FCC TEST REPORT

Name of Sample:	**Mobile Cellular Phone**
Model of Sample:	**XT2529-2**
Applicant:	**Motorola Mobility LLC**
Issue Date:	**2025-03-24**

ADR TEST AND CERTIFICATION CENTER

Motorola Mobility LLC, a Lenovo Company

Add: No. 19, Gao Xin 4th Road Wuhan, People's Republic of China 430205
Phone: (86) 13696970830
E-mail: suyj3@motorola.com

Name of Client	Motorola Mobility LLC		
Address of Client	222 W, Merchandise Mart Plaza, Chicago IL 60654 USA		
Trademark	Motorola	**Type Name or ID**	FCC ID: IHDT56AV2
Applicant No.	RF189237	**Sample No.**	1#: N4BE240104 (1_{st} Source) 2#: N4BE240117 (1_{st} Source) 3#: N4BE410153 (1_{st} Source) 4#: N4BE4Y0102 (2_{nd} Source) 5#: N4BE240116 (3_{rd} Source)
Delivering Date	2025-02-18	**Test Date**	2025-02-18 to 2025-03-21
Sample Illustration	None		
Standard	47 CFR Part 2; 47 CFR Part 22; 47 CFR Part 24; 47 CFR Part 27; 47 CFR Part 90;		
Conclusion	Pass		
Remarks	N/A		

Editor: Wangzhenyu **Reviewer:** Hexiaolin **Signatory:** HuangshengLin

Wangzhenyu Hexiaolin Eric Lin

Matters Needing Attention

a) The electronic report shall be valid after encryption.

b) The paper report shall be valid after being stamped with the official seal of the company.

c) The report is invalid without the signature of the Editor, Reviewer and Signatory.

d) The test report is invalid if there is any evidence of erasure and/or falsification.

e) If there is any dissidence for the test report, please file objection to the lab within 15 days from the date of receiving the test report.

f) The test report is only responsible for the tested model/sample. The sample(s) presented in this report are provided by client.

g) Context of the test report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of the lab.

Revision History

Report No.	Version	Description	Issued Date
TR-25ADRTCC7005	Rev.01	Initial issue of report	2025-03-24
TR-25ADRTCC7005	Rev.02	1, Updated the difference description on Page 8. 2, Add DC_2A_n5A data.	2025-03-26
TR-25ADRTCC7005	Rev.03	1, Update accessories information on Page13. 2, Update n77/n78 (3450-3550) max EIRP data. 3, Add n77/n78 (3450-3550) Ant5 power data	2025-04-03

Catalogue

1. TEST SUMMARY 5
   1.1. 5G NR BAND N5/N26 5
   1.2. 5G NR BAND N26 (814-824) 5
   1.3. 5G NR BAND N7/N38/N41 5
   1.4. 5G NR BAND N71 6
   1.5. 5G NR BAND N77 (3450-3550)/N78 (3450-3550) 6
   1.6. 5G NR BAND N77 (3700-3980)/N78 (3700-3800) 7
2. SUMMARY OF 5G NR SPOT CHECK 8
3. MAXIMUM EFFECTIVE RADIATED (ISOTROPIC) POWER AND EMISSION DESIGNATOR 9
   3.1. NR SYSTEM 9
4. GENERAL INFORMATION 12
   4.1. GENERAL DESCRIPTION OF EUT 12
   4.2. TEST ENVIRONMENT 12
   4.3. SPECIFICATION OF ACCESSORIES 12
5. TEST CONFIGURATION OF EQUIPMENT UNDER TEST 14
   5.1. TEST MODE FOR NR CONFIGURATION 14
   5.2. TEST FREQUENCIES 15
6. DESCRIPTION OF TESTS 19
   6.1. CONDUCTED OUTPUT POWER MEASUREMENT 19
   6.2. EFFECTIVE (ISOTROPIC) RADIATED POWER 19
   6.3. PEAK-TO-AVERAGE RATIO MEASUREMENT 19
   6.4. 99% OCCUPIED BANDWIDTH & 26DB EMISSION BANDWIDTH 20
   6.5. CONDUCTED BAND EDGE MEASUREMENT 20
   6.6. CONDUCTED SPURIOUS EMISSION MEASUREMENT 21
   6.7. FREQUENCY STABILITY MEASUREMENT 21
7. LIST OF MEASURING EQUIPMENT 22
8. MEASUREMENT UNCERTAINTY 22
   8.1. UNCERTAINTY OF CONDUCTED MEASUREMENT 23
9. APPENDIXES 23

1. Test Summary

1.1. 5G NR Band n5/n26

Test Item	Rule No.	Requirements	Test Result	Verdict
Conducted Power	§2.1046	Report Only	Section 1 of Appendix B	Pass
Effective Radiated Power	§22.913(a)(5)	ERP < 7W		
Peak-Average Ratio	§22.913(d)	<13 dB	Section 2 of Appendix B	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Occupied Bandwidth	§2.1049	No limit	Section 4 of Appendix B	Pass
26dB Emission Bandwidth		No limit		
Conducted Band Edges	§2.1051 §22.917(a)	< -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B	Pass
Conducted Spurious Emission	§2.1051 §22.917(a)	< -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges	Section 6 of Appendix B	Pass
Frequency Stability	§2.1055 §22.355	< ±2.5ppm	Section 7 of Appendix B	Pass

1.2. 5G NR Band n26 (814-824)

Test Item	Rule No.	Requirements	Test Result	Verdict
Conducted Power	§2.1046 §90.635	Report Only	Section 1 of Appendix B	PASS
Peak-Average Ratio	---	<13 dB	Section 2 of Appendix B	PASS
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	PASS
Occupied Bandwidth	§2.1049	No limit	Section 4 of Appendix B	PASS
26dB Emission Bandwidth		No limit		
Emission Mask	§2.1051 § 90.691	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.	Section 5 of Appendix B	PASS
Conducted Spurious Emission	§2.1051 §90.691	< 43 + 10Log10(P[Watts]) for all out-of-band emissions	Section 6 of Appendix B	PASS
Frequency Stability	§90.213	< ±2.5ppm	Section 7 of Appendix B	PASS

