FCC Part 1 Subpart I
FCC Part 2 Subpart J
ISED RSS-102 ISSUE 5

RF EXPOSURE REPORT

FOR

WIRELESS HEADSET

MODEL NAME: BL2L

FCC ID: A94BL2L
IC ID: 3232A-BL2L

REPORT NUMBER: R12663957L-E7

ISSUE DATE: 2019-05-10

Prepared for
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Revision History

Ver.	Issue Date	Revisions	Revised By
1	2019-05-10	Initial Issue	Brian T. Kiewra

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Bose Corporation
100 The Mountain
Framingham, MA 01701, USA

EUT DESCRIPTION: Wireless Headset

MODEL: BL2L

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 1 SUBPART I & PART 2 SUBPART J	Compliant
ISED CANADA RSS-102 ISSUE 5	Compliant

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL LLC based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested 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 LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC 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.

Approved & Released
For UL LLC By:

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2. TEST METHODOLOGY

All calculations were made in accordance with FCC Parts 2.1091, 2.1093 and KDB 447498 D01 v06 and IC Safety Code 6, RSS 102 Issue 5.

3. REFERENCES

All measurements were made as documented in test report UL LLC Documents R12663957L-E8 and R12663957L-E9 for operation in the 2.4 GHz band.

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 12 Laboratory Dr., Research Triangle Park, NC 27709, USA and 2800 Perimeter Park Dr., Suite B, Morrisville, NC 27560, USA.

UL LLC (RTP) is accredited by NVLAP, Laboratory Code 200246-0.

5. DEVICE UNDER TEST

The EUT is the left earbud of a wireless headset with BT/BLE transceiver.

Other details regarding the EUT are documented in the applicable test reports and product documentation.

6. STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

6.1. FCC

SAR test exclusion in accordance with KDB 447498.

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.

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:

1. {[Power allowed at numeric threshold for 50 mm)] + [(test separation distance – 50 mm)·(f(MHz)/150)]} mW, for 100 MHz to 1500 MHz
    - $f_{(MHz)}$ is the RF channel transmit frequency in MHz
2. {[Power allowed at numeric threshold for 50 mm)] + [(test separation distance – 50 mm)·10]} mW, for > 1500 MHz and ≤ 6 GHz

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

Tx	Frequency (MHz)	AVG Output power		Separation distances (mm)	Calculated Threshold
		dBm	mW		
BT - GFSK	2441	9.01	7.96	5	2.5

Conclusion:
The computed values are < 3; therefore, the device qualifies for Standalone SAR test exclusion.

6.2. ISED CANADA

The SAR exclusion table from RSS-102 issue 5 is reproduced below:

Table 1: SAR evaluation - exemption limits for routine evaluation based on frequency and separation distance.

Frequency MHz	Exemption Limits (mW)				
	At separation distance of ≤5mm	At separation distance of 10mm	At separation distance of 15mm	At separation distance of 20mm	At separation distance of 25mm
≤300	71 mW	101 mW	132 mW	162 mW	193 mW
450	52 mW	70 mW	88 mW	106 mW	123 mW
835	17 mW	30 mW	42 mW	55 mW	67 mW
1900	7 mW	10 mW	18 mW	34 mW	60 mW
2450	4 mW	7 mW	15 mW	30 mW	52 mW
3500	2 mW	6 mW	16 mW	32 mW	55 mW
5800	1 mW	6 mW	15 mW	27 mW	41 mW

Frequency MHz	Exemption Limits (mW)				
	At separation distance of 30mm	At separation distance of 35mm	At separation distance of 40mm	At separation distance of 45mm	At separation distance of ≥50mm
≤300	223 mW	254 mW	284 mW	315 mW	345 mW
450	141 mW	159 mW	177 mW	195 mW	213 mW
835	80 mW	92 mW	105 mW	117 mW	130 mW
1900	99 mW	153 mW	225 mW	316 mW	431 mW
2450	83 mW	123 mW	173 mW	235 mW	309 mW
3500	86 mW	124 mW	170 mW	225 mW	290 mW
5800	56 mW	71 mW	85 mW	97 mW	106 mW

The minimum antenna to user distance that will be encountered in normal use is 5 ≤ mm. This results in an exemption limit of 4 mW at 2450 MHz.

Although the maximum target output power (including tune up, etc.) is 7.94 mW , when you factor real use duty cycle and the source based time average, the target power is 2.22 dBm (1.67 mW EIRP). Therefore, the DUT qualifies for SAR test exclusion.

Calculations

Maximum Declared Output Power, including tune up = 9.00 dBm (7.94 mW).
Peak antenna gain = 0 dBi
Max. EIRP = 9.00 dBm (7.94mW)
Actual Use Worst-Case Duty Cycle = 20.984%
Max. Source based time average EIRP = Max. EIRP – 10*log (1/DCF)
9.00 dBm – 10*log (1/0.20984) = 2.22 dBm (1.67 mW)

1.67 mW is less than the 4 mW limit.

END OF TEST REPORT