

## EMC TEST REPORT

Report No.: FCC/2504003

Applicant:

**STR8BAT SPORTS TECH SOLUTIONS PTE LTD**

151 CHIN SWEE ROAD, #07-12, MANHATTAN HOUSE, SINGAPORE, SG 169876

Product name:

**Str8bat Smart Sticker**

Model name:

**Ver 2.00S**

Sample ID:

**FCC/2504003**

Specifications:

- ◆ FCC 47 CFR Part 15, Subpart B
- ◆ ICES-003 Issue 7 October 2020

Date of Receipt of  
Test Item:

April 4, 2025

Date of Testing

April 8, 2025

Date of issue:

August 5, 2025

Name and address  
of the Test HouseNemko India (Test Lab) Pvt. Ltd.  
Plot No.193, Sector 68, IMT, Faridabad, Haryana-121004

Test engineer(s):

Yash Yadav /  
Testing Engineer

Signature:

Reviewed by:

Harshit Pal /  
EMC Lead Engineer

Signature:

Issued by:

Shubham Gupta /  
Project Engineer

Signature:

*The results of this report relate only to the item(s) tested. The testing laboratory is responsible for all the information provided in the report, except the information provided by the customer/manufacture, wherever applicable. The report may be reproduced in full. Partial reproduction may only be made with the written consent of Nemko India. The report is released by Nemko India in pdf format only. Printed copies of this report are uncontrolled including scans of coloured prints. This report is digitally signed on first page, doesn't required signature on each page.*

**Contents of this report**

<b>1. Client Information.....</b>	<b>3</b>
1.1 Applicant.....	3
1.2 Manufacturer.....	3
1.3 Other Information.....	3
<b>2. Equipment Under Test (EUT).....</b>	<b>4</b>
2.1 Identification of EUT.....	4
2.2 General Product Information.....	4
2.3 Variants Covered By This Report.....	4
2.4 Equipment classification as per standard.....	4
2.5 Modifications.....	4
2.6 Additional Information Related To Testing.....	4
2.7 Picture Documentation.....	4
<b>3. General Test Conditions.....</b>	<b>5</b>
3.1 Location.....	5
3.2 Operating Environment.....	5
3.3 Operating During Test.....	5
3.4 Test Equipment.....	5
3.5 EUT & Support Equipment.....	6
3.6 Connection Cable.....	6
3.7 Test Set-up Drawing.....	6
<b>4. Evaluation of Performance.....</b>	<b>7</b>
4.1 Performance Criteria.....	7
4.2 Measurement uncertainty and decision rule .....	7
<b>5. Summary of results, Applicable Standards, Deviations and Results.....</b>	<b>8</b>
5.1 Summary of results and Applied Tests Standards.....	8
5.2 Deviations and Evaluations.....	8
5.3 Final Decision.....	8
<b>6. Testing Data.....</b>	<b>9</b>
<b>6.1 Radiated emission .....</b>	<b>9</b>
6.1.1 Test Procedure.....	9
6.1.2 Test Parameters.....	9
6.1.3 Test Data .....	11

## 1. Client Information

### 1.1 Applicant

Company Name: **STR8BAT SPORTS TECH SOLUTIONS PTE LTD**  
Company Address: 151 CHIN SWEE ROAD, #07-12, MANHATTAN HOUSE, SINGAPORE, SG 169876

### 1.2 Manufacturer

Company Name: **STR8BAT SPORTS TECH SOLUTIONS PTE LTD**  
Company Address: 151 CHIN SWEE ROAD, #07-12, MANHATTAN HOUSE, SINGAPORE, SG 169876

### 1.3 Other Information

- No Comment

## 2. Equipment Under Test (EUT) (As per manufacturer's Declaration)

### 2.1 Identification of EUT

Product Name:	Str8bat Smart Sticker
Model Name:	Ver 2.00S
Trademark:	Str8bat
Serial Number:	2024513111076
Software Number:	Bit 1.0.7
Hardware Number:	Ver 2.32/40
Maximum Internal Frequency	80 MHz
Rating:	5V DC USB Powered (for charging only), 3.7V (Internal Rechargeable Li-ion Polymer Battery Used)
Tested Voltage & Power Frequency:	Internal Battery Used
Remark:	NA

### 2.2 General Product Information

Str8bat Smart Sticker is a data acquisition and analysis device used in sports industry. It has built in sensors and wireless communication over Bluetooth to communicate with its companion application running on smart phone. Str8bat Smart Sticker sits on your bat and listens to all it has to say. Leading to actionable data to tap your full batting potential. With the cricket sensor sticker stuck on the back of your bat, and it's App installed on your phone it records, analyses and enhance every aspect of batting.

