

FCC Part 15B

Measurement and Test Report

For

Quality One Wireless Inc

1500 Tradeport Drive Suite A, Orlando, FL32824

FCC ID: 2ADDQB32

Test Rule(s): FCC Part 15 Subpart B

Product Description: Mobile Phone

Tested Model: B32

Report No.: STR15128081I-3

Tested Date: 2015-12-30 to 2016-01-07

Issued Date: 2016-01-08

Tested By: Irving Liu / Engineer

Irving Liu

Reviewed By: Silin Chen / EMC Manager

Silin Chen

Approved & Authorized By: Jandy So / PSQ Manager

Jandy So

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

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: Quality One Wireless Inc
Address of applicant: 1500 Tradeport Drive Suite A, Orlando, FL32824

Manufacturer: Shenzhen Benavi Electronics CO.,LTD
Address of manufacturer: 8F/Jidali Bldg C1,Gonghe Industrial Park, Xinhe Road,Shajing Town,Baoan District,Shenzhen

General Description of EUT	
Product Name:	Mobile Phone
Trade Name:	PCD/Claro
Model No.:	B32
Hardware version:	V1.0
Software version:	MOCOR_12C.W13.04.03_R release
<i>The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	DC 3.7V Li-ion Battery
Battery Capacity:	600mAh
Rated Power:	/
Lowest Internal Frequency:	26MHz
Highest Internal Frequency:	26MHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the Quality One Wireless Inc 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	Rear Camera

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 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

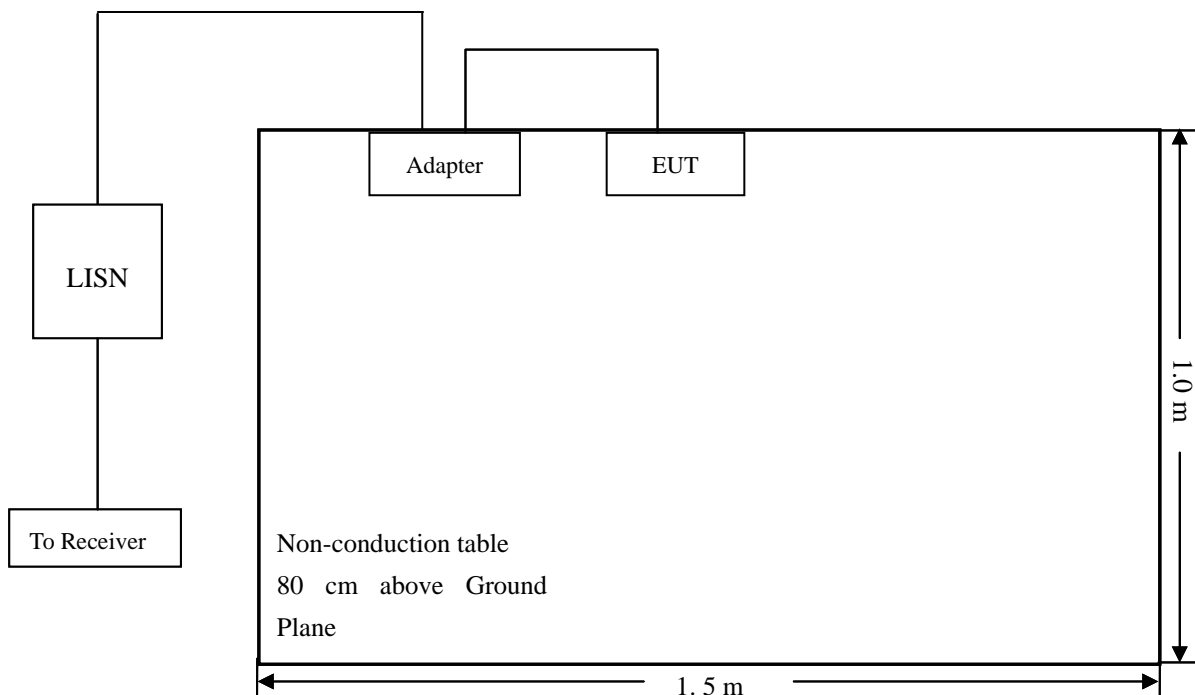
3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 dB.

3.2 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.

3.3 Basic Test Setup Block Diagram



3.4 Environmental Conditions

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

3.5 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:

