



FCC RF Test Report

APPLICANT : Rolling Wireless S.à r.l.
EQUIPMENT : Module
BRAND NAME : Rolling Wireless
MODEL NAME : RN932N
FCC ID : 2AX2URN932N
STANDARD : 47 CFR Part 2, 22, 24, 27
CLASSIFICATION : PCS Licensed Transmitter (PCB)
TEST DATE(S) : Mar. 29, 2024

We, Sporton International Inc. (ShenZhen), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (ShenZhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (ShenZhen)

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People's Republic of China



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG420801H	Rev. 01	Initial issue of report	Apr. 15, 2024

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1053 §22.917(a) §24.238(a) §27.53(h) §27.53(g)	Radiated Spurious Emission (5G NR n5) (5G NR n2) (5G NR n66) (5G NR n71)	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	Under limit 32.25 dB at 7622.500 MHz
	§2.1053 §27.53(l)(2) §27.53 (n)(2)	Radiated Spurious Emission (5G NR n77)	-13dBm/MHz		

Remark 1 : The test items of inter band CA were cover by 5G NR single carrier due to the CA power is reduced according to 3GPP MPR.

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1 General Description

1.1 Applicant

Rolling Wireless S.à r.l.

15, rue Edward Steichen, 2540 Luxembourg

1.2 Manufacturer

Rolling Wireless S.à r.l.

15, rue Edward Steichen, 2540 Luxembourg

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Module
Brand Name	Rolling Wireless
Model Name	RN932N
FCC ID	2AX2URN932N
IMEI Code	Radiation: 359491640000038
HW Version	1
SW Version	AFPQ52XA_00.12.09.00
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n77(Part 27O): 3700 MHz ~ 3980 MHz 5G NR n78(Part 27O): 3700 MHz ~ 3800 MHz 5G NR n77/n78(Part 27Q): 3450 MHz ~ 3550 MHz
Rx Frequency	5G NR n2 : 1930 MHz ~ 1990 MHz 5G NR n5 : 869 MHz ~ 894 MHz 5G NR n66 : 2110 MHz~ 2200 MHz 5G NR n71: 617 MHz ~ 652 MHz 5G NR n77(Part 27O): 3700 MHz ~ 3980 MHz 5G NR n78(Part 27O): 3700 MHz ~ 3800 MHz 5G NR n77/n78(Part 27Q): 3450 MHz ~ 3550 MHz
Bandwidth	n2/n66: 5MHz / 10MHz / 15MHz / 20MHz / 25MHz / 30MHz / 40MHz n5/n71: 5MHz / 10MHz / 15MHz / 20MHz n77/n78 : 10MHz / 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 70MHz / 80MHz / 90MHz / 100MHz
SCS	15kHz for n2, n5, n66, n71 30kHz for n77/78
Uplink CA Bands	n2A-n77A / n5A-n77A / n66A-n77A / n71A-n77A; n2A-n78A / n5A-n78A / n66A-n78A / n71A-n78A

Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM
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1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH01-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH01-SZ	AUDIX	E3	6.2009-8-24

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 2, 22, 24, 27
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

