FCC TEST REPORT

For

MOBIWIND TECHNOLOGY LIMITED

4G Mobile Phone

Model No.: SP5049G

Prepared for	:	MOBIWIND TECHNOLOGY LIMITED
Address	:	Rooms 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hong Kong

Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
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Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com

Date of receipt of test sample	:	October 27, 2015
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	October 27, 2015 – November 05, 2015
Date of Report	:	November 05, 2015

FCC TEST REPORT
FCC CFR 47 PART 22 SUBPART H AND PART 24 SUBPART E

Report Reference No.	**:**	**LCS1511020032E**
Date of Issue	:	November 05, 2015
Testing Laboratory Name.....	**:**	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure.....	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name.....	**:**	**MOBIWIND TECHNOLOGY LIMITED**
Address	:	Rooms 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hong Kong
Test Specification		
Standard	:	FCC CFR 47 PART 2, FCC CFR 47 PART 22 SUBPART H, PART 24 SUBPART E AND PART 27 SUBPART C
Test Report Form No.....	**:**	LCSEMC-1.0
TRF Originator	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

Test Item Description.	**:**	**4G Mobile Phone**
Trade Mark	:	N/A
Model/ Type reference.....	:	SP5049G
Ratings	:	DC 3.8V by battery Adapter parameter: Input:AC 100~240V, 50/60Hz, 0.3A; Output: DC 5V, 0.5A
Result	:	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
		
Jacky Li/ File administrators	Glin Lu/ Technique principal	Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS1511020032E	November 05, 2015 Date of issue

Type / Model.....	: SP5049G
EUT.....	: 4G Mobile Phone
Applicant.....	**: MOBIWIND TECHNOLOGY LIMITED**
Address.....	: Rooms 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hong Kong
Telephone.....	: 0755-83465035
Fax.....	: 0755-83463875
Manufacturer.....	**: MOBIWIND TECHNOLOGY LIMITED**
Address.....	: Rooms 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hong Kong
Telephone.....	: 0755-83465035
Fax.....	: 0755-83463875
Factory.....	**: MOBIWIND TECHNOLOGY LIMITED**
Address.....	: Rooms 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hong Kong
Telephone.....	: 0755-83465035
Fax.....	: 0755-83463875

Test Result	**Positive**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	4G Mobile Phone
Test Model	:	SP5049G
Power Supply	:	DC 3.8V by battery Adapter parameter: Input:AC 100~240V, 50/60Hz, 0.3A; Output: DC 5V, 0.5A
Support Band	:	☒GSM 850 (U.S.-Band) ☒PCS 1900 (U.S.-Band) ☒UMTS FDD Band II (U.S.-Band) ☒UMTS FDD Band V (U.S.-Band) ☒LTE Band II (U.S.-Band) ☒LTE Band IV (U.S.-Band)
Uplink	:	GSM 850: 824.2MHz -848.8MHz PCS 1900: 1850.2MHz -1909.8MHz UMTS FDD Band V:826.4MHz-846.6MHz UMTS FDD Band II:1852.4 MHz -1907.6 MHz LTE Band II:1850.0MHz -1910.0MHz LTE Band IV:1710.0MHz -1755.0MHz
Downlink	:	GSM 850: 869.2MHz -893.8MHz PCS 1900: 1930.2MHz -1989.8MHz UMTS FDD Band V:871.4MHz-891.6MHz UMTS FDD Band II:1932.4 MHz -1987.6MHz LTE Band II:1930.0MHz -1990.0MHz LTE Band IV:2110.0MHz -2155.0MHz
Type Of Modulation	:	GSM/GPRS:GMSK; EGPRS: 8-PSK, WCDMA/HSDPA/HSUPA/LTE: QPSK, LTE: 16QAM
Supported Channel Bandwidth	:	GSM System ☒200kHz UMTS System ☒5MHz LTE Band II ☒1.4MHz ☒3MHz ☒5MHz ☒10MHz ☒15MHz ☒20MHz LTE Band IV ☒1.4MHz ☒3MHz ☒5MHz ☒10MHz ☒15MHz ☒20MHz
Antenna Description	:	Integral Antenna, Antenna Gain: -3.6dBi for GSM, -3.2dBi for UMTS,-3.2 for LTE
Software Version	:	V1.0
Hardware Version	:	HCT-T93MB-A2-20150123
Designation of Emissions (Note: The necessary bandwidth of which is the worst value from the measured occupied bandwidths for each type of channel bandwidth)	:	GSM850: 246KGXW, 248KG7W PCS1900: 251KGXW, 248KG7W UMTS850: 4M21F9W UMTS1900: 4M23F9W LTE Band II: 1M08G7D(5MHz QPSK) 1M08W7D(5MHz 16QAM) 2M69G7D(5MHz QPSK)

	2M69W7D(5MHz 16QAM)
	4M49G7D(5MHz QPSK)
	4M49W7D(5MHz 16QAM)
	8M95G7D(10MHz QPSK)
	8M94W7D(10MHz 16QAM)
	13M4G7D(15MHz QPSK)
	13M4W7D(15MHz 16QAM)
	17M9G7D(20MHz QPSK)
	17M9W7D(20MHz 16QAM)
LTE Band IV:	1M08G7D(5MHz QPSK)
	1M08W7D(5MHz 16QAM)
	2M69G7D(5MHz QPSK)
	2M69W7D(5MHz 16QAM)
	4M49G7D(5MHz QPSK)
	4M49W7D(5MHz 16QAM)
	8M96G7D(10MHz QPSK)
	8M95W7D(10MHz 16QAM)
	13M4G7D(15MHz QPSK)
	13M4W7D(15MHz 16QAM)
	17M9G7D(20MHz QPSK)
	17M9W7D(20MHz 16QAM)

