

# Maximum Permissive Exposure

FCC ID: WL6LIVAM300-W

Product Description: Computer

Model No: LIVA M300-WXXXX (X=A to Z,a-z,0-9 or blank)

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 <sup>2</sup> )	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

Elitegroup Computer Systems Co., Ltd. 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)
WIFI 2.4G	24.48	1.042	25.5
BT	7.31	1.163	8.5
BLE	3.99	1.128	4.5

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

### 2.1. WIFI 2.4G MPE

Based on safety distance (r) **20cm**, the antenna gain (G) is **1.884 Numerical**, and the highest power output (P) is **354.81mW**, the power density (S) is **0.132986mW/cm<sup>2</sup>**.

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) =	25.5	dBm	=	<b>354.81</b> mW
Antenna Gain (G) =	2.75	dBi	=	<b>1.884</b> Numerical
MPE (S) = (P*G) / (4*π*r <sup>2</sup> ) =	<b>(354.81*1.884)/(4*π*20<sup>2</sup>) =</b>			<b>0.132986</b> mW/cm <sup>2</sup>

### 2.2. BT MPE

Based on safety distance (r) **20cm**, the antenna gain (G) is **1.884 Numerical**, and the highest power output (P) is **7.08mW**, the power density (S) is **0.002654mW/cm<sup>2</sup>**.

RF Exposure Calculations:

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

Based on safety distance (r) =	20	cm		
Highest Power Output (P) =	8.5	dBm	=	<b>7.08</b> mW
Antenna Gain (G) =	2.75	dBi	=	<b>1.884</b> Numerical
MPE (S) = (P*G) / (4*π*r <sup>2</sup> ) =	<b>(7.08*1.884)/(4*π*20<sup>2</sup>) =</b>			<b>0.002654</b> mW/cm <sup>2</sup>

**2.3. BLE MPE**

Based on safety distance (r) **20cm**, the antenna gain (G) is **1.884 Numerical**, and the highest power output (P) is **2.82mW**, the power density (S) is **0.001057mW/cm<sup>2</sup>**

RF Exposure Calculations:

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

Based on safety distance (r) =	20	cm		
Highest Power Output (P) =	4.5	dBm	=	<b>2.82</b> mW
Antenna Gain (G) =	2.75	dBi	=	<b>1.884</b> Numerical
MPE (S) = (P*G) / (4*π*r <sup>2</sup> ) =	<b>(2.82*1.884)/(4*π*20<sup>2</sup>) =</b>			<b>0.001057</b> mW/cm <sup>2</sup>

Sincerely Yours,



Mr. Johnny Hsueh  
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