FCC Part 15B
Measurement and Test Report

For

PCD, LLC.

1500 Tradeport Drive, Suite A. Orlando, FL.

FCC ID: 2ALJJPL5003

Test Rule(s):	FCC Part 15 Subpart B
Product Description:	Monkey II LTE
Tested Model:	PL5003
Report No.:	STR17088335I-6
Tested Date:	2017-08-21 to 2017-09-01
Issued Date:	2017-09-01
Tested By:	Iven Guo / 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:	PCD, LLC.
Address of applicant:	1500 Tradeport Drive, Suite A. Orlando, FL.
Manufacturer:	Guizhou Fortuneship Technology Co., Ltd.
Address of manufacturer:	2nd Floor, Factory Building 4, Hi-Tech Industrial Park, Xinpu Economic Development Zone, Xinpu New District, Zunyi City, Guizhou Province, P. R. China

General Description of EUT:	
Product Name:	Monkey II LTE
Brand Name:	PCD
Model No.:	PL5003
Adding Model(s):	/
Rated Voltage:	DC 3.8V by Battery
Battery:	2000mAh
Device Category:	Portable Device
Note: The test data is gathered from a production sample provided by the manufacturer.	

Technical Characteristics of EUT	
Rated Voltage:	DC 3.8V
Rated Current:	/
Rated Power:	/
Power Adapter Model:	Model:DCS67-0501000 Input:100-240V,50/60Hz,0.2A; Output:5.0V,1.0A
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 PCD, 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.: 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	Worst case
TM2	Downloading	/
TM3	Charging + 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 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	2017-06-12	2018-06-11
SEMT-1042	Horn Antenna	ETS	3117	00086197	2017-06-12	2018-06-11
SEMT-1121	Horn Antenna	ETS	3116B	00088203	2017-06-12	2018-06-11
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2017-06-12	2018-06-11
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