With the sensor data, user is provided with number of sessions played, percentage of balls hitting bat's sweetspot, ratio of timing index.

### 2.3 Variants Covered by This Report

- NA

### 2.4 Equipment classification as per standard

Equipment classification	Class B digital device
--------------------------	------------------------

### 2.5 Modifications

- N/A

### 2.6 Additional Information Related to Testing

- No Comment

### 2.7 Picture Documentation

- No Comment

### 3. General Test Conditions

#### 3.1 Location

Test Site: Laboratory / ~~In-situ~~

Nemko India (Test Lab) Pvt. Ltd.

Plot No. 193, Sector-68, IMT Faridabad, Haryana-121004

#### 3.2 Operating Environment

Parameters	Environment Condition
Ambient temperature	(25.0 ± 10.0) °C
Relative humidity	(75.0 or less) % R.H.
Atmospheric pressure	(96.0 ± 10.0) kPa

All tests and measurements were performed in a shielded enclosure or a controlled environment suitable for the tests conducted. The climatic conditions in the test area are automatically controlled and recorded continuously.

#### 3.3 EUT Operation During Test (As per manufacturer's Declaration)

##### 3.3.1 EUT Test Mode

<b>Mode 1</b>	The EUT is in normal Operating Mode
---------------	-------------------------------------

##### 3.3.2 Description of EUT Test setup details

###### Block diagram of EUT configuration during Testing

###### Mode1



##### 3.3.3 Configuration details:

- Connect EUT through BLE to Mobile using BLE Term App and Set a Frequency Channel(SAC19) and start RF Transmission
- After successful configuration Green LED will blink indicating that device is working fine.

#### 3.4 Test Equipment

The test equipment used in testing are calibrated on a regular basis. For most of the testing equipment accredited calibration is conducted once a year. For certain equipment the calibration interval is longer. Between the calibrations all test equipment are controlled and verified on a regular basis. The test equipment used are defined in each test section of this report.

### 3.5 EUT & Support Equipment

Product Name	Manufacturer	Model Name	Serial Number
Str8bat Smart Sticker	STR8BAT SPORTS TECH SOLUTIONS PTE LTD	Ver 2.00S	2024513111076
Mobile*	--	--	--

