



MPE Test Report

Report No.: MTi210624001-03E2

Date of issue: Aug. 28, 2021

Applicant: Wuxi Vika New Energy
Technology Co., Ltd.

Product name: Lithium-ion Battery Pack

Model(s): 12V100Ah

FCC ID: 2A2RR-12V100AH

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>



Instructions

1. The report shall not be partially reproduced without the written consent of the laboratory;
2. The test results of this report are only responsible for the samples submitted;
3. This report is invalid without the seal and signature of the laboratory;
4. This report is invalid if transferred, altered or tampered with in any form without authorization;
5. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.



Table of Contents

1	RF EXPOSURE EVALUATION	5
1.1	LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE).....	5
1.2	MEASUREMENT RESULT	6



TEST RESULT CERTIFICATION

Applicant's name.....	Wuxi Vika New Energy Technology Co., Ltd.
Address.....	No.8 Liangkang Road, Mashan, Binhu District, Wuxi, Jiangsu, China.
Manufacturer's Name	Wuxi Vika New Energy Technology Co., Ltd.
Address.....	No.8 Liangkang Road, Mashan, Binhu District, Wuxi, Jiangsu, China.

Product description

Product name.....	Lithium-ion Battery Pack
Trademark	QaoLithium
Model Name	12V100Ah
Serial Model.....	N/A
Standards.....	N/A
Test procedure	KDB 447498 D01 v06

Date of Test

Date (s) of performance of tests... :	July 17, 2021 ~ July 29, 2021
Test Result.....	Pass

This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Testing Engineer

:

(Danny Xu)

Technical Manager

:

(Leon Chen)

Authorized Signatory

:

(Tom Xue)



1 RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

1.1 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 Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $Pd = (Pout * G) / (4 * \pi * R^2)$

Where

Pd= Power density in mW/cm²

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1415926

R= distance between observation point and center of the radiator in cm(20cm)

Pd the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.



1.2 Measurement Result

BLE:

Operation Frequency: BT GFSK: 2402-2480MHz

Power density limited: 1mW/ cm²

Antenna Type: BLE Antenna: PCB Antenna;

BLE antenna gain: 0dBi

R=20cm

mW=10^(dBm/10)

antenna gain Numeric=10^(dBi/10)= 10^(0/10)=1.00

Chann el Freq. (MHz)	modulat ion	conduct ed power	Tune- up power (dBm)	Max		Antenna		Evalua tion result (mW/c m2)	Power density Limits (mW/c m2)			
		(dBm)		tune-up power		Gain						
				(dBm)	(mW)	(dBi)	Numeri c					
2402	GFSK	-1.71	(-2)±1	-1	0.794	0	1.00	0.0002	1			
2441		-1.358	(-2)±1	-1	0.794	0	1.00	0.0002	1			
2480		-1.557	(-2)±1	-1	0.794	0	1.00	0.0002	1			

Conclusion:

For the max result: 0.0002≤ 1.0 for 1g SAR, No SAR is required.

----END OF REPORT----