

FCC RF Exposure Report

FCC ID : SQG-SONAIF573
Equipment : Sona IF573 802.11ax Wi-Fi 6E Module with Bluetooth 5.4
Model No. : Sona IF573
Brand Name : Laird Connectivity
Applicant : Laird Connectivity LLC
Address : W66N220 Commerce Court, Cedarburg, WI 53012 United States Of America
Standard : 47 CFR FCC Part 2.1091
Received Date : Jan. 17, 2023
Tested Date : Apr. 07 ~ Jun. 28, 2023

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:

Approved by:



Along Chen / Assistant Manager



Gary Chang / Manager

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Release Record

Report No.	Version	Description	Issued Date
FA311701	Rev. 01	Initial issue	Jul. 28, 2023

1 MPE EVALUATION OF MOBILE DEVICES

1.1 LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

Frequency Range (MHz)	Power Density (mW /cm ²)	Averaging Time (minutes)
300~1500	F/1500	30
1500~100000	1.0	30

1.2 MPE EVALUATION FORMULA

$$Pd = \frac{Pt}{4 * Pi * R^2}$$

Where

Pd= Power density in mW/cm²

Pt= EIRP in mW

Pi= 3.1416

R= Measurement distance

1.3 REFERENCE GUIDANCE

447498 D01 General RF Exposure Guidance v06

1.4 DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE

None

1.5 MEASUREMENT UNCERTAINTY

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Parameters	Uncertainty
Conducted power	±0.808 dB

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1.6 MPE EVALUATION RESULTS

Non-beamforming mode

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Maximum Tune Up Limit (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	*Ratio	Pass / Fail
WLAN								
2412-2462	21.02	21.5	2.4	20	0.049	1	0.049	Pass
5180-5240	21.39	21.5	4.4	20	0.077	1	0.077	Pass
5260-5320	21.55	22.0	4.4	20	0.087	1	0.087	Pass
5500-5720	21.67	22.0	4.4	20	0.087	1	0.087	Pass
5745-5825	21.61	22.0	4.4	20	0.087	1	0.087	Pass
BT								
2402-2480	8.24	8.5	2.4	20	0.002	1	0.002	Pass

Frequency Range (MHz)	EIRP(dBm)	Maximum Tune Up Limit (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	*Ratio	Pass / Fail
5925-6425	14.36	14.5	20	0.006	1	0.006	Pass
6425-6525	14.26	14.5	20	0.006	1	0.006	Pass
6525-6875	14.25	14.5	20	0.006	1	0.006	Pass
6875-7125	14.34	14.5	20	0.006	1	0.006	Pass

*Ratio = Power density / Limit.

Beamforming mode

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Maximum Tune Up Limit (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	*Ratio	Pass / Fail
2412-2462	17.52	18.0	5.41	20	0.044	1	0.044	Pass
5180-5240	18.38	18.5	7.41	20	0.078	1	0.078	Pass
5260-5320	18.54	19.0	7.41	20	0.087	1	0.087	Pass
5500-5720	18.66	19.0	7.41	20	0.087	1	0.087	Pass
5745-5825	18.60	19.0	7.41	20	0.087	1	0.087	Pass

*Ratio = Power density / Limit.

Remarks:

For 2412~2462MHz:

Directional gain = $2.4 + 10 \cdot \log(2/1) = 5.41$ dBi

For 5180~5825MHz:

Directional gain = $4.4 + 10 \cdot \log(2/1) = 7.41$ dBi

Frequency Range (MHz)	EIRP(dBm)	Maximum Tune Up Limit (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	*Ratio	Pass / Fail
5925-6425	14.36	14.5	20	0.006	1	0.006	Pass
6425-6525	14.26	14.5	20	0.006	1	0.006	Pass
6525-6875	14.25	14.5	20	0.006	1	0.006	Pass
6875-7125	14.34	14.5	20	0.006	1	0.006	Pass

*Ratio = Power density / Limit.

1.7 MPE EVALUATION OF SIMULTANEOUS TRANSMISSION

Mode	Max Ratio of Each Mode
<i>Non-beamforming mode</i> WLAN 5GHz	0.087
BT	0.002
Sum	0.089
Limit	1
Pass / Fail	Pass

Mode	Max Ratio of Each Mode
<i>Beamforming mode</i> WLAN 5GHz	0.087
BT	0.002
Sum	0.089
Limit	1
Pass / Fail	Pass

Mode	Max Ratio of Each Mode
<i>Non-beamforming mode</i> WLAN 6GHz	0.006
BT	0.002
Sum	0.008
Limit	1
Pass / Fail	Pass

Mode	Max Ratio of Each Mode
<i>Beamforming mode</i> WLAN 6GHz	0.006
BT	0.002
Sum	0.008
Limit	1
Pass / Fail	Pass

2 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

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Kwei Shan

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Kwei Shan Site II

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If you have any suggestion, please feel free to contact us as below information.

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