

FCC Part 15B Measurement and Test Report

For

Sky Phone LLC

1348 Washington Av.Suite 350 Miami Beach, FL 33139

FCC ID: 2ABOSSKYELITE70

Test Rule(s):	<u>FCC Part 15 Subpart B</u>
Product Description:	<u>4G Tablet</u>
Tested Model:	<u>Elite 7.0L</u>
Report No.:	<u>STR16018007I-1</u>
Tested Date:	<u>2016-01-11 to 2016-01-22</u>
Issued Date:	<u>2016-01-22</u>
Tested By:	<u>Lucy Wei / Engineer</u> <i>Lucy Wei</i>
Reviewed By:	<u>Silin Chen / EMC Manager</u> <i>Silin Chen</i>
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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: Sky Phone LLC
Address of applicant: 1348 Washington Av.Suite 350 Miami Beach, FL 33139

Manufacturer: Shenzhen Tablet Electronics Limited
Address of manufacturer: 2F, B5b Building, Yingzhan Industrial Zone, Longtian Community, Kengzi Street, Longgang, Shenzhen, China

General Description of EUT	
Product Name:	4G Tablet
Trade Name:	SKY
Model No.:	Elite 7.0L
Adding Model:	LQ70, PLATINUM7.0, SKYPLA70
Adapter Model:	WTA0501500USB1
	INPUT:AC100-240V,50/60Hz,0.3A; OUTPUT:DC5V,1.5A
Hardware version:	S88D_MB_V1.1
Software version:	Elite_7.0L_20151202
IMEI:	358732055465047/358732055464966
<i>The EUT Main board support GSM850/900/DCS1800/PCS1900, WCDMA Band 1/2/4/5, LTE Band 2/4/7/17 function. It is intended for speech, Multimedia Message Service (MMS) transmission and Elite 7.0L. It is equipped with GPRS/EDGE class 12 for GSM850/900/DCS1800/PCS1900, GPS, FM, Bluetooth and Wi-Fi functions. For more information see the following datasheet</i>	
<i>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 Elite 7.0L, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	AC120V/60Hz, Battery:DC3.7V
Battery Capacity:	2800mAh
Rated Power:	/
Lowest Internal Frequency:	32.768KHz
Highest Internal Frequency:	1.0GHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the Sky Phone LLC 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.: 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 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	With Earphone
TM2	Downloading	Connected to PC
TM3	Camera on	/
TM4	/	/

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	0.86	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
Earphone	1.2	Unshielded	Without Ferrite

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

Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Spectrum Analyzer	Agilent	E4407B	MY41440400	2015-06-17	2016-06-16
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2015-06-17	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2015-06-17	2016-06-16
Amplifier	Agilent	8447F	3113A06717	2015-06-17	2016-06-16
Amplifier	C&D	PAP-1G18	2002	2015-06-17	2016-06-16
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2015-06-17	2016-06-16
Horn Antenna	ETS	3117	00086197	2015-06-17	2016-06-16
Loop Antenna	Schwarz beck	FMZB 1516	9773	2015-06-17	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2015-06-17	2016-06-16
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2015-06-17	2016-06-16
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2015-06-17	2016-06-16

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 15.107 (a)	Conducted Emissions	Compliant
§ 15.109 (a)	Radiated Emissions	Compliant

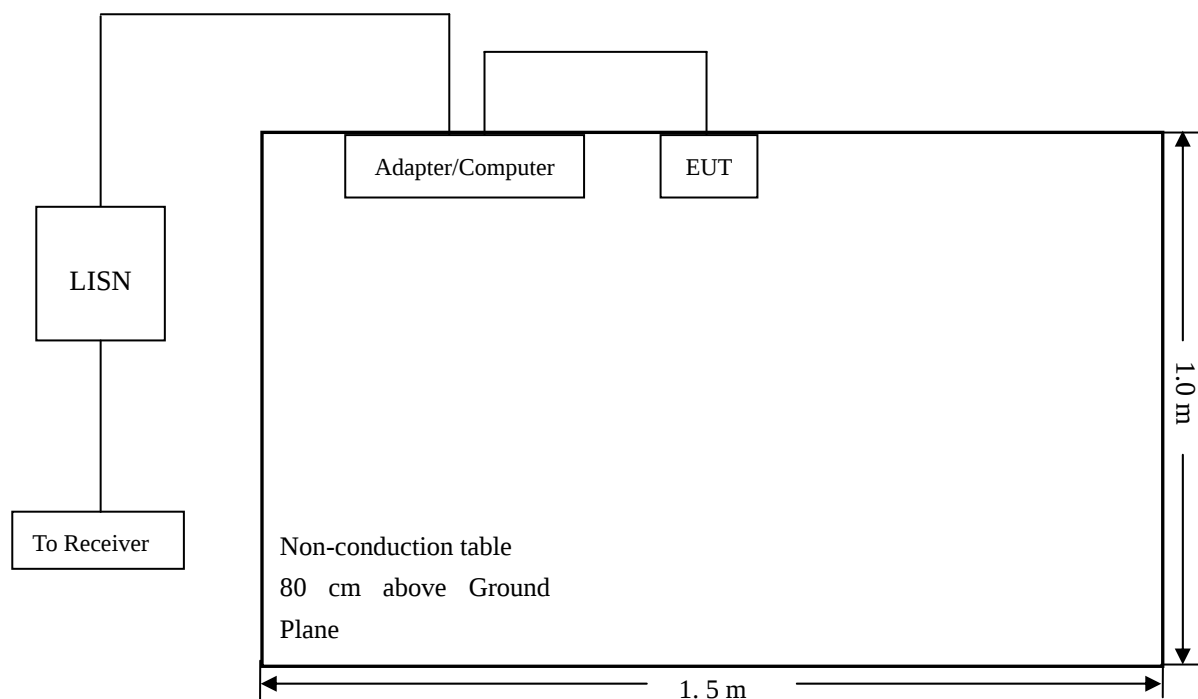
N/A: not applicable

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:

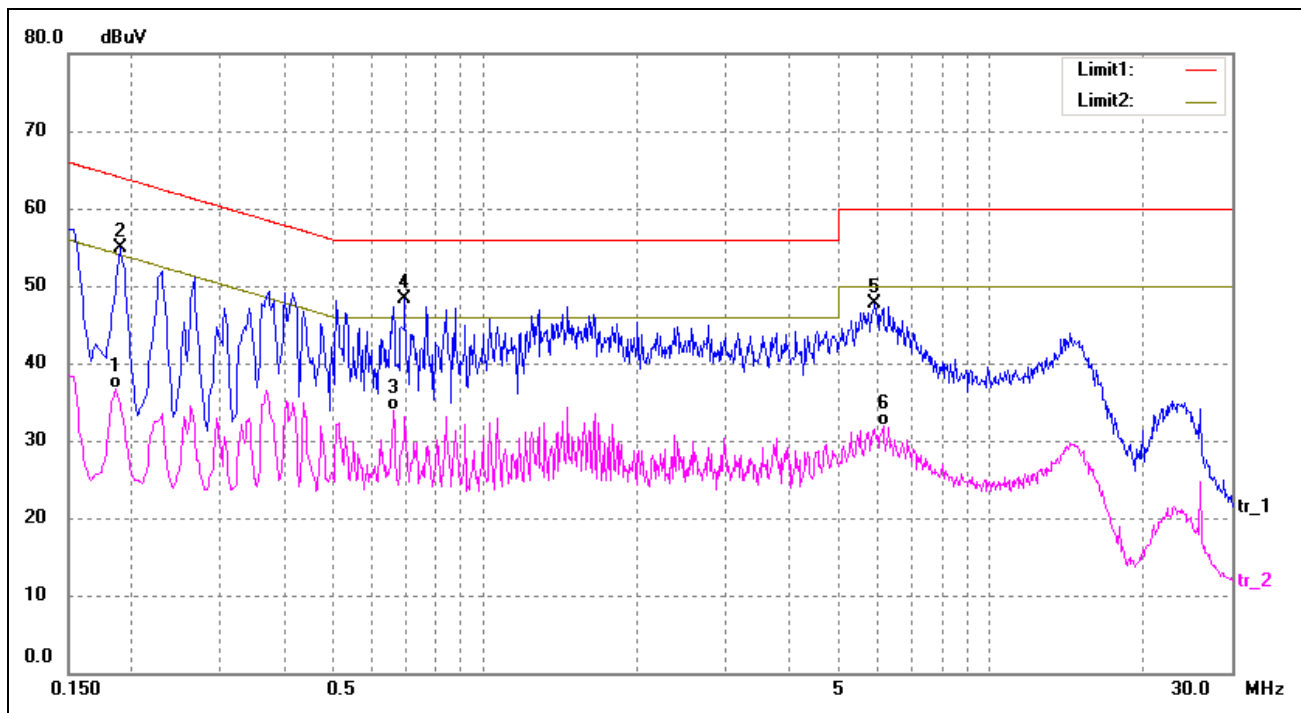
-4.33 dB at 0.4180 MHz in the **Line, Peak** detector, TM1, 0.15-30MHz

3.5 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

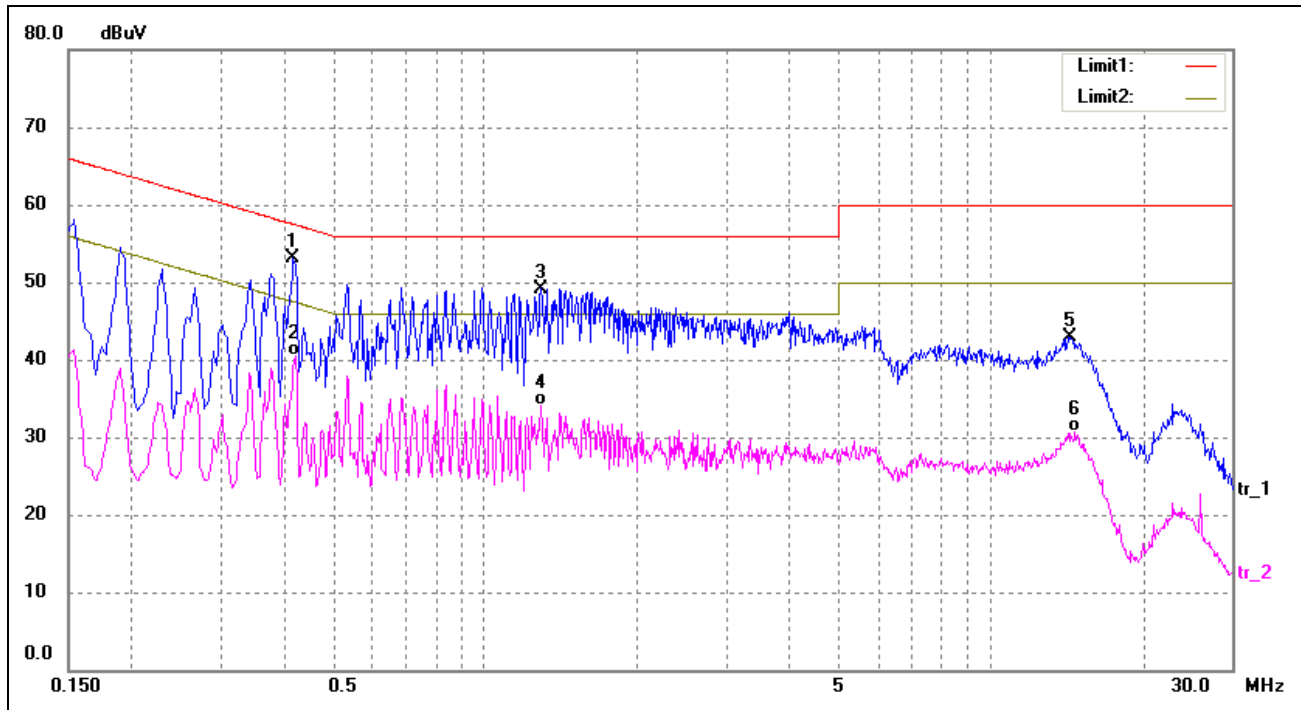
EUT: 4G Tablet
 Tested Model: Elite 7.0L
 Operating Condition: TM1
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1860	24.19	12.50	36.69	54.21	-17.52	AVG
2	0.1900	42.50	12.50	55.00	64.03	-9.03	peak
3	0.6580	21.33	12.66	33.99	46.00	-12.01	AVG
4*	0.6940	35.59	12.69	48.28	56.00	-7.72	peak
5	5.9100	35.11	12.64	47.75	60.00	-12.25	peak
6	6.1260	19.44	12.55	31.99	50.00	-18.01	AVG

