 1: Although these tests were performed other than open filed test site, adequate comparison measurements were confirmed against 30 m open are 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.

Note 2: Radiated test were investigated with three receiving antenna axes: Face-on, Face-off and horizontal (parallel to the ground plane) and the worse orientations of Face-on and Face-off were set for final test.

8.1.5. SPURIOUS EMISSION 0.09 TO 30 MHz [EUT without passive TAG mode]



Trace Markers Face on

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Factor(dB/m)	Cable Loss(dB)	Dist Corr 30m(dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.62874	23.11	Pk	19.9	.1	-40	3.11	31.64	-28.53	0-360
2	.87403	21.61	Pk	19.9	.2	-40	1.71	28.79	-27.08	0-360
3	1.12715	18.78	Pk	19.9	.2	-40	-1.12	26.58	-27.7	0-360
4	2.05373	19.76	Pk	20	.2	-40	-.04	29.5	-29.54	0-360
5	4.92835	19.45	Pk	20.1	.3	-40	-.15	29.5	-29.65	0-360
6	9.86705	19.77	Pk	20	.5	-40	.27	29.5	-29.23	0-360
**7	13.56165	36.92	Pk	20	.5	-40	17.42	29.5	-12.08	0-360

Face off

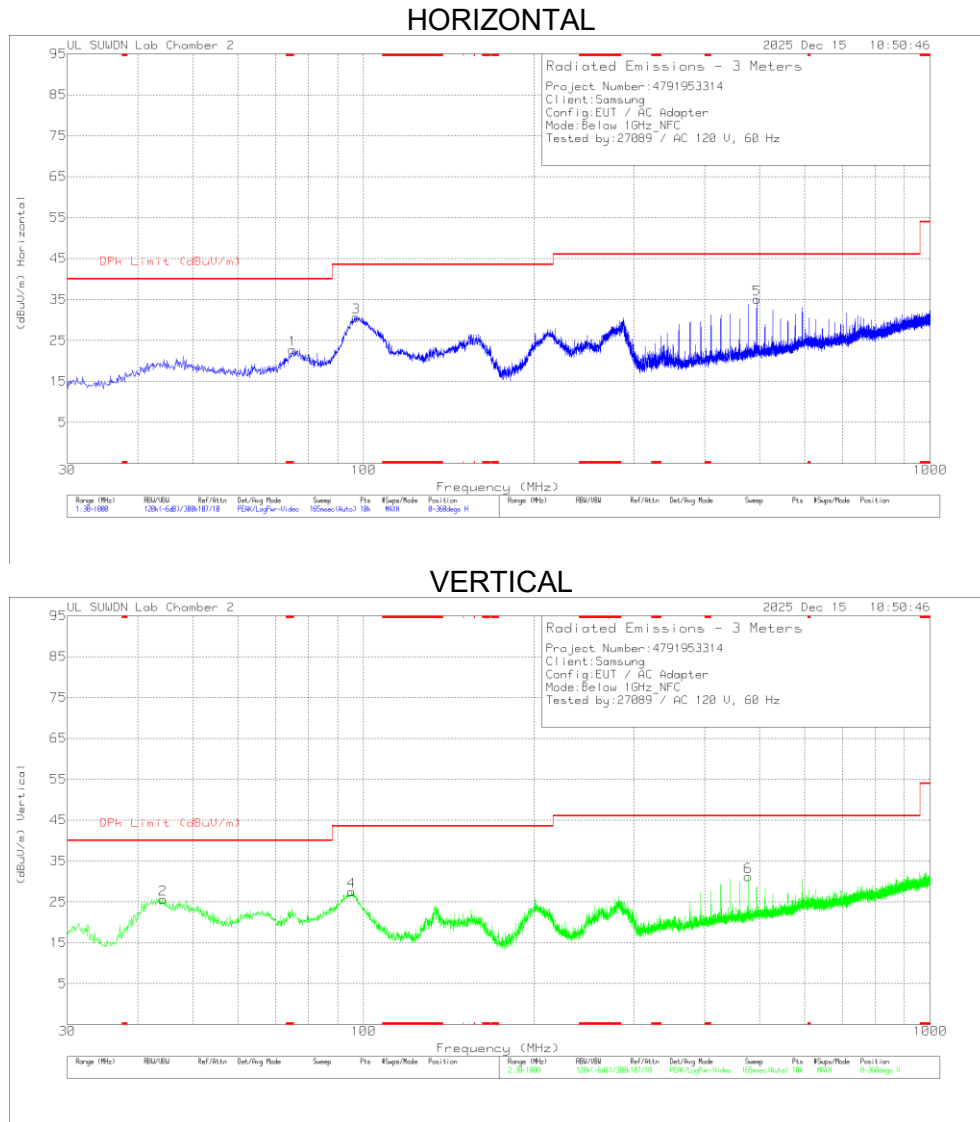
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Factor(dB/m)	Cable Loss(dB)	Dist Corr 30m(dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
8	.65013	21.67	Pk	19.9	.1	-40	1.67	31.35	-29.68	0-360
9	.89869	21.12	Pk	19.9	.2	-40	1.22	28.55	-27.33	0-360
10	1.20619	20.5	Pk	19.9	.2	-40	.6	26	-25.4	0-360
11	2.40245	20.46	Pk	20	.2	-40	.66	29.5	-28.84	0-360
12	3.80678	20.2	Pk	20.1	.3	-40	.6	29.5	-28.9	0-360
13	7.90665	20.7	Pk	20	.4	-40	1.1	29.5	-28.4	0-360
**14	13.56165	33.29	Pk	20	.5	-40	13.79	29.5	-15.71	0-360