1.3. 5G NR Band n7/n38/n41

Test Item	Rule No.	Requirements	Test Result	Verdict
Conducted Power	§2.1046	Report Only	Section 1 of Appendix B	Pass
Effective Isotropic Radiated Power	§27.50(h) (2)	EIRP < 2W		
Peak-Average Ratio	§27.50(a)	<13 dB	Section 2 of Appendix B	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Occupied Bandwidth	§2.1049	No limit	Section 4 of Appendix B	Pass
26dB Emission Bandwidth		No limit		
Conducted Band Edges	§2.1051	For mobile digital stations, the attenuation	Section 5 of	Pass

Test Item	Rule No.	Requirements	Test Result	Verdict
	§27.53(m) (4)	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 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 2490.5MHz.	Appendix B	
Conducted Spurious Emission	§2.1051 §27.53(m) (4)	< -25 dBm/MHz for outside Band Edge Range	Section 6 of Appendix B	Pass
Frequency Stability	§27.54	Within authorized bands	Section 7 of Appendix B	Pass

1.4. 5G NR Band n71

Test Item	Rule No	Requirements	Test Result	Verdict
Conducted Power	§2.1046	Report Only	Section 1 of Appendix B	Pass
Effective Radiated Power	§27.50(c)(10)	ERP < 3W		
Peak-Average Ratio	---	<13 dB	Section 2 of Appendix B	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Occupied Bandwidth	§2.1049	No limit	Section 4 of Appendix B	Pass
26dB Emission Bandwidth		No limit		
Conducted Band Edges	§2.1051 §27.53(g)	< -13 dBm/1%*EBW, in 1MHz bands immediately outside and adjacent to the frequency block	Section 5 of Appendix B	Pass
Conducted Spurious Emission	§2.1051 §27.53(g)	< -13 dBm/100kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges	Section 6 of Appendix B	Pass
Frequency Stability	§27.54	Within authorized bands	Section 7 of Appendix B	Pass

1.5. 5G NR Band n77 (3450-3550)/n78 (3450-3550)

Test Item	Rule No.	Requirements	Test Result	Verdict
Conducted Power	§2.1046	Report Only	Section 1 of Appendix B	Pass
Effective Isotropic Radiated Power	§27.50(k) (3)	EIRP < 1W		
Peak-Average Ratio	§27.50(k) (4)	<13 dB	Section 2 of Appendix B	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Occupied Bandwidth	§2.1049	No limit	Section 4 of Appendix B	Pass
26dB Emission Bandwidth		No limit		
Conducted Band Edges	§2.1051 §27.53(n) (2)	< -13 dBm/MHz	Section 5 of Appendix B	Pass
Conducted Spurious Emission	§2.1051 §27.53(n) (2)	< -13 dBm/MHz	Section 6 of Appendix B	Pass
Frequency Stability	§27.54	Within authorized bands	Section 7 of Appendix B	Pass

1.6. 5G NR Band n77 (3700-3980)/n78 (3700-3800)

Test Item	Rule No.	Requirements	Test Result	Verdict
Conducted Power	§2.1046	Report Only	Section 1 of Appendix B	Pass
Effective Isotropic Radiated Power	§27.50(j) (3)	EIRP < 1W		
Peak-Average Ratio	§27.50(j) (4)	<13 dB	Section 2 of Appendix B	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B	Pass
Occupied Bandwidth	§2.1049	No limit	Section 4 of Appendix B	Pass
26dB Emission Bandwidth		No limit		
Conducted Band Edges	§2.1051 §27.53(l) (2)	< -13 dBm/MHz	Section 5 of Appendix B	Pass
Conducted Spurious Emission	§2.1051 §27.53(l) (2)	< -13 dBm/MHz	Section 6 of Appendix B	Pass
Frequency Stability	§27.54	Within authorized bands	Section 7 of Appendix B	Pass

Remark:

1, Only 5G NR Bands conducted test performed and the data displayed in this report, the radiated spurious emission refer to the report (FG520602-01B).

2, The devices supports two PAs for 5G NR (Main PA and other PA), both Pas were evaluated, but only the worst band data displayed in this report, the SA mode for n5/n7/n26/n38/n41/n71/n77/n78 worked with the main PA, and NSA mode for n5/n7/n38/n41 worked with the other PA.

3, The maximum E(I)RP is calculated from max output power and max antenna gain, only the max E(I)RP data displayed in this report, n5/n26/n71 for Antenna 0; n7/n38/n41 for Antenna 1; n77/n78 for antenna 7.

4, 5G NR Bands support SA mode for n5/n7/n26/n38/n41/n71/n77/n78 and NSA mode for n5/n7/n38/n41/n71/n77/n78.

5, The test has been assessed on SA and NSA mode, but only the worst mode performed the whole conducted test items by referring to the max conducted power.

6, The ENDC combination could be referred to the product specification.

7, 5G NR n77/n78 supports HPUE mode.

8, This report contained 1_{st} source, 2_{nd} source and 3_{rd} source, only 1_{st} source were fully evaluated, and spot check 2_{nd} source and 3_{rd} source, and the worst data displayed in this report. The detailed difference between 1_{st} source, 2_{nd} source and 3_{rd} source could be referred to the product PED file.

