

dBm

dBm is an abbreviation for the power ratio in **dB** (decibel) of the measured power referenced to one [milliwatt](#).

The term **dB** is mainly used for an attenuation or an amplification, but **dBm** for a measured power.

Note 1: dBm is used in communication work as a measure of absolute [power](#) values. Zero dBm equals one milliwatt. A 3 dBm increase represents roughly doubling the power, which means that 3 dBm equals 2 milliwatt. For a 3 dBm decrease the power is reduced by one half, making -3 dBm equal to 0.5 milliwatt. To express an arbitrary power P as x dBm, or go in the other direction, the equations $x = 10 \log_{10}(P/(1 \text{ mW}))$ and $P = (1 \text{ mW})10^{(x/10)}$, respectively, should be used. Below is table summarizing useful cases:

dBm level	Power
40 dBm	10 watts
36 dBm	4 watts
30 dBm	1 watt
27 dBm	500 milliwatts
26 dBm	400 milliwatts
25 dBm	320 milliwatts
24 dBm	250 milliwatts
23 dBm	200 milliwatts
22 dBm	160 milliwatts
21 dBm	125 milliwatts
20 dBm	100 milliwatts
15 dBm	32 milliwatts
10 dBm	10 milliwatts
5 dBm	3.2 milliwatts
4 dBm	2.5 milliwatts
3 dBm	2.0 milliwatts
2 dBm	1.6 milliwatts
1 dBm	1.3 milliwatts
0 dBm	1.0 milliwatts
-1 dBm	0.79 milliwatts
-5 dBm	0.32 milliwatts
-10 dBm	0.1 milliwatts
-20 dBm	0.01 milliwatts

-30 dBm 0.001 milliwatts
-40 dBm 0.0001 milliwatts
-50 dBm 0.00001 milliwatts
-60 dBm 0.000001 milliwatts
-70 dBm 0.0000001 milliwatts
-80 dBm 0.00000001 milliwatts