

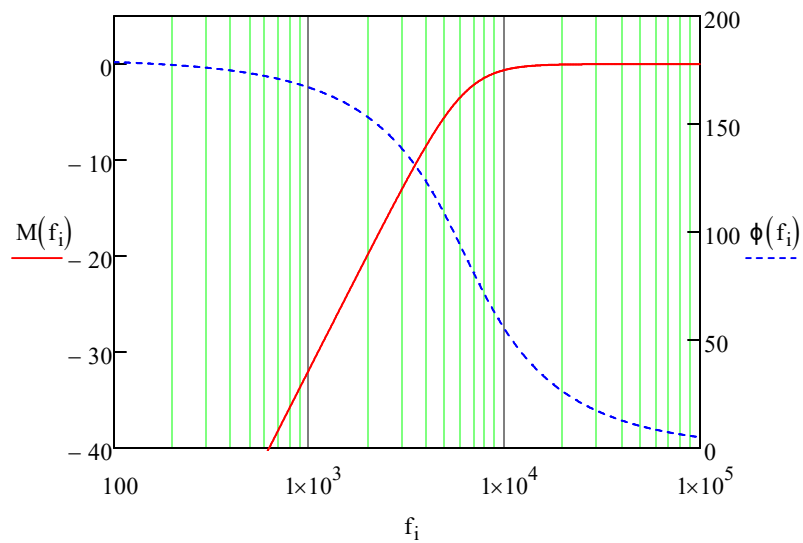
$$f_0 := 6.22\text{kHz} \quad C1 := 0.015\mu\text{F} \quad C2 := 1.5\text{nF} \quad \omega_0 := 2 \cdot \pi \cdot f_0 \quad j := \sqrt{-1} \quad Q := \frac{1}{\sqrt{2}}$$

$$R1 := \frac{1}{2 \cdot Q \cdot \omega_0 \cdot C2} \cdot \left(1 + \sqrt{1 - 4 \cdot Q^2 \cdot \frac{C2}{C1}} \right) \quad R2 := \frac{1}{2 \cdot Q \cdot \omega_0 \cdot C2} \cdot \left(1 - \sqrt{1 - 4 \cdot Q^2 \cdot \frac{C2}{C1}} \right)$$

$$\underline{T(f)} := K \cdot \frac{\left(\frac{j \cdot f}{f_0} \right)^2}{\left(j \cdot \frac{f}{f_0} \right)^2 + \frac{1}{Q} \cdot j \cdot \frac{f}{f_0} + 1}$$

$$f_{\text{start}} := 100\text{Hz} \quad f_{\text{stop}} := 100\text{kHz} \quad \underline{N} := 1024 \quad i := 0..N-1 \quad f_i := f_{\text{start}} \cdot \left(\frac{f_{\text{stop}}}{f_{\text{start}}} \right)^{\frac{i}{N-1}}$$

$$M(f) := 20 \cdot \log(|T(f)|) \quad \phi(f) := \frac{180}{\pi} \cdot \arg(T(f))$$



"\\Client\\C\$\\Users\\caleb_000\\Documents\\Y3S1\\ECE3043\\meimage.jpg"