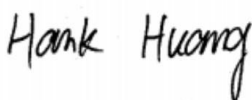


RF Exposure Evaluation Report

APPLICANT : Rolling Wireless S.à r.l.
EQUIPMENT : RN941W
BRAND NAME : Rolling Wireless
MODEL NAME : RN941W
FCC ID : 2AX2URN941W
STANDARD : 47 CFR Part 2.1091
FCC KDB 447498 D01 v06

The product evaluation date was started from Jan. 27, 2026 and completed on Jan. 27, 2026. We, Sporton International Inc. (Shenzhen), would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and FCC KDB 447498 D01 v06, and pass the limit. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.



Approved by: Hank Huang

Sporton International Inc. (Shenzhen)

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055
People's Republic of China



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**Revision History**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA5D3103-01	Rev. 01	Initial issue of report.	Mar. 31, 2026



1. Administration Data

1.1. Testing Laboratory

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

Testing Laboratory			
Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR01-SZ	CN1256	421272

Applicant	
Company Name	Rolling Wireless S.à r.l.
Address	8-10 rue Mathias Hardt 1717 Luxembourg

Manufacturer	
Company Name	Rolling Wireless S.à r.l.
Address	8-10 rue Mathias Hardt 1717 Luxembourg

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	RN941W
Brand Name	Rolling Wireless
Model Name	RN941W
FCC ID	2AX2URN941W
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 40: 2305 MHz ~ 2315 MHz, 2350 MHz ~ 2360 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3600 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n13 : 777 MHz ~ 787 MHz 5G NR n14 : 788 MHz ~ 798 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n40 : 2305 MHz ~ 2315 MHz, 2350 MHz ~ 2360 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77 : 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78 : 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz
Mode	GSM/GPRS/EGPRS/DTM AMR/RMC 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna Type	WWAN : External Antenna
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The intra-band/inter-band ULCA, UL MIMO and EN-DC mode combination could be referred to the product spec.
3. This device supports intra-band ULCA, due to intra-band ULCA and non-CA power is same, so non-CA MPE analysis can represent ULCA MPE analysis.
4. 5G NR n2/5/7/12/13/14/25/26/38/40/41/48/66/71/77/78 supports SA mode only, and 5G NR n2/5/7/12/14/25/26/38/40

/41/48/66/71/77/78 supports NSA mode.

5. This device supports HPUE mode for LTE Band 41 and 5GNR n41/77/78 with class 2 power level, so HPUE has been performed to do MPE analysis.
6. 5GNR n77/n78 supports UL MIMO, only MIMO tune up power was chosen to perform MPE calculation conservatively for MIMO power is higher.

Comments and Explanations:

1. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.
2. The maximum RF output tune up power, antenna gain also the safe distance used for evaluate RF exposure were declared by manufacturer.

3. Maximum RF average output tune up power among production units

<GSM>

Mode	Burst average power(dBm)	
	GSM 850	GSM 1900
GSM/GPRS (GMSK, 1 Tx slot)	35.00	32.00
GPRS (GMSK, 2 Tx slots)	33.50	30.00
GPRS (GMSK, 3 Tx slots)	32.50	29.00
GPRS (GMSK, 4 Tx slots)	31.00	28.00
EDGE (8PSK, 1 Tx slot)	29.00	28.00
EDGE (8PSK, 2 Tx slots)	29.00	28.00
EDGE (8PSK, 3 Tx slots)	28.50	27.50
EDGE (8PSK, 4 Tx slots)	28.50	27.50

<WCDMA>

Mode		Maximum Average power(dBm)
WCDMA	Band II	25.70
	Band IV	25.70
	Band V	25.70

<LTE>

Mode		Maximum Average power(dBm)
LTE	Band 2	25.70
	Band 4	25.70
	Band 5	25.70
	Band 7	25.70
	Band 12	25.70
	Band 13	25.70
	Band 14	25.70
	Band 17	25.70
	Band 25	25.70
	Band 26	25.70



	Band 38	25.70
	Band 40	13.70
	Band 41	25.70
	Band 41 HPUE	28.70
	Band 42	25.70
	Band 48	25.70
	Band 66	25.70
	Band 71	25.70

<5GNR>

Mode		Maximum Average power(dBm)
5GNR	n2	25.70
	n5	25.70
	n7	25.70
	n12	25.70
	n13	25.70
	n14	25.70
	n25	25.70
	n26	25.70
	n38	25.70
	n40	19.00
	n41	25.70
	n41 HPUE	28.70
	n48	25.70
	n66	25.70
	n71	25.70
	n77	25.70
	n77 HPUE	28.70
	n78	25.70
	n78 HPUE	28.70

<5GNR MIMO>

Mode		Maximum Average power(dBm)
5GNR	n77	28.70
	n78	28.70

Note: WWAN support SISO/MIMO mode, only MIMO tune up power was chosen to perform MPE calculation conservatively for MIMO power is higher.

