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NINGBO SIYING OPTOELECTTRONIC LIGHTING SCIENCE & TECHNOLOGY CO., LTD

SAR COMPLIANCE REPORT

Report Type:
FCC SAR assessment report

Model:
RF433M25

REPORT NUMBER
230500950HAN-002

ISSUE DATE
September 25, 2023

DOCUMENT CONTROL NUMBER:
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Report no.: 230500950HAN-002

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TEST REPORT

Applicant:	**NINGBO SIYING OPTOELECTTRONIC LIGHTING SCIENCE & TECHNOLOGY CO., LTD No.9 Anda Road, Fengshan Street, Yuyao City, 315400, Zhejiang Province, China**
Manufacturer:	**Same as Applicant**
Factory:	**Same as Applicant**
FCC ID:	**2BAT7RF433M25**

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:
KDB447498 D01 General RF Exposure Guidance v06 FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:	REVIEWED BY:
Project Engineer	Reviewer

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TEST REPORT

Revision History

Report No.	Version	Description	Issued Date
230500950HAN-002	Rev. 01	Initial issue of report	September 25, 2023

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TEST REPORT

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Remote Control
Type/Model:	RF433M25
Description of EUT:	The EUT is the Remote Control which frequency is 433.920Mhz. It has only one model.
Rating:	3VDC
EUT type:	☒ Tabletop ☐ Floor standing
Software Version:	/
Hardware Version:	/
Sample Identification No.:	1230530-10-001
Sample received date:	June 02, 2023
Date of test:	June 18, 2023, to August 6, 2023

1.2 Technical Specification

Operation Frequency:	433.920MHz
Type of Modulation:	ASK
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Channel Number:	1
Antenna Designation:	Integral PCB antenna, non-user removable
Gain of Antenna:	-17.34dBi max (Declared by manufacture)

1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road (North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Member No: 3598 (Registration No.: R-14243, G-10845, C-14723, T-12252)
	A2LA Accreditation Lab Certificate Number: 3309.02

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TEST REPORT

2 SAR Assessment

Test result: Pass

2.1 SAR Test Exclusion Limit

This method shall only be used at separation distances up to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula below:

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

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

f is in GHz, *d* is the separation distance (cm), and ERP_{20cm} is per Formula above.
The example values shown in below are for illustration only.

Frequency (MHz)	Distance (mm)										
		5	10	15	20	25	30	35	40	45	50
	300	39	65	88	110	129	148	166	184	201	217
	450	22	44	67	89	112	135	158	180	203	226
	835	9	25	44	66	90	116	145	175	207	240
	1900	3	12	26	44	66	92	122	157	195	236
	2450	3	10	22	38	59	83	111	143	179	219
	3600	2	8	18	32	49	71	96	125	158	195
	5800	1	6	14	25	40	58	80	106	136	169

2.2 Assessment Results

As we can see from the test report 230500950HAN-001:

The highest EIRP adjusted with tune-up tolerance is: 72.20 - 95.30 = -23.10dBm = 0.0049mW.
0.0049mW < 22mW (Test Exclusion Thresholds of 450MHz at 5mm). Therefore, the SAR requirement is deemed to be satisfied without test.

********** END **********