



SAR EVALUATION REPORT

**FCC 47 CFR § 2.1093
IEEE Std 1528-2013**

For
BLUETOOTH HEADSET

**FCC ID: AL8-WC2
Model Name: Wearable Concept 2**

**Report Number: 15U20565-S1V2
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Prepared for
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REVISION HISTORY

Rev.	Date	Revisions	Revised By
V1	11/13/2015	Initial Issue	--
V2	11/19/2015	Section 4.4: Clarified EUT to user separation distance	Dave Weaver

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1. Attestation of Test Results

Applicant Name	PLANTRONICS INC.
FCC Certification ID	AL8-WC2
Model Name	Wearable Concept 2
EUT Description	BLUETOOTH HEADSET
Exposure Category	General Population/Uncontrolled Exposure
Applicable Standards	FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013
SAR Limits (W/Kg)	
Exposure Category	Peak spatial-average(1g of tissue)
General population/ Uncontrolled exposure	1.6
<p>UL Verification Services Inc. 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 Verification Services Inc. 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.</p> <p>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, any agency of the Federal Government, or any agency of any government (NIST Handbook 150, Annex A). This report is written to support regulatory compliance of the applicable standards stated above.</p>	
Approved & Released By:	Prepared By:
	
David Weaver Program Manager UL Verification Services Inc.	Coltyce Sanders Laboratory Engineer UL Verification Services Inc.

2. Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE STD 1528-2013, the following FCC Published RF exposure KDB procedures:

1. 865664 D01 SAR measurement 100 MHz to 6 GHz v01r03
2. 248227 D01 802.11 Wi-Fi SAR v02r01
3. 447498 D01 General RF Exposure Guidance v05r02

3. Facilities and Accreditation

The test sites and measurement facilities used to collect data are located at

47173 Benicia Street	47266 Benicia Street
SAR Lab A	SAR Lab 1
SAR Lab B	SAR Lab 2
SAR Lab C	SAR Lab 3
SAR Lab D	SAR Lab 4
SAR Lab E	SAR Lab 5
SAR Lab F	
SAR Lab G	
SAR Lab H	

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

4. Device Under Test (DUT) Information

4.1. DUT Description

Device Dimension	Refer to Appendix A for Device Dimensions		
Back Cover	☒ The rechargeable battery is not user accessible.		
Battery Options	☒ The rechargeable battery is not user accessible.		
Accessory	N/A		
Wireless Router (Hotspot)	Not Supported		
Wi-Fi Direct	Not Supported		
Test sample information	S/N	IMEI	Notes
	BLD2_COMP01	N/A	RADIATED SAMPLE
	BLD2_COMP02	N/A	RADIATED SAMPLE
	BLD2_COMP06	N/A	CONDUCTED SAMPLE
Hardware Version	CSR8670		
Software Version	BlueTest3 2.5.0		

4.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode	Duty Cycle used for SAR testing
Bluetooth	2.4 GHz	Version 4.0 LE	77.5% (DH5)

4.3. Nominal and Maximum Output Power

Upper limit (dB):		0.5		Max. RF Output Power (dBm)	
RF Air interface	Mode	Target		Max. tune-up tolerance limit	
Bluetooth		6.5		7.0	
Bluetooth LE		4.5		5.0	

4.4. Separation distance

The EUT is intended to be worn behind the ear. The minimum user to EUT separation distance is 0mm.

5. Conducted Output Power Measurements

5.1. Bluetooth

Maximum tune-up tolerance limit is 7.00 dBm. This power level qualifies for exclusion of SAR testing.

6. Standalone SAR Test Exclusion Considerations

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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$, 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

The test exclusions are 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.

Head Exposure Conditions

Max. tune-up tolerance limit		Min. test separation distance (mm)	Frequency (GHz)	SAR test exclusion Result*
(dBm)	(mW)			
7.0	5	5	2.480	1.6

As the separation distance is 0mm a distance of 5mm is used for the calculation

Conclusion:

*: The computed value is ≤ 3 ; therefore, Bluetooth qualifies for Standalone SAR test exclusion.

END OF REPORT