

MPE TEST REPORT

Applicant Pylon Technologies Co., Ltd
FCC ID 2AYEF-RT2450
Product Rechargeable Lithium-ion Battery
Brand Pylontech
Model RT2450-G31
Report No. R2307A0781-M1V3
Issue Date April 23, 2024

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC 47 CFR Part 1 1.1310**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.



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Table of Contents

1	Test Laboratory	4
1.1	Notes of the Test Report.....	4
1.2	Test Facility.....	4
1.3	Testing Location.....	4
1.4	Laboratory Environment	4
2	Description of Equipment Under Test	5
3	Maximum Output Power (Measured) and Antenna Gain.....	6
4	MPE Limit.....	7
5	RF Exposure Evaluation Result.....	9
	ANNEX A: The EUT Appearance	10

Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	November 6, 2023
Rev.1	Update description.	December 29, 2023
Rev.2	Update data.	April 10, 2024
Rev.3	Update information.	April 23, 2024
Note: This revised report (Report No.: R2307A0781-M1V3) supersedes and replaces the previously issued report (Report No.: R2307A0781-M1V2). Please discard or destroy the previously issued report and dispose of it accordingly.		

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA technology (shanghai) co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

1.3 Testing Location

Company: Eurofins TA technology (shanghai) co., Ltd.
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1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

2 Description of Equipment Under Test

Client Information

Applicant	Pylon Technologies Co.,Ltd
Applicant address	5F, No. 71-72, Lane 887, Zu Chongzhi Road, Zhangjiang Hi-Tech Park, Pudong, Shanghai 201203, China
Manufacturer 1	Pylon Technologies Co.,Ltd
Manufacturer address 1	Plant 8, No.505 Kunkai Road, JinXi Town, Kunshan City, Jiangsu Province, PEOPLE'S REPUBLIC OF CHINA
Manufacturer 2	Pylon Technologies Co.,Ltd
Manufacturer address 2	No.637 East Jinxi Road, JinXi Town, Kunshan City, Jiangsu Province, PEOPLE'S REPUBLIC OF CHINA

General Technologies

EUT Description			
Model	RT2450-G31		
Lab internal SN	R2307A0781/S01		
Hardware Version	/		
Software Version	/		
Frequency	Band	TX (MHz)	RX (MHz)
	Bluetooth LE	2400 ~ 2483.5	2400 ~ 2483.5
Date of Testing	July 31, 2023 ~ August 22, 2023		
Date of Sample Received	July 6, 2023		
Note:			
1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.			
2. All indications of Pass/Fail in this report are opinions expressed by Eurofins TA technology (shanghai) co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

3 Maximum Output Power (Measured) and Antenna Gain

The numeric gain (G) of the antenna with a gain specified in dB is determined by

Numeric gain (G)= $10^{(\text{antenna gain}/10)}$

Band	Maximum Output Power (Measured)		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
Bluetooth (Low Energy)	0.71	1.178	0.99	1.256

4 MPE Limit

According to section 1.1310 of FCC 47 CFR Part 1, limits for maximum permissible exposure (MPE) are as following.

TABLE 1 – LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

Note1. Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational / controlled limits apply provided he or she is made aware of the potential for exposure.

Note2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

The maximum permissible exposure for 1500~100,000MHz is 1.0. So

Band	The Maximum Permissible Exposure (mW/cm ²)
Bluetooth LE	1.000

5 RF Exposure Evaluation Result

RF exposure evaluation method is based on KDB 447498 D01, this calculation is based on the conducted power, maximum power and antenna gain with provides the minimum separation distance. The formula shown below is from OET Bulletin 65 Edition 97-01 Per KDB 447498 D01:

$$S = PG / 4\pi R^2$$

Where: S = power density (in appropriate units, e.g. mW/cm²)

P = Time-average maximum tune up procedure (in appropriate units, e.g., mW)

G = the numeric gain of the antenna

R = distance to the center of radiation of the antenna (20 cm used compute for MPE limit)

Band	Maximum Output Power (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Result (mW/cm ²)	Limit Value (mW/cm ²)
Bluetooth LE	0.71	0.99	1.700	1.479	0.0003	1.000
Note: R = 20cm π= 3.1416						

Note: For transmitters, minimum separation distance is 20cm, even if calculations indicate MPE distance is less.

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

*****END OF REPORT *****