

RF Exposure Evaluation Report

Product : Sleep Tracker
Trade mark : N/A
Model/Type reference : M8701W
Serial Number : N/A
Report Number : EED32N80292303
FCC ID : 2ADIOM8701W
Date of Issue : Jul. 27, 2021
Test Standards : 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Test result : PASS

Prepared for:

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2 Version

Version No.	Date	Description
00	Jul. 27, 2021	Original

3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION.....	2
3 CONTENTS.....	3
4 GENERAL INFORMATION.....	4
4.1 CLIENT INFORMATION.....	4
4.2 GENERAL DESCRIPTION OF EUT.....	4
4.3 GENERAL DESCRIPTION OF BLE.....	4
4.4 GENERAL DESCRIPTION OF 2.4G WIFI.....	5
4.5 TEST LOCATION.....	6
4.6 DEVIATION FROM STANDARDS.....	6
4.7 ABNORMALITIES FROM STANDARD CONDITIONS.....	6
4.8 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	6
5 SAR EVALUATION.....	7
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT.....	7
5.1.1 <i>Standard Requirement</i>	7
5.1.2 <i>EUT RF Exposure</i>	8
PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS.....	11

4 General Information

4.1 Client Information

Applicant:	Shenzhen Medica Technology Development Co., Ltd
Address of Applicant:	Floor 12, Block A, Building 7, Vanke Yun city, XingKe one street, NanShan District, Shenzhen City.
Manufacturer:	Shenzhen Medica Technology Development Co., Ltd
Address of Manufacturer:	Floor 12, Block A, Building 7, Vanke Yun city, XingKe one street, NanShan District, Shenzhen City.
Factory:	Shenzhen Medica Technology Development Co., Ltd
Address of Factory:	Floor 12, Block A, Building 7, Vanke Yun city, XingKe one street, NanShan District, Shenzhen City.

4.2 General Description of EUT

Product Name:	Sleep Tracker
Mode No.:	M8701W
Trade Mark:	N/A
EUT Supports Radios application:	Bluetooth 4.2 single mode: 2402-2480MHz 2.4GHz: Wi-Fi: 802.11b/g/n(HT20): 2412MHz~2462MHz; 802.11n(HT40): 2422MHz~2452MHz
Sample Received Date:	May 24, 2021
Sample tested Date:	May 24, 2021 to June 2, 2021
Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.	

4.3 General Description of BLE

Bluetooth Version:	V4.2
Operation Frequency:	2402MHz~2480MHz
Modulation Type:	GFSK
Transfer Rate:	☒ 1Mbps ☐ 2Mbps
Number of Channel:	40
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location
Antenna Type:	PCB antenna
Antenna Gain:	2.5dBi
Power Supply:	1# Adapter MODEL: KA06E-0501000US INPUT: 100-240V~50/60Hz 0.25A Max OUTPUT: 5V 1000mA
	2# Adapter MODEL: SK01G-0500100U INPUT: 100-240V~50/60Hz 0.2A Max OUTPUT: 5V 1A
Test Voltage:	AC 120V 60Hz

4.4 General Description of 2.4G WIFI

Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz
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 Channel:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels
Channel Separation:	5MHz
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location
Antenna Type:	PCB antenna
Antenna Gain:	2.5dBi
Power Supply:	1# Adapter MODEL: KA06E-0501000US INPUT: 100-240V~50/60Hz 0.25A Max OUTPUT: 5V 1000mA
	2# Adapter MODEL: SK01G-0500100U INPUT: 100-240V~50/60Hz 0.2A Max OUTPUT: 5V 1A
Test Voltage:	AC 120V 60Hz
Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.	

4.5 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

4.6 Deviation from Standards

None.

4.7 Abnormalities from Standard Conditions

None.

4.8 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06
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.

Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$
$$f(\text{GHz}) \text{ is the RF channel transmit frequency in GHz}$$

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

5.1.2 EUT RF Exposure

1) For BLE

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	4.66	4.0±1	5.0	3.162
Middle(2440MHz)	5.26	4.5±1	5.5	3.548
Highest(2480MHz)	4.48	4.0±1	5.0	3.162

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	4.66	4.0±1	5.0	3.162	0.980	3.0
Middle (2440MHz)	5.26	4.5±1	5.5	3.548	1.108	
Highest (2480MHz)	4.48	4.0±1	5.0	3.162	0.996	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: EEED32N80292301.

2) For 2.4G WIFI

Measurement Data

IEEE for 802.11b mode				
Test channel	Average Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	8.79	8.0±1	9.0	7.943
Middle(2437MHz)	8.69	8.0±1	9.0	7.943
Highest(2462MHz)	8.57	8.0±1	9.0	7.943
IEEE for 802.11g mode				
Test channel	Average Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	8.59	8.0±1	9.0	7.943
Middle(2437MHz)	8.37	7.5±1	8.5	7.079
Highest(2462MHz)	8.15	7.5±1	8.5	7.079
IEEE for 802.11n(HT20) mode				
Test channel	Average Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	8.11	7.5±1	8.5	7.079
Middle(2437MHz)	8.15	7.5±1	8.5	7.079
Highest(2462MHz)	8.37	7.5±1	8.5	7.079
IEEE for 802.11n(HT40) mode				
Test channel	Average Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2422MHz)	7.92	7.0±1	8.0	6.310
Middle(2437MHz)	7.92	7.0±1	8.0	6.310
Highest(2452MHz)	7.84	7.0±1	8.0	6.310

Worst case: IEEE for 802.11b mode						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2412MHz)	8.79	8.0±1	9.0	7.943	2.467	3.0
Middle (2437MHz)	8.69	8.0±1	9.0	7.943	2.480	
Highest (2462MHz)	8.57	8.0±1	9.0	7.943	2.493	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: EEED32N80292302.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EEED32N80292301 for EUT external and internal photos.

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*** End of Report ***