

FCC REPORT

(GSM)

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

Date of sample receipt: 17 Jan., 2022

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

Date of report issued: 04 Mar., 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

Tested by:

Mike.ou
Test Engineer

Date:

04 Mar., 2022

Reviewed by:

Winner Zhang
Project Engineer

Date:

04 Mar., 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)	Pass ²
Peak-to-Average Power Ratio	Part 24.232 (d)	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)	Pass ¹
Out of band emission at antenna terminals	Part 2.1053 Part 22.917 (a) Part 24.238 (a)	Pass ¹
Field strength of spurious radiation	Part 22.917 (a) Part 24.238 (a)	Pass ²
Frequency stability vs. temperature	Part 22.355 Part 24.235 Part 2.1055(a)(1)(b)	Pass ¹
Frequency stability vs. voltage	Part 22.355 Part 24.235 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.1 of GSM850 & GSM1900. 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:	GSM 850: 824.20MHz-848.80MHz PCS1900: 1850.20MHz-1909.80MHz
Modulation type:	2G <input checked="" type="checkbox"/> Voice(GMSK) <input checked="" type="checkbox"/> GPRS(GMSK) <input checked="" type="checkbox"/> EGPRS(GMSK, 8PSK)
Antenna type:	Integrated Antenna
Antenna gain:	GSM 850: -3.12 dBi(declare by Applicant) PCS 1900: -1.13 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:

GSM 850		PCS1900	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
128	824.20	512	1850.20
129	824.40	513	1850.40
....
189	836.40	660	1879.80
190	836.60	661	1880.00
191	836.80	662	1880.20
...
250	848.60	809	1909.60
251	848.80	810	1909.80

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:

GSM850			PCS1900		
Channel		Frequency(MHz)	Channel		Frequency(MHz)
Lowest	128	824.20	Lowest	512	1850.20
Middle	190	836.60	Middle	661	1880.00
Highest	251	848.80	Highest	810	1909.80

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:	
GSM mode	Keep the EUT communication with simulated station in GSM mode
GPRS mode	Keep the EUT communication with simulated station in GPRS mode
EGPRS mode	Keep the EUT communication with simulated station in EGPRS 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 Test Auxiliary Equipment

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

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> ● 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
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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://jyt.lets.com>

5.9 Test Instruments list

Radiated Emission:					
Test Equipment	Manufacturer	Model No.	Manage No.	Cal.Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	ETS	9m*6m*6m	WXJ001-1	01-19-2021	01-18-2024
BiConiLog Antenna	Schwarzbeck	VULB9163	WXJ002	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Biconical Antenna	Schwarzbeck	VUBA9117	WXJ002-1	06-20-2021	06-19-2022
Horn Antenna	Schwarzbeck	BBHA9120D	WXJ002-2	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Horn Antenna	Schwarzbeck	BBHA9120D	WXJ002-3	06-18-2021	06-17-2022
Pre-amplifier (30MHz ~ 1GHz)	Schwarzbeck	BBV9743B	WXG001-7	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Pre-amplifier (1GHz ~ 18GHz)	SKET	LNPA_0118G-50	WXG001-3	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Pre-amplifier (18GHz ~ 40GHz)	RF System	TRLA-180400G45B	WXG001-9	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
EMI Test Receiver	Rohde & Schwarz	ESRP7	WXJ003-1	03-03-2021	03-02-2022
				02-17-2022	02-16-2023
Spectrum Analyzer	KEYSIGHT	N9010B	WXJ004-2	10-27-2022	10-26-2022
Simulated Station	Anritsu	MT8820C	WXJ008-4	03-03-2021	03-02-2023
Band Reject Filter Group	Tonscend	JS0806	21B8060367	04-06-2021	04-05-2022
Coaxial Cable (30MHz ~ 1GHz)	JYT	JYT3M-1G-NN-8M	WXG001-4	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Coaxial Cable (1GHz ~ 18GHz)	JYT	JYT3M-18G-NN-8M	WXG001-5	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
Coaxial Cable (18GHz ~ 40GHz)	JYT	JYT3M-40G-SS-8M	WXG001-7	03-07-2021	03-06-2022
				02-17-2022	02-16-2023
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	WXJ081	07-02-2021	07-01-2022
DC Power Supply	Keysight	E3642A	WXJ025-2	10-25-2021	10-24-2022
Temperature Humidity Chamber	HONG ZHI	CZ-A-80D	WXJ032-3	03-19-2021	03-18-2022
RF Control Unit	Tonscend	JS0806-1	WXG010	N/A	
Test Software	Tonscend	TS+	Version: 2.6.9.0526		

