

Special Problem 4.B-1

You are designing a microwave receiver with an RF band from **10-11 GHz**. You have decided to use an **IF of 2 GHz**.

Determine:

- a) the **Local Oscillator frequencies** required to tune to any signal within the RF bandwidth, for **both** high-side and low-side tuning.
- b) the **percentage bandwidth** required for each LO tuning option.
- c) the **image bandwidth** for each LO tuning option.
- d) for each LO tuning option the **RF frequency bands** where input signals will produce a **3rd-order product** at the IF of 2 GHz.