



**FCC CFR47 PART 15 SUBPART C  
INDUSTRY CANADA RSS-210 ISSUE 9**

**NFC**

**CERTIFICATION TEST REPORT**

**FOR**

**GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac and NFC**

**MODEL NUMBER : SM-A205W**

**FCC ID: A3LSMA205W**

**IC : 649E-SMA205W**

**REPORT NUMBER: 4788962183-E6V2**

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*Prepared for*

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**ACCREDITED\***

Testing  
Laboratory

**TL-637**

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	05/07/19	Initial issue	Junwhan Lee
V2	05/08/19	Updated to address TCB's question	Junwhan Lee

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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** SAMSUNG ELECTRONICS CO., LTD.  
**EUT DESCRIPTION:** GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac and NFC  
**MODEL NUMBER:** SM-A205W  
**SERIAL NUMBER:** R38M307VGTM (CONDUCTED)  
R38M307V1JV (RADIATED)  
**DATE TESTED:** APR 26, 2019 – MAY 07, 2019  
;

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-210 Issue 9, Annex B	Pass
INDUSTRY CANADA RSS-GEN Issue 5	Pass

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  
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Suwon Lab Engineer  
UL Korea, Ltd.

Tested By:



Junwhan Lee  
Suwon Lab Engineer  
UL Korea, Ltd.

## 2. TEST METHODOLOGY

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

1. IC RSS-GEN Issue 4
2. IC RSS-210 Issue 9
3. FCC CFR 47 Part 2.
4. FCC CFR 47 Part 15.
5. ANSI C63.10-2013.

## 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	
<input type="checkbox"/>	Chamber 1
<input checked="" type="checkbox"/>	Chamber 2
<input type="checkbox"/>	Chamber 3

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <http://www.iasonline.org/PDF/TL/TL-637.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:

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

### 4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	2.32 dB
Radiated Disturbance, 9 kHz to 30 MHz	1.65 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.86 dB

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

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

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

### 5.2. MAXIMUM E-FIELD STRENGTH

The testing was performed at 3 meter. The transmitter maximum E-field at 30m distance is 12.19 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.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z. It was determined that the Z orientation was the worst-case orientation; therefore all final radiated testing was performed with the EUT in the Z orientation while generating continuous emissions.

The fundamental level of the EUT was investigated each type and bitrate.  
All test was performed worst case condition(type A and bit rate 106 kbps).

## 5.4. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA200	R37M1EKGA51DK3	N/A
Data Cable	SAMSUNG	EP-DR140AWE	N/A	N/A
Earphone	SAMSUNG	EHS61ASFWE	N/A	N/A

### I/O CABLE

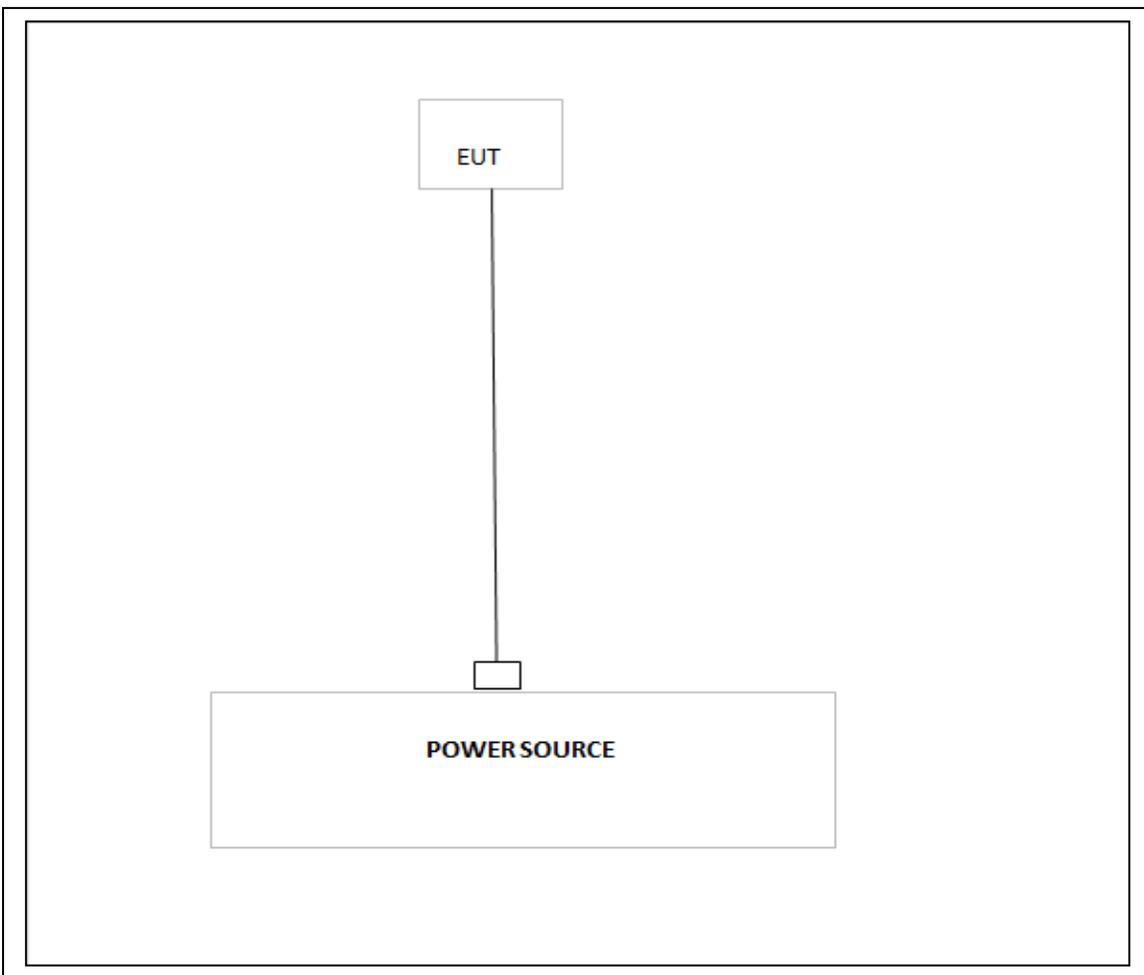
I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	C Type	Shielded	1.1m	N/A
2	Audio	2	Mini-Jack	Unshielded	1.2m	N/A

