

FCC REPORT

(WCDMA)

Applicant: TCL Communication Ltd.

Address of Applicant: 7/F, Block F4, TCL Communication Technology Building, TCL International E City, Zhong Shan Yuan Road, Nanshan District, Shenzhen, Guangdong, P.R. China 518052

Equipment Under Test (EUT)

Product Name: LTE/UMTS/GSM mobile phone

Model No.: 5048A

Trade mark: alcatel

FCC ID: 2ACCJH107

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: 17 Jan., 2022

Date of Test: 18 Jan., to 01 Mar., 2022

Date of report issued: 13 Apr., 2022

Test Result: PASS*

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

Authorized Signature:



Bruce Zhang
Laboratory Manager

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

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

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2. Version

Version No.	Date	Description
00	04 Mar., 2022	Original
01	13 Apr., 2022	Updated page 17

Tested by:

Mike Ou
Test Engineer

Date: 13 Apr., 2022

Reviewed by:

Winner Zhang
Project Engineer

Date: 13 Apr., 2022

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4. Test Summary

Test Items	FCC Part Section(s)	Result
RF Output Power	Part 2.1046 Part 22.913 (a)(5) Part 24.232 (c) Part 27.50 (d)(4)	Pass ²
Peak-to-Average Power Ratio	Part 24.232 (d) Part 27.50(d)(5)	Pass ¹
Modulation Characteristics	Part 2.1047	Pass ¹
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(b) Part 24.238(b) Part 27.53(h)	Pass ¹
Out of band emission at antenna terminals	Part 2.1053 Part 22.917 (a) Part 24.238 (a) Part 27.53(h)	Pass ¹
Field strength of spurious radiation	Part 22.917 (a) Part 24.238 (a) Part 27.53(h)	Pass ²
Frequency stability vs. temperature	Part 22.355 Part 24.235 Part 27.54 Part 2.1055(a)(1)(b)	Pass ¹
Frequency stability vs. voltage	Part 22.355 Part 24.235 Part 27.54 Part 2.1055(d)(2)	Pass ¹
Remark:		
1. Pass ¹ : Items data are refer from the original report issued by SGS-CSTC Standards Technical Services, Co., Ltd.Shenzhen Branch.(Date of Test: 2019/8/2-2019/8/21).The detailed data refer to Appendix B.2 of WCDMA BAND II & IV & V.		
2. Pass ² : These items are tested by JianYan Testing Group Shenzhen Co., Ltd.		
3. 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	

5. General Information

5.1 Client Information

Applicant:	TCL Communication Ltd.
Address:	7/F, Block F4, TCL Communication Technology Building, TCL International E City, Zhong Shan Yuan Road, Nanshan District, Shenzhen, Guangdong, P.R. China 518052
Manufacturer:	TCL Communication Ltd.
Address:	7/F, Block F4, TCL Communication Technology Building, TCL International E City, Zhong Shan Yuan Road, Nanshan District, Shenzhen, Guangdong, P.R. China 518052
Factory:	Huizhou TCL Mobile Communication Co, Ltd
Address:	No. 86, Hechang 7th West Road, Zhongkai Hi-Tech Development District, Huizhou, Guangdong

5.2 General Description of E.U.T.

Product Name:	LTE/UMTS/GSM mobile phone			
Model No.:	5048A			
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	<input checked="" type="checkbox"/> RMC(QPSK)	<input checked="" type="checkbox"/> HSUPA(QPSK)	<input checked="" type="checkbox"/> HSDPA(QPSK,16QAM)
Antenna type:	Integrated Antenna			
Antenna gain:	WCDMA Band V: -3.12 dBi(declare by Applicant) WCDMA Band II: -0.96 dBi(declare by Applicant) WCDMA Band IV: -0.78 dBi(declare by Applicant)			
Power supply:	<input checked="" type="checkbox"/> AC/DC Adapter			
Test Sample Condition:	The test samples were provided in good working order with no visible defects.			

Operation Frequency List:

WCDMA Band V		WCDMA Band II	
Channel	Frequency (MHz)	Channel	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
WCDMA 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:

WCDMA Band V			WCDMA Band II		
Channel		Frequency(MHz)	Channel		Frequency(MHz)
Lowest	4132	826.40	Lowest	9262	1852.40
Middle	4183	836.60	Middle	9400	1880.00
Highest	4233	846.60	Highest	9538	1907.60
WCDMA Band IV					
Channel		Frequency(MHz)			
Lowest	1312	1712.40			
Middle	1413	1732.60			
Highest	1513	1752.60			

5.3 Test environment and mode

Operating Environment:	
Temperature:	Normal: 15°C ~ 35°C, Extreme: -30°C ~ +50°C
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1008 mbar
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.	
<i>Remark: JianYan Testing Group Shenzhen Co., Ltd. is only responsible for the test project data of the above samples, and will keep the above samples for a month.</i>	

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

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: <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.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTeel@lets.com, Website: <http://jyt.lets.com>

5.9 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	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 02-17-2022	03-06-2022 02-16-2023
Biconical Antenna	SCHWARZBECK	VUBA 9117	9117#359	06-17-2021	06-17-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	912D-916	03-07-2021 02-17-2022	03-06-2022 02-16-2023
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 02-17-2022	03-02-2022 02-16-2023
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-03-2021 02-17-2022	03-02-2022 02-16-2023
Spectrum analyzer	Keysight	N9010B	MY60240202	10-27-2021	10-26-2022
Simulated Station	Anritsu	MT8820C	6201026545	03-03-2021 02-17-2022	03-02-2022 02-16-2023
Band Reject Filter Group	Tonscend	JS0806	21B8060367	04-06-2021	04-05-2022
Low Pre-amplifier	SCHWARZBECK	BBV9743B	00305	03-07-2021 02-17-2022	03-06-2022 02-16-2023
High Pre-amplifier	SKET	LNPA_0118G-50	MF280208233	03-07-2021 02-17-2022	03-06-2022 02-16-2023
Cable	Qualwave	JYT3M-1G-NN-8M	JYT3M-1	03-07-2021 02-17-2022	03-06-2022 02-16-2023
Cable	Qualwave	JYT3M-18G-NN-8M	JYT3M-2	03-07-2021 02-17-2022	03-06-2022 02-16-2023
Cable	Qualwave	JYT3M-1G-BB-5M	JYT3M-3	03-07-2021 02-17-2022	03-06-2022 02-16-2023
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.	Manage No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
Simulated Station	Rohde & Schwarz	CMW500	MY57431500	07-02-2021	07-01-2022
DC Power Supply	Keysight	E3642A	MY60296194	10-25-2021	10-24-2022
Temperature Humidity Chamber	HONG ZHI	CZ-A-80D	ZH210166	03-19-2021	03-18-2022
RF Control Unit	Tonscend	JS0806-1	21F8060438	N/A	
Test Software	Tonscend	TS+	Version: 2.6.9.0526		

6. Test Results

6.1 Conducted Output Power

6.1.1 Re-test statement

Re-test statement: The EUT is operating at the same power level with the original testing of SGS-CSTC Standards Technical Services, Co Ltd. Shenzhen Branch.

