

TEST REPORT

FCC ID: 2AEHZ-FENIXPLUS

Product: Smart Phone

Model No.: PLUS

Trade mark: FTC

Report No.: TCT150424E004

Issued Date: May 07, 2015

Issued for:

FENIX TRADING COMPANY S.A.

1410 Spain Av., La Torre Building 2nd Floor. Asuncion, Paraguay.

Issued By:

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1. Test Certification

Product:	Smart Phone
Model No.:	PLUS
Applicant:	FENIX TRADING COMPANY S.A.
Address:	1410 Spain Av., La Torre Building 2nd Floor. Asuncion, Paraguay.
Manufacturer:	Shenzhen Crave Communication Co., LTD.
Address:	Floor 3 Bldg8, DongFangMing Industrial City, No.83 DabaoRd., 33 District Baoan Shenzhen China
Test Voltage:	AC 120 V/60 Hz
Date of Test:	Apr. 24, 2015~May 06, 2015
Applicable Standards:	47 CFR FCC Part 15 Subpart B: 2014 ANSI C63.4: 2009

The above equipment has been tested by Shenzhen Tongce Testing Lab and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:


Lee Liu

Date:

May 06, 2015

Check By:


Davis Zhou

Date:

May 07, 2015

Approved By:


Tomsin

Date:

May 07, 2015

2. Test Result Summary

Emission		
Test Method	Item	Result
FCC 47 CFR Part 15 Subpart B	Conducted Emission at Mains Terminals	PASS
	Radiated Emission	PASS

Note:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.
5. The information of measurement uncertainty is available upon the customer's request.

3. EUT Description

Product Name:	Smart Phone
Model No.:	PLUS
Product Parameter:	Input: AC 100-240 V, 50/60 Hz, 0.15 A Output: DC 5 V, 700 mA Highest CPU working frequency of EUT 1.2GHz.
AC Line(PC):	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded, <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 1.2 m
AC Line(Monitor):	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded, <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 1.2 m
AC Line(Printer):	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded, <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 1.2 m
USB Line (PC to EUT):	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded, <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 1.0 m
USB Line (PC to Printer):	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded, <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 0.8 m
USB Line (Mouse):	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded, <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 1.5 m
USB Line (Keyboard):	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded, <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 1.5 m
VGA Line	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded, <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 1.2 m
Earphone Line	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded, <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 1.0 m

4. Test Methodology

4.1. Decision of Final Test Mode

The EUT was tested together with the thereafter additional components, and a configuration, which produced the worst emission levels, was selected and recorded in this report.

The following test mode(s) were assessed:

Test Mode
Mode 1: Charging + Playing+ Camera Recording
Mode 2: Data Transmission with PC

The following test mode was found to produce the highest emission level.

The Worst Test Mode		
Emission	Conducted Emission	Mode 2: Data Transmission with PC
	Radiated Emission	Mode 2: Data Transmission with PC

4.2. EUT System Operation

1. Set up EUT with the support equipments.
2. Make sure the EUT work normally during the test.

5. Setup of Equipment under Test

5.1. Description of Support Units

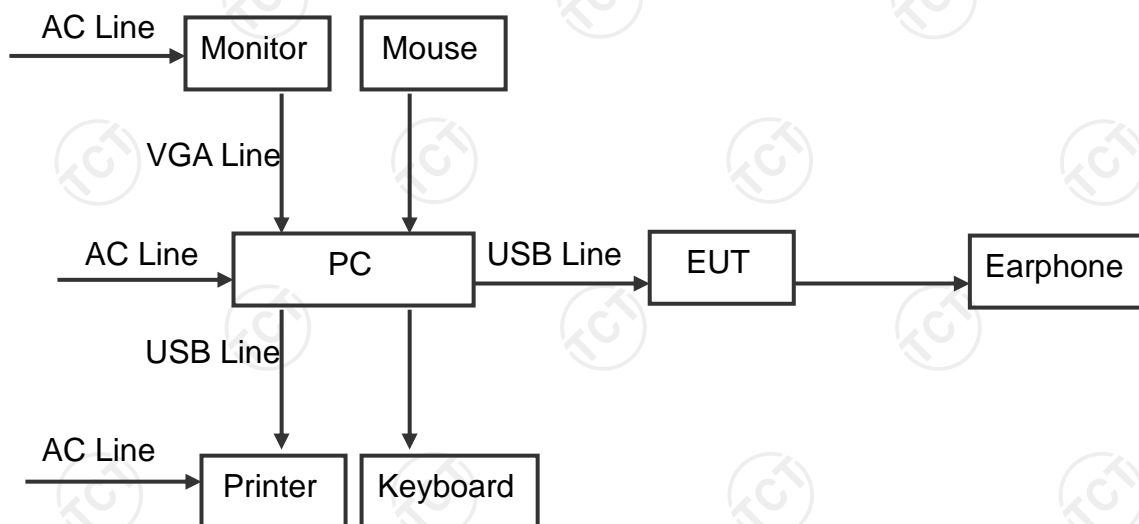
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
PC	BM6620	D1PFCG008HP	/	ASUS
Monitor	VX239	VX239H	/	ASUS
Keyboard	PK1100UE	04G104180039DP	/	ASUS
Printer	L11121E	FE2-2902	/	CANON
Mouse	MOBTUO	04G125610170DP	/	ASUS
Earphone	MX80	/	/	Sennheiser

