

FCC Part 15B

Measurement and Test Report

For

Swagtek

10205 NW 19th Street STE101, Miami, Florida, 33172, United States

FCC ID: O55553717

FCC Rule(s): FCC Part 15 Subpart B

Product Description: 5.5 inch 4G Smart Phone

Tested Model: L5.5D

Report No.: STR17098286E-3

Tested Date: 2017-09-25 to 2017-10-24

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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen SEM Test Technology Co., Ltd.

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Swagtek
Address of applicant: 10205 NW 19th Street STE101, Miami, Florida, 33172,
United States

Manufacturer: Swagtek
Address of manufacturer: 10205 NW 19th Street STE101, Miami, Florida, 33172,
United States

General Description of EUT

Product Name:	5.5 inch 4G Smart Phone
Brand Name:	LOGIC, iSWAG, UNONU
Model No.:	L5.5D
Adding Model(s):	VISTA

Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model L5.5D, but the circuit and the electronic construction do not change, declared by the manufacturer.

Technical Characteristics of EUT

Rated Voltage:	DC 3.7V by battery
Rated Current:	/
Rated Power:	/
Power Adapter:	Model:DCS10-0501000F Input:AC100V-240V, 50/60Hz, Output: DC5.0V,1A
Lowest Internal Frequency:	32.768kHz
Highest Internal Frequency:	1.5GHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the Swagtek in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.205, 15.107, and 15.109 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 C63.4-2014, 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.

1.4 Test Facility

FCC – Registration No.: 125990

Shenzhen SEM Test Technology Co., Ltd. EMC Laboratory has been recognized to perform compliance testing on equipme subject to the Commissions Declaration Of Conformity (DOC). The Designation Number is CN5010, and Test Firm Registration Number is 125990.

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.

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List:

Test Mode	Description	Remark
TM1	Charging + Playing	Connect to adapter
TM2	Downloading	connect to PC
TM3	Charging + Camera	/
TM4	FM	/

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.0	Shielded	Without Ferrite
Earphone	1.2	Unshielded	Without Ferrite

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E10	LR-63C8R

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Conducted Emissions	Conducted	$\pm 2.88\text{dB}$
Transmitter Spurious Emissions	Radiated	$\pm 5.1\text{dB}$

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2017-06-12	2018-06-11
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2017-06-12	2018-06-11
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2017-06-12	2018-06-11
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2017-06-12	2018-06-11
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2017-06-12	2018-06-11
SEMT-1011	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2017-06-08	2018-06-07
SEMT-1042	Horn Antenna	ETS	3117	00086197	2017-06-08	2018-06-07
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2017-06-08	2018-06-07
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2017-06-12	2018-06-11
SEMT-1003	L.I.S.N	Schwarz beck	NSLK8126	8126-224	2017-06-12	2018-06-11
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2017-06-12	2018-06-11

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107 (a) Conducted Emission	Compliant
§15.109(a) Radiated Emission	Compliant

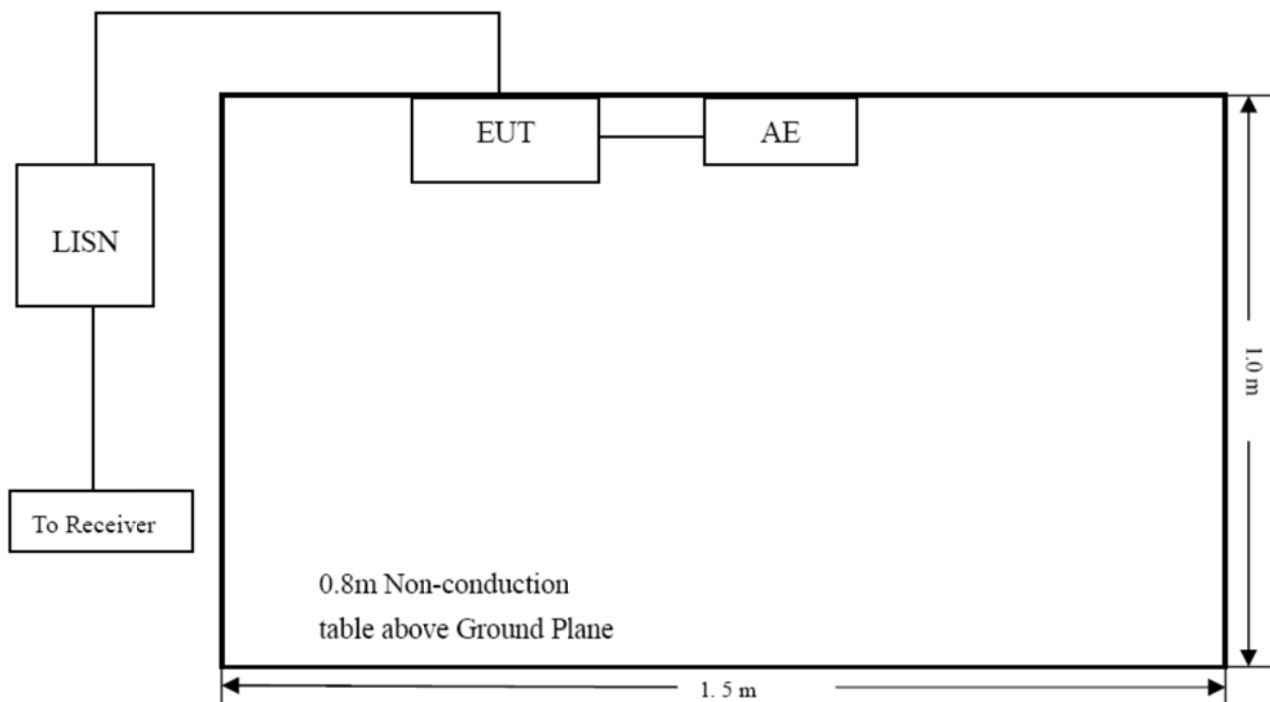
N/A: not applicable

3. Conducted Emissions

3.1 Test Procedure

Test is conducting under the description of 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.

