FCC Part 18
Measurement and Test Report

For

Fuse Chicken LLC

2251 Front Street, Suite 200, Cuyahoga Falls, Ohio, 44221 USA

FCC ID: 2ARVW-WGC

Test Rule(s):	FCC Part 18
Product Description:	Gravity Touch
Tested Model:	WGC
Report No.:	STR18118255I-1
Sample Receipt Date:	2018-11-21
Tested Date:	2018-11-21 to 2018-12-04
Issued Date:	2018-12-04
Tested By:	Jason Su / 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:	Fuse Chicken LLC
Address of applicant:	2251 Front Street, Suite 200, Cuyahoga Falls, Ohio, 44221 USA
Manufacturer:	Shenzhen Ucool Technology Co., Ltd
Address of manufacturer:	3/f, building A, datang industrial area, datang road, guanlan street, longhua district, Shenzhen city

General Description of EUT	
Product Name:	Gravity Touch
Trade Name:	[fuse]chicken
Model No.:	WGC
Adding Model(s):	WGT
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 WGC, but the circuit and the electronic construction do not change, declared by the manufacturer.	

Technical Characteristics of EUT	
Frequency Range:	110~205kHz
Antenna Type:	Coil Antenna
Rated Voltage:	DC5V/DC 9V (Wireless output)
Rated Current:	1A (Wireless output)
Rated Power:	5W/9W(Wireless output)

1.2 Test Standards

The tests were performed according to following standards:
FCC Part 18 Subpart C: Industrial, Scientific, and medical medical equipment.

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.

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.

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	Power Supply Mode
TM1	Wireless Output	/	Input DC5V2A; Output:DC5V1A
TM2	Wireless Output	/	Input DC9V1.67A; Output:DC9V1A

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.2	Unshielded	Without Ferrite
Earphone Cable	1.45	Unshielded	Without Ferrite

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Quick Charge	UGREE	CD122	30387
iPhone 8 Plus	Apple	MQ8E2CH/A	/

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	9-150kHz ±3.74dB
		0.15-30MHz ±3.34dB
Radiated Emissions	Radiated	30-200MHz ±4.52dB
		0.2-1GHz ±5.56dB
		1-6GHz ±3.84dB
		6-18GHz ±3.92dB

1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
Spectrum Analyzer	Agilent	E4407B	MY41440400	2018-05-22	2019-05-21
Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2018-05-22	2019-05-21
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2018-05-22	2019-05-21
Amplifier	Agilent	8447F	3113A06717	2018-05-22	2019-05-21
Amplifier	C&D	PAP-1G18	2002	2018-05-22	2019-05-21
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2017-06-08	2018-06-07
Horn Antenna	ETS	3117	00086197	2017-06-08	2018-06-07
Loop Antenna	Schwarz beck	FMZB 1516	9773	2017-06-08	2018-06-07
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2018-05-22	2019-05-21
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2018-05-22	2019-05-21
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2018-05-22	2019-05-21

2. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§ 18.307 (b)	Conducted Emission	Compliant
§ 18.305 (b)	Radiated Emission	Compliant

3. Conducted Emissions

3.1 Standard Applicable

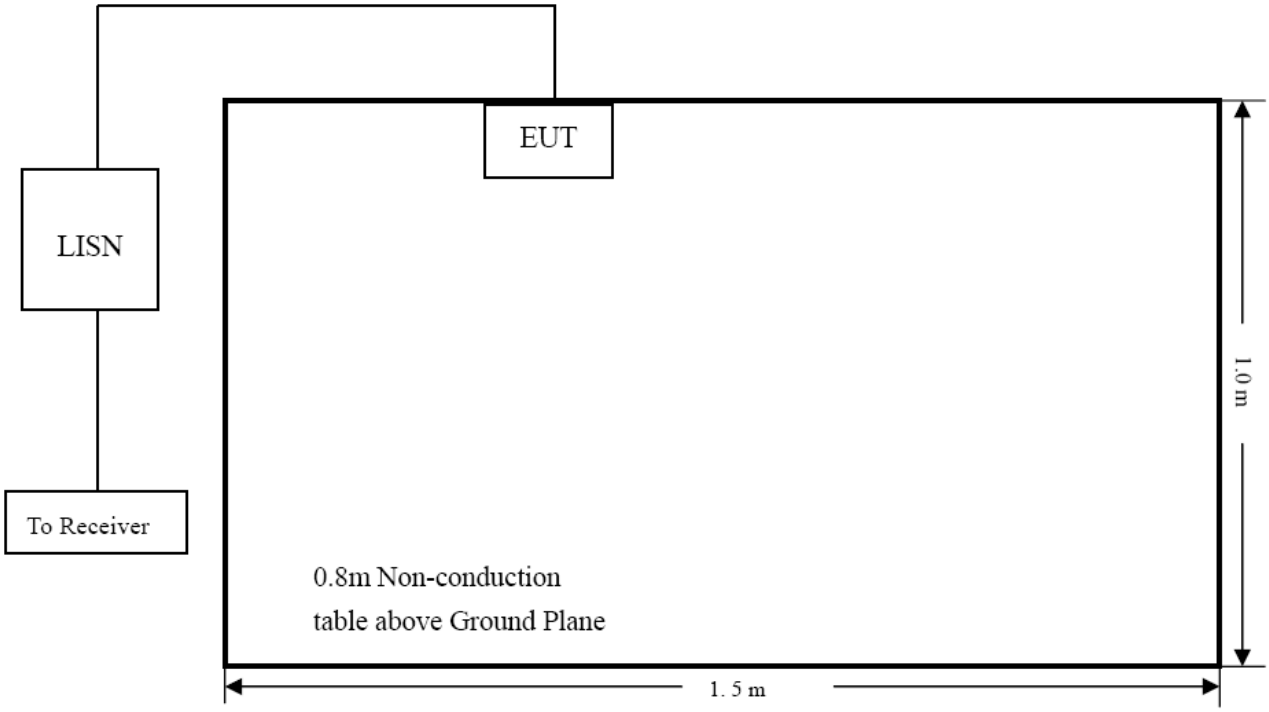
According to FCC 18.307(b), the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies shall not exceed the limits in the following tables:

Frequency (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

3.2 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 18.307 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.