Test Specification: Line

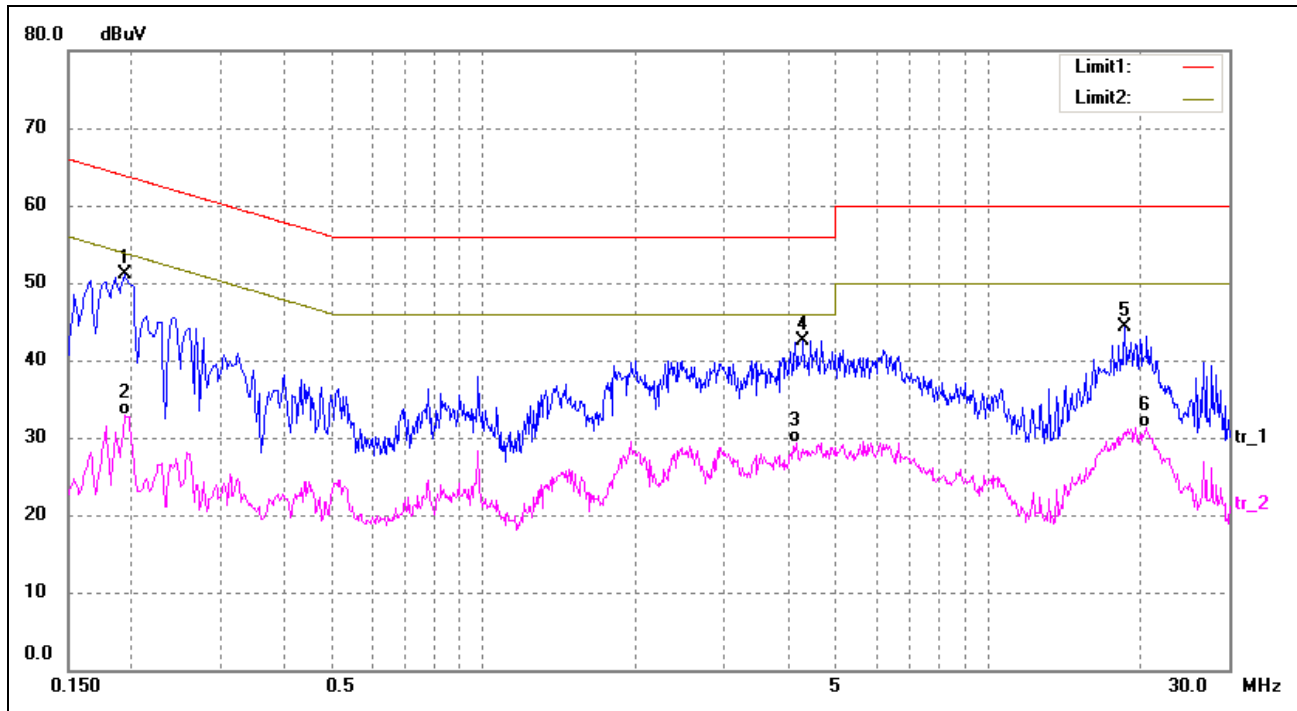


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.4180	40.66	12.50	53.16	57.49	-4.33	peak
2	0.4220	27.99	12.50	40.49	47.41	-6.92	AVG
3	1.2940	36.20	13.00	49.20	56.00	-6.80	peak
4	1.2940	21.18	13.00	34.18	46.00	-11.82	AVG
5	14.3380	31.94	11.00	42.94	60.00	-17.06	peak
6	14.7180	19.63	11.00	30.63	50.00	-19.37	AVG

Plot of Conducted Emissions Test Data

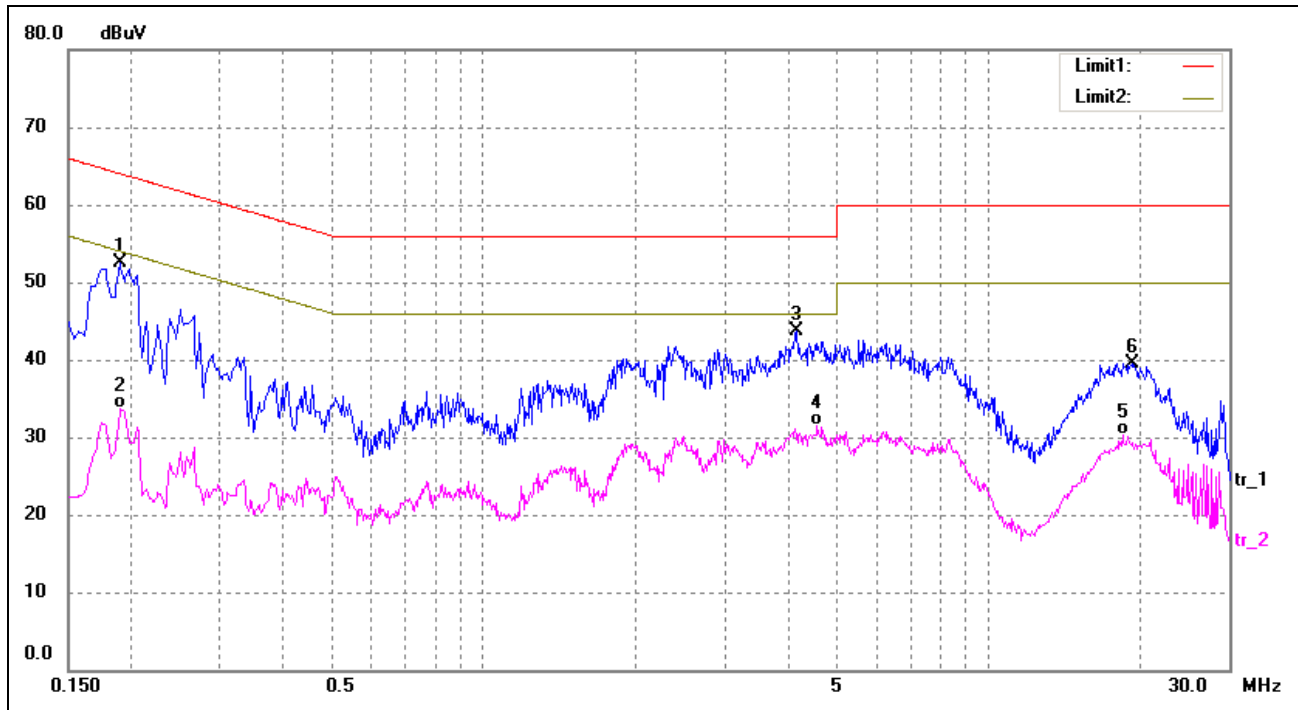
EUT: 4G Tablet
 Tested Model: Elite 7.0L
 Operating Condition: TM2
 Comment: AC 120V/60Hz; USB 5V

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1940	41.54	9.50	51.04	63.86	-12.82	peak
2	0.1940	23.35	9.50	32.85	53.86	-21.01	AVG
3	4.1780	19.31	10.00	29.31	46.00	-16.69	AVG
4	4.3140	32.59	10.00	42.59	56.00	-13.41	peak
5	18.6460	32.48	11.73	44.21	60.00	-15.79	peak
6	20.5260	19.37	12.00	31.37	50.00	-18.63	AVG

