

TEST REPORT

Application No.: SZCR2503001087MO
Applicant: Rolling Wireless S.a r.l.
Address of Applicant: 8-10, rue Mathias Hardt 1717, Luxembourg
Manufacturer: Rolling Wireless S.a r.l.
Address of Manufacturer: 8-10, rue Mathias Hardt 1717, Luxembourg
EUT Description: 5G RadCap Module
Model No.: RW135-GL
Trade Mark: Rolling Wireless
FCC ID: 2AX2URW135GL
Standards: FCC 47 CFR Part 2.1091
FCC KDB 447498 D01 v06
Date of Receipt: 2025/03/20
Date of Issue: 2025/05/22

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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Shenzhen Branch EMC Laboratory

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SZEMC-TRF-01 Rev. A/1

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2025/05/22		Original

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



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3 General Information

3.1 General Description of EUT

EUT Description:	5G RadCap Module			
Model No.:	RW135-GL			
Trade Mark:	Rolling Wireless			
Hardware Version:	V1.1			
Software Version:	89600.0000.00.01.07.08			
Power Supply:	DC 3.3V			
Antenna Type:	☒ External, ☐ Integrated			
HPUE Power Class:	Class 2: NR Band n41; NR Band n77; NR Band n78			
Antenna Gain:	LTE Band 2:	4dBi	LTE Band 4:	3dBi
	LTE Band 5:	3dBi	LTE Band 7:	3dBi
	LTE Band 12:	3dBi	LTE Band 13:	3dBi
	LTE Band 14:	3dBi	LTE Band 17:	3dBi
	LTE Band 25:	4dBi	LTE Band 26:	3dBi
	LTE Band 30:	1dBi	LTE Band 38:	3dBi
	LTE Band 41:	3dBi	LTE Band 42:	1dBi
	LTE Band 43:	1dBi	LTE Band 48:	1dBi
	LTE Band 66:	3dBi	LTE Band 70:	3dBi
	LTE Band 71:	3dBi		
	NR Band n2:	4dBi	NR Band n5:	3dBi
	NR Band n7:	3dBi	NR Band n12:	3dBi
	NR Band n13:	3dBi	NR Band n14:	3dBi
	NR Band n25:	4dBi	NR Band n26:	3dBi
	NR Band n30:	1dBi	NR Band n38:	3dBi
	NR Band n41:	3dBi	NR Band n48:	1dBi
	NR Band n66:	3dBi	NR Band n70:	3dBi
	NR Band n71:	3dBi	NR Band n77:	3dBi
	NR Band n78:	3dBi		
	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.



