

Report No: JYTSZE200905003V02

FCC REPORT

Applicant:	SWAGTEK
Address of Applicant:	10205 NW 19th St. Suite 101, Miami, FL, 33172
Equipment Under Test (E	EUT)
Product Name:	6.1 inch 3G Smart Phone
Model No.:	X61, W61, SPYRO
Trade mark:	LOGIC, iSWAG, UNONU
FCC ID:	O55613720
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	29 Oct., 2020
Date of Test:	30 Oct., to 26 Nov., 2020
Date of report issued:	09 Dec., 2020
Test Result:	PASS*

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Bruce Zhang Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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Version 2

Version No.	Date	Description
00	30 Nov., 2020	Original
01	08 Dec., 2020	Update Page 34~37
02	09 Dec., 2020	Update Page 34~37

Tested by:

Mike.OU Test Engineer

09 Dec., 2020 Date:

Winner Mang

Reviewed by:

Project Engineer

Date: 09 Dec., 2020



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4 Test Summary

Test Items	Section in CFR 47	Result			
Antenna requirement	15.203 & 15.247 (b)	Pass			
AC Power Line Conducted Emission	15.207	Pass			
Conducted Peak Output Power	15.247 (b)(3)	Pass			
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Pass			
Power Spectral Density	15.247 (e)	Pass			
Band Edge	15.247 (d)	Pass			
Spurious Emission 15.205 & 15.209 Pass					
 Remark: Pass: The EUT complies with the essential requirements in the standard. N/A: Not Applicable. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer). 					
Test Method ANSI C63.10-2013					

KDB 558074 D01 15.247 Meas Guidance v05r02

Test Method:



General Information 5

5.1 Client Information

Applicant:	SWAGTEK
Address:	10205 NW 19th St. Suite 101, Miami, FL, 33172
Manufacturer/ Factory:	SWAGTEK
Address:	10205 NW 19th St. Suite 101, Miami, FL, 33172

5.2 General Description of E.U.T.

Product Name:	6.1 inch 3G Smart Phone
Model No.:	X61, W61, SPYRO
Operation Frequency:	2412MHz~2462MHz: 802.11b/802.11g/802.11n(HT20)
Channel numbers:	11: 802.11b/802.11g/802.11(HT20)
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (IEEE 802.11n):	Up to 72.2Mbps
Antenna Type:	Internal Antenna
Antenna gain:	-0.56dBi
Power supply:	Rechargeable Li-ion Battery DC3.8V-2950mAh
AC adapter:	Model: MST-0501000F Input: AC100-240V, 50/60Hz, 0.2A Output: DC 5.0V, 1000mA
Remark:	Model No.: X61, W61, SPYRO, were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being trademark. LOGIC is for X61. iSWAG is for SPYRO. UNONU is for W61.
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency	
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz	
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz	
3	2422MHz	6	2437MHz	9	2452MHz			
Note: 1. For 802.11n-HT40 mode, the channel number is from 3 to 9; 2. Channel 1, 6 & 11 selected for 802.11b/g/n-HT20 as Lowest, Middle and Highest channel.								

2. Channel 1, 6 & 11 selected for 802.11b/g/n-HT20 as Lowest, Middle and Highest channel.



5.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode	Keep the EUT in continuous transmitting with modulation

Radiated Emission: The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate, the follow list were the worst case.

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)	6.5Mbps

5.4 Description of Support Units

The EUT has been tested as an independent unit.

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Conducted Emission (9kHz ~ 30MHz)	±1.60 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	±3.12 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.32 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.16 dB (k=2)
Radiated Emission (18GHz ~ 40GHz)	±3.20 dB (k=2)

5.6 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

• FCC - Designation No.: CN1211

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

• ISED – CAB identifier.: CN0021

The 3m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

• A2LA - Registration No.: 4346.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <u>https://portal.a2la.org/scopepdf/4346-01.pdf</u>

5.7 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd. Address: No.110~116, Building B, Jinyuan Business Building, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China Tel: +86-755-23118282, Fax: +86-755-23116366 Email: info@ccis-cb.com, Website: <u>http://www.ccis-cb.com</u>



5.8 Test Instruments list

Radiated Emission:							
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)		
3m SAC	SAEMC	9m*6m*6m	966	07-21-2020	07-20-2021		
Loop Antenna	SCHWARZBECK	FMZB1519B	044	03-07-2020	03-06-2021		
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-07-2020	03-06-2021		
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-07-2020	03-06-2021		
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-20-2020	06-19-2021		
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-18-2019	11-17-2020		
Hom Antenna	SOLIMANZBEOK	DDIA 9170	DDI IA9170302	11-18-2020	11-17-2021		
EMI Test Software	AUDIX	E3	١	/ersion: 6.110919)		
Pre-amplifier	HP	8447D	2944A09358	03-07-2020	03-06-2021		
Pre-amplifier	CD	PAP-1G18	11804	03-07-2020	03-06-2021		
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-05-2020	03-04-2021		
Spectrum analyzar	Rohde & Schwarz	FSP40	100363	11-18-2019	11-17-2020		
Spectrum analyzer	Ronue & Schwarz	F3F40	100303	11-18-2020	11-17-2021		
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-05-2020	03-04-2021		
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-07-2020	03-06-2021		
Cable	MICRO-COAX	MFR64639	K10742-5	03-07-2020	03-06-2021		
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-07-2020	03-06-2021		
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A		
Test Software	MWRFTEST	MTS8200	Version: 2.0.0.0				