2. Summary of 5G NR Spot Check

Test Item	Mode	Worst Mode Test Result		Deviation (dB)	Limit (dB)
		IHDT56AV1	IHDT56AV2		
Conducted Power	n5	23.85	22.83	-1.02	3
	n7	23.95	22.92	-1.03	3
	n26	23.96	22.73	-1.23	3
	n38	23.56	23.36	-0.2	3
	n41	23.71	23.54	-0.17	3

This application re-uses data collected on a similar device. The subject device of this application (Model: XT2529-2, FCC ID: IHDT56AV2) is electrically identical to the reference device (Model: XT2529-1, FCC ID: IHDT56AV1) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity. The FCC Part 22,24,27,90 referencing the original model's result and do spot check, following the FCC KDB484596 D01 Referencing Test Data v02r02.

Compared the device (Model: XT2529-2, FCC ID: IHDT56AV2) with the reference device (Model: XT2529-1, FCC ID: IHDT56AV1), according to the maximum conducted output power comparison result, therefor, band n41 was defined as the worst band and full test the conducted item to demonstrate the compliance, and the data displayed in appendix B.1.

Model difference information

The main difference between FCC ID: IHDT56AV2 and FCC ID: IHDT56AV1 is as below:

- Remove LTE B4/12/13/17/25/66 and 5G NR n2/n66.
- Add LTE B20/32/71 and 5G NR n8/n20/n71/n75.
- Add NSA mode for 5G NR n5.
- LTE band 41 and 5G NR n77/n78 upgraded to PC2 via software.

Other difference and all the details of similarity and difference can be found in the confidential documents (Operational Description of Product Equality Declaration).

3. Maximum Effective Radiated (Isotropic) Power and Emission Designator

3.1. NR System

3.1.1. NR Band n5 (824-849)

5G NR NSA (DC_2A_n5A)		Pi/2 BPSK / QPSK		16QAM/64QAM/256QAM	
Bandwidth	Frequency Range (MHz)	Maximum EIRP (W)	Emission Designator (99% OBW)	Maximum EIRP (W)	Emission Designator (99% OBW)
5MHz	826.5-846.5	0.027990	4M48G7D	0.023659	4M48W7D
10MHz	829.0-844.0	0.027164	9M27G7D	0.023335	9M31W7D
15MHz	831.5-841.5	0.027669	14M1G7D	0.024210	14M2W7D
20MHz	834.0-839.0	0.026792	18M9G7D	0.024044	18M9W7D

3.1.2. NR Band n41 (2496-2690)

5G NR SA (n41A)		Pi/2 BPSK / QPSK		16QAM/64QAM/256QAM	
Bandwidth	Frequency Range (MHz)	Maximum EIRP (W)	Emission Designator (99% OBW)	Maximum EIRP (W)	Emission Designator (99% OBW)
10MHz	2501.01-2685.00	0.079433	9M27G7D	0.062230	9M29W7D
15MHz	2503.50-2682.48	0.077625	14M1G7D	0.064565	14M1W7D
20MHz	2506.02-2679.99	0.078343	18M9G7D	0.064121	18M9W7D
30MHz	2511.00-2674.98	0.076913	28M5G7D	0.062661	28M5W7D
35MHz	2513.50-2672.50	0.076913	33M6G7D	0.062951	33M6W7D
40MHz	2516.01-2670.00	0.076560	38M5G7D	0.062373	38M5W7D
50MHz	2521.02-2664.99	0.076384	48M2G7D	0.062230	48M2W7D
60MHz	2526.00-2659.98	0.076208	58M0G7D	0.061944	57M8W7D
70MHz	2531.01-2655.00	0.077446	67M4G7D	0.061376	67M6W7D
80MHz	2536.02-2649.99	0.077446	77M5G7D	0.061094	77M4W7D
90MHz	2541.00-2644.98	0.076384	87M2G7D	0.063241	87M4W7D
100MHz	2546.01-2640.00	0.076913	97M1G7D	0.063096	97M3W7D

3.1.3. NR Band n71 (663-698)

5G NR SA (n71A)		Pi/2 BPSK / QPSK		16QAM/64QAM/256QAM	
Bandwidth	Frequency Range (MHz)	Maximum EIRP (W)	Emission Designator (99% OBW)	Maximum EIRP (W)	Emission Designator (99% OBW)
5MHz	665.50-695.50	0.027040	4M49G7D	0.022491	4M48W7D
10MHz	668.00-693.00	0.026242	9M27G7D	0.023933	9M29W7D
15MHz	670.50-690.50	0.026669	14M1G7D	0.024155	14M1W7D
20MHz	673.00-688.00	0.025468	18M9G7D	0.024099	18M9W7D

3.1.4. NR Band n77 (3450-3550)

5G NR SA (n77A)		Pi/2 BPSK / QPSK		16QAM/64QAM/256QAM	
Bandwidth	Frequency Range (MHz)	Maximum EIRP (W)	Emission Designator (99% OBW)	Maximum EIRP (W)	Emission Designator (99% OBW)
10MHz	3455.01-3544.98	0.158855	9M29G7D	0.130017	9M29W7D
15MHz	3457.50-3542.49	0.161065	14M1G7D	0.132739	14M1W7D
20MHz	3460.02-3540.00	0.163682	18M9G7D	0.133045	18M9W7D
25MHz	3462.51-3537.48	0.164816	23M7G7D	0.133660	23M8W7D
30MHz	3465.00-3534.99	0.163305	28M7G7D	0.133045	28M5W7D
40MHz	3470.01-3529.98	0.162930	38M5G7D	0.130918	38M6W7D
50MHz	3475.02-3525.00	0.161065	48M2G7D	0.130617	48M2W7D
60MHz	3480.00-3519.99	0.156315	57M9G7D	0.124738	57M8W7D
70MHz	3485.01-3514.98	0.155597	67M4G7D	0.125603	67M6W7D
80MHz	3490.02-3510.00	0.154170	77M4G7D	0.121619	77M4W7D
90MHz	3495.00-3504.99	0.152055	87M4G7D	0.121619	87M2W7D
100MHz	3500.01	0.150661	97M1G7D	0.122462	97M1W7D