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

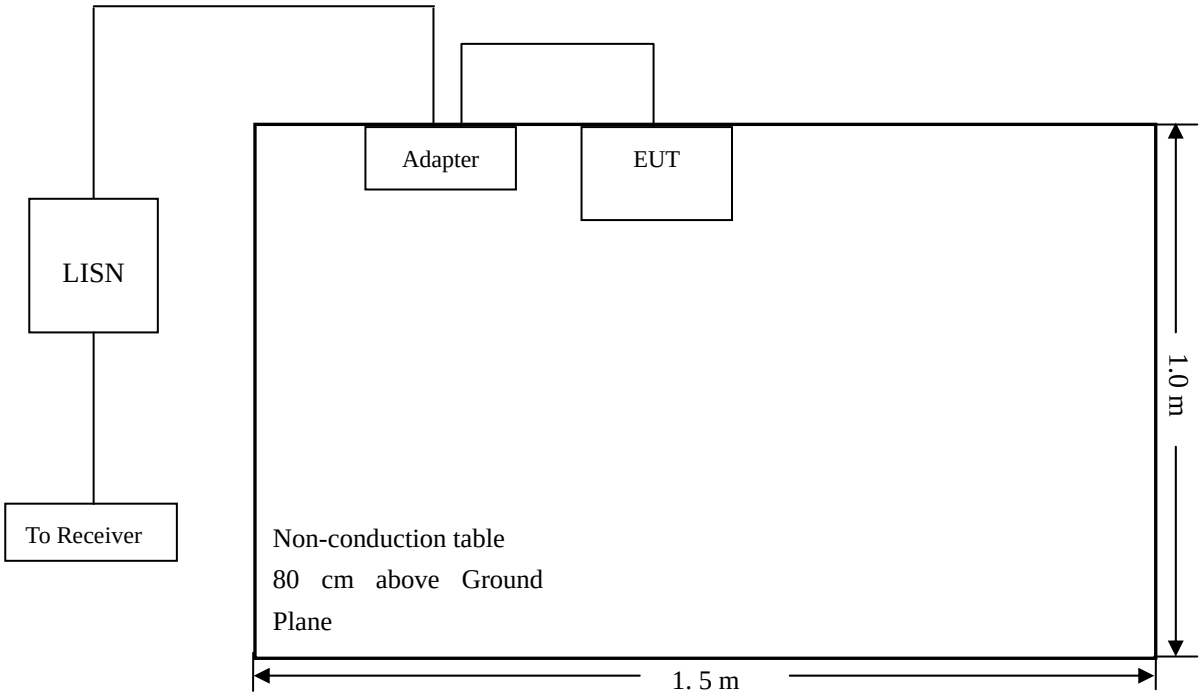
N/A: not applicable

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

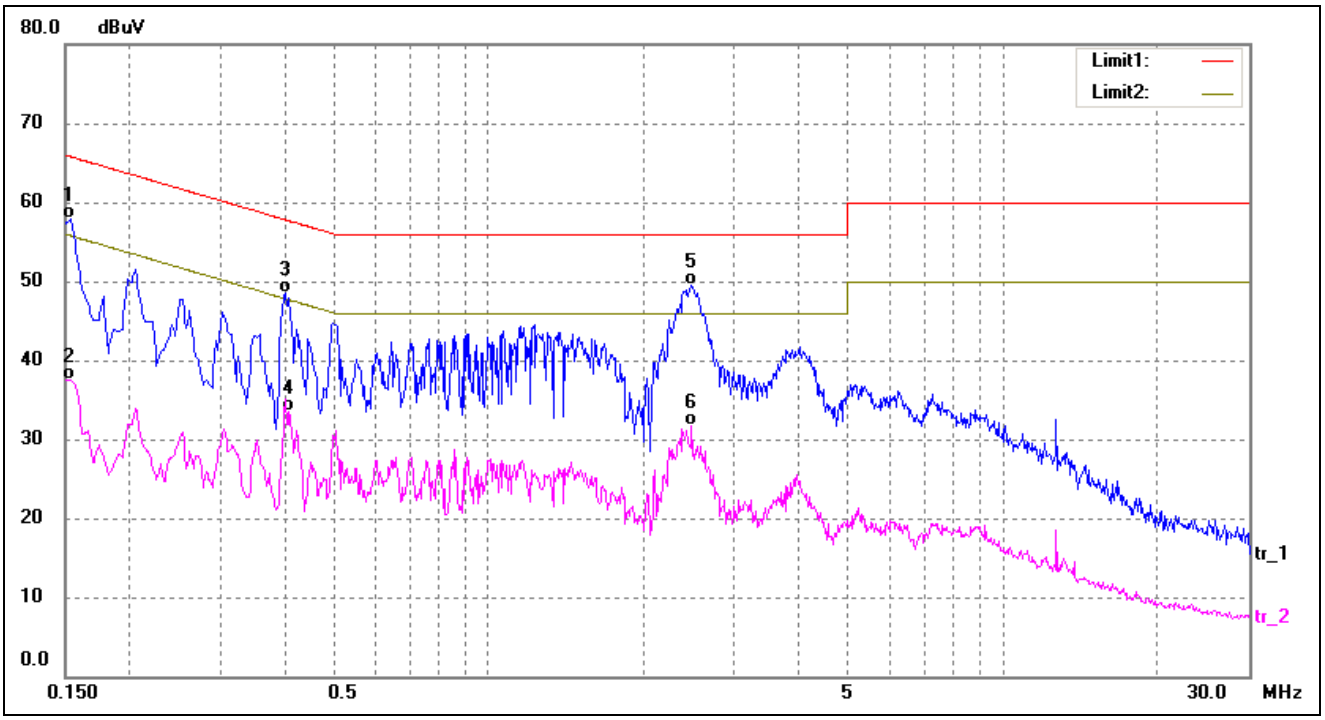
-6.44 dB at **2.4740 MHz** in the **Neutral**, **QP** detector, **TM1** mode, 0.15-30MHz

3.5 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

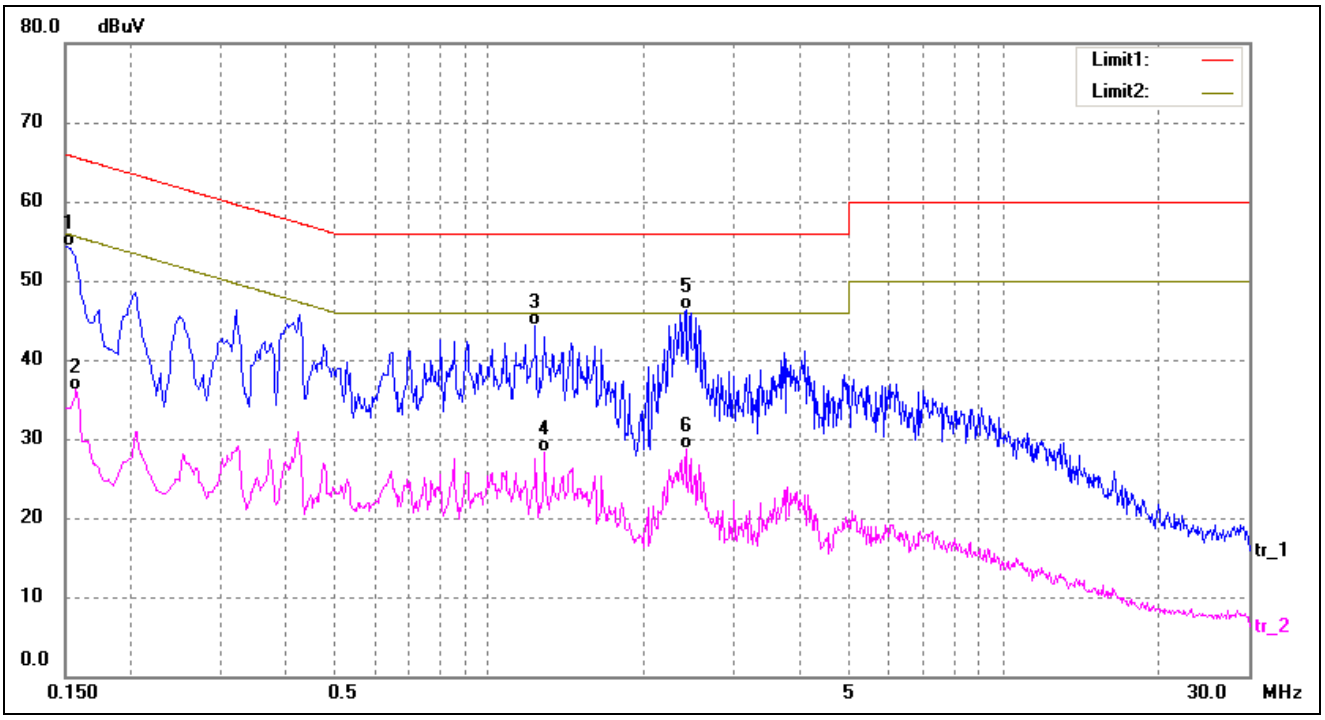
EUT: *Monkey II LTE*
Tested Model: *PL5003*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz; Adapter DC 5V*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1540	48.00	9.85	57.85	65.78	-7.93	QP
2	0.1540	27.74	9.85	37.59	55.78	-18.19	AVG
3	0.4020	38.65	9.80	48.45	57.81	-9.36	QP
4	0.4100	23.76	9.80	33.56	47.65	-14.09	AVG
5*	2.4740	39.84	9.72	49.56	56.00	-6.44	QP
6	2.4740	21.94	9.72	31.66	46.00	-14.34	AVG

