



**FCC CFR47 PART 15 SUBPART C**

**ANT+**

**CERTIFICATION TEST REPORT**

**FOR**

**GSM/WCDMA/LTE Tablet + BT/BLE and DTS/UNII a/b/g/n/ac and ANT+**

**MODEL NUMBER : SM-T819Y**

**FCC ID: A3LSMT819Y**

**REPORT NUMBER: 16K23303-E5V2**

**ISSUE DATE: MAY 13, 2016**

*Prepared for*  
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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	05/10/16	Initial issue	SungGil Park
V2	05/13/16	Section 1 revised	SungGil Park

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** SAMSUNG ELECTRONICS CO., LTD.  
**EUT DESCRIPTION:** GSM/WCDMA/LTE Tablet + BT/BLE and DTS/UNII a/b/g/n/ac and ANT+  
**MODEL NUMBER:** SM-T819Y  
**SERIAL NUMBER:** R32G600B77F, R32H20028DJ (RADIATED);  
R32H20027PL (CONDUCTED)  
**DATE TESTED:** FEB 04, 2016 - MAY 05, 2016

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	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  
UL Korea, Ltd. By:



CY Choi  
Suwon Lab Engineer  
UL Korea, Ltd.

Tested By:



SungGil Park  
Suwon Lab Engineer  
UL Korea, Ltd.

### 1.1. INTRODUCTION OF TEST DATA REUSE

This report referenced from the FCC ID: A3LSMT819, DXX (FCC CFR 47 Part 15C).  
 And the applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID.

### 1.2. DIFFERENCE

The FCC ID: A3LSMT819Y shares the same enclosure and circuit board as FCC ID: A3LSMT819. The ANT+ circuitry and layout are identical between these two units. The ANT+ antennas and surrounding circuitry are the same between these two units.

After confirming through preliminary radiated emissions that the performance of the FCC ID: A3LSMT819 remains representative of FCC ID: A3LSMT819Y. The test data of FCC ID: A3LSMT819 is being submitted for this application to cover ANT+ features.

### 1.3. SPOT CHECK VERIFICATION DATA

Band	Test Item	Worst Mode	Worst Freq. (MHz)	Worst Bandwidth (MHz)	Test Limit (dBμV/m)	Original Model SM-T819 (FCC ID : A3LSMT819)	Spot Check Model SM-T819Y (FCC ID : A3LSMT819Y)	Deviation
						Measured Data(dBμV/m)	Measured Power (dBμV/m)	
ANT+	2.4GHz	Band Edge	2480.0		74(peak)	47.64	43.62	-4.02
		RSE	2402.0		54(avg)	38.11	37.15	-0.96

Comparison of two models, Deviation is within The EMC Lab Measurement Uncertainty range and all test results are under FCC Technical Limits.

### 1.4. REFERENCE DETAIL

Reference application that contains the reused reference data.

Equipment Class	Reference FCC ID	Type Grant/Permissive Change	Reference Application	Folder Test/RF Exposure	Report Title / Section
DTS	A3LSMT819	Grant	16K22867-E1V1	Test	FCC Report DTS WLAN / All sections
			16K22867-S1V2	RF Exposure	FCC Report SAR / Section 9.4, 10.9
DSS	A3LSMT819N	Grant	16K23164-E3V1	Test	FCC Report BT / All sections
			16K23164-S1V1	RF Exposure	FCC Report SAR / Section 9.6, 10.11
NII	A3LSMT819	Grant	16K22867-E4V1	Test	FCC Report UNII DFS WLAN / All sections
			16K22867-S1V2	RF Exposure	FCC Report SAR / Section 9.5, 10.10
DXX	A3LSMT819	Grant	16K22867-E5V1	Test	FCC Report ANT+ / All sections
PCB	A3LSMT819	Grant	16K22867-E6V1	Test	FCC Report WWAN / All sections for GSM850, WCDMA B5, LTE B2/B4/B5/B17
			16K22867-S1V2	RF Exposure	FCC Report SAR / Section for GSM850 (9.1, 10.1), WCDMA B5 (9.2, 10.4), LTE B2 (9.3, 10.5), LTE B4 (9.3, 10.6), LTE B5 (9.3, 10.7), LTE B17 (9.3, 10.8)

## 2. TEST METHODOLOGY

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

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

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, Below 1GHz	4.14 dB
Radiated Disturbance, Above 1 GHz	5.97 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 Tablet + BT/BLE and DTS/UNII a/b/g/n/ac and ANT+  
This test report addresses the ANT+ operational mode.

### 5.2. MAXIMUM OUTPUT POWER

The ANT+ mode has maximum output fundamental field strength as follows:

Frequency Range [MHz]	Mode	Peak E-field Strength [dBuV/m]	Avg E-field Strength [dBuV/m]	Distance [m]
2402 - 2480	ANT +	89.86	37.82	3.00

### 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antennas, with a maximum gain of -3.35 dBi.

### 5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

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

## 5.5. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA20EWE	R37GBTP1HN3DK3	N/A
Data Cable	SAMSUNG	EP-DG925UWE	N/A	N/A
Earphone	SAMSUNG	E0-EG900BW	N/A	N/A

