

RF Exposure Evaluation Report

Product : RestOn Sleep Tracker
Trade mark : N/A
Model/Type reference : Z400TWP
Serial Number : N/A
Report Number : EED32L00165002
FCC ID : 2ADIOZ400TWP
Date of Issue : Sep. 06, 2019
Test Standards : IEEE C95.1 2005
KDB 447498 D03
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091
Test result : PASS

Prepared for:

Shenzhen Medica Technology Development Co., Ltd.
2F Building A, Tongfang Information Harbor, No. 11,
East Langshan Road, Nanshan District, Shenzhen, P.R.China

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Tested By:

Jay Zheng
Jay Zheng

Compiled by:

Alex Wu
Alex Wu

Reviewed by:

Ware Xin
Ware Xin

Approved by:

Kevin Yang
Kevin Yang

Date:

Sep. 06, 2019



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2 Version

Version No.	Date	Description
00	Sep. 06, 2019	Original

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4 General Information

4.1 Client Information

Applicant:	Shenzhen Medica Technology Development Co., Ltd.
Address of Applicant:	2F Building A, Tongfang Information Harbor, No. 11, East Langshan Road, Nanshan District, Shenzhen, P.R.China
Manufacturer:	Shenzhen Medica Technology Development Co., Ltd.
Address of Manufacturer:	2F Building A, Tongfang Information Harbor, No. 11, East Langshan Road, Nanshan District, Shenzhen, P.R.China
Factory:	Shenzhen Medica Technology Development Co., Ltd.
Address of Factory:	2F Building A, Tongfang Information Harbor, No. 11, East Langshan Road, Nanshan District, Shenzhen, P.R.China

4.2 General Description of EUT

Product Name:	RestOn Sleep Tracker
Model No.(EUT):	Z400TWP
Trade Mark:	N/A
EUT Supports Radios application	WiFi IEEE 802.11 /b/g/n(HT20)(HT40) 2412MHz to 2462MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2412MHz to 2462MHz			
Modulation Type:	IEEE for 802.11b : DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g : OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n (HT20 and HT40) : OFDM (64QAM, 16QAM, QPSK,BPSK)			
Number of Channels:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels			
Test Power Grade:	802.11B:21 802.11G:16 802.11N20:16 802.11N40:18			
Test Software of EUT:	MT7682 (manufacturer declare)			
Antenna Type:	Internal antenna, 2.5 dBi			
	2.4GHz	Ant.Gain	2.5 dBi	Numeric Gain:1.78
	IEEE 802.11b Mode		19	79.433
	IEEE 802.11g Mode		19	79.433
	IEEE 802.11n HT20 Mode		17	50.119
	IEEE 802.11n HT40 Mode		17	50.119
Power Supply:	Adapter:	Model: SK01G-0500100J Input: 100-240V~50/60Hz 0.2A Max Output: 5V --- 1A		

Sample Received Date:	Jun. 25, 2019
Sample tested Date:	Jun. 25, 2019 to Sep. 05, 2019

Operation Frequency each of channel					
Channel	Frequency	Channel	Frequency	Channel	Frequency
1CH	2403 MHz	14CH	2429 MHz	27CH	2455 MHz
2CH	2405 MHz	15CH	2431 MHz	28CH	2457 MHz
3CH	2407 MHz	16CH	2433 MHz	29CH	2459 MHz
4CH	2409 MHz	17CH	2435 MHz	30CH	2461 MHz
5CH	2411 MHz	18CH	2437 MHz	31CH	2463 MHz
6CH	2413 MHz	19CH	2439 MHz	32CH	2465 MHz
7CH	2415 MHz	20CH	2441 MHz	33CH	2467 MHz
8CH	2417 MHz	21CH	2443 MHz	34CH	2469 MHz
9CH	2419 MHz	22CH	2445 MHz	35CH	2471 MHz
10CH	2421 MHz	23CH	2447 MHz	36CH	2473 MHz
11CH	2423 MHz	24CH	2449 MHz	37CH	2475 MHz
12CH	2425 MHz	25CH	2451 MHz	38CH	2477 MHz
13CH	2427 MHz	26CH	2453 MHz	39CH	2479 MHz

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5.2 Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	79.433	1.78	20	0.0281	1

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	79.433	1.78	20	0.0281	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	50.119	1.78	20	0.0178	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
9	2452	50.119	1.78	20	0.0178	1

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00165001 for EUT external and internal photos.

***** End of Report *****

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