Test Specification: *Line*

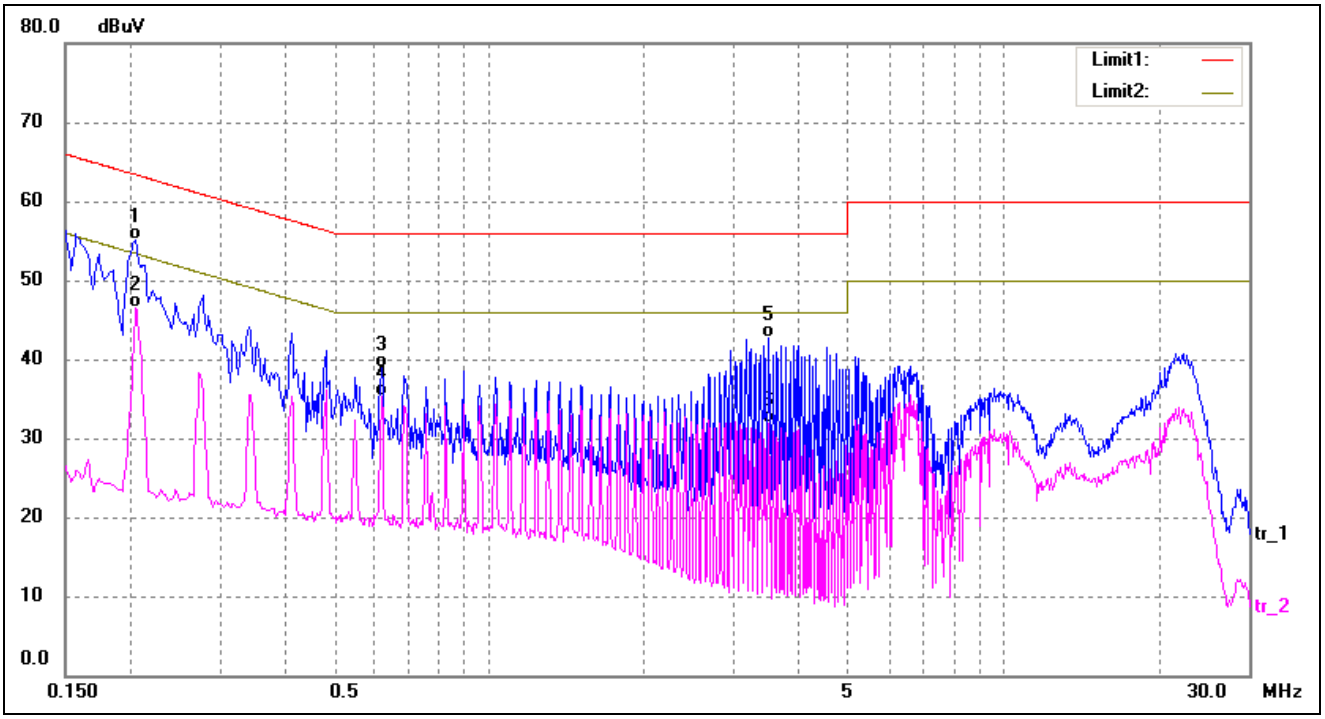


No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1500	44.49	9.85	54.34	66.00	-11.66	QP
2	0.1580	26.36	9.84	36.20	55.57	-19.37	AVG
3	1.2300	34.58	9.75	44.33	56.00	-11.67	QP
4	1.2860	18.52	9.75	28.27	46.00	-17.73	AVG
5*	2.4140	36.53	9.72	46.25	56.00	-9.75	QP
6	2.4140	18.92	9.72	28.64	46.00	-17.36	AVG

Plot of Conducted Emissions Test Data

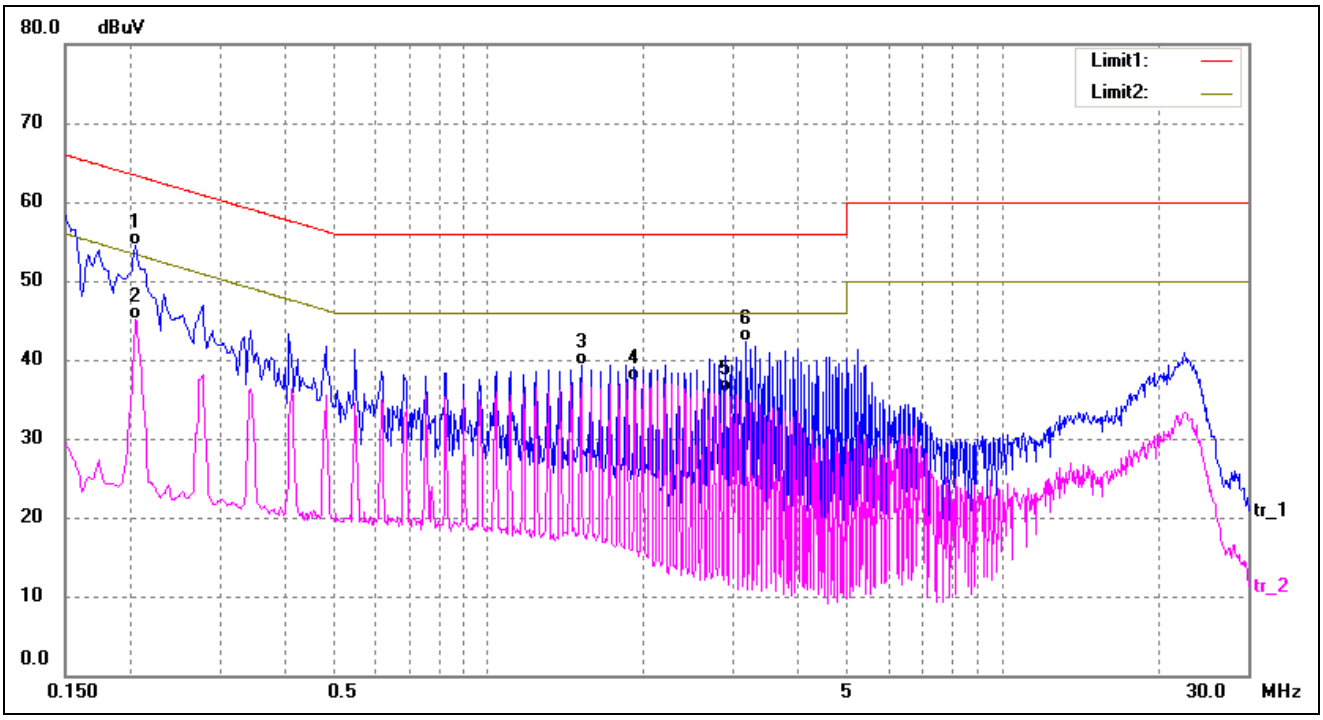
EUT: *Monkey II LTE*
Tested Model: *PL5003*
Operating Condition: *TM2*
Comment: *AC 120V/60Hz, USB 5V*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.2060	45.40	9.80	55.20	63.37	-8.17	QP
2*	0.2060	36.69	9.80	46.49	53.37	-6.88	AVG
3	0.6180	29.11	9.79	38.90	56.00	-17.10	QP
4	0.6180	25.61	9.79	35.40	46.00	-10.60	AVG
5	3.5020	32.91	9.70	42.61	56.00	-13.39	QP
6	3.5020	22.28	9.70	31.98	46.00	-14.02	AVG

