RF TEST REPORT

Report No.: DDT-B21120602-1E01

Applicant	**:**	LG Electronics USA, Inc.
Applicant Address	**:**	1000 Sylvan Ave. Englewood Cliffs, New Jersey, United States 07632
Equipment Under Test	**:**	Mobile Handset
Model No.	**:**	LM-X430EMW
Trade Mark	**:**	LG
FCC ID	**:**	ZNFX430EMW
Manufacturer	**:**	Huaqin Telecom Technology Co., Ltd.
Manufacturer Address	**:**	No.1 Building,No.9 Building,No.399,Keyuan Road, Zhangjiang Hi-tech Park,Shanghai,P.R.China

Issued By: Tianjin Dongdian Testing Service Co., Ltd.

Address: Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park, Development Area, Tianjin, China.

Tel: +86-22-58038033, E-mail: ddt@dgddt.com, http://www.ddttest.com

REPORT

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Test Report Declare

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Address	:	No.1 Building,No.9 Building,No.399,Keyuan Road, Zhangjiang Hi-tech Park,Shanghai,P.R.China

Test Standard Used:
FCC Rules and Regulations: 47 CFR Part2, Part22, Part24
Test Procedure Used:
ANSI C63.26:2015, KDB 971168 D01 v03r01

We Declare:
The equipment described above is tested by Tianjin Dongdian Testing Service Co., Ltd and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Tianjin Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above FCC standards.

Report No:	DDT-B21120602-1E01		
Date of Receipt:	Dec. 6, 2021	**Date of Test:**	Dec. 6, 2021 ~ Dec. 11, 2021

Prepared By: ***Approved By:***

Leon Li Aaron Zhang

Leon Li/Engineer ***Aaron Zhang/EMC Manager***

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Tianjin Dongdian Testing Service Co., Ltd.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Dec. 11, 2021	

1. Summary of Test Results

1.1. GSM1900 / WCDMA Band2

Summary of Test Results			
Test Item	**Standard**	**Requirements**	**Result**
Effective (Isotropic) Radiated Power	FCC §2.1046, §24.232	EIRP: ≤2W	Pass[1]
Peak-to-Average Ratio	FCC §2.1046, §24.232	Limit: ≤13dB	Pass[1]
Modulation Characteristics	FCC §2.1047	Digital modulation	Pass[1]
Occupied Bandwidth	§2.1049	No limit	Pass[1]
Band Edges Compliance	FCC §2.1051, §24.238	Limit: ≤ P(dBm)- [43 + 10 log(P (w))] dBm/1Mhz	Pass[1]
Spurious Emission at Antenna Terminals	FCC §2.1051, §24.238	Limit: ≤ P(dBm)- [43 + 10 log(P (w))] dBm/1Mhz	Pass[1]
Field Strength of Spurious Radiation	FCC §2.1053, §24.238	Limit: ≤ P(dBm)- [43 + 10 log(P (w))] dBm/1Mhz	Pass[2]
Frequency Stability	FCC §2.1055, §24.235	Emission must remain in band	Pass[1]

Note 1:
The above "pass[1]" items data are refer from the original report issued by SGS-CSTC Standards Technical Services,Co.,Ltd.Shenzhen Branch. (Date of Test: 2019/7/20 ~2019/8/26). The detailed data can refer to Appendix B.1-GSM850 & GSM1900 and Appendix B.2-WCDMA BAND II & V.
Note2:
The above "pass[2]" item is tested by Tianjin Dongdian Testing Service Co., Ltd.

1.2. GSM850 / WCDMA Band5

Summary of Test Results			
Test Item	**Standard**	**Requirements**	**Result**
Effective (Isotropic) Radiated Power	FCC §2.1046, §22.913	ERP: ≤ 7W	Pass[1]
Peak-to-Average Ratio	FCC §2.1046	Limit: ≤13dB	Pass[1]
Modulation Characteristics	FCC §2.1047	Digital modulation	Pass[1]
Occupied Bandwidth	FCC §2.1049	No limit	Pass[1]
Band Edges Compliance	FCC §2.1051, §22.917	Limit: 1)≤ P(dBm)- [43 + 10 log(P (w))] dBm/100kHz(Below 1GHz) 2)≤ P(dBm)- [43 + 10 log(P (w))] dBm/1MHz(Above 1GHz)	Pass[1]
Spurious Emission at Antenna Terminals	FCC §2.1051, §22.917	Limit: 1)≤ P(dBm)- [43 + 10 log(P (w))] dBm/100kHz(Below 1GHz) 2)≤ P(dBm)- [43 + 10 log(P (w))] dBm/1MHz(Above 1GHz)	Pass[1]
Field Strength of Spurious Radiation	FCC §2.1053, §22.917	Limit: 1)≤ P(dBm)- [43 + 10 log(P (w))] dBm/100kHz(Below 1GHz) 2)≤ P(dBm)- [43 + 10 log(P (w))] dBm/1MHz(Above 1GHz)	Pass[2]

Frequency Stability	FCC §2.1055, §22.355	△: <±2.5ppm	Pass[1]

Note 1:
The above "pass[1]" items data are refer from the original report issued by SGS-CSTC Standards Technical Services,Co.,Ltd.Shenzhen Branch. (Date of Test: 2019/7/20 ~2019/8/26). The detailed data can refer to Appendix B.1-GSM850 & GSM1900 and Appendix B.2-WCDMA BAND II & V.
Note2:
The above "pass[2]" item is tested by Tianjin Dongdian Testing Service Co., Ltd.

2. General Test Information

2.1. Description of EUT

EUT Description	:	Mobile Handset			
Model Number	:	LM-X430EMW			
Trade Mark	:	LG			
IMEI	:	358854100143674 358854100143682			
Serial Number	:	N/A			
Hardware Version	:	REV1.0			
Software Version	:	V09c			
Sample Type	:	Portable Device			
Frequency band	:	GSM	Tx (MHz)	Rx (MHz)	Supported Channel Bandwidth
		GSM850	824-849	869-894	0.2MHz
		GSM1900	1850-1910	1930-1990	0.2MHz
		UMTS	Tx (MHz)	Rx (MHz)	Supported Channel Bandwidth
		Band II	1850-1910	1930-1990	5MHz
		Band V	824-849	869-894	5MHz
Target Power & Power Class	:	GSM850(PC5): 34dBm GSM1900(PC0): 31dBm UMTS Band II(PC3): 24.5dBm UMTS Band V(PC3): 25dBm			
Type of modulation	:	GSM	GSM: GMSK GPRS: GMSK EGPRS: GMSK, 8-PSK		
		UMTS	WCDMA: UL: BPSK, DL: QPSK HSDPA: QPSK, 16QAM		
Antenna Type	:	Fixed Internal Antenna			
Antenna Gain	:	GSM850: -0.6dBi GSM1900: -0.7dBi UMTS Band II: -0.7dBi UMTS Band V: -0.6dBi			
Power Supply	:	DC by Internal battery DC by 5VAC/DC Adapter			

Note: EUT is the abbreviation of equipment under test.

2.2. RF Channel Information

GSM Band	Transmitter/ Receiver	Channel Bandwidth	Lowest range(L)	Middle range(M)	Highest range(H)
GSM 850	Transmitter	0.2Mhz	Channel 128 (824.2 MHz)	Channel 190 (836.6 MHz)	Channel 251 (848.8 MHz)
	Receiver		869.2 MHz	881.6MHz	893.8 MHz
GSM 1900	Transmitter	0.2Mhz	Channel 512 (1850.2 MHz)	Channel 661 (1880.0 MHz)	Channel 810 (1909.8 MHz)
	Receiver		1930.2 MHz	1960.0 MHz	1989.8 MHz

UMTS Band	Transmitter / Receiver	Channel Bandwidth	Lowest range(L)	Middle range(M)	Highest range(H)
Band II	Transmitter	5MHz	Channel 9262 (1852.4MHz)	Channel 9400 (1880.0MHz)	Channel 9538 (1907.6MHz)
	Receiver		Channel 9662 (1932.4MHz)	Channel 9800 (1960.0MHz)	Channel 9938 (1987.6MHz)
Band V	Transmitter	5MHz	Channel 4132 (826.4MHz)	Channel 4182 (836.4MHz)	Channel 4233 (846.6MHz)
	Receiver		Channel 4357 (871.4MHz)	Channel 4407 (881.4MHz)	Channel 4458 (891.6MHz)

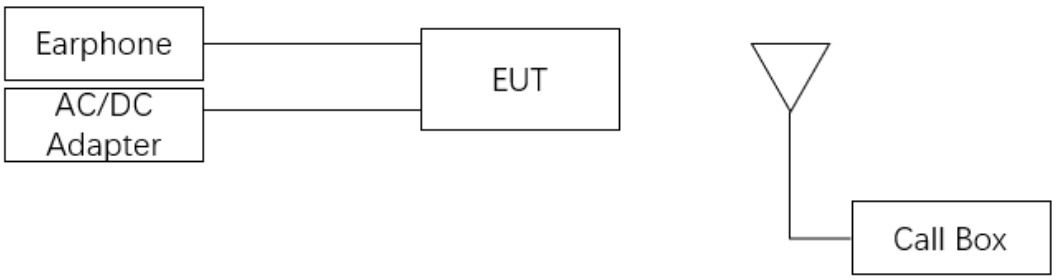
2.3. Accessories of EUT

Description of Accessories	Manufacturer	Model number	Description	Remark
Travel Adapter	LG	MCS-V02WH	Input: AC 100-240V~0.4A Output: DC 5.0V~2A	N/A
Earphone	N/A	N/A	N/A	N/A

2.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
N/A	N/A	N/A	N/A	N/A

2.5. Block diagram of EUT configuration for test



2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Condition	Normal Condition	Extreme Condition
Pressure range	86-106KPa	N/A
Relative Humidity	30-75%	N/A
Temperature(℃)	NT: 25℃	N/A
Voltage(V)	NV: 3.8V	LV: 3.4V HV: 4.38V
Note: N/A: Not Applicable NV: Normal Voltage LV: Low Extreme Test Voltage HV: High Extreme Test Voltage		NT: Normal Temperature LT: Low Extreme Test Temperature HT: High Extreme Test Temperature

2.7. Worst-case Configuration and Test Mode

2.7.1. Worst-case Radiated test

-The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.

