

TEST REPORT

Product Name : Massage Chair
Model Number : EC-7510R, JPM60/KaZe
FCC ID : 2AHZV-EC7510R

Prepared for : COZZIA USA, LLC
Address : 861 S. OAK PARK ROAD, COVINA, CA91724, United States

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Report Number : ENS2209020073W00101R
Date(s) of Tests : December 20, 2023 to December 31, 2023
Date of issue : January 11, 2024

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TEST REPORT DESCRIPTION

Applicant : COZZIA USA, LLC

Address : 861 S. OAK PARK ROAD, COVINA, CA91724, United States

Manufacturer : MARUTAKATECHNO CO., LTD

Address : 550-1 HIRODORI YAWATA, FUJIEDA-SHI Shizuoka

EUT : Massage Chair

Model Name : EC-7510R, JPM60/KaZe

Trademark : N/A

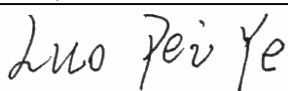
Measurement Procedure Used:


APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC Part 1(1.1310) and Part 2(2.1091) KDB 680106 D01 RF Exposure Wireless Charging App v04V	PASS


The device described above is tested by EMTEK(SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and EMTEK(SHENZHEN) CO., LTD. is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of EMTEK(SHENZHEN) CO., LTD.

Date of Test : December 20, 2023 to December 31, 2023

Prepared by : 
Luo peiye /Editor

Reviewer : 
Joe Xia/Supervisor

Approved & Authorized Signer : 
Lisa Wang/Manager



1. SUMMARY OF TEST RESULT

Description of Test Item	Standard & Limits	Results
MPE	FCC Part 1(1.1310) and Part 2(2.1091) KDB 680106 D01 RF Exposure Wireless Charging App v04V	Pass
Note: N/A is an abbreviation for Not Applicable.		



2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product:	Massage Chair
Model Number:	EC-7510R, JPM60/KaZe
Operating Frequency	110-205KHz
Modulation	FSK
Antenna Type	Induction coil antenna

Note: for more details, please refer to the User's manual of the EUT.



2.2. Description of Test Facility

Site Description

EMC Lab.

: **Accredited by CNAS**

The Certificate Registration Number is L2291.

The Laboratory has been assessed and proved to be in compliance with CNAS-CL01 (identical to ISO/IEC 17025:2017)

Accredited by FCC

Designation Number: CN1204

Test Firm Registration Number: 882943

Accredited by A2LA

The Certificate Number is 4321.01.

Accredited by Industry Canada

The Conformity Assessment Body Identifier is CN0008

Name of Firm

: EMTEK (SHENZHEN) CO., LTD.

Site Location

: Building 69, Majialong Industry Zone,
Nanshan District, Shenzhen, Guangdong, China

3. MEASUREMENT EQUIPMENT USED

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Broadband Field Meter	Narda	NBM-550	H-1333	November 9, 2020	2 Year
Electric and magnetic Field Probe-Analyzer (1Hz-400KHz)	Narda	EHP50F	510ZY00118	December 10, 2020	2 Year
Electric and magnetic Field Analyzer (9KHz-30MHz)	Narda	EHP200A	510ZY01190	December 10, 2020	2 Year
Probe (100kHz-6GHz)	Narda	EF 0691	H-1089	December 20, 2020	2 Year

4. RF EXPOSURE

4.1. Measuring Standard

FCC Part 1(1.1310) and Part 2(2.1091)

4.2. Standard Requirements

Three different categories of transmitters are defined by the FCC in OET Bulletin 65. These categories are fixed installation, mobile, and portable and are defined as follows:

Fixed Installations: fixed location means that the device, including its antenna, is physically secured at a permanent location and is not able to be easily moved to another location. Additionally, distance to humans from the antenna is maintained to at least 2 meters.

Mobile Devices: a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to be generally used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structures and the body of the user or nearby persons. Transmitters designed to be used by consumers or workers that can be easily re-located, such as a wireless modem operating in a laptop computer, are considered mobile devices if they meet the 20 centimeter separation requirement. The FCC rules for evaluating mobile devices for RF compliance are found in 47 CFR §2.1091.