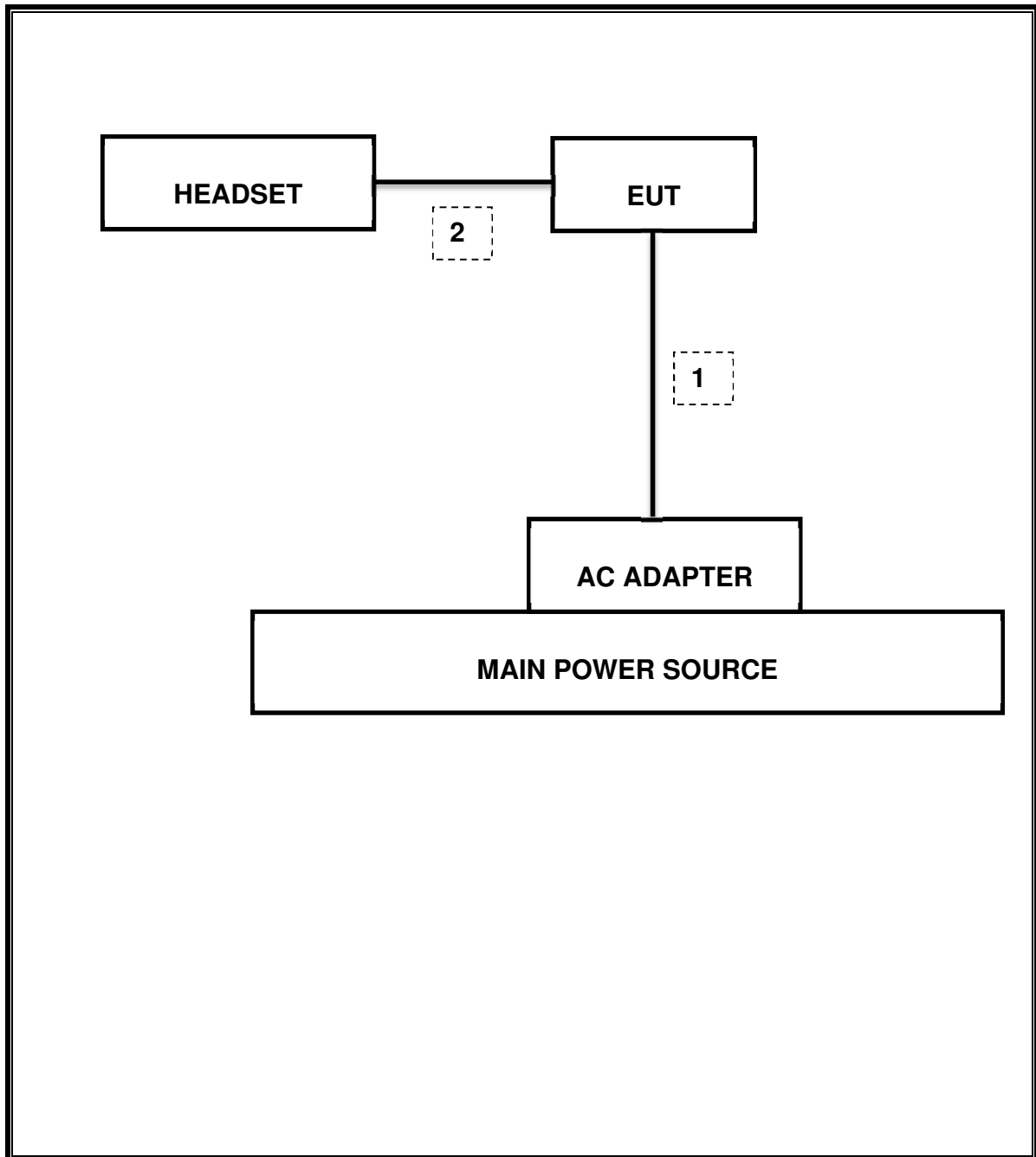
### I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	0.8m	N/A
2	Audio	1	Mini-Jack	Unshielded	1.0m	N/A

### TEST SETUP

The EUT is set to continuously transmit in ANT + test mode.

**SETUP DIAGRAM FOR TESTS**



## 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	749	04-25-16
Antenna, Horn, 18 GHz	ETS	3115	00161451	05-17-16
Antenna, Horn, 18 GHz	ETS	3117	00168724	06-17-16
Antenna, Horn, 18 GHz	ETS	3117	00168717	06-17-16
Antenna, Horn, 40 GHz	ETS	3116C	00166255	09-23-16
Antenna, Horn, 40 GHz	ETS	3116C-PA	00168841	09-29-16
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-18-16
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-18-16
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	08-18-16
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	08-18-16
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	08-19-16
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	08-19-16
Bluetooth Tester	TESCOM	TC-3000C	3000C000546	08-18-16
Average Power Sensor	R&S	NRZ-Z91	102681	08-18-16
Average Power Sensor	Agilent / HP	U2000	MY54270007	08-18-16
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-19-16
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-19-16
EMI Test Receive, 3 GHz	R&S	ESR3	101832	08-19-16
Attenuator / Switch driver	HP	11713A	3748A04272	N/A
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	009	08-18-16
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	015	08-18-16
High Pass Filter 5GHz	Micro-Tronics	HPS17542	009	08-18-16
High Pass Filter 6GHz	Micro-Tronics	HPM17543	010	08-18-16
High Pass Filter 5GHz	Micro-Tronics	HPS17542	016	08-18-16
High Pass Filter 6GHz	Micro-Tronics	HPM17543	015	08-18-16
LISN	R&S	ENV-216	101836	08-19-16
LISN	R&S	ENV-216	101837	08-19-16

## 7. LIMITS AND RESULTS

### 7.1. 99% BANDWIDTH

#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

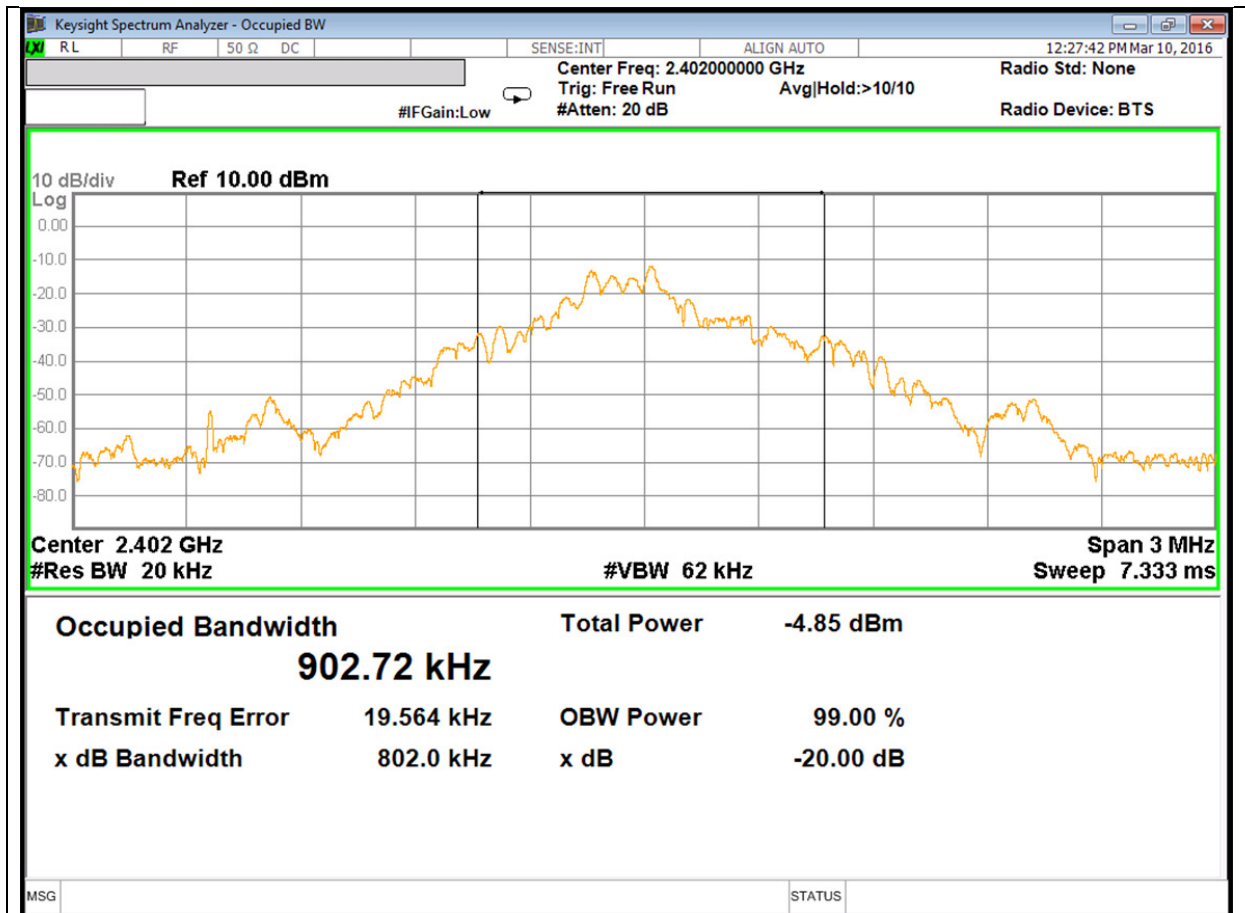
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