6.1.2 Test Results

Measurement Data:

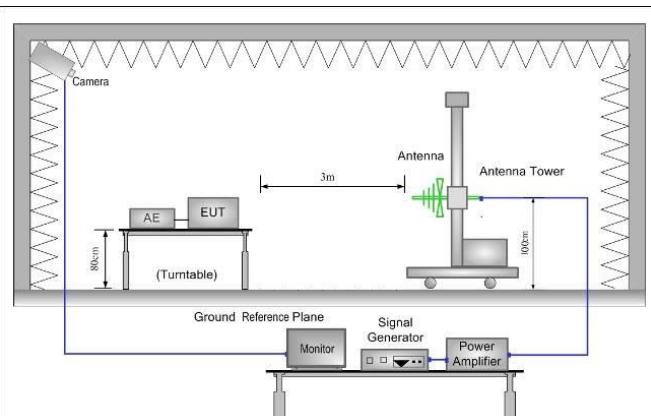
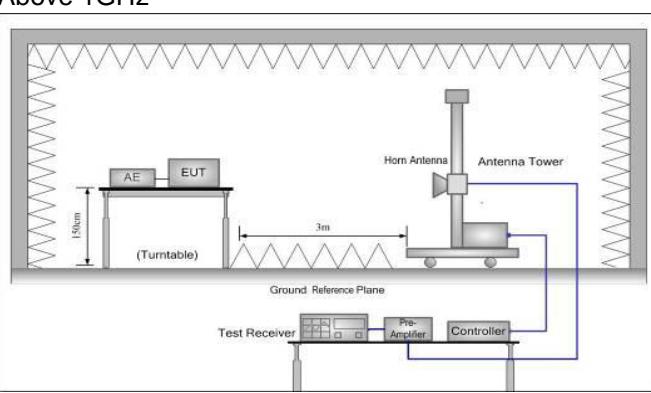
BAND	Modulation	Channel	Test Original Reports Level(dBm)	Re-Test Reports Level(dBm)
WCDMA Band II	WCDMA /TM1	LCH	22.66	22.19
WCDMA Band II	WCDMA /TM1	MCH	22.72	22.32
WCDMA Band II	WCDMA /TM1	HCH	22.68	22.20
BAND	Modulation	Channel	Test Original Reports Level(dBm)	Re-Test Reports Level(dBm)
WCDMA Band IV	WCDMA /TM1	LCH	23.67	23.39
WCDMA Band IV	WCDMA /TM1	MCH	23.66	23.20
WCDMA Band IV	WCDMA /TM1	HCH	23.72	23.41
BAND	Modulation	Channel	Test Original Reports Level(dBm)	Re-Test Reports Level(dBm)
WCDMA Band V	WCDMA /TM1	LCH	23.62	23.29
WCDMA Band V	WCDMA /TM1	MCH	23.57	23.15
WCDMA Band V	WCDMA /TM1	HCH	23.48	23.10

Remark:

	The Original Reports	Re-Test Reports
File name:	test report WCDMA	Test Report WCDMA rev1
Test location:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch	JianYan Testing Group Shenzhen Co., Ltd.
The output power is re-test at JianYan Testing Group Shenzhen Co., Ltd.		

The output power is re-test at JianYan Testing Group Shenzhen Co., Ltd.

6.2 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:	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
Test Procedure:	<ol style="list-style-type: none"> 1. 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. 2. 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. 3. 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. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. $\text{ERP / EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details.
Environment:	Temp: 24.8°C, Huni: 59%
Test results:	Passed

Measurement Data (worst case):

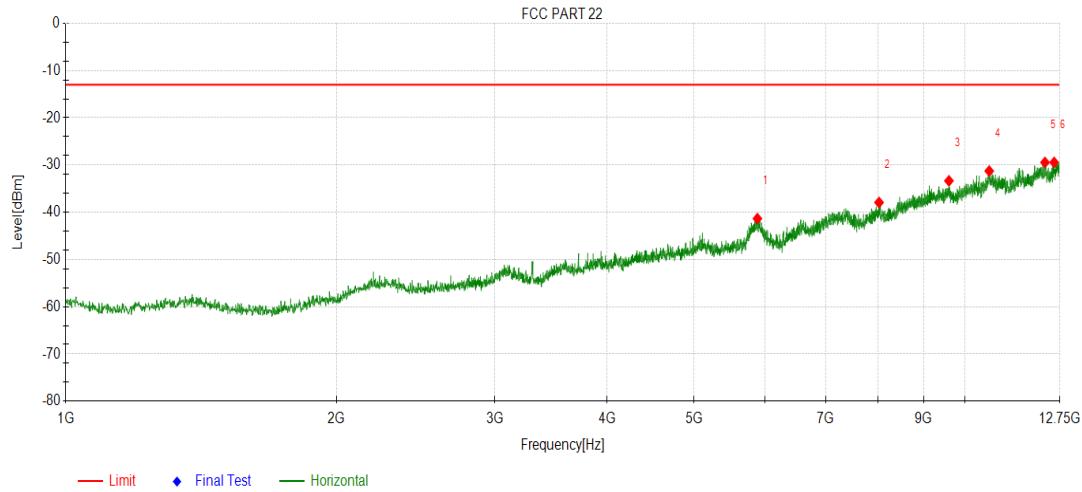
Remark: During the test, use Band Reject Filter Group to filter out WCDMA Band II & V fundamental signal

Product Name:	LTE/UMTS/GSM mobile phone		Product model:	5048A					
Test By:	Mike		Test mode:	Band V Tx Low CH					
Test Voltage:	DC 3.85V		Polarization:	Vertical					
FCC PART 22									
<p>Legend: — Limit ♦ Final Test — Vertical</p>									
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	3308.875	-44.28	-49.25	-13.00	36.25	-4.97	312	130	Vertical
2	5770.500	-49.08	-40.87	-13.00	27.87	8.21	56	136	Vertical
3	7428.718	-50.28	-37.31	-13.00	24.31	12.97	12	139	Vertical
4	9233.812	-50.24	-34.61	-13.00	21.61	15.63	346	159	Vertical
5	10657.03	-51.03	-30.39	-13.00	17.39	20.64	120	158	Vertical
6	12255.03	-50.75	-29.51	-13.00	16.51	21.24	232	167	Vertical

