

Design Center: Flextronics SA www.flextronics.co.za

MPE Calculation

for

Project Name: Ericsson Fixed Wireless Terminal

Project Code: **ERIFWT102**

Product: G3x FWT Product Series

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Last saved: 3-Jul-06

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1. MPE CALCULATION FOR THE FWT G30 PRODUCT SERIES

1.1 Introduction

The FCC requires that the calculated MPE be equal to or less than the limits for general population/uncontrolled exposure as detailed in Part 1.1310 of the FCC regulations at a distance of 20cm from the device to the body of the user. The equation for the calculation is given in OET Bulletin 65, page 19 as:

 $S = EIRP / 4 \pi R^2$

Where S = Power density

EIRP = Effective Isotropically Radiated Power

R = distance to the centre of the radiation of the antenna

1.2 For 850 MHz

Values

S = 0.566 mW/cm² (f/300) for general population uncontrolled exposure (FCC Part 1.1310 Radiofrequency radiation exposure limits)

ERP = 27.4 dBm (550 mW)

 $ERP \times 1.64 = EIRP$

R = 20 cm

Calculation

S = $550 \times 1.64 / 12.56 \times (20)^2$ S = $820 / 12.56 \times (20)^2$ S = 820 / 5024

 $S = 0.163 \text{ mW}^2$

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1.3 For 1900 MHz

Values

S = 1 mW/cm² for general population uncontrolled exposure (FCC Part 1.1310 Radiofrequency radiation exposure limits)

EIRP = 29.6 dBm (912 mW)

R = 20 cm

Calculation

 $S = 912 / 12.56 \times (20)^2$ S = 912 / 5024

 $S = 0.182 \text{ mW}^2$

1.4 Conclusion

The MPE values of the FWT G30 Product Series at 20 cm meet the RF exposure limits.