3.1.5. NR Band n77 (3700-3980)

5G NR SA (n77A)		Pi/2 BPSK / QPSK		16QAM/64QAM/256QAM	
Bandwidth	Frequency Range (MHz)	Maximum EIRP (W)	Emission Designator (99% OBW)	Maximum EIRP (W)	Emission Designator (99% OBW)
10MHz	3705.00-3975.00	0.314775	9M29G7D	0.273527	9M29W7D
15MHz	3707.52-3972.48	0.323594	14M1G7D	0.275423	14M1W7D
20MHz	3710.01-3969.99	0.324340	18M9G7D	0.267301	18M9W7D
25MHz	3712.50-3967.50	0.325087	23M8G7D	0.264241	23M8W7D
30MHz	3715.02-3964.98	0.322107	28M5G7D	0.268534	28M6W7D
40MHz	3720.00-3960.00	0.318420	38M6G7D	0.258821	38M6W7D
50MHz	3725.01-3954.99	0.330370	48M2G7D	0.271019	48M2W7D
60MHz	3730.02-3949.98	0.318420	58M0G7D	0.262422	58M0W7D
70MHz	3735.00-3945.00	0.311889	67M6G7D	0.258821	67M7W7D
80MHz	3740.01-3939.99	0.310456	77M4G7D	0.256448	77M5W7D
90MHz	3745.02-3934.98	0.313329	87M4G7D	0.250035	87M6W7D
100MHz	3750.00-3930.00	0.308319	97M3G7D	0.248313	97M3W7D

3.1.6. NR Band n78 (3450-3550)

5G NR SA (n78A)		Pi/2 BPSK / QPSK		16QAM/64QAM/256QAM	
Bandwidth	Frequency Range (MHz)	Maximum EIRP (W)	Emission Designator (99% OBW)	Maximum EIRP (W)	Emission Designator (99% OBW)
10MHz	3455.01-3544.98	0.159221	9M29G7D	0.129420	9M29W7D
15MHz	3457.50-3542.49	0.161436	14M1G7D	0.133045	14M1W7D
20MHz	3460.02-3540.00	0.161436	18M9G7D	0.134586	18M9W7D
25MHz	3462.51-3537.48	0.164816	23M7G7D	0.133660	23M8W7D
30MHz	3465.00-3534.99	0.165959	28M5G7D	0.132739	28M6W7D
40MHz	3470.01-3529.98	0.161808	38M6G7D	0.131522	38M5W7D
50MHz	3475.02-3525.00	0.160325	48M2G7D	0.128529	48M2W7D
60MHz	3480.00-3519.99	0.155955	58M0G7D	0.124451	57M8W7D
70MHz	3485.01-3514.98	0.157398	67M7G7D	0.126474	67M6W7D
80MHz	3490.02-3510.00	0.154525	77M4G7D	0.124738	77M4W7D
90MHz	3495.00-3504.99	0.152055	87M4G7D	0.122180	87M2W7D
100MHz	3500.01	0.151008	97M1G7D	0.122744	97M1W7D

3.1.7. NR Band n78 (3700-3800)

5G NR SA (n78A)		Pi/2 BPSK / QPSK		16QAM/64QAM/256QAM	
Bandwidth	Frequency Range (MHz)	Maximum EIRP (W)	Emission Designator (99% OBW)	Maximum EIRP (W)	Emission Designator (99% OBW)
10MHz	3705.00-3795.00	0.239883	9M29G7D	0.195884	9M29W7D
15MHz	3707.52-3792.48	0.247172	14M1G7D	0.197697	14M2W7D
20MHz	3710.01-3789.99	0.242103	18M9G7D	0.200909	18M9W7D
25MHz	3712.50-3787.50	0.242661	23M8G7D	0.200909	23M8W7D
30MHz	3715.02-3784.98	0.242661	28M5G7D	0.195434	28M5W7D
40MHz	3720.00-3780.00	0.242661	38M5G7D	0.194536	38M6W7D
50MHz	3725.01-3774.99	0.24322	48M2G7D	0.198153	48M2W7D
60MHz	3730.02-3769.98	0.242103	58M0G7D	0.194984	58M0W7D
70MHz	3735.00-3765.00	0.243220	67M7G7D	0.196336	67M4W7D
80MHz	3740.01-3759.99	0.238232	77M4G7D	0.191867	77M5W7D
90MHz	3745.02-3754.98	0.236048	87M4G7D	0.188799	87M6W7D
100MHz	3750.00	0.230675	97M3G7D	0.186209	97M3W7D