Pk - Peak detector
**Fundamental

Note 1: The data for marker number 7 and 14 are the fundamental signal. Please refer to section 8.1.4 about the fundamental level. Frequency range 0.009MHz ~ 0.490MHz, only noise floor level and more than 20dB margin.

Note 2: Radiated test were investigated with three receiving antenna axes: Face-on, Face-off and horizontal (parallel to the ground plane) and the worse orientations of Face-on and Face-off were set for final test.

8.1.6. TX SPURIOUS EMISSION 30 TO 1000 MHz [EUT without passive TAG mode]



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna_Factor (dB/m)	Below_1G_Path Loss(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 75.008	40.69	Pk	13.5	-31.4	22.79	40	-17.21	0-360	300	H
3	97.124	45.26	Pk	16.9	-31.5	30.66	43.52	-12.86	0-360	200	H
5	494.145	41.88	Pk	22.9	-29.7	35.08	46.02	-10.94	0-360	100	H
2	44.259	37.8	Pk	19.5	-31.7	25.6	40	-14.4	0-360	100	V
4	95.184	42.37	Pk	16.6	-31.4	27.57	43.52	-15.95	0-360	100	V
6	477.461	38.53	Pk	22.4	-29.8	31.13	46.02	-14.89	0-360	100	V

Pk - Peak detector

9. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

§15.207

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

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

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.

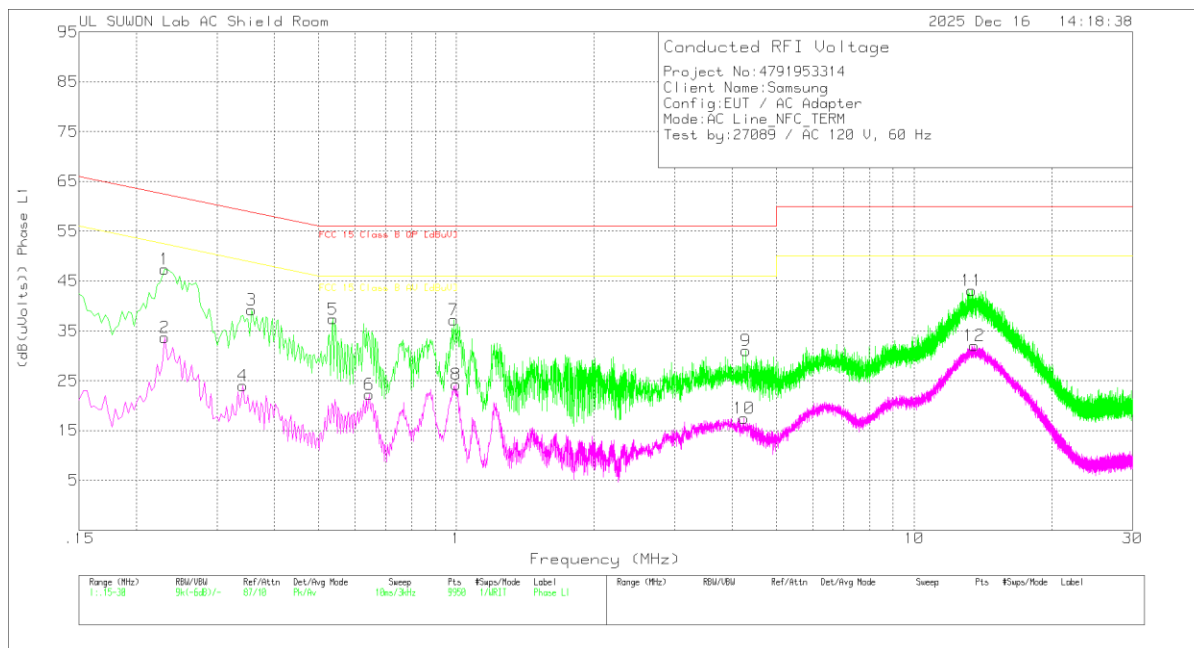
Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

