



Test report issued under the responsibility of:
EMITECH MONTPELLIER laboratory
MRA US-EU Designation Number: FR0006
Canadian CAB Identifier: FR0003

RF EXPOSURE TEST REPORT

KDB 447498 D01 V06
RSS-102 - Issue 6, December 2023

Company: **VISHAY SA**
Address.....: 199 Boulevard de la Madelaine, 06003 Nice
France

Test item description: **WIRELESS Device**
Trade Mark: VISHAY SA
Manufacturer.....: VISHAY SA
Model/Type reference.....: WLMO Rev-00 / WLMO2LD
FCC ID.....: 2BKGFWLMO2LD
IC: 33601-WLMO2LD
Ratings.....: 1.8Vdc to 3.3Vdc

Testing Laboratory: **EMITECH MONTPELLIER laboratory**
Address.....: 145 rue de Massacan
34740 VENDARGUES
FRANCE

Report Reference No.....: **R24D383-1A**
Test procedure: FCC IC Verification
Diffusion.....: M.RAFIDISON
Applicant's name: VISHAY SA
Date of issue.....: July 15, 2025
Total number of pages.....: 11
Revision: 0
Compiled by.....: Maxime MARKOVIC
Approved by (+ signature): Olivier HEYER (Deputy Laboratory Manager)



*Duplication of this test report is only permitted for an integral photographic facsimile. It includes the number of pages referenced here above.
This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of
the whole manufactured products of the tested sample.*

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REVISION HISTORY:

Revision	Date	Modified pages	Modifications
0	July 15, 2025	/	Creation

1. GENERAL INFORMATION

This document submits the results of Electromagnetic Compatibility tests performed on the equipment **WIRELESS Module WLMO** (denominated hereafter E.U.T.: equipment under test) according to document(s) listed in §2 of this test report.

TESTING PROCEDURE AND TESTING LOCATION:					
Testing Location : EMITECH MONTPELLIER laboratory Address : 145 rue de Massacan 34740 VENDARGUES FRANCE Test procedure : FCC IC Verification Tested by : Maxime MARKOVIC Test supervisor : Olivier AELBRECHT Date of receipt of test item : N/A Date (s) of performance of tests : February the 24th to February the 28th of 2025					
APPLICANT'S GENERAL INFORMATION:					
Company name : VISHAY SA Company address : 199 Boulevard de la Madelaine, 06003 Nice France Person(s) present during the tests : M.RAFIDISON Responsible : M.RAFIDISON					
GENERAL REMARKS:					
The information in italics is declared by the manufacturer and is under his responsibility The test results presented in this report relate only to the object tested. The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report the decimal separator is point.					
POSSIBLE TEST CASE VERDICTS:					
Test case does not apply to the test object .: N/A Test case not performed : N/P Test object does meet the requirement : P (Pass) Test object does not meet the requirement . F (Fail) :					
DEFINITIONS AND ABBREVIATIONS:					
E.U.T.	Equipment Under Test	AE	Ancillary Equipment	Pk	Peak detector
RBW	Resolution BandWidth	VBW	Video BandWidth	QP	Quasi-peak detector
FSOATS	Free Space Open Area Test Site	FAR	Full Anechoic Room	Av	Average detector
VP	Vertical Polarization	HP	Horizontal Polarization	RMS	Root Mean Square
RF	Radio Frequency	N.T.R	Nothing To Report	N/C	Not Communicated
SAC	Semi Anechoic Chamber				

2. REFERENCE DOCUMENTS

NORMATIVE REFERENCES:

The following referenced documents are necessary for the application of the present test report.

FCC 47 CFR PART 15

Code of federal regulations – Title 47 telecommunication
Part 15- Radio frequency devices

KDB 447498 D01 v06

RF exposure procedures and equipment authorization policies for mobile and portable devices.

RSS-102 - Issue 6, December 2023

Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

RR-EVE-24D383-1A Ed.0

Radio Test Report Emitech.

Although the product standard uses obsolete technical standards, the latest versions of standards achievable by the laboratory will be used for testing.

INFORMATIVE REFERENCES:

The following referenced documents are not necessary for the application of the present test report but they assist the user with regard to a particular subject area.