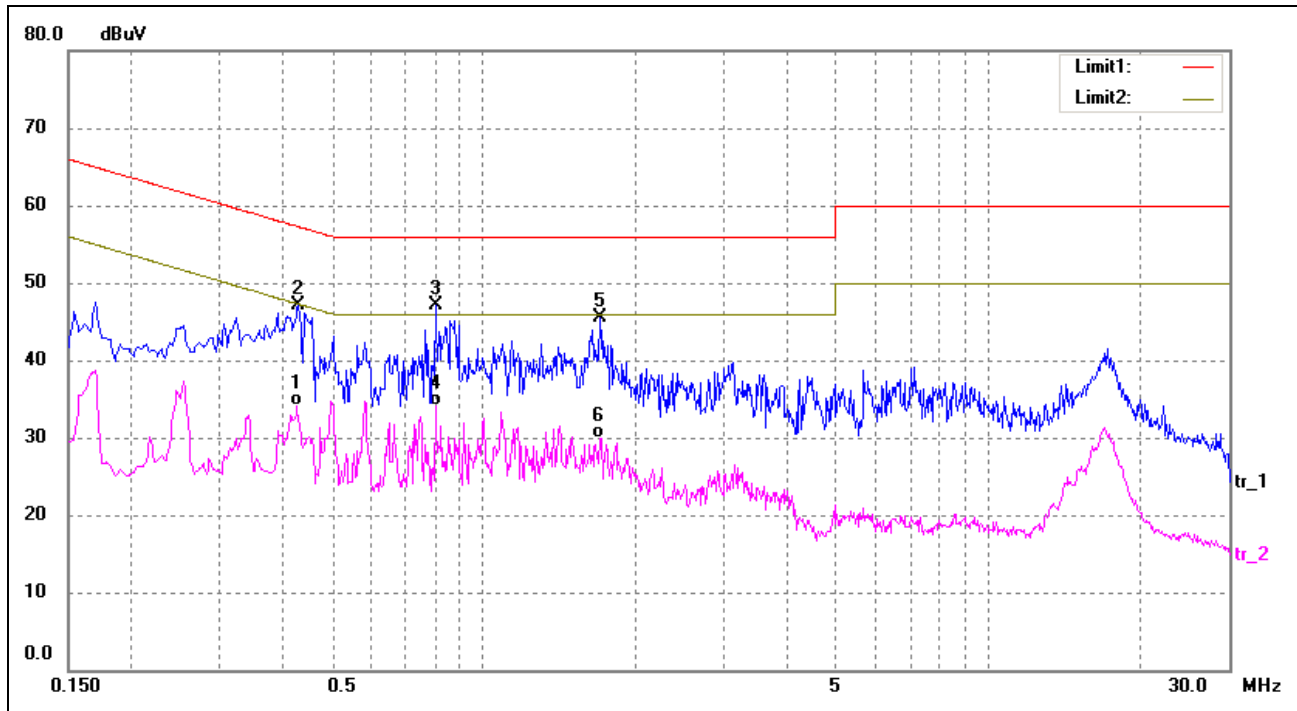
-6.17 dB at 0.17 MHz in the **Neutral, Peak** detector, 0.15-30MHz

3.6 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

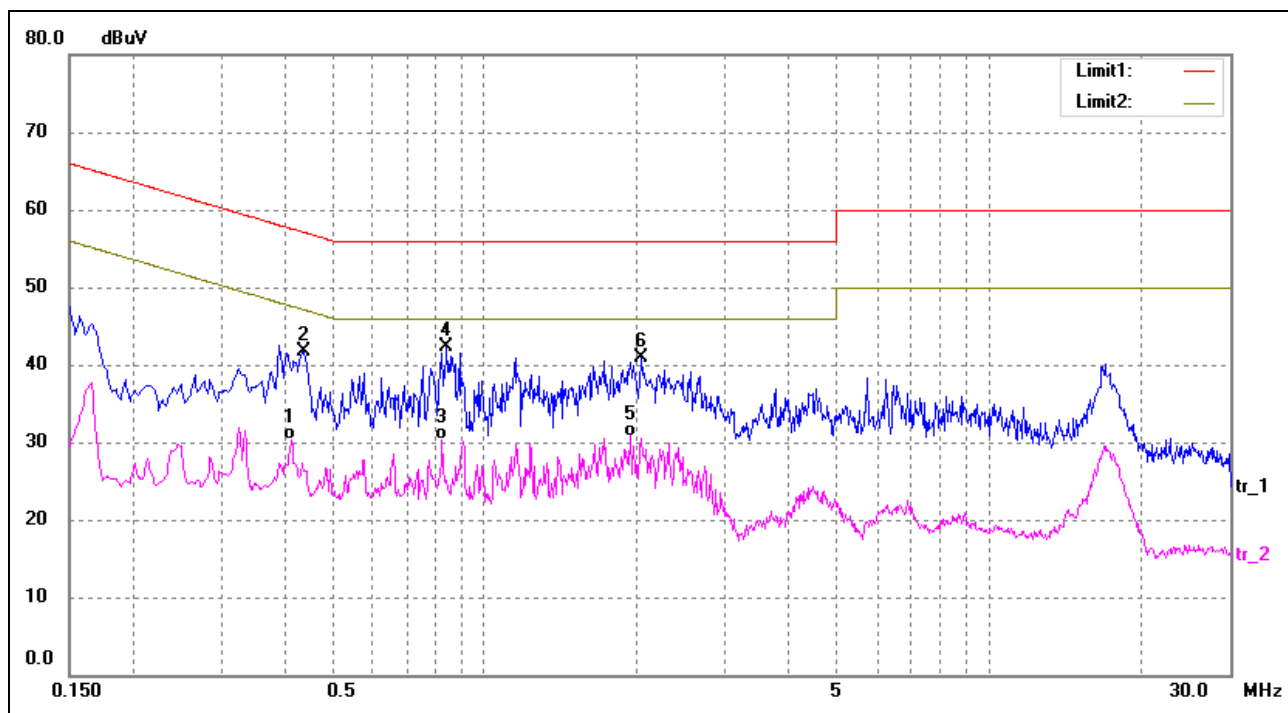
EUT: Mobile Phone
 Tested Model: B32
 Operating Condition: TM1
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.4260	21.60	12.50	34.10	47.33	-13.23	AVG
2	0.4300	34.63	12.50	47.13	57.25	-10.12	peak
3*	0.8020	34.26	12.80	47.06	56.00	-8.94	peak
4	0.8020	21.35	12.80	34.15	46.00	-11.85	AVG
5	1.7060	32.41	13.00	45.41	56.00	-10.59	peak
6	1.7060	16.99	13.00	29.99	46.00	-16.01	AVG