-All modes of operation were investigated and the worst-case configuration results are reports. In the case of radiated spurious emissions, only result that confirmed the maximum radiated power was reported

-The worst case is reported with the EUT positioning, modulations, and paging service configurations shown in the test data.

-All modes of operation were tested and the worst case results are reported.

-Below table show the worst case details:

Test Item	Test Mode	Band	Channel	Modulation	Bandwidth	communication
Field Strength of Spurious	Mode1	GSM850	L	GMSK	0.2MHz	Circuit
			M	GMSK	0.2MHz	Circuit
			H	GMSK	0.2MHz	Circuit

Radiation	Mode2	GSM1900	L	GMSK	0.2MHz	Circuit
			M	GMSK	0.2MHz	Circuit
			H	GMSK	0.2MHz	Circuit
	Mode3	WCDMA Band II	L	QPSK	5MHz	Circuit
			M	QPSK	5MHz	Circuit
			H	QPSK	5MHz	Circuit
	Mode4	WCDMA Band V	L	QPSK	5MHz	Circuit
			M	QPSK	5MHz	Circuit
			H	QPSK	5MHz	Circuit

2.8. Test laboratory

Tianjin Dongdian Testing Service Co., Ltd.

Address: Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park Development Area, Tianjin, China., 300385

Tel: +86-22-58038033, http://www.ddttest.com, Email: ddt@dgddt.com

NVLAP (National Voluntary Laboratory Accreditation Program) CODE: 500036-0

CNAS (China National Accreditation Service for Conformity Assessment) CODE: L13402

FCC Designation Number: CN5004; FCC Test Firm Registration Number: 368676

ISED (Innovation, Science and Economic Development Canada) Company Number: 27768

Conformity Assessment Body Identifier: CN0125

VCCI Facility Registration Number: C-20089, T-20093, R-20125, G-20122

3. Description of Tests

3.1. Radiated Power (ERP/EIRP)

Test Procedure: FCC KDB 971168 D01 V03r01.

Note: Refer test setup 1.

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are calculated by adding highest antenna gain to maximum measured conducted output power. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

a) The transmitter antenna port was connected to a Base Station Simulator through the calibrated coaxial cable.

b) Setup the Base Station Simulator to force the transmitter to the maximum power setting.

3) The tests were performed at three channels (low channel, middle channel and high channel) and on the highest power levels, which can be setup on the transmitters.

Calculate power in dBm by the following formula:

ERP (dBm) = Conducted Power (dBm) + antenna gain (dBd)

EIRP (dBm) = Conducted Power (dBm) + antenna gain (dBi)

EIRP=ERP+2.15dB

3.2. Field Strength of Spurious Radiation

Test Procedure: FCC KDB 971168 D01 V03r01.

Note: Refer test setup 2.

a) Place the EUT in the center of the turntable. The EUT shall be configured to transmit into the standard non-radiating load (for measuring radiated spurious emissions), connected with cables of minimal length unless specified otherwise. If the EUT uses an adjustable antenna, the antenna shall be positioned to the length that produces the worst case emission at the fundamental operating frequency.

b) Each emission under consideration shall be evaluated:

1) Raise and lower the measurement antenna, as necessary to enable detection of the maximum emission amplitude relative to measurement antenna height.

2) Rotate the EUT through 360° to determine the maximum emission level relative to the axial position.

3) Return the turntable to the azimuth where the highest emission amplitude level was observed.

4) Vary the measurement antenna height again through 1 m to 4 m again to find the height associated with the maximum emission amplitude.

c) Repeat step b) for each emission frequency with the measurement antenna oriented in both the horizontal and vertical polarizations to determine the orientation that gives the maximum

emissions amplitude.

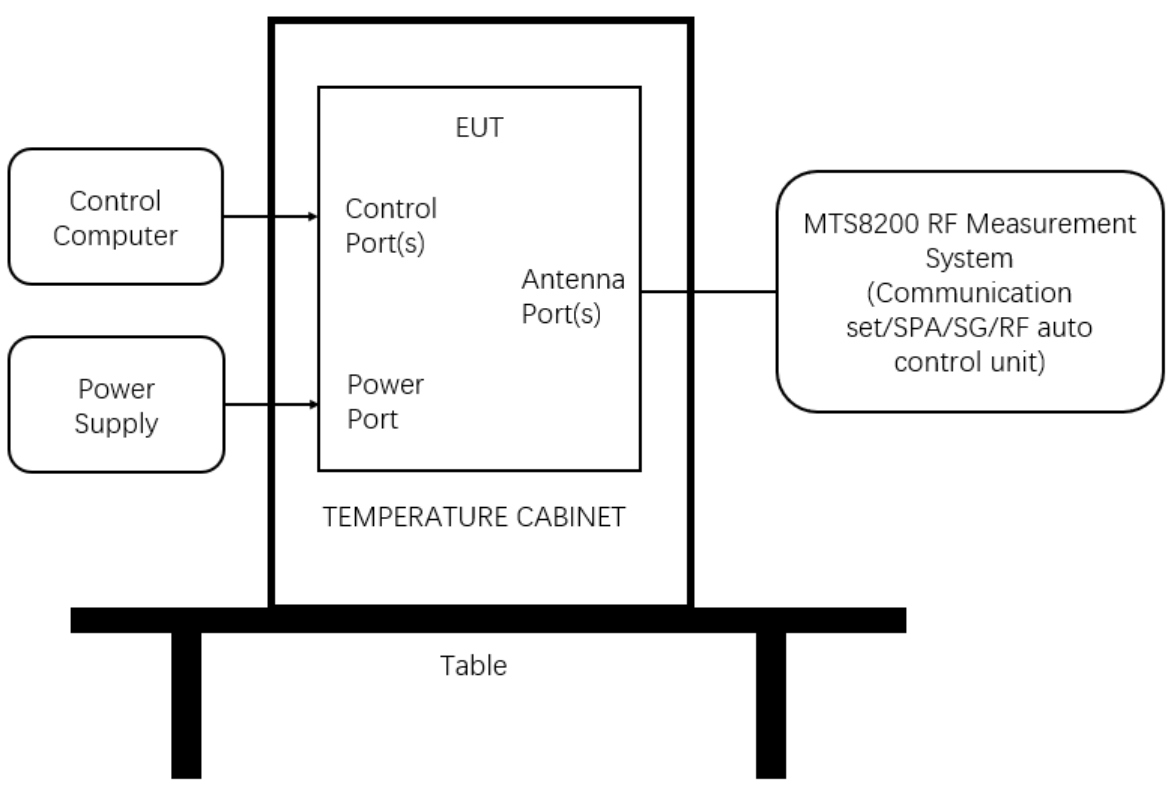
d) EIRP (dBm) = E (dBμV/m) + 20 log D − 104.8; where D is the measurement distance in meters.

e) Test the EUT in the lowest channel, the middle channel the Highest channel

f) The radiation measurements are performed in X, Y, Z axis positioning. Only the test worst case mode is recorded in the report.

