

# FCC 47 CFR PART 15 SUBPART C TEST REPORT

For

**Applicant: Shaoxing LongXin Electronics Co., Ltd.** 

Address: Xujiadai Village, Sundun Town, Shaoxing County, Zhejiang, China

**Product Name: TABLET PC** 

SX-SP430A, PC Tab401, PC Tab402, PC Tab403, PC Tab404,

Model Name: PC Tab405, Tab401, Tab402, Tab403, Tab404, Tab405

Brand Name: N/A

FCC ID: ZGU-SX-SP430A

**Report No. : MOST110715F2** 

Date of Issue: August 11, 2011

Issued by: Most Technology Service Co., Ltd.

No.5, 2nd Langshan Road, North District, Hi-tech Industrial Address:

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# **TABLE OF CONTENTS**

Report No.: MOST110715F2

1. VEF	RIFICATION OF CONFORMITY	4
2.1 P 2.2 C 2.3 T	NERAL INFORMATION  Product Information  Objective  Test Standards and Results  Environmental Conditions	5 6
3. TES	ST FACILITY	7
3. 1 TE	EST FACILITY	7
	ENERAL TEST PROCEDURES	
3.3 FC	CC PART 15.205 RESTRICTED BANDS OF OPERATIONS	8
4. TES	ST EQUIPMENT LIST	9
	CFR Part 15 C 15.247 Requirements	10
5.1.2	Test Description	10
5.1.3	Test Result	10
5.2	Peak Output Power	17
5.2.1	Definition	17
5.2.2	Test Description	17
5.2.3	Test Result	17
5.3	Conducted Spurious Emission	23
5.3.1	Definition	23
5.3.2	Test Description	23
5.3.3	Test Result	23
5.4 B	Band Edge	27
5.4.1	Definition	27
5.4.2	Test Description	27
5.4.3	Test Result	28
5.5.1	Definition	35
5.5.2	Test Description	35
5.5.3	Test Result	35
5.6 C	Conducted Emission	36
5.6.1	Definition	
5.6.2	Test Description	
5.6.3	Test Result	37
5.7	Radiated Emission	39
5.7	Radiated Emission	39
5.7.1	Definition	39

# FCC ID: ZGU-SX-SP430A

5.7.2	Test Description	40
	Test Result	
	IDIX 1	
	OGRAPHS OF TEST SETUP	
	IDIX 2	
	OGRAPHS OF FUT	51

Report No.: MOST110715F2

#### 1. VERIFICATION OF CONFORMITY

Equipment Under Test: TABLET PC

Brand Name: N/A

Model Number: SX-SP430A,

Series Number: PC Tab401, PC Tab402, PC Tab403, PC Tab404, PC Tab405, Tab401,

Tab402, Tab403, Tab404, Tab405

Model Difference description: The series dfferent models are only for the purpose to different importer.

FCC ID: ZGU-SX-SP430A

Applicant: Shaoxing LongXin Electronics Co., Ltd.

Xujiadai Village, Sundun Town, Shaoxing County, Zhejiang, China

Manufacturer: Shaoxing LongXin Electronics Co., Ltd.

Xujiadai Village, Sundun Town, Shaoxing County, Zhejiang, China

Technical Standards: 47 CFR Part 15 Subpart C

File Number: MOST110715F2

Date of test: August 2,2011 - August 9, 2011

**Deviation:** None

Condition of Test Sample: Normal

Test Result: PASS

The above equipment was tested by *Most Technology Service Co., Ltd.* 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 August 11, 2011

Review by (+ signature):

July Wen August 11, 2011

Approved by (+ signature):

Terry Yang August 11, 2011

# 2. GENERAL INFORMATION

# 2.1 Product Information

Description:	TABLET PC
Brand Name:	N/A
Model Name:	SX-SP430A,
Series Number:	PC Tab401, PC Tab402, PC Tab403, PC Tab404, PC Tab405, Tab401, Tab402, Tab403, Tab404, Tab405
Model Difference description:	The series different models are only for the purpose to different importer.
	DC: 3.7V by Li-ion Battery;
Power Supply:	DC: 5V by AC Adapter(100V-240V 50/60Hz);
Frequency Range:	2412MHz - 2462MHz
	IEEE 802.11b/g mode: 11 Channels
Number of Channels:	IEEE 802.11n Standard-20 MHz Channel mode: 11 Channels
	IEEE 802.11b mode: DSSS (1, 2, 5.5 and 11 Mpbs)
Modulation Technique:	IEEE 802.11g mode: OFDM (6, 9, 12, 18, 24, 36, 48 and 54 Mpbs)
Modulation recinique.	IEEE 802.11n Standard-20 MHz Channel mode: OFDM (6.5, 13, 19.5, 26, 39, 52, 58.5, 65.0Mbps)
Antenna Type:	Internal
Antenna Gain:	2.0dBi
Temperature Range:	-20°C ~ +50°C

## NOTE:

1. 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(a)(2)	6dB Bandwidth	PASS	2011-08-04
2	15.247(b)(3)	Peak Output Power	PASS	2011-08-04
3	15.247(d)	conducted spurious emission	PASS	2011-08-04
4	15.247(d)	Band Edge	PASS	2011-08-04
5	15.247(e)	Power Spectral Density	PASS	2011-08-04
6	15.207	Conducted Emission	PASS	2011-08-04
7	15.247(d) 15.205 15.209	Radiated Emission	PASS	2011-08-04

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: 15-35°C

- Humidity: 30-60 %

- Atmospheric pressure: 86-106 kPa

## 3. TEST FACILITY

#### 3. 1 TEST 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 C63.4:2009 and CISPR

16 requirements. The FCC Registration Number is 490827.

The CNAS Registration Number is CNAS L3573.

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 C63.4:2009 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. It has no holes or gaps having longitudinal dimensions larger than one-tenth of a wavelength at the highest frequency of

measurement up to 1GHz.

#### 3.2 GENERAL TEST PROCEDURES

#### **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 C63.4:2009, 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 C63.4:2009.

## 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
<sup>1</sup> 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	( <sup>2</sup> )
13.36 13.41			

<sup>&</sup>lt;sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>&</sup>lt;sup>2</sup> Above 38.6

<sup>(</sup>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 quasipeak 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. 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	2012/03/14
2	Spectrum Analyzer	Agilent	E7405A	US44210471	2012/03/14
3	L.I.S.N.	Rohde & Schwarz	ENV216	100093	2012/03/14
4	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2012/03/14
5	Terminator	Hubersuhner	50Ω	No.1	2012/03/14
6	RF Cable	SchwarzBeck	N/A	No.1	2012/03/14
7	Test Receiver	Rohde & Schwarz	ESPI	101202	2012/03/14
8	Bilog Antenna	Sunol	JB3	A121206	2012/03/14
9	Horn Antenna	TRC	N/A	N/A	2012/03/14
10	Cable	Resenberger	N/A	NO.1	2012/03/14
11	Cable	SchwarzBeck	N/A	NO.2	2012/03/14
12	Cable	SchwarzBeck	N/A	NO.3	2012/03/14
13	DC Power Filter	DuoJi	DL2×30B	N/A	2012/03/14
14	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	2012/03/14
15	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	2012/03/14
16	Test Receiver	Rohde & Schwarz	ESCI	100492	2012/03/14
17	Absorbing Clamp	Luthi	MDS21	3635	2012/03/14
18	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2012/03/14
19	AC Power Source	Kikusui	AC40MA	LM003232	2012/03/14
20	Test Analyzer	Kikusui	KHA1000	LM003720	2012/03/14
21	Line Impendence Network	Kikusui	LIN40MA- PCR-L	LM002352	2012/03/14
22	ESD Tester	Kikusui	KES4021	LM003537	2012/03/14
23	EMCPRO System	EM Test	UCS-500-M4	V0648102026	2012/03/14
24	Signal Generator	IFR	2032	203002/100	2012/03/14
25	Amplifier	A&R	150W1000	301584	2012/03/14
26	CDN	FCC	FCC-801-M2-25	47	2012/03/14
27	CDN	FCC	FCC-801-M3-25	107	2012/03/14
28	EM Injection Clamp	FCC	F-203I-23mm	403	2012/03/14
29	RF Cable	MIYAZAKI	N/A	No.1/No.2	2012/03/14
30	Universal Radio Communication Tester	ROHDE&SCHWARZ	CMU200	0304789	2012/03/14
31	Telecommunication Antenna	European Antennas	PSA 75301R/170	0304213	2012/03/14

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

# 5. 47 CFR Part 15 C 15.247 Requirements

#### 5.1 6dB Bandwidth

#### 5.1.1 Definition

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.