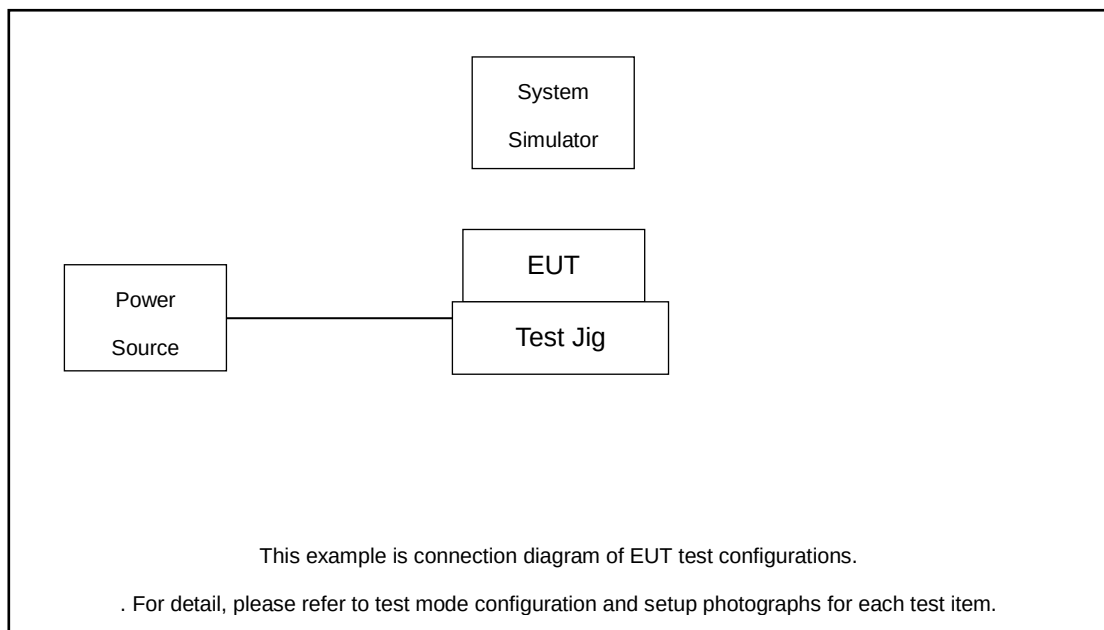
For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.

Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			

Test Items	5G NR	Bandwidth (MHz)										Modulation					RB #		Test Channel		
		10	20	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16 QAM	64 QAM	256 QAM	1	Full	L	M	H
Radiated Spurious Emission	n2A-n77A	Worst Case																		v	
	n5A-n77A	Worst Case																		v	
	n66A-n77A	Worst Case																		v	
	n71A-n77A	Worst Case																		v	
Note	1. The mark “v ” means that this configuration is chosen for testing 2. The mark “-“ means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. 5G NR Band n77 overlaps the entire frequency range of Band n78, and n77 power > n78 power, therefore the conducted test results of n77 provided in this report cover n78. 5. Frequency Stability : Normal Voltage = 4.0 V ; Low Voltage =3.4 V. ; High Voltage =4.2 V																				

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
2.	Test Jig	N/A	N/A	N/A	N/A	N/A
3.	Adapter	N/A	N/A	N/A	N/A	N/A
4.	Antenna	N/A	N/A	N/A	N/A	N/A



2.4 Frequency List of Low/Middle/High Channels

5G NR n2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	374000	376000	378000
	Frequency	1870	1880	1890
30	Channel	373000	376000	379000
	Frequency	1865	1880	1895
25	Channel	372500	376000	379500
	Frequency	1862.5	1880	1897.5
20	Channel	372000	376000	380000
	Frequency	1860	1880	1900
15	Channel	371500	376000	380500
	Frequency	1857.5	1880	1902.5
10	Channel	371000	376000	381000
	Frequency	1855	1880	1905
5	Channel	370500	376000	381500
	Frequency	1852.5	1880	1907.5

5G NR n5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	166800	167300	167800
	Frequency	834	836.5	839
15	Channel	166300	167300	168300
	Frequency	831.5	836.5	841.5
10	Channel	165800	167300	168800
	Frequency	829	836.5	844
5	Channel	165300	167300	169300
	Frequency	826.5	836.5	846.5



5G NR n66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	346000	349000	352000
	Frequency	1730	1745	1760
30	Channel	345000	349000	353000
	Frequency	1725	1745	1765
25	Channel	344500	349000	353500
	Frequency	1722.5	1745	1767.5
20	Channel	344000	349000	354000
	Frequency	1720	1745	1770
15	Channel	343500	349000	354500
	Frequency	1717.5	1745	1772.5
10	Channel	343000	349000	355000
	Frequency	1715	1745	1775
5	Channel	342500	349000	355500
	Frequency	1712.5	1745	1777.5

