

Report No: JYTSZB-R12-2100830

FCC REPORT

Applicant:	SWAGTEK
Address of Applicant:	10205 NW 19th Street,STE 101, Miami, FL33172,USA
Equipment Under Test (E	EUT)
Product Name:	6.8 inch 4G Smart Phone
Model No.:	L68, MATRIX, N68
Trade mark:	LOGIC, iSWAG, UNONU
FCC ID:	O55681521
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	18 May, 2021
Date of Test:	18 May, to 17 Jun., 2021
Date of report issued:	22 Jun., 2021
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.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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Version 2

Version No.	Date	Description
00	22 Jun., 2021	Original

Tested by:

Janet Wei Test Engineer

Date: 22 Jun., 2021

Reviewed by:

Winner Thang

Project Engineer

Date: 22 Jun., 2021

Project No.: JYTSZE2105075



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4 Test Summary

Test Items	Section in CFR 47	Test Data	Result
Antenna requirement	15.203 & 15.247 (b)	See Section 6.1	Pass
AC Power Line Conducted Emission	15.207	See Section 6.2	Pass
Duty Cycle	ANSI C63.10-2013	Appendix A – 2.4G Wi-Fi	Pass
Conducted Peak Output Power	15.247 (b)(3)	Appendix A – 2.4G Wi-Fi	Pass
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Appendix A – 2.4G Wi-Fi	Pass
Power Spectral Density	15.247 (e)	Appendix A – 2.4G Wi-Fi	Pass
Conducted Band Edge		Appendix A – 2.4G Wi-Fi	Pass
Radiated Band Edge	15.247 (d)	See Section 6.6.2	Pass
Conducted Spurious Emission		Appendix A – 2.4G Wi-Fi	Pass
Radiated Spurious Emission	15.205 & 15.209	See Section 6.7.2	Pass
Remark:	1	1	1

1. Pass: The EUT complies with the essential requirements in the standard.

2. N/A: Not Applicable.

3. 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



5 General Information

5.1 Client Information

Applicant:	SWAGTEK
Address:	10205 NW 19th Street, STE 101, Miami, FL33172, USA
Manufacturer/ Factory:	SWAGTEK
Address:	10205 NW 19th Street, STE 101, Miami, FL33172, USA

5.2 General Description of E.U.T.

Product Name:	6.8 inch 4G Smart Phone			
Model No.:	L68, MATRIX, N68			
Operation Frequency:	2412MHz~2462MHz: 802.11b/802.11g/802.11n(HT20)			
	2422MHz~2452MHz: 802.11n(HT40)			
Channel numbers:	11: 802.11b/802.11g/802.11(HT20)			
	7: 802.11n(HT40)			
Channel separation:	5MHz			
Modulation technology:	Direct Sequence Spread Spectrum (DSSS)			
(IEEE 802.11b)				
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 150Mbps			
Antenna Type:	Internal Antenna			
Antenna gain:	0.58dBi			
Power supply:	Rechargeable Li-ion Battery DC3.85V, 5000mAh			
AC adapter:	Model: GLY-G43UA-050200-629A			
	Input: AC100-240V, 50/60Hz, 0.3A			
	Output: DC 5.0V, 2000mA			
Remark:	Model No.: L68, MATRIX, N68 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being trademark. LOGIC is for L68. iSWAG is for MATRIX, UNONU is for N68			
Test Sample Condition:	The test samples were provided in good working order with no visible defects.			

Operation Frequency each of channel for 802.11b/g/n(HT20)							
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 0							

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. Channel 3, 6 & 9 selected for 802.11n-HT40 as Lowest, Middle and Highest Channel.

JianYan Testing Group Shenzhen Co., Ltd. No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China. Telephone: +86 (0) 755 23118282 Fax: +86 (0) 755 23116366



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:

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)	6.5Mbps
802.11n(HT40)	13.5Mbps

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.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China. Tel: +86-755-23118282, Fax: +86-755-23116366 Email: info-JYTee@lets.com, Website: http://www.ccis-cb.com



5.8 Test Instruments list

Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	ETS	9m*6m*6m	966	01-19-2021	01-18-2024
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-03-2021	03-02-2022
Biconical Antenna	SCHWARZBECK	VUBA9117	359	06-18-2020	06-17-2021
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-03-2021	03-02-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-18-2020	06-17-2021
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-18-2020	11-17-2021
EMI Test Software	AUDIX	E3	V	/ersion: 6.110919b)
Pre-amplifier	HP	8447D	2944A09358	03-03-2021	03-02-2022
Pre-amplifier	CD	PAP-1G18	11804	03-03-2021	03-02-2022
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-03-2021	03-02-2022
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	11-18-2020	11-17-2021
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-03-2021	03-02-2022
Spectrum Analyzer	Agilent	N9020A	MY50510123	11-18-2020	11-17-2021
Signal Generator	Rohde & Schwarz	SMX	835454/016	03-03-2021	03-02-2022
Signal Generator	R&S	SMR20	1008100050	03-03-2021	03-02-2022
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTEST	MTS8200		Version: 2.0.0.0	
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-03-2021	03-02-2022
Cable	MICRO-COAX	MFR64639	K10742-5	03-03-2021	03-02-2022
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-03-2021	03-02-2022
DC Power Supply	XinNuoEr	WYK-10020K	1409050110020	09-25-2020	09-24-2021
Temperature Humidity Chamber	HengPu	HPGDS-500	20140828008	11-01-2020	10-31-2021
Simulated Station	Rohde & Schwarz	CMW500	140493	07-22-2020	07-21-2021
10m SAC	ETS	RFSD-100-F/A	Q2005	03-31-2021	04-01-2024
BiConiLog Antenna	SCHWARZBECK	VULB 9168	1249	03-31-2021	04-01-2022
BiConiLog Antenna	SCHWARZBECK	VULB 9168	1250	03-31-2021	04-01-2022
EMI Test Receiver	R&S	ESR 3	102800	04-06-2021	04-07-2022
EMI Test Receiver	R&S	ESR 3	102802	04-06-2021	04-07-2022
Pre-amplifier	Bost	LNA 0920N	2016	04-06-2021	04-07-2022
Pre-amplifier	Bost	LNA 0920N	2019	04-06-2021	04-07-2022
Test Software	R&S	EMC32	Version: 10.50.40		