Test Specification: Line

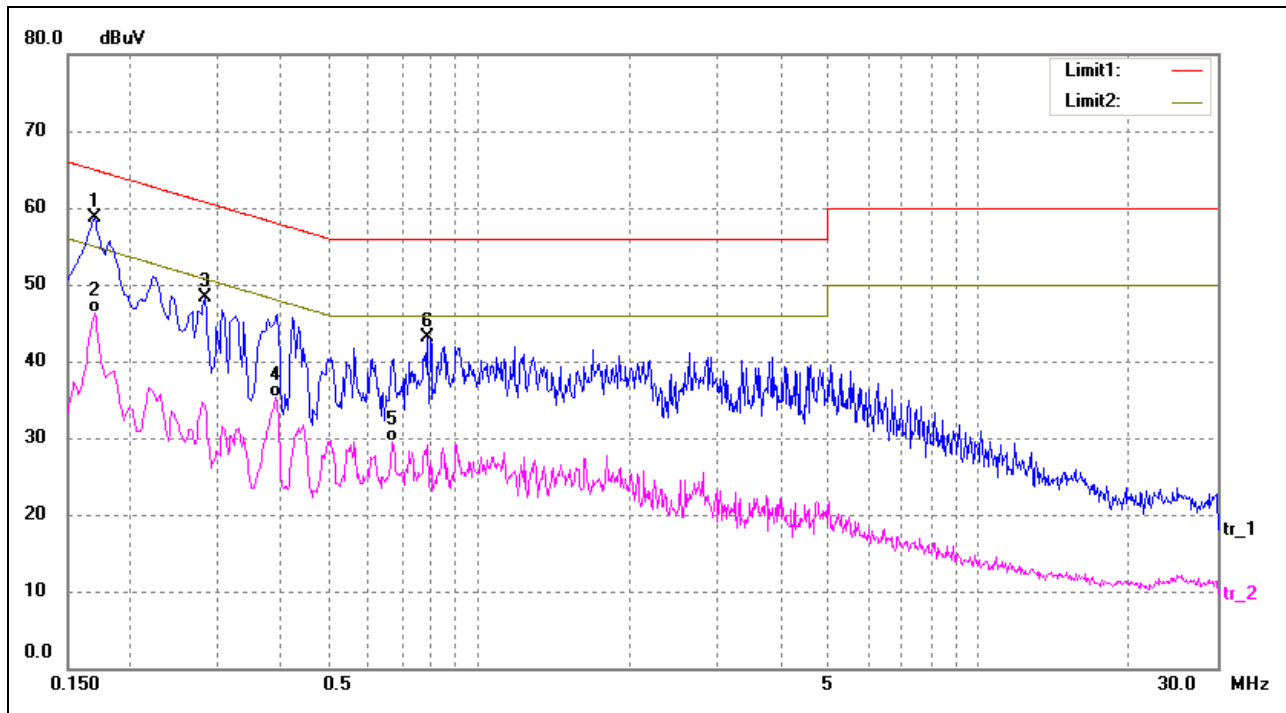


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.4140	17.75	12.50	30.25	47.57	-17.32	AVG
2	0.4380	29.22	12.50	41.72	57.10	-15.38	peak
3	0.8260	17.42	12.83	30.25	46.00	-15.75	AVG
4*	0.8420	29.51	12.84	42.35	56.00	-13.65	peak
5	1.9420	17.80	13.00	30.80	46.00	-15.20	AVG
6	2.0540	27.81	13.00	40.81	56.00	-15.19	peak

Plot of Conducted Emissions Test Data

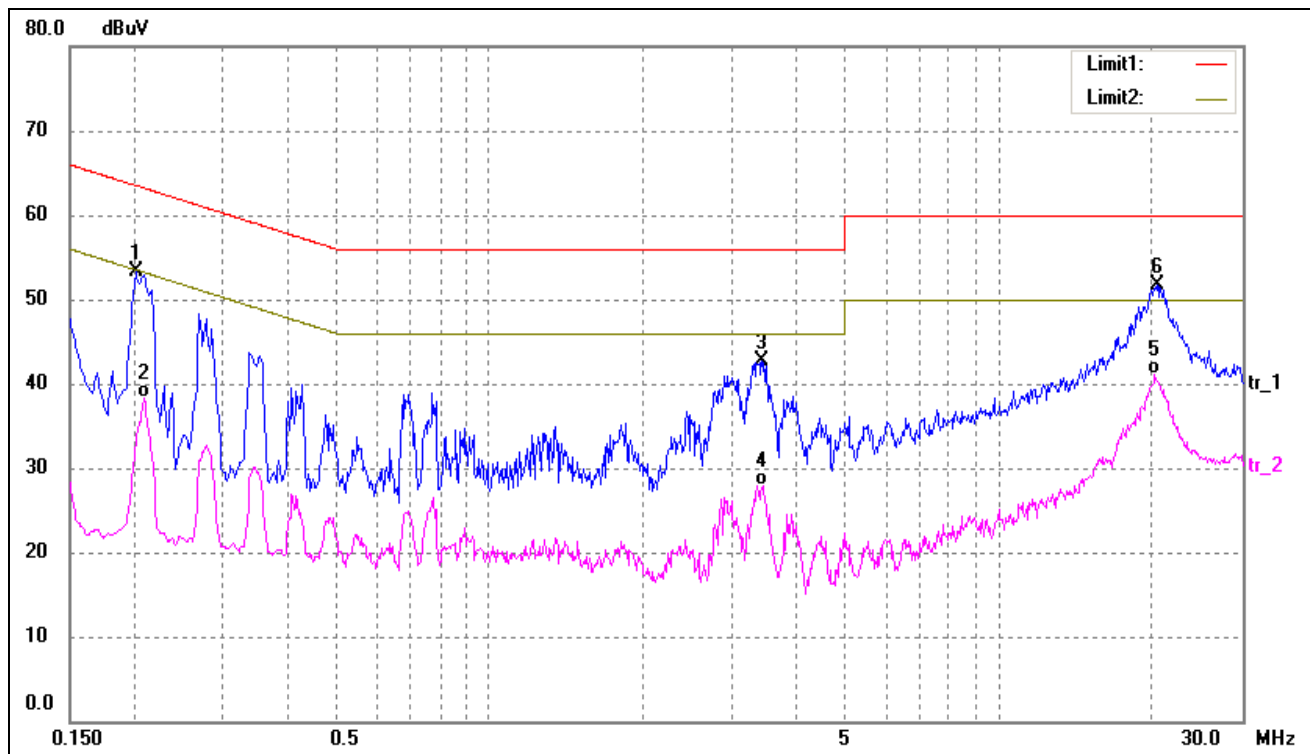
EUT: Mobile Phone
 Tested Model: B32
 Operating Condition: TM2
 Comment: AC 120V/60Hz; USB 5V

