FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

Applicant：	**SHENZHEN PXHT ELECTRONIC TECHNOLOGY CO., LTD**
Address：	**Rm 8B, C Tower Electronic Technology Building ShenNan Road(M), FuTian District, ShenZhen.**
Product Name：	**WIFI phone**
Model Name：	**X10, X10G**
Brand Name：	**ISTAR**
FCC ID：	**XPKX10**
Report No.：	**STS100410F5**
Date of Issue：	**May. 14, 2010**

Issued by：	**Shenzhen Super Test Service Technology Co., Ltd.**
Address：	**No.5, Langshan 2nd Rd., North Hi-Tech Industrial Park ,Nanshan, Shenzhen, Guangdong ,China**
Tel：	**86-755-2795 8522**
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1. VERIFICATION OF CONFORMITY

Equipment Under Test:	WIFI phone
Brand Name:	ISTAR
Model Number:	X10, X10G
FCC ID:	XPKX10
Applicant:	SHENZHEN PXHT ELECTRONIC TECHNOLOGY CO., LTD Rm 8B, C Tower Electronic Technology Building ShenNan Road(M), FuTian District, ShenZhen.
Manufacturer:	SHENZHEN PXHT ELECTRONIC TECHNOLOGY CO., LTD Rm 8B, C Tower Electronic Technology Building ShenNan Road(M), FuTian District, ShenZhen.
Technical Standards:	47 CFR Part 15 Subpart C
File Number:	STS100410F5
Date of test:	April. 28, 2010 ~ May. 14, 2010
Deviation:	None
Condition of Test Sample:	Normal
Test Result:	PASS

The above equipment was tested by STS for compliance with the requirements set forth in FCC rules and the Technical Standards mentioned above. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment and the level of the immunity endurance of the equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Tested by (+ signature): Petter Ping

Petter Ping May. 14, 2010

Review by (+ signature): July Wen

July Wen May. 14, 2010

Approved by (+ signature): Terry Yang

Terry Yang May. 14, 2010

2. GENERAL INFORMATION

2.1 Product Information

Product	WIFI phone
Trade Name	ISTAR
Model Number	X10G
Power Supply	DC 3.7 V by battery
Frequency Range	2412 MHz -2462MHz
Modulation Type	WLAN: 802.11 b :DSSS, 802.11g : OFDM
Channel Number	11
Temperature Range	-20°C ~ 55°C

NOTE:

1. *Please refer to Appendix I for the photographs of the EUT. For a more detailed features description about the EUT, please refer to User's Manual.*

2.2 Objective

The objective of the report is to perform tests according to 47 CFR Part 15 Subpart C for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 15 (10-1-05 Edition)	Radio Frequency Devices

2.3 Test Standards and Results

Test items and the results are as bellow:

No.	Section	Description	Result	Date of Test
1	15.247(b)	Peak Output Power	PASS	2010-04-29
2	15.247(a)	Bandwidth	PASS	2010-04-29
3	15.247(d)	Peak Power Spectral Density	PASS	2010-04-29
4	15.247(c)	Conducted Spurious Emission	PASS	2010-04-29
5	15.247(c)	Band Edge	PASS	2010-04-29
6	15.207	Power Line Conducted Emission Test	PASS	2010-04-29
7	15.209 15.247(c)	Radiated Emission	PASS	2010-04-29

Note: 1. The test result judgment is decided by the limit of measurement standard
2. The information of measurement uncertainty is available upon the customer's request.

2.4 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:
- Temperature: 15-35ºC
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

3. TEST FACILITY

3.1TEST FACILITY

Test Site:	Most Technology Service Co.,ltd
Location:	No.5, Langshan 2nd Rd., North Hi-Tech Industrial park , Nanshan Shenzhen, Guangdong ,China
Description:	There is one 3m semi-anechoic an area test sites and two line conducted labs for final test. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2003 and CISPR 16 requirements. The FCC Registration Number is **490827.**
Site Filing:	The site description is on file with the Federal Communications Commission, 7435 Oakland Mills Road, Columbia, MD 21046.
Instrument Tolerance:	All measuring equipment is in accord with ANSI C63.4:2003 and CISPR 16 requirements that meet industry regulatory agency and accreditation agency requirement.
Ground Plane:	Two conductive reference ground planes were used during the Line Conducted Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For Radiated Emission Test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna.

3.2 GENERAL TEST PROCEDURES

EUT Function and Test Mode

The EUT has been tested under normal operating（TX）and standby（RX）condition.

The field strength of radiation emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis).

The following data show only with the worst case setup.

The worst case of Y axis was reported.

Based on client request, all normal using modes of the Bluetooth function were tested but only the worst test data of the worst mode is reported by this report.

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4:2003,Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. 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 13.1.4.1 of ANSI C63.4:2003.

3.3 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

4. SETUP OF EQUIPMENT UNDER TEST
4.1 SUPPORT EQUIPMENT

Device Type	Brand	Model	FCC ID	Series No.	Data Cable	Power Cord
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Remark:
All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.2 TEST EQUIPMENT LIST

Instrumentation: The following list contains equipment used at Most for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10 kHz to 1.0 GHz or above.

No.	Equipment	Manufacturer	Model No.	S/N	Calculator due date
1	Test Receiver	Rohde & Schwarz	ESCI	100492	2011/03/14
2	L.I.S.N.	Rohde & Schwarz	ENV216	100093	2011/03/14
3	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2011/03/14
4	Terminator	Hubersuhner	50Ω	No.1	2011/03/14
5	RF Cable	SchwarzBeck	N/A	No.1	2011/03/14
6	Test Receiver	Rohde & Schwarz	ESPI	101202	2011/03/14
7	Bilog Antenna	SCHWARZBECK	BBHA9120D	D69250	2011/03/14
8	Cable	Resenberger	N/A	NO.1	2011/03/14
9	Cable	SchwarzBeck	N/A	NO.2	2011/03/14
10	Cable	SchwarzBeck	N/A	NO.3	2011/03/14
11	DC Power Filter	DuoJi	DL2×30B	N/A	2011/03/14
12	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	2011/03/14
13	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	2011/03/14
14	Test Receiver	Rohde & Schwarz	ESCI	100492	2011/03/14
15	Absorbing Clamp	Luthi	MDS21	3635	2011/03/14
16	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2011/03/14
17	AC Power Source	Kikusui	AC40MA	LM003232	2011/03/14
18	Test Analyzer	Kikusui	KHA1000	LM003720	2011/03/14
19	Line Impendence Network	Kikusui	LIN40MA-PCR-L	LM002352	2011/03/14
20	ESD Tester	Kikusui	KES4021	LM003537	2011/03/14
21	EMCPRO System	EM Test	UCS-500-M4	V0648102026	2011/03/14
22	Signal Generator	IFR	2032	203002/100	2011/03/14
23	Amplifier	A&R	150W1000	301584	2011/03/14
24	CDN	FCC	FCC-801-M2-25	47	2011/03/14
25	CDN	FCC	FCC-801-M3-25	107	2011/03/14
26	EM Injection Clamp	FCC	F-203I-23mm	403	2011/03/14
27	RF Cable	MIYAZAKI	N/A	No.1/No.2	2011/03/14
28	Universal Radio Communication Tester	ROHDE&SCHWARZ	CMU200	0304789	2011/03/14
29	Telecommunication Antenna	European Antennas	PSA 75301R/170	0304213	2011/03/14
30	Telecommunication Test Equipment	R&S	CMU200	N/A	2011/03/14

NOTE: *Equipments listed above have been calibrated and are in the period of validation.*

5. 47 CFR Part 15C 15.247 Requirements

5.1 Peak Output Power

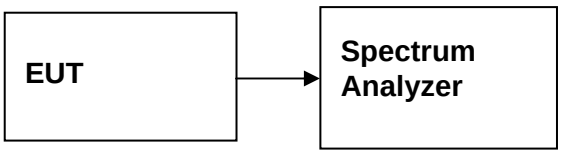
5.1.1 Requirement

According to FCC section 15.247(b)(1), for frequency hopping systems that operates in the 2400MHz to 2483.5MHz band employing at least 75 hopping channels, the maximum peak output power of the intentional radiator shall not exceed 1Watt. For all other frequency hopping systems in the 2400MHz to 2483.5MHz band, it is 0.125Watts.