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	03-03-2021	03-02-2022
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	03-03-2021	03-02-2022
LISN	CHASE	MN2050D	1447	03-03-2021	03-02-2022
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	06-18-2020	06-17-2021
Cable	HP	10503A	N/A	03-03-2021	03-02-2022
EMI Test Software	AUDIX	E3	١	/ersion: 6.110919b)

Conducted method:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
Spectrum Analyzer	Keysight	N9010B	MY60240202	11-27-2020	11-26-2021
Vector Signal Generator	Keysight	N5182B	MY59101009	11-27-2020	11-26-2021
Analog Signal Generator	Keysight	N5173B	MY59100765	11-27-2020	11-26-2021
Power Detector Box	MWRF-test	MW100-PSB	MW201020JYT	11-27-2020	11-26-2021
Simulated Station	Rohde & Schwarz	CMW270	102335	11-27-2020	11-26-2021
RF Control Box	MWRF-test	MW100-RFCB	MW200927JYT	N/A	N/A

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PDU	MWRF-test	XY-G10	N/A	N/A	N/A
Test Software	MWRF-tes	MTS 8310		Version: 2.0.0.0	
DC Power Supply	Keysight	E3642A	MY60296194	11-27-2020	11-26-2021

6 Test results and Measurement Data

6.1 Antenna requirement

Standard requirement:	FCC Part 15 C Section 15.203 /247(b)
responsible party shall be us antenna that uses a unique so that a broken antenna ca electrical connector is prohit 15.247(b) (4) requirement: (4) The conducted output po antennas with directional ga section, if transmitting anten power from the intentional ra	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. be the use of a standard antenna jack or bited. be the use of direction is based on the use of this that do not exceed 6 dBi. Except as shown in paragraph (c) of this anas of directional gain greater than 6 dBi are used, the conducted output adiator shall be reduced below the stated values in paragraphs (b)(1), tion, as appropriate, by the amount in dB that the directional gain of the
E.U.T Antenna:	
The Wi-Fi antenna is an Inter antenna is 0.58 dBi.	nal antenna which cannot replace by end-user, the best case gain of the



6.2 Conducted Emission

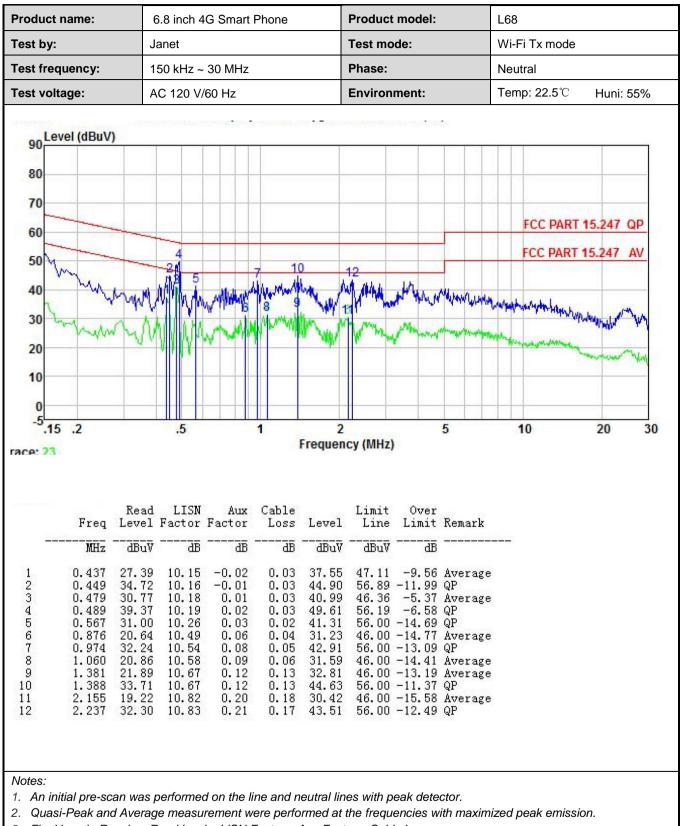
Test Requirement:	FCC Part 15 C Section 15.2	207	
Test Frequency Range:	150 kHz to 30 MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9 kHz, VBW=30 kHz		
Limit:	Frequency range (MHz)	Limit (c	dBuV)
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	* Decreases with the logarit		
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 	ors are connected to the m ation network (L.I.S.N.), w mpedance for the measur are also connected to the ohm/50uH coupling imper fer to the block diagram of are checked for maximum o 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:

roduct name:	6.8 inch 4G Smart Phone	Product model:	L68 Wi-Fi Tx mode		
est by:	Janet	Test mode:			
est frequency:	150 kHz ~ 30 MHz	Phase:	Line		
est voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5℃ Huni: 55%		
90 Level (dBuV) 80 70 60 50 40 40 40 40 40 50 40 50 40 50 40 50 40 50 40 50 50 40 50 50 50 50 50 50 50 50 50 5	.5 1 Freq	12 12 12 12 12 12 12 12 12 12 12 12 12 1	FCC PART 15.247 QP FCC PART 15.247 AV		
Freq L 	4.02 10.33 -0.21 0.03		QP Average QP Average QP QP Average Average Average QP		

