

Report No: JYTSZB-R12-2102633

# FCC REPORT (Bluetooth)

Applicant:	Yulong Computer Telecommunication Scientific (Shenzhen) Co. Ltd
Address of Applicant:	Floor 21, Block A, Coolpad Building North High-Tech Industrial Park, Nanshan District
Equipment Under Test (E	EUT)
Product Name:	4G Smart Phone
Model No.:	C203
Trade mark:	Coolpad
FCC ID:	R38YLCPC203
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	24 Nov., 2021
Date of Test:	25 Nov., 2021 to 03 Jan., 2022
Date of report issued:	04 Jan., 2022
Test Result:	PASS *

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

Authorized Signature:



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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# 2 Version

Version No.	Date	Description
00	04 Jan., 2022	Original

Janet Wei Test Engineer Winner Mang

04 Jan., 2022 Date:

Tested by:

Date: 04 Jan., 2022

Reviewed by:

Project Engineer

Project No.: JYTSZE2111090



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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
Conducted Peak Output Power	15.247 (b)(1)	Appendix A – BT	Pass
20dB Occupied Bandwidth	15.247 (a)(1)	Appendix A – BT	Pass
Carrier Frequencies Separation	15.247 (a)(1)	Appendix A – BT Pas	
Hopping Channel Number	15.247 (a)(1)	Appendix A – BT	Pass
Dwell Time	15.247 (a)(1)	Appendix A – BT	Pass
Conducted Band Edge	15.247 (d)	Appendix A – BT	Pass
Radiated Band Edge	15.205 & 15.209	See Section 6.9.2	Pass
Conducted Spurious Emission	15.247 (d)	Appendix A – BT	Pass
Radiated Spurious Emission	15.205 & 15.209	See Section 6.10.2	Pass
Remark:	•		

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

The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by 2. the customer).

Test Method:	ANSI C63.10-2013
	KDB 558074 D01 15.247 Meas Guidance v05r02



# **5** General Information

# **5.1 Client Information**

Applicant:	Yulong Computer Telecommunication Scientific (Shenzhen) Co. Ltd
Address:	Floor 21, Block A, Coolpad Building North High-Tech Industrial Park, Nanshan District
Manufacturer/ Factory:	Mobiwire Mobiles(NongBo) Co.,Ltd.
Address:	No.999 DaCheng East Road, Fenghua Zhejiang, China

# 5.2 General Description of E.U.T.

Product Name:	4G Smart Phone
Model No.:	C203
Operation Frequency:	2402MHz~2480MHz
Transfer rate:	1/2/3 Mbits/s
Number of channel:	79
Modulation type:	GFSK, π/4-DQPSK, 8DPSK
Modulation technology:	FHSS
Antenna Type:	Internal Antenna
Antenna gain:	-5 dBi
Power supply:	Rechargeable Li-ion Battery DC3.85V, 3900mAh
AC adapter:	Model: A8A-050200U-US1
	Input: AC100-240V, 50/60Hz, 0.35A
	Output: DC 5.0V, 2A
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

Operation Frequency each of channel for GFSK, π/4-DQPSK, 8DPSK							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	20	2422MHz	40	2442MHz	60	2462MHz
1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
2	2404MHz	22	2424MHz	42	2444MHz	62	2464MHz
3	2405MHz	23	2425MHz	43	2445MHz	63	2465MHz
4	2406MHz	24	2426MHz	44	2446MHz	64	2466MHz
5	2407MHz	25	2427MHz	45	2447MHz	65	2467MHz
15	2417MHz	35	2437MHz	55	2457MHz	75	2477MHz
16	2418MHz	36	2438MHz	56	2458MHz	76	2478MHz
17	2419MHz	37	2439MHz	57	2459MHz	77	2479MHz
18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
19 2421MHz 39 2441MHz 59 2461MHz							
Remark: Channel 0, 39 &78 selected for GFSK, π/4-DQPSK and 8DPSK.							



#### 5.3 Test environment and mode

Operating Environment:				
Temperature:	24.0 °C			
Humidity:	54 % RH			
Atmospheric Pressure:	1010 mbar			
Test Modes:				
Non-hopping mode:	Keep the EUT in continuous transmitting mode with worst case data rate.			
Hopping mode:	Keep the EUT in hopping mode.			
Remark	GFSK (1 Mbps) is the worst case mode.			
Padiated Emission: The same	have placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane			

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.

# 5.4 Description of Support Units

The EUT has been tested as an independent unit.

# 5.5 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%)
Conducted Emission (9kHz ~ 150KHz) for V-AMN	3.11 dB
Conducted Emission (150kHz ~ 30MHz) for V-AMN	2.62 dB
Radiated Emission (9kHz ~ 30MHz electric field) for 3m SAC	3.13 dB
Radiated Emission (9kHz ~ 30MHz magnetic field) for 3m SAC	3.13 dB
Radiated Emission (30MHz ~ 1GHz) for 3m SAC	4.45 dB
Radiated Emission (1GHz ~ 18GHz) for 3m SAC	5.34 dB
Radiated Emission (18GHz ~ 40GHz) for 3m SAC	5.34 dB
Radiated Emission (30MHz ~ 1GHz) for 10m SAC	4.32 dB

# 5.6 Additions to, deviations, or exclusions from the method

No

# 5.7 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 and 10m 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.

#### • CNAS - Registration No.: CNAS L15527

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

#### • A2LA - Registration No.: 4346.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 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>



#### **5.8 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

# **5.9 Test Instruments list**

Radiated Emission(above 1GHz):							
Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)		
3m SAC	ETS	RFD-100	Q1984	04-14-2021	04-13-2024		
Horn Antenna	SCHWARZBECK	BBHA9120D	912D-916	03-07-2021	03-06-2022		
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9170	1067	04-02-2021	04-01-2022		
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9170	1068	04-02-2021	04-01-2022		
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-03-2021	03-02-2022		
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-03-2021	03-02-2022		
Spectrum analyzer	Keysight	N9010B	MY60240202	10-27-2021	10-26-2022		
Low Pre-amplifier	SCHWARZBECK	BBV9743B	00305	03-07-2021	03-06-2022		
High Pre-amplifier	SKET	LNPA_0118G-50	MF280208233	03-07-2021	03-06-2022		
Cable	Qualwave	JYT3M-1G-NN-8M	JYT3M-1	03-07-2021	03-06-2022		
Cable	Qualwave	JYT3M-18G-NN-8M	JYT3M-2	03-07-2021	03-06-2022		
Cable	Qualwave	JYT3M-1G-BB-5M	JYT3M-3	03-07-2021	03-06-2022		
Cable	Bost	JYT3M-40G-SS-8M	JYT3M-4	04-02-2021	04-01-2022		
EMI Test Software	Tonscend	TS+	Version:3.0.0.1				

Radiated Emission(below 1GHz):						
Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
10m SAC	ETS	RFSD-100-F/A	Q2005	04-28-2021	04-27-2024	
BiConiLog Antenna	SCHWARZBECK	VULB 9168	1249	04-02-2021	04-01-2022	
BiConiLog Antenna	SCHWARZBECK	VULB 9168	1250	04-02-2021	04-01-2022	
EMI Test Receiver	R&S	ESR 3	102800	04-08-2021	04-07-2022	
EMI Test Receiver	R&S	ESR 3	102802	04-08-2021	04-07-2022	
Low Pre-amplifier	Bost	LNA 0920N	2016	04-06-2021	04-05-2022	
Low Pre-amplifier	Bost	LNA 0920N	2019	04-06-2021	04-05-2022	
Cable	Bost	JYT10M-1G-NN-10M	JYT10M-1	04-02-2021	04-01-2022	
Cable	Bost	JYT10M-1G-NN-10M	JYT10M-2	04-02-2021	04-01-2022	
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 3	101189	03-03-2021	03-02-2022
LISN	Schwarzbeck	NSLK 8127	QCJ001-13	03-18-2021	03-17-2022
LISN	Rohde & Schwarz	ESH3-Z5	843862/010	06-18-2020	06-17-2022
RF Switch	TOP PRECISION	RSU0301	N/A	03-03-2021	03-02-2022
Cable	Bost	JYTCE-1G-NN-2M	JYTCE-1	03-03-2021	03-02-2022
Cable	Bost	JYTCE-1G-BN-3M	JYTCE-2	03-03-2021	03-02-2022
EMI Test Software	AUDIX	E3	Ve	ersion: 6.110919	b