3.2 Basic Test Setup Block Diagram



3.3 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

3.4 Summary of Test Results/Plots

According to the data in section 3.6, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

-7.27 dB at 0.4980 MHz in the **Line**, **AVG** detector, **TM1** mode, 0.15-30MHz

3.5 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

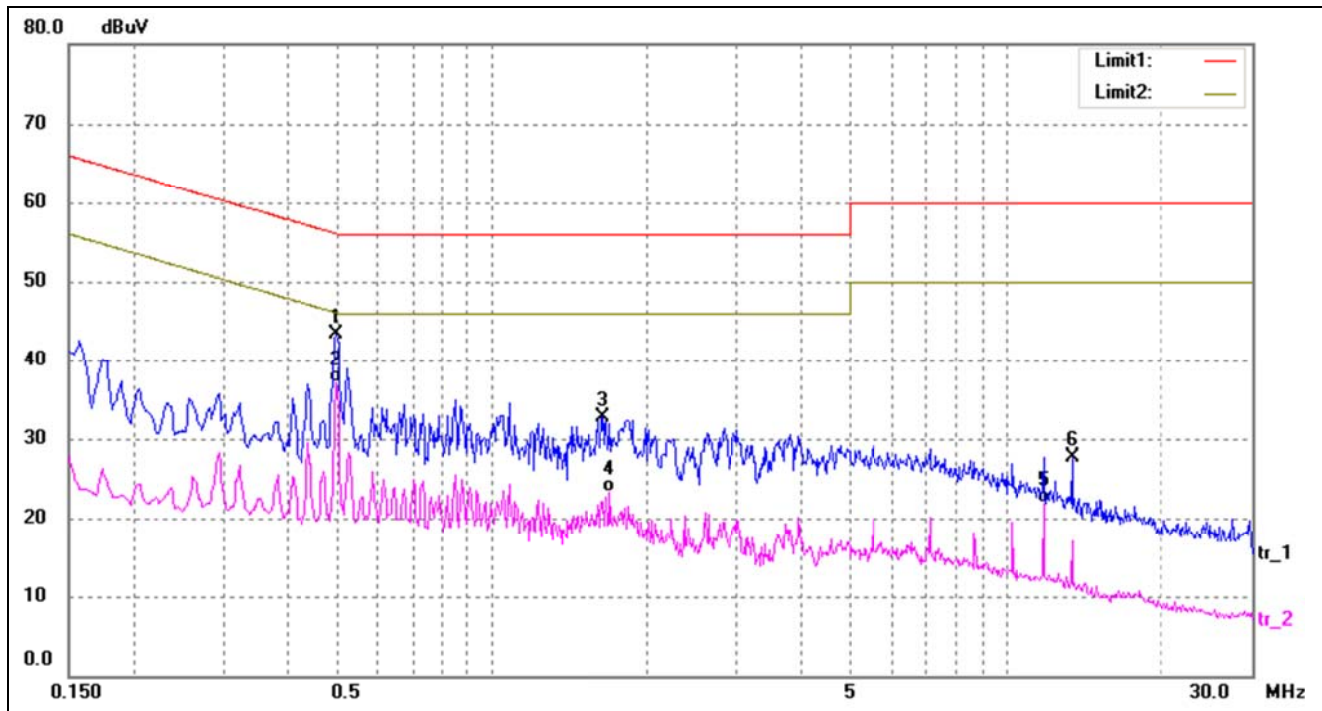
EUT: 5.5 inch 4G Smart Phone

Tested Model: L5.5D

Operating Condition: TM1

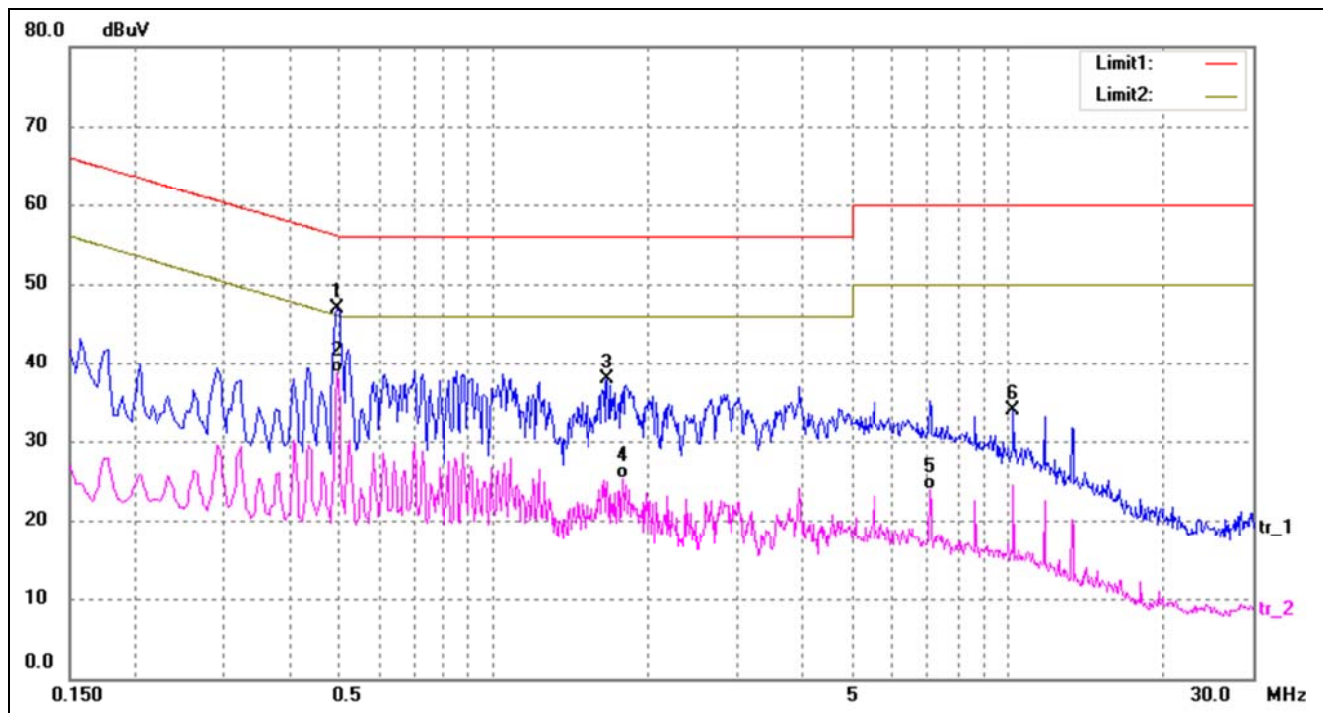
Comment: AC 120V/60Hz

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.4980	33.41	9.80	43.21	56.03	-12.82	QP
2*	0.4980	27.30	9.80	37.10	46.03	-8.93	AVG
3	1.6380	23.00	9.74	32.74	56.00	-23.26	QP
4	1.6980	13.47	9.74	23.21	46.00	-22.79	AVG
5	11.8420	12.31	9.55	21.86	50.00	-28.14	AVG
6	13.4180	18.10	9.58	27.68	60.00	-32.32	QP

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.4980	37.17	9.80	46.97	56.03	-9.06	QP
2*	0.4980	28.96	9.80	38.76	46.03	-7.27	AVG
3	1.6660	28.10	9.74	37.84	56.00	-18.16	QP
4	1.7820	15.57	9.74	25.31	46.00	-20.69	AVG
5	7.0940	14.23	9.60	23.83	50.00	-26.17	AVG
6	10.2580	24.40	9.52	33.92	60.00	-26.08	QP

