

Maximum Permissible Exposure (MPE) Compliance

BDA-CELLAB-2/25W-90-OA
FCC ID Q8KCELLAB25W90

At the maximum operating frequency of 894MHz (Downlink) and 849MHz (Uplink) the MPE limit for the General Population/Uncontrolled Exposure is as follows: Downlink = 0.58mW/cm² (f/1500mW/cm²) and Uplink = 0.55mW/cm² (f/1500mW/cm²).

The analysis is provided below.

Power Density (S) = EIRP/(4πR²), Therefore, $R \geq \sqrt{EIRP/S} \times 4\pi$

From the above calculations, with:

Downlink Maximum Antenna Gain = 2dBi
Downlink Maximum output power = 37dBm

Uplink Maximum Antenna Gain = 11dBi
Uplink Maximum output power = 27dBm

S = 0.596 mW/cm²
EIRP = 39dBm or 8.0 W (worst case)

S = 0.566 mW/cm²
EIRP = 38dBm or 6.3 W (worst case)

Therefore,

R = 32.68cm (Downlink)

R = 29.76cm (Uplink)

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