Conducted Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESCI	101189	03-05-2020	03-04-2021
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	03-05-2020	03-04-2021
LISN	CHASE	MN2050D	1447	03-05-2020	03-04-2021
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	06-18-2020	07-17-2021
Cable	HP	10503A	N/A	03-05-2020	03-04-2021
EMI Test Software	AUDIX	E3	Version: 6.110919b		



6 Test results and Measurement Data

6.1 Antenna requirement

Standard rec	Standard requirement: FCC Part 15 C Section 15.203 /247(b) 15.203 requirement: FCC Part 15 C Section 15.203 /247(b)						
An intentional responsible p antenna that so that a brod electrical con 15.247(b) (4) (4) The cond antennas wit section, if tra power from t	al radiator shall l barty shall be us uses a unique of ken antenna ca inector is prohib requirement: ucted output po h directional ga nsmitting anten he intentional ra b)(3) of this sect	be designed to ensure that no antenna other than that furnished by the sed with the device. The use of a permanently attached antenna or of an coupling to the intentional radiator, the manufacturer may design the unit in be replaced by the user, but the use of a standard antenna jack or bited. wer limit specified in paragraph (b) of this section is based on the use of ins that do not exceed 6 dBi. Except as shown in paragraph (c) of this nas of directional gain greater than 6 dBi are used, the conducted output adiator shall be reduced below the stated values in paragraphs (b)(1), ion, as appropriate, by the amount in dB that the directional gain of the					
E.U.T Antenr	na:						
The Wi-Fi ante antenna is -0.4		nal antenna which cannot replace by end-user, the best case gain of the					



6.2 Conducted Emission

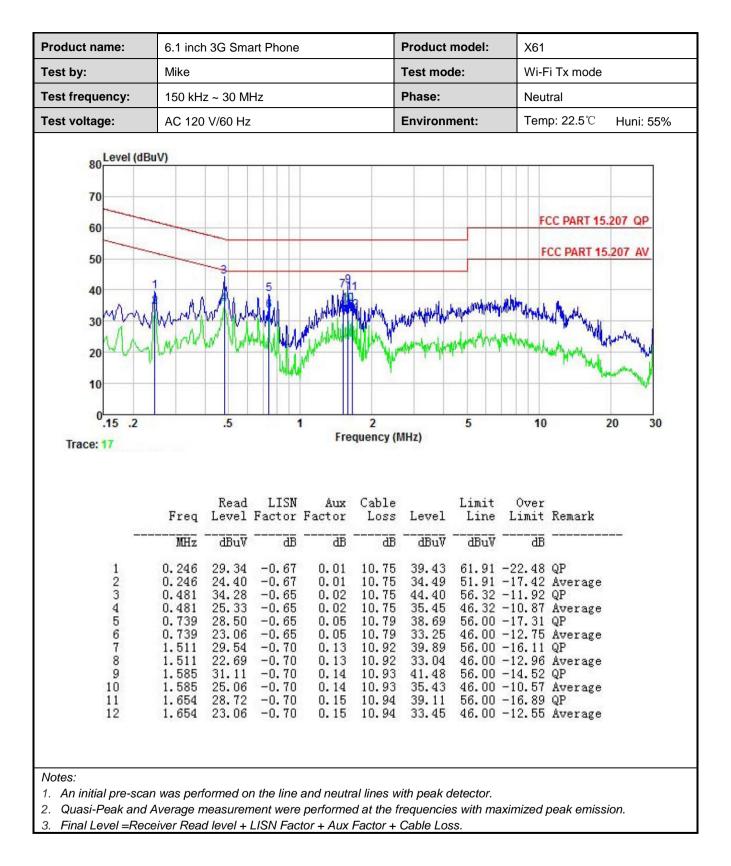
Test Requirement:	FCC Part 15 C Section 15.2	207					
Test Frequency Range:	150 kHz to 30 MHz						
Class / Severity:	Class B						
Receiver setup:	RBW=9 kHz, VBW=30 kHz						
Limit:	Frequency range (MHz)						
		Quasi-peak	Average				
	0.15-0.5	66 to 56*	56 to 46*				
	0.5-5	56	46				
	5-30	60	50				
	* Decreases with the logarith						
Test procedure	 line impedance stabiliza 50ohm/50uH coupling i The peripheral devices LISN that provides a 50 termination. (Please ref photographs). Both sides of A.C. line a interference. In order to positions of equipment 	brs are connected to the mation network (L.I.S.N.), w mpedance for the measur are also connected to the Dohm/50uH coupling imper fer to the block diagram of are checked for maximum of find the maximum emissi and all of the interface cal .10(latest version) on cond	hich provides a ing equipment. main power through a dance with 50ohm the test setup and conducted on, the relative bles must be changed				
Test setup:		st	er — AC power				
Test Instruments:	Refer to section 5.9 for deta	ils					
Test mode:	Refer to section 5.3 for deta	ils					
Test results:	Passed						



Measurement Data:

	6.1 inch 30	G Smart Phone		Product	model:	X61	X61			
Test by:	Mike	Mike				de:	Wi-F	Wi-Fi Tx mode Line		
Test frequency:	150 kHz ~	150 kHz ~ 30 MHz AC 120 V/60 Hz			Phase:		Line			
Test voltage:	AC 120 V/				Environn	nent:	Tem	p: 22.5°C	Huni: 55%	
80 Level (dB 70 60 50 40 30 40 20 40	2 Amment w	4 67 Burneline Burneline	g o Adama and a			engenerier and the	F	CC PART 15.		
0 <mark>.15 .2</mark> Trace: 19		.5 1	1000	2 juency (M	IHz)	5	10	2	20 30	
	Freq L	.5 1 Read LISN evel Factor dBuV dB	Freq Aux	juency (M	lHz) Level dBuV	5 Limit Line dBuV	Over	Z Remark	20 30	







6.3 Conducted Output Power

Test Requirement:	FCC Part 15 C Section 15.247 (b)(3)
Limit:	30dBm
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed



6.4 Occupy Bandwidth

Test Requirement:	FCC Part 15 C Section 15.247 (a)(2)
Limit:	>500kHz
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed



6.5 Power Spectral Density

Test Requirement:	FCC Part 15 C Section 15.247 (e)
Limit:	8dBm/3kHz
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed



6.6 Band Edge

6.6.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)					
Limit:	In any 100 kHz bandwidth outside the frequency band in which the sprespectrum intentional radiator is operating, the radio frequency power that produced by the intentional radiator shall be at least 20 dB below that in 100 kHz bandwidth within the band that contains the highest level of desired power, based on either an RF conducted or a radiated measurement the transmitter complies with the conducted power limits based on the user RMS averaging over a time interval, as permitted under paragraph(b)(3) of section, the attenuation required under this paragraph shall be 30 dB instead 20 dB.					
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane					
Test Instruments:	Refer to section 5.9 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Passed					



6.6.2 Radiated Emission Method

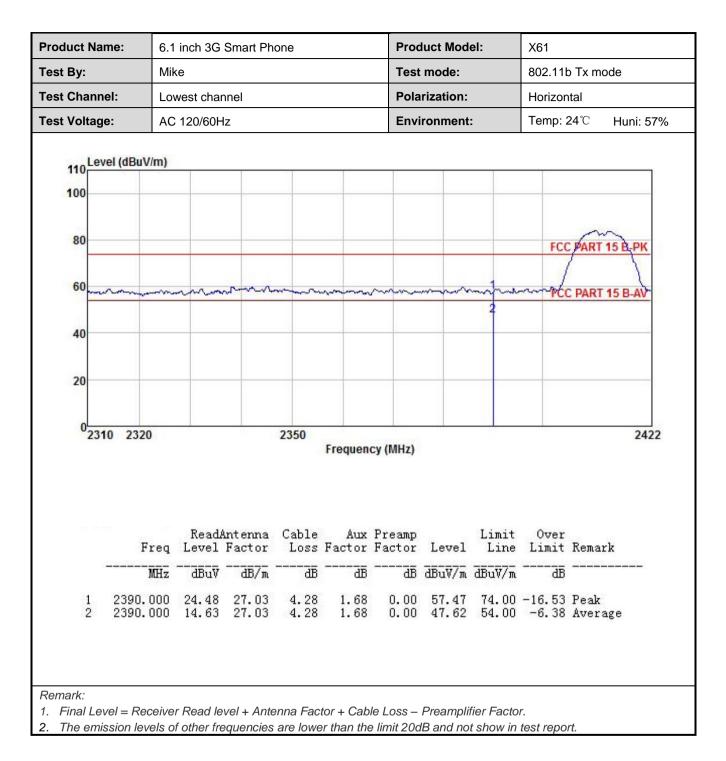
Test Requirement:	FCC Part 15 C Section 15.209 and 15.205							
Test Frequency Range:	2310 MHz to 2390) MHz and 24	483.5 MHz to 2	500 MHz				
Test Distance:	3m							
Receiver setup:	Frequency	Detector	RBW	VBW	Remark			
	Above 1GHz	Peak	1MHz	3MHz	Peak Value			
	RMS 1MHz 3MHz Average Frequency Limit (dBuV/m @3m) Remark							
Limit:	54.00 Average Valu							
	Above 1GH	Z	74.00		Peak Value			
Test Procedure:	 Above TGH2 74.00 Peak Value The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or 							
Test setup:	196em	AE EUT (Turntable)	Horr 3m Ground Reference Plane Receiver	Antenna To	wer			
Test Instruments:	Refer to section 5	.9 for details						
Test mode:	Refer to section 5	.3 for details						
Test results:	Passed							



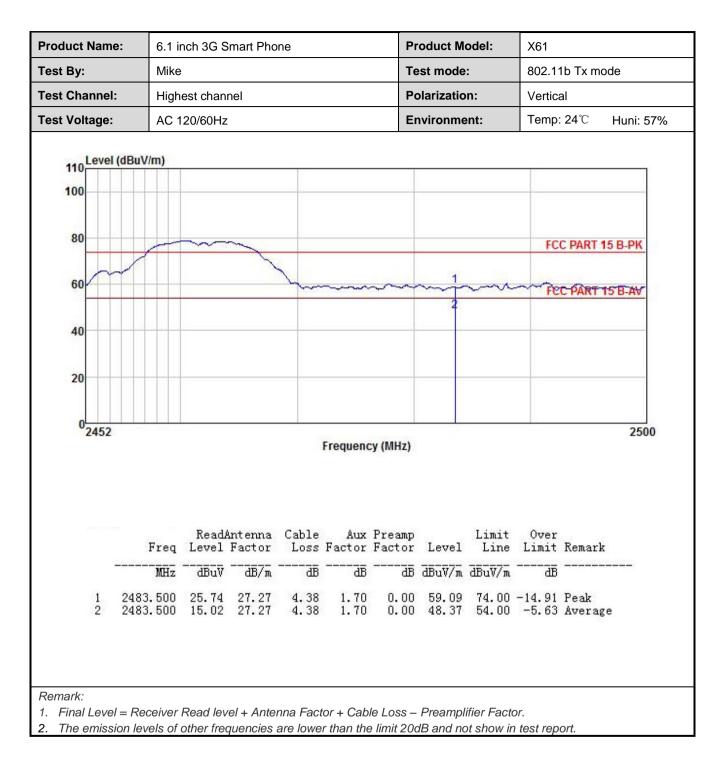
802.11b mode:

	ame: 6.1	inch 3G S	Smart Pho	ne	P	roduct M	odel:	X61			
Test By:	Mik	e		Т	Test mode:		802.11b Tx mode				
Test Chanr	el: Lowest channel				Polarization:		n:	Vertical			
Test Voltag	ge: AC	AC 120/60Hz				E	Environment:		Temp: 2	24 ℃	Huni: 57%
	·										
110 Le	evel (dBuV/m)	-	-								
100											
80									FCC	PART	15 B-PK
			-						1	ſ	Y
60~	m	unn		nun	m	mm	m	mor	~~~~FCC	PART	15 B-AV
40		_	_								
20											
023	10 2320			2350							2422
	Freq	ReadA Level	ntenna Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit	Remar	k
	Freq	ReadA Level dBuV	Factor	Cable Loss dB	Factor	Factor	Level dBuV/m	Line	Limit	Remar	k
1 2	MHz 2390.000	Level 	Factor 	Loss dB 4.28	Factor dB 1.68	Factor dB 0.00	Level <u>dBuV/m</u> 57.82	Line dBuV/m 74.00	Limit dB -16.18	 Peak	

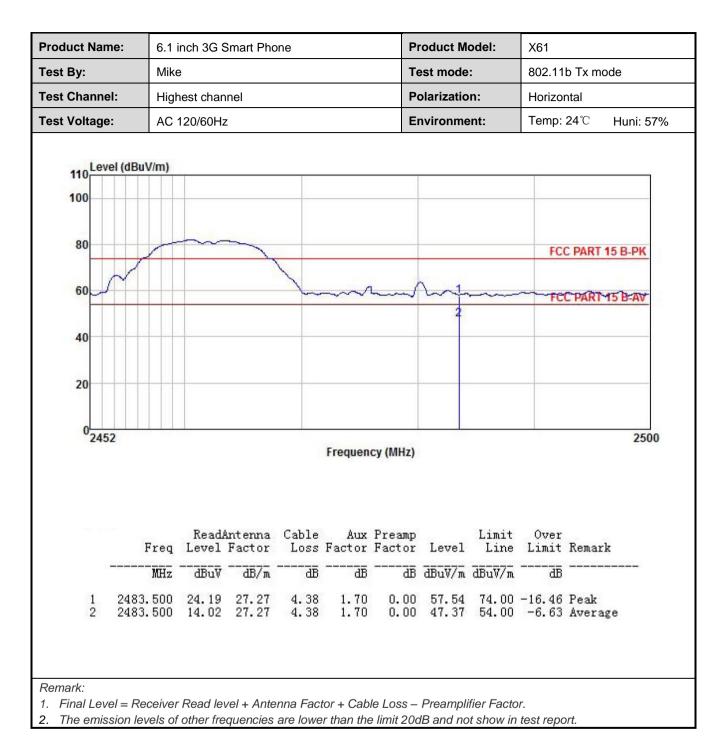










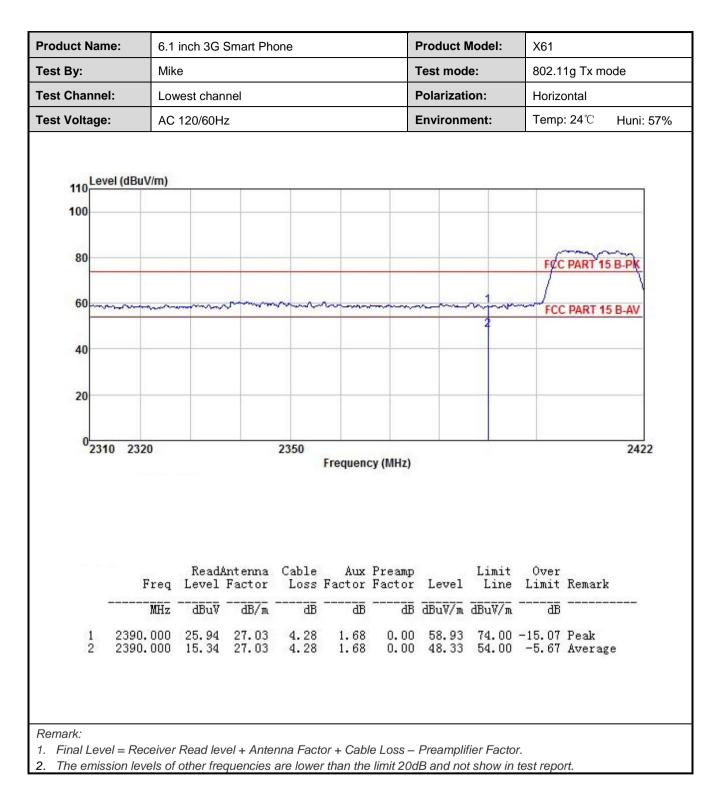




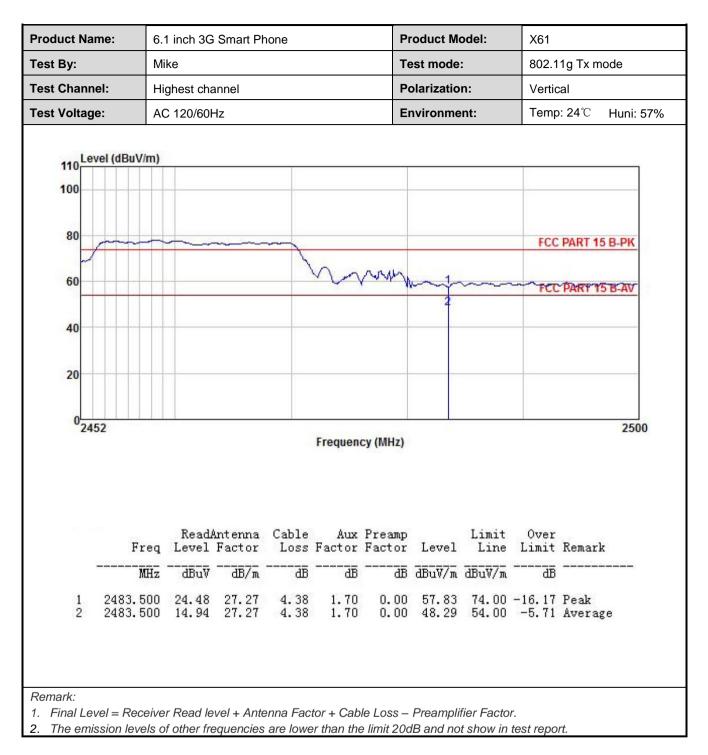
802.11g mode:

	ie: 6.1	6.1 inch 3G Smart Phone						Model:	X61			
est By:	Mik	Mike						Test mode:			802.11g Tx mode	
est Channe	I: Lov	Lowest channel AC 120/60Hz					Polarizati	ion:	Vertio	Vertical		
est Voltage	: AC						Environm	nent:	Temp	⊳: 24 ℃	Huni: 57%	
110 Lev	el (dBuV/m)											
80				_					FO	C PART 1:	BPK	
60 m	m		n mana	m		m	m	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m./FC	C PART 1	5 B-AV	
40												
20			_									
0231	0 2320			2350					-		2422	
					Frequen	icy (MHz)						
	Freq	ReadA Level	ntenna Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit	Remark		
	Freq MHz	Level	ntenna Factor 	Loss	Factor	Preamp Factor dB	Level	Line	Limit	Remark		