Test Specification: *Line*

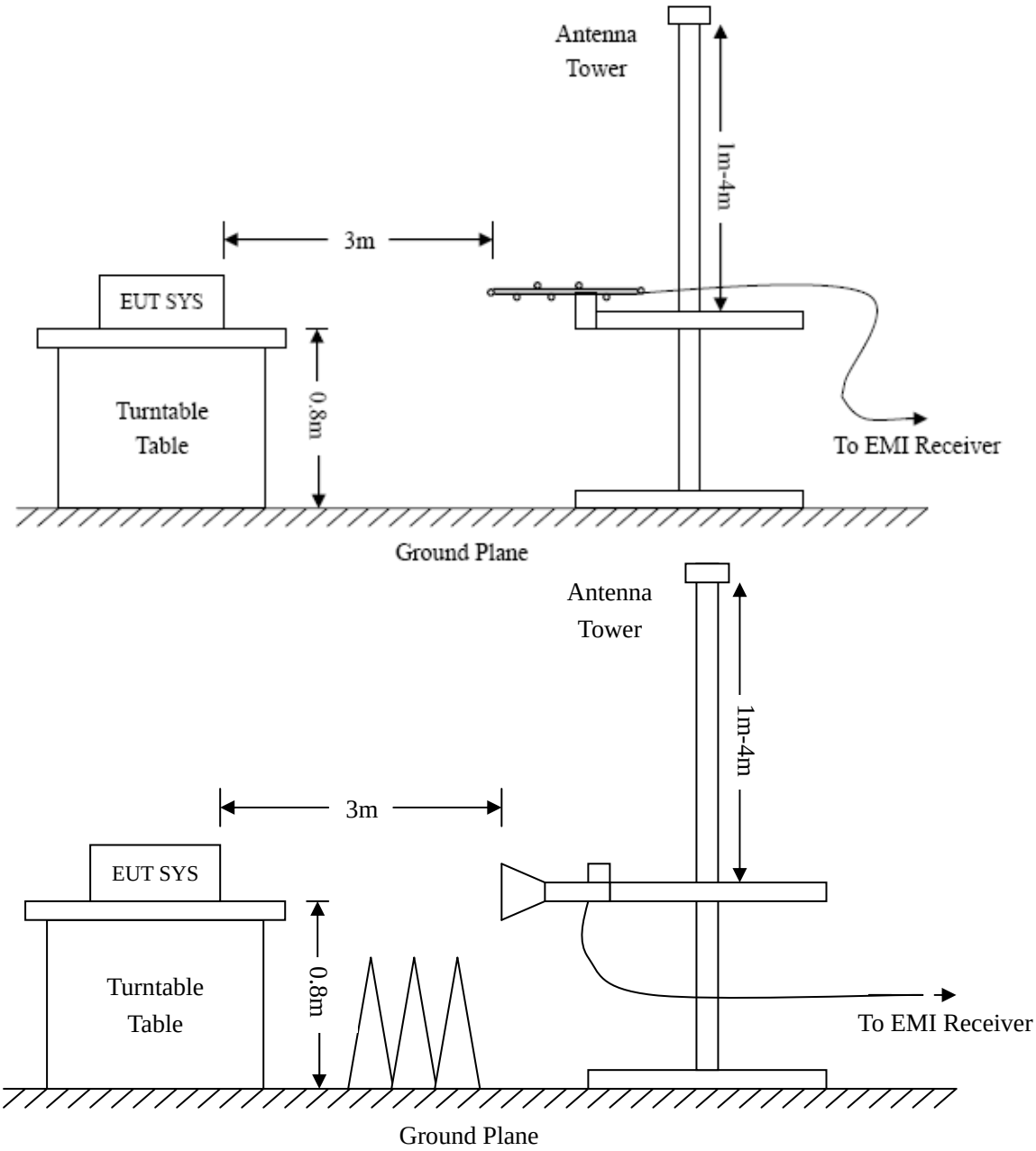


No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.2060	44.77	9.80	54.57	63.37	-8.80	QP
2*	0.2060	35.33	9.80	45.13	53.37	-8.24	AVG
3	1.5140	29.59	9.75	39.34	56.00	-16.66	QP
4	1.9260	27.66	9.74	37.40	46.00	-8.60	AVG
5	2.8900	26.10	9.71	35.81	46.00	-10.19	AVG
6	3.1660	32.62	9.71	42.33	56.00	-13.67	QP

