



## SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/0 Aug01,2022

Report No.: SZCR230300057303

Page: 1 of 9

# Human Exposure Report

**Application No.:** SZCR2303000573AT  
**Applicant:** Beacon Biosignals, Inc.  
**Address of Applicant:** 22 Boston Wharf RD floor 7 Boston Massachusetts United States 02210  
**Manufacturer:** Shenzhen Kaifa Technology Co., Ltd.  
**Address of Manufacturer:** 7006 Caitian Rd., Futian Dist., Shenzhen, Guangdong, China  
**Factory:** Shenzhen Kaifa Technology Co., Ltd.  
**Address of Factory:** 7006 Caitian Rd., Futian Dist., Shenzhen, Guangdong, China  
**Equipment Under Test (EUT):**  
**EUT Name:** SpotLite  
**Model No.:** BB420  
**Trade Mark:** Beacon  
**FCC ID:** 2A9Z6-BB420  
**Standards:** 47 CFR PART 1, Subpart I, Section 1.1310  
47 CFR PART 2, Subpart J, Section 2.1091  
**Date of Receipt:** 2023-03-07  
**Date of Test:** 2023-03-09 to 2023-03-22  
**Date of Issue:** 2023-03-24

<b>Test Result :</b>	<b>Pass*</b>
----------------------	--------------

\* In the configuration tested, the EUT complied with the standards specified above

Kenx Xu

Kenx Xu  
EMC Laboratory Manager



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch, EMC Laboratory

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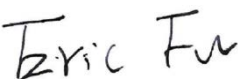
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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2023-03-24		Original

Authorized for issue by:				
				
		Edison Li/Project Engineer		
				
		Eric Fu/Reviewer		



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### 3 General Information

#### 3.1 Details of E.U.T.

Power supply:	Switching Power Supply Model: MQ05A-050B Input: AC 100-240V, 50/60Hz, 0.2A Output: DC 5.0V, 1.0A, 5.0W Max Input: DC 5V, 1A Wireless Input: DC 5V, 1A Wireless Output: 5W max
USB cable:	120cm unshielded
Operation frequency:	174.2kHz to 176.5kHz
Modulation type:	Load modulation
Antenna type:	Loop Antenna

#### 3.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
EEG	Beacon	Spotlite	BEA31060053

#### 3.3 Test modes description

Pre-scan / Final test	Mode Code	Description
Final test	01	Charge mode_Keep the EUT charging(5W)



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Shenzhen Branch Inspection & Testing Services

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### 3.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch E&E Lab,

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

### 3.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### • A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 3816.01.

#### • VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

#### • FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

#### • Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

### 3.6 Deviation from Standards

None.

### 3.7 Abnormalities from Standard Conditions

None.



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### 4 Equipments Used during Test

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Due date
1	3m Fully-Anechoic Chamber	AUDIX	N/A	SEM001-02	2025-04-01
2	Electric and Magnetic Field Analyzer	Narda	EHP-200A	SEM022-18	2023-05-24



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## 5 Test Results

### 5.1 RF Exposure test

Test Requirement: 47 CFR PART 1, Subpart I, Section 1.1310

47 CFR PART 2, Subpart J, Section 2.1091

Measurement Distance: 15cm

Limit:

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

\*=Plane-wave equivalent power density

RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).



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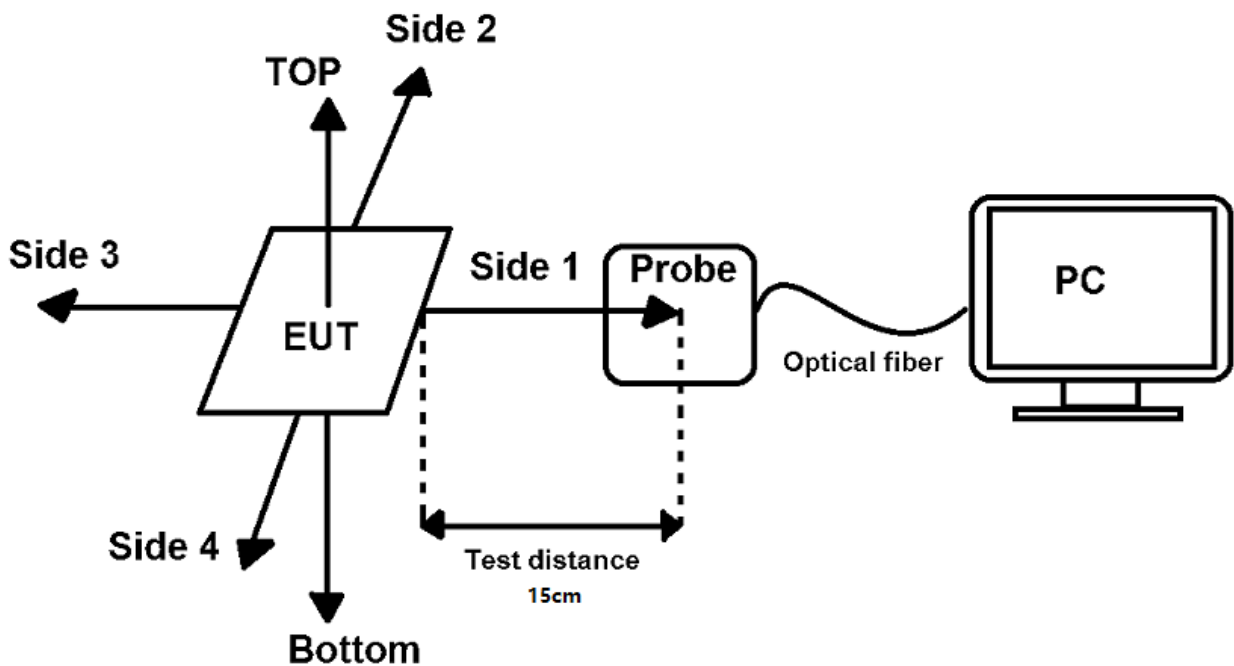
### 5.1.1 E.U.T. Operation

#### Operating Environment:

Temperature: 22.5 °C Humidity: 51.6 % RH Atmospheric Pressure: 1015 mbar

The device has been tested with EEG at zero charge, intermediate charge, and full charge.

### 5.1.2 Test Block Diagram







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### 5.1.3 Measurement Data

Input Voltage=DC 5V; The max output power =5W for each coil.

#### Magnetic Field Emissions

Operation frequency	Test Distance	Test Position	Probe Measure Result	50 % Limit	10 % Limit
	(cm)		(A/m)	(A/m)	(A/m)
175.4 kHz which is the worst case within the operation frequency range	15	Side 1	0.044	0.815	0.163
		Side 2	0.042		
		Side 3	0.040		
		Side 4	0.038		
		Top	0.025		

#### Magnetic Field Emissions

Operation frequency	Test Distance	Test Position	Probe Measure Result(A/m)			50 % Limit	10 % Limit
	(cm)		zero charge	intermediate charge	full charge	(A/m)	(A/m)
175.4 kHz which is the worst case within the operation frequency range	15	Side 1	0.035	0.029	0.023	0.815	0.163
		Side 2	0.032	0.027	0.021		
		Side 3	0.029	0.024	0.019		
		Side 4	0.030	0.025	0.020		
		Top	0.017	0.014	0.011		

## 6 RF Exposure Setup Photos

Please refer to RF Exposure Setup Photos

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