RF EXPOSURE REPORT

Applicant	Zhiwei Robotics Corp.
Address	Room 603, 2 Boyun Road, Pudong, Shanghai P.R. China

Manufacturer or Supplier	Zhiwei Robotics Corp.
Address	Room 603, 2 Boyun Road, Pudong, Shanghai P.R. China
Product	UNIHIKER
Brand Name	N/A
Model	DFR0706
Additional Model & Model Difference	N/A
Date of tests	Dec. 12, 2022 ~ Feb. 06, 2023

☒ **FCC Part 2 (Section 2.1091)**
☒ **KDB 447498 D01**
☒ **IEEE C95.1**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Andy Zhu Supervisor / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	 Date: Mar. 09, 2023

TABLE OF CONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2211WDG0121	Original release	Mar. 09, 2023

1. CERTIFICATION

PRODUCT:	UNIHIKER
BRAND NAME:	N/A
MODEL NO.:	DFR0706
ADDITIONAL MODEL:	N/A
FCC ID:	2AIDMUNIHIKER13
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Zhiwei Robotics Corp.
STANDARDS:	FCC Part 2 (Section 2.1091)
	KDB 447498 D01
	IEEE C95.1

2. RF EXPOSURE LIMIT

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm^2)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

3. MPE CALCULATION FORMULA

$Pd = (Pout*G) / (4*pi*r^2)$

where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

Frequency Band	Antenna Gain (dBi)	Antenna Type
BT 2.4GHz （2402-2480MHz）	-2.16	PCB Antenna
Wi-Fi 2.4GHz 2422-2452MHz for 11n(HT40) 2412-2462MHz for 11b/g/n(HT20)	-2.34	PCB Antenna

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
BT (GFSK)	2402-2480MHz	4	+-1	3	5
BT (8DPSK)	2402-2480MHz	6	+-1	5	7
BT-LE (GFSK)	2402-2480MHz	4	+-1	3	5
802.11b	2412-2462MHz	16	+-1	15	17
802.11g	2412-2462MHz	16	+-1	15	17
802.11n HT20	2412-2462MHz	15	+-1	14	16
802.11n HT40	2422-2452MHz	15	+-1	14	16

The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
BT (GFSK)	2480	4.16
BT (8DPSK)	2480	5.84
BT-LE (GFSK)	2480	4.39
802.11b	2462	16.49
802.11g	2462	16.12
802.11n HT20	2462	14.81
802.11n HT40	2452	14.24

FREQUENCY BAND	MAX AVERAGE POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
BT 2.4GHz	7	-2.16	20	0.000606	1.0
Wi-Fi 2.4GHz	17	-2.34	20	0.005817	1.0

CONCLUSION:

The BT and WLAN can transmit simultaneously, the formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

(0.000606/1)+(0.005817/1) = 0.006423<1, which is less than the “1” limit.

--- END ---