



SAR Exemption Evaluation Report

Product Name : Bluetooth headset
Model No. : B825
FCC ID : AL8-B25

Applicant : Plantronics, Inc.

Address : 345 Encinal Street, Santa Cruz, CA95060 USA

Date of Receipt : Sep. 09, 2021
Issued Date : Nov. 15, 2021
Report No. : 2190330R-HP-US-P01V01
Report Version : V1.0

The test results presented in this report relate only to the object tested.

The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.

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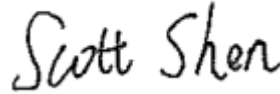
Test Report Certification

Issued Date : Nov. 15, 2021
Report No. : 2190330R-HP-US-P01V01



Product Name : Bluetooth headset
Trademark : Plantronics
Applicant : Plantronics, Inc.
Address : Parkfield, Greaves Park, Lancaster
Address : 345 Encinal Street, Santa Cruz, CA95060 USA
Model No. : B825
FCC ID : AL8-B25
Applicable Standard : KDB 447498 D01v06
Test Result : Complied
Performed Location : DEKRA Testing & Certification (Suzhou) Co., Ltd.
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006,
Jiangsu, China
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FCC Designation Number: CN1199

Documented By :



(Project Engineer: Scott Shen)

Approved By :



(Supervisor: Jack Zhang)

1. RF Exposure Evaluation

1.1.Limits

According to **KDB 447498 D01 General RF Exposure Guidance v06**

4.3.1 Standalone SAR test exclusion considerations

1) 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:

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

≤ 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
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

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 according to 5) in section 4.1 is applied to determine SAR test exclusion.

2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following, and as illustrated in Appendix B:

a) $[\text{Power allowed at numeric threshold for 50 mm in step 1)} + (\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)] \text{ mW}$, at 100 MHz to 1500 MHz

b) $[\text{Power allowed at numeric threshold for 50 mm in step 1)} + (\text{test separation distance} - 50 \text{ mm}) \cdot 10] \text{ mW}$ at > 1500 MHz and ≤ 6 GHz

3) The 1-g and 10-g SAR test exclusion thresholds for below 100 MHz at test separation distances ≤ 50 mm are determined by:

a) The power threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by $[1 + \log(100/f(\text{MHz}))]$ for test separation distances > 50 mm and < 200 mm

b) The power threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$ for test separation distances ≤ 50 mm

c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable. Note: when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	Bluetooth headset
Test Item	:	RF Exposure Evaluation
Test Site	:	TR-6

General Description of the Item(s)

Product Name	Bluetooth Headset					
Model No.	B825					
Manufacturer	Plantronics, Inc.					
Manufacturer Address	345 Encinal Street, Santa Cruz, CA95060 USA					
EUT Voltage	DC 3.7V					
Frequency Range	Bluetooth 2402~2480MHz					
Channel Number	Bluetooth V3.0+HS:79 V4.0:40					
Type of Modulation	V3.0+HS:GFSK, Pi/4 DQPSK, 8DPSK V4.0:GFSK					
Data Rate	V3.0 +HS: 1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps (8DPSK) V4.0:1Mbps(GFSK)					
Type of Modulation	GFSK					
PHYs	<input checked="" type="checkbox"/>	LE 1M	<input checked="" type="checkbox"/>	LE 2M	<input checked="" type="checkbox"/>	LE Coded S=2/8
Data Rate	<input checked="" type="checkbox"/>	1Mbit/s	<input checked="" type="checkbox"/>	2Mbit/s	<input checked="" type="checkbox"/>	500/125 Kbit/s
Operating Temperature Range	0°C - 35 °C					

Bluetooth Antenna List

Antenna	Manufacturer	Model No	Peak Gain
Monopole Antenna	Goertek	ILA Antenna	1.97dBi For 2.4GHz

Based on The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm and the formula below:

$$\text{SAR test exclusion thresholds} = \sqrt{f(\text{GHz})} * \frac{(\text{Max Power of channel, mW})}{\text{Min. Separation Distance, mm}}$$

For Bluetooth, the tune-up maximum conducted power we used to calculate RF exposure is 8dBm.

Wireless Configuration	Frequency Range (MHz)	Maximum Conducted Power (dBm)	Tune up Power Output (dBm)
Bluetooth	2402 ~ 2480	7.61	8.00

Standalone operation:

Wireless Configuration	Exposure Condition	Pmax	Pmax	Distance (mm)	Frequency (GHz)	Calculation Result	Test Exclusion Threshold	SAR Test
		(dBm)	(mw)					
Bluetooth	Extremity	8	6.31	5	2.48	1.99	3	No

Conclusion: The EUT need no SAR test.

_____ The End _____