FCC TEST REPORT

Name of Sample:	**Mobile Cellular Phone**
Model of Sample:	**XT2427-2**
Applicant:	**Motorola Mobility LLC**
Issue Date:	**2024-05-22**

ADR TEST AND CERTIFICATION CENTER

Motorola Mobility LLC, a Lenovo Company

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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: IHDT56AN9
Applicant No.	RF177111	**Sample No.**	1#: N9ME280113 2#: N9ME2A0102
Delivering Date	2024-04-16	**Test Date**	2024-04-16 to 2024-05-10
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 **Auditor:** Hexiaolin **Approver:** HuangshengLin

Matters Needing Attention

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

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

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Revision History

Report No.	Version	Description	Issued Date
TR-24ADRTCC7010	Rev.01	Initial issue of report	2024-05-10
TR-24ADRTCC7010	Rev.02	Remove n71	2024-05-13
TR-24ADRTCC7010	Rev.03	Update Accessories on Page 9-10	2024-05-17
TR-24ADRTCC7010	Rev.04	Update n7/38/41 Band Edge limit description.	2024-05-22

Catalogue

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 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 §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 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.	Section 5 of Appendix B	Pass
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

1.3. 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		

Test Item	Rule No.	Requirements	Test Result	Verdict
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

1.4. 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 (FG432901-01).

2, 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 for Antenna 0; n7/n38/n41 for Antenna 1; n77/n78 for antenna 3.

3, 5G NR Bands support SA mode for n5/n7/n26/n38/n41/n77/n78 and NSA mode for n5/n7/n38/n41/n77/n78.

4, 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.

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

6, 5G NR n77/n78 supports HPUE mode.

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

2.1. NR System

2.1.1. NR Band n5 (824-849)

5G NR NSA (DC_7A_n5A)		Pi/2 BPSK / QPSK		16QAM/64QAM/256QAM	
Bandwidth	Frequency Range (MHz)	Maximum ERP (W)	Emission Designator (99% OBW)	Maximum ERP (W)	Emission Designator (99% OBW)
5MHz	826.5-846.5	0.033963	4M48G7D	0.024044	4M49W7D
10MHz	829.0-844.0	0.033884	9M25G7D	0.023878	9M29W7D
15MHz	831.5-841.5	0.033884	14M1G7D	0.023014	14M2W7D
20MHz	834.0-839.0	0.032734	18M9G7D	0.023605	18M9W7D

2.1.2. NR Band n7 (2500-2570)

5G NR SA (n7A)		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	2502.5-2567.5	0.077625	4M48G7D	0.065013	4M50W7D
10MHz	2505.0-2565.0	0.080168	9M29G7D	0.063826	9M29W7D
15MHz	2507.5-2562.5	0.076033	14M1G7D	0.061944	14M2W7D
20MHz	2510.0-2560.0	0.076384	18M9G7D	0.061802	19M0W7D
25MHz	2512.5-2557.5	0.078343	23M8G7D	0.063533	23M8W7D
30MHz	2515.0-2555.0	0.077268	28M7G7D	0.062087	28M6W7D
40MHz	2520.0-2550.0	0.077268	38M7G7D	0.062087	38M6W7D

2.1.3. NR Band n26 (814-824)

5G NR SA (n26A)		Pi/2 BPSK / QPSK		16QAM/64QAM/256QAM	
Bandwidth	Frequency Range (MHz)	Maximum Conducted Power (W)	Emission Designator (99% OBW)	Maximum Conducted Power (W)	Emission Designator (99% OBW)
5MHz	816.5-821.5	0.185353	4M48G7D	0.148936	4M48W7D
10MHz	819.0	0.182810	9M27G7D	0.145546	9M29W7D
15MHz	821.5	0.181134	14M1G7D	0.143880	14M1W7D
20MHz	824.0	0.182810	18M9G7D	0.144877	19M0W7D

2.1.4. NR Band n26 (824-849)

5G NR SA (n26A)		Pi/2 BPSK / QPSK		16QAM/64QAM/256QAM	
Bandwidth	Frequency Range (MHz)	Maximum ERP (W)	Emission Designator (99% OBW)	Maximum ERP (W)	Emission Designator (99% OBW)
5MHz	826.5-846.5	0.024660	4M48G7D	0.019999	4M49W7D
10MHz	829.0-844.0	0.024831	9M25G7D	0.019999	9M29W7D
15MHz	831.5-841.5	0.024434	14M1G7D	0.019588	14M1W7D
20MHz	834.0-839.0	0.024434	18M9G7D	0.019543	18M9W7D

