FCC Part 1 Subpart I
FCC Part 2 Subpart J

MPE REPORT

FOR

BICYCLE SEATPOST WITH AIREA, BLE AND ANT+ RADIOS

MODEL NUMBER: 13200

FCC ID: C90-SPMB1
IC: 1016A-SPMB1

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	10/10/2018	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SRAM LLC
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EUT DESCRIPTION: Bicycle Seatpost with AIREA, BLE and ANT+ Radios

MODEL: 13200

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 1 SUBPART I & PART 2 SUBPART J	Complies

UL Verification Services Inc. calculated the RF Exposure of the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations of these calculations. The results show that the equipment is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

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2. TEST METHODOLOGY

All calculations were made in accordance with FCC OET Bulletin 65 Edition 97-01 and ISED Safety Code 6.

3. REFERENCES

All measurements were made as documented in test report UL Verification Services Inc. Document 12122325-E1,12122325-E2, and 12122325-E3 for operation in the 2.4 GHz band and UL Verification Services Inc.

Output power, Duty cycle and Antenna gain data is excerpted from the applicable test reports.

4. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/2000650.htm.

5. DEVICE UNDER TEST

The EUT is a Bicycle Seatpost with radios BLE operating in the frequency range of 2402 to 2480 MHz, AIREA operating in the frequency range of 2405 to 2480, and ANT+ operating in the frequency range of 2405 to 2475. The user to antenna separation distance is 0mm.

6. MAXIMUM OUTPUT POWER

The maximum output power of the device is declared as the following:

BLE = 0dBm ±4dB; Antenna Gain: -2 dBi
AIREA = 0dBm ±4dB; Antenna Gain: -2 dBi
ANT+ = 0dBm ±3dB; Antenna Gain: -2 dBi

7. STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

7.1. FCC

SAR test exclusion in accordance with KDB 447498 D01 v06.

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:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)]·[√f(GHz)] ≤ 3.0, for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

This test exclusion is 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.

SAR Exclusion Calculation Table for Portable Devices (Separation distance < 50mm)

Tx	Frequency (MHz)	Max Output power		Duty Cycle	Max Output Power with Duty factor correction (mW)	Separation distances (mm)	Calculated Threshold Value
		dBm	mW				
BLE	2480	4.0	3	100%	3	5	0.9

Tx	Frequency (MHz)	Max Output power		Duty Cycle	Max Output Power with Duty factor correction (mW)	Separation distances (mm)	Calculated Threshold Value
		dBm	mW				
AIREA	2480	4.0	3	100%	3	5	0.9

Tx	Frequency (MHz)	Max Output power		Duty Cycle	Max Output Power with Duty factor correction (mW)	Separation distances (mm)	Calculated Threshold Value
		dBm	mW				
ANT+	2480	3.0	2	100%	2	5	0.6

Conclusion:

The device operates with a maximum Duty Cycle of 100%. The Calculated Threshold with duty cycle applied is ≤3 for 1-g SAR and ≤7 for 10-g extremity SAR; therefore, this device qualifies for Standalone SAR test exclusion.

END OF REPORT