Plot of Conducted Emissions Test Data

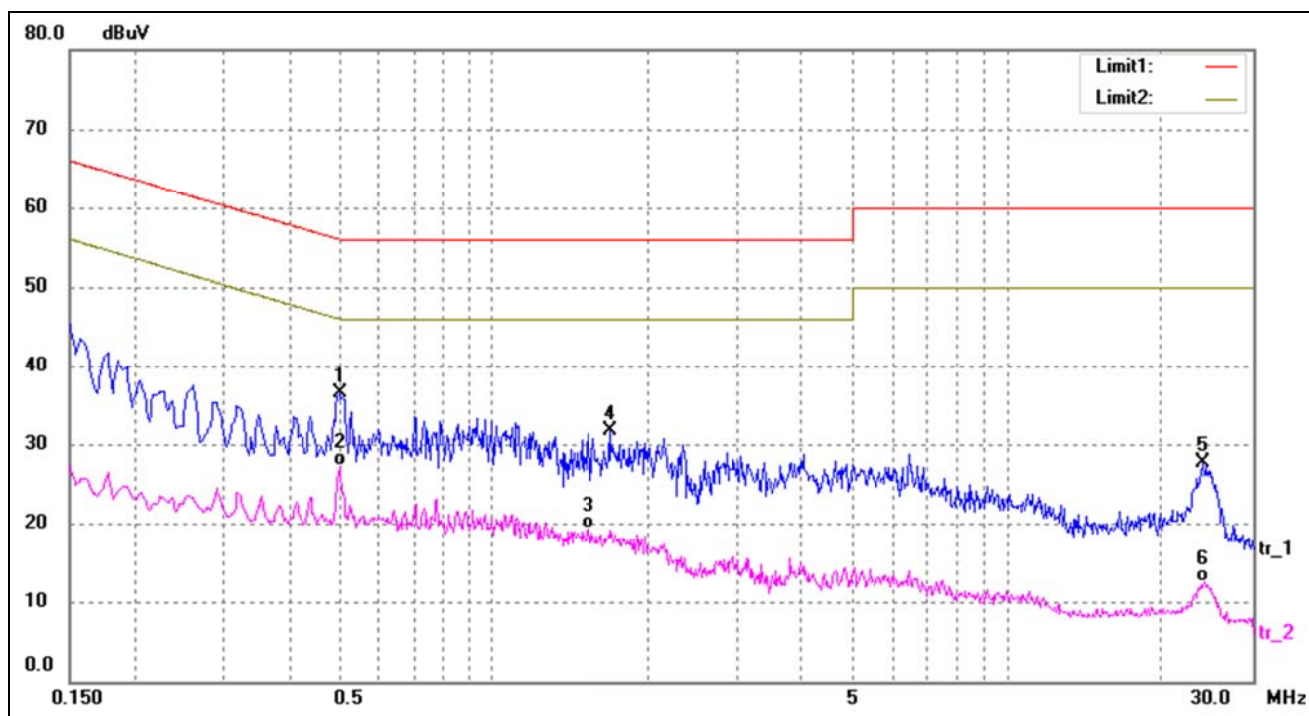
EUT: 5.5 inch 4G Smart Phone

Tested Model: L5.5D

Operating Condition: TM2

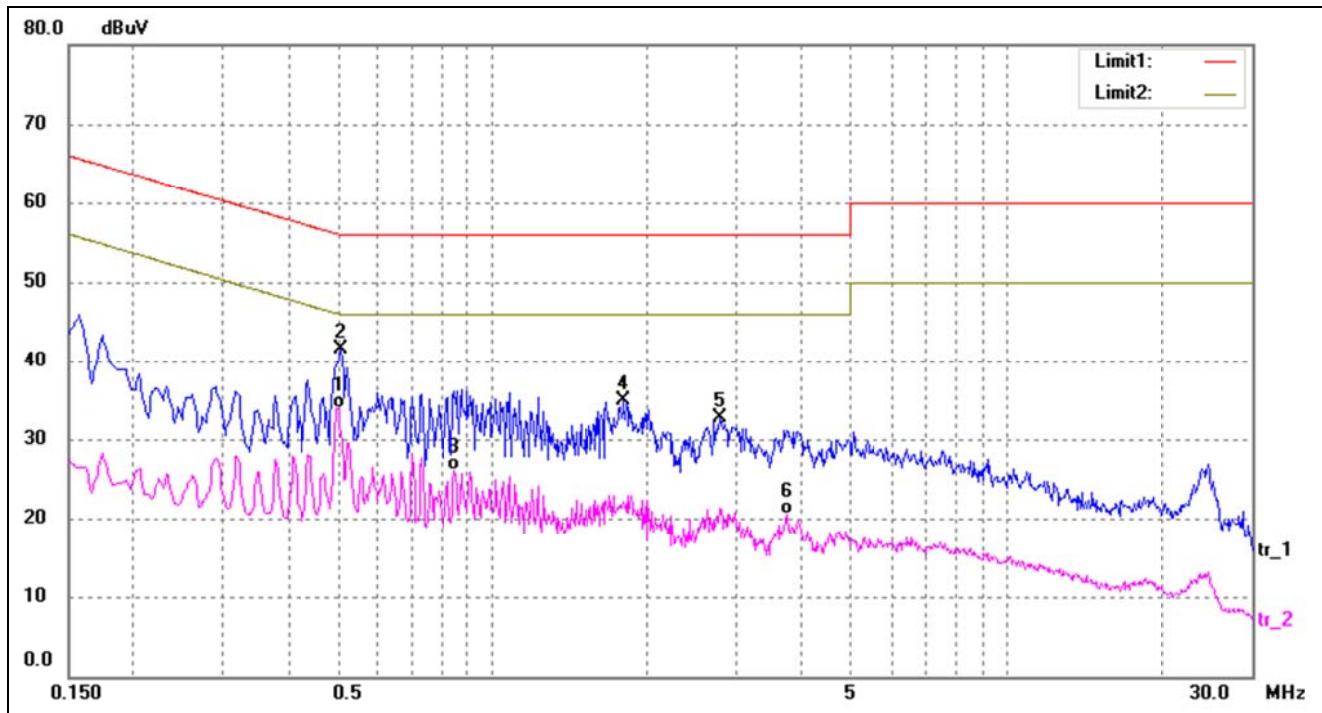
Comment: DC 5V

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.5020	26.65	9.80	36.45	56.00	-19.55	QP
2*	0.5020	17.54	9.80	27.34	46.00	-18.66	AVG
3	1.5300	9.48	9.75	19.23	46.00	-26.77	AVG
4	1.6820	22.03	9.74	31.77	56.00	-24.23	QP
5	24.1220	18.08	9.69	27.77	60.00	-32.23	QP
6	24.2660	2.88	9.69	12.57	50.00	-37.43	AVG