No non-compliance noted:

WORST EMISSIONS(TERMINATED)

LINE 1 PLOT



LINE 1 RESULTS

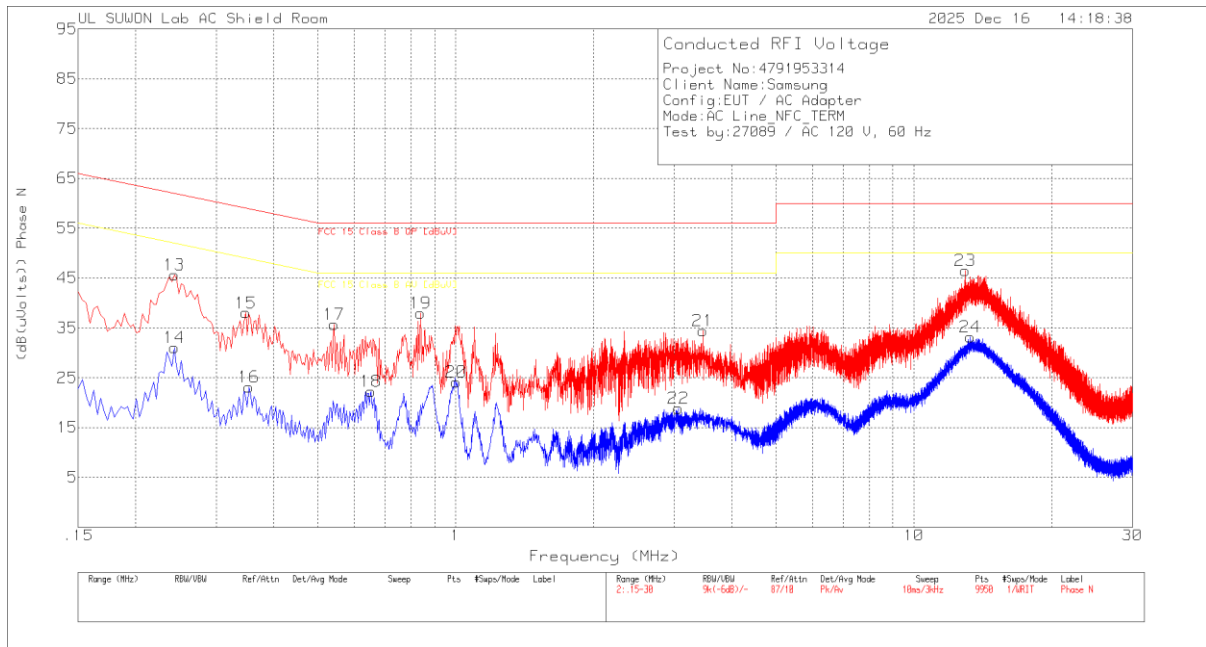
Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_L1 (dB)	Cable Loss(dB)	Corrected Reading (dBuV)	FCC 15 Class B QP (dBuV)	Margin (dB)	FCC 15 Class B AV (dBuV)	Margin (dB)
1	.231	37.55	Pk	9.7	.1	47.35	62.41	-15.06	-	-
2	.231	23.85	Av	9.7	.1	33.65	-	-	52.41	-18.76
3	.357	29.31	Pk	9.8	.1	39.21	58.8	-19.59	-	-
4	.342	14.13	Av	9.8	.1	24.03	-	-	49.15	-25.12
5	.537	27.39	Pk	9.9	.1	37.39	56	-18.61	-	-
6	.645	12.36	Av	9.8	.1	22.26	-	-	46	-23.74
7	.987	27.3	Pk	9.8	.1	37.2	56	-18.8	-	-
8	.999	14.41	Av	9.8	.1	24.31	-	-	46	-21.69
9	4.296	21.18	Pk	9.7	.2	31.08	56	-24.92	-	-
10	4.251	7.63	Av	9.7	.1	17.43	-	-	46	-28.57
11	13.35	32.86	Pk	10	.3	43.16	60	-16.84	-	-
12	13.53	21.77	Av	10	.3	32.07	-	-	50	-17.93