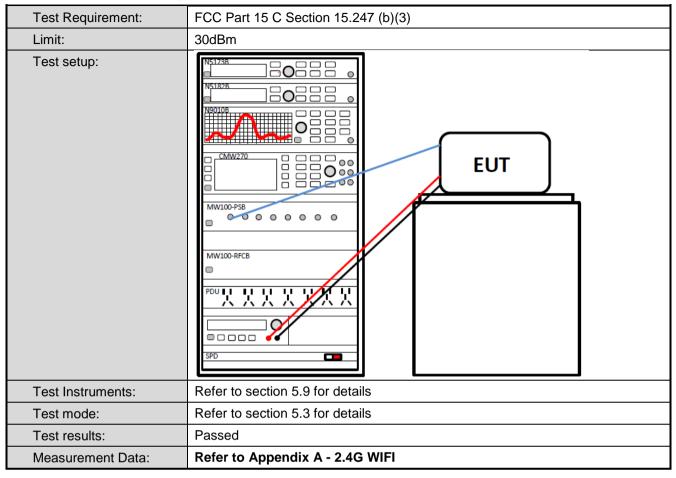




3. Final Level =Receiver Read level + LISN Factor + Aux Factor + Cable Loss.

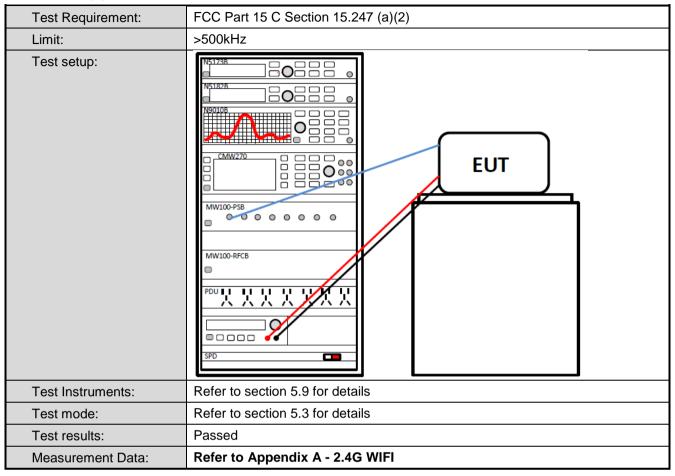


6.3 Conducted Output Power



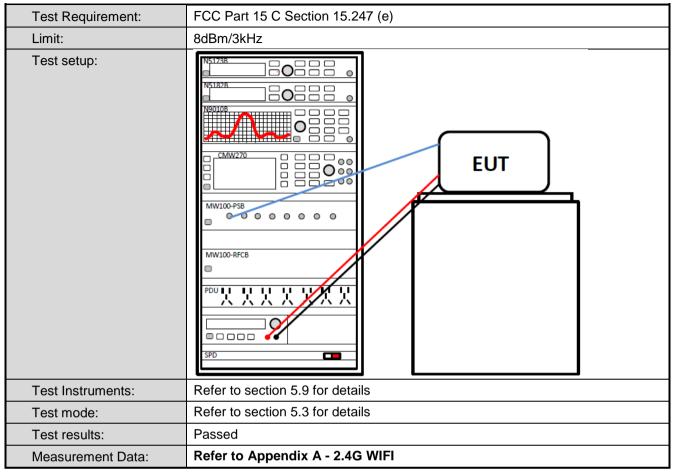


6.4 Occupy Bandwidth





6.5 Power Spectral Density





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 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. If 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 of 20 dB.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Measurement Data:	Refer to Appendix A - 2.4G WIFI



6.6.2 Radiated Emission Method

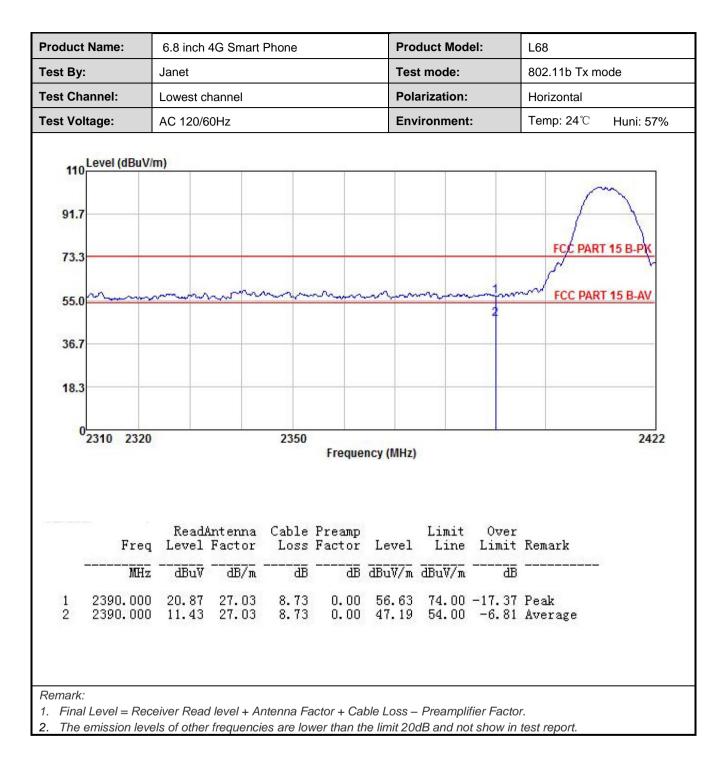
Test Requirement:	FCC Part 15 C Se	ection 15.209	and 15.205		
Test Frequency Range:	2310 MHz to 2390) MHz and 24	83.5 MHz to 2	500 MHz	
Test Distance:	3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
	Frequency	RMS	1MHz nit (dBuV/m @	3MHz	Average Value Remark
Limit:			54.00	,	Average Value
	Above 1GH		74.00		Peak Value
Test Procedure:	 the ground at determine the 2. The EUT was antenna, whit tower. 3. The antenna ground to det horizontal an measuremen 4. For each sus and then the and the rota to maximum rea 5. The test-rece Specified Bat 6. If the emission limit specified the EUT wou 10dB margin 	t a 3 meter ca e position of t s set 3 meters ch was moun height is vari- termine the m d vertical pola t. pected emiss antenna was table was turr ading. viver system v ndwidth with I on level of the d, then testing Id be reported would be re-	imber. The tak he highest radi s away from the ted on the top ed from one m aximum value arizations of the ion, the EUT w tuned to heigh ned from 0 deg was set to Peal Maximum Hold EUT in peak r could be stop d. Otherwise th	ble was rotati iation. e interferenc of a variable eter to four r of the field s e antenna ar vas arranged its from 1 me rees to 360 of k Detect Fun I Mode. node was 10 ped and the ne emissions one using pe	-height antenna neters above the strength. Both e set to make the l to its worst case eter to 4 meters degrees to find the ction and dB lower than the peak values of that did not have ak, quasi-peak or
Test setup:	150cm	AE EUT (Turntable)	Horn	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:

