

1. In class we discussed the spectral restrictions posed by the FCC when transmitting wireless signals. Unlicensed Industrial, Scientific and Medical (ISM) bands are covered in part 47. See file [00_FCC_part47_47cfr18.301.pdf](#) in Canvas.

You are asked to determine the values of the center frequency f_c and bandwidth B of the 915 MHz ISM band¹.

2. A radio receives a sinusoidal signal of average power -70 dBm and its input port has impedance equal to 50Ω . What is the peak-to-peak voltage v_{PP} across the input port?
3. With reference to lecture note [03_example,_amplifier_selection.pdf](#), “Parameters of an RF amplifier: A practical example,” sketch carefully the input-output power characteristic of the ADL7003 low-noise amplifier whose parameters are listed in the second line of the table in slide 2.

¹This band is used, for example, by Generation 2 RFID (radio-frequency identification) systems and low-rate sensor networks