# 5.1.2 Test Description

The EUT is powered by the Battery, is coupled to the Spectrum Analyzer (SA) through the Attenuator/DC Block. The path loss as the factor is calibrated to correct the reading. During the measurement, the EUT is activated and is set to operate at maximum power. The RF load attached to the EUT antenna terminal is 500hm.

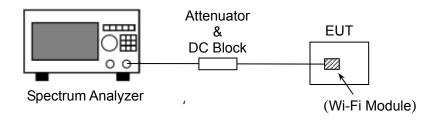


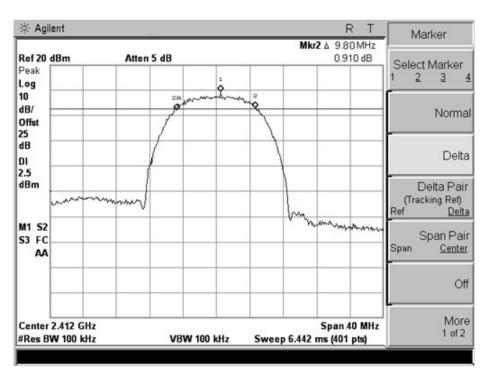
Figure 1: RF Test Setup

## 5.1.3 Test Result

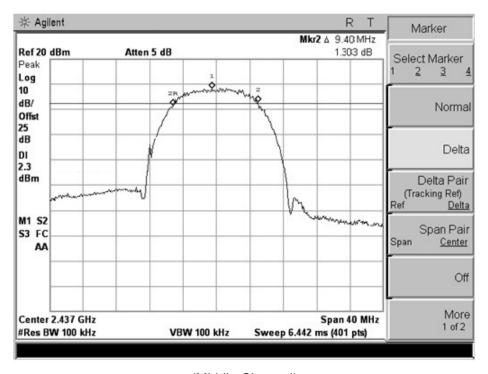
The lowest, middle and highest channels are selected to perform testing to record the 6 dB bandwidth of the Module.

## 802.11b Test Mode, DSSS data rate: 11Mpbs:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits (kHz)	Result
Low	2412	9.8		PASS
Middle	2437	9.4	≥500	PASS
High	2462	9.7		PASS

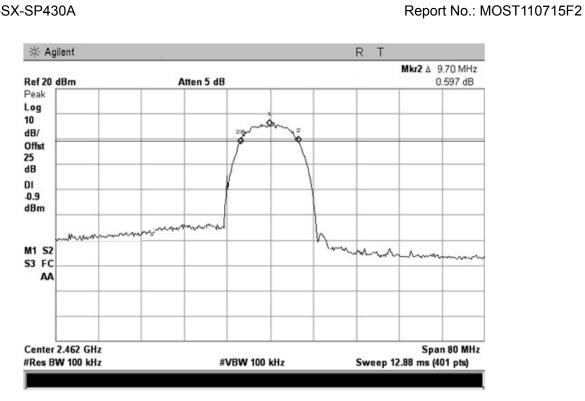


(Low Channel)



(Middle Channel)

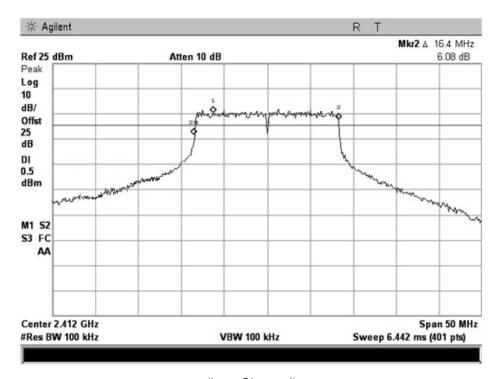
Report No.: MOST110715F2



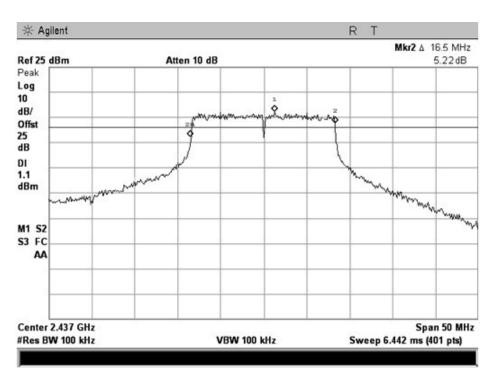
(High Channel)

# 802.11g Test Mode,OFDM data rate:54Mpbs:

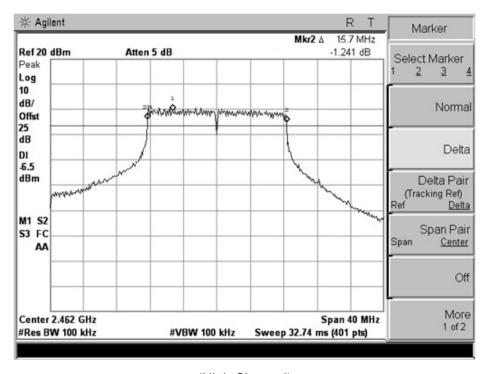
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits (kHz)	Result
Low	2412	16.4		PASS
Middle	2437	16.5	≥500	PASS
High	2462	15.9		PASS



(Low Channel)



(Middle Channel)

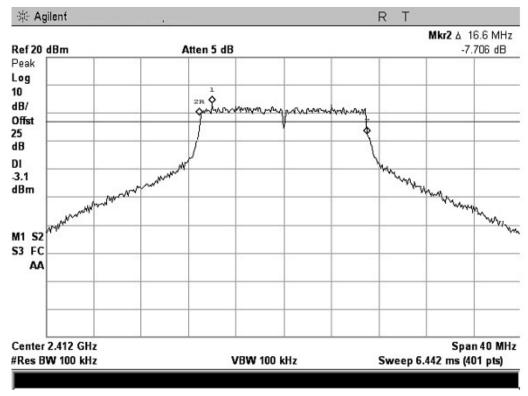


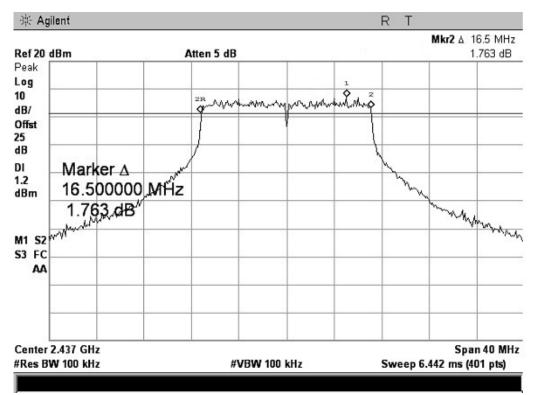
(High Channel)

Report No.: MOST110715F2

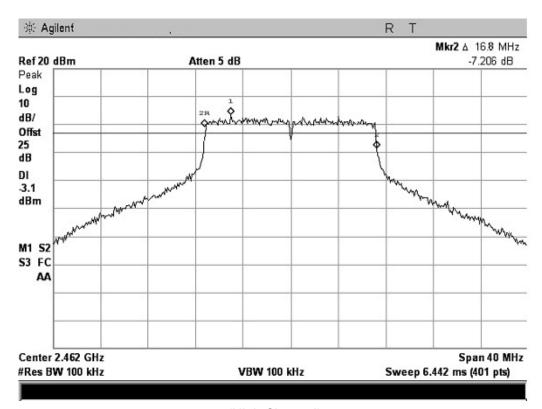
# 802.11n-20MHz Test Mode,OFDM data rate:65Mpbs

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits (kHz)	Result
Low	2412	16.6		PASS
Middle	2437	16.5	≥500	PASS
High	2462	16.8		PASS





(Middle Channel)



(High Channel)

# 5.2 Peak Output Power

#### 5.2.1 Definition

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power.