5G NR n71 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	134600	136100	137600
	Frequency	673	680.5	688
15	Channel	134100	136100	138100
	Frequency	670.5	680.5	690.5
10	Channel	133600	136100	138600
	Frequency	668	680.5	693
5	Channel	133100	136100	139100
	Frequency	665.5	680.5	695.5



5G n77/n78 Channel and Frequency List (Part 27Q)				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	-	633334	-
	Frequency	-	3500.01	-
90	Channel	633000	633334	633666
	Frequency	3495	3500.01	3504.99
80	Channel	632668	633334	634000
	Frequency	3490.02	3500.01	3510
70	Channel	632334	633334	634332
	Frequency	3485.01	3500.01	3514.98
60	Channel	632000	633334	634666
	Frequency	3480	3500.01	3519.99
50	Channel	631668	633334	635000
	Frequency	3475.02	3500.01	3525
40	Channel	631334	633334	635332
	Frequency	3470.01	3500.01	3529.98
30	Channel	631000	633334	635666
	Frequency	3465	3500.01	3534.99
20	Channel	630668	633334	636000
	Frequency	3460.02	3500.01	3540
10	Channel	630334	633334	636332
	Frequency	3455.01	3500.01	3544.98

5G n77 Channel and Frequency List (Part 27O)				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	650000	656000	662000
	Frequency	3750	3840	3930
90	Channel	649668	656000	662332
	Frequency	3745.02	3840	3934.98
80	Channel	649334	656000	662666
	Frequency	3740.01	3840	3939.99
70	Channel	649000	656000	663000
	Frequency	3735	3840	3945
60	Channel	648668	656000	663332
	Frequency	3730.02	3840	3949.98
50	Channel	648334	656000	663666
	Frequency	3725.01	3840	3954.99



40	Channel	648000	656000	664000
	Frequency	3720	3840	3960
30	Channel	647668	656000	664332
	Frequency	3715.02	3840	3964.98
20	Channel	647334	656000	664666
	Frequency	3710.01	3840	3969.99
10	Channel	647000	656000	665000
	Frequency	3705	3840	3975

5G n78 Channel and Frequency List (Part 270)				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	650000		
	Frequency	3750		
90	Channel	649668	650000	650332
	Frequency	3745.02	3750	3754.98
80	Channel	649334	650000	650666
	Frequency	3740.01	3750	3759.99
70	Channel	649000	650000	651000
	Frequency	3735	3750	3765
60	Channel	648668	650000	651332
	Frequency	3730.02	3750	3769.98
50	Channel	648334	650000	651666
	Frequency	3725.01	3750	3774.99
40	Channel	648000	650000	652000
	Frequency	3720	3750	3780
30	Channel	647668	650000	652332
	Frequency	3715.02	3750	3784.98
20	Channel	647334	650000	652666
	Frequency	3710.01	3750	3789.99
10	Channel	647000	650000	653000
	Frequency	3705	3750	3795