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band V Tx Low CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

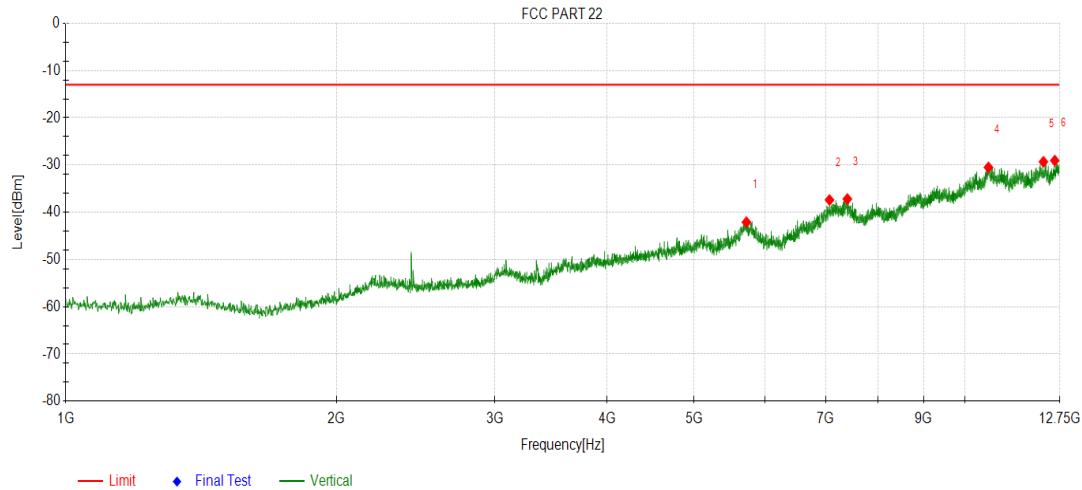


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5879.187	-50.22	-41.34	-13.00	28.34	8.88	250	136	Horizontal
2	8029.437	-49.98	-37.92	-13.00	24.92	12.06	50	169	Horizontal
3	9603.937	-49.91	-33.34	-13.00	20.34	16.57	90	154	Horizontal
4	10646.75	-50.46	-31.26	-13.00	18.26	19.20	280	134	Horizontal
5	12281.46	-50.66	-29.44	-13.00	16.44	21.22	263	135	Horizontal
6	12573.75	-50.80	-29.43	-13.00	16.43	21.37	254	136	Horizontal

Remark:

- Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of below 1GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band V Tx Mid CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

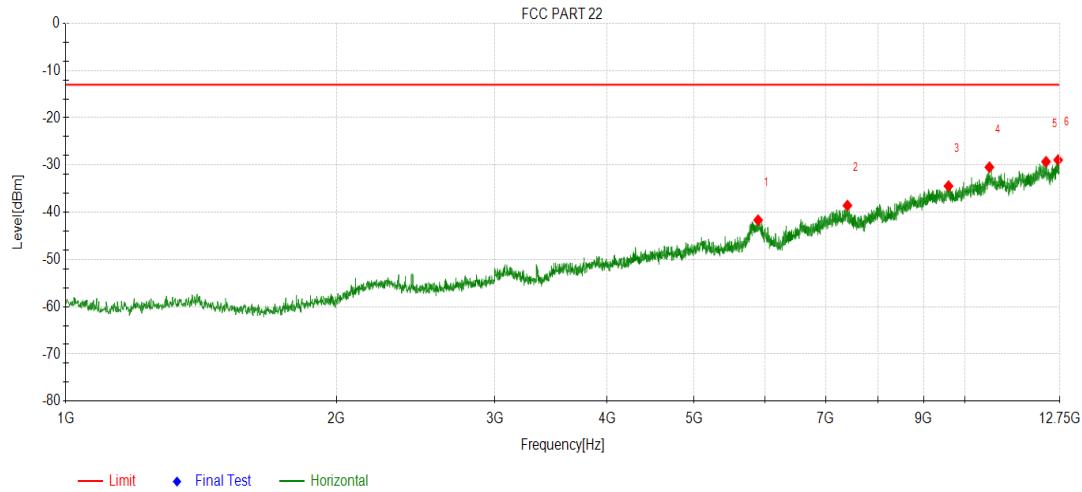


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5716.156	-50.70	-42.10	-13.00	29.10	8.60	128	130	Vertical
2	7071.812	-49.60	-37.39	-13.00	24.39	12.21	256	136	Vertical
3	7402.281	-50.47	-37.19	-13.00	24.19	13.28	125	135	Vertical
4	10626.18	-51.13	-30.49	-13.00	17.49	20.64	250	159	Vertical
5	12233.00	-50.61	-29.30	-13.00	16.30	21.31	103	158	Vertical
6	12594.31	-50.68	-29.04	-13.00	16.04	21.64	263	147	Vertical

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band V Tx Mid CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

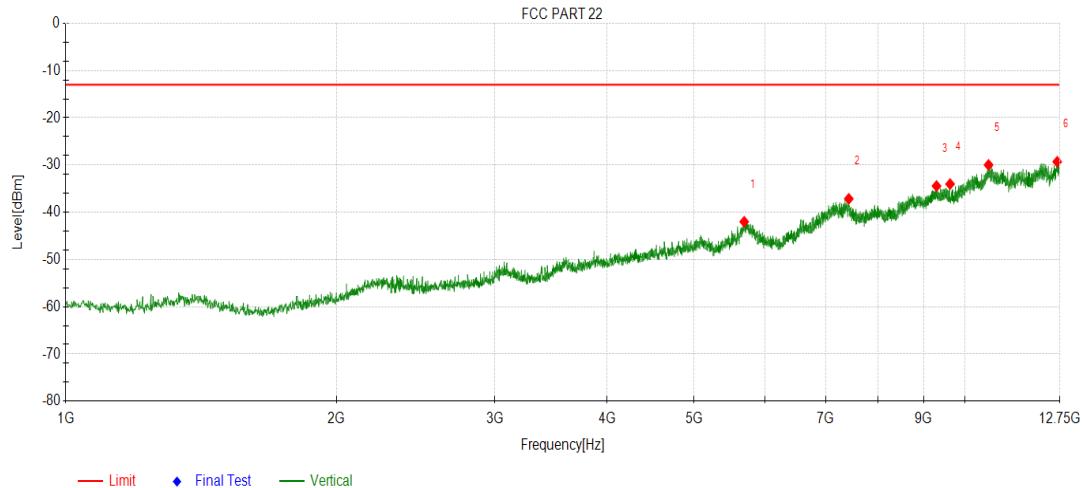


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5889.468	-50.62	-41.66	-13.00	28.66	8.96	259	159	Horizontal
2	7403.750	-50.11	-38.57	-13.00	25.57	11.54	120	158	Horizontal
3	9592.187	-50.97	-34.46	-13.00	21.46	16.51	265	147	Horizontal
4	10651.15	-49.69	-30.46	-13.00	17.46	19.23	19	164	Horizontal
5	12315.25	-50.43	-29.29	-13.00	16.29	21.14	309	161	Horizontal
6	12703.00	-51.14	-28.93	-13.00	15.93	22.21	66	135	Horizontal

