FCC TEST REPORT

Name of Sample:	**Mobile Cellular Phone**
Model of Sample:	**XT2529-3,XT2529-4**
Applicant:	**Motorola Mobility LLC**
Issue Date:	**2025-03-26**

ADR TEST AND CERTIFICATION CENTER

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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: IHDT56AV3
Applicant No.	RF189587	**Sample No.**	1#: N4BS240113 (1_{st} Source) 2#: N4BS240130 (1_{st} Source) 3#: N4BJ270104 (1_{st} Source) 4#: N4BS2A0159 (2_{nd} Source)
Delivering Date	2025-02-25	**Test Date**	2025-02-25 to 2025-03-26
Sample Illustration	None		
Standard	47 CFR Part 2; 47 CFR Part 22; 47 CFR Part 27;		
Conclusion	Pass		
Remarks	N/A		

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

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.

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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-25ADRTCC7006	Rev.01	Initial issue of report	2025-03-26
TR-25ADRTCC7006	Rev.02	Update the test summary	2025-04-07
TR-25ADRTCC7006	Rev.03	Update the test summary	2025-04-08

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1. Test Summary

1.1. 5G NR Band 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

1.2. 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 (RPT No.:25ADRTCC5013).

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, n41 for Antenna 1; n77/n78 for antenna 7.

3, 5G NR Bands support SA mode for n41/n77/n78 and NSA mode for 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, This report contained 1_{st} source, 2_{nd} source, only 1_{st} source were fully evaluated, and spot check 2_{nd} source, and the worst data displayed in this report. The detailed difference between 1_{st} source, 2_{nd} source could be referred to the product PED file.

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

2.1. NR System

2.1.1. 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	0.076736	9M29G7D	0.060674	9M27W7D
15MHz	2503.50-2682.48	0.075858	14M1G7D	0.061235	14M1W7D
20MHz	2506.02-2679.99	0.076384	18M9G7D	0.060814	18M9W7D
30MHz	2511.00-2674.98	0.073621	28M5G7D	0.058345	28M5W7D
35MHz	2513.50-2672.50	0.073282	33M6G7D	0.058479	33M6W7D
40MHz	2516.01-2670.00	0.073961	38M5G7D	0.058749	38M5W7D
50MHz	2521.02-2664.99	0.073790	48M2G7D	0.058884	48M2W7D
60MHz	2526.00-2659.98	0.074131	57M9G7D	0.058479	57M9W7D
70MHz	2531.01-2655.00	0.073961	67M4G7D	0.059020	67M6W7D
80MHz	2536.02-2649.99	0.074302	77M4G7D	0.059293	77M5W7D
90MHz	2541.00-2644.98	0.074473	87M2G7D	0.059293	87M6W7D
100MHz	2546.01-2640.00	0.073961	97M1G7D	0.058884	97M3W7D

2.1.1. 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	0.169434	9M27G7D	0.133660	9M29W7D
15MHz	3707.52-3972.48	0.173380	14M1G7D	0.137088	14M2W7D
20MHz	3710.01-3969.99	0.173780	18M9G7D	0.138995	18M9W7D
25MHz	3712.50-3967.50	0.169044	23M7G7D	0.136773	23M8W7D
30MHz	3715.02-3964.98	0.168655	28M5G7D	0.135519	28M6W7D
40MHz	3720.00-3960.00	0.170608	38M5G7D	0.135519	38M6W7D
50MHz	3725.01-3954.99	0.173780	48M2G7D	0.137088	48M2W7D
60MHz	3730.02-3949.98	0.174181	57M9G7D	0.137721	58M0W7D
70MHz	3735.00-3945.00	0.175792	67M6G7D	0.139316	67M7W7D
80MHz	3740.01-3939.99	0.174181	77M4G7D	0.137721	77M4W7D
90MHz	3745.02-3934.98	0.173780	87M4G7D	0.138676	87M4W7D
100MHz	3750.00-3930.00	0.170608	97M3G7D	0.135207	97M5W7D

