

Report No: JYTSZB-R12-2100026

FCC REPORT

Applicant:	TECNO MOBILE LIMITED		
Address of Applicant:	FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET FOTAN NT		
Equipment Under Test (E	EUT)		
Product Name:	Mobile Phone		
Model No.:	CG6j		
Trade mark:	TECNO		
FCC ID:	2ADYY-CG6J		
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247		
Date of sample receipt:	08 Jan., 2021		
Date of Test:	09 Jan., to 18 Jan., 2021		
Date of report issued:	20 Jan., 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.

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Version 2

Version No.	Date	Description
00	20 Jan., 2021	Original

Tested by:

Reviewed by:

Mike.OU Test Engineer

20 Jan., 2021 Date:

Winner Thang

Project Engineer

Date: 20 Jan., 2021

Project No.: JYTSZE2101042



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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

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:	TECNO MOBILE LIMITED
Address:	FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET FOTAN NT
Manufacturer:	TECNO MOBILE LIMITED
Address:	FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET FOTAN NT
Factory:	SHENZHEN TECNO TECHNOLOGY CO., LTD.
Address:	101, Building 24, Waijing Industrial Park, Fumin Community, Fucheng Street, Longhua District, Shenzhen City, P.R.China

5.2 General Description of E.U.T.

Product Name:	Mobile Phone					
Model No.:	CG6j					
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: (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 150Mbps					
Antenna Type:	Internal Antenna					
Antenna gain:	1.2dBi					
Power supply:	Rechargeable Li-ion polymer Battery DC3.85V-4900mAh					
AC adapter:	Model: U180TSA					
	Input: AC100-240V, 50/60Hz, 0.6A					
	Output: DC 5.0V - 9.0V 2A, 9.0V - 12.0V 1.5A					
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 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.



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 we	ere the worst case.

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@ccis-cb.com, Website: http://www.ccis-cb.com



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	SCHWARZBECK	DDIA 9170	BDHA9170302	11-18-2020	11-17-2021	
EMI Test Software	AUDIX	E3	١	/ersion: 6.110919b)	
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	Ronde & Schwarz	F3P40	100363	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	١	/ersion: 6.110919	D						

Conducted method:										
Test Equipment	Manufacturer Model No. Se		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					
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:	dard 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 prohib 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 n be replaced by the user, but the use of a standard antenna jack or bited. ower 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 Antenna:								
The Wi-Fi antenna is an Inter antenna is 1.2 dBi.	nal antenna which cannot replace by end-user, the best case gain of the							



6.2 Conducted Emission

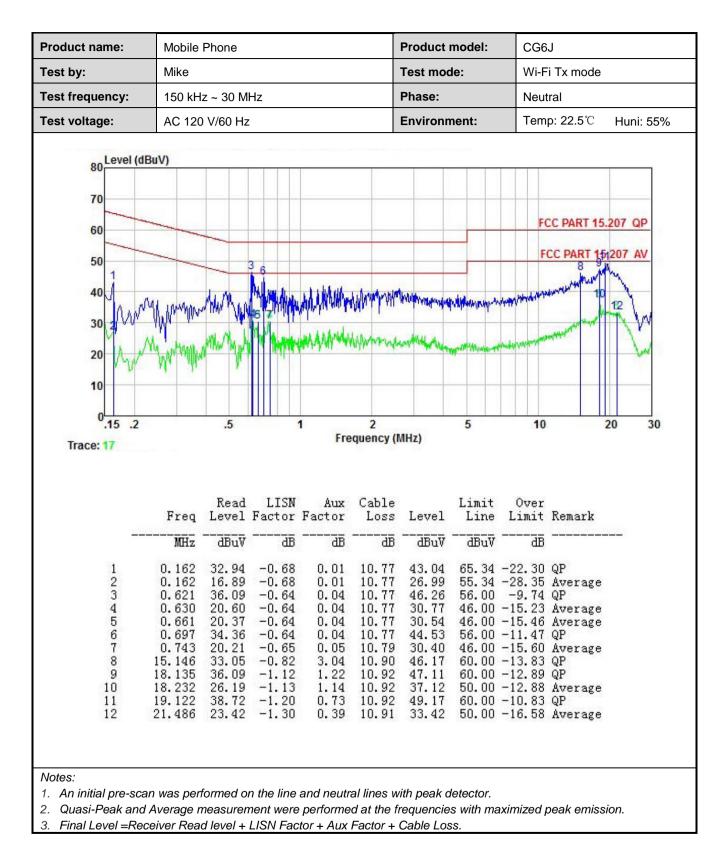
Test Requirement:	FCC Part 15 C Section 15.2	207						
Test Frequency Range:	150 kHz to 30 MHz							
Class / Severity:	Class B							
Receiver setup:	RBW=9 kHz, VBW=30 kHz							
Limit:	Frequency range (MHz)	Frequency range (MHz)						
	,	Quasi-peak	Average					
	0.15-0.5	66 to 56*	56 to 46*					
	0.5-5	56	46					
	5-30	60	50					
	* Decreases with the logarith							
Test procedure	 The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.), which provides a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10(latest version) on conducted measurement. 							
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:

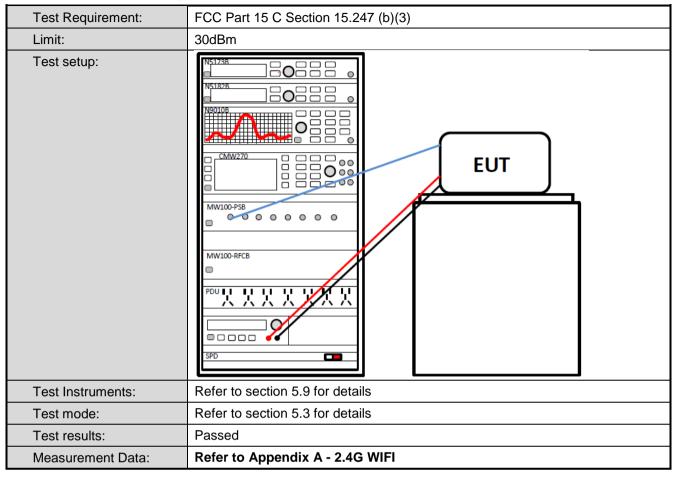
Product name:	Mobile F	Phone				Product model:			CG6J		
Test by:	Mike					Test mod	le:	Wi-I	i Tx mode		
Test frequency:	150 kHz	: ~ 30 M⊦	Ιz			Phase:		Line)		
Test voltage:	AC 120	V/60 Hz				Environn	nent:	Tem	າp: 22.5℃	Huni: 55%	
80 Level (d 70 60 50 1 40 30 20 10 0.15 .2 Trace: 19	M. Mary	.5		1	۲ ۲ ۲ 2 quency (N		5		~~		
- 1 2 3 4 5	Freq MHz 0.158 0.158 0.579 0.617 0.641	dBuV 32.26 21.07 20.99 32.18 21.18	Factor dB -0.57 -0.57 -0.47 -0.49 -0.50	Factor 	Loss 	Level dBuV 42.39 31.20 30.91 42.08 31.06	55.56 46.00 56.00 46.00	-23.17 -24.36 -15.09 -13.92 -14.94	Remark QP Average Average QP Average		
6 7 8 9 10 11 12 Votes:	0.694 0.735 15.635 18.039 18.232 19.021 20.270	33. 28 24. 47 29. 53 34. 55 22. 41 36. 80 21. 43	-0.53 -0.54 -0.72 -0.80 -0.81 -0.84 -0.88	1.74 1.36	10.77 10.79 10.90 10.92 10.92 10.92 10.92 10.93	43.12 34.44 42.93 46.57 34.26 48.24 32.38	46.00 60.00 60.00 50.00 60.00	-17.07 -13.43 -15.74 -11.76	Average QP QP Average		





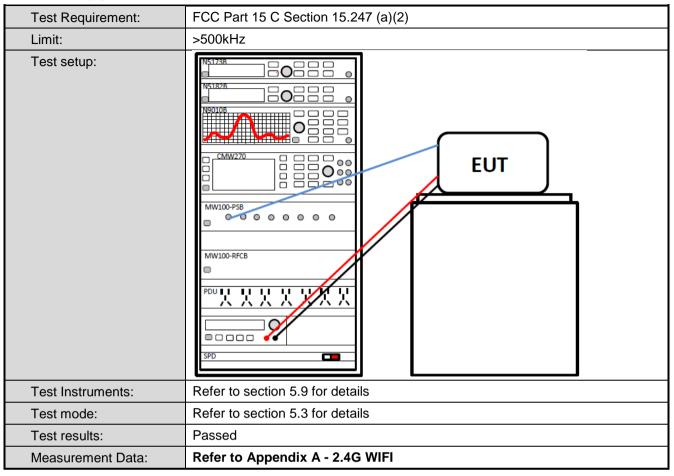


6.3 Conducted Output Power



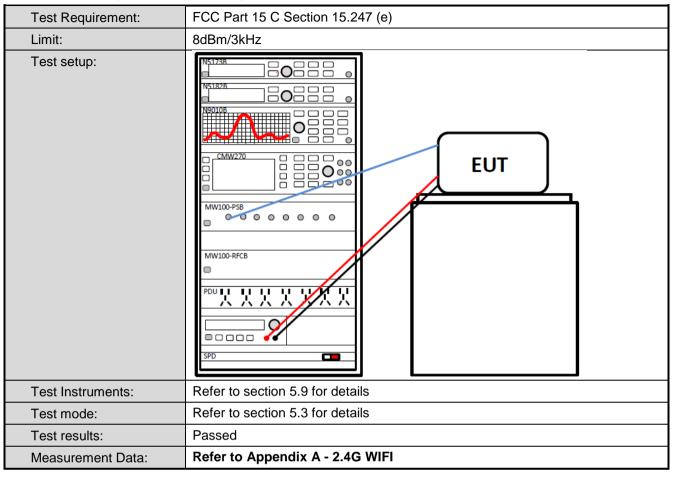


6.4 Occupy Bandwidth





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

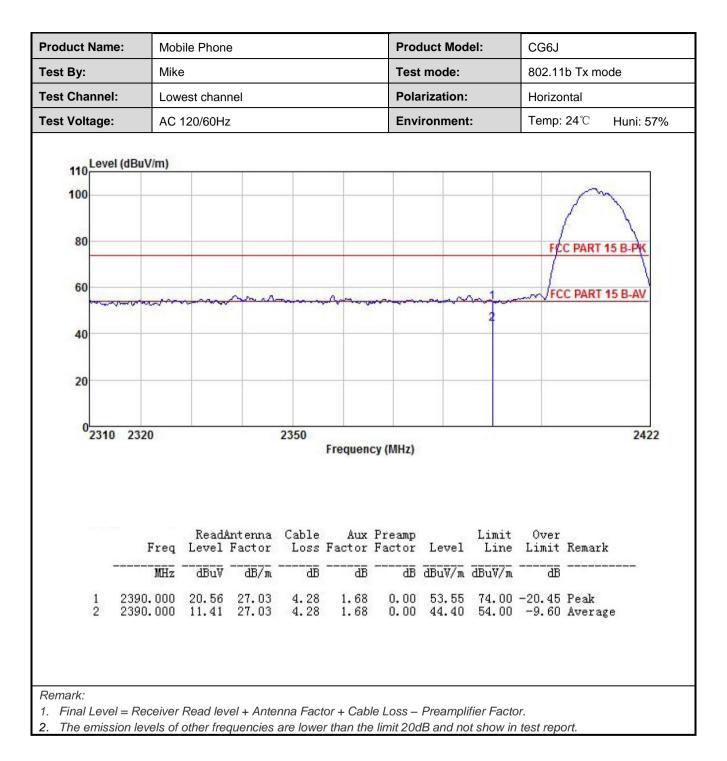
Test Requirement:	FCC Part 15 C Se	ection 15.209	and 15.205					
Test Frequency Range:	2310 MHz to 2390) MHz and 24	83.5 MHz to 2	500 MHz				
Test Distance:	3m							
Receiver setup:	Frequency	Detector	RBW	VBW	Remark			
	Above 1GHz	Peak	1MHz	3MHz	Peak Value			
	Frequency	RMS	1MHz nit (dBuV/m @	3MHz	Average Value Remark			
Limit:			54.00	,	Average Value			
	Above 1GH		74.00		Peak Value			
Test Procedure:	 The 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 average method as specified and then reported in a data sheet. 							
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							