	:	6.8 inch	4G Smart	Phone			Product Model:		L68	L68	
st By:		Janet					Test mo	de:	802.11b Tx	mode	
st Channel:		Lowest channel					Polariza	tion:	Vertical		
st Voltage:		AC 120/6	60Hz				Environ	ment:	Temp: 24°C	Huni: 57%	
110 Level (dE 91.7 73.3 55.0)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				www		FCC PART	Ļ	
36.7											
18.3											
0	220			2250						2422	
0 2310 2		Read/ Level	Antenna Factor	2350 Cable Loss	Preamp	ncy (MHz) Level	Limit	Over Limit		2422	
0 <mark>2310 2</mark>		Level	Antenna Factor dB/m	Cable Loss	Preamp Factor	Level	Limit	Limit	Remark	2422	







oduct N	lame:	6.8 inch	4G Smart	Phone		Ρ	roduct Mo	odel:	L68		
st By:		Janet				Т	est mode		802.11b Tx m	ode	
st Chan	inel:	Highest	channel			Р	Polarization:		Vertical		
st Volta	ige:	AC 120/6	60Hz			E	nvironme	nt:	Temp: 24 ℃	Huni: 57%	
110 91.7 73.3 55.0 36.7 18.3 0 24	vel (dBuV/n						2		FCC PART		
					Frequen	cy (MHz)					
	Freq MHz	Read Level dBuV	Antenna Factor 	Cable Loss 4B	Factor		Limit Line dBuV/m	Limit	Remark	2	
		22.36	27.27 27.27	8.82 8.82	0.00 0.00	58.45 50.03		-15.55	Peak Average		



Product Name:	6.8 inch 4G Sn	hart Phone			Produ	ict Model	: L68				
est By:	Janet				Test n	node:	802.11b Tx	802.11b Tx mode			
est Channel:	Highest channe				Polari	zation:	Horizontal	Horizontal			
est Voltage:	AC 120/60Hz				Enviro	onment:	Temp: 24 ℃	Huni: 57%			
110 Level (dBuV/r 91.7 73.3 55.0 36.7 18.3	n)							RT 15 B-PK RT 15 B-AV			
02452 Freq	ReadAntenna Level Factor	a Cable Loss	Preamp	uency (M Level	Limit	Over Limit	Remark	2500			
	dBuV dB/r	ā	āB	dBuV/m	dBuV/m	ā					
MHz	- un u v n un v i					-15.44	Deele				



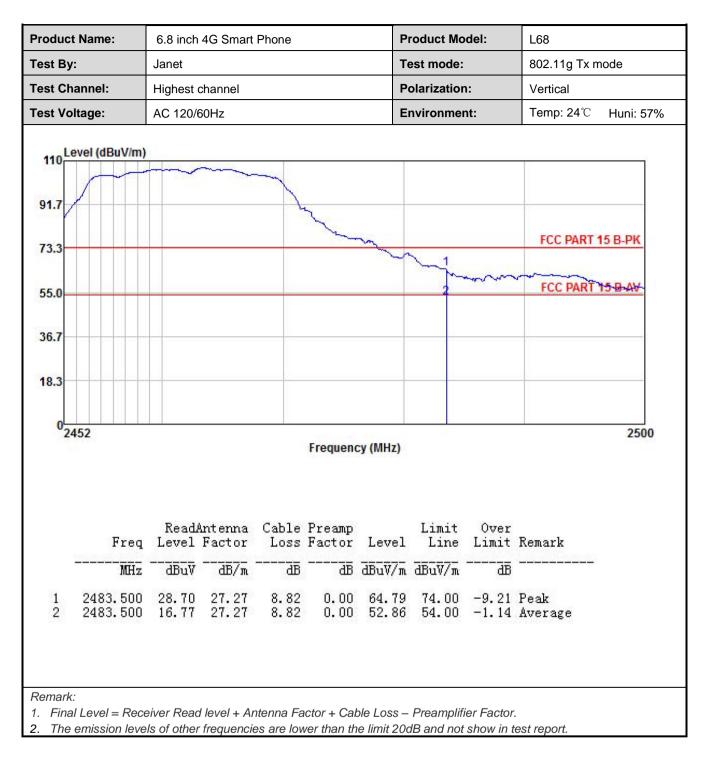
802.11g mode:

June	t Name:	6.8 i	nch 4G Sr	nart Pho	ne		Pro	duct Mod	lel:	L68			
est By	/:	Jane	t				Test	Test mode:802.11g Tx mode					
est Ch	nannel:	Lowe	est channe	I			Pola	arization:		Vertical			
est Vo	oltage:	AC 1	20/60Hz				Env	Environment:		Temp: 24 ℃	Huni: 57%		
110 91.7 73.3		//m)								FCC PART	15 B-PK		
55.0	mun		m	·~~~		mm		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		FCC PART	15 B-AV		
36.7	7			· · · · · · · · · · · · · · · · · · ·									
18.3	3						-		_				
				2:	350 Fre	equency ((MHz)				2422		
(2310 2320 Frea	Read	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark				
-		Read. Level	Antenna Factor dB/m	Loss	Factor	Level dBuV/m	Line	Limit					

