

Product name: A98-12  
Manufacturer: Linkplay  
FCC Id: 2ANOG-A98XX

### Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density  
P = power input to the antenna  
G = power gain of the antenna in the direction of interest relative to an isotropic radiator  
R = distance to the center of radiation of the antenna

#### **Transmitter n°1 Bluetooth - BLE**

Maximum peak output power at the antenna terminal:	<u>3,04</u>	(dBm)
Maximum peak output power at the antenna terminal:	<u>2,01372425</u>	(mW)
Antenna gain(typical):	<u>3,18</u>	(dBi)
Maximum antenna gain:	<u>2,079696687</u>	(numeric)
Prediction distance:	<u>20</u>	(cm)
Prediction frequency:	<u>2440</u>	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	<u>0,61</u>	(mW/cm <sup>2</sup> )
<b>Power density</b> at prediction frequency:	<b>0,000833</b>	(mW/cm <sup>2</sup> )
Maximum allowable antenna gain:	<b>31,8259969</b>	(dBi)

#### **Transmitter n°2 Bluetooth - BT+EDR**

Maximum peak output power at the antenna terminal:	<u>2,55</u>	(dBm)
Maximum peak output power at the antenna terminal:	<u>1,798870915</u>	(mW)
Antenna gain(typical):	<u>3,18</u>	(dBi)
Maximum antenna gain:	<u>2,079696687</u>	(numeric)
Prediction distance:	<u>20</u>	(cm)
Prediction frequency:	<u>2402</u>	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	<u>0,55</u>	(mW/cm <sup>2</sup> )
<b>Power density</b> at prediction frequency:	<b>0,000744</b>	(mW/cm <sup>2</sup> )
Maximum allowable antenna gain:	<b>31,86632545</b>	(dBi)

### Transmitter n°3 WiFi 2,4GHz

Maximum peak output power at the antenna terminal: 18,30 (dBm)  
Maximum peak output power at the antenna terminal: 67,60829754 (mW)  
Antenna gain(typical): 3,49 (dBi)  
Maximum antenna gain: 2,233572223 (numeric)  
Prediction distance: 20 (cm)  
Prediction frequency: 2437 (MHz)  
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm<sup>2</sup>)

**Power density** at prediction frequency: **0,030042** (mW/cm<sup>2</sup>)

Maximum allowable antenna gain: **18,71269855** (dBi)

### Transmitter n°4 WiFi 5GHz

Maximum peak output power at the antenna terminal: 17,56 (dBm)  
Maximum peak output power at the antenna terminal: 57,01642723 (mW)  
Antenna gain(typical): 3,49 (dBi)  
Maximum antenna gain: 2,233572223 (numeric)  
Prediction distance: 20 (cm)  
Prediction frequency: 5700 (MHz)  
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm<sup>2</sup>)

**Power density** at prediction frequency: **0,025336** (mW/cm<sup>2</sup>)

Maximum allowable antenna gain: **19,45269855** (dBi)