

FCC RF EXPOSURE REPORT

For

LoRa Module

MODEL NUMBER: RAK4630

FCC ID: 2AF6B-RAK4630

REPORT NUMBER: 4791909503-1-RF-2

ISSUE DATE: March 11, 2026

Prepared for

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Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	March 11, 2026	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Shenzhen Rakwireless Technology Co., Ltd.
Address: Room 506, Bldg B, New Compark, Pingshan First Road, Taoyuan Street, XiLi town Nanshan District, Shenzhen, China

Manufacturer Information

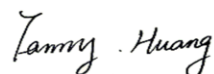
Company Name: Shenzhen Rakwireless Technology Co., Ltd.
Address: Room 506, Bldg B, New Compark, Pingshan First Road, Taoyuan Street, XiLi town Nanshan District, Shenzhen, China

EUT Information

EUT Name: LoRa Module
Model: RAK4630
Sample Received Date: September 5, 2025
Sample Status: Normal
Sample ID: 8813340
Date of Tested: September 15, 2025

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
447498 D04 Interim General RF Exposure Guidance v01	PASS

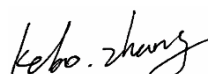
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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 1 Subpart I, section 1.1307 and KDB 447498 D04 Interim General RF Exposure Guidance v01.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules. ISED (Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. VCCI (Registration No.: C-20202, G-20240, R-20248 and T-20202) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber E, the VCCI registration No. is G-20240 and R-20248 Shielding Room F, the VCCI registration No. is C-20202 and T-20202
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Note 1:

All tests measurement facilities use to collect the measurement data are located at Room 101, Building 2, No.4, Information Road, Songshan Lake, Dongguan, Guangdong, China.

4. REQUIREMENT

LIMIT AND CALCULATION METHOD

According to 447498 D04 Interim General RF Exposure Guidance v01,

2.1.4 MPE-Based Exemption

An alternative to the SAR-based exemption is provided in § 1.1307(b)(3)(i)(C), for a much wider frequency range, from 300 kHz to 100 GHz, applicable for separation distances greater or equal to $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.¹⁰ For this case, a RF source is an RF exempt device if its ERP (watts) is no more than a frequency-dependent value, as detailed tabular form in Appendix B. These limits have been derived based on the basic specifications on Maximum Permissible Exposure (MPE) considered for the FCC rules in § 1.1310(e)(1).

MPE-based Exemption

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

CALCULATED RESULTS

Operating Mode	Max. Tune up Power	Max. Antenna Gain	EIRP	ERP	ERP	Distance	Limit Threshold
	(dBm)	(dBi)	(dBm)	(dBm)	(mW)	(cm)	(mW)
BLE	4.5	3	7.5	5.35	3.428	20	3060
Lora(125k)	16	3	19	16.85	48.417	20	1841
Lora(500k)	16	3	19	16.85	48.417	20	1842

Worst Case of Simultaneous Operations

Operating Mode	ERP	Limit Threshold	Ratio (mW/cm ²)	Sum of Ratios (mW/cm ²)	Limit of Ratios (mW/cm ²)
	(mW)	(mW)			
BLE	3.428	3060	0.00112	0.01694	1
Lora(125k)	48.417	3060	0.01582		

Note:

1. The calculated distance is 20 cm.
2. The Max. Tune up power comes from original report RSZ200716006-00C. The manufacturer just added new antenna for BLE in this report.
3. BLE and Lora can transmit simultaneous.

END OF REPORT