1.2. Host System Configuration List and Details

Manufacturer	Description	Model	Serial Number	Certificate
--	Adapter	YSN050500AA	--	VOC

1.3. External I/O Cable

I/O Port Description	Quantity	Cable
USB	1	1.2m, Shielded
Earphone	1	N/A

1.4. Description of Test Facility

Site Description EMC Lab. **:** CNAS Registration Number. is L4595.
FCC Registration Number. is 899208.
Industry Canada Registration Number. is 9642A-1.
VCCI Registration Number. is C-4260 and R-3804.
ESMD Registration Number. is ARCB0108.
UL Registration Number. is 100571-492.
TUV SUD Registration Number. is SCN1081.
TUV RH Registration Number. is UA 50296516-001

1.5. Statement of The Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

1.6. Measurement Uncertainty

Test Item		Frequency Range	Uncertainty	Note
Radiation Uncertainty	:	9KHz~30MHz	±3.10dB	(1)
		30MHz~200MHz	±2.96dB	(1)
		200MHz~1000MHz	±3.10dB	(1)
		1GHz~26.5GHz	±3.80dB	(1)
Conduction Uncertainty	:	150kHz~30MHz	±1.63dB	(1)
Power disturbance	:	30MHz~300MHz	±1.60dB	(1)

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

1.7. Test environment

All tests were performed under the following environmental conditions:

Condition	**Minimum value**	**Maximum value**
Barometric pressure	86kPa	106kPa
Temperature	15℃	30℃
Relative Humidity	20 %	75 %
Power supply range	±5% of rated voltages	

2. TEST METHODOLOGY

All tests and measurements indicated in this document were performed in accordance with FCC CFR 47 part 2, FCC CFR 47 part 22 subpart H, part 24 subpart E and part 27 subpart C.

Applicable Standards: TIA/EIA603-D, ANSI C63.4-2010.The radiated testing was performed at an antenna-to-EUT distance of 3 meters. All radiated and conducted emissions measurement was performed at Shenzhen LCS Compliance Testing Laboratory Ltd..

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2. Objective

This type approval report is prepared on behalf of **MOBIWIND TECHNOLOGY LIMITED** in accordance with FCC CFR 47 part 2, FCC CFR 47 part 22 subpart H, part 24 subpart E and part 27 subpart C.

The objective is to determine compliance with FCC rules for RF output power, modulation characteristics, occupied bandwidth, spurious emissions at antenna terminal, field strength of spurious radiation, frequency stability, band edge, and conducted and radiated margin.

2.3. General Test Procedures

2.3.1 Conducted Emissions

According to the requirements in Section 6.2 of TIA/EIA603-D, AC power-line conducted emissions shall be measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

2.3.2 Radiated Emissions

The EUT is placed on a turn table and the turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 6.3 of TIA/EIA603-D.

2.4. Test Mode

GSM / GPRS/EGRS 850: Channel Low (CH128), Channel Mid (CH190) and Channel High (CH251) were chosen for full testing. The test PCL(Power Control Level)/Class is level 5/class 3(For GPRS/EGRS).

PCS / GPRS/ EGRS 1900: Channel Low (CH512), Channel Mid (CH661) and Channel High (CH810) were chosen for full testing. The test PCL(Power Control Level)/Class is level 0/class 3(For GPRS/EGRS).

UMTS FDD Band II: Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing

UMTS FDD Band V: Channel Low (CH4132), Channel Mid (CH4180) and Channel High (CH4233) were chosen for full testing

LTE Band II: Channel Low (CH18625), Channel Mid (CH18900) and Channel High (CH19175) for 5MHz bandwidth; Channel Low (CH18650), Channel Mid (CH18900) and Channel High (CH19150) for 10MHz bandwidth; Channel Low (CH18675), Channel Mid (CH18900) and Channel High (CH19125) for 15MHz bandwidth; Channel Low (CH18700), Channel Mid (CH18900) and Channel High (CH19100) for 20MHz bandwidth were chosen for full testing

LTE Band IV: Channel Low (CH19975), Channel Mid (CH20175) and Channel High (CH20375) for 5MHz bandwidth; Channel Low (CH2000), Channel Mid (CH20175) and Channel High (CH20350) for 10MHz bandwidth; Channel Low (CH20025), Channel Mid (CH20175) and Channel High (CH20325) for 15MHz bandwidth; Channel Low (CH20050), Channel Mid (CH20175) and Channel High (CH20300) for 20MHz bandwidth were chosen for full testing

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

For the field strength of spurious emission, the worst emission was found in lie-down position (X axis) for GSM /GPRS/EGPRS 850, lie-down position (X axis) for PCS /GPRS/ EGPRS 1900, lie-down position (X axis) for UMTS FDD Band II, lie-down position (X axis) for UMTS FDD Band V, lie-down position (X axis) for LTE Band II and lie-down position (X axis) for LTE Band IV the worst case was recorded.