5.1.2 Test Description

The EUT was connected to the Spectrum Analyzer. The radio frequency load attached to the EUT antenna terminal was 50 Ohm. The lost of the cables and the test system is calibrated to correct the reading.

5.1.3 Test Setup



5.1.4 EUT Setup and Operating Conditions

Controlled by an embedded test program provided by applicant, the EUT was set to continuous transmitting at maximum peak output power and different data rate(802.11b 11Mbps,802.11g 54Mbps),Lowest ,middle and highest channel were measured respectively.

5.1.5 Test Result

802.11b:

Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (W)	Limit (W)	Result
Low	2412	17.45	0.0556	0.125	PASS
Mid	2437	17.05	0.0507		PASS
High	2462	17.64	0.0581		PASS

802.11g:

Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (W)	Limit (W)	Result
Low	2412	13.38	0.0218	0.125	PASS
Mid	2437	13.71	0.0235		PASS
High	2462	13.63	0.0231		PASS

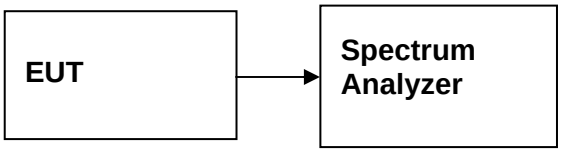
5.2 6dB Bandwidth
5.2.1 Requirement

Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands.
The minimum 6 dB bandwidth shall be at least 500 kHz.

5.2.2 Test Description

The EUT was connected to the Spectrum Analyzer. The radio frequency load attached to the EUT antenna terminal was 50 Ohm. The lost of the cables and the test system is calibrated to correct the reading.

5.2.3 Test Setup



5.2.4 Test Procedure

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW = 100 kHz, VBW = RBW, Span = 20MHz, Sweep = auto.
4. Mark the peak frequency and –6dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

5.2.5 EUT Setup and Operating Conditions

Controlled by an embedded test program provided by applicant, the EUT was set to continuous transmitting at maximum peak output power and different data rate(802.11b 11Mbps,802.11g 54Mbps),Lowest ,middle and highest channel were measured respectively.

5.2.6 Test Result

802.11b:

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
Low	2412	12650	>500	PASS
Mid	2437	12700		PASS
High	2462	12750		PASS

802.11g

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
Low	2412	16500	>500	PASS
Mid	2437	16400		PASS
High	2462	16500		PASS

5.3 Power Spectrum Density

5.3.1 limits of Power Spectrum Density

1. For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

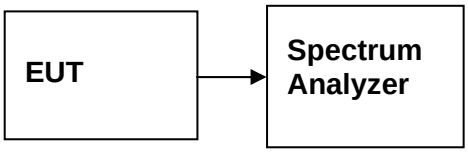
2. The direct sequence operating of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph (d) of this section.

5.3.2 Test Procedure

1. Place the EUT on the table and set it in transmitting mode.
   Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

2. Set the spectrum analyzer as RBW = 3kHz, VBW = 10kHz, Span = 300kHz, Sweep=100s
3. Record the max. Reading.
4. Repeat the above procedure until the measurements for all frequencies are completed.

5.3.3 Test Setup



5.3.4 EUT Setup and Operating Conditions

Controlled by an embedded test program provided by applicant, the EUT was set to continuous transmitting at maximum peak output power and different data rate(802.11b 11Mbps,802.11g 54Mbps),Lowest ,middle and highest channel were measured respectively.

5.3.5 Test Result

802.11b:

Channel	Frequency	Peak Power Spectrum Density (dBm)	Limit (dBm)	Result
Low	2412	-20.32	8.00	PASS
Mid	2437	-22.45		PASS
High	2472	-21.68		PASS

802.11g:

Channel	Frequency	Peak Power Spectrum Density (dBm)	Limit (dBm)	Result
Low	2412	-29.42	8.00	PASS
Mid	2437	-30.25		PASS
High	2462	-29.83		PASS

5.4 Band Edge

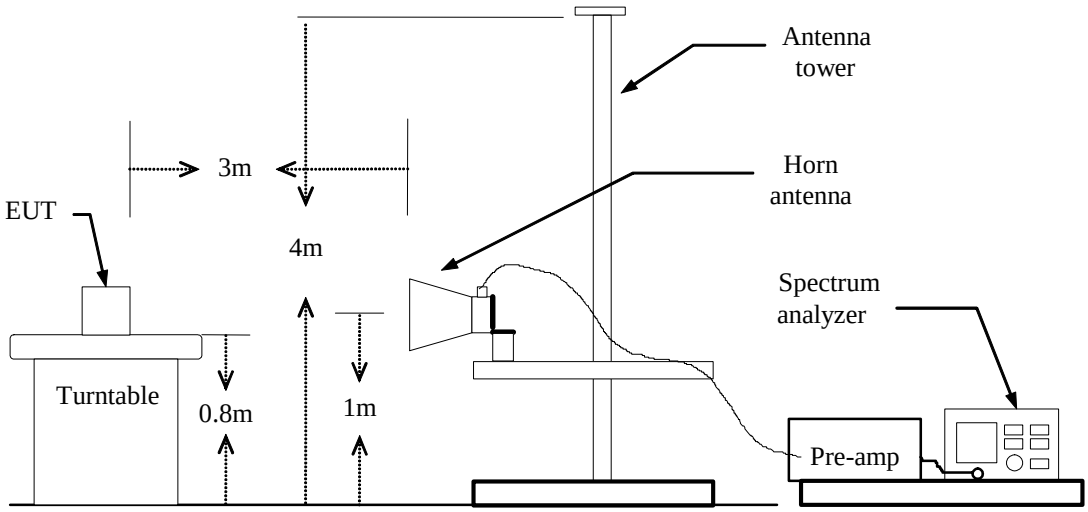
5.4.1 Requirement of the standard

According to §15.247(c), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in15.209(a).

5.4.2 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
   (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
   (b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

5.4.3 Test Setup



5.4.4 EUT Setup and Operating Conditions

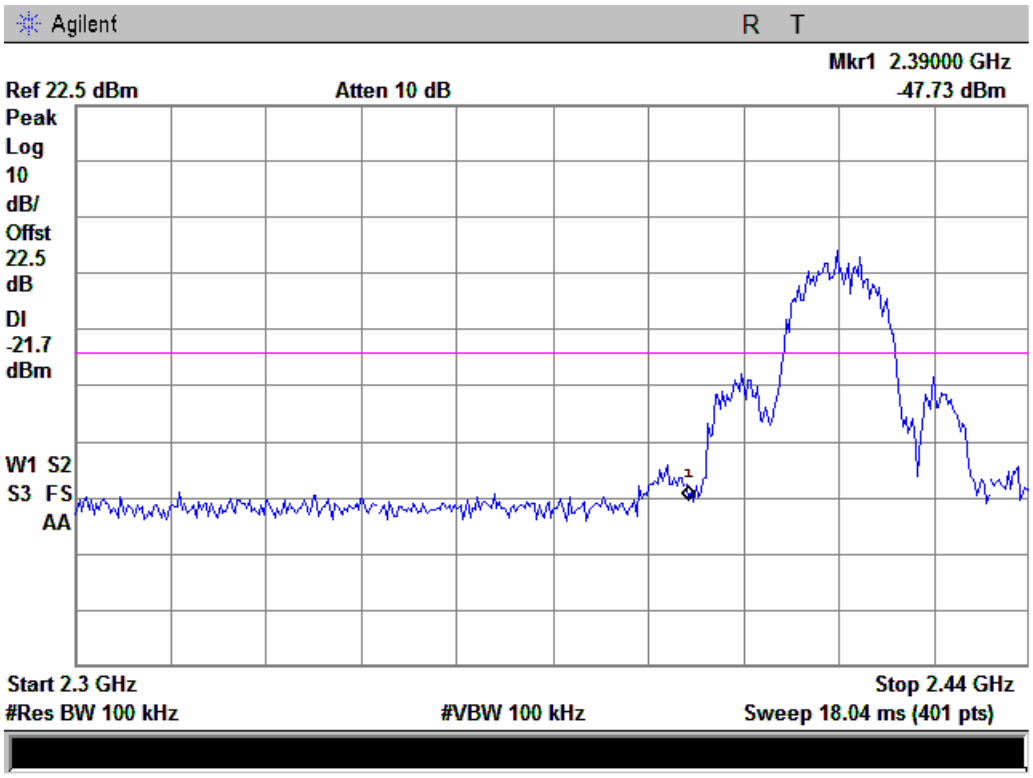
Controlled by an embedded test program provided by applicant, the EUT was set to continuous transmitting at maximum peak output power and different data rate(802.11b 11Mbps,802.11g 54Mbps),Lowest ,middle and highest channel were measured respectively.

