1. $P' = N \cdot P_1 = 40\,kW$ $\quad \Delta P_1 = k \cdot P_1 = 30\,W$ $\quad \sigma_1 = \frac{\Delta P_1}{\sqrt{3}} = 17{,}32\,W$ (egyaleto elv.) (1)

$\sigma_N = \sqrt{N} \cdot \sigma_1 = 244{,}95\,W$ $\quad \Delta P_N = z_{0{,}01} \cdot \sigma_N = 548{,}69\,W$

CHT_1 norm.elo. 2,24

$P[P' - \Delta P_N < P < P' + \Delta P_N] = 98\%$

$P[39{,}45\,kW < P < 40{,}55\,kW] = 98\%$ (2) (5)

norm. elo $\Delta P_{1,max}' \approx 3\sigma_1' \Rightarrow \sigma_1' = \frac{\Delta P_1}{3} = 10\,W$

$\sigma_N' = \sqrt{N} \cdot \sigma_1' = 141{,}42\,W$ $\quad \Delta P_N' = z_{0,01} \cdot \sigma_N' = 316{,}78\,W$ $\quad P[P' - \Delta P_N' < P < P' + \Delta P_N'] = 98\%$

$P[39{,}68\,kW < P < 40{,}32\,kW] = 98\%$ (2)

II. $\frac{Z_1}{Z_3} = \frac{Z_2}{Z_4}$

$\frac{1}{R_3\left(G_x + \frac{1}{j\omega L_x}\right)} = \frac{R_2}{R_4 + \frac{1}{j\omega C_4}}$ (1)

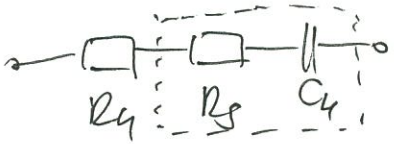
$\Downarrow$

$G_x = \frac{R_4}{R_2 R_3} = 250\,\mu S$ $\quad (R_x = 4\,k\Omega)$ (2)

$L_x = R_2 R_3 C_4 = 300\,mH$

$D_4 = \frac{j^2 R_5}{j^2 \frac{1}{\omega C_4}} = \omega R_5 C_4 \Rightarrow R_5 = \frac{D_4}{\omega C_4} = 16{,}67\,\Omega$ (1)

$\Delta R_4 = R_5$ $\quad \frac{\Delta R_4}{R_4} = \frac{R_5}{R_4} = 6{,}67\%$



(5)

$\frac{\Delta G_x}{G_x} = \frac{\Delta R_4}{R_4} = 6{,}67\%$ (1)