3. SYSTEM TEST CONFIGURATION

3.1. Justification

The EUT had been tested under operating condition. EUT staying in continuous transmitting mode.

3.2. EUT Exercise Software

N/A.

3.3. Special Accessories

N/A.

3.4. Block Diagram/Schematics

Please refer to the related document

3.5. Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

3.6. Test Setup

Please refer to the test setup photo.

4. SUMMARY OF TEST RESULTS

Applied Standard: 47 CFR FCC Part 22 Subpart H, Part 24 Subpart E, Part 27 Subpart C			
FCC Rules	**Description of Test**		**Result**
§2.1046, §22.913, §24.232, §27.50(d)	RF Output Power	Conducted Output Power	Compliant
		Radiated Output Power	
§2.1049	Occupied Bandwidth		Compliant
§2.1053, §2.917, §24.238, §27.53(h)	Spurious Radiated Emissions		Compliant
§2.1051, §2.917, §24.238, §27.53(h)	Spurious Emissions at Antenna Terminals		Compliant
§2.1051, §22.917, §24.238, §27.53(h)	Band Edge		Compliant
§2.1055, §22.355, §24.235, §27.54	Frequency Stability		Compliant
§15.107 / §15.207	AC power line conducted emissions		Compliant
§2.1047	Modulation Characteristics		Compliant
§1.1310, §2.1091	RF Exposure Information		Compliant
§24.232(d), §27.50(d)	Peak-to-Average Ratio		Compliant

5. TEST RESULT

5.1. RF OUTPUT POWER

5.1.1. Standard Applicable

According to FCC §2.1046 and §22.913, the maximum effective radiated power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

According to FCC §2.1046 and §22.232, mobile and portable stations are limited to 2 Watts and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

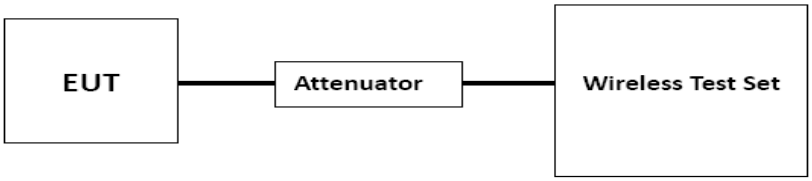
According to FCC §2.1046 and §27.50(d), Fixed, mobile, and portable (hand-held) stations are limited to 1 Watts and Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

5.1.2. Measuring Instruments

Please refer to section 6 of equipments list in this report.

5.1.3. Test Procedures

Conducted method:



Radiated method:

TIA 603-D section 2.2.17

5.1.4. Test ResultsPlease refer to appendix for test report: APPENDIX I

5.2. OCCUPIED BANDWIDTH

5.2.1. Standard Applicable

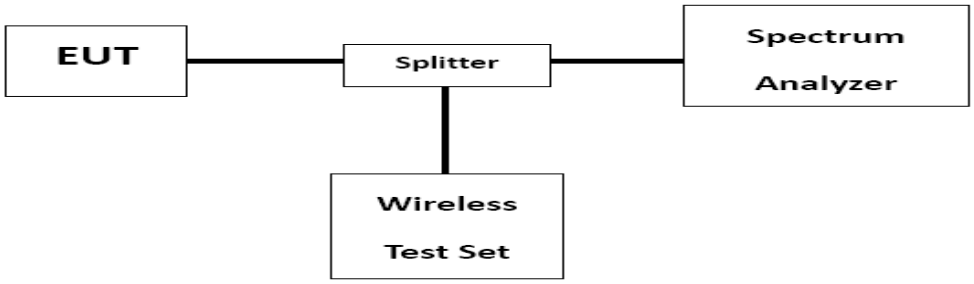
FCC §2.1049

5.2.2. Measuring Instruments

Please refer to section 6 of equipments list in this report.

5.2.3. Test Procedures

The RF output of the transmitter was connected to the wireless communication tester and spectrum analyzer through attenuation.



The -26dB & 99% bandwidth was recorded.

5.2.4. Test ResultsPlease refer to appendix for test report: APPENDIX III

5.3. SPURIOUS AND HARMONIC EMISSION AT ANTENNA TERMINAL

5.3.1. Standard Applicable

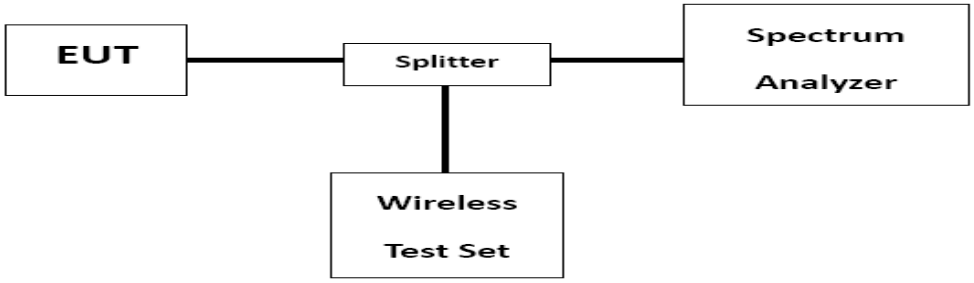
FCC §2.1051, §22.917, §24.238 and §27.53(h).

