

A I. $\sigma_1 = \frac{\Delta P_1}{\sqrt{3}} = \frac{100 \text{ W}}{\sqrt{3}} = 28,87 \text{ W}$ $P^1 = N \cdot P_1 = 12,5 \text{ kW}$ $\sigma_N = \sqrt{N} \cdot \sigma_1 = 204,12 \text{ W}$ (1)

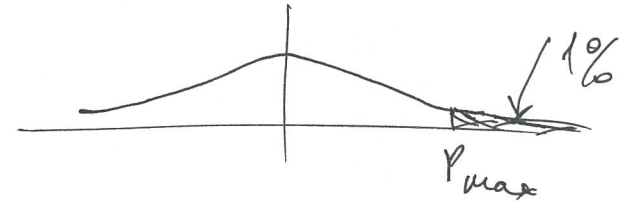
$\Delta P = z_{0,2} \cdot \sigma_N = 2,178 \cdot 204,12 = 444,6 \text{ W}$ (1) $P[P^1 - \Delta P < P < P^1 + \Delta P] = 1 - \alpha$

$P[11973 \text{ W} < P < 13027 \text{ W}] = 99\%$ (1)

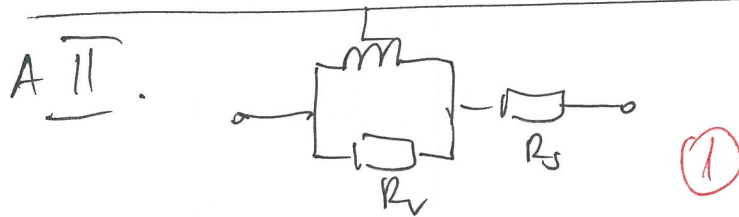
$P_{\max} = N_2 P_1 + \sqrt{N_2} \sigma_1 \cdot z_{0,01}$
 ↑ egyoldaltu hirt. let (1)

$n = \sqrt{N_2}$ $n^2 P_1 + n \sigma_1 z_{0,01} - P_{\max} = 0$

$n = \frac{-\sigma_1 z_{0,01} + \sqrt{\sigma_1^2 z_{0,01}^2 + 4 P_1 P_{\max}}}{2 P_1} = 6,1915 \Rightarrow N_2 = [n^2] = 38$ (1)



(5)



$Z = \frac{j\omega L \cdot R_v}{j\omega L + R_v} + R_s \Rightarrow$

$|Z| = 250,13 \Omega$ (1)

$\varphi = 1,4889 = 85,31^\circ$ (1)

$\omega = 2\pi f$ $Z = |Z| e^{i\varphi} = |Z| [\cos \varphi + j \sin \varphi] = R_k + j\omega L_k \Rightarrow$

$R_k = |Z| \cos \varphi = 20,46 \Omega$ (1)

$L_k = \frac{|Z| \sin \varphi}{\omega} = 249,4 \text{ mH}$ (1)

(5)