

ABSTRACT

MICROWAVE LOOP DIRECTIONAL COUPLER

A microwave loop directional coupler (10) is formed by an input coupler (11), an output coupler (13) and microstrip lines (14a) connecting the two couplers. The gaps s_1 (15) and s_2 (16) can be adjusted to obtain a desired coupled signal; they have different but easily realisable values. The inner edges of the coupled lines may be modified using a sawtooth-like shape to improve isolation. Two or more of the microwave loop directional coupler can be cascaded by quarter wavelength long lines to yield a loop directional coupler (10c) with increased frequency band of operation. The said microwave loop directional couplers (10, 10c) are completely planar and can be constructed on soft and ceramic substrates. The loop coupler can also be realised using coplanar waveguide (10d).