FCC Part 15C
Measurement and Test Report

For

G53 Limited

Unit 1209,12/F,Star House, No.3 Salisbury Road, Tsim Sha Tsui, Kowloon,

HongKong

FCC ID: 2ADLM-STG10

FCC Rule(s):	FCC Part 15.247
Product Description:	Smart Phone
Tested Model:	STG10
Report No.:	STR16068034I-4
Tested Date:	2016-06-02 to 2016-06-14
Issued Date:	2016-06-15
Tested By:	Iven Guo / Engineer
Reviewed By:	Silin Chen / EMC Manager
Approved & Authorized By:	Jandy So / PSQ Manager

Prepared By:

Shenzhen SEM.Test Technology Co., Ltd.
1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road,
Bao'an District, Shenzhen, P.R.C.（518101）
Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	G53 Limited
Address of applicant:	Unit 1209,12/F,Star House, No.3 Salisbury Road, Tsim Sha T sui, Kowloon, HongKong
Manufacturer:	Shenzhen Fortuneship Technology Co., Ltd
Address of manufacturer:	Room 701-716, 7th Floor, Kanghesheng Building, No.1 ChuangSheng Road, Nanshan District, Shenzhen, Guangdong, P.R. China

General Description of EUT:	
Product Name:	Smart Phone
Brand Name:	/
Model No.:	STG10
Hardware Version:	V1.1
Software Version:	ZH010_CF4_HS010_G53_B68278_20160505_16G2G_64P8_DDR3_FWVGA_W25_ALS_143305
IMEI:	/
Rated Voltage:	Battery: DC 3.8V(1700mAh)
Power Adaptor:	Model: STG10
	INPUT: AC100-240V 50/60Hz,0.2A OUTPUT: DC5V/700mA
Note: The test data is gathered from a production sample provided by the manufacturer.	

Technical Characteristics of EUT	
Bluetooth Version:	V4.0(BLE)
Frequency Range:	2402-2480MHz
RF Output Power:	-4.411dBm (Conducted)
Data Rate:	1Mbps
Modulation:	GFSK
Quantity of Channels:	40
Channel Separation:	2MHz
Antenna Type:	Integral Antenna
Antenna Gain:	0.87dBi
Lowest Internal frequency of EUT:	26MHz

1.2 Test Standards

The following report is prepared on behalf of the G53 Limited in accordance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices, and ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. The measurement guide KDB 558074 D01 v03r05 for digital transmission systems shall be performed also.

1.4 Test Facility

FCC – Registration No.: 934118

Shenzhen SEM.Test Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 934118.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Shenzhen SEM.Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

CNAS Registration No.: L4062

Shenzhen SEM.Test Technology Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C (518101).

1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	GFSK(BLE)	2402MHz, 2440MHz, 2480MHz

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	1.0	Shielded	Without Ferrite
Earphone	1.2	Unshielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	±0.42dB
Occupied Bandwidth	Conducted	±1.5%
Power Spectral Density	Conducted	±1.8dB
Conducted Emissions	Conducted	±2.88dB
Transmitter Spurious Emissions	Radiated	±5.1dB

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2016-06-04	2017-06-03
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2016-06-04	2017-06-03
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2016-06-04	2017-06-03
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2016-06-04	2017-06-03
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2016-06-04	2017-06-03
SEMT-1011	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2016-06-04	2017-06-03
SEMT-1042	Horn Antenna	ETS	3117	00086197	2016-06-04	2017-06-03
SEMT-1121	Horn Antenna	ETS	3116B	00088203	2016-06-04	2017-06-03
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2016-06-04	2017-06-03
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2016-06-04	2017-06-03
SEMT-1003	L.I.S.N	Schwarz beck	NSLK8126	8126-224	2016-06-04	2017-06-03
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2016-06-04	2017-06-03

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 2.1093	RF Exposure	Compliant
§ 15.203; § 15.247(b)(4)(i)	Antenna Requirement	Compliant
§ 15.207(a)	Conducted Emission	Compliant
§ 15.247(e)	Power Spectral Density	Compliant
§ 15.247(a)(2)	6 dB Bandwidth	Compliant
§ 15.247(b)(3)	RF Output Power	Compliant
§ 15.209(a)	Radiated Emission	Compliant
§ 15.247(d)	Band Edge (Out of Band Emissions)	Compliant

N/A: not applicable

3. RF Exposure

3.1 Standard Applicable

According to § 1.1307 and § 2.1093, the portable transmitter must comply the RF exposure requirements.

3.2 Test Result

This product complied with the requirement of the RF exposure, please see the SAR Report.

4. Antenna Requirement

4.1 Standard Applicable

According to FCC Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

4.2 Evaluation Information

This product has an integral antenna, fulfill the requirement of this section.

5. Power Spectral Density

5.1 Standard Applicable

According to 15.247(a)(1)(iii), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

5.2 Test Procedure

According to the KDB 558074 D01 v03r05, the test method of power spectral density as below:

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ 3 × RBW.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

5.3 Environmental Conditions

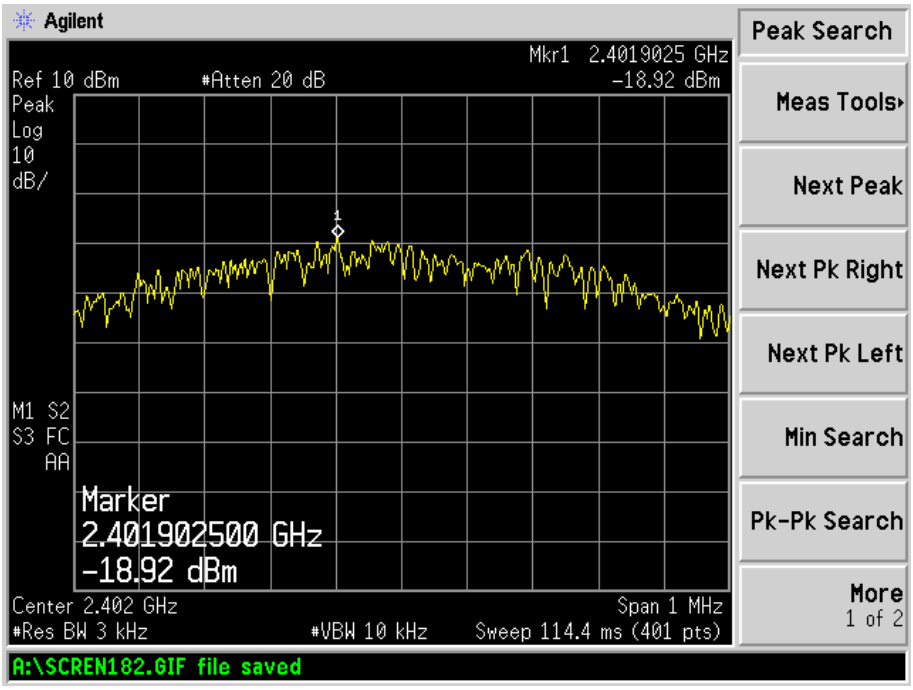
Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

5.4 Summary of Test Results/Plots

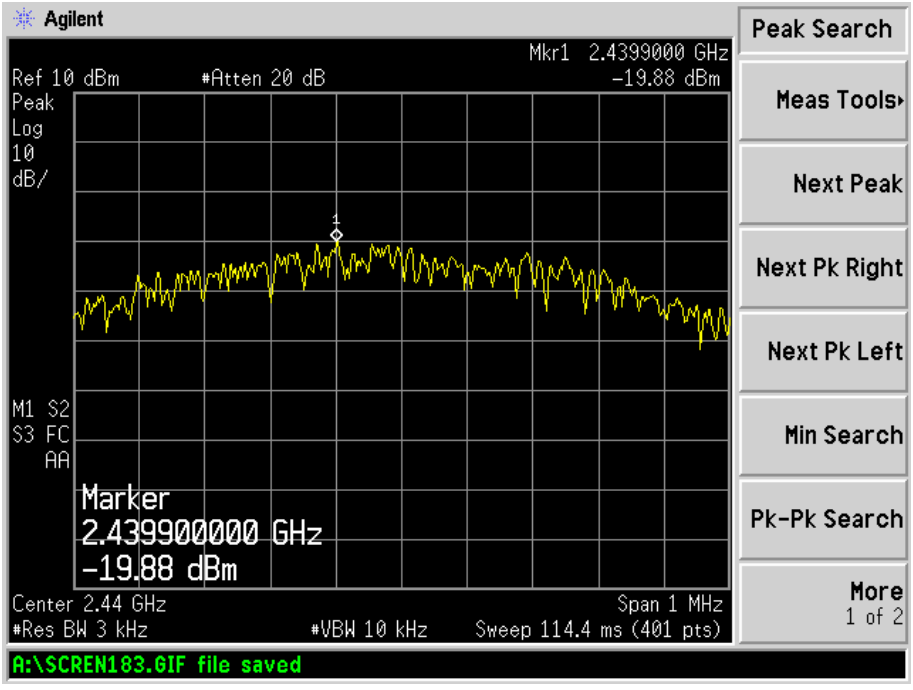
Test Mode	Test Channel MHz	Power Spectral Density dBm/3kHz	Limit dBm/3kHz
GFSK(BLE)	2402	-18.92	8
	2440	-19.88	8
	2480	-21.60	8