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	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

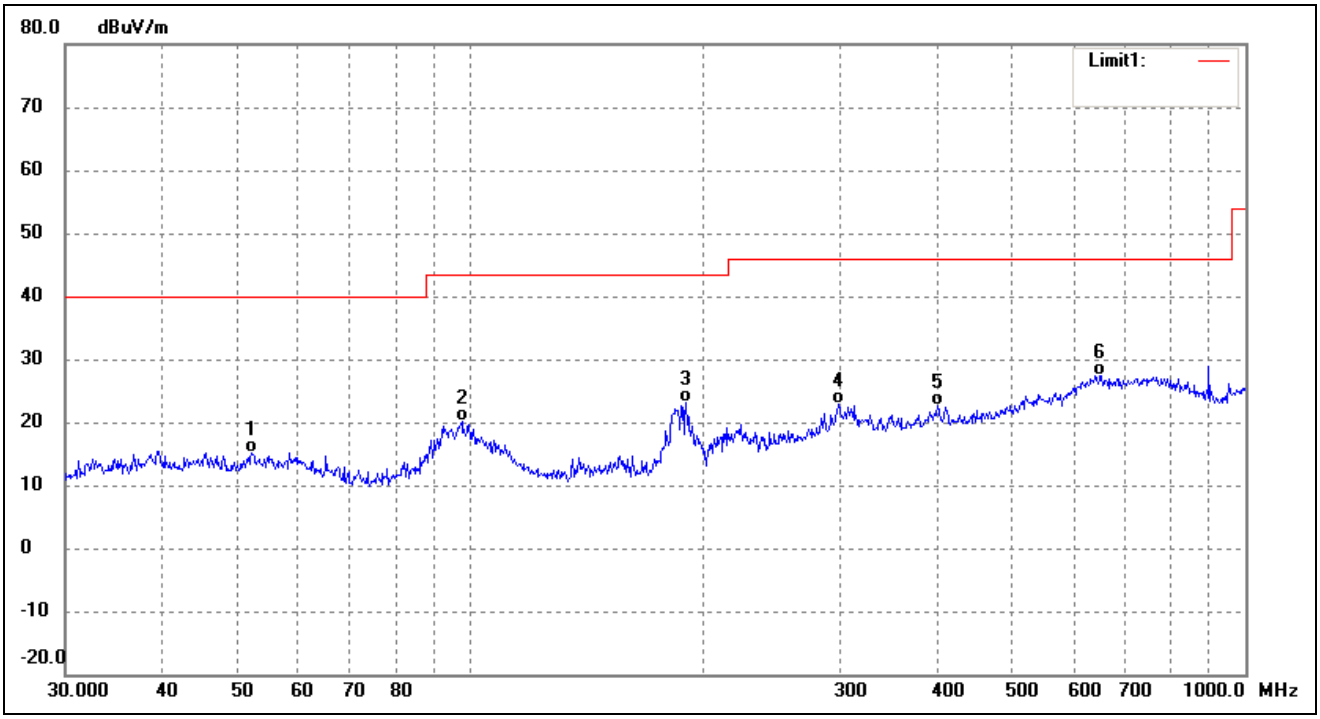
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-3.89 dB at **408.9460 MHz** in the **Horizontal** polarization, **TM3** mode, **30 MHz** to **12.75 GHz**, **3Meters**

Plot of Radiated Emissions Test Data

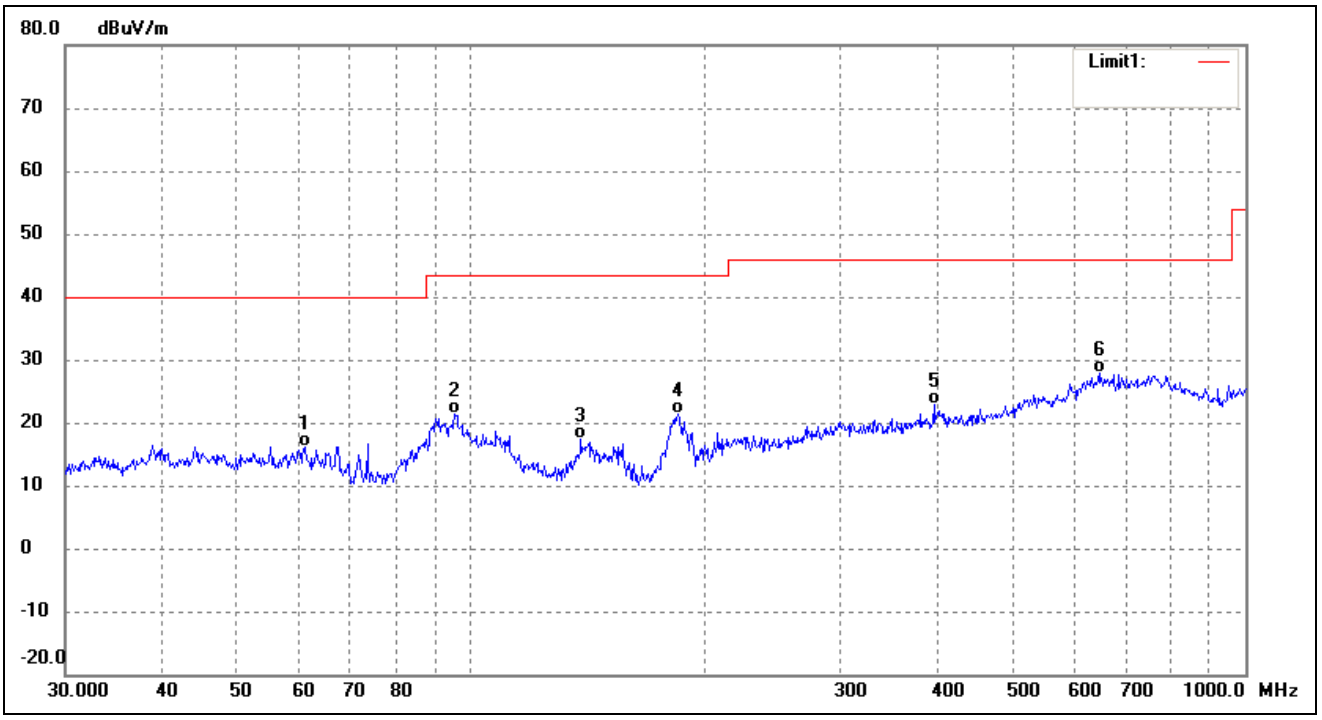
EUT: *Monkey II LTE*
Tested Model: *PL5003*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz; Adapter DC 5V*