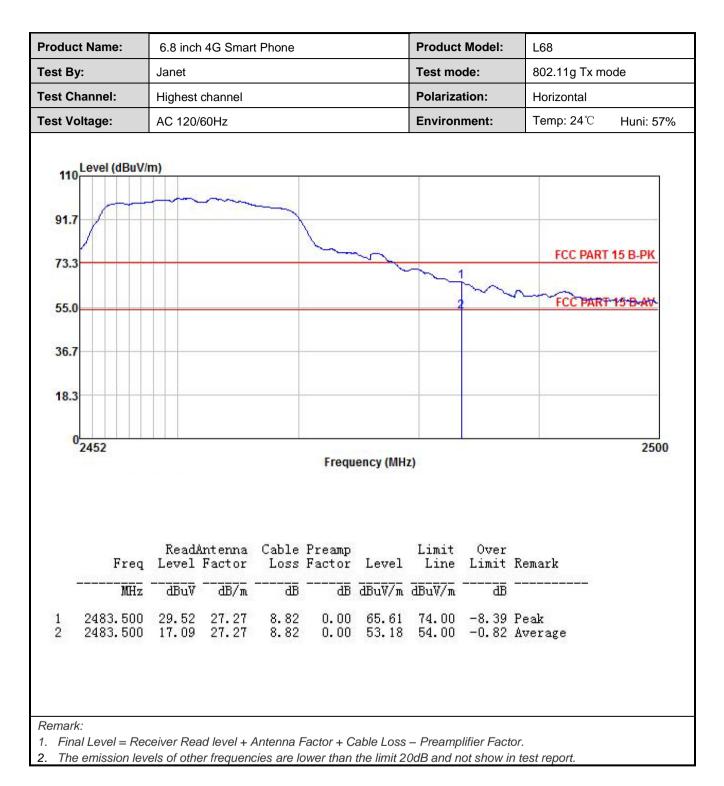












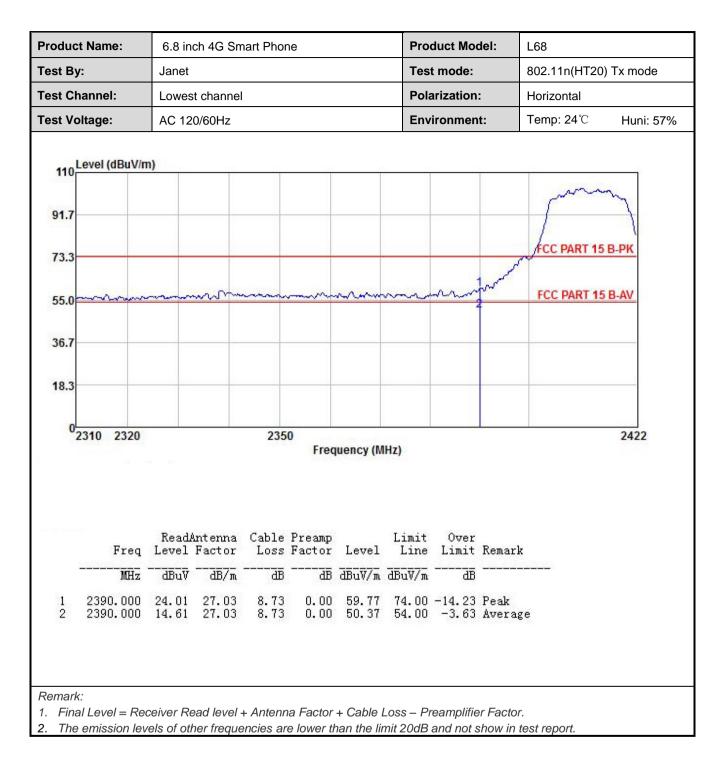
Telephone: +86 (0) 755 23118282 Fax: +86 (0) 755 23116366



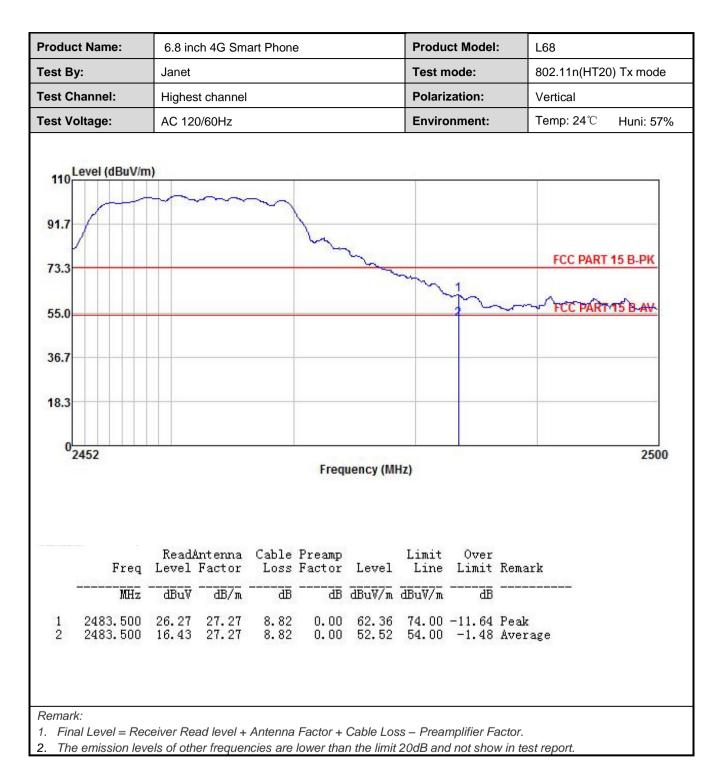
802.11n(HT20):

oduct Name:	6.8 inch	S.8 inch 4G Smart PhoneProduct Model:L68		L68							
est By:	Janet					Test me	ode:	802.11n(HT2	802.11n(HT20) Tx mode		
st Channel:	Lowest c	hannel				Polarization:		Vertical	Vertical		
est Voltage:	AC 120/6	30Hz				Enviror	nment:	Temp: 24 ℃	Huni: 57%		
110 Level (dBu) 91.7 73.3 55.0 36.7 18.3	//m)		~~~~~	····			2	FCC PART			
02310 232	D		2350		ency (MH	z)			2422		
	Road	Antenna	Cable Loss	Preamp Factor	Level	Limit Line		Remark			
Fre	q Level	Factor									
Fre	q Level		<u>d</u> B			dBuV/m					

