

ISED RF Exposure Report

IC : 3147A-SU60SOMC
Equipment : 802.11ac Professional Wi-Fi + BT5.0 Module
Model No. : SU60-SOMC (453-00003)
SU60-SOMC-2G (453-00004)
(please refer to section 1.1.1 for more details.)
Brand Name : Laird Connectivity
Applicant : Laird Connectivity, LLC
Address : W66N220 Commerce Court Cedarburg WI
53012 United States Of America (Excluding
The States Of Alaska)
Manufacturer : Laird Connectivity, LLC
Address : W66N220 Commerce Court, Cedarburg,
Wisconsin 53012, USA
Standard : RSS-102 Issue 5 March 2015
Received Date : Aug. 26, 2021
Tested Date : Aug. 26 ~ Sep. 03, 2021

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 may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:


Along Chen / Assistant Manager

Approved by:


Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
CA841101-05	Rev. 01	Initial issue	Oct. 05, 2021

1 General Description

1.1 Information

This report is issued as a supplementary report to the original project no. CA841101. The modification is concerned with following:

- ✧ Revised brand name, applicant and address.
- ✧ Changed U1 to RT5170A for lower suspend mode current.
- ✧ Added C87 for solve the co-location issue with LTE.

Therefore, related test items had been performed and presented in the following sections.

1.1.1 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
Laird	SU60-SOMC (453-00003)	802.11ac Professional Wi-Fi + BT5.0 Module	2G/1G MCP
	SU60-SOMC-2G (453-00004)		4G/2G MCP
★ The above models, both options were assessed and SU60-SOMC-2G (453-00004) was found to be worst case and was selected for the final testing.			

BT / Wifi 2.4g				
Brand	Model	Type	Connector	Gain (dBi)
LSR	001-0009	Dipole	IPEX U.FL	2
Laird	NanoBlade-IP04	PCB Dipole	IPEX U.FL	2
Laird	MAF95310 Mini NanoBlade Flex	PCB Dipole	IPEX U.FL	2.79
LSR	FlexPIFA 001-0016	PIFA	IPEX U.FL	2.5
Ethertronics	WLAN_1000146	Magnetic Dipole	IPEX U.FL	2.5
Laird	MIMO FlexPIFA Antenna	PIFA	IPEX U.FL	2
LSR	001-0009 (with filter)	Dipole	IPEX U.FL	2

1.1.2 Test Sample Information

Serial Number of Test Sample	Radiated Emission: 453-00004 AC Power Line Conducted Emission: 453-00004 Antenna Port Conducted: 453-00004
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Brand	Model	Type	Connector	Operating Frequency (MHz) / Gain (dBi)			
				5150~5250	5250~5350	5470~5725	5725~5850
LSR	001-0009	Dipole	IPEX U.FL	2			
Laird	NanoBlade-IP04	PCB Dipole	IPEX U.FL	3.9		4	4
Laird	MAF95310 Mini NanoBlade Flex	PCB Dipole	IPEX U.FL	3.38			
LSR	FlexPIFA 001-0016	PIFA	IPEX U.FL	3			
Ethertronics	WLAN_1000146	Magnetic Dipole	IPEX U.FL	3.5			
Laird	MIMO FlexPIFA Antenna	PIFA	IPEX U.FL	3			
LSR	001-0009 (with filter)	Dipole	IPEX U.FL	2			

2 MPE EVALUATION OF MOBILE DEVICES

2.1 LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

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

2.2 MPE EVALUATION FORMULA

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

Where

Pd= Power density in W/m²

Pt= EIRP in W

Pi= 3.1416

R= Measurement distance

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 MPE EVALUATION RESULTS

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (W/m ²)	Limit (W/m ²)	*Ratio	Pass / Fail
For WLAN								
2412~2462	20.58	21	2.79	20	0.476	5.37	0.089	Pass
5150~5250	16.53	17	3.9	20	0.245	9.05	0.027	Pass
5250~5350	18.73	19	3.9	20	0.388	9.14	0.042	Pass
5470~5725	20.47	20.5	4	20	0.561	9.43	0.059	Pass
5725~5850	20.28	20.5	4	20	0.561	9.71	0.058	Pass
For BT								
2402~2480 EDR	10.67	11	2.79	20	0.048	5.35	0.009	Pass
2402~2480 LE	8.45	8.5	2.79	20	0.027	5.35	0.005	Pass

*Ratio = Power density / Limit.

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 333, Taiwan (R.O.C.)

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

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