



RF EXPOSURE REPORT

Applicant	:	MOTREX CO., LTD.
Address of Applicant	:	1-1301, 56, Geumto-ro 80beon-gil, Sujeong-gu, Seongnam-si, Gyeonggi-do, South Korea
Manufacturer	:	Skypine Electronics (ShenZhen) Co.,Ltd.
Address of Manufacturer	:	3rd Floor of Building B, Jingang Technology Park, Qiaotou Village, Fuhai Sub-District, Baoan, Shenzhen, China
Equipment under Test	:	Car Multimedia Entertainment System
Model No.	:	MTXMO610LAB
FCC ID	:	BP9-MO610LAB
Test Standard(s)	:	KDB447498 D01 General RF Exposure Guidance v06
Report No.	:	DDT-RE24091401-2E04
Issue Date	:	2024/11/07
Issue By	:	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.

Report No.:	DDT-RE24091401-2E04		
Date of Receipt:	2024/09/18	Date of Test:	2024/09/18~2024/11/07

Prepared By:**Jacky Huang/Engineer****Approved By:****Damon Hu/EMC Manager**

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

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2024/11/07	

1. General Test Information

1.1. Description of EUT

EUT Name	: Car Multimedia Entertainment System
Model Number	: MTXMO610LAB
EUT Function Description	: Please reference user manual of this device
Power Supply	: DC 12V
Antenna Type	: PCB antenna
Max Antenna Gain (dBi)	: 2.4G band: -2.45 5G band: -0.76
Radio Technology	: Bluetooth BR/EDR IEEE 802.11b/g/a/n/ac
Operation frequency	: Bluetooth: 2402MHz- 2480MHz IEEE 802.11b: 2412MHz-2462MHz IEEE 802.11g: 2412MHz-2462MHz IEEE 802.11a: 5745MHz-5825MHz IEEE 802.11n HT20: 2412MHz-2462MHz, 5745MHz-5825MHz IEEE 802.11n HT40: 2422MHz-2452MHz, 5755MHz-5795MHz IEEE 802.11ac VHT20: 5745MHz-5825MHz IEEE 802.11ac VHT40: 5755MHz-5795MHz IEEE 802.11ac VHT80: 5775MHz
Modulation	: Bluetooth: GFSK, $\pi/4$ -DQPSK, 8DPSK IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)

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.

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-20155, 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 ²)	Averaging Time E ² , H ² 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)	tune up power (dBm)	tune up power (mW)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm ²)	MPE Limit (mW/cm ²)
BT	9.79	11.00	12.59	-2.45	0.57	0.0014	1
2.4G WIFI	17.97	19.00	79.43	-2.45	0.57	0.009	1
5.8G WIFI	13.59	15.00	31.62	-0.76	0.84	0.005	1

Note

1: The estimation distance is 20 cm

2: EUT does not support simultaneous transmit.

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

3. Photos of the EUT

Please refer to DDT-Q24091401-1E appendix I

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