#### RESULTS

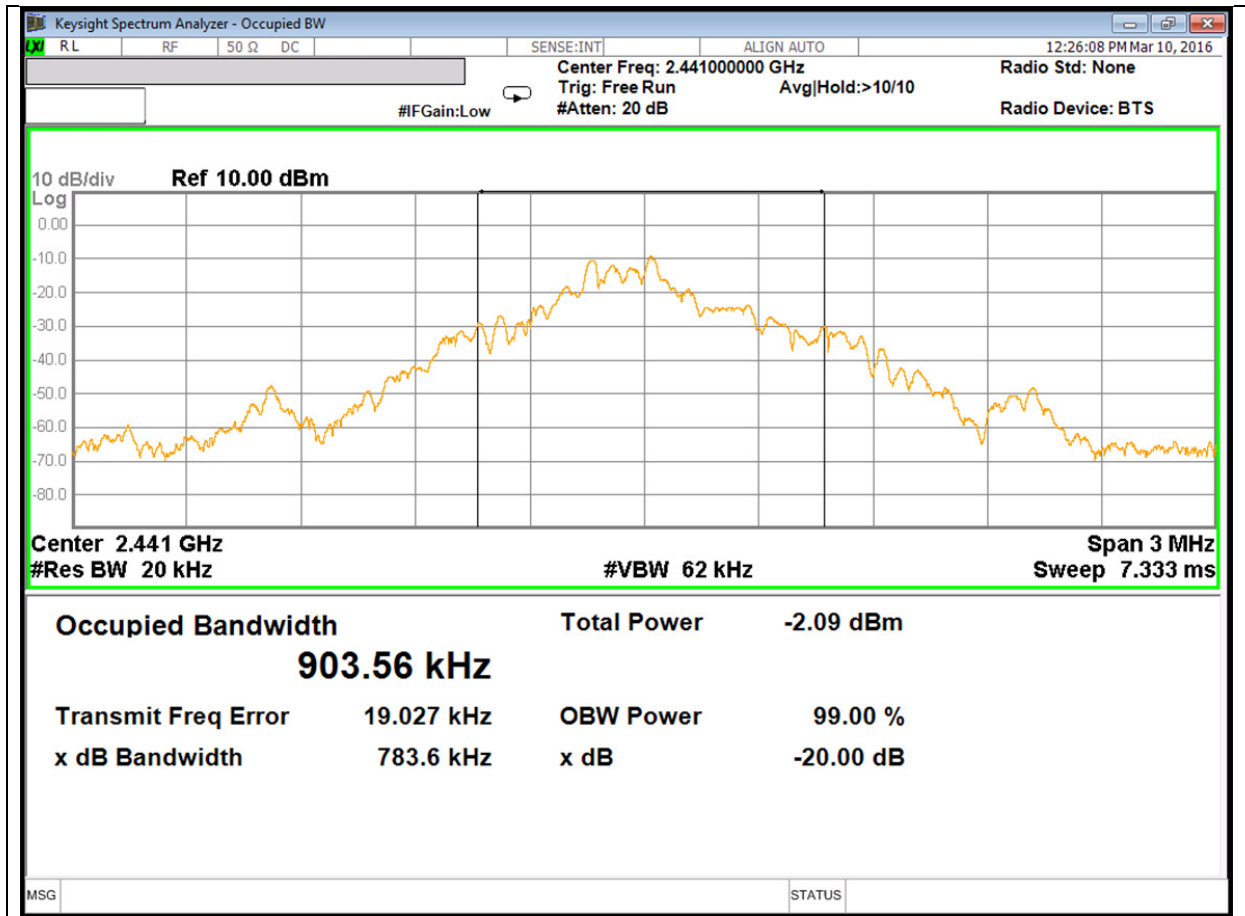
Channel	Frequency [MHz]	99% Bandwidth [MHz]
Low	2402	0.903
Mid	2441	0.904
High	2480	0.901
Worst		0.904