Please refer to the following test plots:

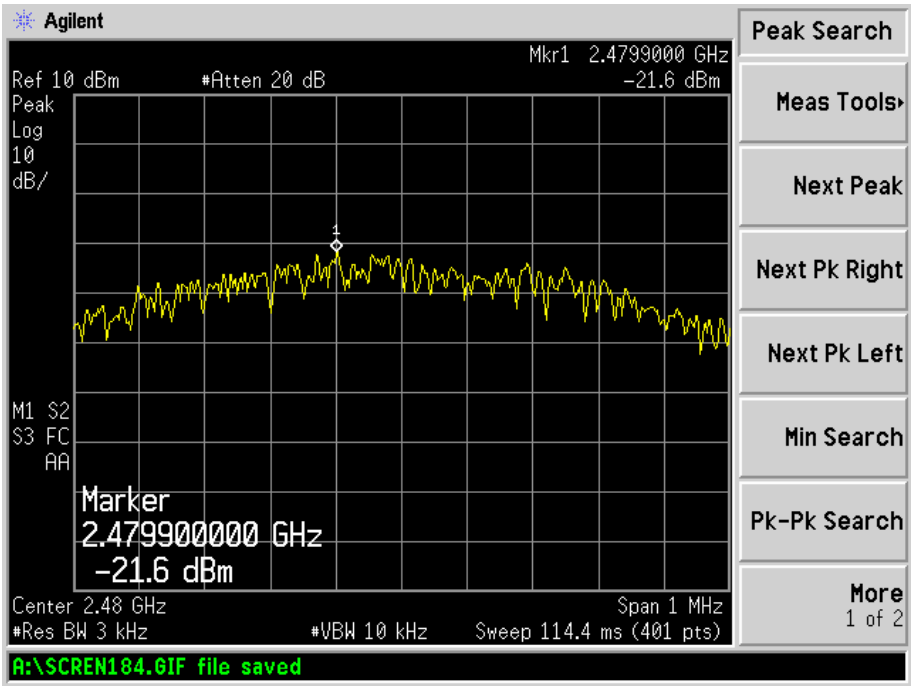
Low Channel



Middle Channel



High Channel



6. 6dB Bandwidth

6.1 Standard Applicable

According to 15.247(a)(2). Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

6.2 Test Procedure

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.3 Environmental Conditions

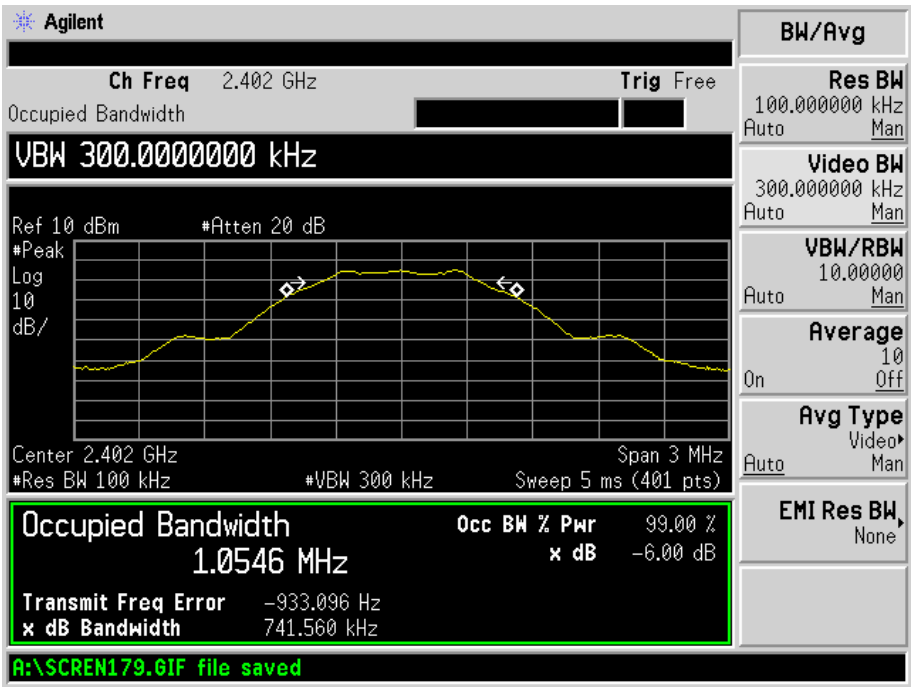
Temperature:	25° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

6.4 Summary of Test Results/Plots

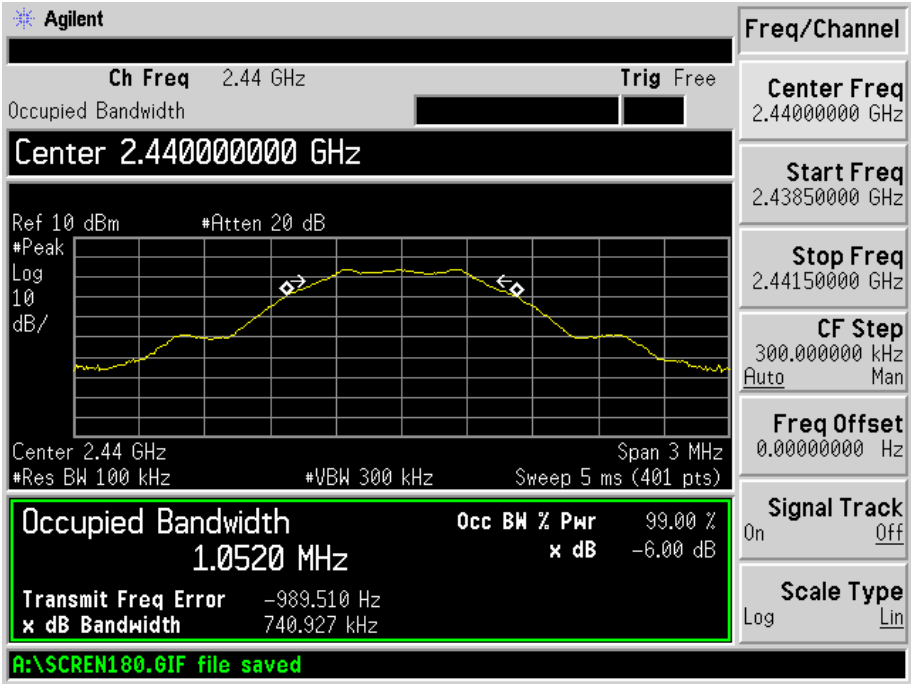
Test Mode	Test Channel MHz	6 dB Bandwidth kHz	99% Bandwidth MHz	Limit kHz
GFSK(BLE)	2402	741.560	1.0546	≥500
	2442	740.927	1.0520	≥500
	2480	731.472	1.0518	≥500

Please refer to the following test plots:

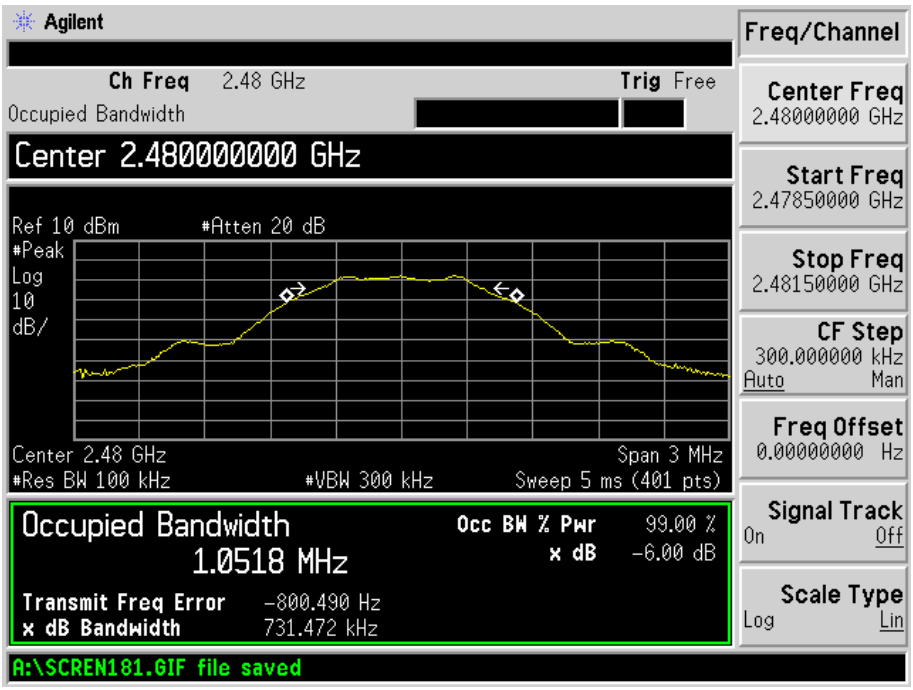
For BLE
Low Channel:



Middle Channel:



High Channel:



7. RF Output Power

7.1 Standard Applicable

According to 15.247(b)(3). For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

7.2 Test Procedure

According to the KDB 558074 D01 v03r05 section 9.1.1, this procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the DTS bandwidth.

a) Set the RBW ≥ DTS bandwidth.
b) Set VBW ≥ 3 × RBW.
c) Set span ≥ 3 x RBW
d) Sweep time = auto couple.
e) Detector = peak.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use peak marker function to determine the peak amplitude level.

