

CE RF Exposure Report

Equipment : Bluetooth 5.1 Nano BLE Data Module
Model No. : BL653μ
Brand Name : Laird Connectivity
Applicant : Laird Connectivity, Inc.
Address : W66N220 Commerce Court, Cedarburg,
Wisconsin 53012, USA
Standard : EN 62479:2010
EN 50663:2017
Received Date : Jun. 17, 2020
Tested Date : Aug. 19 ~ Aug. 22, 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:


James Fan / Assistant Manager

Approved by:


Gary Chang / Manager



Table of Contents

1	GENERAL DESCRIPTION	4
1.1	Information.....	4
2	RF EXPOSURE EVALUATION	5
2.1	Limits	5
2.2	Deviation from Test Standard and Measurement Procedure.....	5
2.4	Evaluation Results.....	5
3	TEST LABORATORY INFORMATION	6

Release Record

Report No.	Version	Description	Issued Date
EA061704	Rev. 01	Initial issue	Nov. 24, 2020

1 General Description

1.1 Information

1.1.1 Product Details

Model Name	Part Number	Remarks
BL653μ	453-00059	Chip Antenna
	453-00060	RF Trace Pin Antenna

1.1.2 Specification of the Equipment under Test (EUT)

RF General Information				
Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number	Data Rate
2400-2483.5	V5.1 LE	2402-2480	0-39 [40]	125 kbps
				500 kbps
				1 Mbps
				2 Mbps
Note 1: Bluetooth LE (Low energy) uses GFSK modulation.				

1.1.3 Antenna Details

Manufacturer	Model	Laird Part Number	Type	Connector	Gain (dBi)
Laird	NanoBlue	EBL2400A1-10 MH4L	PCB Dipole	IPEX MHF4	2
Laird	FlexPIFA	001-0022	PCB Dipole	IPEX MHF4	2
Mag.Layers	EDA-8709-2G4 C1-B27-CY	0600-00057	Dipole	IPEX MHF4	2
Laird	mFlexPIFA	EFA2400A3S-1 0MH4L	PIFA	IPEX MHF4	2
Laird	Laird NFC	0600-00061	NFC	N/A	--
Yageo	ANT1608LL14R 2400A	N/A	Chip Antenna	N/A	2

1.1.4 EUT Operational Condition

Power Supply Type	Option 1: DC 5V from host Option 2: DC 3.3V from host Option 3: DC 1.7V from host
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2 RF exposure evaluation

2.1 Limits

Equipment where the available antenna power and/or the average total radiated power is less than or equal to the 20mW (13dBm).

2.2 Deviation from Test Standard and Measurement Procedure

None

2.3 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 values of gain for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of the gain.

2.4 Evaluation Results

Mode	Maximum Conducted Power (dBm)	Gain (dBi)	Maximum E.I.R.P. (dBm)	Limit (dBm)	PASS / FAIL
BT LE	7.97	2	9.97	13	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 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

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

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