\*Provided by Lab

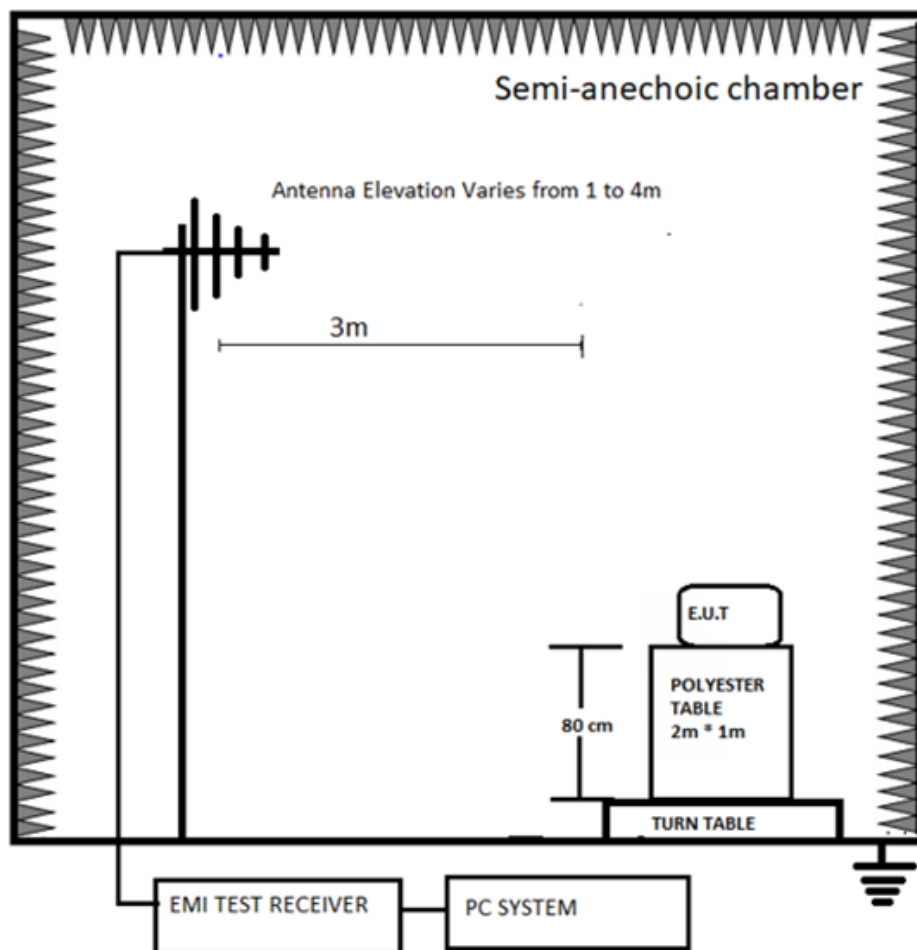
### 3.6 Connection Cable

Connection of EUT	Connection Terminal	Cable Data	No. of Cores
Internal Rechargeable Li-ion Polymer Battery	--	--	--

### 3.7 Test Set-up Drawing

#### 3.7.1 Radiated Emission

##### Radiated Emission Test Setup Below 1GHz



#### 4. Evaluation of Performance

##### 4.1 Performance Criteria

[FCC 47 CFR Part 15, Subpart B]

[ICES-003 Issue 7 October 2020]

##### Radiated Emission

- As per the limits of class B mentioned in clause 15.109 of standard FCC 47 CFR Part 15, Subpart B.
- As per the limits of class B mentioned in clause 3.2.2 of standard ICES-003 Issue 7 October 2020.

##### 4.2 Measurement uncertainty and decision rule

Use of measurement uncertainty for decisions on conformity (decision rule):

☐ The testing standard(s) does not define a decision rule for comparing measurement results with the applicable limit specified in the standard. Decisions regarding conformity are made without considering measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☒ Other (please specify): The result of measurements of emissions from EUT shall reference the measurement instrumentation uncertainty considerations contained in CISPR 16-4-2 and UKAS Lab 34.

Measurement	$U_{\text{cisp}} (\pm \text{dB})$	$U_{\text{lab}} (\pm \text{dB})$
Radiated disturbance (30 MHz to 1 GHz)	6.3	4.745

Note: The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k = 2$  which has been derived from the assumed normal probability distribution with infinite degrees of freedom and for a coverage probability of 95 %.

Compliance or non-compliance with a disturbance limit shall be determined in the following manner.

##### If $U_{\text{lab}}$ is less than or equal to $U_{\text{cisp}}$ , then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

##### If $U_{\text{lab}}$ is greater than $U_{\text{cisp}}$ , then:

- compliance is deemed to occur if no measured disturbance level, increased by  $(U_{\text{lab}} - U_{\text{cisp}})$ , exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by  $(U_{\text{lab}} - U_{\text{cisp}})$ , exceeds the disturbance limit.

## 5. Summary of Results, Applicable Standards, Deviations and Results

### 5.1 Summary of results and Applied Tests Standards

The following tests standards have been applied:

#### FCC 47 CFR Part 15, Subpart B

Phenomena	Basic Standards	Result
Radiated Emission*	ANSI C63.4-2014	PASS
Conducted Emission	ANSI C63.4-2014	N/A <sup>1)</sup>

#### ICES-003 Issue 7 October 2020

Phenomena	Basic Standards	Result
Radiated Emission*	ANSI C63.4-2014	PASS
Conducted Emission	ANSI C63.4-2014	N/A <sup>1)</sup>

\*As per clause 15.33 of standard FCC 47 CFR Part 15, Subpart B & clause 3.2.2 of standard ICES-003 Issue 7 October 2020, As EUT maximum frequency is less than 108MHz, Radiated Emission test is performed upto 1GHz.

<sup>1)</sup> Test is not applicable as EUT is only powered by Internal Rechargeable Li-ion Polymer Battery during Normal operation.

### 5.2 Deviations and Evaluations

- No recorded deviations to the applied standards.
- No general evaluations made.

### 5.3 Final Decision

The equipment under test complies to all requirements of the applied test standards.



## 6. Testing Data

### 6.1 Radiated emissions

#### 6.1.1 Test Procedure

EUT was placed upon a Polyester fiber top test table which was placed on the turn table 0.8m above the horizontal metal ground plane and operating in the mode as mentioned above CI 3.3. A receiving antenna was placed 3m away from the EUT. During testing, EUT moved 360° around the turn table and move the antenna from 1m to 4m to find the maximum field-strength reading. All peripherals were placed at a distance of 10cm between each other. Both horizontal and vertical antenna polarities were tested.

