



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 1 of 37

TEST REPORT

Application No: SUCR2502000063WM
Applicant: Motorola Mobility LLC
Address of Applicant: 222 W,Merchandise Mart Plaza, Chicago IL 60654 USA
Manufacturer: Motorola Mobility LLC
Address of Manufacturer: 222 W,Merchandise Mart Plaza, Chicago IL 60654 USA
EUT Description: Mobile Cellular Phone
Model No.: XT2507-6(Retail), XT2507-3(Softbank) -----♣
♣ Please refer to section 2.4 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark: Motorola
FCC ID: IHDT56AU4
Standards: 47 CFR Part 2
47 CFR Part 22
47 CFR Part 27
Date of Receipt: February 24, 2025
Date of Test: February 24, 2025 to February 26, 2025
Date of Issue: March 17, 2025

Test Result:	PASS *
---------------------	---------------

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

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone:(86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Wireless Laboratory

South of No. 6 Plant, No. 1, RunSheng Road, Suzhou Industrial Park,
Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000

t (86-512) 6229 2980
www.sgsgroup.com.cn

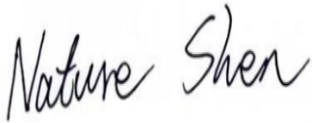


SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309
Rev.: 01
Page: 2 of 37

Version

Revision Record			
Version	Description	Date	Remark
01	Original	March 17, 2025	/

Authorized for issue by:				
Tested By				
		Nature Shen / Project Manager		
Approved By				
		Cloud Peng/Technical Manager		



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 3 of 37

Content

Version	2
1 Test Summary	4
1.1 NR Band n5(ENDC DC_66A_n5A)	4
1.2 NR Band n41(DC_66A_n41A)	5
1.3 NR Band n66(DC_13A_n66A)	6
1.4 NR Band n77 (DC_41A_n77A)/ NR Band n78 (DC_41A_n78A)	7
2 General Information	9
2.1 Client Information	9
2.2 Test Location	9
2.3 Test Facility	9
2.4 General Description of EUT	10
2.5 Test Mode	13
2.6 Test Environment	13
2.7 Description of Support Units	13
2.8 Technical Specification	14
2.9 Test Frequencies	15
3 Main Test Instruments	22
4 Measurement Uncertainty	24
5 Description of Tests	25
5.1 Conducted Output Power	25
5.2 Effective (Isotropic) Radiated Power of Transmitter	26
5.3 Occupied Bandwidth	27
5.4 Band Edge at Antenna Terminals	28
5.5 Spurious And Harmonic Emissions at Antenna Terminal	29
5.6 Peak-Average Ratio	30
5.7 Field Strength of Spurious Radiation	31
5.8 Frequency Stability / Temperature Variation	32
5.9 Test Setups	33
5.10 Test Conditions	35
6 Appendixes	37



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

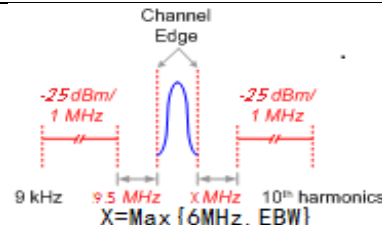
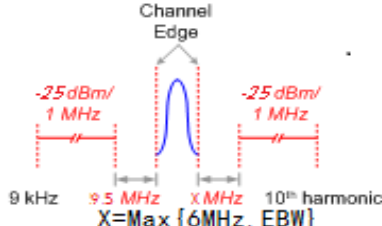
Page: 4 of 37

1 Test Summary

1.1 NR Band n5(ENDC DC_66A_n5A)

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913(a)(5)	FCC: ERP $\leq$ 7 W	Section 1 of Appendix B	Pass
Peak-Average Ratio	§22.913(d)	Limit $\leq$ 13 dB	Section 2 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B	Pass
Band Edges Compliance	§2.1051, §22.917(a)	$\leq$ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 4 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §22.917(a)	FCC: $\leq$ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	Section 5 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §22.917(a)	FCC: $\leq$ -13 dBm/100 kHz.	Section 6 of Appendix B	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §22.355	$\pm$ 2.5ppm.	Section 7 of Appendix B	Pass

1.2 NR Band n41(DC_66A_n41A)

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(h)(2)	$EIRP \leq 2W$	Section 1 of Appendix B	Pass
Peak-Average Ratio	---	≤ 13 dB	Section 2 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B	Pass
Band Edges Compliance	§2.1051, §27.53(m)(4)	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 defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz.	Section 4 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(m)		Section 5 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(m)		Section 6 of Appendix B	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d) (2) §27.54	Within authorized bands of operation/frequency block.	Section 7 of Appendix B	Pass



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 6 of 37

1.3 NR Band n66(DC_13A_n66A)

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(d)(4)	$EIRP \leq 1\text{ W}$	Section 1 of Appendix B	Pass
Peak-Average Ratio	§27.50(d)(5)	Limit $\leq 13\text{ dB}$	Section 2 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B	Pass
Band Edges Compliance	§2.1051, §27.53(h)	$\leq -13\text{ dBm}/1\% \cdot \text{EBW}$, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 4 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(h)	$\leq -13\text{ dBm}/1\text{ MHz}$, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	Section 5 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(h)	$\leq -13\text{ dBm}/1\text{ MHz}$.	Section 6 of Appendix B	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §27.54	Within authorized bands of operation/frequency block.	Section 7 of Appendix B	Pass