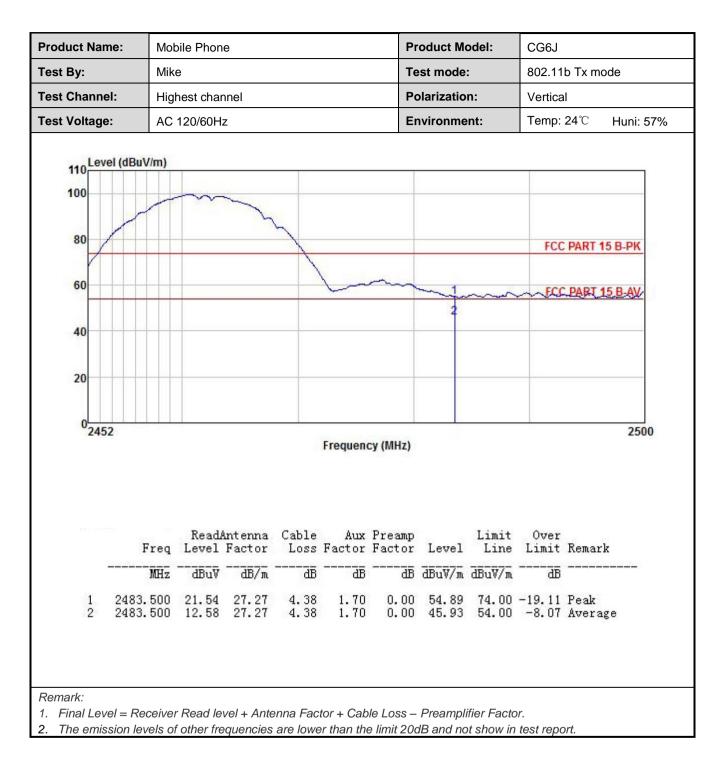
802.11b mode:

	me: Mot	ile Phone)			P	roduct M	CG6J			
Test By:	Mike	e				Т	Test mode: 802.11b Tx r			1b Tx mo	ode
Test Chann	el: Low	est chanr	nel			P	olarizatio	on:	Vertica	al	
Test Voltag	e: AC	120/60Hz				E	nvironm	ent:	Temp:	: 24 ℃	Huni: 57%
110 Le	vel (dBuV/m)										
100										~	
										1-	2
80			1						FC	C PART	15 B-PK
60									1		
~	and and		v.m.	same more		çan ça	mon	unafer	FC	C PART	15 B-AV
40								2	_		
20				_							
023	10 2320			2350							2422
	Freq	ReadA Level	ntenna Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit	Remark	τ
	Freq	ReadA Level dBuV	Factor	Cable Loss dB	Factor	Preamp Factor dB	Level	Line	Limit	Remark	τ
1 2	MHz	Level 	Factor 	Loss dB 4.28	Factor dB 1.68	Factor dB 0.00	Level dBuV/m 53.56	Line dBuV/m 74.00	Limit 	 Peak	