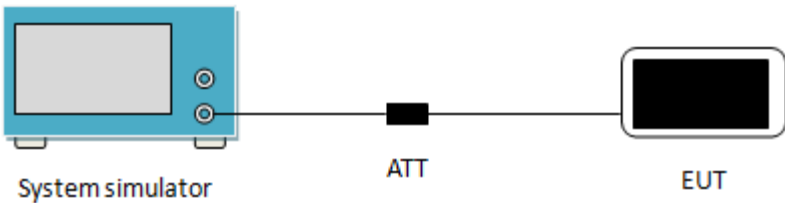
6. Test Results

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

Test Requirement:	FCC part 22.913(a)(5), FCC part 24.232(c)
Limit:	GSM 850: 7W, PCS 1900: 2W
Test setup:	 <p>System simulator ATT EUT</p>
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

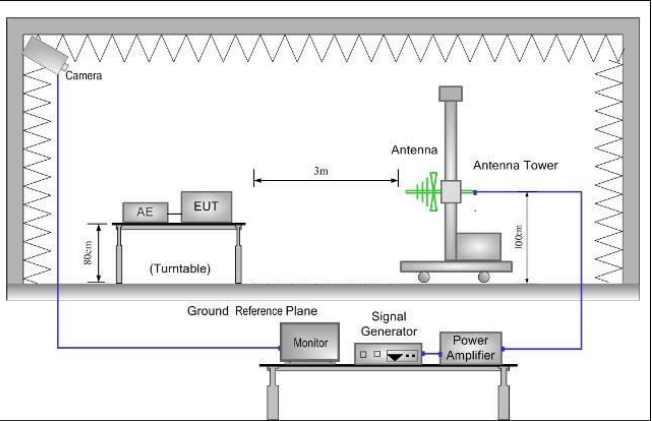
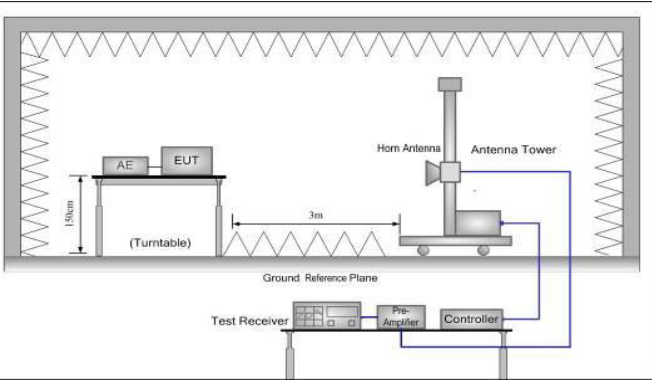
Measurement Data:

BAND	Channel	Test Original Reports Level(dBm)	Re-Test Reports Level(dBm)
GSM850	128	32.44	32.28
GSM850	190	32.48	32.33
GSM850	251	32.52	32.37
BAND	Channel	Test Original Reports Level(dBm)	Re-Test Reports Level(dBm)
GSM1900	512	29.54	29.26
GSM1900	661	29.63	29.46
GSM1900	810	29.64	29.58

Remark:

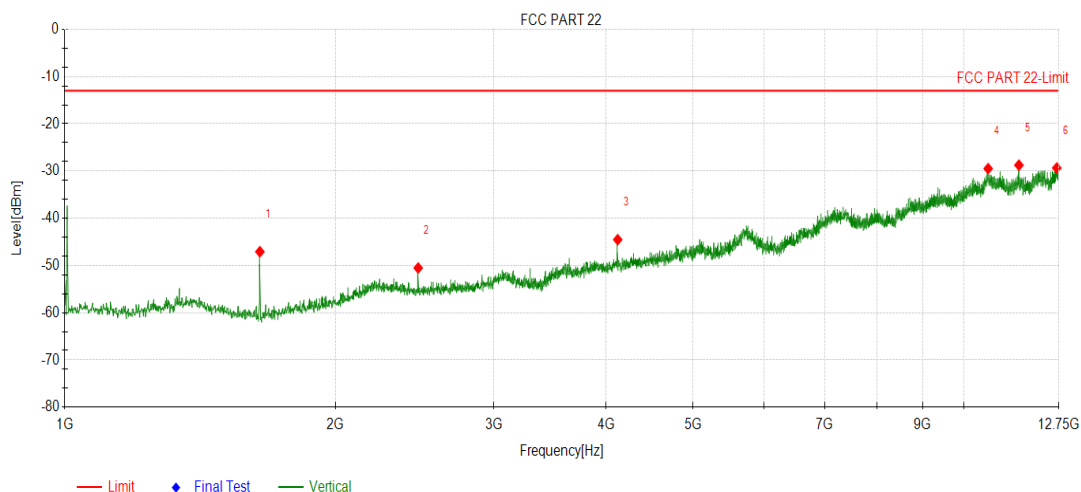
	The Original Reports	Re-Test Reports
File name:	test report GSM	Test Report GSM rev1
Test location:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch	JianYan Testing Group Shenzhen Co., Ltd.
The output power is re-test at JianYan Testing Group Shenzhen Co., Ltd.		