Portable Devices: a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user. Portable device requirements are found in Section 2.1093 of the FCC's Rules (47 CFR§2.1093).

The FCC also categorizes the use of the device as based upon the user's awareness and ability to exercise control over his or her exposure. The two categories defined are Occupational/ Controlled Exposure and General Population/Uncontrolled Exposure. These two categories are defined as follows: **Occupational/Controlled Exposure:** In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Awareness of the potential for RF exposure in a workplace or similar environment can be provided through specific training as part of a RF safety program. If appropriate, warning signs and labels can also be used to establish such awareness by providing prominent information on the risk of potential exposure and instructions on methods to minimize such exposure risks.

General Population/Uncontrolled Exposure: The general population / uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category, and the general population/uncontrolled exposure limits apply to these devices.

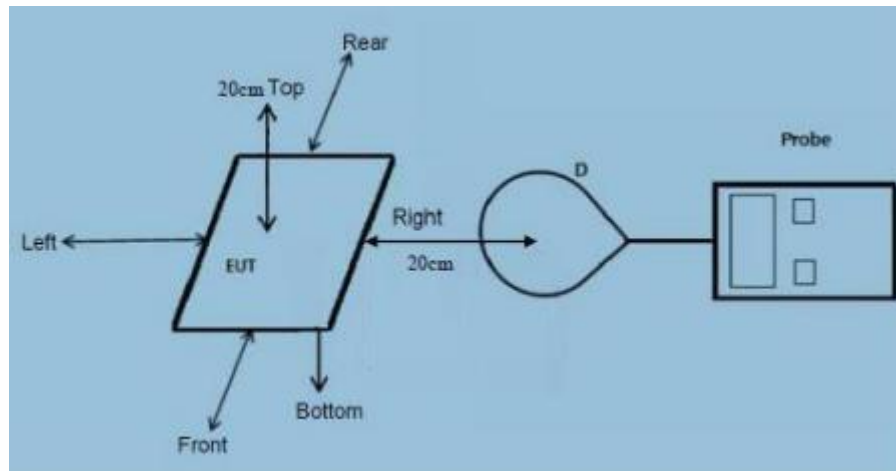
4.3. Test configuration

1, The field strength of both E-field and H-field was measured at 15cm(the 15 cm measured from the center of the probe(s) to the edge of the device) using the equipment list above for determining compliance with the MPE requirements of FCC Part 1.1310.

2, Maximum E-field and H-field measurements were made 15cm from each side of the EUT. Along the side of the EUT and still 15cm away from the edge of the EUT, the field probes were positioned at the location where there is maximum field strength. The maximum E-field and H-field is reported below.

3, This device uses a wireless charging circuit for power transfer operating at the frequency of 110 – 205kHz. Thus, the 300kHz limits were used: E-field Limit = 614 (V/m); H-field limit = 1.63 (A/m).

4.4. Block Diagram Configuration Test System



- For devices designed for typical desktop applications, such as wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 20 cm (Top) and 20cm (Edge). E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 20cm (Top) and 20cm (Edge) measured from the center of the probe(s) to the edge of the device.
- The highest emission level was recorded at the measurement points(A, B, C, D, E, F).
- The EUT was measured according to the distance of KDB 680106 D01 V04.

4.5. Support Equipment

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/
Auxiliary Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/
Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Dummy Load	HFJ-AR	ME47562021	/

Notes:

- All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
- Unless otherwise denoted as EUT in 『Remark』 column , device(s) used in tested system is a support equipment

4.6. Limits

(A) Limits for Occupational / Controlled 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)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	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

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
1500-100,000			1.0	30

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 Wireless Power Transfer v04

Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz. Note 4: The aggregate H-field strengths at 20 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

4.7. Test Mode

Test Mode	Description	Remark
Mode A Charging(5W)	100% Load	With dummy load
	50% Load	With dummy load
	10% Load	With dummy load
Mode B Charging(7.5W)	100% Load	With dummy load
	50% Load	With dummy load
	10% Load	With dummy load