5.3.2. Measuring Instruments

Please refer to section 6 of equipments list in this report.

5.3.3. Test Procedures

The RF output of the transmitter was connected to the wireless communication tester and spectrum analyzer through attenuation.



5.3.4. Test Results

Please refer to appendix for test report: APPENDIX IV

5.4. RADIATED SPURIOUS EMISSIONS MEASUREMENT

5.4.1. Standard Applicable

FCC §2.1051, §22.917, §24.238 and §27.53(h).

5.4.2. Measuring Instruments

Please refer to section 6 of equipments list in this report.

5.4.3. Test Procedures

The EUT was placed on a non-conductive, the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

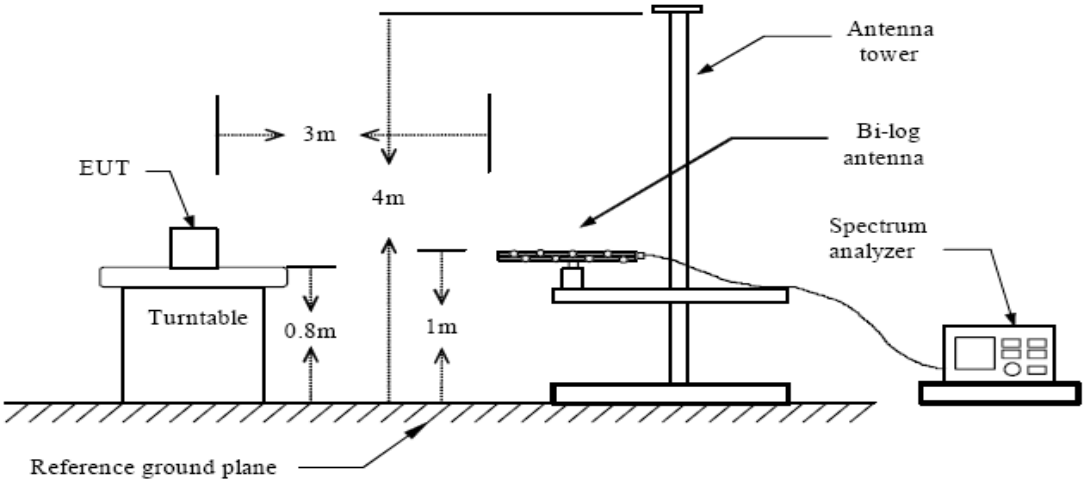
The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission were identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

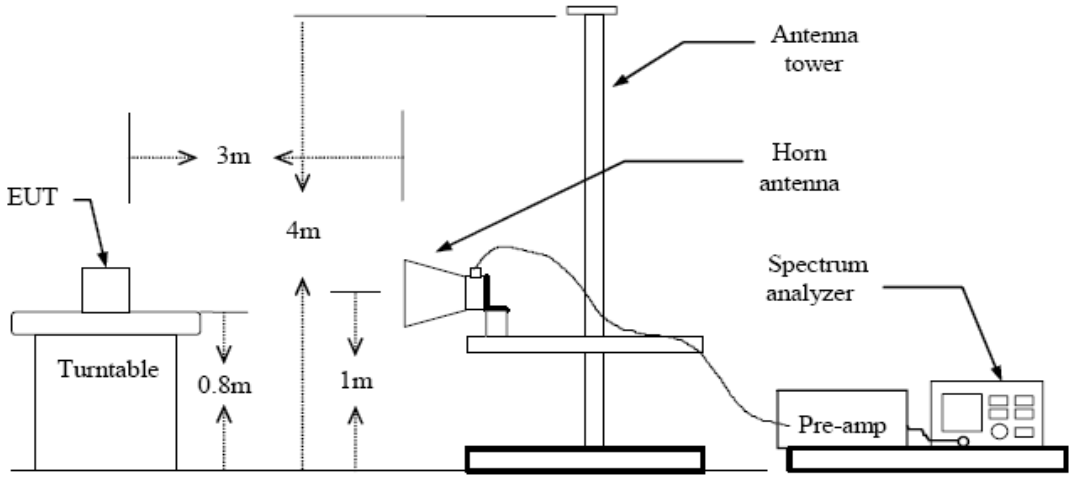
ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

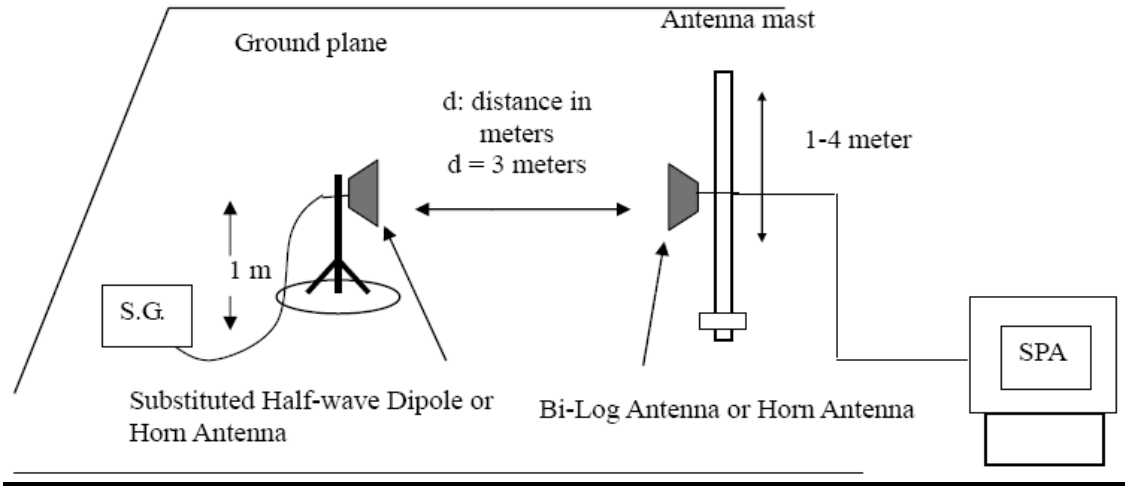
For radiated spurious emissions below 1GHz