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

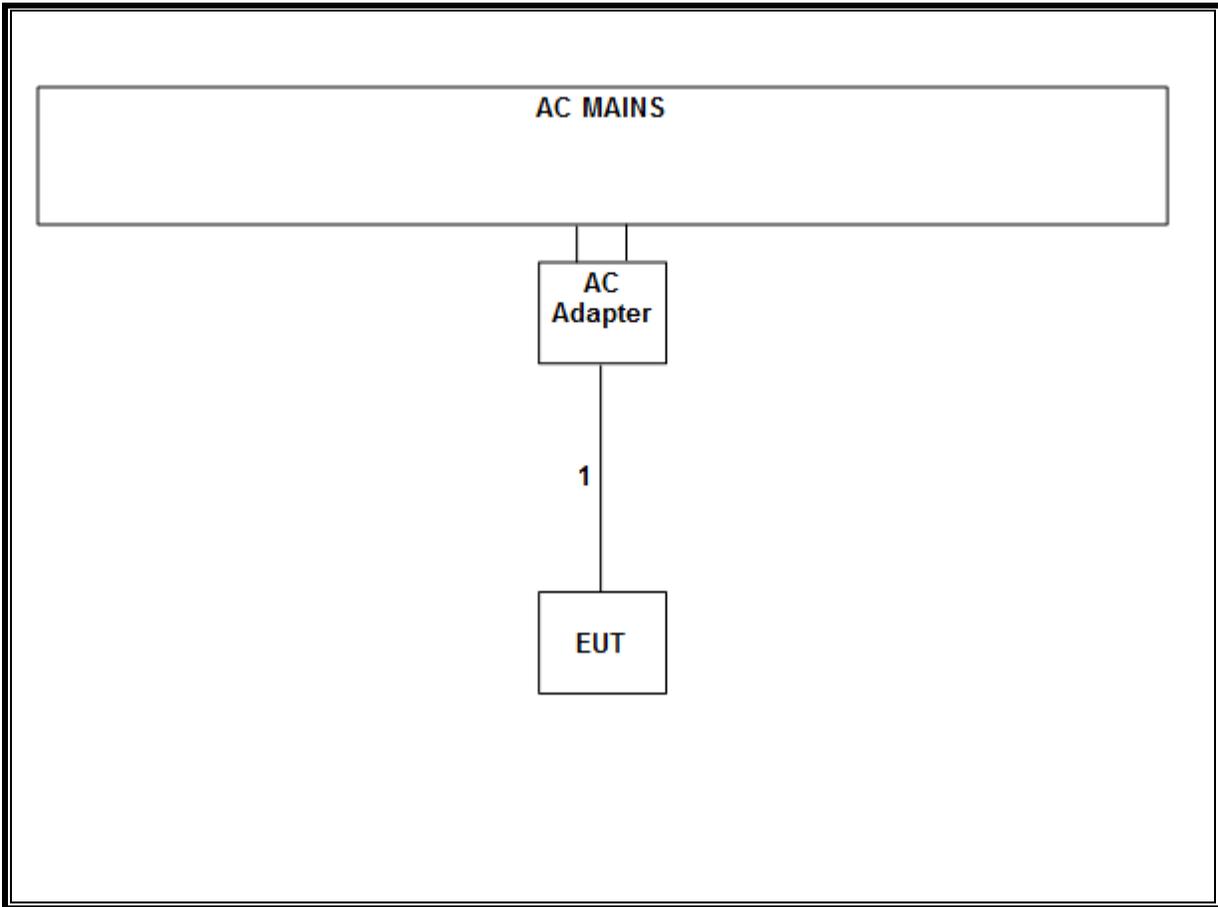
Note: Worst case is using worst case orientation with AC charger attached to the EUT with NFC signal continuously transmitting.