Test Specification: Line

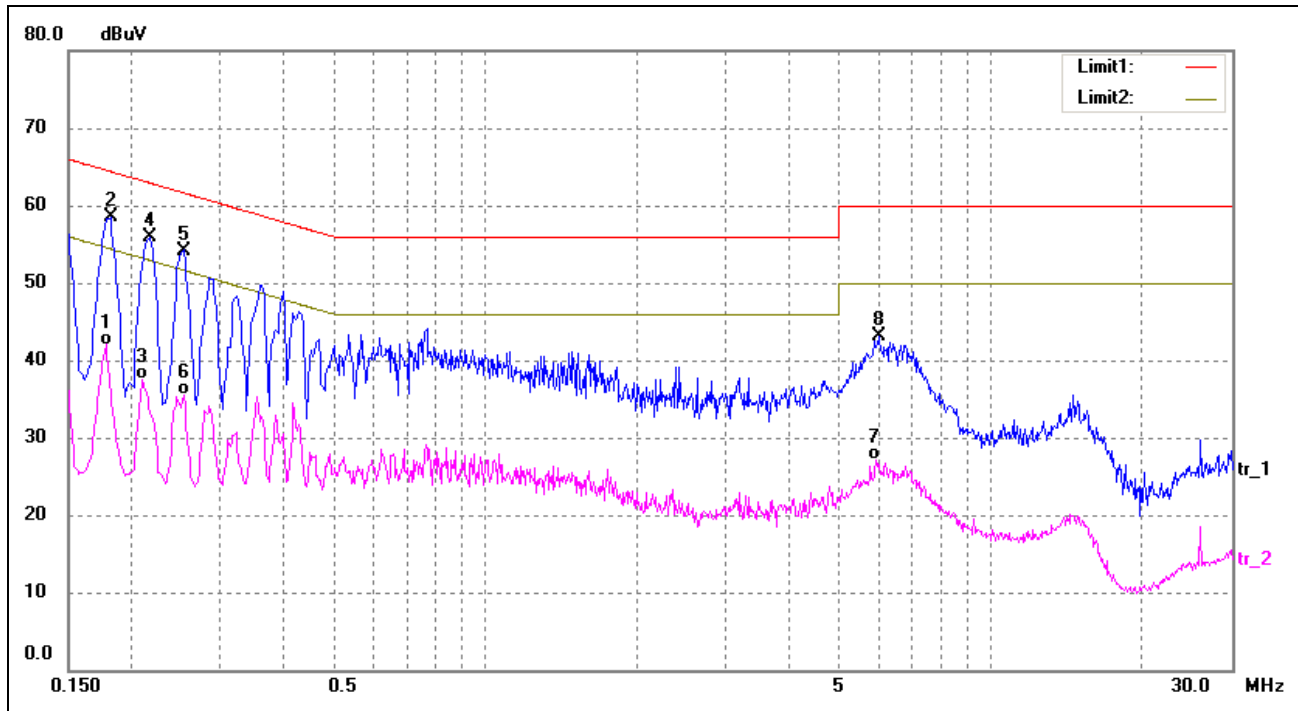


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1900	42.99	9.50	52.49	64.04	-11.55	peak
2	0.1900	24.17	9.50	33.67	54.04	-20.37	AVG
3	4.1620	33.63	10.00	43.63	56.00	-12.37	peak
4	4.5940	21.53	10.00	31.53	46.00	-14.47	AVG
5	18.5020	18.66	11.70	30.36	50.00	-19.64	AVG
6	19.3300	27.66	11.87	39.53	60.00	-20.47	peak

Plot of Conducted Emissions Test Data

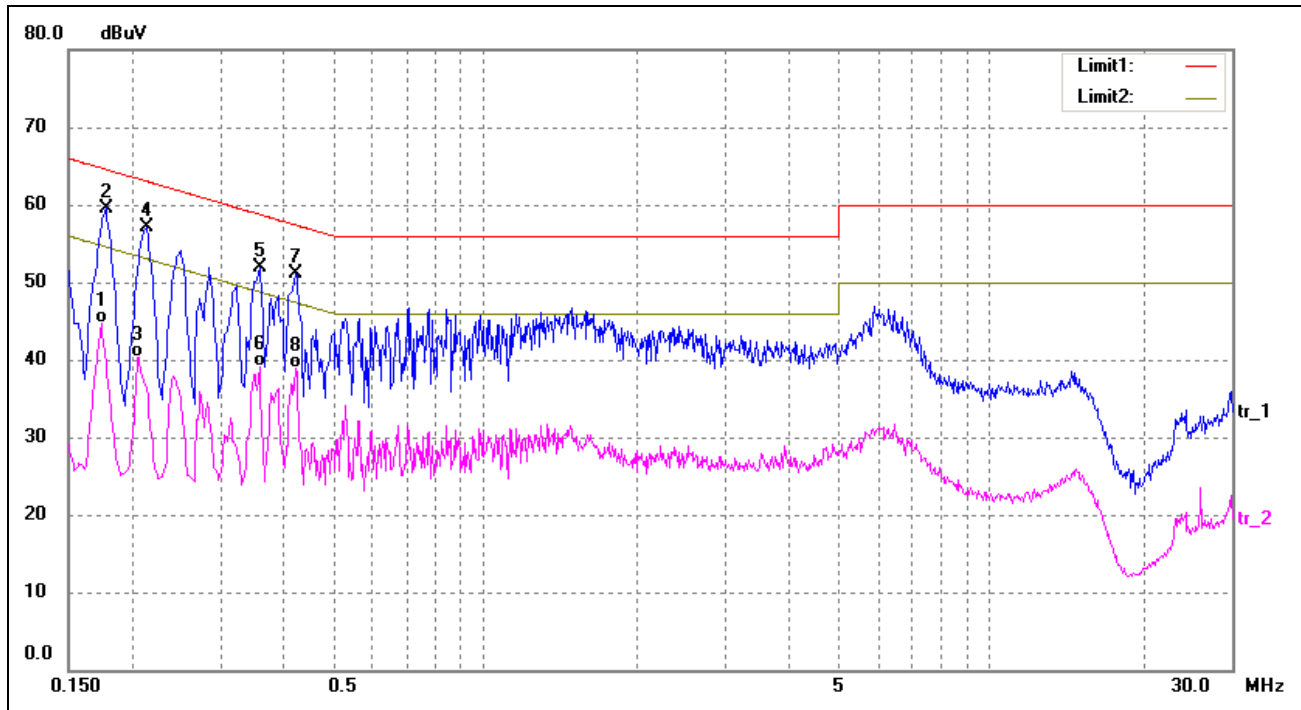
EUT: 4G Tablet
 Tested Model: Elite 7.0L
 Operating Condition: TM3
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1780	29.50	12.50	42.00	54.58	-12.58	AVG
2*	0.1820	45.91	12.50	58.41	64.39	-5.98	peak
3	0.2100	24.92	12.50	37.42	53.21	-15.79	AVG
4	0.2180	43.39	12.50	55.89	62.89	-7.00	peak
5	0.2540	41.70	12.50	54.20	61.63	-7.43	peak
6	0.2540	22.94	12.50	35.44	51.63	-16.19	AVG
7	5.9500	14.55	12.62	27.17	50.00	-22.83	AVG
8	6.0100	30.56	12.60	43.16	60.00	-16.84	peak