Notes: The EUT supports charging the load while charging itself

4.8. Equipment Approval Considerations

Q1:	The power transfer frequency is below 1 MHz.
A1:	Yes; the device operate in the frequency range from 110kHz to 205kHz.
Q2:	The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts.
A2:	Yes; the maximum output power of the primary coil is less than 15W.
Q3:	A client device providing the maximum permitted load is placed in physical contact with the transmitter (i.e., the surfaces of the transmitter and client device enclosures need to be in physical contact)
A3:	Yes; The eut is conform.
Q4:	Only § 2.1091-Mobile exposure conditions apply (i.e., this provision does not cover § 2.1093-Portable exposure conditions).
A4:	Yes; The eut is conform.
Q5:	The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit, per KDB 447498, Table 1. These measurements shall be taken along the principal axes of the device, with one axis oriented along the direction of the estimated maximum field strength, and for three points per axis or until a 1/d (inverse distance from the emitter structure) field strength decay is observed. Symmetry considerations may be used for test reduction purposes. The device shall be operated in documented worst-case compliance scenarios (i.e., the ones that lead to the maximum field components), and while all the radiating structures (e.g., coils or antennas) that by design can simultaneously transmit are energized at their nominal maximum power.
A5:	Yes; three points per axis or until a 1/d (inverse distance from the emitter structure) field strength decay is observed. Worst mode data has been recorded.
Q6:	For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time, as per design conditions. If the design allows one or more radiating structures to be powered at a higher level while other radiating structures are not powered, then those cases must be tested as well. For instance, a device may use three RF coils powered at 5 W, or one coil powered at 15 W: in this case, both scenarios shall be tested.
A6:	Yes; The eut is conform.

4.9. Measuring Results

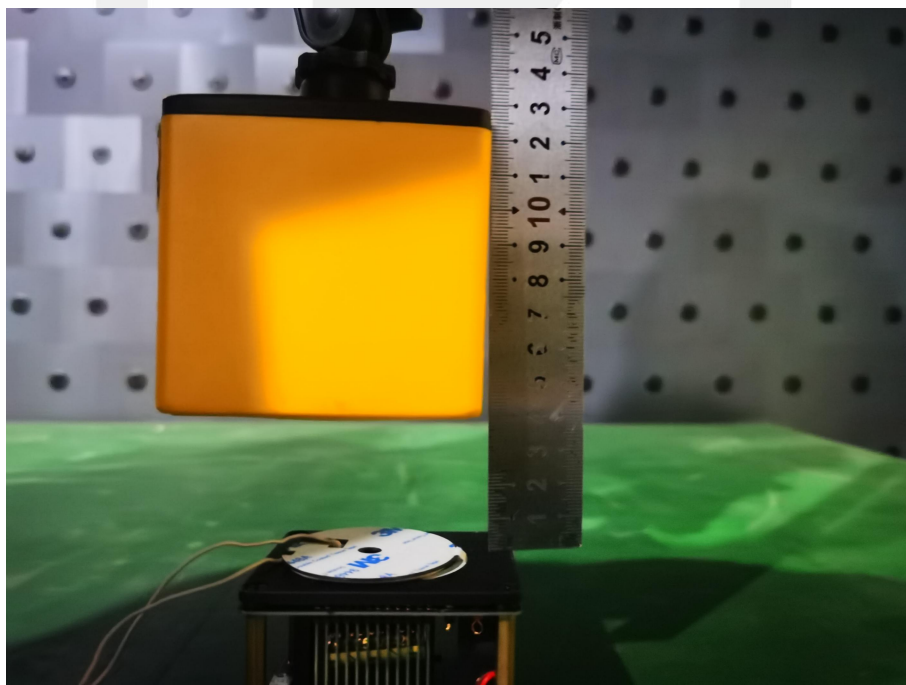
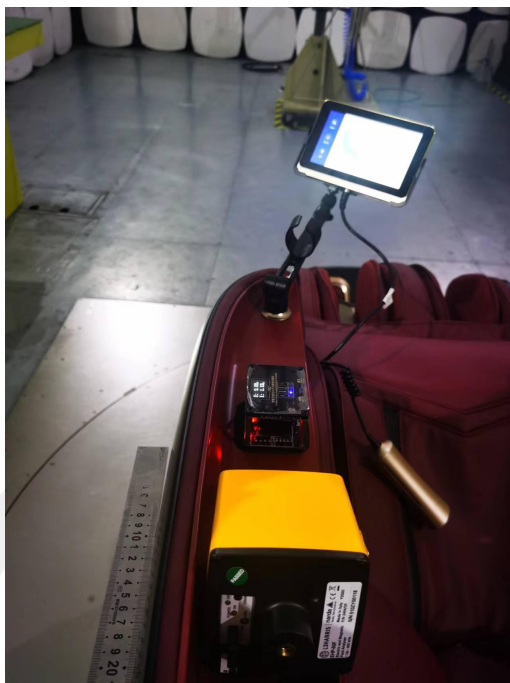
All wireless charging modes(Test mode A, B) have been tested and three points per axis or until a 1/d (inverse distance from the emitter structure) field strength decay is observed, the worst mode is shown below:

Test Mode:	Mode B(100% Load)			
Electric Field Emissions			Reference Period:	6 minutes
Test Position	Separation	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)
Set Front	20cm	1.21	614	307
Set Rear	20cm	1.1	614	307
Set Left	20cm	1.23	614	307
Set Right	20cm	1.27	614	307
Set Top	20cm	0.87	614	307
Set Bottom	8 cm	3.84	614	307
Magnetic Field Emissions			Reference Period:	6 minutes
Test Position	Separation	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)
Set Front	20cm	0.19	1.63	0.815
Set Rear	20cm	0.18	1.63	0.815
Set Left	20cm	0.41	1.63	0.815
Set Right	20cm	0.11	1.63	0.815
Set Top	20cm	0.15	1.63	0.815
Set Bottom	8 cm	0.78	1.63	0.815

Test Mode:	Mode B(50% Load)			
Electric Field Emissions			Reference Period:	6 minutes
Test Position	Separation	Measure Value (V/m)	Limit (V/m)	50% Limit (A/m)
Set Front	20cm	1.23	614	307
Set Rear	20cm	1.15	614	307
Set Left	20cm	1.25	614	307
Set Right	20cm	1.31	614	307
Set Top	20cm	0.85	614	307
Set Bottom	8 cm	3.66	614	307
Magnetic Field Emissions			Reference Period:	6 minutes
Test Position	Separation	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)
Set Front	20cm	0.21	1.63	0.815
Set Rear	20cm	0.22	1.63	0.815
Set Left	20cm	0.43	1.63	0.815
Set Right	20cm	0.15	1.63	0.815
Set Top	20cm	0.18	1.63	0.815
Set Bottom	8 cm	0.76	1.63	0.815

Test Mode:	Mode B(10% Load)			
	Electric Field Emissions		Reference Period:	6 minutes
Test Position		Measure Value (V/m)	Limit (V/m)	50% Limit (A/m)
Set Front	Separation	1.25	614	307
Set Rear	20cm	1.18	614	307
Set Left	20cm	1.27	614	307
Set Right	20cm	1.33	614	307
Set Top	20cm	0.87	614	307
Set Bottom	20cm	3.22	614	307
	Magnetic Field Emissions		Reference Period:	6 minutes
Test Position	Separation	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)
Set Front	20cm	0.23	1.63	0.815
Set Rear	20cm	0.25	1.63	0.815
Set Left	20cm	0.47	1.63	0.815
Set Right	20cm	0.16	1.63	0.815
Set Top	20cm	0.17	1.63	0.815
Set Bottom	8 cm	0.71	1.63	0.815

5. PHOTOGRAPHS OF TEST SETUP



----- END OF REPORT -----