att_P attenuation of the RF power in dB

att_A attenuation of the RF amplitude in dB

L loss $L = 10^{\frac{att_P}{10}}$ or $L = 10^{\frac{att_A}{20}}$

A $= (L+1)/(L-1)$

Z_{in} desired input impedance in Ω

Z_{out} desired output impedance in Ω

Pi attenuator

$$R_2 = \frac{L-1}{2} \cdot \sqrt{\frac{Z_{\text{in}} \cdot Z_{\text{out}}}{L}}$$

$$R_1 = \frac{1}{\frac{A}{Z_{\text{in}}} - \frac{1}{R_2}}$$

$$R_3 = \frac{1}{\frac{A}{Z_{\text{out}}} - \frac{1}{R_2}}$$