Test Specification: Line



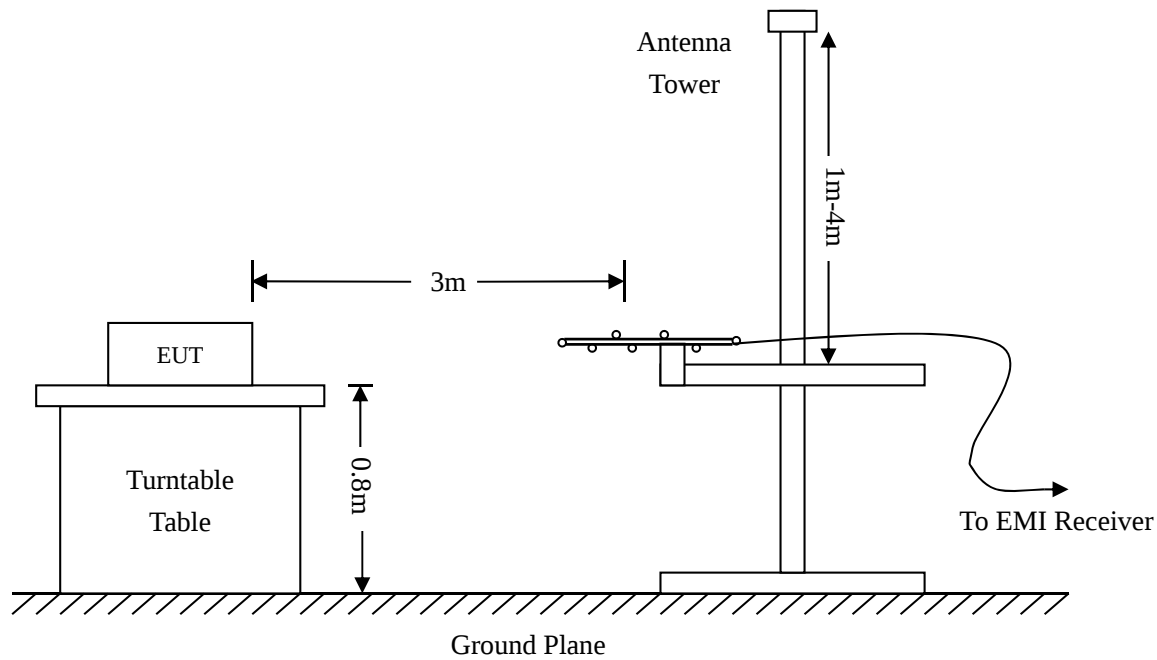
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.5020	24.15	9.80	33.95	46.00	-12.05	AVG
2	0.5100	31.74	9.80	41.54	56.00	-14.46	QP
3	0.8460	16.38	9.77	26.15	46.00	-19.85	AVG
4	1.8020	25.07	9.74	34.81	56.00	-21.19	QP
5	2.7660	22.93	9.72	32.65	56.00	-23.35	QP
6	3.7580	10.83	9.69	20.52	46.00	-25.48	AVG

4. RADIATED EMISSION

4.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.109 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.



4.2 Test Receiver Setup

Frequency :9kHz-30MHz

RBW=10KHz,

VBW =30KHz

Sweep time= Auto

Trace = max hold

Detector function = peak

Frequency :30MHz-1GHz

RBW=120KHz,

VBW=300KHz

Sweep time= Auto

Trace = max hold

Detector function = peak, QP

Frequency :Above 1GHz

RBW=1MHz,

VBW=3MHz(Peak), 10Hz(AV)

Sweep time= Auto

Trace = max hold

Detector function = peak, AV

4.3 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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

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

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15.109(a) Limit}$$

4.4 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

4.5 Summary of Test Results/Plots

According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-5.41 dB at 601.4265 MHz in the Horizontal polarization, TM2 mode, 9 kHz to 8GHz, 3Meters

