



FCC 47 CFR PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: SM-A800S

FCC ID: A3LSMA800S

REPORT NUMBER: 15I20931-E6

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Prepared for
SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
GYEONGGI-DO, 443-742, KOREA

Prepared by
UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888



NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
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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, NFC and ANT+
MODEL: SM-A800S
SERIAL NUMBER: 2138045 (Conducted), 2140998 (Radiated)
DATE TESTED: JUNE 9 -15, 2015

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	Pass

UL Verification Services Inc. 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 Verification Services Inc. 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.

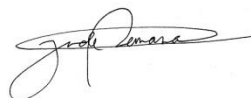
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section.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

Approved & Released For
UL Verification Services Inc. By:

Tested By:



PENG ZHANG
CONSUMER TECHNOLOGY DIVISION
PROJECT LEAD
UL Verification Services Inc.



JUDE SEMANA
CONSUMER TECHNOLOGY DIVISION
WISE LAB TECHNICIAN
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 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.

47173 Benicia Street	47266 Benicia Street
☒ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☐ Chamber C	☐ Chamber F

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

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	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

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

5.2. MAXIMUM OUTPUT POWER

The testing was performed at 1 meters. The transmitter maximum E-field at 30m distance is 27.58 dBuV/m which convert from the 1 meters 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(upward) was the worst-case orientation; therefore all final radiated testing was performed with the EUT in the Z-orientation while generating continuous emissions.

5.4. MODIFICATIONS

No modifications were made during testing.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Radiated Emissions Above 30 MHz, AC Line Conducted Emissions and Frequency Stability:

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Samsung	ETA0U83KWK	DK1FB05HS	N/A
Earphone	Samsung	N/A	N/A	N/A

I/O CABLES

Radiated Emissions above 30 MHz, AC Line Conducted Emissions :

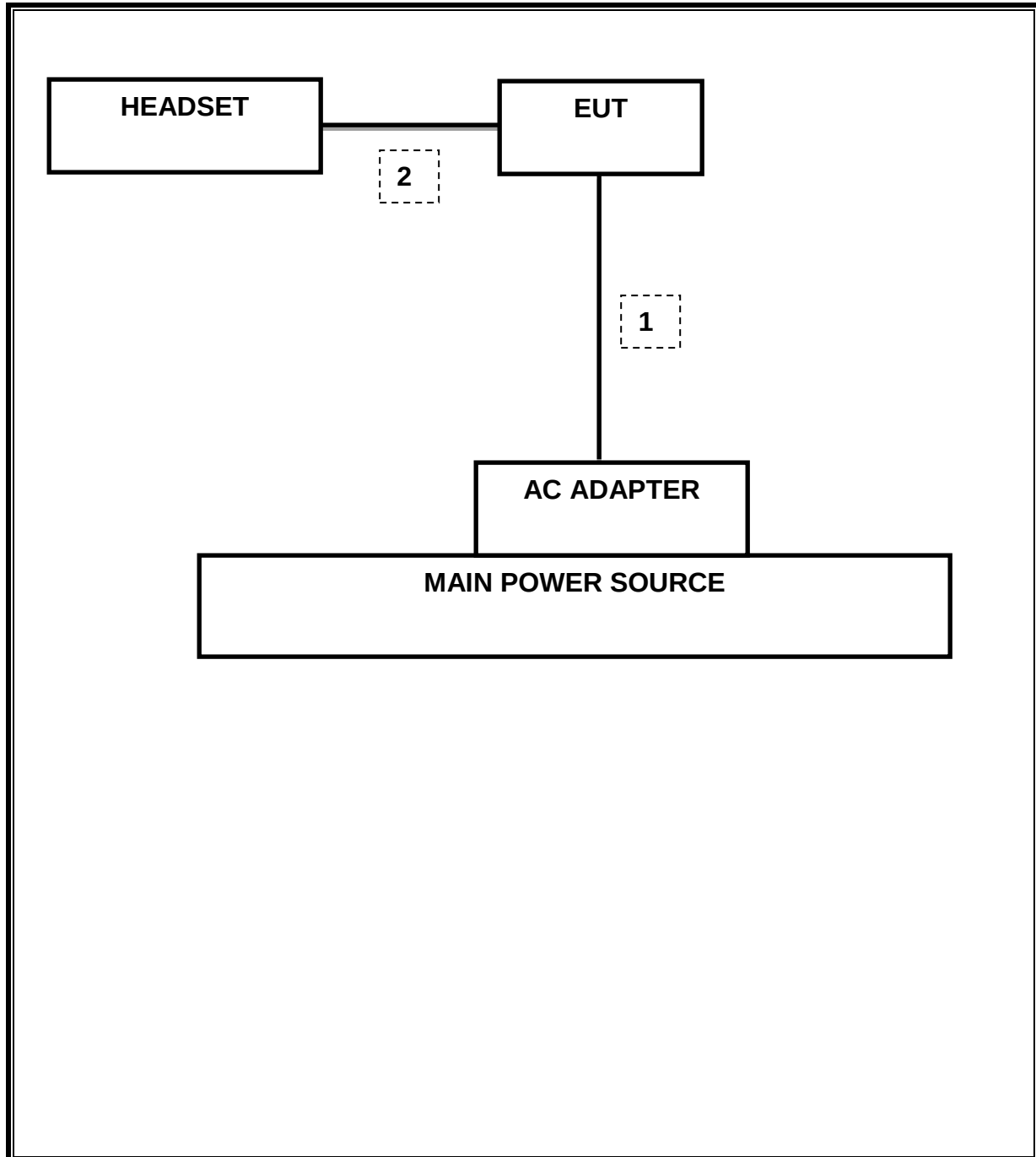
I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Micro-USB	Shielded	1 m	None
2	Audio	1	Mini-Jack	Un-Shielded	1 m	None