7.3 Environmental Conditions

Temperature:	26° C
Relative Humidity:	57%
ATM Pressure:	1011 mbar

7.4 Summary of Test Results/Plots

Test Mode	Frequency MHz	Reading dBm	Output Power mW	Limit mW
GFSK(BLE)	2402	-4.411	0.362	1000
	2442	-5.365	0.291	1000
	2480	-7.070	0.196	1000

Note: the antenna gain of 0.86dBi less than 6dBi maximum permission antenna gain value based on 1 watt peak output power limit.

8. Field Strength of Spurious Emissions

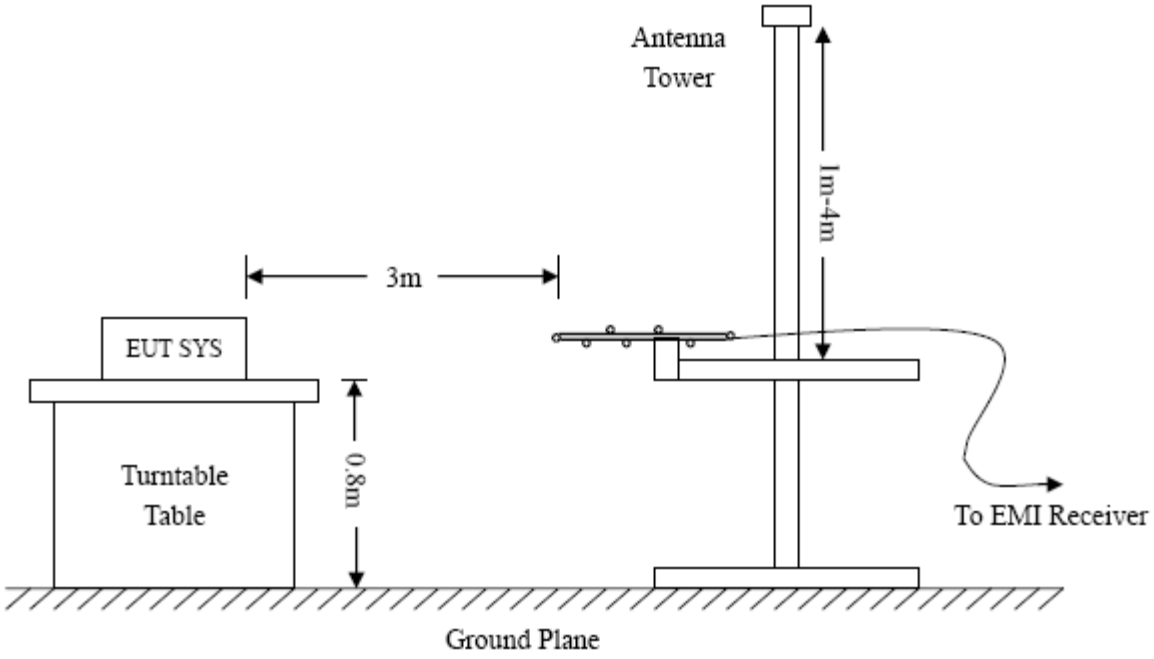
8.1 Standard Applicable

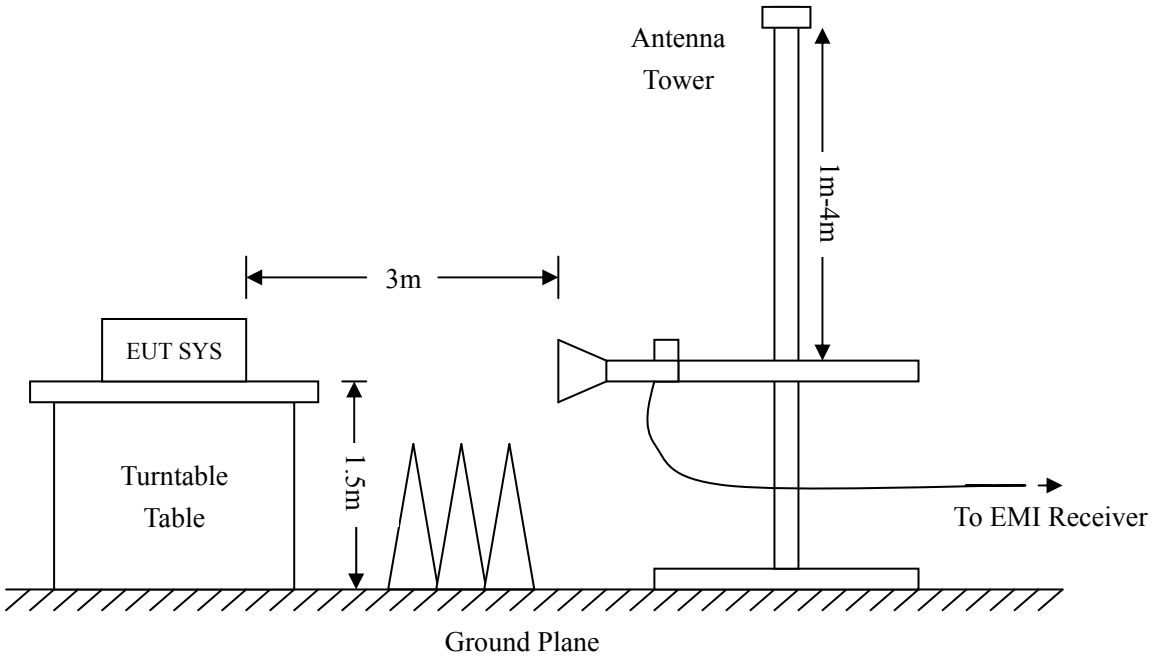
According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

8.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.





Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

8.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Ant. Factor + Cable Loss – Ampl. Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15 Limit

8.4 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

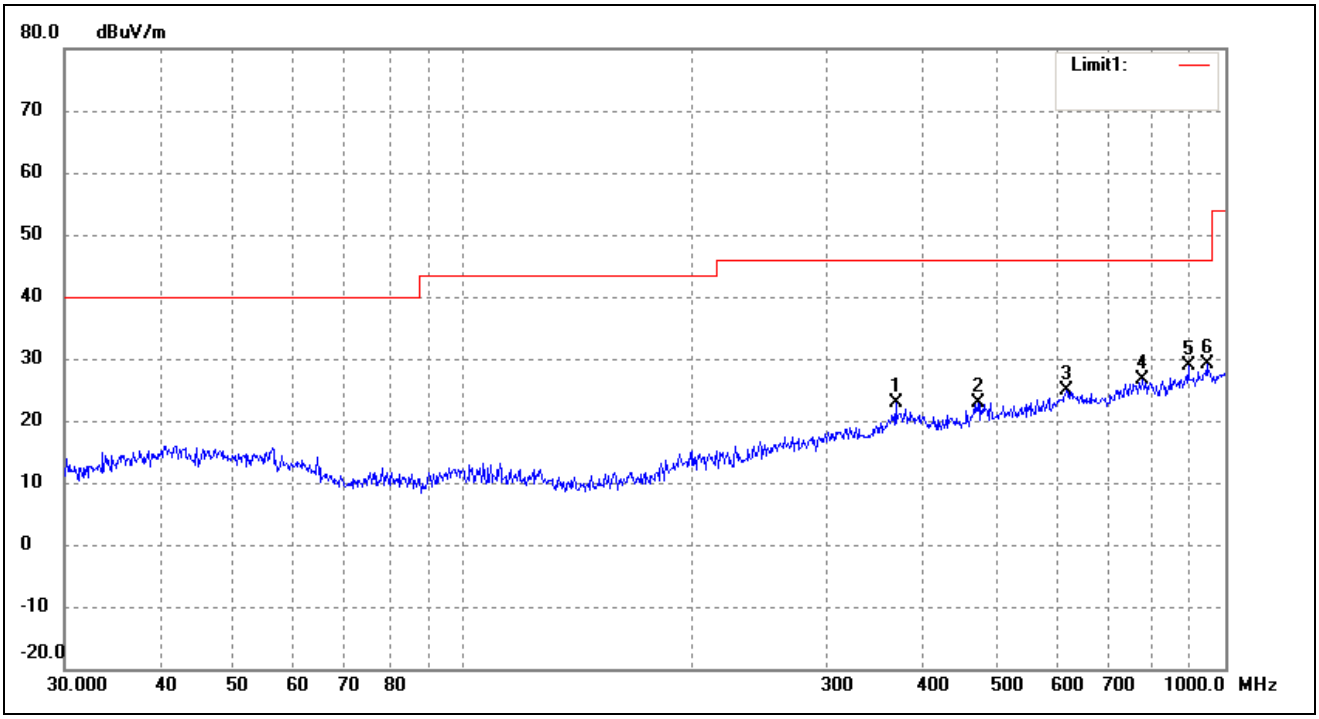
8.5 Summary of Test Results/Plots

According to the data below, the FCC Part 15.205, 15.209 and 15.247 standards, and had the worst cases:

*Note: this EUT was tested in 3 orthogonal positions, the **antenna vertically** is worst case position and the data was reported.*

