

47CFR 1.1310 RF Exposure for Fastfind PLBs
KLS-PLB -3 & KLS-PLB-3-GPS

47CFR 1.1310 Radio frequency radiation exposure limits (Table 1)

Transmission at 406.037MHz

The peak power transmitted by the 406MHz transmission **5W**.

The average power guidelines are a transmission with a 6 minute average exposure. The 406 transmission is 0.52 seconds long every 50 seconds. This equates to 0.624 seconds/minute or 0.0104.

The average power equates to **52mW**,

An RF exposure assessment has been performed below to against the requirements of 47CFR 1.1310.

Referring to 47CFR 1.1310 - for a transmission frequency of 406MHz, this corresponds to a power density of 0.271W/m^2 .

$P = E^2 / 377$, (W/m^2) where E is the field strength in V/m and 377 refers to the impedance of free space.

This equates to a maximum field strength of $\sqrt{0.271 \times 377} = 10.10 \text{ V/m}$

For 5W peak power, the 'safe' distance is **1.21m**

The guidelines are for a transmission with a 6 minute average exposure. So the 'safe' distance for the 406MHz transmission (52mW average) is 12.3cm.

Transmission at 121.5MHz

The peak power transmitted by the 121.5MHz transmission **100mW**.

The average power guidelines are a transmission with a 6 minute average exposure. The 121MHz transmission is 100% amplitude modulated, with a 35% duty cycle.

The average power equates to **35mW**.

An RF exposure assessment has been performed below to against the requirements of 47CFR 1.1310.

Referring to 47CFR 1.1310 - for a transmission frequency of 121.5MHz, the maximum field strength is 27.5V/m .

For 100mW peak power, the 'safe' distance is **6.2cm**.

The guidelines are for a transmission with a 6 minute average exposure. So the 'safe' distance for the 121MHz transmission (35mW average) is 3.7cm.

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