



## ***RF exposure requirements – ZTE MF206A***

Dear Reviewer,

The maximum measured power output is

GSM 850:32.15dBm

GSM 1900:29.68dBm

WCDMA850: 22.94dBm

WCDMA 1900: 22.93dBm

the maximum antenna gain for integral antenna is

GSM 850: 1.0dBi

GSM 1900:2.5dBi

WCDMA850: 1.0dBi

WCDMA 1900: 2.5dBi

The maximum permissible exposure is defined in 47 CFR 1.1310 with 1mW/cm<sup>2</sup>.

The Transmitter is using external antennas that operate at 20 cm or more from nearby persons.

The maximum permitted level is calculated using the general equation:

$$S = P' / 4\pi R^2$$

$$\text{GSM 850: } P' = 32.15\text{dBm} + 1.0\text{dBi} = 33.15\text{dBm} = 2065.4\text{mW}$$

$$\text{GSM1900: } P' = 29.68\text{dBm} + 2.5\text{dBi} = 32.18\text{dBm} = 1652.0\text{mW}$$

$$\text{WCDMA850: } P' = 22.94\text{dBm} + 1.0\text{dBi} = 23.94\text{dBm} = 247.7\text{mW}$$

$$\text{WCDMA1900: } P' = 22.93\text{dBm} + 2.5\text{dBi} = 25.43\text{dBm} = 349.1\text{mW}$$

$$R = 20\text{cm}$$

$$\pi = 3.1416$$

Solving for S, the power density at 20 cm is

$$\text{GSM 850: } \mathbf{0.411\text{mW/cm}^2}$$

$$\text{GSM1900: } \mathbf{0.329\text{mW/cm}^2}$$

$$\text{UMTS850: } \mathbf{0.049\text{mW/cm}^2}$$

$$\text{UMTS1900: } \mathbf{0.069\text{mW/cm}^2}$$

So the limit is kept.

Best Regard.

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2011-02-23

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