5.4.5 Test Result

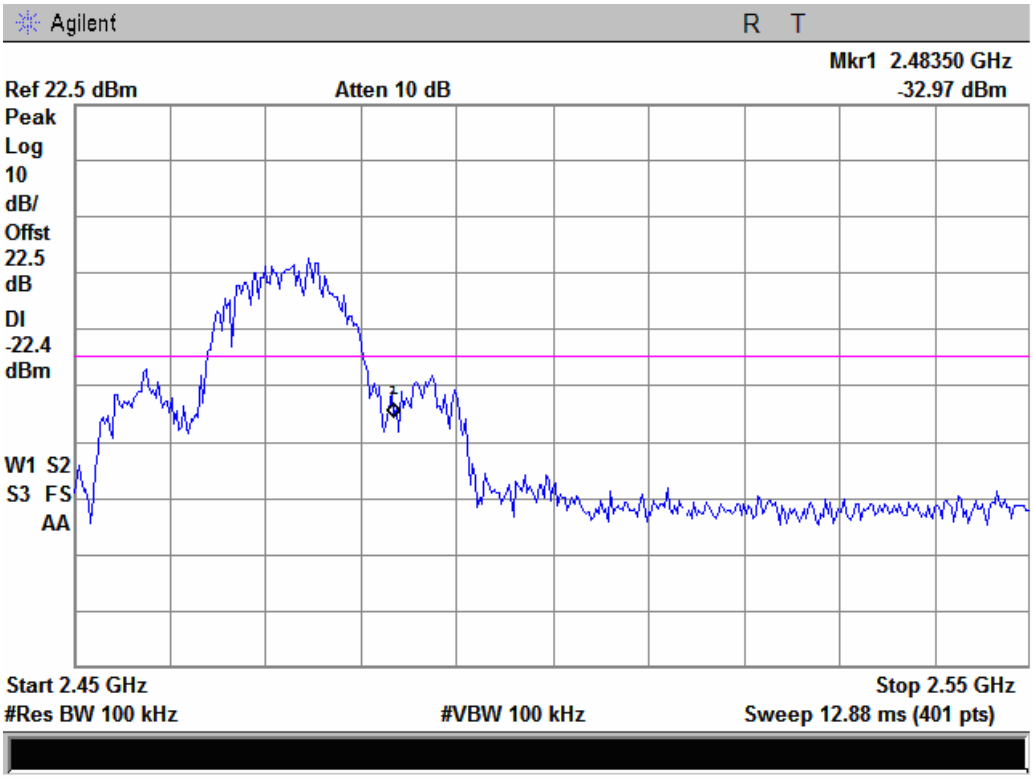
The radio frequency power beyond the band edge was 20dB below the peak output power, measured with 100 KHz resolution bandwidth.

Refer to attach spectrum analyzer data chart.

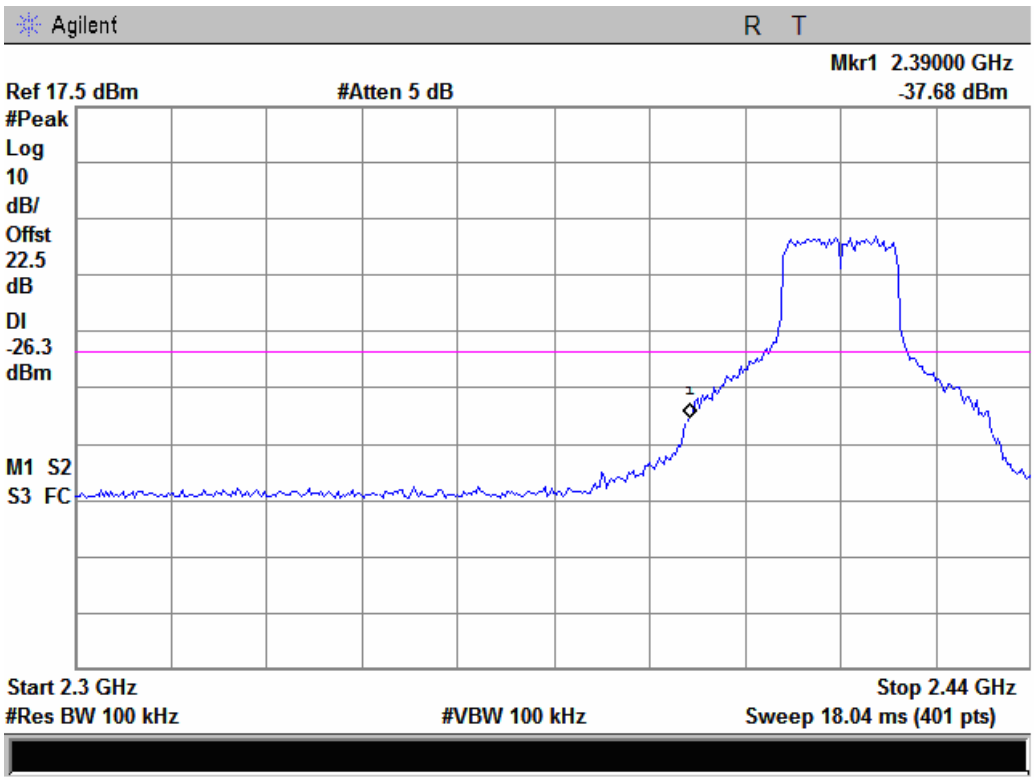
802.11b, low channel:



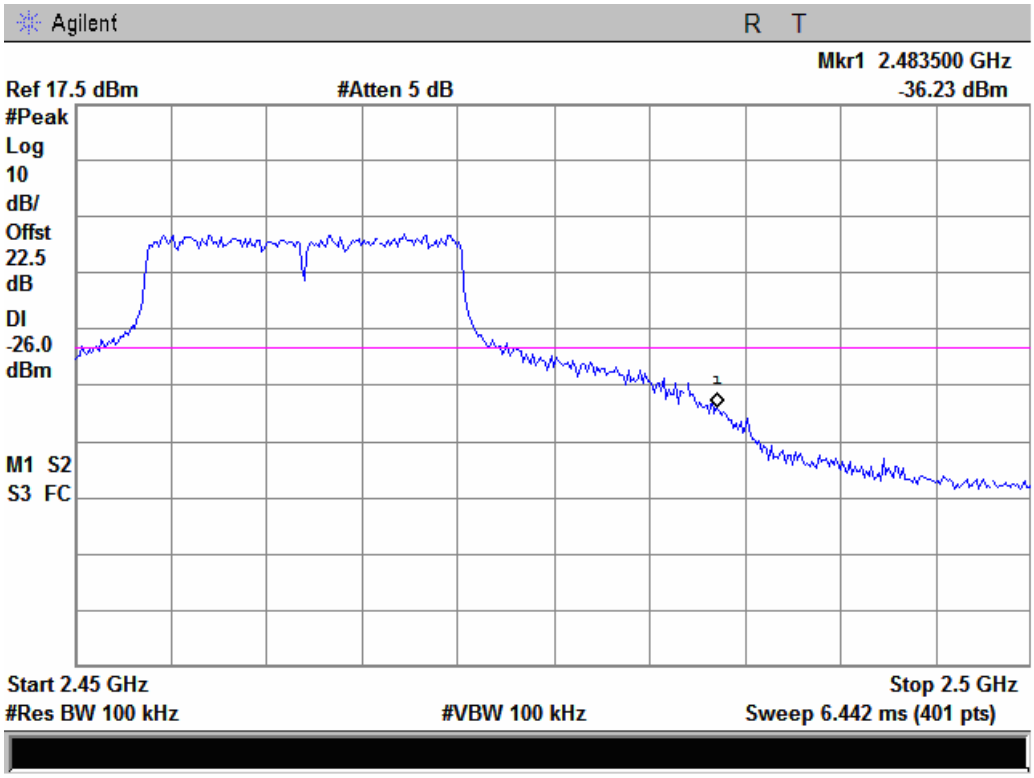
802.11b, high channel:



802.11g, low channel:



802.11g, high channel:



5.5 Conducted Spurious Emission

5.5.1 Requirement of the standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

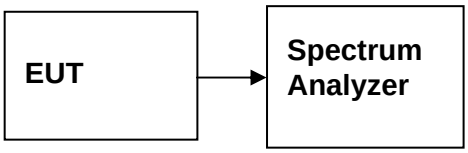
5.5.2 Test Procedure

1. Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

2. The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 100 KHz. The video bandwidth is set to 100 KHz.

3. Measurements are made over the 30MHz to 26.5GHz range with the transmitter set to the lowest, middle, and highest channels.

5.5.3 Test Setup



5.5.4 EUT Setup and Operating Conditions

Controlled by an embedded test program provided by applicant, the EUT was set to continuous transmitting at maximum peak output power and different data rate(802.11b 11Mbps,802.11g 54Mbps),Lowest ,middle and highest channel were measured respectively.

5.5.5 Test Result

Channel	Frequency (MHz)	Fundamental Level (dBm)	Emission Level Limit (dBm)
802.11b Low	2412	17.45	-2.55
802.11b Mid	2437	17.05	-2.95
802.11b High	2462	17.64	-2.36
802.11g Low	2412	13.38	-6.62
802.11g Mid	2437	13.71	-6.29
802.11g High	2462	13.63	-6.37

NO.	Frequency	Measurement Bandwidth	Emission Level (dBm)	Limit	Margin
	MHz	KHz		dBm	dB
TX:802.11 b Low Channel					
1	〈1000	100	\	-2.55	>20
2	4824	100	-34.26	-2.55	>20
3	7236	100	\	-2.55	>20
4	9648	100	\	-2.55	>20
5	12060	100	\	-2.55	>20
6	other	100	\	-2.55	>20
TX: 802.11 b Middle Channel					
1	〈1000	100	\	-2.95	>20
2	4874	100	-33.65	-2.95	>20
3	7311	100	\	-2.95	>20
4	9748	100	\	-2.95	>20
5	12185	100	\	-2.95	>20
6	other	100	\	-2.95	>20
TX: 802.11 b High Channel					
1	〈1000	100	\	-2.36	>20
2	4924	100	-35.11	-2.36	>20
3	7386	100	\	-2.36	>20
4	9848	100	\	-2.36	>20
5	12310	100	\	-2.36	>20
6	other	100	\	-2.36	>20
Measurement uncertainty:±3.2dB					

NO.	Frequency	Measurement Bandwidth	Emission Level (dBm)	Limit	Margin
	MHz	KHz		dBm	dB
TX:802.11 g Low Channel					
1	〈1000	100	\	-6.62	>20
2	4824	100	-40.12	-6.62	>20
3	7236	100	\	-6.62	>20
4	9648	100	\	-6.62	>20
5	12060	100	\	-6.62	>20
6	other	100	\	-6.62	>20
TX: 802.11 g Middle Channel					
1	〈1000	100	\	-6.29	>20
2	4874	100	-41.58	-6.29	>20
3	7311	100	\	-6.29	>20
4	9748	100	\	-6.29	>20
5	12185	100	\	-6.29	>20
6	other	100	\	-6.29	>20
TX: 802.11 g High Channel					

1	〈1000	100	\	-6.37	>20
2	4924	100	-42.42	-6.37	>20
3	7386	100	\	-6.37	>20
4	9848	100	\	-6.37	>20
5	12310	100	\	-6.37	>20
6	other	100	\	-6.37	>20
Measurement uncertainty:±3.2dB					

5.6 Radiated Emission Test
5.6.1 Requirement

According to FCC section 15.247(c), radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Remark: *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.*

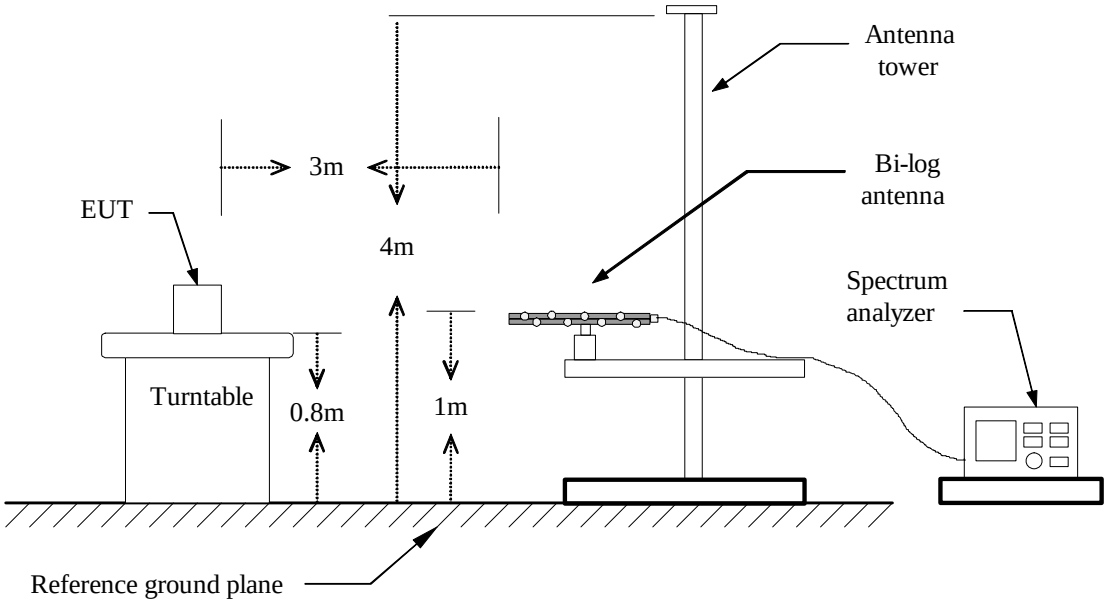
In the above emission table, the tighter limit applies at the band edges.

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

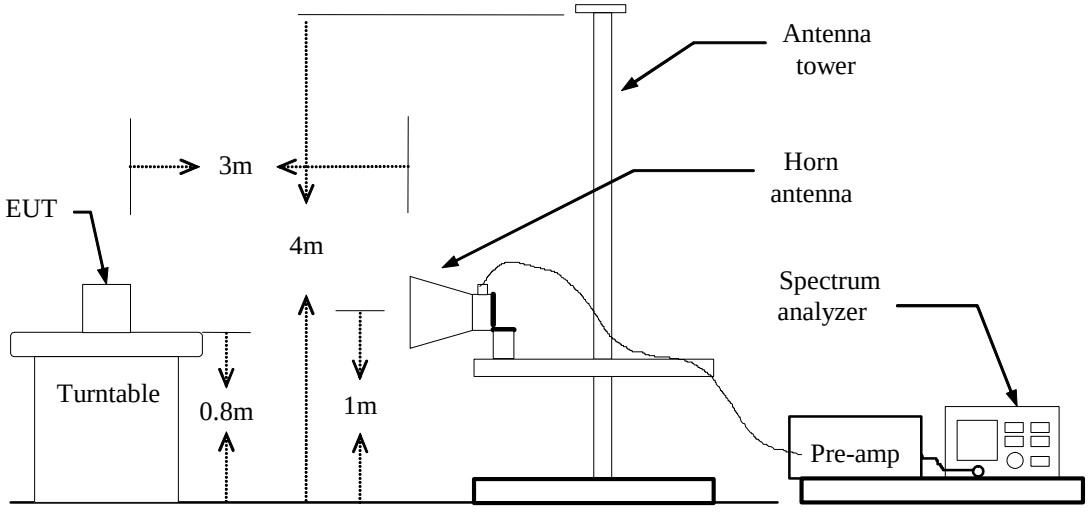
5.6.2 Test Description

Test Setup:

Blow 1GHz:



Above 1GHz:



5.6.3 Test Description

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:

   Below 1GHz: RBW=100 kHz / VBW=300 kHz / Sweep=AUTO

   Above 1GHz :(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
   (b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
7. Repeat above procedures until the measurements for all frequencies are complete.