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	52.2079	31.74	-16.50	15.24	40.00	-24.76	186	100	QP
2	97.4560	37.05	-16.93	20.12	43.50	-23.38	92	100	QP
3	189.7385	41.74	-18.67	23.07	43.50	-20.43	98	100	QP
4	298.2681	32.54	-9.65	22.89	46.00	-23.11	132	100	QP
5	400.4319	30.52	-7.80	22.72	46.00	-23.28	263	100	QP
6	649.6597	28.75	-1.26	27.49	46.00	-18.51	313	100	QP

Test Specification: *Vertical*

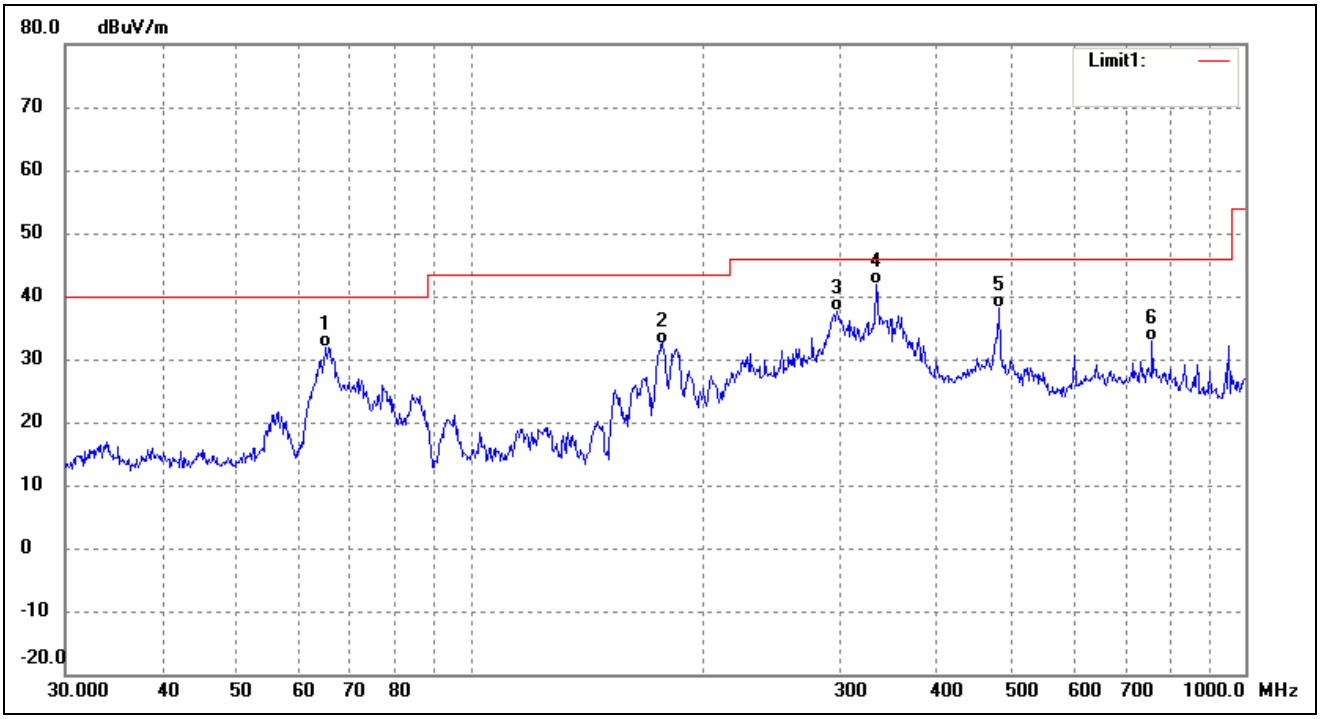


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	61.1316	32.89	-16.75	16.14	40.00	-23.86	197	100	QP
2	95.4270	38.52	-17.23	21.29	43.50	-22.21	326	100	QP
3	138.8735	35.50	-18.24	17.26	43.50	-26.24	85	100	QP
4	185.1379	40.32	-18.86	21.46	43.50	-22.04	222	100	QP
5	396.2415	30.80	-8.00	22.80	46.00	-23.20	183	100	QP
6	647.3856	29.13	-1.19	27.94	46.00	-18.06	263	100	QP