**99% BANDWIDTH PLOTS**

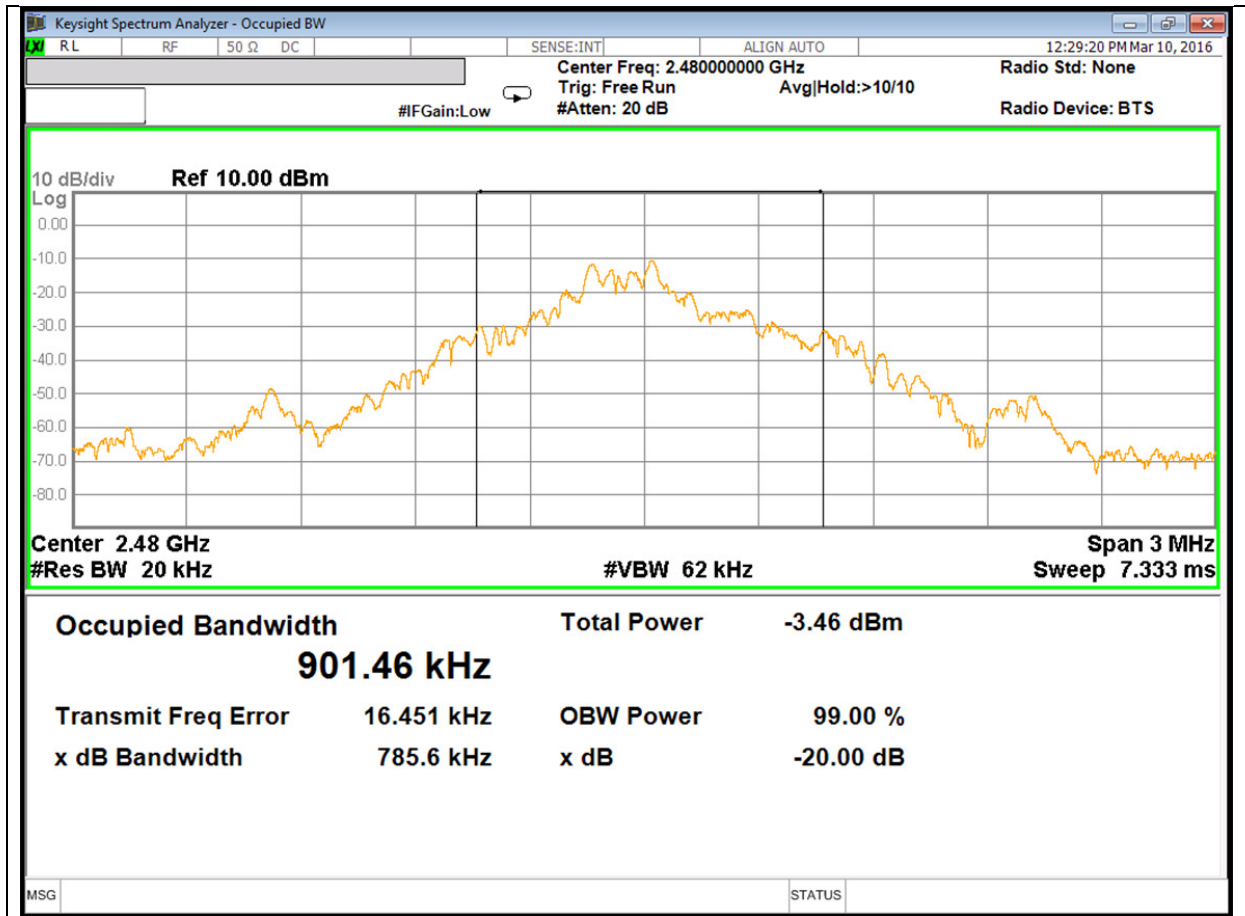
**LOW CHANNEL**



**MID CHANNEL**



### HIGH CHANNEL



## 7.1. TRANSMITTER RADIATED EMISSIONS

### TEST PROCEDURE

ANSI C63.10: 2009

### LIMIT

FCC 15.249

Operation within the bands 902–928 MHz, 2400–2483.5 MHz, 5725–5875 MHz, and 24.0–24.25 GHz.

(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz .....	50	500
2400–2483.5 MHz .....	50	500
5725–5875 MHz .....	50	500
24.0–24.25 GHz .....	250	2500

(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

(e) As shown in Sec. 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
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.

**RESULTS**

**7.1.1. DUTY CYCLE**



### 7.1.2. FUNDAMENTAL FREQUENCY RADIATED EMISSION



**Project #:** 16K22867  
**Report #:** 16K22867  
**Date & Time:** 2016-03-10  
**Test Engr:** Steven Kim

**FCC**  
**UL SUWON LAB**  
**Chamber 1**

**Company:** Samsung  
**EUT Description:** GSM/WCDMA/LTE Tablet + BT/BLE and DTS/UNII a/b/g/n/ac and ANT+  
**Test Configuration:** Z POSITION  
**Type of Test:** FCC  
**Mode of Operation:** Transmitting : ANT+ mode

M% = ((t1+t2+t3+...)/T) \* 66.83% = 0.25%

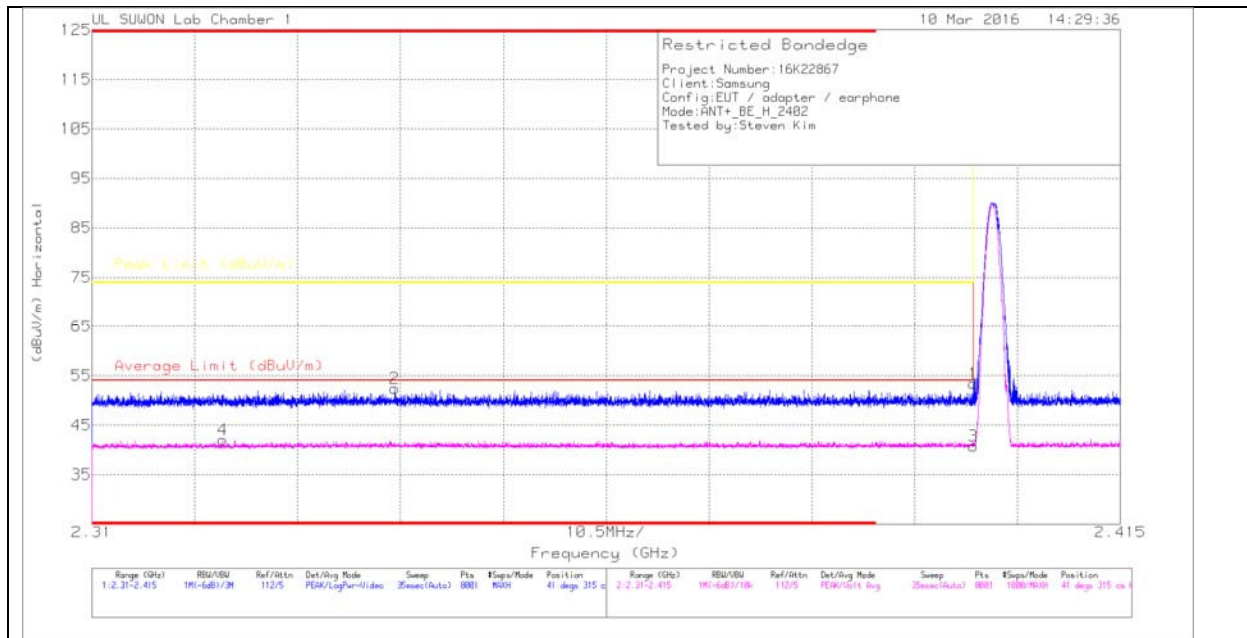
Av Reading = Pk Reading + 20*log(M%)
20 * log (M%) = <span style="background-color: #e0ffe0; padding: 2px;">-52.04</span>

Freq (MHz)	Pk Rdg (dBuV)	Av Rdg (dBuV)	AF (dB)	Cross (dB)	Pre-amp (dB)	Pk Level (dBuV/m)	Av Level (dBuV/m)	Pk Limit FCC_B	Av Limit FCC_B	Pk Margin (dB)	Avg Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)
Low channel														
2402.00	92.81	40.77	27.85	-38.39	0.00	82.27	30.23	114.00	94.00	-31.73	-63.77	3mV	0.00	1.00
2402.00	97.94	45.90	27.85	-38.39	0.00	87.40	35.36	114.00	94.00	-26.60	-58.64	3mH	0.00	2.00
Mid channel														
2441.00	94.09	42.05	27.85	-38.39	0.00	83.55	31.51	114.00	94.00	-30.45	-62.49	3mV	0.00	1.00
2441.00	100.40	48.36	27.85	-38.39	0.00	89.86	37.82	114.00	94.00	-24.14	-56.18	3mH	0.00	2.00
High channel														
2480.00	92.33	40.29	27.85	-38.39	0.00	81.79	29.75	114.00	94.00	-32.21	-64.25	3mV	0.00	1.00
2480.00	100.01	47.97	27.85	-38.39	0.00	89.47	37.43	114.00	94.00	-24.53	-56.57	3mH	0.00	2.00