**SETUP DIAGRAM FOR TESTS**

**Radiated Emissions Below 30 MHz:**



**Radiated Emissions Above 30 MHz, AC Line Conducted Emissions:**



## 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	VULB9163	750	08-04-20
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	08-04-20
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	08-04-20
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	10-26-19
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-07-19
Preamplifier, 1000 MHz	Sonoma	310N	370599	08-07-19
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-06-19
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	08-07-19
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	08-06-19
Spectrum Analyzer, 7 GHz	Agilent / HP	N9010A	MY54200580	08-07-19
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-06-19
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-06-19
EMI Test Receive, 44 GHz	R&S	ESW44	101590	08-06-19
EMI Test Receive, 3 GHz	R&S	ESR3	101832	08-06-19
DC Power Supply	Agilent / HP	E3640A	MY54226395	08-06-19
Temperature Chamber	ESPEC	SH-642	93001109	08-06-19
LISN	R&S	ENV216	101837	08-06-19
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. OCCUPIED BANDWIDTH

### LIMITS

None; for reporting purposes only.

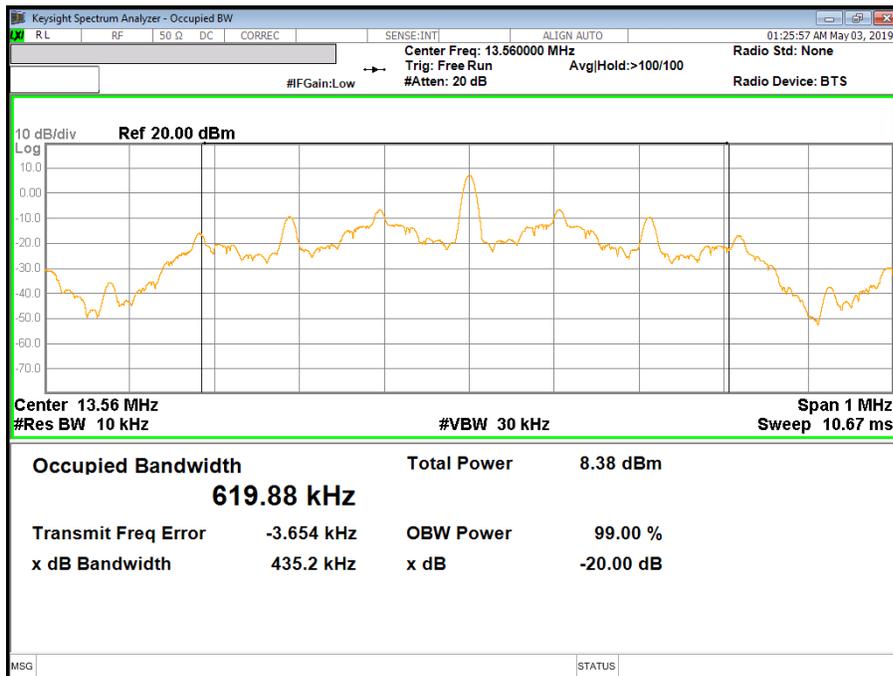
### TEST PROCEDURE

The spectrum analyzer connected receive antenna and the EUT placed on near the receive antenna. The RBW is set to 10KHz. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

