

Exercises Antennas

Series 4

Exercise 1

Design a rectangular microstrip antenna so that it will resonate at 1.6 GHz. The idealistic lossless substrate (RT/Duroid 6010.2) has a dielectric constant of 10.2 and a height of 0.05 in. (0.127 cm).

- a) Determine the physical dimensions (width and length) of the patch (in cm).
- b) Approximate range of lengths (in cm) between the two radiating slots of the rectangular patch, if we want the input impedance (taking into account both radiating slots) to be real.
- c) What is the real input impedance of Part b? Neglect coupling.
- d) Location (in cm from the leading radiating slot) of a coaxial feed so that the total input impedance is 75 ohms.