



RF exposure requirements – ZTE MF226

Dear Reviewer,

The maximum measured power output is

GSM 850:33.41dBm

GSM 1900:30.68dBm

WCDMA850: 23.96dBm

WCDMA 1900: 23.90dBm

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/cm².

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:

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

$$\text{GSM 850: } P' = 33.41\text{dBm} + 1.0\text{dBi} = 34.41\text{dBm} = 2760.6\text{mW}$$

$$\text{GSM1900: } P' = 30.68\text{dBm} + 2.5\text{dBi} = 33.18\text{dBm} = 2079.7\text{mW}$$

$$\text{WCDMA850: } P' = 23.96\text{dBm} + 1.0\text{dBi} = 24.96\text{dBm} = 313.3\text{mW}$$

$$\text{WCDMA1900: } P' = 23.90\text{dBm} + 2.5\text{dBi} = 26.40\text{dBm} = 436.5\text{mW}$$

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

$$\pi = 3.1416$$

Solving for S, the power density at 20 cm is

$$\text{GSM 850: } \mathbf{0.549\text{mW/cm}^2}$$

$$\text{GSM1900: } \mathbf{0.414\text{mW/cm}^2}$$

$$\text{UMTS850: } \mathbf{0.062\text{mW/cm}^2}$$

$$\text{UMTS1900: } \mathbf{0.087\text{mW/cm}^2}$$

So the limit is kept.

Best Regard.

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