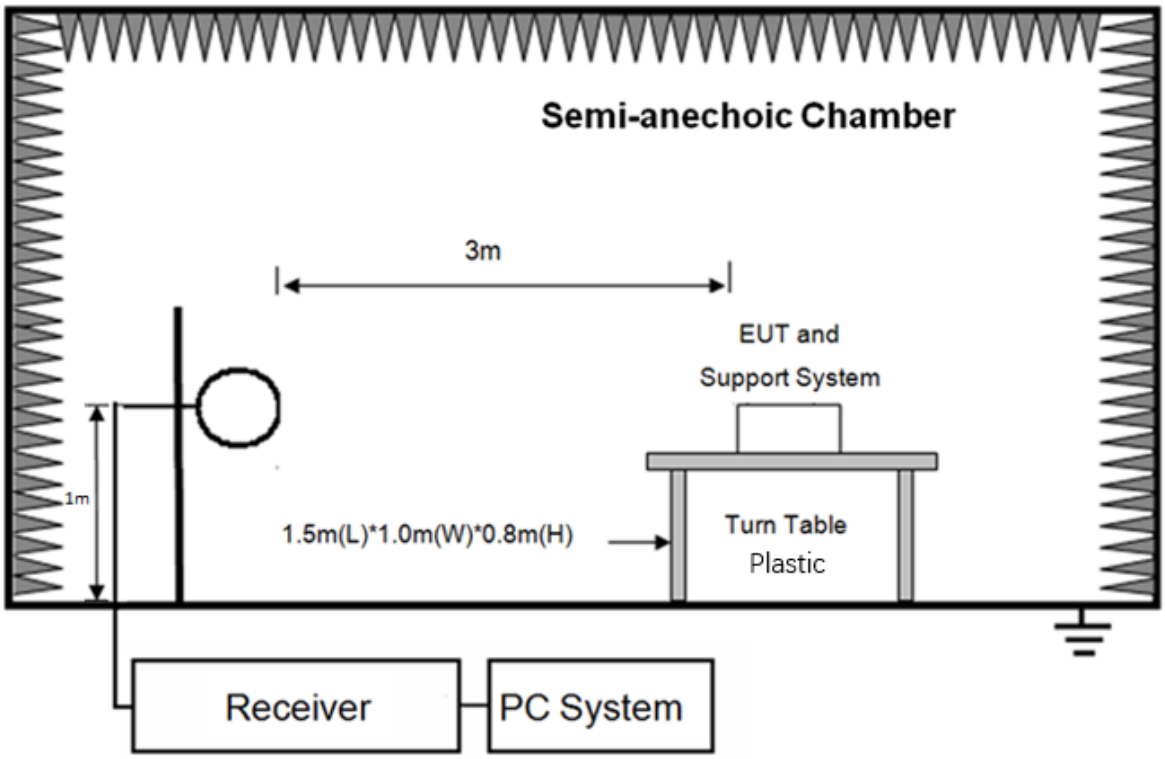
3.3. Test Setups

3.3.1. Test Setup 1

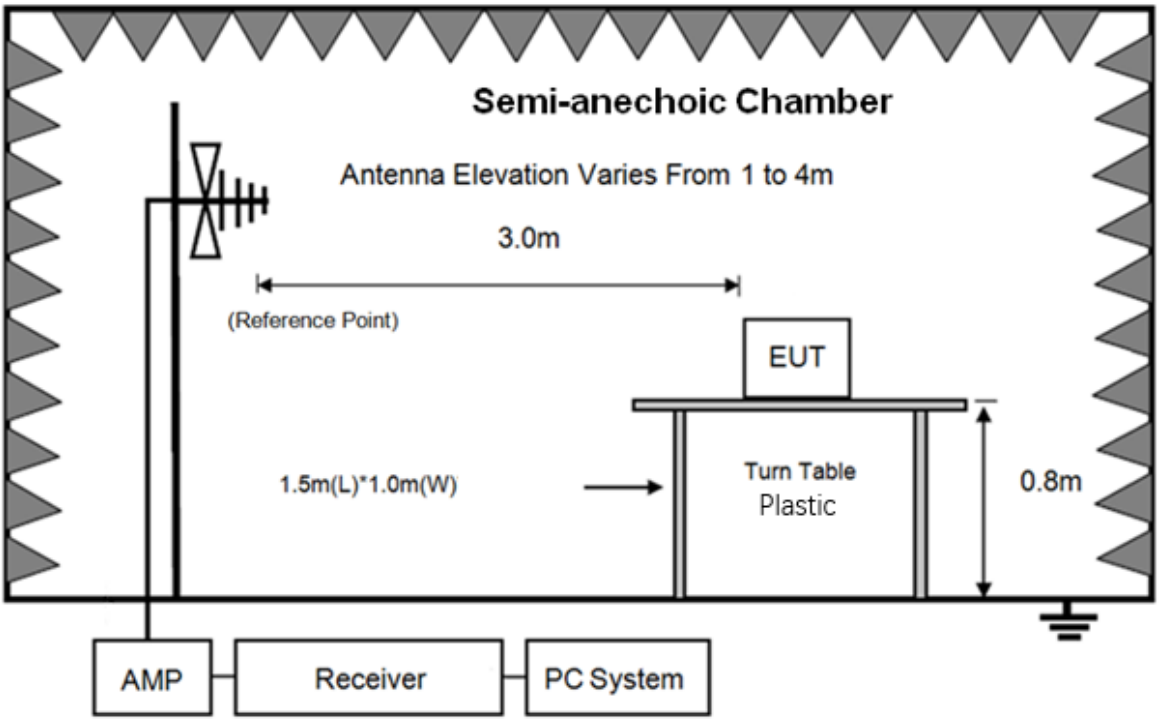


3.3.2. Test Setup 2

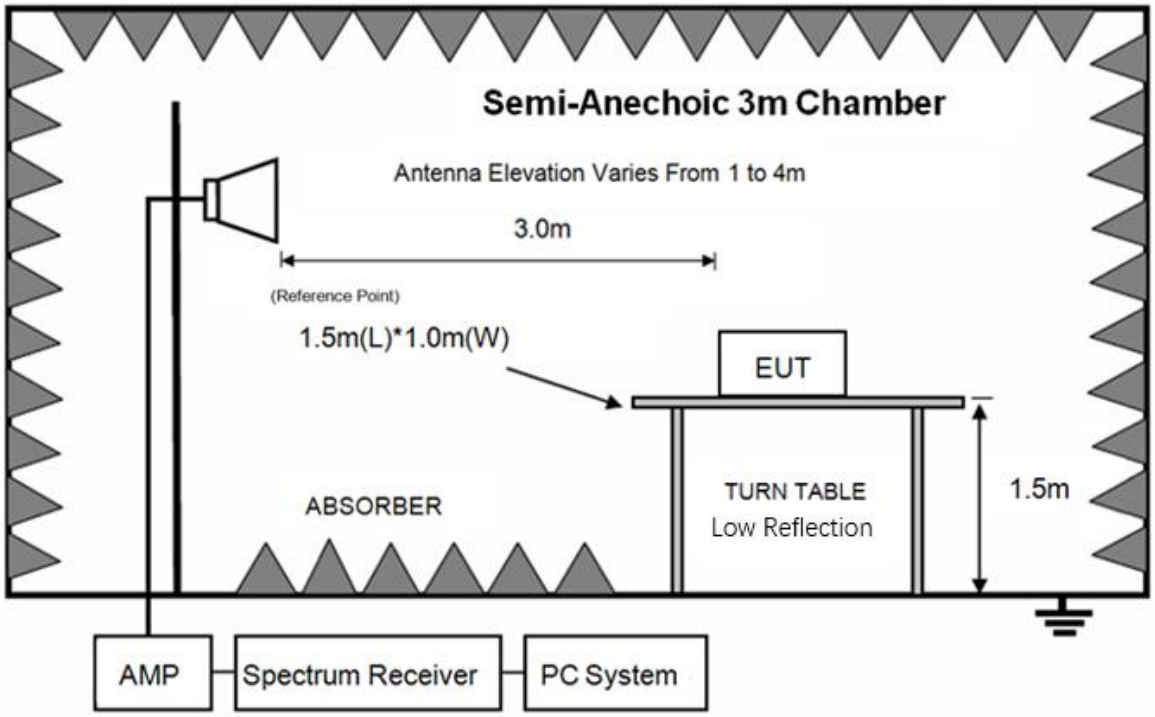
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz – 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



4. Measurement uncertainty

No.	Test Item	Uncertainty
1	Transmitter maximum output power	±0,7dB
2	Radiated spurious emissions / Radiated emissions	±2.72 dB (30MHz-1GHz) ±2.74 dB (1 - 6 GHz) ±2.72 dB (6 GHz - 18 GHz) ±3.54 dB (18 GHz - 26 GHz) ±4.30 dB (26 GHz - 40 GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.		

5. Equipment Used During Test

Test System					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
PSA Series Spectrum Analyzer	Agilent(Keysight)	E4440A	MY48251036	2021/03/04	1 Year
EXA Signal Analyzer	Keysight	N9010A	MY53281492	2021/03/31	1 Year
RF SELECTOR	TOYO	NS4900	N/A	N/A	N/A
Band SELECTOR	TOYO	NS5800	N/A	N/A	N/A
BiLog Antenna	TESEQ	CBL 6143A	26683	2021/03/18	1 Year
Broadband Amplifier	SONOMA	317	292953	2021/03/03	1 Year
Low noise amplifier	MITEQ	TPA0118-36	0914	2021/02/03	1 Year
Double-Ridged Guide Horn Antenna	ETS-LINDGREN	3115	00102808	2021/03/16	1 Year
Test software	TOYO	EP5/RSE	Ver 1.9.1	N/A	N/A
Test software	Audix	E3	V 6.11111b	N/A	N/A
Active Loop Antenna	R&S	HFH2-Z2	100269	2021/05/08	1 Year
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	790	2021/05/28	1 Year
Broadband Horn Antenna	TESEQ	BHA 9118	31754	2021/10/12	1 Year
Low noise amplifier	MITEQ	TPA0118-36	0914	2021/02/03	1 Year
EMI Test Receiver	R&S	ESCI	101024	2021/03/03	1 Year
EMI Test Receiver	R&S	ESCI	101030	2021/05/15	1 Year
Bilog Antenna	TESEQ	CBL6112D	29068	2020/10/12	2 Year
Bilog Antenna	TESEQ	CBL6112D	29069	2020/10/12	2 Year
Amplifier	Sonoma	310N	300913	2021/03/03	1 Year
Amplifier	Sonoma	310N	300914	2021/03/03	1 Year
Ant Mast	Innco	MA4000	N/A	N/A	N/A
Ant Mast	Innco	MA4000	N/A	N/A	N/A
Mast Controller	Innco	CO2000	N/A	N/A	N/A
Mast Controller	Innco	CO2000	N/A	N/A	N/A
RF Selector 4CH	TOYO	NS4904N	Selector1	N/A	N/A
RF Selector 4CH	TOYO	NS4904N	Selector2	N/A	N/A
PSG Analog Signal Generator	Agilent(Keysight)	E8257D	MY49060493	2021/03/08	1 Year
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	158800	2021/05/14	1 Year

8960 Series 10 Wireless Communications Test Set	Agilent(Keysight)	E5515C	MY48280272	2021/05/25	1 Year
Radio Communication Test Station	Anritsu	MT8000A	6262302490	2021/03/26	1 Year
Radio Communication Analyzer	Anritsu	MT8821C	6262257930	2021/03/22	1 Year
Coupler-Antenna	European Antenna	PSA-7501R/170	406310-0001	N/A	N/A
tunable notch-filter 820/860Mhz	Wainwright	WRCT 820/860-0.4/40-5SSK	SN8	N/A	N/A
tunable notch-filter 840/920Mhz	Wainwright	WRCT 840/920-0.4/40-5SSK	SN9	N/A	N/A
tunable notch-filter 1700/1800Mhz	Wainwright	WRCD 1700/1800-0.2/40-5SSK	SN41	N/A	N/A
tunable notch-filter 1800/2000Mhz	Wainwright	WRCD 1800/2000-0.2/40-5SSK	SN31	N/A	N/A
band reject filter 1870/1890Mhz	Wainwright	WRCG 1877/1883-1870/1890-40/6EE	SN20	N/A	N/A
band reject filter 1940/1960Mhz	Wainwright	WRCG 1947/1953-1940/1960-40/6SS	SN28	N/A	N/A
band reject filter 2400/2483.5Mhz	Wainwright	WRCTF 2402/2480-2400/2483.5-35/12+9SS	SN42	N/A	N/A
Low pass filter 1.5Ghz	Wainwright	WLK1.5/18G-10SS	SN5	N/A	N/A
High pass filter 1.5G	Wainwright	WHKX1.5/15G-10SS	SN50	N/A	N/A
High pass filter 2.5G	Wainwright	WHKX 2.5/18G-12SS	SN5	N/A	N/A
High pass filter 3G	Kangmaiwei	ZHPF6-M3000-18000-996	03210746	N/A	N/A
High pass filter 6.5G	Kangmaiwei	ZHPF6-M6500-18000-547	03210747	N/A	N/A
High pass filter 1.0G	Kangmaiwei	ZHPF6-C1000-3000-548	11210354	N/A	N/A

6. Details Test Result

6.1. 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.