TEST SETUP

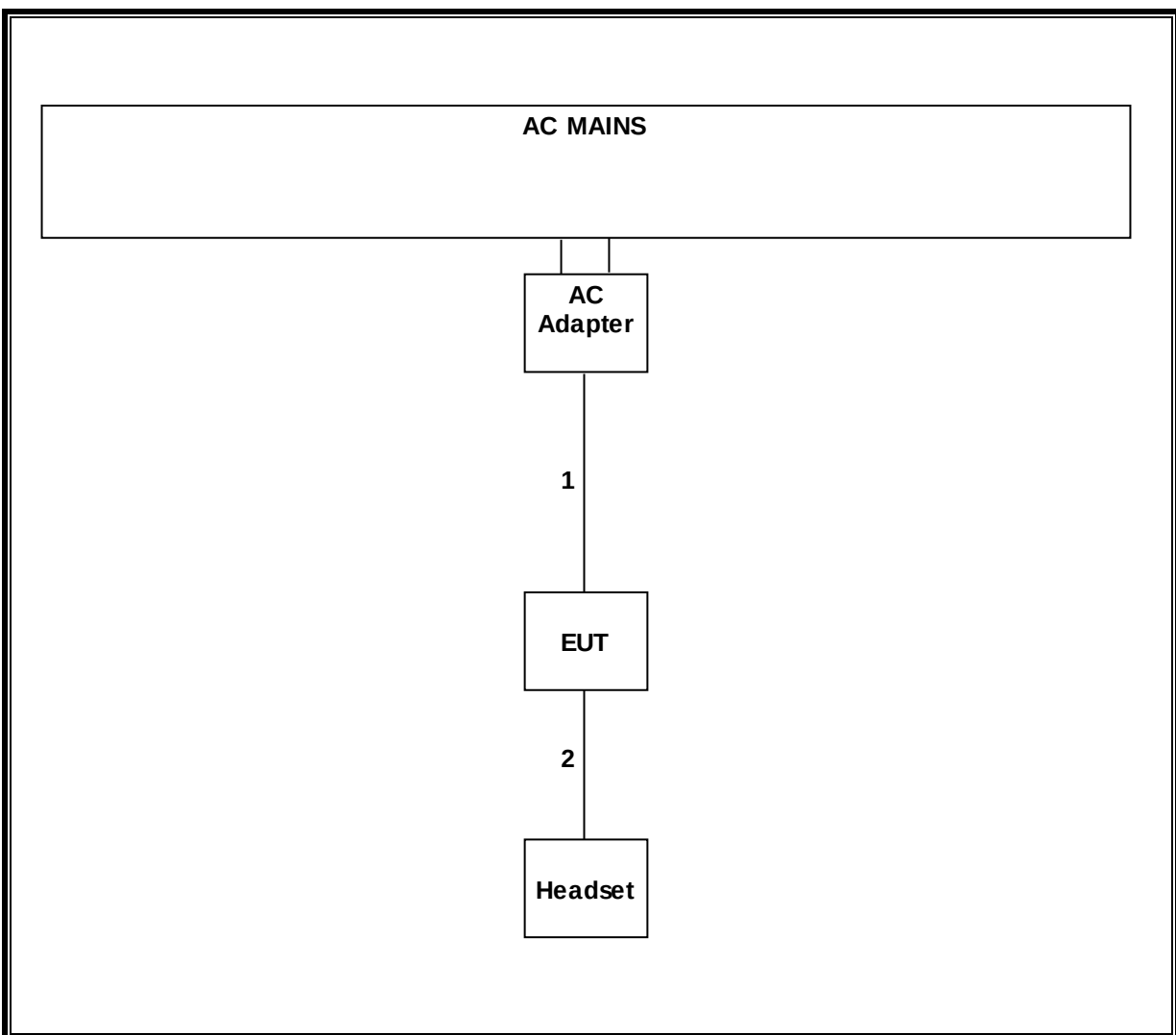
The EUT is a stand-alone device configured and tested in a worst-case setup.