Plot of Radiated Emissions Test Data

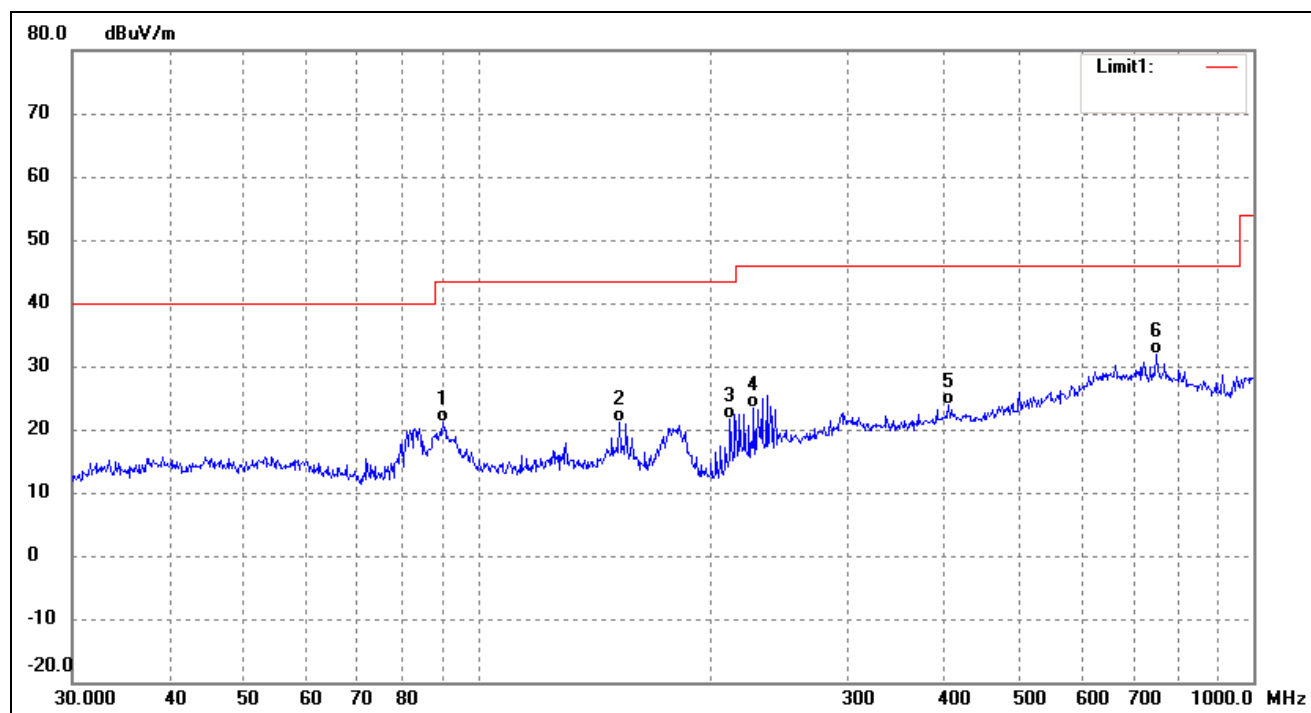
EUT: 5.5 inch 4G Smart Phone

Tested Model: L5.5D

Operating Condition: TM1

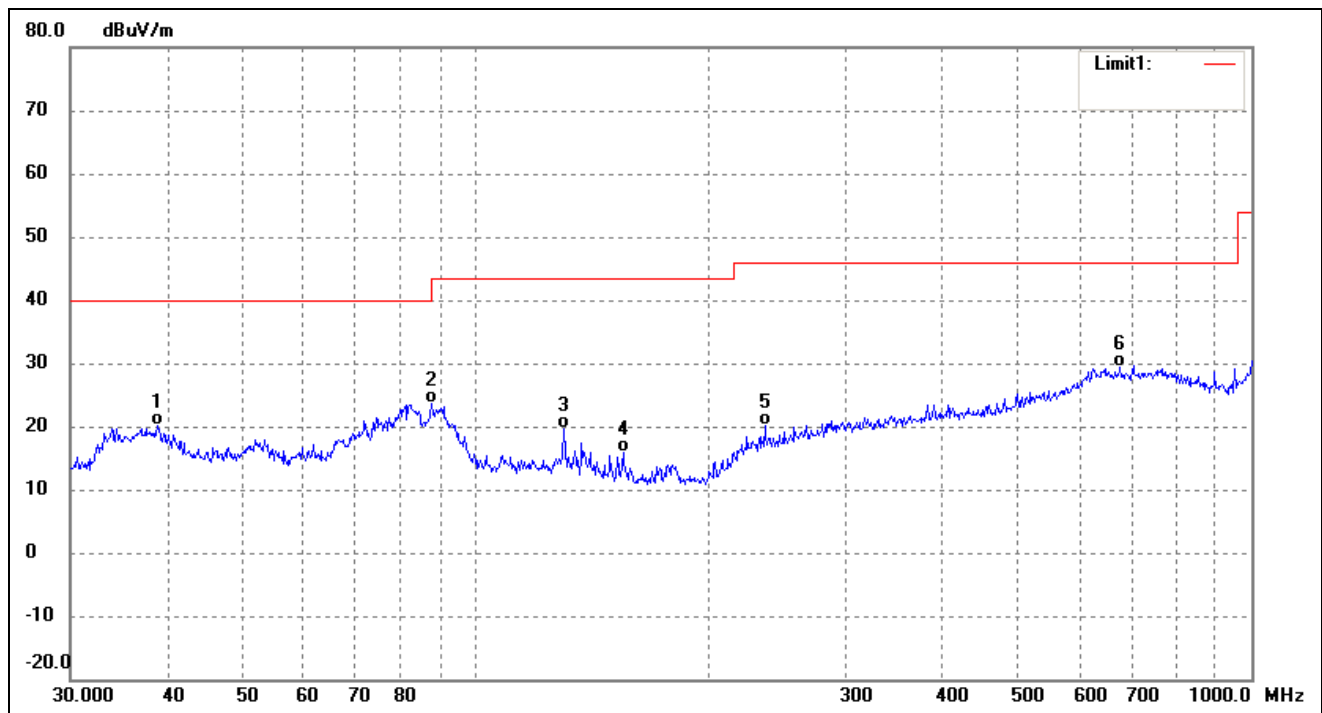
Comment: AC 120V/60Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	90.2205	39.12	-18.05	21.07	43.50	-22.43	253	100	QP
2	152.1297	39.84	-18.82	21.02	43.50	-22.48	100	100	QP
3	211.5265	37.20	-15.68	21.52	43.50	-21.98	205	100	QP
4	226.8936	36.70	-13.40	23.30	46.00	-22.70	92	100	QP
5	404.6665	31.73	-7.92	23.81	46.00	-22.19	345	100	QP
6	750.1083	32.08	-0.23	31.85	46.00	-14.15	259	100	QP

Test Specification: Vertical

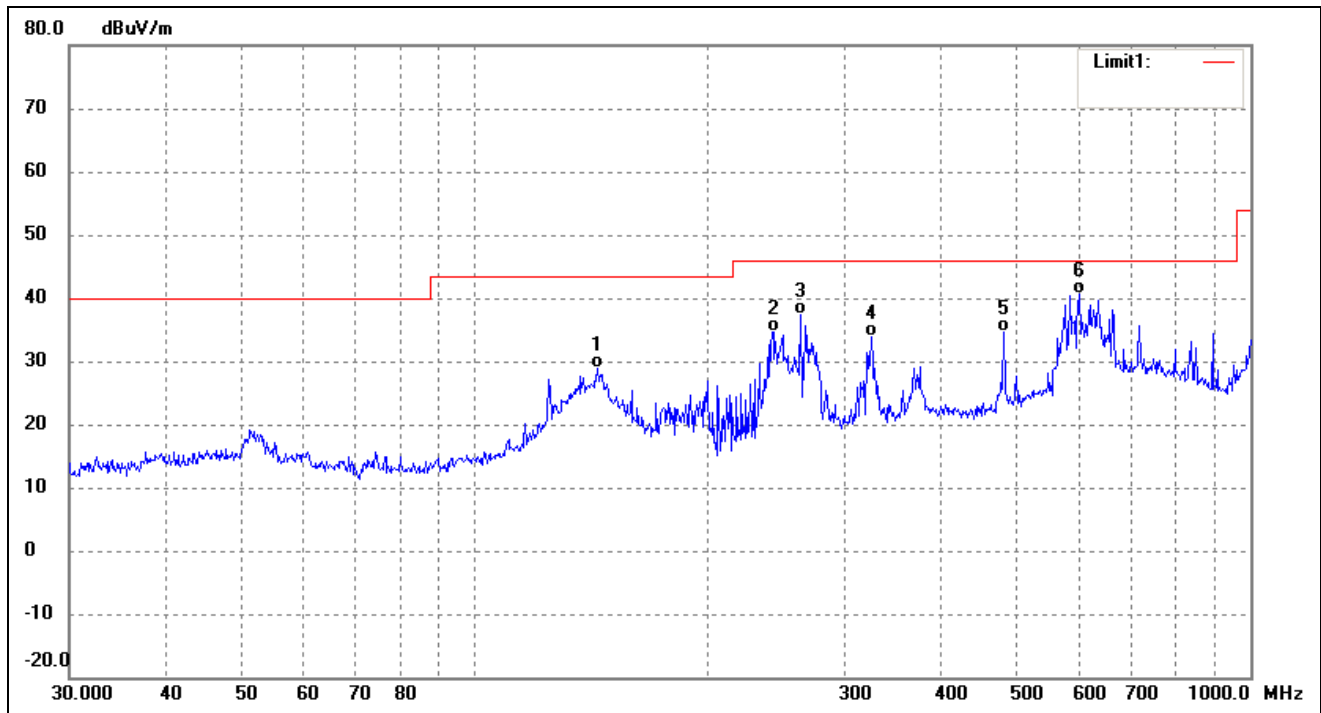


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	38.8878	36.89	-16.71	20.18	40.00	-19.82	268	100	QP
2	87.7248	42.02	-18.47	23.55	40.00	-16.45	95	100	QP
3	129.9226	37.03	-17.49	19.54	43.50	-23.96	330	100	QP
4	154.8204	34.79	-18.92	15.87	43.50	-27.63	100	100	QP
5	235.8164	33.02	-12.82	20.20	46.00	-25.80	315	100	QP
6	677.5798	29.86	-0.50	29.36	46.00	-16.64	288	100	QP