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	10-27-2021	10-26-2022
Vector Signal Generator	Keysight	N5182B	MY59101009	10-27-2021	10-26-2022
Analog Signal Generator	Keysight	N5173B	MY59100765	10-27-2021	10-26-2022
Power Detector Box	MWRF-test	MW100-PSB	MW201020JYT	11-19-2021	11-18-2022
Simulated Station	Rohde & Schwarz	CMW270	102335	10-27-2021	10-26-2022
RF Control Box	MWRF-test	MW100-RFCB	MW200927JYT	N/A	N/A
PDU	MWRF-test	XY-G10	N/A	N/A	N/A
DC Power Supply	Keysight	E3642A	MY60296194	11-27-2020	11-26-2023
Temperature Humidity Chamber	Deli	8840	N/A	03-08-2021	03-07-2022
Test Software	MWRF-tes	MTS 8310	,	Version: 2.0.0.0	



# 6 Test results and measurement data

# 6.1 Antenna Requirement

Standard requirement:	FCC Part 15 C Section 15.203 & 247(b)
15.203 requirement:	
	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
electrical connector is prohil	bited.
15.247(b) (4) requirement:	
	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),
	tion, as appropriate, by the amount in dB that the directional gain of the
antenna exceeds 6 dBi.	
E.U.T Antenna:	
The Bluetooth antenna is an	Internal antenna which permanently attached, and the best case gain of
the antenna is -5 dBi.	



#### **6.2 Conducted Emissions**

Test Requirement:	FCC Part 15 C Section 15.	207	
Test Frequency Range:	150 kHz to 30 MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9 kHz, VBW=30 kHz	z, Sweep time=auto	
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 logari		
Test setup:	AUX         Equipment       E.U.T         Test table/Insulation plane         Remark:         E.U.T: Equipment Under Test         LISN: Line Impedence Stabilization Netword Test table height=0.8m	EMI Receiver	
Test procedure:	<ol> <li>50ohm/50uH coupling in</li> <li>The peripheral devices a LISN that provides a 500 termination. (Please reference)</li> <li>Both sides of A.C. line interference. In order to positions of equipmen</li> </ol>	tion network (L.I.S.N.). Th npedance for the measuri	is provides a ng equipment. main power through a lance with 500hm the test setup and n conducted sion, the relative ables must be changed
Test Instruments:	Refer to section 5.9 for det	ails	
Test mode:	Hopping mode		
Test results:	Pass		

