FCC Part 15B
Measurement and Test Report

For

Amgoo Telecom Co., Ltd.

3/F, Block R2-A(North), Gaoxin S. Ave. 4th, Hi-Tech Industrial Park,

Nanshan District, Shenzhen, China

FCC ID: UOSAM530

FCC Rule(s):	FCC Part 15 Subpart B
Product Description:	4G Smart Phone
Tested Model:	AM530
Report No.:	STR17088409I-6
Tested Date:	2017-09-01 to 2017-09-14
Issued Date:	2017-09-15
Tested By:	Jason Su / Engineer
Reviewed By:	Silin Chen / EMC Manager
Approved & Authorized By:	Jandy So / PSQ Manager

Prepared By:

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Amgoo Telecom Co., Ltd.

Address of applicant: 3/F, Block R2-A(North), Gaoxin S. Ave. 4th, Hi-Tech Industrial Park, Nanshan District, Shenzhen, China

General Description of EUT	
Product Name:	4G Smart Phone
Trade Name:	Amgoo
Model No.:	AM530
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Rated Voltage:	DC 3.8V by battery
Rated Current:	/
Rated Power:	/
Power Adapter Model:	Model: CH4 Input:100V-240V, 50/60Hz,0.2A; Output:5V,0.7A
Highest Internal Frequency:	Above 108MHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the Amgoo Telecom Co., Ltd. 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. Laboratory has been recognized to perform compliance testing on equipment subject to the Commissions Declaration Of Conformity (DOC). The Designation Number is CN5010, and Test Firm Registration Number is 125990.

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	Connected to Adapter
TM2	Downloading	Connected 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	E445	

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	±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	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

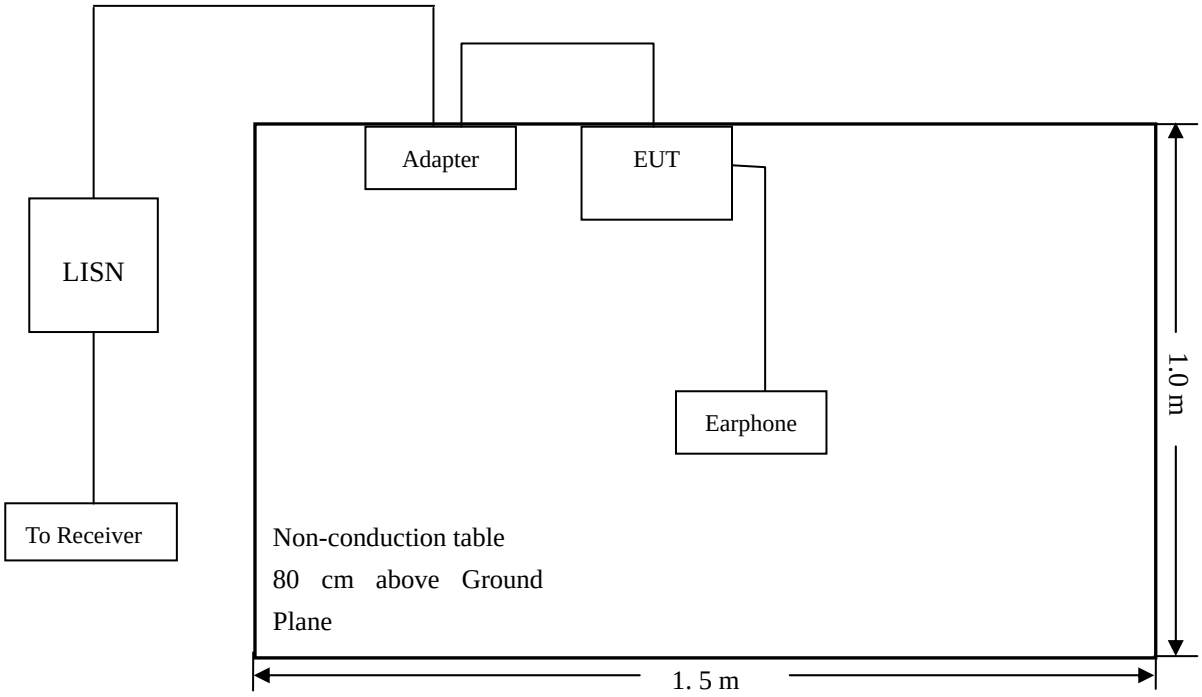
N/A: not applicable

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 3.5, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

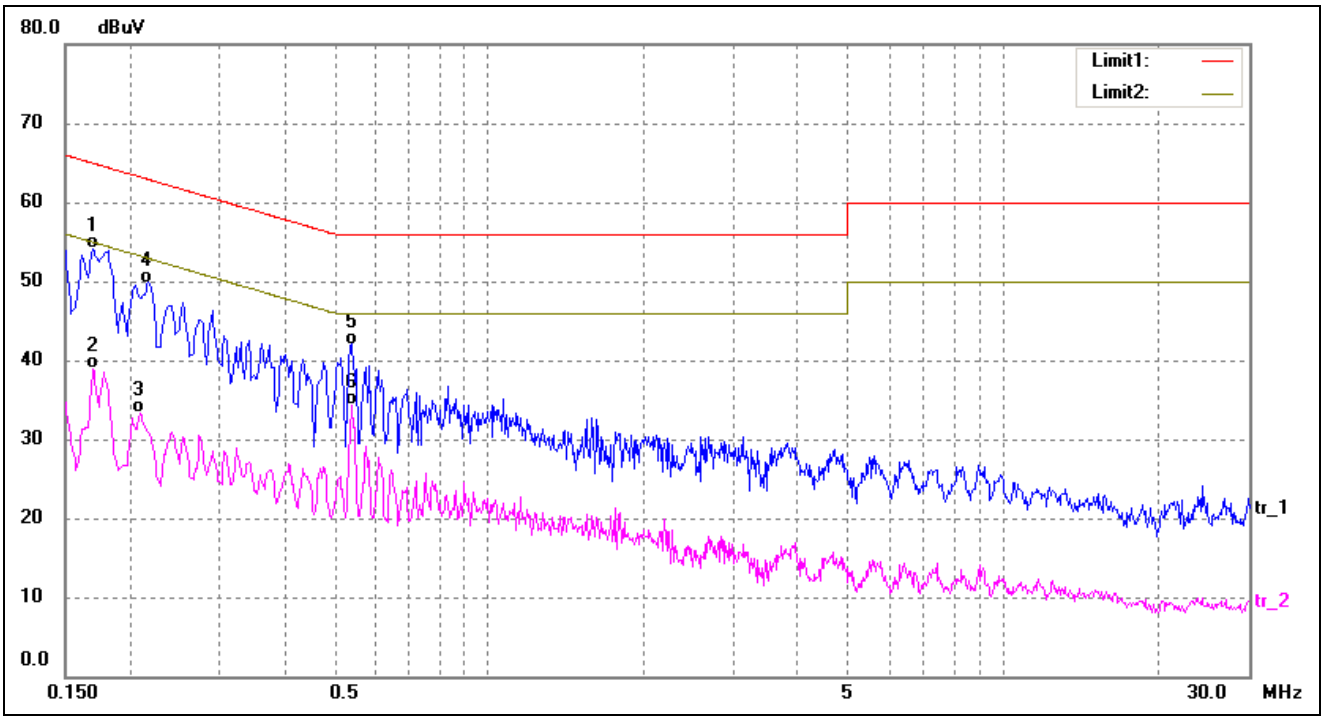
-7.91 dB at **0.5380 MHz** in the **Line**, **QP** detector, **TM1** mode, 0.15-30MHz