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	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
Spectrum Analyzer, 9KHz-40GHz	HP	8564E	C00986	04/01/16
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/15
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/16
Antenna, Horn, 18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/15
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/15
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	F00219	05/23/16
High Pass Filter 6GHz	Micro-Tronics	HPS17542	F00222	05/22/16
High Pass Filter 3GHz	Micro-Tronics	HPM17543	F00224	05/22/16

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Version 9.5, 07/22/14
Conducted Software	UL	UL EMC	Version 9.5, 05/17/14
CLT Software	UL	UL RF	Version 1.0, 02/02/15
Antenna Port Software	UL	UL RF	Version 2.1.1.1, 1/20/15

7. RADIATED EMISSION TEST RESULTS

7.1. 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 C63.10-2009

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)

RESULTS

No non-compliance noted:

7.1.1. FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz)

FCC Part 15, Subpart B & C

1 Meter Distance Measurement At Emissions Chamber

Company: Samsung

Project #: 15I20931

Tester: R.Alegre

Date: 6/15/15

Frequency (MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	AF (dB/m)	Distance (m)	Distance Correction (dB)	PK Corrected Reading (dBuV/m)	AV Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	PK Margin (dB)	AV Margin (dB)	Notes
Loop Antenna Face On: Y Position													
Fundamental Field Strength & Within Bands:													
13.56	76.021	--	10.64	1	-59.08		27.58	--	84.00	--	-56.4	--	Fundamental @ 30m Dist
13.553	69.28	--	10.64	1	-59.08		20.84	--	50.48	--	-29.6	--	13.41-13.553MHz Spurious @ 30m
13.567	69.99	--	10.64	1	-59.08		21.55	--	50.48	--	-28.9	--	13.567-13.710MHz Spurious @ 30m
13.25	42.27	--	10.68	1	-59.08		-6.14	--	40.51	--	-46.6	--	13.110-13.410MHz Spurious @ 30m
13.81	43.21	--	10.62	1	-59.08		-5.26	--	40.51	--	-45.8	--	13.710-14.010MHz Spurious @ 30m

Loop Antenna Face Off: Y Position

Fundamental Field Strength & Within Bands:

13.56	62.59	--	10.64	1	-59.08		14.15	--	84.00	--	-69.9	--	Fundamental @ 30m Dist
13.553	58.58	--	10.64	1	-59.08		10.14	--	50.48	--	-40.3	--	13.41-13.553MHz Spurious @ 30m
13.567	58.12	--	10.64	1	-59.08		9.68	--	50.48	--	-40.8	--	13.567-13.710MHz Spurious @ 30m
13.277	36.005	--	10.67	1	-59.08		-12.41	--	40.51	--	-52.9	--	13.110-13.410MHz Spurious @ 30m
13.84	36.28	--	10.62	1	-59.08		-12.19	--	40.51	--	-52.7	--	13.710-14.010MHz Spurious @ 30m

Loop Antenna Face On: Y Position

Spurious Emissions 9kHz - 490kHz:

0.01	69.189	--	18.9	1	-99.08		-11.00	-11.00	67.60	47.60	-78.6	-58.6	9kHz-10kHz Spurious @ 30m
0.03	63.251	--	13.8	1	-99.08		-22.03	-22.03	58.06	38.06	-80.1	-60.1	10kHz-100kHz Spurious @ 30m
0.125	58.124	--	11.79	1	-99.08		-29.17	-29.17	45.67	25.67	-74.8	-54.8	100kHz-489kHz Spurious @ 30m

Spurious Emissions 490kHz - 30MHz:

0.49	42.3	--	11.7	1	-59.08		-5.08	--	33.80		-38.9	--	489kHz-490kHz Spurious @ 30m
0.5	41.86	--	11.7	1	-59.08		-5.52	--	33.62		-39.1	--	490kHz-1MHz Spurious @ 30m
1.043	32.33	--	11.8	1	-59.08		-14.95	--	27.24		-42.2	--	1MHz-1.705MHz Spurious @ 30 m
1.745	29.07	--	11.8	1	-59.08		-18.21	--	29.54		-47.8	--	1.705MHz-5MHz Spurious @ 30m
5.53	22.891	--	11.45	1	-59.08		-24.75	--	29.54		-54.3	--	5-10MHz Spurious @ 30m
23.22	24.765	--	9.489	1	-59.08		-24.83	--	29.54		-54.4	--	20-30MHz Spurious @ 30m

* No more emissions were found up to 30MHz

Note: The emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 10000Mhz. Radiated emission limits in these three bands are based on measurements employing an average detector.

P.K. = Peak

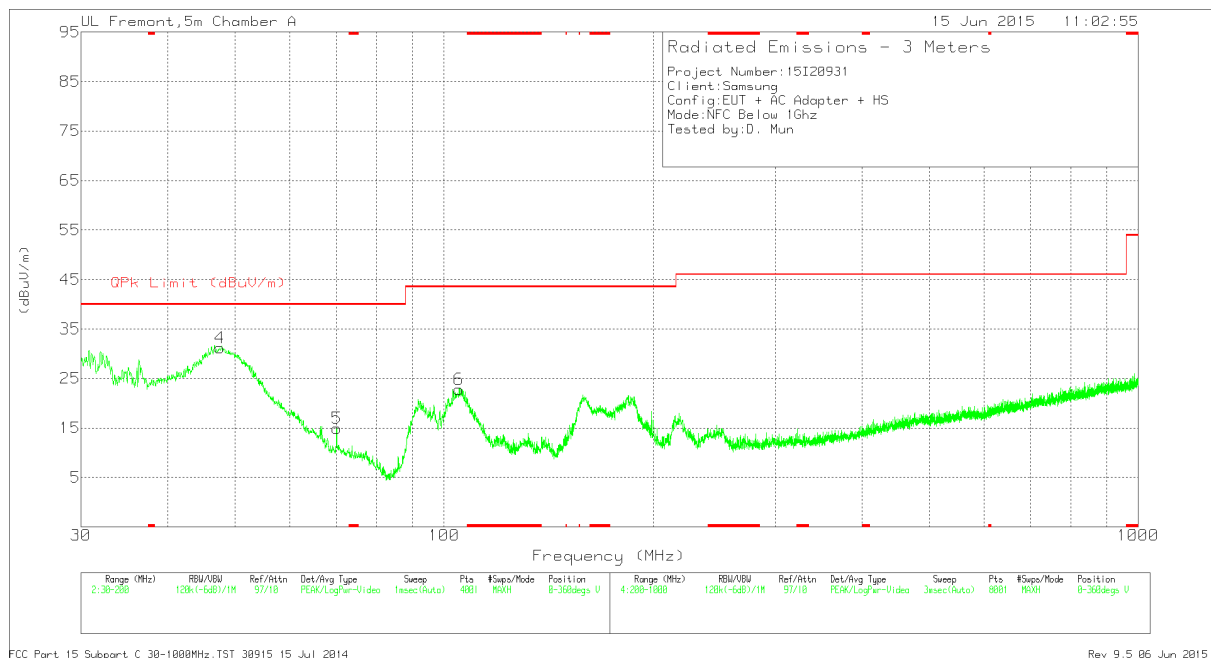
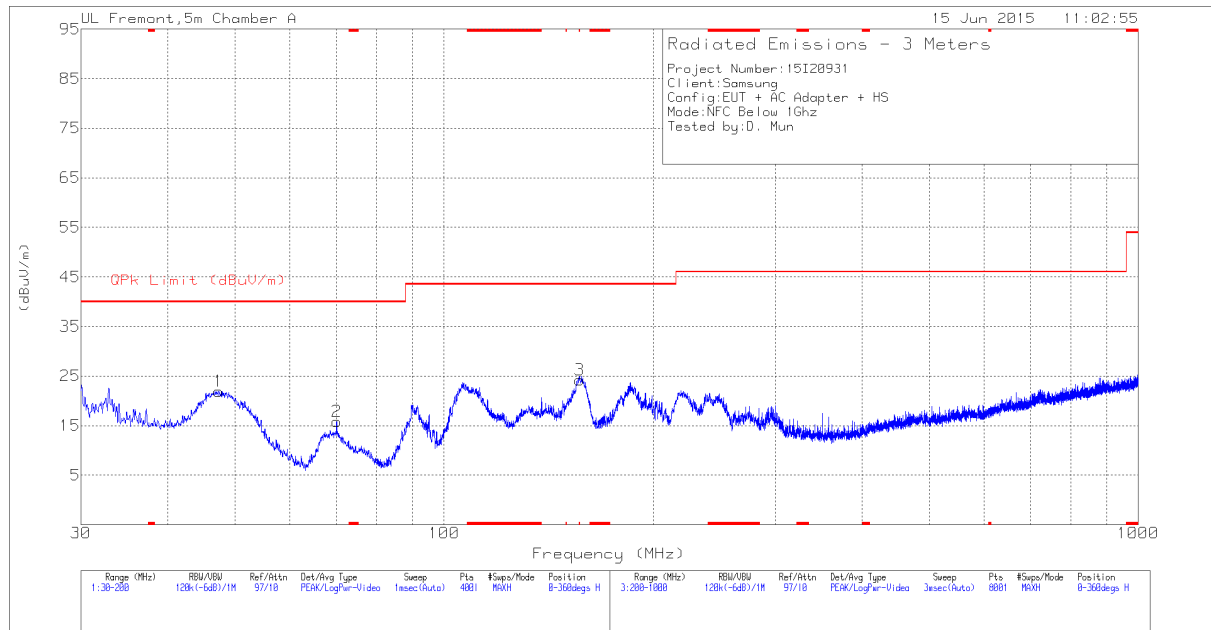
Q.P. = Quasi Peak Readings