3. EQUIPMENT TECHNICAL DESCRIPTION

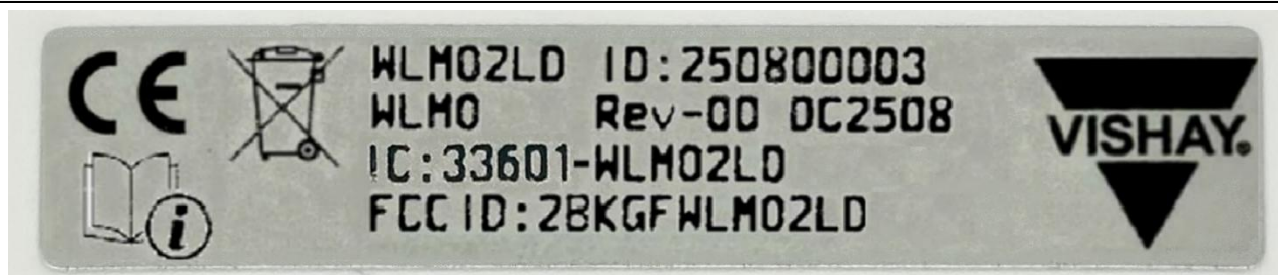
3.1. Test Conditions

Test item description. : WIRELESS Device
 Model/Type reference..... : WLMO Rev-00 / WLMO2LD
 Trade Mark. : VISHAY SA
 Serial number (S/N)..... : WLMO2LD ID 250600001
 Part number (P/N). : DC2506
 Software version..... : Rev-00
 Firmware version. : WLMO2LD Rev-00
 Type of sample. : Pre-serial
 Function(s)..... : Transducer data emitter LoRa module
 Manufacturer name. : VISHAY SA
 Address. : 199 Boulevard de la Madeleine, 06003 Nice

General product information:

N/A

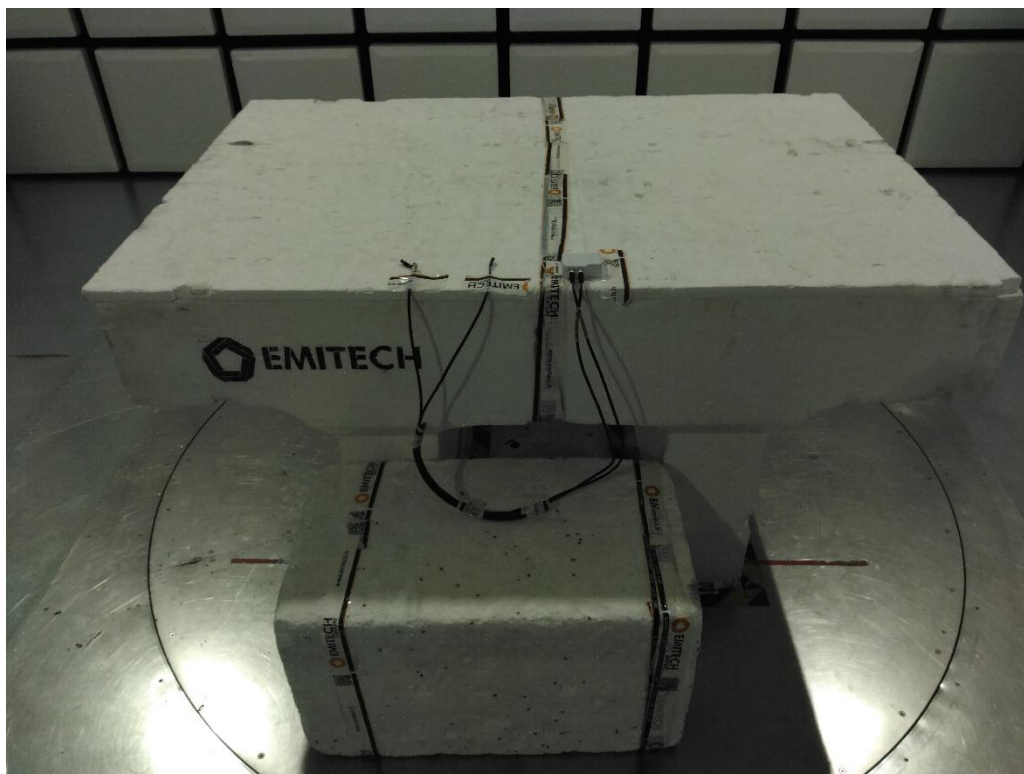
3.2. E.U.T. Marking plate



3.3.E.U.T. Modification(s)

