



RF exposure requirements – ZTE MF212

Dear Reviewer,

The maximum measured power output is

GSM 850:32.99dBm

GSM 1900:30.37dBm

WCDMA850: 23.73dBm

WCDMA 1900: 23.01dBm

the maximum antenna gain for integral antenna is

GSM 850:-1.0dBi

GSM 1900:1.2dBi

WCDMA850: -1.0dBi

WCDMA 1900: 1.2dBi

The maximum permissible exposure is defined in 47 CFR 1.1310 with 1 mW/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:

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

$$\text{GSM 850: } P' = 32.99\text{dBm} + (-1.0\text{dBi}) = 31.99\text{dBm} = 1581.2\text{mW}$$

$$\text{GSM1900: } P' = 30.37\text{dBm} + 1.2\text{dBi} = 31.57\text{dBm} = 1435.5\text{mW}$$

$$\text{WCDMA850: } P' = 23.73\text{dBm} + (-1.0\text{dBi}) = 22.73\text{dBm} = 187.5\text{mW}$$

$$\text{WCDMA1900: } P' = 23.01\text{dBm} + 1.2\text{dBi} = 24.21\text{dBm} = 263.6\text{mW}$$

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

$$\pi = 3.1416$$

Solving for S, the power density at 20 cm is

$$\text{GSM 850: } \mathbf{0.315\text{mW/cm}^2}$$

$$\text{GSM1900: } \mathbf{0.286\text{mW/cm}^2}$$

$$\text{UMTS850: } \mathbf{0.037\text{mW/cm}^2}$$

$$\text{UMTS1900: } \mathbf{0.052\text{mW/cm}^2}$$

So the limit is kept.

Best Regard.

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