3.3 Basic Test Setup Block Diagram



3.4 Environmental Conditions

Temperature:	25° C
Relative Humidity:	54%
ATM Pressure:	1016 mbar

3.5 Test Receiver Setup

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

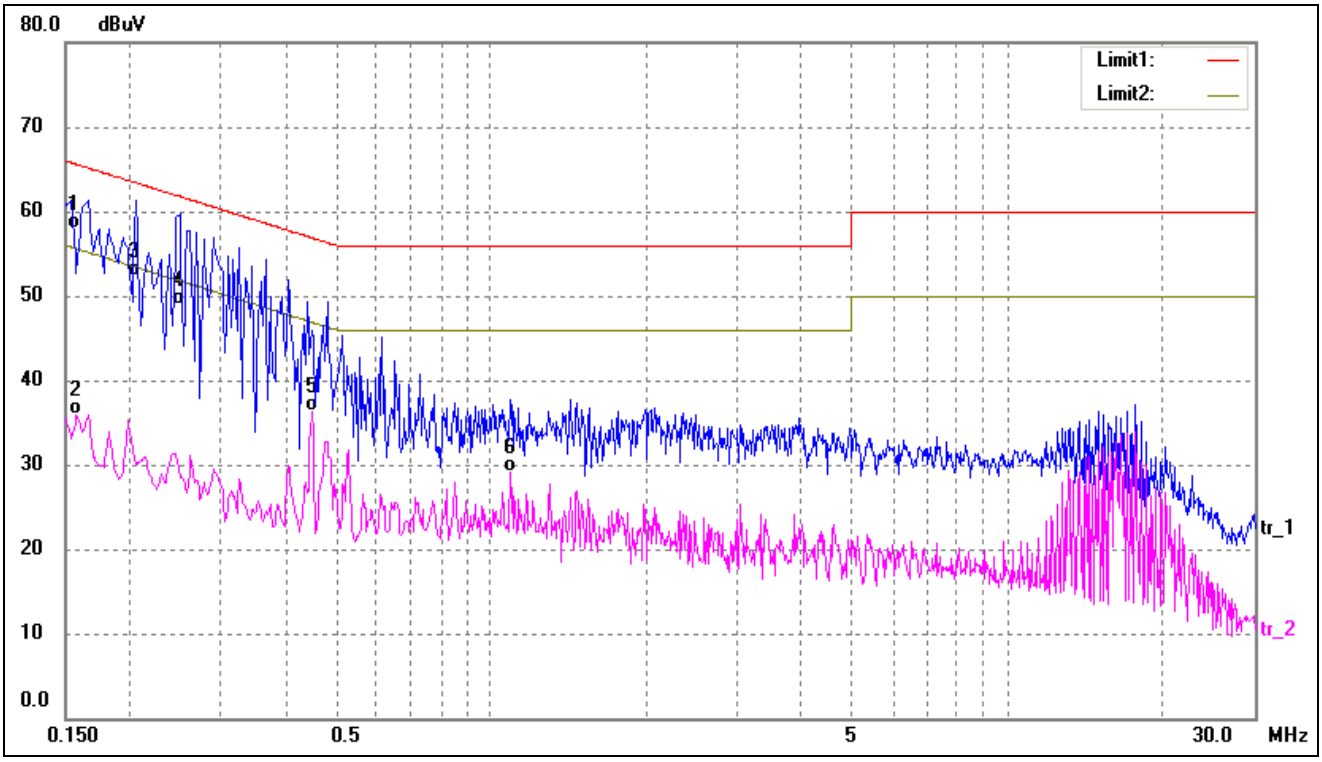
Start Frequency ..... 150 kHz
Stop Frequency..... 30 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth ..... 9 kHz
Quasi-Peak Adapter Mode ..... Normal

3.6 Summary of Test Results/Plots

According to the data in this section, the EUT complied with the FCC Part 18C Conducted margin for Any non-ISM frequency device, with the *worst* margin reading of:

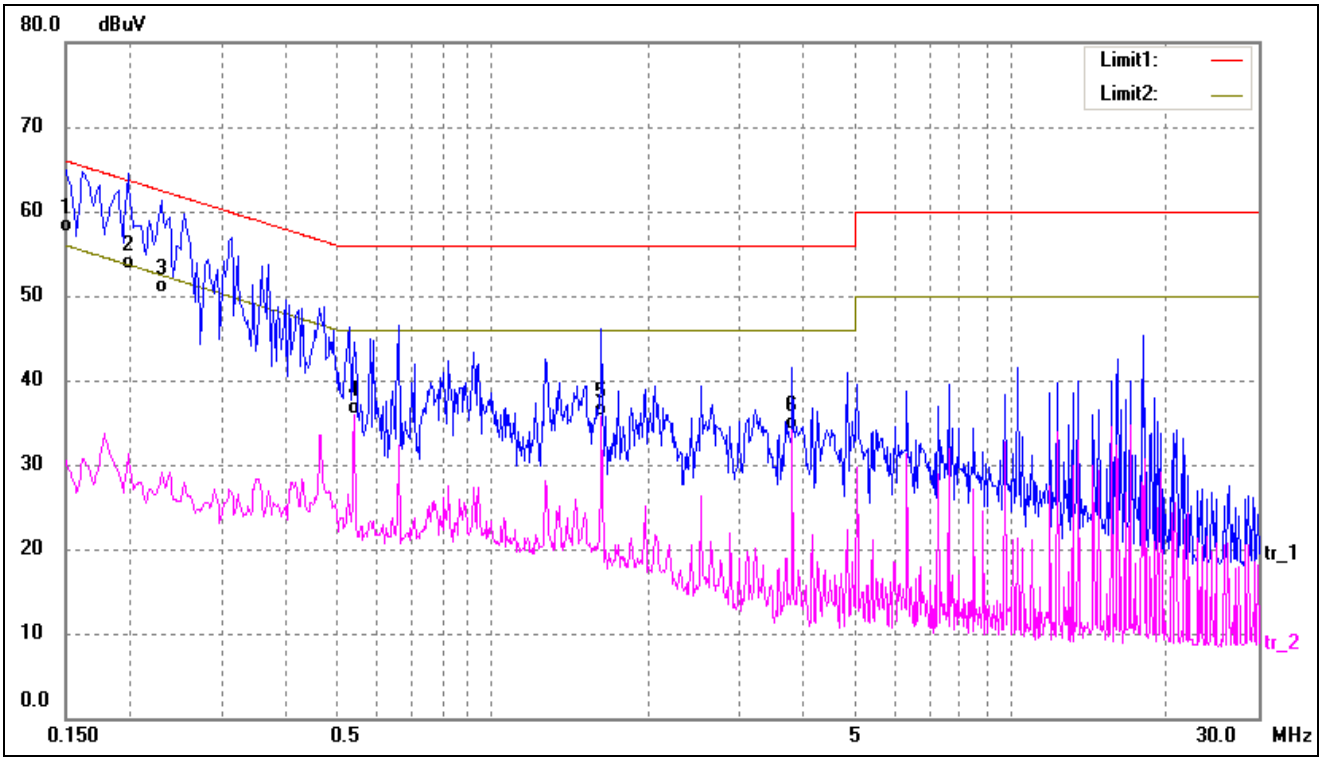
-7.84 dB at **0.1539 MHz** in the **Line, QP** detector, **TM1** detector, **0.15-30MHz**