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1700	46.29	12.50	58.79	64.96	-6.17	peak
2	0.1700	33.76	12.50	46.26	54.96	-8.70	AVG
3	0.2820	35.84	12.50	48.34	60.76	-12.42	peak
4	0.3900	22.90	12.50	35.40	48.06	-12.66	AVG
5	0.6700	16.80	12.67	29.47	46.00	-16.53	AVG
6	0.7860	30.29	12.79	43.08	56.00	-12.92	peak

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2020	43.77	9.50	53.27	63.53	-10.26	peak
2	0.2100	28.71	9.50	38.21	53.21	-15.00	AVG
3	3.4340	32.67	10.00	42.67	56.00	-13.33	peak
4	3.4500	17.95	10.00	27.95	46.00	-18.05	AVG
5	20.2260	29.06	12.00	41.06	50.00	-8.94	AVG
6*	20.4380	39.65	12.00	51.65	60.00	-8.35	peak

4. Radiated Emissions

4.1 Measurement Uncertainty

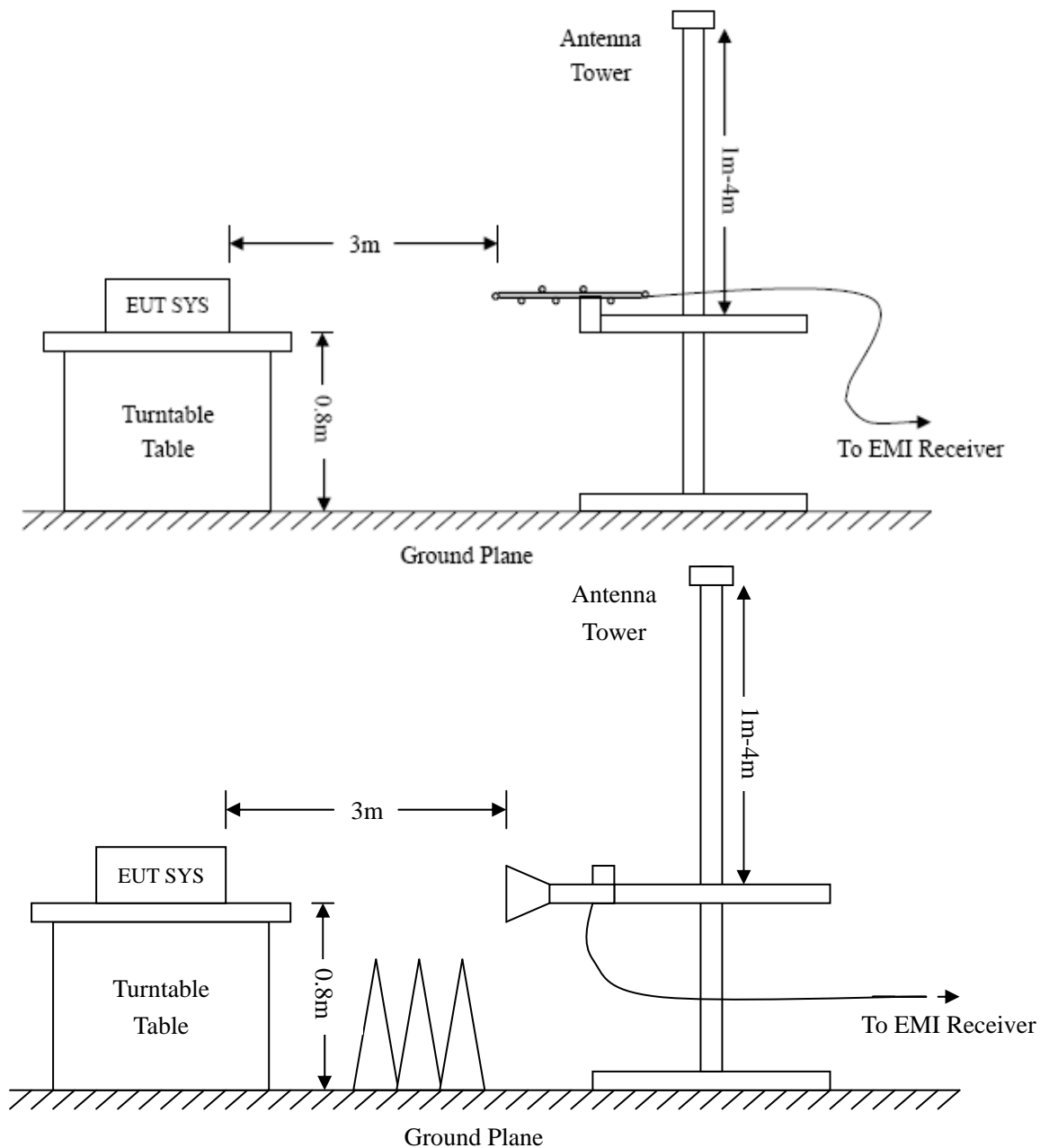
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 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.