5.6.4 Test Result

Below 1 GHz

Test Mode:	Operating Mode	**Test Date:**	2010-04-29
Temperature:	20°C	**Tested by:**	Petter Ping
Humidity:	70 % RH	**Polarity:**	Ver. / Hor.

802.11b CH Low

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
350.11	V	Peak	16.52	19.24	35.76	46.00	-10.24
800.26	V	Peak	14.09	27.56	41.65	46.00	-4.35
--							> 20
350.11	H	Peak	13.89	19.24	33.13	46.00	-12.87
800.26	H	Peak	12.23	27.56	39.79	46.00	-6.21
--							> 20

802.11g CH Low

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
210.35	V	Peak	15.23	17.16	32.39	43.50	-11.11
500.60	V	Peak	14.69	21.38	36.07	46.00	-8.16
--							> 20
210.35	H	Peak	12.62	17.16	29.78	43.50	-13.72
500.60	H	Peak	13.11	21.38	34.49	46.00	-11.51
--							> 20

Notes:

1. Measuring frequencies from 30 MHz to the 1GHz.

2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.

3. Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4. The IF bandwidth of SPA between 30MHz to 1GHz was 100 kHz.

Test Mode:	Operating Mode	**Test Date:**	2010-04-29
Temperature:	20°C	**Tested by:**	Petter Ping
Humidity:	70 % RH	**Polarity:**	Ver. / Hor.

802.11b CH Middle

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
500.21	V	Peak	15.43	21.37	36.80	46.00	-9.20
--							> 20
500.21	H	Peak	14.22	21.37	35.59	46.00	-10.41
--							> 20

802.11g CH Middle

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
500.09	V	Peak	15.68	21.36	37.04	46.00	-8.96
--							> 20
500.09	H	Peak	14.19	21.36	35.55	46.00	-10.45
--							> 20

Notes:

1. Measuring frequencies from 30 MHz to the 1GHz.

2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.

3. Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4. The IF bandwidth of SPA between 30MHz to 1GHz was 100 kHz.

Test Mode:	Operating Mode	**Test Date:**	2010-04-29
Temperature:	20°C	**Tested by:**	Petter Ping
Humidity:	70 % RH	**Polarity:**	Ver. / Hor.

802.11b CH High

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
780.15	V	Peak	13.21	26.14	39.35	46.00	-6.65
--							> 20
780.15	H	Peak	12.19	26.14	38.33	46.00	-7.67
--							> 20

802.11g CH High

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
800.06	V	Peak	12.45	27.52	39.97	46.00	-6.03
--							> 20
800.06	H	Peak	10.52	27.52	38.04	46.00	-7.96
--							> 20

Notes:

1. Measuring frequencies from 30 MHz to the 1GHz.

2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.

3. Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4. The IF bandwidth of SPA between 30MHz to 1GHz was 100 kHz.

Above 1 GHz

Operation Mode:	CH Low	**Test Date:**	2010-04-29
Temperature:	20°C	**Tested by:**	Petter Ping
Humidity:	70 % RH	**Polarity:**	Ver. / Hor.

802.11b CH Low

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
2412.01	V	79.35	--	6.19	85.54	--	94.00	--	-8.46	Peak
4824.02	V	31.16	--	8.24	39.40	--	74.00	54.00	-14.60	Peak
N/A									>20	
2412.01	H	72.62	--	6.19	78.81	--	94.00	--	-15.19	Peak
4824.02	H	29.68	--	8.24	37.92	--	74.00	54.00	-16.08	Peak
N/A									>20	

802.11g CH Low

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
2412.01	V	74.66	--	6.19	80.85	--	94.00	--	-13.15	Peak
4824.02	V	28.90	--	8.24	37.14	--	74.00	54.00	-16.86	Peak
N/A									>20	
2412.01	H	69.24	--	6.19	75.43	--	94.00	--	-18.57	Peak
4824.02	H	26.43	--	8.24	34.67	--	74.00	54.00	-19.33	Peak
N/A									>20	

Notes:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
3. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.*
4. *Spectrum setting:*
   a. *Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.*
   b. *AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.*

Operation Mode:	CH Mid	**Test Date:**	2010-04-29
Temperature:	20°C	**Tested by:**	Petter Ping
Humidity:	70 % RH	**Polarity:**	Ver. / Hor.

802.11b CH Middle

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
2437.01	V	75.52	---	6.82	82.34	---	94.00	---	-11.66	Peak
4874.02	V	31.45	---	8.31	39.76	---	74.00	54.00	-14.24	Peak
N/A									>20	
2437.01	H	69.08	---	6.82	75.90	---	94.00	---	-18.10	Peak
4874.02	H	28.24	---	8.31	36.55	---	74.00	54.00	-17.45	Peak
N/A									>20	

802.11g CH Middle

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
2437.01	V	70.16	---	6.82	76.98	---	94.00	---	-17.02	Peak
4874.02	V	28.43	---	8.31	36.74	---	74.00	54.00	-17.26	Peak
N/A									>20	
2437.01	H	67.21	---	6.82	74.03	---	94.00	---	-19.97	Peak
4874.02	H	26.56	---	8.31	34.87	---	74.00	54.00	-19.13	Peak
N/A									>20	

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
   a. Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.
   b. AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.

Operation Mode: CH High **Test Date:** 2010-04-29

Temperature: 20°C **Tested by:** Petter Ping

Humidity: 70 % RH **Polarity:** Ver. / Hor.

802.11b CH High

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
2462.02	V	76.12	---	6.95	83.07	---	94.00	---	-10.93	Peak
4924.04	V	31.59	---	8.39	39.98	---	74.00	54.00	-14.02	Peak
N/A										
2462.02	H	72.24	---	6.95	79.19	---	94.00	---	-14.81	Peak
4924.04	H	30.18	---	8.39	38.57	---	74.00	54.00	-15.43	Peak
N/A									>20	

802.11g CH High

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
2462.02	V	71.45	---	6.95	78.40	---	94.00	---	-15.60	Peak
4924.04	V	29.63	---	8.39	38.02	---	74.00	54.00	-15.98	Peak
N/A									>20	
2462.02	H	68.85	---	6.95	75.80	---	94.00	---	-18.20	Peak
4924.04	H	26.21	---	8.39	34.60	---	74.00	54.00	-19.40	Peak
N/A									>20	

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
   a. Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.
   b. AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.