6.2 Field strength of spurious radiation measurement

Test Requirement:	FCC part 22.917(a), FCC part 24.238(a)
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. $ERP / EIRP = S.G. \text{ output (dBm) } + \text{Antenna Gain(dB/dBi) } - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details.
Environment:	Temp: 24.8℃, Humi: 59%
Test results:	Passed

Measurement Data (worst case):
Remark: During the test, use Band Reject Filter Group to filter out fundamental signal

Product Name:	LTE/UMTS/GSM mobile phone	Product model:	5048A
Test By:	Mike	Test mode:	GSM850 Tx Low CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

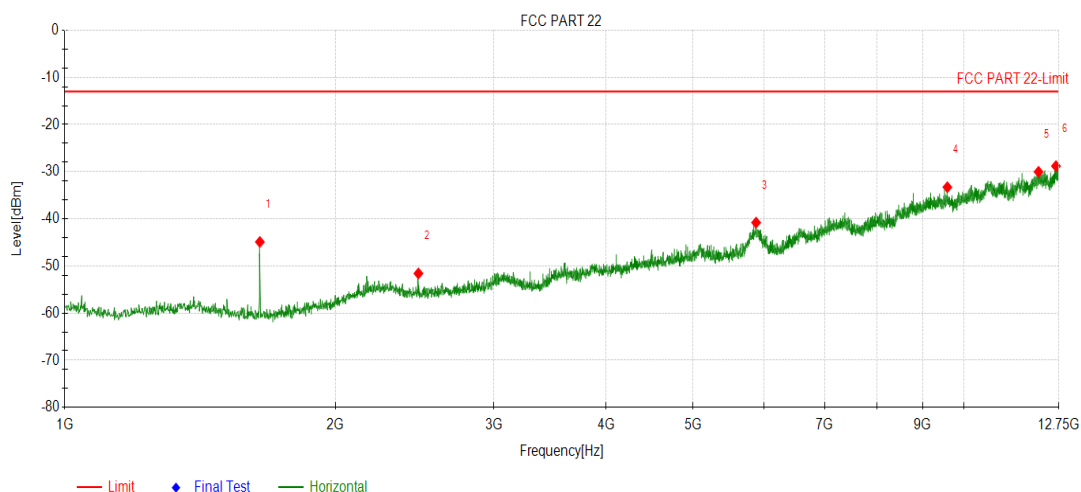


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	1647.71	-35.99	-47.09	-13.00	34.09	-11.10	224	133	Vertical
2	2471.68	-44.33	-50.52	-13.00	37.52	-6.19	206	155	Vertical
3	4121.09	-44.79	-44.52	-13.00	31.52	0.27	329	141	Vertical
4	10645.2	-50.13	-29.49	-13.00	16.49	20.64	84	158	Vertical
5	11517.7	-49.67	-28.76	-13.00	15.76	20.91	326	165	Vertical
6	12691.2	-51.41	-29.35	-13.00	16.35	22.06	69	132	Vertical

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:	GSM850 Tx Low CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

