FCC Part 1 Subpart I
FCC Part 2 Subpart J
INDUSTRY CANADA RSS 102 ISSUE 5

MPE REPORT

FOR

ELECTRONIC CONTROLLER WITH AIREA AND BLE RADIOS

MODEL NUMBER: 00220

FCC ID: C9O-SLMB1
IC: 1016A-SLMB1

REPORT NUMBER: 12122303-E3V2

ISSUE DATE: October 24, 2018

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	10/5/2018	Initial Issue	
V2	10/24/2018	Updated Power and Tolerances	Steven Tran

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SRAM LLC
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EUT DESCRIPTION: Electronic Controller with AIREA and BLE radios

MODEL: 00220

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 1 SUBPART I & PART 2 SUBPART J	Complies
ISED RSS 102 ISSUE 5	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 12122303-E1 and 12122303-E2 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 an Electronic Controller with radios BLE operating in the frequency range of 2402 to 2480 MHz and AIREA operating in the frequency range of 2405 to 2480. 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 ±3dB; Antenna Gain: 1.3 dBi
AIREA = 0dBm ±2dB; Antenna Gain: 1.3 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	3.0	2	100%	2	5	0.6

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	2.0	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