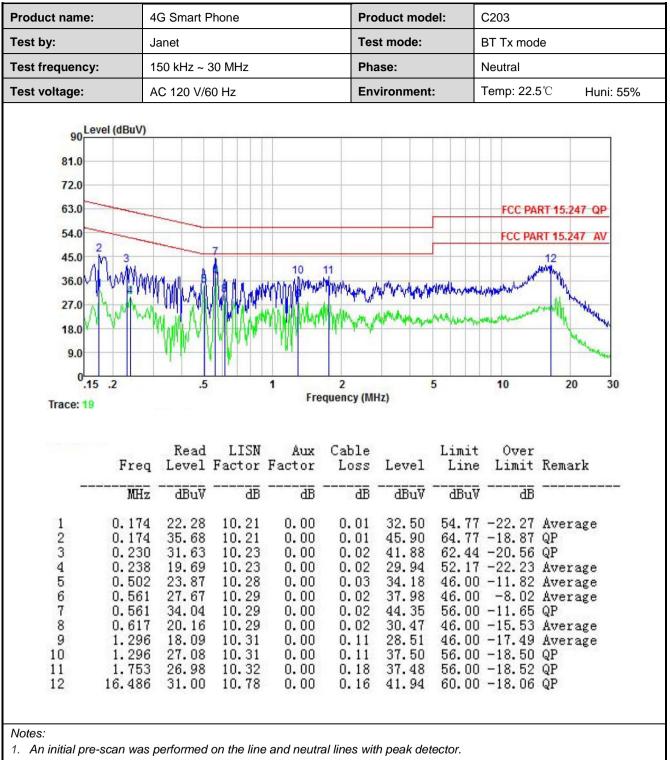


#### **Measurement Data:**

			Phone		Pro	oduct mod	del:	C203		
Гest by:	J	anet			Те	st mode:		BT Tx mo	de	
Test frequency:	1	50 kHz ~	30 MHz		Pha	ase:		Line		
Fest voltage:	А	C 120 V/6	60 Hz		En	vironment	t:	Temp: 22.	.5℃ Hu	uni: 55%
	2431070227									
90 Leve	l (dBuV)									
81.0										
72.0										
63.0								FCC PA	RT 15.247 G	P
54.0										
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9.0	.2	.5			2 quency (Mł		5	10	20	30
9.0 0.15	.2	.5			-		5	10	20	30
9.0 0.15		Read	LISN	Free	quency (MH Cable	Hz)	Limit	Over		30
9.0 0.15	.2 Freq	Read		Free	quency (Mł		12	Over	20 Remark	30
9.0 0.15		Read	LISN	Free	quency (MH Cable	Hz)	Limit	Over		30
9.0 0.15 Trace: 17	Freq MHz	Read Level dBuV	LISN Factor 	Aux Factor dB	Quency (MH Cable Loss dB	Hz) Level dBuV	Limit Line dBuV	Over Limit B	Remark	30
9.0 0.15 Trace: 17	Freq MHz 0.198 0.198	Read Level dBuV 23.06 34.86	LISN Factor dB 10.23 10.23	Aux Factor dB 0.00 0.00	Cable Loss dB 0.04 0.04	tz) Level dBuV 33.33 45.13	Limit Line dBuV 53.71 63.71	Over Limit  dB -20.38 -18.58	Remark  Average QP	30
9.0 0.15 Trace: 17	Freq MHz 0.198 0.198 0.494	Read Level dBuV 23.06 34.86 25.96	LISN Factor dB 10.23 10.23 10.29	Free Aux Factor dB 0.00 0.00 0.00	Cable Loss dB 0.04 0.03	tz) Level dBuV 33.33 45.13 36.28	Limit Line dBuV 53.71 63.71 46.10	Over Limit  dB -20.38 -18.58 -9.82	Remark  Average QP Average	30
9.0 0.15 Trace: 17	Freq MHz 0.198 0.198 0.494 0.494	Read Level dBuV 23.06 34.86 25.96 34.82	LISN Factor dB 10.23 10.23 10.29 10.29	Free Aux Factor dB 0.00 0.00 0.00 0.00 0.00	Cable Loss dB 0.04 0.03 0.03 0.03	tz) Level dBuV 33.33 45.13 36.28 45.14	Limit Line dBuV 53.71 63.71 46.10 56.10	Over Limit -20.38 -18.58 -9.82 -10.96	Remark  Average QP Average QP	30
9.0 0.15 Trace: 17 1 2 3 4 5	Freq MHz 0.198 0.198 0.494 0.494 0.558	Read Level dBuV 23.06 34.86 25.96 34.82 31.74	LISN Factor dB 10.23 10.23 10.29 10.29 10.29 10.29	Aux Factor dB 0.00 0.00 0.00 0.00 0.00 0.00 0.00	Quency (Mi Cable Loss dB 0.04 0.03 0.03 0.03 0.02	tz) Level dBuV 33.33 45.13 36.28 45.14 42.05	Limit Line dBuV 53.71 63.71 46.10 56.10 46.00	Over Limit -20.38 -18.58 -9.82 -10.96 -3.95	Remark  Average QP Average QP Average	30
9.0 0.15 Trace: 17	Freq MHz 0.198 0.494 0.494 0.558 0.561	Read Level dBuV 23.06 34.86 25.96 34.82 31.74 38.92	LISN Factor dB 10.23 10.23 10.29 10.29 10.29 10.29 10.29	Aux Factor dB 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	Cable Loss dB 0.04 0.03 0.03 0.03 0.02 0.02	tz) Level dBuV 33. 33 45. 13 36. 28 45. 14 42. 05 49. 23	Limit Line dBuV 53.71 63.71 46.10 56.10 46.00 56.00	Over Limit -20.38 -18.58 -9.82 -10.96 -3.95 -6.77	Remark  Average QP Average QP Average QP	30
9.0 0.15 Trace: 17	Freq MHz 0.198 0.494 0.494 0.558 0.561 0.690	Read Level dBuV 23.06 34.86 25.96 34.82 31.74 38.92 23.99	LISN Factor dB 10.23 10.23 10.29 10.29 10.29 10.29 10.29 10.30	Aux Factor dB 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	Cable Loss dB 0.04 0.03 0.03 0.03 0.02 0.02 0.02 0.03	tz) Level dBuV 33. 33 45. 13 36. 28 45. 14 42. 05 49. 23 34. 32	Limit Line dBuV 53.71 63.71 46.10 56.10 46.00 56.00 46.00	Over Limit -20.38 -18.58 -9.82 -10.96 -3.95 -6.77 -11.68	Remark  QP Average QP Average QP Average QP Average	30
9.0 0.15 Trace: 17	Freq 0.198 0.198 0.494 0.494 0.558 0.561 0.690 1.289 1.317	Read Level dBuV 23.06 34.86 25.96 34.82 31.74 38.92 23.99 22.44 34.64	LISN Factor dB 10.23 10.23 10.29 10.29 10.29 10.29 10.29 10.30 10.32 10.32	Aux Factor dB 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	Cable Loss dB 0.04 0.03 0.03 0.02 0.02 0.02 0.03 0.11 0.11	tz) Level dBuV 33. 33 45. 13 36. 28 45. 14 42. 05 49. 23 34. 32 32. 87 45. 07	Limit Line dBuV 53.71 63.71 46.10 56.00 46.00 56.00 46.00 56.00	Over Limit 	Remark Average QP Average QP Average QP Average Average QP	30
9.0 0.15 Trace: 17 1 2 3 4 5 6 7 8 9 10	Freq 0.198 0.198 0.494 0.494 0.558 0.561 0.690 1.289 1.317 1.619	Read Level dBuV 23.06 34.86 25.96 34.82 31.74 38.92 23.99 22.44 34.64 35.23	LISN Factor dB 10.23 10.29 10.29 10.29 10.29 10.29 10.30 10.32 10.32 10.32	Aux Factor dB 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	Cable Loss dB 0.04 0.03 0.03 0.02 0.02 0.02 0.03 0.11 0.11 0.16	tz) Level dBuV 33. 33 45. 13 36. 28 45. 14 42. 05 49. 23 34. 32 32. 87 45. 07 45. 72	Limit Line dBuV 53.71 63.71 46.10 56.00 46.00 56.00 46.00 56.00 56.00	Over Limit 	Remark Average QP Average QP Average QP Average Average QP QP QP	30
9.0 0.15 Trace: 17	Freq 0.198 0.198 0.494 0.494 0.558 0.561 0.690 1.289 1.317	Read Level dBuV 23.06 34.86 25.96 34.82 31.74 38.92 23.99 22.44 34.64	LISN Factor dB 10.23 10.23 10.29 10.29 10.29 10.29 10.29 10.30 10.32 10.32	Aux Factor dB 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	Cable Loss dB 0.04 0.03 0.03 0.02 0.02 0.02 0.03 0.11 0.11	tz) Level dBuV 33. 33 45. 13 36. 28 45. 14 42. 05 49. 23 34. 32 32. 87 45. 07	Limit Line dBuV 53.71 63.71 46.10 56.00 46.00 56.00 46.00 56.00 56.00 56.00 46.00	Over Limit 	Remark Average QP Average QP Average QP Average QP Average QP Average QP Average	30

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





2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

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



Test Requirement:	FCC Part 15 C Section 15.247 (b)(1)
Receiver setup:	RBW=1MHz, VBW=3MHz, Detector=Peak (If 20dB BW ≤1 MHz) RBW=2MHz, VBW=6MHz, Detector=Peak (If 20dB BW > 1 MHz and < 3MHz)
Limit:	For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass
Measurement Data:	Refer to Appendix A - BT

#### 6.3 Conducted Output Power

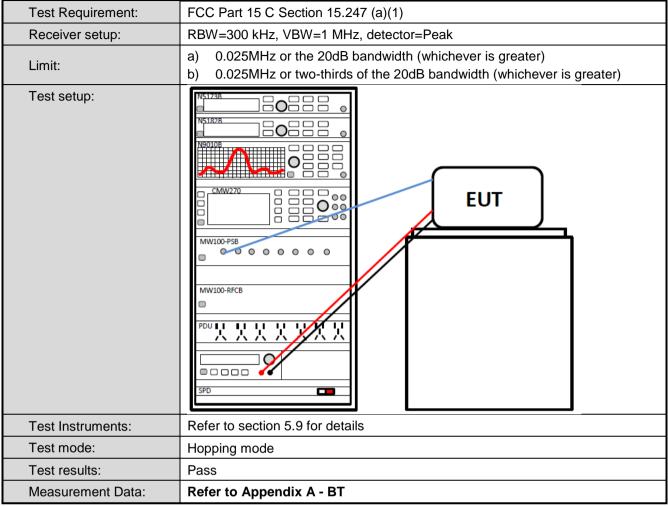


#### 6.4 20dB Occupy Bandwidth

Test Requirement:	FCC Part 15 C Section 15.247 (a)(1)
Receiver setup:	DH1: RBW=15 kHz, VBW=47 kHz, detector=Peak 2DH1&3DH: RBW=20 kHz, VBW=62 kHz, detector=Peak
Limit:	Within authorization band
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass
Measurement Data:	Refer to Appendix A - BT



#### **6.5 Carrier Frequencies Separation**



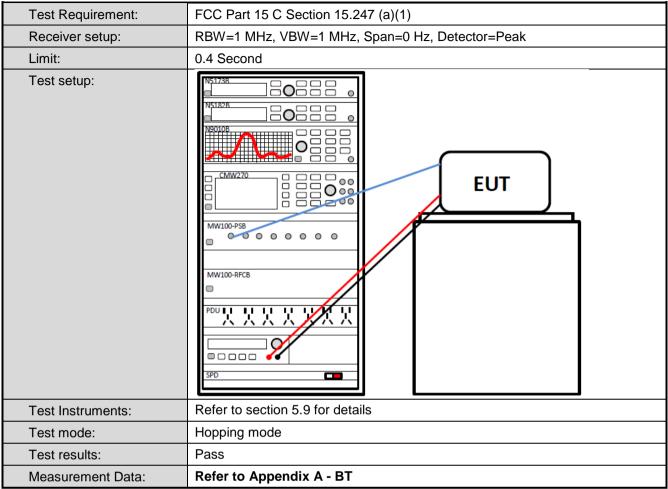


#### 6.6 Hopping Channel Number

Test Requirement:	FCC Part 15 C Section 15.247 (a)(1)
Receiver setup:	RBW=100 kHz, VBW=300 kHz, Center Frequency=2441MHz, Frequency Range: 2400MHz~2483.5MHz, Detector=Peak
Limit:	15 channels
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Hopping mode
Test results:	Pass
Measurement Data:	Refer to Appendix A - BT