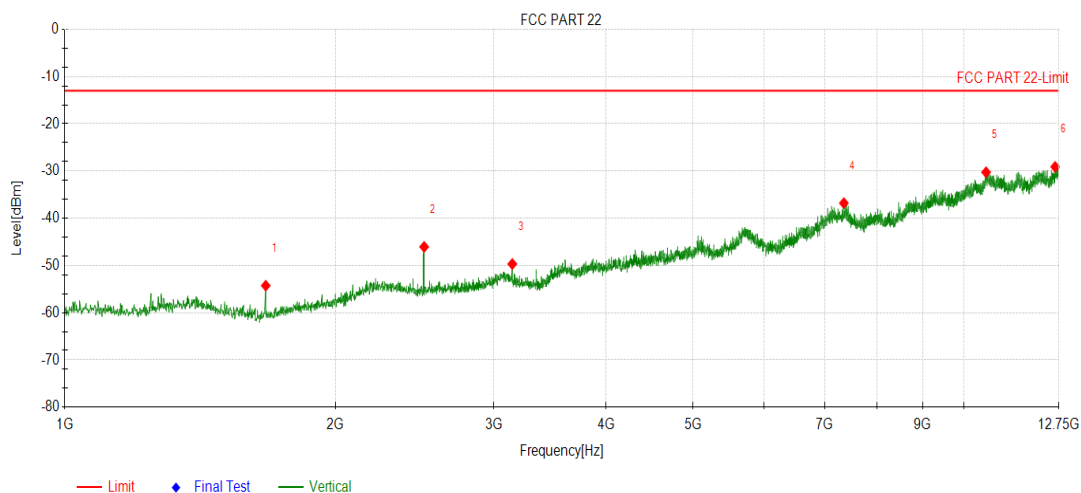


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	1647.71	-33.90	-44.90	-13.00	31.90	-11.00	221	132	Horizontal
2	2473.15	-45.04	-51.58	-13.00	38.58	-6.54	207	151	Horizontal
3	5874.78	-49.64	-40.80	-13.00	27.80	8.84	30	148	Horizontal
4	9589.25	-49.75	-33.28	-13.00	20.28	16.47	350	154	Horizontal
5	12111.0	-51.08	-30.02	-13.00	17.02	21.06	326	162	Horizontal
6	12664.8	-50.85	-28.81	-13.00	15.81	22.04	69	131	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:	GSM850 Tx Mid CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

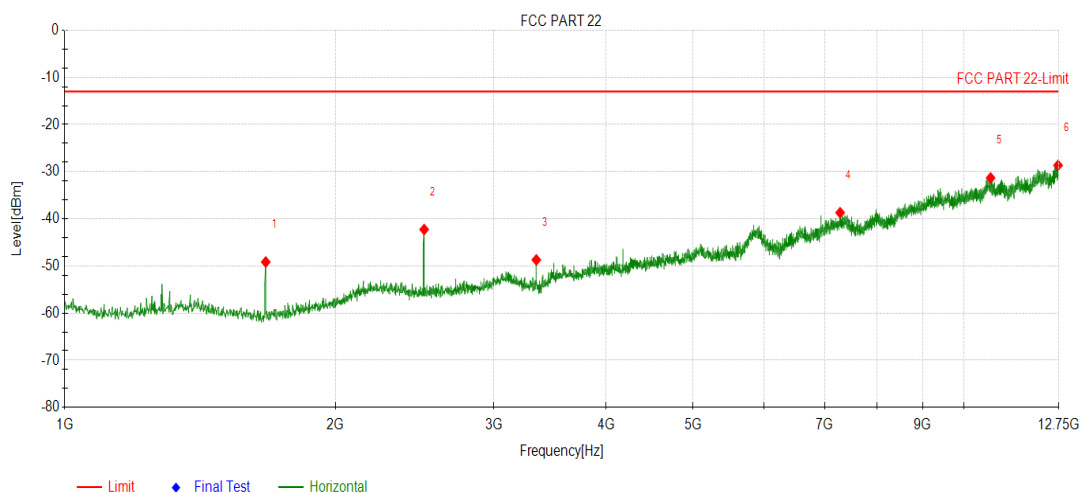


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	1672.68	-43.13	-54.26	-13.00	41.26	-11.13	224	133	Vertical
2	2509.87	-39.86	-46.06	-13.00	33.06	-6.20	206	155	Vertical
3	3145.84	-45.77	-49.68	-13.00	36.68	-3.91	329	141	Vertical
4	7355.28	-49.70	-36.78	-13.00	23.78	12.92	84	158	Vertical
5	10589.4	-50.73	-30.25	-13.00	17.25	20.48	326	165	Vertical
6	12638.3	-50.98	-29.11	-13.00	16.11	21.87	69	132	Vertical

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:	GSM850 Tx Mid CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