# 5.2.2 Test Description

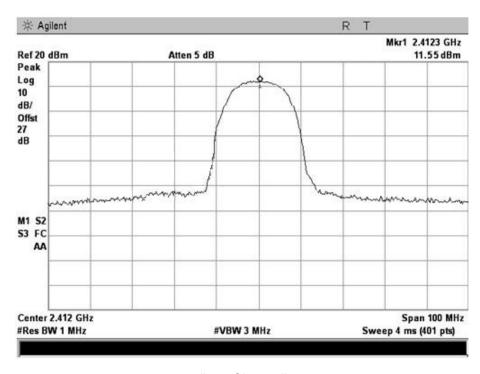
See section 5.1.2 of this report.

#### 5.2.3 Test Result

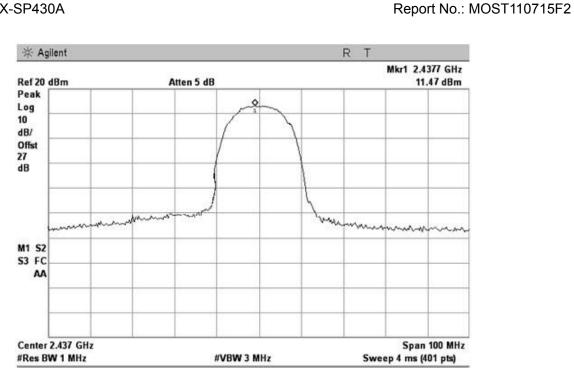
The EUT operates at maximum output power mode. The lowest, middle and highest channels are selected to perform testing to verify the conducted RF output peak power of the Module.

802.11b Test Mode, DSSS data rate:11Mpbs

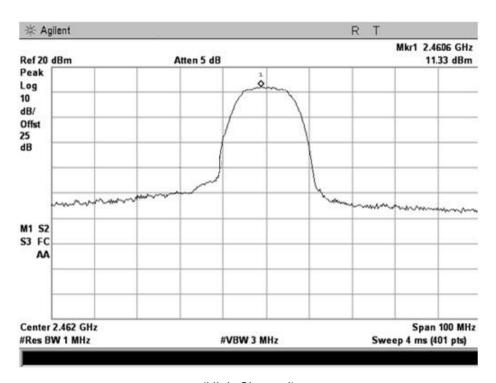
Channel	Fraguency (MHz)	Measured Output Peak Power		Limit	Verdict
	Frequency (MHz)	dBm	W	W	verdict
Low	2412	11.55	0.0143		PASS
Middle	2437	11.47	0.0140	0.125	PASS
High	2462	11.33	0.0136		PASS



(Low Channel)



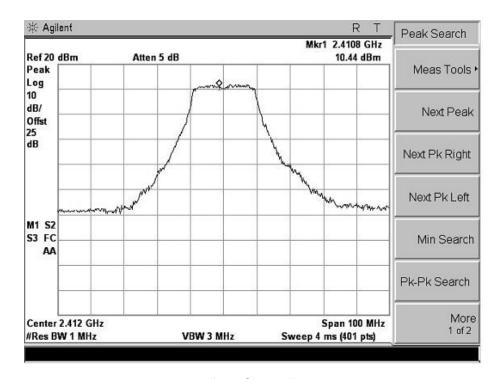
(Middle Channel)



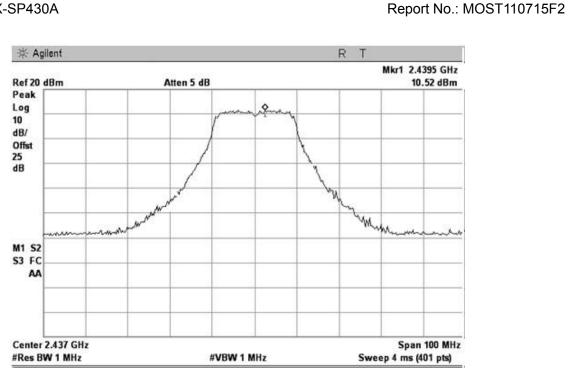
(High Channel)

802.11g Test Mode,OFDM data rate:54Mpbs

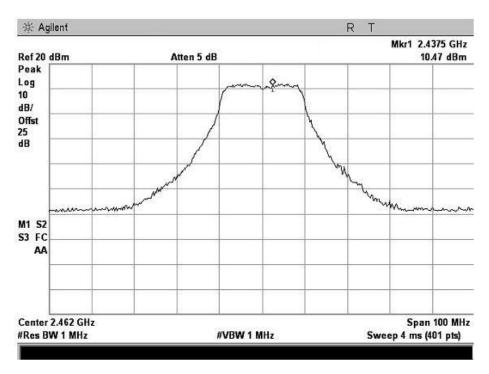
Channel	Fraguency (MHz)	Measured Output Peak Power		Limit	Verdict
	Frequency (MHz)	dBm	W	W	verdict
Low	2412	10.44	0.0111		PASS
Middle	2437	10.52	0.0113	0.125	PASS
High	2462	10.47	0.0111		PASS



(Low Channel)



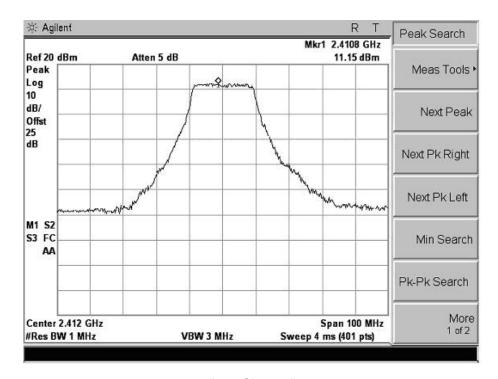
# (Middle Channel)



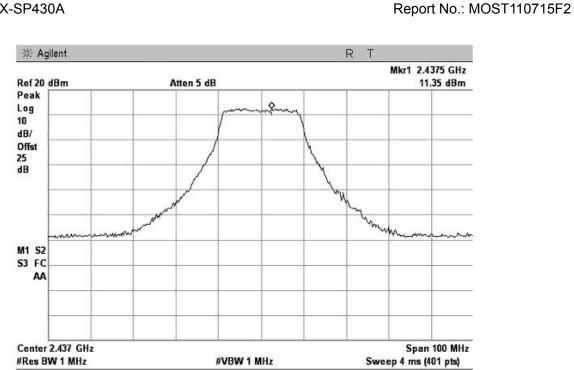
(High Channel)

802.11n-20MHz Test Mode,OFDM data rate:65Mpbs

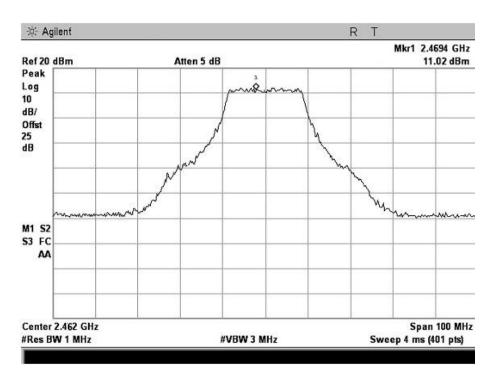
Channal	Measured Output Peak Power		Limit	Verdict	
Channel	Frequency (MHz)	dBm	W	W	verdict
Low	2412	11.15	0.0130		PASS
Middle	2437	11.35	0.0136	0.125	PASS
High	2462	11.02	0.0126		PASS



(Low Channel)



(Middle Channel)



(High Channel)

# 5.3 Conducted Spurious Emission

#### 5.3.1 Definition

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, provided the transmitter demonstrates compliance with the peak conducted power limits.

