TEST REPORT

Application No.:	HR/2021/C0001
Applicant:	Honor Device Co., Ltd.
Address of Applicant	Suite 3401,Unit A, Building 6, Shum Yip Sky Park, No.8089,Hongli West Road, Xiangmihu Street, Futian District, Shenzhen,Guangdong 518040, People's Republic of China
Manufacturer:	Honor Device Co., Ltd.
Address of Manufacturer	Suite 3401,Unit A, Building 6, Shum Yip Sky Park, No.8089,Hongli West Road, Xiangmihu Street, Futian District, Shenzhen,Guangdong 518040, People's Republic of China
EUT Description:	Smart Phone
Model No.:	NTN-LX3
Trade Mark:	HONOR
FCC ID:	2AYGCNTN-LX3
Standards:	47 CFR Part 2 47 CFR Part 22 subpart H 47 CFR Part 24 subpart E 47 CFR Part 27 subpart H 47 CFR Part 27 subpart L 47 CFR Part 27 subpart M 47 CFR Part 90 subpart S
Date of Receipt:	2021/12/8
Date of Test:	2021/12/15 to 2021/12/18
Date of Issue:	2021/12/18
Test Result :	**PASS ***

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:

Panta Sun

Panta Sun
Wireless Laboratory Manager

1.Version

Revision Record				
Version	***Chapter***	***Date***	***Modifier***	***Remark***
01		2021/12/18		Original

Prepared By		Weller Liu **(Weller Liu) / Engineer**
Checked By		Well Wei **(Well Wei) / Reviewer**

Contents

2. Test Summary

2.1 GSM850/UMTS Band 5/LTE Band 5/26(824~849 MHz)

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913(a)(5)	ERP ≤ 7 W	Refer to HR/2021/1001401	Pass
Peak-Average Ratio	§22.913(d)	Limit≤13 dB	Refer to HR/2021/1001401	Pass
Modulation Characteristics	§2.1047	Digital modulation	Refer to HR/2021/1001401	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Refer to HR/2021/1001401	Pass
Band Edges Compliance	§2.1051, §22.917(a)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Refer to HR/2021/1001401	Pass
Spurious Emission at Antenna Terminals	§2.1051, §22.917(a)	FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	Refer to HR/2021/1001401	Pass
Field Strength of Spurious Radiation	§2.1053, §22.917(a)	FCC: ≤ -13 dBm/100 kHz.	Appendix	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §22.355	≤ ±2.5ppm.	Refer to HR/2021/1001401	Pass

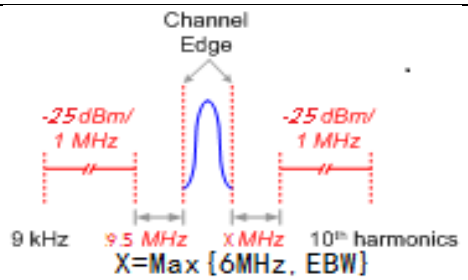
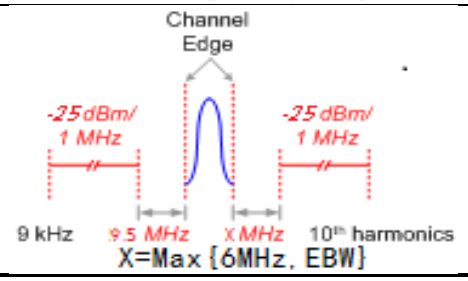
2.2 GSM 1900/UMTS Band 2 /LTE Band 2

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §24.232(c)	EIRP ≤ 2 W	Refer to HR/2021/1001401	Pass
Peak-Average Ratio	§24.232(d)	Limit≤13 dB	Refer to HR/2021/1001401	Pass
Modulation Characteristics	§2.1047	Digital modulation	Refer to HR/2021/1001401	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Refer to HR/2021/1001401	Pass
Band Edges Compliance	§2.1051, §24.238(a)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Refer to HR/2021/1001401	Pass
Spurious Emission at Antenna Terminals	§2.1051, §24.238(a)	≤ -13 dBm/1 MHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	Refer to HR/2021/1001401	Pass
Field Strength of Spurious Radiation	§2.1053, §24.238(a)	≤ -13 dBm/1 MHz.	Appendix	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §24.235	Within authorized bands of operation/frequency block.	Refer to HR/2021/1001401	Pass

2.3 UMTS Band 4 /LTE Band 4 /66

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(d)(4)	EIRP ≤ 1 W	Refer to HR/2021/1001401	Pass
Peak-Average Ratio	§27.50(d)(5)	Limit≤13 dB	Refer to HR/2021/1001401	Pass
Modulation Characteristics	§2.1047	Digital modulation	Refer to HR/2021/1001401	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Refer to HR/2021/1001401	Pass
Band Edges Compliance	§2.1051, §27.53(h)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Refer to HR/2021/1001401	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(h)	≤ -13 dBm/1 MHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	Refer to HR/2021/1001401	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(h)	≤ -13 dBm/1 MHz.	Appendix	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §27.54	Within authorized bands of operation/frequency block.	Refer to HR/2021/1001401	Pass

2.4 LTE Band 7

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(h)(2)	EIRP ≤ 2W	Refer to HR/2021/1001401	Pass
Peak-Average Ratio	---	≤13 dB	Refer to HR/2021/1001401	Pass
Modulation Characteristics	§2.1047	Digital modulation	Refer to HR/2021/1001401	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Refer to HR/2021/1001401	Pass
Band Edges Compliance	§2.1051, §27.53(m4)	For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as de□ned in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz.	Refer to HR/2021/1001401	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(m)		Refer to HR/2021/1001401	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(m)		Appendix	Pass

Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §27.54	Within authorized bands of operation/frequency block.	Refer to HR/2021/1001401	Pass

2.5 LTE Band 12/17

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046 §27.50(c)(10)	ERP ≤ 3 W.	Refer to HR/2021/1001401	Pass
Peak-Average Ratio	---	Limit≤13 dB	Refer to HR/2021/1001401	Pass
Modulation Characteristics	§2.1047	Digital modulation	Refer to HR/2021/1001401	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Refer to HR/2021/1001401	Pass
Band Edges Compliance	§2.1051, §27.53(g)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Refer to HR/2021/1001401	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(g)	FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	Refer to HR/2021/1001401	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(g)	FCC: ≤ -13 dBm/100 kHz.	Appendix	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §27.54	Within authorized bands of operation/frequency block.	Refer to HR/2021/1001401	Pass

2.6 LTE Band 26(814~824 MHz)

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Transmitter Power Output	§2.1046, §90.635(b)	< 100 W.	Refer to HR/2021/1001401	Pass
Peak-Average Ratio	---	Limit≤13 dB	Refer to HR/2021/1001401	Pass
Modulation Characteristics	§2.1047	Digital modulation	Refer to HR/2021/1001401	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Refer to HR/2021/1001401	Pass
Emission Mask	§2.1051 § 90.691(a)	For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50+10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.	Refer to HR/2021/1001401	Pass
Spurious Emission at Antenna Terminals	§2.1051, §90.691	< 43 + 10Log10(P[Watts]) for all out-of-band emissions	Refer to HR/2021/1001401	Pass
Field Strength of Spurious Radiation	§2.1053, §90.691	< 43 + 10Log10(P[Watts]) for all out-of-band emissions	Appendix	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §90.213	Within authorized bands of operation/frequency block.	Refer to HR/2021/1001401	Pass

Remark:
This test report (Report No.: SUHR/2021/C000102) is based on the original test report (Report No.: HR/2021/1001401-01) issued on 2021-08-26.
According to the difference declaration from the applicant, only radiation spurious emissions is performed based on the worst case of the original report and the other test data can be refereed to the original test report.

3.General Information

3.1 Details of Client

Applicant:	Honor Device Co., Ltd.
Address of Applicant:	Suite 3401,Unit A, Building 6, Shum Yip Sky Park, No.8089,Hongli West Road, Xiangmihu Street, Futian District, Shenzhen, Guangdong 518040, People's Republic of China
Manufacturer:	Honor Device Co., Ltd.
Address of Manufacturer:	Suite 3401,Unit A, Building 6, Shum Yip Sky Park, No.8089,Hongli West Road, Xiangmihu Street, Futian District, Shenzhen, Guangdong 518040, People's Republic of China

3.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000
Test engineer:	Weller Liu, King-p Li, Nature Shen, Tizzy Song

3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 6336.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

- **FCC –Designation Number: CN1312**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.