4.3 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

4.4 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:

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

4.5 Environmental Conditions

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

4.6 Summary of Test Results/Plots

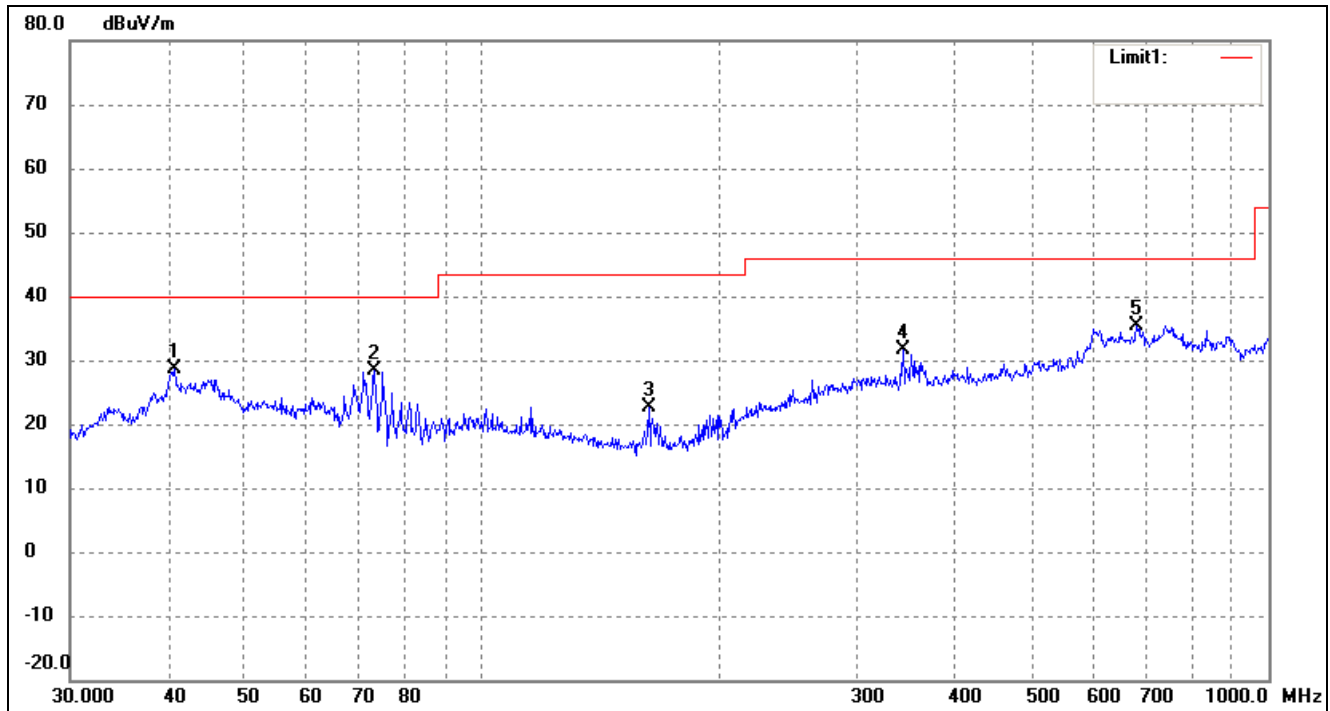
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-2.20 dB at 66.0342 MHz in the Vertical polarization, TM2, 30MHz to 1GHz, 3Meters