2.1.2. 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	0.132130	9M29G7D	0.103276	9M29W7D
15MHz	3707.52-3792.48	0.132739	14M1G7D	0.108393	14M2W7D
20MHz	3710.01-3789.99	0.133660	18M9G7D	0.103514	18M9W7D
25MHz	3712.50-3787.50	0.126474	23M7G7D	0.100000	23M8W7D
30MHz	3715.02-3784.98	0.125893	28M5G7D	0.097724	28M6W7D
40MHz	3720.00-3780.00	0.126474	38M5G7D	0.100693	38M5W7D
50MHz	3725.01-3774.99	0.128825	48M2G7D	0.101859	48M2W7D
60MHz	3730.02-3769.98	0.127644	58M0G7D	0.101625	58M0W7D
70MHz	3735.00-3765.00	0.129420	67M4G7D	0.102329	67M7W7D
80MHz	3740.01-3759.99	0.128529	77M5G7D	0.102565	77M5W7D
90MHz	3745.02-3754.98	0.127938	87M2G7D	0.101625	87M4W7D
100MHz	3750.00	0.126183	97M3G7D	0.100462	97M5W7D

3. General Information

3.1. General Description of EUT

EUT Description:	Mobile Cellular Phone
Brand Name:	Motorola
Model Name:	XT2529-3,XT2529-4
FCC ID:	IHDT56AV3
IMEI Code:	1#: 357325840021554/357325840021562 (Conducted); 2#: 357325840021711/357325840021729 (Conducted); 3#: 357325840027692/357325840027700 (Conducted); 4#: 357325840031256/357325840031264 (Conducted);
Hardware Version:	DVT2
Software Version:	V2VOJ35.45
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:	n41: -3.90dBi (Ant1); n77 (3700-3980): -3.10dBi (Ant3); -2.70dBi (Ant5); -1.30dBi (Ant7); -2.52dBi (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.

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)	3.45V
	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（Salcomp）	MC-331L
AC Adapter 2 (US)	Motorola（Chenyang）	MC-331L
AC Adapter 3 (US)	Motorola（Salcomp）	MC-331
Battery 1	Motorola（Sunwoda）	RB52
Battery 2	Motorola（NVT）	RB52
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

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	N41 (2496-2690)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N77 (3700-3980)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
	N78 (3700-3800)	●	●	All Supported BW	●	●	●	●	●	●	●	●	●	●
Peak-Average Ratio	N41 (2496-2690)	●	●	Highest BW	●	●	○	○	○	●	●	●	○	●
	N77 (3700-3980)	●	●	Highest BW	●	●	○	○	○	●	●	●	○	●
	N78 (3700-3800)	●	●	Highest BW	●	●	○	○	○	●	●	●	○	●
Modulation Characteristics	N41 (2496-2690)	●	●	Highest BW	●	●	●	●	●	○	●	○	○	●
	N77 (3700-3980)	●	●	Highest BW	●	●	●	●	●	○	●	○	○	●
	N78 (3700-3800)	●	●	Highest BW	●	●	●	●	●	○	●	○	○	●
Occupied Bandwidth & 26dB Emission Bandwidth	N41 (2496-2690)	●	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N77 (3700-3980)	●	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
	N78 (3700-3800)	●	●	All Supported BW	●	●	●	●	●	○	●	○	○	●
Conducted Band Edges	N41 (2496-2690)	●	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N77 (3700-3980)	●	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
	N78 (3700-3800)	●	●	All Supported BW	●	●	○	○	○	●	○	●	●	●
Conducted Spurious Emission	N41 (2496-2690)	●	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N77 (3700-3980)	●	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
	N78 (3700-3800)	●	●	All Supported BW	●	●	○	○	○	●	●	●	●	○
Frequency Stability	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

5.2.1 5G NR System

4.2.1.1. NR Band n41 (2496-2690)

4.2.1.1.1. 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

4.2.1.1.2. 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

4.2.1.2. NR Band N77 (3700-3980)

4.2.1.2.1. 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

4.2.1.2.2. 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

4.2.1.3. NR Band N78 (3700-3800)

4.2.1.3.1. 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

4.2.1.3.2. 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

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	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.

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	± 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

8. Appendixes

Appendix B.1	NR Band n41A (2496-2690)
Appendix B.2	NR Band n77A (3700-3980)
Appendix B.3	NR Band n78A (3700-3800)

The End