2.1.5. NR Band n38 (2570-2620)

5G NR SA (n38A)		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)
20MHz	2580.0-2610.0	0.069343	18M2G7D	0.057412	18M3W7D
30MHz	2585.0-2605.0	0.070469	27M8G7D	0.059566	27M9W7D
40MHz	2590.0-2600.0	0.070795	37M8G7D	0.057810	37M8W7D

2.1.6. 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)
20MHz	2506.02-2679.99	0.073451	18M2G7D	0.061235	18M2W7D
30MHz	2511.00-2674.98	0.076736	27M8G7D	0.063826	27M9W7D
40MHz	2516.01-2670.00	0.078163	37M7G7D	0.064863	38M0W7D
50MHz	2521.02-2664.99	0.075858	47M5G7D	0.064121	47M5W7D
60MHz	2526.00-2659.98	0.076033	57M8G7D	0.062806	57M8W7D
70MHz	2531.01-2655.00	0.073621	67M3G7D	0.061376	67M4W7D
80MHz	2536.02-2649.99	0.073790	77M2G7D	0.062373	77M4W7D
90MHz	2541.00-2644.98	0.075509	87M0G7D	0.063096	87M2W7D
100MHz	2546.01-2640.00	0.076384	97M1G7D	0.063680	97M3W7D

2.1.7. 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)
20MHz	3710.01-3969.99	0.220293	18M2G7D	0.181552	18M2W7D
30MHz	3715.02-3964.98	0.226464	27M9G7D	0.190108	27M9W7D
40MHz	3720.00-3960.00	0.235505	37M8G7D	0.190546	37M9W7D
50MHz	3725.01-3954.99	0.214289	47M5G7D	0.172982	47M6W7D
60MHz	3730.02-3949.98	0.218273	57M8G7D	0.179473	57M8W7D
70MHz	3735.00-3945.00	0.172982	67M4G7D	0.176604	67M6W7D
80MHz	3740.01-3939.99	0.213304	77M4G7D	0.175388	77M5W7D
90MHz	3745.02-3934.98	0.212814	87M2G7D	0.177419	87M4W7D
100MHz	3750.00-3930.00	0.216272	97M3G7D	0.178649	97M5W7D

2.1.8. 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)
20MHz	3710.01-3789.99	0.221820	18M2G7D	0.181970	18M2W7D
30MHz	3715.02-3784.98	0.233346	27M8G7D	0.189234	27M9W7D
40MHz	3720.00-3780.00	0.238781	37M8G7D	0.194089	37M8W7D
50MHz	3725.01-3774.99	0.211836	47M4G7D	0.178238	47M5W7D
60MHz	3730.02-3769.98	0.219786	57M8G7D	0.175792	57M8W7D
70MHz	3735.00-3765.00	0.217270	67M6G7D	0.177011	67M6W7D
80MHz	3740.01-3759.99	0.221309	77M4G7D	0.183231	77M5W7D
90MHz	3745.02-3754.98	0.224905	87M4G7D	0.184502	87M6W7D
100MHz	3750.00	0.226464	97M3G7D	0.181970	97M5W7D

3. General Information

3.1. General Description of EUT

EUT Description:	Mobile Cellular Phone
Brand Name:	Motorola
Model Name:	XT2427-2
FCC ID:	IHDT56AN9
IMEI Code:	1#: 358691460009776/358691460009784 (Conducted); 2#: 358691460009396/358691460009404 (Conducted);
Hardware Version:	DVT2
Software Version:	U3UO34.38
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: -6.50dBi (Ant0); -6.00dBi (Ant4); n7: -4.50dBi (Ant1); -3.10dBi (Ant4); n26: -6.50dBi (Ant0); -6.00dBi (Ant4); n38: -4.50dBi (Ant1); n41: -4.50dBi (Ant1); n77: -3.00dBi (Ant3); -4.50dBi (Ant5); -4.50dBi (Ant7); -3.50dBi (Ant8); n78: -3.00dBi (Ant3); -4.50dBi (Ant5); -5.50dBi (Ant7); -3.50dBi (Ant8);

Remark

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

3.2. 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)	3.60V
	NV (Nominal voltage)	3.91V
	HV (High voltage)	4.50V

3.3. Specification of Accessories

Accessory	Brand Name	Model Name
AC Adapter 1 (US)	Motorola (Chenyang)	MC-331
AC Adapter 2 (EU)	Motorola (Chenyang)	MC-332
AC Adapter 3 (AU)	Motorola (Chenyang)	MC-335
AC Adapter 4 (AR)	Motorola (Chenyang)	MC-336
AC Adapter 5 (BR)	Motorola (Chenyang)	MC-337
AC Adapter 6 (PRC)	Motorola (Chenyang)	MC-338
AC Adapter 7 (US)	Motorola (AOHAI)	MC-331
AC Adapter 8 (EU)	Motorola (AOHAI)	MC-332
AC Adapter 9 (UK)	Motorola (AOHAI)	MC-333
AC Adapter 12 (CHILE)	Motorola (Salcomp)	MC-339
AC Adapter 13 (KR)	Motorola (Salcomp)	MC-330