AVG VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

### 7.1.3. TRANSMITTER RESTRICTED BAND EDGES

#### BANDEDGE (LOW CHANNEL, HORIZONTAL)



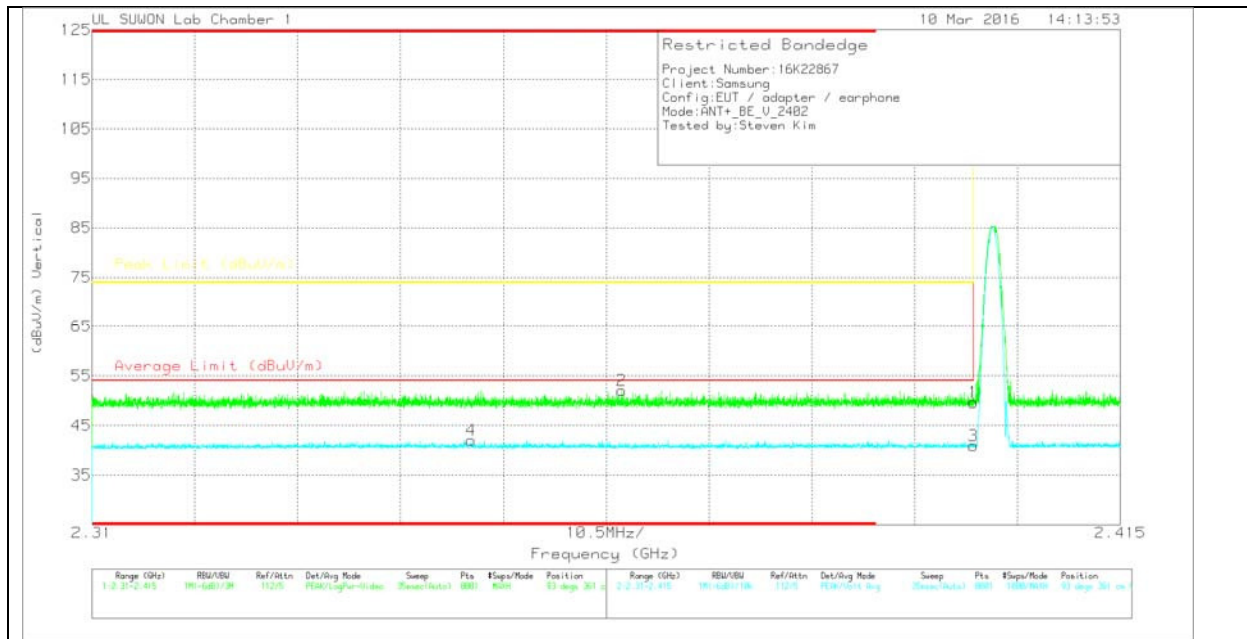
#### HORIZONTAL DATA

##### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/0016 8717/_150 619	Path_2	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.4	50.62	Pk	31.8	-29	53.42	-	-	74	-20.58	41	315	H
2	* 2.341	49.74	Pk	31.7	-29	52.44	-	-	74	-21.56	41	315	H
3	2.4	37.95	V1TV	31.8	-29	40.75	54	-13.25	-	-	41	315	H
4	* 2.323	39.38	V1TV	31.7	-29	42.08	54	-11.92	-	-	41	315	H

Pk - Peak detector

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

Trace Markers

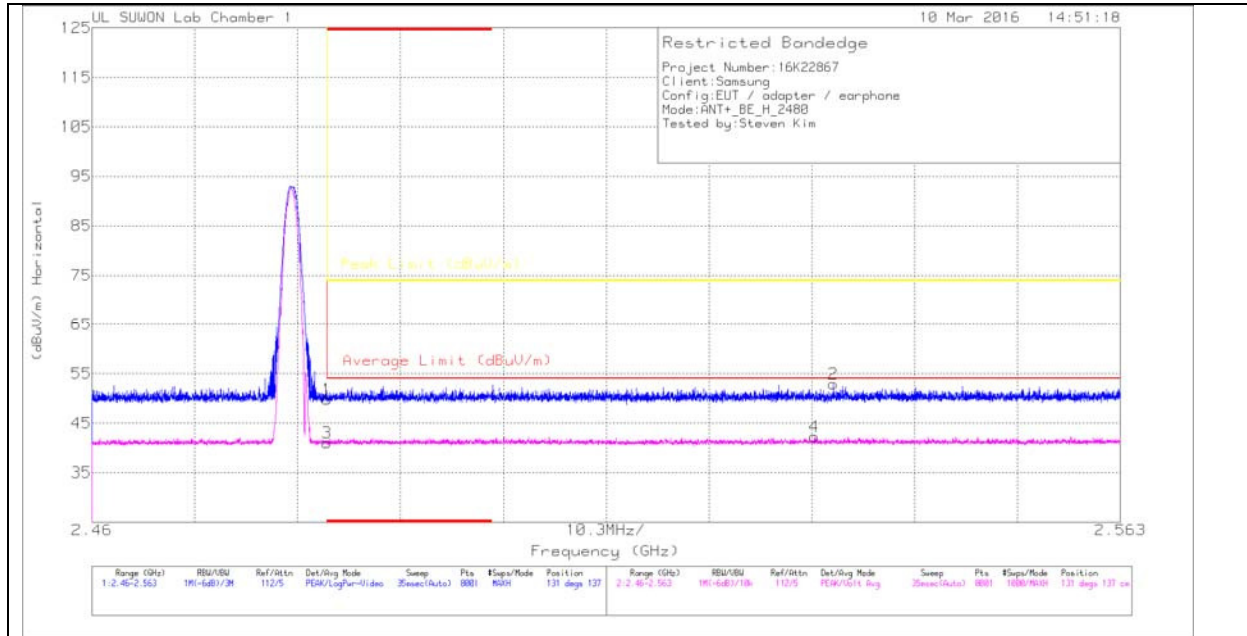
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	Path_2	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.4	46.85	Pk		-29	49.65	-	-	74	-24.35	93	361	V
2	* 2.364	49.21	Pk		-29	52.01	-	-	74	-21.99	93	361	V
3	2.4	38.15	V1TV		-29	40.95	54	-13.05	-	-	93	361	V
4	* 2.349	39.35	V1TV		-29	42.05	54	-11.95	-	-	93	361	V

