

RF Exposure Evaluation Report

Report Reference No......: **MTEB24010135-H**

FCC ID.....: **2BEPF-SD-39TH**

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

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Applicant's name.....: **Zhejiang Licheng Industry and Trade Co., Ltd**

Address: No.8 Xinghua Road, Baiyang Street, Wuyi County, Jinhua City,
Zhejiang Province

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: Treadmill

Trade Mark: N/A

Model/Type reference.....: SD-39TH

Listed Models: SD-801, SD-801P, SD-802, SD-39T, SD-380A, SD-380B, SD-380CS, SD-808, SD-420, SD-450, TM-LC001, YD-38104, YD-38080, SD-380SC

Modulation Type: GFSK
GFSK, $\pi/4$ DQPSK, 8DPSK

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

Hardware Version.....: V16

Software Version: V16

Rating: AC 110V 50/60Hz 560W

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

TEST REPORT

Equipment under Test : Treadmill

Model /Type : SD-39TH

Listed Models : SD-801, SD-801P, SD-802, SD-39T, SD-380A, SD-380B, SD-380CS, SD-808, SD-420, SD-450, TM-LC001, YD-38104, YD-38080, SD-380SC

Remark : Only difference in Appearance

Applicant : Zhejiang Licheng Industry and Trade Co., Ltd

Address : No.8 Xinghua Road, Baiyang Street, Wuyi County, Jinhua City, Zhejiang Province

Manufacturer : Zhejiang Licheng Industry and Trade Co., Ltd

Address : No.8 Xinghua Road, Baiyang Street, Wuyi County, Jinhua City, Zhejiang Province

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	2024.01.12	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: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$ 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 EUT RF Exposure

Antenna Gain: -0.47dBi

BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402 MHz)	-0.354	-0.354 ± 1	0.646
Middle(2440MHz)	-0.501	-0.501 ± 1	0.499
Highest(2480MHz)	-0.902	-0.902 ± 1	0.098

BLE

Worst case: GFSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Lowest(2402 MHz)	0.646	1.16	-0.47dBi	0.0002	1.0	Pass

Note: 1) Refer to report MTEB24010135-R for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (1.16 \cdot 0.90) / (4 \cdot 3.1416 \cdot 20^2) = 0.0002$ **BT classic**

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	5.162	5.162 ± 1	6.162
Middle(2441MHz)	3.378	3.378 ± 1	4.378
Highest(2480MHz)	1.587	1.587 ± 1	2.587

$\pi/4$ DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	4.722	4.722 ± 1	5.722
Middle(2441MHz)	3.369	3.369 ± 1	4.369
Highest(2480MHz)	1.634	1.634 ± 1	2.634

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	4.696	4.696 ± 1	5.696
Middle(2441MHz)	3.365	3.365 ± 1	4.365
Highest(2480MHz)	1.572	1.572 ± 1	2.572

Worst case: GFSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Lowest(2402MHz)	6.162	4.13	-0.47dBi	0.0007	1.0	Pass

Note: 1) Refer to report MTEB24010135-R1 for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (4.13 \cdot 0.90) / (4 \cdot 3.1416 \cdot 20^2) = 0.0007$

Note: 3) EUT's Bluetooth module is more than 20cm away from the human body.

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