## 5.3.2 Test Description

See section 5.1.2 of this report.

#### 5.3.3 Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions.

Channel	Frequency (MHz)	Fundamental Level (dBm)	Emission Level Limit (dBm)
802.11b Low	2412	13.75	-6.25
802.11b Mid	2437	13.47	-6.53
802.11b High	2462	13.63	-6.37
802.11g Low	2412	12.72	-7.28
802.11g Mid	2437	12.64	-7.36
802.11g High	2462	12.27	-7.73
802.11 n-20M Low	2412	12.25	-7.75
802.11 n-20M Mid	2437	11.85	-8.15
802.11 n-20M High	2462	12.12	-7.88

NO.	Frequency	Measurement Bandwidth	Emission Level	Limit	Margin
	MHz	KHz	(dBm)	dBm	dB
TX:802.11	b Low Channel		•		
1	<1000	100	\	-6.25	>20
2	4824	100	-36.28	-6.25	>20
3	7236	100	\	-6.25	>20
4	9648	100	\	-6.25	>20
5	12060	100	\	-6.25	>20
6	other	100	\	-6.25	>20
TX: 802.11	b Middle Channel				
1	<1000	100	\	-6.53	>20
2	4874	100	-35.19	-6.53	>20
3	7311	100	\	-6.53	>20
4	9748	100	\	-6.53	>20
5	12185	100	\	-6.53	>20
6	other	100	\	-6.53	>20
TX: 802.11	b High Channel		•	•	
1	<1000	100	\	-6.37	>20
2	4924	100	-36.31	-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
Measurem	Measurement uncertainty:±3.2dB				

Report No.: MOST110715F2

NO.	Frequency	Measurement Bandwidth	Emission Level (dBm)	Limit	Margin
	MHz	KHz	dBm	dBm	dB
TX:802.11 (	g Low Channel				
1	<1000	100	\	-7.28	>20
2	4824	100	-35.35	-7.28	>20
3	7236	100	\	-7.28	>20
4	9648	100	\	-7.28	>20
5	12060	100	\	-7.28	>20
6	other	100	\	-7.28	>20
TX: 802.11	g Middle Channel		•		
1	<1000	100	\	-7.36	>20
2	4874	100	-36.42	-7.36	>20
3	7311	100	\	-7.36	>20
4	9748	100	\	-7.36	>20
5	12185	100	\	-7.36	>20
6	other	100	\	-7.36	>20
TX: 802.11	g High Channel		•		
1	<1000	100	\	-7.73	>20
2	4924	100	-35.73	-7.73	>20
3	7386	100	\	-7.73	>20
4	9848	100	\	-7.73	>20
5	12310	100	\	-7.73	>20
6	other	100	\	-7.73	>20
Measureme	ent uncertainty:±3.2	dB			

NO.	Frequency	Measurement Bandwidth	Emission Level (dBm)	Limit	Margin
	MHz	KHz	dBm	dBm	dB
TX:802.11 ı	n-20MHz Low Chan	nel			
1	<1000	100	\	-7.75	>20
2	4824	100	-35.44	-7.75	>20
3	7236	100	\	-7.75	>20
4	9648	100	\	-7.75	>20
5	12060	100	\	-7.75	>20
6	other	100	\	-7.75	>20
TX: 802.11	n-20MHz Middle Cl	nannel			
1	<1000	100	\	-8.15	>20
2	4874	100	-31.32	-8.15	>20
3	7311	100	\	-8.15	>20
4	9748	100	\	-8.15	>20
5	12185	100	\	-8.15	>20
6	other	100	\	-8.15	>20
TX: 802.11	n-20MHz High Cha	nnel	·	•	
1	<1000	100	\	-7.88	>20
2	4924	100	-34.78	-7.88	>20
3	7386	100	\	-7.88	>20
4	9848	100	\	-7.88	>20
5	12310	100	\	-7.88	>20
6	other	100	\	-7.88	>20
Measureme	Measurement uncertainty:±3.2dB				

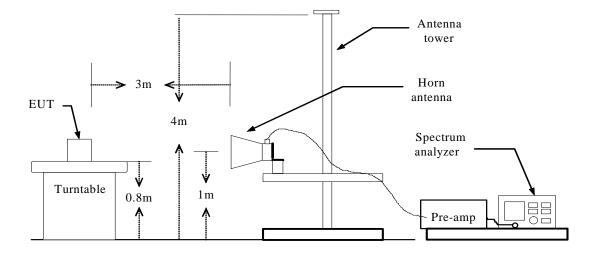
(The 802.11b mode test data rate is 11Mpbs ,802.11g mode test data rate is 54Mpbs ,the 802.11ntest data rate is 65Mpbs ).

# 5.4 Band Edge

## 5.4.1 Definition

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, provided the transmitter demonstrates compliance with the peak conducted power limits.

## 5.4.2 Test Description



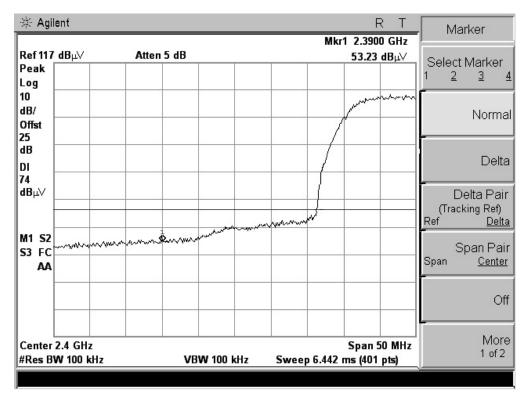
# 5.4.3 Test Result

The EUT operates at continuous transmit test mode. The peak and average test data of the lowest and highest channels are tested to verify the band edge emissions.

