

Maximum Permissible Exposure (MPE) Compliance

BDA-CELLAB-1/1W-80
FCC ID Q8KCELLAB1W80

At the maximum operating frequency of 894MHz (Downlink) and 849MHz (Uplink) the MPE limit for the General Population/Uncontrolled Exposure is as follows: Downlink = 0.6mW/cm² (f/1500mW/cm²) and Uplink = 0.57mW/cm² (f/1500mW/cm²).

The analysis is provided below.

Power Density (S) = $EIRP / (4\pi R^2)$, Therefore, $R \geq \sqrt{EIRP / S \times 4\pi}$

From the above calculations, with:

Downlink Maximum Antenna Gain = 2dBi
Downlink Maximum output power = 25dBm

Uplink Maximum Antenna Gain = 11dBi
Uplink Maximum output power = 25dBm

S = 0.6 mW/cm²
EIRP = 27dBm or 500mW (worst case)

S = 0.57 mW/cm²
EIRP = 36dBm or 4.0W (worst case)

Therefore,
R = 8.14cm (Downlink)

R = 23.6cm (Uplink)

These are the minimum safe distances for the general population for each antenna.