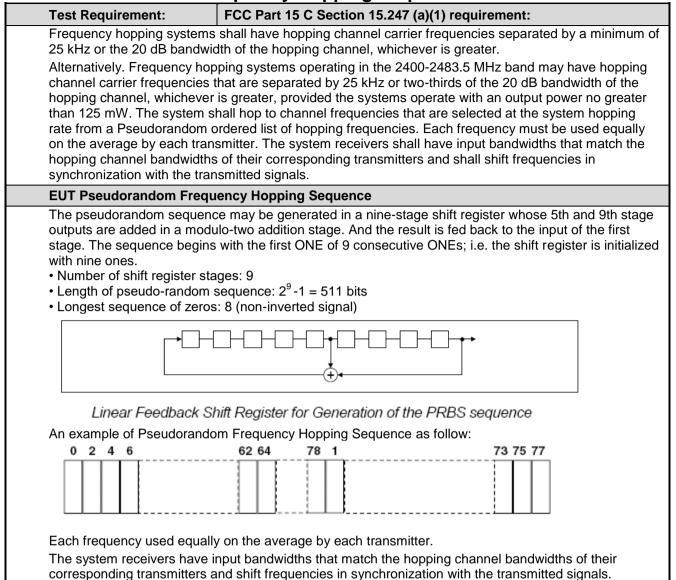


#### 6.7 Dwell Time





#### 6.8 Pseudorandom Frequency Hopping Sequence





# 6.9 Band Edge

#### 6.9.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Receiver setup:	RBW=100 kHz, VBW=300 kHz, Detector=Peak
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.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode and hopping mode
Test results:	Pass
Measurement Data:	Refer to Appendix A - BT



#### 6.9.2 Radiated Emission Method

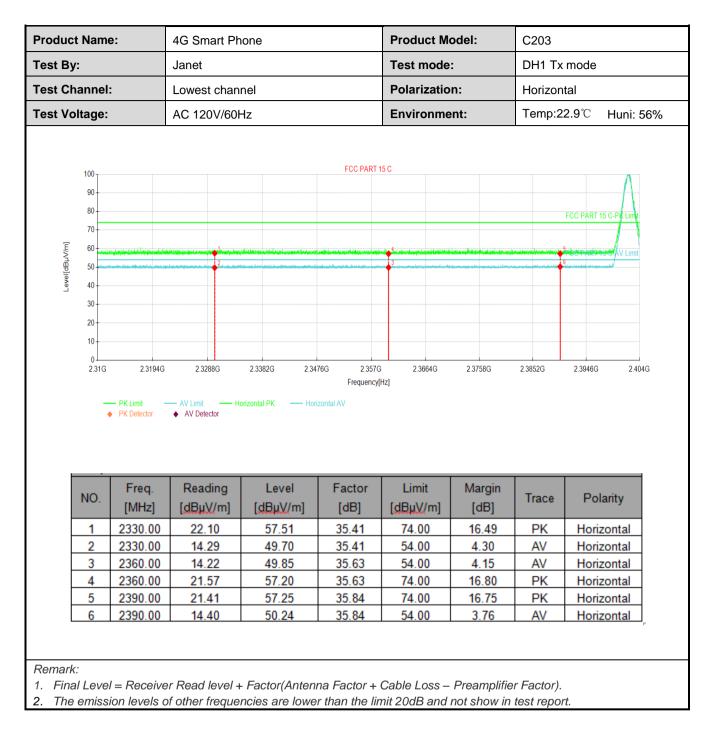
Test Requirement:	FCC Part 15 C	Section 15.2	209 a	and 15.205			
Test Frequency Range:	2310 MHz to 23	90 MHz and	d 248	83.5 MHz to 2	500 M	lHz	
Test Distance:	3m						
Receiver setup:	Frequency	Detector	r	RBW	V	BW	Remark
	Above 1GHz	Peak		1MHz	31	MHz	Peak Value
	Above IGH2	RMS		1MHz	31	MHz	Average Value
Limit:	Frequenc	су	Lim	it (dBuV/m @3	3m)		Remark
	Above 1G	H7		54.00		Av	verage Value
	7,6070 10			74.00		F	Peak Value
Test setup:		EUT Itable) Groun Test Receiver	3m nd Referen		ienna Towe		
Test Procedure:	<ul> <li>determine the</li> <li>2. The EUT was antenna, whi tower.</li> <li>3. The antenna ground to de horizontal an measurement</li> <li>4. For each sus and then the the rota table maximum reations</li> <li>5. The test-rece Bandwidth w</li> <li>6. If the emission limit specified EUT would b margin would</li> </ul>	A meter camb e position of s set 3 meter ch was mout height is van termine the r d vertical po t. spected emis antenna was a was turned ading. eiver system ith Maximum on level of the d, then testin pe reported. O	ber. the rrs a ntec ried max blariz ssior s tun fror was n Ho e EL ng cc Othe d or	The table was highest radiation way from the in a on the top of from one meter imum value of cations of the a h, the EUT was ned to heights n 0 degrees to s set to Peak E old Mode. JT in peak mo- puld be stoppe	ion. nterfe a vari er to fo the fi antenr s arran from 0 360 o Detect de wa dand ssions g peal	ed 360 or rence-re able-he our meta eld strein ha are s nged to 1 meter degrees Function as 10dB I the pea s that dia k, quasi	degrees to eceiving ight antenna ers above the ngth. Both et to make the its worst case to 4 meters and to find the on and Specified lower than the ak values of the d not have 10dB -peak or
Test Instruments:	Refer to section	5.9 for deta	ils				
Test mode:	Non-hopping m	ode					
Test results:	Passed						



#### **GFSK Mode:**

				one		Product Me	ouel.	C203		
est By			Janet			Test mode	:	DH1 Tx	mode	
Fest Ch	annel:		Lowest chan	nel		Polarizatio	n:	Vertical		
Fest Vo	ltage:		AC 120V/60Hz			Environme	ent:	Temp:22.9℃ Huni: 56%		
Level(dBLV/m)	100 90 80 70 60 50 40				FCC PART 1				FCC PART 15 C-PK Limit	
Lei	30 20 10 2.31G	2.3194G - PK Limit	2.3288G AV Limit Ve AV Detector	2 3382G 2 347 ertical PK — Vertical	Frequency[I		2.3758G	2.3852G	2 3946G 2.404G	
Let	20	PK Limit - PK Detector - Freq.	AV Limit Ve AV Detector	ertical PK — Vertical	Frequency( AV Factor	Limit	Margin	23852G	2 3946G 2 404G Polarity	
	20 10 0 2.31G	PK Limit     PK Detector	AV Limit → Ve     AV Detector	ertical PK — Vertical	Frequency[	tz]				
	20 10 0 2.31G	Freq. [MHz]	AV Limit	Level	Frequency[ AV Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity	
	20 10 0 2.31G	Freq. [MHz] 2330.00	AV Limit Ve AV Detector Ve Reading [dBµV/m] 22.57	Level [dBµV/m] 57.98	Frequency( AV Factor [dB] 35.41	Limit [dBµV/m] 74.00	Margin [dB] 16.02	Trace	Polarity Vertical	
	20 10 0 2.31G • NO. 1 2	Freq. [MHz] 2330.00 2330.00	AV Limit Ve ♦ AV Detector Ve Reading [dBµV/m] 22.57 14.36	Level [dBµV/m] 57.98 49.77	Frequency( AV Factor [dB] 35.41 35.41	Limit [dBµV/m] 74.00 54.00	Margin [dB] 16.02 4.23	Trace PK AV	Polarity Vertical Vertical	
	20 10 0 2.31G • NO. 1 2 3	Freq. [MHz] 2330.00 2360.00	AV Limit → Ve AV Detector Reading [dBµV/m] 22.57 14.36 14.06	Level [dBµV/m] 57.98 49.77 49.69	Frequency( AV Factor [dB] 35.41 35.41 35.63	Limit [dBµV/m] 74.00 54.00 54.00	Margin [dB] 16.02 4.23 4.31	Trace PK AV AV	Polarity Vertical Vertical Vertical	