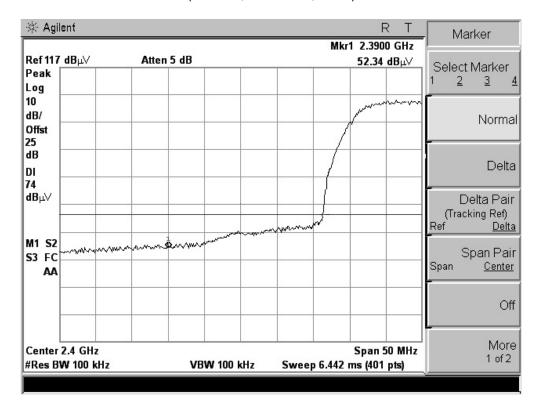
Test Mode				Test Result Highest Emission (dBuv/m)			
		Channel Marked Frequency	Limit (dBuv/m)	Horiz	Horizontal		Vertical
				Peak	Average	Peak	Average
	Low	2300MHz		51.34	32.15	51.05	34.19
802.11 b	Channel	2390MHz		53.23	34.32	52.34	36.33
002.11 0	High	2483.5MHz	74(Peak) 54(Average)	58.53	31.17	55.11	32.27
	Channel	2500MHz		52.39	34.05	57.37	35.16
	Low	2300MHz		51.26	34.34	54.78	32.12
902.11.4	Channel	2390MHz		53.39	35.72	56.74	35.37
802.11 g	High	2483.5MHz		52.48	36.19	53.64	33.51
	Channel	2500MHz		54.81	38.49	56.42	35.37
	Low	2300MHz		50.47	32.55	51.08	35.23
Channel 802.11 n	2390MHz		52.58	34.94	54.01	36.82	
-20MHz	High	2483.5MHz		50.34	37.35	53.55	33.47
	Channel	2500MHz		51.93	39.52	55.38	35.46

(The 802.11b mode test data rate is 11Mpbs, 802.11g mode test data rate is 54Mpbs, the 802.11ntest data rate is 65Mpbs).

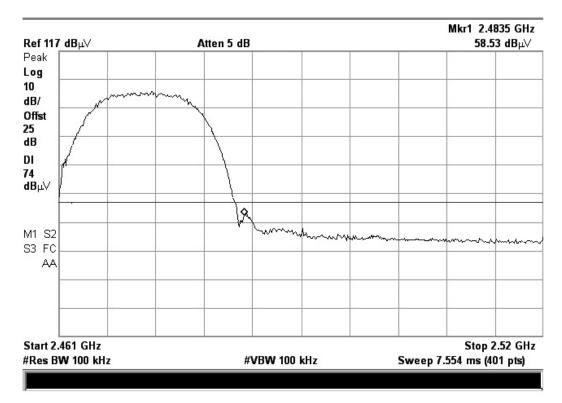
#### 802.11b Test Mode



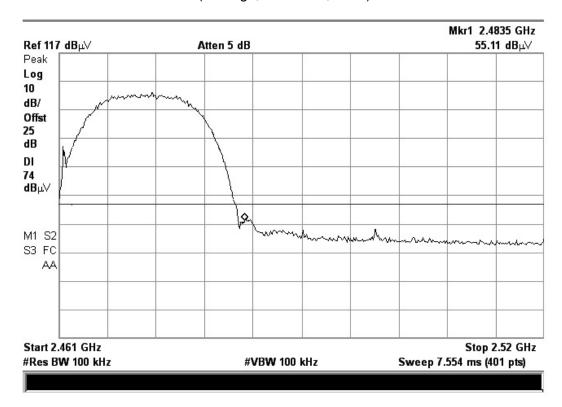
(CH Low, Horizontal, Peak)



(CH Low, Vertical, Peak)

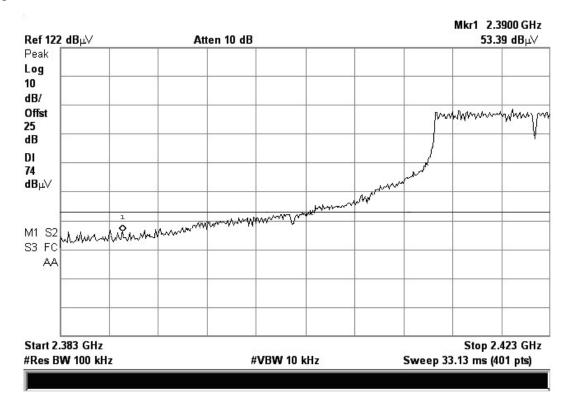


(CH High, Horizontal, Peak)

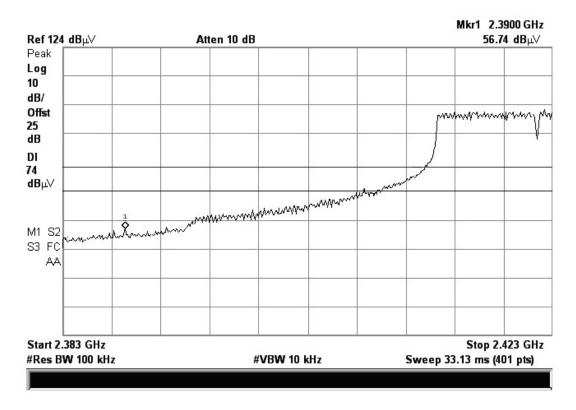


(CH High, Vertical, Peak)

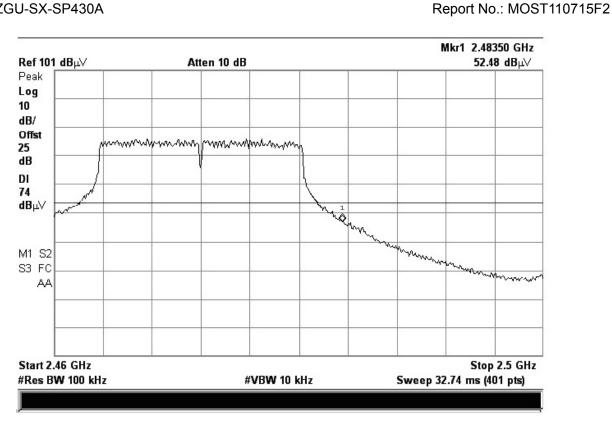
# 802.11g Test Mode



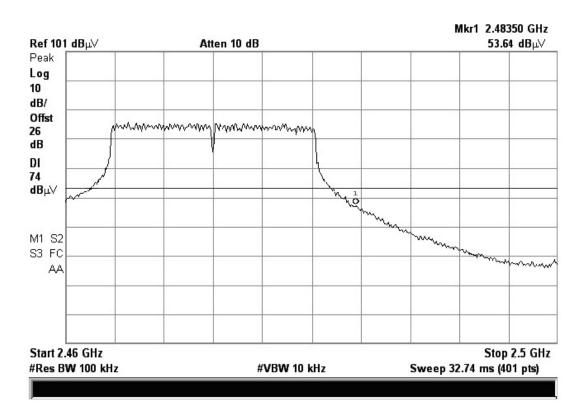
(CH Low, Horizontal, Peak)



(CH Low, Vertical, Peak)

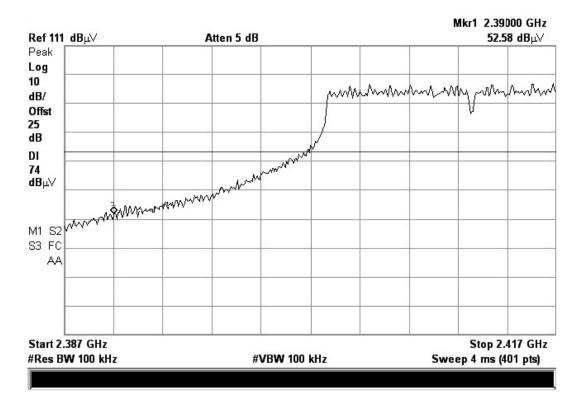


(CH High, Horizontal, Peak)

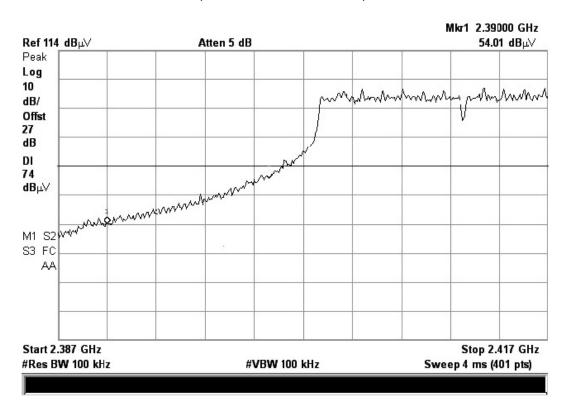


(CH High, Vertical, Peak)

