

FIGURE 6-26 Dual-fed circularly polarized patch antennas: (a) branchline hybrid fed; (b) cross-fed patch.

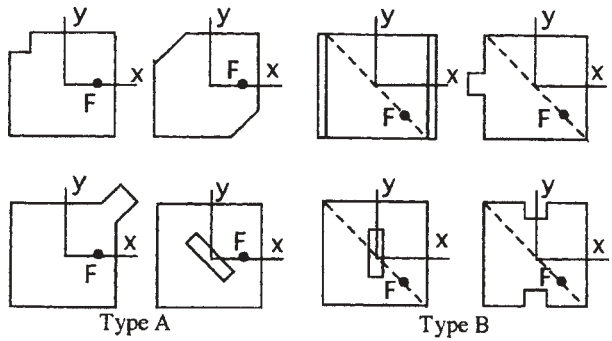


FIGURE 6-27 Classes of perturbed microstrip patches to generate circular polarization from a single feed. (From R. Garg et al., *Microstrip Patch Handbook*, Fig. 8-15, © 1999 Artech House, Inc.)

circular polarization (like the patch in Figure 6-26a). Instead, the lengths are changed to shift the phase of each dipole by 45° at resonance. If we lengthen the dipole beyond resonance, the input impedance becomes inductive. The current becomes

$$I = \frac{V}{R_2 + jX_2} = \frac{V(R_2 - jX_2)}{R_2^2 + X_2^2}$$