		4G Smart Ph	ione		Product Me	odel:	C203		
est By:		Janet			Test mode	:	DH1 Tx	mode	
est Channel	:	Highest channel			Polarizatio	n:	Vertical		
est Voltage:		AC 120V/60H	Ηz		Environme	ent:	Temp:22.9℃ Huni: 56%		
100 90 80 70 60 50 90 40		la constante da		FCC PART	15 C		5. 5. 5. 5.	FCC PART 15 C-PK Limit	
30 20 10 2.478G	2.4802G PK Limit - PK Detector	2.4824G — AV Limit — Ve AV Detector	2.4846G 2.486 ertical PK — Vertical	Frequency	2.4912G Hz]	2.4934G	2.4956G	2.4978G 2.5	ōG
30 20 10 2.478G	PK Limit - PK Detector -	AV Limit Va AV Detector Va	ertical PK — Vertical	Frequency AV Factor	Limit	Margin			5G
30 20 10 2.478G	PK Limit -	AV Limit Ve	ertical PK — Vertical	Frequency	Hz]		2.4956G Trace	2.4978G 2.5 Polarity	GG
30 20 10 2.478G	PK Limit - PK Detector -	AV Limit Va AV Detector Va	ertical PK — Vertical	Frequency AV Factor	Limit	Margin			56
30 20 10 0 2.478G	Freq. [MHz] 2483.50 2483.50	AV Limit Va AV Detector Va Reading [dBµV/m] 22.17 14.36	Level	Frequency AV Factor [dB] 35.72 35.72	Limit [dBµV/m] 74.00 54.00	Margin [dB] 16.11 3.92	Trace	Polarity	5G
30 20 10 0 2.478G NO. 1	Freq. [MHz] 2483.50	AV Limit Va AV Detector Va Reading [dBµV/m] 22.17	Level [dBµV/m] 57.89	Frequency AV Factor [dB] 35.72	Limit [dBµV/m] 74.00	Margin [dB] 16.11	Trace PK AV AV	Polarity Vertical	5G
30 20 10 0 2.478G	Freq. [MHz] 2483.50 2483.50	AV Limit Va AV Detector Va Reading [dBµV/m] 22.17 14.36	Level [dBµV/m] 57.89 50.08	Frequency AV Factor [dB] 35.72 35.72	Limit [dBµV/m] 74.00 54.00	Margin [dB] 16.11 3.92	Trace PK AV	Polarity Vertical Vertical	5G
30 20 10 2,478G NO. 1 2 3	PK Limit           PK Detector           Freq.           [MHz]           2483.50           2489.00	AV Limit Ve AV Detector Ve Reading [dBµV/m] 22.17 14.36 14.00	Level [dBµV/m] 57.89 50.08 49.71	Frequency AV Factor [dB] 35.72 35.72 35.71	Limit [dBµV/m] 74.00 54.00 54.00	Margin [dB] 16.11 3.92 4.29	Trace PK AV AV	Polarity Vertical Vertical Vertical	5G



	ne:	4G Smart Ph	one		Product M	odel:	C203		
Test By:		Janet Highest channel			Test mode:		DH1 Tx	mode	
Fest Channe	el:				Polarizatio	n:	Horizon	tal	
Fest Voltage			Ηz		Environme	ent:	Temp:22.9°C Huni: 56		
j-									
100				FCC PART 1	15 C				
90									
80-									
70 -								FCC PART 15 C-PK Limit	
	/								
لللل 60 19 50 19 50 10 -		2	anglan pining na	4440-06-06-0646-06-06-06-06-06-06-06-06-06-06-06-06-06	ha Handiya ya ka	ingiting die Angel Alsoferen anderen	6	uralarian a daadaanaa	
			ning a al-guide ya yiku di dini di di dua kwana da dini da ka sa	dir havvad universiteti ila vari separte en dense	Linchenie erzeffilmus and and de Linchen eine filmen eine filmen	-yarda daraka daraka pertentakan yardara da	di <b>a</b> n ya fanadin alipatanya ina ak	u a de la desta	
30									
20									
20									
	G 2.4802G	2.4824G	2.4846G 2.486	8G 2.489G	2.4912G	2.4934G	2.4956G	2.4978G 2.5G	
10	G 2.4802G	2.4824G	2.4846G 2.486	8G 2.489G Frequency[		2.4934G	2.4956G	2.4978G 2.5G	
10	PK Limit	— AV Limit — Ho		Frequency[		2.4934G	2.4956G	2.4978G 2.5G	
10				Frequency[		2.4934G	2.4956G	2.4978G 2.5G	
10	PK Limit - PK Detector	→ AV Limit → He	orizontal PK — Hori.	Frequency[ zontal AV	Hz]		2.4956G	2.4978G 2.5G	
10	PK Limit	— AV Limit — Ho		Frequency[		2.4934G Margin			
10	PK Limit - PK Detector	→ AV Limit → He	orizontal PK — Hori.	Frequency[ zontal AV	Hz]		2.4956G Trace	2.4978G 2.5G Polarity	
10	PK Limit PK Detector Freq.	AV Limit Ho AV Detector Ho Reading	orizontal PK — Hon Level	Frequency zontal AV Factor	Hz] Limit	Margin			
10-0-2.478	PK Limit PK Detector Freq. [MHz]	AV Limit He AV Detector He Reading [dBµV/m]	orizontal PK — Hori Level [dBµV/m]	Frequency zontal AV Factor [dB]	Limit	Margin [dB]	Trace	Polarity	
10 0 2.478 NO.	<ul> <li>PK Limit</li> <li>PK Detector</li> <li>Freq.</li> <li>[MHz]</li> <li>2483.50</li> </ul>	AV Limit He AV Detector He Reading [dBµV/m] 21.82	Level [dBµV/m] 57.54	Frequency zontal AV Factor [dB] 35.72	Limit [dBµV/m] 74.00	Margin [dB] 16.46	Trace	Polarity Horizontal	
10- 0- 2.478 NO. 1 2	<ul> <li>PK Limit</li> <li>PK Detector</li> <li>Freq.</li> <li>[MHz]</li> <li>2483.50</li> <li>2483.50</li> </ul>	AV Limit AV Detector Reading [dBµV/m] 21.82 14.37	Drizontal PK — Hon Level [dBµV/m] 57.54 50.09	Frequency zontal AV Factor [dB] 35.72 35.72	Limit [dBµV/m] 74.00 54.00	Margin [dB] 16.46 3.91	Trace PK AV	Polarity Horizontal Horizontal	
10-0-2.478 NO. 1 2 3	<ul> <li>PK Limit</li> <li>PK Detector</li> <li>Freq.</li> <li>[MHz]</li> <li>2483.50</li> <li>2483.50</li> <li>2489.00</li> </ul>	AV Limit AV Detector Reading [dBµV/m] 21.82 14.37 14.42	Level [dBµV/m] 57.54 50.09 50.13	Frequency zontal AV Factor [dB] 35.72 35.72 35.71	Limit [dBµV/m] 74.00 54.00 54.00	Margin [dB] 16.46 3.91 3.87	Trace PK AV AV	Polarity Horizontal Horizontal Horizontal	
10 0 2.478 NO. 1 2 3 4 5	<ul> <li>PK Limit</li> <li>PK Detector</li> <li>Freq.</li> <li>[MHz]</li> <li>2483.50</li> <li>2483.50</li> <li>2489.00</li> <li>2489.00</li> <li>2495.00</li> </ul>	AV Limit AV Detector Reading [dBµV/m] 21.82 14.37 14.42 21.68 22.20	Level [dBµV/m] 57.54 50.09 50.13 57.39 57.89	Frequency zontal AV Factor [dB] 35.72 35.72 35.71 35.71 35.69	Limit [dBµV/m] 74.00 54.00 54.00 74.00 74.00	Margin [dB] 16.46 3.91 3.87 16.61 16.11	Trace PK AV AV PK PK	Polarity Horizontal Horizontal Horizontal Horizontal Horizontal	
10 0 2.478 NO. 1 2 3 4	<ul> <li>PK Limit</li> <li>PK Detector</li> <li>Freq.</li> <li>[MHz]</li> <li>2483.50</li> <li>2483.50</li> <li>2489.00</li> <li>2489.00</li> </ul>	AV Limit AV Detector Reading [dBµV/m] 21.82 14.37 14.42 21.68	Level [dBµV/m] 57.54 50.09 50.13 57.39	Frequency zontal AV Factor [dB] 35.72 35.72 35.71 35.71	Limit [dBµV/m] 74.00 54.00 54.00 74.00	Margin [dB] 16.46 3.91 3.87 16.61	Trace PK AV AV PK	Polarity Horizontal Horizontal Horizontal Horizontal	