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 7 of 37

1.4 NR Band n77 (DC_41A_n77A)/ NR Band n78 (DC_41A_n78A)

3700-3980MHz:

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(j)(3)	EIRP $\leq$ 1W	Section 1 of Appendix B	Pass
Peak-Average Ratio	---	$\leq$ 13 dB	Section 2 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B	Pass
Band Edges Compliance	§2.1051, §27.53(l)(2)	(2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.	Section 4 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(l)(2)	not exceed -13 dBm/MHz.	Section 5 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(l)(2)	not exceed -13 dBm/MHz	Section 6 of Appendix B	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §27.54	Within authorized bands of operation/frequency block.	Section 7 of Appendix B	Pass



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 8 of 37

3450-3550MHz:

Test Item	FCC Rule No.	Requirements	Test Result
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(k)(3)	EIRP $\leq$ 30dBm	Section 1 of Appendix B
Peak-Average Ratio	§27.50(k)(4)	FCC: Limit $\leq$ 13 dB	Section 2 of Appendix B
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B
Band Edges Compliance	§2.1051, §27.50(n)(2)	For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.	Section 4 of Appendix B
Spurious Emission at Antenna Terminals	§2.1051, §27.50(n)(2)	For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.	Section 5 of Appendix B
Field Strength of Spurious Radiation	§2.1053, §27.50(n)(2)	For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.	Section 6 of Appendix B
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d) (2) §27.54	Within authorized bands of operation/ frequency block.	Section 7 of Appendix B



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 9 of 37

2 General Information

2.1 Client Information

Applicant:	Motorola Mobility LLC
Address of Applicant:	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA
Manufacturer:	Motorola Mobility LLC
Address of Manufacturer:	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

2.2 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:	Tizzy Song, Levi Li

2.3 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: 717327



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 10 of 37

2.4 General Description of EUT

EUT Description:	Mobile Cellular Phone		
Model No.:	XT2507-6(Retail), XT2507-3(Softbank)		
Trade Mark:	Motorola		
Hardware Version:	DVT2		
Software Version:	V2VV35.69		
Power Supply:	3.88V from Battery		
IMEI:	RF Conducted	35848268000671/35848268000689	
	RSE	35179440007258/35179440007266	
Feature:	UL 2*2 MIMO: n41		
Antenna Type:	Fixed Internal Antenna		
Antenna Gain:	NR Band n5:	-6.0dBi (Ant0); -7.0dBi (Ant1)	
	NR Band n41:	-3.0dBi (Ant0); -4.0dBi (Ant1); -3.0dBi (Ant2); -7.0dBi (Ant9)	
	NR Band n66:	-4.0dBi (Ant1); -3.0dBi (Ant2)	
	NR Band n77:	3450-3550MHz: -2.0dBi (Ant4); 0dBi (Ant7); -6.0dBi (Ant8); 1.0dBi (Ant10) 3700-3980MHz: -2.0dBi (Ant4); 0dBi (Ant7); -5.0dBi (Ant8); 3.0dBi (Ant10)	
	NR Band n78:	3450-3550MHz: -2.0dBi (Ant4); 0dBi (Ant7); -6.0dBi (Ant8); 1.0dBi (Ant10) 3700-3800MHz: -2.0dBi (Ant4); -1.0dBi (Ant7); -6.0dBi (Ant8); 2.0dBi (Ant10)	
	Note:		
	The antenna gain are derived from the gain information report provided by the manufacturer.		
RF Cable*:	0.8dB(Below 1GHz)	1.0dB(1.0~2.4GHz)	1.2dB(2.4~3.4GHz)
	1.5dB(Above 3.4GHz)		
Note: 1.Since the above data and/or information is provided by the client 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. 2.The two models named XT2507-6(Retail) and XT2507-3(Softbank) are the same product except that their model names are different for different market segments.			



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 11 of 37

Accessories Information				
AC Adapter 2	Brand Name	Motorola (AOHAI)	Model Name	MC-1251
	Power Rating	I/P: 100 - 240 Vac, 1700 mA, O/P: 5/9/15/20/5-20 Vdc, 3000/3000/3000/6250/6250 mA		
	Power Cord	0 meter, non-shielded cable, with w/o ferrite core		
AC Adapter 1	Brand Name	Motorola (Chenyang)	Model Name	MC-1251
	Power Rating	I/P: 100 - 240 Vac, 1700 mA, O/P: 5/9/15/20/5-20 Vdc, 3000/3000/3000/6250/6250 mA		
	Power Cord	0 meter, non-shielded cable, with w/o ferrite core		
USB Cable 1	Brand Name	Saibao	Model Name	SC18D71644
	Signal Line	1 meter, shielded cable, w/o ferrite core		
USB Cable 2	Brand Name	Luxshare	Model Name	SC18E08104
	Signal Line	1 meter, shielded cable, w/o ferrite core		



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 12 of 37

MIMO Model:

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

If all antennas have the same gain, G_{ANT} , Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

- For power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS}=1)$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

Unequal antenna gains, with equal transmit powers. For antenna gains given by $G_1, G_2, \dots, G_N$ dBi

- If transmit signals are correlated, then

Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}]$ dBi [Note the "20"s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]