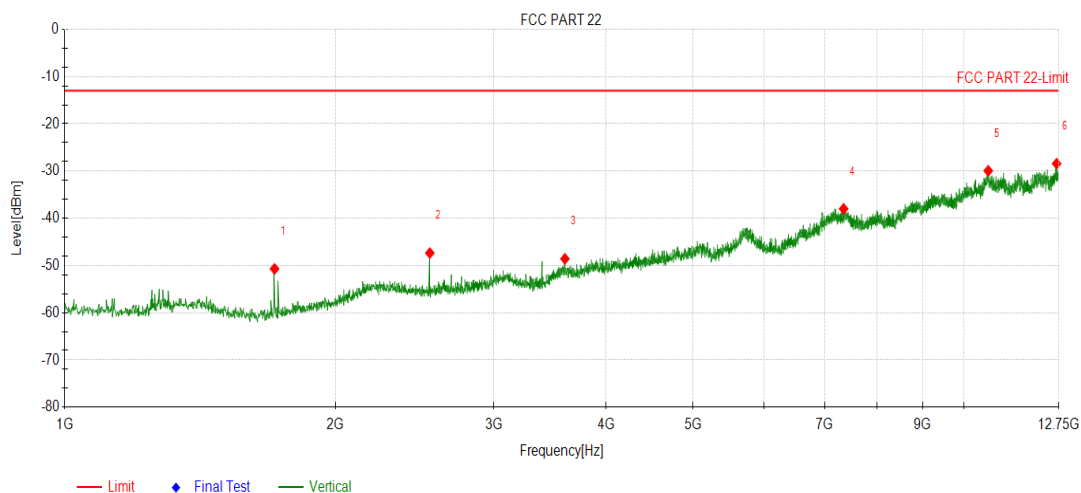


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	1672.68	-38.12	-49.16	-13.00	36.16	-11.04	139	136	Horizontal
2	2509.87	-35.75	-42.26	-13.00	29.26	-6.51	256	159	Horizontal
3	3345.59	-43.47	-48.70	-13.00	35.70	-5.23	302	148	Horizontal
4	7284.78	-49.75	-38.69	-13.00	25.69	11.06	29	158	Horizontal
5	10712.8	-50.69	-31.32	-13.00	18.32	19.37	346	169	Horizontal
6	12732.3	-50.98	-28.66	-13.00	15.66	22.32	29	134	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:	GSM850 Tx High CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

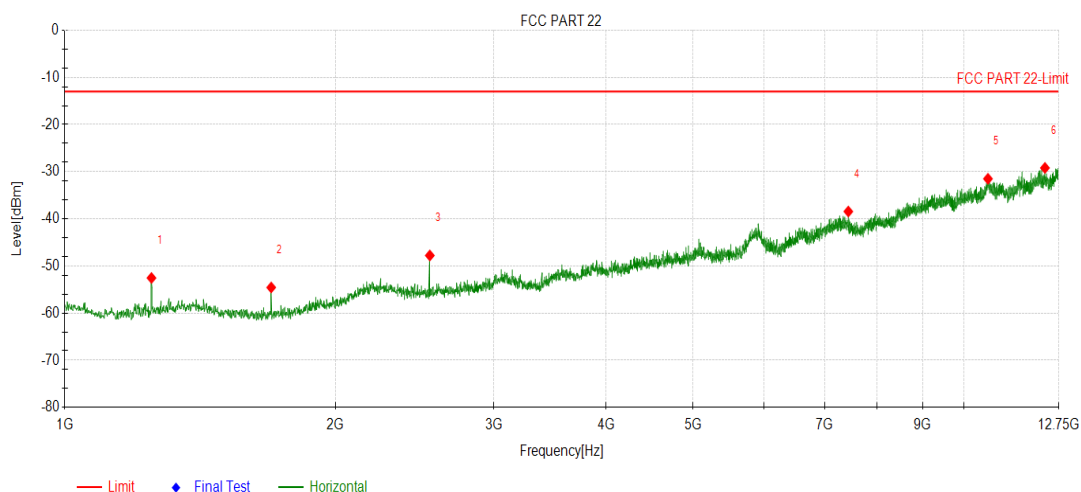


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	1710.87	-39.70	-50.71	-13.00	37.71	-11.01	169	131	Vertical
2	2546.59	-41.30	-47.36	-13.00	34.36	-6.06	259	158	Vertical
3	3599.68	-46.90	-48.58	-13.00	35.58	-1.68	259	142	Vertical
4	7350.87	-50.88	-38.00	-13.00	25.00	12.88	59	159	Vertical
5	10648.2	-50.59	-29.95	-13.00	16.95	20.64	302	165	Vertical
6	12686.8	-50.48	-28.44	-13.00	15.44	22.04	65	135	Vertical

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:	GSM850 Tx High CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