A.F. = Antenna factor

Rev. 05.27.15

7.1.2. TX SPURIOUS EMISSION 30 TO 1000 MHz

EMI PLOT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.34	43.79	Pk	9.2	-31.1	21.89	40	-18.11	0-360	299	H
4	47.5525	53.18	Pk	9.1	-31.1	31.18	40	-8.82	0-360	101	V
2	70.035	38.49	Pk	8.1	-30.8	15.79	40	-24.21	0-360	199	H
5	70.035	37.66	Pk	8.1	-30.8	14.96	40	-25.04	0-360	101	V
6	105.055	41.72	Pk	11.6	-30.5	22.82	43.52	-20.7	0-360	101	V
3	156.9475	42.22	Pk	12.2	-30.2	24.22	43.52	-19.3	0-360	199	H

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
70.0401	39.56	Qp	8.1	-30.8	16.86	40	-23.14	29	104	V

Pk - Peak detector

Qp - Quasi-Peak detector

FCC Part 15 Subpart C 30-1000MHz.TST 30915 15 Jul 2014

Rev 9.5 06 Jun 2015

8. 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

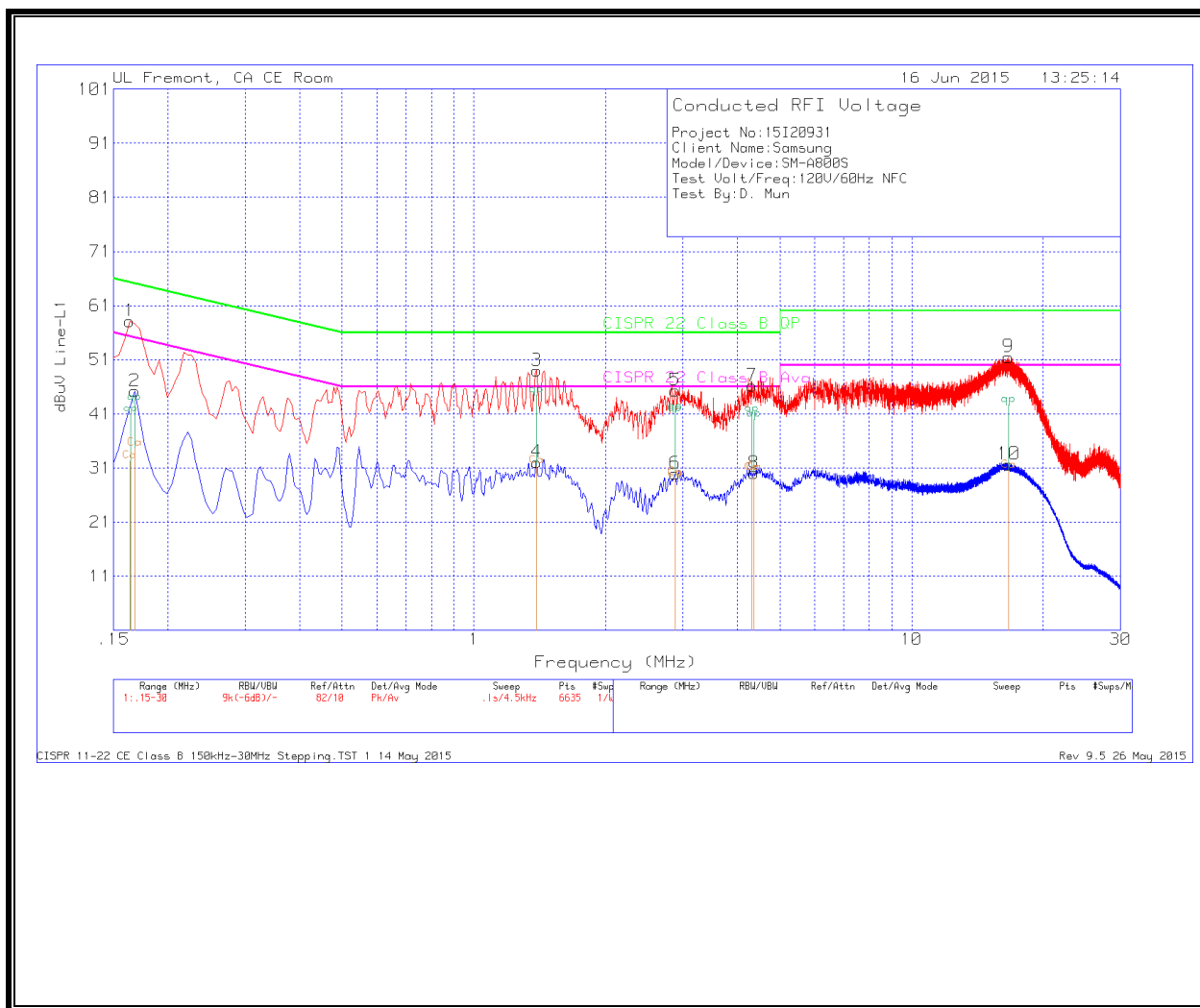
ANSI C63.10-2009

RESULTS

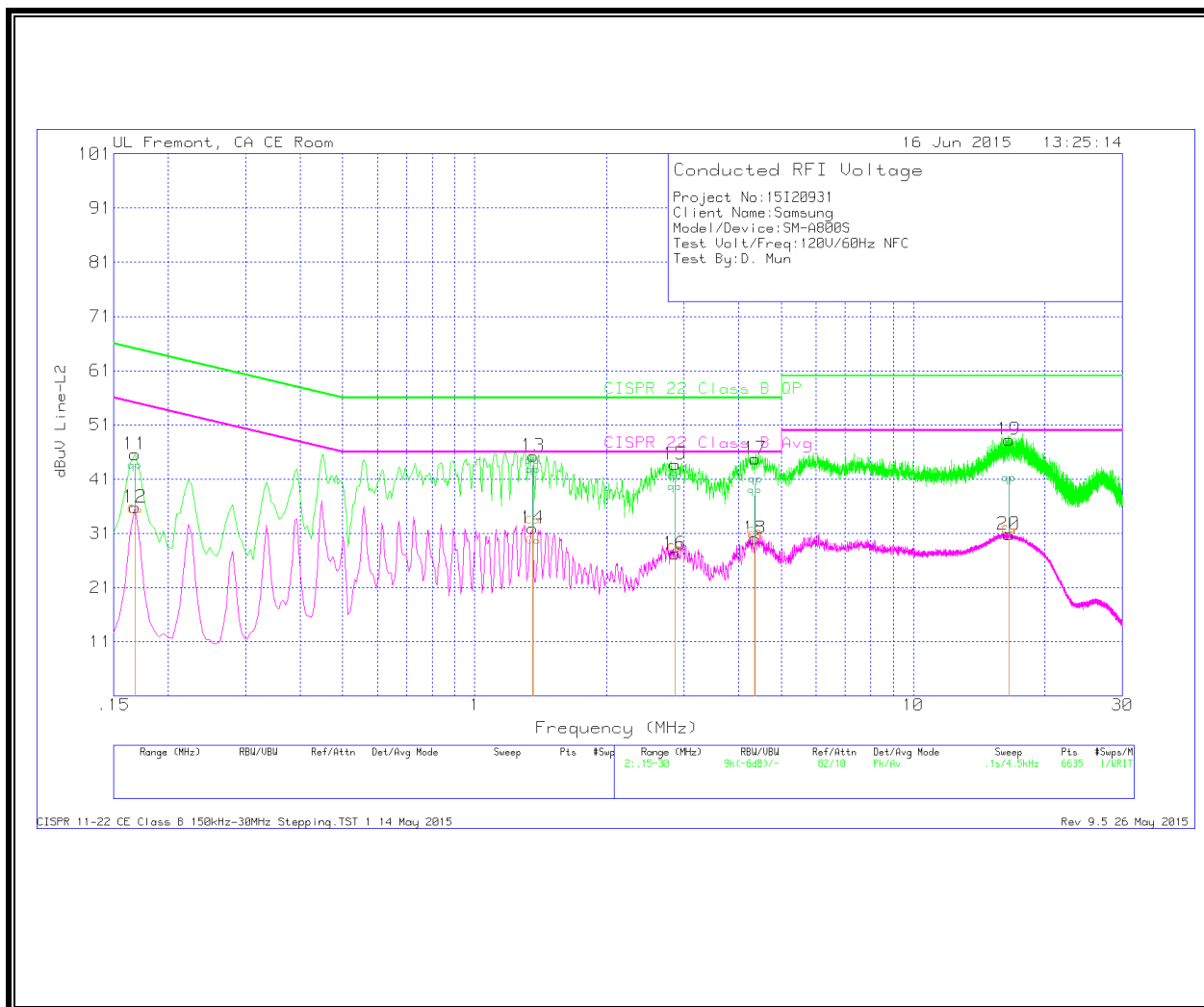
No non-compliance noted:

6 WORST EMISSIONS

LINE 1 RESULTS



LINE 2 RESULTS



Trace Markers