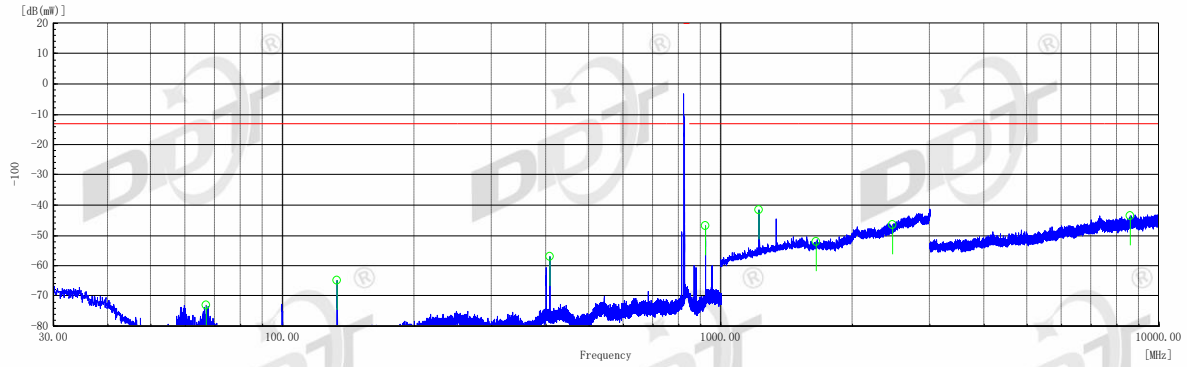
Item	The Original Reports	Re-Test Reports
File name:	test report RF	RF test report
Test location:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch	Tianjin Dongdian Testing Service Co., Ltd.

BAND	Channel	Test Original Reports Level(dBm)	Re-Test Reports Level(dBm)
GSM850	128	32.96	33.07
GSM850	190	32.75	32.74
GSM850	251	32.77	32.89
GSM1900	512	30.24	30.62
GSM1900	661	30.12	30.42
GSM1900	810	30.22	30.29

BAND	Modulation	Channel	Test Original Reports Level(dBm)	Re-Test Reports Level(dBm)
WCDMA Band II	QPSK	9262	23.30	23.43
WCDMA Band II	QPSK	9400	23.28	23.29
WCDMA Band II	QPSK	9538	23.27	23.36
WCDMA Band V	QPSK	4132	23.86	23.98
WCDMA Band V	QPSK	4182	23.92	23.81
WCDMA Band V	QPSK	4233	23.92	23.88

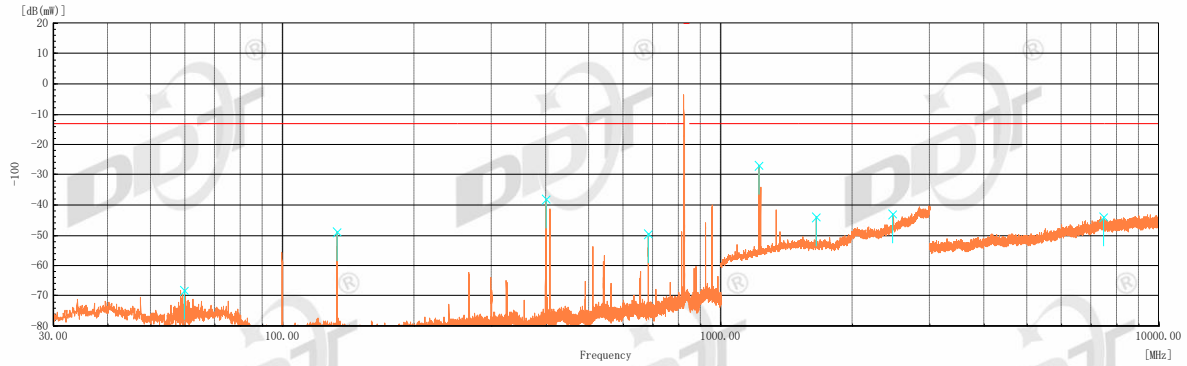
6.2. Radiated Spurious Emissions

Test Mode1：GSM850 L channel (horizontal)



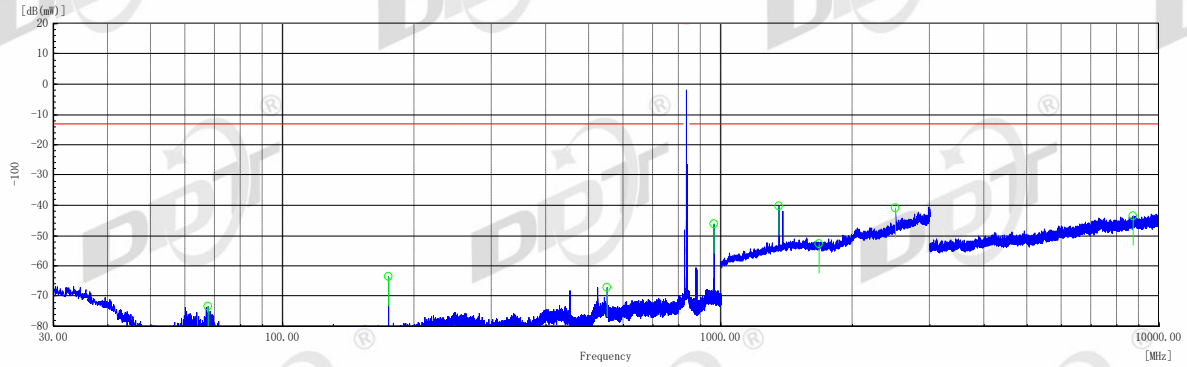
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
66.9	H	22.2	-73.1	-13	60.1	80	45.7
133.3	H	30.3	-65	-13	52	89	225
407.6	H	38.3	-57	-13	44	89	225
923.8	H	48.3	-47	-13	34	78	225
1223	H	53.8	-41.5	-13	28.5	146	180.5
1649	H	43.1	-52.2	-13	39.2	158	315.7
2472.5	H	48.8	-46.5	-13	33.5	166	135.5
8585	H	51.7	-43.6	-13	30.6	153	225

Test Mode1：GSM850 L channel (vertical)



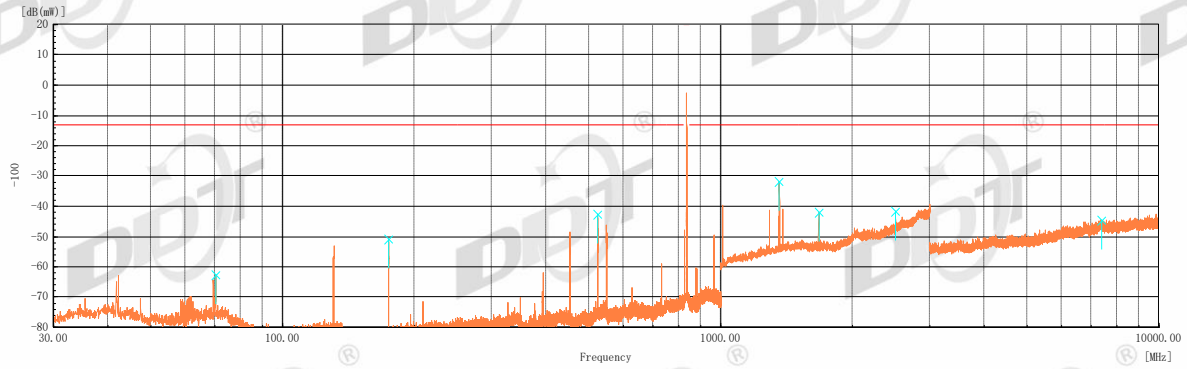
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
59.75	V	27.0	-68.3	-13	55.3	78	179.6
133.3	V	46.5	-48.8	-13	35.8	83	179.6
399.9	V	57.2	-38.1	-13	25.1	84	315.7
682.3	V	45.8	-49.5	-13	36.5	88	89.3
1224	V	68.4	-26.9	-13	13.9	179	179.6
1648.5	V	51.5	-43.8	-13	30.8	179	315.7
2473	V	52.4	-42.9	-13	29.9	148	225
7473.501	V	51.5	-43.8	-13	30.8	164	89.3

Test Mode1：GSM850 M channel (horizontal)



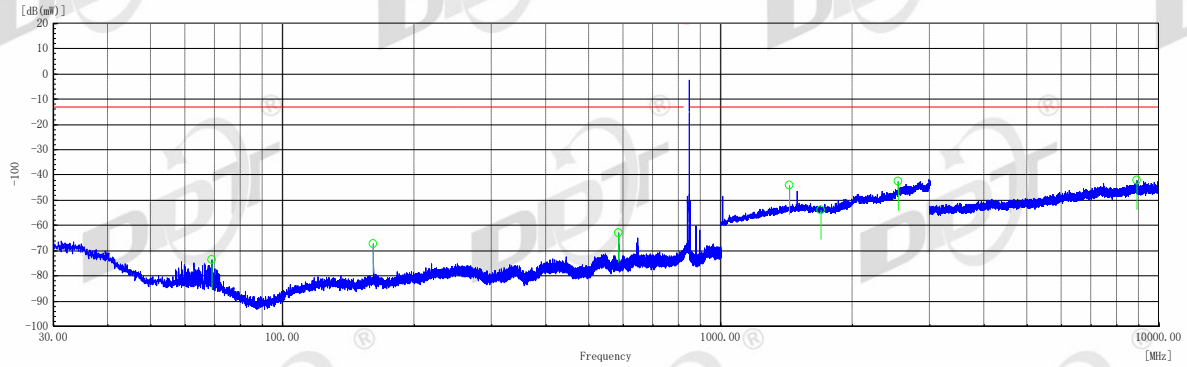
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
67.75	H	21.8	-73.5	-13	60.5	86	45.8
174.15	H	31.6	-63.7	-13	50.7	89	270.1
549.4	H	28.1	-67.2	-13	54.2	80	180.3
967.65	H	49.2	-46.1	-13	33.1	88	225.2
1359	H	55.0	-40.3	-13	27.3	154	270.1
1673	H	42.5	-52.8	-13	39.8	170	134.9
2510	H	54.2	-41.1	-13	28.1	167	270.1
8729	H	51.8	-43.5	-13	30.5	163	134.9

