

JianYan Testing Group Shenzhen Co., Ltd.

Report No: JYTSZB-R12-2101662

FCC REPORT

(WCDMA)

Applicant: Shenzhen Coosea Group Company Limited

Address of Applicant: Room B, 18th Floor, Building A, Fintech Building, No.11 Keyuan

Road, Yuehai Street, Nanshan District, Shenzhen, China.

Equipment Under Test (EUT)

Product Name: Mobile phone

Model No.: ZEEKER P10

Trade mark: ZEEKER

FCC ID: 2A2GN-P10

Applicable standards: FCC CFR Title 47 Part 2

FCC CFR Title 47 Part 22 Subpart H FCC CFR Title 47 Part 24 Subpart E FCC CFR Title 47 Part 27 Subpart L

Date of sample receipt: 27 Aug., 2021

Date of Test: 28 Aug., to 16 Sep., 2021

Date of report issued: 18 Sep., 2021

Test Result: PASS*

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





2. Version

Version No.	Date	Description
00	18 Sep., 2021	Original

Tested by:	Mike ou	Date:	18 Sep., 2021	
	Test Engineer			

Winner Thang

Reviewed by: 18 Sep., 2021 Date: Project Engineer





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4. Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Pass (Please refer to SAR Report)
RF Output Power	Part 2.1046 Part 22.913 (a)(5) Part 24.232 (c) Part 27.50 (d)(4)	Appendix A - WCDMA
Peak-to-Average Power Ratio	Part 24.232 (d) Part 27.50(d)(5)	Appendix B - WCDMA
Modulation Characteristics	Part 2.1047	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(b) Part 24.238(b) Part 27.53(h)	Appendix C - WCDMA
Out of band emission at antenna terminals	Part 2.1051 Part 22.917 (a) Part 24.238 (a) Part 27.53 (h)	Appendix D – WCDMA Appendix E - WCDMA
Field strength of spurious radiation	Part 2.1053 Part 22.917 (a) Part 24.238 (a) Part 27.53 (h)	Pass
Frequency stability vs. temperature	Part 22.355 Part 24.235 Part 27.54 Part 2.1055(a)(1)(b)	Appendix F - WCDMA
Frequency stability vs. voltage	Part 22.355 Part 24.235 Part 27.54 Part 2.1055(d)(2)	Appendix F - WCDMA

Remark:

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

2. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB(Fundamental Frequency below 1GHz)/1.0dB(Fundamental Frequency above 1GHz) (provided by the customer).

Test Method:

ANSI/TIA-603-E-2016 ANSI C63.26-2015

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5. General Information

5.1 Client Information

Applicant:	Shenzhen Coosea Group Company Limited
Address:	Room B, 18th Floor, Building A, Fintech Building, No.11 Keyuan Road, Yuehai Street, Nanshan District, Shenzhen, China.
Manufacturer:	Sichuan Koobee Communication Equipment Co., Ltd.
Address:	3 Floor, Building 2, 69 Gangyuan Road West Section, Lingang Development Zone, Yibin City, Sichuan Province
Factory:	Sichuan Koobee Communication Equipment Co., Ltd.
Address:	3 Floor, Building 2, 69 Gangyuan Road West Section, Lingang Development Zone, Yibin City, Sichuan Province

5.2 General Description of E.U.T.

Product Name:	Mobile phone			
Model No.:	ZEEKER P10			
Operation Frequency range:	WCDMA Band V: 826.4MHz-846.6MHz			
	WCDMA Band II: 1852.4 MHz-1907.6 MHz			
	WCDMA Band IV: 1712.4 MHz-1752.6 MHz			
Modulation type:	3G ⊠RMC(QPSK) ⊠HSUPA(QPSK) ⊠HSDPA(QPSK,16QAM)			
Antenna type:	Internal Antenna			
Antenna gain:	WCDMA Band V: -2.1 dBi(declare by Applicant)			
	WCDMA Band II: -1.7 dBi(declare by Applicant)			
	WCDMA Band IV: -1.5 dBi(declare by Applicant)			
Power supply:	Rechargeable Li-ion Polymer Battery DC3.85V, 5900mAh			
AC adapter:	Model: UF22P03			
	Input: AC100-240V, 50/60Hz, 0.5A			
	Output: 5.0V === 3.0A, or 9.0V === 2.0A, or 12.0V === 1.5A			
Test Sample Condition:	The test samples were provided in good working order with no visible defects.			