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band V Tx High CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

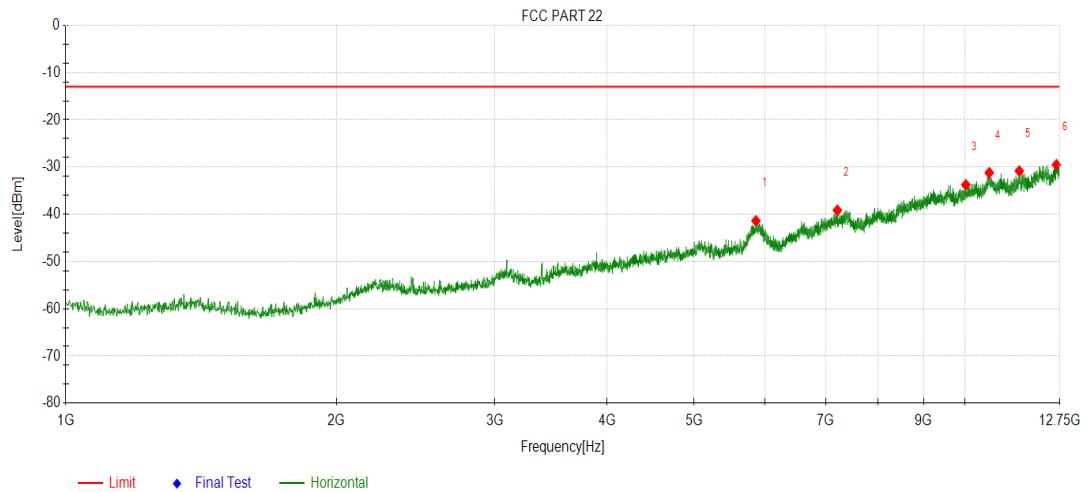


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5683.843	-50.27	-42.00	-13.00	29.00	8.27	130	136	Vertical
2	7430.187	-50.10	-37.15	-13.00	24.15	12.95	159	139	Vertical
3	9301.375	-50.53	-34.44	-13.00	21.44	16.09	269	159	Vertical
4	9630.375	-49.59	-34.02	-13.00	21.02	15.57	247	158	Vertical
5	10629.12	-50.61	-29.97	-13.00	16.97	20.64	309	167	Vertical
6	12672.15	-51.29	-29.30	-13.00	16.30	21.99	90	168	Vertical

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band V Tx High CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

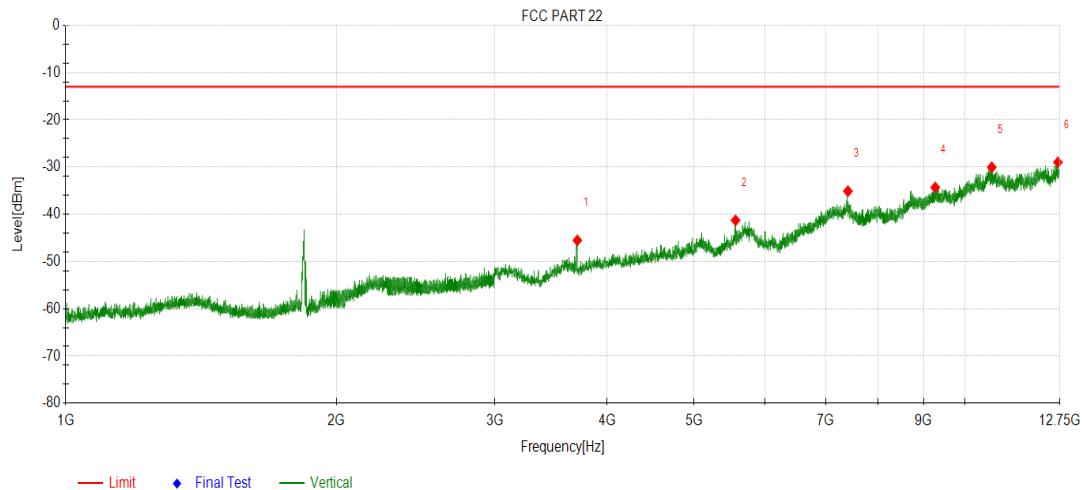


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5857.156	-50.09	-41.39	-13.00	28.39	8.70	126	136	Horizontal
2	7215.750	-50.46	-39.15	-13.00	26.15	11.31	253	159	Horizontal
3	10026.93	-50.48	-33.76	-13.00	20.76	16.72	169	150	Horizontal
4	10648.21	-50.42	-31.21	-13.00	18.21	19.21	231	158	Horizontal
5	11500.09	-51.36	-30.85	-13.00	17.85	20.51	87	160	Horizontal
6	12648.65	-51.48	-29.51	-13.00	16.51	21.97	298	159	Horizontal

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band II Tx Low CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