Plot of Radiated Emissions Test Data

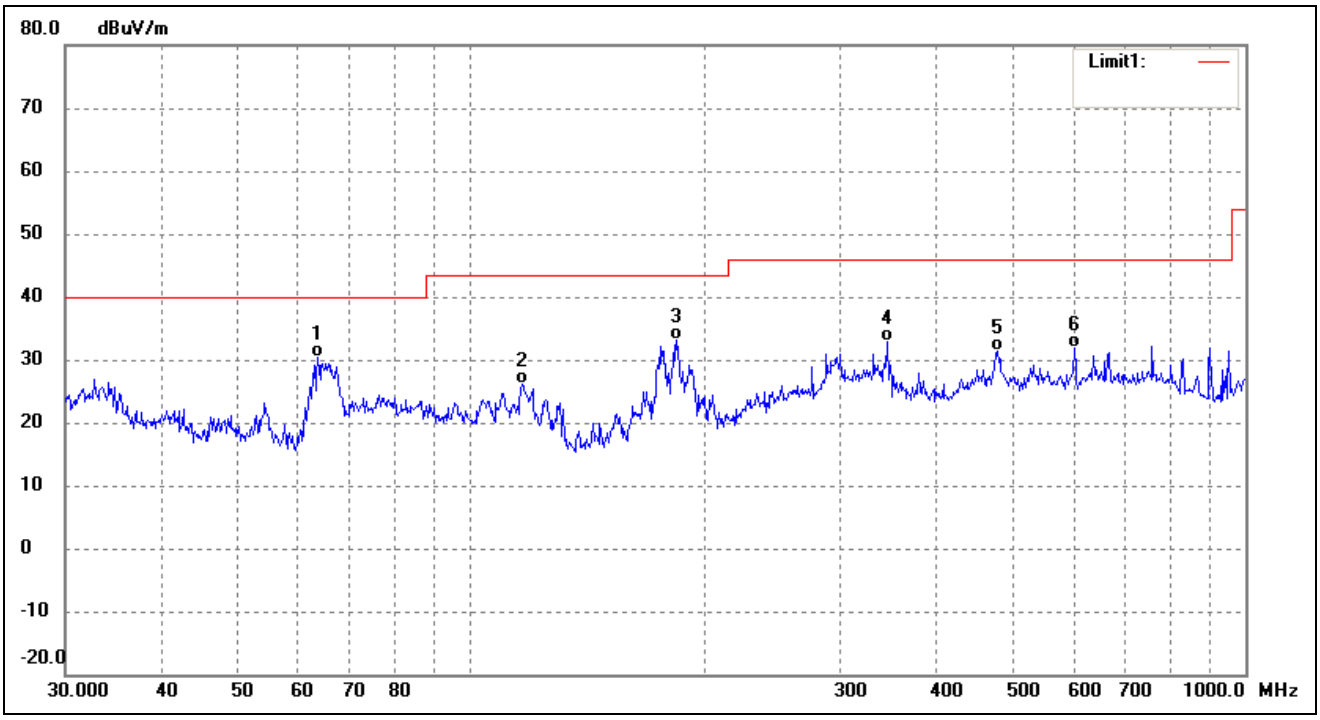
EUT: *Monkey II LTE*
Tested Model: *PL5003*
Operating Condition: *TM2*
Comment: *AC 120V/60Hz, USB 5V*

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	65.1145	49.50	-17.61	31.89	40.00	-8.11	320	100	QP
2	176.8878	51.57	-19.07	32.50	43.50	-11.00	94	100	QP
3	297.2241	47.31	-9.69	37.62	46.00	-8.38	316	100	QP
4	333.6867	51.55	-9.57	41.98	46.00	-4.02	105	100	QP
5	480.5276	45.00	-6.84	38.16	46.00	-7.84	340	100	QP
6	758.0408	33.49	-0.53	32.96	46.00	-13.04	243	100	QP

