

Improvement of Performances of Microstrip Structures by Equalization of Phase Velocities

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It is well known that, in the TEM approximation, the electrical characteristics of microstrips couplers are easily obtained, if we assume the equality between the odd, even modes phase velocities. In the other hand the directivity of such couplers is considerably decreased when the gap between these velocities increased. So, it can be very useful to equalize them. This result can be achieve by using a dielectric overlay or an upper ground plane symmetrical of the lower one with regard to the conductors. This last result can be generalized to a n-parallel microstrip device. Advantages, disadvantages of these two technics are discussed, experimental results are given.

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