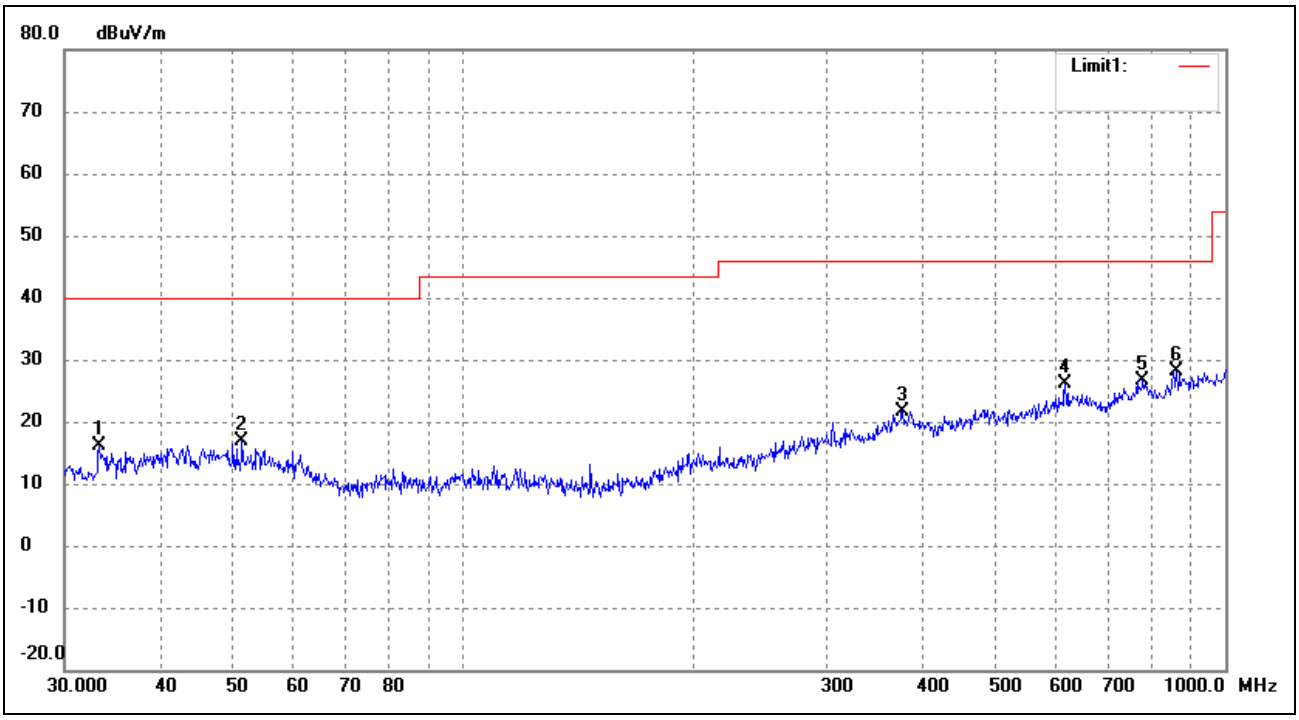
Plot of Radiated Emissions Test Data

EUT: *Smart Phone*
Tested Model: *STG10*
Operating Condition: *Transmitting-Low channel (2402MHz)*
Comment: *DC 3.8V*
Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	369.4046	25.60	-2.71	22.89	46.00	-23.11	360	100	QP
2	473.8346	24.36	-1.54	22.82	46.00	-23.18	0	100	QP
3	618.5368	23.63	1.14	24.77	46.00	-21.23	0	100	QP
4	779.6068	23.63	2.88	26.51	46.00	-19.49	360	100	QP
5	893.8567	25.67	3.15	28.82	46.00	-17.18	0	100	QP
6	945.4398	24.97	4.08	29.05	46.00	-16.95	360	100	QP

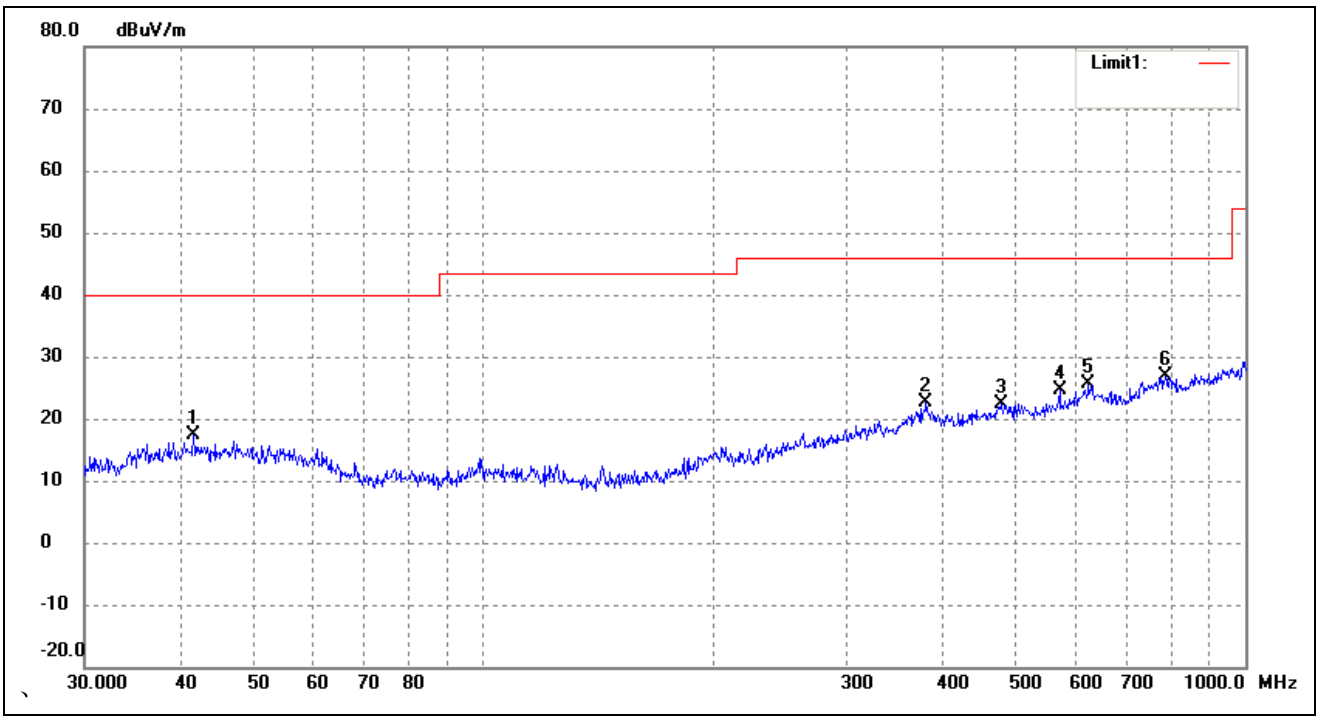
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	33.3278	25.48	-9.46	16.02	40.00	-23.98	360	100	QP
2	51.3004	25.44	-8.49	16.95	40.00	-23.05	0	100	QP
3	377.2590	23.89	-2.26	21.63	46.00	-24.37	360	100	QP
4	616.3718	25.07	0.99	26.06	46.00	-19.94	360	100	QP
5	779.6068	23.78	2.88	26.66	46.00	-19.34	0	100	QP
6	863.0561	25.05	2.97	28.02	46.00	-17.98	360	100	QP