Plot of Radiated Emissions Test Data

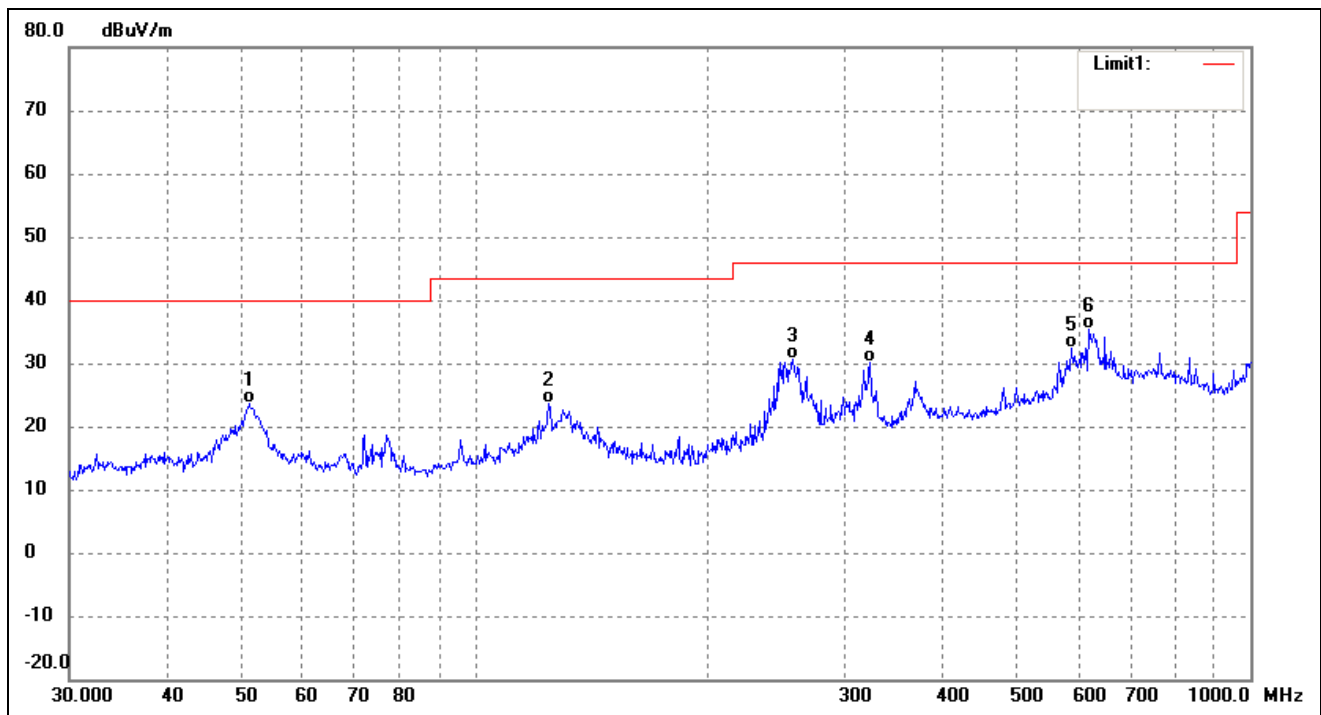
EUT: 5.5 inch 4G Smart Phone
 Tested Model: L5.5D
 Operating Condition: TM2
 Comment: DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	143.8295	47.45	-18.48	28.97	43.50	-14.53	161	100	QP
2	242.5253	46.99	-12.44	34.55	46.00	-11.45	159	100	QP
3	262.8955	49.05	-11.57	37.48	46.00	-8.52	135	100	QP
4	324.4561	43.37	-9.44	33.93	46.00	-12.07	91	100	QP
5	480.5276	41.46	-6.84	34.62	46.00	-11.38	306	100	QP
6	601.4265	40.95	-0.36	40.59	46.00	-5.41	176	100	QP