Designation Number: CN1312.

Test Firm Registration Number:0031225543

3.4 General Description of EUT

EUT Description:	Smart Phone			
Model No.:	NTN-LX3			
Trade Mark:	HONOR			
Hardware Version:	HL1NTNM			
Software Version:	11.0.2.88(C900E85R1P3)			
Sample Type:	☒ Portable Device, ☐Module			
Antenna Type:	☐ External, ☒ Integrated			
Antenna Gain*:	☒Provided by applicant			
	GSM850:	-0.6dBi(Down Antenna); -5.3dBi(Up Antenna);	GSM1900:	-5.4dBi(Down Antenna); -3.1dBi(Up Antenna);
	WCDMA Band II:	-5.4dBi(Down Antenna); -3.1dBi(Up Antenna);	WCDMA Band IV:	-1.0dBi(Down Antenna); -6.3dBi(Up Antenna);
	WCDMA Band V:	-0.6dBi(Down Antenna); -5.3dBi(Up Antenna);		
	LTE Band 2:	-5.4dBi(Down Antenna); -3.1dBi(Up Antenna);	LTE Band 4:	-1.0dBi(Down Antenna); -6.3dBi(Up Antenna);
	LTE Band 5:	-0.6dBi(Down Antenna); -5.3dBi(Up Antenna);	LTE Band 7:	-1.4dBi(Down Antenna); -1.6dBi(Up Antenna);
	LTE Band 12:	-1.6dBi(Down Antenna); -2.8dBi(Up Antenna);	LTE Band 17:	-1.6dBi(Down Antenna); -2.8dBi(Up Antenna);
	LTE Band 26:	-0.6dBi(Down Antenna); -5.3dBi(Up Antenna);	LTE Band 66:	-1.0dBi(Down Antenna); -5.3dBi(Up Antenna);
RF Cable*:	☒Provided by applicant			
	0.5dB(0.6~1GHz)	0.8dB(1.4~2GHz)	1.0dB(2.1~2.7GHz)	
	1.5dB(3~4GHz)	1.8dB(4.4~6GHz)		
Remark: *Since the above data and/or information is provided by the applicant relevant results or conclusions of this report are only made for these data and/or information , SGS is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.				

3.5 Test Mode

Test Mode	Test Modes Description
GSM/TM1	GSM system, GSM/GPRS, GMSK modulation
GSM/TM2	GSM system, EGPRS, 8PSK modulation
UMTS/TM1	UMTS system, WCDMA, QPSK modulation
LTE/TM1	LTE system, QPSK modulation
LTE/TM2	LTE system, 16QAM modulation
Remark: The test mode(s) are selected according to relevant radio technology specifications.	

3.6 Test Environment

Environment Parameter	101 KPa Selected Values During Tests	
Relative Humidity	44~46% RH Ambient	
Value	**Temperature(℃)**	**Voltage(V)**
NTNV	22~23	3.87
LTLV	-10	3.6
LTHV	-10	4.48
HTLV	55	3.6
HTHV	55	4.48
Remark: NV: Normal Voltage NT: Normal Temperature LT: Low Extreme Test Temperature HT: High Extreme Test Temperature LV: Low Extreme Test Voltage HV: High Extreme Test Voltage		

3.6 Technical Specification

Characteristics	Description				
Radio System Type	☒ GSM	☒ UMTS	☒ LTE	☐ CDMA	☐ EVDO

	Band	TX	RX
Supported Frequency Range	GSM850	824 to 849 MHz	869 to 894 MHz
	GSM1900	1850 to 1910 MHz	1930 to 1990 MHz
	UMTS Band II	1850 to 1910 MHz	1930 to 1990 MHz
	UMTS Band IV	1710 to 1755 MHz	2110 to 2155 MHz
	UMTS Band V	824 to 849 MHz	869 to 894 MHz
	LTE Band 2	1850 to 1910 MHz	1930 to 1990 MHz
	LTE Band 4	1710 to 1755 MHz	2110 to 2155 MHz
	LTE Band 5	824 to 849 MHz	869 to 894 MHz
	LTE Band 7	2500 to 2570 MHz	2620 to 2690 MHz
	LTE Band 12	699 to 716 MHz	729 to 746 MHz
	LTE Band 17	704 to 716 MHz	734 to 746 MHz
	LTE Band 26 (814 to 824 MHz)	814 to 824MHz	859 to 869 MHz
	LTE Band 26 (824 to 849 MHz)	824 to 849 MHz	869 to 894 MHz
	LTE Band 66	1710 to 1780 MHz	2110 to 2200 MHz

Supported Channel Bandwidth	GSM system:	☒0.2 MHz
	UMTS system:	☒5 MHz
	LTE Band 2	☒1.4 MHz ☒3 MHz ☒5 MHz ☒10 MHz ☒15 MHz ☒20 MHz
	LTE Band 4	☒1.4 MHz ☒3 MHz ☒5 MHz ☒10 MHz ☒15 MHz ☒20 MHz
	LTE Band 5	☒1.4 MHz ☒3 MHz ☒5 MHz ☒10 MHz
	LTE Band 7	☒5 MHz ☒10 MHz ☒15 MHz ☒20 MHz
	LTE Band 12	☒1.4 MHz ☒3 MHz ☒5 MHz ☒10 MHz
	LTE Band 17	☒5 MHz ☒10 MHz
	LTE Band 26(814-824)	☒1.4 MHz ☒3 MHz ☒5 MHz ☒10 MHz
	LTE Band 26(824-849)	☒1.4 MHz ☒3 MHz ☒5 MHz ☒10 MHz ☒15 MHz
	LTE Band66	☒1.4 MHz ☒3 MHz ☒5 MHz ☒10 MHz ☒15 MHz ☒20 MHz
	Note1: WCDMA supports HSUPA, HSDPA, DS-HSDPA,HSPA+, but only the worst case was tested and the data displayed in this report.	

3.7 Test Frequencies

Test Mode	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
GSM850	TX	Channel 128	Channel 190	Channel 251
		824.2MHz	836.6 MHz	848.8 MHz
	RX	Channel 128	Channel 190	Channel 251
		869.2 MHz	881.6 MHz	893.8 MHz

Test Mode	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
GSM1900	TX	Channel 512	Channel 661	Channel 810
		1850.2MHz	1880.0 MHz	1909.8 MHz
	RX	Channel 512	Channel 661	Channel 810
		1930.2 MHz	1960.0 MHz	1989.8 MHz

Test Mode	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
WCDMA Band II	TX	Channel 9262	Channel 9400	Channel 9538
		1852.4 MHz	1880.0 MHz	1907.6 MHz
	RX	Channel 9662	Channel 9800	Channel 9938
		1932.4 MHz	1960.0 MHz	1987.6 MHz

Test Mode	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
WCDMA Band IV	TX	Channel 1312	Channel 1413	Channel 1513
		1712.4MHz	1732.6 MHz	1752.6 MHz
	RX	Channel 1537	Channel 1638	Channel 1738
		2112.4 MHz	2132.6 MHz	2152.6 MHz

Test Mode	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
WCDMA Band V	TX	Channel 4132	Channel 4182	Channel 4233
		826.4MHz	836.4 MHz	846.6 MHz
	RX	Channel 4357	Channel 4407	Channel 4458
		871.4 MHz	881.4 MHz	891.6 MHz