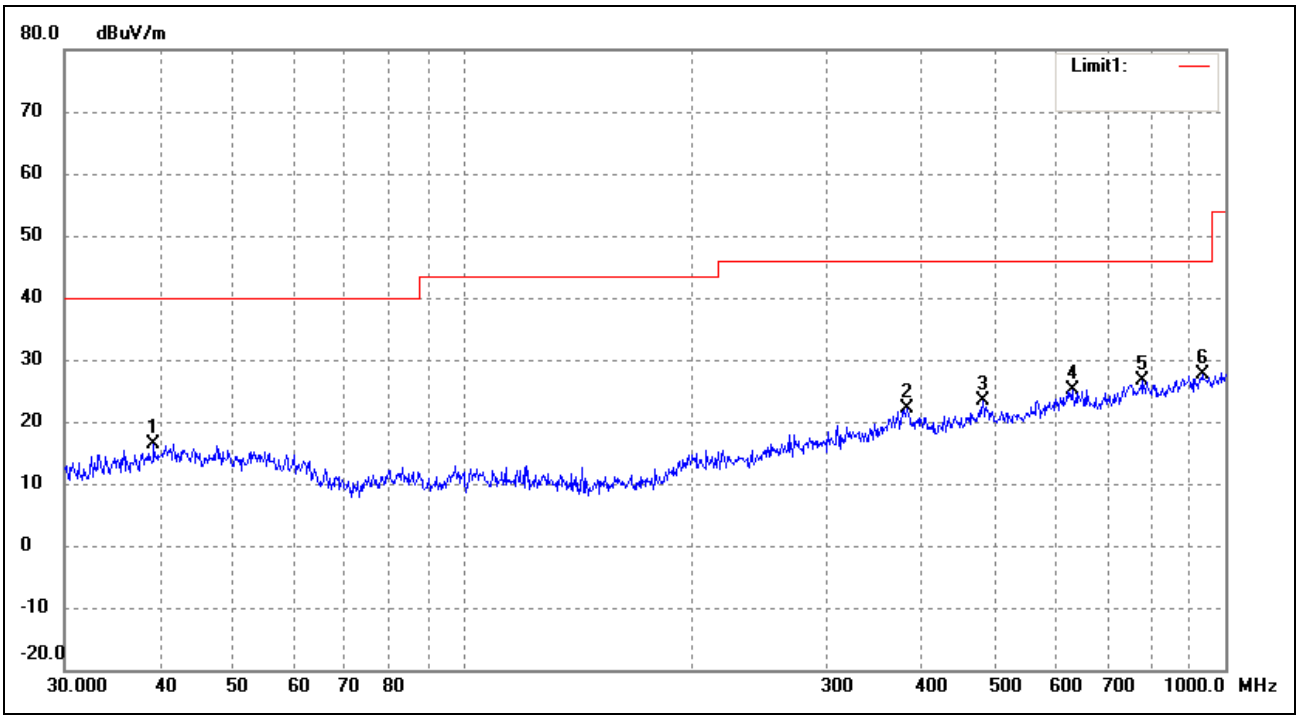
Plot of Radiated Emissions Test Data

EUT: *Smart Phone*
Tested Model: *STG10*
Operating Condition: *Transmitting-Middle channel (2440MHz)*
Comment: *DC 3.8V*
Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	41.7130	25.15	-7.78	17.37	40.00	-22.63	360	100	QP
2	381.2486	24.81	-2.17	22.64	46.00	-23.36	360	100	QP
3	478.8455	23.60	-1.13	22.47	46.00	-23.53	0	100	QP
4	570.6100	25.88	-1.16	24.72	46.00	-21.28	360	100	QP
5	622.8899	24.52	1.16	25.68	46.00	-20.32	360	100	QP
6	785.0934	24.29	2.65	26.94	46.00	-19.06	0	100	QP

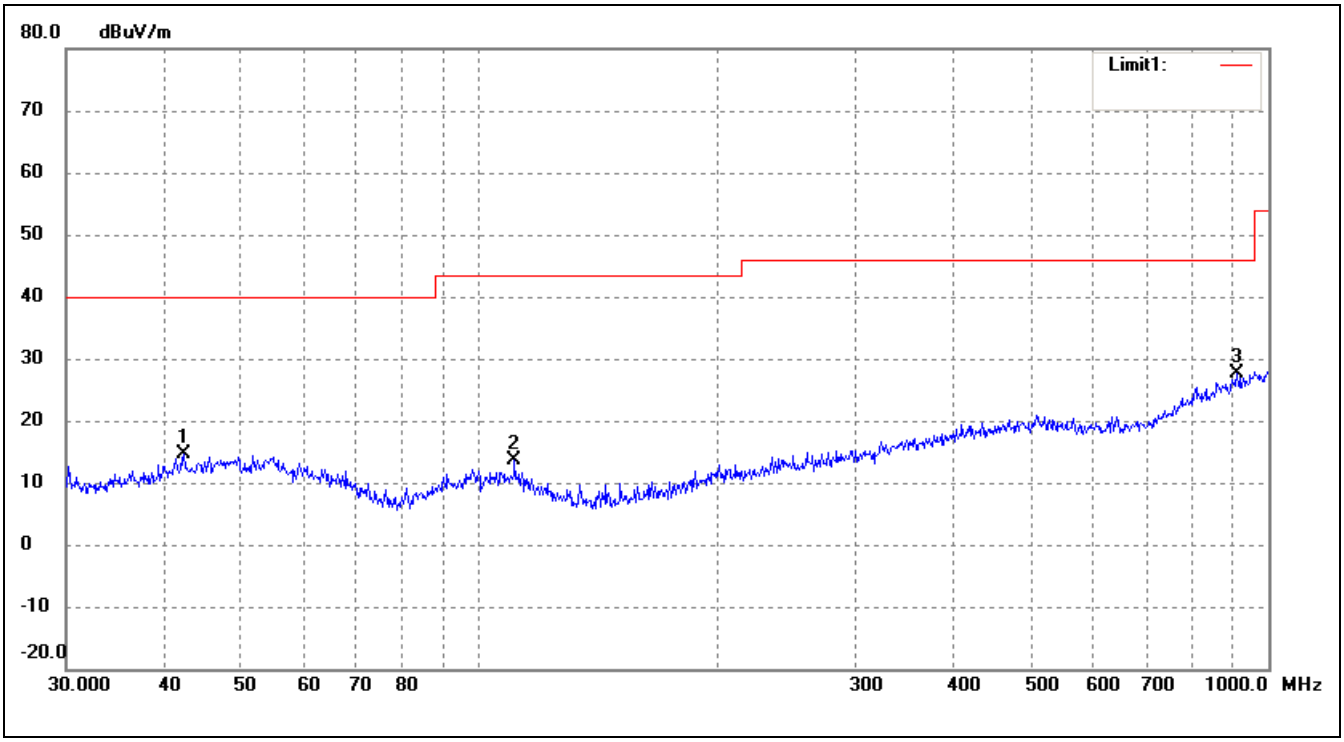
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	39.2991	24.18	-7.85	16.33	40.00	-23.67	360	100	QP
2	382.5878	24.37	-2.23	22.14	46.00	-23.86	0	100	QP
3	480.5276	24.57	-1.08	23.49	46.00	-22.51	360	100	QP
4	629.4772	24.21	0.99	25.20	46.00	-20.80	360	100	QP
5	776.8777	23.97	2.73	26.70	46.00	-19.30	0	100	QP
6	932.2714	23.62	4.03	27.65	46.00	-18.35	360	100	QP

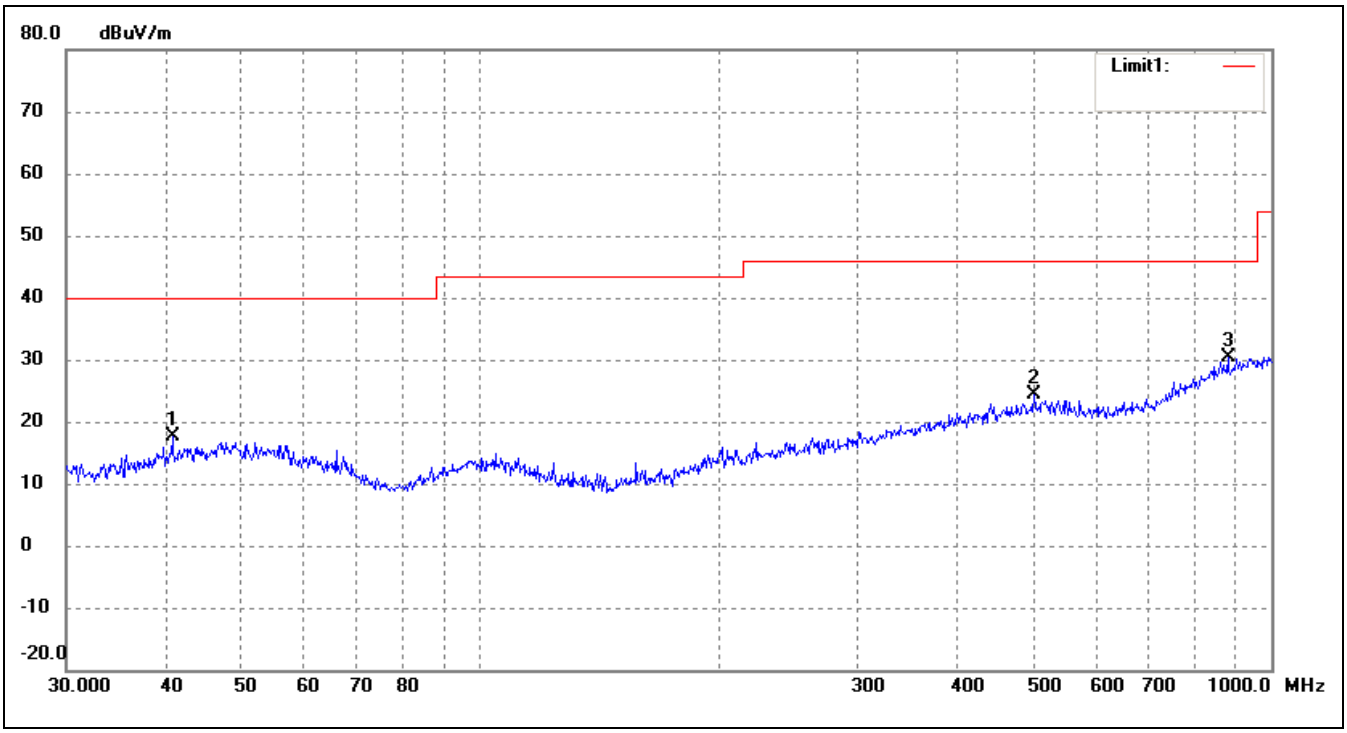
Plot of Radiated Emissions Test Data

EUT: *Smart Phone*
Tested Model: *STG10*
Operating Condition: *Transmitting-High channel (2480MHz)*
Comment: *DC 3.8V*
Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	42.3022	22.64	-8.00	14.64	40.00	-25.36	162	100	QP
2	110.9571	23.39	-9.76	13.63	43.50	-29.87	187	100	QP
3	912.8620	22.16	5.53	27.69	46.00	-18.31	203	100	QP

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	40.8446	25.79	-8.27	17.52	40.00	-22.48	240	100	QP
2	501.1790	25.44	-1.10	24.34	46.00	-21.66	187	100	QP
3	881.4067	25.48	5.01	30.49	46.00	-15.51	220	100	QP

