

Recently, ridge gap waveguides are considered as guiding structures in high-frequency applications. One of the major problems facing this guiding structure is the limited ability of using all the possible bandwidths due to the limited bandwidth of the transition to the coaxial lines. Here, a review of the different excitation techniques associated with this guiding structure is presented. Next, some modifications are proposed to improve its response in order to cover the possible actual bandwidth. The major aim of this paper is to introduce a wideband coaxial to ridge gap waveguide transition based on five sections of matching networks. The introduced transition shows excellent return loss, which is better than 15 dB over the actual possible bandwidth for double transitions.