Test Mode	Bandwidth	TX / RX	RF Channel		
			Low (L)	Middle (M)	High (H)
LTE Band 2	1.4MHz	TX	Channel 18607	Channel 18900	Channel 19193
			1850.7 MHz	1880 MHz	1909.3 MHz
		RX	Channel 607	Channel 900	Channel 1193
			1930.7 MHz	1960 MHz	1989.3 MHz
	3MHz	TX	Channel 18615	Channel 18900	Channel 19185
			1851.5 MHz	1880 MHz	1908.5 MHz
		RX	Channel 615	Channel 900	Channel 1185
			1931.5 MHz	1960 MHz	1988.5 MHz
	5MHz	TX	Channel 18625	Channel 18900	Channel 19175
			1852.5 MHz	1880 MHz	1907.5 MHz
		RX	Channel 625	Channel 900	Channel1175
			1932.5 MHz	1960 MHz	1987.5 MHz
	10MHz	TX	Channel 18650	Channel 18900	Channel 19150
			1855 MHz	1880 MHz	1905 MHz
		RX	Channel 650	Channel 900	Channel 1150
			1935 MHz	1960 MHz	1985 MHz
	15MHz	TX	Channel 18675	Channel 18900	Channel 19125
			1857.5 MHz	1880 MHz	1902.5 MHz
		RX	Channel 675	Channel 900	Channel 1125
			1937.5 MHz	1960 MHz	1982.5 MHz
	20MHz	TX	Channel 18700	Channel 18900	Channel 19100
			1860 MHz	1880 MHz	1900 MHz
		RX	Channel 700	Channel 900	Channel 1100
			1940 MHz	1960 MHz	1980 MHz

Test Mode	Bandwidth	TX / RX	RF Channel		
			Low (L)	Middle (M)	High (H)
LTE Band 4	1.4MHz	TX	Channel 19957	Channel 20175	Channel 20393
			1710.7 MHz	1732.5 MHz	1754.3 MHz
		RX	Channel 1975	Channel 2175	Channel 2375
			2112.5 MHz	2132.5MHz	2152.5 MHz
	3MHz	TX	Channel 19965	Channel 20175	Channel 20385
			1711.5 MHz	1732.5 MHz	1753.5 MHz
		RX	Channel 2000	Channel 2175	Channel 2350
			2115 MHz	2132.5MHz	2150 MHz
	5MHz	TX	Channel 19975	Channel 20175	Channel 20375
			1712.5 MHz	1732.5 MHz	1752.5 MHz
		RX	Channel 1975	Channel 2175	Channel 2375
			2112.5 MHz	2132.5MHz	2152.5 MHz
	10MHz	TX	Channel 20000	Channel 20175	Channel 20350
			1715 MHz	1732.5 MHz	1750 MHz
		RX	Channel 2000	Channel 2175	Channel 2350
			2115 MHz	2132.5MHz	2150 MHz
	15MHz	TX	Channel 20025	Channel 20175	Channel 20325
			1717.5 MHz	1732.5 MHz	1747.5 MHz
		RX	Channel 2025	Channel 2175	Channel 2325
			2117.5 MHz	2132.5MHz	2147.5 MHz
	20MHz	TX	Channel 20050	Channel 20175	Channel 20300
			1720 MHz	1732.5 MHz	1745 MHz
		RX	Channel 2050	Channel 2175	Channel 2300
			2120 MHz	2132.5MHz	2145 MHz

Test Mode	Bandwidth	TX / RX	RF Channel		
			Low (L)	Middle (M)	High (H)
LTE Band 5	1.4MHz	TX	Channel 20407	Channel 20525	Channel 20643
			824.7 MHz	836.5 MHz	848.3 MHz
		RX	Channel 2407	Channel 2525	Channel 2643
			869.7 MHz	881.5 MHz	893.3 MHz
	3MHz	TX	Channel 20415	Channel 20525	Channel 20635
			825.5 MHz	836.5 MHz	847.5 MHz
		RX	Channel 2415	Channel 2525	Channel 2635
			870.5 MHz	881.5 MHz	892.5 MHz
	5MHz	TX	Channel 20425	Channel 20525	Channel 20625
			826.5 MHz	836.5 MHz	846.5 MHz
		RX	Channel 2425	Channel 2525	Channel 2625
			871.5 MHz	881.5 MHz	891.5 MHz
	10MHz	TX	Channel 20450	Channel 20525	Channel 20600
			829 MHz	836.5 MHz	844 MHz
		RX	Channel 2450	Channel 2525	Channel 2600
			874 MHz	881.5 MHz	889 MHz

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Test Mode	Bandwidth	TX / RX	RF Channel		
			Low (L)	Middle (M)	High (H)
LTE Band 7	5MHz	TX	Channel 20775	Channel 21100	Channel 21425
			2502.5 MHz	2535 MHz	2567.5 MHz
		RX	Channel 2775	Channel 3100	Channel 5825
			2622.5 MHz	2655 MHz	2687.5 MHz
	10MHz	TX	Channel 20800	Channel 21100	Channel 21400
			2505 MHz	2535 MHz	2565 MHz
		RX	Channel 2800	Channel 3100	Channel 3400
			2625 MHz	2655 MHz	2685 MHz
	15MHz	TX	Channel 20825	Channel 21100	Channel 21375
			2507.5 MHz	2535 MHz	2562.5 MHz
		RX	Channel 2825	Channel 3100	Channel 3375
			2627.5 MHz	2655 MHz	2682.5 MHz
	20MHz	TX	Channel 20850	Channel 21100	Channel 21350
			2510 MHz	2535 MHz	2560 MHz
		RX	Channel 2850	Channel 3100	Channel 3350
			2630 MHz	2655 MHz	2680 MHz

Test Mode	Bandwidth	TX / RX	RF Channel		
			Low (L)	Middle (M)	High (H)
LTE Band 12	1.4MHz	TX	Channel 23017	Channel 23095	Channel 23173
			699.7 MHz	707.5 MHz	715.3 MHz
		RX	Channel 5017	Channel 5095	Channel 5173
			729.7 MHz	737.5 MHz	745.3 MHz
	3MHz	TX	Channel 23025	Channel 23095	Channel 23165
			700.5 MHz	707.5 MHz	714.5 MHz
		RX	Channel 5025	Channel 5095	Channel 5165
			730.5 MHz	737.5 MHz	744.5 MHz
	5MHz	TX	Channel 23035	Channel 23095	Channel 23155
			701.5 MHz	707.5 MHz	713.5 MHz
		RX	Channel 5035	Channel 5095	Channel 5155
			731.5 MHz	737.5 MHz	743.5 MHz
	10MHz	TX	Channel 23060	Channel 23095	Channel 23130
			704 MHz	707.5 MHz	711 MHz
		RX	Channel 5060	Channel 5095	Channel 5130
			734 MHz	737.5 MHz	741 MHz

Test Mode	Bandwidth	TX / RX	RF Channel		
			Low (L)	Middle (M)	High (H)
LTE Band 17	5MHz	TX	Channel 23755	Channel 23790	Channel 23825
			706.5 MHz	710 MHz	713.5 MHz
		RX	Channel 5755	Channel 5790	Channel 5825
			736.5 MHz	740 MHz	743.5 MHz
	10MHz	TX	Channel 23780	Channel 23790	Channel 23800
			709 MHz	710 MHz	711 MHz
		RX	Channel 5780	Channel 5790	Channel 5800
			739 MHz	740 MHz	741 MHz

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Test Mode	Bandwidth	TX / RX	RF Channel		
			Low (L)	Middle (M)	High (H)
LTE Band 26 (814-824)	1.4MHz	TX	Channel 26697	Channel 26740	Channel 26783
			814.7 MHz	819 MHz	823.3 MHz
		RX	Channel 8697	Channel 8740	Channel 8783
			859.7 MHz	864MHz	868.3 MHz
	3MHz	TX	Channel 26705	Channel 26740	Channel 26775
			815.5 MHz	819 MHz	822.5 MHz
		RX	Channel 8705	Channel 8740	Channel 8775
			860.5 MHz	864MHz	867.5 MHz
	5MHz	TX	Channel 26715	Channel 26740	Channel 26765
			816.5 MHz	819 MHz	821.5 MHz
		RX	Channel 8715	Channel 8740	Channel 8755
			861.5 MHz	864MHz	866.5 MHz
	10MHz	TX	Channel 26740	Channel 26740	Channel 26740
			819 MHz	819 MHz	819 MHz
		RX	Channel 8740	Channel 8740	Channel 8740
			864MHz	864MHz	864MHz