4. General Information

4.1. General Description of EUT

EUT Description:	Mobile Cellular Phone
Brand Name:	Motorola
Model Name:	XT2529-2
FCC ID:	IHDT56AV2
IMEI Code:	1#: 351971360022013/351971360022021 (Conducted); 2#: 351971360022138/351971360022146 (Conducted); 3#: 351971360015678/351971360015686 (Conducted); 4#: 351971360039256/351971360039264 (Conducted); 5#: 351971360024993/351971360025008 (Conducted);
Hardware Version:	DVT2
Software Version:	V2VO35.42
NR Modulation:	DFT-s-OFDM: ☒Pi/2BPSK; ☒ QPSK; ☒ 16QAM; ☒ 64QAM; ☒ 256QAM; CP-OFDM: ☒ QPSK; ☒ 16QAM; ☒ 64QAM; ☒ 256QAM;
Sample Type:	☒ Portable Device, ☐Module
Antenna Type:	☐External, ☒ Integrated
Antenna Gain:	n5 (824-849): -5.50dBi (Ant0); -5.80dBi (Ant4); n7 (2500-2570): -4.20dBi (Ant1); -4.70dBi (Ant4); n26 (814-849): -5.50dBi (Ant0); n38 (2570-2620): -3.90dBi (Ant1); -4.10dBi (Ant4); n41 (2496-2690): -3.90dBi (Ant1); -3.80dBi (Ant4); n71 (663-698): -6.30dBi (Ant0); n77 (3450-3550): -4.00dBi (Ant3); -3.30dBi (Ant5); -5.70dBi (Ant7); -2.54dBi (Ant9); n77 (3700-3980): -3.10dBi (Ant3); -2.70dBi (Ant5); -1.30dBi (Ant7); -2.52dBi (Ant9); n78 (3450-3550): -4.00dBi (Ant3); -3.30dBi (Ant5); -5.70dBi (Ant7); -2.54dBi (Ant9); n78 (3700-3800): -4.80dBi (Ant3); -3.20dBi (Ant5); -2.40dBi (Ant7); -2.52dBi (Ant9);

Remark

1, The information above was declared by manufacture. Please refer to the specifications or user manual for more detailed description.

4.2. Test Environment

Relative Humidity:	52.0% - 62.0%	
Atmospheric Pressure:	101.32 KPa	
Temperature:	NT (normal temperature)	25.0 °C – 27.5 °C
Voltage:	LV (Low voltage)	3.45V
	NV (Nominal voltage)	3.91V
	HV (High voltage)	4.50V

4.3. Specification of Accessories

Accessory	Brand Name	Model Name
AC Adapter 1 (US)	Motorola（Salcomp）	MC-331L
AC Adapter 2 (EU)	Motorola（Salcomp）	MC-332L
AC Adapter 3 (UK)	Motorola（Salcomp）	MC-333L
AC Adapter 4 (AU)	Motorola（Salcomp）	MC-335L
AC Adapter 5 (AR)	Motorola（Salcomp）	MC-336L

AC Adapter 6 (BR)	Motorola（Salcomp）	MC-337L
AC Adapter 7 (CHILE)	Motorola（Salcomp）	MC-339L
AC Adapter 8 (KR)	Motorola（Salcomp）	MC-330L
AC Adapter 9 (US)	Motorola（Chenyang）	MC-331L
AC Adapter 10 (EU)	Motorola（Chenyang）	MC-332L
AC Adapter 11 (UK)	Motorola（Chenyang）	MC-333L
AC Adapter 12 (AR)	Motorola（Chenyang）	MC-336L
AC Adapter 13 (BR)	Motorola（Chenyang）	MC-337L
AC Adapter 15 (IN)	Motorola（AOHAI）	MC-334L
AC Adapter 16 (IN Local)	Motorola（XIHI）	MC-334L
AC Adapter 17 (IN)	Motorola（Salcomp）	MC-334L
AC Adapter 18 (IN Local)	Motorola（Salcomp）	MC-334L
AC Adapter 19 (US)	Motorola（Salcomp）	MC-331
Battery 1	Motorola（Sunwoda）	RB52
Battery 2	Motorola（ATL）	RB52
Battery 3	Motorola（SCUD）	RB52
Earphone 1	Motorola (Juwei)	MH191
Earphone 2	Motorola (NEW LEADER)	MH191
USB Cable 1	Motorola (Yihuaxing)	T365-020 T365-020-01 T365-020-02
USB Cable 2	Motorola (WASHIN)	HX-TL-01 HX-TL-07 HX-TL-08
USB Cable 3	Motorola (Juwei)	JWUB1614-T03H JWUB1705-T03H JWUB1856-T03H
USB Cable 4	Motorola (Saibao)	STN-A131A
USB Cable 5	Motorola(WASHIN)	HX-TL-04

5. Test Configuration of Equipment Under Test

5.1. Test Mode for NR Configuration

Test Case	5G NR	SCS		Bandwidth	Modulation					Channel			RB	
		15KHz	30KHz		Pi/2BPSK	QPSK	16QAM	64QAM	256QAM	LCH	MCH	HCH	1	Full
Effective Isotropic Radiated Power	N5 (824-849)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N26 (814-824)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N26 (824-849)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N7 (2500-2570)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N38 (2570-2620)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N41 (2496-2690)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N71 (663-698)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N77 (3450-3550)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N77 (3700-3980)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N78 (3450-3550)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N78 (3700-3800)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
Peak-Average Ratio	N41 (2496-2690)	●	●	Highest BW	●	●	○	○	○	●	●	●	○	●
	N71 (663-698)	●	●	Highest BW	●	●	○	○	○	●	●	●	○	●
	N77 (3450-3550)	●	●	Highest BW	●	●	○	○	○	●	●	●	○	●
	N77 (3700-3980)	●	●	Highest BW	●	●	○	○	○	●	●	●	○	●
	N78 (3450-3550)	●	●	Highest BW	●	●	○	○	○	●	●	●	○	●
	N78 (3700-3800)	●	●	Highest BW	●	●	○	○	○	●	●	●	○	●
Modulation Characteristics	N41 (2496-2690)	●	●	Highest BW	●	●	●	●	●	○	●	○	○	●
	N71 (663-698)	●	●	Highest BW	●	●	●	●	●	○	●	○	○	●
	N77 (3450-3550)	●	●	Highest BW	●	●	●	●	●	○	●	○	○	●
	N77 (3700-3980)	●	●	Highest BW	●	●	●	●	●	○	●	○	○	●
	N78 (3450-3550)	●	●	Highest BW	●	●	●	●	●	○	●	○	○	●
	N78 (3700-3800)	●	●	Highest BW	●	●	●	●	●	○	●	○	○	●
Occupied Bandwidth & 26dB Emission Bandwidth	N41 (2496-2690)	●	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N71 (663-698)	●	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N77 (3450-3550)	●	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N77 (3700-3980)	●	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N78 (3450-3550)	●	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N78 (3700-3800)	●	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
Conducted Band Edges	N41 (2496-2690)	●	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N71 (663-698)	●	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N77 (3450-3550)	●	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N77 (3700-3980)	●	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N78 (3450-3550)	●	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N78 (3700-3800)	●	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
Conducted Spurious Emission	N41 (2496-2690)	●	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N71 (663-698)	●	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N77 (3450-3550)	●	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N77 (3700-3980)	●	●	All Supported BW	●	●	○	○	○	●	●	●	●	○