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

5.2. Configuration of System Under Test



(EUT: Smart Phone)

6. Facilities and Accreditations

6.1. Facilities

All measurement facilities used to collect the measurement data are located at TCT Lab.

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

6.2. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

No.	Item	MU
1.	Temperature	$\pm 0.1^{\circ}\text{C}$
2.	Humidity	$\pm 1.0 \%$
3.	Spurious Emissions, Conducted	$\pm 2.56 \text{ dB}$
4.	All Emissions, Radiated	$\pm 4.28 \text{ dB}$

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of $k=2$.

7. Emission Test

7.1. Conducted Emission at Mains Terminals

7.1.1. Test Specification

Test Requirement:	FCC 47 CFR Part 15 Subpart B
Test Method:	ANSI C63.4:2009
Frequency Range:	150 kHz to 30 MHz

7.1.2. Limits

Frequency (MHz)	Class B dB(uV)	
	Quasi-peak	Average
0.15 - 0.5	66 – 56 ^a	56 – 46 ^a
0.50 - 5.0	56	46
5.0 - 30.0	60	50

a. Decreases with the logarithm of the frequency

7.1.3. Test Instruments

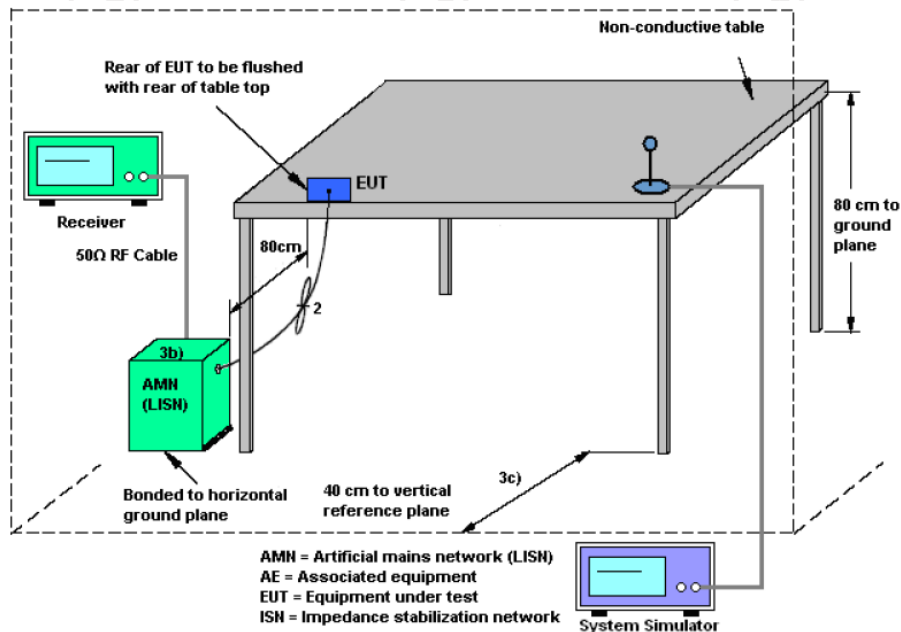
Conducted Emission Shielding Room Test Site (843)				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCS30	100139	Sep. 16, 2015
LISN	Schwarzbeck	NSLK 8126	8126453	Sep. 29, 2015

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

7.1.4. Test Method

The AMN was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN

7.1.5. Block Diagram of Test Setup



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

7.1.6. Test Results

Test Environment:	Temp.: 25 °C	Humid.: 56 %	Press.: 96 kPa
Test Mode:	Mode 2		
Test Voltage:	AC 120 V/60 Hz		
Test Result:	PASS		

Note:

L1 = Live Line / N = Neutral Line

“---” denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.