Test mode:	TM1	Polarity:	Line



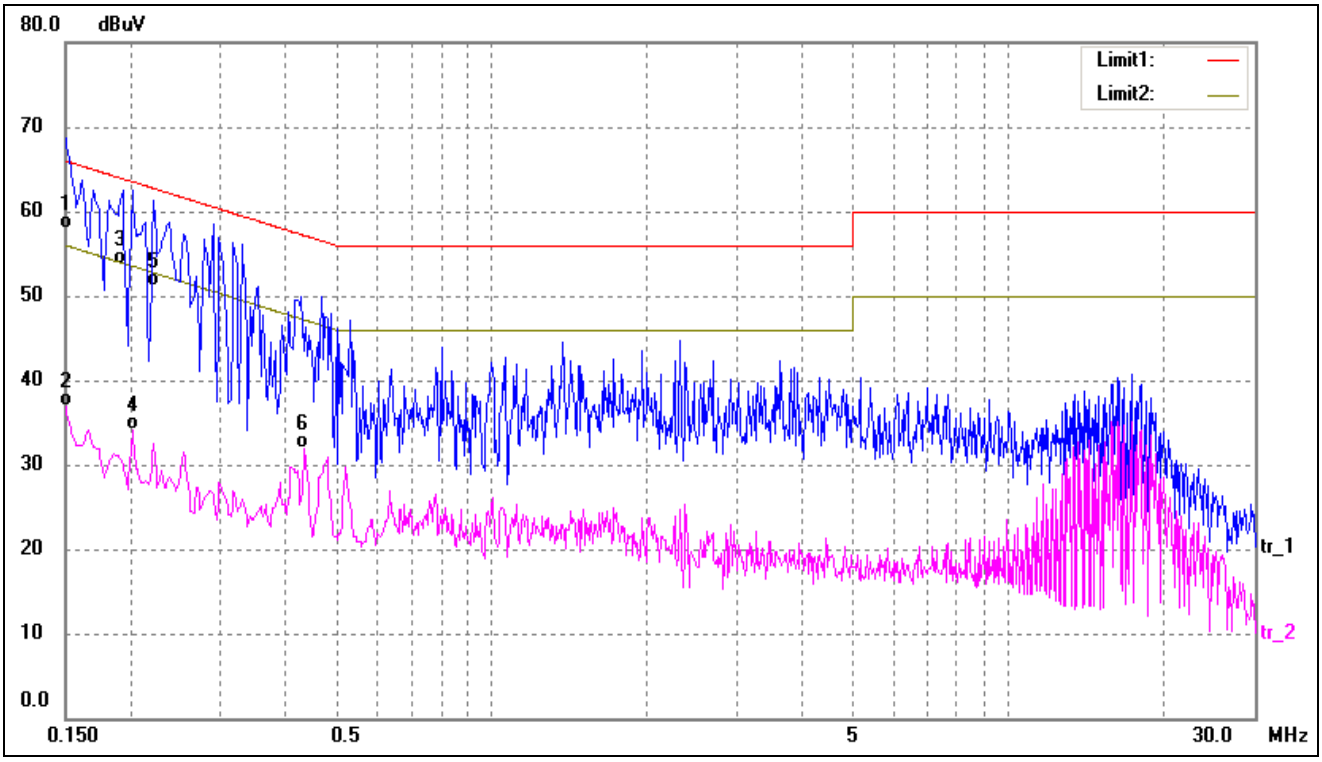
No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1539	47.84	10.10	57.94	65.78	-7.84	QP
2	0.1580	25.77	10.10	35.87	55.56	-19.69	AVG
3	0.2060	42.20	10.12	52.32	63.36	-11.04	QP
4	0.2500	38.80	10.16	48.96	61.75	-12.79	QP
5	0.4500	26.07	10.27	36.34	46.87	-10.53	AVG
6	1.0900	18.58	10.51	29.09	46.00	-16.91	AVG