- If all transmit signals are completely uncorrelated, then

Directional gain = $10 \log[(10^{G_1/10} + 10^{G_2/10} + \dots + 10^{G_N/10}) / N_{ANT}]$ dBi

Band	ANT Gain1 (dBi)	ANT Gain2 (dBi)	ANT Gain3 (dBi)	ANT Gain4 (dBi)
NR Band n41:	-3.0	-4.0	-3.0	-7.0



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 13 of 37

2.5 Test Mode

Test Mode	Test Modes Description
NR/TM1	NR system, DFT-s-Pi/2-BPSK modulation
NR/TM2	NR system, DFT-s-QPSK modulation
NR/TM3	NR system, DFT-s-16QAM modulation
NR/TM4	NR system, DFT-s-64QAM modulation
NR/TM5	NR system, DFT-s-256QAM modulation
NR/TM6	NR system, CP-QPSK modulation
NR/TM7	NR system, CP-16QAM modulation
NR/TM8	NR system, CP-64QAM modulation
NR/TM9	NR system, CP-256QAM modulation
Remark: The test mode(s) are selected according to relevant radio technology specifications.	

2.6 Test Environment

Environment Parameter	101 kPa Selected Values During Tests	
Relative Humidity	44-46 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NTNV	22~23	3.88
LTLV	-10	3.6
LTHV	-10	4.53
HTLV	55	3.6
HTHV	55	4.53
Remark:		
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 Description of Support Units

The EUT has been tested as an independent unit.



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 14 of 37

2.8 Technical Specification

Characteristics	Description				
Radio System Type	☒ SA ☒ NSA				
Supported Frequency Range	Band	TX		RX	
	NR Band n5	824 to 849 MHz		869 to 894 MHz	
	NR Band n41	2496 to 2690 MHz		2496 to 2690 MHz	
	NR Band n66	1710 to 1780 MHz		2110 to 2200 MHz	
	NR Band n77*	3700 to 3980 MHz		3700 to 3980 MHz	
		3450 to 3550 MHz		3450 to 3550 MHz	
	NR Band n78*	3700 to 3800 MHz		3700 to 3800 MHz	
		3450 to 3550 MHz		3450 to 3550 MHz	
	Note*: Both NR Band n77 and NR Band n78 have the same frequency range 3450 MHz to 3550 MHz, and NR Band n78 was fully tested, NR Band n77 only test the items of Power.				
Supported Channel Bandwidth	NR Band n5	SCS 15kHz:			
		☒ 5 MHz	☒ 10 MHz	☒ 15 MHz	☒ 20 MHz
	NR Band n41	SCS 30kHz:			
		☒ 10 MHz	☒ 15 MHz	☒ 20 MHz	☒ 25 MHz
		☒ 30 MHz	☒ 35 MHz	☒ 40 MHz	☒ 45 MHz
		☒ 50 MHz	☒ 60 MHz	☒ 70 MHz	☒ 80 MHz
		☒ 90 MHz	☒ 100 MHz		
	NR Band n66	SCS 15kHz:			
		☒ 5 MHz	☒ 10 MHz	☒ 15 MHz	☒ 20 MHz
		☒ 25 MHz	☒ 30 MHz	☒ 35 MHz	☒ 40 MHz
		☒ 45 MHz			
	NR Band n77	SCS 30kHz			
		☒ 40 MHz	☒ 100 MHz		
	NR Band n78	SCS 30kHz:			
		☒ 10 MHz	☒ 15 MHz	☒ 20 MHz	☒ 25 MHz
		☒ 30 MHz	☒ 40 MHz	☒ 50 MHz	☒ 60 MHz
		☒ 70 MHz	☒ 80 MHz	☒ 90 MHz	☒ 100 MHz
	DL CA: DC 13A n66A; DC 41A n77A; DC 41A n78A; DC 66A n41A; DC 66A n5A Remark: ENDC Only test RSE, report only show worst mode.				



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 15 of 37

2.9 Test Frequencies

2.9.1 Reference test frequencies for NR operating band n5

2.9.1.1 Test frequencies for NR operating band n5 and SCS 15 kHz

CBW [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
5	Downlink	Low	871.5	174300	15
		Mid	881.5	176300	
		High	891.5	178300	
	Uplink	Low	826.5	165300	-
		Mid	836.5	167300	
		High	846.5	169300	
10	Downlink	Low	874	174800	15
		Mid	881.5	176300	
		High	889	177800	
	Uplink	Low	829	165800	-
		Mid	836.5	167300	
		High	844	168800	
15	Downlink	Low	876.5	175300	15
		Mid	881.5	176300	
		High	886.5	177300	
	Uplink	Low	831.5	166300	-
		Mid	836.5	167300	
		High	841.5	168300	
20	Downlink	Low	879	175800	15
		Mid	881.5	176300	
		High	884	176800	
	Uplink	Low	834	166800	-
		Mid	836.5	167300	
		High	839	167800	