Freq. = Emission frequency in MHz

Reading level dB(μV) = Receiver reading

Corr. Factor (dB) = Attenuator factor + Cable loss

Level dB(μV) = Reading level dB(μV) + Corr. Factor (dB)

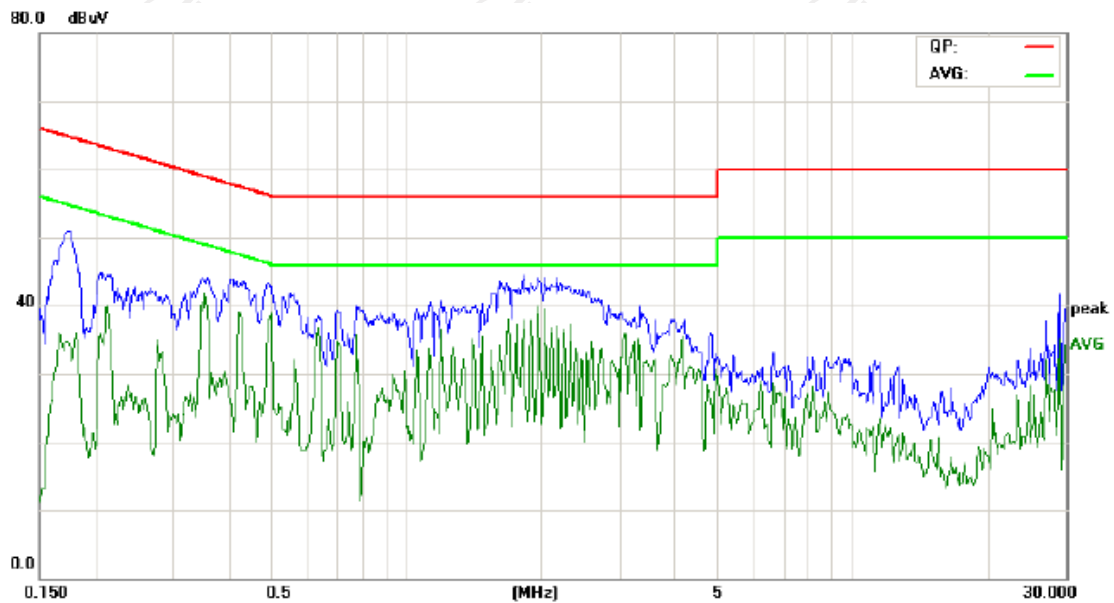
Limit dB(μV) = Limit stated in standard

Margin (dB) = Level dB(μV) – Limits dB(μV)

Q.P. =Quasi-Peak

AVG=Average

Please refer to following diagram for individual



Site Chamber #2

Phase: **L1**

Temperature: 25 (C)

