

Design of 'Optimum' Three Port Symmetrical Junctions for Diplexer Application

A. Morini and T. Rozzi. "Design of 'Optimum' Three Port Symmetrical Junctions for Diplexer Application." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 739-742.

From the properties of the S-matrix of a symmetrical three-port junction, we derive a set of necessary conditions and some sufficient ones to be satisfied in order that the junction be successfully employed in the realisation of a diplexer. We derive explicit expressions for the positions at which the filters must be placed in the junction arms for optimum diplexer performance. Various examples of application are demonstrated and compared with existing numerical data and with experiments.

 [Return to main document.](#)