### RESULTS

Frequency [MHz]	20dB Bandwidth [KHz]	99% Bandwidth [KHz]
13.56	435.2	619.9

### 20dB Bandwidth Plot



## 8. RADIATED EMISSION TEST RESULTS

### 8.1. LIMITS AND PROCEDURE

#### LIMIT

§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

\*\* 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**

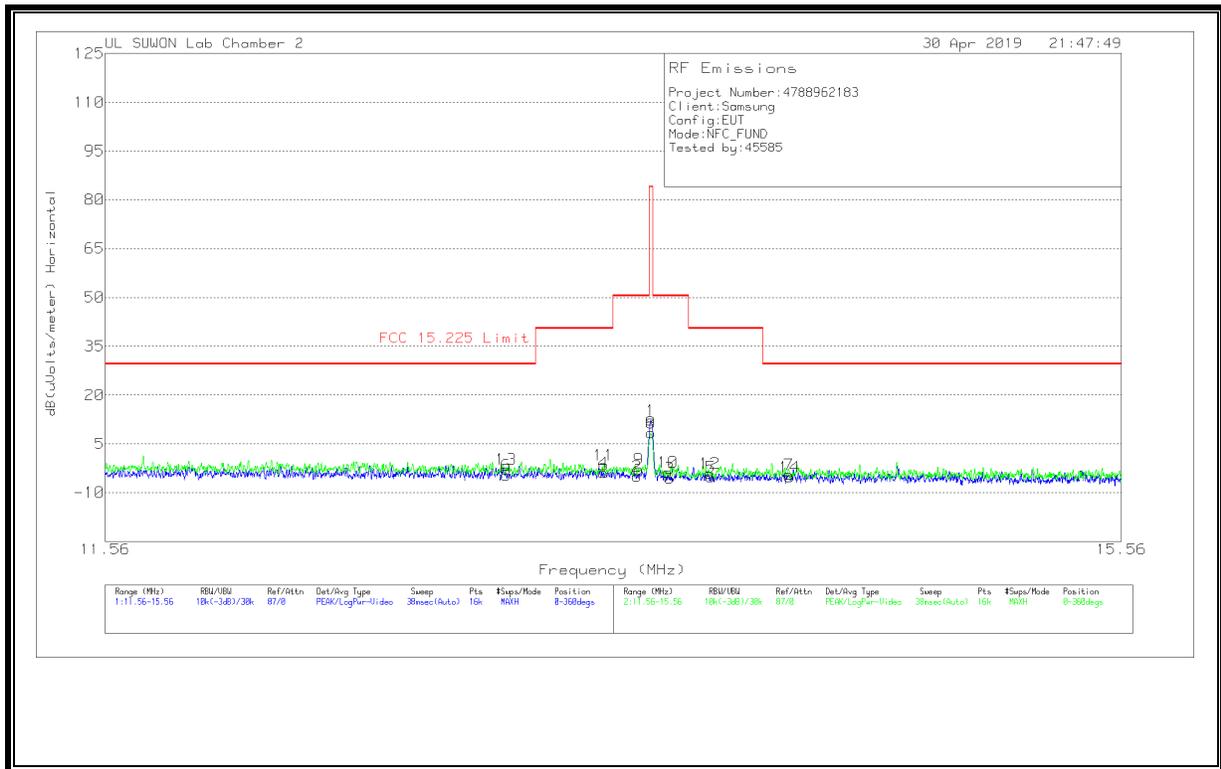
ANSI C63.10-2013

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 0.15 MHz to the 10<sup>th</sup> harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater.

### **RESULTS**

No non-compliance noted.

### 8.1.1. FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz)



## TEST RESULTS

### Trace Markers

[Face On]

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna	Dist Corr 30m	Cable Loss	Corrected Reading dB(uVolts/meter)	FCC 15.225 Limit	Margin (dB)	Azimuth (Degs)
**1	13.56	31.79	Pk	19.9	-40	.5	12.19	84	-71.81	0-360
2	13.50438	14.62	Pk	19.9	-40	.5	-4.98	50.5	-55.48	0-360
3	13.63588	13.88	Pk	19.9	-40	.6	-5.62	50.5	-56.12	0-360
4	13.3735	15.68	Pk	19.9	-40	.5	-3.92	40.51	-44.43	0-360
5	13.79913	14.42	Pk	19.8	-40	.6	-5.18	40.51	-45.69	0-360
6	12.99825	14.96	Pk	19.9	-40	.5	-4.64	29.54	-34.18	0-360
7	14.11925	15.07	Pk	19.8	-40	.6	-4.53	29.54	-34.07	0-360

[Face Off]