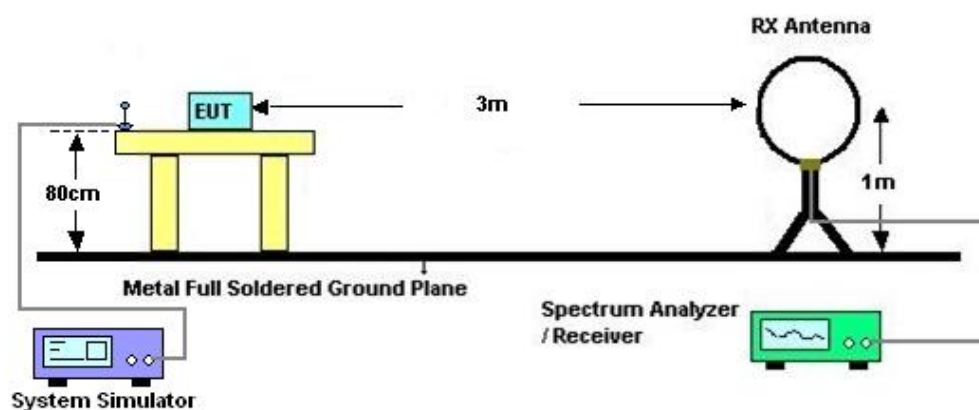
3 Radiated Test Items

3.1 Measuring Instruments

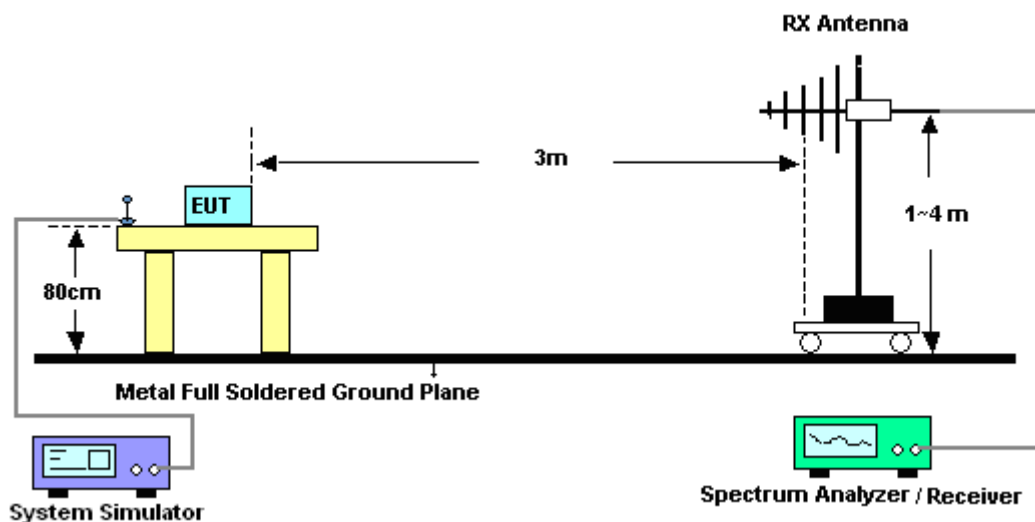
See list of measuring instruments of this test report.

3.2 Test Setup

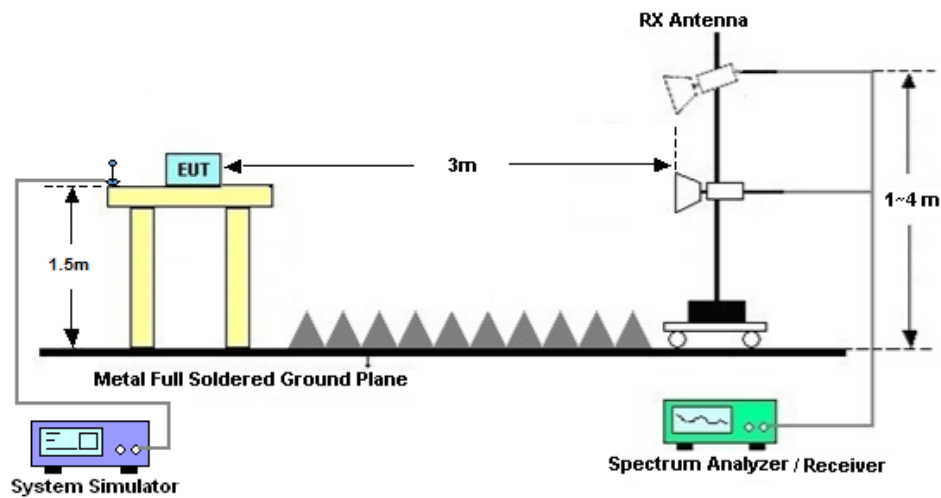
3.2.1 For radiated test below 30MHz



3.2.2 For radiated test from 30MHz to 1GHz



3.2.3 For radiated test above 1GHz



3.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix A.

