TEST REPORT

Report No.: SHATBL2408006W02

Applicant	:	Ningbo Willen Intelligent Technology Co.,Ltd.
Product Name	:	Ebike
Brand Name	:	blix
Model Name	:	Vika X
FCC ID	:	2BKN2-WL2401
Test Standard	:	47 CFR 15.247
Date of Test	:	2024.8.13~2024.8.20

Report Prepared by : peter ling

(Peter Ling)

Report Approved by : Chris Xu

(Chris Xu)

Authorized Signatory : Terry Yang

(Terry Yang)

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REVISION HISTORY

Rev.	Issue Date	Revisions	Revised by
00	2024.8.20	Initial Release	Chris Xu

DECLARATION OF REPORT

1. The device has been tested by ATBL, and the test results show that the equipment under test (EUT)is in compliance with the requirements of 47 CFR Part 2.1093. And it is applicable only to the tested sample identified in the report.

2. This report shall not be reproduced except in full, without the written approval of ATBL, this document only be altered or revised by ATBL, personal only, and shall be noted in the revision of the document.

3. The general information of EUT in this report is provided by the customer or manufacture, ATBL is only responsible for the test data but not for the information provided by the customer or manufacture.

4. The results in this report is only apply to the sample as tested under conditions. The customer or manufacturer is responsible for ensuring that the additional production units of this model have the same electrical and mechanical components.

1. GENERAL DESCRIPTION

1.1. Applicant

Name	:	Ningbo Willen Intelligent Technology Co.,Ltd.
Address	:	Room 1-1031,1/F,Building 041,Block B,no.188 Jinghua Road,High-tech Zone,Ningbo,Zhejiang

1.2. Manufacturer

Name	:	Ningbo Willen Intelligent Technology Co.,Ltd.
Address	:	Room 1-1031,1/F,Building 041,Block B,no.188 Jinghua Road,High-tech Zone,Ningbo,Zhejiang

1.3. Factory

Name	:	Ningbo Willen Intelligent Technology Co.,Ltd.
Address	:	No. 255 Fengcheng Road, Wangchun Industrial Park, Haishu District, Ningbo City, Zhejiang Province

1.1. General Information of EUT

General Information	
Equipment Name	Ebike
Brand Name	blix
Model Name	Vika X
Series Model	SOL X
Model Difference	The differences between VIKA X and SOL X are: appearance, motor, controller, shelf size, frame size, rims, tires are different, and the instrumentation and wireless module in the instrumentation are the same
SN or IMEI Code	N/A
Adapter	Model：KYLC109V55N Input：AC110V-240V~2.5A 47-63Hz Output：DC54.6V 2.0A
Battery	Model:NEBA037 Rated Voltage:DC 46.8V Charge Limit Voltage:DC 54.6V Capacity:12.8Ah
Hardware Version	V1.0
Software Version	V1.0
Connecting I/O Port(s)	Refer to the remark below.

Remark：

The above information of EUT was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.2. Equipment Specification

Equipment Specification		
Frequency Range	2400MHz - 2483.5MHz	
Number of Channels	40	
Carrier Frequency of Each Channel	2402 + n*2 MHz; n = 0 ~ 39	
Maximum Output Power To Antenna	☑Bluetooth LE(1Mbps):	6.117dBm (0.00409W)
Type of Modulation	Bluetooth LE:	GFSK
Antenna Type	PIFA	
Antenna Gain	-2dBi	

1.3. Modification of EUT

No modifications are made to the EUT during all test items.

1.4. Laboratory Information

Company Name	:	Shanghai ATBL Technology Co., Ltd.
Address	:	Building 8,No.160 Basheng Road, Waigaoqiao Free Trade Zone, Pudong New Area, Shanghai
Telephone	:	+86(0)21-51298625

1.5. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

Standard	Description
47 CFR Part 15.247	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
47 CFR Part 2.1093	Radio frequency radiation exposure evaluation: portable devices.
KDB 447498 D01 V06	Rf Exposure Procedures And Equipment Authorization Policies For Mobile And Portable Devices

Remark:

All test items were verified and recorded according to the standards and without any deviation during the test.