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1740	32.20	12.50	44.70	54.77	-10.07	AVG
2*	0.1780	47.10	12.50	59.60	64.58	-4.98	peak
3	0.2060	27.82	12.50	40.32	53.37	-13.05	AVG
4	0.2140	44.57	12.50	57.07	63.05	-5.98	peak
5	0.3580	39.49	12.50	51.99	58.77	-6.78	peak
6	0.3580	26.60	12.50	39.10	48.77	-9.67	AVG
7	0.4220	38.60	12.50	51.10	57.41	-6.31	peak
8	0.4220	26.48	12.50	38.98	47.41	-8.43	AVG

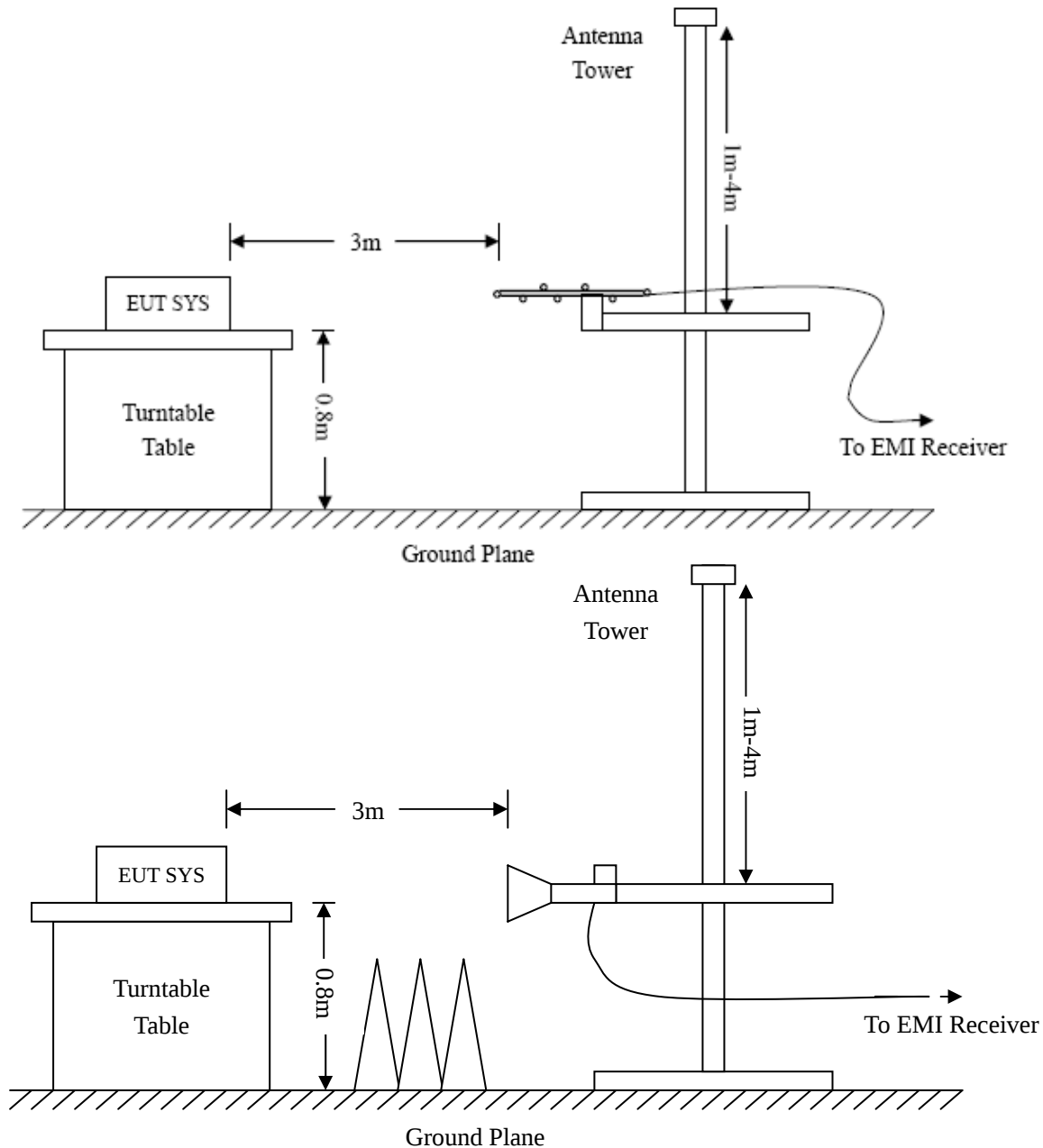
4. Radiated Emissions

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

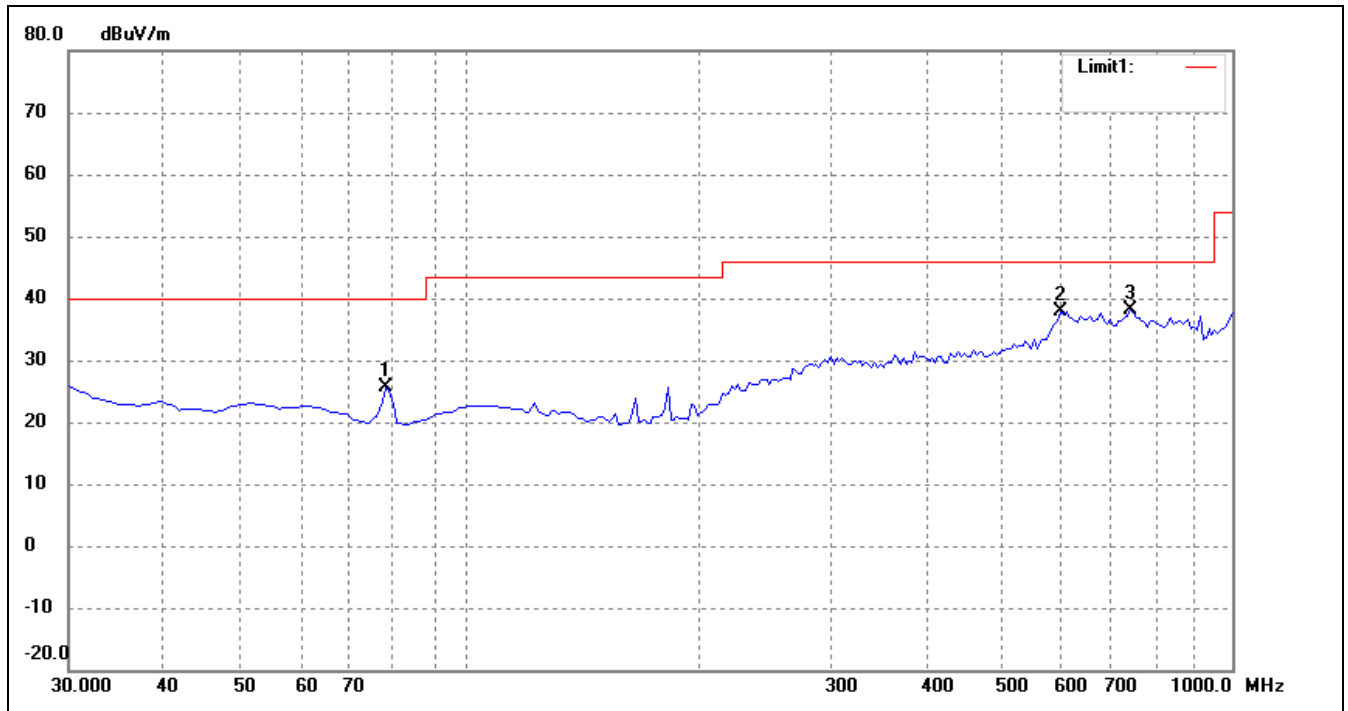