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	56.95	Pk	1.2	0	58.15	65.28	-7.13		
2	.168	43.97	Av	1.2	0	45.17	-	-	55.06	-9.89
3	1.392	48.68	Pk	.2	.1	48.98	56	-7.02		
4	1.392	31.75	Av	.2	.1	32.05	-	-	46	-13.95
5	2.886	45.03	Pk	.2	.1	45.33	56	-10.67		
6	2.8815	29.67	Av	.2	.1	29.97	-	-	46	-16.03
7	4.3215	45.88	Pk	.2	.1	46.18	56	-9.82		
8	4.3665	29.76	Av	.2	.1	30.06	-	-	46	-15.94
9	16.6695	51	Pk	.3	.2	51.5	60	-8.5		
10	16.6695	31.16	Av	.3	.2	31.66	-	-	50	-18.34

Pk - Peak detector

Av - Average detection

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
11	.168	44.25	Pk	1.3	0	45.55	65.06	-19.51		
12	.168	34.49	Av	1.3	0	35.79	-	-	55.06	-19.27
13	1.3605	44.95	Pk	.2	.1	45.25	56	-10.75		
14	1.356	31.63	Av	.2	.1	31.93	-	-	46	-14.07
15	2.8635	43.43	Pk	.2	.1	43.73	56	-12.27		
16	2.859	26.93	Av	.2	.1	27.23	-	-	46	-18.77
17	4.3665	44.44	Pk	.2	.1	44.74	56	-11.26		
18	4.353	29.81	Av	.2	.1	30.11	-	-	46	-15.89
19	16.53	47.75	Pk	.3	.2	48.25	60	-11.75		
20	16.521	30.3	Av	.3	.2	30.8	-	-	50	-19.2

