



## RF EXPOSURE REPORT

<b>Applicant</b>	:	Retro Manufacturing, LLC
<b>Address of Applicant</b>	:	7470 Commercial Way, Henderson, NV 89011 USA
<b>Manufacturer</b>	:	ACTION INDUSTRIES (M) SDN.BHD.
<b>Address of Manufacturer</b>	:	2480, TINGKAT PERUSAHAAN ENAM, PRAI FREE TRADE ZONE, 13600, PERAI, PENANG, MALAYSIA
<b>Equipment under Test</b>	:	RADIO CONTROL BOX M4HD1 RETRO SOUND
<b>Model No.</b>	:	MOTOR 4HD-1, RCX10002
<b>FCC ID</b>	:	2AXWTMOT4HD-1
<b>Test Standard(s)</b>	:	KDB447498 D01 General RF Exposure Guidance v06
<b>Report No.</b>	:	DDT-RE24122519-4E02
<b>Issue Date</b>	:	2025/03/28
<b>Issue By</b>	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

# REPORT

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## Test Report Declare

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**Test Standard Used:**

KDB447498 D01 General RF Exposure Guidance v06

**We Declare:**

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

<b>Report No.:</b>	DDT-RE24122519-4E02		
<b>Date of Receipt:</b>	2025/03/04	<b>Date of Test:</b>	2025/03/04~2025/03/28

Created: Chen Ziqin	Reviewed: Ella Gong	Approved: Damon Hu
		
2025/03/28	2025/03/28	2025/03/28

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Version	Revision Content	Issue Date	Approved
---	Initial issue	2025/03/28	Damon Hu

## 1. General Test Information

### 1.1. Description of EUT

EUT Name	:	RADIO CONTROL BOX M4HD1 RETRO SOUND
Model Number	:	MOTOR 4HD-1, RCX10002
Difference of model number	:	Above models are identical in schematic and structure, only the model number are different, therefore the test performed on the model MOTOR 4HD-1
EUT Function Description	:	Please reference user manual of this device
Power Supply	:	DC 12V

Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual.

### 1.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
/	/	/	/

### 1.3. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: [ddt@dgddt.com](mailto:ddt@dgddt.com).

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20240, G-20118

## 2. RF Exposure evaluation for FCC

### 2.1. Assessment procedure

#### Requirement:

Systems operating under the provisions of FCC 47 CFR 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.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100000			1.0	30
Note: f= frequency in MHz; *Plane-wave equivalent power density				

#### Calculation method

$$E(\text{V/m}) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } S(\text{mW/cm}^2) = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = Peak RF output power (mW)

**G** = EUT Antenna numeric gain (numeric)=

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2 m, as well as the gain of the used antenna, the RF power density can be obtained.

## 2.2. Assess result

Mode	Output power (dBm)	Output power (mW)	Tune up power (dBm)	Tune up power (mW)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
BT	5.81	3.81	6.5	4.47	-0.62	0.87	0.0008	1

Note: The estimation distance is 20 cm

Conclusion: MPE evaluation required since transmitter power is below FCC threshold

-----End Report-----