For radiated spurious emissions above 1GHz



Substituted Method



5.4.4. Test Results

Please refer to appendix for test report: APPENDIX V

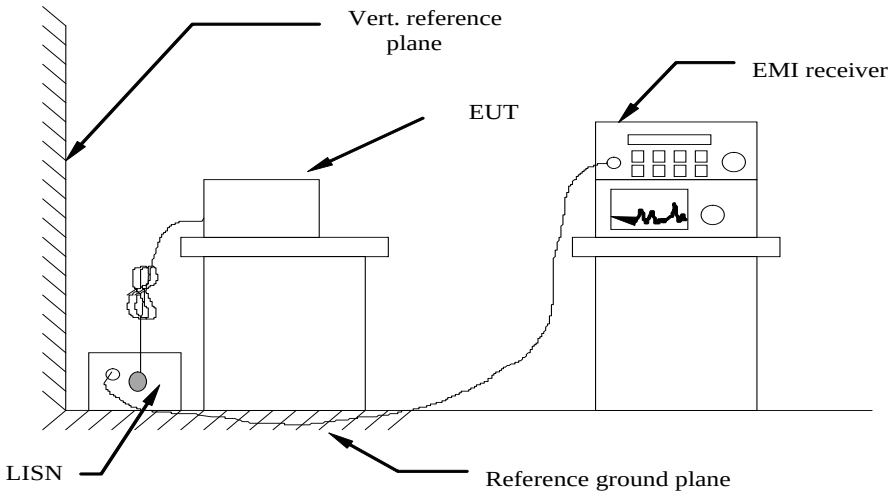
5.5. POWER LINE CONDUCTED EMISSIONS

5.5.1 Standard Applicable

According to §15.107 (a): For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolt (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

5.5.2 Block Diagram of Test Setup

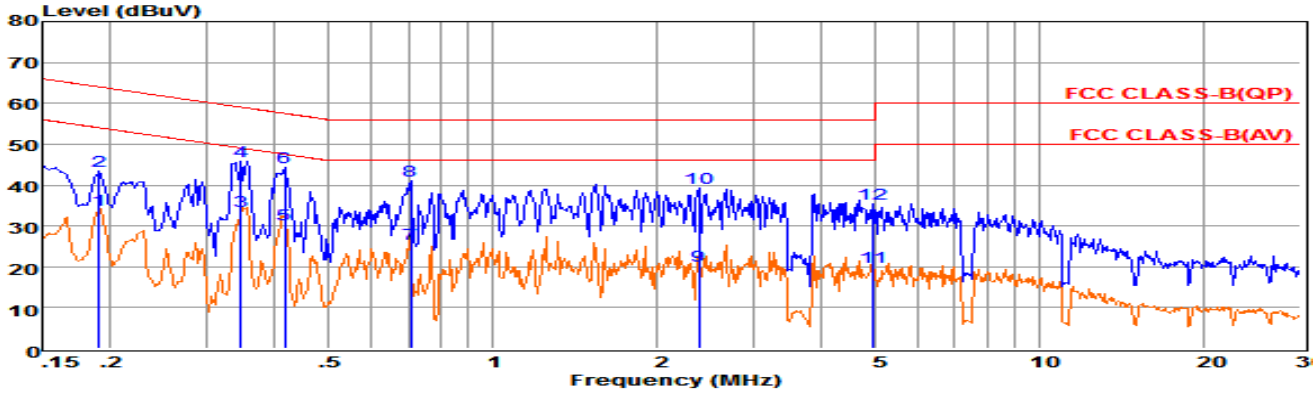


5.5.3 Test Results

PASS.

The test data please refer to following page.

