

## RF Exposure Information for WMP100 WirelessMicroprocessor

### Maximum Antenna System Gain

Per FCC 47CFR §2.1091, mobile devices are not subject to routine environmental evaluation for RF exposure if they operate less than 1.5 watts ERP in the 850 MHz band and less than 3 watts ERP in the PCS band.

The maximum allowable antenna system gain for the **850 MHz** band is calculated below based on the FCC 47CFR §2.1091 threshold (1.5 W ERP = 2.46 W EIRP) for requiring routine environmental evaluation for RF exposure for a mobile device measured at 20 cm from the antenna:

GSM 850 Band, Power Class 4 (2000 mW),  
Duty Factor DF = 0.25.

Measured Power : 33 dBm : 2000mW

The maximum antenna system gain is calculated as follows:

$$g\_num = EIRP [mW] / (P * DF) = 2460 / (2000 * 0.25) = 4.92.$$

$$g\_dBi = 10 * LOG(g\_num) = 6.9.$$

The maximum allowable **antenna system gain** in the **850 MHz** band is **6.9 dBi**.

The maximum allowable antenna system gain for the GSM **PCS band** is limited per FCC 47CFR §24.232(b) 2W EIRP peak power limit. The maximum antenna system gain is calculated as follows:

Measured Power: 29,9 dBm : 980 mW

$$g\_num = EIRP [mW] / P = 2000 / 980 = 2.04.$$

$$g\_dBi = 10 * LOG(g\_num) = 3.1.$$

The maximum allowable **antenna system gain** in the **PCS** band is **3.1 dBi**.