Test Mode	Bandwidth	TX / RX	RF Channel		
			Low (L)	Middle (M)	High (H)
LTE Band26 (824-849)	1.4MHz	TX	Channel 26797	Channel 26915	Channel 27033
			824.7 MHz	836.5 MHz	848.3 MHz
		RX	Channel 8697	Channel 8915	Channel 9033
			859.7 MHz	881.5 MHz	893.3 MHz
	3MHz	TX	Channel 26805	Channel 26915	Channel 27025
			825.5 MHz	836.5 MHz	847.5 MHz
		RX	Channel 8805	Channel 8915	Channel 9025
			860.5 MHz	881.5 MHz	892.5 MHz
	5MHz	TX	Channel 26815	Channel 26915	Channel 27015
			826.5 MHz	836.5 MHz	846.5 MHz
		RX	Channel 8815	Channel 8915	Channel 9015
			871.5 MHz	881.5 MHz	891.5 MHz
	10MHz	TX	Channel 26840	Channel 26915	Channel 26990
			829 MHz	836.5 MHz	844 MHz
		RX	Channel 8840	Channel 8915	Channel 8990
			874 MHz	881.5 MHz	889 MHz
	15MHz	TX	Channel 26865	Channel 26915	Channel 26965
			831.5 MHz	836.5 MHz	841.5 MHz
		RX	Channel 8865	Channel 8915	Channel 8965
			876.5 MHz	881.5 MHz	886.5 MHz

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Test Mode	Bandwidth	TX / RX	RF Channel		
			Low (L)	Middle (M)	High (H)
LTE Band66	1.4MHz	TX	Channel 131979	Channel 132322	Channel 132665
			1710.7 MHz	1745 MHz	1779.3 MHz
		RX	Channel 66443	Channel 66786	Channel 67329
			2110.7 MHz	2145MHz	2199.3 MHz
	3MHz	TX	Channel 131987	Channel 132322	Channel 132657
			1711.5 MHz	1745 MHz	1778.5MHz
		RX	Channel 66451	Channel 66786	Channel 67321
			2111.5 MHz	2145MHz	2198.5MHz
	5MHz	TX	Channel 131997	Channel 132322	Channel 132647
			1712.5 MHz	1745 MHz	1777.5 MHz
		RX	Channel 66461	Channel 66786	Channel 67311
			2112.5 MHz	2145MHz	2197.5 MHz
	10MHz	TX	Channel 132022	Channel 132322	Channel 132622
			1715 MHz	1745 MHz	1775 MHz
		RX	Channel 66486	Channel 66786	Channel 67286
			2115 MHz	2145MHz	2195 MHz
	15MHz	TX	Channel 132047	Channel 132322	Channel 132597
			1717.5 MHz	1745 MHz	1772.5 MHz
		RX	Channel 66511	Channel 66786	Channel 67261
			2117.5 MHz	2145MHz	2192.5 MHz
	20MHz	TX	Channel 132072	Channel 132322	Channel 132572
			1720 MHz	1745 MHz	1770 MHz
		RX	Channel 66536	Channel 66786	Channel 67236
			2120 MHz	2145MHz	2190 MHz

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4. Description of Tests

4.1 Output Power

Measurement Procedure: FCC KDB 971168 D01 V03r01

The transmitter output was connected to a calibrated coaxial cable, attenuator and power meter, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The power output at the transmitter antenna port was determined by adding the value of the cable insertion loss to the power reading. The tests were performed at three frequencies (low channel, middle channel and high channel) and on the highest power levels, which can be setup on the transmitters.

Remark: Reference test setup 1

4.2 Effective (Isotropic) Radiated Power of Transmitter

Measurement Procedure: FCC KDB 971168 D01 V03r01 ; ANSI/C63.26 (2015)

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

Measurement Procedure: FCC KDB 971168 D01 V03r01 ; ANSI/C63.26 (2015)

Below 1GHz test procedure as below:

1). The EUT was powered ON and placed on a 80cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.

2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.

3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.

4). Test the EUT in the lowest channel, the middle channel ,the Highest channel.

5). The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.

6). Repeat above procedures until all frequencies measured was complete.

E (dB μ V/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m)

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

ERP = EIRP – 2.15 (dB); where ERP and EIRP are expressed in consistent units.

Above 1GHz test procedure as below:

1) Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber

2) Calculate power in dBm by the following formula:

E (dB μ V/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m)

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

3). Test the EUT in the lowest channel, the middle channel the Highest channel

4). The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.

5). Repeat above procedures until all frequencies measured was complete

Remark: Reference test setup 2

4.3 Occupied Bandwidth

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 4.2

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel, middle channel and high channel).The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1 percent of the selected span as is possible without being below 1 percent. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual. The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded. The span between the two recorded frequencies is the occupied bandwidth.

Remark: Reference test setup 1

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the 99% occupied bandwidth observed in Step 7

4.4 Band Edge at Antenna Terminals

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 6.0

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at two frequencies (low channel and high channel).in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of 100kHz or 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed. The EUT emission bandwidth is measured as the width of the signal between two points, outside of which all emission are attenuated at least 26dB below the transmitter power. The video bandwidth of the spectrum analyzer was set at thrice the resolution bandwidth. Detector Mode was set to rms.

Remark: Reference test setup 1

Test Settings

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW ≥ 1% of the emission bandwidth
4. VBW ≥ 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/RBW
7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
8. Sweep time = auto couple
9. The trace was allowed to stabilize

4.5 Spurious And Harmonic Emissions at Antenna Terminal

Measurement Procedure: FCC KDB 971168 D01 V03r01

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyzer, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel and high channel).The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

Remark: Reference test setup 1

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to at least 10 * the fundamental frequency (separated into at least two plots per channel)
2. Detector = RMS
3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

4.6 Peak-Average Ratio

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.7.1

A peak to average ratio measurement is performed at the conducted port of the EUT. For WCDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level. For GSM signals, an average and a peak trace are used on a spectrum analyzer to determine the largest deviation between the average and the peak power of the EUT in a bandwidth greater than the emission bandwidth. The traces are generated with the spectrum analyzer set to zero span mode.

Remark: Reference test setup 1

Test Settings

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW > Emission bandwidth of signal
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

4.7 Field Strength of Spurious Radiation

Measurement Procedure: FCC KDB 971168 D01 V03r01

Below 1GHz test procedure as below:

1). The EUT was powered ON and placed on a 80cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.

2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.

3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.

4). Test the EUT in the lowest channel, the middle channel ,the Highest channel.

5). The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.

6). Repeat above procedures until all frequencies measured was complete.

E (dB μV/m) = Measured amplitude level (μV/m) + (Cable Loss (dB) + Antenna Factor (dB/m) – AMP(dB))

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

Above 1GHz test procedure as below:

1) Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber

2) Calculate power in dBm by the following formula:

E (dB μV/m) = Measured amplitude level (μV/m) + (Cable Loss (dB) + Antenna Factor (dB/m) – AMP(dB))

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

3). Test the EUT in the lowest channel, the middle channel the Highest channel

4). The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.

5). Repeat above procedures until all frequencies measured was complete

Remark1: Reference test setup 2

Remark2: The emission below 18G were measured at a 3m test distance, while emissions above 18GHz were measured at a 1m test distance.

Remark: Reference test setup 2

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading + Factor(Antenna Factor + Cable Factor – Preamplifier Factor)
2) Scan from 9kHz to 40GHz,The disturbance between 9KHz to 30MHz and 18GHz to 40GHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported .
3) All modes have been tested, but only the worst case data displayed in this report.

4.8 Frequency Stability / Temperature Variation

Measurement Procedure:

Frequency stability testing is performed in accordance with the guidelines of FCC KDB 971168 D01 V03r01; ANSI/C63.26 (2015)

. The frequency stability of the transmitter is measured by:

a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency.