Pk - Peak detector
Av - Average detection

LINE 2 PLOT



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

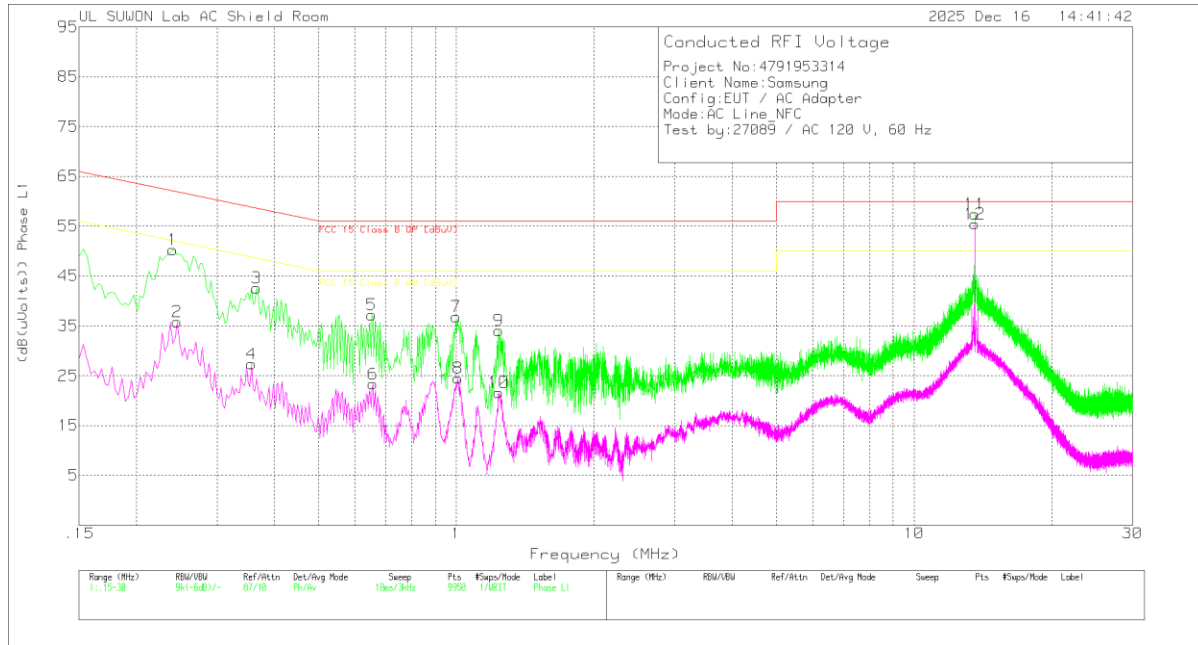
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_L1 (dB)	Cable Loss(dB)	Corrected Reading (dBuV)	FCC 15 Class B QP (dBuV)	Margin (dB)	FCC 15 Class B AV (dBuV)	Margin (dB)
13	.243	35.86	Pk	9.7	.1	45.66	61.99	-16.33	-	-
14	.243	21.2	Av	9.7	.1	31	-	-	51.99	-20.99
15	.348	28.12	Pk	9.8	.1	38.02	59.01	-20.99	-	-
16	.354	13.28	Av	9.8	.1	23.18	-	-	48.87	-25.69
17	.543	25.73	Pk	9.9	.1	35.73	56	-20.27	-	-
18	.654	12.39	Av	9.8	.1	22.29	-	-	46	-23.71
19	.837	28.1	Pk	9.8	.1	38	56	-18	-	-
20	1.002	14.29	Av	9.7	.1	24.09	-	-	46	-21.91
21	3.462	24.6	Pk	9.7	.1	34.4	56	-21.6	-	-
22	3.066	9.02	Av	9.7	.1	18.82	-	-	46	-27.18
23	12.936	36.23	Pk	10	.3	46.53	60	-13.47	-	-
24	13.269	22.93	Av	10	.3	33.23	-	-	50	-16.77