\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

### AUTHORIZED BANDEDGE (HIGH CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

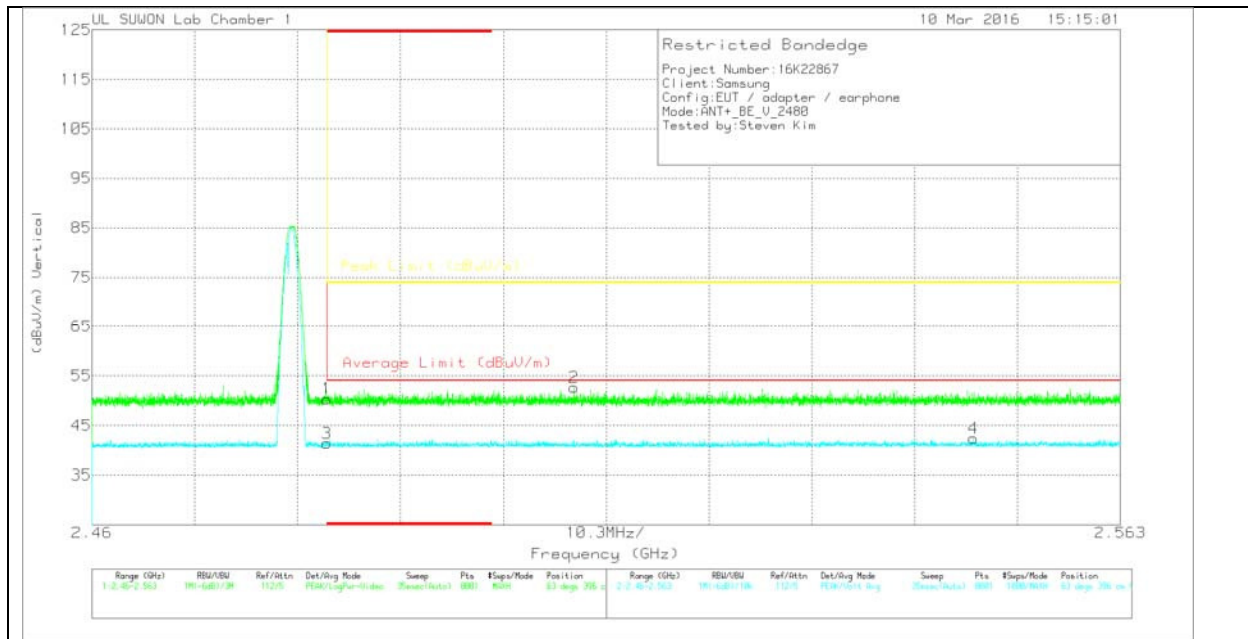
##### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	Path_2	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	46.75	Pk	32	-28.9	49.85	-	-	74	-24.15	131	137	H
2	2.534	49.73	Pk	32	-28.8	52.93	-	-	74	-21.07	131	137	H
3	* 2.484	37.98	V1TV	32	-28.9	41.08	54	-12.92	-	-	131	137	H
4	2.532	39.07	V1TV	32	-28.8	42.27	54	-11.73	-	-	131	137	H

\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

Trace Markers


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	Path_2	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	47.29	Pk	32	-28.9	50.39	-	-	74	-23.61	63	396	V
2	2.508	49.59	Pk	32	-28.9	52.69	-	-	74	-21.31	63	396	V
3	* 2.484	38.29	V1TV	32	-28.9	41.39	54	-12.61	-	-	63	396	V
4	2.548	39.22	V1TV	32	-28.8	42.42	54	-11.58	-	-	63	396	V

\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

**HARMONICS AND SPURIOUS EMISSIONS ABOVE 1GHz**

### HARMONICS



**FCC**  
**UL SUMON LAB**  
 Chamber 1

**Project #:** 16K22867  
**Report #:** 16K22867  
**Date & Time:** 2016-03-10  
**Test Engr:** Steven Kim

**Company:** Samsung  
**EUT Description:** GSM/WCDMA/LTE Tablet + BT/BLE and DTS/UNII a/bg/n/ac and ANT+  
**Test Configuration:** Z POSITION  
**Type of Test:** FCC  
**Mode of Operation:** Transmitting : ANT+ mode

M% = ((t1+t2+t3+...)/T) \* 66.83% = 0.24%

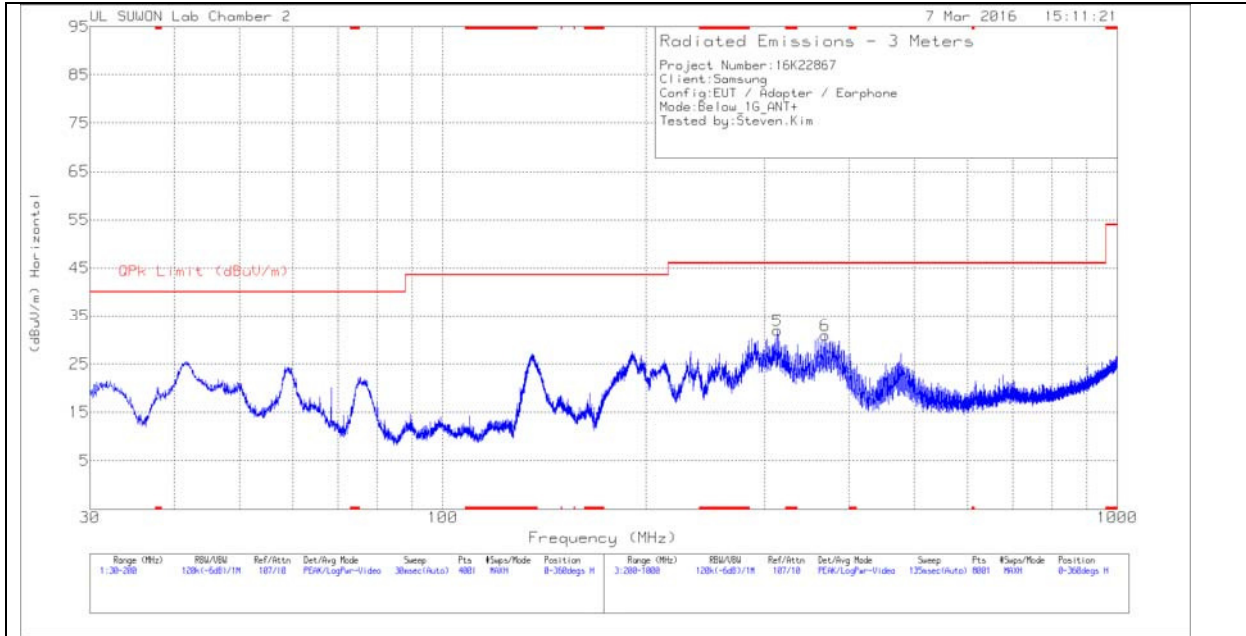
Av Reading = Pk Reading + 20*log(M%)
20 * log (M%) = <b>-52.47</b>