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 16 of 37

2.9.2 Reference test frequencies for NR operating band n41

2.9.2.1 Test frequencies for NR operating band n41 and SCS 30 kHz

CBW [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
10	Downlink & Uplink	Low	2501.01	500202	30
		Mid	2592.99	518598	
		High	2685	537000	
15	Downlink & Uplink	Low	2503.5	500700	30
		Mid	2592.99	518598	
		High	2682.48	536496	
20	Downlink & Uplink	Low	2506.02	501204	30
		Mid	2592.99	518598	
		High	2679.99	535998	
30	Downlink & Uplink	Low	2511	502200	30
		Mid	2592.99	518598	
		High	2674.98	534996	
40	Downlink & Uplink	Low	2516.01	503202	30
		Mid	2592.99	518598	
		High	2670	534000	
50	Downlink & Uplink	Low	2521.02	504204	30
		Mid	2592.99	518598	
		High	2664.99	532998	
60	Downlink & Uplink	Low	2526	505200	30
		Mid	2592.99	518598	
		High	2659.98	531996	
70	Downlink & Uplink	Low	2531.01	506202	30
		Mid	2592.29	518598	
		High	2655	531000	
80	Downlink & Uplink	Low	2536.02	507204	30
		Mid	2592.99	518598	
		High	2649.99	529998	
90	Downlink & Uplink	Low	2541	508200	30
		Mid	2592.99	518598	
		High	2644.98	528996	
100	Downlink & Uplink	Low	2546.01	509202	30
		Mid	2592.99	518598	
		High	2640	528000	



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 17 of 37

2.9.3 Reference test frequencies for NR operating band n66

2.9.3.1 Test frequencies for NR operating band n66 and SCS 15 kHz

RX 2110-2200

CBW [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
5	Downlink	Low	2112.5	422500	15
		Mid	2155	431000	
		High	2197.5	439500	
	Uplink	Low	1712.5	342500	-
		Mid	1745	349000	
		High	1777.5	355500	
10	Downlink	Low	2115	423000	15
		Mid	2155	431000	
		High	2195	439000	
	Uplink	Low	1715	343000	-
		Mid	1745	349000	
		High	1775	355000	
15	Downlink	Low	2117.5	423500	15
		Mid	2155	431000	
		High	2192.5	438500	
	Uplink	Low	1717.5	343500	-
		Mid	1745	349000	
		High	1772.5	354500	
20	Downlink	Low	2120	424000	15
		Mid	2155	431000	
		High	2190	438000	
	Uplink	Low	1720	344000	-
		Mid	1745	349000	
		High	1770	354000	
25	Downlink	Low	2122.5	424500	15
		Mid	2155	431000	
		High	2187.5	437500	
	Uplink	Low	1722.5	344500	-
		Mid	1745	349000	
		High	1767.5	353500	
30	Downlink	Low	2125	425000	15
		Mid	2155	431000	
		High	2185	437000	
	Uplink	Low	1725	345000	-
		Mid	1745	349000	
		High	1765	353000	
35	Downlink	Low	2127.5	425500	15
		Mid	2155	431000	
		High	2182.5	436500	
	Uplink	Low	1727.5	345500	-
		Mid	1745	349000	
		High	1762.5	352500	
40	Downlink	Low	2130	426000	15
		Mid	2155	431000	
		High	2180	436000	
	Uplink	Low	1730	346000	-
		Mid	1745	349000	
		High	1760	352000	



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 18 of 37

2.9.4 Reference test frequencies for NR operating band n77

2.9.4.1 Test frequencies for NR operating band n77 and SCS 30 kHz

3700-3980:

CBW [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
10	Downlink & Uplink	Low	3705	647000	30
		Mid	3840	656000	
		High	3975	665000	
15	Downlink & Uplink	Low	3707.52	647168	30
		Mid	3840	656000	
		High	3972.48	664832	
20	Downlink & Uplink	Low	3710.01	647334	30
		Mid	3840	656000	
		High	3969.99	664666	
25	Downlink & Uplink	Low	3712.5	647500	30
		Mid	3840	656000	
		High	3967.5	664500	
30	Downlink & Uplink	Low	3715.02	647668	30
		Mid	3840	656000	
		High	3964.98	664332	
40	Downlink & Uplink	Low	3720	648000	30
		Mid	3840	656000	
		High	3960	664000	
50	Downlink & Uplink	Low	3725.01	648334	30
		Mid	3840	656000	
		High	3954.99	663666	
60	Downlink & Uplink	Low	3730.02	648668	30
		Mid	3840	656000	
		High	3949.98	663332	
70	Downlink & Uplink	Low	3735	649000	30
		Mid	3840	656000	
		High	3945	663000	
80	Downlink & Uplink	Low	3740.01	649334	30
		Mid	3840	656000	
		High	3939.99	662666	
90	Downlink & Uplink	Low	3745.02	649668	30
		Mid	3840	656000	
		High	3934.98	662332	
100	Downlink & Uplink	Low	3750	650000	30
		Mid	3840	656000	
		High	3930	662000	



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 19 of 37

3450-3550:

CBW [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
10	Downlink & Uplink	Low	3455.01	630334	30
		Mid	3500.01	633334	
		High	3544.98	636332	
15	Downlink & Uplink	Low	3457.5	630500	30
		Mid	3500.01	633334	
		High	3542.49	636166	
20	Downlink & Uplink	Low	3460.02	630668	30
		Mid	3500.01	633334	
		High	3540	636000	
25	Downlink & Uplink	Low	3462.51	630834	30
		Mid	3500.01	633334	
		High	3537.48	635832	
30	Downlink & Uplink	Low	3465	631000	30
		Mid	3500.01	633334	
		High	3534.99	635666	
40	Downlink & Uplink	Low	3470.01	631334	30
		Mid	3500.01	633334	
		High	3529.98	635332	
50	Downlink & Uplink	Low	3475.02	631668	30
		Mid	3500.01	633334	
		High	3525	635000	
60	Downlink & Uplink	Low	3480	632000	30
		Mid	3500.01	633334	
		High	3519.99	634666	
70	Downlink & Uplink	Low	3485.01	632334	30
		Mid	3500.01	633334	
		High	3514.98	634332	
80	Downlink & Uplink	Low	3490.02	632668	30
		Mid	3500.01	633334	
		High	3510	634000	
90	Downlink & Uplink	Low	3495	633000	30
		Mid	3500.01	633334	
		High	3504.99	633666	
100	Downlink & Uplink	Low	\	\	30
		Mid	3500.01	633334	
		High	\	\	



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 20 of 37

2.9.5 Reference test frequencies for NR operating band n78

2.9.5.1 Test frequencies for NR operating band n78 and SCS 30 kHz

3700-3800:

CBW [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
10	Downlink & Uplink	Low	3705	647000	30
		Mid	3750	650000	
		High	3795	653000	
15	Downlink & Uplink	Low	3707.52	647168	30
		Mid	3750	650000	
		High	3792.48	652832	
20	Downlink & Uplink	Low	3710.01	647334	30
		Mid	3750	650000	
		High	3789.99	652666	
25	Downlink & Uplink	Low	3712.5	647500	30
		Mid	3750	650000	
		High	3787.5	652500	
30	Downlink & Uplink	Low	3715.02	647668	30
		Mid	3750	650000	
		High	3784.98	652332	
40	Downlink & Uplink	Low	3720	648000	30
		Mid	3750	650000	
		High	3780	652000	
50	Downlink & Uplink	Low	3725.01	648334	30
		Mid	3750	650000	
		High	3774.99	651666	
60	Downlink & Uplink	Low	3730.02	648668	30
		Mid	3750	650000	
		High	3769.98	651332	
70	Downlink & Uplink	Low	3735	649000	30
		Mid	3750	650000	
		High	3765	651000	
80	Downlink & Uplink	Low	3740.01	649334	30
		Mid	3750	650000	
		High	3759.99	650666	
90	Downlink & Uplink	Low	3745.02	649668	30
		Mid	3750	650000	
		High	3754.98	650332	
100	Downlink & Uplink	Low	/	/	30
		Mid	3750	650000	
		High	/	/	



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 21 of 37

3450-3550:

CBW [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
10	Downlink & Uplink	Low	3455.01	630334	30
		Mid	3500.01	633334	
		High	3545.01	636334	
15	Downlink & Uplink	Low	3457.5	630500	30
		Mid	3500.01	633334	
		High	3542.49	636166	
20	Downlink & Uplink	Low	3460.02	630668	30
		Mid	3500.01	633334	
		High	3540	636000	
25	Downlink & Uplink	Low	3462.51	630834	30
		Mid	3500.01	633334	
		High	3537.48	635832	
30	Downlink & Uplink	Low	3465	631000	30
		Mid	3500.01	633334	
		High	3534.99	635666	
40	Downlink & Uplink	Low	3470.01	631334	30
		Mid	3500.01	633334	
		High	3530.01	635334	
50	Downlink & Uplink	Low	3475.02	631668	30
		Mid	3500.01	633334	
		High	3525	635000	
60	Downlink & Uplink	Low	3480	632000	30
		Mid	3500.01	633334	
		High	3519.99	634666	
70	Downlink & Uplink	Low	3485.01	632334	30
		Mid	3500.01	633334	
		High	3515.01	634334	
80	Downlink & Uplink	Low	3490.02	632668	30
		Mid	3500.01	633334	
		High	3510	634000	
90	Downlink & Uplink	Low	3495	633000	30
		Mid	3500.01	633334	
		High	3504.99	633666	
100	Downlink & Uplink	Low	\	\	30
		Mid	3500.01	633334	
		High	\	\	



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 22 of 37

3 Main Test Instruments

RF Test Equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Shielding Room	Brilliant-emc	N/A	SUWI-04-01-06	2022/11/9	2025/11/8
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-07	2025/2/13	2026/2/12
Signal Analyzer	ROHDE&SCHWARZ	FSV3030	SUWI-01-02-02	2024/5/8	2025/5/7
Measurement Software	TST	TST-271-2.0	SUWI-03-55-01	NCR	NCR
Measurement Software	Tonscend	J1120 RFAuto Test System	SUWI-02-03-01	NCR	NCR
Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	2024/11/19	2025/11/18
Wideband Radio Communication Tester	ROHDE&SCHWARZ	CMW500	SUWI-01-16-05	2024/5/6	2025/5/5
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	2024/11/19	2025/11/18
Wideband Radio Communication Test Sttion	Anritsu	MT8000A	SUWI-01-34-02	2024/11/19	2025/11/18