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-1.30 dB at 78.5000 MHz in the Vertical polarization, TM3 Mode 9 kHz to 5 GHz, 3Meters

Plot of Radiated Emissions Test Data

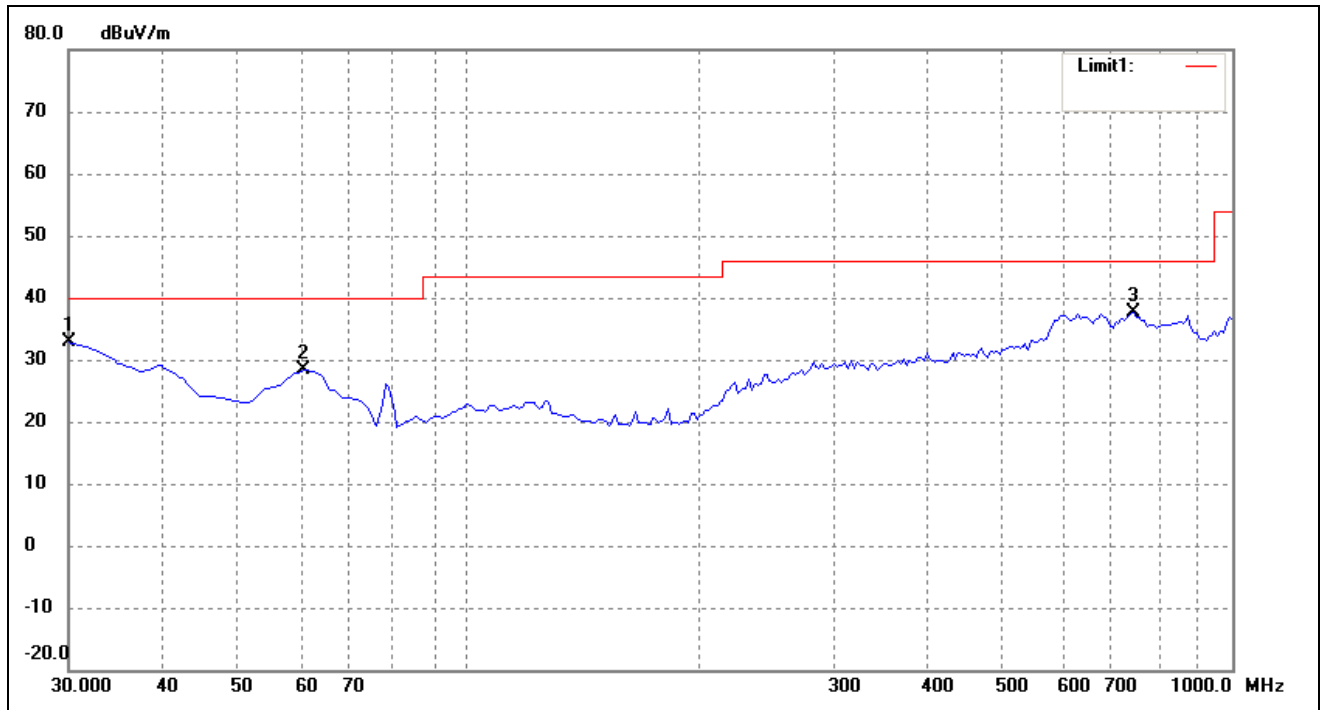
EUT: 4G Tablet
 Tested Model: Elite 7.0L
 Operating Condition: TM1
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	78.5000	23.51	2.18	25.69	40.00	-14.31	42	100	QP
2	599.8750	18.60	19.30	37.90	46.00	-8.10	132	100	QP
3	738.1000	18.76	19.44	38.20	46.00	-7.80	168	100	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.0000	29.22	3.64	32.86	40.00	-7.14	59	100	QP
2	61.5250	23.28	5.04	28.32	40.00	-11.68	147	100	QP
3	745.3750	18.28	19.31	37.59	46.00	-8.41	236	100	QP