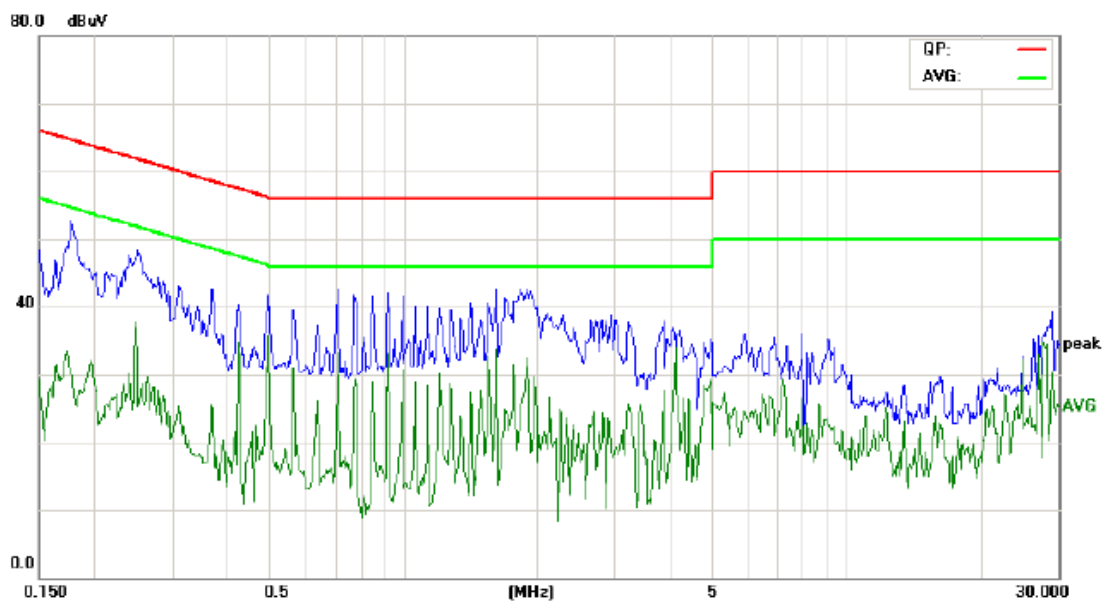
Limit: FCC PART15 Conduction(QP)

Power: AC 120V/60Hz

Humidity: 56 %

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV	dBuV	dB		

Note: Any value more than 10 dB below limit have not been specifically reported.



Site Chamber #2

Phase: **N**

Temperature: 25 (C)

Limit: FCC PART15 Conduction(QP)

Power: AC 120V/60Hz

Humidity: 56 %

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment

Note: Any value more than 10 dB below limit have not been specifically reported.

7.2. Radiated Emission

7.2.1. Test Specification

Test Requirement:	FCC 47 CFR Part 15 Subpart B
Test Method:	ANSI C63.4:2009
Frequency Range:	30 MHz to 1000 MHz 1GHz to 6GHz
Measurement Distance:	3 m
Antenna Polarization:	Horizontal & Vertical

7.2.2. Limits

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)	Detector
	500	3	Average
Above 1GHz	5000	3	Peak

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level $\text{dB}(\mu\text{V/m}) = 20 \log \text{Emission level } (\mu\text{V/m})$.

7.2.3. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESVD	100008	Sep. 16, 2015
Spectrum Analyzer	R&S	FSEM	848597-001	Sep. 16, 2015
Amplifier	HP	8447D	2727A05017	Sep. 16, 2015
Amplifier	EM	EM30265	07032613	Sep. 16, 2015
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 17, 2015
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 17, 2015

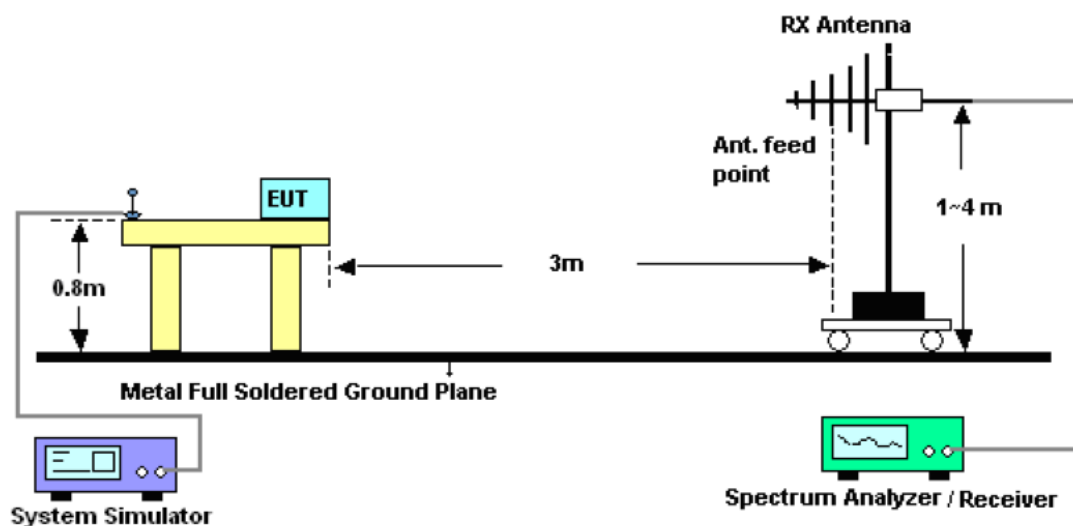
Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

