

Maximum Permissible Exposure Report

Product : Smart Access Controller

Model Name : SAC01

FCC ID : 2ADB4-SAC01

Test Regulation : 47 CFR FCC Part 2.1091

Received Date : 2026/1/12

Issued Date : 2026/6/24

Applicant : Foxconn Interconnect Technology Limited Taiwan Branch
No. 66-1, JHONGSHAN RD., TUCHENG DIST., NEW TAIPEI
CITY 23680, Taiwan

Issued By : Underwriters Laboratories Taiwan Co., Ltd.
Building A, B and E, No. 372-7, Sec. 4, Zhongxing Rd.,
Zhudong Township, Hsinchu County, Taiwan



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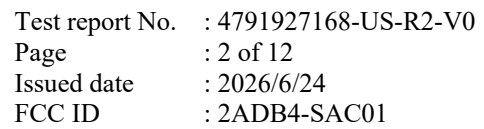
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Doc No: Form-ULID-004725 (DCS:17-EM-F0864) / 7.0



Original Test Report No.: 4791927168-US-R2-V0

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Table of Contents

1. Attestation of Test Results.....	4
2. Test Methodology and Reference Procedures	5
3. Facilities and Accreditation	5
4. Equipment Under Test	6
4.1. Description of EUT	6
4.2. Description of Available Antennas	7
5. Requirement	8
6. General RF Exposure Test Exemption	9
7. Radio Frequency Radiation Exposure Evaluation	11

1. Attestation of Test Results

APPLICANT: Foxconn Interconnect Technology Limited Taiwan Branch
No. 66-1, JHONGSHAN RD., TUCHENG DIST., NEW TAIPEI CITY
23680, Taiwan

MANUFACTURER: NEW WING INTERCONNECT TECHNOLOGY (BAC GIANG) CO.,
LTD.
Van Trung Industrial Park, Nenh Ward, Bac Ninh Province, 236355,
Vietnam

EUT DESCRIPTION: Smart Access Controller

BRAND: 

MODEL: SAC01

SAMPLE STAGE: Mass-Production Test Sample

APPLICABLE STANDARDS	
STANDARD	Test Results
47 CFR FCC Part 2.1091	PASS

Underwriters Laboratories Taiwan Co., Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by Underwriters Laboratories Taiwan Co., Ltd. based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Underwriters Laboratories Taiwan Co., Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Underwriters Laboratories Taiwan Co., Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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Date : 2026/6/24

Approved and Authorized By:



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Date : 2026/6/24

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2. Test Methodology and Reference Procedures

The tests documented in this report were performed in accordance with KDB 447498 D04 Interim General RF Exposure Guidance v01.

3. Facilities and Accreditation

Test Location	Underwriters Laboratories Taiwan Co., Ltd.
Address	Building A, B and E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan
Accreditation Certificate	Underwriters Laboratories Taiwan Co., Ltd. is accredited by TAF, Laboratory Code 3398.

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4. Equipment Under Test

4.1. Description of EUT

Product	Smart Access Controller
Brand Name	
Model Name	SAC01
Normal Voltage	12Vdc from DC source

Operating Frequency	BT LE: 2402MHz ~ 2480MHz UWB: 7987.2MHz
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Note:

1. For the UWB test field strength power, refer to the RF test report, report number: FR621167. The test results were conducted by SPORTON INTERNATIONAL INC. Hsinhua Laboratory.
2. For the BT LE test power, refer to the RF test report, report number: 4791927168-US-R0-V0. The test results were conducted by Underwriters Laboratories Taiwan Co., Ltd. Laboratory.
3. For this report measurement uncertainty, statement of conformity, determining compliance, it is necessary to refer to the original measurement report of EUT.
4. The above EUT information is declared by manufacturer and for more detailed features description, please refer the manufacturer's or user's manual, the laboratory shall not be held responsible.

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4.2. Description of Available Antennas

Ant. No.	Frequency Range	Brand Name	Model Name	Maximum Gain (dBi)	Ant. Type	Connector Type
BT	2402MHz ~ 2483.5MHz	McLaren	16MA396CP	1	PCB	Fakra
UWB	7.65~8.24GHz	FOXCONN INTERCONNECT TECHNOLOGY	Ext UWB Antenna	2.37	External Antenna	Mini-fakra

Note: The above antenna information was provided from customer and for more detailed features description, please refer the manufacturer's specification or user's manual, the laboratory shall not be held responsible.