Test Specification: Vertical

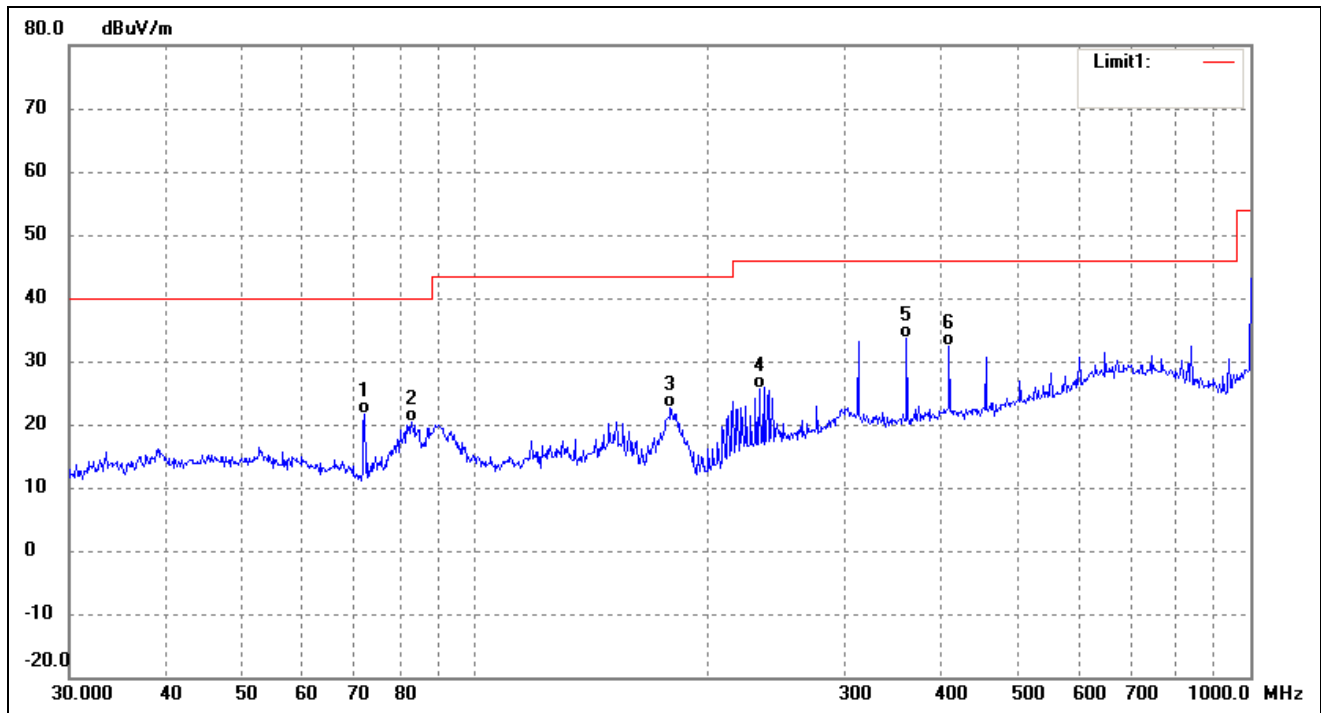


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.1209	40.19	-16.52	23.67	40.00	-16.33	99	100	QP
2	124.5690	40.75	-17.05	23.70	43.50	-19.80	159	100	QP
3	256.5211	42.60	-11.90	30.70	46.00	-15.30	123	100	QP
4	323.3204	39.56	-9.41	30.15	46.00	-15.85	96	100	QP
5	586.8437	35.01	-2.69	32.32	46.00	-13.68	168	100	QP
6	618.5369	36.91	-1.58	35.33	46.00	-10.67	177	100	QP

Plot of Radiated Emissions Test Data

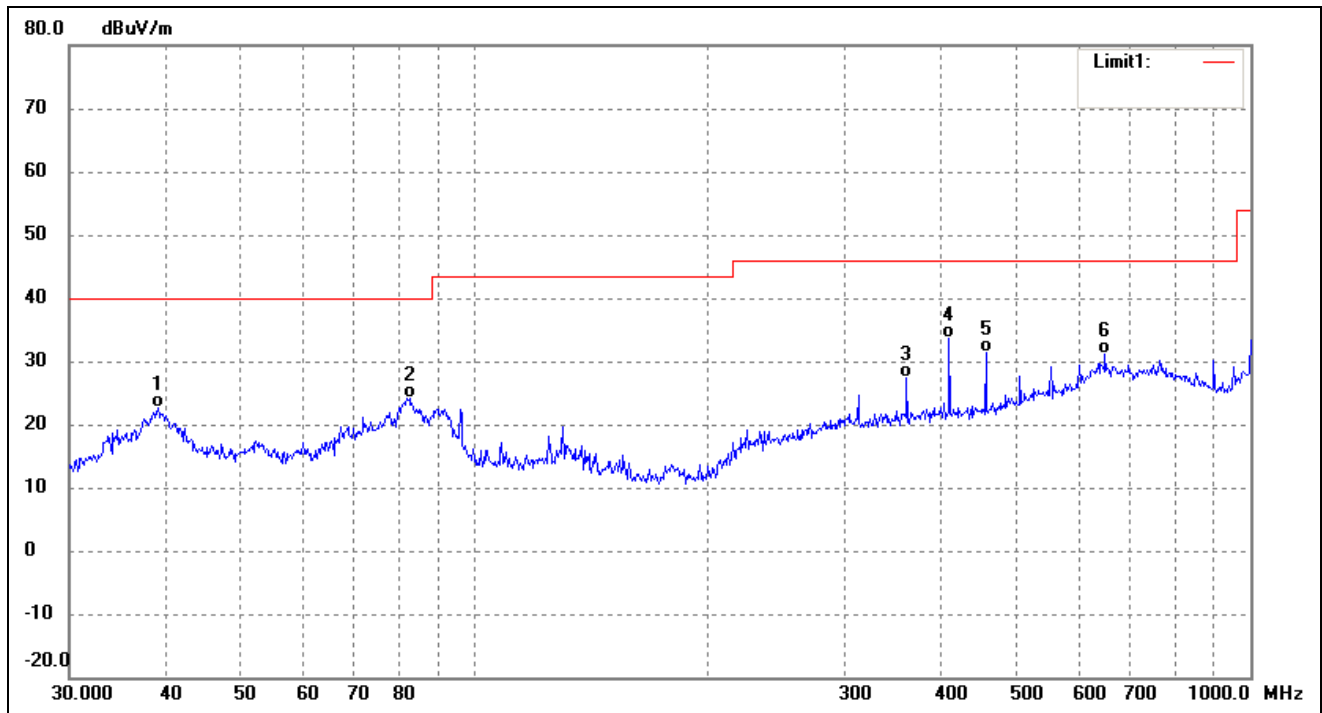
EUT: 5.5 inch 4G Smart Phone
 Tested Model: L5.5D
 Operating Condition: TM3
 Comment: AC 120V/60Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	72.0843	40.51	-18.97	21.54	40.00	-18.46	354	100	QP
2	82.9385	39.57	-19.31	20.26	40.00	-19.74	335	100	QP
3	178.7584	41.69	-19.08	22.61	43.50	-20.89	89	100	QP
4	232.5318	38.70	-13.03	25.67	46.00	-20.33	252	100	QP
5	360.4477	42.59	-8.92	33.67	46.00	-12.33	294	100	QP
6	408.9460	40.49	-8.04	32.45	46.00	-13.55	138	100	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	39.0245	39.40	-16.69	22.71	40.00	-17.29	285	100	QP
2	82.3589	43.57	-19.41	24.16	40.00	-15.84	257	100	QP
3	360.4477	36.19	-8.92	27.27	46.00	-18.73	68	100	QP
4	408.9460	41.70	-8.04	33.66	46.00	-12.34	320	100	QP
5	455.9058	38.27	-6.85	31.42	46.00	-14.58	140	100	QP
6	649.6597	32.41	-1.26	31.15	46.00	-14.85	295	100	QP

