



TEST REPORT

Test item description: LoRa Module

Trademark(s):  

Model/Type reference: Ra-20

Applicant's name: Shenzhen Ai-Thinker Technology Co., Ltd

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Sample tested Date: May. 06, 2026 to Jul. 15, 2026

Issue Date: Jul. 15, 2026

Report No.: CTB26050609305RH01

Test Standards: EN 62479:2010
EN 50663:2017

Test Results: PASS

Remark: This is RED health test report.

Compiled by:

Reviewed by:

Approved by:

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Note: If there is any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. The tested sample(s) and the sample information are provided by the applicant. The authenticity, accuracy, and completeness of the provided information are the sole responsibility of the applicant. Without written approval of Shenzhen CTB Testing Technology Co., Ltd. this report can't be reproduced except in full. The result decision rules of our laboratory are based solely on the direct comparison between the actual measured values of test results and the standard limits, without considering the measurement uncertainty. "★" indicates the testing items were fulfilled by subcontracted lab. "※" indicates the items are not in CNAS accreditation scope.

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1. VERSION

Report No.	Issue Date	Description	Approved
CTB26050609305RH01	Jul. 15, 2026	Original	Valid

2. GENERAL INFORMATION

2.1 Product Information

Model/Type reference:	Ra-20
Model Difference:	N/A
Operation Frequency:	433MHz 2402-2480MHz
Receiver Category:	2
Hardware Version:	V1.0
Software Version:	V1.0
Max. RF output power:	SRD(433MHz):8.75dBm SRD(2402-2480MHz):9.78dBm
Type of Modulation:	SRD(433MHz): FSK SRD(2402-2480MHz):GFSK
Antenna installation:	SRD(433MHz): External antenna SRD(2402-2480MHz): External antenna
Antenna Gain:	SRD(433MHz):0.10dBi SRD(2402-2480MHz):2dBi
Ratings:	DC 3.3V PC power supply

3. Health Requirements

3.1 Limits

According to Council Recommendation: the criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation.

Reference levels for electric, magnetic and electromagnetic fields (10MHz to 300GHz)

Low-power electronic and electrical equipment is deemed to comply with the provisions of this standard if it can be demonstrated using routes B, C or D that the available antenna power and/or the average total radiated power is less than or equal to the applicable low-power exclusion level P_{max}.

Annex A contains example values for P_{max} derived from existing exposure limits listed in the bibliography, such as the ICNIRP guidelines [1], IEEE Std C95.1-1999 [2], and IEEE Std C95.1-2005 [3].

For wireless devices operated close to a person's body with available antenna powers and/or average total radiated powers higher than the P_{max} values given in Annex A, the alternative P_{max} values (called P_{max'}), described in Annex B can also be used.

For low power equipment using pulsed signals, other limits may apply in addition to those considered in Annex A and Annex B. Both ICNIRP guidelines [1] and IEEE standards [2], [3] have specific restrictions on exposures to pulsed fields, and the requirements of those standards with respect to exposure to pulses shall be met. Annex C discusses this topic further.

Exposure tier	Region of body	Exclusion level P _{max}
General public	Head and trunk	20mW(13dBm)
General public	Limbs	40mW(16dBm)

3.2 Exposure Evaluation

Mode	The worst e.i.r.p. (dBm)	Pmax(dBm)	Result
SRD(433MHz)	8.75	13	PASS
SRD(2402-2480MHz)	9.78	13	PASS
Remark: 1, Refer to RF test report for e.i.r.p. 2, After performed the test at low/middle/high channel, the record is the worst.			

4. EUT Photographs

Refer to Report No.: CTB26050609305RE02 for EUT external and internal photos.

***** END OF REPORT *****