

Report

Determination of minimum distance from antenna of LINKS 2450 for maximum permissive exposure.

According to IEEE C95.3-1991, a maximum power density limit of **F/1500 mW/cm²** at frequencies between 300MHz-1500MHz. In our case for LINKS 2450 this value will be 0.304 mW/cm².

An approximate formula for maximum power density of an antenna is :

$$W = GP/4pd^2$$

From this formula we can calculate the distance **d**.

As a result of mathematics conversions we will get a formula for minimum distance from antenna of any RF transmitter:

$$d[\text{cm}] = [GP/(F/1500)]/12.56]^{1/2}$$

where :- G(p)-gain of antenna[times]

P-power[mW]

f-frequency[MHz]

d-distance [cm]

If we substitute the values (P=2000mW, G=3.163, f=456MHz) in this formula we will obtain the minimum distance. It will be :

$$d[\text{cm}] = 40.684307.....$$

$$d[\text{m}] = 0.407$$

$$d[\text{ft}] = 1.3537$$

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