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Operation Frequency List:

WCDMA Band V		WCDMA Band II		
Channel	Channel Frequency (MHz)		Frequency (MHz)	
4132	826.40	9262	1852.40	
4133	826.60	9263	1852.60	
			••••	
4182	836.40	9399	1879.80	
4183	836.60	9400	1880.00	
4184	836.80	9401	1880.20	
4232	846.40	9537	1907.40	
4233	846.60	9538	1907.60	
WCDM	A Band IV			
Channel	Frequency (MHz)			
1312	1712.40			
1313	1712.60			
1412	1732.40			
1413	1732.60			
1414	1732.80			
1512	1752.40			
1513	1752.60			

Regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

0 1 7		<u>'</u>			
WCDMA Band V			WCDMA Band II		
Chai	Channel		Channel		Frequency(MHz)
Lowest	4132	826.40	Lowest	Lowest 9262	
Middle	4183	836.60	Middle	Middle 9400	
Highest	4233	846.60	Highest 9538		1907.60
	WCDMA Band IV				
Chai	Channel				
Lowest	Lowest 1312 1712.40				
Middle	Middle 1413 1732.60				
Highest	1513	1752.60			

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5.3 Test environment and mode

Operating Environmen	Operating Environment:			
Temperature:	Normal: 15℃ ~ 35℃, Extreme: -30℃ ~ +50℃			
Humidity:	20 % ~ 75 % RH			
Atmospheric Pressure:	1008 mbar			
Voltage:	Nominal: 3.85Vdc, Extreme: Low 3.50 Vdc, High 4.40 Vdc			
Test mode:	Test mode:			
RMC mode	Keep the EUT communication with simulated station in RMC mode			
HSDPA	Keep the EUT communication with simulated station in HSDPA mode			
HSUPA	Keep the EUT communication with simulated station in HSUPA mode			

Remark: The EUT has been tested under continuous transmitting mode. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing. The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for these modes. Just the worst case position (H mode) shown in report.

5.4 Description of Support Units

Test Equipment	Manufacturer	Model No.	Serial No.
Simulated Station	Anritsu	MT8820C	6201026545

5.5 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%)
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

5.6 Additions to, deviations, or exclusions from the method

Nο

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 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 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

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.

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Email: info-JYTee@lets.com, Website: http://www.ccis-cb.com

5.9 Test Instruments list

Radiated Emission:

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.

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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
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-044	03-07-2021	03-06-2022
BiConiLog Antenna	SCHWARZBECK	VULB9163	9163-1246	03-07-2021	03-06-2022
Biconical Antenna	SCHWARZBECK	VUBA 9117	9117#359	06-17-2021	06-17-2022
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	11-27-2020	11-26-2021
Simulated Station	Anritsu	MT8820C	6201026545	03-03-2021	03-02-2022
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	

Conducted method:						
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)	
Spectrum Analyzer	Keysight	N9020B	MY57431500	07-02-2021	07-01-2022	
Simulated Station	Rohde & Schwarz	CMW500	108209	07-02-2021	07-01-2022	
RF Control Unit	Tonscend	JS0806-1	N/A	N/A	N/A	
Band Reject Filter Group	Tonscend	JS0806-F	21A8060360	N/A	N/A	
Test Software	Tonscend	TS+	Version: 2.6.9.0526			





