



Report number: SR/2504001-A1

Issue Date: 03/09/2025

RF SAR exemption Assessment Report	
Report Number.	SR/2504001-A1
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Sample ID	SR/2504001
Testing Laboratory	Nemko India (Test Lab) Pvt. Ltd.
Address	Plot no 193, IMT, Sector 68, Faridabad-121004, Haryana, India
Applicants / Customers Name and Address	STR8BAT SPORTS TECH SOLUTIONS PTE LTD 151 CHIN SWEE ROAD, #07-12, MANHATTAN HOUSE, SINGAPORE, SG 169876
Manufacturer's name	STR8BAT SPORTS TECH SOLUTIONS PTE LTD
Address	151 CHIN SWEE ROAD, #07-12, MANHATTAN HOUSE, SINGAPORE, SG 169876
Standard Test Method	<ul style="list-style-type: none">• FCC 47 CFR Part 2 Subpart J, §2.1093• FCC KDB 447498 D04 Interim General RF Exposure Guidance v01• ISED Canada RSS-102 Issue 6 (December 15, 2023)• Health Canada Safety Code 6
Test item description	Str8bat Smart Sticker
Trademark	Str8bat
Model/Type reference	Ver 2.00S
Associated Model	N/A
Remarks:	
<ul style="list-style-type: none">• 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/manufacturer, 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 colored prints.• This report is digitally signed on first page, doesn't required signature on each page.• The amendment report issued for the inclusion of RSS-102 Issue 6 requirements in the original test report number SR/2504001 dated 11/08/2025, to align with ISED compliance.	

Tested by:	Approved by / Authorized Signatory:	Issued by:
Shubham Panchal/ Testing Engineer	Dinesh Dhawan/ Sr. Testing Engineer	Shubham Gupta/ Project Engnieer

Nemko India (Test Lab) Pvt Ltd
CIN: U74999HR2016FTC065033
Plot No. 193, Sec -68, IMT Faridabad-121004, Haryana
EMAIL: india@nemko.com



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Test Report Revision History

Revision #	Date of issue	Details of changes made to test report
SR/2504001	11/08/2025	Original report issued
SR/2504001-A1	03/09/2025	<ul style="list-style-type: none">inclusion of RSS-102 Issue 6 requirementsRemoved FCC KDB 447498 D01 reference

1. Evaluation Summary

1.1 SAR exemption for standalone transmission

1.1.1 References, definitions and limits

FCC §2.1093

(2) The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

RSS-102, Section 2.5.1

Devices operating at or below the applicable output power levels (adjusted for tune-up tolerance) specified in table, based on the separation distance, are exempt from SAR evaluation. The separation distance, defined as the distance between the user and/or bystander and the antenna and/or radiating element of the device or the outer surface of the device, shall be less than or equal to 20 cm for these exemption limits to apply.

Table 1: Exemption limits for routine evaluation based on frequency and separation distance

Separation:	≤5 mm	10 mm	15 mm	20 mm	25 mm	30 mm	35 mm	40 mm	45 mm	≥50 mm
≤300 MHz	45	116	139	163	189	216	246	280	319	362
450 MHz	32	71	87	104	124	147	175	208	248	296
835 MHz	21	32	41	54	72	96	129	172	228	298
900 MHz	6	10	18	33	57	92	138	194	257	323
2450 MHz	3	7	16	32	56	89	128	170	209	245
3500 MHz	2	6	15	29	50	72	94	114	134	158
5800 MHz	1	5	13	23	32	41	54	74	102	128

Notes: Values in the table are in mW

The exemption limits in table are based on measurements and simulations of half-wave dipole antennas at separation distances of 5 mm to 50 mm from a flat phantom, which provides a SAR value of approximately 0.4 W/kg for 1 g of tissue.

For limb-worn devices where the 10 gram of tissue applies, the exemption limits for routine evaluation in table 11 are multiplied by a factor of 2.5.

For controlled-use devices where the 8 W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation in table are multiplied by a factor of 5.



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When the operating frequency of the device is between two frequencies located in table, linear interpolation shall be applied for the applicable separation distance. If the separation distance of the device is between two distances located in table, linear interpolation may be applied for the applicable frequency. Alternatively, the limit corresponding to the smaller distance may be employed. For example, in case of a 7 mm separation distance, either use the exception value for a 5 mm separation distance or interpolate between the limits corresponding to 5 mm and 10 mm separation distances.

For implanted medical devices, the exemption limit for routine SAR evaluation is set at an output power of 1 mW, regardless of frequency.

The SAR levels from exempted transmitters shall be included in the compliance assessment and the determination of the TER.

1.2 According to FCC KDB 447498 D04V01- SAR- Based Exemption

This method shall be used at separation distance of 0.5 cm to 40 cm and at frequencies 0.3 GHz to 6 GHz (inclusive), where P_{th} is given by the formula:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and f is in GHz;}$$

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

1.3 EUT technical information

Minimum separation distance	20 cm
Operational frequencies	2402 MHz -2480 MHz (BLE)
Antenna gain	0 dBi
Maximum system EIRP	3.4 dBm
Power requirements	5V DC USB Powered (for charging only), 3.7V (Internal Rechargeable Li-ion Polymer Battery Used)
Antenna Type	PCB Antenna
Minimum frequency (MHz)	2402
Maximum frequency (MHz)	2480
Tested frequencies	2402 MHz (low), 2440MHz (middle), and 2480MHz (high)



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Note: In Installation guide: Warning Statement: "This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body"

Test Data:

Transmit frequency, MHz	Maximum EIRP, dBm	Maximum EIRP, mW
2402	2.8	1.9055
2440	2.8	1.9055
2480	3.4	2.1878

Note: Value of output power is taken from the test report no FCC/2504002 dated 06/08/2025 issued by Nemko India (Test Lab) Pvt. Ltd.

1.4 Justification for Standalone SAR test exclusion

Transmit frequency, MHz	Maximum EIRP, mW	Limit, mW Approximate SAR exclusion Threshold for 2450 MHz
2402	1.9055	3060
2440	1.9055	3060
2480	2.1878	3060

1.4.1 For FCC

For >2450MHz and test separation distances = 200 mm, Results < 3060

Since the maximum value which is 2.1878 mW is less than the 3060 mW so the product exempt from the SAR test requirements

1.42 For ISED

Table 2: SAR exemption verification

Transmit frequency, MHz	Maximum EIRP, mW	Separation distance, mm	Limit, mW	Margin, dB
2402	1.9055	200	245	21.09
2440	1.9055	200	245	21.09
2480	2.1878	200	245	20.49

Note: Margin was calculated as follows: $10 \times \log_{10}(\text{Limit} / \text{Maximum EIRP})$

1.5 Verdict

The calculation is below the threshold, therefore, the product exempt from the SAR test requirements.

***** End of Test report*****