Test mode:	TM1	Polarity:	Neutral



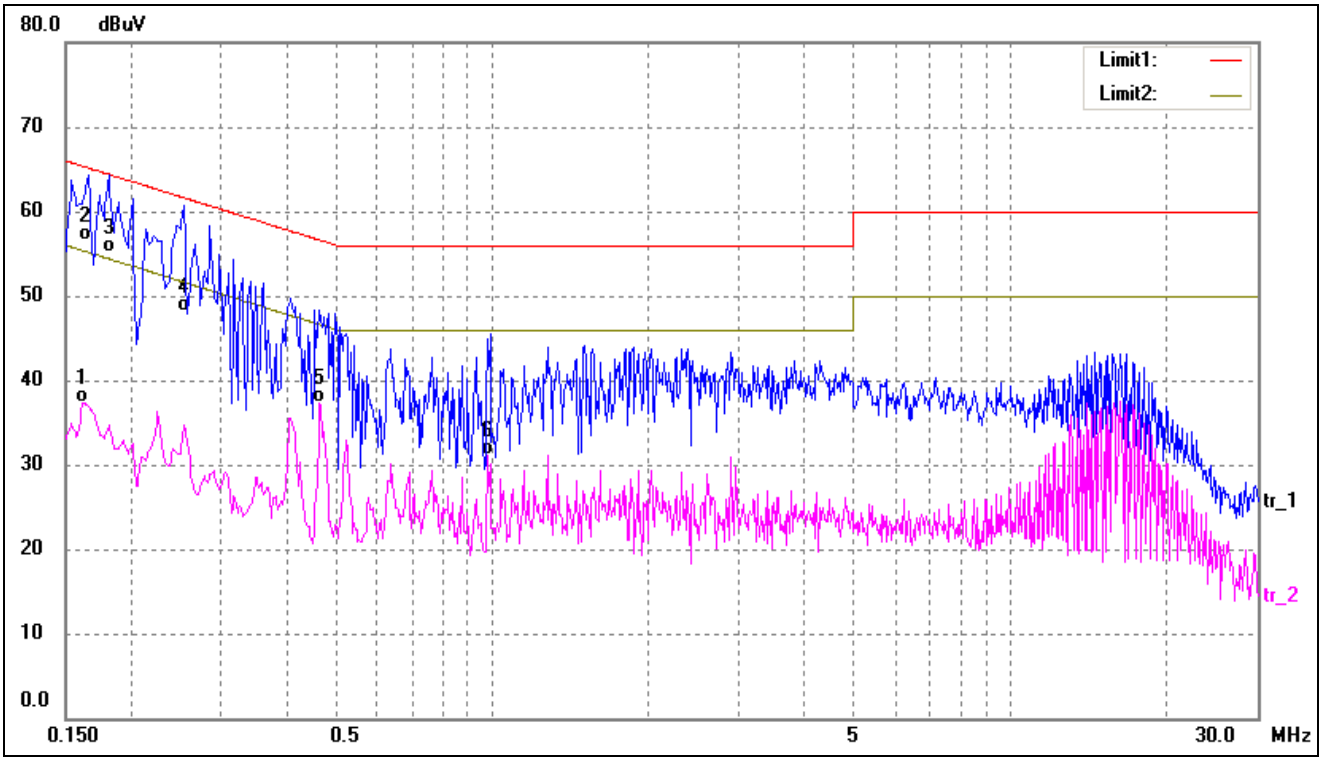
No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1500	47.40	10.10	57.50	66.00	-8.50	QP
2	0.1980	42.95	10.12	53.07	63.69	-10.62	QP
3	0.2300	40.22	10.14	50.36	62.45	-12.09	QP
4	0.5420	25.68	10.31	35.99	46.00	-10.01	AVG
5	1.6220	25.13	10.56	35.69	46.00	-10.31	AVG
6	3.7900	23.37	10.71	34.08	46.00	-11.92	AVG

Test mode:	TM2	Polarity:	Line



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1500	47.85	10.10	57.95	66.00	-8.05	QP
2	0.1500	26.71	10.10	36.81	56.00	-19.19	AVG
3	0.1940	43.60	10.12	53.72	63.86	-10.14	QP
4	0.2020	23.98	10.12	34.10	53.53	-19.43	AVG
5	0.2220	40.97	10.14	51.11	62.74	-11.63	QP
6	0.4340	21.55	10.26	31.81	47.18	-15.37	AVG

Test mode:	TM2	Polarity:	Neutral

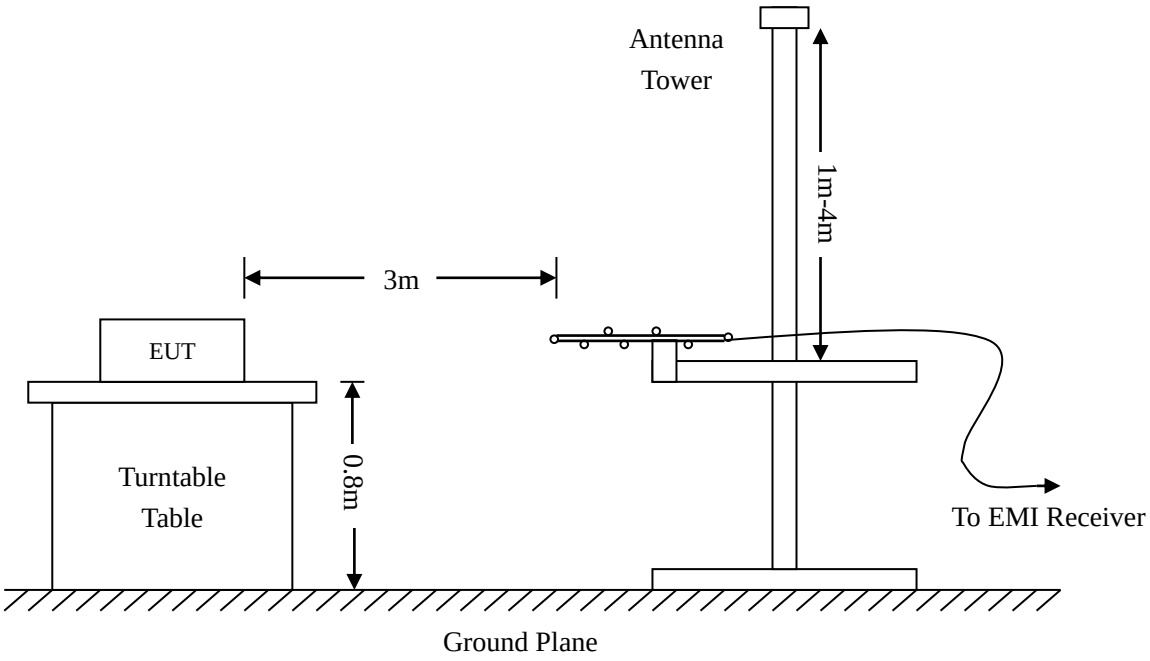


No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1620	27.30	10.10	37.40	55.36	-17.96	AVG
2*	0.1660	46.38	10.11	56.49	65.16	-8.67	QP
3	0.1820	44.91	10.11	55.02	64.39	-9.37	QP
4	0.2540	37.90	10.16	48.06	61.63	-13.57	QP
5	0.4660	27.01	10.28	37.29	46.58	-9.29	AVG
6	0.9820	20.59	10.50	31.09	46.00	-14.91	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 18.305 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 Any non-ISM frequency device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 18.305 Limit