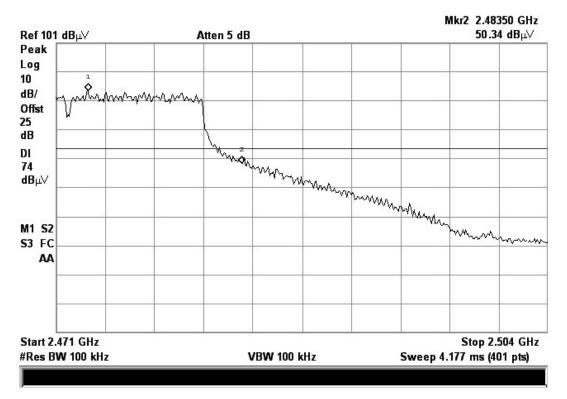
## 802.11n-20MHz Test Mode



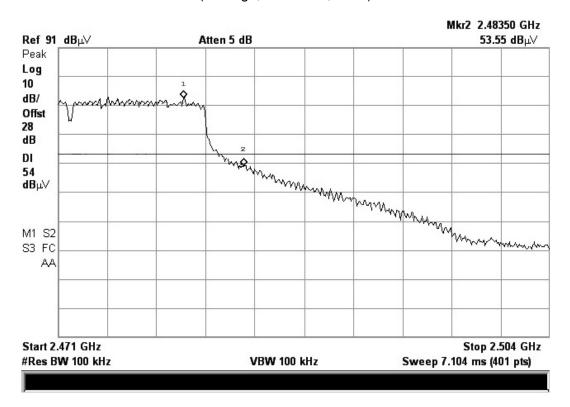
(CH Low, Horizontal, Peak)



(CH Low, Vertical, Peak)



(CH High, Horizontal, Peak)



(CH High, Vertical, Peak)

# 5.5 Power Spectral Density (PSD)

#### 5.5.1 Definition

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

# 5.5.2 Test Description

See section 5.1.2 of this report.

#### 5.5.3 Test Result

The lowest, middle and highest channels are tested to verify the power spectral density.

# 802.11b Test Mode, DSSS data rate: 11 Mpbs

Channel	Frequency (MHz)	PSD (dBm)	Limits(dBm)	Result
Low	2412	-9.24		PASS
Middle	2437	-8.47	≤8	PASS
High	2462	-8.52		PASS

# 802.11g Test Mode, OFDM data rate: 54Mpbs

Channel	Frequency (MHz)	PSD (dBm)	Limits(dBm)	Result
Low	2412	-17.14		PASS
Middle	2437	-17.64	≤8	PASS
High	2462	-16.18		PASS

# 802.11n-20MHz Test Mode,OFDM data rate:65Mpbs

Channel	Frequency (MHz)	PSD (dBm)	Limits(dBm)	Result
Low	2412	-17.15		PASS
Middle	2437	-16.75	≤8	PASS
High	2462	-16.81		PASS

#### 5.6 Conducted Emission

#### 5.6.1 Definition

According to FCC section 15.207, for an intentional radiator that 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 the limits in the following table, as measured using a  $50 \mu H/50$  ohms line impedance stabilization network (LISN).

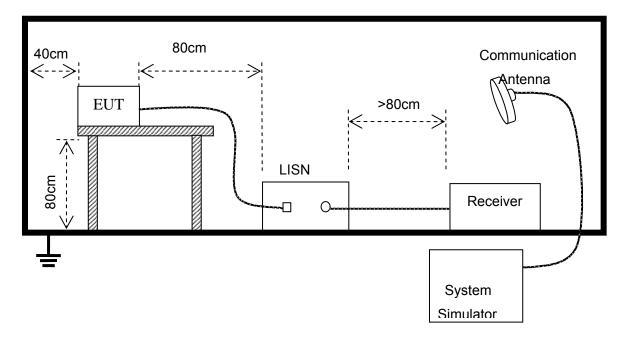
Fraguency	Maximum RF Line Voltage		
Frequency	Q.P.( dBuV)	Average( dBuV)	
150kHz-500kHz	66-56	56-46	
500kHz-5MHz	56	46	
5MHz-30MHz	60	50	

#### 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

# 5.6.2 Test Description

The EUT is powered by the Battery charged with the AC Adapter which is powered by 120V, 60Hz AC mains supply. The path loss as the factor is calibrated to correct the reading. During the measurement, the EUT is activated and is set to operate at maximum power.

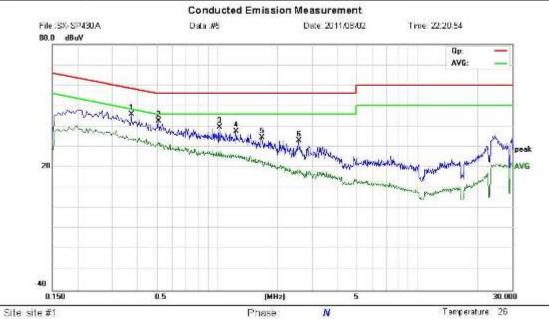


## 5.6.3 Test Result



Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park

Guangdong ,China Tel: 0755-86170306 Fax: 0755-86170310



Power: AC 120V/60Hz

Humidity 60 %

Limit FCC Part 15 B Class B QP EUT: TABLET PC

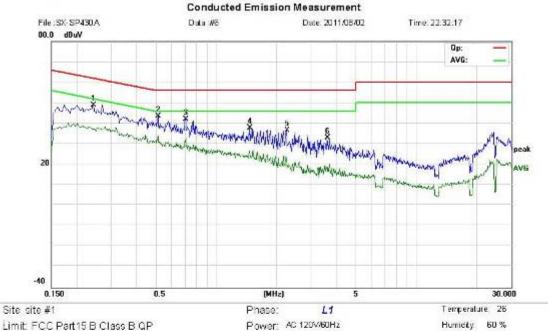
M/N: SX-SP430A Mode: WIFIMode

No. M	Δk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHź	dBu∨	dB	dBJV	4BuV	éВ	Defector	Comment	
1 *		0.3740	35.20	10.84	46.04	58.41	-12.37	peak		
2		0.5100	32.55	10.00	42.55	58 00	-13.45	peak		
3		1.0260	29.54	9.97	39.51	58.00	-16.49	peak		
4		1.2420	27.93	9.76	37.69	56.00	-18.31	peak		
5		1,6660	25.35	9.33	34.68	56.00	-21.32	peak		
6		2.5620	23.52	9.56	33.08	58.00	-22.92	peak		

<sup>\*:</sup>Maximum data x:Overlimit I:overmargin



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



Limit: FCC Part 15 B Class B QP

EUT: TABLET PC M/N: SX-SP430A Mode: WIFI Mode

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
	MHz	dBu∀	dB	dBJV	dBuV	ćΒ	Detector	Comment	
1	0.2420	37.34	11.72	49.06	62.03	-12.97	peak		
2 *	0.5140	33.53	10.00	43.53	56.00	-12.47	peak		
3	0.7020	32.02	10.00	42.02	56.00	-13.98	peak		
4	1.4660	28.42	9.53	37.95	56.00	-18.05	peak		
5	2.2500	27.48	9.25	36.73	56.00	-19.27	peak		
6	3.5940	22 45	10.58	33.04	58.00	-22.96	peak		

<sup>\*:</sup>Maximum data x:Overlimit I:overmargin

## 5.7 Radiated Emission

## 5.7.1 Definition

According to FCC section 15.247(d), radiated emission outside the frequency band attenuation below the general limits specified in § 15.209(a) is not required. 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 in § 15.209(a) (see § 15.205(c)).