Instrumentation used during this session:

Test Equipment	Manufacturer	Model No.	Serial number	Date of last calibration	Calibration interval
EMI Test Receiver	ROHDE & SCHWARZ	ESR26	101720	02/05/2024	1 Year
Trilog Broadband Antenna	Schwarz beck	VULB9162	363	24/01/2023	3 Year
Software	ROHDE & SCHWARZ	R&S EMC32	Version: V10.60.20	--	CNR*

\* Calibration Not Required

#### 6.1.2 Test Parameters

**Port:** Enclosure  
**Applied Standard:** FCC 47 CFR Part 15, Subpart B / ICES-003 Issue 7 October 2020  
**Test Method:** ANSI C63.4-2014  
**Frequency Range:** 30MHz to 1GHz **Class:** B  
**EUT setup configuration:** Table-Top

#### EMI Test Receiver setting for Frequencies below 1GHz:

Resolution Bandwidth	120kHz
Detector mode	- Peak (preview measurement) - Quasi-peak (final measurement)
Trace mode	Max Hold
Measurement time	-100ms (Peak Preview Measurement) -1000ms (Quasi-peak Final Measurement)

**FCC 47 CFR Part 15, Subpart B**

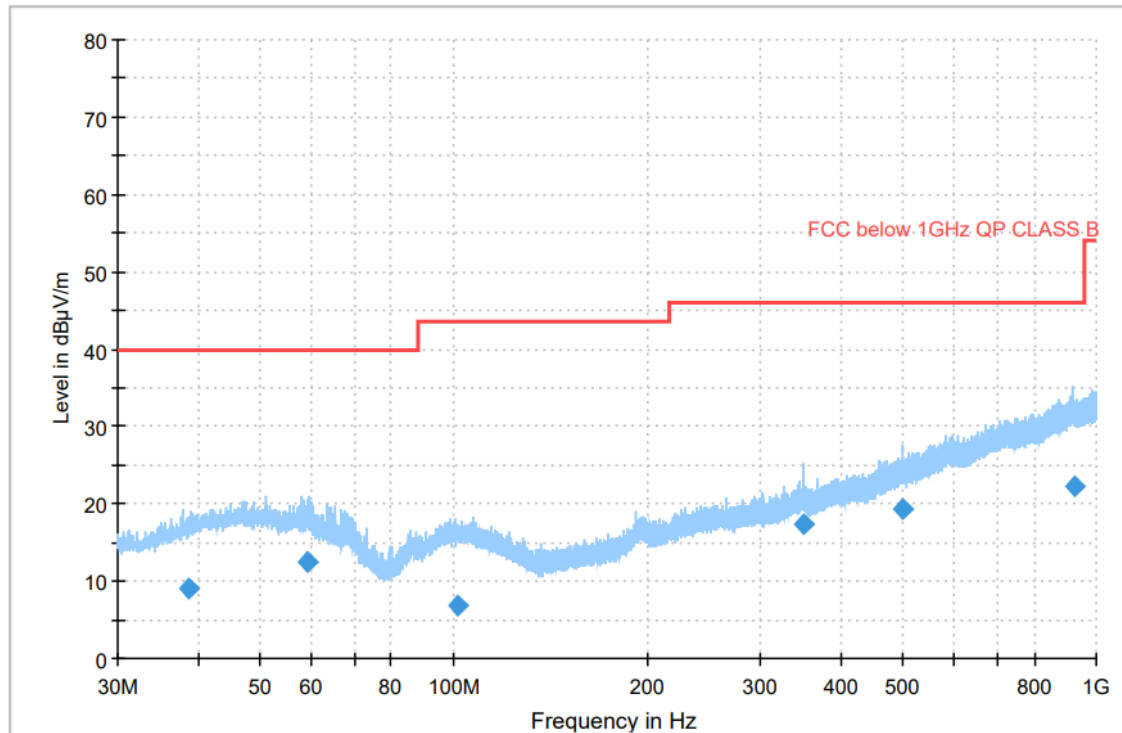
Radiated emissions limits (30 MHz to 1 GHz), measurement distance 3m for Class B equipment	
Frequency Range (MHz)	Limits dB( $\mu$ V/m)
	Quasi Peak
30 to 88	40.0
88 to 216	43.5
216 to 960	46.0
960 to 1000	54.0

**ICES-003 Issue 7 October 2020**

Radiated emissions limits (30 MHz to 1 GHz), measurement distance 3m for Class B equipment	
Frequency Range (MHz)	Limits dB( $\mu$ V/m)
	Quasi Peak
30 to 88	40.0
88 to 216	43.5
216 to 230	46.0
230 to 960	47.0
960 to 1000	54.0