3.5 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

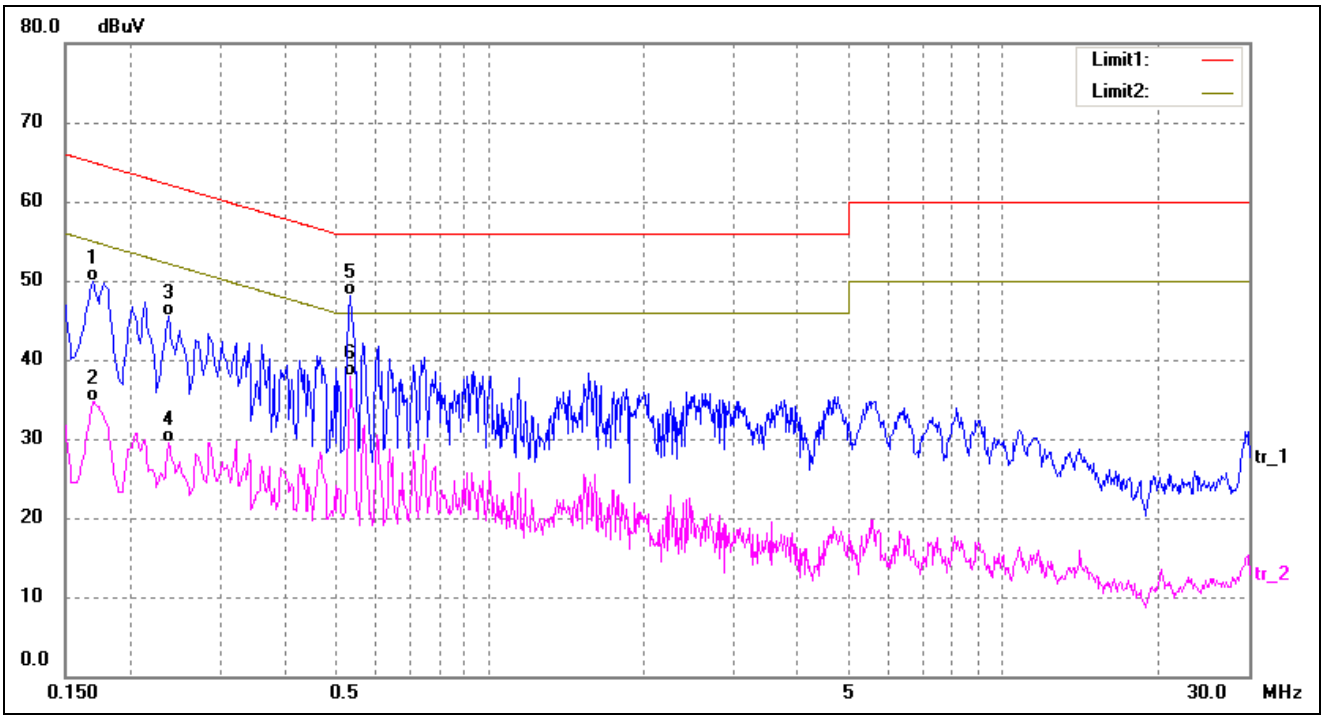
EUT: *4G Smart Phone*
Tested Model: *AM530*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz; Adapter DC 5V*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1700	44.36	9.83	54.19	64.96	-10.77	QP
2	0.1700	29.16	9.83	38.99	54.96	-15.97	AVG
3	0.2100	23.55	9.80	33.35	53.21	-19.86	AVG
4	0.2185	39.81	9.80	49.61	62.88	-13.27	QP
5	0.5420	32.20	9.80	42.00	56.00	-14.00	QP
6	0.5420	24.48	9.80	34.28	46.00	-11.72	AVG