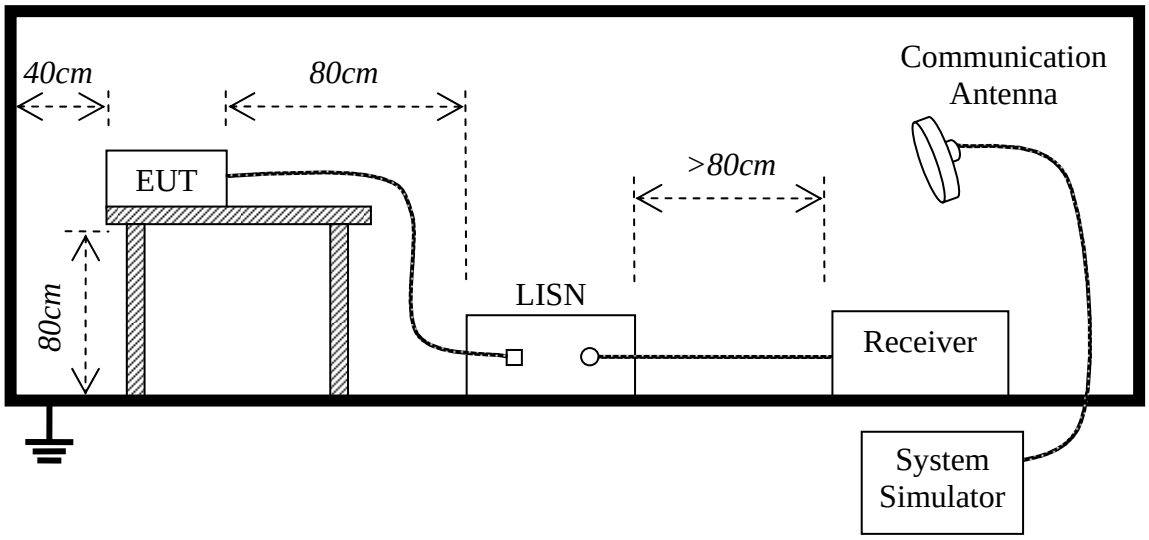
5.7 Power Line Conducted Emission Test

5.7.1 Limits of Line Conducted Emission Test

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz-500kHz	66-56	56-46
500kHz-5MHz	56	46
5MHz-30MHz	60	50

***Note:** 1. the lower limit shall apply at the transition frequency.*
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

5.7.2 Block Diagram of Test Setup



5.7.3 Preliminary Procedure of Line Conducted Emission Test

1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per FCC Part 15 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2) Support equipment, if needed, was placed as per FCC Part 15.
3) All I/O cables were positioned to simulate typical actual usage as per FCC Part 15.
4) The EUT received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5) All support equipments received power from a second LISN supplying power of AC 120V/60Hz, if any.
6) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7) Analyzer / Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.
8) During the above scans, the emissions were maximized by cable manipulation.
9) The following test mode(s) were scanned during the preliminary test:

Preliminary Conducted Emission Test				
Frequency Range Investigated		**150KHz TO 30 MHz**		
Mode of operation	**Date**	**Report No.**	**Data#**	**Worst Mode**
WiFi Mode	2010-04-29	STS100410F5	X10G_1_(L, N)	☒

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

5.7.4 Final Procedure of Line Conducted Emission Test

EUT and support equipment was set up on the test bench as per step 9 of the preliminary test.

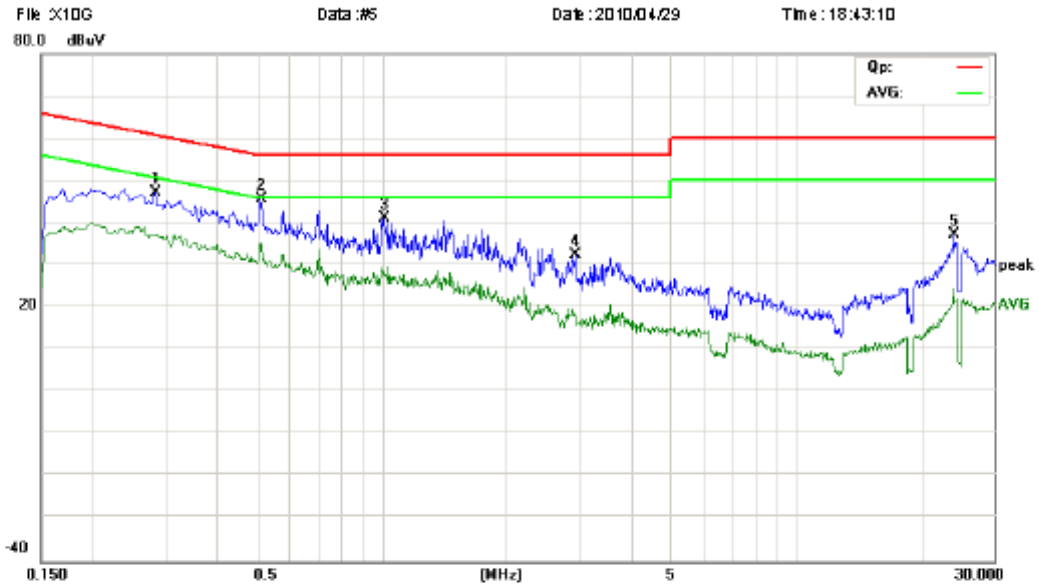
A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

The test data of the worst case condition(s) was reported on the Summary Data page.

5.7.5 Test Result of Line Conducted Emission Test

Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site: site #1
Limit: FCC Part15 B Class B QP
EUT: WIFI phone
M/N: X10G
Mode: WIFI Mode
Note:

Phase: L1
Power: AC 120V/60Hz

Temperature: 26
Humidity: 60 %

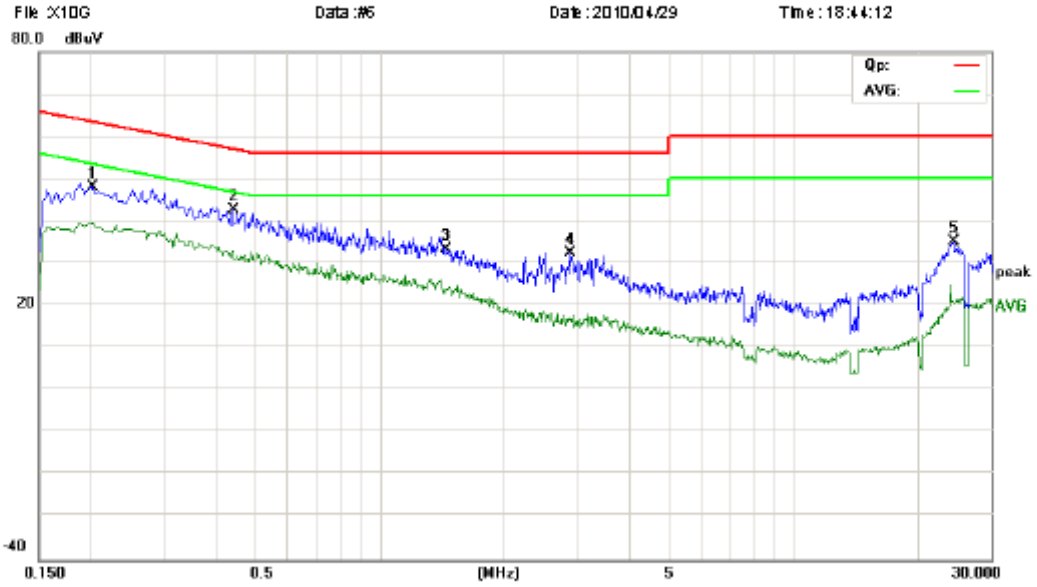
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2820	35.57	11.45	47.02	60.76	-13.74	peak	
2	*	0.5100	35.53	10.00	45.53	56.00	-10.47	peak	
3		1.0060	31.20	9.99	41.19	56.00	-14.81	peak	
4		2.9180	22.45	9.92	32.37	56.00	-23.63	peak	
5		24.0020	28.31	9.00	37.31	60.00	-22.69	peak	

*:Maximum data x:Over limit !:over margin

Engineer Signature:

Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site: site #1
Limit: FCC Part15 B Class B QP
EUT: WIFI phone
M/N: X10G
Mode: WIFI Mode
Note:

Phase: N
Power: AC 120V/60Hz

Temperature: 26
Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2020	36.00	11.99	47.99	63.53	-15.54	peak	
2	*	0.4420	32.41	10.39	42.80	57.02	-14.22	peak	
3		1.4340	23.77	9.57	33.34	56.00	-22.66	peak	
4		2.8780	22.60	9.88	32.48	56.00	-23.52	peak	
5		24.3580	26.19	9.00	35.19	60.00	-24.81	peak	

