

RF Exposure Information

1) Power measurement :

Measured max conducted power at 850 MHz: 32,5 dBm
Measured max conducted power at 1900 MHz: 30 dBm

2) Calculation of the acceptable gain maximum for fixed operations:

According to rules §1.1310, the limits are for the following frequency :
300-1500 MHz: $f/1500 \text{ mW/cm}^2$ therefore for 850MHz: 0,57 mW/cm²
1500-100,000 MHz: 1 mW/cm²

2.1 Calculation for 850MHz

$G = 10 \log(0,57 \times 4 \times \text{PI} \times 400) - 32,5 = 1,4 \text{ dBi}$

2.2 Calculation for 1900 MHz

$G = 10 \log(1 \times 4 \times \text{PI} \times 400) - 30 = 7 \text{ dBi}$

3) Calculation of the acceptable gain maximum for mobile operations:

According to rule §24.232 the limits are for the following frequency :
850 MHz: 1,5W [ERP]
1900 MHz : 2W [EIRP]

3.1 Calculation for 850MHz

$G = 10 \log(1,5) - 32,5 + 2,15 = 1,4 \text{ dBi}$

3.2 Calculation for 1900 MHz

$G = 10 \log(2) - 30 = 3 \text{ dBi}$

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