3.4 Radiated Spurious Emission

3.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11. $ERP \text{ (dBm)} = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2023	Mar. 29, 2024	Dec. 26, 2024	Radiation (03CH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 07, 2023	Mar. 29, 2024	Jul. 06, 2024	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	Mar. 29, 2024	Jul. 27, 2024	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Oct. 24, 2023	Mar. 29, 2024	Oct. 23, 2025	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 08, 2023	Mar. 29, 2024	Jul. 07, 2024	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz~40GHz	Apr. 08,2023	Mar. 29, 2024	Apr. 07,2024	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 04, 2023	Mar. 29, 2024	Apr. 03,2024	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P-R	1943528	1GHz~18GHz	Oct. 18,2023	Mar. 29, 2024	Oct. 17,2024	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 18,2023	Mar. 29, 2024	Oct. 17,2024	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 07, 2023	Mar. 29, 2024	Jul. 06, 2024	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	61601000198 5	N/A	Oct. 18,2023	Mar. 29, 2024	Oct. 17,2024	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Mar. 29, 2024	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Mar. 29, 2024	NCR	Radiation (03CH01-SZ)

NCR: No Calibration Required

5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty 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 compared directly to specified limit to determine compliance.

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.48 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.53 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.02 dB
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Appendix A. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Zhaohui Liang	Temperature :	22~25°C
		Relative Humidity :	48~52%

ULCA_n2A- n77A(27Q)									
Channel	Frequency (MHz)	EIRP/ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n2 BW 40MHz Middle 1RB0,QPSK	3741.5	-56.92	-13	-43.92	-79.96	-63.67	5.85	12.60	H
	5612.25	-56.08	-13	-43.08	-80.66	-61.88	7.30	13.10	H
	7483	-57.80	-13	-44.80	-66.46	-60.95	8.35	11.50	H
	3741.5	-54.06	-13	-41.06	-79.11	-60.81	5.85	12.60	V
	5612.25	-55.06	-13	-42.06	-80.49	-60.86	7.30	13.10	V
	7483	-57.68	-13	-44.68	-66.32	-60.83	8.35	11.50	V
NR n77 BW 100MHz Middle 1RB0,QPSK	6942.50	-57.03	-13	-44.03	-64.64	-60.33	8.30	11.60	H
	10413.75	-55.86	-13	-42.86	-67.96	-57.38	10.48	12.00	H
	13885.00	-53.83	-13	-40.83	-69.58	-55.53	11.80	13.50	H
	6942.50	-52.30	-13	-39.30	-60.64	-55.60	8.30	11.60	V
	10413.75	-53.91	-13	-40.91	-68.04	-55.43	10.48	12.00	V
	13885.00	-54.52	-13	-41.52	-69.26	-56.22	11.80	13.50	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

ULCA_n5A- n77A (27Q)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n5 BW 20MHz Middle 1RB0,QPSK	1654.5	-66.32	-13	-53.32	-78.45	-73.07	5.85	12.60	H
	2481.75	-60.94	-13	-47.94	-80.19	-66.74	7.30	13.10	H
	3309	-59.90	-13	-46.90	-81.05	-63.05	8.35	11.50	H
	1654.5	-65.43	-13	-52.43	-78.2	-72.18	5.85	12.60	V
	2481.75	-60.68	-13	-47.68	-80.25	-66.48	7.30	13.10	V
	3309	-59.01	-13	-46.01	-80.86	-62.16	8.35	11.50	V
NR n77 BW 100MHz Middle 1RB0,QPSK	6942.50	-56.73	-13	-43.73	-64.34	-60.03	8.30	11.60	H
	10413.75	-55.99	-13	-42.99	-68.09	-57.51	10.48	12.00	H
	13885.00	-53.71	-13	-40.71	-69.46	-55.41	11.80	13.50	H
	6942.50	-53.58	-13	-40.58	-61.92	-56.88	8.30	11.60	V
	10413.75	-54.29	-13	-41.29	-68.42	-55.81	10.48	12.00	V
	13885.00	-54.63	-13	-41.63	-69.37	-56.33	11.80	13.50	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_ n66A- n77A (27Q)									
Channel	Frequency (MHz)	EIRP/ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n66 BW 40MHz Middle 1RB0,QPSK	5229.75	-55.83	-13	-42.83	-80.77	-61.50	7.13	12.80	H
	6973	-58.46	-13	-45.46	-66.12	-61.86	8.40	11.80	H
	8761.25	-58.99	-13	-45.99	-68.59	-61.84	8.75	11.60	H
	5229.75	-55.96	-13	-42.96	-80.97	-61.63	7.13	12.80	V
	6973	-57.36	-13	-44.36	-65.57	-60.76	8.40	11.80	V
	8761.25	-55.01	-13	-42.01	-68.22	-57.86	8.75	11.60	V
NR n77 BW 100MHz Middle 1RB0,QPSK	6942.50	-55.22	-13	-42.22	-62.83	-58.52	8.30	11.60	H
	10413.75	-56.58	-13	-43.58	-68.68	-58.10	10.48	12.00	H
	13885.00	-54.50	-13	-41.50	-70.25	-56.20	11.80	13.50	H
	6942.50	-45.60	-13	-32.60	-53.94	-48.90	8.30	11.60	V
	10413.75	-54.15	-13	-41.15	-68.28	-55.67	10.48	12.00	V
	13885.00	-54.99	-13	-41.99	-69.73	-56.69	11.80	13.50	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

