5.4 For a two-port adaptor we have

$$b_1 = a_2 + \alpha(a_2 - a_1)$$
$$b_2 = a_1 + \alpha(a_2 - a_1)$$
$$\alpha = \frac{R_1 - R_2}{R_1 + R_2}$$

The pseudo-power entering into the adaptor is

$$p = \frac{1}{R_1}(a_1^2 - b_1^2) + \frac{1}{R_2}(a_2^2 - b_2^2)$$

Simple, but long and tedious simplification, yields $p = 0$.