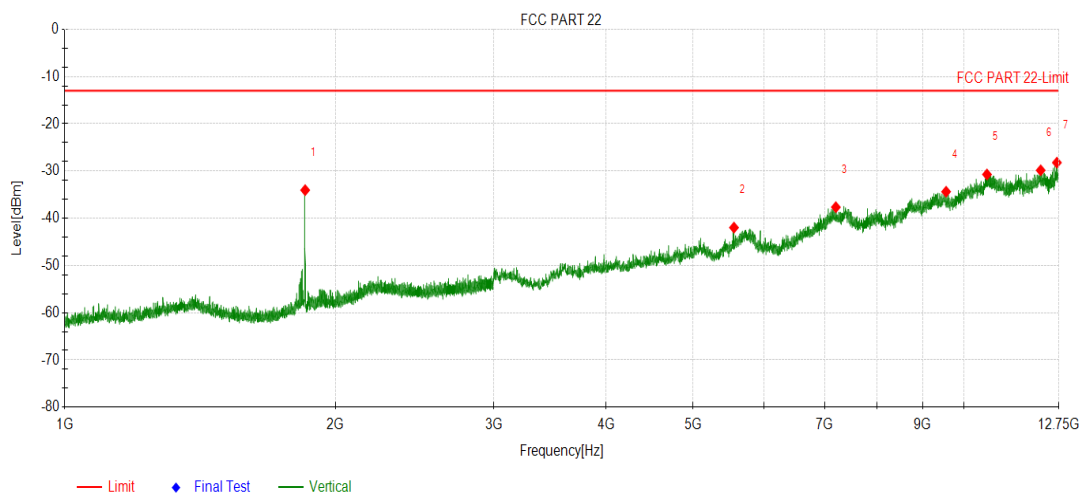


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	1248.21	-42.49	-52.54	-13.00	39.54	-10.05	168	132	Horizontal
2	1696.18	-43.48	-54.56	-13.00	41.56	-11.08	251	159	Horizontal
3	2546.59	-41.39	-47.77	-13.00	34.77	-6.38	289	144	Horizontal
4	7440.46	-49.60	-38.44	-13.00	25.44	11.16	69	152	Horizontal
5	10639.4	-50.67	-31.50	-13.00	18.50	19.17	334	161	Horizontal
6	12312.3	-50.35	-29.20	-13.00	16.20	21.15	44	139	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:	PCS1900 Tx Low CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

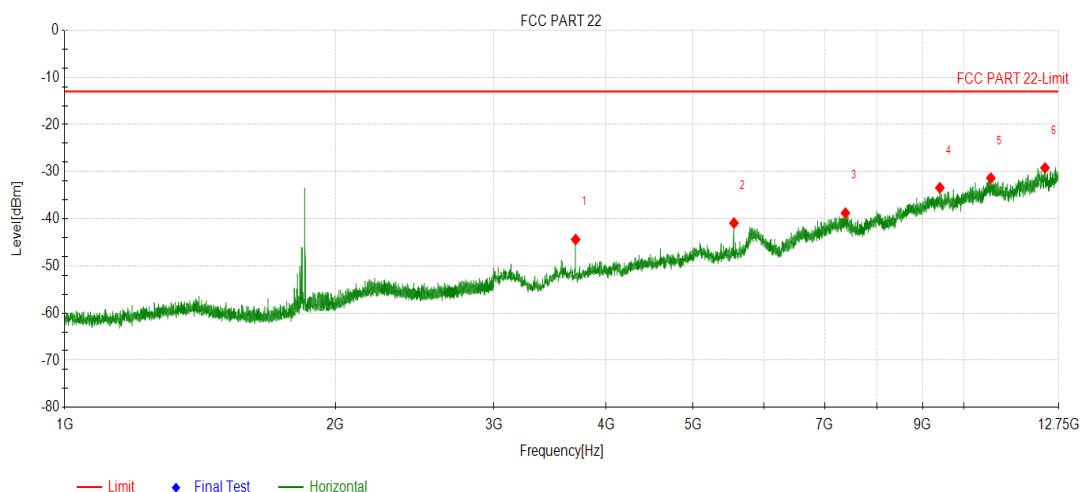


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	1850.25	-26.75	-34.04	-13.00	21.04	-7.29	139	132	Vertical
2	5550.84	-47.37	-41.97	-13.00	28.97	5.40	241	153	Vertical
3	7205.90	-50.72	-37.65	-13.00	24.65	13.07	297	149	Vertical
4	9558.09	-50.16	-34.37	-13.00	21.37	15.79	89	155	Vertical
5	10613.5	-51.02	-30.72	-13.00	17.72	20.30	340	160	Vertical
6	12178.4	-51.01	-29.84	-13.00	16.84	21.17	16	132	Vertical

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:	PCS1900 Tx Low CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