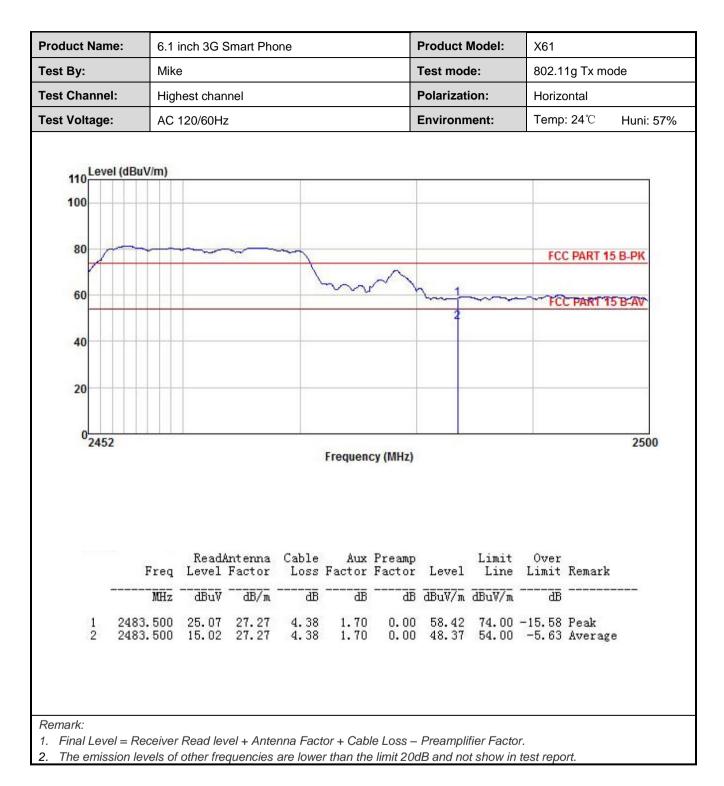










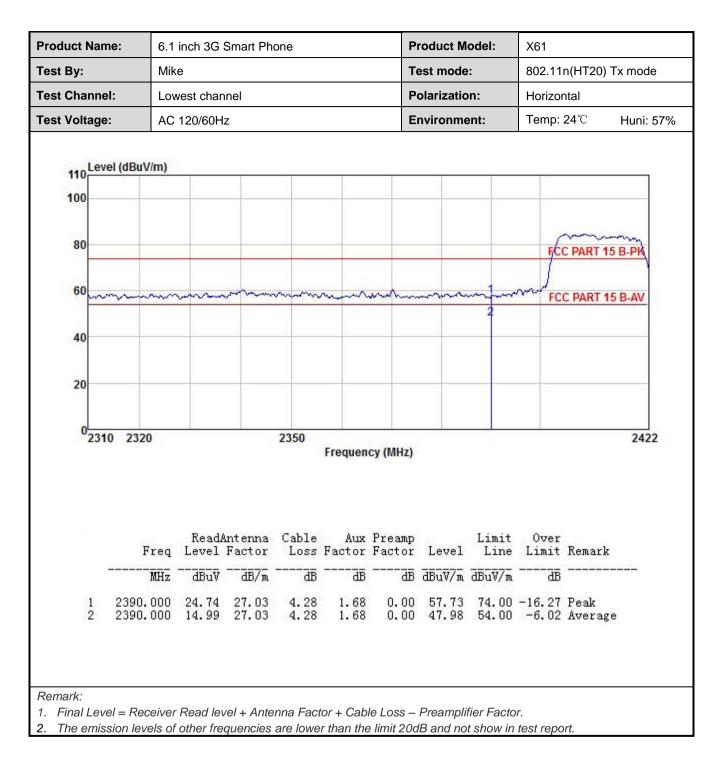




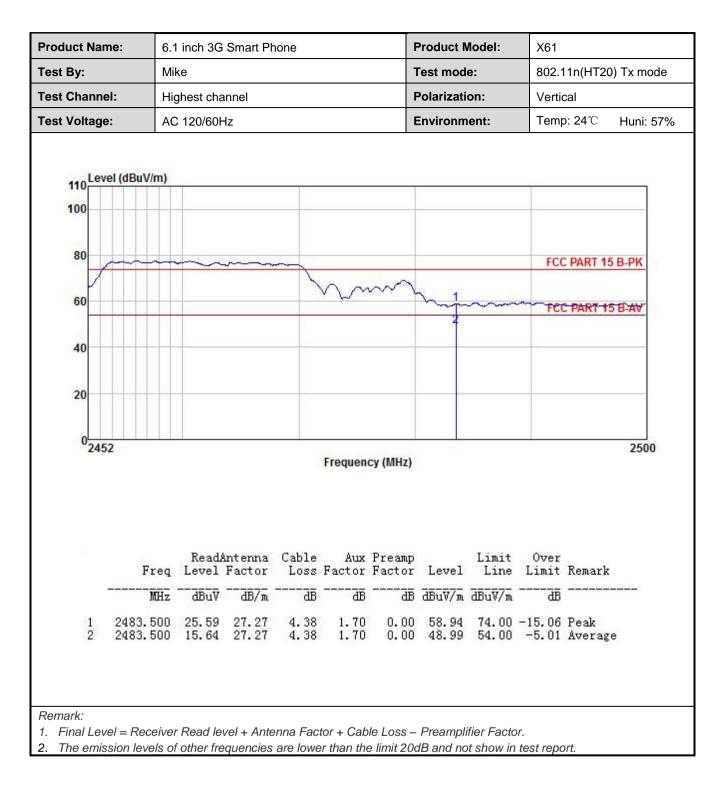
802.11n(HT20):

	ie: 6.1 in	6.1 inch 3G Smart Phone Mike						del:	X61 802.11n(HT20) Tx mode		
est By:	Mike										
est Channe	I: Lowe	Lowest channel AC 120/60Hz				Ро	larization	ו:	Vertical		
Fest Voltage:	: AC 1					En	Environment:			Temp: 24℃ Huni: 579	
110 Leve	el (dBuV/m)										
100			_					_			
80									FCC	PART 15	B-PK
									1		1
60	mmm	man	m	m	nn	-	m	mon	FCC	PART 15	B-AV
								2			
40											
20											
			_								
0											
02310	0 2320			2350	Frequen	cy (MHz)					2422
02310	0 2320			2350	Frequen	cy (MHz)					2422
0 <mark>2310</mark>	0 2320			2350	Frequen	cy (MHz)					2422
0 <mark>2310</mark>	0 2320			2350	Frequen	cy (MHz)					2422