6. Test results

6.1 Conducted Output Power, ERP and EIRP

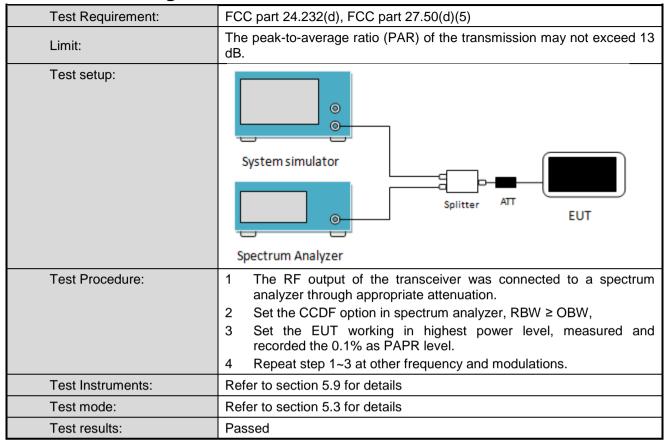
Test Requirement:	FCC part 22.913(a)(5), FCC part 24.232(c), FCC part 27.50(d)(4)				
Limit:	WCDMA Band V: 7W, WCDMA Band II: 2W, WCDMA Band IV: 1W				
Test setup:	System simulator ATT EUT				
Test Procedure:	The transmitter output was connected to a calibrated attenuator, the other end of which was connected to the simulated station. Transmitter output power was read off in dBm.				
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 - WCDMA

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6.2 Peak-to-Average Power Ratio

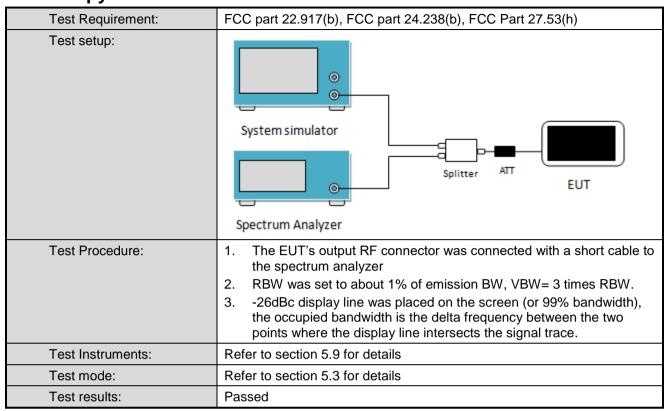


Measurement Data: Refer to Appendix B - WCDMA

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6.3 Occupy Bandwidth



Measurement Data: Refer to Appendix C - WCDMA

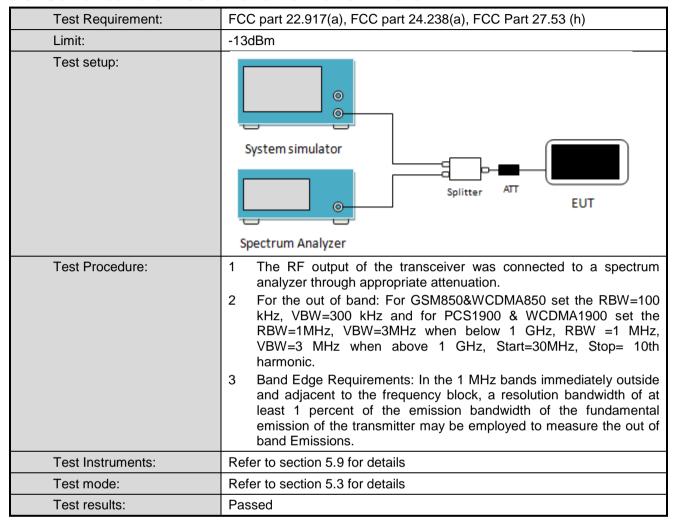
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6.4 Modulation Characteristic

According to FCC § 2.1047(d), Part 22H & 24E & 27L there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

6.5 Out of band emission at antenna terminals



Measurement Data:

Band edge emission: Refer to Appendix D - WCDMA

Spurious emission: Refer to Appendix E - WCDMA



6.6 Field strength of spurious radiation measurement

Test Requirement:	FCC part 22.917(a), FCC part 24.238(a), FCC part 27.53(h)
Limit:	-13dBm
Test setup:	Below 1GHz Camera Antenna Tower Ground Reference Plane Generator Monitor Power Amplifier
	Above 1GHz
	Ground Reference Plane Test Receiver Test Receiver Test Receiver Test Receiver
Test Procedure:	 The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter camber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. ERP / EIRP = S.G. output (dBm) + Antenna Gain(dB/dBi) - Cable Loss (dB)
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed





Measurement Data (worst case):