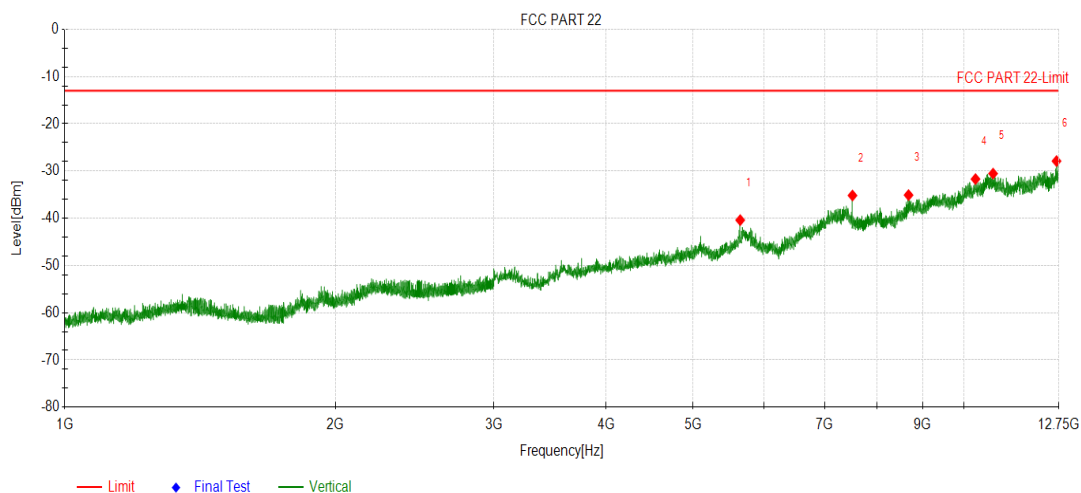


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	3699.56	-42.28	-44.38	-13.00	31.38	-2.10	132	139	Horizontal
2	5550.84	-44.69	-40.90	-13.00	27.90	3.79	245	152	Horizontal
3	7385.06	-50.14	-38.78	-13.00	25.78	11.36	221	141	Horizontal
4	9405.75	-49.60	-33.41	-13.00	20.41	16.19	79	158	Horizontal
5	10718.3	-50.29	-31.36	-13.00	18.36	18.93	323	166	Horizontal
6	12314.9	-50.09	-29.19	-13.00	16.19	20.90	12	132	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:	PCS1900 Tx Mid CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

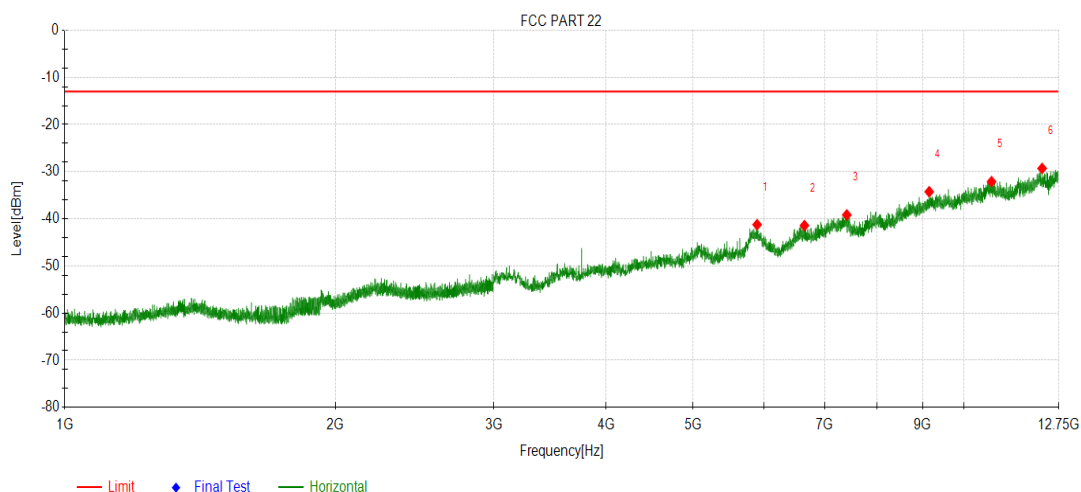


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5639.81	-47.35	-40.39	-13.00	27.39	6.96	195	130	Vertical
2	7520.34	-46.92	-35.18	-13.00	22.18	11.74	222	155	Vertical
3	8681.81	-49.30	-35.09	-13.00	22.09	14.21	200	145	Vertical
4	10305.1	-51.02	-31.70	-13.00	18.70	19.32	126	155	Vertical
5	10780.5	-50.65	-30.54	-13.00	17.54	20.11	320	167	Vertical
6	12681.7	-49.63	-27.89	-13.00	14.89	21.74	40	139	Vertical

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:	PCS1900 Tx Mid CH
Test Voltage:	DC 3.85V	Polarization:	Horizontal