Plot of Radiated Emissions Test Data

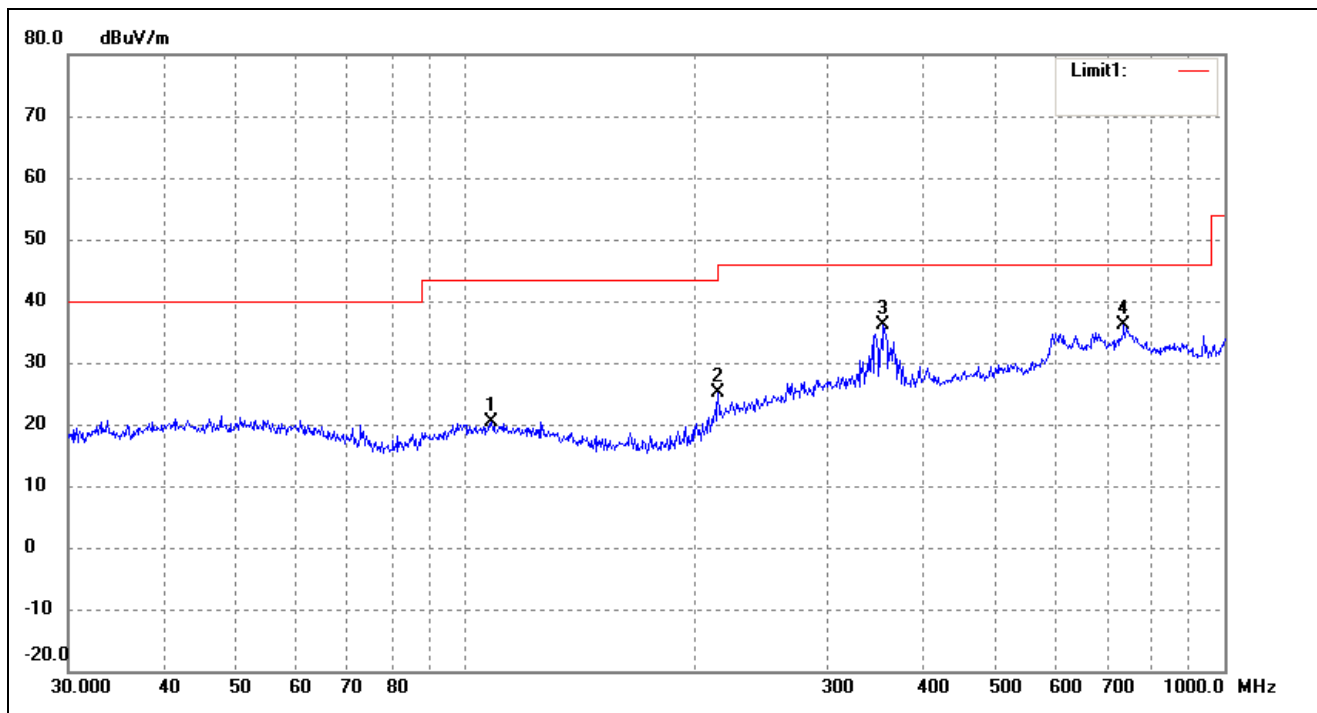
EUT: Mobile Phone
 Tested Model: B32
 Operating Condition: TM1
 Comment: AC 120V/60Hz; Adapter DC 5V

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	40.7016	23.32	5.25	28.57	40.00	-11.43	360	100	peak
2	73.1025	25.48	2.82	28.30	40.00	-11.70	360	100	peak
3	163.1818	19.99	2.63	22.62	43.50	-20.88	360	100	peak
4	343.1800	19.76	11.79	31.55	46.00	-14.45	360	100	peak
5	679.9600	16.22	19.26	35.48	46.00	-10.52	360	100	peak

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	108.2667	15.23	5.09	20.32	43.50	-23.18	0	180	peak
2	215.2678	18.03	7.05	25.08	43.50	-18.42	0	180	peak
3	355.4273	23.97	12.12	36.09	46.00	-9.91	0	180	peak
4	737.0714	16.67	19.37	36.04	46.00	-9.96	0	180	peak