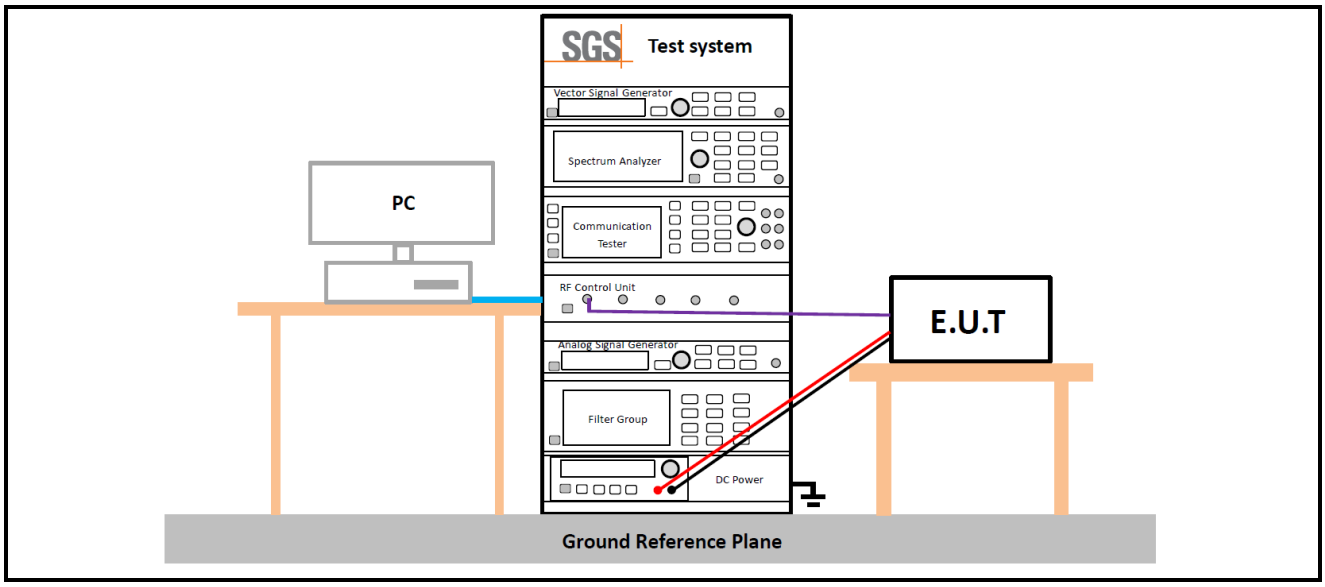
Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Remark: Reference test setup 3

4.9 Test Setups

4.9.1 Test Setup 1



4.9.2 Test Setup 2

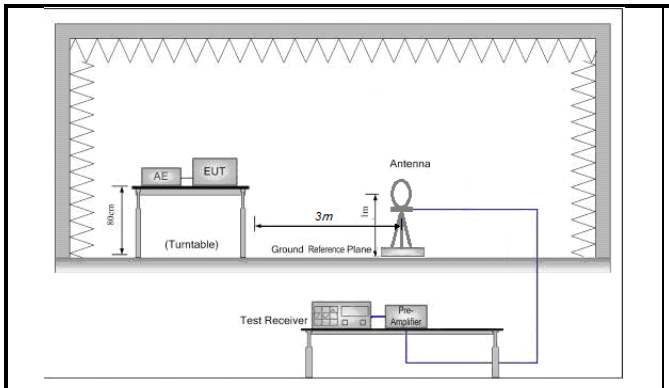


Figure 1. Below 30MHz

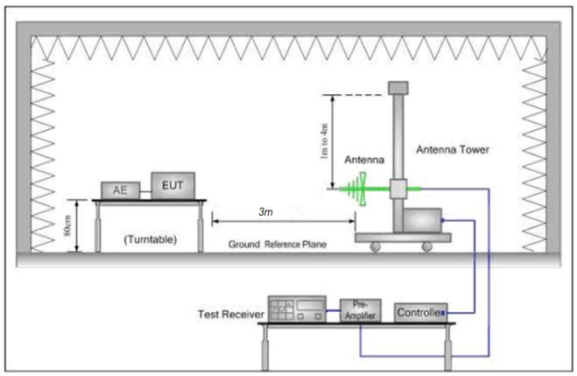


Figure 2. 30MHz to 1GHz

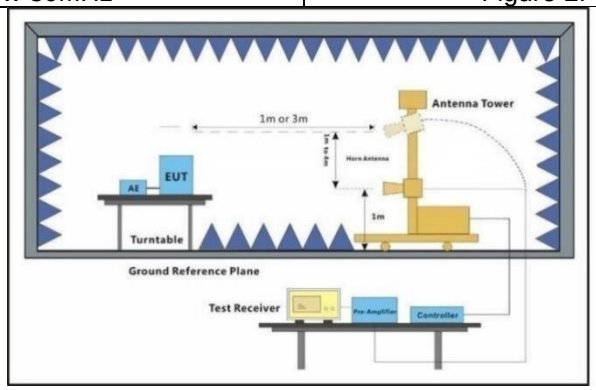
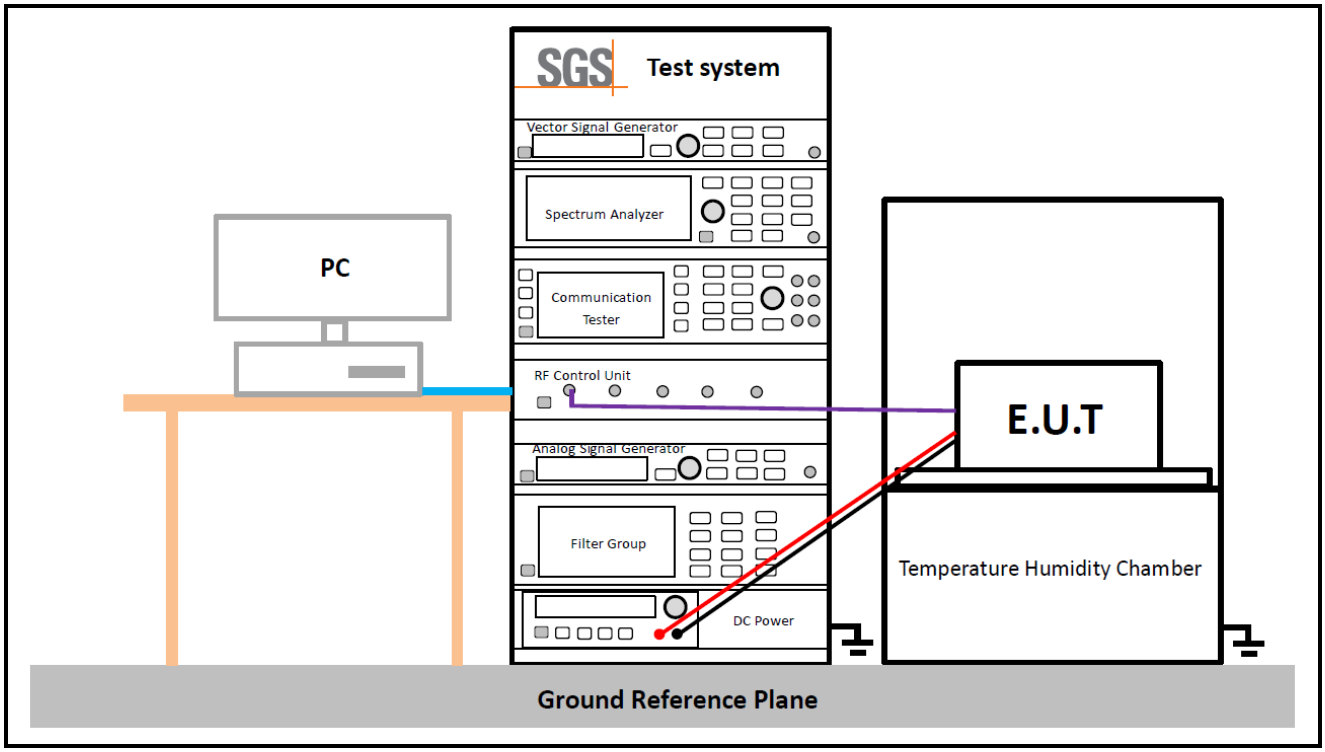