No modification

3.4.E.U.T. General view



3.5.E.U.T. Electronic board



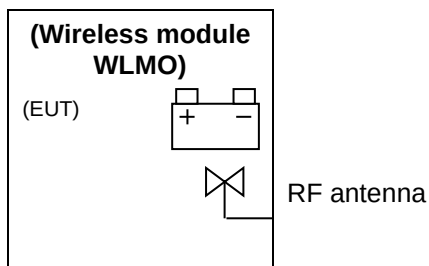
3.6.E.U.T. Mechanical and Electrical Design

Power supply.	: 3.3Vdc
Power supply range.....	: 1.8Vdc to 3.3Vdc
Power type.....	: 2 batteries AAA 1.5Vdc 625mAh
Power (W).....	: N/C (powered by internal batteries)
Nominal current (A).	: N/C (powered by internal batteries)
Dimensions (L x W x H) (m).	: 0.0890 x 0.0555 x 0.0216 m
Weight (kg).	: 0.0594 kg
Temperature range (°C).	: -18°C to +55°C
Ground bounding strap.....	: No

Comments:

N/A

3.7.E.U.T. Input/Output ports



PORT	NAME	TYPE	LENGTH	CABLE TYPE	COMMENTS
0	Main frame	N/E	N/A	Plastic	
1	DC power source	DC		N/A	2 batteries AAA 1.5Vdc 625mAh
2	RF antenna	RF	N/A	N/A	LORA 2.4GHz

AC/DC : AC/DC Converter port AC..... : Alternative current port DC : Direct current port
I/O : Input or Output port TP : Telecommunication port RF..... : Radio frequency port
N/E : Non Electrical port

3.8.Supporting Equipment Used During Test

Sample subject to the tests was tested with following equipment.

PRODUCT TYPE	MANUFACTURER	MODEL	N°EMITECH / COMMENTS
DONGLE	VISHAY		Used for Rx

DONGLE (EA)



3.9. EUT Radio Specifications

a) GENERAL INFORMATIONS	
According to manufacturer's declarations :	
EUT type.....	Transmitter
Technology	Private LoRa 2.4GHz
Environmental profile.....	Data Transmission
Temperature range	-20°C to +60°C
Antenna type	Integral
Antenna Gain.....	Not Communicated
Comments:	
b) TRANSMITTER PARAMETERS (Tx)	
Frequency bands.....	2.4GHz to 2.4835GHz
RF Power.....	8.5dBm
Number of channels / Separation.....	5 Channels
Modulation type	Chirp Spread Spectrum (CSS)
Duty cycle	N/A
Tested frequency	2.402GHz , 2.450GHz & 2.480GHz
c) RECEIVER PARAMETERS (Rx)	
Frequency bands.....	Not Communicated
Category/Class	Not Communicated
Bandwidth	Not Communicated

4. RF EXPOSURE

Maximum EIRP = 8.62 dBm (7.28 mW) at 2480 MHz (see Radio test report referenced in §2)

For USA

In accordance with KDB 447498 D04 Appendix B.3 and FCC Part 2.1091:

$$ERP_{20cm}(mW) = \begin{cases} 2040f & \text{for } 0.3GHz \leq f < 1.5GHz \\ 3060 & \text{for } 1.5GHz \leq f \leq 6GHz \end{cases}$$

Thanks to test report in §2 of this document :

Configuration	Frequency (MHz)	Max EIRP (dBm)	Max ERP (W)	Limit (W)
High channel - Pol V Position n°3 (Worst Case)	2480	8.62	0.01	3.06

It is therefore not necessary to carry out other specific measurements to assess human exposure to radiofrequencies when the product is used more than 20 cm from the human body.

For Canada

In accordance with RSS-102, Issue 6, Section 6.6., the maximum EIRP must be lower than $1,31 \times 10^{-2} f^{0,6834}$

Thanks to test report in §2 of this document :

Configuration	Frequency (MHz)	Max EIRP (dBm)	Max EIRP (W)	Limit (W)
High channel - Pol V Position n°3 (Worst Case)	2480	8.62	0.01	2.74

It is therefore not necessary to carry out measurements to assess human exposure to radiofrequencies when the product is used more than 20 cm from the human body.

●●● End of test report ●●●