Freq (MHz)	Pk Rdg (dBuV)	Av Rdg (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Pk Level (dBuV/m)	Av Level (dBuV/m)	Pk Limit FCC B	Av Limit FCC B	Pk Margin (dB)	Avg Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)
Low channel														
4804.00	47.64	38.11	32.00	-33.07	0.00	46.57	37.04	74.00	54.00	-27.43	-16.96	3mV	0.00	1.00
4804.00	46.93	35.91	32.00	-33.07	0.00	45.86	34.84	74.00	54.00	-28.14	-19.16	3mH	0.00	2.00
Mid channel														
4882.00	47.12	35.55	32.00	-33.07	0.00	46.05	34.48	74.00	54.00	-27.95	-19.52	3mV	0.00	1.00
4882.00	46.46	35.58	32.00	-33.07	0.00	45.39	34.51	74.00	54.00	-28.61	-19.49	3mH	0.00	2.00
High channel														
4960.00	46.25	37.91	32.00	-33.07	0.00	45.18	36.84	74.00	54.00	-28.82	-17.16	3mV	0.00	1.00
4960.00	46.58	35.57	32.00	-33.07	0.00	45.51	34.50	74.00	54.00	-28.49	-19.50	3mH	0.00	2.00

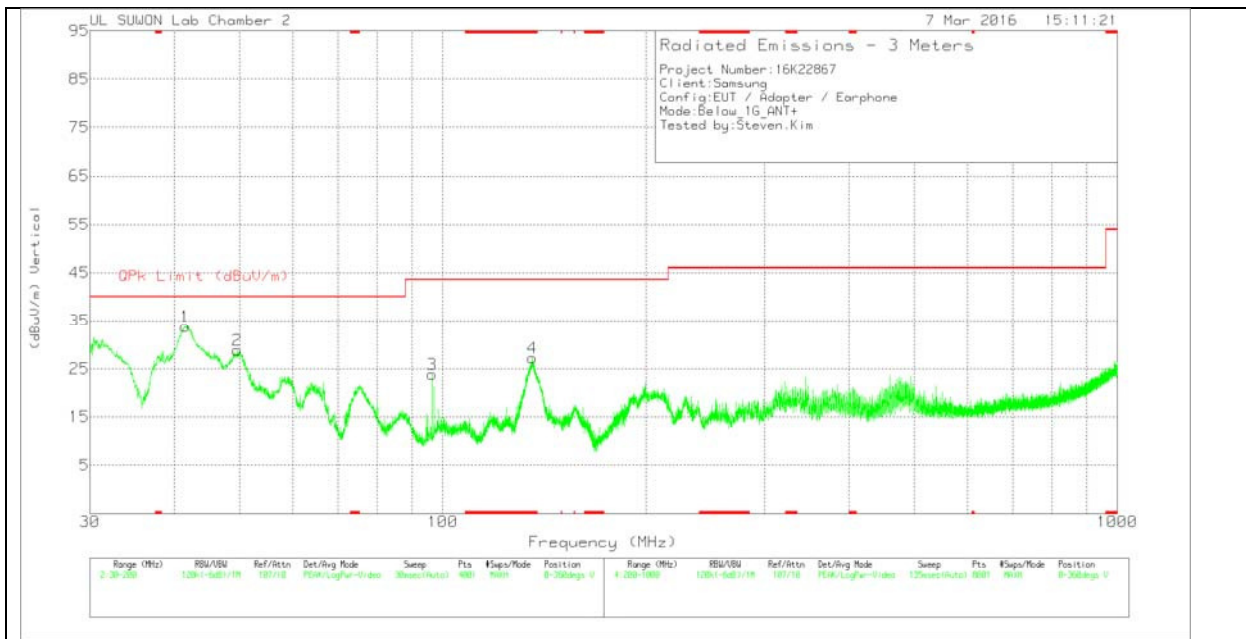
AVG VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

### 7.1.4. SPURIOUS BELOW 1 GHz

#### SPURIOUS EMISSIONS 30 TO 1000 MHz (HORIZONTAL)



#### VERTICAL PLOT



**BELOW 1 GHz TABLE**

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163-749	Below_1G	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	41.5175	51.43	Pk	13.1	-30.7	33.83	40	-6.17	0-360	100	V
2	49.5925	45.49	Pk	14.1	-30.7	28.89	40	-11.11	0-360	100	V
3	96.47	43.57	Pk	10.9	-30.6	23.87	43.52	-19.65	0-360	200	V
4	* 135.825	49.36	Pk	8.4	-30.5	27.26	43.52	-16.26	0-360	100	V
5	313.7	48.27	Pk	13.7	-30	31.97	46.02	-14.05	0-360	100	H
6	368.7	46.18	Pk	14.7	-29.9	30.98	46.02	-15.04	0-360	100	H

Pk - Peak detector

## 8. AC POWER LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207 (a)

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	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.