Figure 3. above 1GHz

4.9.3 Test Setup 3



4.10 Test Conditions

Test Case		Test Conditions	
Transmit Output Power Data	Average Power, Total	Test Environment	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
		Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2
	Average Power, Spectral Density (if required)	Test Environment	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
		Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2
Peak-to-Average Ratio (if required)		Test Environment	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
		Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2
Modulation Characteristics		Test Environment	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	M (M= middle channel)
		Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2
Bandwid	Occupie	Test	Ambient Climate & Rated Voltage

th	d Bandwidth	Environment	
		Test Setup	Test Setup 1
		RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
		Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2
	Emission Bandwidth (if required)	Test Environment	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
		Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2
Band Edges Compliance		Test Environment	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	L, H (L= low channel, H= high channel)
		Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2
Spurious Emission at Antenna Terminals		Test Environment	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	L,M, H (L= low channel, M= middle channel, H= high channel)
		Test Mode	GSM/TM1;UMTS/TM1; LTE/TM1;
Field Strength of Spurious Radiation		Test Environment	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 2

	Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2 Remark: If applicable, the EUT conf. that has maximum power density (based on the equivalent power level) is selected.
	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Frequency Stability	Test Environment	(1) -10 °C to +55 °C with step 10 °C at Rated Voltage; (2) VL, VN and VH of Rated Voltage at Ambient Climate.
	Test Setup	Test Setup 3
	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
	Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2

5. Main Test Instruments

9*6*6 Test Equipment					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-01	2021/5/8	2024/5/7
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-05	2021/2/20	2022/2/19
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	2021/5/28	2022/5/27
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2021/2/20	2022/2/19
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	VULB 9163	SUWI-01-11-01	2021/5/16	2022/5/15
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	BBHA 9120D	SUWI-01-11-02	2021/5/16	2022/5/15
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	BBHA 9170	SUWI-01-11-03	2021/5/14	2022/5/13
Active Loop Antenna	SCHWRZBECK MESS-ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	2021/6/10	2022/6/9
Amplifier	Tonscend	TAP9K3G40	SUWI-01-14-01	2021/2/20	2022/2/19
Amplifier	Tonscend	TAP01018050	SUWI-01-14-02	2021/2/20	2022/2/19
Amplifier	Tonscend	TAP18040048	SUWI-01-14-03	2021/2/20	2022/2/19
Wideband Radio Communication Tester	Anritsu	MT8820C	SUWI-01-16-08	2021/2/20	2022/2/19
Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	2021/12/4/	2022/12/3

6. Measurement Uncertainty

For a 95% confidence level (k = 2), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

No.	Item	Measurement Uncertainty
1	Radiated Emission	± 3.13dB (9k -30MHz)
		± 4.8dB (30M -1GHz)
		± 4.8dB (1GHz to 18GHz)
		± 4.80dB (Above 18GHz)

7. Appendixes

Appendix A	Setup Photos

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Appendix

Radiated Spurious Emissions For GSM

Test Band = _GSM 1900 DOWN ANT
Test Channel =Low Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3700.4	48.13	-110.79	-62.66	-13.00	49.66	265	314	Horizontal
2	5550.6	50.98	-107.45	-56.47	-13.00	43.47	235	193	Horizontal
3	7400.8	50.78	-102.18	-51.40	-13.00	38.40	145	193	Horizontal
4	9251	46.43	-97.12	-50.69	-13.00	37.69	288	266	Horizontal
5	11101.2	44.36	-94.13	-49.77	-13.00	36.77	297	206	Horizontal
6	13700.25	46.86	-91.37	-44.51	-13.00	31.51	150	122	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dBμV) +(Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3700.4	51.96	-110.79	-58.83	-13.00	45.83	224	339	Vertical
2	5550.6	50.35	-107.45	-57.10	-13.00	44.10	365	16	Vertical
3	7400.8	49.90	-102.18	-52.28	-13.00	39.28	298	172	Vertical
4	9251	47.42	-97.12	-49.70	-13.00	36.70	348	27	Vertical
5	11101.2	45.07	-94.13	-49.06	-13.00	36.06	147	360	Vertical
6	13672.5	47.69	-91.32	-43.63	-13.00	30.63	250	231	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dBμV) +（ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = _GSM 1900 DOWN ANT
Test Channel = Mid Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3760	50.59	-110.83	-60.24	-13.00	47.24	165	169	Horizontal
2	5640	50.96	-107.08	-56.12	-13.00	43.12	236	264	Horizontal
3	7520	50.25	-101.93	-51.68	-13.00	38.68	289	144	Horizontal
4	9400	47.45	-96.60	-49.15	-13.00	36.15	144	26	Horizontal
5	11280	44.16	-93.56	-49.40	-13.00	36.40	265	276	Horizontal
6	14373.75	45.40	-90.32	-44.92	-13.00	31.92	188	144	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3760	49.58	-110.83	-61.25	-13.00	48.25	265	359	Vertical
2	5640	50.34	-107.08	-56.74	-13.00	43.74	358	62	Vertical
3	7520	50.42	-101.93	-51.51	-13.00	38.51	369	136	Vertical
4	9400	47.74	-96.60	-48.86	-13.00	35.86	157	242	Vertical
5	11280	44.01	-93.56	-49.55	-13.00	36.55	347	123	Vertical
6	14379	45.63	-90.25	-44.62	-13.00	31.62	251	348	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = _GSM 1900 DOWN ANT
Test Channel =High Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3819.6	50.01	-110.87	-60.86	-13.00	47.86	265	4	Horizontal
2	5729.4	51.21	-106.59	-55.38	-13.00	42.38	354	170	Horizontal
3	7639.2	49.86	-101.80	-51.94	-13.00	38.94	258	315	Horizontal
4	9549	46.32	-96.76	-50.44	-13.00	37.44	144	27	Horizontal
5	11458.8	43.00	-93.55	-50.55	-13.00	37.55	266	256	Horizontal
6	14376.75	46.52	-90.28	-43.76	-13.00	30.76	298	360	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3819.6	50.47	-110.87	-60.40	-13.00	47.40	365	193	Vertical
2	5729.4	51.33	-106.59	-55.26	-13.00	42.26	288	146	Vertical
3	7639.2	49.97	-101.80	-51.83	-13.00	38.83	299	359	Vertical
4	9549	45.91	-96.76	-50.85	-13.00	37.85	145	38	Vertical
5	11458.8	43.81	-93.55	-49.74	-13.00	36.74	256	50	Vertical
6	15810.75	45.44	-90.23	-44.79	-13.00	31.79	378	159	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = _GSM 1900 UP ANT
Test Channel = Low Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3700.4	49.46	-110.79	-61.33	-13.00	48.33	165	50	Horizontal
2	5550.6	50.69	-107.45	-56.76	-13.00	43.76	236	4	Horizontal
3	7400.8	49.86	-102.18	-52.32	-13.00	39.32	245	121	Horizontal
4	9251	46.86	-97.12	-50.26	-13.00	37.26	285	326	Horizontal
5	11101.2	45.17	-94.13	-48.96	-13.00	35.96	391	62	Horizontal
6	13727.25	46.80	-91.46	-44.66	-13.00	31.66	203	144	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3700.4	52.50	-110.79	-58.29	-13.00	45.29	165	4	Vertical
2	5550.6	50.88	-107.45	-56.57	-13.00	43.57	235	172	Vertical
3	7400.8	50.03	-102.18	-52.15	-13.00	39.15	185	124	Vertical
4	9251	47.33	-97.12	-49.79	-13.00	36.79	222	316	Vertical
5	11101.2	43.97	-94.13	-50.16	-13.00	37.16	296	339	Vertical
6	13699.5	47.38	-91.36	-43.98	-13.00	30.98	221	304	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = _GSM 1900 UP ANT
Test Channel = Mid Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3760	49.28	-110.83	-61.55	-13.00	48.55	265	172	Horizontal
2	5640	51.88	-107.08	-55.20	-13.00	42.20	185	183	Horizontal
3	7520	49.70	-101.93	-52.23	-13.00	39.23	221	62	Horizontal
4	9400	47.45	-96.60	-49.15	-13.00	36.15	325	147	Horizontal
5	11280	44.42	-93.56	-49.14	-13.00	36.14	174	26	Horizontal
6	13748.25	47.17	-91.53	-44.36	-13.00	31.36	296	196	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3760	50.85	-110.83	-59.98	-13.00	46.98	165	135	Vertical
2	5640	50.67	-107.08	-56.41	-13.00	43.41	235	359	Vertical
3	7520	50.03	-101.93	-51.90	-13.00	38.90	185	254	Vertical
4	9400	48.17	-96.60	-48.43	-13.00	35.43	296	256	Vertical
5	11280	43.88	-93.56	-49.68	-13.00	36.68	331	301	Vertical
6	14374.5	45.49	-90.31	-44.82	-13.00	31.82	241	118	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = _GSM 1900 UP ANT
Test Channel = High Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3819.6	54.97	-110.87	-55.90	-13.00	42.90	165	337	Horizontal
2	5729.4	51.04	-106.59	-55.55	-13.00	42.55	256	313	Horizontal
3	7639.2	49.89	-101.80	-51.91	-13.00	38.91	324	266	Horizontal
4	9549	45.29	-96.76	-51.47	-13.00	38.47	185	354	Horizontal
5	11458.8	44.38	-93.55	-49.17	-13.00	36.17	203	290	Horizontal
6	13693.5	46.38	-91.35	-44.97	-13.00	31.97	222	64	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3819.6	56.85	-110.87	-54.02	-13.00	41.02	165	351	Vertical
2	5729.25	56.43	-106.59	-50.16	-13.00	37.16	150	245	Vertical
3	7639.2	49.30	-101.80	-52.50	-13.00	39.50	144	316	Vertical
4	9549	46.46	-96.76	-50.30	-13.00	37.30	357	293	Vertical
5	11458.8	42.94	-93.55	-50.61	-13.00	37.61	285	196	Vertical
6	13679.25	47.74	-91.33	-43.59	-13.00	30.59	140	360	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