Test Specification: *Line*

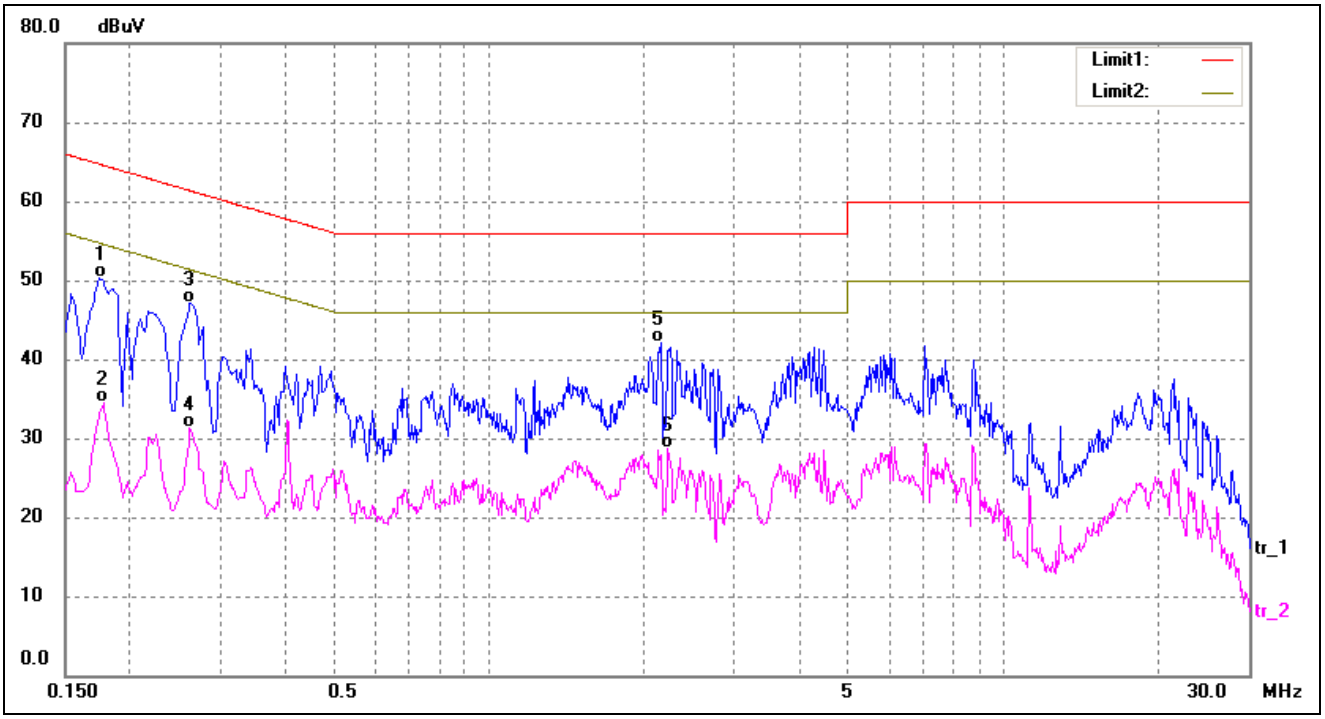


No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1700	40.16	9.83	49.99	64.96	-14.97	QP
2	0.1700	24.86	9.83	34.69	54.96	-20.27	AVG
3	0.2380	35.73	9.80	45.53	62.17	-16.64	QP
4	0.2380	19.68	9.80	29.48	52.17	-22.69	AVG
5*	0.5380	38.29	9.80	48.09	56.00	-7.91	QP
6	0.5380	28.14	9.80	37.94	46.00	-8.06	AVG

Plot of Conducted Emissions Test Data

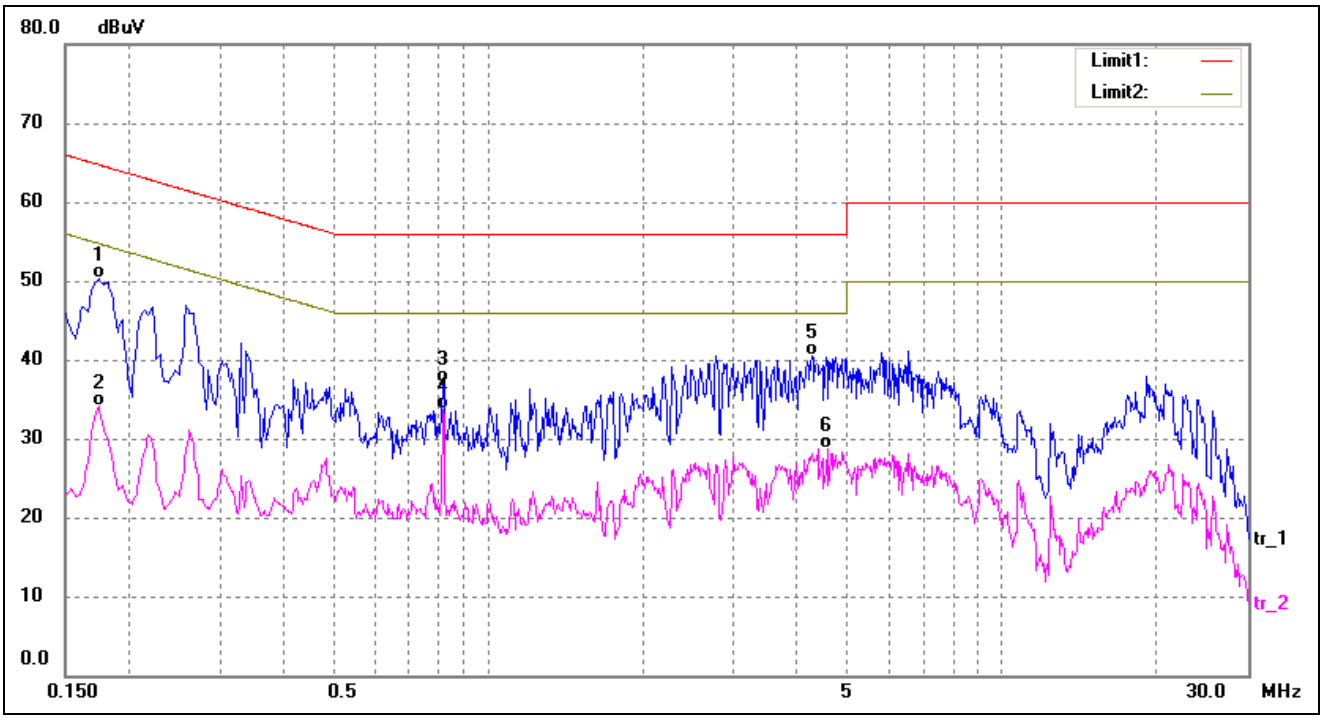
EUT: *4G Smart Phone*
Tested Model: *AM530*
Operating Condition: *TM2*
Comment: *AC 120V/60Hz; USB 5V*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1740	40.40	9.83	50.23	64.77	-14.54	QP
2	0.1780	24.71	9.82	34.53	54.58	-20.05	AVG
3	0.2620	37.40	9.80	47.20	61.37	-14.17	QP
4	0.2620	21.60	9.80	31.40	51.37	-19.97	AVG
5*	2.1660	32.35	9.73	42.08	56.00	-13.92	QP
6	2.2300	18.93	9.73	28.66	46.00	-17.34	AVG

