

RF Exposure Evaluation Report

Product : SwitchBot Presence Sensor
Trade mark : SwitchBot
Model/Type reference : W8200000 W8200001 W8200002
W8200003 W8200004 W8200005
Serial Number : N/A
Report Number : EED32R80981603
FCC ID : 2AKXB-W8200000
Date of Issue : Jul. 30, 2025
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
47 CFR Part 2.1093
KDB 447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

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2 General Information

2.1 Client Information

Applicant:	Woan Technology (Shenzhen) Co., Ltd.
Address of Applicant:	Room 1101, Qiancheng Commercial Center, No. 5 Haicheng Road, Mabu Community, Xixiang Sub-district, Bao'an District, Shenzhen, Guangdong, P.R.China, 518100
Manufacturer:	Woan Technology (Shenzhen) Co., Ltd.
Address of Manufacturer:	Room 1101, Qiancheng Commercial Center, No. 5 Haicheng Road, Mabu Community, Xixiang Sub-district, Bao'an District, Shenzhen, Guangdong, P.R.China, 518100
Factory:	Wo'an Technology (Shenzhen) Co., Ltd. Huizhou Branch
Address of Factory:	Building 2, 2nd Floor, Baidi Zhigu Science and Technology Innovation Park, No.263 Chang'an Avenue, Shatian Town, Huiyang District, Huizhou City, Guangdong, China

2.2 General Description of EUT

Product Name:	SwitchBot Presence Sensor
Model No.:	W8200000 W8200001 W8200002 W8200003 W8200004 W8200005
Test model No.:	W8200000
Trade Mark:	SwitchBot

2.3 Product Specification subjective to this standard

Frequency Range:	BLE: 2402MHz~2480MHz 60GHz: 60~62GHz	
Modulation Type:	BLE: GFSK 60GHz: FMCW	
Test Power Grade:	Default	
Test Software of EUT:	N/A	
Antenna Type:	BLE: PCB Antenna 60GHz: Antenna in Package	
Antenna Gain:	BLE: 2.85dBi 60GHz: 7.43dBi	
Power Supply:	Battery:	DC 3V
Sample Received Date:	Jun. 26, 2025	
Sample tested Date:	Jun. 26, 2025 to Jul. 22, 2025	
Remark: Model No.: W8200000 W8200001 W8200002 W8200003 W8200004 W8200005 Only the model W8200000 was tested. All model numbers have same electrical, PCB and layout, only the model name are different for marketing requirements.		

2.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Hongwei Industrial Park, Zone 70, Bao'an District, Shenzhen, Guangdong, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

2.5 Deviation from Standards

None.

2.6 Abnormalities from Standard Conditions

None.

2.7 Other Information Requested by the Customer

None.

3 SAR Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula

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

where

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

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

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

For 60GHz:

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

3.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3.1.3 EUT RF Exposure Evaluation

For Stand alone:

BLE:

Frequency (MHz)	Estimation distance (cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio	Result
@2.4GHz	20	0.86	2.85	1.56	1.4322	3060	0.0005	Pass

60GHz:

Frequency (MHz)	Estimation distance (cm)	Max. Conducted Output power (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio
@60GHz	20	-1.305	-3.46	0.4513	1	0.4513

Note:

- ① EIRP=conducted power+antenna gain;
- ② $ERP = EIRP - 2.15$;
- ③ $EIRP(dBm) = \text{Field strength of the fundamental signal}(dBuV/m@3m) - 95.23$;
- ④ $ERP(mW) = 10^{(ERP(dBm)/10)}$;
- ⑤ The estimation distance is 20cm;
- ⑥ The test data please refer to the report of EED32R80981601 and EED32R80981602 only the worst case data was recorded in the report.

For Simultaneous Transmission:

As MPE ratio (BLE+60GHz)= $0.0005^2 + 0.4513^2 = 0.2037 < 1$, it's deemed to fulfil the RF exposure requirement.

Statement

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
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*** End of Report ***