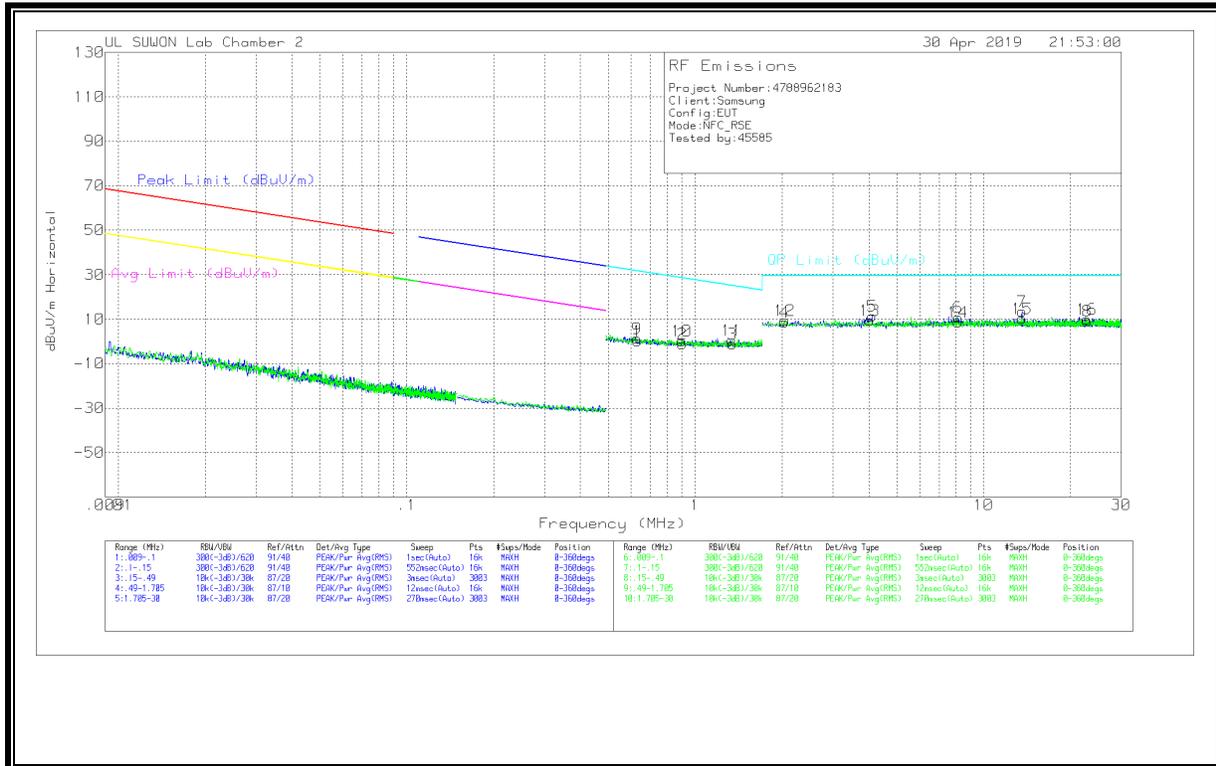
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna	Dist Corr 30m	Cable Loss	Corrected Reading dB(uVolts/meter)	FCC 15.225 Limit	Margin (dB)	Azimuth (Degs)
**8	13.56	28.04	Pk	19.9	-40	.5	8.44	84	-75.56	0-360
9	13.5115	16.83	Pk	19.9	-40	.5	-2.77	50.5	-53.27	0-360
10	13.62763	15.72	Pk	19.9	-40	.6	-3.78	50.5	-54.28	0-360
11	13.3755	18.09	Pk	19.9	-40	.5	-1.51	40.51	-42.02	0-360
12	13.796	15.6	Pk	19.8	-40	.6	-4	40.51	-44.51	0-360
13	12.99825	16.77	Pk	19.9	-40	.5	-2.83	29.54	-32.37	0-360
14	14.12175	14.43	Pk	19.8	-40	.6	-5.17	29.54	-34.71	0-360

Pk - Peak detector

\*\*Fundamental

Note : 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.

### 8.1.2. SPURIOUS EMISSION 0.09 TO 30 MHz



## TEST RESULTS

### Trace Markers

[Face On]

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna	Cable Loss	Dist Corr 30m	Corrected Reading dBuV/m	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.63045	20.52	Pk	19.7	.1	-40	.32	31.62	-31.3	0-360
2	.90374	19.07	Pk	19.7	.2	-40	-1.03	28.5	-29.53	0-360
3	1.34758	19.06	Pk	19.7	.2	-40	-1.04	25.04	-26.08	0-360
4	2.03959	28.86	Pk	19.7	.2	-40	8.76	29.5	-20.74	0-360
5	4.09895	31.34	Pk	19.8	.3	-40	11.44	29.5	-18.06	0-360
6	8.13285	30.45	Pk	19.9	.4	-40	10.75	29.5	-18.75	0-360
**7	13.56165	33.1	Pk	19.9	.5	-40	13.5	29.5	-16	0-360
8	22.82643	28.7	Pk	19.7	.7	-40	9.1	29.5	-20.4	0-360

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna	Cable Loss	Dist Corr 30m	Corrected Reading dBuV/m	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
9	.62798	21.44	Pk	19.7	.1	-40	1.24	31.65	-30.41	0-360
10	.89766	20.26	Pk	19.7	.2	-40	.16	28.56	-28.4	0-360
11	1.34074	20.61	Pk	19.7	.2	-40	.51	25.08	-24.57	0-360
12	2.0443	29.67	Pk	19.7	.2	-40	9.57	29.5	-19.93	0-360
13	4.03298	29.36	Pk	19.8	.3	-40	9.46	29.5	-20.04	0-360
14	8.16113	28.47	Pk	19.9	.4	-40	8.77	29.5	-20.73	0-360
**15	13.56165	29.96	Pk	19.9	.5	-40	10.36	29.5	-19.14	0-360
16	22.77459	29.57	Pk	19.7	.7	-40	9.97	29.5	-19.53	0-360