0 <mark>2310</mark>		ReadA	ntenna	Cable	Ацх	Preamp	Level	Limit			
02310	Freq	Level	Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Line	Limit	Remark	
-	Freq MHz	Level dBuV	Factor dB/m	Cable Loss dB	Aux Factor dB	Preamp Factor dB	Level dBuV/m	Line dBuV/m	Limit dB	Remark	
0 <mark>2310</mark>	Freq	Level dBuV 24.39	Factor 	Cable Loss dB 4.28	Aux Factor dB 1.68	Preamp Factor dB 0.00	Level <u>dBuV/m</u> 57.38	Line dBuV/m 74.00	Limit dB -16.62	Remark Peak	
-	Freq MHz 2390.000	Level dBuV 24.39	Factor 	Cable Loss dB 4.28	Aux Factor dB 1.68	Preamp Factor dB 0.00	Level <u>dBuV/m</u> 57.38	Line dBuV/m 74.00	Limit dB -16.62	Remark Peak	
-	Freq MHz 2390.000	Level dBuV 24.39	Factor 	Cable Loss dB 4.28	Aux Factor dB 1.68	Preamp Factor dB 0.00	Level <u>dBuV/m</u> 57.38	Line dBuV/m 74.00	Limit dB -16.62	Remark Peak	