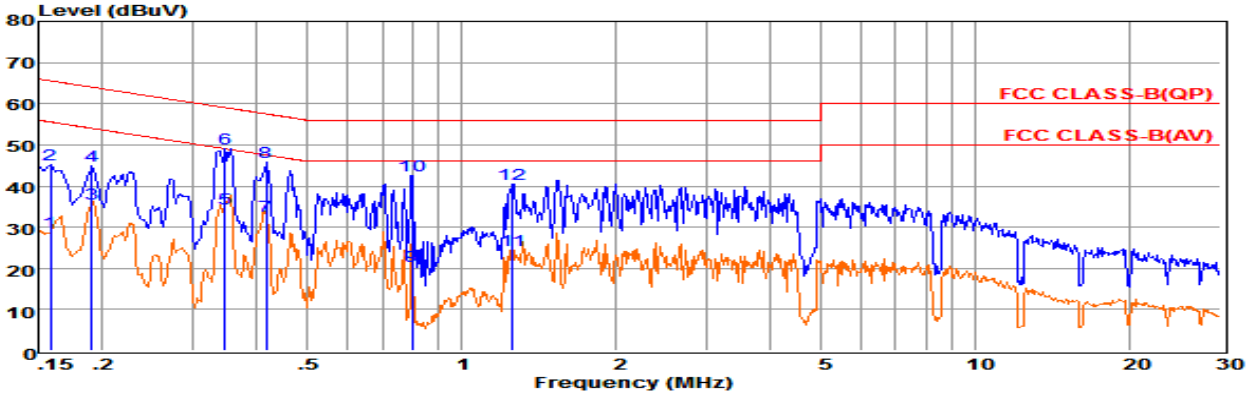
Test plot(AC 120V/60Hz)



Env. Ins: 24*/56%
Pol: NEUTRAL

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.19039	14.26	9.61	0.02	10.00	33.89	54.02	-20.13	Average
2	0.19039	23.73	9.61	0.02	10.00	43.36	64.02	-20.66	QP
3	0.34646	14.09	9.61	0.03	10.00	33.73	49.05	-15.32	Average
4	0.34646	26.25	9.61	0.03	10.00	45.89	59.05	-13.16	QP
5	0.41705	10.79	9.61	0.04	10.00	30.44	47.51	-17.07	Average
6	0.41705	24.63	9.61	0.04	10.00	44.28	57.51	-13.23	QP
7	0.70842	5.89	9.63	0.04	10.00	25.56	46.00	-20.44	Average
8	0.70842	21.33	9.63	0.04	10.00	41.00	56.00	-15.00	QP
9	2.38358	0.61	9.64	0.05	10.00	20.30	46.00	-25.70	Average
10	2.38358	19.45	9.64	0.05	10.00	39.14	56.00	-16.86	QP
11	4.97820	0.23	9.66	0.06	10.00	19.95	46.00	-26.05	Average
12	4.97820	15.77	9.66	0.06	10.00	35.49	56.00	-20.51	QP

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

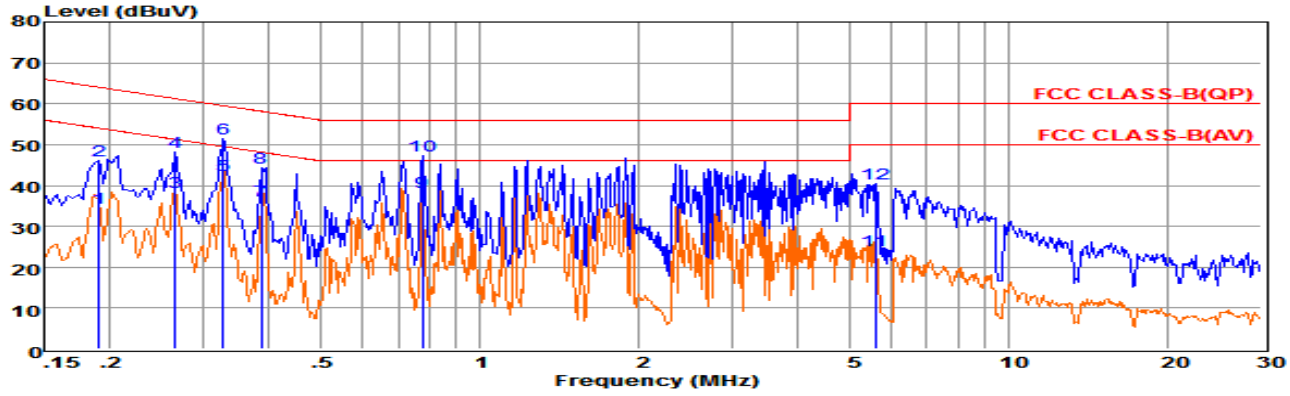


Env. Ins: 24*/56%
Pol: LINE

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.15816	9.37	9.58	0.02	10.00	28.97	55.56	-26.59	Average
2	0.15816	25.70	9.58	0.02	10.00	45.30	65.56	-20.26	QP
3	0.19039	16.18	9.62	0.02	10.00	35.82	54.02	-18.20	Average
4	0.19039	25.29	9.62	0.02	10.00	44.93	64.02	-19.09	QP
5	0.34646	14.86	9.62	0.03	10.00	34.51	49.05	-14.54	Average
6	0.34646	29.48	9.62	0.03	10.00	49.13	59.05	-9.92	QP
7	0.41705	13.02	9.62	0.04	10.00	32.68	47.51	-14.83	Average
8	0.41705	26.27	9.62	0.04	10.00	45.93	57.51	-11.58	QP
9	0.80023	0.82	9.64	0.04	10.00	20.50	46.00	-25.50	Average
10	0.80023	22.93	9.64	0.04	10.00	42.61	56.00	-13.39	QP
11	1.25546	4.73	9.63	0.05	10.00	24.41	46.00	-21.59	Average
12	1.25546	20.74	9.63	0.05	10.00	40.42	56.00	-15.58	QP