Test Mode1：GSM850 M channel (vertical)



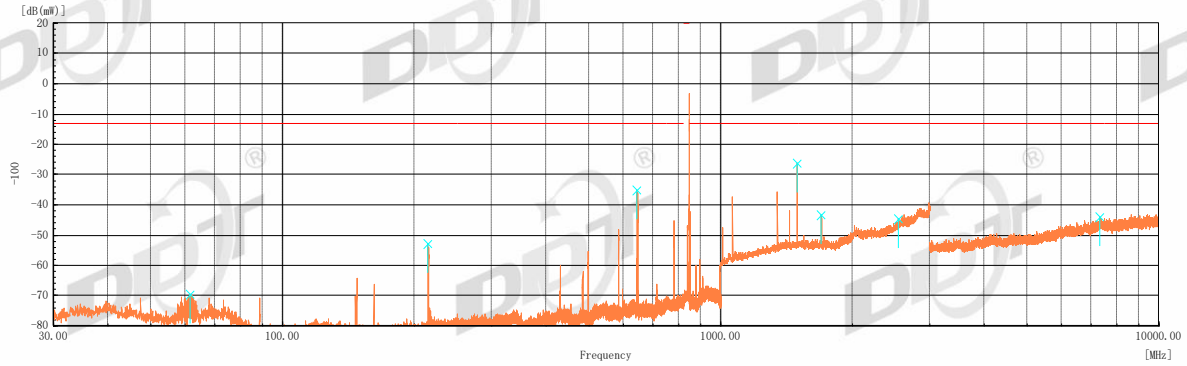
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
70.35	V	32.8	-62.5	-13	49.5	83	269.4
174.65	V	44.3	-51	-13	38	84	0.3
523.9	V	52.7	-42.6	-13	29.6	80	89.8
1360	V	63.5	-31.8	-13	18.8	157	134.6
1673	V	53.5	-41.8	-13	28.8	164	315.9
2510	V	53.6	-41.7	-13	28.7	167	179.5
7387.501	V	50.8	-44.5	-13	31.5	157	224.4

Test Mode1：GSM850 H channel (horizontal)



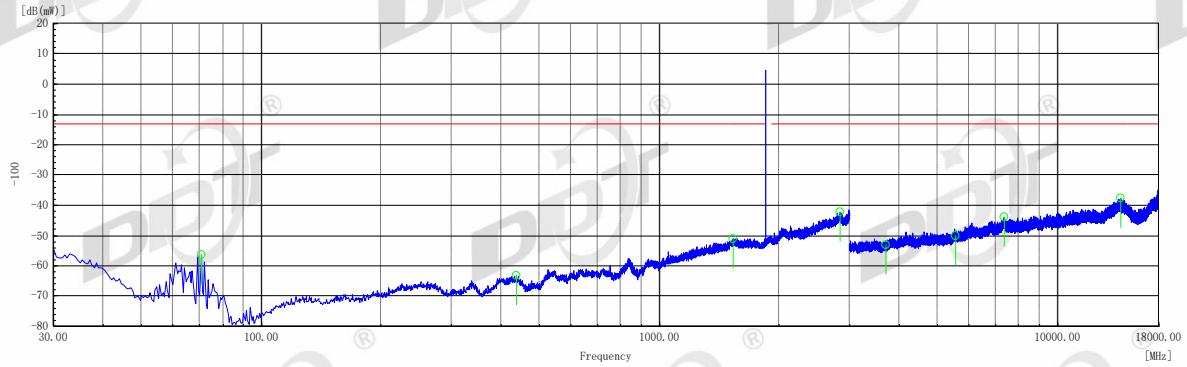
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
68.85	H	21.6	-73.7	-13	60.7	80	45.6
161.2	H	27.9	-67.4	-13	54.4	86	270.4
585.5	H	32.3	-63	-13	50	79	180.3
1435	H	51.1	-44.2	-13	31.2	149	270.4
1697.5	H	41.5	-53.8	-13	40.8	156	135.8
2546	H	52.8	-42.5	-13	29.5	178	91.2
8898.5	H	53.1	-42.2	-13	29.2	158	135.8

Test Mode1：GSM850 H channel (vertical)



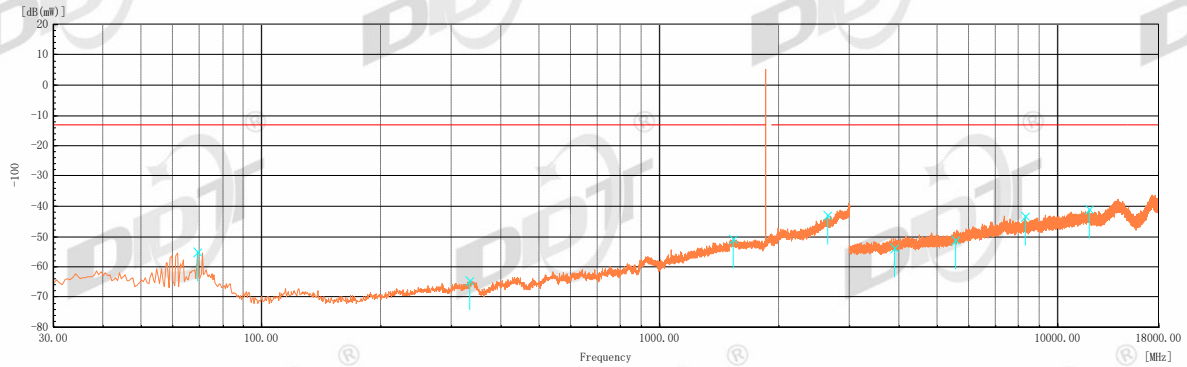
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
61.35	V	25.9	-69.4	-13	56.4	82	269.3
214.85	V	42.5	-52.8	-13	39.8	80	179.4
644.55	V	60.1	-35.2	-13	22.2	87	269.3
1493.5	V	69.0	-26.3	-13	13.3	168	179.4
1697.5	V	52.0	-43.3	-13	30.3	167	269.3
2546	V	50.8	-44.5	-13	31.5	155	134.5
7344.501	V	51.2	-44.1	-13	31.1	151	134.5

Test Mode2：GSM1900 L channel (horizontal)



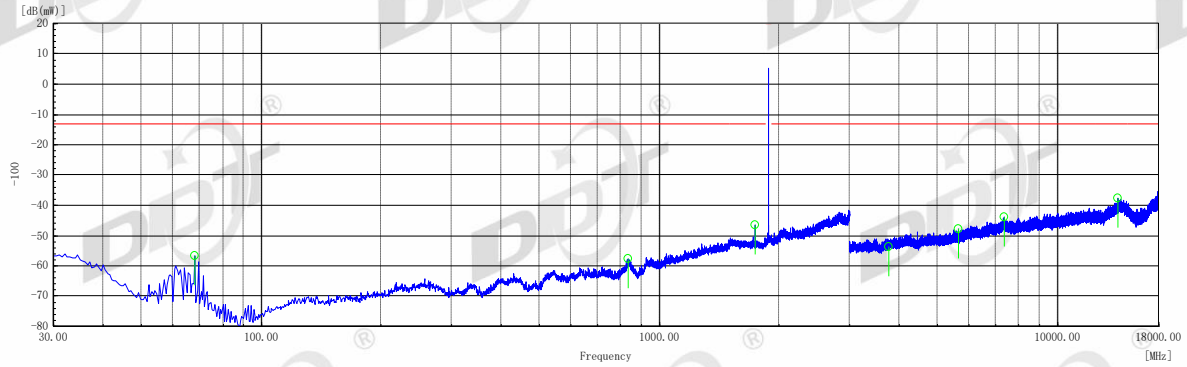
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
70.5	H	39.1	-56.2	-13	43.2	83	44.9
437.5	H	32.0	-63.3	-13	50.3	81	44.9
1534.5	H	44.1	-51.2	-13	38.2	147	0
2851.5	H	53.1	-42.2	-13	29.2	164	225.8
3700.5	H	42.1	-53.2	-13	40.2	167	135.8
5550	H	45.3	-50	-13	37	158	225.8
7364.001	H	51.3	-44	-13	31	175	44.9
14413.5	H	57.5	-37.8	-13	24.8	154	91.7

Test Mode2：GSM1900 L channel (vertical)



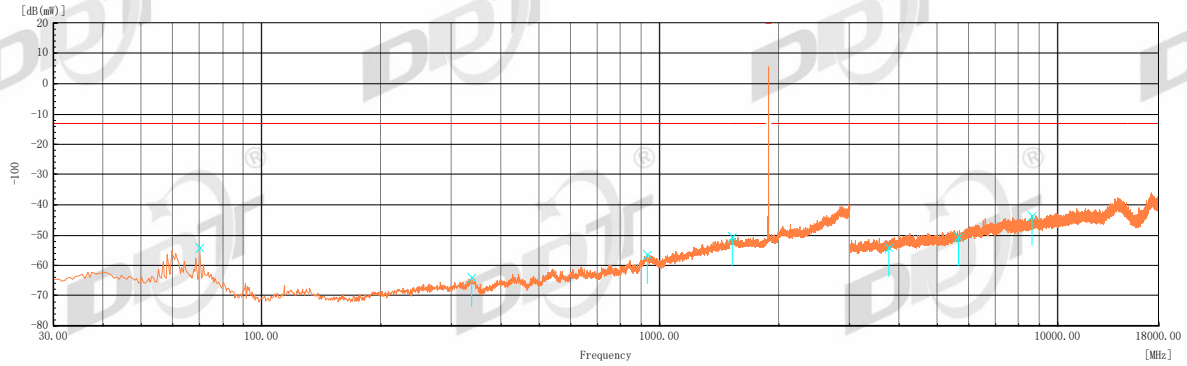
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
69	V	40.3	-55	-13	42	80	44.5
333	V	30.7	-64.6	-13	51.6	83	270
1529.5	V	44.3	-51	-13	38	167	224.7
2647	V	52.2	-43.1	-13	30.1	155	314.9
3900	V	41.6	-53.7	-13	40.7	179	44.5
5550.5	V	44.3	-51	-13	38	156	224.7
8298.501	V	52.0	-43.3	-13	30.3	180	270
12052.5	V	54.2	-41.1	-13	28.1	179	314.9