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 23 of 37

RSE Test Equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-01	6/3/2023	6/2/2026
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-05	2/13/2025	2/12/2026
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	5/8/2024	5/7/2025
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-07	11/21/2024	11/20/2025
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	1/15/2025	1/14/2026
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	VULB 9163	SUWI-01-11-01	5/13/2023	5/12/2025
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9120D	SUWI-01-11-02	5/13/2023	5/12/2025
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9170	SUWI-01-11-03	5/12/2023	5/11/2025
Active Loop Antenna	SCHWRZBECK MESS- ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	5/13/2023	5/12/2025
Amplifier	Tonscend	TAP9K3G32	SUWI-01-14-06	11/19/2024	11/24/2025
Amplifier	Tonscend	TAP01018050	SUWI-01-14-04	11/19/2024	11/24/2025
Amplifier	Tonscend	TAP30M7G30	SUWI-01-14-05	11/19/2024	11/24/2025
Wideband Radio Communication Tester	Anritsu	MT8820C	SUWI-01-16-08	2/4/2024	2/3/2025
Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	11/19/2024	11/18/2025
Radio Communication Analyzer	StarPoint	SP9500E	SUWI-01-28-03	8/13/2024	8/12/2025
Measurement Software	Tonscend	JS32-RE V4.0.0.0	SUWI-02-09-04	NCR	NCR
Measurement Software	Tonscend	JS32-RSE 4.0.0.1	SUWI-02-09-06	NCR	NCR

Remark: NCR=No Calibration Requirement.



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 24 of 37

4 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	Total RF power, conducted	$\pm 0.54\text{dB}$
2	RF power density, conducted	$\pm 1.03\text{dB}$
3	Spurious emissions, conducted	$\pm 0.54\text{dB}$
4	Radio Frequency	1%
5	Duty Cycle	$\pm 0.37\%$
6	Occupied Bandwidth	1%
7	Radiated Emission	$\pm 3.13\text{dB}$ (9k -30MHz)
		$\pm 4.88\text{dB}$ (30M -1GHz)
		$\pm 4.75\text{dB}$ (1GHz to 18GHz)
		$\pm 4.77\text{dB}$ (Above 18GHz)

Remark:

The U_{lab} (lab Uncertainty) is less than $U_{\text{CISPR/ETSI}}$ (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 25 of 37

5 Description of Tests

5.1 Conducted Output Power

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.2.1

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



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 26 of 37

5.2 Effective (Isotropic) Radiated Power of Transmitter

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.8.4

Calculate power in dBm by the following formula:

$ERP\ (dBm) = \text{Conducted Power}\ (dBm) + \text{antenna gain}\ (dBd)$

$EIRP(dBm) = \text{Conducted Power}\ (dBm) + \text{antenna gain}\ (dBi)$

$EIRP=ERP+2.15dB$



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 27 of 37

5.3 Occupied Bandwidth

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 4.2 & 4.3

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 $\geq$ 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



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 28 of 37

5.4 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 peak or peak hold power.

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. $RBW \geq 1\%$ of the emission bandwidth
4. $VBW \geq 3 \times RBW$
5. Detector = RMS
6. Number of sweep points $\geq 2 \times \text{Span}/RBW$
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



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 29 of 37

5.5 Spurious And Harmonic Emissions at Antenna Terminal

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 6.0

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 9kHz 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



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 30 of 37

5.6 Peak-Average Ratio

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.7.2

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



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 31 of 37

5.7 Field Strength of Spurious Radiation

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.8

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.

$$E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + (\text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)} - \text{AMP(dB)})$$

$$\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20 \log D - 104.8; \text{ where D is the measurement distance in meters}$$

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:
$$E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + (\text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)} - \text{AMP(dB)})$$
$$\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20 \log D - 104.8; \text{ where D is the measurement distance in meters}$$
- 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. At a measurement distance of 1 meter the limit line was increased by $20 \cdot \log(3/1) = 9.54 \text{ dB}$.

Remark: Reference test setup 2

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & AMP. The basic equation with a sample calculation is as follows:

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier (dB)

Level = Reading Level + AF + Factor -95.26

Margin = Limit – Level

2) Scan from 9kHz to 40GHz, The disturbance between 9KHz to 30MHz and 18GHz to 40GHz was very low, and the harmonics were the highest point could be found when testing, so only the 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.



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 32 of 37

5.8 Frequency Stability / Temperature Variation

Measurement Procedure:

Frequency stability testing is performed in accordance with the guidelines of FCC KDB 971168 D01 V03r01 Section 9

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 $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