Pk - Peak detector

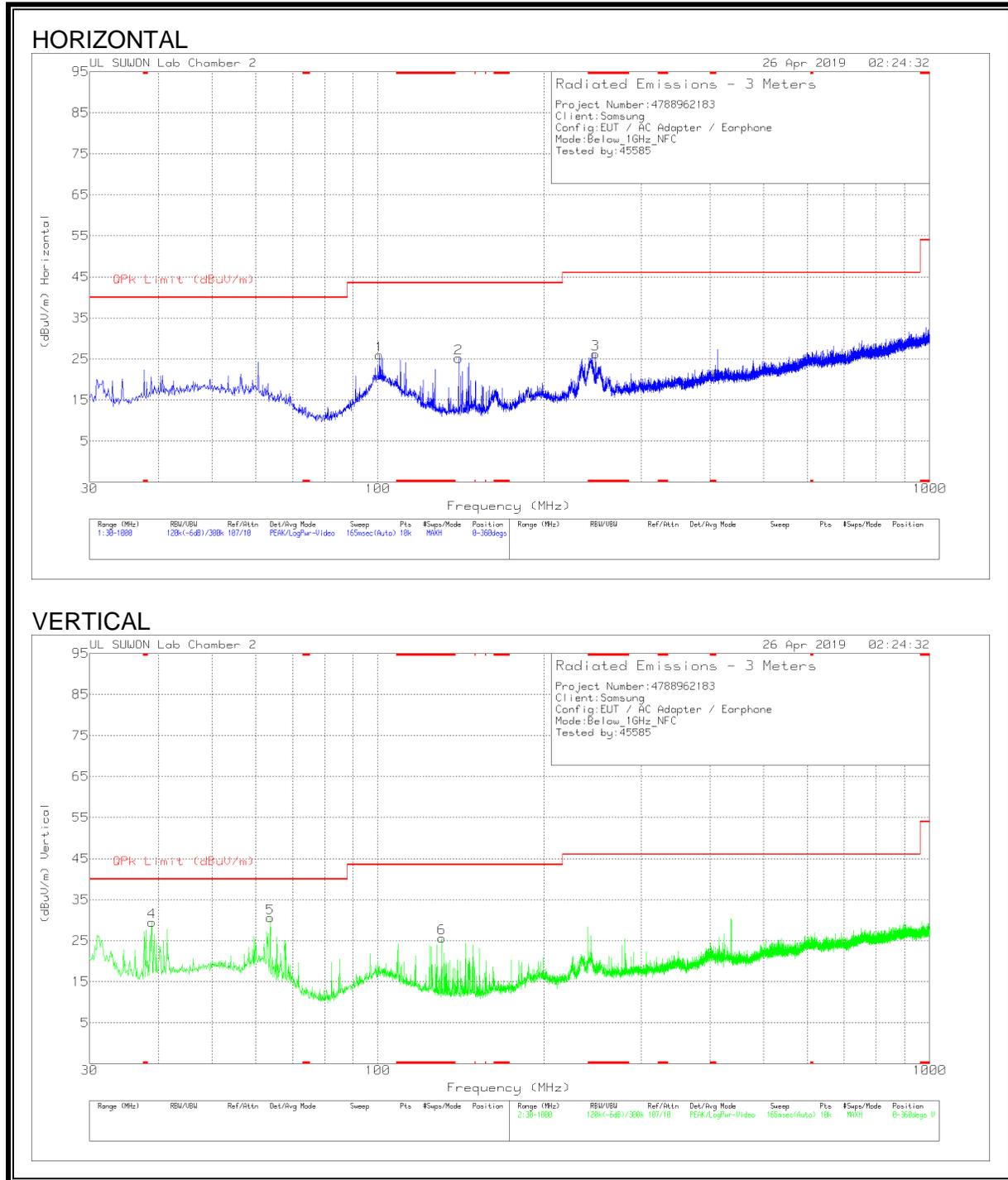
\*\*Fundamental

Note: The data for marker number 7 and 15 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.

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



## TEST RESULTS

### Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	100.616	39.67	Pk	17.7	-31.4	25.97	43.52	-17.55	0-360	200	H
2	139.998	42.38	Pk	14	-31.2	25.18	43.52	-18.34	0-360	200	H
3	* 247.959	37.94	Pk	18.9	-30.6	26.24	46.02	-19.78	0-360	300	H
4	38.924	43.05	Pk	18.4	-31.9	29.55	40	-10.45	0-360	100	V
5	63.756	44.66	Pk	17.6	-31.7	30.56	40	-9.44	0-360	100	V
6	* 130.589	42.65	Pk	14.2	-31.2	25.65	43.52	-17.87	0-360	100	V

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

Pk - Peak detector

## 9. AC MAINS LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207  
IC RSS-GEN Section 8.8

(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 $\mu$ 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 $\mu$ 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:  
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.

