

RF Exposure Evaluation Report

Product : Intelligent Access Control Terminal
Trade mark : N/A
Model/Type reference : SPS050
Serial Number : N/A
Report Number : EED32P80611903
FCC ID : 2BE4YJH-SPS050
Date of Issue : May 06, 2025
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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1 General Information

1.1 Client Information

Applicant:	Ji-Haw Industry Co., Ltd
Address of Applicant:	No. 53, Baoxing Rd, Xindian District, New Taipei City, 231 TAIWAN
Manufacturer:	Ji-Haw Industry Co., Ltd
Address of Manufacturer:	No. 53, Baoxing Rd, Xindian District, New Taipei City, 231 TAIWAN
Factory:	Q.S.C. Industry Co., Ltd
Address of Factory:	5F., NO.193-2,ZHONGXING N. ST., SANCHONG DIST., NEW TAIPEI CITY 241, TAIWAN

1.2 General Description of EUT

Product Name:	Intelligent Access Control Terminal
Model No.(EUT):	SPS050
Trade Mark:	N/A

1.3 Product Specification subjective to this standard

Frequency Range:	2.4G Wi-Fi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz
Modulation Type:	2.4G Wi-Fi: 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)
Test Power Grade:	Default
Test Software of EUT:	cmd
Power Supply:	DC 12V, 2A
Test voltage:	DC 12V
Sample Received Date:	Apr. 27, 2023
Sample tested Date:	Apr. 27, 2023 to Oct. 22, 2023

1.4 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

1.5 Deviation from Standards

None.

1.6 Abnormalities from Standard Conditions

None.

1.7 Other Information Requested by the Customer

None.

2 SAR Evaluation

2.1 RF Exposure Compliance Requirement

For 2.4G Wi-Fi:

2.1.1 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.

2.1.2 Test Procedure

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

For NFC:

2.1.3 Limits

Determination of exemption.

(i) For single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum timeaveraged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

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	$19.2 R^2$.

2.1.4 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at 13.56MHz individually.

2.1.5 EUT RF Exposure Evaluation

For Stand alone:

(1) For 2.4G Wi-Fi

Frequency (MHz)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2412	14.88	2.65	17.53	15.38	34.514	≤3060	PASS

(2) For NFC

Frequency (MHz)	Field strength of the fundamental signal (dBuV/m@3m)	ERP (dBm)	ERP (W)	Threshold ERP (W)	Result
13.56	64.14	-33.24	0.00000047	≤0.7505	PASS

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(R) is 0.2m;
- ⑥ The test data please refer to the report of EED32P81159001.

For Simultaneous Transmission:

Simultaneous Transmission=2.4G Wi-Fi+NFC=34.514/3060+0.00000047/0.7505=0.0113 < 1,
Result: pass.

Statement

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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 ***