4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Maximum Power (dBm)	MPE evaluation distance (cm)	FCC ERP/EIRP Limit (W)	Power Density for Max Gain to meet FCC ERP/EIRP and MPE limit (mW/cm ²)	Power Density for Max gain allowed (mW/cm ²)	FCC MPE Limit (mW)/cm ²	FCC MPE Result / FCC MPE Limit Ratio	Ant Gain to meet FCC MPE limit (dBi)	Ant Gain to meet FCC ERP/EIRP limit (dBi)	Max Gain to meet FCC ERP/EIRP and MPE limit (dBi)	Max Gain to consider same Frequency with LTE or EN-DC Active	Max gain allowed (dBi)
GSM/GPRS 850 (1 Tx slot)	824.0	35.00	20.00	7.000	0.173	0.173	0.549	0.316	8.4	3.4	3.4	3.4	3.4
GPRS 850 (2 Tx slots)	824.0	33.50	20.00	7.000	0.346	0.245	0.549	0.446	6.9	4.9	4.9	3.4	3.4
GPRS 850 (3 Tx slots)	824.0	32.50	20.00	7.000	0.516	0.290	0.549	0.529	6.1	5.9	5.9	3.4	3.4
GPRS 850 (4 Tx slots)	824.0	31.00	20.00	7.000	0.548	0.275	0.549	0.500	6.4	7.4	6.4	3.4	3.4
EGPRS 850 (1 Tx slot)	824.0	29.00	20.00	7.000	0.173	0.044	0.549	0.079	14.4	9.4	9.4	3.4	3.4
EGPRS 850 (2 Tx slots)	824.0	29.00	20.00	7.000	0.346	0.087	0.549	0.158	11.4	9.4	9.4	3.4	3.4
EGPRS 850 (3 Tx slots)	824.0	28.50	20.00	7.000	0.516	0.116	0.549	0.210	10.1	9.9	9.9	3.4	3.4
EGPRS 850 (4 Tx slots)	824.0	28.50	20.00	7.000	0.548	0.155	0.549	0.281	8.9	9.9	8.9	3.4	3.4
GSM/GPRS 1900 (1 Tx slot)	1850.0	32.00	20.00	2.000	0.050	0.050	1.000	0.050	14.0	1.0	1.0	1.0	1.0
GPRS 1900 (2 Tx slots)	1850.0	30.00	20.00	2.000	0.100	0.063	1.000	0.063	13.0	3.0	3.0	1.0	1.0
GPRS 1900 (3 Tx slots)	1850.0	29.00	20.00	2.000	0.149	0.075	1.000	0.075	12.2	4.0	4.0	1.0	1.0
GPRS 1900 (4 Tx slots)	1850.0	28.00	20.00	2.000	0.199	0.079	1.000	0.079	12.0	5.0	5.0	1.0	1.0
EGPRS 1900 (1 Tx slot)	1850.0	28.00	20.00	2.000	0.050	0.020	1.000	0.020	18.0	5.0	5.0	1.0	1.0
EGPRS 1900 (2 Tx slots)	1850.0	28.00	20.00	2.000	0.100	0.040	1.000	0.040	15.0	5.0	5.0	1.0	1.0
EGPRS 1900 (3 Tx slots)	1850.0	27.50	20.00	2.000	0.149	0.053	1.000	0.053	13.7	5.5	5.5	1.0	1.0
EGPRS 1900 (4 Tx slots)	1850.0	27.50	20.00	2.000	0.199	0.071	1.000	0.071	12.5	5.5	5.5	1.0	1.0
WCDMA Band 2	1850.0	25.70	20.00	2.000	0.397	0.397	1.000	0.397	11.3	7.3	7.3	7.3	7.3
WCDMA Band 4	1710.0	25.70	20.00	1.000	0.199	0.199	1.000	0.199	11.3	4.3	4.3	4.3	4.3
WCDMA Band 5	824.0	25.70	20.00	7.000	0.548	0.548	0.549	0.998	8.7	12.7	8.7	8.7	8.7
LTE Band 2	1850.0	25.70	20.00	2.000	0.397	0.397	1.000	0.397	11.3	7.3	7.3	7.3	7.3
LTE Band 4	1710.0	25.70	20.00	1.000	0.199	0.199	1.000	0.199	11.3	4.3	4.3	4.3	4.3
LTE Band 5	824.0	25.70	20.00	7.000	0.548	0.234	0.549	0.426	8.7	12.7	8.7	5.0	5.0
LTE Band 7	2500.0	25.70	20.00	2.000	0.397	0.199	1.000	0.199	11.3	7.3	7.3	4.3	4.3
LTE Band 12	699.0	25.70	20.00	3.000	0.456	0.218	0.466	0.468	7.9	9.0	7.9	4.7	4.7
LTE Band 13	777.0	25.70	20.00	3.000	0.512	0.218	0.518	0.421	8.4	9.0	8.4	4.7	4.7
LTE Band 14	788.0	25.70	20.00	3.000	0.524	0.218	0.525	0.415	8.5	9.0	8.5	4.7	4.7
LTE Band 17	704.0	25.70	20.00	3.000	0.467	0.218	0.469	0.465	8.0	9.0	8.0	4.7	4.7
LTE Band 25	1850.0	25.70	20.00	2.000	0.397	0.397	1.000	0.397	11.3	7.3	7.3	7.3	7.3
LTE Band 26	814.0	25.70	20.00	7.000	0.536	0.234	0.543	0.431	8.6	12.7	8.6	5.0	5.0
LTE Band 38	2570.0	25.70	20.00	2.000	0.397	0.199	1.000	0.199	11.3	7.3	7.3	4.3	4.3
LTE Band 40	2305.0	13.70	20.00	0.250	0.049	0.014	1.000	0.014	23.3	10.2	10.2	4.9	4.9
LTE Band 41	2496.0	28.70	20.00	2.000	0.397	0.397	1.000	0.397	8.3	4.3	4.3	4.3	4.3
LTE Band 42	3450.0	25.70	20.00	0.200	0.040	0.040	1.000	0.040	11.3	-2.7	-2.7	-2.7	-2.7
LTE Band 48	3550.0	25.70	20.00	0.200	0.040	0.040	1.000	0.040	11.3	-2.7	-2.7	-2.7	-2.7
LTE Band 66	1710.0	25.70	20.00	1.000	0.199	0.199	1.000	0.199	11.3	4.3	4.3	4.3	4.3
LTE Band 71	663.0	25.70	20.00	3.000	0.435	0.218	0.442	0.494	7.7	9.0	7.7	4.7	4.7
5G NR n2	1850.0	25.70	20.00	2.000	0.397	0.397	1.000	0.397	11.3	7.3	7.3	7.3	7.3
5G NR n5	824.0	25.70	20.00	7.000	0.548	0.234	0.549	0.426	8.7	12.7	8.7	5.0	5.0
5G NR n7	2500.0	25.70	20.00	2.000	0.397	0.199	1.000	0.199	11.3	7.3	7.3	4.3	4.3
5G NR n12	699	25.70	20.00	3.000	0.456	0.218	0.466	0.468	7.9	9.0	7.9	4.7	4.7
5G NR n13	777	25.70	20.00	3.000	0.512	0.218	0.518	0.421	8.4	9.0	8.4	4.7	4.7
5G NR n14	788.0	25.70	20.00	3.000	0.524	0.218	0.525	0.415	8.5	9.0	8.5	4.7	4.7
5G NR n25	1850.0	25.70	20.00	2.000	0.397	0.397	1.000	0.397	11.3	7.3	7.3	7.3	7.3
5G NR n26	814.0	25.70	20.00	7.000	0.536	0.234	0.543	0.431	8.6	12.7	8.6	5.0	5.0
5G NR n38	2570.0	25.70	20.00	2.000	0.397	0.199	1.000	0.199	11.3	7.3	7.3	4.3	4.3