Battery 1	Motorola (SCUD)	QE50
Battery 2	Motorola (COSMX)	QE50
Earphone 1	Motorola (Lyand)	MI181C
USB Cable 1	hexin	S928E21807
USB Cable 2	chuantuo	S928E21806

4. Test Configuration of Equipment Under Test

4.1. 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	●	●	●	●	●	●	●	●	●	●
	N7 (2500-2570)	●	○	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N26 (814-824)	●	○	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N26 (824-849)	●	○	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N38 (2570-2620)	○	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N41 (2496-2690)	○	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N77 (3700-3980)	○	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N78(3700-3800)	○	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
Peak-Average Ratio	N5 (824-849)	●	○	Highest BW	●	●	○	○	○	●	●	●	○	●
	N7 (2500-2570)	●	○	Highest BW	●	●	○	○	○	●	●	●	○	●
	N26 (814-824)	●	○	Highest BW	●	●	○	○	○	●	●	●	○	●
	N26 (824-849)	●	○	Highest BW	●	●	○	○	○	●	●	●	○	●
	N38 (2570-2620)	○	●	Highest BW	●	●	○	○	○	●	●	●	○	●
	N41 (2496-2690)	○	●	Highest BW	●	●	○	○	○	●	●	●	○	●
	N77 (3700-3980)	○	●	Highest BW	●	●	○	○	○	●	●	●	○	●
	N78(3700-3800)	○	●	Highest BW	●	●	○	○	○	●	●	●	○	●
Modulation Characteristics	N5 (824-849)	●	○	Highest BW	●	●	●	●	●	○	●	○	○	●
	N7 (2500-2570)	●	○	Highest BW	●	●	●	●	●	○	●	○	○	●
	N26 (814-824)	●	○	Highest BW	●	●	●	●	●	○	●	○	○	●
	N26 (824-849)	●	○	Highest BW	●	●	●	●	●	○	●	○	○	●
	N38 (2570-2620)	○	●	Highest BW	●	●	●	●	●	○	●	○	○	●
	N41 (2496-2690)	○	●	Highest BW	●	●	●	●	●	○	●	○	○	●
	N77 (3700-3980)	○	●	Highest BW	●	●	●	●	●	○	●	○	○	●
	N78(3700-3800)	○	●	Highest BW	●	●	●	●	●	○	●	○	○	●
Occupied Bandwidth & 26dB Emission Bandwidth	N5 (824-849)	●	○	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N7 (2500-2570)	●	○	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N26 (814-824)	●	○	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N26 (824-849)	●	○	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N38 (2570-2620)	○	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N41 (2496-2690)	○	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N77 (3700-3980)	○	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N78(3700-3800)	○	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
Conducted	N5 (824-849)	●	○	All Supported BW	●	●	○	○	○	●	○	●	●	●

Band Edges	N7 (2500-2570)	●	○	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N26 (814-824)	●	○	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N26 (824-849)	●	○	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N38 (2570-2620)	○	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N41 (2496-2690)	○	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N77 (3700-3980)	○	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N78(3700-3800)	○	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
Conducted Spurious Emission	N5 (824-849)	●	○	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N7 (2500-2570)	●	○	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N26 (814-824)	●	○	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N26 (824-849)	●	○	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N38 (2570-2620)	○	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N41 (2496-2690)	○	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N77 (3700-3980)	○	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N78(3700-3800)	○	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
Frequency Stability	N5 (824-849)	●	○	Highest BW	○	●	○	○	○	○	●	○	○	●
	N7 (2500-2570)	●	○	Highest BW	○	●	○	○	○	○	●	○	○	●
	N26 (814-824)	●	○	Highest BW	○	●	○	○	○	○	●	○	○	●
	N26 (824-849)	●	○	Highest BW	○	●	○	○	○	○	●	○	○	●
	N38 (2570-2620)	○	●	Highest BW	○	●	○	○	○	○	●	○	○	●
	N41 (2496-2690)	○	●	Highest BW	○	●	○	○	○	○	●	○	○	●
	N77 (3700-3980)	○	●	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.