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



#### $\pi$ /4-DQPSK mode

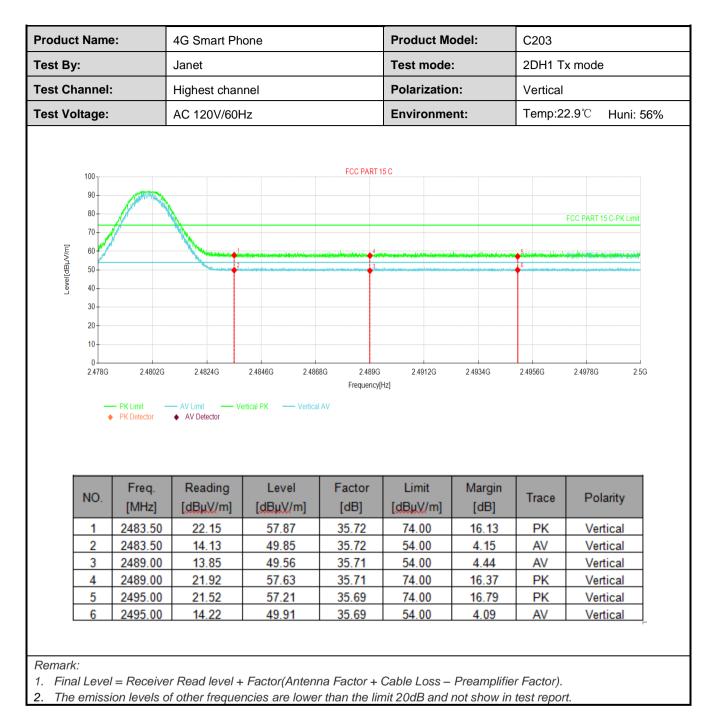
	t Name	<b>e</b> :	4G Smart Ph	one		Product Me	odel:	C203		
Test By	:		Janet			Test mode:		2DH1 Tx mode		
Test Ch	Channel:		Lowest channel			Polarizatio	n:	Vertical		
Test Vo	Itage:		AC 120V/60Hz			Environme	ent:	Temp:22.9℃ Huni:		
	U									
	100 <sub>ד</sub>				FCC PART 1	15 C				
	90									
	80								FCC PART 15 C-F	Δ
	70								FUU PART TO U-P	
<u>E</u>	60	an all decided in the second and a	and the second second second		CONTRACTOR CONTRACTOR OF A	4			5.1	
Level[dBµV/m]	50	المحاطية وجاهره والمراجع المحاطية والمحاطية والمحاطية والمحاطية والمحاطية والمحاطية والمحاطية والمحاطية والمحاط	dimension of a set of the second s	and a state of the	المراجع ويعتر ومعرف والمحارية والمحروفة والمحارية والا		สารประวัตรารประการประการประวัตรา		6 6	V Limit
evel[	40									
_	30									
	20									
	20									
		2.3194G	2.3288G	2.3382G 2.34	76G 2.357G Frequency[		2.3758G	2.3852G	2.3946G	2.404G
	10 0 2.31G	2.3194G PK Limit PK Detector Freq. [MHz]		23382G 2.34 artical PK — Vertical Level [dBµV/m]	Frequency[		2.3758G Margin [dB]	23852G	2.3946G Polarit	
	10 0 2.31G	PK Limit - PK Detector - Freq.	AV Limit Ve AV Detector	ertical PK Vertical	Frequency AV Factor	Limit	Margin			y
	10 0 231G	PK Limit PK Detector Freq. [MHz]	AV Limit Ve AV Detector Ve Reading [dBµV/m]	ertical PK — Vertical Level [dBµV/m]	Frequency AV Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarit	y I
	10 0 2.31G NO.	Freq. [MHz] 2330.00	AV Limit — Ve AV Detector Reading [dBµV/m] 21.87 14.91 14.34	Level [dBµV/m] 57.28	Frequency AV Factor [dB] 35.41	Limit [dBµV/m] 74.00	Margin [dB] 16.72	Trace PK AV AV	Polarit Vertica	y 11
	10 0 2.31G NO. 1 2 3 4	PK Limit PK Delector [MHz] 2330.00 2330.00 2360.00 2360.00	AV Limit Ve AV Detector Ve Reading [dBµV/m] 21.87 14.91 14.34 22.77	Level [dBµV/m] 57.28 50.32 49.97 58.40	Frequency AV Factor [dB] 35.41 35.63 35.63	Limit [dBµV/m] 74.00 54.00 54.00 74.00	Margin [dB] 16.72 3.68 4.03 15.60	Trace PK AV AV PK	Polarit Vertica Vertica Vertica	y 11 11 11
	10 0 2316 NO. 1 2 3	PK Limit           PK Detector           Freq.           [MHz]           2330.00           2360.00	AV Limit — Ve AV Detector Reading [dBµV/m] 21.87 14.91 14.34	Level [dBµV/m] 57.28 50.32 49.97	Frequency AV Factor [dB] 35.41 35.41 35.63	Limit [dBµV/m] 74.00 54.00 54.00	Margin [dB] 16.72 3.68 4.03	Trace PK AV AV	Polarit Vertica Vertica Vertica	y 11 11 11 11 11





