

Special Problem 4.D-1

A promising radio engineer has designed and built a **microwave receiver** with the following performance specifications:

$$MDS (dBm) = -80.0$$

$$F_{RX} (dB) = 7.0$$

$$TDR (dB) = 90$$

This engineer's boss is **dissatisfied** with these results, and suggests that the engineer add a **Low-Noise Amplifier** to the front of the design.

This **LNA** has the following specifications:

$$G (dB) = 10.0$$

$$P^{1dB} (dBm) = 12.0$$

$$F (dB) = 3.0$$

Determine the **new** performance specifications (all **three** of them!) for this **modified** receiver design.

