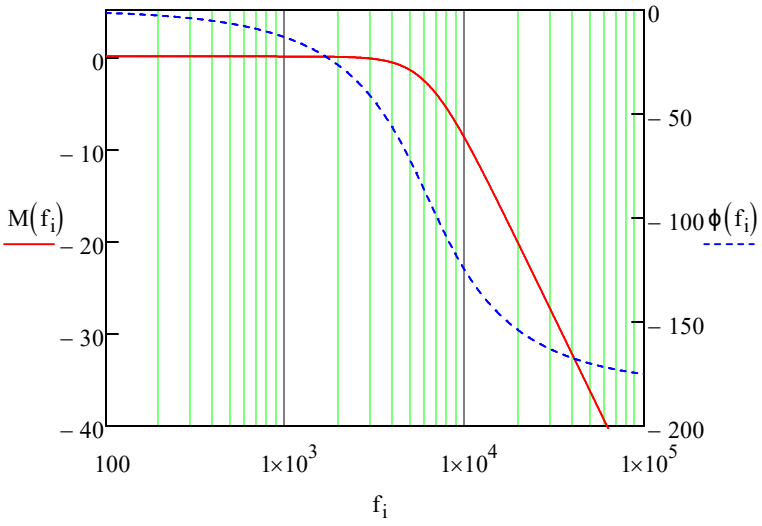
$f_0 := 6.22\text{kHz}$ $C1 := 0.015\mu\text{F}$ $C2 := 1.5\text{nF}$ $\omega_0 := 2\cdot\pi\cdot f_0$ $j := \sqrt{-1}$ $Q := \frac{1}{\sqrt{2}}$

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

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

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

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



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