5. Requirement

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30
Note 1: f = frequency in MHz, * means Plane-wave equivalent power density				
Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.				

Power Density (S) is calculated by the following formula:

$$S = (P \cdot G) / 4\pi R^2$$

where: S = power density (in appropriate units, e.g. mW/ cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

6. General RF Exposure Test Exemption

The corresponding Exclusion Threshold condition, listed below:

- 1) Blanket Exempt: Following 47 CFR 1.1307(b)(3)(i)(A), the available maximum time-averaged power is no more than 1 mW.
- 2) SAR Exempt: Following 47 CFR 1.1307(b)(3)(i)(B), the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

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

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);

- 3) MPE Exempt: Following 47 CFR 1.1307(b)(3)(i)(C), 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 time-averaged 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	$19.2 R^2$.

7. Radio Frequency Radiation Exposure Evaluation

(1) General RF Exposure Test Exemption

Option	Evaluation Method	Clause
☐	Blanket Exempt	47 CFR 1.1307(b)(3)(i)(A)
☐	SAR Exempt	47 CFR 1.1307(b)(3)(i)(B)
☒	MPE Exempt	47 CFR 1.1307(b)(3)(i)(C)

For UWB

Evaluation Frequency	Max. EIRP	Tolerance	$\lambda/2\pi$	R	Tune-up ERP	Tune-up ERP	Threshold ERP
(MHz)	(dBm)	(dB)	(m)	(m)	(dBm)	(W)	(W)
7987.2	-23.94	0.5	0.006	0.2	-25.59	0.000005	0.768

Note:

- $\lambda(m) = 3 \times 10^8 \text{ (m/s)} / \text{frequency (Hz)}$
- Max. EIRP (dBm) = AVG EIRP PSD (dBm/MHz) * OBW (MHz)
 $= -52.18 + 10 * \text{Log} (666.879) = -23.94 \text{ dBm}$
- Tune-up ERP (dBm) = Max. EIRP (dBm) + Tolerance -2.15
- Tune-up ERP (W) = $10^{(\text{Tune-up ERP (dBm)} / 10)} / 1000$
- Threshold ERP (W) (RF Source Frequency 1500 – 100000 MHz) = $19.2 R^2$

For Bluetooth LE

Evaluation Frequency	Max. Average power	Antenna Gain	Tolerance	$\lambda/2\pi$	R	Tune-up ERP	Tune-up ERP	Threshold ERP
(MHz)	(dBm)	(dBi)	(dB)	(m)	(m)	(dBm)	(W)	(W)
2402 ~ 2480	2.24	1	0.5	0.0199	0.2	1.59	0.001	0.768

Note:

- $\lambda(m) = 3 \times 10^8 \text{ (m/s)} / \text{frequency (Hz)}$
- Tune-up ERP (dBm) = Max. Average power (dBm) + Antenna Gain (dBi) + Tolerance -2.15
- Tune-up ERP (W) = $10^{(\text{Tune-up ERP (dBm)} / 10)} / 1000$
- Threshold ERP (W) (RF Source Frequency 1500 – 100000 MHz) = $19.2 R^2$

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(2) Simultaneously transmission condition:

Condition	Technology	
1	BT-LE	UWB

Condition 1	Tune-up ERP	Threshold Limit	Transmit Simultaneously	Transmit Simultaneously Limit
	(W)	(W)		
Bluetooth LE	0.001	0.768	0.001	≤ 1
UWB	0.000005	0.768		

The formula for calculated simultaneous transmission MPE is:

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

Where,

a is number of RF sources using the § 1.1307(b)(3)(i)(B) formula for Pth.

b is number of RF sources using the § 1.1307(b)(3)(i)(C) Table 1 formula for Threshold ERP.

c is number of RF sources with known evaluation for the specified minimum distance.

P_i is the available maximum time-averaged power or the ERP, i at a distance between 0.5 cm and 40 cm.

P_{th,i} is the exemption threshold power (Pth) according to the § 1.1307(b)(3)(i)(B) formula RF source i.

ERP_j is the available maximum time-averaged power or the ERP RF source j.

ERP_{th,j} is exemption threshold ERP RF source j, at a distance of at least $\lambda/2\pi$.

Evaluated_k is the maximum reported SAR or MPE RF source k.

Exposure Limit_k is SAR or MPE limit as applicable.

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

END OF REPORT

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