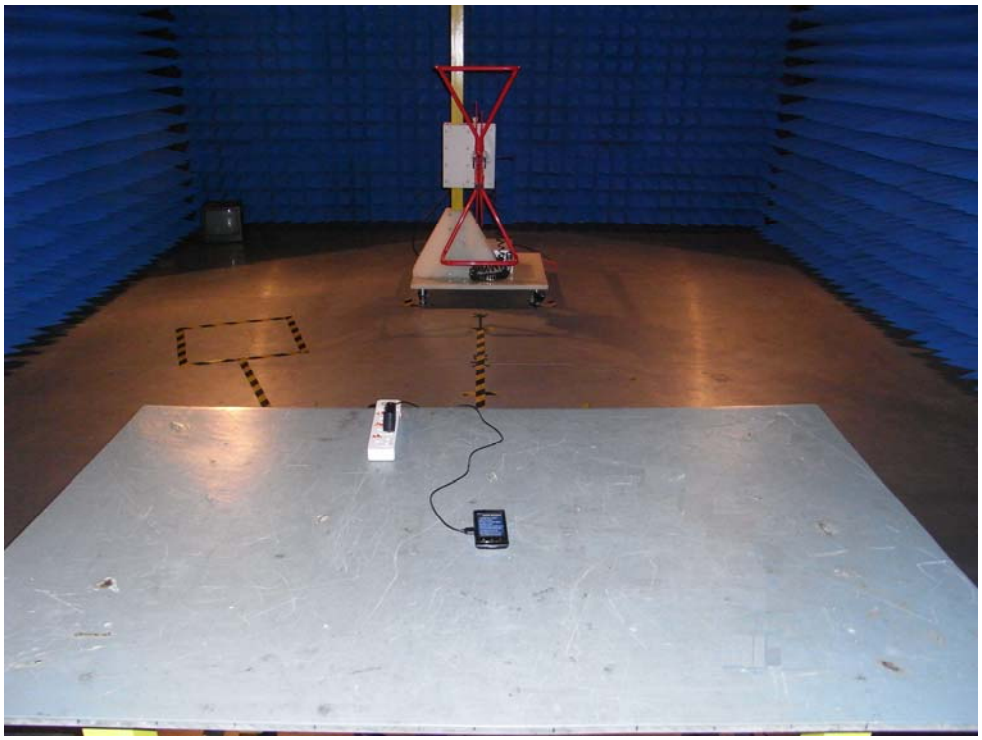
*:Maximum data x:Over limit !:over margin

Engineer Signature:

APPENDIX 1
PHOTOGRAPHS OF TEST SETUP

CONDUCTED EMISSION TEST SETUP

RADIATED EMISSION TEST SETUP



APPENDIX 2
PHOTOGRAPHS OF EUT

FRONT VIEW OF SAMPLE

BACK VIEW OF SAMPLE

LEFT VIEW OF SAMPLE

RIGHT VIEW OF SAMPLE

TOP VIEW OF SAMPLE

BOTTOM VIEW OF SAMPLE

PHOTO OF POWER SUPPLY

PHOTO OF HEADPHONE

PHOTO OF USB LINE

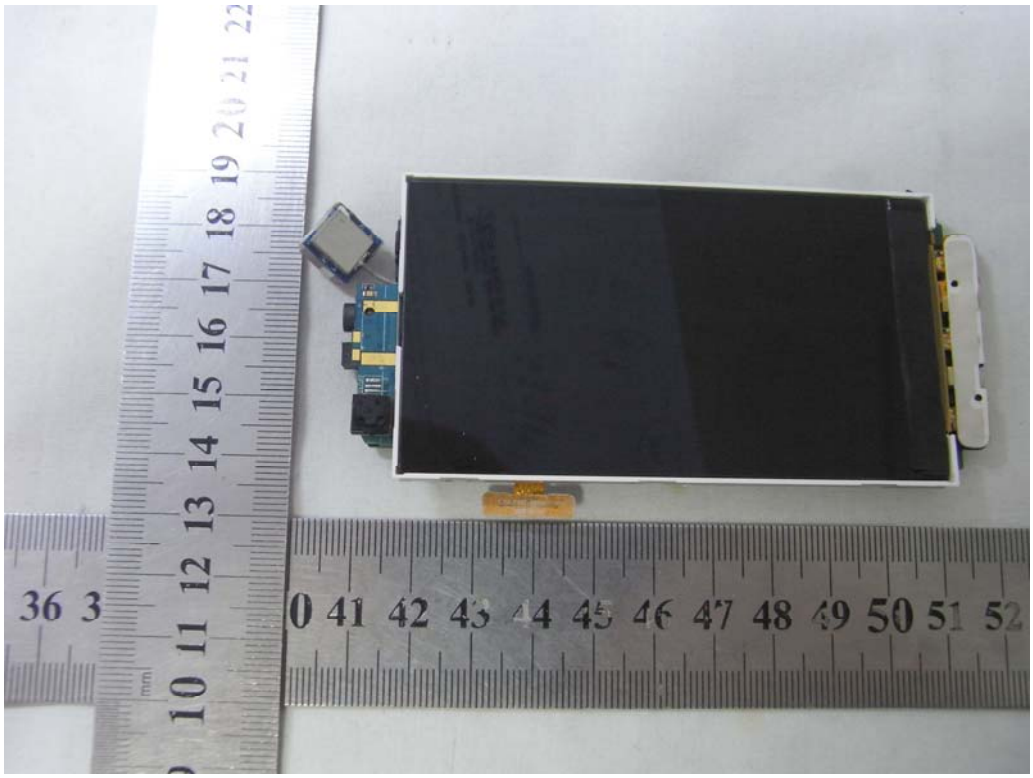
PHOTO OF BATTERY

PHOTO OF THE ENTIRE SAMPLE

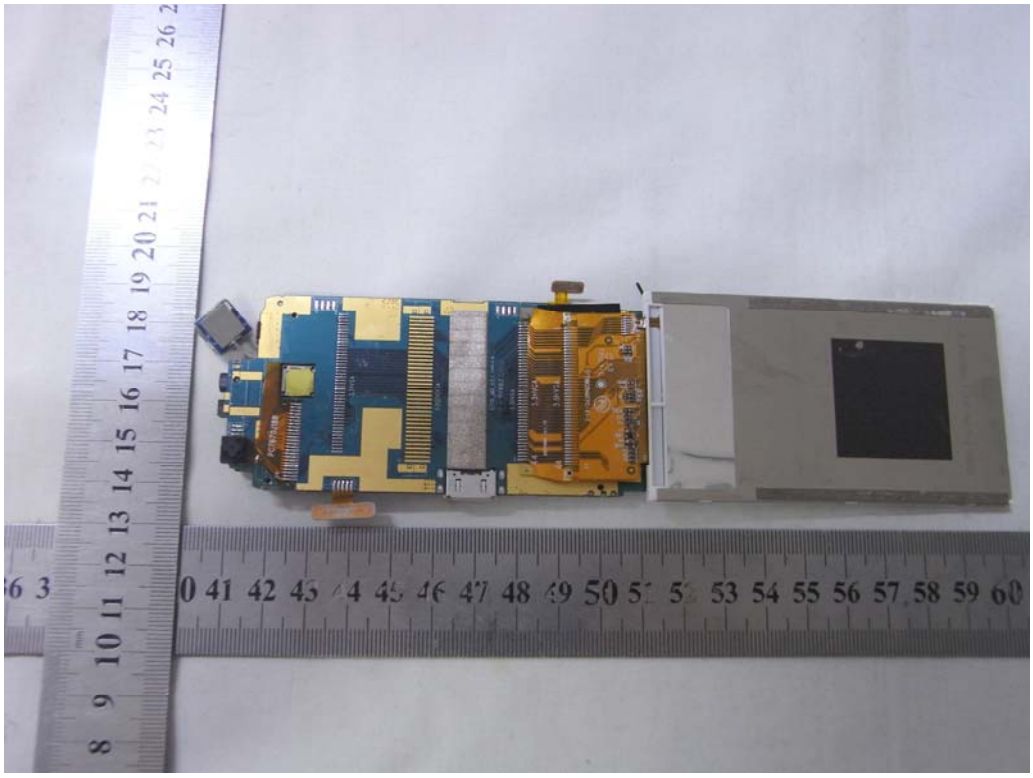
PHOTO OF THE SERIES-1

INTERNAL PHOTO OF SAMPLE – 1

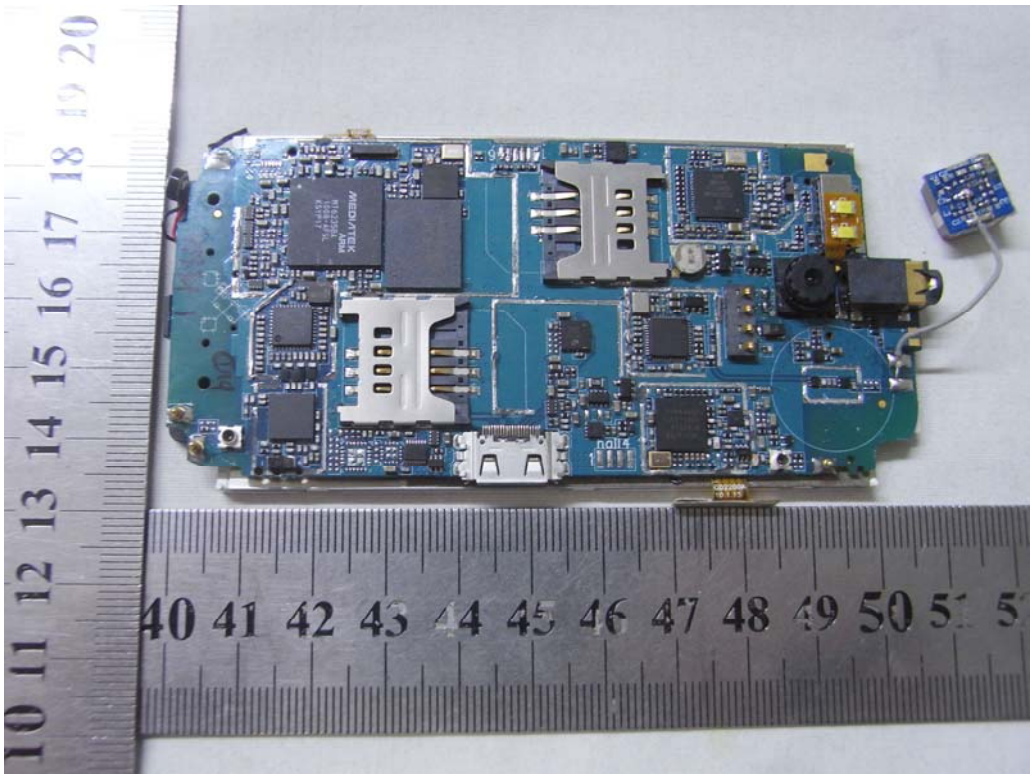
INTERNAL PHOTO OF SAMPLE – 2



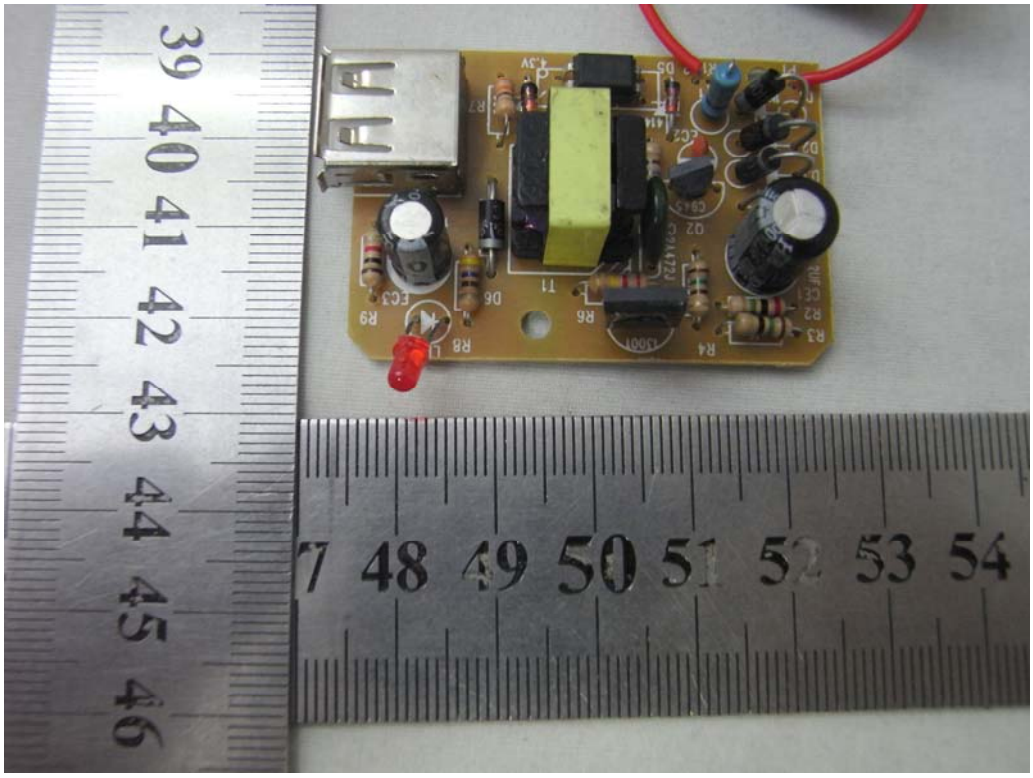
INTERNAL PHOTO OF SAMPLE –3



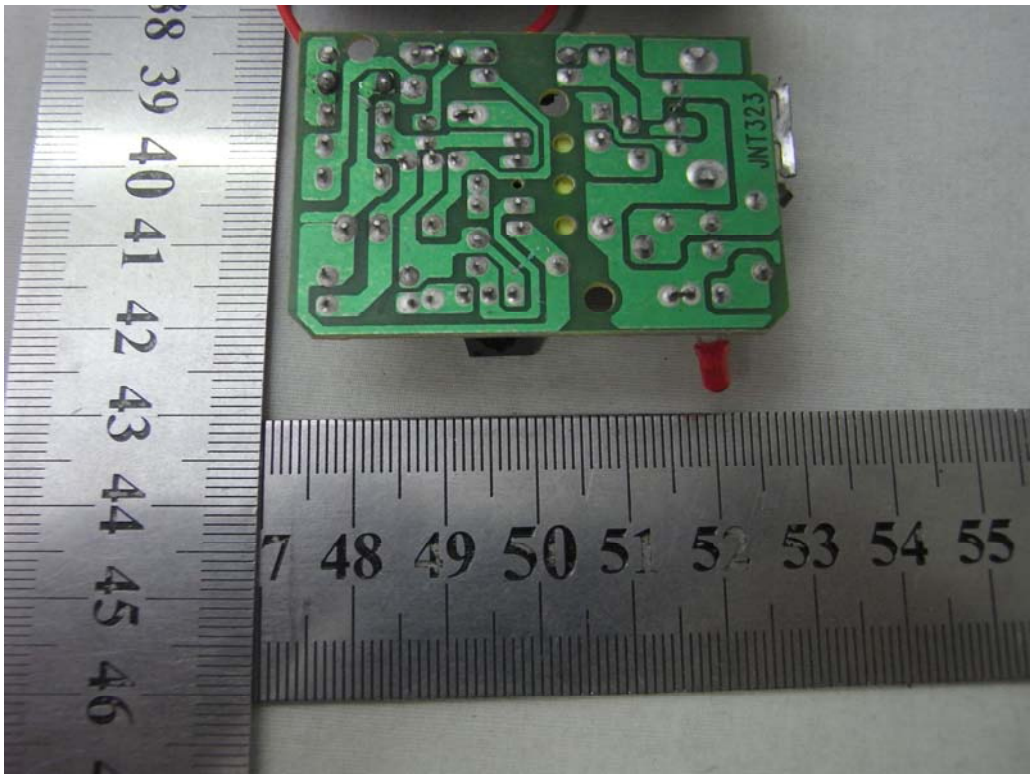
INTERNAL PHOTO OF SAMPLE –4



INTERNAL PHOTO OF POWER SUPPLY-1



INTERNAL PHOTO OF POWER SUPPLY-2



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