Plot of Radiated Emissions Test Data

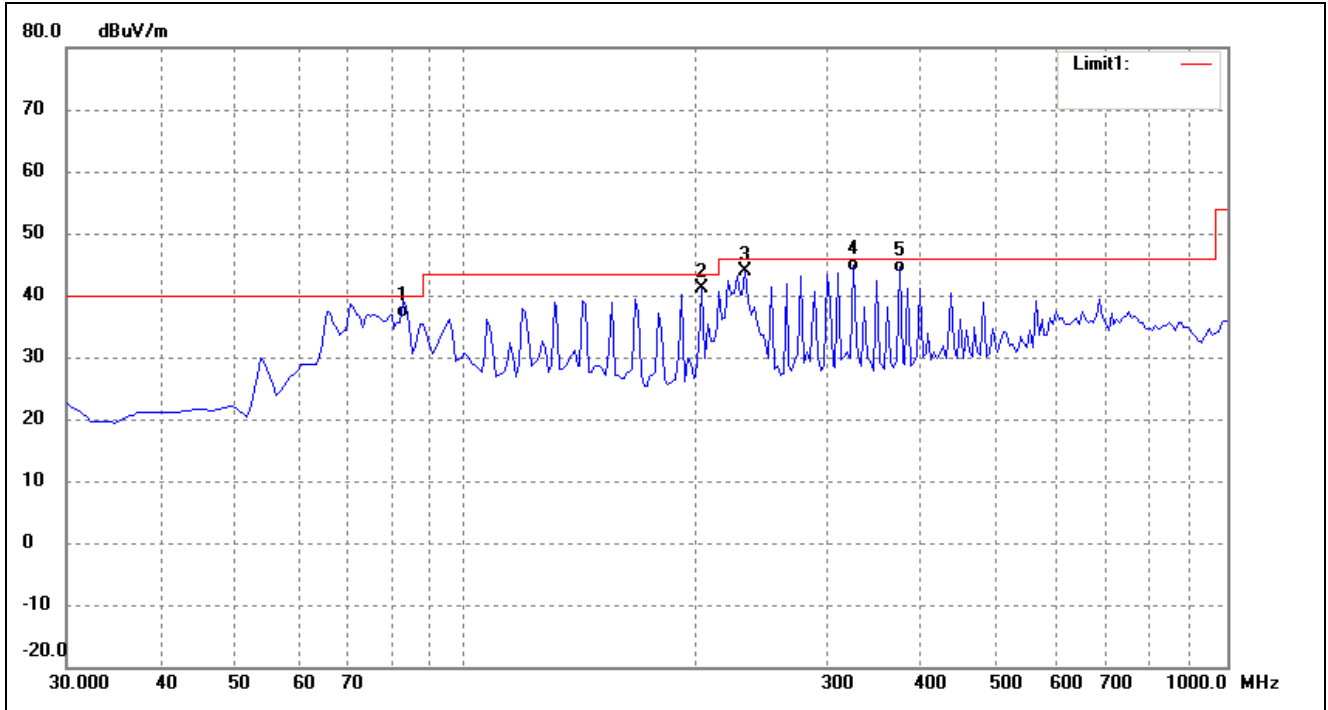
EUT: Mobile Phone

Tested Model: B32

Operating Condition: TM2

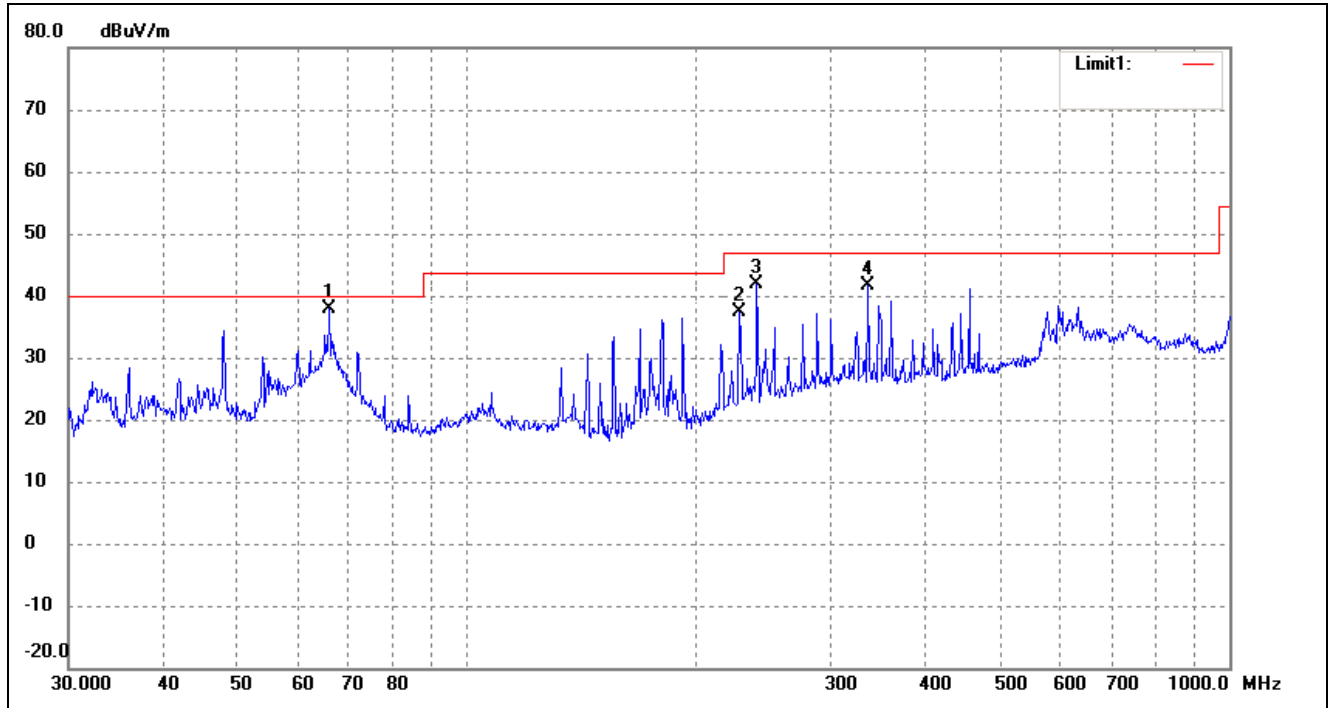
Comment: AC 120V/60Hz; USB DC 5V

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	83.3499	33.90	2.55	36.45	40.00	-3.55	42	100	QP
2	204.5999	36.44	4.70	41.14	43.50	-2.36	132	100	QP
3	233.6999	34.91	8.94	43.85	46.00	-2.15	168	100	QP
4	323.4250	31.60	12.19	43.79	46.00	-2.21	0	100	QP
5	375.6385	30.09	13.16	43.25	46.00	-2.75	153	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	66.0342	33.75	4.05	37.80	40.00	-2.20	180	100	peak
2	227.6906	28.90	8.57	37.47	46.00	-8.53	180	100	peak
3	239.9874	32.45	9.33	41.78	46.00	-4.22	180	100	peak
4	336.0352	29.70	11.84	41.54	46.00	-4.46	180	100	peak