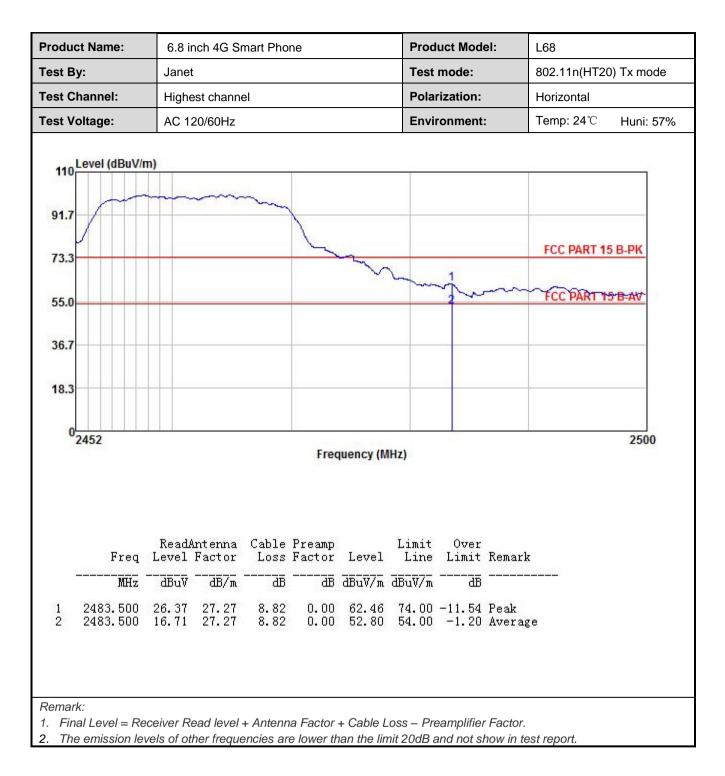










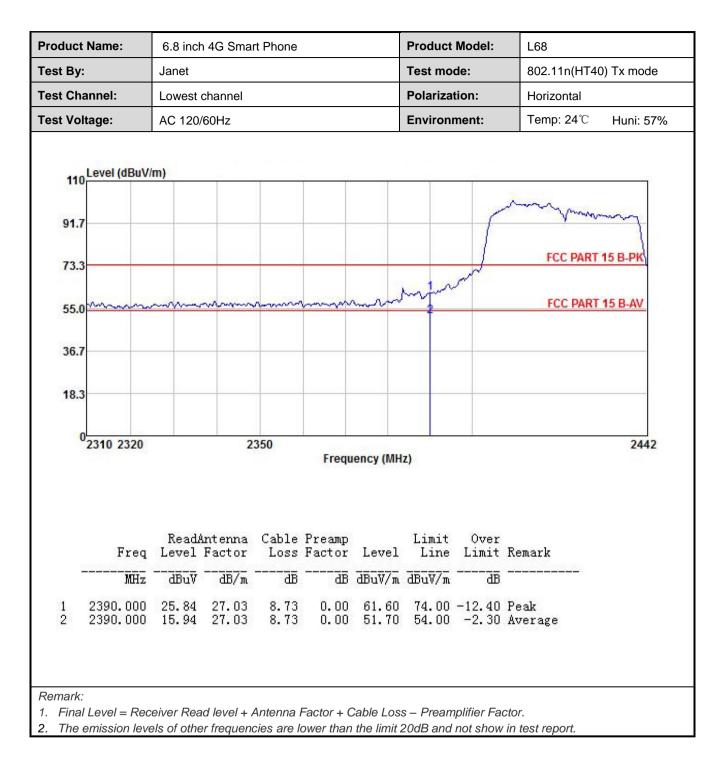




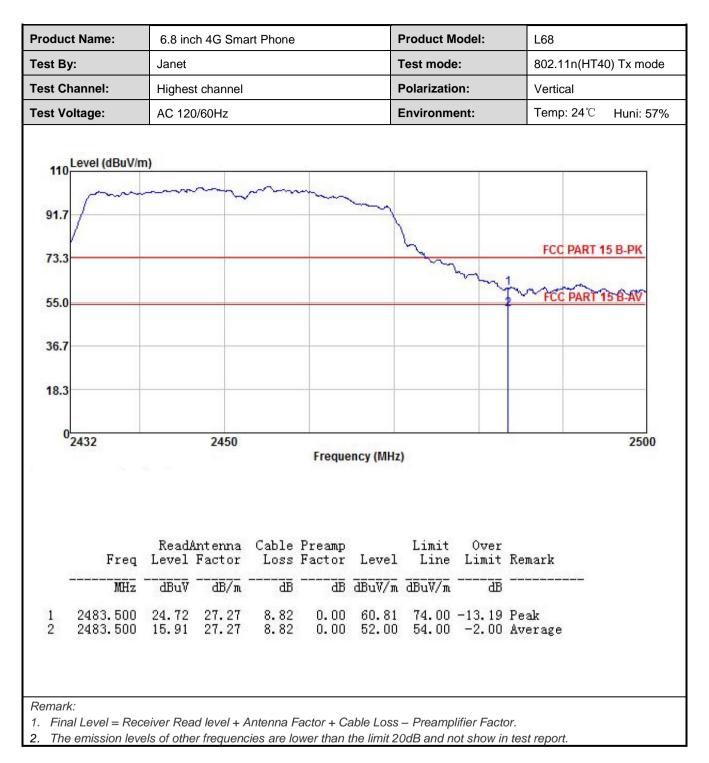
802.11n(HT40):

	6.8 inch	6.8 inch 4G Smart PhoneProduct Model:L68		L68						
est By:	Janet					Test mo	de:	802.11n(HT4	0) Tx mode	
est Channel:	Lowest cl	Lowest channel					tion:	Vertical		
est Voltage:	AC 120/6	0Hz				Environ	ment:	Temp: 24 ℃	Huni: 57%	
110 Level (dBu 91.7 73.3 55.0 36.7 18.3	//m)					M	ver	FCC PART		
0 2310 2320		23	50	Frequ	ency (MH	z)			2442	
Fre	Read/ q Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark		
Fre	q Level	Antenna Factor dB/m	Loss	Preamp Factor dB	Level	Line	Limit	Remark		