	N78 (3450-3550)	●	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N78 (3700-3800)	●	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
Frequency Stability	N41 (2496-2690)	●	●	Highest BW	○	●	○	○	○	○	●	○	○	●
	N71 (663-698)	●	●	Highest BW	○	●	○	○	○	○	●	○	○	●
	N77 (3450-3550)	●	●	Highest BW	○	●	○	○	○	○	●	○	○	●
	N77 (3700-3980)	●	●	Highest BW	○	●	○	○	○	○	●	○	○	●
	N78 (3450-3550)	●	●	Highest BW	○	●	○	○	○	○	●	○	○	●
	N78 (3700-3800)	●	●	Highest BW	○	●	○	○	○	○	●	○	○	●

Remark:

1, the mark "●" means this configuration was chosen for testing, mark "○" means not selected, and the mark "✘" means not applicable.

2, All Supported BW means all supported bandwidth for selected SCS configuration.

5.2. Test Frequencies

5.2.1 5G NR System

5.2.1.1. NR Band n41 (2496-2690)

5.2.1.1.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	500202	2501.01	518601	2593.005	537000	2685.00
15MHz	500700	2503.50	518601	2593.005	536496	2682.48
20MHz	501204	2506.02	518601	2593.005	535998	2679.99
25MHz	501702	2508.51	518601	2593.005	535500	2677.50
30MHz	502200	2511.00	518601	2593.005	534996	2674.98
35MHz	502701	2513.505	518601	2593.005	534500	2672.50
40MHz	503202	2516.01	518601	2593.005	534000	2670.00
45MHz	503700	2518.50	518601	2593.005	533500	2667.50
50MHz	504202	2521.005	518601	2593.005	532998	2664.99

5.2.1.1.2. SCS=30KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	500202	2501.01	518598	2592.99	537000	2685.00
15MHz	500700	2503.50	518598	2592.99	536496	2682.48
20MHz	501204	2506.02	518598	2592.99	535998	2679.99
25MHz	501700	2508.51	518598	2592.99	535500	2677.50
30MHz	502200	2511.00	518598	2592.99	534996	2674.98
35MHz	502700	2513.50	518598	2592.99	634500	2672.50
40MHz	503202	2516.01	518598	2592.99	534000	2670.00
45MHz	503700	2518.50	518598	2592.99	533500	2667.50
50MHz	504204	2521.02	518598	2592.99	532998	2664.99
60MHz	505200	2526.00	518598	2592.99	531996	2659.98
70MHz	506202	2531.01	518598	2592.99	531000	2655.00

80MHz	507204	2536.02	518598	2592.99	529998	2649.99
90MHz	508200	2541.00	518598	2592.99	528996	2644.98
100MHz	509202	2546.01	518598	2592.99	528000	2640.00

5.2.1.2. NR Band N71 (663-693)

5.2.1.2.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
5MHz	133100	665.50	136100	680.50	139100	695.50
10MHz	133600	668.00	136100	680.50	138600	693.00
15MHz	134100	670.50	136100	680.50	138100	690.50
20MHz	134600	673.00	136100	680.50	137600	688.00

5.2.1.2.2. SCS=30KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	133600	668.00	136100	680.50	138600	693.00
15MHz	134100	670.50	136100	680.50	138100	690.50
20MHz	134600	673.00	136100	680.50	137600	688.00

5.2.1.3. NR Band N77 (3450-3550)

5.2.1.3.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	630334	3455.01	633334	3500.01	636332	3544.98
15MHz	630500	3457.50	633334	3500.01	636166	3542.49
20MHz	630668	3460.02	633334	3500.01	636000	3540.00
25MHz	630834	3462.51	633334	3500.01	635832	3537.48
30MHz	631000	3465.00	633334	3500.01	635666	3534.99
40MHz	631334	3470.01	633334	3500.01	635332	3529.98
50MHz	631668	3475.02	633334	3500.01	635000	3525.00

5.2.1.3.2. SCS=30KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	630334	3455.01	633334	3500.01	636332	3544.98
15MHz	630500	3457.50	633334	3500.01	636166	3542.49
20MHz	630668	3460.02	633334	3500.01	636000	3540.00
25MHz	630834	3462.51	633334	3500.01	635832	3537.48
30MHz	631000	3465.00	633334	3500.01	635666	3534.99
40MHz	631334	3470.01	633334	3500.01	635332	3529.98
50MHz	631668	3475.02	633334	3500.01	635000	3525.00
60MHz	632000	3480.00	633334	3500.01	634666	3519.99
70MHz	632334	3485.01	633334	3500.01	634332	3514.98
80MHz	632668	3490.02	633334	3500.01	634000	3510.00

90MHz	633000	3495.00	633334	3500.01	633666	3504.99
100MHz	633334	3500.01	633334	3500.01	633334	3500.01

5.2.1.4. NR Band N77 (3700-3980)

5.2.1.4.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	647000	3705.00	656000	3840.00	665000	3975.00
15MHz	647168	3707.52	656000	3840.00	664832	3972.48
20MHz	647334	3710.01	656000	3840.00	664666	3969.99
25MHz	647500	3712.50	656000	3840.00	664500	3967.50
30MHz	647668	3715.02	656000	3840.00	664332	3964.98
40MHz	648000	3720.00	656000	3840.00	664000	3960.00
50MHz	648334	3725.01	656000	3840.00	663666	3954.99