Pk - Peak detector

Av - Average detection

WORST EMISSIONS(Non-TERMINATED)

LINE 1 PLOT



LINE 1 RESULTS

Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1 [dB]	Cable Loss [dB]	Corrected Reading (dB(uVolts))	FCC 15 Class B QP [dBuV]	Margin (dB)	FCC 15 Class B AV [dBuV]	Margin (dB)
1	.24	40.45	Pk	9.7	.1	50.25	62.1	-11.85	-	-
2	.246	26.1	Av	9.6	.1	35.8	-	-	51.89	-16.09
3	.366	32.66	Pk	9.8	.1	42.56	58.59	-16.03	-	-
4	.357	17.45	Av	9.8	.1	27.35	-	-	48.8	-21.45
5	.654	27.34	Pk	9.8	.1	37.24	56	-18.76	-	-
6	.657	13.43	Av	9.8	.1	23.33	-	-	46	-22.67
7	.999	26.9	Pk	9.8	.1	36.8	56	-19.2	-	-
8	1.008	14.73	Av	9.7	.1	24.53	-	-	46	-21.47
9	1.239	24.31	Pk	9.7	.1	34.11	56	-21.89	-	-
10	1.239	11.8	Av	9.7	.1	21.6	-	-	46	-24.4
11	13.56	47.12	Pk	10	.3	57.42	60	-2.58	-	-
12	13.56	45.18	Av	10	.3	55.48	-	-	50	5.48

Pk - Peak detector
Av - Average detection

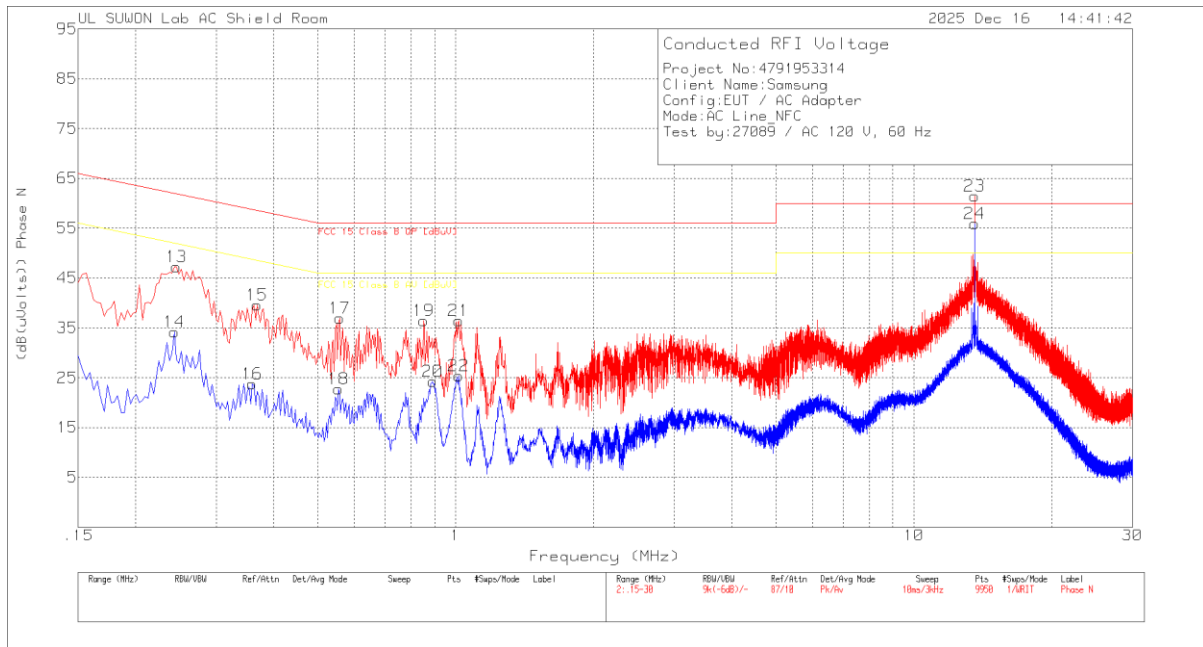
Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1 [dB]	Cable Loss [dB]	Corrected Reading (dB(uVolts))	FCC 15 Class B QP [dBuV]	Margin (dB)	FCC 15 Class B AV [dBuV]	Margin (dB)
13.5602	46.24	Qp	10	.3	56.54	60	-3.46	-	-