		WCDMA RAN	D V 12.2k RMC				
Lowest channel							
Frequency (MHz)	Spurous Emission level (dBm)	Factor (dB)	Level at antenna terminals (dBm)	Limit Line (dBm)	Margin (dB)	Polarization	
1652.80	-49.92	-9.89	-59.81	-13.00	46.81	Vertical	
2479.20	-48.38	-5.57	-53.95	-13.00	40.95	Vertical	
3305.60	-47.23	-2.09	-49.32	-13.00	36.32	Vertical	
1652.80	-49.92	-9.89	-59.81	-13.00	46.81	Horizontal	
2479.20	-47.72	-5.57	-53.29	-13.00	40.29	Horizontal	
3305.60	-45.95	-2.09	-48.04	-13.00	35.04	Horizontal	
		Middle	channel				
Frequency (MHz)	Spurous Emission level (dBm)	Factor (dB)	Level at antenna terminals (dBm)	Limit Line (dBm)	Margin (dB)	Polarization	
1673.20	-49.72	-9.88	-59.60	-13.00	46.60	Vertical	
2509.80	-48.61	-5.29	-53.90	-13.00	40.90	Vertical	
3346.40	-47.45	-2.05	-49.50	-13.00	36.50	Vertical	
1673.20	-49.43	-9.88	-59.31	-13.00	46.31	Horizontal	
2509.80	-47.87	-5.29	-53.16	-13.00	40.16	Horizontal	
3346.40	-46.43	-2.05	-48.48	-13.00	35.48	Horizontal	
		Highest	channel				
Frequency (MHz)	Spurous Emission level (dBm)	Factor (dB)	Level at antenna terminals (dBm)	Limit Line (dBm)	Margin (dB)	Polarization	
1697.60	-49.33	-9.87	-59.20	-13.00	46.20	Vertical	
2546.40	-48.15	-5.13	-53.28	-13.00	40.28	Vertical	
3395.20	-47.49	-1.97	-49.46	-13.00	36.46	Vertical	
1697.60	-49.69	-9.87	-59.56	-13.00	46.56	Horizontal	
2546.40	-48.16	-5.13	-53.29	-13.00	40.29	Horizontal	
3395.20	-46.84	-1.97	-48.81	-13.00	35.81	Horizontal	

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^{1.} The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.





WCDMA Band II 12.2k RMC							
Lowest channel							
Frequency (MHz)	Spurous Emission level (dBm)	Factor (dB)	Level at antenna terminals (dBm)	Limit Line (dBm)	Margin (dB)	Polarization	
3704.80	-44.57	-1.28	-45.85	-13.00	32.85	Vertical	
5557.20	-48.77	5.27	-43.50	-13.00	30.50	Vertical	
3704.80	-44.78	-1.28	-46.06	-13.00	33.06	Horizontal	
5557.20	-48.97	5.27	-43.70	-13.00	30.70	Horizontal	
	Middle channel						
Frequency (MHz)	Spurous Emission level (dBm)	Factor (dB)	Level at antenna terminals (dBm)	Limit Line (dBm)	Margin (dB)	Polarization	
3760.00	-44.77	-1.03	-45.80	-13.00	32.80	Vertical	
5640.00	-48.87	6.06	-42.81	-13.00	29.81	Vertical	
3760.00	-44.29	-1.03	-45.32	-13.00	32.32	Horizontal	
5640.00	-48.89	6.06	-42.83	-13.00	29.83	Horizontal	
	Highest channel						
Frequency (MHz)	Spurous Emission level (dBm)	Factor (dB)	Level at antenna terminals (dBm)	Limit Line (dBm)	Margin (dB)	Polarization	
3815.20	-44.14	-0.83	-44.97	-13.00	31.97	Vertical	
5722.80	-48.51	6.72	-41.79	-13.00	28.79	Vertical	
3815.20	-45.25	-0.83	-46.08	-13.00	33.08	Horizontal	
5722.80	-49.24	6.72	-42.52	-13.00	29.52	Horizontal	

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The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.