Plot of Radiated Emissions Test Data

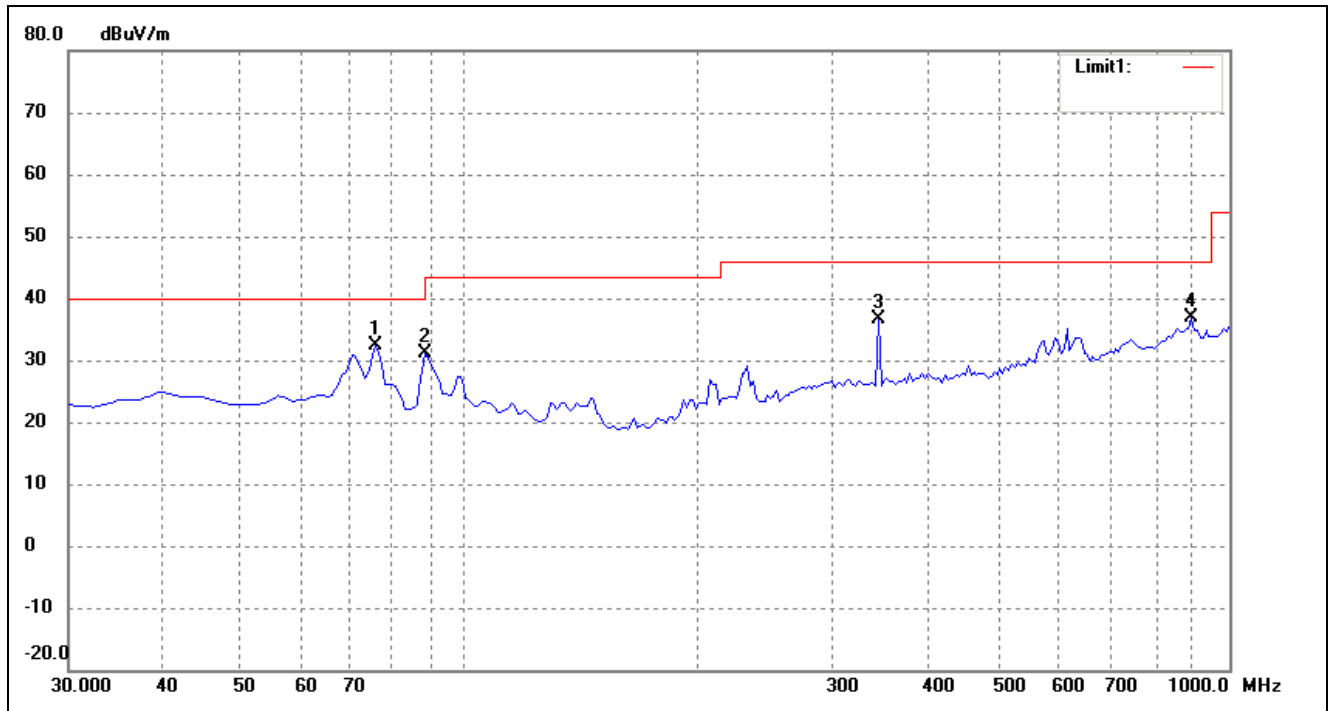
EUT: Mobile Phone

Tested Model: B32

Operating Condition: TM3

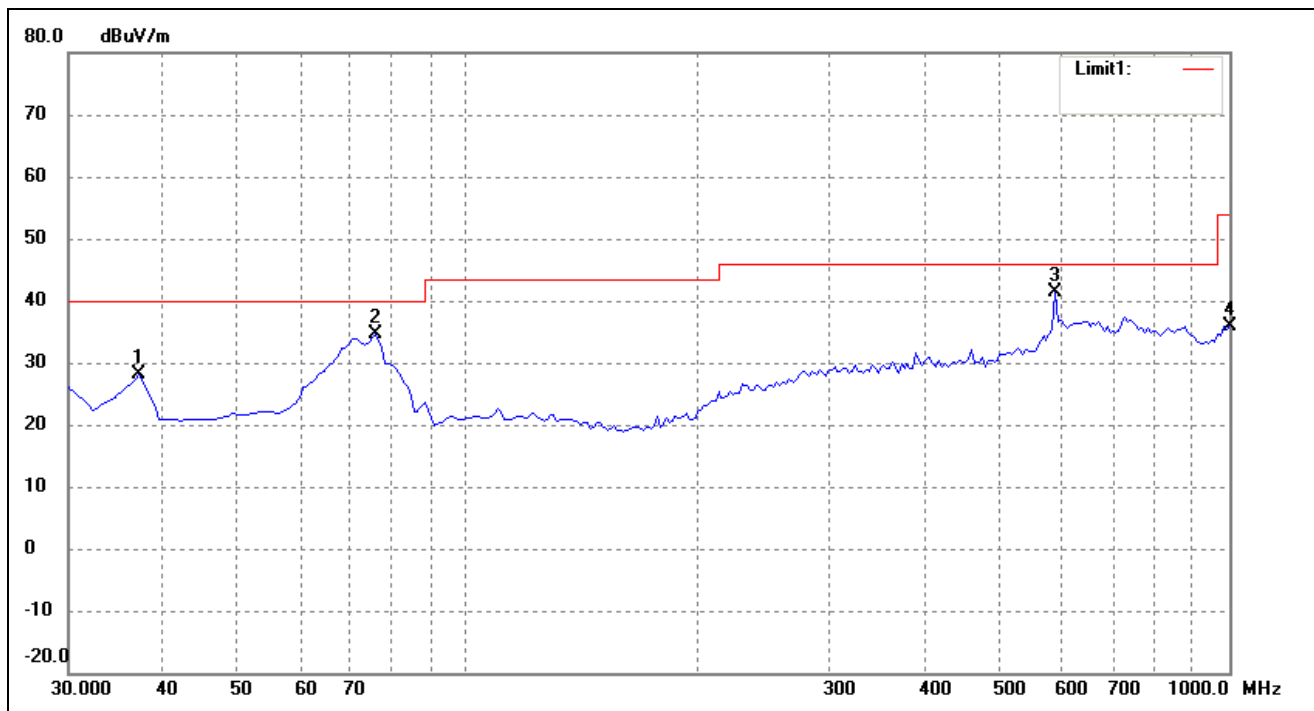
Comment: DC 3.7V

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	76.0750	30.02	2.47	32.49	40.00	-7.51	42	100	QP
2	88.2000	27.78	3.32	31.10	43.50	-12.40	132	100	QP
3	347.6750	24.66	11.92	36.58	46.00	-9.42	168	100	QP
4	898.1499	19.90	16.95	36.85	46.00	-9.15	0	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	37.2750	23.30	4.79	28.09	40.00	-11.91	59	100	QP
2	76.0750	32.26	2.47	34.73	40.00	-5.27	147	100	QP
3	592.6000	23.42	17.93	41.35	46.00	-4.65	236	100	QP
4	1000.0000	17.09	18.91	36.00	54.00	-18.00	158	100	QP

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