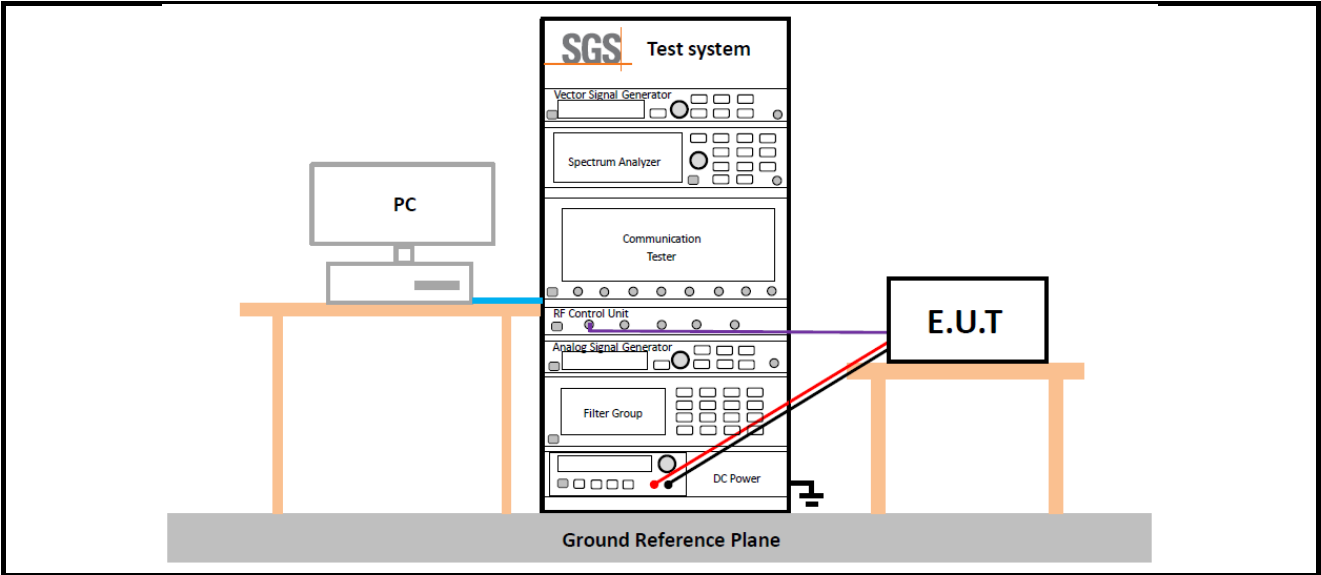
Time Period and Procedure:

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.