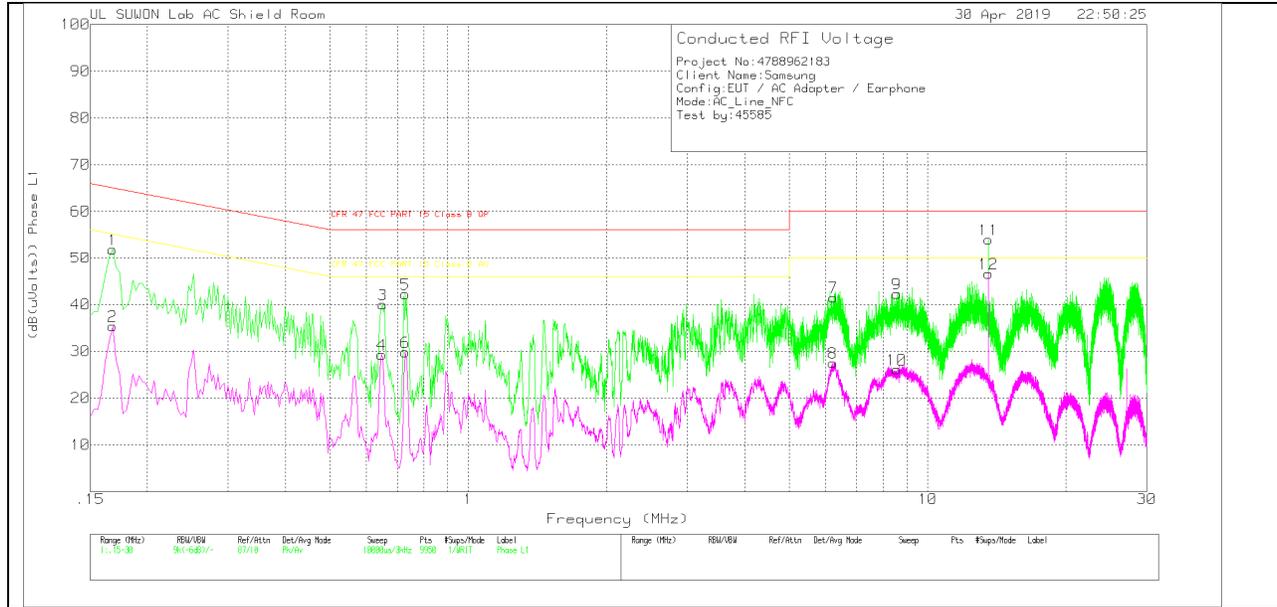
Line conducted data is recorded for both NEUTRAL and HOT lines.

### RESULTS

No non-compliance noted:

**WORST EMISSIONS**

**LINE 1 PLOT**



**LINE 1 RESULTS**

Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836_With ex-cord_L1	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
1	.168	41.7	Pk	10	.1	51.8	65.06	-13.26	-	-
2	.168	25.33	Av	10	.1	35.43	-	-	55.06	-19.63
3	.651	29.95	Pk	9.9	.2	40.05	56	-15.95	-	-
4	.648	19.22	Av	9.9	.2	29.32	-	-	46	-16.68
5	.729	32.17	Pk	9.9	.2	42.27	56	-13.73	-	-
6	.729	19.77	Av	9.9	.2	29.87	-	-	46	-16.13
7	6.231	31.37	Pk	9.9	.3	41.57	60	-18.43	-	-
8	6.216	17.31	Av	9.9	.3	27.51	-	-	50	-22.49
9	8.562	32.12	Pk	9.9	.3	42.32	60	-17.68	-	-
10	8.562	15.95	Av	9.9	.3	26.15	-	-	50	-23.85
11	13.56	43.44	Pk	10.1	.4	53.94	60	-6.06	-	-
12	13.56	36.15	Av	10.1	.4	46.65	-	-	50	-3.35