Test Specification: *Line*

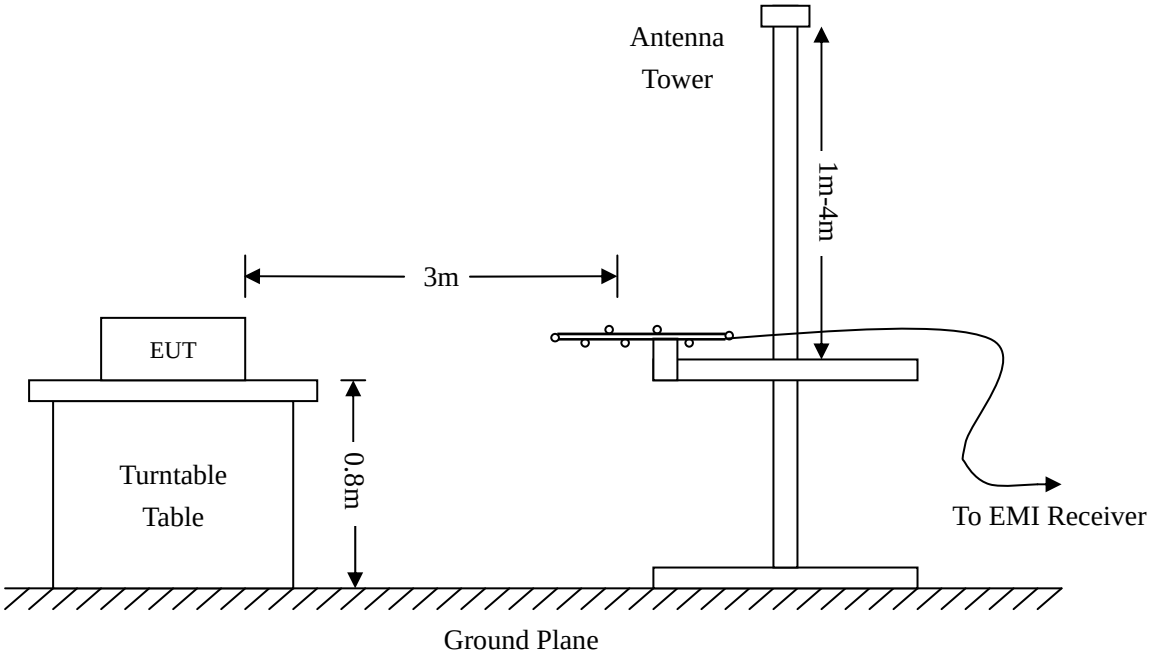


No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1740	40.48	9.83	50.31	64.77	-14.46	QP
2	0.1740	24.36	9.83	34.19	54.77	-20.58	AVG
3	0.8140	27.27	9.77	37.04	56.00	-18.96	QP
4*	0.8140	23.95	9.77	33.72	46.00	-12.28	AVG
5	4.2580	30.84	9.68	40.52	56.00	-15.48	QP
6	4.5540	18.97	9.67	28.64	46.00	-17.36	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	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

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:

Corr. Ampl. = Indicated Reading – Corr. Factor

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 a Class B device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – 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

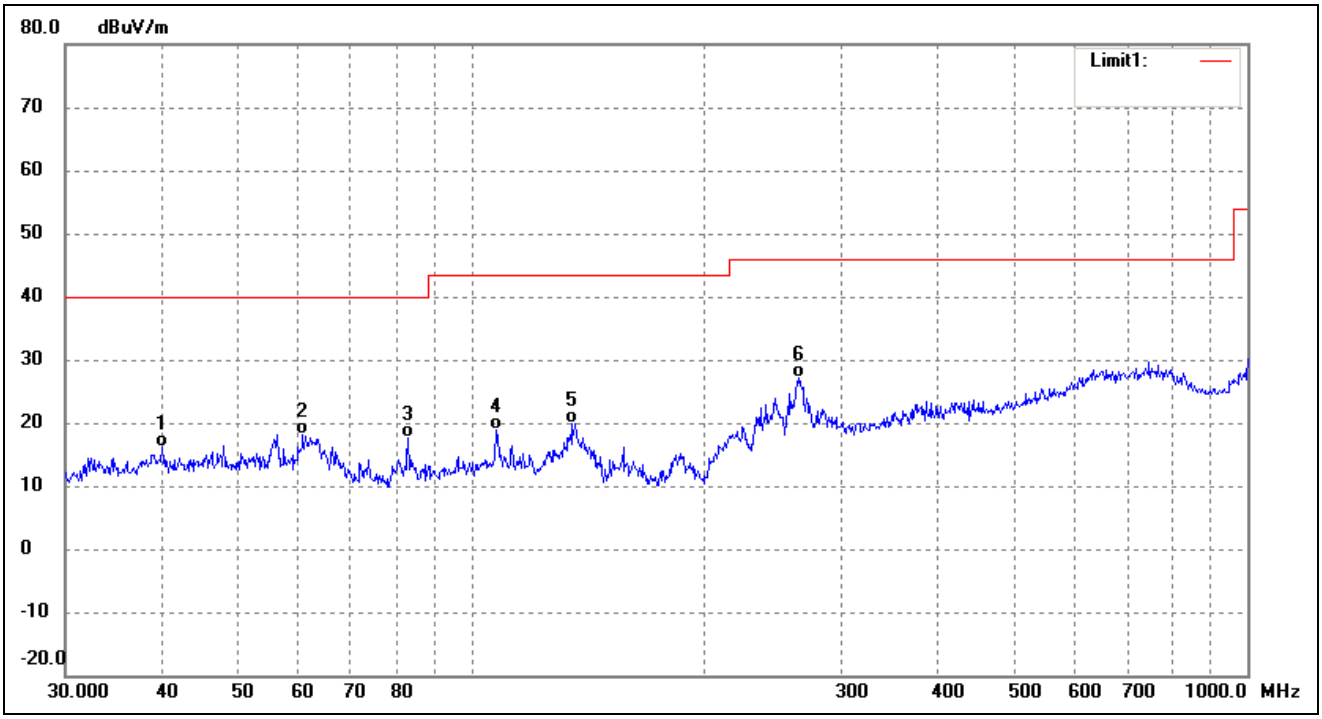
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-11.85 dB at **252.9482 MHz** in the **Horizontal** polarization, **TM4** mode, **30 MHz** to **6 GHz**, **3Meters**