Test Specification: *Vertical*

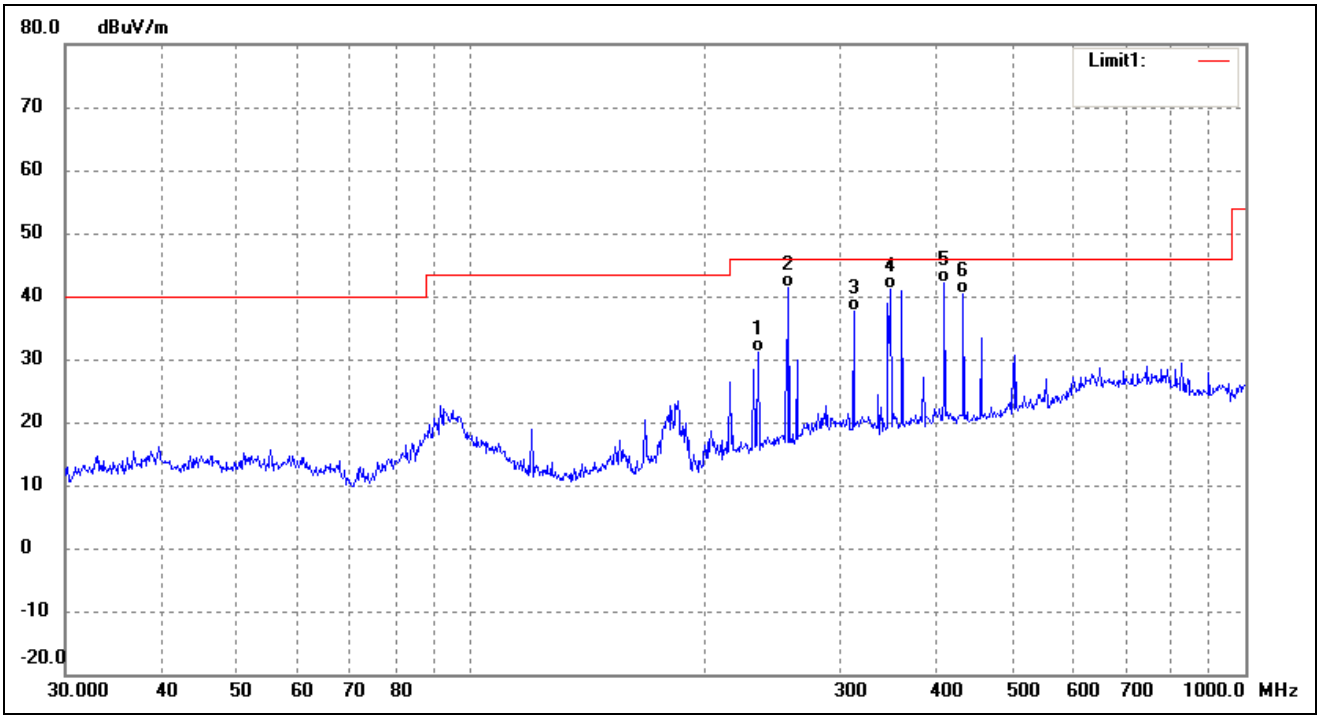


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	63.5356	47.75	-17.26	30.49	40.00	-9.51	207	100	QP
2	116.5401	42.85	-16.66	26.19	43.50	-17.31	336	100	QP
3	184.4898	52.11	-18.89	33.22	43.50	-10.28	65	100	QP
4	345.5952	42.21	-9.45	32.76	46.00	-13.24	221	100	QP
5	478.8456	38.24	-6.86	31.38	46.00	-14.62	266	100	QP
6	601.4265	32.27	-0.36	31.91	46.00	-14.09	322	100	QP

Plot of Radiated Emissions Test Data

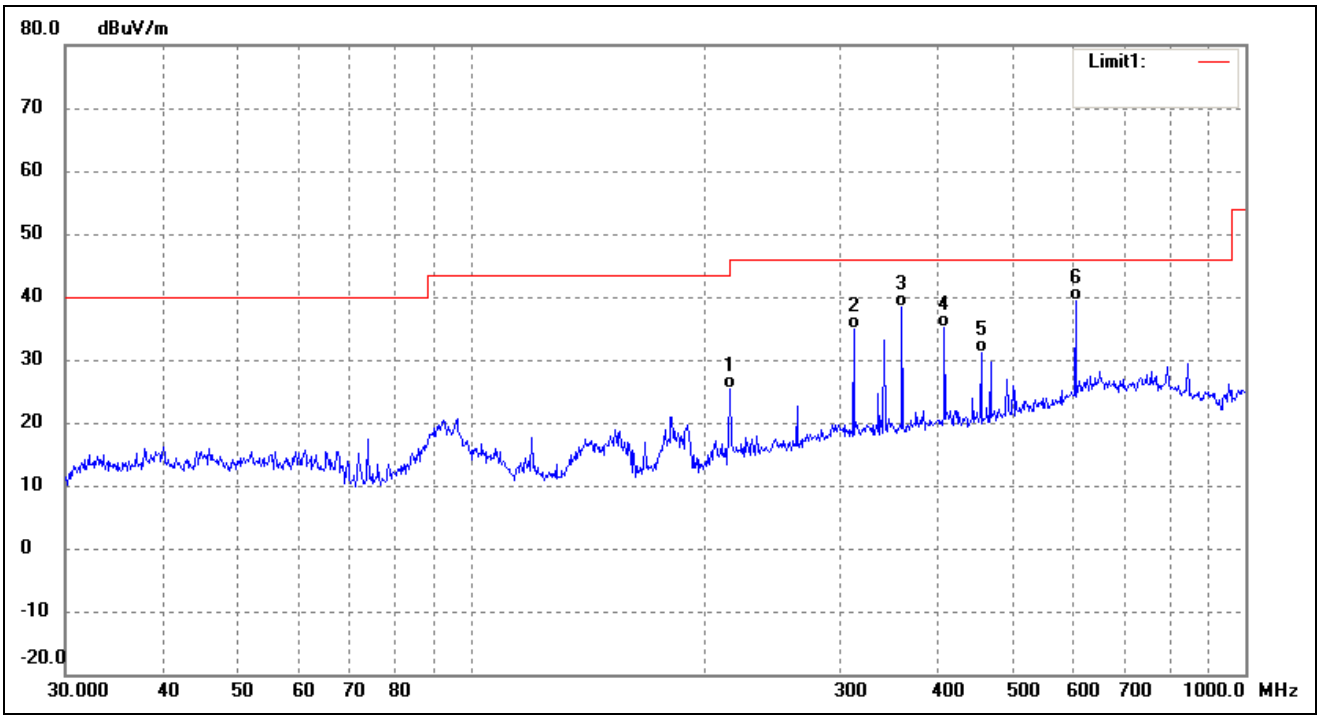
EUT: *Monkey II LTE*
Tested Model: *PL5003*
Operating Condition: *TM3*
Comment: *AC 120V/60Hz; Adapter DC 5V*

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	234.9909	44.03	-12.87	31.16	46.00	-14.84	53	100	QP
2	257.4222	53.19	-11.88	41.31	46.00	-4.69	229	100	QP
3	312.1794	47.15	-9.44	37.71	46.00	-8.29	98	100	QP
4	348.0274	50.59	-9.36	41.23	46.00	-4.77	172	100	QP
5	408.9460	50.15	-8.04	42.11	46.00	-3.89	124	100	QP
6	432.5457	48.29	-7.81	40.48	46.00	-5.52	157	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	216.0240	40.18	-14.70	25.48	46.00	-20.52	219	100	QP
2	312.1794	44.34	-9.44	34.90	46.00	-11.10	98	100	QP
3	360.4477	47.18	-8.92	38.26	46.00	-7.74	310	100	QP
4	408.9460	43.09	-8.04	35.05	46.00	-10.95	91	100	QP
5	455.9058	38.05	-6.85	31.20	46.00	-14.80	290	100	QP
6	603.5392	40.01	-0.52	39.49	46.00	-6.51	163	100	QP

Note: Testing is carried out with frequency rang 30MHz to the 12.75GHz, which above 1GHz is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

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