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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)	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
LTE Band 2	1850.7	4.00	24.00	28.00	33.01	0.1255	1.0000	9.01	13.01	9.01	Pass
LTE Band 4	1710.7	3.00	24.00	27.00	30.00	0.0997	1.0000	6.00	13.01	6.00	Pass
LTE Band 5	824.7	3.00	25.00	25.85	38.45	0.1255	0.5498	15.60	9.41	9.41	Pass
LTE Band 7	2502.5	3.00	24.00	27.00	33.01	0.0997	1.0000	9.01	13.01	9.01	Pass
LTE Band 12	699.7	3.00	25.00	25.85	34.77	0.1255	0.4665	11.92	8.70	8.70	Pass
LTE Band 13	779.5	3.00	25.00	25.85	34.77	0.1255	0.5197	11.92	9.16	9.16	Pass
LTE Band 14	790.5	3.00	25.00	25.85	34.77	0.1255	0.5270	11.92	9.23	9.23	Pass
LTE Band 17	706.5	3.00	25.00	25.85	34.77	0.1255	0.4710	11.92	8.74	8.74	Pass
LTE Band 25	1852.5	4.00	24.00	28.00	33.01	0.1255	1.0000	9.01	13.01	9.01	Pass
LTE Band 26 (814-824)	817.0	3.00	25.00	25.85	NA	0.1255	0.5447	NA	9.37	9.37	Pass
LTE Band 26 (824-849)	824.7	3.00	25.00	25.85	38.45	0.1255	0.5498	15.60	9.41	9.41	Pass
LTE Band 30	2307.5	1.00	22.98	23.98	23.98	0.0497	1.0000	1.00	14.03	1.00	Pass
LTE Band 38	2572.5	3.00	24.00	27.00	33.01	0.0997	1.0000	9.01	13.01	9.01	Pass
LTE Band 41	2498.5	3.00	24.00	27.00	33.01	0.0997	1.0000	9.01	13.01	9.01	Pass
LTE Band 42	3552.5	1.00	22.00	23.00	23.00	0.0397	1.0000	1.00	15.01	1.00	Pass
LTE Band 43	3602.5	1.00	22.00	23.00	23.00	0.0397	1.0000	1.00	15.01	1.00	Pass
LTE Band 48	3552.5	1.00	22.00	23.00	23.00	0.0397	1.0000	1.00	15.01	1.00	Pass
LTE Band 66	1710.7	3.00	24.00	27.00	30.00	0.0997	1.0000	6.00	13.01	6.00	Pass
LTE Band 70	1967.5	3.00	24.00	27.00	30.00	0.0997	1.0000	6.00	13.01	6.00	Pass
LTE Band 71	665.5	3.00	25.00	25.85	34.77	0.1255	0.4437	11.92	8.48	8.48	Pass
NR Band n2	1852.5	4.00	24.00	28.00	33.00	0.1255	1.0000	9.00	13.01	9.00	Pass
NR Band n5	826.5	3.00	25.00	25.85	38.45	0.1255	0.5510	15.60	9.42	9.42	Pass
NR Band n7	2502.5	3.00	24.00	27.00	33.00	0.0997	1.0000	9.00	13.01	9.00	Pass
NR Band n12	701.5	3.00	25.00	25.85	34.77	0.1255	0.4677	11.92	8.71	8.71	Pass
NR Band n13	779.5	3.00	25.00	25.85	34.77	0.1255	0.5197	11.92	9.16	9.16	Pass
NR Band n14	790.5	3.00	25.00	25.85	34.77	0.1255	0.5270	11.92	9.23	9.23	Pass
NR Band n25	1852.5	4.00	24.00	28.00	33.00	0.1255	1.0000	9.00	13.01	9.00	Pass
NR Band n26 (814-824)	816.5	3.00	25.00	25.85	NA	0.1255	0.5443	NA	9.37	9.37	Pass
NR Band n26 (824-849)	826.5	3.00	25.00	25.85	38.45	0.1255	0.5510	15.60	9.42	9.42	Pass
NR Band n30	2307.5	1.00	22.98	23.98	23.98	0.0497	1.0000	1.00	14.03	1.00	Pass
NR Band n38	2575.0	3.00	24.00	27.00	33.01	0.0997	1.0000	9.01	13.01	9.01	Pass
NR Band n41	2501.5	3.00	24.00	27.00	33.01	0.0997	1.0000	9.01	13.01	9.01	Pass
NR Band n41 (PC2)	2501.5	3.00	27.00	30.00	33.01	0.1989	1.0000	6.01	10.01	6.01	Pass
NR Band n48	3555.0	1.00	22.00	23.00	23.00	0.0397	1.0000	1.00	15.01	1.00	Pass
NR Band n66	1712.5	3.00	24.00	27.00	30.00	0.0997	1.0000	6.00	13.01	6.00	Pass
NR Band n70	1697.5	3.00	24.00	27.00	30.00	0.0997	1.0000	6.00	13.01	6.00	Pass
NR Band n71	665.5	3.00	25.00	25.85	34.77	0.1255	0.4437	11.92	8.48	8.48	Pass



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Operating Band	Frequency (MHz)	Antenna Gain (dBi)	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
NR Band n77 (3450-3550)	3455.0	3.00	24.00	27.00	30.00	0.0997	1.0000	6.00	13.01	6.00	Pass
NR Band n77 (3450-3550) (PC2)	3455.0	3.00	27.00	30.00	30.00	0.1989	1.0000	3.00	10.01	3.00	Pass
NR Band n77 (3700-3980)	3707.5	3.00	24.00	27.00	30.00	0.0997	1.0000	6.00	13.01	6.00	Pass
NR Band n77 (3700-3980) (PC2)	3707.5	3.00	27.00	30.00	30.00	0.1989	1.0000	3.00	10.01	3.00	Pass
NR Band n78 (3450-3550)	3455.0	3.00	24.00	27.00	30.00	0.0997	1.0000	6.00	13.01	6.00	Pass
NR Band n78 (3450-3550) (PC2)	3455.0	3.00	27.00	30.00	30.00	0.1989	1.0000	3.00	10.01	3.00	Pass
NR Band n78 (3700-3800)	3705.0	3.00	24.00	27.00	30.00	0.0997	1.0000	6.00	13.01	6.00	Pass
NR Band n78 (3700-3800) (PC2)	3705.0	3.00	27.00	30.00	30.00	0.1989	1.0000	3.00	10.01	3.00	Pass

---End of Report---



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