4.4 Environmental Conditions

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

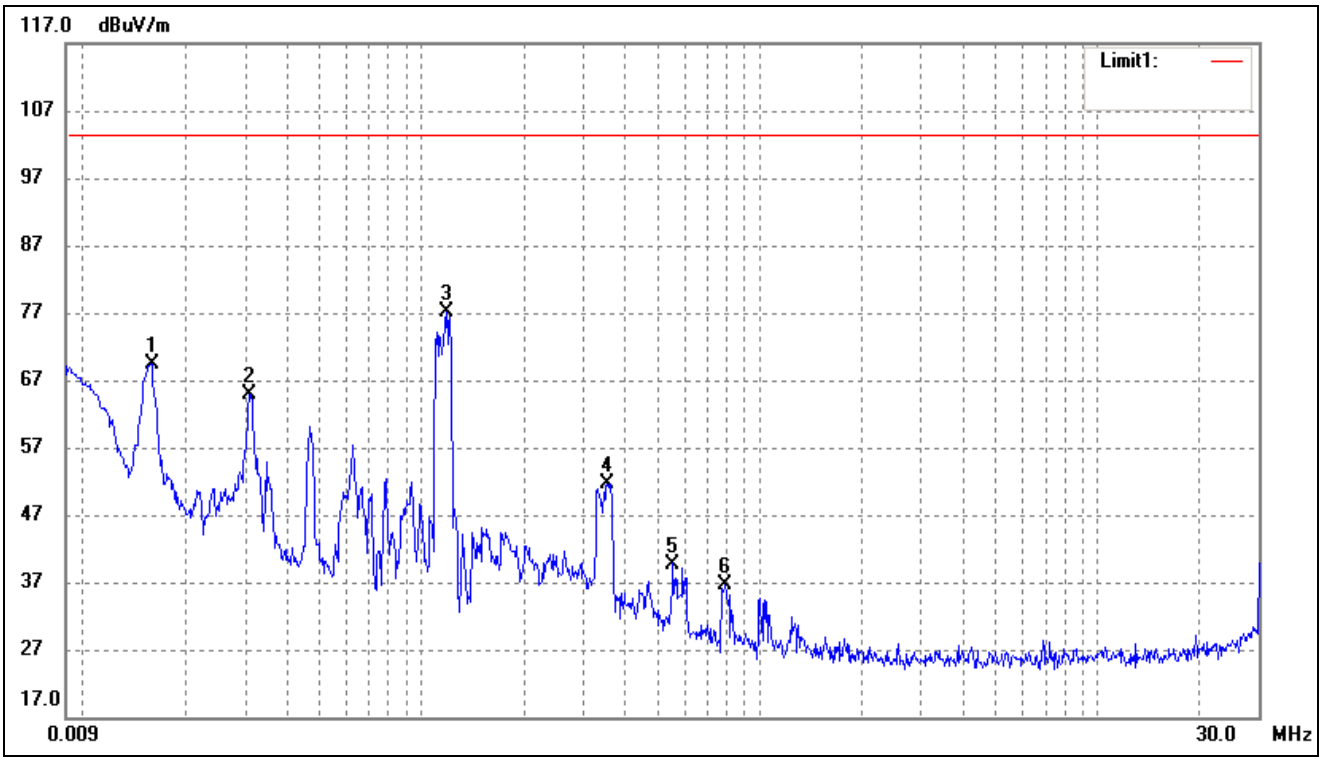
4.5 Summary of Test Results/Plots

According to the data, the EUT complied with the FCC Part 18.305 rule, and had the worst margin of:

-23.79 dB at **109.0286 MHz** in the **Vertical** polarization, **TM1** mode, **3Meters**

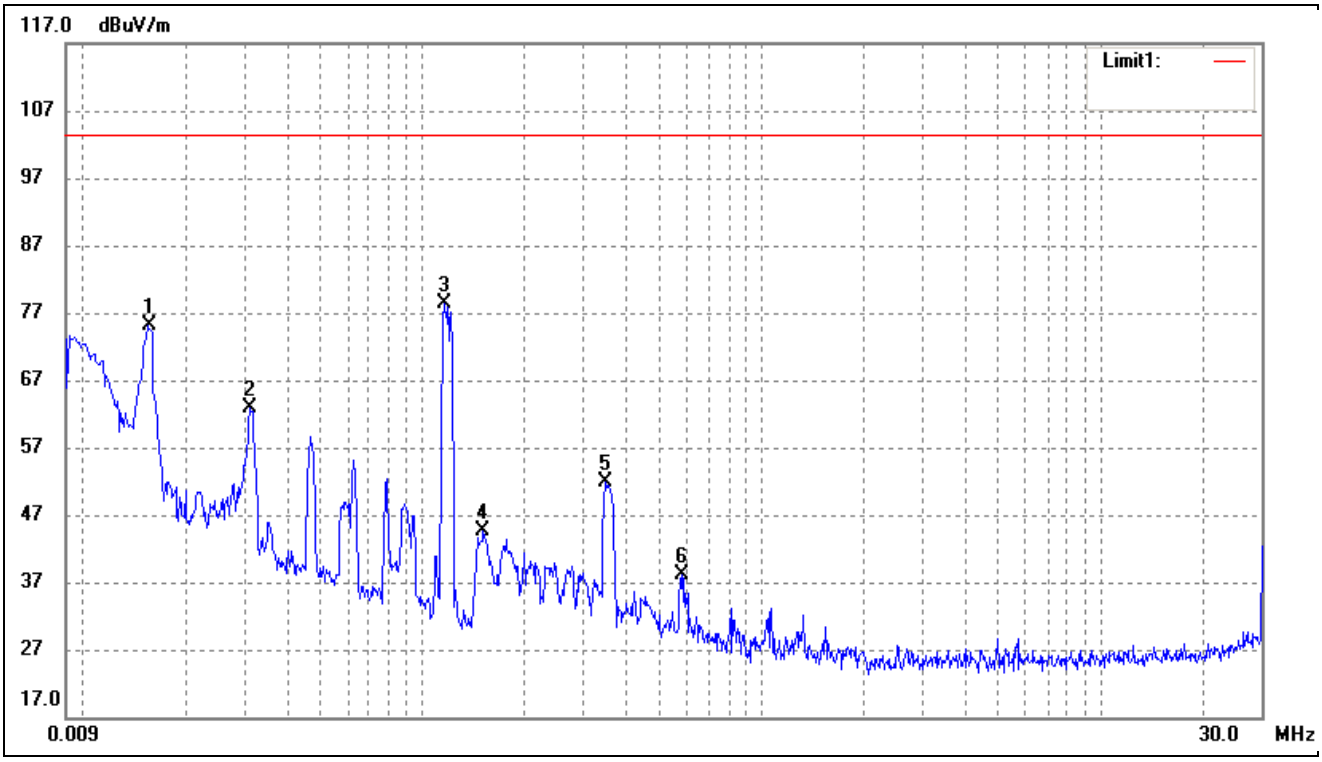
Plot of Radiated Emissions Test Data (Below 30MHz)

