

RF Exposure Evaluation

Test report
On Behalf of
Shenzhen Doageas Technology Co., Ltd.
For
Bluetooth speaker
Model No.: B81

FCC ID: 2AQ2W-B81X


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Date of Report: **Jul. 20, 2021**

1 General Description of EUT

Product Name:	Bluetooth speaker
Model/Type reference:	B81
Serial Model:	/
Trade Mark	
FCC ID	2AQ2W-B81X
Hardware Version:	V11
Software Version:	V1.5
Version:	Supported EDR
Modulation:	GFSK, π/4DQPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79CH
Channel separation:	1MHz
Antenna type:	PCB Antenna
Antenna gain:	0dBi
Power supply:	DC 3.7V from battery

2 RF Exposure Compliance Requirement

2.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.2 Limits

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:

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

3 EUT RF Exposure

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GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-0.726	0±1	1	1.259	0.390	3.0
Middle (2441MHz)	-0.897	0±1	1	1.259	0.393	
Highest (2480MHz)	-0.994	0±1	1	1.259	0.397	
Conclusion: the calculated value ≤ 3.0 , SAR is exempted.						

$\pi/4$ DQPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-0.033	0±1	1	1.259	0.390	3.0
Middle (2441MHz)	-0.188	0±1	1	1.259	0.393	
Highest (2480MHz)	-0.229	0±1	1	1.259	0.397	
Conclusion: the calculated value ≤ 3.0 , SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: HK2009222670-E