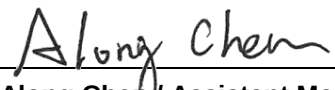


ISED RF Exposure Report

IC : 3147A-BL653
Equipment : Bluetooth 5.1 Data Module
Model No. : BL653
Brand Name : Laird Connectivity
Applicant : Laird Connectivity, LLC
Address : W66N220 Commerce Court, Cedarburg, WI
53012 United States Of America
Manufacturer : Laird Connectivity, Inc.
Address : W66N220 Commerce Court, Cedarburg,
Wisconsin 53012, USA
Standard : RSS-102 Issue 5 March 2015
Received Date : Jan. 30, 2020
Tested Date : Feb. 11 ~ Feb. 21, 2020

We, International Certification Corp., 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:

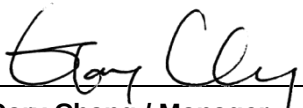

Gary Chang / Manager



Table of Contents

1	RF EXPOSURE EVALUATION FOR MOBILE DEVICE	4
1.1	RF FIELD STRENGTH LIMITS FOR DEVICE USED BY THE GENERAL PUBLIC	4
1.2	RF FIELD STRENGTH EVALUATION FORMULA	4
1.3	DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE	4
1.4	MEASUREMENT UNCERTAINTY	4
1.5	EVALUATION RESULTS	5
2	RF EXPOSURE EVALUATION FOR PORTABLE DEVICE	6
2.1	EXEMPTION LIMITS FOR ROUTINE EVALUATION BASED ON FREQUENCY AND SEPARATION DISTANCE	6
2.2	EVALUATION RESULTS	6
3	TEST LABORATORY INFORMATION	7

Release Record

Report No.	Version	Description	Issued Date
CA013002	Rev. 01	Initial issue	May 11, 2020
CA013002	Rev. 02	Changing brand	May 26, 2020

1 RF EXPOSURE EVALUATION FOR MOBILE DEVICE

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

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

1.2 RF FIELD STRENGTH EVALUATION FORMULA

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

Where

Pd= Power density in W/m²

Pt= EIRP in W

π= 3.1416

R= Measurement distance

1.3 DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE

None

1.4 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. 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 EVALUATION RESULTS

Modulation Mode	Freq. (MHz)	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (W/m ²)	Limit (W/m ²)
LE-125 kbps	2402	7.65	8	2	20	0.02	5.35
LE-125 kbps	2440	7.82	8	2	20	0.02	5.35
LE-125 kbps	2480	7.98	8	2	20	0.02	5.35
LE-500 kbps	2402	7.65	8	2	20	0.02	5.35
LE-500 kbps	2440	7.82	8	2	20	0.02	5.35
LE-500 kbps	2480	7.97	8	2	20	0.02	5.35
LE-1Mbps	2402	7.65	8	2	20	0.02	5.35
LE-1Mbps	2440	7.83	8	2	20	0.02	5.35
LE-1Mbps	2480	7.98	8	2	20	0.02	5.35
LE-2Mbps	2402	7.65	8	2	20	0.02	5.35
LE-2Mbps	2440	7.82	8	2	20	0.02	5.35
LE-2Mbps	2480	7.97	8	2	20	0.02	5.35

2 RF EXPOSURE EVALUATION FOR PORTABLE DEVICE

2.1 EXEMPTION LIMITS FOR ROUTINE EVALUATION BASED ON FREQUENCY AND SEPARATION DISTANCE

Exemption Limits (mW)					
Frequency (MHz)	At separation distance of <= 5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
1900	7	10	18	34	60
2450	4	7	15	30	52
3500	2	6	16	32	55

2.2 EVALUATION RESULTS

Modulation Mode	Freq. (MHz)	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Minimum Separation Distance (mm)
LE-125 kbps	2402	7.65	8	2	10	11.875
LE-125 kbps	2440	7.82	8	2	10	11.875
LE-125 kbps	2480	7.98	8	2	10	11.875
LE-500 kbps	2402	7.65	8	2	10	11.875
LE-500 kbps	2440	7.82	8	2	10	11.875
LE-500 kbps	2480	7.97	8	2	10	11.875
LE-1Mbps	2402	7.65	8	2	10	11.875
LE-1Mbps	2440	7.83	8	2	10	11.875
LE-1Mbps	2480	7.98	8	2	10	11.875
LE-2Mbps	2402	7.65	8	2	10	11.875
LE-2Mbps	2440	7.82	8	2	10	11.875
LE-2Mbps	2480	7.97	8	2	10	11.875

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 Corp (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 District, Tao Yuan City
333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C.

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

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

==END==