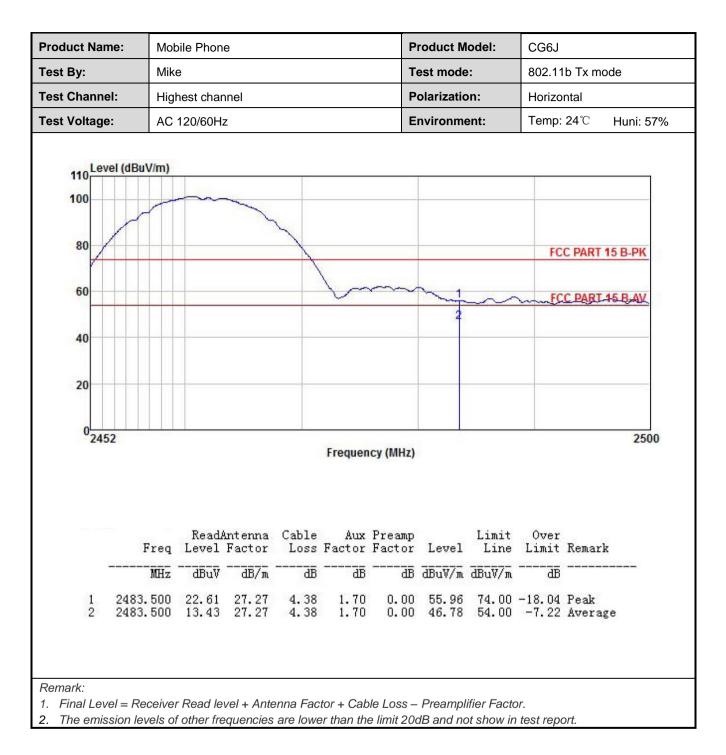










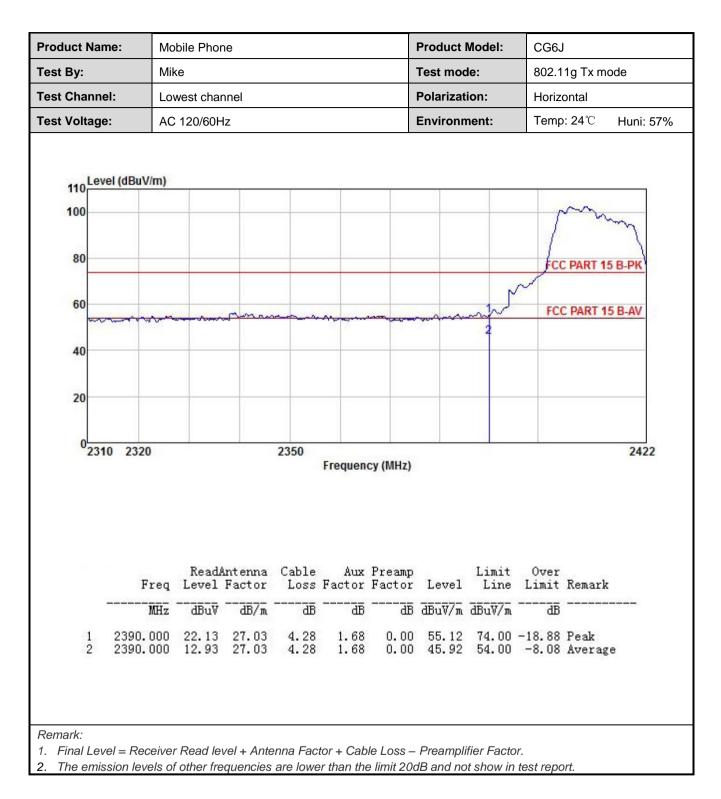




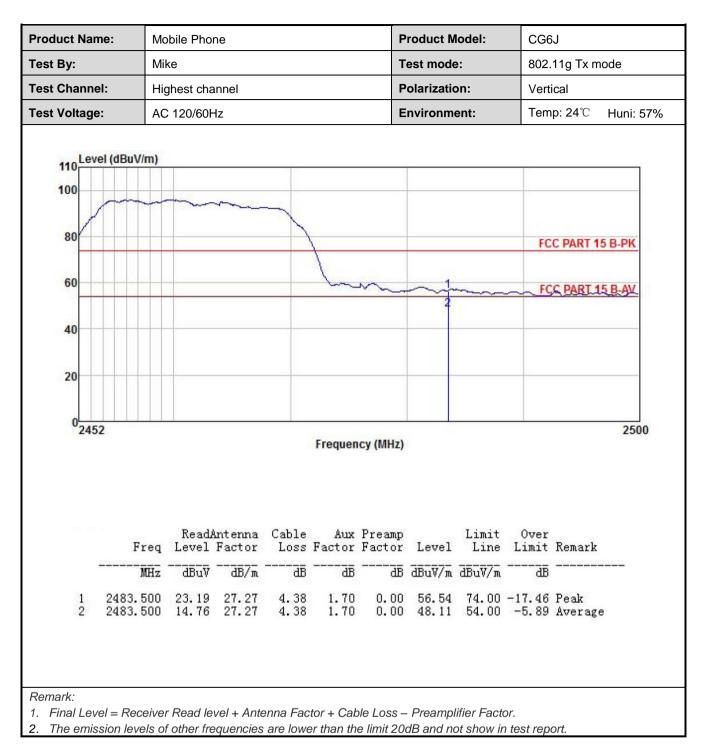
802.11g mode:

Product Na	me:	Mobile Phor	ie			F	Product I	Nodel:	CG6J			
Fest By:		Mike				٦	Test mode:802.11g Tx mode				ode	
Test Chann	el:	Lowest char	nel			F	Polarizati	on:	Vertic	Vertical		
Test Voltag	le:	AC 120/60H	Z			E	Environm	Temp	: 24 ℃	Huni: 57%		
110 Le	vel (dBuV/m	1)										
100												
										m	m	
80								_	FC	C PART 1	5 B-PK	
									7			
60		A	m	una a				antra	A FC	C PART 1	15 B-AV	
	and of				-			2				
40												
20												
0 23	10 2320			2350	Fragman	cy (MHz)					2422	
					riequen	cy (MHZ)						
	Fr	Read! eq Level	Intenna Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit	Remark		
			dB/m				dBuV/m					
1	2390.0						54.28			Peak		
2		00 12.35	27.03	4.28	1.68	0.00	45.34	54.00	-8.66	Averag	e	
Remark:												
	vel = Recei	iver Read lev	vel + Ante	nna Fact	or + Cab	le Loss –	Preampl	lifier Fact	or.			
2. The emi	ssion levels	s of other fre	quencies	are lowe	r than th	e limit 20	dB and no	ot show ii	n test rep	ort.		