7.2.4. Test Method

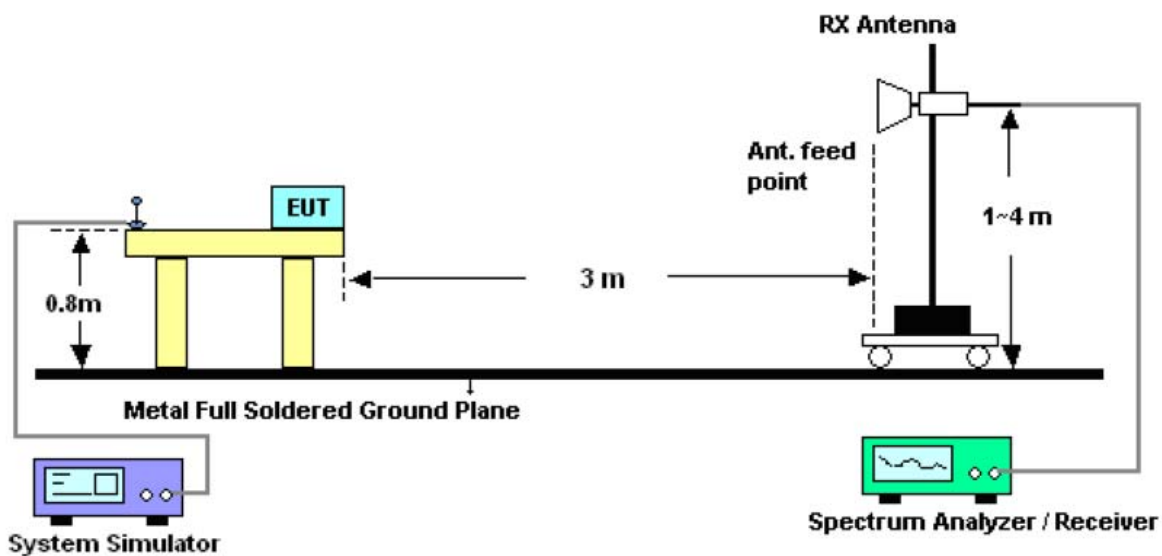
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).

7.2.5. Block Diagram of Test Setup

Below 1GHz



Above 1GHz



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

7.2.6. Test Results

Test Environment:	Temp.: 25 °C	Humid.: 56 %	Press.: 96 kPa
Test Mode:	Mode 2		
Test Voltage:	AC 120 V/60 Hz		
Test Result:	PASS		

Note:

Freq. = Emission frequency in MHz

Reading level dB(μV) = Receiver reading

Corr. Factor (dB) = Antenna factor + Cable loss

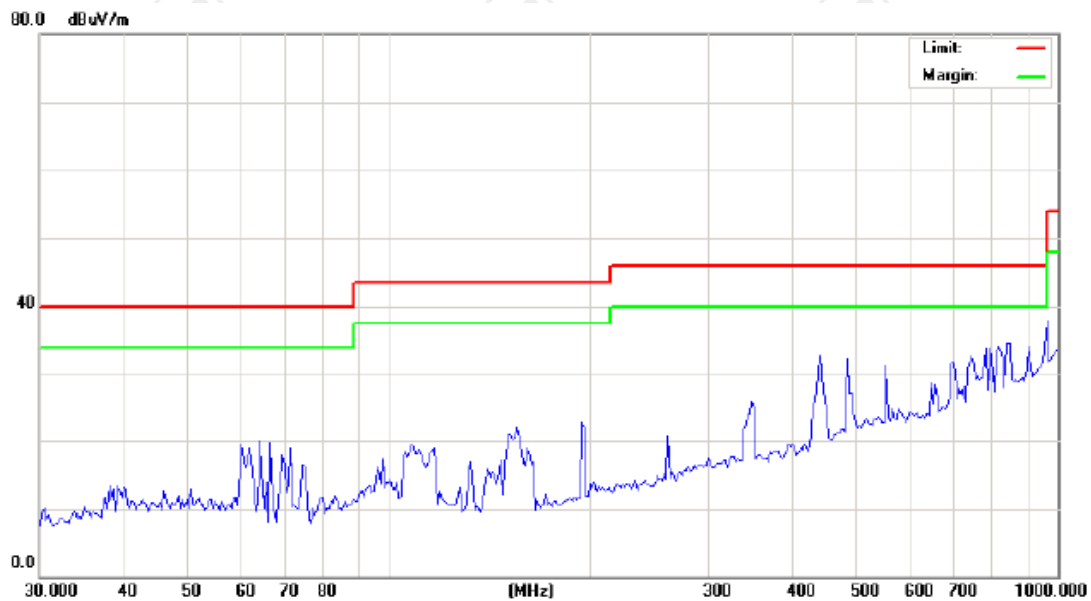
Measurement dB(μV/m) = Reading level dB(μV) + Corr. Factor (dB)