Plot of Radiated Emissions Test Data

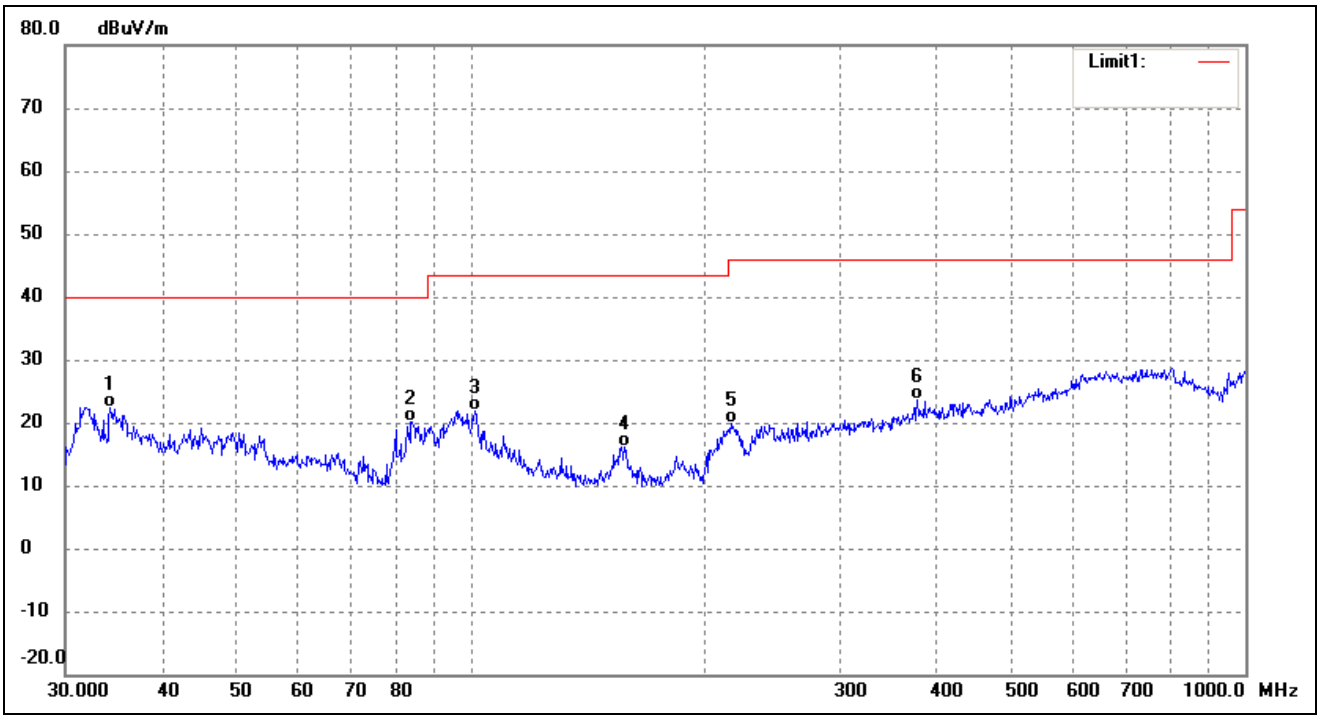
EUT: *4G Smart Phone*
Tested Model: *AM530*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz; Adapter DC 5V*

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	39.9942	32.75	-16.53	16.22	40.00	-23.78	110	100	QP
2	60.7044	34.84	-16.64	18.20	40.00	-21.80	118	100	QP
3	82.9385	36.86	-19.31	17.55	40.00	-22.45	148	100	QP
4	107.8877	35.54	-16.61	18.93	43.50	-24.57	120	100	QP
5	135.0319	37.86	-17.93	19.93	43.50	-23.57	157	100	QP
6	264.7457	38.50	-11.44	27.06	46.00	-18.94	313	100	QP

Test Specification: *Vertical*

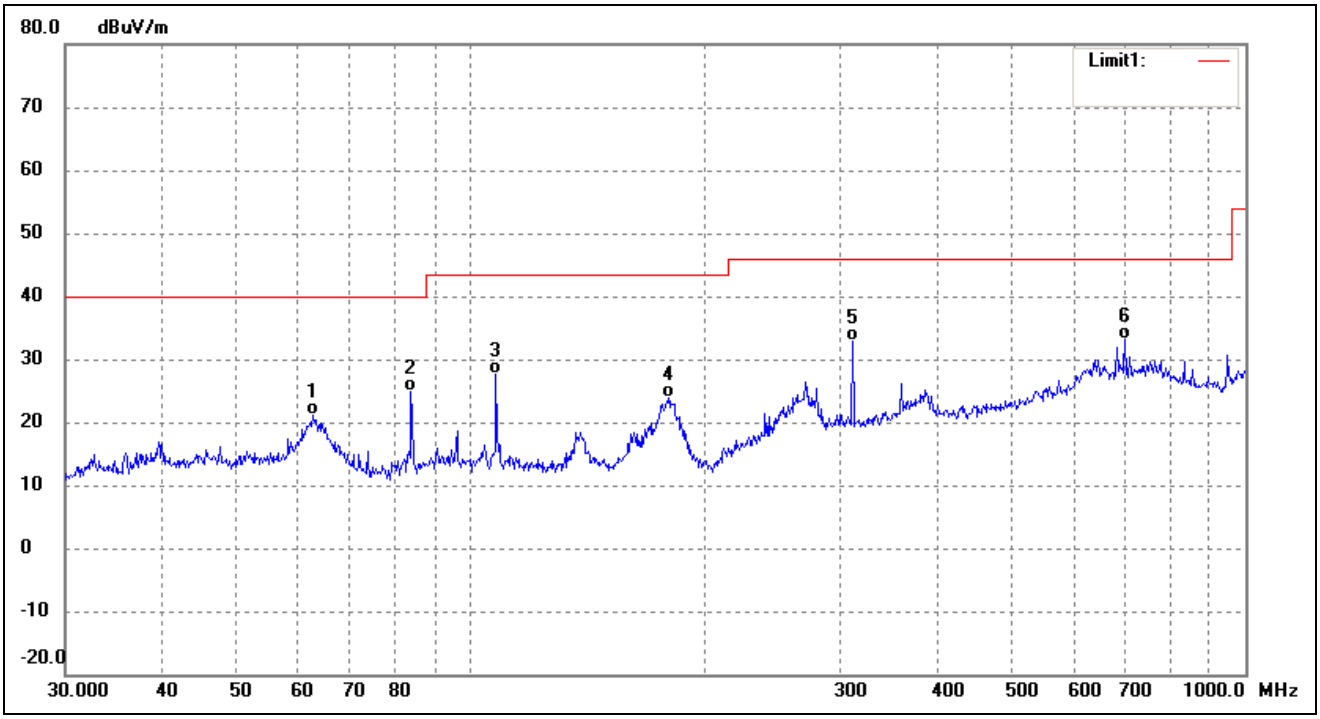


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	34.2760	39.71	-17.45	22.26	40.00	-17.74	313	100	QP
2	83.8156	39.36	-19.16	20.20	40.00	-19.80	125	100	QP
3	101.2885	38.49	-16.57	21.92	43.50	-21.58	80	100	QP
4	158.1123	35.28	-19.04	16.24	43.50	-27.26	343	100	QP
5	216.7828	34.47	-14.54	19.93	46.00	-26.07	78	100	QP
6	377.2591	32.54	-8.87	23.67	46.00	-22.33	109	100	QP