Test Mode2：GSM1900 M channel (horizontal)



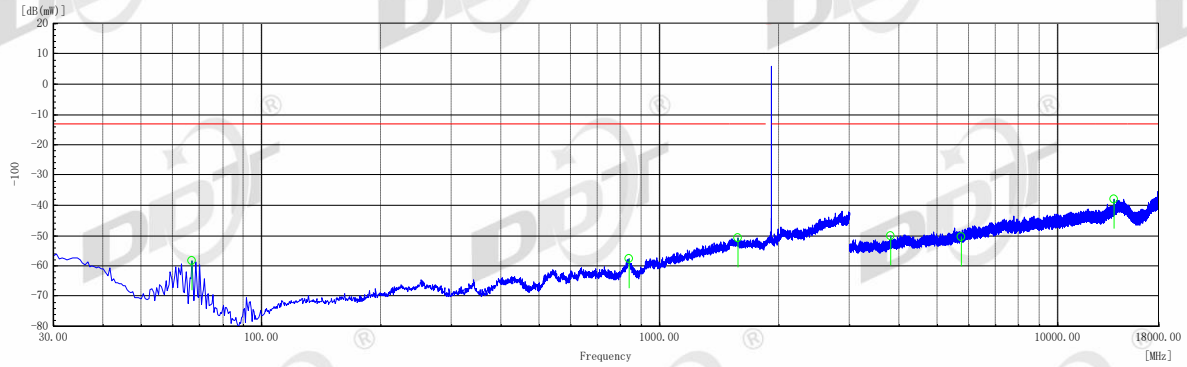
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
68	H	38.6	-56.7	-13	43.7	84	45.3
832.5	H	37.5	-57.8	-13	44.8	89	270
1736	H	48.7	-46.6	-13	33.6	155	180.8
3760	H	41.6	-53.7	-13	40.7	153	225
5644	H	47.4	-47.9	-13	34.9	164	45.3
7343.501	H	51.3	-44	-13	31	169	270
14167.5	H	57.5	-37.8	-13	24.8	163	270

Test Mode2：GSM1900 M channel (vertical)



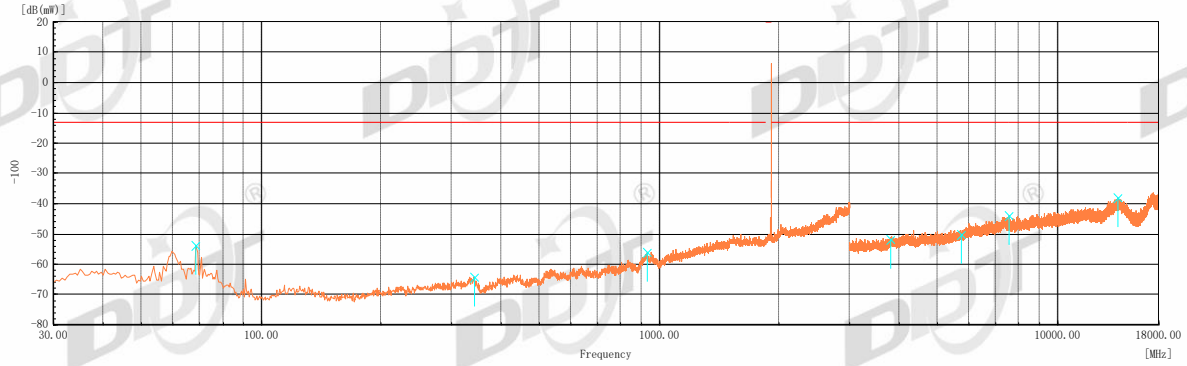
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
70	V	41.3	-54	-13	41	89	45
337	V	31.3	-64	-13	51	84	224.2
929.5	V	38.8	-56.5	-13	43.5	174	180
1527.5	V	44.8	-50.5	-13	37.5	156	0.2
3760	V	41.2	-54.1	-13	41.1	154	269.6
5640	V	44.8	-50.5	-13	37.5	161	45
8627	V	51.7	-43.6	-13	30.6	157	45

Test Mode2：GSM1900 H channel (horizontal)



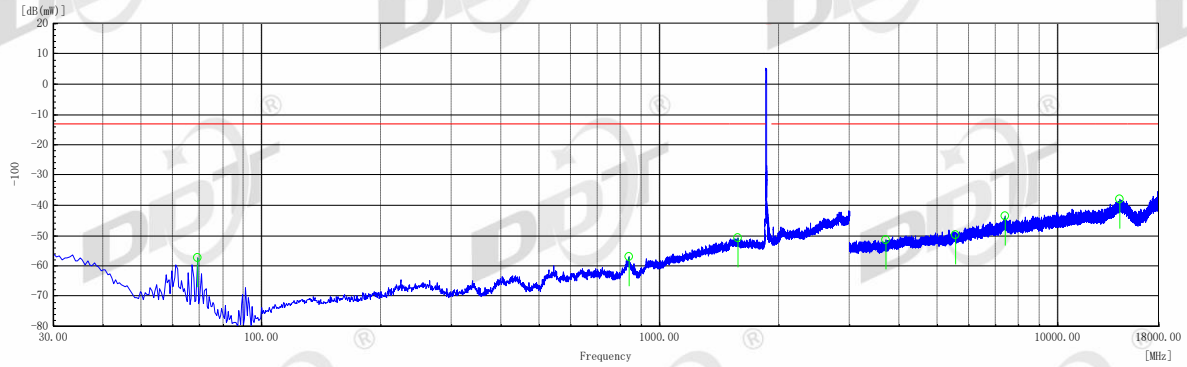
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
67	H	37.0	-58.3	-13	45.3	87	45.5
837.5	H	37.7	-57.6	-13	44.6	89	45.5
1576	H	44.4	-50.9	-13	37.9	148	270.4
13915	H	57.4	-37.9	-13	24.9	174	45.5
3804.5	H	45.2	-50.1	-13	37.1	172	45.5
5729.5	H	44.9	-50.4	-13	37.4	173	180.5

Test Mode2：GSM1900 H channel (vertical)



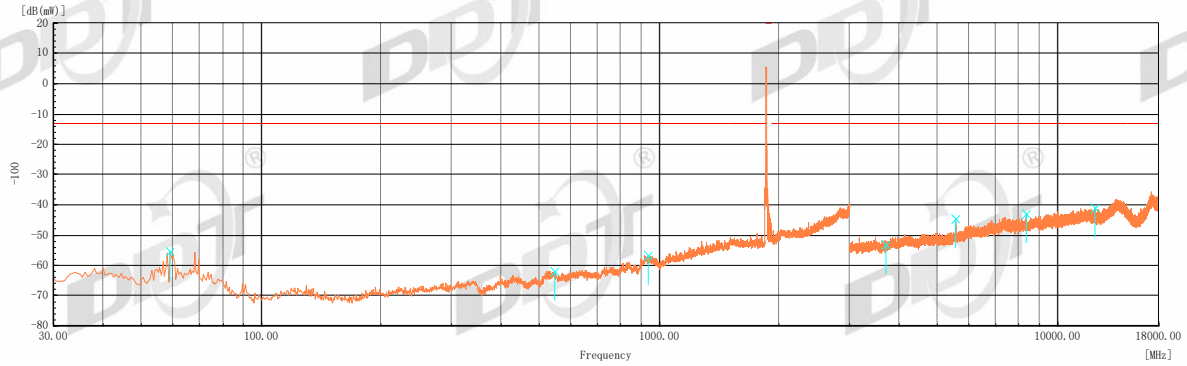
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
68.5	V	41.4	-53.9	-13	40.9	87	44.2
342	V	31.0	-64.3	-13	51.3	88	269.3
931	V	39.3	-56	-13	43	79	224.3
3819.5	V	43.6	-51.7	-13	38.7	155	179.3
5729.5	V	45.2	-50.1	-13	37.1	146	44.2
7556.501	V	51.3	-44	-13	31	162	89.6
14155.5	V	57.2	-38.1	-13	25.1	164	134.8

Test Mode3：WCDMA Band II L channel (horizontal)



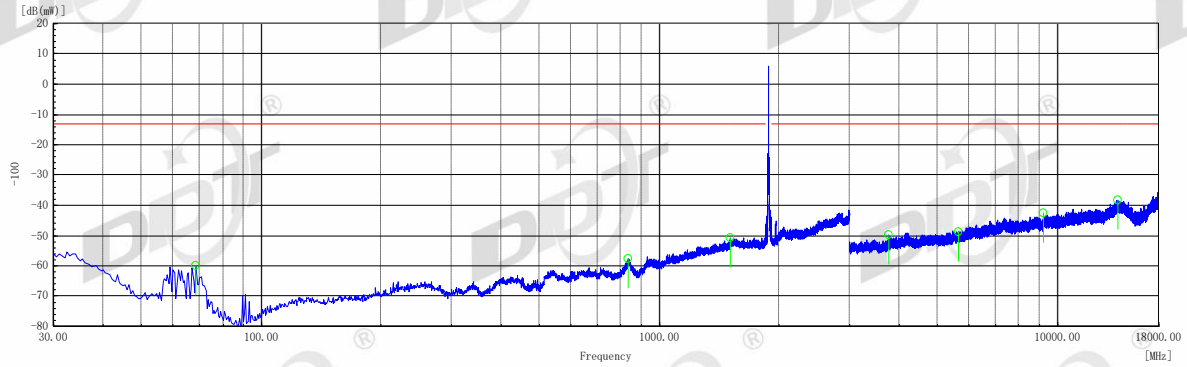
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
69	H	38.0	-57.3	-13	44.3	87	45.6
838.5	H	38.2	-57.1	-13	44.1	86	225.2
1573	H	44.5	-50.8	-13	37.8	179	315
3701	H	43.8	-51.5	-13	38.5	150	270.5
5558	H	45.4	-49.9	-13	36.9	164	315
7378.001	H	51.7	-43.6	-13	30.6	179	270.5
14388	H	57.2	-38.1	-13	25.1	161	315

