Optimization and Experimental Characterization of a Broadband Circular Waveguide to Coaxial Transition, S. KUECHLER, E. WEIHRETER, BESSY; K.R. CHU, Y.C. TSAI, NTHU - Broadband coupling of higher order cavity modes to an external load is one possibility to suppress multibunch instabilities in electron storage rings. A simple waveguide to coaxial transition has been designed and a full size prototype was built, which features a double ridged waveguide with circular cross section. Low power measurements of the broadband transmission characteristics are presented and compared with a numerical simulation including details of the mechanical layout.