Test mode:	TM1	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	0.0159	75.87	-6.52	69.35	103.50	-34.15	305	100	peak
2	0.0312	71.91	-7.10	64.81	103.50	-38.69	97	100	peak
3	0.1184	82.90	-5.73	77.17	103.50	-26.33	256	100	peak
4	0.3539	59.09	-7.39	51.70	103.50	-51.80	94	100	peak
5	0.5523	48.56	-8.81	39.75	103.50	-63.75	290	100	peak
6	0.7918	36.63	0.00	36.63	103.50	-66.87	138	100	peak

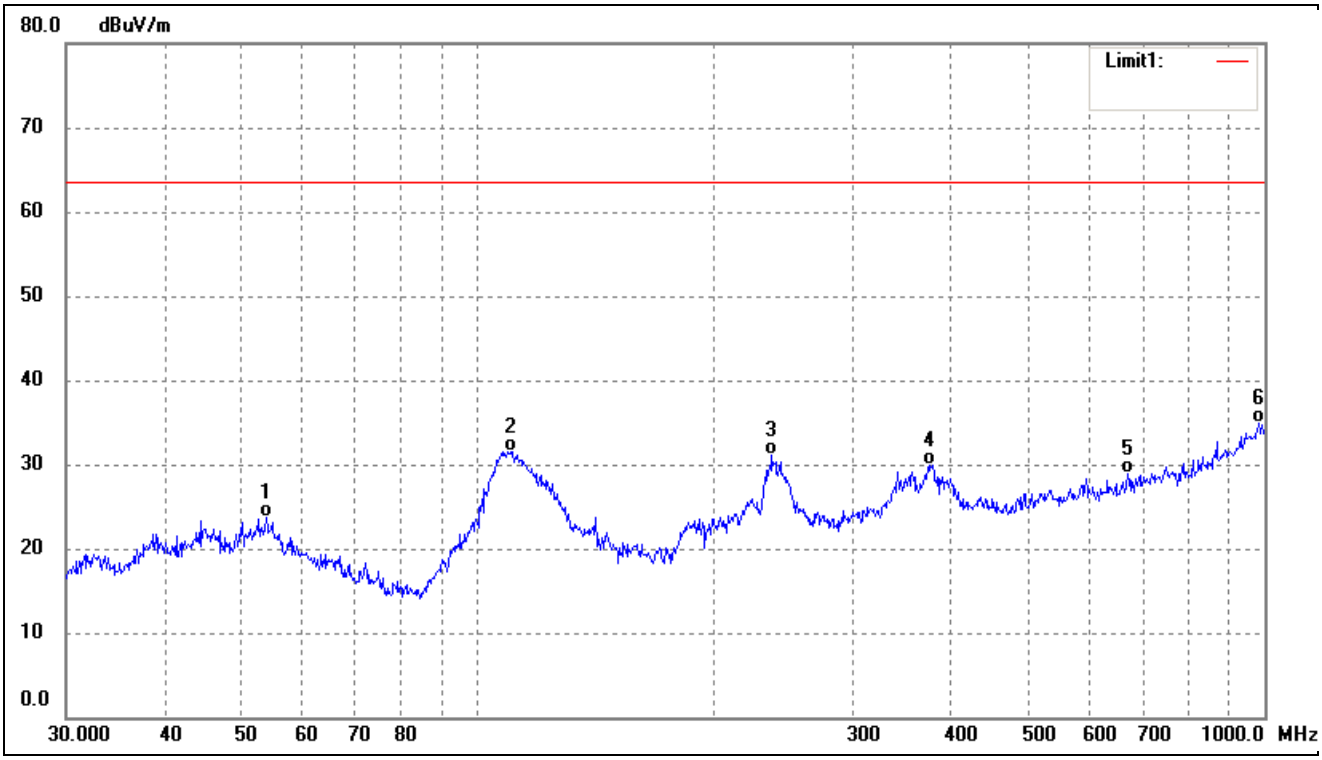
Test mode:	TM2	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	0.0157	81.53	-6.49	75.04	103.50	-28.46	281	100	peak
2	0.0312	69.88	-7.10	62.78	103.50	-40.72	95	100	peak
3	0.1158	84.17	-5.77	78.40	103.50	-25.10	330	100	peak
4	0.1500	49.88	-5.35	44.53	103.50	-58.97	119	100	peak
5	0.3465	59.16	-7.33	51.83	103.50	-51.67	197	100	peak
6	0.5792	47.05	-8.85	38.20	103.50	-65.30	310	100	peak

