

Maximum Permissive Exposure

FCC ID: BEJ-WL1BKR23

Product Description: Wireless Audio Module

Model No: WL1BKR23

1. According to FCC CFR 47 §1.1310, the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b).

Table 1 Limits for Maximum Permissible Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits For Occupational / Control Exposures (f = frequency)				
30-300	61.4	0.163	1.0	6
300-1500	...	...	f/300	6
1500-100,000	...	...	5.0	6
(B) Limits For General Population / Uncontrolled Exposure (f = frequency)				
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

2. MPE Calculation

LG Electronics USA declares that the product described above has been evaluated and found to comply with the RF exposure limits for humans, as specified based on ANSI/FCC recommendation.

Mode	Max Output Power (dBm)	Tune-up factor	Tune-up max power (dBm)
WLAN 5.2GHz	5.55	1.08	6
WLAN 5.8GHz	5.73	1.22	7

**The value presented in the MPE is the maximum tune-up power.

WLAN 5.2GHz

Based on safety distance (r) **20cm**, the antenna gain (G) is **1.570 Numerical**, and the highest power output (P) is **3.98mW**, the power density (S) is **0.001243mW/cm²**

RF Exposure Calculations:

$$S = (P * G) / (4 * \pi * r^2) \text{ or } r = \sqrt{(P * G) / (4 * \pi * S)}$$

Where :

Based on safety distance (r) =	20	cm		
Highest Power Output (P) =	6	dBm =	3.98	mW
Antenna Gain (G) =	1.96	dBi =	1.570	Numerical
MPE (S) = (P*G) / (4*π*r ²) =	(3.98*1.570)/(4*π*20²) =		0.001243	mW/cm ²

WLAN 5.8GHz

Based on safety distance (r) **20cm**, the antenna gain (G) is **1.560 Numerical**, and the highest power output (P) is **5.01mW**, the power density (S) is **0.001555mW/cm²**

RF Exposure Calculations:

$$S = (P * G) / (4 * \pi * r^2) \text{ or } r = \sqrt{(P * G) / (4 * \pi * S)}$$

Where :

Based on safety distance (r) =	20	cm		
Highest Power Output (P) =	7	dBm =	5.01	mW
Antenna Gain (G) =	1.93	dBi =	1.560	Numerical
MPE (S) = (P*G) / (4*π*r ²) =	(5.01*1.560)/(4*π*20²) =		0.001555	mW/cm ²

Sincerely Yours,



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