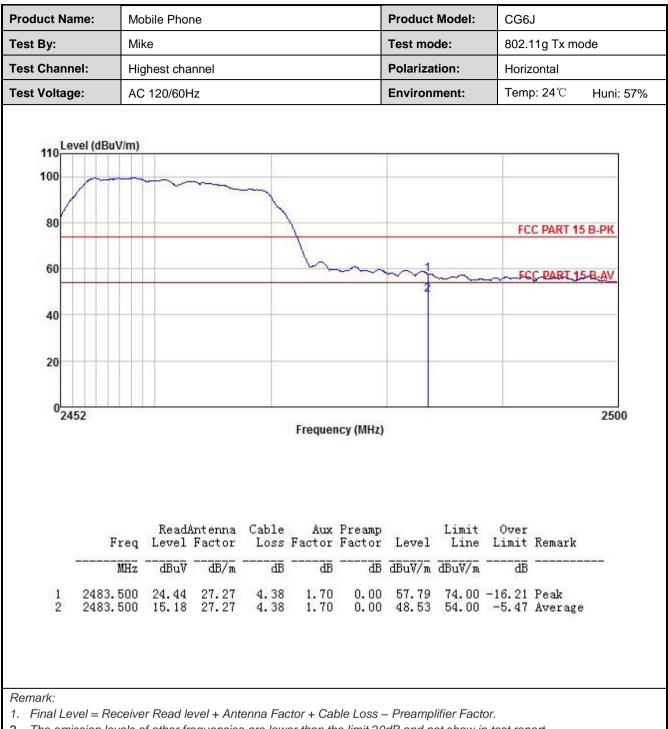












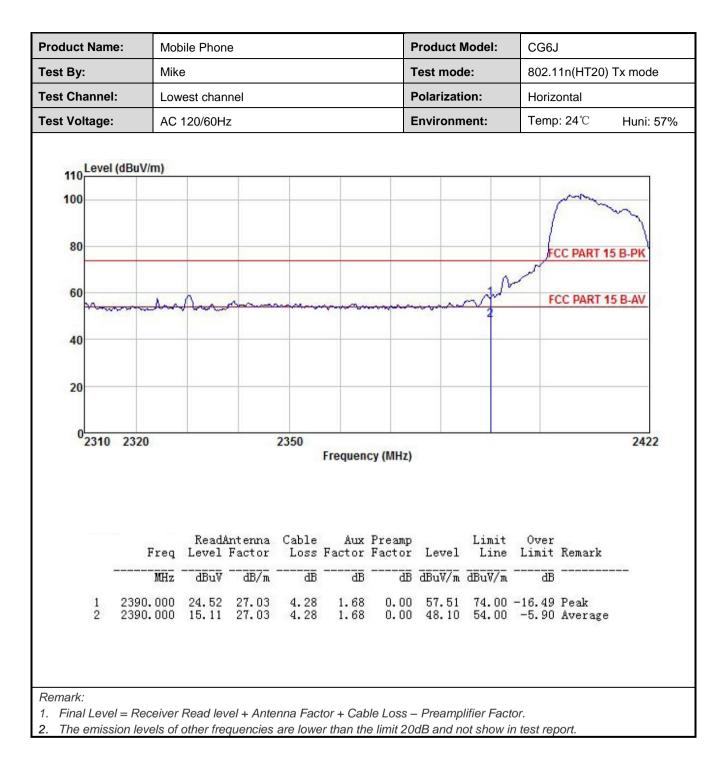
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.



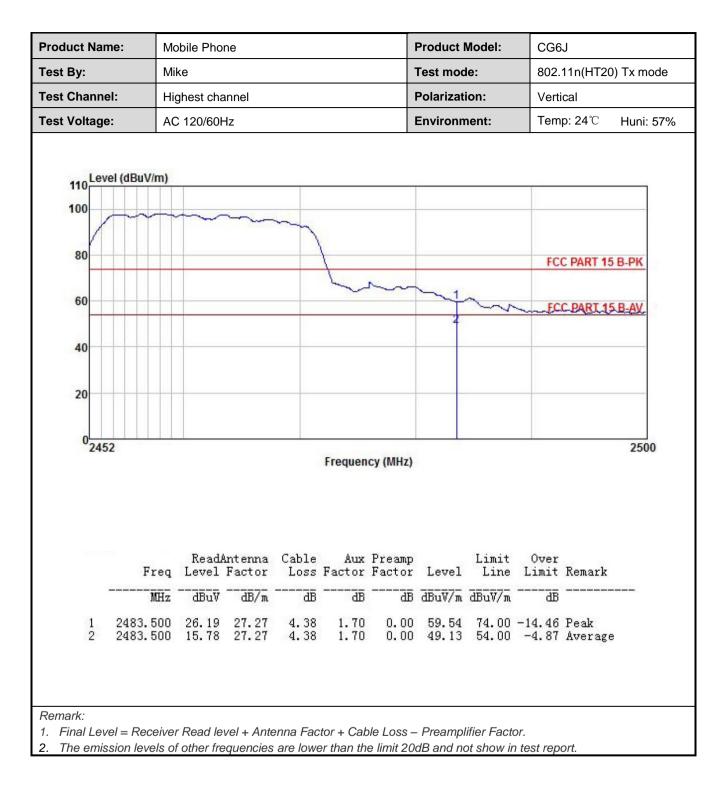
802.11n(HT20):

roduct Name:	Mobi	le Phone			Pr	oduct Mo	del:	CG6J			
est By:	Mike				Те	Test mode: 802.11n(HT20) T>			Tx mode		
est Channel:	Lowe	est channel			Po	larizatio	า:	Vertical			
est Voltage:	AC 1	20/60Hz			En	vironme	nt:	Temp: 24℃ Huni: 57%			
110 Level (d	lBuV/m)										
100				_				_			
								~	m	2	
80								FCC I	PART 15	B-PK	
								1			
60		PO Carlos	ana			<u> </u>		FCC	PART 15	B-AV	
100 M	and the second			-			2				
40											
-											
20											
2310	2320		2350	Frequen						2422	
				riequein	cy (MHZ)						
		ReadAntenna	Cable	Aux	Preamp		Limit	Over			
	Freq	Level Factor	Loss	Factor	Factor	Level	Line	Limit I	Remark		
	MHz	dBuV dB/m	dB	B	dB	dBuV/m	dBuV/m	dB			
1 23	90.000	22.66 27.03 13.40 27.03	4.28	1.68	0.00	55.65	74.00	-18.35 H	Peak		
2 2.	90.000	13.40 21.03	4.20	1.00	0.00	40.09	04.00	-1.01 /	nverag	6	
emark:											
		r Read level + Ante									

