

RF Exposure Evaluation Report

Report Reference No...... : **MTEB24070265-H**

FCC ID..... : **YMX-EC5623A**

Compiled by

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Date of issue..... : **Jul. 18, 2024**

Representative Laboratory Name.: **Shenzhen Most Technology Service Co., Ltd.**

Address..... : No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park,
Nanshan, Shenzhen, Guangdong, China.

Applicant's name..... : **XIAMEN COMFORT SCIENCE & TECHNOLOGY GROUP CO.,LTD.**

Address..... : (5/F)NO.168, QIANPU ROAD, SIMING DISTRICT,
XIAMEN, Fujian CHINA

Test specification/ Standard..... : **47 CFR Part 1.1307; 47 CFR Part 1.1310**
KDB447498D01 General RF Exposure Guidance v06

TRF Originator..... : Shenzhen Most Technology Service Co., Ltd.

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Test item description..... : Massage Chair

Trade Mark..... : N/A

Model/Type reference..... : 4D Orion Duo

Listed Models : EC-5623A, EC-5623A1

Modulation Type..... : MSK

Operation Frequency..... : 110-205KHz, 15W

Rating..... : 110-120V~ 60Hz

Hardware Version : 1.0

Software Version : 1.0

Result..... : **PASS**

TEST REPORT

Equipment under Test : Massage Chair

Model /Type : 4D Orion Duo

Listed Models : EC-5623A, EC-5623A1

Remark : It's just a different model. Everything else is the same

Applicant : XIAMEN COMFORT SCIENCE & TECHNOLOGY GROUP CO.,LTD.

Address : (5/F)NO.168, QIANPU ROAD,SIMING DISTRICT,XIAMEN,Fujian
CHINA

Manufacturer : XIAMEN HEALTHCARE ELECTRONIC CO.,LTD.

Address : 65-66#, 62-63# BUILDING, SIMING ZONE, TONGAN
INDUSTRIAL DISTRICT, XIAMEN CITY, FUJIAN PROVINCE,
P.R.CHINA

Equipment under Test : Massage Chair

Test Result:	PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2024.07.18	Initial Issue	Alisa Luo

2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.1.2 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
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
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	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

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$ Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.1.3 RF Exposure Evaluation Result

The worst data for WPT:

Mode (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	Limit(50%) A/m	Limit Tests A/m
0.11- 0.205	0.726	/	0.728	/	0.733	0.726	0.815	1.63

Contains FCCID:YMX-ATS2853
BR/EDR

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Highest(2402MHz)	2.930	3.93	2.47	0.76	3.0	Yes

BLE

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Highest(2480MHz)	2.878	3.878	2.44	0.77	3.0	Yes

Simultaneous TX (WPT+BT)

Mode	Power Density		Conclusion
	Results	Limit	
Simultaneous TX	0.714	1.0	PASS

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

Results (WPT+BT) = 0.77/3+0.733/1.63=0.714

.....THE END OF REPORT.....