

TEST REPORT

Report Number: 13684121-E3V3

Applicant : SRAM LLC
1000 W Fulton Market 4th Floor
Chicago, IL 60607, United States

Model : 00230

FCC ID : C9O-SPMB2

EUT Description : Electronic Controller with BLE and AIREA Radios

Test Standard(s) : FCC Part 1 Subpart I
FCC Part 2 Subpart J

Date Of Issue:
2024-01-10

Prepared by:
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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	4/7/2021	Initial Issue	--
V2	5/11/2021	Updated Section 8.1	Kiya Kedida
V3	2024-01-10	Updated Cover Page and Section 2	Kiya Kedida

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SRAM LLC
1000 W Fulton Market 4th Floor
Chicago, IL 60607, United States

EUT DESCRIPTION: Electronic Controller with BLE and AIREA Radios

MODEL: 00230

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

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

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 A2LA, NIST, or any agency of the U.S. government.

Approved & Released For
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2. TEST METHODOLOGY

All calculations were made in accordance with FCC KDB 447498 D01 v06, KDB 447498 D03 V01.

3. REFERENCES

All measurements were made as documented in test report UL Verification Services Inc. Document 13684121-E1 & 13684121-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 or client declarations.

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, Certificate Number 0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

5. DEVICE UNDER TEST

The EUT is an Electronic Controller with BLE and AIREA Radios, powered by CR2032 battery, BLE operating in the frequency range of 2402 to 2480MHz and AIREA operating in the frequency range of 2405 to 2475MHz .

6. MAXIMUM OUTPUT POWER

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

BLE = Power: 6dBm

AIREA = Power: 6dBm

The antenna(s) gain and type, as provided by the manufacturer' are as follows: The radio utilizes a ceramic chip antenna, with a maximum gain of 1.7 dBi.

7. RF EXPOSURE RESULTS

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

8. STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

8.1. FCC

SAR test exclusion in accordance with KDB 447498 D01.

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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [f(\text{GHz})] \leq 3.0$, for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ 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 < 50 mm)

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	2402	6.00	3.98	100%	3.98	5	1.2
AIREA	2405	6.00	3.98	100%	3.98	5	1.2

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