### 6.1.3 Test Data

#### Radiated Emission up to 1GHz(FCC 47 CFR Part 15, Subpart B):



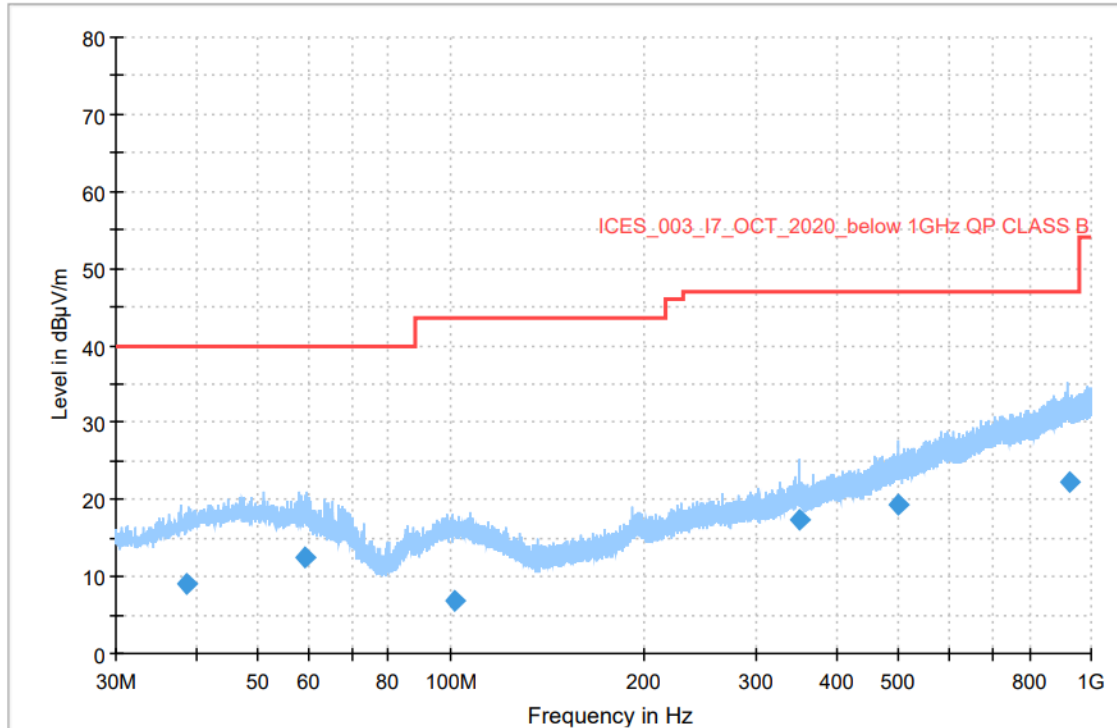
The spectral Plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e., antenna factors, Cable loss, amplifier gains and attenuators)

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.615160	8.99	40.00	31.01	1000.0	120.000	100.0	V	241.0	14.1
59.229486	12.47	40.00	27.53	1000.0	120.000	100.0	V	56.0	14.6
101.100132	6.78	43.50	36.72	1000.0	120.000	400.0	V	188.0	13.7
350.008263	17.37	46.00	28.63	1000.0	120.000	100.0	H	122.0	17.8
498.746074	19.30	46.00	26.70	1000.0	120.000	194.0	V	4.0	20.6
922.243514	22.16	46.00	23.84	1000.0	120.000	325.0	H	355.0	27.7

Note: 1. Field Strength (dBµV/m) = Receiver/spectrum analyzer value(dBµV) + correction factor (dB)

2. Correction factor(dB) = antenna factor (dB/m) + cable loss (dB)

### Radiated Emission up to 1GHz(ICES-003 Issue 7 October 2020):



The spectral Plot is a summation of a vertical and horizontal scan. The spectral scan has been corrected with the associated transducer factors (i.e., antenna factors, Cable loss, amplifier gains and attenuators)

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.615160	8.99	40.00	31.01	1000.0	120.000	100.0	V	241.0	14.1
59.229486	12.47	40.00	27.53	1000.0	120.000	100.0	V	56.0	14.6
101.100132	6.78	43.50	36.72	1000.0	120.000	400.0	V	188.0	13.7
350.008263	17.37	47.00	29.63	1000.0	120.000	100.0	H	122.0	17.8
498.746074	19.30	47.00	27.70	1000.0	120.000	194.0	V	4.0	20.6
922.243514	22.16	47.00	24.84	1000.0	120.000	325.0	H	355.0	27.7

Note: 1. Field Strength (dBµV/m) = Receiver/spectrum analyzer value(dBµV) + correction factor (dB)

2. Correction factor(dB) = antenna factor (dB/m) + cable loss (dB)

### Result

Compliant

\*\*\*End of Test Report\*\*\*