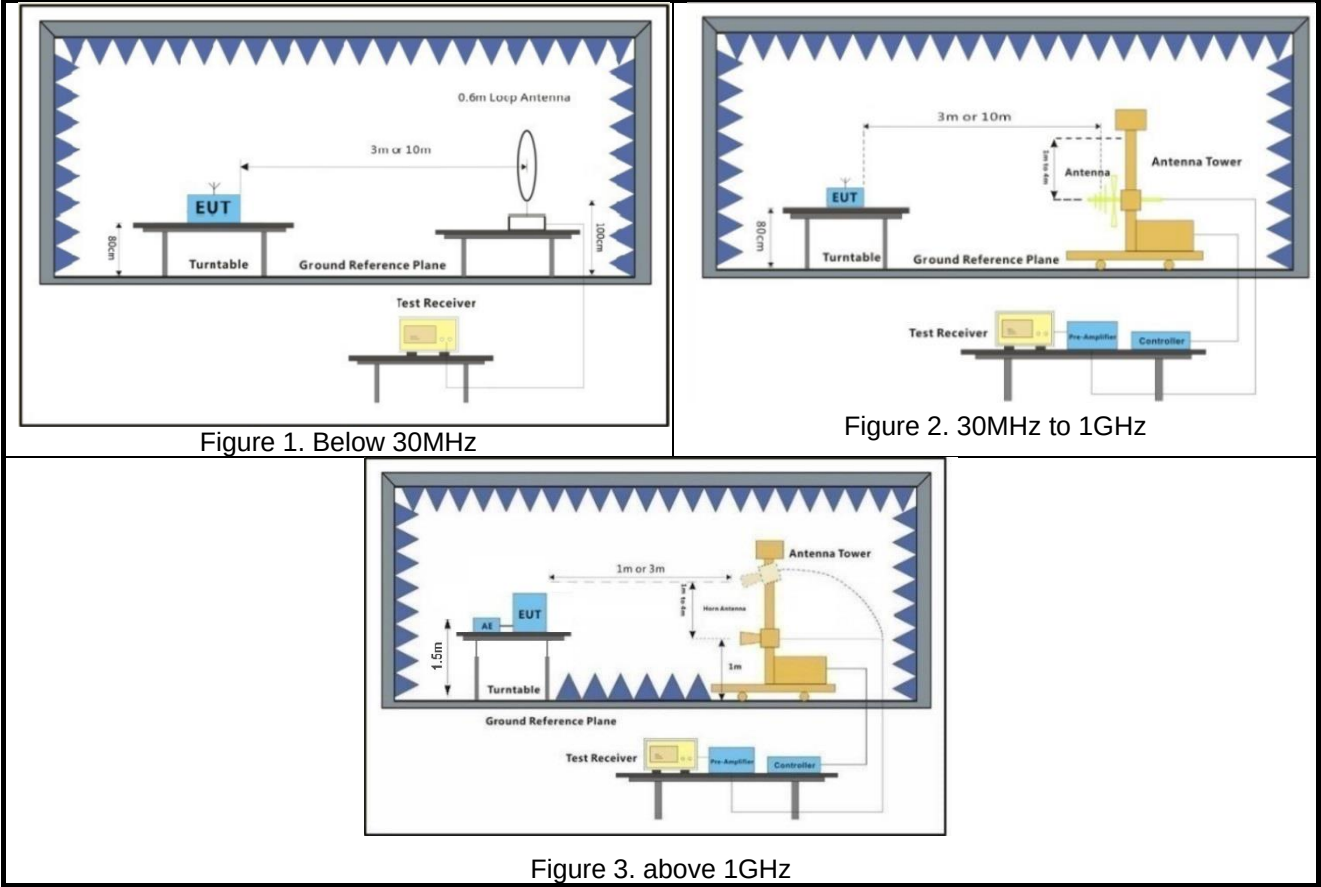
Remark: Reference test setup 3

5.9 Test Setups

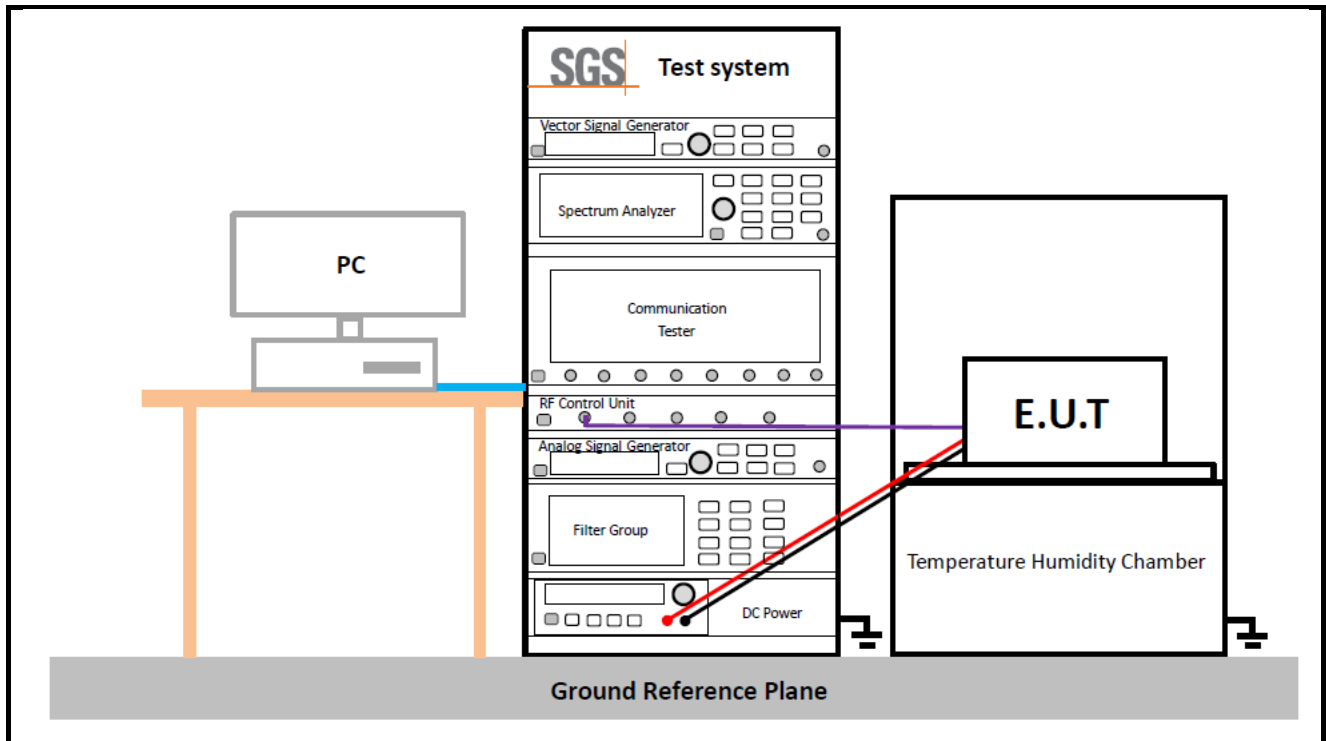
5.9.1 Test Setup 1



5.9.2 Test Setup 2



5.9.3 Test Setup 3





SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 35 of 37

5.10 Test Conditions

Transmit Output Power Data - Average Power, Total	
Test Case	Test Conditions
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	NR/TM1; NR/TM2; NR/TM3; NR/TM4; NR/TM5; NR/TM6; NR/TM7; NR/TM8; NR/TM9
Peak-to-Average Ratio	
Test Case	Test Conditions
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	NR/TM1; NR/TM2; NR/TM6
Bandwidth - Occupied Bandwidth	
Test Case	Test Conditions
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	NR/TM1; NR/TM2; NR/TM3; NR/TM4; NR/TM5; NR/TM6; NR/TM7; NR/TM8; NR/TM9
Bandwidth - Emission Bandwidth	
Test Case	Test Conditions
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	NR/TM1; NR/TM2; NR/TM3; NR/TM4; NR/TM5; NR/TM6; NR/TM7; NR/TM8; NR/TM9
Band Edges Compliance	
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, H (L= low channel, H= high channel)
Test Mode	NR/TM1; NR/TM2; NR/TM6



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 36 of 37

Spurious Emission at Antenna Terminals	
Test Case	Test Conditions
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	NR/TM1; NR/TM2; NR/TM6
Field Strength of Spurious Radiation	
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 2
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	NR/TM1 Remark: All bandwidth and modulation of NR have been pre tested, and only the worst results are reflected in the report.
Frequency Stability	
Test Case	Test Conditions
Test Environment	(1) -30 °C to +50 °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)	M (M= middle channel)
Test Mode	NR/TM2 The report only show the bandwidth with the worst case.



SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Report No.: SUCR250200006309

Rev.: 01

Page: 37 of 37

6 Appendixes

Appendix A.3	WWAN Setup Photos
Appendix B.21	n5
Appendix B.22	n41
Appendix B.23	n66
Appendix B.24	n77(3450-3550)
Appendix B.25	n77(3700-3980)
Appendix B.26	n78(3450-3550)
Appendix B.27	n78(3700-3800)

---End of Report---