Plot of Radiated Emissions Test Data

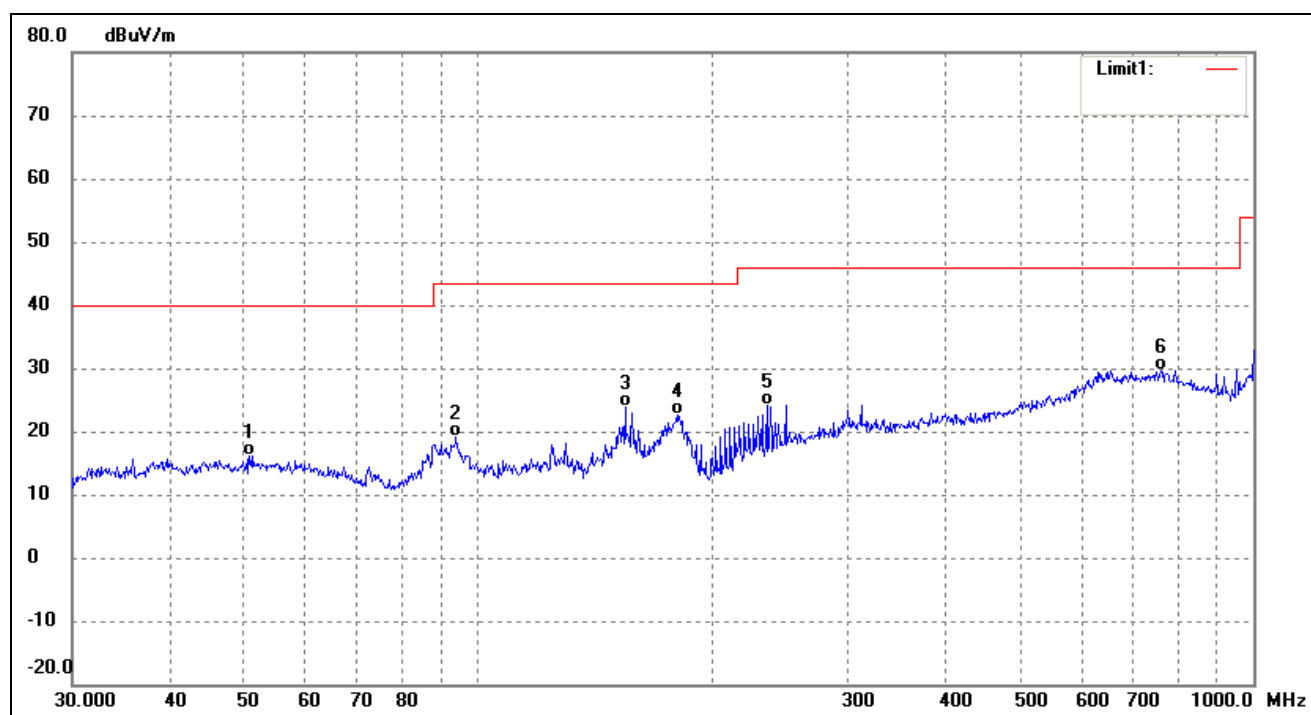
EUT: 5.5 inch 4G Smart Phone

Tested Model: L5.5D

Operating Condition: TM4

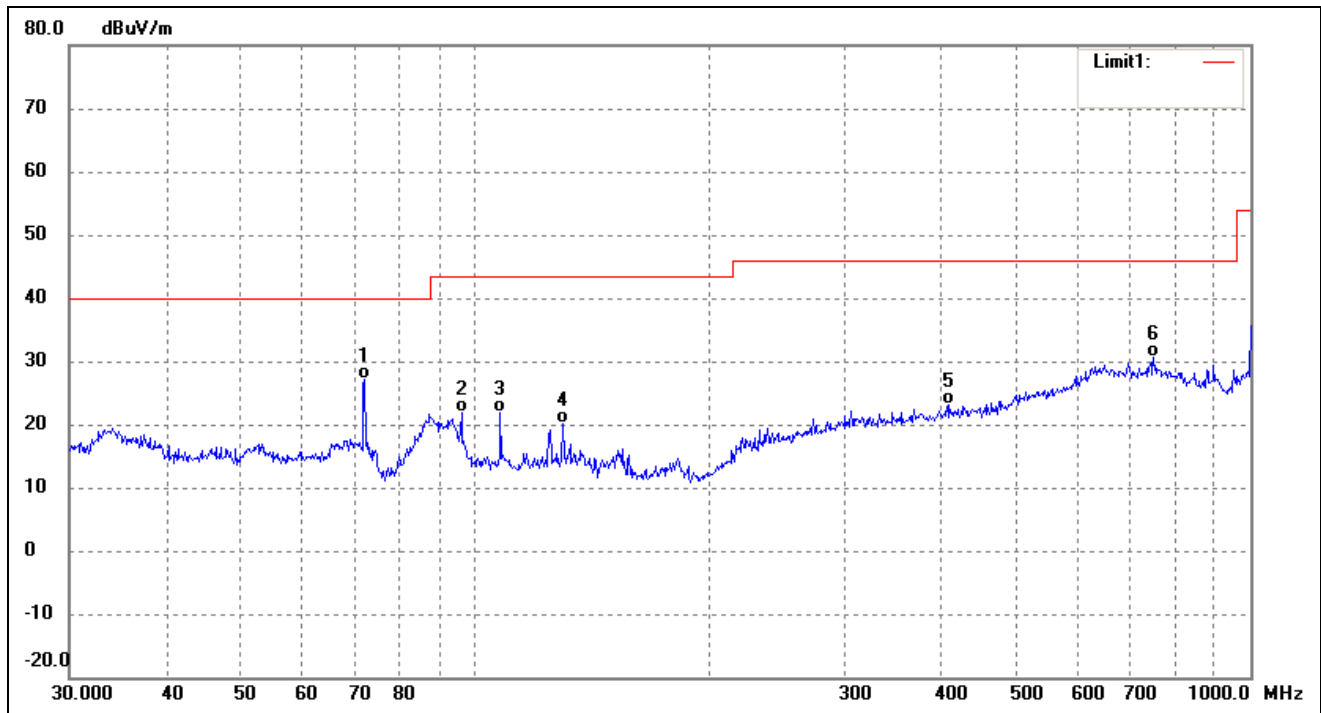
Comment: AC 120V/60Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.7637	32.68	-16.53	16.15	40.00	-23.85	205	100	QP
2	93.7685	36.50	-17.48	19.02	43.50	-24.48	98	100	QP
3	154.8205	42.73	-18.92	23.81	43.50	-19.69	301	100	QP
4	180.6488	41.67	-19.05	22.62	43.50	-20.88	92	100	QP
5	235.8164	36.90	-12.82	24.08	46.00	-21.92	282	100	QP
6	760.7036	30.25	-0.64	29.61	46.00	-16.39	334	100	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	72.0843	46.01	-18.97	27.04	40.00	-12.96	343	100	QP
2	96.0986	39.01	-17.14	21.87	43.50	-21.63	97	100	QP
3	107.8877	38.37	-16.61	21.76	43.50	-21.74	215	100	QP
4	129.9226	37.60	-17.49	20.11	43.50	-23.39	95	100	QP
5	408.9460	31.11	-8.04	23.07	46.00	-22.93	221	100	QP
6	750.1083	30.79	-0.23	30.56	46.00	-15.44	303	100	QP

Note: Testing is carried out with frequency rang 9kHz to the 8GHz, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

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