5.2.1.4.2. SCS=30KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	741000	3705.00	656000	3840.00	665000	3975.00
15MHz	741504	3707.52	656000	3840.00	664832	3972.48
20MHz	647334	3710.01	656000	3840.00	664666	3969.99
25MHz	742500	3712.50	656000	3840.00	664500	3967.50
30MHz	647668	3715.02	656000	3840.00	664332	3964.98
40MHz	648000	3720.00	656000	3840.00	664000	3960.00
50MHz	648334	3725.01	656000	3840.00	663666	3954.99
60MHz	648668	3730.02	656000	3840.00	663332	3949.98
70MHz	649000	3735.00	656000	3840.00	663000	3945.00
80MHz	649334	3740.01	656000	3840.00	662666	3939.99
90MHz	649668	3745.02	656000	3840.00	662332	3934.98
100MHz	650000	3750.00	656000	3840.00	662000	3930.00

5.2.1.5. NR Band N78 (3450-3550)

5.2.1.5.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	630334	3455.01	633334	3500.01	636332	3544.98
15MHz	630500	3457.50	633334	3500.01	636166	3542.49
20MHz	630668	3460.02	633334	3500.01	636000	3540.00
25MHz	630834	3462.51	633334	3500.01	635832	3537.48
30MHz	631000	3465.00	633334	3500.01	635666	3534.99
40MHz	631334	3470.01	633334	3500.01	635332	3529.98
50MHz	631668	3475.02	633334	3500.01	635000	3525.00

5.2.1.5.2. SCS=30KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	630334	3455.01	633334	3500.01	636332	3544.98
15MHz	630500	3457.50	633334	3500.01	636166	3542.49
20MHz	630668	3460.02	633334	3500.01	636000	3540.00
25MHz	630834	3462.51	633334	3500.01	635832	3537.48
30MHz	631000	3465.00	633334	3500.01	635666	3534.99
40MHz	631334	3470.01	633334	3500.01	635332	3529.98
50MHz	631668	3475.02	633334	3500.01	635000	3525.00
60MHz	632000	3480.00	633334	3500.01	634666	3519.99
70MHz	632334	3485.01	633334	3500.01	634332	3514.98
80MHz	632668	3490.02	633334	3500.01	634000	3510.00
90MHz	633000	3495.00	633334	3500.01	633666	3504.99
100MHz	633334	3500.01	633334	3500.01	633334	3500.01

5.2.1.6. NR Band N78 (3700-3800)

5.2.1.6.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	647000	3705.00	650000	3750.00	653000	3795.00
15MHz	647168	3707.52	650000	3750.00	652832	3792.48
20MHz	647334	3710.01	650000	3750.00	652666	3789.99
25MHz	647500	3712.50	650000	3750.00	652500	3787.50
30MHz	647668	3715.02	650000	3750.00	652332	3784.98
40MHz	648000	3720.00	650000	3750.00	652000	3780.00
50MHz	648334	3725.01	650000	3750.00	651666	3774.99

5.2.1.6.2. SCS=30KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
10MHz	741000	3705.00	650000	3750.00	653000	3795.00
15MHz	741504	3707.52	650000	3750.00	652832	3792.48
20MHz	647334	3710.01	650000	3750.00	652666	3789.99
25MHz	742500	3712.50	650000	3750.00	652500	3787.50
30MHz	647668	3715.02	650000	3750.00	652332	3784.98
40MHz	648000	3720.00	650000	3750.00	652000	3780.00
50MHz	648334	3725.01	650000	3750.00	651666	3774.99
60MHz	648668	3730.02	650000	3750.00	651332	3769.98
70MHz	649000	3735.00	650000	3750.00	651000	3765.00
80MHz	649334	3740.01	650000	3750.00	650666	3759.99
90MHz	649668	3745.02	650000	3750.00	650332	3754.98
100MHz	650000	3750.00	650000	3750.00	650000	3750.00

6. Description of Tests

6.1. Conducted Output Power Measurement

6.1.1. Description of Conducted Output Power Measurement

A base station simulator was used to establish communication with the EUT, Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals shall be reported.

6.1.2. Test Procedures

1， The testing follows ANSI C63.26 Section 5.2.
2， The transmitter output port was connected to the system simulator.
3， Set EUT at maximum power through the system simulator.
4， Select lowest, Middle, Highest channels for each band and each modulation.
5， Record the reading power from the system simulator.

6.2. Effective (Isotropic) Radiated Power

Measurement Procedure: ANSI C63.26

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

6.3. Peak-to-Average Ratio Measurement

6.3.1. Description of PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis, A CCDF curve depicts the probability of peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument’s resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

6.3.2. Test Procedures

1， The testing follows ANSI C63.26 Section 5.2.3.4(CCDF)
2， Refer to instrument’s analyser instruction manual for details on how to use the power statistics/CCDF function.
3， Centre Frequency = Carrier centre frequency.
4， Set resolution bandwidth ≥ signal’s occupied bandwidth.
5， Set the number of counts to a value that stabilizes the measured CCDF curve.
6， Set the measurement interval as follows:
   1) for continuous transmissions (>98% duty cycle), set to 1ms.
   2) for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
7， Record the maximum PAR level associated with a probability of 0.1%.