WCDMA Band IV 12.2k RMC							
Lowest channel							
Frequency (MHz)	Spurous Emission level (dBm)	Factor (dB)	Level at antenna terminals (dBm)	Limit Line (dBm)	Margin (dB)	Polarization	
3424.40	-44.73	-1.82	-46.55	-13.00	33.55	Vertical	
5136.60	-44.71	4.66	-40.05	-13.00	27.05	Vertical	
3424.40	-42.34	-1.82	-44.16	-13.00	31.16	Horizontal	
5136.60	-46.57	4.66	-41.91	-13.00	28.91	Horizontal	
	Middle channel						
Frequency (MHz)	Spurous Emission level (dBm)	Factor (dB)	Level at antenna terminals (dBm)	Limit Line (dBm)	Margin (dB)	Polarization	
3464.80	-44.55	-1.73	-46.28	-13.00	33.28	Vertical	
5197.20	-44.46	4.76	-39.70	-13.00	26.70	Vertical	
3464.80	-42.09	-1.73	-43.82	-13.00	30.82	Horizontal	
5197.20	-46.13	4.76	-41.37	-13.00	28.37	Horizontal	
		Highest	channel				
Frequency (MHz)	Spurous Emission level (dBm)	Factor (dB)	Level at antenna terminals (dBm)	Limit Line (dBm)	Margin (dB)	Polarization	
3505.20	-44.28	-1.64	-45.92	-13.00	32.92	Vertical	
5257.80	-43.99	5.04	-38.95	-13.00	25.95	Vertical	
3505.20	-41.93	-1.64	-43.57	-13.00	30.57	Horizontal	
5257.80	-46.21	5.04	-41.17	-13.00	28.17	Horizontal	

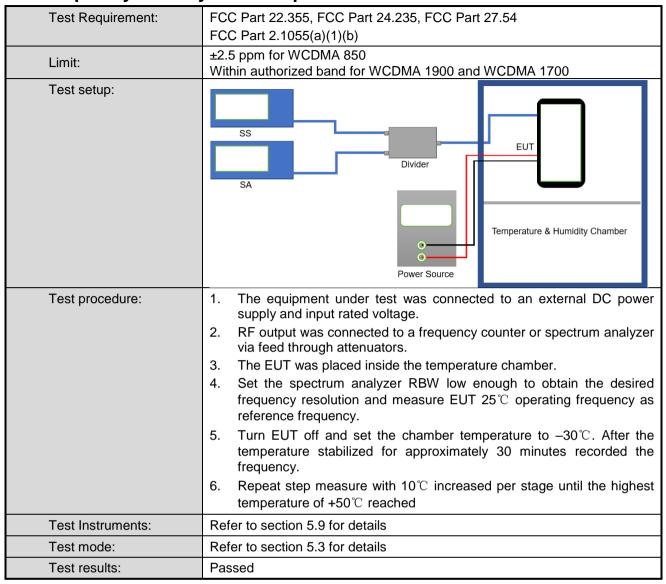
Remark:

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^{1.} The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.



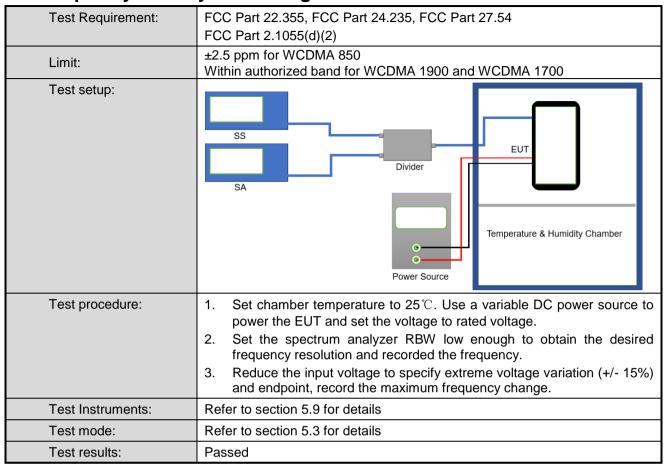
6.7 Frequency stability V.S. Temperature measurement



Measurement Data: Refer to Appendix F - WCDMA



6.8 Frequency stability V.S. Voltage measurement



Measurement Data: Refer to Appendix F - WCDMA

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8 EUT Constructional Details

Reference to the test report No. JYTSZB-R12-2101653.

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

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