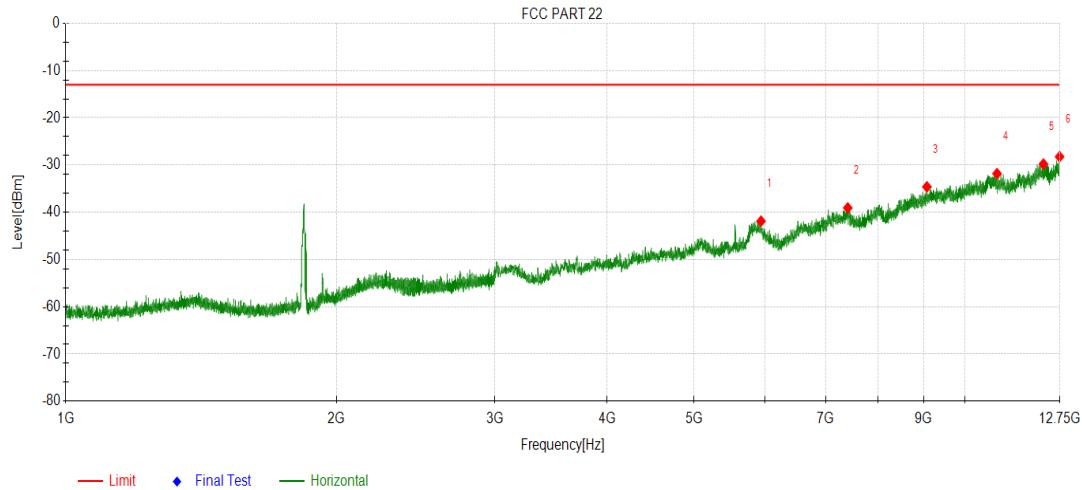


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	3706.875	-43.93	-45.51	-13.00	32.51	-1.58	250	133	Vertical
2	5559.375	-46.80	-41.28	-13.00	28.28	5.52	255	140	Vertical
3	7413.093	-48.09	-35.11	-13.00	22.11	12.98	261	155	Vertical
4	9271.687	-50.27	-34.32	-13.00	21.32	15.95	298	156	Vertical
5	10717.12	-50.15	-30.03	-13.00	17.03	20.12	189	160	Vertical
6	12695.15	-50.79	-28.98	-13.00	15.98	21.81	147	136	Vertical

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band II Tx Low CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

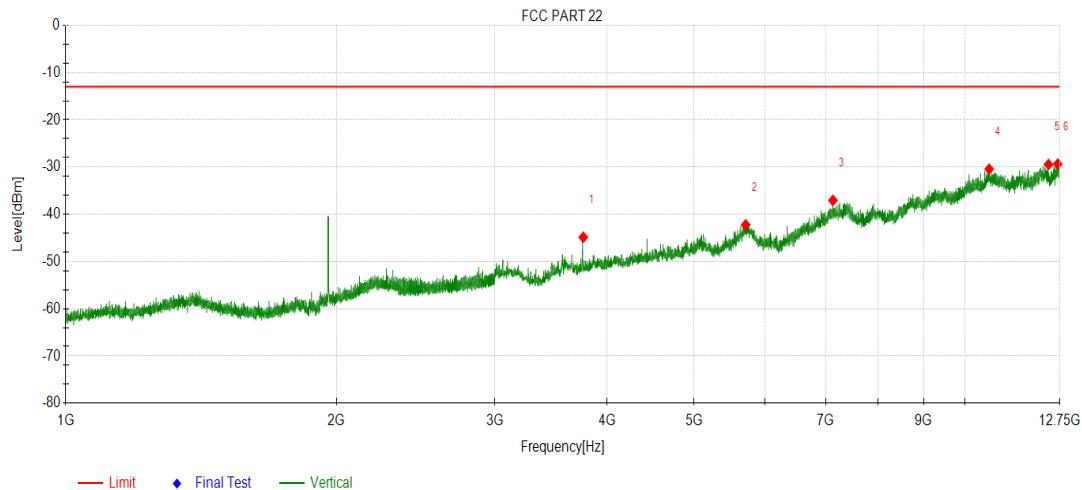


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5933.531	-49.84	-41.88	-13.00	28.88	7.96	120	136	Horizontal
2	7410.656	-50.37	-39.07	-13.00	26.07	11.30	164	165	Horizontal
3	9076.687	-49.73	-34.62	-13.00	21.62	15.11	159	131	Horizontal
4	10862.15	-50.63	-31.81	-13.00	18.81	18.82	147	135	Horizontal
5	12233.25	-50.93	-29.79	-13.00	16.79	21.14	189	154	Horizontal
6	12748.78	-50.49	-28.24	-13.00	15.24	22.25	298	165	Horizontal

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band II Tx Mid CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

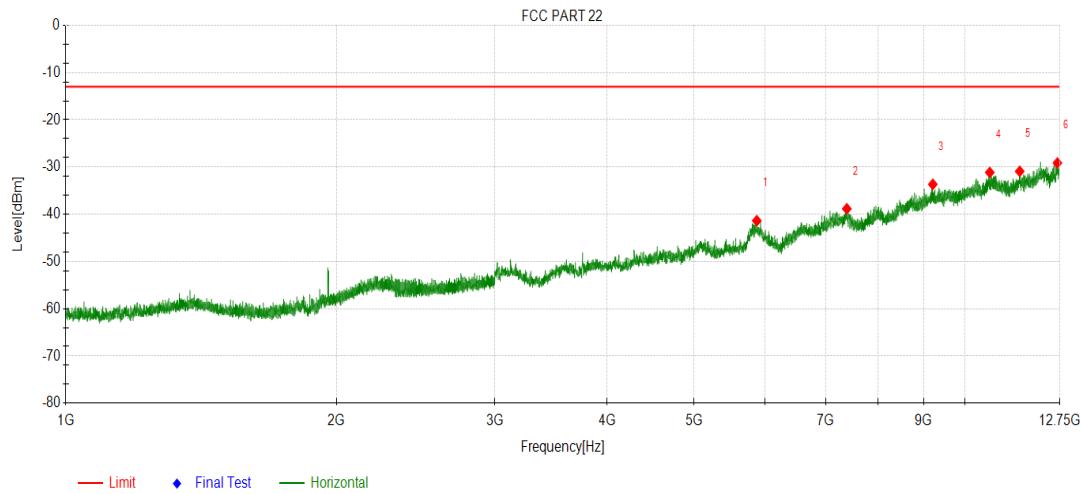


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	3762.937	-43.56	-44.86	-13.00	31.86	-1.30	98	133	Vertical
2	5705.625	-50.49	-42.23	-13.00	29.23	8.26	269	145	Vertical
3	7134.000	-49.70	-37.07	-13.00	24.07	12.63	60	155	Vertical
4	10645.21	-50.68	-30.44	-13.00	17.44	20.24	299	162	Vertical
5	12391.68	-50.21	-29.45	-13.00	16.45	20.76	258	169	Vertical
6	12689.06	-51.14	-29.37	-13.00	16.37	21.77	156	158	Vertical

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band II Tx Mid CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

