

## RF Exposure Evaluation Report

**Report Reference No.**.....: **MTWG22040245-H**

**FCC ID**.....: **2ASBG-YH-9700L**

Compiled by

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Approved by

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Date of issue.....: **May 19,2022**



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

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**Applicant's name**.....: **FUJIAN YIHE ELECTRONICS CO., LTD**

Address .....: JI'AN ROAD, QINXIYANG INDUSTRIAL PARK, FUAN, FUJIAN,  
355000 CHINA .

**Test specification/ Standard** .....: **47 CFR Part 1.1307**

**47 CFR Part 2.1093**

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

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**Test item description** .....: Massage Chair

Trade Mark .....: RockerTech, INFINITY

Manufacturer .....: **FUJIAN YIHE ELECTRONICS CO., LTD**

Model/Type reference.....: YH-9700L

Listed Models .....: Sensation 4D, Riage 4D, YH-9700, YH-9700INF, YH-9701  
(SKU No.: 197001111,197004511,197002111,197004611)

Modulation Type .....: GFSK, Π/4DQPSK,8DPSK

Operation Frequency.....: From 2402MHz to 2480MHz

Hardware Version.....: V1.1

Software Version .....: V1.0

Rating .....: 85-132V~, 60Hz

**TEST REPORT**

Equipment under Test : Massage Chair

Model /Type : YH-9700L

Listed Models : Sensation 4D, Riage 4D, YH-9700, YH-9700INF, YH-9701  
(SKU No.: 197001111,197004511,197002111,197004611)

Remark : Only the model name is different.

Applicant : **FUJIAN YIHE ELECTRONICS CO., LTD**

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<b>Test Result:</b>	<b>PASS</b>
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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	2022-05-19	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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3–3.0 .....	614	1.63	*(100)	6
3.0–30 .....	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300 .....	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34 .....	614	1.63	*(100)	30
1.34–30 .....	824/f	2.19/f	*(180/f <sup>2</sup> )	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:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$  Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. 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 EUT RF Exposure

## Measurement Data

## BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-0.504	$-0.504 \pm 1$	0.496
Middle(2440MHz)	0.191	$0.191 \pm 1$	1.191
Highest(2480MHz)	-0.840	$-0.840 \pm 1$	0.16

$\pi/4$ DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-0.664	$-0.664 \pm 1$	0.336
Middle(2440MHz)	-0.141	$-0.141 \pm 1$	0.859
Highest(2480MHz)	-0.799	$-0.799 \pm 1$	0.201

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-0.772	$-0.772 \pm 1$	0.228
Middle(2440MHz)	-0.059	$-0.059 \pm 1$	0.941
Highest(2480MHz)	-0.892	$-0.892 \pm 1$	0.108

## EDR

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum Peak Conducted Output Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit	Result
Highest(2440 MHz)	1.191	1.32	0.2	0.0003	1.0	Pass

Note: 1) Refer to report **MTWG22020077-R1** for EUT test Max Conducted average Output Power value.

Note: 2)  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (1.32 \cdot 0.95) / (4 \cdot 3.1416 \cdot 20^2) = 0.0003$

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## BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-0.273	$0.296 \pm 1$	0.727
Middle(2441MHz)	1.337	$3.289 \pm 1$	2.337
Highest(2480MHz)	-1.005	$4.054 \pm 1$	-0.005

## BLE

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum Peak Conducted Output Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit	Result
Highest(2441 MHz)	2.337	1.71	0.2	0.0003	1.0	Pass

Note: 1) Refer to report MTWG22020077-R1 for EUT test Max Conducted average Output Power value.

Note: 2)  $P_d = (P_{out} * G) / (4 * \pi * R^2) = (1.71 * 0.95) / (4 * 3.1416 * 20^2) = 0.0003$

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