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







		4G Smart Ph			Product Me	odel:	C203	
st By:		Janet			Test mode	:	2DH1 T	x mode
st Channel	Channel:	Highest channel			Polarization:		Horizontal	
est Voltage:		AC 120V/60H	Ηz		Environme	nt:	Temp:2	2.9℃ Huni: 5
100 90 80 70 [W/\110 [B] [90 40 40			and a group of the g	FCC PART 1	5C	n, engine di se piceto di	а Я. П. Лациян Б	FCC PART 15 C-PK Limit
30 20 10 0 2.478G	2.4802G PK Limit PK Detector	2.4824G AV Limit Ho AV Detector	2.4846G 2.486 orizontal PK — Hori	Frequency[	2.4912G Hz]	2.4934G	2.4956G	2.4978G 2.50
30 20 10 0 2.478G	— PK Limit —	— AV Limit —— Ho		Frequency[		2.4934G Margin [dB]	2.4956G Trace	2.4978G 2.50 Polarity
30 20 10 0 2.478G	PK Limit PK Detector	AV Limit Ho AV Detector Ho Reading	orizontal PK – Hort Level	Frequency[ zontal AV Factor	Hz] Limit	Margin		
30 20 10 2.478G	PK Limit PK Detector Freq. [MHz]	AV Limit - Ho AV Detector Ho Reading [dBµV/m]	Level	Frequency[ zontal AV Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
30 20 10 2.478G	PK Limit PK Detector Freq. [MHz] 2483.50	AV Limit He AV Detector He Reading [dBµV/m] 22.45	Level [dBµV/m] 58.17	Frequency zontal AV Factor [dB] 35.72	Limit [dBµV/m] 74.00	Margin [dB] 15.83	Trace	Polarity Horizontal
30 20 10 0 2.478G	PK Limit           PK Detector           Freq.           [MHz]           2483.50           2489.00	AV Limit Ho AV Detector Ho AV Detector Reading [dBµV/m] 22.45 14.44 14.53	Level [dBµV/m] 58.17 50.16	Frequency zontal AV Factor [dB] 35.72 35.72	Limit [dBµV/m] 74.00 54.00	Margin [dB] 15.83 3.84	Trace PK AV	Polarity Horizontal Horizontal Horizontal
30 20 10 0 2.478G NO. 1 2 3	PK Limit PK Detector [MHz] 2483.50 2483.50	AV Limit Ho AV Detector Ho Reading [dBµV/m] 22.45 14.44	Level [dBµV/m] 58.17 50.16 50.24	Frequency[ zontal AV Factor [dB] 35.72 35.72 35.71	Limit [dBµV/m] 74.00 54.00 54.00	Margin [dB] 15.83 3.84 3.76	Trace PK AV AV	Polarity Horizontal Horizontal



#### 8DPSK mode

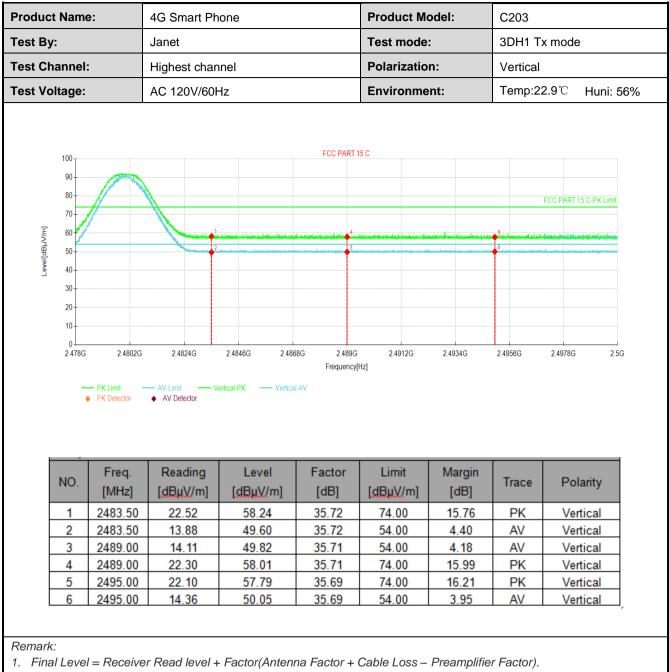
est Bv:	roduct Name: est By:		4G Smart Phone Janet			Product Model:     C203       Test mode:     3DH1 Tx mode		C203				
								a mode: 3DH1 Tx mode		Test mode:   3DH1 Tx mode		Test mode:3DH1 Tx mode
est Channe	el:	Lowest channel AC 120V/60Hz			Polarizatio	n:	Vertical					
est Voltage	:				Environme	nt:	Temp:22.9℃ Huni:					
100 90 80 70 60 90 80 70 60 30 20				FCC PART 1				FCC PART 15 C.P.R Linut				
10 0 2.31G	G 2.3194G	2.3288G	2.3382G 2.347	76G 2.357G Frequency[		2.3758G	2.3852G	2.3946G 2.404G				
	PK Limit PK Detector	AV Limit Vi AV Detector	ertical PK — Vertical Level	Frequency[ AV Factor	Hz]	Margin						
0	PK Limit PK Detector Freq. [MHz]	AV Limit Vi AV Detector	ertical PK — Vertical	Frequency[	Hz]		2.3852G	2.3946G 2.404G				
0 2310 NO. 1	<ul> <li>PK Limit</li> <li>PK Detector</li> <li>Freq.</li> <li>[MHz]</li> <li>2330.00</li> </ul>	AV Limit Vi AV Detector	Level [dBµV/m] 58.58	Frequency[ AV Factor [dB] 35.41	Limit [dBµV/m] 74.00	Margin [dB] 15.42	Trace	Polarity Vertical				
0 2310 NO.	<ul> <li>PK Limit</li> <li>PK Detector</li> <li>Freq.</li> <li>[MHz]</li> <li>2330.00</li> <li>2330.00</li> </ul>	AV Limit V AV Detector V Reading [dBµV/m] 23.17 14.14	Level [dBµV/m] 58.58 49.55	Frequency( AV Factor [dB] 35.41 35.41	Limit [dBµV/m] 74.00 54.00	Margin [dB] 15.42 4.45	Trace PK AV	Polarity Vertical Vertical				
0 2310 NO. 1	<ul> <li>PK Limit</li> <li>PK Detector</li> <li>Freq.</li> <li>[MHz]</li> <li>2330.00</li> <li>2330.00</li> <li>2360.00</li> </ul>	AV Limit AV Detector Reading [dBµV/m] 23.17 14.14 14.19	Level [dBµV/m] 58.58	Frequency[ AV Factor [dB] 35.41	Limit [dBµV/m] 74.00 54.00 54.00	Margin [dB] 15.42	Trace PK AV AV	Polarity Vertical				
0 2.310 NO. 1 2	<ul> <li>PK Limit</li> <li>PK Detector</li> <li>Freq.</li> <li>[MHz]</li> <li>2330.00</li> <li>2330.00</li> <li>2360.00</li> <li>2360.00</li> </ul>	AV Limit V AV Detector V Reading [dBµV/m] 23.17 14.14	Level [dBµV/m] 58.58 49.55 49.82 58.09	Frequency( AV Factor [dB] 35.41 35.41	Limit [dBµV/m] 74.00 54.00 54.00 74.00	Margin [dB] 15.42 4.45 4.18 15.91	Trace PK AV AV PK	Polarity Vertical Vertical Vertical Vertical				
0 2310 NO. 1 2 3	<ul> <li>PK Limit</li> <li>PK Detector</li> <li>Freq.</li> <li>[MHz]</li> <li>2330.00</li> <li>2330.00</li> <li>2360.00</li> </ul>	AV Limit AV Detector Reading [dBµV/m] 23.17 14.14 14.19	Level [dBµV/m] 58.58 49.55 49.82	Frequency( AV Factor [dB] 35.41 35.41 35.63	Limit [dBµV/m] 74.00 54.00 54.00	Margin [dB] 15.42 4.45 4.18	Trace PK AV AV	Polarity Vertical Vertical Vertical				