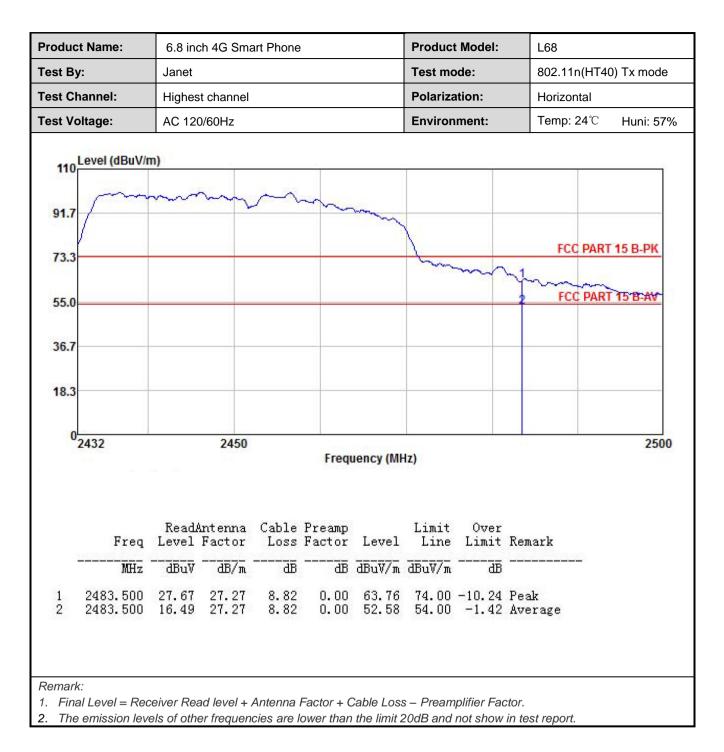














6.7 Spurious Emission

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. If 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 of 20 dB.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Measurement Data:	Refer to Appendix A - 2.4G WIFI



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 or 10m						
Receiver setup:	Frequency	Dete	ctor	RBW	V	BW	Remark
	30MHz-1GHz	peak	120KHz	300)KHz	Quasi-peak Value	
	Above 1GHz	Pea	ak	1MHz	31	ЛНz	Peak Value
	ADOVE IGHZ	RM	IS	1MHz	31	ЛНz	Average Value
Limit:	Frequency		Limit	(dBuV/m @10)m)		Remark
	30MHz-88MH	Iz		30.0		Q	uasi-peak Value
	88MHz-216MH			33.5		1	uasi-peak Value
	216MHz-960M			36.0		1	uasi-peak Value
	960MHz-1GH	z		44.0		Q	uasi-peak Value
	Frequency		Limi	t (dBuV/m @3	m)		Remark
	Above 1GHz	2		54.0			Average Value
Test Procedure:	1. The EUT wa			74.0	o ro!	loting (Peak Value table 0.8m(below
Test setup:	 (below 1GHz) 360 degrees 2. The EUT was away from th the top of a va 3. The antenna ground to det horizontal and measuremen 4. For each sus and then the and the rota to maximum rea 5. The test-rece Specified Bar 6. If the emission limit specified the EUT woul 10dB margin average meth)or 3 me to detern s set 10 he interfe ariable-h height is cermine t d vertica t. pected e antenna ading. viver syst dwidth v on level o d, then te ld be rep would be	ter cha mine the meters rence-in reight a varied he max l polariz mission was tu s turned em was with Ma f the El sting co ported. (e re-tes	mber(above e position of t s(below 1GH receiving ant ntenna tower from one me timum value of zations of the timum value of zations of the timum the EUT wo ned to height d from 0 degr s set to Peak to peak me puld be stopp Otherwise the ted one by o	1GHz the hi z) or enna, c. eter to of the ante as arr rees to Dete mode woed ar e emis ne us	z). The ghest r 3 me which o four m field st nna are ranged n 1 me o 360 c ct Fund was 10 nd the p ssions ing pea	ters (above 1GHz) was mounted on heters above the trength. Both e set to make the to its worst case ter to 4 meters legrees to find the ction and dB lower than the peak values of that did not have ak, quasi-peak or
	Below 1GHz		4m 4m 1m			Anter Searc Anter RF Test Receive	nna

Project No.: JYTSZE2105075



Report No: JYTSZB-R12-2100830

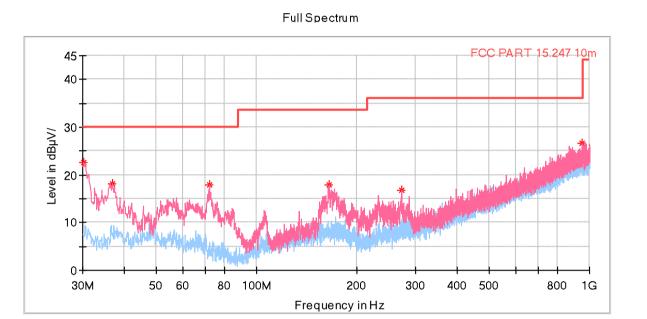
	AE EUT Horn Antenna Tower usof (Turntable) Ground Reference Plane Test Receiver
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	 Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst 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:	6.8 inch 4G Smart Phone	Product Model:	L68
Test By:	Janet	Test mode:	Wi-Fi Tx mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Vertical & Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



•	Frequency (MHz).	MaxPeak ↓ (dB ዞ V/m).	Limit⊥ (dBµ-	Margin↓ (dB).₁	Height (cm)	Pol.	Azimuth↓ (deg).₁	Corr.↓ (dB/m).
•	30.291000.1	22.50.1	30.00.1	7.50.	100.0.1	V .1	118.0.1	-17.6
•	36.887000.1	18.24.1	30.00.1	11.76.	100.0.1	V .1	35.0.1	-16.3
•	72.098000.1	17.81.	30.00 .1	12.19.	100.0.1	V .1	220.0.1	-18.7
•	165.315000.		33.50 a	15.48.	100.0.1	V .1	269.0.1	-15.9
•	272.597000.1	16.90.	36.00.1	19.10 .1	100.0.1	V .1	240.0.1	-14.8
•	951.791000.	26.58.	36.00	9.43.1	100.0.1	V.	269.0	-0.1