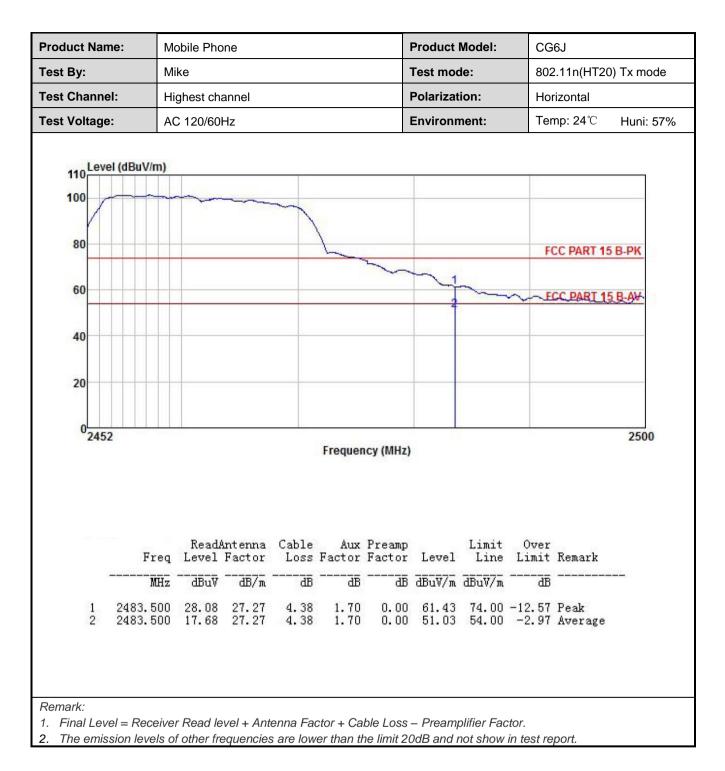










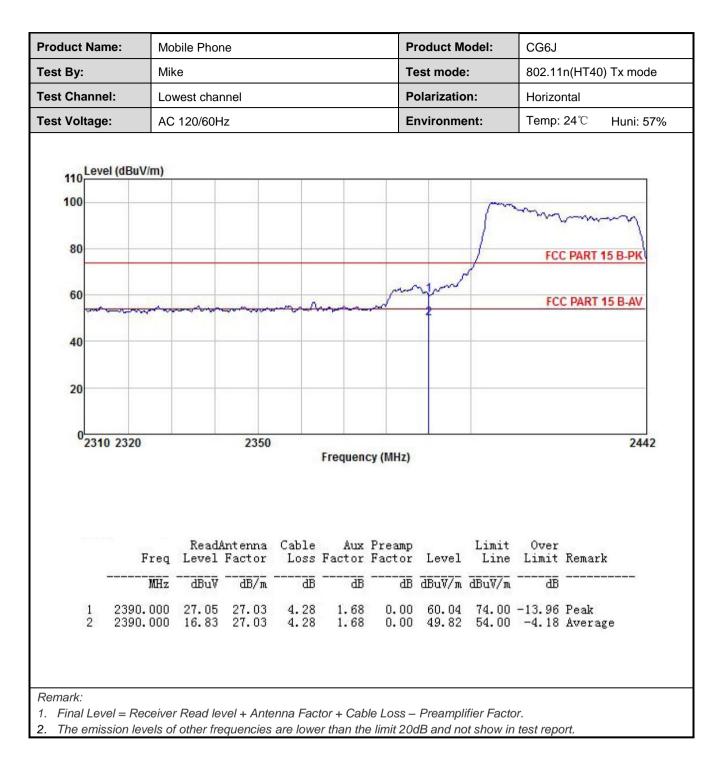




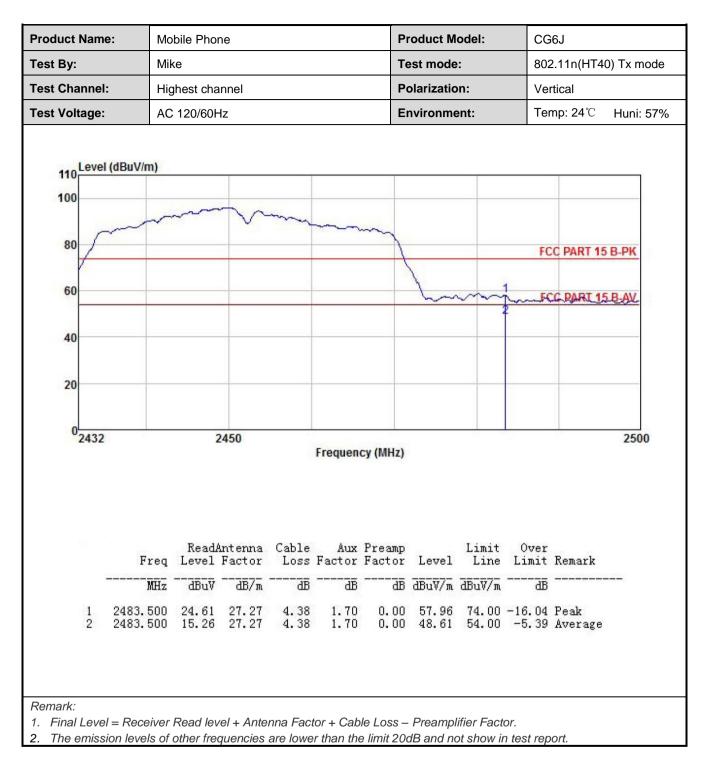
802.11n(HT40):

Product Nam	ne: Mobi	le Phone				1	Product Model: CG6J					
est By:	Mike						Test mod	de:	802.11n(HT40) Tx mode			
est Channe	l: Lowe	est chann	el				Polarization: Vertical					
est Voltage	: AC 1	20/60Hz				1	Environr	nent:	Tem	np: 24℃	Huni: 57%	
110 Leve 100 80	el (dBuV/m)							\int	~~~~ Fi	CC PART 1	•••••• 5 В-РК	
60	~~~~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		n m Alaaa	~~~^	nim	~	F	CC PART 1	5 B-AV	
40												
20												
0231	0 2320		2350		Frequer	ncy (MHz)	1				2442	
	Freq	ReadA Level	ntenna Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit			
	MHz	dBu⊽		dB	<u>ab</u>	āĒ	dBuV/m	dBuV/m				
	2300 000	23.14	27.03	4.28	1.68	0.00	56.13	74.00 54.00	-17.87	Peak Average		

