

TEST REPORT

Application No.: SZCR2411004436MO
Applicant: Rolling Wireless S.à r.l.
Address of Applicant: 8-10 rue Mathias Hardt 1717 Luxembourg
Manufacturer: Rolling Wireless S.à r.l.
Address of Manufacturer: 8-10 rue Mathias Hardt 1717 Luxembourg
EUT Description: RW962B
Model No.: RW962B
Trade Mark: Rolling Wireless
FCC ID: 2AX2URW962B
Standards: FCC 47 CFR Part 2.1091
FCC KDB 447498 D01 v06
Date of Receipt: 2024-11-26
Date of Issue: 2025-04-14

Test Result:	PASS*
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* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu

Keny Xu
EMC Laboratory Manager



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SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/1

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Page: 2 of 8

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2025-04-14		Original

Authorized for issue by:				
		Donjon . Huang		
		Donjon Huang/Project Engineer		
		Eric Fu		
		Eric Fu/Reviewer		



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Testing Center Laboratory

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2 Contents

1	Cover Page	1
2	Contents	3
3	General Information.....	4
3.1	General Description of EUT	4
3.2	Test Location	5
3.3	Test Facility	5
4	RF Exposure Evaluation.....	6
4.1	RF Exposure Compliance Requirement.....	6
4.1.1	Limits.....	6
4.1.2	Test Procedure	7
4.1.3	EUT RF Exposure Evaluation.....	7
4.1.4	Exposure calculations for multiple sources	8



3 General Information

3.1 General Description of EUT

Hardware Version:	1.0
Software Version:	AFPQ52XA_01.07.07.04
Power Supply:	DC4V
Antenna Type:	☒ External, ☐ Integrated
Antenna Gain:	Bluetooth: 2.44dBi
	WIFI 2.4G: 2.44dBi(Ant1); 2.44dBi(Ant2)
	5G WIFI(U-NII-1): 1.14dBi(Ant1); 1.14dBi(Ant2);
	5G WIFI(U-NII-2A): 1.83dBi(Ant1); 1.83dBi(Ant2);
	5G WIFI(U-NII-2C): 3.18dBi(Ant1); 3.18dBi(Ant2);
	5G WIFI(U-NII-3): 3.42dBi(Ant1); 3.42dBi(Ant2);
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.
Remark: As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.	



3.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.



4 RF Exposure Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

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

F=frequency in MHz
 *=Plane-wave equivalent power density
 RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.



4.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually

4.1.3 EUT RF Exposure Evaluation

Output Power Into Antenna & RF Exposure Evaluation Distance:

This confirmed that the device comply with MPE limit.

Operating Band	Frequency (MHz)	Antenna Gain (dBi)	MIMO Directional gain	Max Conducted Power (dBm)	EIRP(ERP) (dBm)	EIRP(ERP) Limit (dBm)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)	Gain according to EIRP(ERP) (dBi)	Gain according to Pd (dBi)	Max Gain Allowed (dBi)	conclusion
Bluetooth	2480.0	2.44	N/A	11.88	14.32	23.00	0.0054	1.0000	11.12	25.13	11.12	Pass
2.4GWIFI	2412.0	2.44	5.45	18.77	21.21	30.00	0.0263	1.0000	11.23	18.24	11.23	Pass
5GWIFI	5580.0	3.18	6.19	15.97	19.15	30.00	0.0164	1.0000	14.03	21.04	14.03	Pass



4.1.4 Exposure calculations for multiple sources

In order to ensure compliance with the MPE for a controlled environment, the sum of the ratios of the power density to the corresponding MPE should not exceed unity. That is

$$\sum_{i=1}^n \frac{S_i}{MPE_i} \leq 1$$

The product also has multiple transmitters The Simultaneous Transmission Possibilities are as below:

Simultaneous Tx Combination	Configuration
1	Bluetooth + WiFi 2.4G + WiFi 5G

No.	Mode	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)	Result Ratio	Total Ratio	Limit	Result
1	Bluetooth	0.054	1.00	0.054	0.481	1.0000	Pass
	WiFi 2.4G	0.263	1.00	0.263			
	WiFi 5G	0.164	1.00	0.164			

---End of Report---

