

4.4 BANDWIDTH AND FREQUENCY RESPONSE

$$\text{dB} = 20 \log_{10} \left(\frac{A_{\text{out}}}{A_{\text{in}}} \right) \quad (4.14)$$

$$\frac{P_{\text{out}}}{P_{\text{in}}} = \frac{1}{2} \quad (4.16)$$

$$\frac{A_{\text{out}}}{A_{\text{in}}} = \sqrt{\frac{P_{\text{out}}}{P_{\text{in}}}} = \sqrt{\frac{1}{2}} \approx 0.707 \quad (4.17)$$

$$\text{dB} = 20 \log_{10} \sqrt{\frac{1}{2}} \approx -3 \text{ dB} \quad (4.18)$$