TEST REPORT

Report No.: SHATBL2404012W02

Applicant	:	Guangdong Pine Lake Technology Co., Ltd
Product Name	:	Smart AI Recognition Bird Feeder
Brand Name	:	N/A
Model Name	:	BF23B
FCC ID	:	2A5LX-BF23B
Test Standard	:	FCC CFR Title 47 Part 2.1091
Date of Test	:	2024.04.17~2024.05.15

Report Prepared by : Chris Xu

(Chris Xu)

Report Approved by : Ghost Li.

(Ghost Li)

Authorized Signatory : Terry Yang

(Terry Yang)

TABLE OF CONTENTS

REVISION HISTORY

Rev.	Issue Date	Revisions	Revised by
A0	2024.05.15	Initial Release	Ghost Li

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 2.1091. 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.

5. In this report, '☐' indicates that EUT does not support content after '☐', and '☑' indicates that it supports content after '☑'

1. GENERAL DESCRIPTION

1.1. Applicant

Name	:	Guangdong Pine Lake Technology Co., Ltd
Address	:	701,Building 1, No. 2, Nanbo Road, Songshan Lake Park523808, Dongguan City, Guangdong Province, China

1.2. Manufacturer

Name	:	Guangdong Pine Lake Technology Co., Ltd
Address	:	701,Building 1, No. 2, Nanbo Road, Songshan Lake Park523808, Dongguan City, Guangdong Province, China

1.3. Factory

Name	:	Guangdong Pine Lake Technology Co., Ltd
Address	:	701,Building 1, No. 2, Nanbo Road, Songshan Lake Park523808, Dongguan City, Guangdong Province, China

1.4. General Information of EUT

General Information	
Equipment Name	Smart AI Recognition Bird Feeder
Brand Name	N/A
Model Name	BF23B
Series Model	BF23,BF23A,BF23C,BF23D,BF23E,BF23F,BF23G WBF23,WBF23A,WBF23B,WBF23C,WBF23D,WBF23E,WBF23F,WBF23G NH23,NH23A,NH23B,NH23C,NH23D,NH23E,NH23F,NH23G HM23,HM23A,HM23B,HM23C,HM23D,HM23E,HM23F,HM23G PD01,PD01A,PD01B,PD01C,PD01D,PD01E,PD01F,PD01G BF37,BF37A,BF37B,BF37C,BF37D,BF37E,BF37F,BF37G
Model Difference	Different shell and model,the circuit structure principle is the same.
Operation Frequency	2412MHz - 2462MHz
Modulation Type	802.11b: DSSS (DBPSK/DQPSK/CCK) 802.11g/n(HT): OFDM
Antenna gain	3.33dBi
Antenna Designation	Dipole Antenna
Power Source	input:DC 5V(charging voltage)
Battery	Rated Voltage：3.7V Charge Limit Voltage：4.2V Capacity：5200mAh 19.24Wh
Hardware Version	BF23_MAIN_V1_0_2(main control panel) BF23_LED_V1_0_2(lamp panel)
Software Version	V33.48.56

1.5. 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

2. FCC 47CFR §2.1091 Requirement

2.1. Test Standards

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

KDB447498 D01: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies .

2.2. Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
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 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 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

2.3. MPE Calculation Method

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

2.4. Antenna Information

EUT can only use antennas certificated as follows provided by manufacturer;

Antenna	Model No. of antenna:	Type of antenna:	Gain of the antenna (Max.)	Frequency range:
WIFI	/	FPC antenna	3.33dBi	2400-2500

2.5. Manufacturing Tolerance

Frequency (MHz)	ANT0_11b(Peak)		
	2412	2437	2462
Target (dBm)	19.08	18.98	17.83
Tolerance ± (dB)	1.0	1.0	1.0

Frequency (MHz)	ANT0_11G(Peak)		
	2412	2437	2462
Target (dBm)	23.90	23.48	22.64
Tolerance ± (dB)	1.0	1.0	1.0

Frequency (MHz)	ANT0_11N20(Peak)		
	2412	2437	2462
Target (dBm)	23.35	23.29	22.22
Tolerance ± (dB)	1.0	1.0	1.0

2.6. Test Result

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, r =20cm, as well as the gain of the used antenna is refer to section 4, the RF power density can be obtained.

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW				
2.4G WIFI	24.90	309.03	3.33	2.15	0.132	1.0000

Note:

1.The Maxinum power is less than the limit, complies with the exemption requirements.

2.Output power (Peak) including turn-up tolerance;

3.The calculated distance is 20 cm.

※※※※※END OF THE REPORT※※※※※