Test Mode3：WCDMA Band II L channel (vertical)



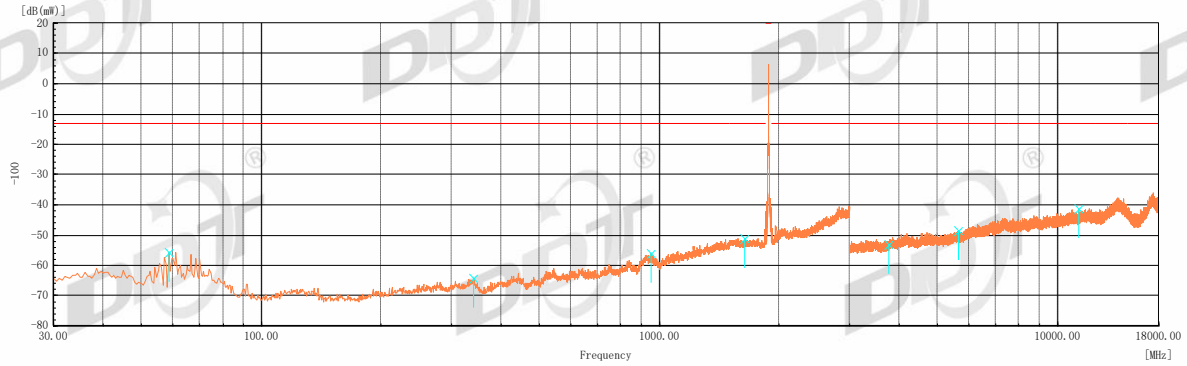
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
59	V	40.0	-55.3	-13	42.3	86	134.9
546.5	V	33.4	-61.9	-13	48.9	81	134.9
935.5	V	38.6	-56.7	-13	43.7	87	315
3704	V	42.3	-53	-13	40	153	90.1
5560	V	50.6	-44.7	-13	31.7	174	224.4
8340.501	V	52.4	-42.9	-13	29.9	160	90.1
12441	V	54.4	-40.9	-13	27.9	176	224.4

Test Mode3：WCDMA Band II M channel (horizontal)



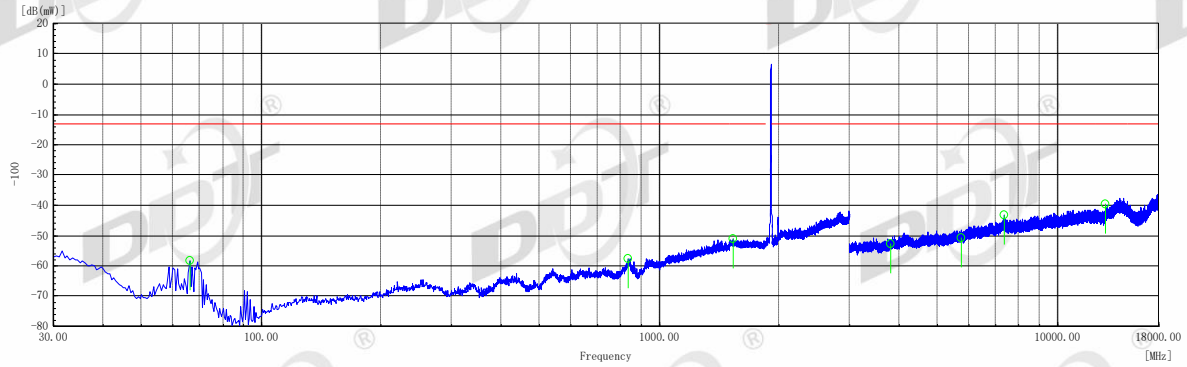
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
68.5	H	35.2	-60.1	-13	47.1	81	45.5
836	H	37.6	-57.7	-13	44.7	78	45.5
1503	H	44.4	-50.9	-13	37.9	150	45.5
3761.5	H	45.4	-49.9	-13	36.9	155	315
5643	H	46.5	-48.8	-13	35.8	154	315
9219	H	52.6	-42.7	-13	29.7	170	0.2
14184.5	H	57.0	-38.3	-13	25.3	151	180.2

Test Mode3：WCDMA Band II M channel (vertical)



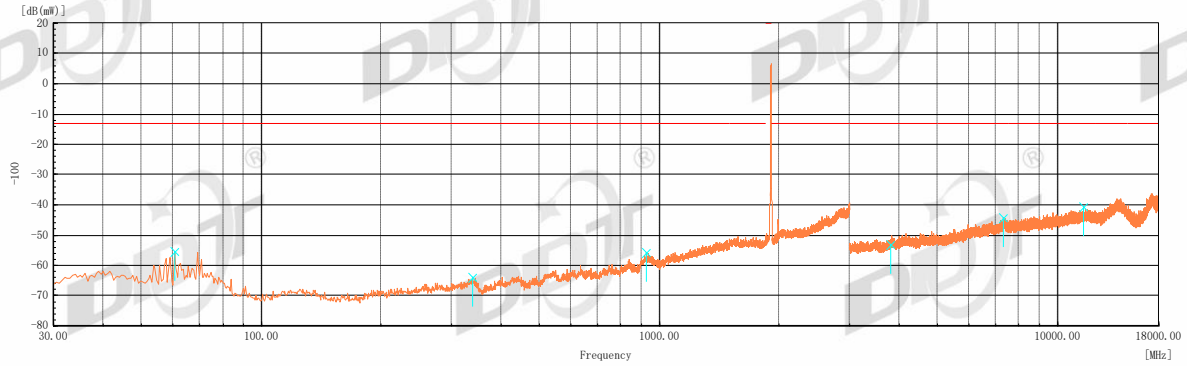
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
58.5	V	39.4	-55.9	-13	42.9	79	89.7
341.5	V	30.9	-64.4	-13	51.4	79	180.1
954	V	39.1	-56.2	-13	43.2	87	134.9
1641	V	44.2	-51.1	-13	38.1	150	359.9
3760	V	42.3	-53	-13	40	176	44.8
5644.5	V	46.8	-48.5	-13	35.5	151	89.7
11328	V	53.9	-41.4	-13	28.4	178	224.7

Test Mode3：WCDMA Band II H channel (horizontal)



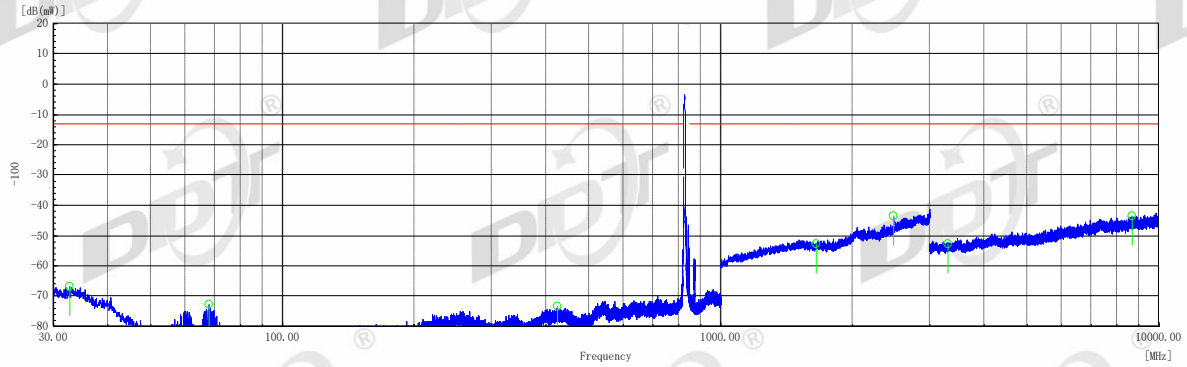
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
66	H	37.0	-58.3	-13	45.3	84	359.9
836.5	H	37.6	-57.7	-13	44.7	83	45.6
1530	H	44.1	-51.2	-13	38.2	164	91.6
3815	H	42.4	-52.9	-13	39.9	159	45.6
5723	H	44.6	-50.7	-13	37.7	176	134.9
7364.001	H	52.0	-43.3	-13	30.3	152	315.1
13214.5	H	55.7	-39.6	-13	26.6	156	269.8

Test Mode3：WCDMA Band II H channel (vertical)



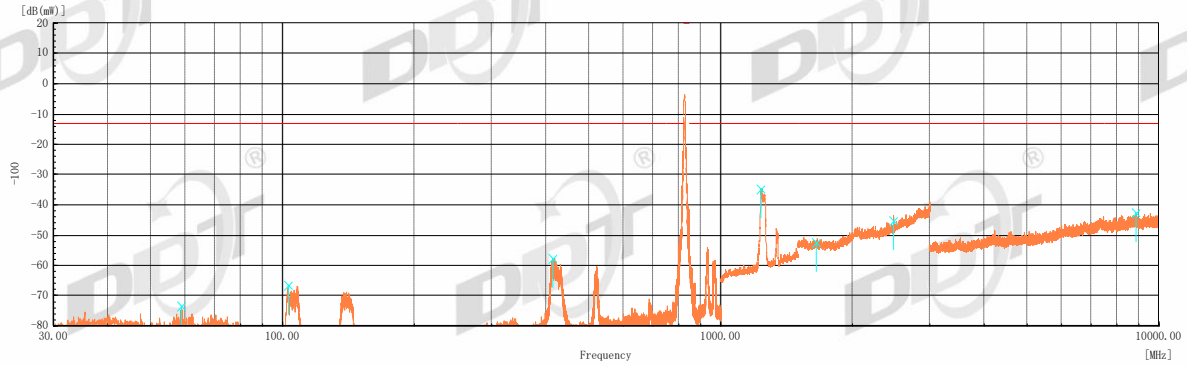
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
60.5	V	40.0	-55.3	-13	42.3	81	224.4
339.5	V	31.3	-64	-13	51	82	134.5
928	V	39.4	-55.9	-13	42.9	87	0.3
3815.5	V	42.3	-53	-13	40	159	89.3
7322.001	V	51.0	-44.3	-13	31.3	178	179.5
11658	V	54.6	-40.7	-13	27.7	155	179.5

