

FCC 47 CFR § 1.1307
FCC 47 CFR § 1.1310
FCC 47 CFR § 2.1091

RF EXPOSURE EVALUATION REPORT

For
Andon Beacon

MODEL NUMBER: AB21-1LBN

FCC ID: 2AB2Q-AB211LBN

REPORT NUMBER: 4792319846-1-RF-3

ISSUE DATE: August 12, 2026

Prepared for

LEEDARSON LIGHTING CO., LTD.
Xingtai Industrial Park, Economic Development Zone of Changtai County.
ZHANGZHOU CITY Fujian 363900

Prepared by

UL Verification Services (Guangzhou) Co., Ltd., Song Shan Lake Branch
Room 101, Building 2, No.4, Information Road, Songshan Lake, Dongguan,
Guangdong, China

Tel: +86 769 22038881

Fax: +86 769 33244054

Website: www.ul.com

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	August 12, 2026	Initial Issue	

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. EQUIPMENT UNDER TEST	6
4.1. DESCRIPTION OF EUT	6
5. REQUIREMENT	7

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: LEEDARSON LIGHTING CO., LTD.
Address: Xingtai Industrial Park, Economic Development Zone of Changtai County. ZHANGZHOU CITY Fujian 363900

Manufacturer Information

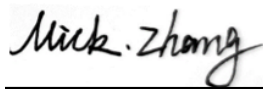
Company Name: LEEDARSON LIGHTING CO., LTD.
Address: Xingtai Industrial Park, Economic Development Zone of Changtai County. ZHANGZHOU CITY Fujian 363900

EUT Information

EUT Name: Andon Beacon
Model: AB21-1LBN
Sample Received Date: July 8, 2026
Sample Status: Normal
Sample ID: 9935580
Date of Tested: July 8, 2026~ August 12, 2026

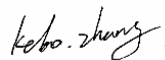
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
447498 D04 Interim General RF Exposure Guidance v01	PASS

Prepared By:



Mick Zhang
Project Engineer

Checked By:



Kebo Zhang
Operations Leader

Approved By:



Stephen Guo
Operations Manager

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
---------------------------	--

Note:

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. EQUIPMENT UNDER TEST

4.1. DESCRIPTION OF EUT

EUT Name	Andon Beacon
Model	AB21-1LBN
Normal Test Voltage:	DC 7.3 V

5. REQUIREMENT

LIMIT AND CALCULATION METHOD

According to 447498 D04 Interim General RF Exposure Guidance v01:

2.1.2 1-mW Test Exemption

Per § 1.1307(b)(3)(i)(A), a single RF source is exempt RF device (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it cannot be applied in conjunction with any other test exemption.

2.1.3 SAR-Based Exemption

A more comprehensive exemption, considering a variable power threshold that depends on both the *separation distance* and power, is provided in § 1.1307(b)(3)(i)(B). This exemption is applicable to the frequency range between 300 MHz and 6 GHz, with *test separation distances* between 0.5 cm and 40 cm, and for all RF sources in fixed, mobile, and portable device exposure conditions.

Accordingly, a RF source is considered an *RF exempt device* if its available maximum time-averaged (matched conducted) power or its effective radiated power (ERP), whichever is greater, are below a specified threshold. This exemption threshold was derived based on general population 1-g SAR requirements and is detailed in Appendix C.

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

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

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).

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).

TABLE 1 TO § 1.1307(b)(3)(i)(C)—SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$.
1.34-30	$3,450 R^2/f^2$.
30-300	$3.83 R^2$.
300-1,500	$0.0128 R^2 f$.
1,500-100,000	$19.2 R^2$.

Threshold ERP(W)= $19.2R^2$

R(m): the minimum separation distance from the body of a nearby person

STAND ALONE E-FIELD POWER DENSITY CALCULATIONS RESULTS

Operating Mode	Max. Tune-up power (dBm)	Max. Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit Threshold-Option B (2.1.3) (mW)	Ratio
Lora	21.00	0.36	21.36	19.21	83.37	1840.08	0.0453
BLE	11.00	3.71	14.71	12.56	18.03	3060	0.0059

Note:

1. The calculated distance is 20 cm.
2. The power comes from operation description.
3. BLE&Lora can't transmit simultaneously. (declared by client)
4. The maximum calculations of above situations are less than the "1" limit.

END OF REPORT