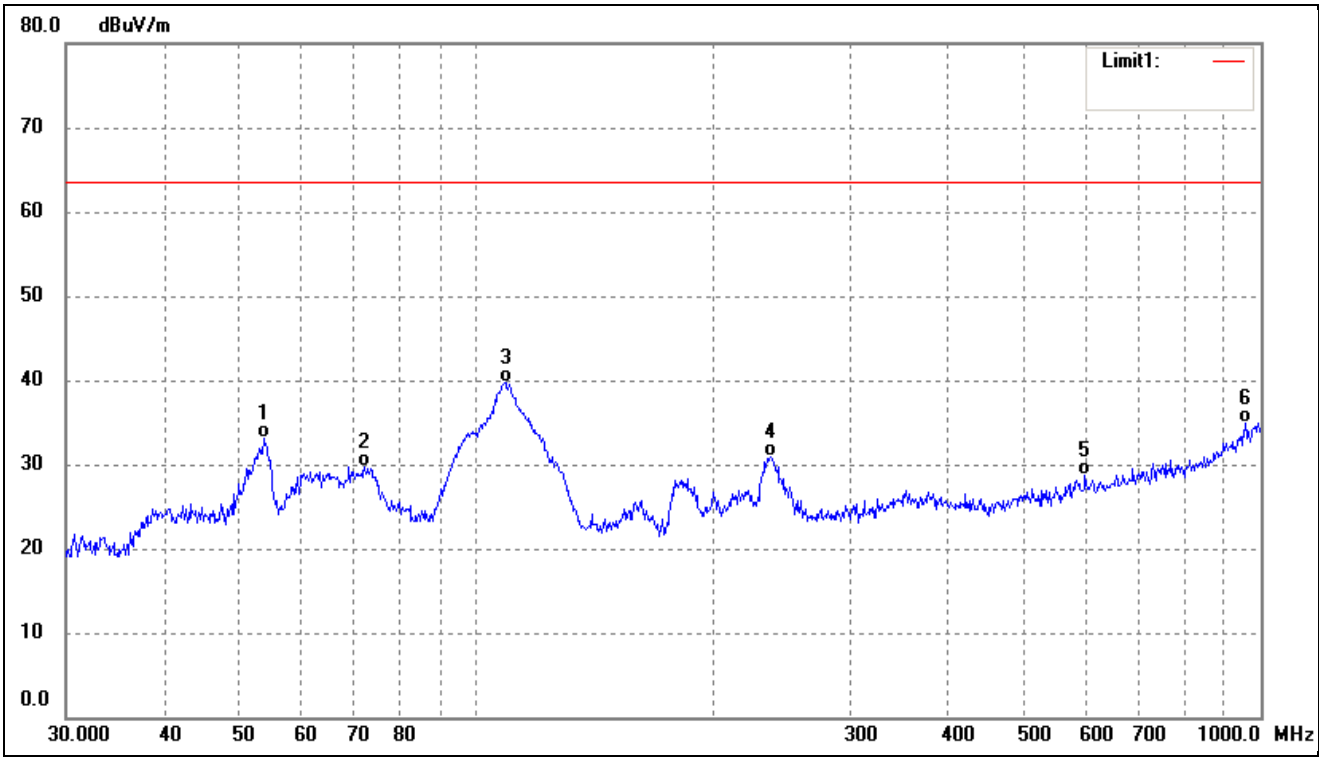
Plot of Radiated Emissions Test Data (Above 1GHz)

Test mode:	TM1	Polarity:	Horizontal



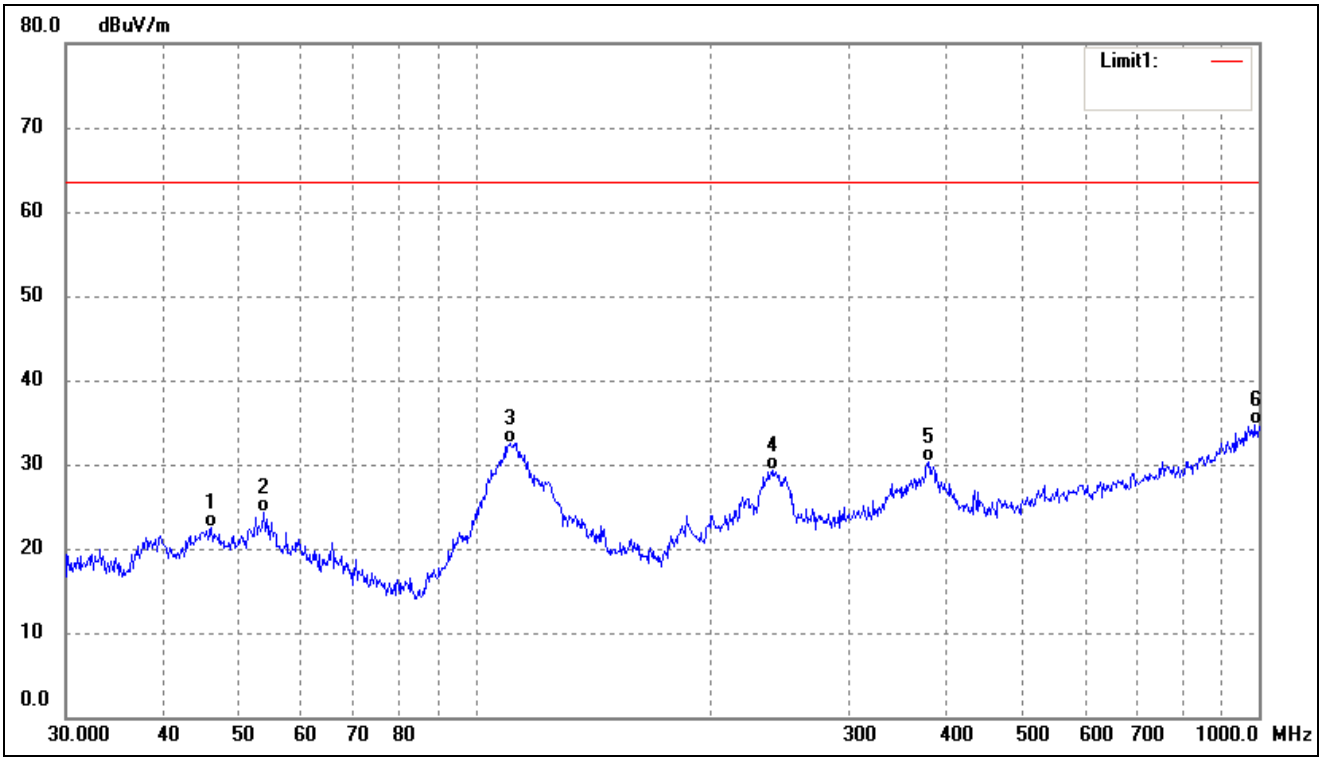
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	53.8818	36.76	-12.97	23.79	63.50	-39.71	214	100	QP
2	110.1816	45.53	-13.94	31.59	63.50	-31.91	93	100	QP
3	236.6447	41.57	-10.38	31.19	63.50	-32.31	116	100	QP
4	375.9385	36.71	-6.76	29.95	63.50	-33.55	114	100	QP
5	670.4893	31.97	-3.13	28.84	63.50	-34.66	150	100	QP
6	982.6200	31.12	3.77	34.89	63.50	-28.61	125	100	QP