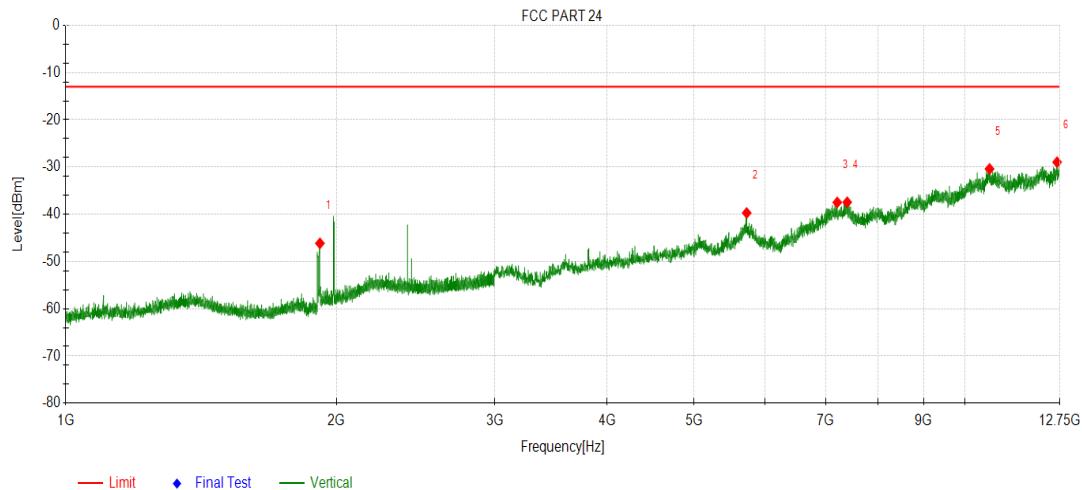


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5868.937	-49.82	-41.36	-13.00	28.36	8.46	12	158	Horizontal
2	7392.375	-50.23	-38.84	-13.00	25.84	11.39	265	169	Horizontal
3	9214.406	-49.40	-33.66	-13.00	20.66	15.74	259	156	Horizontal
4	10662.28	-49.99	-31.15	-13.00	18.15	18.84	36	155	Horizontal
5	11511.750	-51.02	-30.91	-13.00	17.91	20.11	269	145	Horizontal
6	12679.31	-50.95	-29.13	-13.00	16.13	21.82	30	144	Horizontal

Remark:

- Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band II Tx High CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

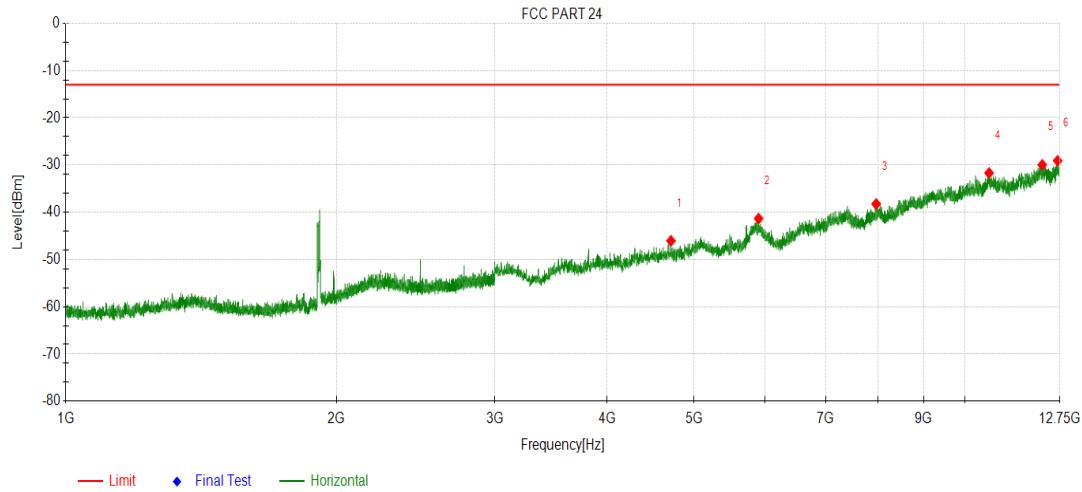


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	1916.750	-37.56	-46.15	-13.00	33.15	-8.59	189	132	Vertical
2	5720.250	-47.94	-39.72	-13.00	26.72	8.22	289	169	Vertical
3	7213.218	-50.51	-37.49	-13.00	24.49	13.02	69	158	Vertical
4	7399.687	-50.59	-37.44	-13.00	24.44	13.15	355	145	Vertical
5	10654.96	-50.61	-30.40	-13.00	17.40	20.21	99	139	Vertical
6	12669.56	-50.63	-28.96	-13.00	15.96	21.67	299	133	Vertical

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band II Tx High CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

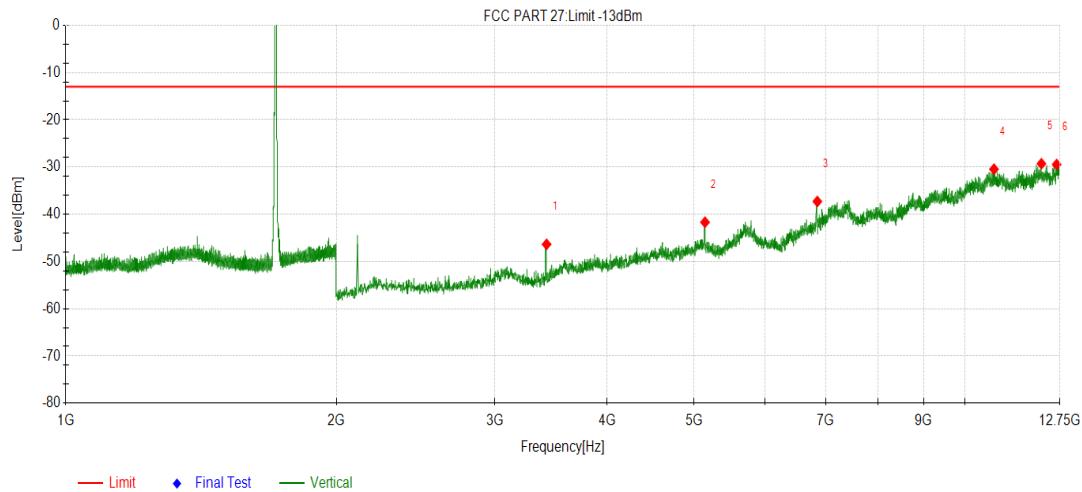


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	4711.125	-48.18	-46.04	-13.00	33.04	2.14	15	165	Horizontal
2	5896.968	-49.87	-41.33	-13.00	28.33	8.54	345	159	Horizontal
3	7968.843	-49.91	-38.23	-13.00	25.23	11.68	35	158	Horizontal
4	10644.00	-50.48	-31.69	-13.00	18.69	18.79	325	146	Horizontal
5	12196.68	-51.18	-29.94	-13.00	16.94	21.24	150	149	Horizontal
6	12686.62	-50.95	-29.09	-13.00	16.09	21.86	200	136	Horizontal