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

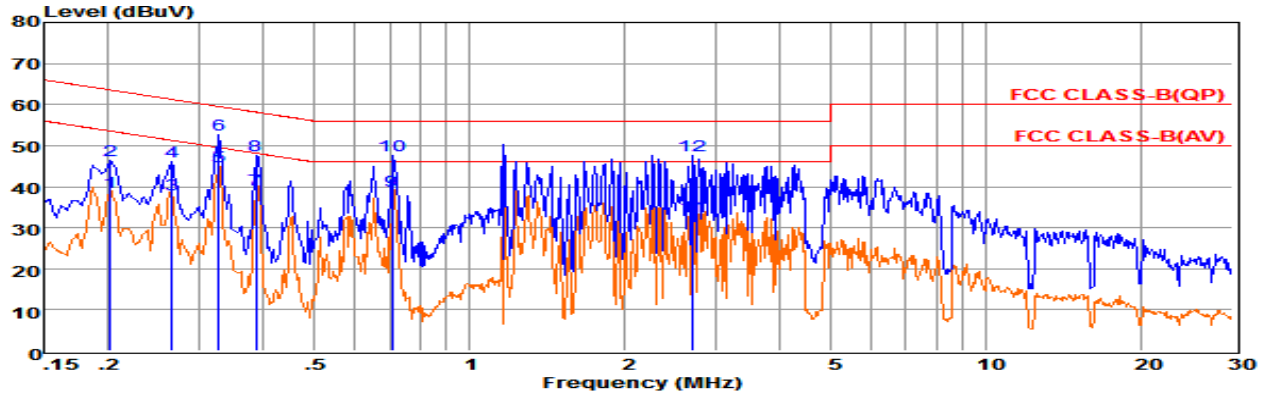
Test plot(AC 230V/50Hz)



Env. Ins: 24*/56%
Pol: LINE

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.19039	14.86	9.62	0.02	10.00	34.50	54.02	-19.52	Average
2	0.19039	26.53	9.62	0.02	10.00	46.17	64.02	-17.85	QP
3	0.26583	18.64	9.63	0.03	10.00	38.30	51.25	-12.95	Average
4	0.26583	28.44	9.63	0.03	10.00	48.10	61.25	-13.15	QP
5	0.32685	22.92	9.62	0.03	10.00	42.57	49.53	-6.96	Average
6	0.32685	31.83	9.62	0.03	10.00	51.48	59.53	-8.05	QP
7	0.38519	16.77	9.62	0.04	10.00	36.43	48.17	-11.74	Average
8	0.38519	24.62	9.62	0.04	10.00	44.28	58.17	-13.89	QP
9	0.77931	18.81	9.64	0.04	10.00	38.49	46.00	-7.51	Average
10	0.77931	27.53	9.64	0.04	10.00	47.21	56.00	-8.79	QP
11	5.59364	4.28	9.66	0.06	10.00	24.00	50.00	-26.00	Average
12	5.59364	20.86	9.66	0.06	10.00	40.58	60.00	-19.42	QP

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.



Env. Ins: 24*/56%
Pol: NEUTRAL

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.20181	19.12	9.59	0.02	10.00	38.73	53.54	-14.81	Average
2	0.20181	26.76	9.59	0.02	10.00	46.37	63.54	-17.17	QP
3	0.26583	18.39	9.60	0.03	10.00	38.02	51.25	-13.23	Average
4	0.26583	26.37	9.60	0.03	10.00	46.00	61.25	-15.25	QP
5	0.32685	25.25	9.61	0.03	10.00	44.89	49.53	-4.64	Average
6	0.32685	32.93	9.61	0.03	10.00	52.57	59.53	-6.96	QP
7	0.38519	19.60	9.61	0.04	10.00	39.25	48.17	-8.92	Average
8	0.38519	27.80	9.61	0.04	10.00	47.45	58.17	-10.72	QP
9	0.70842	19.37	9.63	0.04	10.00	39.04	46.00	-6.96	Average
10	0.70842	28.01	9.63	0.04	10.00	47.68	56.00	-8.32	QP
11	2.70678	13.09	9.64	0.05	10.00	32.78	46.00	-13.22	Average
12	2.70678	27.75	9.64	0.05	10.00	47.44	56.00	-8.56	QP

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Note: Pre-scan all mode and recorded the worst case results in this report (GSM 850, Normal Link)

5.6. MODULATION CHARACTERISTIC

According to FCC §2.1047(d), Part 22H, 24E & 27C there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

5.7. FREQUENCY STABILITY OVER TEMPERATURE AND VOLTAGE VARIATIONS

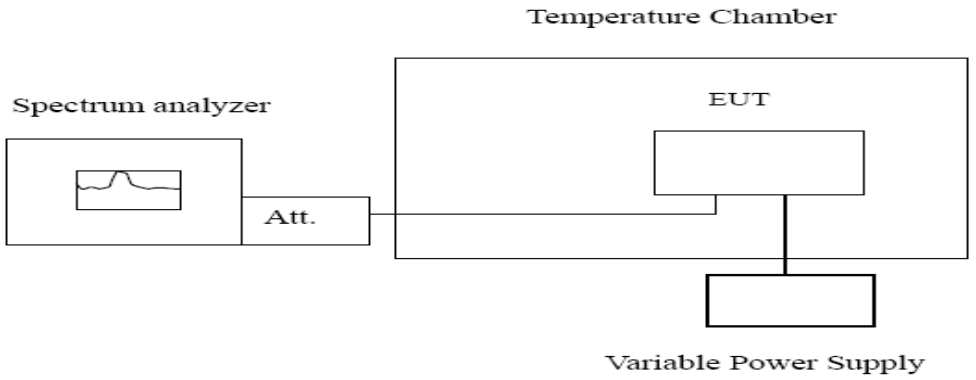
5.7.1. Standard Applicable

FCC §2.1055, §22.355, §24.235 and §27.54, Frequency Tolerance: 2.5ppm

5.7.2. Test Procedures

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20℃ operating frequency as reference frequency.

