

# ISED RF Exposure Report

**IC** : 3147A-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  
**Manufacturer** : Laird Connectivity LLC  
**Address** : W66N220 Commerce Court, Cedarburg, WI 53012 United States Of America  
**Standard** : RSS-102 Issue 5 Amendment 1 February 2, 2021  
**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

## Table of Contents

<b>1</b>	<b>MPE EVALUATION OF MOBILE DEVICES .....</b>	<b>4</b>
1.1	RF FIELD STRENGTH LIMITS FOR DEVICE USED BY THE GENERAL PUBLIC .....	4
1.2	MPE EVALUATION FORMULA .....	4
1.3	DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE .....	4
1.4	MEASUREMENT UNCERTAINTY .....	4
1.5	MPE EVALUATION RESULTS .....	5
1.6	MPE EVALUATION OF SIMULTANEOUS TRANSMISSION.....	7
<b>2</b>	<b>TEST LABORATORY INFORMATION .....</b>	<b>8</b>

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## Release Record

Report No.	Version	Description	Issued Date
CA311701	Rev. 01	Initial issue	Jul. 28, 2023

# 1 MPE EVALUATION OF MOBILE DEVICES

## 1.1 RF FIELD STRENGTH LIMITS FOR DEVICE USED BY THE GENERAL PUBLIC

Frequency Range (MHz)	Power Density (W/m <sup>2</sup> )	Averaging Time (minutes)
300-6000	$0.02619f^{0.6834}$	6
6000-15000	10	6

## 1.2 MPE EVALUATION FORMULA

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

Where

Pd= Power density in W/m<sup>2</sup>

Pt= EIRP in W

Pi= 3.1416

R= Measurement distance

## 1.3 DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE

None

## 1.4 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.

## 1.5 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 (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	*Ratio	Pass / Fail
WLAN								
2412-2462	21.02	21.5	2.4	20	0.488	5.37	0.091	Pass
5180-5240	17.30	17.5	4.4	20	0.308	9.05	0.034	Pass
5260-5320	18.28	18.5	4.4	20	0.388	9.14	0.042	Pass
5500-5720	21.67	22.0	4.4	20	0.868	9.43	0.092	Pass
5745-5825	21.61	22.0	4.4	20	0.868	9.71	0.089	Pass
BT								
2402-2480	8.24	8.5	2.4	20	0.024	5.35	0.005	Pass

Frequency Range (MHz)	EIRP(dBm)	Maximum Tune Up Limit (dBm)	Distance (cm)	Power Density (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	*Ratio	Pass / Fail
5925-6425	14.36	14.5	20	0.056	10	0.006	Pass
6425-6525	14.26	14.5	20	0.056	10	0.006	Pass
6525-6875	14.25	14.5	20	0.056	10	0.006	Pass
6875-7125	14.34	14.5	20	0.056	10	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 (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	*Ratio	Pass / Fail
2412-2462	17.52	18.0	5.41	20	0.436	5.37	0.081	Pass
5180-5240	14.29	14.5	7.41	20	0.309	9.05	0.034	Pass
5260-5320	15.27	15.5	7.41	20	0.389	9.14	0.043	Pass
5500-5720	18.66	19.0	7.41	20	0.870	9.43	0.092	Pass
5745-5825	18.60	19.0	7.41	20	0.870	9.71	0.090	Pass

\*Ratio = Power density / Limit.

Remarks:

For 2412~2462MHz:

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

For 5180~5825 MHz

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 (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	*Ratio	Pass / Fail
5925-6425	14.36	14.5	20	0.056	10	0.006	Pass
6425-6525	14.26	14.5	20	0.056	10	0.006	Pass
6525-6875	14.25	14.5	20	0.056	10	0.006	Pass
6875-7125	14.34	14.5	20	0.056	10	0.006	Pass

\*Ratio = Power density / Limit.

## 1.6 MPE EVALUATION OF SIMULTANEOUS TRANSMISSION

Mode	Max Ratio of Each Mode
<i>Non-beamforming mode</i> WLAN 5GHz	0.092
BT	0.005
Sum	0.097
Limit	1
Pass / Fail	Pass

Mode	Max Ratio of Each Mode
<i>Beamforming mode</i> WLAN 5GHz	0.092
BT	0.005
Sum	0.097
Limit	1
Pass / Fail	Pass

Mode	Max Ratio of Each Mode
<i>Non-beamforming mode</i> WLAN 6GHz	0.006
BT	0.005
Sum	0.011
Limit	1
Pass / Fail	Pass

Mode	Max Ratio of Each Mode
<i>Beamforming mode</i> WLAN 6GHz	0.006
BT	0.005
Sum	0.011
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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If you have any suggestion, please feel free to contact us as below information.

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