Spurious Emissions Above 1GHz

Transmitting: BLE mode:

Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel-2402MHz							
4804	60.00	-3.59	56.41	74	-17.59	H	PK
4804	44.55	-3.59	40.96	54	-13.04	H	AV
7206	59.09	-0.52	58.57	74	-15.43	H	PK
7206	43.64	-0.52	43.12	54	-10.88	H	AV
4804	55.45	-3.59	51.86	74	-22.14	V	PK
4804	43.64	-3.59	40.05	54	-13.95	V	AV
7206	57.27	-0.52	56.75	74	-17.25	V	PK
7206	45.45	-0.52	44.93	54	-9.07	V	AV
Middle Channel-2440MHz							
4880	52.73	-3.49	49.24	74	-24.76	H	PK
4880	44.55	-3.49	41.06	54	-12.94	H	AV
7320	55.45	-0.47	54.98	74	-19.02	H	PK
7320	45.45	-0.47	44.98	54	-9.02	H	AV
4880	59.09	-3.49	55.60	74	-18.40	V	PK
4880	40.00	-3.49	36.51	54	-17.49	V	AV
7320	54.55	-0.47	54.08	74	-19.92	V	PK
7320	40.00	-0.47	39.53	54	-14.47	V	AV
High Channel-2480MHz							
4960	53.64	-3.41	50.23	74	-23.77	H	PK
4960	44.55	-3.41	41.14	54	-12.86	H	AV
7440	54.55	-0.42	54.13	74	-19.87	H	PK
7440	44.55	-0.42	44.13	54	-9.87	H	AV
4960	53.64	-3.41	50.23	74	-23.77	V	PK
4960	44.55	-3.41	41.14	54	-12.86	V	AV
7440	56.36	-0.42	55.94	74	-18.06	V	PK
7440	43.64	-0.42	43.22	54	-10.78	V	AV

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 3th Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
The measurements greater than 20dB below the limit from 9kHz to 30MHz..

9. Out of Band Emissions

9.1 Standard Applicable

According to §15.247 (d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

9.2 Test Procedure

According to the KDB 558074 D01 v03r05, the band-edge radiated test method as follows:

Set span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation (2310MHz to 2420MHz for low bandedge, 2460MHz to 2500MHz for the high bandedge)
RBW = 1MHz, VBW = 1MHz for peak value measured
RBW = 1MHz, VBW = 10Hz for average value measured
Sweep = auto; Detector function = peak/average; Trace = max hold
All the trace to stabilize, set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. Those emission must comply with the 15.209 limit for fall in the restricted bands listed in section 15.205. Note that the method of measurement KDB publication number: 913591 may be used for the radiated bandedge measurements.

According to the KDB 558074 D01 v03r05, the conducted spurious emissions test method as follows:
1. Set start frequency to DTS channel edge frequency.
2. Set stop frequency so as to encompass the spectrum to be examined.
3. Set RBW = 100 kHz.
4. Set VBW ≥ 300 kHz.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.
8. Allow the trace to stabilize (this may take some time, depending on the extent of the span).
9. Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements specified in section 8.1. Report the three highest emissions relative to the limit.

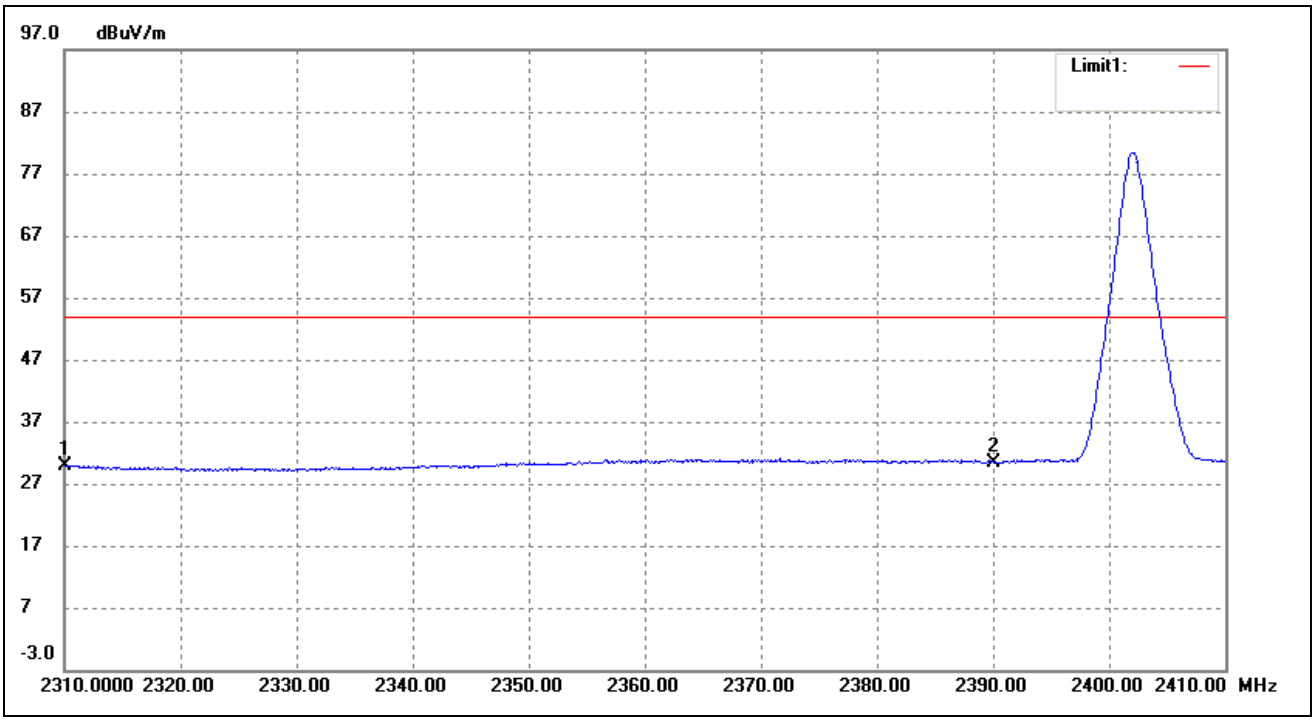
9.3 Environmental Conditions

Temperature:	23°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

9.4 Summary of Test Results/Plots

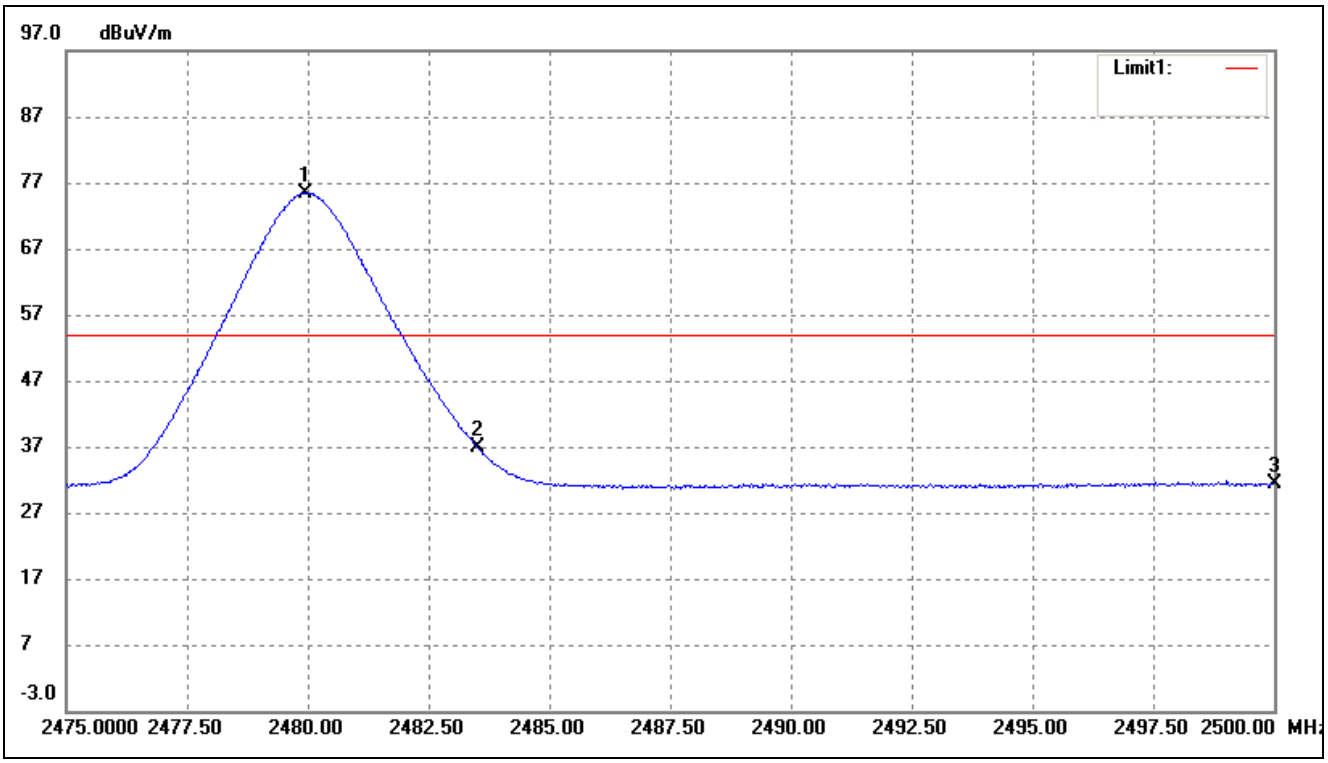
Please refer to the test plots as below.