5G NR n40	2305.0	19.00	20.00	0.250	0.049	0.049	1.000	0.049	18.0	4.9	4.9	4.9	4.9
5G NR n41	2496.00	28.70	20.00	2.000	0.397	0.397	1.000	0.397	8.3	4.3	4.3	4.3	4.3
5G NR n48	3550.0	25.70	20.00	0.200	0.040	0.040	1.000	0.040	11.3	-2.7	-2.7	-2.7	-2.7
5G NR n66	1710.0	25.70	20.00	1.000	0.199	0.199	1.000	0.199	11.3	4.3	4.3	4.3	4.3
5G NR n71	663.0	25.70	20.00	3.000	0.435	0.218	0.442	0.494	7.7	9.0	7.7	4.7	4.7
5G NR n77 MIMO	3450.0	28.70	20.00	1.000	0.199	0.199	1.000	0.199	8.3	1.3	1.3	1.3	1.3
5G NR n78 MIMO	3450.0	28.70	20.00	1.000	0.199	0.199	1.000	0.199	8.3	1.3	1.3	1.3	1.3

Note:

1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power to do MPE analysis.
3. 5GNR MIMO chose the higher SISO gain as MIMO gain to perform MPE calculation.

5.2. Collocated Power Density Calculation

<EN-DC>

LTE Power Density / Limit	5GNR Power Density / Limit	$\Sigma(\text{Power Density / Limit})$ of WWAN + 5GNR
0.494	0.494	0.988

<LTE inter-band ULCA>

LTE Power Density / Limit	LTE Power Density / Limit	$\Sigma(\text{Power Density / Limit})$ of LTE + LTE
0.494	0.494	0.988

<5GNR inter-band ULCA>

5GNR Power Density / Limit	5GNR Power Density / Limit	$\Sigma(\text{Power Density / Limit})$ of 5GNR + 5GNR
0.494	0.494	0.988

Note:

1. Always chose the worst evaluation value of NR and LTE standalone band to do analysis. $\Sigma(\text{Power Density / Limit})$: This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/(corresponding MPE limit)], for LTE + 5GNR/ LTE /5GNR inter-band ULCA.
2. Considering all transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant.

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

-----THE END-----