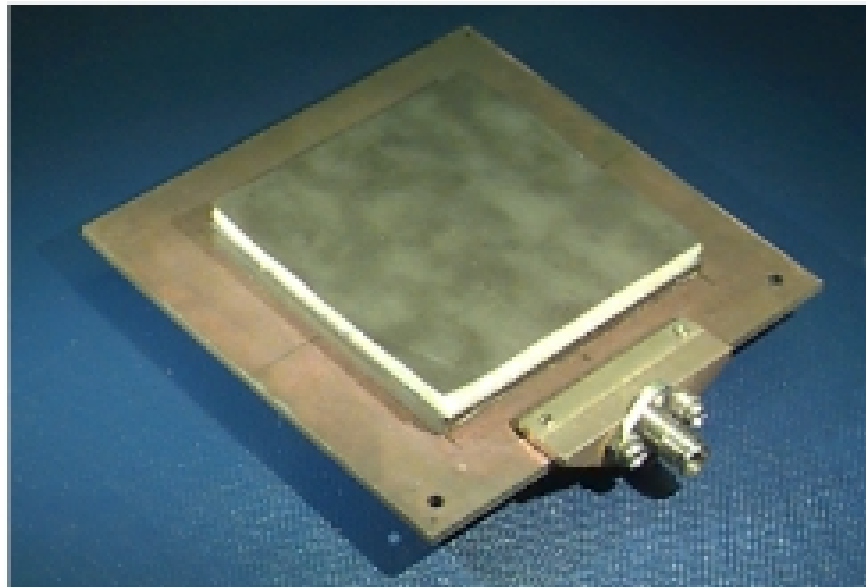


# ECE 6345

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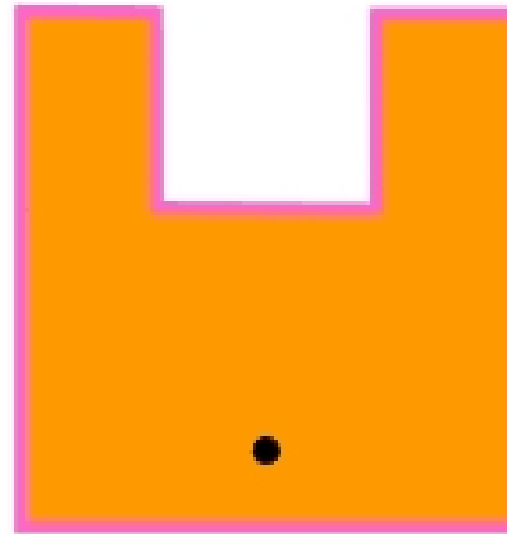
# Overview

In this set of notes we overview the **segmentation method** for obtaining the input impedance of an arbitrary shaped patch.

This is an extension of the cavity model.

# Segmentation Method

The perimeter has been extended to account for fringing.



PMC

$$k_e = k_0 \sqrt{\epsilon_{rc}^{eff}}$$

(arbitrary shaped patch)

Note: the effective complex wavenumber may be determined iteratively – once the field is known inside the patch, the stored energy and the radiated power may be computed, and from this the  $Q$  may be determined.