

$$P_{old} = \frac{\omega_p \omega_s}{P_{new}}$$

$$\frac{\omega_p \omega_s}{P_{new}} = -\omega_p \sinh(\) \sin(\) + j \omega_p \cosh(\) \cos(\)$$

$$\frac{1}{P_{new}} = \frac{-1}{\omega_s} \sinh(\) \sin(\) + j \frac{1}{\omega_s} \cosh(\) \cos(\)$$

$$P_{new} = \frac{1}{\frac{-1}{\omega_s} \sinh(\) \sin(\) + j \frac{1}{\omega_s} \cosh(\) \cos(\)}$$