4.2. Test Frequencies

4.2.1. 5G NR System

4.2.1.1. NR Band n5 (824-849)

4.2.1.1.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
5MHz	165300	826.5	167300	836.5	169300	846.5
10MHz	165800	829.0	167300	836.5	168800	844.0
15MHZ	166300	831.5	167300	836.5	168300	841.5
20MHz	166800	834.0	167300	836.5	167800	839.0

4.2.1.2. NR Band n7 (2500-2570)

4.2.1.2.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
5MHz	500500	2502.5	507000	2535.0	513500	2567.5
10MHz	501000	2505.0	507000	2535.0	513000	2565.0

15MHZ	501500	2507.5	507000	2535.0	512500	2562.5
20MHz	502000	2510.0	507000	2535.0	512000	2560.0
25MHz	502500	2512.5	507000	2535.0	511500	2557.5
30MHz	503000	2515.0	507000	2535.0	511000	2555.0
40MHz	504000	2520.0	507000	2535.0	510000	2550.0

4.2.1.3. NR Band n26 (814-824)

4.2.1.3.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
5MHz	163300	816.5	163800	819.0	164300	821.5
10MHz	163800	819.0	163800	819.0	163800	819.0
15MHz	164300	821.5	164300	821.5	164300	821.5
20MHz	164800	824.0	164800	824.0	164800	824.0

4.2.1.4. NR Band n26 (824-849)

4.2.1.4.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
5MHz	165300	826.5	167300	836.5	169300	846.5
10MHz	165800	829.0	167300	836.5	168800	844.0
15MHZ	166300	831.5	167300	836.5	168300	841.5
20MHz	166800	834.0	167300	836.5	167800	839.0

4.2.1.5. NR Band n38 (2570-2620)

4.2.1.5.1. SCS=15KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
20MHz	516000	2580.0	519000	2595.0	522000	2610.0
30MHz	517000	2585.0	519000	2595.0	521000	2605.0
40MHz	518000	2590.0	519000	2595.0	520000	2600.0

4.2.1.6. NR Band n41 (2496-2690)

4.2.1.6.1. SCS=30KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
20MHz	501204	2506.02	518598	2592.99	535998	2679.99
30MHz	502200	2511.00	518598	2592.99	534996	2674.98
40MHz	503202	2516.01	518598	2592.99	534000	2670.00
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

4.2.1.7. NR Band N77 (3700-3980)

4.2.1.7.1. SCS=30KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
20MHz	647334	3710.01	656000	3840.00	664666	3969.99
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

4.2.1.8. NR Band N78 (3700-3800)

4.2.1.8.1. SCS=30KHz

Bandwidth	LCH		MCH		HCH	
	Arfcn	Freq	Arfcn	Freq	Arfcn	Freq
20MHz	647334	3710.01	650000	3750.00	652666	3789.99
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

5. Description of Tests

5.1. Conducted Output Power Measurement

5.1.1. 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.

5.1.2. 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.

5.2. 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

5.3. Peak-to-Average Ratio Measurement

5.3.1. 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.

5.3.2. 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%.

5.3.3. 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

5.4. 99% Occupied Bandwidth & 26dB Emission Bandwidth

5.4.1. 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.

5.4.2. 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.

5.5. Conducted Band Edge Measurement

5.5.1. 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.

5.5.2. 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.

5.6. Conducted Spurious Emission Measurement

5.6.1. 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.

5.6.2. 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.

5.7. Frequency Stability Measurement

5.7.1. 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.

5.7.2. 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.

5.7.3. 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.

6. List of Measuring Equipment

Equipment	Model	Manufacture	Device No.	Cal Date	Cal Due
Radio Communication Analyzer	MT8000A	Anritsu	6272478367	2023-12-07	2024-12-06
	MT8821C	Anritsu	6272498303	2023-12-07	2024-12-06
Radio Communication Analyzer	E7515E	Keysight	MY59296045	2023-12-07	2024-12-06
Spectrum Analyzer (50Hz-40GHz)	FSV	R&S	101046	2023-12-07	2024-12-06
Spectrum Analyzer (50Hz-40GHz)	FSV	R&S	101334	2024-01-30	2025-01-29
Power Supply	2036	Keithley	4058748	2023-12-07	2024-12-06
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.

7. 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.

7.1. Uncertainty of Conducted Measurement

Contribution	Expanded Uncertainty
Conducted Power	± 0.77
Conducted Emission	± 0.76
Channel Bandwidth	± 0.08%

8. Appendixes

Appendix B.1	NR Band DC_7A_n5A (824-849)
Appendix B.2	NR Band n7A (2500-2570)
Appendix B.3	NR Band n26A (814-824)
Appendix B.4	NR Band n26A (824-849)
Appendix B.5	NR Band n38A (2570-2620)
Appendix B.6	NR Band n41A (2496-2690)
Appendix B.7	NR Band n77A (3700-3980)
Appendix B.8	NR Band n78A (3700-3800)

The End