Remark:

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



Above 1GHz

			802.11b			
			annel: Lowest ch			
		De	tector: Peak Valu		T	
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4824.00	56.56	-10.33	46.23	74.00	27.77	Vertical
4824.00	58.21	-10.33	47.88	74.00	26.12	Horizonta
		Dete	ctor: Average Va	llue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4824.00	51.46	-10.33	41.13	54.00	12.87	Vertical
4824.00	54.48	-10.33	44.15	54.00	9.85	Horizonta
			annel: Middle ch			
	I	De	tector: Peak Valu		T	
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4874.00	56.34	-10.17	46.17	74.00	27.83	Vertical
4874.00	58.35	-10.17	48.18	74.00	25.82	Horizonta
		Dete	ctor: Average Va	lue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4874.00	51.42	-10.17	41.25	54.00	12.75	Vertical
4874.00	54.22	-10.17	44.05	54.00	9.95	Horizonta
		Testab	annalı I liahaat al			
			annel: Highest cl tector: Peak Valu			
Frequency	Read Level	De	Level	Limit Line	Margin	
(MHz)	(dBuV)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	Polarizatio
4924.00	56.41	-10.02	46.39	74.00	27.61	Vertical
4924.00	58.36	-10.02	48.34	74.00	25.66	Horizonta
			ctor: Average Va			
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
	50.93	-10.02	40.91	54.00	13.09	Vertical
4924.00	50.85	10.02	10.01			



			802.11g			
			annel: Lowest ch			
_	[De	tector: Peak Valu		I	
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4824.00	56.30	-10.33	45.97	74.00	28.03	Vertical
4824.00	58.44	-10.33	48.11	74.00	25.89	Horizonta
		Dete	ctor: Average Va	lue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4824.00	50.54	-10.33	40.21	54.00	13.79	Vertical
4824.00	54.64	-10.33	44.31	54.00	9.69	Horizonta
		Test ch	annel: Middle ch	annel		
		De	tector: Peak Valu	ie		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4874.00	56.35	-10.17	46.18	74.00	27.82	Vertical
4874.00	58.18	-10.17	48.01	74.00	25.99	Horizonta
		Dete	ctor: Average Va	alue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4874.00	50.26	-10.17	40.09	54.00	13.91	Vertical
4874.00	54.94	-10.17	44.77	54.00	9.23	Horizonta
			annel: Highest cl tector: Peak Valu			
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4924.00	55.98	-10.02	45.96	74.00	-28.04	Vertical
4924.00	58.47	-10.02	48.45	74.00	-25.55	Horizonta
		Dete	ctor: Average Va	alue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4924.00	50.01	-10.02	39.99	54.00	14.01	Vertical
4924.00	55.12	-10.02	45.10	54.00	8.90	Horizonta
	Receiver Read level		er than the limit 200	dB and not show in te	est report	



			802.11n(HT20)	annal		
			annel: Lowest ch tector: Peak Valu			
Fraguanay	Deedlevel	Del			Morgin	
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4824.00	56.04	-10.33	45.71	74.00	28.29	Vertical
4824.00	58.66	-10.33	48.33	74.00	25.67	Horizonta
		Dete	ctor: Average Va	lue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4824.00	50.14	-10.33	39.81	54.00	14.19	Vertical
4824.00	54.77	-10.33	44.44	54.00	9.56	Horizonta
		Test ch	annel: Middle ch	annel		
			ector: Peak Valu			
Frequency	Read Level	Del	Level	Limit Line	Margin	
(MHz)	(dBuV)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	Polarizatio
4874.00	55.92	-10.17	45.75	74.00	28.25	Vertical
4874.00	58.16	-10.17	47.99	74.00	26.01	Horizonta
		Dete	ctor: Average Va	lue		-
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4874.00	50.10	-10.17	39.93	54.00	14.07	Vertical
4874.00	54.88	-10.17	44.71	54.00	9.29	Horizonta
		Test cha	annel: Highest ch	nannel		
			ector: Peak Valu			
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4924.00	55.53	-10.02	45.51	74.00	28.49	Vertical
4924.00	58.37	-10.02	48.35	74.00	25.65	Horizonta
		Dete	ctor: Average Va	lue	•	
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4924.00	50.34	-10.02	40.32	54.00	13.68	Vertical
4924.00	55.14	-10.02	45.12	54.00	8.88	Horizonta



			802.11n(HT40) annel: Lowest ch	annal		
			tector: Peak Valu			
Frequency	Read Level	Del	Level	Limit Line	Margin	
(MHz)	(dBuV)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	Polarizatio
4844.00	55.79	-10.33	45.46	74.00	28.54	Vertical
4844.00	57.87	-10.33	47.54	74.00	26.46	Horizonta
	1	Dete	ctor: Average Va	lue	1	-
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4844.00	50.74	-10.33	40.41	54.00	13.59	Vertical
4844.00	54.88	-10.33	44.55	54.00	9.45	Horizonta
			annel: Middle ch			
	T	Det	ector: Peak Valu		T	
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4874.00	55.99	-10.17	45.82	74.00	28.18	Vertical
4874.00	58.14	-10.17	47.97	74.00	26.03	Horizonta
		Dete	ctor: Average Va	lue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4874.00	50.87	-10.17	40.70	54.00	13.30	Vertical
4874.00	55.05	-10.17	44.88	54.00	9.12	Horizonta
		Test cha	annel: Highest ch	nannel		
		Det	ector: Peak Valu	e		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4904.00	56.11	-10.02	46.09	74.00	27.91	Vertical
4904.00	58.46	-10.02	48.44	74.00	25.56	Horizonta
	•	Dete	ctor: Average Va	lue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatio
4904.00	51.20	-10.02	41.18	54.00	12.82	Vertical
4904.00	54.65	-10.02	44.63	54.00	9.37	Horizonta