For WCDMA

Test Band =WCDMA _Band _II TM1 DOWN ANT
Test Channel =Low Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1652.8	49.04	-118.10	-69.06	-13.00	56.06	165	12	Horizontal
2	2479.2	52.93	-114.86	-61.93	-13.00	48.93	258	104	Horizontal
3	3305.6	51.88	-112.38	-60.50	-13.00	47.50	145	208	Horizontal
4	4132	51.12	-110.18	-59.06	-13.00	46.06	236	281	Horizontal
5	4958.4	52.77	-108.21	-55.44	-13.00	42.44	288	360	Horizontal
6	6709.1429	55.59	-103.67	-48.08	-13.00	35.08	144	43	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1652.8	51.80	-118.10	-66.30	-13.00	53.30	165	234	Vertical
2	2479.2	52.93	-114.86	-61.93	-13.00	48.93	258	276	Vertical
3	3305.6	51.03	-112.38	-61.35	-13.00	48.35	345	2	Vertical
4	4132	51.29	-110.18	-58.89	-13.00	45.89	399	347	Vertical
5	4958.4	51.63	-108.21	-56.58	-13.00	43.58	247	356	Vertical
6	6308	55.85	-105.45	-49.60	-13.00	36.60	152	5	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = WCDMA _Band _II TM1 DOWN ANT
Test Channel = Mid Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1672.8	47.84	-118.07	-70.23	-13.00	57.23	265	320	Horizontal
2	2509.2	52.00	-114.69	-62.69	-13.00	49.69	358	63	Horizontal
3	3345.6	50.98	-112.38	-61.40	-13.00	48.40	144	359	Horizontal
4	4182	51.00	-110.14	-59.14	-13.00	46.14	298	207	Horizontal
5	5018.4	52.87	-108.10	-55.23	-13.00	42.23	378	358	Horizontal
6	7606.8571	54.59	-101.82	-47.23	-13.00	34.23	203	207	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1672.8	50.94	-118.07	-67.13	-13.00	54.13	198	62	Vertical
2	2509.2	52.95	-114.69	-61.74	-13.00	48.74	285	347	Vertical
3	3345.6	51.28	-112.38	-61.10	-13.00	48.10	344	52	Vertical
4	4182	50.99	-110.14	-59.15	-13.00	46.15	106	153	Vertical
5	5018.4	52.51	-108.10	-55.59	-13.00	42.59	208	306	Vertical
6	7303.4286	54.64	-102.18	-47.54	-13.00	34.54	391	6	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = WCDMA _Band _II TM1 DOWN ANT
Test Channel = High Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1693.2	49.26	-118.04	-68.78	-13.00	55.78	256	166	Horizontal
2	2539.8	52.23	-114.49	-62.26	-13.00	49.26	354	155	Horizontal
3	3386.4	50.96	-112.37	-61.41	-13.00	48.41	158	355	Horizontal
4	4233	52.07	-109.99	-57.92	-13.00	44.92	203	12	Horizontal
5	5079.6	52.87	-107.80	-54.93	-13.00	41.93	265	166	Horizontal
6	7808.5714	54.23	-101.08	-46.85	-13.00	33.85	288	94	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1693.2	49.24	-118.04	-68.80	-13.00	55.80	165	244	Vertical
2	2539.8	52.56	-114.49	-61.93	-13.00	48.93	260	112	Vertical
3	3386.4	51.63	-112.37	-60.74	-13.00	47.74	185	82	Vertical
4	4233	51.11	-109.99	-58.88	-13.00	45.88	223	255	Vertical
5	5079.6	52.57	-107.80	-55.23	-13.00	42.23	248	23	Vertical
6	7192	54.56	-102.58	-48.02	-13.00	35.02	123	336	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = WCDMA _Band _II TM1 UP ANT
Test Channel = Low Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1652.8	47.84	-118.10	-70.26	-13.00	57.26	152	126	Horizontal
2	2479.2	52.43	-114.86	-62.43	-13.00	49.43	365	94	Horizontal
3	3305.6	51.43	-112.38	-60.95	-13.00	47.95	254	260	Horizontal
4	4132	52.16	-110.18	-58.02	-13.00	45.02	185	300	Horizontal
5	4958.4	52.87	-108.21	-55.34	-13.00	42.34	239	94	Horizontal
6	7760.5714	54.30	-101.45	-47.15	-13.00	34.15	144	360	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1652.8	48.18	-118.10	-69.92	-13.00	56.92	185	285	Vertical
2	2479.2	53.24	-114.86	-61.62	-13.00	48.62	235	233	Vertical
3	3305.6	51.17	-112.38	-61.21	-13.00	48.21	158	1	Vertical
4	4132	51.49	-110.18	-58.69	-13.00	45.69	369	244	Vertical
5	4958.4	53.93	-108.21	-54.28	-13.00	41.28	145	163	Vertical
6	7194.2857	55.99	-102.56	-46.57	-13.00	33.57	221	336	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = WCDMA _Band _II TM1 UP ANT
Test Channel = Mid Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1672.8	48.24	-118.07	-69.83	-13.00	56.83	165	145	Horizontal
2	2509.2	52.84	-114.69	-61.85	-13.00	48.85	235	360	Horizontal
3	3345.6	51.36	-112.38	-61.02	-13.00	48.02	145	355	Horizontal
4	4182	51.06	-110.14	-59.08	-13.00	46.08	225	207	Horizontal
5	5018.4	53.03	-108.10	-55.07	-13.00	42.07	288	54	Horizontal
6	8302.8571	55.02	-100.20	-45.18	-13.00	32.18	220	218	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1672.8	49.38	-118.07	-68.69	-13.00	55.69	165	154	Vertical
2	2509.2	52.43	-114.69	-62.26	-13.00	49.26	235	204	Vertical
3	3345.6	51.63	-112.38	-60.75	-13.00	47.75	188	356	Vertical
4	4182	51.82	-110.14	-58.32	-13.00	45.32	296	307	Vertical
5	5018.4	52.26	-108.10	-55.84	-13.00	42.84	156	307	Vertical
6	7177.1429	55.70	-102.67	-46.97	-13.00	33.97	222	113	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = WCDMA _Band _II TM1 UP ANT
Test Channel = High Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1693.2	49.76	-118.04	-68.28	-13.00	55.28	150	12	Horizontal
2	2539.8	53.13	-114.49	-61.36	-13.00	48.36	150	259	Horizontal
3	3386.4	50.81	-112.37	-61.56	-13.00	48.56	150	3	Horizontal
4	4233	52.02	-109.99	-57.97	-13.00	44.97	150	279	Horizontal
5	5079.6	51.63	-107.80	-56.17	-13.00	43.17	150	360	Horizontal
6	7700	55.30	-102.02	-46.72	-13.00	33.72	150	358	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1693.2	50.97	-118.04	-67.07	-13.00	54.07	165	162	Vertical
2	2539.8	52.97	-114.49	-61.52	-13.00	48.52	236	317	Vertical
3	3386.4	51.66	-112.37	-60.71	-13.00	47.71	255	235	Vertical
4	4233	51.41	-109.99	-58.58	-13.00	45.58	185	327	Vertical
5	5079.6	53.49	-107.80	-54.31	-13.00	41.31	226	348	Vertical
6	7129.1429	55.79	-102.96	-47.17	-13.00	34.17	268	183	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