ULCA_ n71A- n77A (27Q)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n71 BW 20MHz Middle 1RB0,QPSK	1342	-66.81	-13	-53.81	-77.82	-70.06	4.00	9.40	H
	2013	-62.55	-13	-49.55	-80.26	-66.12	4.88	10.60	H
	2684	-61.15	-13	-48.15	-80.78	-66.08	5.52	12.60	H
	1342	-65.86	-13	-52.86	-77.82	-69.11	4.00	9.40	V
	2013	-62.66	-13	-49.66	-80.26	-66.23	4.88	10.60	V
	2684	-60.61	-13	-47.61	-80.70	-65.54	5.52	12.60	V
NR n77 BW 100MHz Middle 1RB0,QPSK	6942.50	-50.87	-13	-37.87	-58.48	-54.17	8.30	11.60	H
	10413.75	-55.76	-13	-42.76	-67.86	-57.28	10.48	12.00	H
	13885.00	-53.60	-13	-40.60	-69.35	-55.30	11.80	13.50	H
	6942.50	-45.78	-13	-32.78	-54.12	-49.08	8.30	11.60	V
	10413.75	-53.96	-13	-40.96	-68.09	-55.48	10.48	12.00	V
	13885.00	-54.55	-13	-41.55	-69.29	-56.25	11.80	13.50	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_n2A- n77A(270)									
Channel	Frequency (MHz)	EIRP/ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n2 BW 40MHz Middle 1RB0,QPSK	3741.5	-58.56	-13	-45.56	-81.60	-65.31	5.85	12.60	H
	5612.25	-57.96	-13	-44.96	-82.54	-63.76	7.30	13.10	H
	7483	-58.37	-13	-45.37	-67.03	-61.52	8.35	11.50	H
	3741.5	-56.22	-13	-43.22	-81.27	-62.97	5.85	12.60	V
	5612.25	-57.54	-13	-44.54	-82.97	-63.34	7.30	13.10	V
	7483	-58.22	-13	-45.22	-66.86	-61.37	8.35	11.50	V
NR n77 BW 100MHz Middle 1RB0,QPSK	7622.50	-57.37	-13	-44.37	-65.54	-60.67	8.30	11.60	H
	11433.75	-54.43	-13	-41.43	-68.77	-55.95	10.48	12.00	H
	15245.00	-50.00	-13	-37.00	-68.38	-51.70	11.80	13.50	H
	7622.50	-56.56	-13	-43.56	-65.41	-59.86	8.30	11.60	V
	11433.75	-50.53	-13	-37.53	-68.74	-52.05	10.48	12.00	V
	15245.00	-50.54	-13	-37.54	-68.50	-52.24	11.80	13.50	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