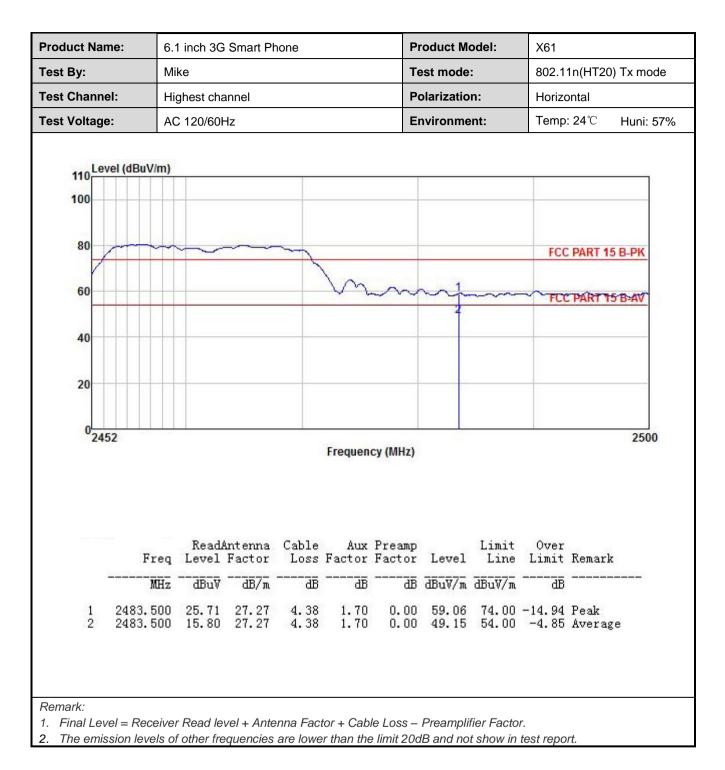














6.7 Spurious Emission

6.7.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)					
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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. I the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead o 20 dB.					
Test setup:						
	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane					
Test Instruments:	Refer to section 5.9 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Passed					



6.7.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Se	ection 15.	209 an	d 15.205					
Test Frequency Range:	9kHz to 25GHz								
Test Distance:	3m								
Receiver setup:	Frequency De		ctor	RBW	V	BW	Remark		
	30MHz-1GHz	Quasi-peak		120KHz	300KHz		Quasi-peak Value		
	Above 1GHz	Pea		1MHz	3MHz				
		1S 1MHz			/Hz	Average Value			
Limit:	Frequency		Limit (dBuV/m @3m)			Remark			
	30MHz-88MH		40.0			Quasi-peak Value			
	88MHz-216MH 216MHz-960M		43.5 46.0			Quasi-peak Value Quasi-peak Value			
	960MHz-1GH			54.0			uasi-peak Value		
				54.0			Average Value		
	Above 1GHz	-		74.0			Peak Value		
	 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or 								
Test setup:	Below 1GHz		4m			5			



Report No: JYTSZE200905003V02

	Horn Artenna Tower Horn Artenna Tower Horn Artenna Tower Ground Reference Plane Test Receiver
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	 Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case. 9 kHz to 30MHz is lower than the limit 20dB, so only shows the data of above 30MHz in this report.



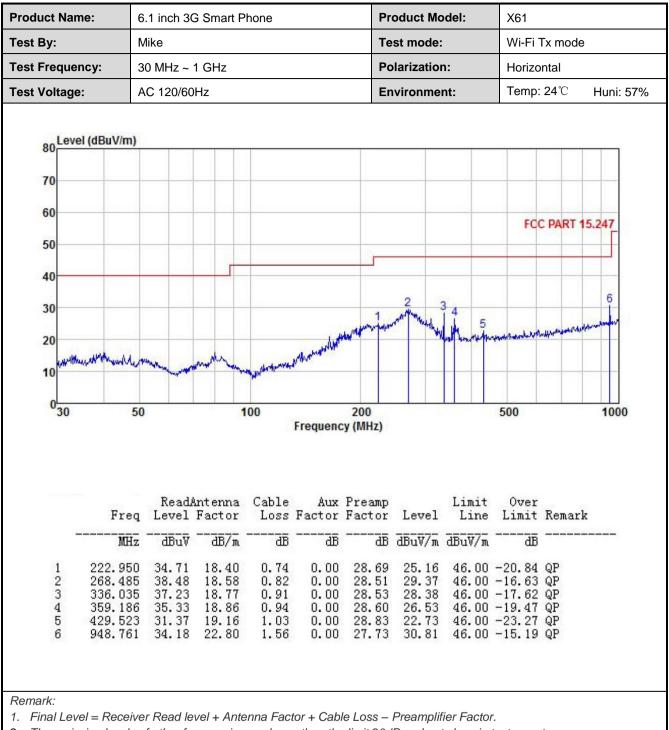
Measurement Data (worst case):

Below 1GHz:

Product Name:	6.1 inch 3G Smart Phone					Pr	oduct Mo	X61					
ſest By:	Mil	ke				Те	Test mode:			Wi-Fi Tx mode			
Test Frequency:	xy:30 MHz ~ 1 GHzPolarization:					า:	Vertical						
Fest Voltage:	AC 120/60Hz Environment:				nt:	Temp: 24℃ Hu							
80 Level (dBu 70 60 50 40 30 20 10 0 30	V/m)			00	3 and harning	4 	5	humm	FCC	PART 1	5.247 6 		
50	50				Frequenc	7.0			500		1000		
	Freq	ReadA Level	ntenna Factor			Preamp Factor		Limit Line	Over Limit	Remark	ζ		
			dB/m	āĒ	dB		JD	dBuV/m	āB				
	MHz	dBu∛	m vm	ш	ш.	ш	and a h w						

3. The Aux Factor is a notch filter switch box loss, this item is not used.





- 2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.
- 3. The Aux Factor is a notch filter switch box loss, this item is not used.



