

RF Exposure Evaluation Report

Product : Wireless Touchless Wheel Aligner
Trade mark : SmartSafe
Model/Type reference : WA913
Serial Number : N/A
Report Number : EED32Q80276403
FCC ID : 2AYANWA913
Date of Issue : Jul. 10, 2024
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
47 CFR Part 2.1093
447498 D04 Interim General RF Exposure
Guidance v01
Test result : PASS

Prepared for:

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2 Version

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4 General Information

4.1 Client Information

Applicant:	SHENZHEN SMARTSAFE TECH CO., LTD
Address of Applicant:	3F, Building B, Qiao'an Technology Industrial Park, Guanlan, Longhua New District, Shenzhen, China
Manufacturer:	SHENZHEN SMARTSAFE TECH CO., LTD
Address of Manufacturer:	3F, Building B, Qiao'an Technology Industrial Park, Guanlan, Longhua New District, Shenzhen, China
Factory:	SHENZHEN SMARTSAFE TECH CO., LTD
Address of Factory:	3F, Building B, Qiao'an Technology Industrial Park, Guanlan, Longhua New District, Shenzhen, China

4.2 General Description of EUT

Product Name:	Wireless Touchless Wheel Aligner
Model No.:	WA913
Trade mark:	SmartSafe

4.3 Product Specification subjective to this standard

2.4G Wi-Fi	
Frequency Range:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz
Modulation Type:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20) : OFDM (64QAM, 16QAM,QPSK,BPSK)
5G Wi-Fi	
Operating Frequency	U-NII-1: 5180-5240MHz U-NII-3:5745-5825MHz
Type of Modulation:	IEEE 802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11n(HT20/HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11ac(VHT20/VHT40/VHT80): OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) IEEE 802.11ax(HE20/HE40/HE80): OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM,1024QAM)
Test Power Grade:	Default
Test Software of EUT:	MobaXterm_Personal_22.1.exe
Antenna Type:	FPC Antenna
Antenna Gain:	2.4G Wi-Fi: 2.88dBi U-NII-1: 2.47dBi U-NII-3: 2.32dBi
Power Supply:	Battery: DC7.4V 1000 mA
Sample Received Date:	Apr. 02, 2024
Sample tested Date:	Apr. 09, 2024 to Apr. 30, 2024

Remark:

Company Name and Address shown on Report, the sample(s) and sample Information were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

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

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 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).

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

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.

5.1.2 Test Procedure

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

5.1.3 EUT RF Exposure Evaluation**For Stand alone:**

Frequency (MHz)	Available maximum time-averaged power (dBm)	Antenna gain (dBi)	ERP (dBm)	Available maximum time-averaged power (mW)	Limit (mW)	Result
2412	14.24	2.88	14.97	31.623	≤3060	PASS
5240	14.02	2.47	14.34	31.623	≤3060	PASS
5745	13.67	2.32	13.83	25.119	≤3060	PASS

Note:

- ① EIRP=Available maximum time-averaged power+Antenna gain;
- ② ERP=EIRP-2.15;
- ③ According to § 1.1307(b)(3)(i)(B), RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW).
- ④ The estimation distance is 20cm;
- ⑤ The test data please refer to the report of EED32Q80276401, EED32Q80276402 and only the worst case data was recorded in the report.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***