

## 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/cm<sup>2</sup> (f/1500mW/cm<sup>2</sup>) and Uplink = 0.57mW/cm<sup>2</sup> (f/1500mW/cm<sup>2</sup>).

The analysis is provided below.

Power Density (S) = EIRP/(4πR<sup>2</sup>), 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/cm<sup>2</sup>  
EIRP = 27dBm or 500mW (worst case)

S = 0.57 mW/cm<sup>2</sup>  
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.