2. RF EXPOSURE EVALUATION

2.1. Limits

2.1.1 Limits According to KDB 447498 D01 General RF Exposure Guidance v06

4.3.1 Standalone SAR test exclusion considerations

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√ f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5)in section 4.1 is applied to determine SAR test exclusion.

2)At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following, and as illustrated in Appendix B:

a) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz.

b) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz.

3) The 1-g and 10-g SAR test exclusion thresholds for below 100 MHz at test separation distances ≤ 50 mm are determined by:

a) The power threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by [1 + log(100/f(MHz))] for test separation distances > 50 mm and < 200 mm.

b) The power threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by ½ for test separation distances ≤ 50 mm.

c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable. Note: when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

2.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

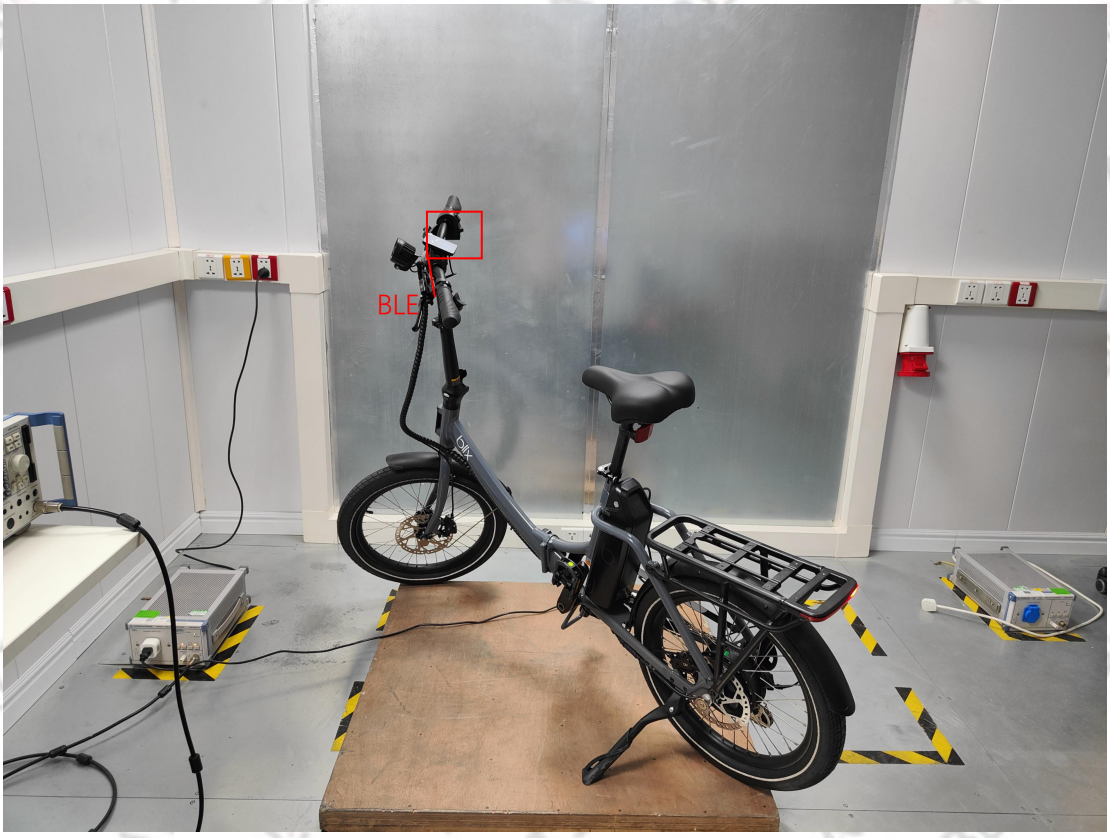
2.3. Test Result of RF Exposure Evaluation

Based on The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm and the formula below:

Band	Exposure Condition	Pmax	Pmax	Distance	F(GHz)	calculation result	Stand-alone Testexclusion threshold	SAR Test
		dBm	(mw)	mm				
BT	Body	6.117	0.490	5	2.480	0.1543	3	NO

Conclusion: 2.4GHz SAR was not required.

2.4. Description



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