Pk - Peak detector

Av - Average detection

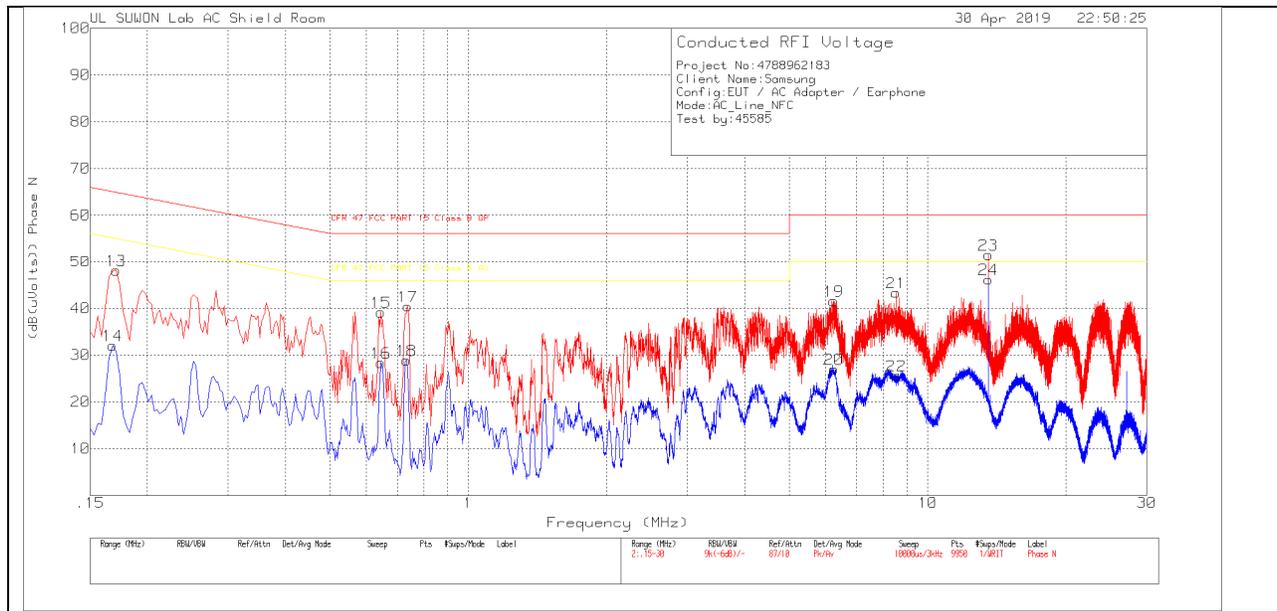
Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836_With ex-cord_L1	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13.5602	42.32	Qp	10.1	.4	52.82	60	-7.18	-	-

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	ENV216_10183 6_With ex-cord_N	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.171	37.97	Pk	10	.2	48.17	64.91	-16.74	-	-
14	.168	21.98	Av	10	.1	32.08	-	-	55.06	-22.98
15	.645	29.11	Pk	9.9	.2	39.21	56	-16.79	-	-
16	.645	18.29	Av	9.9	.2	28.39	-	-	46	-17.61
17	.738	30.36	Pk	9.9	.2	40.46	56	-15.54	-	-
18	.7335	18.85	Av	9.9	.2	28.95	-	-	46	-17.05
19	6.243	31.49	Pk	9.8	.3	41.59	60	-18.41	-	-
20	6.2475	16.92	Av	9.8	.3	27.02	-	-	50	-22.98
21	8.538	33.18	Pk	9.9	.3	43.38	60	-16.62	-	-
22	8.544	15.44	Av	9.9	.3	25.64	-	-	50	-24.36
23	13.56	40.9	Pk	10.2	.4	51.5	60	-8.5	-	-
24	13.56	35.62	Av	10.2	.4	46.22	-	-	50	-3.78

Pk - Peak detector

Av - Average detection

### Quasi-Peak Emissions

Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836 _With ex-cord_N	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13.5602	40.11	Qp	10.2	.4	50.71	60	-9.29	-	-

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.

IC RSS-210, Annex B.6

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

### TEST PROCEDURE

ANSI C63.10-2013 Clause 6.8

### RESULTS

Reference Frequency: EUT Channel 13.56 MHz @ 20°C Limit: $\pm 100$ 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)
3.80	50	13.559755345	3.390	13.559754983	3.417	13.559752328	3.613	13.559749368	3.831	100
3.80	40	13.559787184	1.042	13.559785793	1.145	13.559761221	2.957	13.559760315	3.024	100
3.80	30	13.559794510	0.502	13.559793081	0.607	13.559791057	0.757	13.559790304	0.812	100
<b>3.80</b>	<b>20</b>	<b>13.559801316</b>	<b>0</b>	<b>13.559800253</b>	0.078	<b>13.559798765</b>	0.188	<b>13.559796870</b>	0.328	<b>100</b>
3.80	10	13.559802554	-0.091	13.559803486	-0.160	13.559805192	-0.286	13.559807497	-0.456	100
3.80	0	13.559812447	-0.821	13.559813400	-0.891	13.559815759	-1.065	13.559815844	-1.071	100
3.80	-10	13.559821422	-1.483	13.559821905	-1.518	13.559823654	-1.647	13.559825045	-1.750	100
3.80	-20	13.559830680	-2.166	13.559831445	-2.222	13.559833546	-2.377	13.559836865	-2.622	100
3.80	-30	13.559842689	-3.051	13.559843390	-3.103	13.559844805	-3.207	13.559847378	-3.397	100

Reference Frequency: EUT Channel 13.56 MHz @ 20°C Limit: $\pm 100$ 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)
<b>3.80</b>	<b>20</b>	<b>13.559801316</b>	<b>0</b>	<b>13.559800253</b>	0.078	<b>13.559798765</b>	0.188	<b>13.559796870</b>	0.328	<b>100</b>
4.35	20	13.559794377	0.512	<b>13.559793114</b>	0.605	<b>13.559792075</b>	0.493	<b>13.559790357</b>	0.808	100
3.40	20	13.559802318	-0.074	<b>13.559804150</b>	-0.209	<b>13.559805194</b>	-0.474	<b>13.559807671</b>	-0.469	100

No non-compliance noted.