

Signal Strength RF Microwave Radiation Exposure Guidelines

dBm (decibel-milliwatts) is an abbreviation for the power ratio in decibels (dB) of the measured power referenced to one milliwatt (1mW = 1/1000 of a Watt). It is used in radio, microwave and fiber-optic communication networks as a convenient measure of absolute power because of its capacity to *express both very large and very small numbers in short form*. The following data is based on that published in the Comet ED-85X Manual; the meter's antenna is centered at 2,450 MHz and can meter RF Microwave Radiation from 700 MHz to 6,000 MHz.

dBm	*Power Density in Microwatts (Millionths of 1 Watt)	Comparison (With Power Needed For 5 Bar Cell Call)	Human Health Effects From Thousands of Independent Studies
0 dBm	5,800,000 $\mu\text{W}/\text{M}^2$	3,200,000,000X higher (FCC Guideline)	
-40 dBm	58 $\mu\text{W}/\text{M}^2$		
-45 dBm	18 $\mu\text{W}/\text{M}^2$	10,000X higher	leukemia, skin melanoma, bladder cancer,
-50 dBm	5.8 $\mu\text{W}/\text{M}^2$		impaired memory, visual reation time
-55 dBm	1.8 $\mu\text{W}/\text{M}^2$	1,000X higher	headache, dizziness, fatigue, weakness
<u>-60 dBm</u>	0.58 $\mu\text{W}/\text{M}^2$		insomnia, altered white blood cells
-65 dBm	0.18 $\mu\text{W}/\text{M}^2$	100X higher	decreased cell growth in outer skin
-70 dBm	0.58 $\mu\text{W}/\text{M}^2$		
-75 dBm	0.018 $\mu\text{W}/\text{M}^2$	10X higher	human sensation, sleep disorders,
-80 dBm	0.0058 $\mu\text{W}/\text{M}^2$		weakness, fatigue, pain
-85 dBm	0.0018 $\mu\text{W}/\text{M}^2$	5 Bars On Cell Phone	
-90 dBm	0.00058 $\mu\text{W}/\text{M}^2$		
-95 dBm	0.000018 $\mu\text{W}/\text{M}^2$	1/10 lower	
-100 dBm	0.000058 $\mu\text{W}/\text{M}^2$		
-105 dBm	0.000018 $\mu\text{W}/\text{M}^2$	1/100 lower	

Conclusion: The measurements above explain why close proximity to the millions of microwave towers proposed across the U.S. are hazardous to the health of our citizens. **0.02 $\mu\text{W}/\text{M}^2$ (-85 dBm)** is all the RF microwave radiation that is needed for strong cellular service in a residential neighborhood. A locality can set a **maximum output limit** from all frequencies/ antennas from a Wi-Fi Tower in the pubic rights-of-way at **0.1 Watt of Effective Radiated Power (ERP)** because that provides -85 dBm signal strength at a ½ mile down the street, with five bars on a cell phone.

* Power density equals the movement of radiation through two-dimensional space. M^2 (one square meter) is approximately the size of a four-year child.

A typical micro-tower outputs 1500-7500 watts, at the antenna, which is between 833 BILLION and 4 TRILLION times more power than is necessary for a five-bar cellular connection.