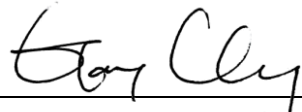


CE RF Exposure Report

Equipment : Bluetooth Serial Module with integrated antenna (refer to 1.1.1 for more details)
Model No. : TRBLU23-00200 (refer to 1.1.1 for more details)
Brand Name : Laird Technologies
Applicant : Laird Technologies
Address : 11160 Thompson Ave. / Lenexa, Kansas / 66219 / USA
Standard : EN 62479:2010
Received Date : Jan. 13, 2014
Tested Date : Jan. 16, 2014

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.

Approved & Reviewed by:



Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
EA411301	Rev. 01	Initial issue	Feb. 05, 2014

1 General Description

1.1 Information

1.1.1 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
Laird Technologies	TRBLU23-00200	Bluetooth Serial Module with integrated antenna	with surface mounted TDK antenna
	TRBLU23-00300	Bluetooth Serial Module with U.FL connector for external antenna	with Ipex connect and connected to WRR2400-IP04-G

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	BR V2.0	2402-2480	0-78 [79]	1 Mbps
2400-2483.5	EDR V2.0	2402-2480	0-78 [79]	2 Mbps
2400-2483.5	EDR V2.0	2402-2480	0-78 [79]	3 Mbps
Note 1: Bluetooth BR uses a GFSK.				
Note 2: Bluetooth EDR uses a combination of $\pi/4$ -DQPSK and 8DPSK.				

1.1.3 Antenna Details

Ant. No.	Brand / Model	Type	Gain (dBi)	Connector	Remark
A	TDK CABPB1240A	Ceramic Patch	2	NA	For TRBLU23-00200
B	Laird Technologies WRR2400-IP04-G	Dipole	1.5	u.fl	For TRBLU23-00300

1.1.4 EUT Operational Condition

Power Supply Type	5Vdc from Host		
Operational Voltage	☒ Vnom (5 V)	☒ Vmax (7 V)	☒ Vmin (3.6 V)
Operational Climatic	☒ Tnom (20°C)	☒ Tmax (85°C)	☒ Tmin (-40°C)

2 RF exposure evaluation

2.1 Scope

This International Standard provides simple conformity assessment methods for low-power electronic and electrical equipment to an exposure limit relevant to electromagnetic fields(EMF). If such equipment cannot be shown to comply with the applicable EMF exposure requirements using the methods included in this standard for EMF assessment, then other standards, including IEC 62311 or other (EMF) product standards, may be used for conformity assessment. This European Standard supersedes EN 50371:2002.

2.2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz), Official Journal L 199 of 30 July 1999.

IEC 62311, Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz).

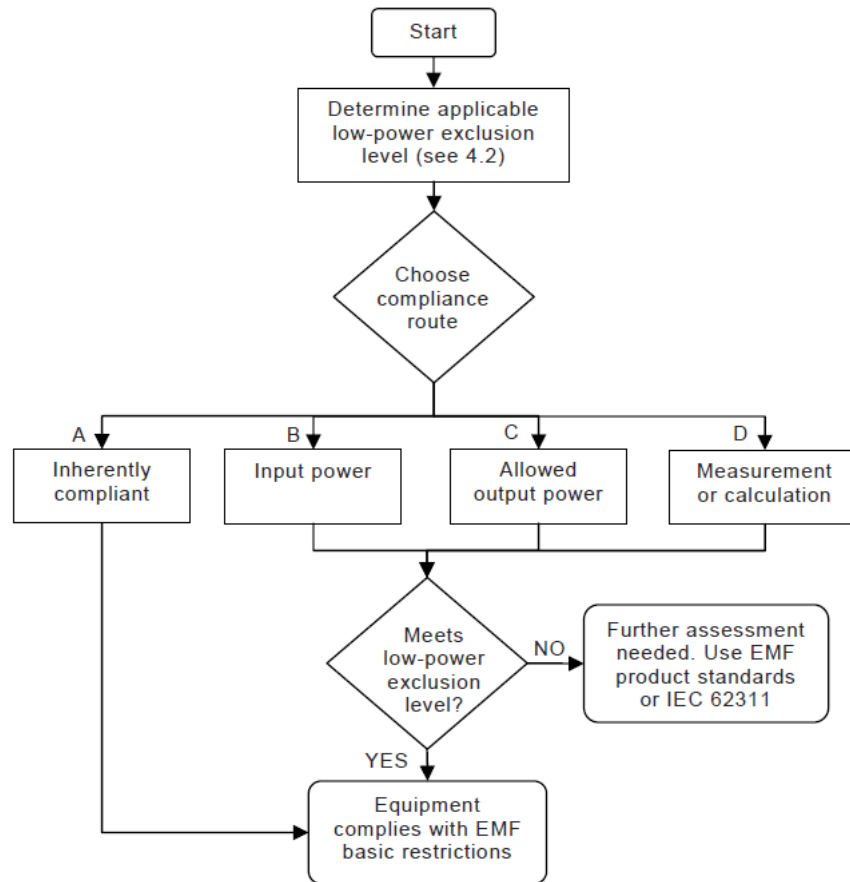
2.3 Compliance Criteria

Compliance of electromagnetic emissions from electronic and electrical equipment with the basic restrictions usually is determined by measurements and, in some cases, calculation of the exposure level. If the electrical power used by or radiated by the equipment is sufficiently low, the electromagnetic fields emitted will be incapable of producing exposures that exceed the basic restrictions. This standard provides simple EMF assessment procedures for this low power equipment.

Any relevant compliance assessment procedure which is consistent with the state of the art, reproducible and gives valid results can be used.

For transmitters intended for use with more than one antenna configuration option, the combination of transmitter and antenna(s) which generates the highest available antenna power and/or average total radiated power shall be assessed.

2.4 Routes to show compliance with low-power exclusion level



2.5 Limits

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

2.6 Evaluation Results

Model	Modulation Mode	Frequency Range (MHz)	Maximum E.I.R.P.(dBm)	Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)	PASS / FAIL
TRBLU23-00200	GFSK	2402-2480	7.89	2	5.89	13	Pass
	8DPSK	2402-2480	3.96	2	1.96	13	Pass
TRBLU23-00300	GFSK	2402-2480	7.39	1.5	5.89	13	Pass
	8DPSK	2402-2480	3.46	1.5	1.96	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, 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 Hsiang. 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 Hsiang, Tao Yuan Hsien 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==