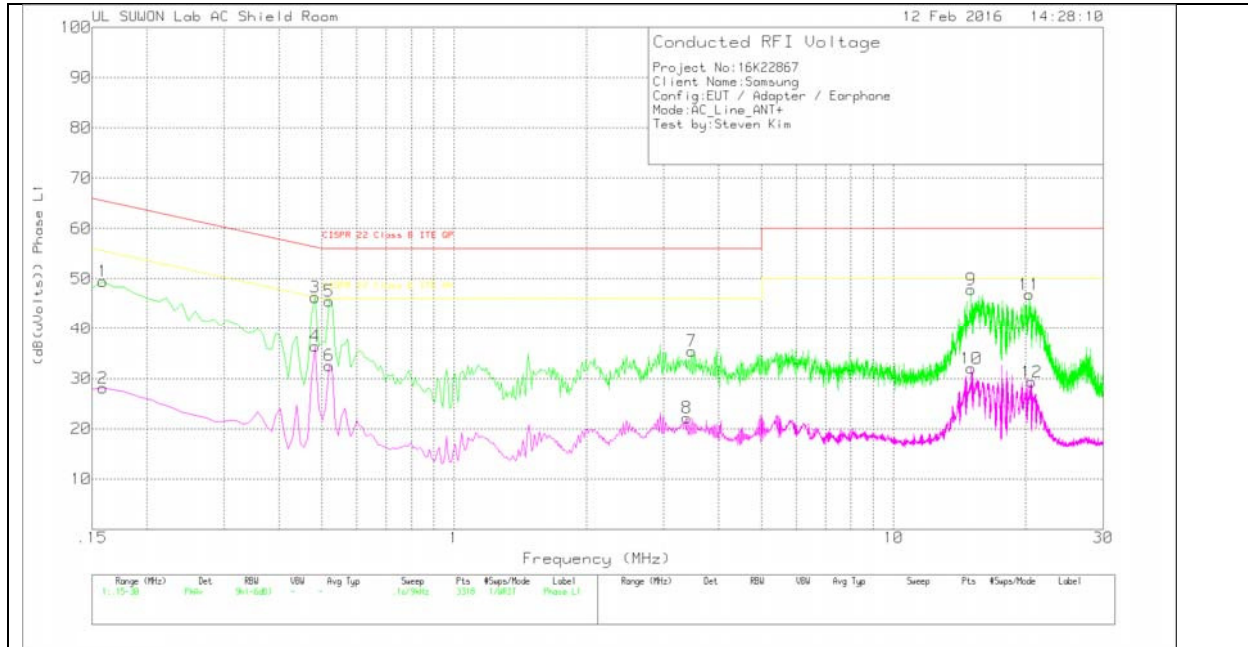
### TEST PROCEDURE

ANSI C63.10 - 2009

**RESULTS**

**6 WORST EMISSIONS**

**LINE 1 PLOT**



**LINE 1 RESULTS**

Trace Markers

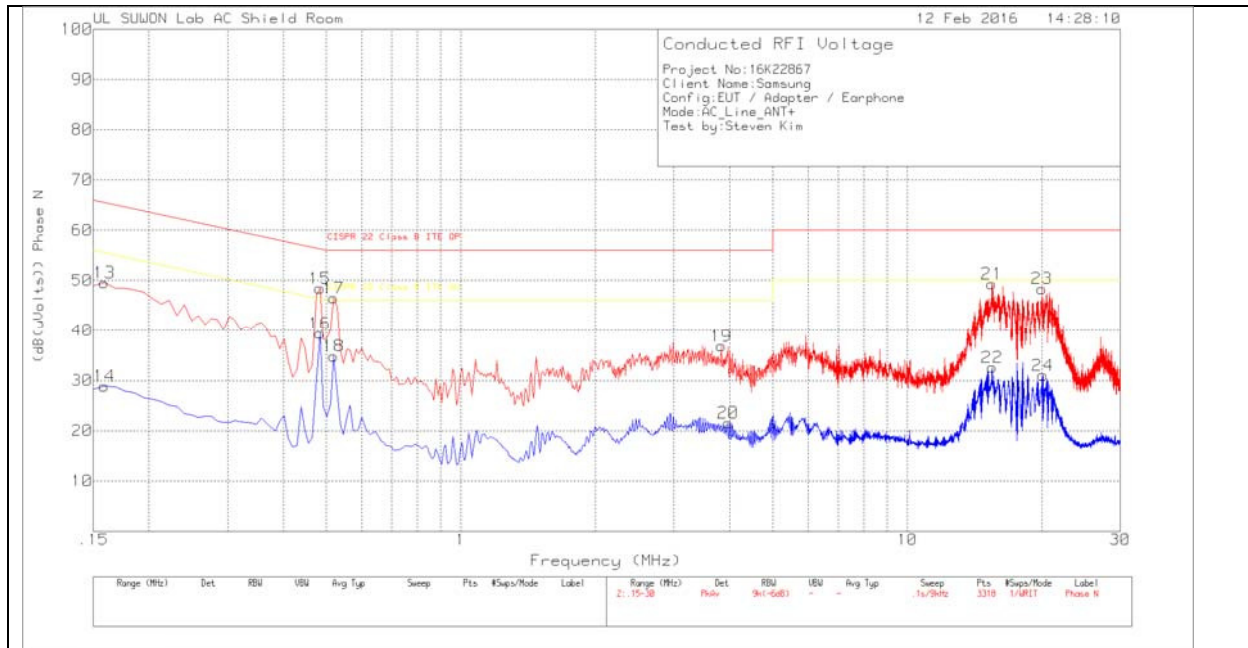
Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBUV)	Det	101837_wi th ex-cord_L1	CE Shield Room	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
1	.159	39.49	Pk	10	0	49.49	65.52	-16.03	-	-
2	.159	18.1	Av	10	0	28.1	-	-	55.52	-27.42
3	.483	36.14	Pk	10.2	0	46.34	56.29	-9.95	-	-
4	.483	26.21	Av	10.2	0	36.41	-	-	46.29	-9.88
5	.519	35.35	Pk	10.2	0	45.55	56	-10.45	-	-
6	.519	22.35	Av	10.2	0	32.55	-	-	46	-13.45
7	3.471	25.56	Pk	9.8	.1	35.46	56	-20.54	-	-
8	3.39	12.27	Av	9.8	.1	22.17	-	-	46	-23.83
9	15.036	37.47	Pk	10.2	.2	47.87	60	-12.13	-	-
10	15.045	21.61	Av	10.2	.2	32.01	-	-	50	-17.99
11	20.364	36.28	Pk	10.4	.2	46.88	60	-13.12	-	-
12	20.607	18.73	Av	10.4	.2	29.33	-	-	50	-20.67

Pk - Peak detector

Av - Average detection

LINE 2 PLOT



**LINE 2 RESULTS**

Trace Markers

Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101837_wi th ex-cord_N	CE Shield Room	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
13	.159	39.56	Pk	10	0	49.56	65.52	-15.96	-	-
14	.159	18.87	Av	10	0	28.87	-	-	55.52	-26.65
15	.483	38.35	Pk	10.1	0	48.45	56.29	-7.84	-	-
16	.483	29.31	Av	10.1	0	39.41	-	-	46.29	-6.88
17	.519	36.4	Pk	10.1	0	46.5	56	-9.5	-	-
18	.519	24.76	Av	10.1	0	34.86	-	-	46	-11.14
19	3.831	26.97	Pk	9.8	.1	36.87	56	-19.13	-	-
20	3.966	11.67	Av	9.8	.1	21.57	-	-	46	-24.43
21	15.477	38.83	Pk	10.3	.2	49.33	60	-10.67	-	-
22	15.495	21.98	Av	10.4	.2	32.58	-	-	50	-17.42
23	20.013	37.59	Pk	10.6	.2	48.39	60	-11.61	-	-
24	20.121	20.23	Av	10.6	.2	31.03	-	-	50	-18.97

Pk - Peak detector

Av - Average detection

Quasi-Peak Emissions

Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101837_wi th ex-cord_N	CE Shield Room	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
.4821	36.2	Qp	10.1	0	46.3	56.3	-10	-	-
.5217	34.01	Qp	10.1	0	44.11	56	-11.89	-	-

Qp - Quasi-Peak detector