2.1

a) $A_{em} = e_t D_0 \cdot \dfrac{\lambda^2}{4\pi} = 30{,}2 \dfrac{(0.036\ m)^2}{4\pi} \cdot 10E3\ \dfrac{cm^2}{m^2} = 32.19\ cm^2$

$\qquad\qquad\qquad\qquad\qquad A = 5.5 \cdot 7.4 = 40.7\ cm^2$

$\underline{G_0 = e_t \cdot D_0}$

$\rightarrow 14.8\ dB = 10^{1.48} = 30{,}2$

$\lambda = \dfrac{c}{f} = \dfrac{3E8}{8{,}2E9} = 0{,}036\ m$

$\qquad_{max}$

b) $f = 10.3E9\ Hz \qquad A_{em} = 30.15\ cm^2$

$\quad G_0 = 16.5\ dB$

c) $f = 12.4E9\ Hz \qquad A_{em} = 29{,}38\ cm^2$

$\quad G_0 = 18\ dB$