Plot of Radiated Emissions Test Data

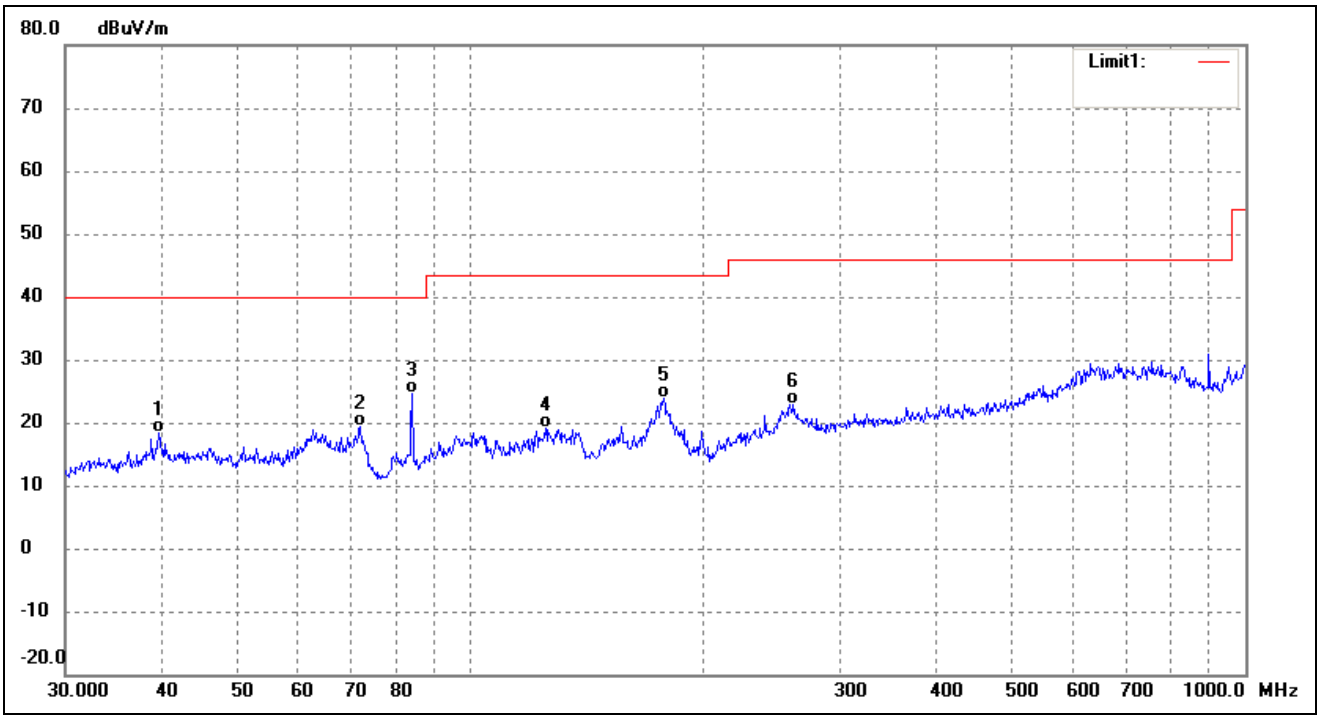
EUT: *4G Smart Phone*
Tested Model: *AM530*
Operating Condition: *TM2*
Comment: *AC 120V/60Hz; USB 5V*

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	62.6507	38.20	-17.07	21.13	40.00	-18.87	278	100	QP
2	83.8156	44.03	-19.16	24.87	40.00	-15.13	97	100	QP
3	107.8877	44.32	-16.61	27.71	43.50	-15.79	250	100	QP
4	180.0165	42.94	-19.08	23.86	43.50	-19.64	119	100	QP
5	311.0867	42.26	-9.45	32.81	46.00	-13.19	58	100	QP
6	699.3046	34.98	-1.78	33.20	46.00	-12.80	241	100	QP