Above 1GHz

					02.11b				
			Te		I: Lowest c				
		-		[r: Peak Val	ue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	40.19	30.81	6.81	2.46	41.82	38.45	74.00	-35.55	Vertical
4824.00	41.71	30.81	6.81	2.46	41.82	39.97	74.00	-34.03	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	30.96	30.81	6.81	2.46	41.82	29.22	54.00	-24.78	Vertical
4824.00	31.58	30.81	6.81	2.46	41.82	29.84	54.00	-24.16	Horizontal
			–	(.]					
			Te		I: Middle cl				
			<u> </u>	1	: Peak Val	ue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	40.26	30.93	6.85	2.47	41.84	38.67	74.00	-35.33	Vertical
4874.00	41.82	30.93	6.85	2.47	41.84	40.23	74.00	-33.77	Horizontal
				Detector:	Average V	alue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	31.12	30.93	6.85	2.47	41.84	29.53	54.00	-24.27	Vertical
4874.00	31.63	30.93	6.85	2.47	41.84	30.04	54.00	-23.96	Horizontal
			Те		: Highest c				
				1	: Peak Val	ue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	40.33	31.05	6.89	2.48	41.86	38.89	74.00	-35.11	Vertical
4924.00	41.85	31.05	6.89	2.48	41.86	40.41	74.00	-33.59	Horizontal
				Detector:	Average Va	alue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	31.23	31.05	6.89	2.48	41.86	29.79	54.00	-24.21	Vertical
4924.00	31.74	31.05	6.89	2.48	41.86	30.30	54.00	-23.70	Horizontal
						– Preamplifie 0dB and not s		eport.	



000.44-										
802.11g										
Test channel: Lowest channel Detector: Peak Value										
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4824.00	40.21	30.81	6.81	2.46	41.82	38.47	74.00	-35.53	Vertical	
4824.00	41.75	30.81	6.81	2.46	41.82	40.01	74.00	-33.99	Horizontal	
Detector: Average Value										
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4824.00	30.85	30.81	6.81	2.46	41.82	29.11	-24.89	-15.53	Vertical	
4824.00	31.46	30.81	6.81	2.46	41.82	29.72	-24.28	-13.99	Horizontal	
	Test channel: Middle channel									
			10		: Peak Val					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4874.00	40.38	30.93	6.85	2.47	41.84	38.79	74.00	-35.21	Vertical	
4874.00	41.75	30.93	6.85	2.47	41.84	40.16	74.00	-33.84	Horizontal	
				Detector:	Average V	alue				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4874.00	31.24	30.93	6.85	2.47	41.84	29.65	54.00	-24.35	Vertical	
4874.00	31.69	30.93	6.85	2.47	41.84	30.10	54.00	-23.90	Horizontal	
			Te		: Highest c					
		-		1	: Peak Val	ue				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4924.00	40.45	31.05	6.89	2.48	41.86	39.01	74.00	-34.99	Vertical	
4924.00	41.79	31.05	6.89	2.48	41.86	40.35	74.00	-33.65	Horizontal	
				Detector:	Average V	alue		Γ		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4924.00	31.39	31.05	6.89	2.48	41.86	29.95	54.00	-24.05	Vertical	
4924.00	31.68	31.05	6.89	2.48	41.86	30.24	54.00	-23.76	Horizontal	
Remark: 1. Final Lev	Remark: 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.									

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.

2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.



				802.1	1n(HT20)					
Test channel: Lowest channel										
Detector: Peak Value										
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4824.00	40.39	30.81	6.81	2.46	41.82	38.65	74.00	-35.35	Vertical	
4824.00	41.84	30.81	6.81	2.46	41.82	40.10	74.00	-33.90	Horizontal	
Detector: Average Value										
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4824.00	30.79	30.81	6.81	2.46	41.82	29.05	54.00	-24.95	Vertical	
4824.00	31.48	30.81	6.81	2.46	41.82	29.74	54.00	-24.26	Horizontal	
	Test channel: Middle channel									
				Detector	: Peak Val	ue				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4874.00	40.44	30.93	6.85	2.47	41.84	38.85	74.00	-35.15	Vertical	
4874.00	41.98	30.93	6.85	2.47	41.84	40.39	74.00	-33.61	Horizontal	
				Detector:	Average Va	alue				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4874.00	31.29	30.93	6.85	2.47	41.84	29.70	54.00	-24.30	Vertical	
4874.00	31.78	30.93	6.85	2.47	41.84	30.19	54.00	-23.81	Horizontal	
			Те	st channe	: Highest c	hannel				
					: Peak Val					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4924.00	40.59	31.05	6.89	2.48	41.86	39.15	74.00	-34.85	Vertical	
4924.00	41.87	31.05	6.89	2.48	41.86	40.43	74.00	-33.57	Horizontal	
				Detector:	Average Va	alue				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
4924.00	31.46	31.05	6.89	2.48	41.86	30.02	54.00	-23.98	Vertical	
4924.00	31.85	31.05	6.89	2.48	41.86	30.41	54.00	-23.59	Horizontal	
						– Preamplifie 0dB and not s	er Factor. show in test re	eport		