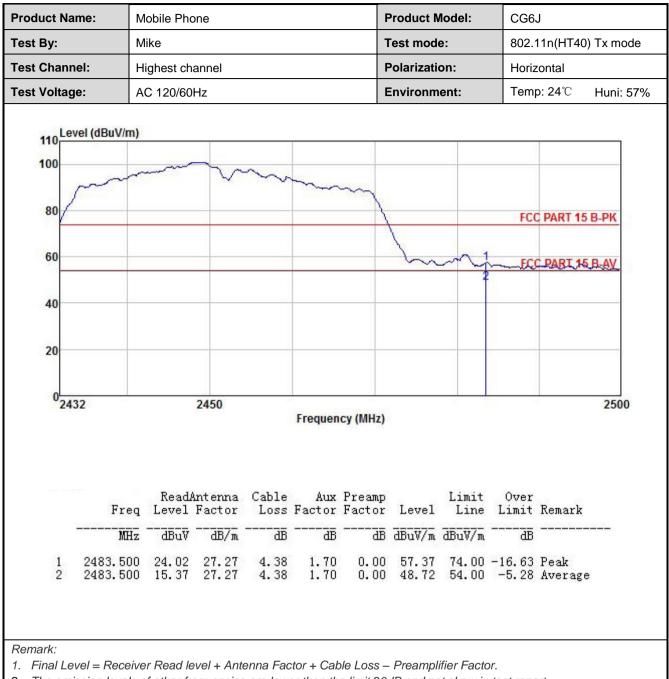












2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.



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	ction 15.	209 an	nd 15.205				
Test Frequency Range:	9kHz to 25GHz							
Test Distance:	3m							
Receiver setup:	Frequency	Deteo	ctor	RBW	V	BW	Remark	
	30MHz-1GHz	Quasi-	peak	120KHz	300	300KHz Quasi-peak		
	Above 1GHz	Pea		1MHz	3MHz		Peak Value	
		RM		1MHz		ЛНz	Average Value	
Limit:	Frequency	I-	Limi	t (dBuV/m @3	m)	0	Remark	
	30MHz-88MH 88MHz-216MH			40.0 43.5			uasi-peak Value uasi-peak Value	
	216MHz-960M			46.0			uasi-peak Value	
	960MHz-1GH			54.0			uasi-peak Value	
				54.0			Average Value	
	Above 1GHz	<u> </u>		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 average method as specified and then reported in a data sheet. 							
Test setup:	Below 1GHz	e 0.8m	4m			5		

Project No.: JYTSZE2101042



Report No: JYTSZB-R12-2100026

	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.



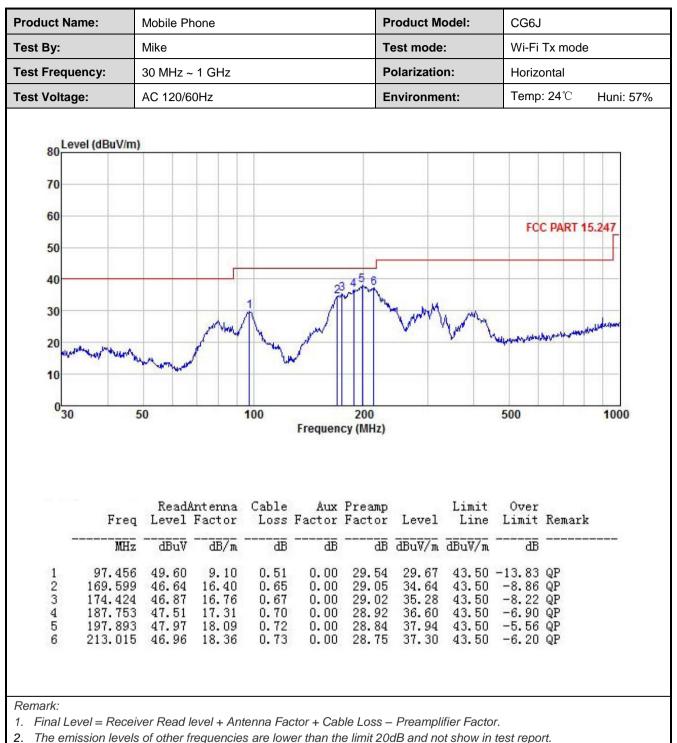
Measurement Data (worst case):

Below 1GHz:

Product Name:	. M	lobile Ph	one			Pi	Product Model:			CG6J		
est By:	M	like				Те	Test mode:			Wi-Fi Tx mode		
Test Frequency	y: 30	0 MHz ~	1 GHz			Р	olarizatio	n:	Vertical			
Test Voltage:	A	C 120/60)Hz			E	nvironme	nt:	Temp:	24 ℃	Huni: 57	
80 Level (70 60 50 40 30 20 10 0 30	2 2 50		34	100	Frequen	200 cy (MHz)	V~~m	~M	FC(C PART 1	F	
	Freq		Antenna Factor			Preamp Factor		Limit Line	Over Limit	Remark		
	MHz	dBuV	 dB/m	āB	<u>a</u> b	āB	dBuV/m	dBuV/m				
	33. 328 39. 715 79. 521	53.81 53.68 52.62 55.94	12.35 12.79 12.66 10.29 9.43	0.36 0.35 0.47 0.49 0.50	0.00 0.00 0.00	29.90 29.64 29.58	36.92 36.11 37.14	40.00 40.00 40.00 43.50 43.50	-3.89 -6.36	QP QP QP		