Test Specification: *Vertical*

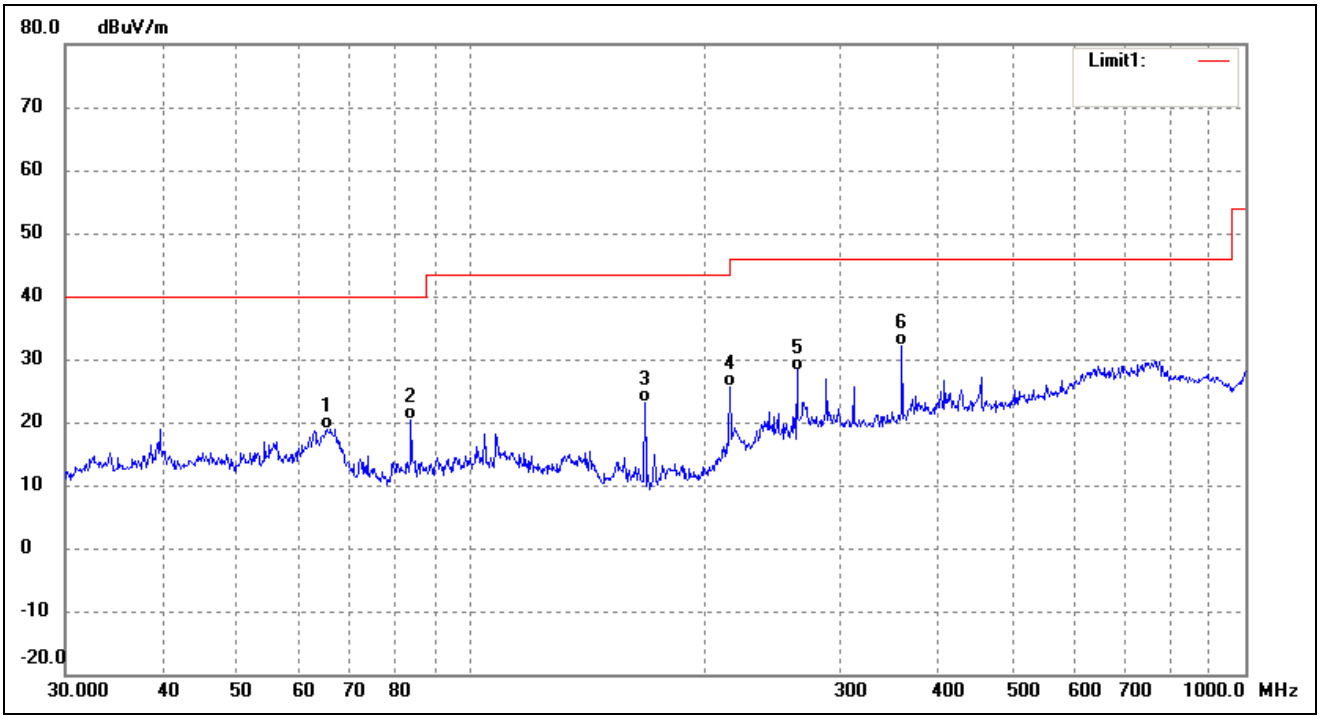


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	39.5757	34.88	-16.59	18.29	40.00	-21.71	59	100	QP
2	72.0843	38.27	-18.97	19.30	40.00	-20.70	181	100	QP
3	84.1100	43.66	-19.11	24.55	40.00	-15.45	100	100	QP
4	125.0066	36.22	-17.08	19.14	43.50	-24.36	112	100	QP
5	177.5092	43.01	-19.07	23.94	43.50	-19.56	273	100	QP
6	261.0583	34.61	-11.70	22.91	46.00	-23.09	315	100	QP

Plot of Radiated Emissions Test Data

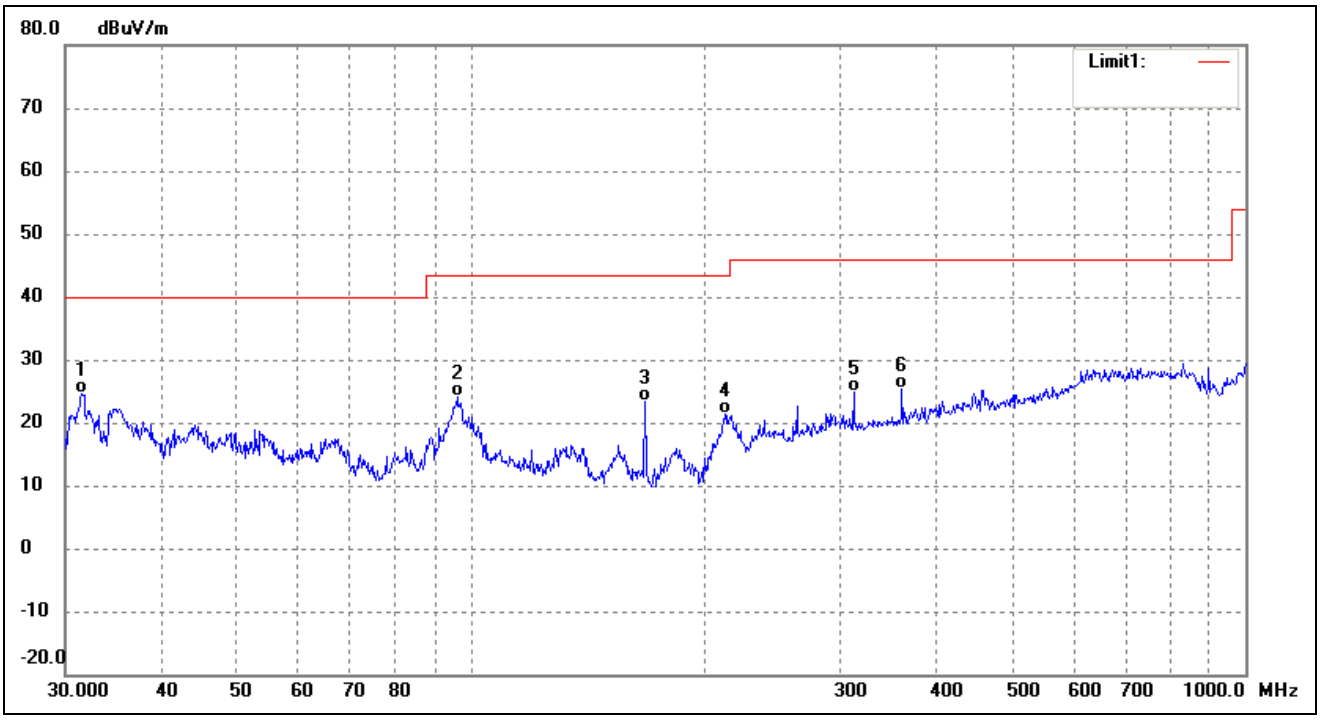
EUT: *4G Smart Phone*
Tested Model: *AM530*
Operating Condition: *TM3*
Comment: *DC 3.8V*

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	65.3432	36.62	-17.67	18.95	40.00	-21.05	173	100	QP
2	83.8156	39.63	-19.16	20.47	40.00	-19.53	167	100	QP
3	167.8243	42.20	-19.05	23.15	43.50	-20.35	50	100	QP
4	216.0240	40.45	-14.70	25.75	46.00	-20.25	319	100	QP
5	263.8190	39.76	-11.51	28.25	46.00	-17.75	111	100	QP
6	360.4477	41.02	-8.92	32.10	46.00	-13.90	118	100	QP