Qp - Quasi-Peak detector

LINE 2 PLOT



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_N [dB]	Cable Loss [dB]	Corrected Reading (dB(uVolts))	FCC 15 Class B QP [dBuV]	Margin (dB)	FCC 15 Class B AV [dBuV]	Margin (dB)
13	.246	37.56	Pk	9.6	.1	47.26	61.89	-14.63	-	-
14	.243	24.4	Av	9.7	.1	34.2	-	-	51.99	-17.79
15	.369	29.68	Pk	9.8	.1	39.58	58.52	-18.94	-	-
16	.36	13.89	Av	9.8	.1	23.79	-	-	48.73	-24.94
17	.558	27.07	Pk	9.8	.1	36.97	56	-19.03	-	-
18	.555	12.89	Av	9.8	.1	22.79	-	-	46	-23.21
19	.852	26.59	Pk	9.8	.1	36.49	56	-19.51	-	-
20	.891	14.41	Av	9.8	.1	24.31	-	-	46	-21.69
21	1.014	26.7	Pk	9.7	.1	36.5	56	-19.5	-	-
22	1.014	15.61	Av	9.7	.1	25.41	-	-	46	-20.59
23	13.56	51.11	Pk	10	.3	61.41	60	1.41	-	-
24	13.56	45.67	Av	10	.3	55.97	-	-	50	5.97

Pk - Peak detector
Av - Average detection

Quasi-Peak Emissions

Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_N [dB]	Cable Loss [dB]	Corrected Reading (dB(uVolts))	FCC 15 Class B QP [dBuV]	Margin (dB)	FCC 15 Class B AV [dBuV]	Margin (dB)
13.5602	48.67	Qp	10	.3	58.97	60	-1.03	-	-

Qp - Quasi-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.

TEST PROCEDURE

ANSI C63.10 §6.8

RESULTS

Test Date	2025-12-22
Test Engineer	22944

Reference Frequency: EUT Channel 13.56 MHz @ 20°C Limit: ± 100 ppm = 1.356 kHz										
Power Supply (Vdc)	Envir. Temp (°C)	Frequency Deviation Measured with Time Elapse								
		Start up (MHz)	Delta (ppm)	@ 2mins (MHz)	Delta (ppm)	@ 5mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.88	50	13.559980346	-1.624	13.559979273	-1.703	13.559979177	-1.710	13.559976171	-1.932	100
3.88	40	13.559991468	-0.804	13.559987856	-1.070	13.559985429	-1.249	13.559983774	-1.371	100
3.88	30	13.560005623	0.240	13.560003163	0.058	13.560002045	-0.024	13.559999494	-0.212	100
3.88	20	13.560002370	0.000	13.560002331	-0.003	13.560002311	-0.004	13.560002268	-0.008	100
3.88	10	13.560052258	3.679	13.560051378	3.614	13.560048047	3.369	13.560041074	2.854	100
3.88	0	13.560053183	3.747	13.560054052	3.811	13.560054094	3.814	13.560054638	3.855	100
3.88	-10	13.560040935	2.844	13.560044832	3.131	13.560046235	3.235	13.560048087	3.371	100
3.88	-20	13.560031288	2.133	13.560029838	2.026	13.560027012	1.817	13.560024768	1.652	100
3.88	-30	13.560044433	3.102	13.560050111	3.521	13.560045233	3.161	13.560035807	2.466	100

Reference Frequency: EUT Channel 13.56 MHz @ 20°C Limit: ± 100 ppm = 1.356 kHz										
Power Supply (Vdc)	Envir. Temp (°C)	Frequency Deviation Measured with Time Elapse								
		Start up (MHz)	Delta (ppm)	@ 2mins (MHz)	Delta (ppm)	@ 5mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.70	20	13.560002743	0.028	13.560002787	0.031	13.560003478	0.054	13.560003409	0.077	100
3.88	20	13.560002370	0.000	13.560002331	-0.003	13.560002311	-0.004	13.560002268	-0.008	100
4.45	20	13.560002998	0.046	13.560003180	0.060	13.560003661	0.095	13.560003873	0.111	100

No non-compliance noted.

END OF TEST REPORT