Plot of Radiated Emissions Test Data

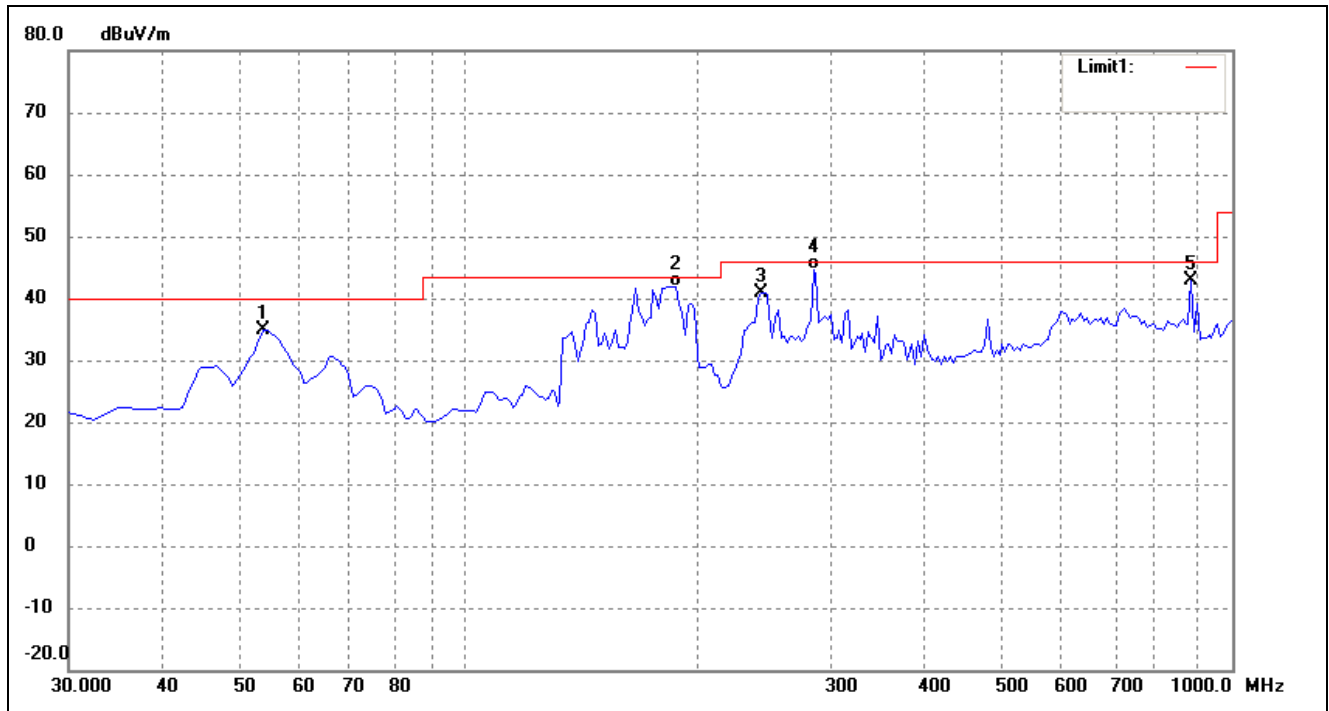
EUT: 4G Tablet

Tested Model: Elite 7.0L

Operating Condition: TM2

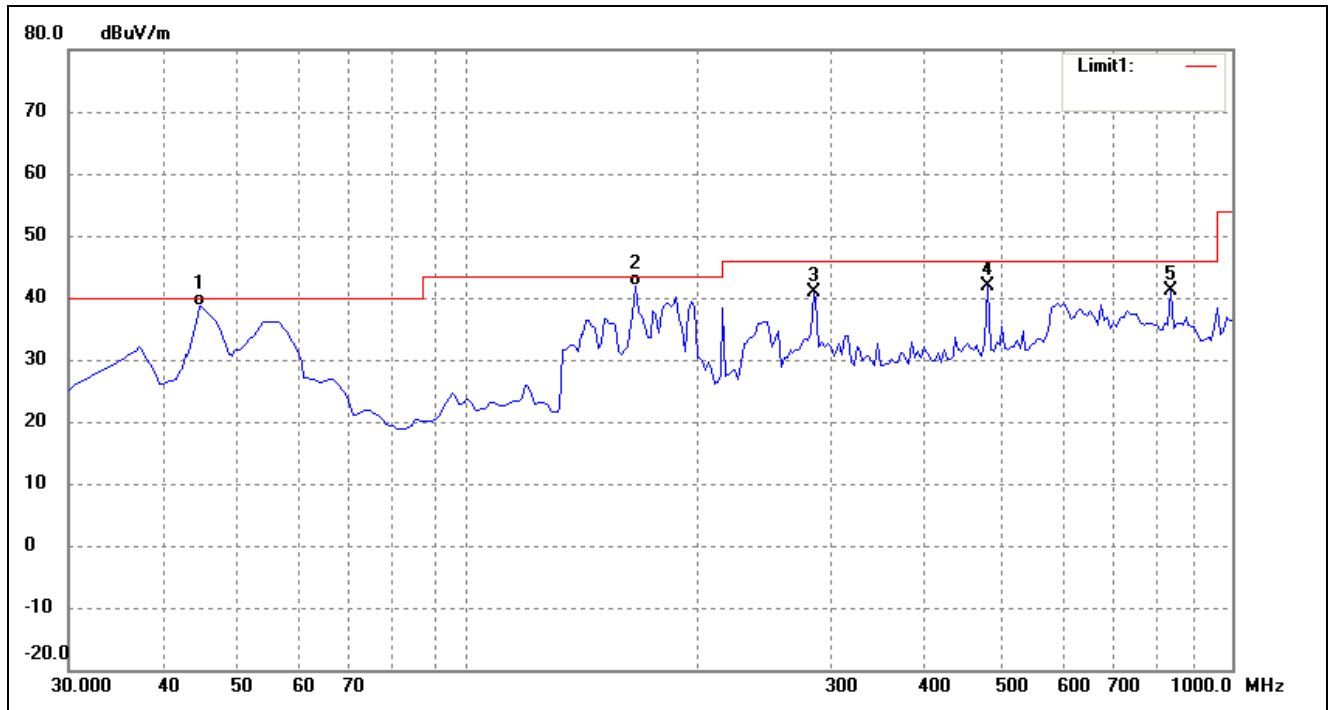
Comment: USB: DC5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	54.2500	29.69	5.31	35.00	40.00	-5.00	51	100	QP
2	187.6250	38.85	3.09	41.94	43.50	-1.56	124	100	QP
3	243.4000	31.50	9.45	40.95	46.00	-5.05	203	100	QP
4	284.6250	33.03	11.57	44.60	46.00	-1.40	86	100	QP
5	890.8750	25.69	17.30	42.99	46.00	-3.01	156	100	QP