For LTE

Test Band = _LTE_Band_7 TM1 DOWN ANT

Test Channel = Low Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5002.18	50.91	-108.01	-57.10	-25.00	32.10	185	95	Horizontal
2	7503.27	48.76	-101.95	-53.19	-25.00	28.19	265	250	Horizontal
3	10004.36	47.22	-96.00	-48.78	-25.00	23.78	325	66	Horizontal
4	12505.45	43.99	-93.07	-49.08	-25.00	24.08	145	237	Horizontal
5	15006.54	41.41	-90.70	-49.29	-25.00	24.29	368	130	Horizontal
6	17507.63	43.30	-90.99	-47.69	-25.00	22.69	147	310	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5002.18	52.20	-108.01	-55.81	-25.00	30.81	222	177	Vertical
2	7503.27	49.52	-101.95	-52.43	-25.00	27.43	142	238	Vertical
3	10004.36	45.92	-96.00	-50.08	-25.00	25.08	381	92	Vertical
4	12505.45	43.53	-93.07	-49.54	-25.00	24.54	289	117	Vertical
5	15006.54	40.44	-90.70	-50.26	-25.00	25.26	236	44	Vertical
6	17507.63	41.65	-90.99	-49.34	-25.00	24.34	255	261	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dB μV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = _LTE_Band_7 TM1 DOWN ANT
Test Channel = Mid Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5052.18	50.75	-107.85	-57.10	-25.00	32.10	265	129	Horizontal
2	7578.27	50.54	-101.83	-51.29	-25.00	26.29	321	81	Horizontal
3	10104.36	46.03	-95.74	-49.71	-25.00	24.71	254	202	Horizontal
4	12630.45	43.81	-93.26	-49.45	-25.00	24.45	269	255	Horizontal
5	15156.54	41.30	-90.62	-49.32	-25.00	24.32	385	309	Horizontal
6	17682.63	41.49	-89.09	-47.60	-25.00	22.60	102	5	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5052.18	50.16	-107.85	-57.69	-25.00	32.69	374	165	Vertical
2	7578.27	50.03	-101.83	-51.80	-25.00	26.80	296	165	Vertical
3	10104.36	45.48	-95.74	-50.26	-25.00	25.26	285	320	Vertical
4	12630.45	45.29	-93.26	-47.97	-25.00	22.97	214	214	Vertical
5	15156.54	41.45	-90.62	-49.17	-25.00	24.17	203	272	Vertical
6	17682.63	41.68	-89.09	-47.41	-25.00	22.41	265	57	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = _LTE_Band_7 TM1 DOWN ANT
Test Channel = High Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5102.18	53.59	-107.69	-54.10	-25.00	29.10	156	130	Horizontal
2	7653.27	50.66	-101.80	-51.14	-25.00	26.14	320	245	Horizontal
3	10204.36	44.59	-95.93	-51.34	-25.00	26.34	256	356	Horizontal
4	12755.45	45.04	-92.47	-47.43	-25.00	22.43	385	345	Horizontal
5	15306.54	43.10	-90.80	-47.70	-25.00	22.70	274	4	Horizontal
6	17857.63	42.25	-88.58	-46.33	-25.00	21.33	150	130	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5102.18	53.01	-107.69	-54.68	-25.00	29.68	140	190	Vertical
2	7653.27	48.92	-101.80	-52.88	-25.00	27.88	360	333	Vertical
3	10204.36	45.61	-95.93	-50.32	-25.00	25.32	285	190	Vertical
4	12755.45	44.11	-92.47	-48.36	-25.00	23.36	214	34	Vertical
5	15306.54	42.36	-90.80	-48.44	-25.00	23.44	356	118	Vertical
6	17857.63	43.08	-88.58	-45.50	-25.00	20.50	185	285	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band = _LTE_Band_7 TM1 UP ANT
Test Channel = Low Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5002.18	50.54	-108.01	-57.47	-25.00	32.47	196	128	Horizontal
2	7503.27	49.50	-101.95	-52.45	-25.00	27.45	144	285	Horizontal
3	10004.36	45.00	-96.00	-51.00	-25.00	26.00	285	345	Horizontal
4	12505.45	44.01	-93.07	-49.06	-25.00	24.06	260	189	Horizontal
5	15006.54	41.54	-90.70	-49.16	-25.00	24.16	145	212	Horizontal
6	17507.63	42.61	-90.99	-48.38	-25.00	23.38	265	224	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5002.18	53.34	-108.01	-54.67	-25.00	29.67	265	190	Vertical
2	7503.27	49.74	-101.95	-52.21	-25.00	27.21	233	273	Vertical
3	10004.36	46.52	-96.00	-49.48	-25.00	24.48	145	141	Vertical
4	12505.45	44.33	-93.07	-48.74	-25.00	23.74	258	298	Vertical
5	15006.54	41.12	-90.70	-49.58	-25.00	24.58	196	93	Vertical
6	17507.63	41.55	-90.99	-49.44	-25.00	24.44	244	82	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band =_LTE_Band_7 TM1 UP ANT
Test Channel = Mid Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5052.18	51.10	-107.85	-56.75	-25.00	31.75	152	93	Horizontal
2	7578.27	50.66	-101.83	-51.17	-25.00	26.17	236	3	Horizontal
3	10104.36	45.03	-95.74	-50.71	-25.00	25.71	254	310	Horizontal
4	12630.45	44.15	-93.26	-49.11	-25.00	24.11	186	80	Horizontal
5	15156.54	42.03	-90.62	-48.59	-25.00	23.59	296	0	Horizontal
6	17682.63	41.81	-89.09	-47.28	-25.00	22.28	225	213	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5052.18	50.93	-107.85	-56.92	-25.00	31.92	115	190	Vertical
2	7578.27	49.63	-101.83	-52.20	-25.00	27.20	223	5	Vertical
3	10104.36	45.31	-95.74	-50.43	-25.00	25.43	295	178	Vertical
4	12630.45	43.71	-93.26	-49.55	-25.00	24.55	185	357	Vertical
5	15156.54	40.99	-90.62	-49.63	-25.00	24.63	256	310	Vertical
6	17682.63	41.72	-89.09	-47.37	-25.00	22.37	236	250	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Test Band =_LTE_Band_7 TM1 UP ANT
Test Channel = High Channel

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5102.18	54.71	-107.69	-52.98	-25.00	27.98	265	120	Horizontal
2	7653.27	50.34	-101.80	-51.46	-25.00	26.46	225	168	Horizontal
3	10204.36	46.50	-95.93	-49.43	-25.00	24.43	152	179	Horizontal
4	12755.45	46.14	-92.47	-46.33	-25.00	21.33	339	107	Horizontal
5	15306.54	43.05	-90.80	-47.75	-25.00	22.75	185	156	Horizontal
6	17857.63	42.24	-88.58	-46.34	-25.00	21.34	155	6	Horizontal

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5102.18	55.00	-107.69	-52.69	-25.00	27.69	106	211	Vertical
2	7653.27	50.70	-101.80	-51.10	-25.00	26.10	288	235	Vertical
3	10204.36	44.89	-95.93	-51.04	-25.00	26.04	236	155	Vertical
4	12755.45	44.12	-92.47	-48.35	-25.00	23.35	174	44	Vertical
5	15306.54	43.62	-90.80	-47.18	-25.00	22.18	258	114	Vertical
6	17857.63	43.42	-88.58	-45.16	-25.00	20.16	265	56	Vertical

Remark: EIRP (dBm) = Measured amplitude level (dBμV) + （ Cable Loss (dB) + Antenna Factor (dB/m) - AMP Gain + 20 log D − 104.8）Factor; where D is the measurement distance in meters

The End

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