Turn EUT off and set the chamber temperature to –30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached.



5.7.3. Test Results

Please refer to appendix for test report: APPENDIX VI

5.8. PEAK-TO-AVERAGE RATIO

5.8.1. Standard Applicable

According to FCC §2.1046, §24.232(d) and §27.50(d), the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

5.8.2. Measuring Instruments

Please refer to section 6 of equipments list in this report.

5.8.3. Test Procedures

The following steps outline the procedure used to measure the Peak-to-Average Ratio from the EUT.

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.

2. For GSM/EGPRS operating modes:

a. Set the RBW = 1MHz, VBW = 1MHz, Peak detector in spectrum analyzer.

b. Set EUT in maximum power output, and triggered the burst signal.

c. Measured respectively the Peak level and Mean level, and the deviation was recorded as Peak to Average Ratio.

3. For UMTS operating modes:

a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.

b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

5.8.4. Test ResultsPlease refer to appendix for test report: APPENDIX II

6. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal Date	Due Date
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	June 18, 2015	June 17, 2016
Signal analyzer	Agilent	E4448A(External mixers to 40GHz)	US44300469	9kHz~40GHz	July 18, 2015	July 17, 2016
Signal analyzer	Agilent	N9020A	MY50510140	9kHz~26.5GHz	October 27, 2014	October 26, 2015
LISN	MESS Tec	NNB-2/16Z	99079	9KHz-30MHz	June 25, 2015	June 24, 2016
LISN	EMCO	3819/2NM	9703-1839	9KHz-30MHz	June 25, 2015	June 24, 2016
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9KHz-30MHz	June 25, 2015	June 24, 2016
ISN	SCHAFFNER	ISN ST08	21653	9KHz-30MHz	June 25, 2015	June 24, 2016
3m Semi Anechoic	SIDT	SAC-3M	03CH03-HY	30M-1GHz	June 18, 2015	June 17, 2016
Amplifier	SCHAFFNER	COA9231A	18667	9kHz-2GHzz	June 16, 2015	June 15, 2016
Amplifier	Agilent	8449B	3008A02120	1GHz-26.5GHz	July 16, 2015	July 15, 2016
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5GHz-40GHz	July 16, 2015	July 15, 2016
Loop Antenna	R&S	HFH2-Z2	860004/001	9k-30MHz	June 16, 2015	June 15, 2016
Loop Antenna	R&S	HFH2-Z2	860024/003	9k-30MHz	June 16, 2015	June 15, 2016
By-log Antenna	SCHWARZBECK	VULB9163	9163-470	30MHz-1GHz	June 16, 2015	June 15, 2016
By-log Antenna	SCHWARZBECK	VULB9163	9163-475	30MHz-1GHz	June 16, 2015	June 15, 2016
Horn Antenna	EMCO	3115	6741	1GHz-18GHz	June 16, 2015	June 15, 2016
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15GHz-40GHz	June 16, 2015	June 15, 2016
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz-1GHz	June 25, 2015	June 24, 2016
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz-40GHz	June 25, 2015	June 24, 2016
Spectrum Meter	R&S	FSP 30	100023	9kHz-30GHz	July 16, 2015	July 15, 2016
Power Meter	R&S	NRVS	100444	DC-40GHz	June 18, 2015	June 17, 2016
Power Sensor	R&S	NRV-Z51	100458	DC-30GHz	June 18, 2015	June 17, 2016
Power Sensor	R&S	NRV-Z32	10057	30MHz-6GHz	June 18, 2015	June 17, 2016
AC Power Source	HPC	HPA-500E	HPA-9100024	AC 0~300V	June 18, 2015	June 17, 2016
DC power Soure	GW	GPC-6030D	C671845	DC 1V-60V	June 18, 2015	June 17, 2016
Temp. and	Giant Force	GTH-225-20-S	MAB0103-00	N/A	June 18, 2015	June 17, 2016
RF CABLE-1m	JYE Bao	RG142	CB034-1m	20MHz-7GHz	June 25, 2015	June 24, 2016
RF CABLE-2m	JYE Bao	RG142	CB)35-2m	20MHz-1GHz	June 25, 2015	June 24, 2016
Vector signal	R&S	SMU200A	102098	100kHz~6GHz	June 18, 2015	June 17, 2016
Signal Generator	R&S	SMR40	10016	10MHz~40GHz	July 16, 2015	July 15, 2016

Universal Radio	R&S	CMU200	112012	N/A	July 18, 2015	July 17, 2016
Universal Radio	R&S	CMU500	103818	N/A	April 28, 2015	April 27, 2016
Note: All equipment through GRGT EST calibration						

----------THE END OF REPORT----------