

TEST REPORT

Reference No. : WTH25D09259425W003
FCC ID : 2ANPS-KS-WLS04
Applicant : Shenzhen King-Serry Electronics Co.,Ltd
Address : Room 401 and 501, Building 3, Dingyu Science and Technology Park, No.6 Caiyun Road, Jixiang Community, Longcheng Street, Longgang District, Shenzhen Guangdong, China
Manufacturer : Shenzhen King-Serry Electronics Co.,Ltd
Address : Room 401 and 501, Building 3, Dingyu Science and Technology Park, No.6 Caiyun Road, Jixiang Community, Longcheng Street, Longgang District, Shenzhen Guangdong, China
Product : Wireless Radar Sensor Switch
Model(s) : KS-WLS04
Standards : FCC 47CFR Part 2 Subpart J Section 2.1093
Date of Receipt sample : 2025-09-30
Date of Test : 2025-10-22 to 2025-10-31
Date of Issue : 2025-11-24
Test Result : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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3. Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTH25D09259425W003	2025-09-30	2025-10-22 to 2025-10-31	2025-11-24	Original	-	Valid

4. General Information

4.1. General Description of E.U.T.

Product: Wireless Radar Sensor Switch
Model(s): KS-WLS04
Model Description: N/A
Test Sample No.: 1-1/1

4.2. Details of E.U.T.

Frequency Range: 433M: 433.92±0.5MHz
5.8G: 5725-5875 MHz
Type of Modulation: 433M: FSK
5.8G: FM-CW
Antenna installation: PCB antenna
Ratings: DC 3V from AAA battery * 2
Note: for more details, please refer to user manual and EUT photos.

4.3. Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

4.4. Abnormalities from Standard Conditions

None.

4.5. Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

5. Test Summary

Test Items	Test Requirement	Result
Radiofrequency radiation exposure evaluation (Exposure of Humans to RF Fields)	47 CFR Part 2 §2.1093	PASS

6. RF Exposure

Test Requirement: FCC 47CFR Part 2 Subpart J Section 2.1093
 47 CFR Part 1 §1.1307
 47 CFR Part 1 §1.1310
 Evaluation Method: KDB 447498 D01 General RF Exposure Guidance v06

6.1. Definitions

According to § 2.1093 (b), A portable device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that the RF source's radiating structure(s) is/are within 20 centimeters of the body of the user.

6.2. Method of Evaluation

Determination of Exemption:

For single RF sources

Option A 1-mW Test Exemption

Applies to all frequencies and all distances

- a) Could be considered SAR-based and MPE-based exclusions
- b) $P < 1\text{mW}$
- c) Limitation—when there are simultaneously operating transmitters this exclusion only applies when all simultaneously operating transmitters meet this exemption
- d) Refer 1.1307(b)(3)(i)(A) and 1.1307(b)(3)(ii)(A)

Option B SAR-Based Exemption

Frequency range 300 MHz -6 GHz, $5\text{mm} \leq \text{distance} \leq 40\text{cm}$

- a) The maximum time-averaged power or effective radiated power (ERP), whichever is greater, $\leq P_{th}$.
- b) P_{th} is calculated based on separation distance d cm from transmitter to person for the device operating at f GHz.

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

Where

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

and

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

d = the separation distance (cm);

Option C MPE-Based Exemption

1.1307(b)(3)(i)(C): ERP is below a threshold calculated based on the distance R between the person and the antenna / radiating structure, where $R > \lambda / 2\pi$.

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	$0.0128 R^2f$.
1,500-100,000	$19.2R^2$.
Note: R in meters, f in MHz	

For multiple RF sources

According to 47CFR 1.1307(b)(3)(ii), the calculation formula is as follow:

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

6.3. Evaluation Results

This device belongs to Portable Device and with multiple RF source.

Option B is applicable.

Single Source Transmissions

Description	Frequency (GHz)	E-Field Strength (dBuV/m)	EIRP ¹ (dBm)	ERP ² (dBm)	ERP (Max. tune-up ¹)		P _{th} (mW)	Ratio
					dBm	mW		
433M	0.43392	82.75	-12.45	-14.6	-13.6	0.0437	23.166	0.0019
5.8G	5.8422	93.00	-2.2	-4.35	-3.35	0.4624	1.368	0.3380

Note:

¹ EIRP[dBm] = E [dBuV/m] + 20log(d[m]) -104.77, d is 3 m

² ERP=EIRP-2.15

³ tune-up tolerance is +/- 1.0

Simultaneous Transmissions

Description	Calculation	Limit
433M TX + 5.8G TX	0.3399	≤1.0

Conclusion:

RF Exposure is FCC compliant.

=====End of Report=====