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





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



					Product Me	Juel.	C203	
est By:		Janet			Test mode	:	3DH1 T	x mode
est Channel	:	Highest channel			Polarization:		Horizontal	
est Voltage:		AC 120V/60H	Ηz		Environme	nt:	Temp:2	2.9℃ Huni: 50
100 90 80 70 70 60				FCC PART 1	5C		Sin under June	FCC PART 15 C-PK Limit
	2.4802G PK Limit – PK Detector	2.4824G AV Limit — Ho AV Detector	2.4846G 2.486 orizontal PK — Hori	Frequency[	2.4912G Hz]	2.4934G	2.4956G	2.4978G 2.5G
30 20 10 2.478G	— PK Limit —	— AV Limit — Ho		Frequency[		24934G Margin [dB]	2.4956G Trace	24978G 25G
30 20 10 0 2.478G	PK Limit - PK Detector -	AV Limit Ho AV Detector Ho Reading	orizontal PK — Hon. Level	Frequency zontal AV Factor	Limit	Margin		
30 20 10 0 2.478G	PK Limit → PK Detector → Freq. [MHz]	AV Limit Ho AV Detector Ho Reading [dBµV/m]	Level	Frequency zontal AV Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
30 20 10 0 2.478G NO. 1	PK Limit PK Detector → Freq. [MHz] 2483.50	AV Limit Ho AV Detector Ho Reading [dBµV/m] 21.88	Level [dBµV/m] 57.60	Frequency zontal AV Factor [dB] 35.72	Limit [dBµV/m] 74.00	Margin [dB] 16.40	Trace	Polarity Horizontal
30 20 10 0 2.478G NO. 1 2	Freq. [MHz] 2483.50 2483.50	AV Limit Ho AV Detector Ho Reading [dBµV/m] 21.88 14.00	Level [dBµV/m] 57.60 49.72	Frequency zontal AV Factor [dB] 35.72 35.72	Limit [dBµV/m] 74.00 54.00	Margin [dB] 16.40 4.28	Trace PK AV	Polarity Horizontal Horizontal
30 20 10 2.478G 2.478G NO. 1 2 3	PK Limit           PK Detector           Freq.           [MHz]           2483.50           2489.00	AV Limit Ho AV Detector Reading [dBµV/m] 21.88 14.00 14.44	Level [dBµV/m] 57.60 49.72 50.15	Frequency zontal AV Factor [dB] 35.72 35.72 35.71	Limit [dBµV/m] 74.00 54.00 54.00	Margin [dB] 16.40 4.28 3.85	Trace PK AV AV	Polarity Horizontal Horizontal Horizontal



# 6.10 Spurious Emission

#### 6.10.1 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.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass
Measurement Data:	Refer to Appendix A - BT



#### 6.10.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C S	Section 15.	209			
Test Frequency Range:	9 kHz to 25 GHz	-				
Test Distance:	3m or 10m					
Receiver setup:	Frequency	Detecto	or	RBW	VBW	/ Remark
	30MHz-1GHz	Quasi-pe	eak	120kHz	300kH	Iz Quasi-peak Value
		Peak		1MHz	3MHz	z Peak Value
	Above 1GHz	RMS		1MHz	3MHz	z Average Value
Limit:	Frequenc	;y	Lim	it (dBuV/m @	⊉10m)	Remark
	30MHz-88N	ЛНz		30.0		Quasi-peak Value
	88MHz-216	MHz		33.5		Quasi-peak Value
	216MHz-960	MHz		36.0		Quasi-peak Value
	960MHz-10	GHz		44.0		Quasi-peak Value
	Frequenc	у	Lii	mit (dBuV/m @	⊉3m)	Remark
	Above 1G	Hz -		54.0		Average Value
	7.0000 10			74.0		Peak Value
	EUT Tur Tal Ground Above 1GHz	m 0.8m	4m			Search Antenna
Test Procedure:			Test R	Ground Reference Plane ecciver	Pre- Amplifier Contr	ating table 0.8m(below
	(below 1GH 360 degree	lz)or 3 met s to detern	ter cł nine i	hamber(abov the position (	ve 1GHz	at a 10 meter chamber ). The table was rotated ghest radiation. 3 meters(above 1GHz)

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Project No.: JYTSZE2111090



	away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
	3. 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.
	4. 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.
	<ol> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> </ol>
	6. 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 Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass
Remark:	<ol> <li>Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case.</li> <li>9 kHz to 30 MHz is noise floor and lower than the limit 20dB, so only shows the data of above 30MHz in this report.</li> </ol>



#### Measurement Data (worst case):

#### Below 1GHz:

Product Name:	4G Smart Ph	one		Product I	Model:	C203	C203		
est By:	Janet			Test mode:		BT Tx mod	le		
Test Frequency:	30 MHz ~ 1 GHz			Polarization:		Vertical &	Horizontal		
Fest Voltage:	AC 120V/60H	Ηz		Environm	nent:	Temp: 22.7	7℃ Huni: 53%		
			Full Spect	rum					
45 <del></del>						FCC PART 1	5.247 10m		
40+									
30									
Ψ							all the second second		
·든 20 +			100000000000000000000000000000000000000				and the state of the		
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	A. Burnelle			The second second					
o+		A STATE AND							
0+	50 60	80 100N	4	200	300 40	0 500	800 1G		
2014	50 60	80 1000			300 40	0 500	800 IG		
30M			Frequer	ncy in Hz					
30M									
30M									
30M									
Frequency (MHz)	- MaxPeak (dB ⊬ V/m)	Limit (dB # V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)		
Frequency	(dB ዞ V/m)		Margin	Height	Pol V	(deg) 64.0			
Frequency (MHz) 43.871000 48.624000	(dB # V/m) 13.66 13.73	(dB HV/m) 30.00 30.00	Margin (dB) 16.34 16.27	Height (cm) 100.0 100.0	V V	(deg) 64.0 138.0	(dB/m) -15.7 -15.8		
Frequency (MHz) 43.871000 48.624000 58.906000	(dB # V/m) 13.66 13.73 13.97	(dB H-V/m) 30.00 30.00 30.00	Margin (dB) 16.34 16.27 16.03	Height (cm) 100.0 100.0 100.0	V V V	(deg) 64.0 138.0 345.0	(dB/m) -15.7 -15.8 -16.3		
Frequency (MHz) 43.871000 48.624000 58.906000 80.537000	(dB # V/m) 13.66 13.73 13.97 15.81	(dB HV/m) 30.00 30.00 30.00 30.00	Margin (dB) 16.34 16.27 16.03 14.19	Height (cm) 100.0 100.0 100.0 100.0	V V V V	(deg) 64.0 138.0 345.0 345.0	(dB/m) -15.7 -15.8 -16.3 -20.1		
Frequency (MHz) 43.871000 48.624000 58.906000	(dB #V/m) 13.66 13.73 13.97 15.81 15.10	(dB H-V/m) 30.00 30.00 30.00	Margin (dB) 16.34 16.27 16.03	Height (cm) 100.0 100.0 100.0	V V V	(deg) 64.0 138.0 345.0	(dB/m) -15.7 -15.8 -16.3		

Remark:

1. Final Level = Receiver Read level + Factor(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.



#### Above 1GHz:

		Test ch	annel: Lowest ch	annel		
		De	tector: Peak Valu	е		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4804.00	54.77	-9.60	45.17	74.00	28.83	Vertical
4804.00	54.87	-9.60	45.27	74.00	28.73	Horizontal
		Dete	ctor: Average Va	lue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4804.00	47.18	-9.60	37.58	54.00	16.42	Vertical
4804.00	47.88	-9.60	38.28	54.00	15.72	Horizontal
		Test ch	annel: Middle ch	annel		
		Det	tector: Peak Valu	le		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarizatior
4882.00	54.61	-9.05	45.56	74.00	28.44	Vertical
4882.00	54.62	-9.05	45.57	74.00	28.43	Horizontal
		Dete	ctor: Average Va	lue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4882.00	47.46	-9.05	38.41	54.00	15.59	Vertical
4882.00	48.29	-9.05	39.24	54.00	14.76	Horizontal
		Test cha	annel: Highest cł	nannel		
	-	Det	tector: Peak Valu	Ie		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4960.00	54.98	-8.45	46.53	74.00	27.47	Vertical
4960.00	54.17	-8.45	45.72	74.00	28.28	Horizontal
	-	Dete	ctor: Average Va	lue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
	1	-8.45	39.35	54.00	14.65	Vertical
4960.00	47.80	-0.45	00100			

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



# **8 EUT Constructional Details**

Reference to the test report No.: JYTSZB-R12-2102634.

-----End of report-----