Bandedge (Radiated)
Lowest Bandedge-BLE
Horizontal (Worst case)



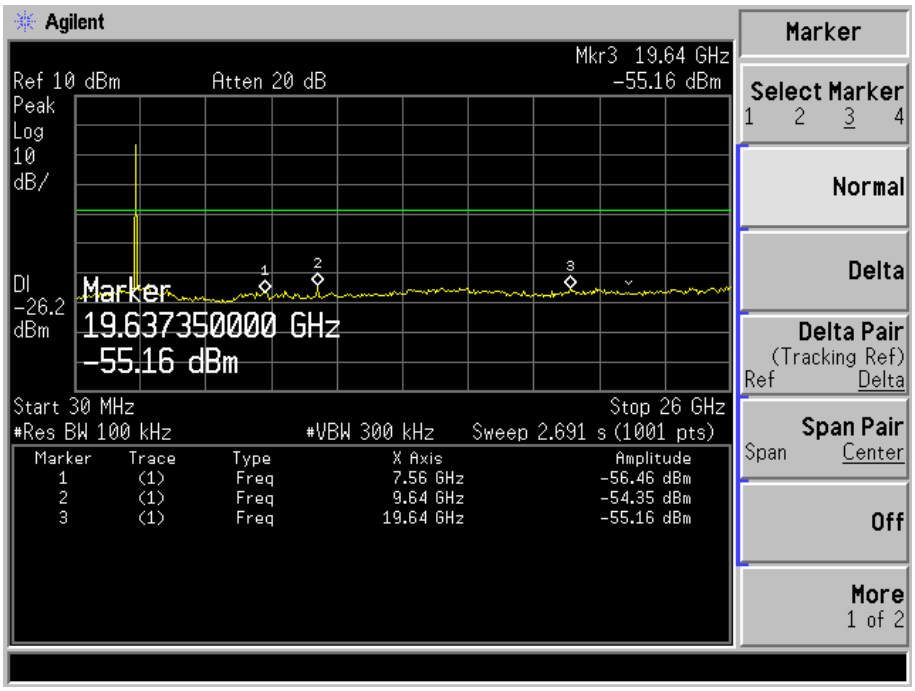
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	33.73	-4.42	29.31	54.00	-24.69	Average Detector
	2310.000	45.94	-4.42	41.52	74.00	-32.48	Peak Detector
2	2390.000	33.89	-3.72	30.17	54.00	-23.83	Average Detector
	2390.000	47.07	-3.72	43.35	74.00	-30.65	Peak Detector

Highest Bandedge-BLE
Horizontal (Worst case)

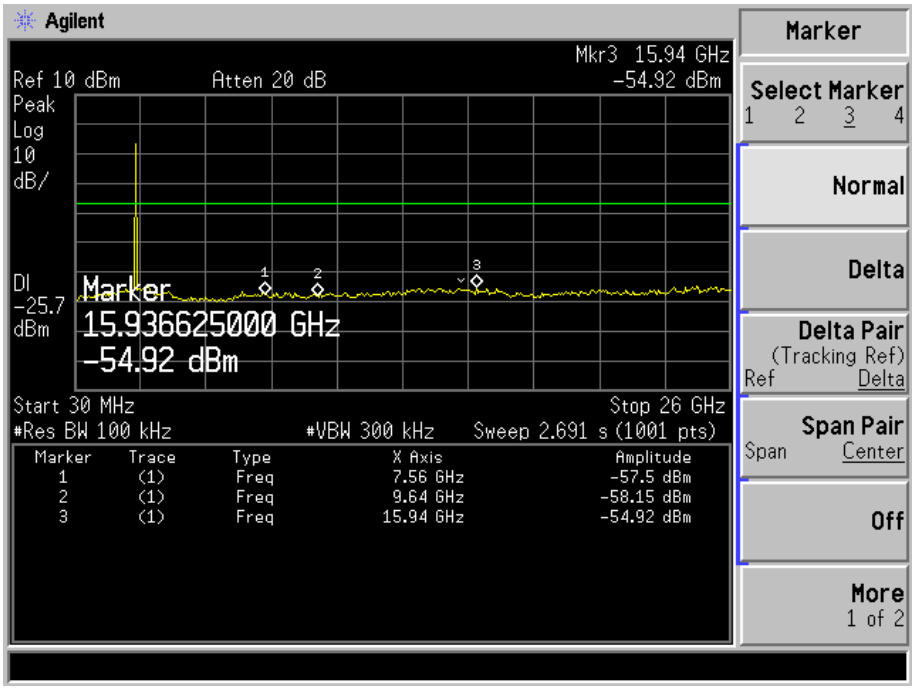


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.950	78.36	-3.04	75.32	/	/	Average Detector
	2480.125	86.26	-3.04	83.22	/	/	Peak Detector
2	2483.500	39.14	-3.01	36.13	54.00	-17.87	Average Detector
	2483.500	48.22	-3.01	45.21	74.00	-28.79	Peak Detector
3	2500.000	34.09	-2.88	31.21	54.00	-22.79	Average Detector
	2500.000	46.48	-2.88	43.60	74.00	-30.40	Peak Detector

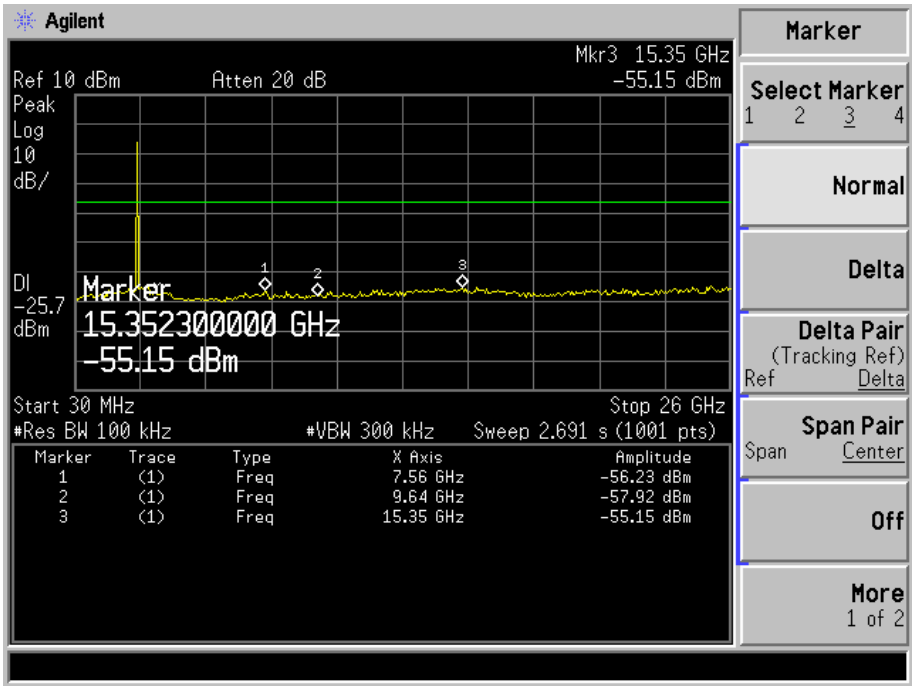
Bandedge (Conducted)
Low Channel



Middle Channel



High Channel

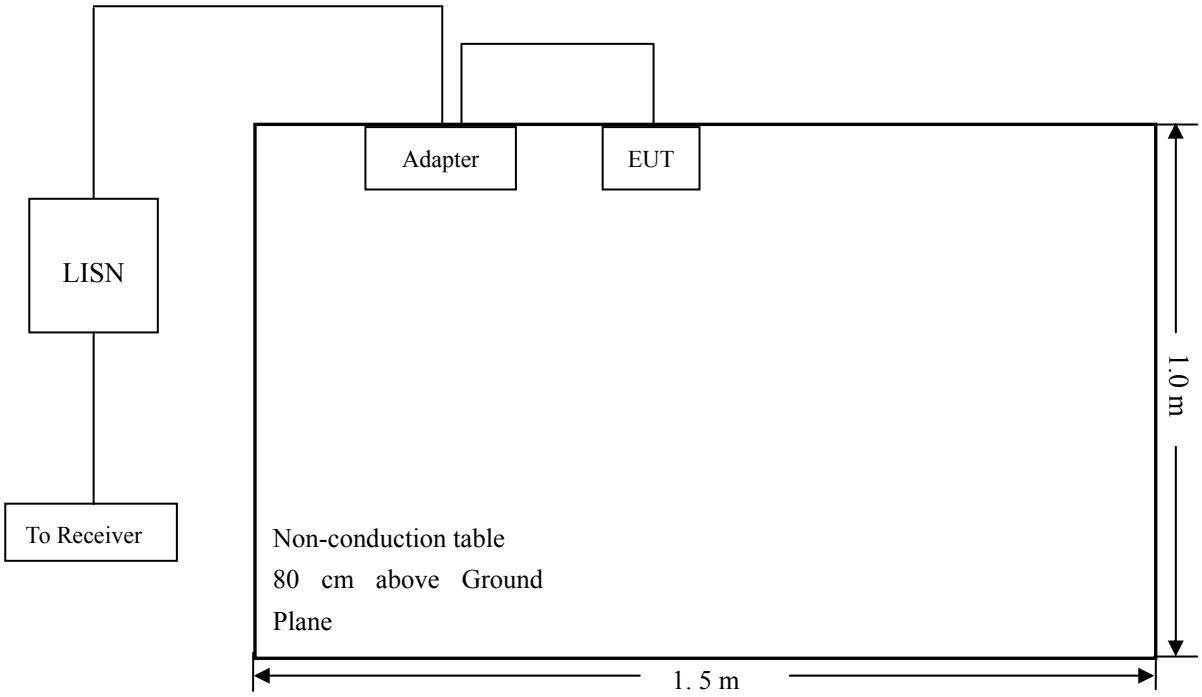


10. Conducted Emissions

10.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.207 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.

