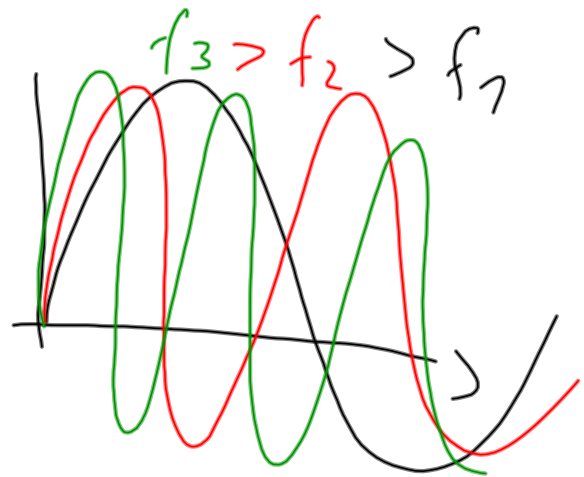


Sampling  
Sampling frequency  
 $f_s > 2 f_3$

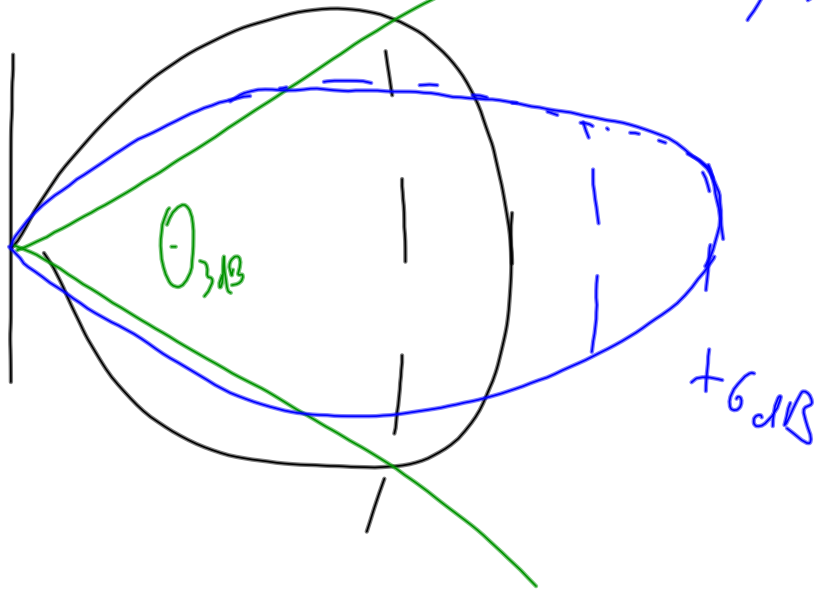


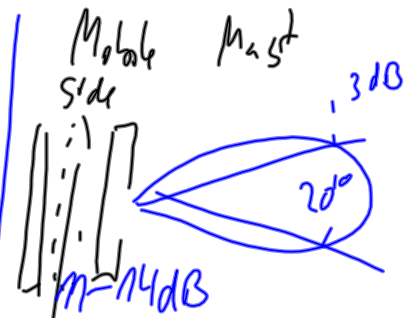
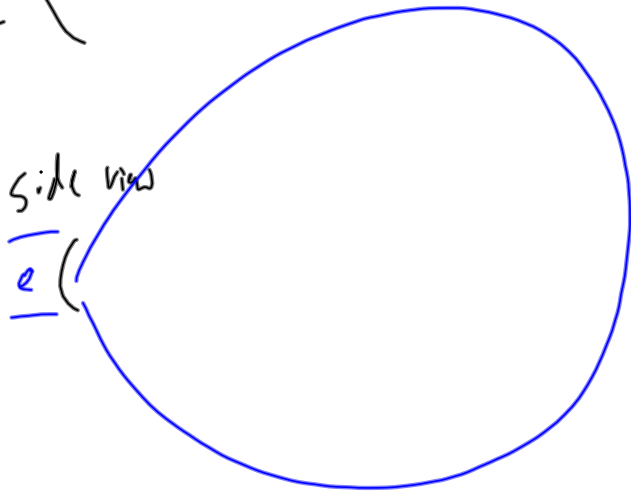
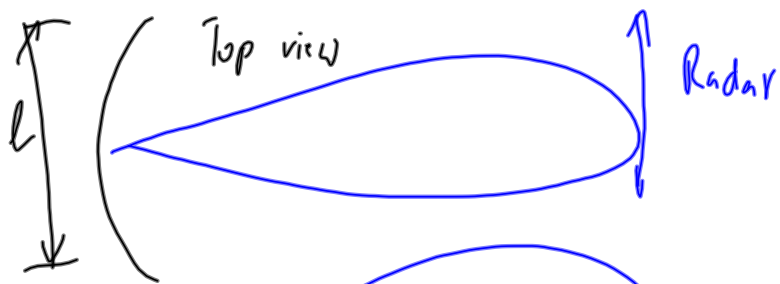


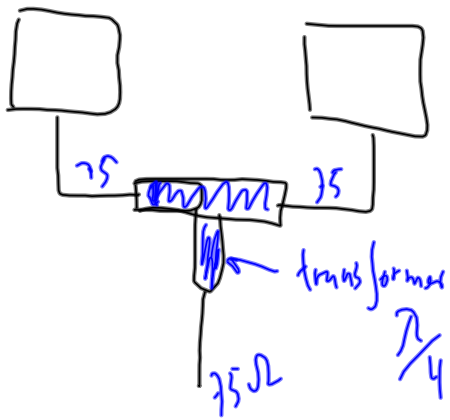
gain &

$\ominus$   
3dB

$$\begin{aligned} +3dB &= 2x ; \frac{1}{2} \\ \pm 6dB &= 3dB + 3dB \\ &4x ; \frac{1}{4} \end{aligned}$$







$$\text{Gain} \sim \left(\frac{l}{\lambda}\right)^2$$

$$\Theta_{3dB} \sim \frac{\lambda}{l}$$

Input Impedance

$$Z_0 = 377\Omega$$