Test Specification: *Vertical*

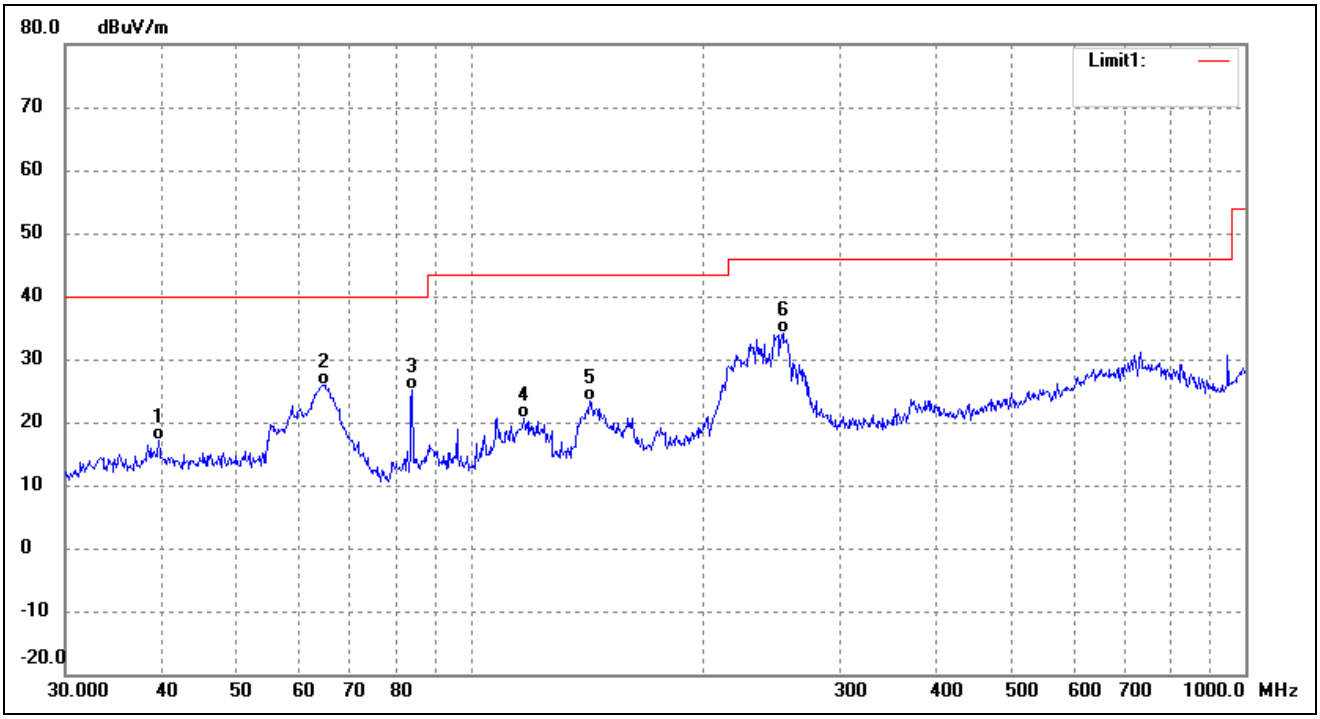


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	31.5095	42.45	-17.92	24.53	40.00	-15.47	268	100	QP
2	96.0986	41.21	-17.14	24.07	43.50	-19.43	97	100	QP
3	167.8243	42.52	-19.05	23.47	43.50	-20.03	286	100	QP
4	213.0151	36.63	-15.36	21.27	43.50	-22.23	103	100	QP
5	312.1794	34.25	-9.44	24.81	46.00	-21.19	276	100	QP
6	360.4477	34.34	-8.92	25.42	46.00	-20.58	150	100	QP

Plot of Radiated Emissions Test Data

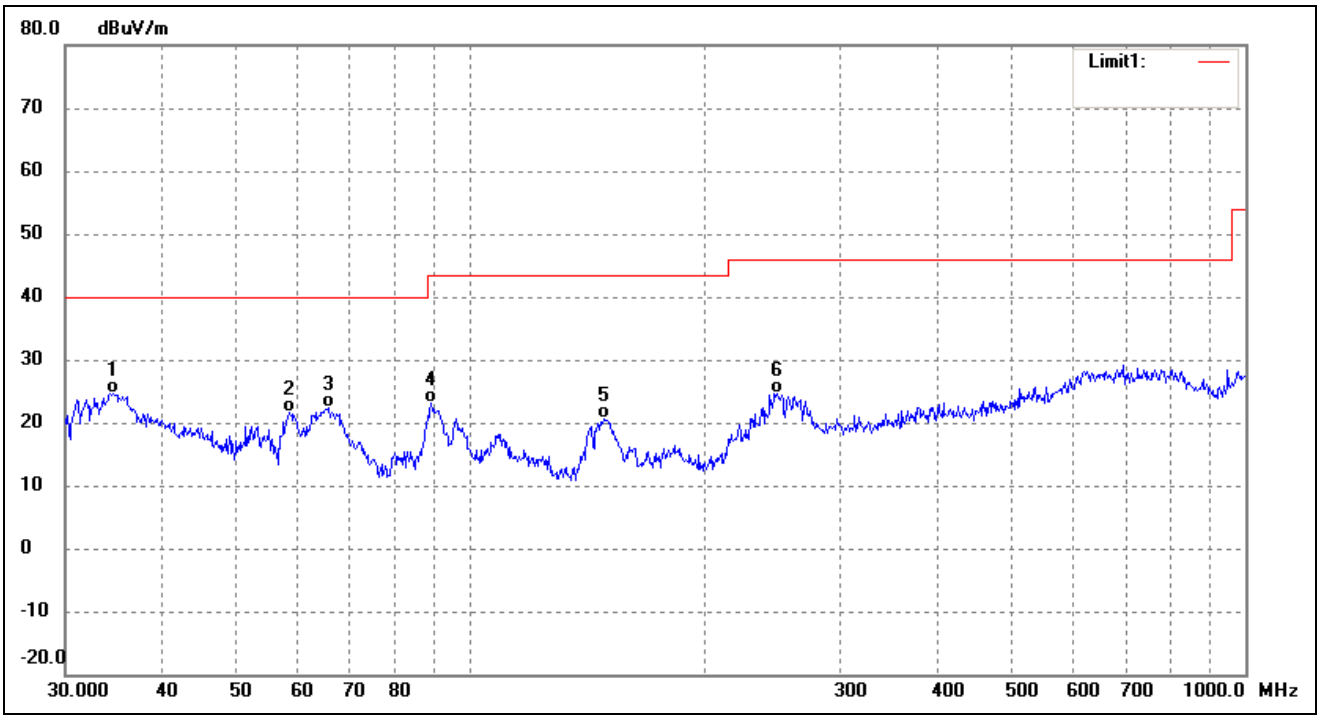
EUT: *4G Smart Phone*
Tested Model: *AM530*
Operating Condition: *TM4*
Comment: *DC 3.8V*

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	39.5757	33.62	-16.59	17.03	40.00	-22.97	65	100	QP
2	64.6594	43.40	-17.51	25.89	40.00	-14.11	198	100	QP
3	84.1100	44.31	-19.11	25.20	40.00	-14.80	85	100	QP
4	117.3603	37.28	-16.65	20.63	43.50	-22.87	100	100	QP
5	142.3244	41.81	-18.42	23.39	43.50	-20.11	183	100	QP
6	252.9482	46.18	-12.03	34.15	46.00	-11.85	137	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	34.5173	42.08	-17.39	24.69	40.00	-15.31	119	100	QP
2	58.4074	38.08	-16.54	21.54	40.00	-18.46	190	100	QP
3	65.5727	40.02	-17.72	22.30	40.00	-17.70	87	100	QP
4	88.9639	41.38	-18.27	23.11	43.50	-20.39	281	100	QP
5	148.9625	39.39	-18.68	20.71	43.50	-22.79	53	100	QP
6	248.5519	36.85	-12.20	24.65	46.00	-21.35	300	100	QP

Note: Testing is carried out with frequency rang 9kHz to the 6GHz, which above 1GHz 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.

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