Test Specification: Vertical

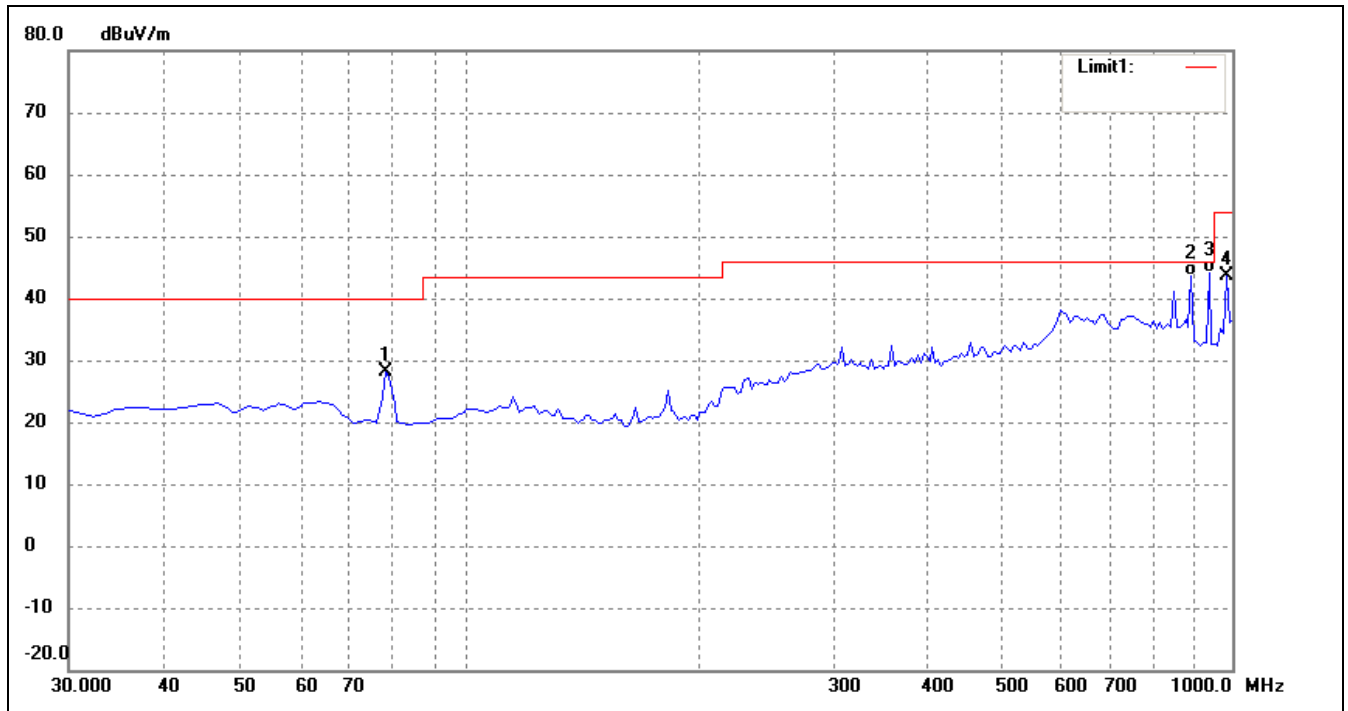


No.	Frequency (MHz)	Reading (dBuV)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	44.5499	33.37	5.26	38.63	40.00	-1.37	22	100	QP
2	165.8000	39.29	2.65	41.94	43.50	-1.56	146	100	QP
3	284.6250	29.27	11.57	40.84	46.00	-5.16	197	100	QP
4	481.0500	28.62	13.15	41.77	46.00	-4.23	375	100	QP
5	832.6750	23.74	17.34	41.08	46.00	-4.92	129	100	QP

Plot of Radiated Emissions Test Data

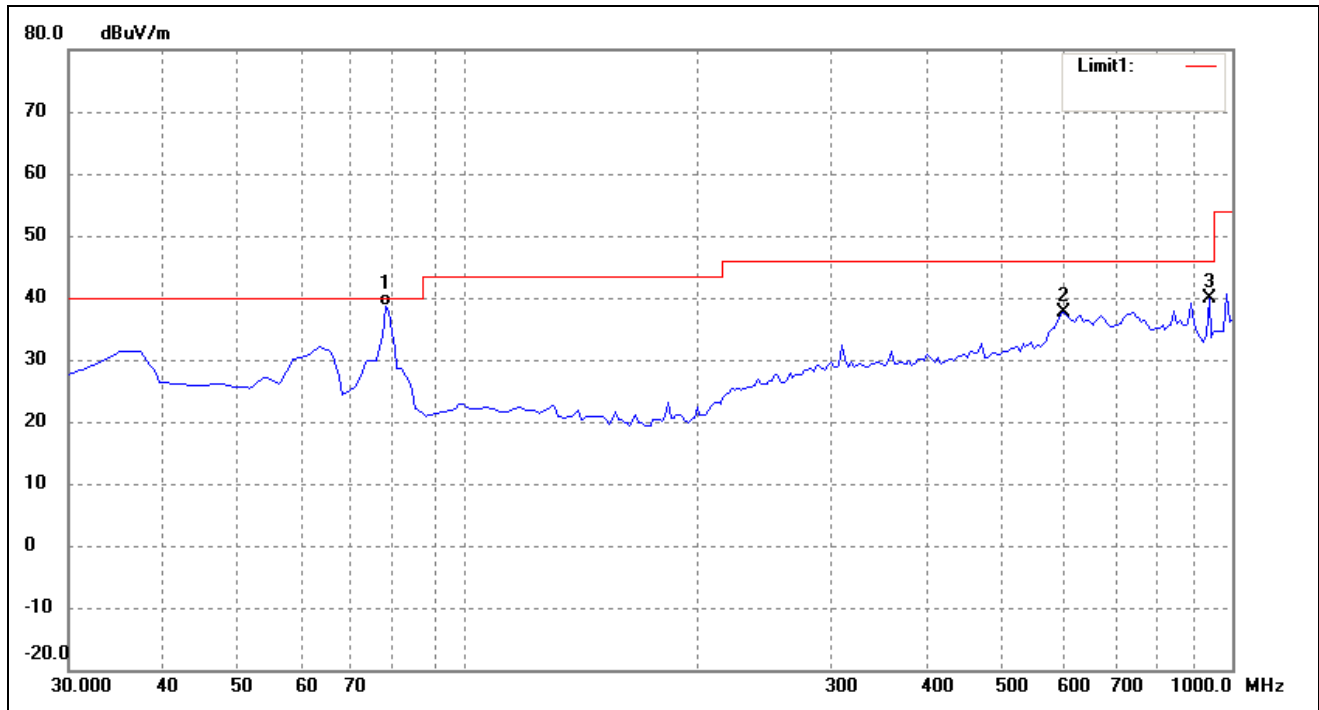
EUT: 4G Tablet
 Tested Model: Elite 7.0L
 Operating Condition: TM3
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	78.5000	25.86	2.18	28.04	40.00	-11.96	158	100	QP
2	888.4500	26.31	17.42	43.73	46.00	-2.27	0	100	QP
3	936.9500	28.12	16.10	44.22	46.00	-1.78	147	100	QP
4	985.4500	25.70	17.83	43.53	54.00	-10.47	352	100	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	78.5000	36.52	2.18	38.70	40.00	-1.30	76	100	QP
2	604.7250	18.65	18.98	37.63	46.00	-8.37	288	100	QP
3	936.9500	23.73	16.10	39.83	46.00	-6.17	10	100	QP

Note: Testing is carried out with frequency rang 9kHz to the 5GHz, which above 1GHz is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

The measurements greater than 20dB below the limit from 9kHz to 30MHz and test data are not provided.

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