Pk - Peak detector

Av - Average detection

Peak/Average/RMS Emissions

Range 1: Line-L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
.16463	31.09	Ca	1.2	0	32.29	-	-	55.23	-22.94
.16778	33.43	Ca	1.2	0	34.63	-	-	55.07	-20.44
1.39088	31.06	Ca	.2	.1	31.36	-	-	46	-14.64
2.88488	28.66	Ca	.2	.1	28.96	-	-	46	-17.04
2.88218	28.95	Ca	.2	.1	29.25	-	-	46	-16.75
4.32128	29.8	Ca	.2	.1	30.1	-	-	46	-15.9
4.36538	29.83	Ca	.2	.1	30.13	-	-	46	-15.87
16.6684	30.02	Ca	.3	.2	30.52	-	-	50	-19.48

Ca - CISPR average detection

Range 2: Line-L2 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
.16778	32.92	Ca	1.3	0	34.22	-	-	55.07	-20.85
1.35938	28.23	Ca	.2	.1	28.53	-	-	46	-17.47
1.35578	31.99	Ca	.2	.1	32.29	-	-	46	-13.71
2.86463	26.82	Ca	.2	.1	27.12	-	-	46	-18.88
2.86013	26.92	Ca	.2	.1	27.22	-	-	46	-18.78
4.36718	29.13	Ca	.2	.1	29.43	-	-	46	-16.57
4.35278	29.94	Ca	.2	.1	30.24	-	-	46	-15.76
16.5307	29.84	Ca	.3	.2	30.34	-	-	50	-19.66
16.5208	30.08	Ca	.3	.2	30.58	-	-	50	-19.42

Ca - CISPR average detection

Quasi-Peak Emissions

Range 1: Line-L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
.16463	39.76	Qp	1.2	0	40.96	65.23	-24.27	-	-
.16778	41.82	Qp	1.2	0	43.02	65.07	-22.05	-	-
1.39088	44.18	Qp	.2	.1	44.48	56	-11.52	-	-
2.88488	41.05	Qp	.2	.1	41.35	56	-14.65	-	-
2.88218	40.74	Qp	.2	.1	41.04	56	-14.96	-	-
4.32128	40.66	Qp	.2	.1	40.96	56	-15.04	-	-
4.36538	39.71	Qp	.2	.1	40.01	56	-15.99	-	-
16.6684	42.14	Qp	.3	.2	42.64	60	-17.36	-	-

Qp - Quasi-Peak detector

Range 2: Line-L2 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
.16778	41.15	Qp	1.3	0	42.45	65.07	-22.62	-	-
1.35938	41.41	Qp	.2	.1	41.71	56	-14.29	-	-
1.35578	43.03	Qp	.2	.1	43.33	56	-12.67	-	-
2.86463	40.17	Qp	.2	.1	40.47	56	-15.53	-	-
2.86013	38.2	Qp	.2	.1	38.5	56	-17.5	-	-
4.36718	39.62	Qp	.2	.1	39.92	56	-16.08	-	-
4.35278	37.58	Qp	.2	.1	37.88	56	-18.12	-	-
16.5307	39.59	Qp	.3	.2	40.09	60	-19.91	-	-
16.5208	39.59	Qp	.3	.2	40.09	60	-19.91	-	-

Qp - Quasi-Peak detector

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9. 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 Section 6

RESULTS

No non-compliance noted.

Reference Frequency: EUT Channel 13.560000 MHz @ 20°C				
Limit: ± 100 ppm = 1.356 kHz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5601200	0.369	± 100
3.80	40	13.5601180	0.516	± 100
3.80	30	13.5601240	0.074	± 100
3.80	20	13.5601250	0.000	± 100
3.80	10	13.5601200	0.369	± 100
3.80	0	13.5601140	0.811	± 100
3.80	-10	13.5601220	0.221	± 100
3.80	-20	13.5601060	1.401	± 100
3.23	20	13.5601190	0.442	± 100
4.37	20	13.5601230	0.147	± 100