10.2 Basic Test Setup Block Diagram



10.3 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

1.5

10.4 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency ..... 150 kHz
Stop Frequency..... 30 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth ..... 9 kHz
Quasi-Peak Adapter Mode ..... Normal

10.5 Summary of Test Results/Plots

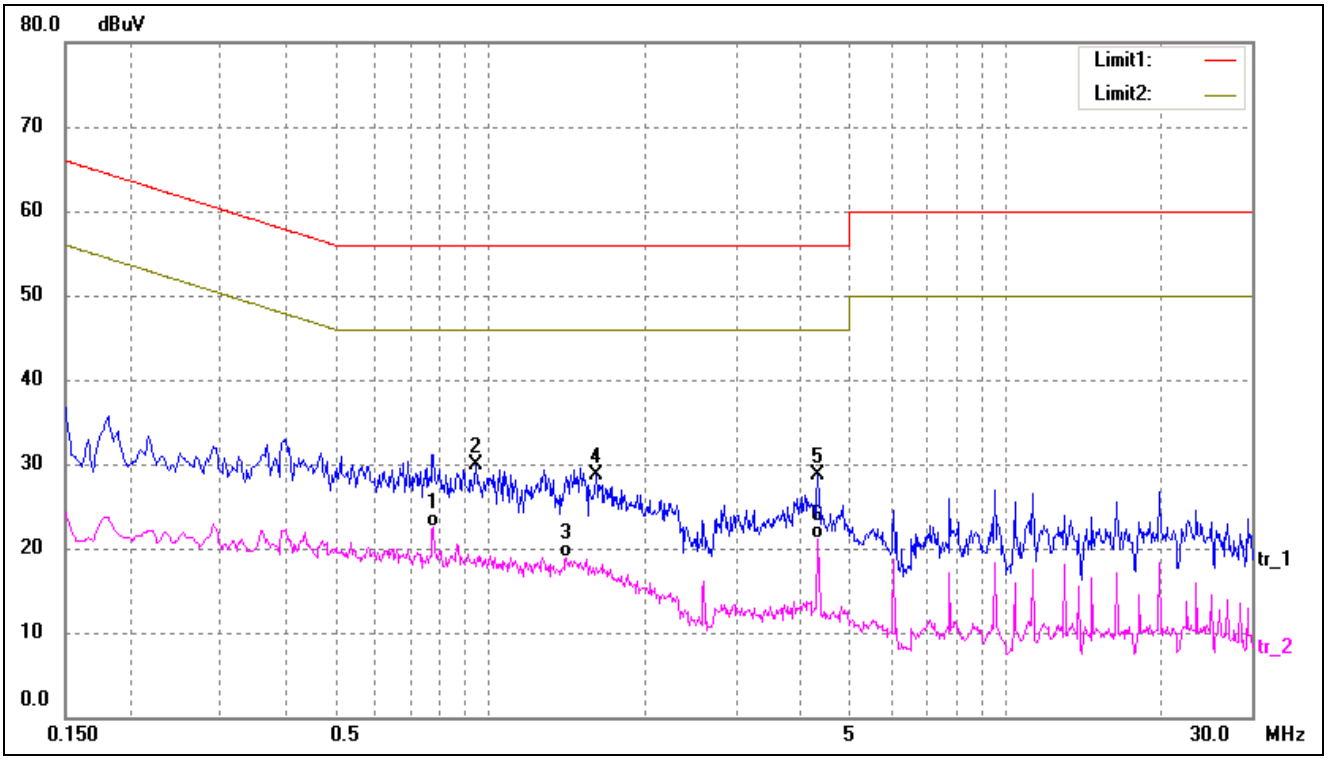
According to the data in section 10.6, the EUT complied with the FCC Part 15.207 Conducted margin for this device, with the *worst* margin reading of:

-3.58 dB at **0.5420 MHz** in the **Line, Peak** detector, 0.15-30MHz

10.6 Conducted Emissions Test Data

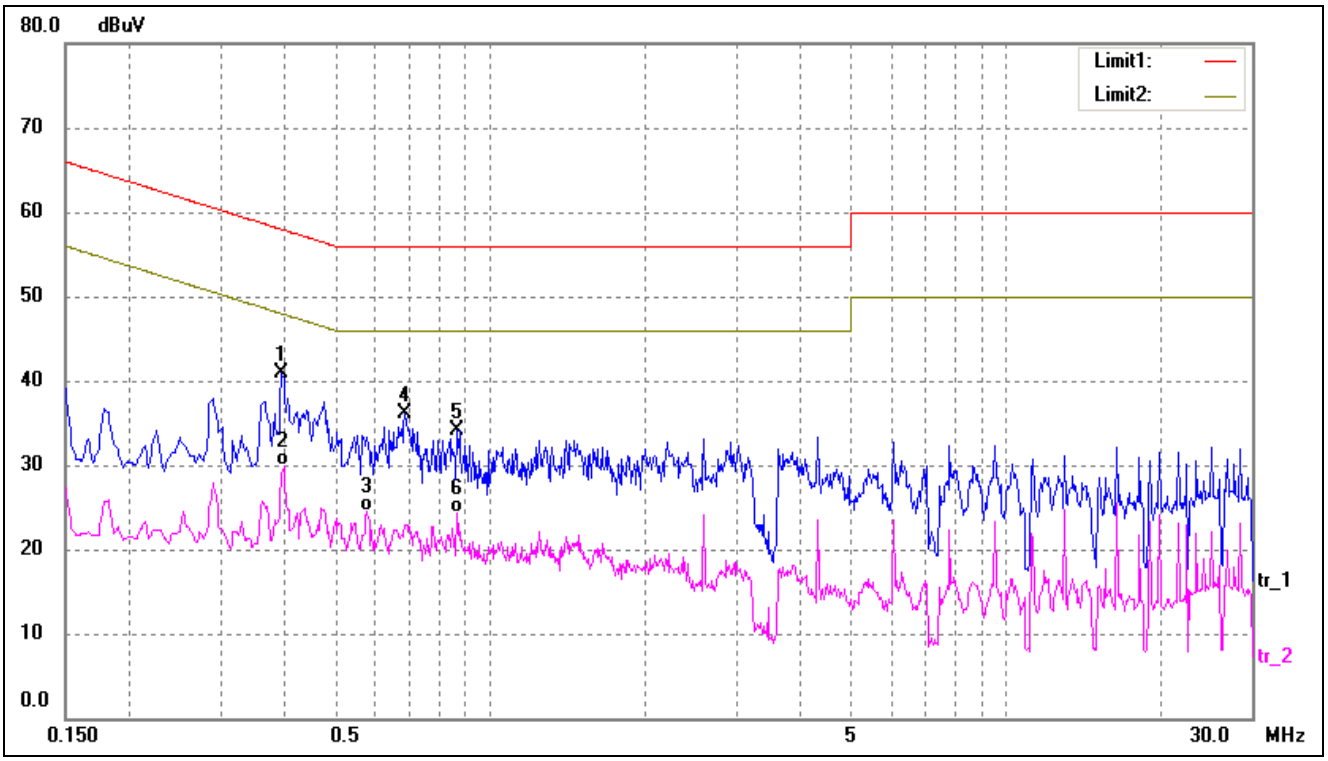
Plot of Conducted Emissions Test Data

EUT: *Smart Phone*
Tested Model: *STG10*
Operating Condition: *(BT)Transmitting*
Comment: *AC 120V/60Hz; Adapter DC 5V*
Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.7780	12.90	9.63	22.53	46.00	-23.47	AVG
2	0.9420	20.15	9.67	29.82	56.00	-26.18	peak
3	1.4100	9.17	9.74	18.91	46.00	-27.09	AVG
4	1.6100	19.00	9.77	28.77	56.00	-27.23	peak
5	4.3340	18.48	10.15	28.63	56.00	-27.37	peak
6	4.3340	10.93	10.15	21.08	46.00	-24.92	AVG

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.3940	31.37	9.50	40.87	57.98	-17.11	peak
2	0.3980	20.42	9.50	29.92	47.90	-17.98	AVG
3	0.5780	14.87	9.58	24.45	46.00	-21.55	AVG
4	0.6860	26.59	9.60	36.19	56.00	-19.81	peak
5	0.8660	24.53	9.65	34.18	56.00	-21.82	peak
6	0.8660	14.65	9.65	24.30	46.00	-21.70	AVG

******* END OF REPORT *******