



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

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR250200074003

Page: 1 of 8

RF Exposure Report

Application No.: SZCR2502000740AT
Applicant: Shenzhen RAKwireless Technology Co., Ltd.
Address of Applicant: Room 506, Building B, New Compark, Pingshan First Road, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
Manufacturer: Shenzhen RAKwireless Technology Co., Ltd.
Address of Manufacturer: Room 506, Building B, New Compark, Pingshan First Road, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
Factory: Shenzhen RAKwireless Technology Co., Ltd.
Address of Factory: Room 506, Building B, New Compark, Pingshan First Road, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
Equipment Under Test (EUT):
EUT Name: WisGate Edge Ultra
Model No.: RAK7285
Trade Mark: RAK
FCC ID: 2AF6B-RAK7285H
Standard(s) : FCC Rules 47 CFR §2.1091
KDB 447498 D04 interim General RF Exposure Guidance v01
Date of Receipt: 2025-02-28
Date of Test: 2025-03-04 to 2025-03-09
Date of Issue: 2025-03-10

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



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

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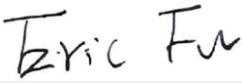
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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2025-03-10		Original

Authorized for issue by:				
				
		Benson Wang/Project Engineer		
				
		Eric Fu/Reviewer		



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2 General Information

2.1 General Description of E.U.T.

Product Type:	<input type="checkbox"/> Portable device
	<input checked="" type="checkbox"/> Mobile device
	<input type="checkbox"/> Fixed device

2.2 Details of E.U.T.

Power supply:	Powered by DC 9V-36V or Switching mode power supply Switching mode power supply model: R012-4800500 Input: 100-240V 50/60Hz Output: DC48V 0.5A
Cable(s):	AC cable: 162cm unshielded cable of GPS antenna: 30.5cm unshielded DC cable: 53cm unshielded USB cable: 101cm shielded
Operation Frequency:	923.3-927.5MHz
Modulation Type:	Lora
Number of Channels:	8
Data Rate:	SF12 – SF7 / DR8 – DR13
Occupied Bandwidth:	500KHz
Channel Spacing:	600KHz
Antenna Type:	Fiberglass Antenna
Antenna Gain:	Fiberglass Antenna 1: 8.3dBi; Fiberglass Antenna 2: 5.1dBi; (The Fiberglass Antenna 1 and 2 have the same type and RF characteristics as equivalent antenna, so, only the Fiberglass Antenna 1 (High antenna gain) was tested in the report.)



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Separation Distance

Minimum test separation distance:	20cm
Remark: This minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander.	



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2.3 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.

2.4 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.



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3 FCC Radiofrequency radiation exposure limits

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
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



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4 Measurement and Calculation

4.1 Maximum transmit power

Lora:

The Power Data is based on the RF Test Report SZCR250200074002 and Tune up procedure & user manual.

Highest Antenna Gain: 8.3dBi

MPE Calculation

According to the formula $S = \frac{P}{4\pi R^2}$, we can calculate S which is MPE.

Note:

- 1) P (mW)
- 2) R = distance to the center of radiation of antenna (in centimeter)
- 3) MPE limit = 0.6mW/cm²

Test Mode	Frequency Band (MHz)	Max Conducted power (dBm)	Max E.I.R.P (dBm)	Operation Distance R(cm)	Power Density (mW/cm ²)	Limit of Power Density S(mW/cm ²)	Result
Lora	923.3-927.5	25.7	34	20	0.50	0.6	Pass

--End of the Report--



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