EE6240 Project 1: Due Wednesday 31/08/2011

In this project, you will use ASITIC to design an inductor. Study the ASITIC documentation (link to the ASITIC website is given under the "CAD Info" tab) and try to gain a good understanding of how to use the tool. This is very important as you will be using ASITIC to design inductors for future projects too. Also, go through the provided ASITIC technology file to understand the process well: e.g. thickness, resistivity and height above substrate of each metal layer, number of metal layers etc.

Design an inductor with the following specifications:

- L = 1.5nH (+/- 0.05nH)
- f_0 = 2.4GHz (frequency of interest)
- Minimum f_{SR} = 12GHz
- Maximum outer diameter allowed = 200μm (this is the area limitation)
- Only 45° and 90° lines are allowed (i.e. you may create only square or octagonal spirals; no circular inductors allowed)
- Maximise Q @ frequency of interest

Notes:

1. Grading will be relative to the inductor performance. For example, a student who designs an inductor with higher Q will score more points.
2. Novel inductor layouts (justification to be provided in the project report) may be given bonus points at the discretion of the Instructor, as long as they adhere to the above conditions.