ULCA_n5A- n77A (270)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n5 BW 20MHz Middle 1RB0,QPSK	1654.5	-66.85	-13	-53.85	-78.98	-73.60	5.85	12.60	H
	2481.75	-61.58	-13	-48.58	-80.83	-67.38	7.30	13.10	H
	3309	-60.81	-13	-47.81	-81.96	-63.96	8.35	11.50	H
	1654.5	-65.84	-13	-52.84	-78.61	-72.59	5.85	12.60	V
	2481.75	-61.14	-13	-48.14	-80.71	-66.94	7.30	13.10	V
	3309	-59.92	-13	-46.92	-81.77	-63.07	8.35	11.50	V
NR n77 BW 100MHz Middle 1RB0,QPSK	7622.50	-57.52	-13	-44.52	-65.69	-60.82	8.30	11.60	H
	11433.75	-54.59	-13	-41.59	-68.93	-56.11	10.48	12.00	H
	15245.00	-50.09	-13	-37.09	-68.47	-51.79	11.80	13.50	H
	7622.50	-45.76	-13	-32.76	-54.61	-49.06	8.30	11.60	V
	11433.75	-50.63	-13	-37.63	-68.84	-52.15	10.48	12.00	V
	15245.00	-50.23	-13	-37.23	-68.19	-51.93	11.80	13.50	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_ n66A- n77A (270)									
Channel	Frequency (MHz)	EIRP/ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n66 BW 40MHz Middle 1RB0,QPSK	3486.5	-60.62	-13	-47.62	-82.65	-67.47	5.65	12.50	H
	5229.75	-58.50	-13	-45.50	-83.44	-64.17	7.13	12.80	H
	6973	-57.64	-13	-44.64	-65.30	-61.04	8.40	11.80	H
	3486.5	-59.75	-13	-46.75	-82.45	-66.60	5.65	12.50	V
	5229.75	-58.42	-13	-45.42	-83.43	-64.09	7.13	12.80	V
	6973	-57.05	-13	-44.05	-65.26	-60.45	8.40	11.80	V
NR n77 BW 100MHz Middle 1RB0,QPSK	7622.50	-54.30	-13	-41.30	-62.47	-57.60	8.30	11.60	H
	11433.75	-54.10	-13	-41.10	-68.44	-55.62	10.48	12.00	H
	15245.00	-49.88	-13	-36.88	-68.26	-51.58	11.80	13.50	H
	7622.50	-45.25	-13	-32.25	-54.1	-48.55	8.30	11.60	V
	11433.75	-50.40	-13	-37.40	-68.61	-51.92	10.48	12.00	V
	15245.00	-47.65	-13	-34.65	-65.61	-49.35	11.80	13.50	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

ULCA_ n71A- n77A (270)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n71 BW 20MHz Middle 1RB0,QPSK	1342	-66.40	-13	-53.40	-77.41	-69.65	4.00	9.40	H
	2013	-62.26	-13	-49.26	-79.97	-65.83	4.88	10.60	H
	2684	-61.02	-13	-48.02	-80.65	-65.95	5.52	12.60	H
	1342	-65.56	-13	-52.56	-77.52	-68.81	4.00	9.40	V
	2013	-62.29	-13	-49.29	-79.89	-65.86	4.88	10.60	V
	2684	-60.44	-13	-47.44	-80.53	-65.37	5.52	12.60	V
NR n77 BW 100MHz Middle 1RB0,QPSK	7622.50	-54.83	-13	-41.83	-63.00	-58.13	8.30	11.60	H
	11433.75	-53.93	-13	-40.93	-68.27	-55.45	10.48	12.00	H
	15245.00	-50.40	-13	-37.40	-68.78	-52.10	11.80	13.50	H
	7622.50	-46.31	-13	-33.31	-55.16	-49.61	8.30	11.60	V
	11433.75	-50.31	-13	-37.31	-68.52	-51.83	10.48	12.00	V
	15245.00	-48.83	-13	-35.83	-66.79	-50.53	11.80	13.50	V