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band IV Tx Low CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

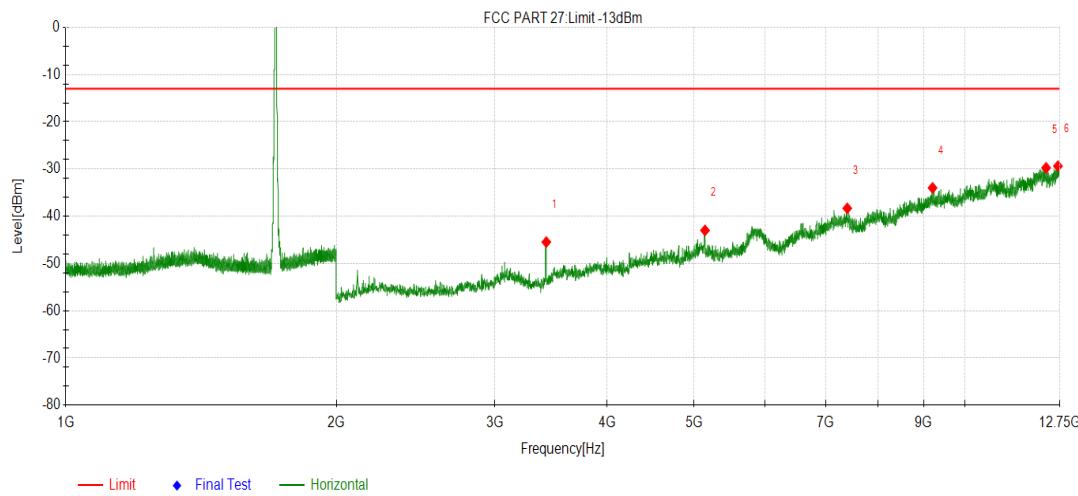


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	3425.718	-41.91	-46.36	-13.00	33.36	-4.45	258	136	Vertical
2	5140.343	-46.16	-41.69	-13.00	28.69	4.47	243	159	Vertical
3	6854.968	-47.33	-37.29	-13.00	24.29	10.04	169	149	Vertical
4	10777.37	-50.51	-30.45	-13.00	17.45	20.06	197	148	Vertical
5	12170.84	-50.54	-29.29	-13.00	16.29	21.25	9	169	Vertical
6	12654.59	-51.37	-29.45	-13.00	16.45	21.92	349	137	Vertical

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band IV Tx Low CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

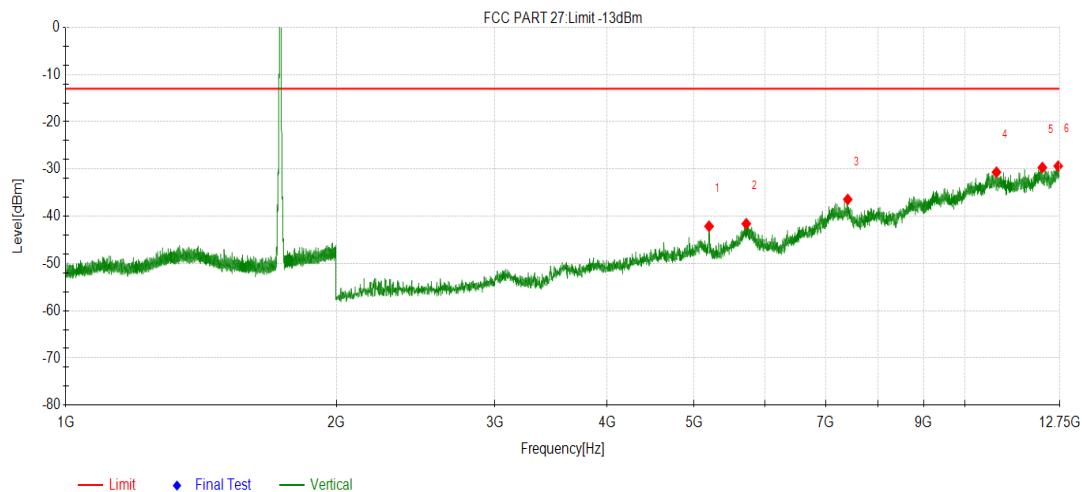


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	3423.031	-40.84	-45.46	-13.00	32.46	-4.62	236	156	Horizontal
2	5140.343	-46.99	-42.99	-13.00	29.99	4.00	216	149	Horizontal
3	7400.531	-50.06	-38.31	-13.00	25.31	11.75	136	158	Horizontal
4	9207.875	-49.84	-33.99	-13.00	20.99	15.85	246	167	Horizontal
5	12317.31	-50.80	-29.74	-13.00	16.74	21.06	159	169	Horizontal
6	12696.25	-51.66	-29.38	-13.00	16.38	22.28	264	159	Horizontal

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band IV Tx Mid CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

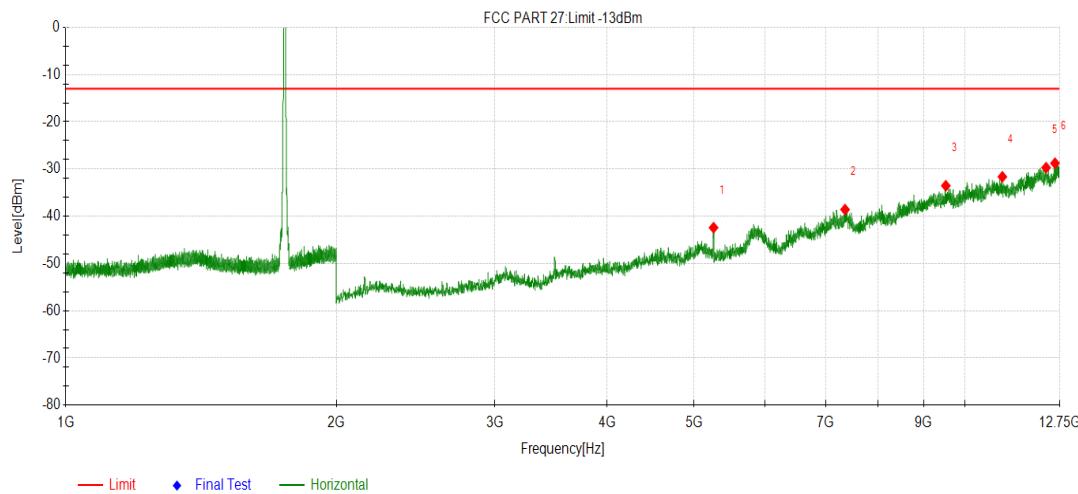


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5194.093	-46.14	-42.11	-13.00	29.11	4.03	258	130	Vertical
2	5714.125	-49.98	-41.59	-13.00	28.59	8.39	159	165	Vertical
3	7409.937	-49.77	-36.43	-13.00	23.43	13.34	269	134	Vertical
4	10845.90	-50.82	-30.68	-13.00	17.68	20.14	125	169	Vertical
5	12199.06	-50.96	-29.68	-13.00	16.68	21.28	329	145	Vertical
6	12704.31	-51.60	-29.38	-13.00	16.38	22.22	15	158	Vertical