Limit dB(μV/m) = Limit stated in standard

Margin (dB) = Measurement dB(μV/m) – Limits dB(μV/m)

Q.P. =Quasi-Peak

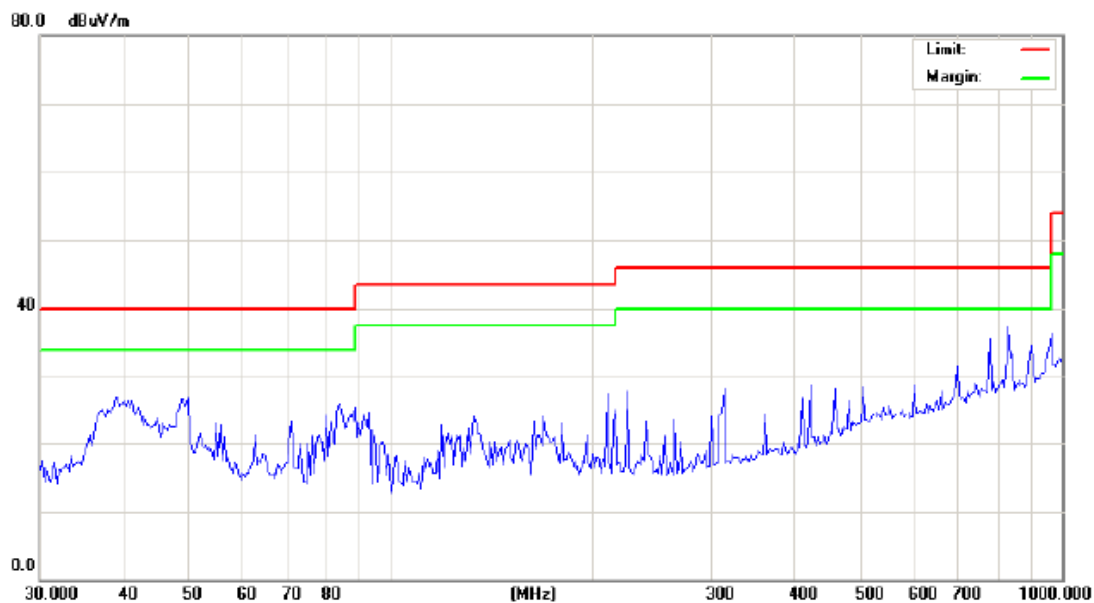
Please refer to following diagram for individual



Site Polarization: **Horizontal** Temperature: 25
Limit: FCC Part 15B Class B RE_3 m Power: AC 120V/60Hz Humidity: 56 %
Mode: Data Transmission with PC
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector cm	degree	Comment