Test Mode4：WCDMA Band V L channel (horizontal)



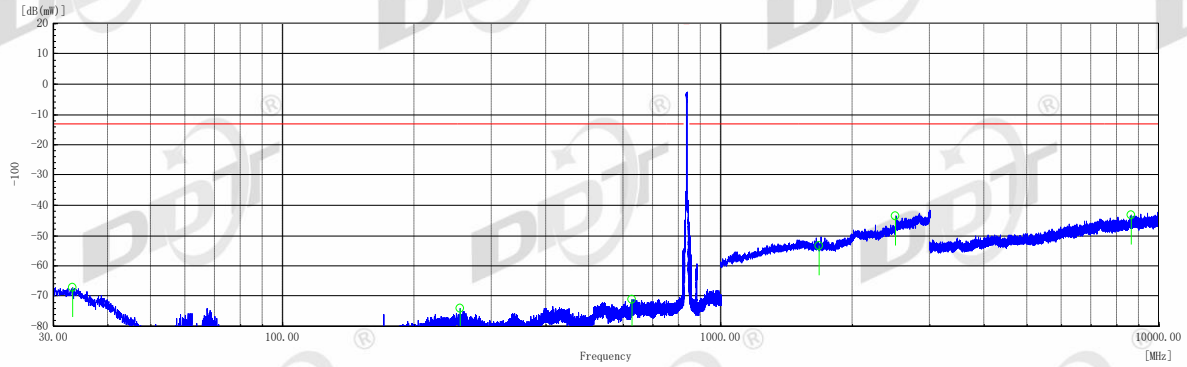
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
32.6	H	28.5	-66.8	-13	53.8	86	0.3
67.8	H	22.4	-72.9	-13	59.9	90	0.3
424.8	H	22.0	-73.3	-13	60.3	89	0.3
1653.5	H	42.5	-52.8	-13	39.8	177	91.6
2483.5	H	51.6	-43.7	-13	30.7	175	180.3
3307	H	42.6	-52.7	-13	39.7	151	45.6
8703	H	51.8	-43.5	-13	30.5	147	135.7

Test Mode4：WCDMA Band V L channel (vertical)



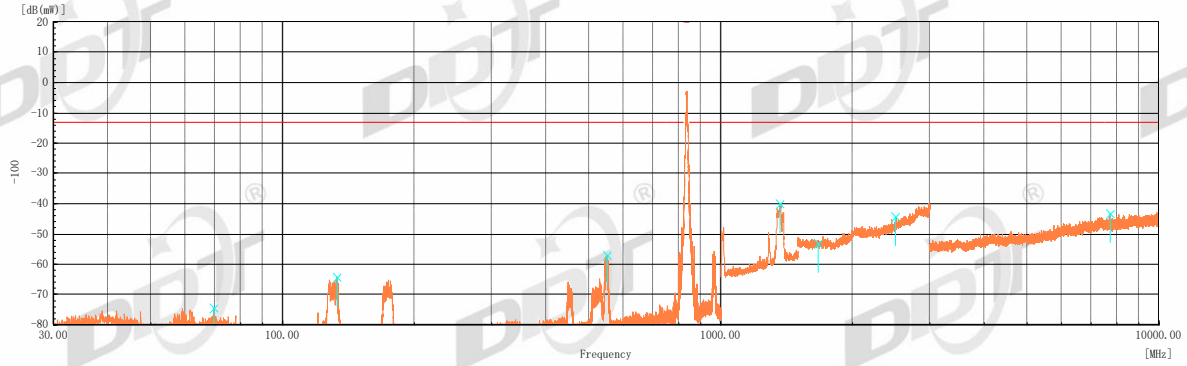
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
58.65	V	21.7	-73.6	-13	60.6	88	179.8
102.9	V	28.7	-66.6	-13	53.6	79	89.3
412.75	V	37.6	-57.7	-13	44.7	83	0.2
1235.5	V	60.6	-34.7	-13	21.7	146	89.3
1653.5	V	42.8	-52.5	-13	39.5	180	0.2
2479	V	50.0	-45.3	-13	32.3	170	0.2
8887.5	V	52.7	-42.6	-13	29.6	167	269.3

Test Mode4：WCDMA Band V M channel (horizontal)



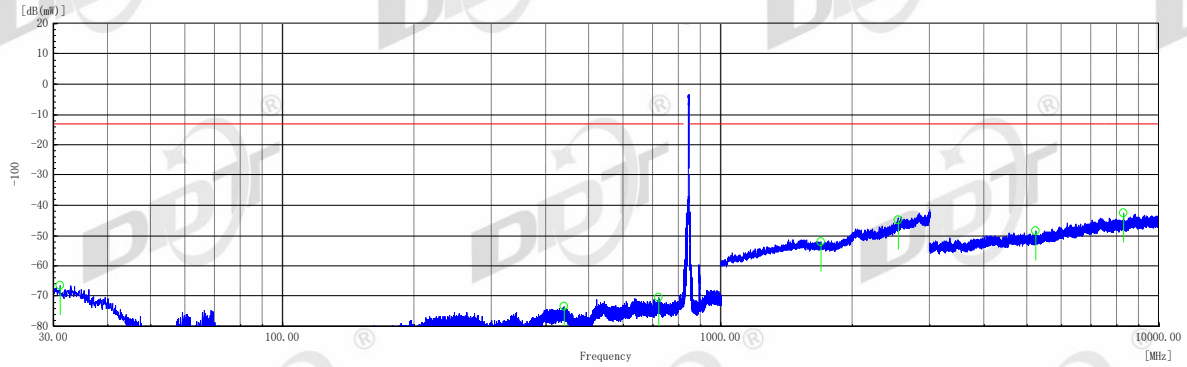
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
33.2	H	28.2	-67.1	-13	54.1	90	315.9
254	H	21.1	-74.2	-13	61.2	78	135.2
626.1	H	24.3	-71	-13	58	79	180.2
1673	H	41.9	-53.4	-13	40.4	147	270.5
2506	H	51.7	-43.6	-13	30.6	179	0.2
8626.5	H	52.1	-43.2	-13	30.2	145	315.9

Test Mode4：WCDMA Band V M channel (vertical)



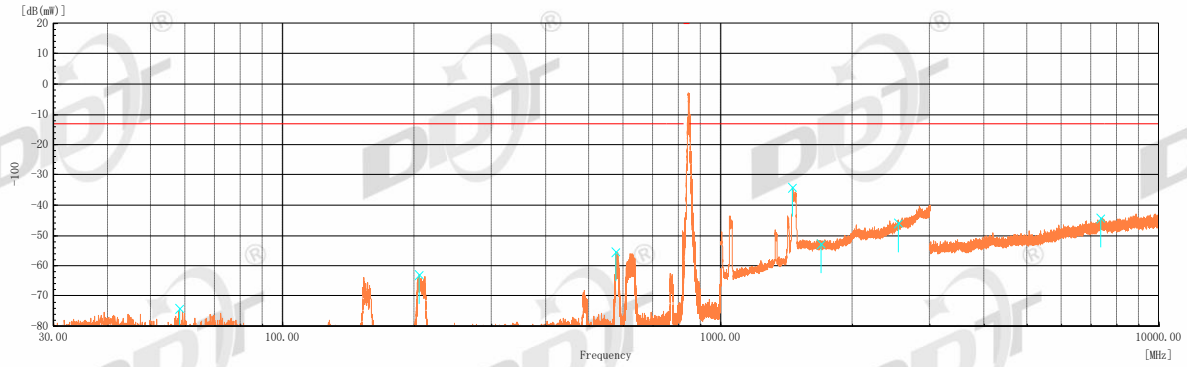
Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
69.6	V	21.0	-74.3	-13	61.3	83	0.2
132.95	V	30.9	-64.4	-13	51.4	83	0.2
551.5	V	38.2	-57.1	-13	44.1	86	315.9
1367.5	V	55.5	-39.8	-13	26.8	152	0.2
1672	V	42.1	-53.2	-13	40.2	170	179.8
2507	V	51.2	-44.1	-13	31.1	174	134.4
7724.501	V	52.0	-43.3	-13	30.3	153	179.8

Test Mode4：WCDMA Band V H channel (horizontal)



Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
31.1	H	28.7	-66.6	-13	53.6	83	91.5
440	H	21.8	-73.5	-13	60.5	81	315
721.3	H	24.8	-70.5	-13	57.5	90	0.2
1693	H	43.2	-52.1	-13	39.1	149	45.5
2540	H	50.5	-44.8	-13	31.8	175	225.5
5235	H	46.8	-48.5	-13	35.5	166	315
8301.501	H	52.6	-42.7	-13	29.7	170	180.2

Test Mode4：WCDMA Band V H channel (vertical)



Frequency [MHz]	Pol	Level [dBμV/m]	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
58.2	V	21.3	-74	-13	61	85	180.2
205.4	V	32.3	-63	-13	50	85	89.7
576.85	V	39.8	-55.5	-13	42.5	78	269.8
1458.5	V	61.2	-34.1	-13	21.1	160	89.7
1693.5	V	42.5	-52.8	-13	39.8	179	44.8
2539.5	V	49.5	-45.8	-13	32.8	177	359.8
7359.001	V	51.1	-44.2	-13	31.2	168	180.2

Note:

1) The disturbance above 18GHz and below 30MHz was very low at band GSM1900 and WCDMA Band II, and the above harmonics are the highest points could be found when testing, so only the worst case data had been displayed.

2) GSM850 and WCDMA Band V working frequency lower than 1GHz, only test the tenth harmonic of the highest fundamental frequency. And the disturbance below 30MHz was very low, and the above harmonics are the highest points could be found when testing, so only the worst case data had been displayed.

2) We have tested all modulation and Bandwidth, but only the worst case data presented in this report.

7. Appendixes

The below appendixes were details results tested and supported by SGS-CSTC Standards Technical Services,Co.,Ltd.Shenzhen Branch(Date of Test: 2019/7/20 ~2019/8/26).
All appendixes were cited in this report.

Appendix	Item
Appendix B.1	GSM850 & GSM1900
Appendix B.2	WCDMA BAND II & V