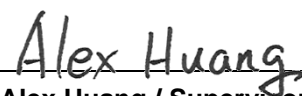


AS/NZS RF Exposure Report

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 : AS/NZS 2772.2:2016 Amd 1:2018
Received Date : Jan. 17, 2023
Tested Date : Apr. 24 ~ Aug. 22, 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:


Alex Huang / Supervisor

Approved by:


Gary Chang / Manager

Table of Contents

1	GENERAL DESCRIPTION	4
1.1	Information.....	4
2	RF EXPOSURE EVALUATION	6
2.1	Limits	6
2.2	Evaluation Formula	6
2.3	Deviation from Test Standard and Measurement Procedure.....	6
2.4	Measurement Uncertainty	6
2.5	Evaluation Results.....	7
3	TEST LABORATORY INFORMATION	9

Release Record

Report No.	Version	Description	Issued Date
AA311701	Rev. 01	Initial issue	Oct. 05, 2023

1 General Description

1.1 Information

1.1.1 Product Details

The four configurations of the EUT are shown on the following:

Model Name	Part No.	Description
Sona IF573	453-00117	Module, Sona IF573, MIMO, MHF4
	453-00118	Module, Sona IF573, MIMO, Trace Pin
	453-00119	Module, Sona IF573, MIMO, M.2, Key E, SDIO, UART
	453-00120	Module, Sona IF573, MIMO, M.2, Key E, PCIe, UART

1.1.2 Specification of the Equipment under Test (EUT)

SW Version	18.15 RC1.54 wI0: May 21 2023 19:48:44 version 18.53.212.8(7e2f89f) FWID 01-2b47fc4c
WLAN	
Operating Frequency	802.11b/g/n/ax: 2412 MHz ~ 2472 MHz 802.11a/n/ac/ax: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5720 MHz; 5745 MHz ~ 5825 MHz; 5945 MHz ~ 6425 MHz
Modulation Type	802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n/ac/ax: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM)
BT	
Operating Frequency	2402 MHz ~ 2480 MHz
Modulation Type	Bluetooth LE: GFSK Bluetooth BR(1Mbps): GFSK Bluetooth EDR (2Mbps): $\pi/4$ -DQPSK Bluetooth EDR (3Mbps): 8-DPSK

1.1.3 Antenna Details

Ant. No.	Manufacturer	Model	Part Number	Type	Connector	Operating Frequencies / Antenna Gain (dBi)		
						2.4GHz	5GHz	6GHz
1	JOYMAX	TWX-100B RSAX-2001	NA	Dipole	RP-SMA	2	4	4
2	Laird	FlexMIMO 6E	EFD2471A3 S-10MH4L	PIFA	MHF4L	2.2	3.8	3.3
3	Laird	Mini NanoBlade Flex 6 GHz	EMF2471A 3S-10MH4L	PCB Dipole	MHF4L	2.4	4.4	5.2
4	Laird	FlexPIFA 6E	EFB2471A3 S-10MH4L	PIFA	MHF4L	2.2	3.9	3.8

1.1.4 Accessories

N/A

1.1.5 Power Supply Type of the Equipment under Test (EUT)

Power Supply Type	3.3Vdc from host
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2 RF exposure evaluation

2.1 Limits

The device shall comply with the relevant limits as below table.

Exposure category	Frequency Range	E-field strength (V/m)	H-field strength (A/m)	Equivalent plane wave power flux density $S_{eq}(W/m^2)$
Occupational	2GHz ~ 300GHz	NA	NA	50
General public	2GHz ~ 300GHz	NA	NA	10

Note: f is the frequency in MHz

2.2 Evaluation Formula

Follow below formula to evaluate power density.

$$S = \frac{P_t}{4 * \pi * R^2}$$

Where

S= Power density in W/m^2

P_t = EIRP in W

π = 3.1416

R= Measurement distance (m)

2.3 Deviation from Test Standard and Measurement Procedure

None

2.4 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.

2.5 Evaluation Results

Non-beamforming mode

WLAN						
Frequency Range (MHz)	Maximum E.I.R.P. (dBm)	Distance (m)	Power Density (W/m ²)	Limit (W/m ²)	*Ratio	PASS / FAIL
2412-2472	25.21	0.2	0.660	10	0.066	Pass
5180-5240	22.39	0.2	0.345	10	0.034	Pass
5260-5320	22.13	0.2	0.325	10	0.032	Pass
5500-5720	24.85	0.2	0.608	10	0.061	Pass
5745-5825	26.58	0.2	0.905	10	0.091	Pass
5945-6425	23.52	0.2	0.447	10	0.045	Pass

BT						
Frequency Range (MHz)	Maximum E.I.R.P. (dBm)	Distance (m)	Power Density (W/m ²)	Limit (W/m ²)	*Ratio	PASS / FAIL
2402-2480	10.11	0.2	0.020	10	0.002	Pass

Beamforming mode

WLAN						
Frequency Range (MHz)	Maximum E.I.R.P. (dBm)	Distance (m)	Power Density (W/m ²)	Limit (W/m ²)	*Ratio	PASS / FAIL
2412-2472	20.08	0.2	0.203	10	0.020	Pass
5180-5240	19.38	0.2	0.172	10	0.017	Pass
5260-5320	19.12	0.2	0.162	10	0.016	Pass
5500-5720	24.85	0.2	0.608	10	0.061	Pass
5745-5825	23.57	0.2	0.453	10	0.045	Pass
5945-6425	20.51	0.2	0.224	10	0.022	Pass

Mode	Max Ratio of Each Mode	
	<i>Non-beamforming mode</i>	<i>Beamforming mode</i>
BT	0.002	0.002
WLAN 5GHz	0.091	0.061
Sum	0.093	0.063
Limit	1	
Pass / Fail	Pass	

Mode	Max Ratio of Each Mode	
	<i>Non-beamforming mode</i>	<i>Beamforming mode</i>
BT	0.002	0.002
WLAN 6GHz	0.045	0.022
Sum	0.047	0.024
Limit	1	
Pass / Fail	Pass	

3 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

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou
District, New Taipei City, Taiwan
(R.O.C.)

Kwei Shan

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)
No.2-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

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

Tel: 886-3-271-8666

Fax: 886-3-318-0345

Email: ICC_Service@icertifi.com.tw

==END==