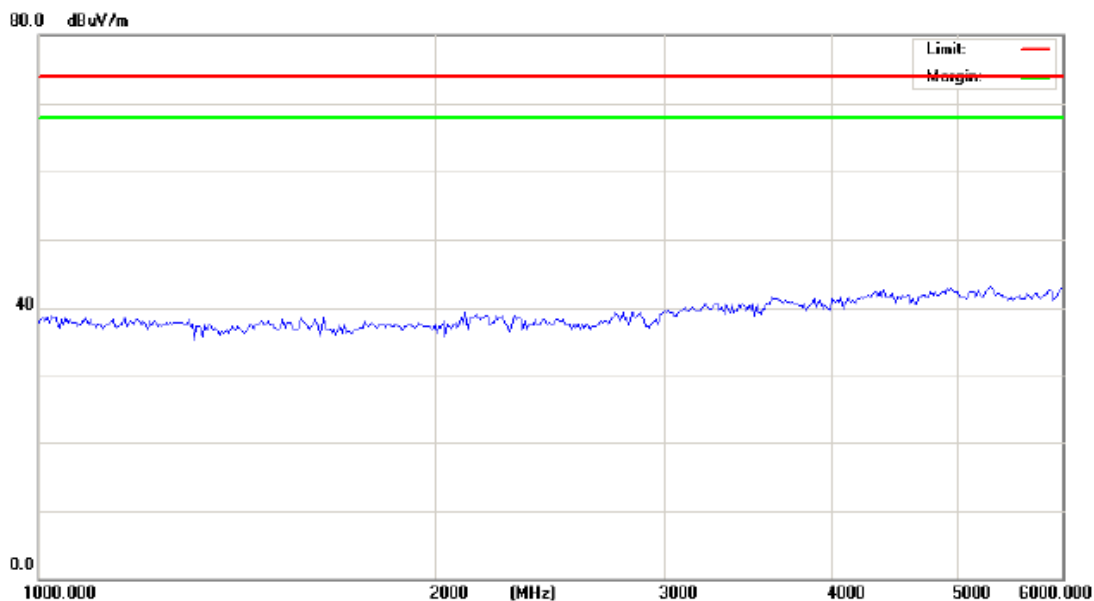
Note: Any value more than 10 dB below limit have not been specifically reported.



Site: Polarization: **Vertical** Temperature: 25
 Limit: FCC Part 15B Class B RE_3 m Power: AC 120V/60Hz Humidity: 56 %
 Mode: Data Transmission with PC
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree

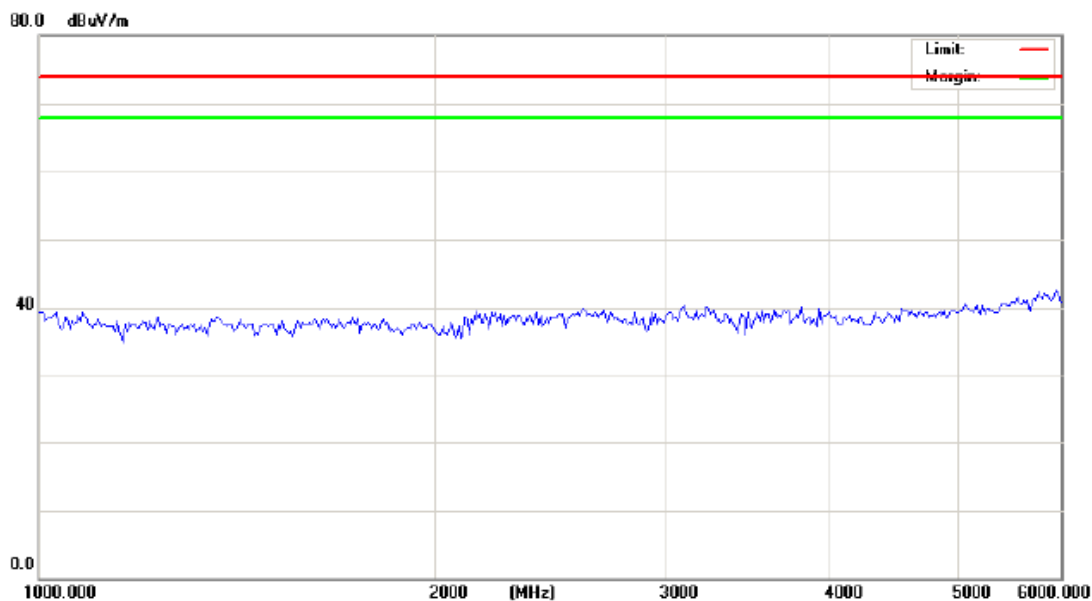
Note: Any value more than 10 dB below limit have not been specifically reported.



Site: Polarization: **Horizontal** Temperature: 25
 Limit: FCC ABOVE1G Power: AC 120V/60Hz Humidity: 56 %
 Mode: Data Transmission with PC
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment

Note: Any value more than 10 dB below limit have not been specifically reported.



Site: Polarization: **Vertical** Temperature: 25
 Limit: FCC ABOVE1G Power: AC 120V/60Hz Humidity: 56 %
 Mode: Data Transmission with PC
 Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		

Note: Any value more than 10 dB below limit have not been specifically reported.

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