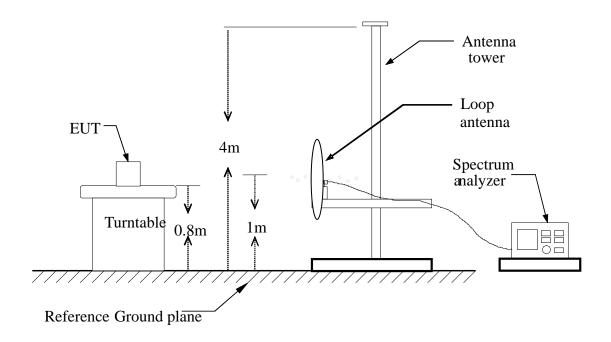
According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

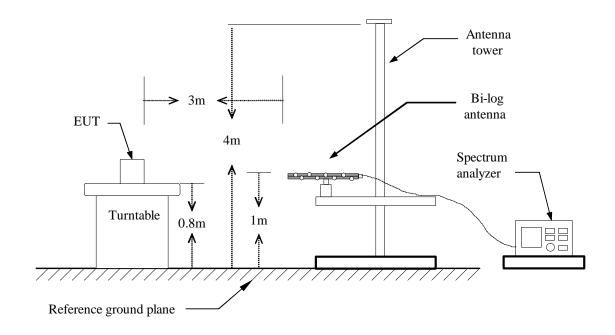
As shown in FCC section 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector. When average radiated emission measurements are specified in this part, including emission measurements below 1000MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.

# 5.7.2 Test Description

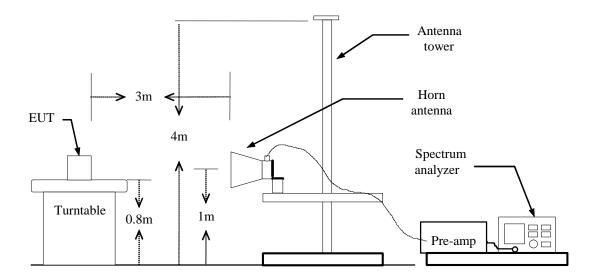
## A. Test Setup:



## Blow 1GHz:



#### Above 1GHz:



## B. Test procedures

- 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.

## 5.7.3 Test Result

# Below 30MHz:

Freq.	Ant. Pol	Peak	AV	Ant. / CL	A a tu	al Fs	Peak	AV	AV
(MHz)	H/V	Reading	Reading	CF	Actu	idi FS	Limit	Limit	Margin
		(dBuV)	(dBuV)	(dB)	Peak	AV	(dBuV/m)	(dBuV/m)	(dB)
					(dBuV/m)	(dBuV/m)			
5882.50	Н	53.59	29.77	17.76	71.35	47.53	74.00	54.00	-6.47
N/A	Н								
5882.50	V	51.72	25.27	17.76	69.48	43.03	74.00	54.00	-10.97
N/A	V						_		
							_		

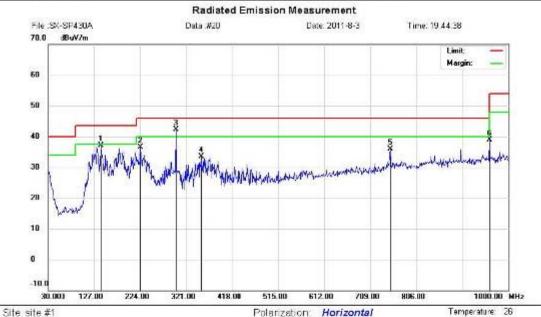
<sup>--</sup>No detected below 30MHz.

## **Below 1 GHz**



Address No.5 Langshan 2nd Rd., North Hi-Tech Industrial park Guangdong ,China

Tel: 0755-86170306 Fax: 0755-86170310



Limit FCC Part 15 B 3M Radiation

Polarization: Horizontal Power AC 1204/60Hz

Distance:

Temperature: 26 Humidity: 61 %

EUT; TABLET PC

M/N: SX-SP430A Mode: FULL LOAD

No.	Mk	<b>32</b> 8	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
			MHz	dBu∀	dB	dBuV/m	dBuV/m	dВ	Detector	cm	degree	Comment
1		141	.5500	19.98	17.11	37.09	43.50	-6.41	QP			
2		224	0000	20.21	15.38	36 59	46.00	-941	peak			
3	*	299	6600	22.98	19.30	42.28	46.00	-3.72	QP			
4		352	.0400	15.45	17.96	33.41	46.00	-12.59	peak			
5		750	7100	10.07	25.79	35.86	46.00	-10.14	peak			
6		960	.2300	10.83	28.00	38.83	54.00	-15.17	peak			

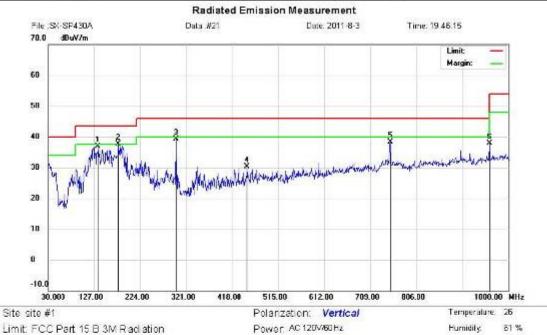
<sup>\*:</sup>Maximum data x:Over limit I:over margin



Address No.5,Langshan 2nd Rd., North Hi-Tech Industrial park Guangdong ,China

Distance:

Tel: 0755-86170306 Fax: 0755-86170310



Limit: FCC Part 15 B 3M Radiation

EUT; TABLET PC

M/N: SX-SP430A Mode: FULL LOAD

No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Оуег		Antenna Height	Table Degree	
		MHz	dBu∀	dB	dBuV/m	dBuV/m	dΒ	Detector	cm	degree	Comment
1		135.7298	19.45	17.42	36.87	43.50	-6.63	QP			
2	+	178.4099	20.89	16.70	37.67	43.50	-5.83	QP			
3		299.6600	19.92	19.30	39,22	46.00	-6.78	QP			
4		450.0099	10.20	20.10	30.30	46.00	-15.70	peak			
5		750,7100	12.58	25,79	38.37	46.00	-7.63	peak			
6		960.2300	9.95	28.00	37.85	54.00	-18.05	peak			

<sup>\*:</sup>Maximum data x:Over limit I:over margin

#### Above 1 GHz

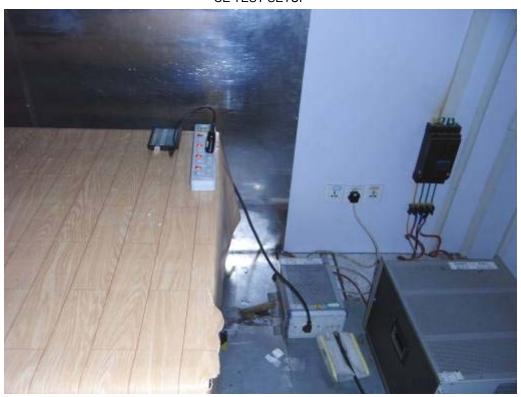
Operation Mode:Operation ModeTest Date:2011-08-02Temperature:20°CTested by:Petter PingHumidity:70 % RHPolarity:Ver. / Hor.