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band IV Tx Mid CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

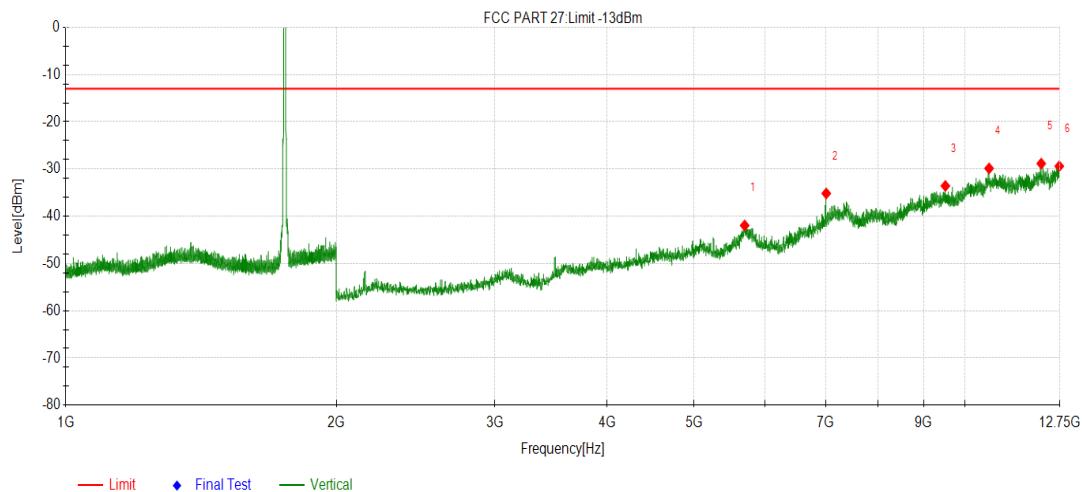


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5254.562	-45.68	-42.41	-13.00	29.41	3.27	154	159	Horizontal
2	7358.875	-50.05	-38.58	-13.00	25.58	11.47	245	149	Horizontal
3	9526.343	-49.23	-33.53	-13.00	20.53	15.70	325	148	Horizontal
4	11012.53	-50.45	-31.64	-13.00	18.64	18.81	35	168	Horizontal
5	12317.31	-50.76	-29.70	-13.00	16.70	21.06	46	138	Horizontal
6	12602.18	-50.39	-28.77	-13.00	15.77	21.62	316	156	Horizontal

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band IV Tx High CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

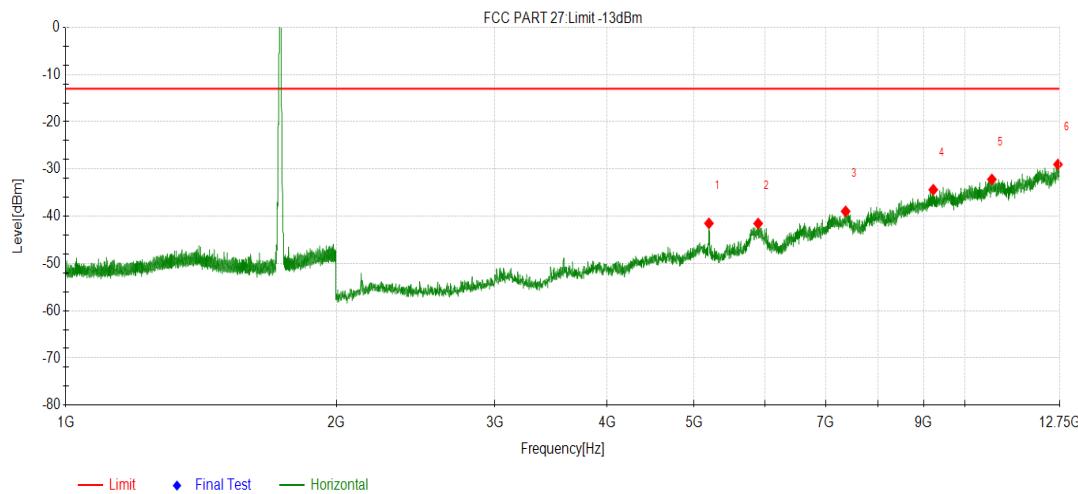


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5689.937	-50.17	-41.95	-13.00	28.95	8.22	180	150	Vertical
2	7013.531	-46.61	-35.17	-13.00	22.17	11.44	189	154	Vertical
3	9515.593	-49.78	-33.57	-13.00	20.57	16.21	120	162	Vertical
4	10644.34	-49.60	-29.86	-13.00	16.86	19.74	230	167	Vertical
5	12164.12	-50.08	-28.84	-13.00	15.84	21.24	325	156	Vertical
6	12740.59	-51.78	-29.40	-13.00	16.40	22.38	25	149	Vertical

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	Band IV Tx High CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal



NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5192.750	-45.04	-41.50	-13.00	28.50	3.54	136	136	Horizontal
2	5890.156	-50.19	-41.54	-13.00	28.54	8.65	256	159	Horizontal
3	7369.625	-50.51	-38.96	-13.00	25.96	11.55	245	158	Horizontal
4	9225.343	-50.12	-34.38	-13.00	21.38	15.74	236	164	Horizontal
5	10719.59	-50.75	-32.20	-13.00	19.20	18.55	136	160	Horizontal
6	12697.59	-51.32	-29.03	-13.00	16.03	22.29	250	165	Horizontal

Remark:

1. Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).
2. The emission levels of below 1GHz and above 12.75GHz are lower than the limit 20dB and not show in test report.

7. Appendix

*The below Appendix was detail result tested by SGS-CSTC Standards Technical Services, Co., Ltd. Shenzhen Branch.
(Date of Test: 2019/8/2-2019/8/21).*

<i>Appendix</i>	<i>Item</i>
<i>Appendix B.2 of WCDMA BAND II & IV & V</i>	<i>WCDMA</i>