Test mode:	TM1	Polarity:	Vertical



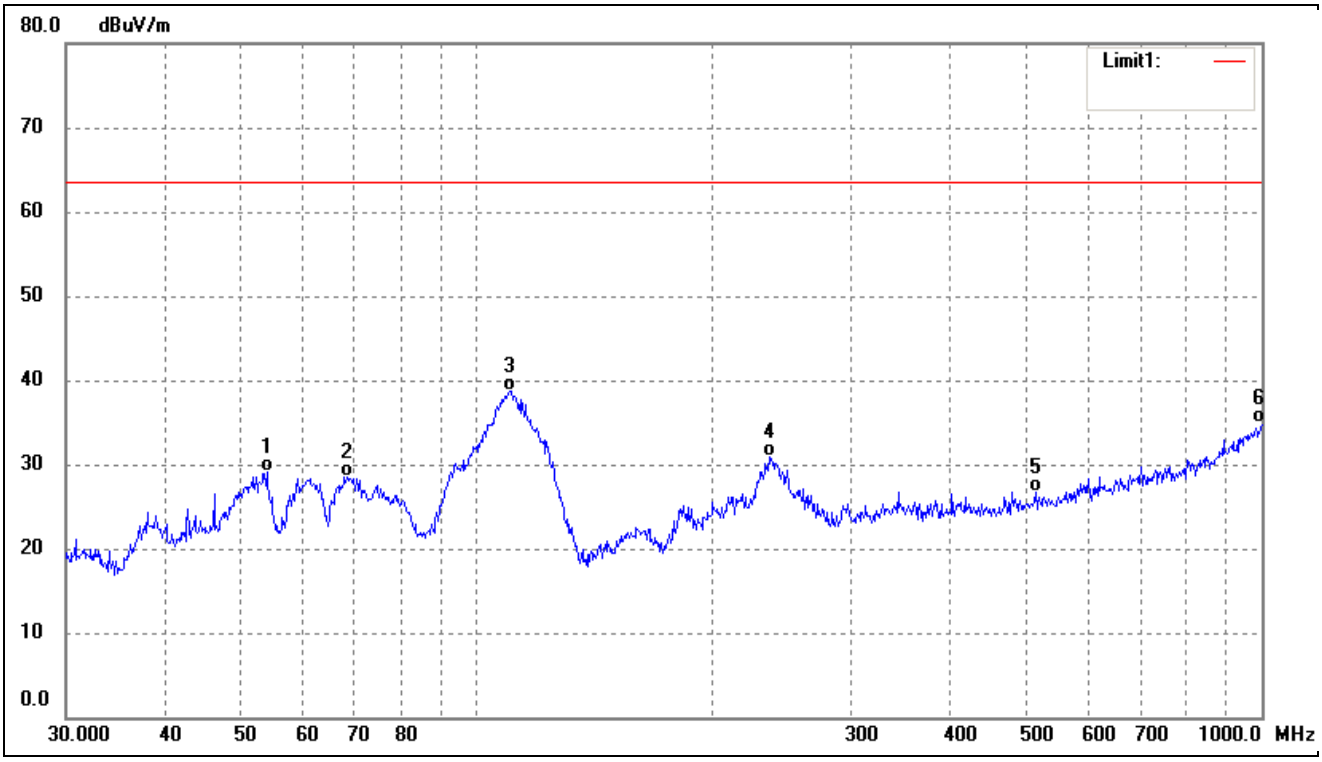
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	53.6932	45.98	-12.95	33.03	63.50	-30.47	213	100	QP
2	72.0843	47.40	-17.78	29.62	63.50	-33.88	99	100	QP
3	109.0286	53.65	-13.94	39.71	63.50	-23.79	118	100	QP
4	237.4760	41.29	-10.30	30.99	63.50	-32.51	119	100	QP
5	597.2234	32.73	-3.99	28.74	63.50	-34.76	105	100	QP
6	955.4381	31.95	2.99	34.94	63.50	-28.56	175	100	QP

Test mode:	TM2	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	46.0164	35.41	-12.91	22.50	63.50	-41.00	105	100	QP
2	53.6932	37.17	-12.95	24.22	63.50	-39.28	314	100	QP
3	110.5687	46.56	-14.01	32.55	63.50	-30.95	96	100	QP
4	239.1473	39.34	-10.13	29.21	63.50	-34.29	211	100	QP
5	378.5843	36.89	-6.64	30.25	63.50	-33.25	286	100	QP
6	1000.0000	30.61	4.04	34.65	63.50	-28.85	125	100	QP

Test mode:	TM2	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	54.0711	42.17	-13.00	29.17	63.50	-34.33	263	100	QP
2	68.3908	45.10	-16.55	28.55	63.50	-34.95	186	100	QP
3	110.1816	52.70	-13.94	38.76	63.50	-24.74	75	100	QP
4	235.8164	41.34	-10.47	30.87	63.50	-32.63	350	100	QP
5	515.4374	32.69	-5.90	26.79	63.50	-36.71	72	100	QP
6	1000.0000	30.80	4.04	34.84	63.50	-28.66	230	100	QP

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