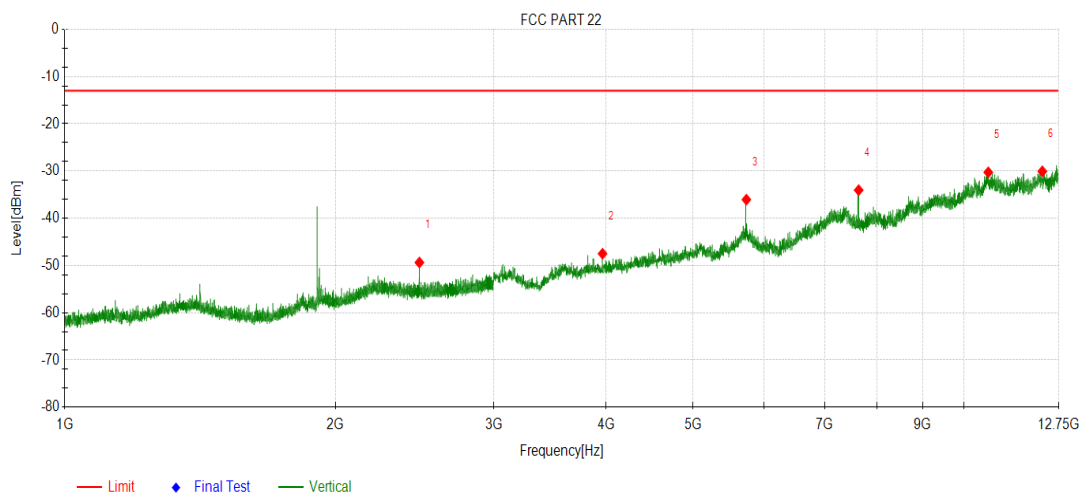


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	5889.65	-49.75	-41.23	-13.00	28.23	8.52	159	133	Horizontal
2	6648.93	-50.20	-41.43	-13.00	28.43	8.77	206	158	Horizontal
3	7410.65	-50.46	-39.16	-13.00	26.16	11.30	236	141	Horizontal
4	9153.46	-49.81	-34.25	-13.00	21.25	15.56	159	153	Horizontal
5	10737.8	-51.03	-32.11	-13.00	19.11	18.92	279	162	Horizontal
6	12223.5	-50.47	-29.30	-13.00	16.30	21.17	129	138	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:	PCS1900 Tx High CH
Test Voltage:	DC 3.85V	Polarization:	Vertical

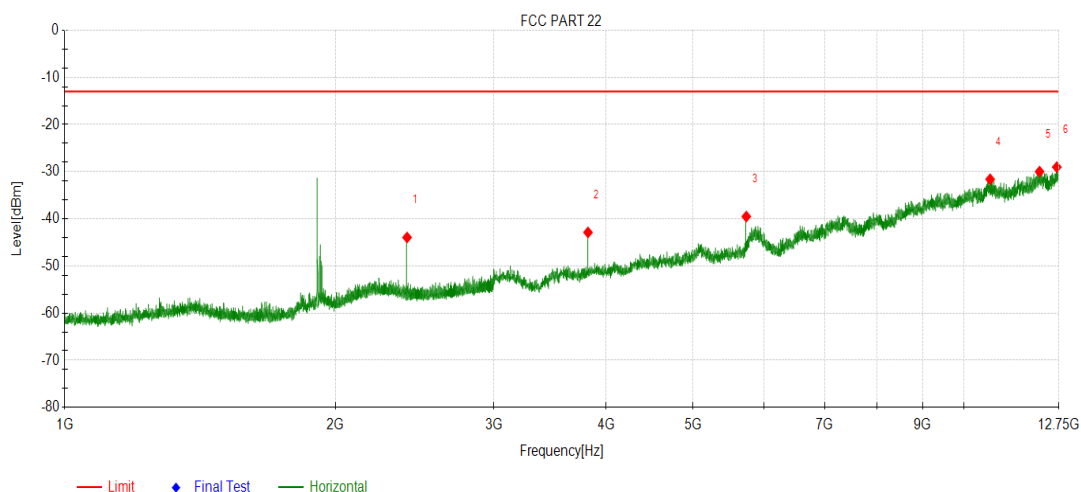


NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]	Height [cm]	Polarity
1	2479.75	-43.59	-49.37	-13.00	36.37	-5.78	188	133	Vertical
2	3964.03	-46.99	-47.50	-13.00	34.50	-0.51	259	158	Vertical
3	5730.00	-44.25	-36.05	-13.00	23.05	8.20	269	141	Vertical
4	7639.78	-45.21	-34.05	-13.00	21.05	11.16	158	150	Vertical
5	10648.8	-50.50	-30.27	-13.00	17.27	20.23	245	162	Vertical
6	12229.5	-51.21	-30.06	-13.00	17.06	21.15	106	138	Vertical

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:	PCS1900 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	2402.50	-37.83	-43.95	-13.00	30.95	-6.12	179	136	Horizontal
2	3819.00	-41.38	-42.87	-13.00	29.87	-1.49	205	159	Horizontal
3	5728.78	-45.19	-39.51	-13.00	26.51	5.68	233	142	Horizontal
4	10698.8	-50.55	-31.60	-13.00	18.60	18.95	158	158	Horizontal
5	12143.0	-51.02	-29.98	-13.00	16.98	21.04	226	160	Horizontal
6	12691.5	-50.91	-29.02	-13.00	16.02	21.89	136	139	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.

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).

Appendix	Item
Appendix B.1 of GSM850 & GSM1900	GSM