Freq.	Ant. Pol	Peak	AV	Ant. / CL	Actual Fs		Peak	AV	
(MHz)	H/V	Reading	Reading	CF			Limit	Limit	Margin
		dBuV/m	dBuV/m	(dB)	Peak	AV	dBuV/m	dBuV/m	
					dBuV/m	dBuV/m			(dB)
4860.50	Н	43.48	26.98	17.76	61.24	44.74	74.00	54.00	-9.26
N/A	Н								
4860.50	V	25.77	17.76	17.76	65.21	43.53	74.00	54.00	-10.47
N/A	V								

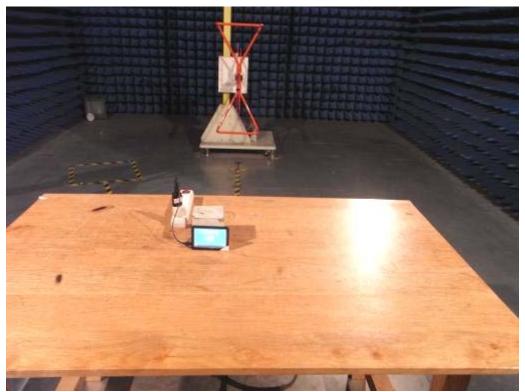
- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
- 3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
- 4. 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.
- 5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, 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.
- 6. Margin (dB) = Remark result (dBuV/m) Average limit (dBuV/m).
- 7. No additional spurious emissions found between lowest internal generated and 30 MHz

# APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

CE TEST SETUP



RE TEST SETUP

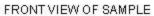








# APPENDIX 2 PHOTOGRAPHS OF EUT





BACK VIEW OF SAMPLE



LEFT VIEW OF SAMPLE



RIGHT VIEW OF SAMPLE



TOP VIEW OF SAMPLE



BOTTOM VIEW OF SAMPLE







PHOTO OF USB CABLE







PHOTO OF THE BATTERY



PHOTO OF LCD SCREEN-1

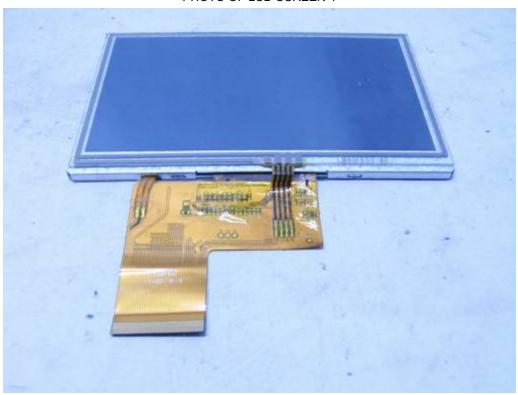
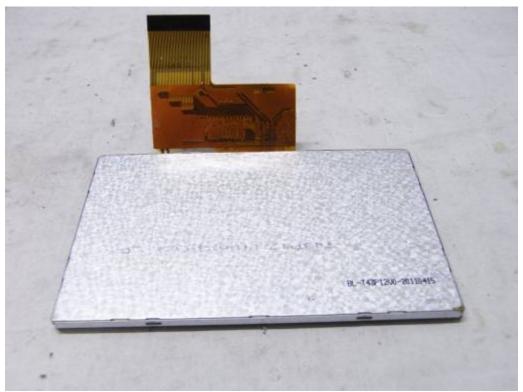


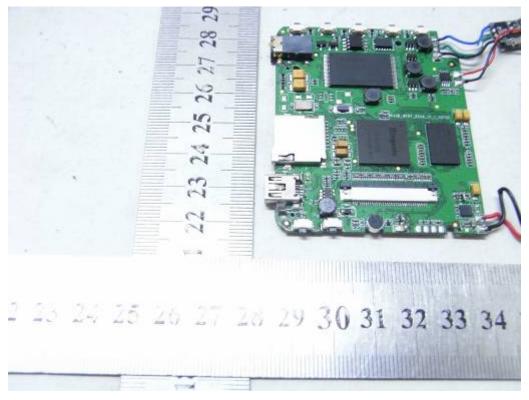
PHOTO OF LCD SCREEN-2



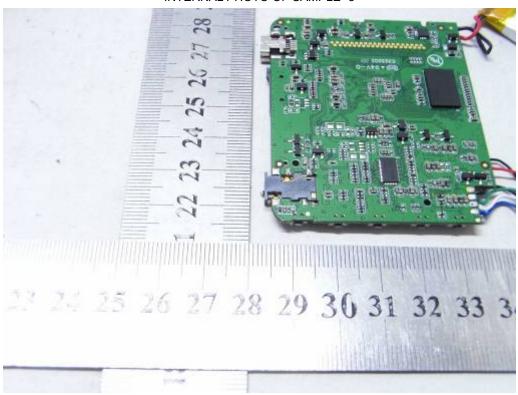
INTERNAL PHOTO OF SAMPLE - 1



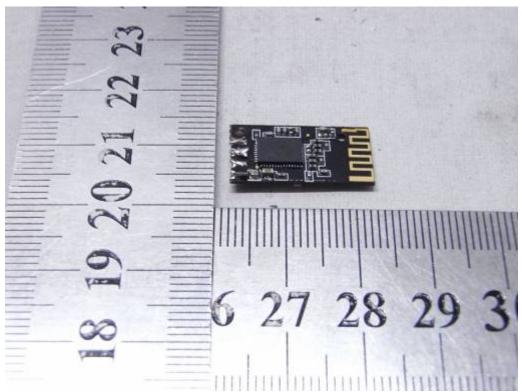
INTERNAL PHOTO OF SAMPLE -2



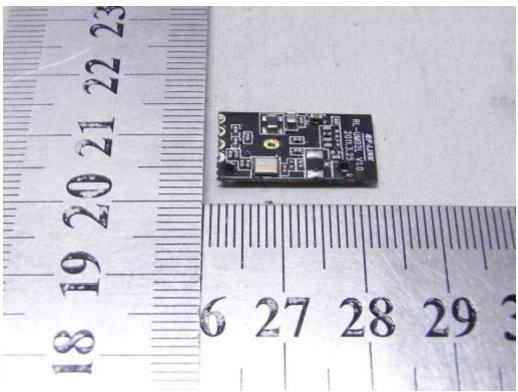
INTERNAL PHOTO OF SAMPLE -3



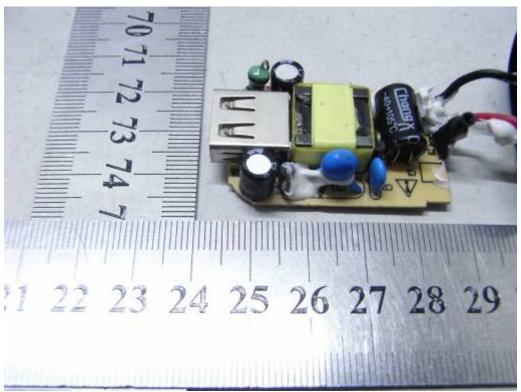
INTERNAL PHOTO OF SAMPLE -4



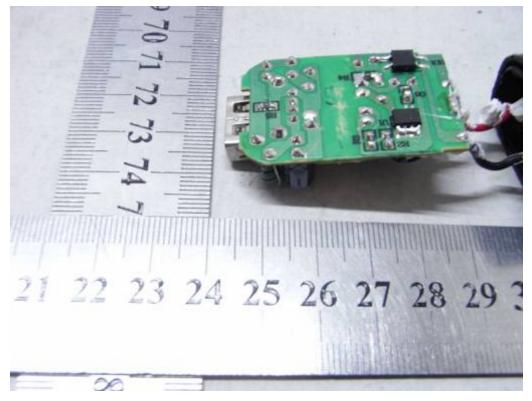
INTERNAL PHOTO OF SAMPLE -5



INTERNAL PHOTO OF POWER SUPPLY-1



### INTERNAL PHOTO OF POWER SUPPLY-2



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