6.3.3. Alternate procedure for PAR

Measurement Procedure: 5.2.6 of ANSI C63.26

Some regulatory requirements specify a PAR limit when the output power limits are specified in terms of average power. If it becomes necessary to provide measurement data to demonstrate compliance to a PAR

limit, then the appropriate procedure from those provided in 5.2.3 shall be utilized to determine the peak power (or peak PSD) and the appropriate procedure from those provided in 5.2.4 shall be used to determine the average power (or average PSD). The data from these measurements is then used in Equation (2) to determine the PAR of a narrowband CW-like signal. See 5.2.3.4 for guidance on determining the PAR of a broadband noise-like signal.

PAR (dB) = P_{Pk} (dBm or dBW) − P_{Avg} (dBm or dBW)

where

PAR peak-to-average power ratio, in dB

P_{Pk} measured peak power or peak PSD level, in dBm or dBW

P_{Avg} measured average power or average PSD level, in dBm or dBW

6.4. 99% Occupied Bandwidth & 26dB Emission Bandwidth

6.4.1. Description of 99% Occupied Bandwidth & 26dB Emission Bandwidth Measurement

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 analyser 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.

6.4.2. Test Procedures

1, The testing follows ANSI C63.26 Section 5.4
2, The signal analyzer's automatic measurement capability was used to perform the 99% occupied bandwidth and the 26dB emission bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
3, RBW ⩾1% - 5% of the expected OBW.
4, VBW ⩾3 * RBW
5, Detector=Peak
6, Trace Mode= Max Hold.
7, Sweep Time=Auto
8, The trace was allowed to stabilize.
9, 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.

6.5. Conducted Band Edge Measurement

6.5.1. Description of Conducted Band Edge Measurement

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 emissions are attenuated at least 26dB below the transmitter power. The video bandwidth of the spectrum analyser was set at thrice the resolution bandwidth. Detector Mode was set to peak or peak hold power.

6.5.2. Test Procedures

1， The testing follows ANSI C63.26 Section 5.7
2， Start and stop frequency were set such that the band edge would be placed in the centre of the spectrum analyzer screen.
3， Span was set large enough to capture all out of band emissions near the band edge.
4， RBW ⩾1% of the emission bandwidth (2% of the emission bandwidth for n7/n38/n41 except when 1MHz band is 2495-2496MHz);
5， VBW ⩾3 * RBW
6， Detector=RMS
7， Trace Mode=Trace Average for continuous emissions, Max Hold for pulse emissions.
8， Sweep Points ⩾2 x Span/RBW
9， Sweep Time = Auto
10， The trace was allowed to stabilize.

6.6. Conducted Spurious Emission Measurement

6.6.1. Description of Conducted Spurious Emission Measurement

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 and high channel). The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyser. The spectrum is scanned from 9KHz up to a frequency including its 10th harmonic or 40GHz, which is lower.

6.6.2. Test Procedures

1， The testing follows ANSI C63.26 Section 5.7
2， RBW ⩾100KHz for emissions below 1GHz,1MHz for emissions above 1GHz.
3， VBW ⩾3 * RBW
4， Detector = RMS
5， Trace Mode = Average.
6， Sweep Points ⩾2 * Span/RBW
7， Sweep Time = Auto
8， The trace was allowed to stabilize.

6.7. Frequency Stability Measurement

6.7.1. Description of Frequency Stability Measurement

The Frequency Stability should be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emissions stays within the authorized frequency block.

6.7.2. Measurement Procedure for Temperature Variation

1， The testing follows ANSI C63.26 section 5.6.4.

2, The EUT was set up in the thermal chamber and connected with the system simulator.
3, With power off, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4, With power off, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum change in frequency was recorded within one minute.

6.7.3. Measurement Procedure for Voltage Variation

1, The testing follows ANSI C63.26 section 5.6.5.
2, The EUT was placed in a thermal chamber at 20±5°C and connected with the system simulator.
3, The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4, For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5, The variation in frequency was measured for the worst case.

7. List of Measuring Equipment

Equipment	Model	Manufacture	Device No.	Cal Date	Cal Due
Radio Communication Analyzer	MT8000A	Anritsu	6272427164	2024-11-15	2025-11-14
	MT8000A	Anritsu	6272478367	2024-07-03	2025-07-02
	MT8821C	Anritsu	6272374630	2024-11-15	2025-11-14
Spectrum Analyzer (50Hz-40GHz)	FSV	R&S	101046	2024-11-15	2025-11-14
Spectrum Analyzer (50Hz-40GHz)	FSV	R&S	101334	2024-11-15	2025-11-14
Power Supply	2036	Keithley	4058748	2024-11-15	2025-11-14
Temperature Chamber	C/64/40/3	Weiss	56246017780020	2024-04-01	2025-03-31
Power Divider	-	WOKEN	0120A04051801O	NCR	
Power Divider	-	WOKEN	0120A02051801M	NCR	

Remark:
1, For equipment listed above that has a calibration date or calibration due date that falls within the test date range, and the equipment was used after calibrate date and before calibrate due date.
2, “NCR” means no calibration required.

8. Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26. All the measurement uncertainties value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be directly to specified limit to determine compliance.

8.1. Uncertainty of Conducted Measurement

Contribution	Expanded Uncertainty
Conducted Power	± 1.09 dB
Peak-to-Average Ratio	± 2.28 dB
Channel Bandwidth	± 0.15% MHz
Conducted Emission (f <1GHz)	± 2.23 dB
Conducted Emission (1GHz < f <18GHz)	± 2.24 dB
Conducted Emission (18GHz < f <40GHz)	± 2.11 dB
Frequency	± 0.02 KHz

9. Appendixes

Appendix B.1	NR Band n41A (2496-2690)
Appendix B.2	NR Band n71A (663-693)
Appendix B.3	NR Band n77A (3450-3550)
Appendix B.4	NR Band n77A (3700-3980)
Appendix B.5	NR Band n78A (3450-3550)
Appendix B.6	NR Band n78A (3700-3800)
Appendix B.7	NR Band DC_2A_n5A (824-849)

The End