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





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



Above 1GHz

				8	02.11b				
			Te	est channe	I: Lowest c	hannel			
				Detector	: Peak Val	ue			1
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	52.44	30.81	6.81	2.46	41.82	50.70	74.00	-23.30	Vertical
4824.00	54.22	30.81	6.81	2.46	41.82	52.48	74.00	-21.52	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
4824.00	48.39	30.81	6.81	2.46	41.82	46.65	54.00	-7.35	Vertical
4824.00	50.19	30.81	6.81	2.46	41.82	48.45	54.00	-5.55	Horizontal
			Те	est channe	l: Middle cl	nannel			
					: 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	52.51	30.93	6.85	2.47	41.84	50.92	74.00	-23.08	Vertical
4874.00	54.32	30.93	6.85	2.47	41.84	52.73	74.00	-21.27	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	48.44	30.93	6.85	2.47	41.84	46.85	54.00	-7.15	Vertical
4874.00	50.23	30.93	6.85	2.47	41.84	48.64	54.00	-5.36	Horizontal
			Te		: Highest c				
					: 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	52.55	31.05	6.89	2.48	41.86	51.11	74.00	-22.89	Vertical
4924.00	54.38	31.05	6.89	2.48	41.86	52.94	74.00	-21.06	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
4924.00	48.54	31.05	6.89	2.48	41.86	47.10	54.00	-6.90	Vertical
4924.00	50.33	31.05	6.89	2.48	41.86	48.89	54.00	-5.11	Horizontal
	Remark: 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.								

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Project No.: JYTSZE2101042



802.11g										
Test channel: Lowest channel										
			16		r: 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	
4824.00	52.49	30.81	6.81	2.46	41.82	50.75	74.00	-23.25	Vertical	
4824.00	54.28	30.81	6.81	2.46	41.82	52.54	74.00	-21.46	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	48.47	30.81	6.81	2.46	41.82	46.73	54.00	-7.27	Vertical	
4824.00	50.26	30.81	6.81	2.46	41.82	48.52	54.00	-5.48	Horizontal	
			Te	est channe	l: Middle cl	hannel				
				Detector	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	
4874.00	52.56	30.93	6.85	2.47	41.84	50.97	74.00	-23.03	Vertical	
4874.00	54.35	30.93	6.85	2.47	41.84	52.76	74.00	-21.24	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	48.58	30.93	6.85	2.47	41.84	46.99	54.00	-7.01	Vertical	
4874.00	50.34	30.93	6.85	2.47	41.84	48.75	54.00	-5.25	Horizontal	
			Те	est channe	l: Highest c	hannel				
					r: 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	52.59	31.05	6.89	2.48	41.86	51.15	74.00	-22.85	Vertical	
4924.00	54.38	31.05	6.89	2.48	41.86	52.94	74.00	-21.06	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	
4924.00	48.61	31.05	6.89	2.48	41.86	47.17	54.00	-6.83	Vertical	
4924.00	50.37	31.05	6.89	2.48	41.86	48.93	54.00	-5.07	Horizontal	
Remark: 1. Final Lev	Remark:									

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



			Te	at ab a ma						
			10		I: Lowest c					
		_		1	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	52.31	30.81	6.81	2.46	41.82	50.57	74.00	-23.43	Vertical	
4824.00	54.19	30.81	6.81	2.46	41.82	52.45	74.00	-21.55	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	48.36	30.81	6.81	2.46	41.82	46.62	54.00	-7.38	Vertical	
4824.00	50.12	30.81	6.81	2.46	41.82	48.38	54.00	-5.62	Horizontal	
			Te		el: Middle cl					
					r: Peak Val	ue			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	
4874.00	52.25	30.93	6.85	2.47	41.84	50.66	74.00	-23.34	Vertical	
4874.00	54.08	30.93	6.85	2.47	41.84	52.49	74.00	-21.51	Horizontal	
				Detector:	Average Va	alue			1	
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	48.21	30.93	6.85	2.47	41.84	46.62	54.00	-7.38	Vertical	
4874.00	50.06	30.93	6.85	2.47	41.84	48.47	54.00	-5.53	Horizontal	
			Те	est channel	l: Highest c	hannel				
				Detector	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	
4924.00	52.12	31.05	6.89	2.48	41.86	50.68	74.00	-23.32	Vertical	
4924.00	53.95	31.05	6.89	2.48	41.86	52.51	74.00	-21.49	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	48.02	31.05	6.89	2.48	41.86	46.58	54.00	-7.42	Vertical	
4924.00	49.93	31.05	6.89	2.48	41.86	48.49	54.00	-5.51	Horizontal	

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



802.11n(HT40)												
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			
4844.00	52.22	30.87	6.83	2.46	41.83	50.55	74.00	-23.45	Vertical			
4844.00	54.05	30.87	6.83	2.46	41.83	52.38	74.00	-21.62	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			
4844.00	48.20	30.87	6.83	2.46	41.83	46.53	54.00	-7.47	Vertical			
4844.00	50.01	30.87	6.83	2.46	41.83	48.34	54.00	-5.66	Horizontal			
			16		I: Middle cl							
		A (0.11	1	: Peak Val	ue	1.1.14	0				
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	52.06	30.93	6.85	2.47	41.84	50.47	74.00	-23.53	Vertical			
4874.00	53.85	30.93	6.85	2.47	41.84	52.26	74.00	-21.74	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			
4874.00	48.06	30.93	6.85	2.47	41.84	46.47	54.00	-7.53	Vertical			
4874.00	49.92	30.93	6.85	2.47	41.84	48.33	54.00	-5.67	Horizontal			
			Те	st channel	l: Highest c	hannel						
				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			
4904.00	51.97	30.99	6.87	2.48	41.85	50.46	74.00	-23.54	Vertical			
4904.00	53.79	30.99	6.87	2.48	41.85	52.28	74.00	-21.72	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			
4904.00	47.89	30.99	6.87	2.48	41.85	46.38	54.00	-7.62	Vertical			
4904.00	49.88	30.99	6.87	2.48	41.85	48.37	54.00	-5.63	Horizontal			
	Remark: 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.											