Abstracts

A Coplanar Waveguide Filter Using Thin-Film High Temperature Superconductor

W. Chew, L.J. Bajuk, T.W. Cooley, M.C. Foote, B.D. Hunt, D.L. Rascoe and A.L. Riley. "A Coplanar Waveguide Filter Using Thin-Film High Temperature Superconductor." 1991 MTT-S International Microwave Symposium Digest 91.3 (1991 Vol. III [MWSYM]): 1333-1336.

The design of a coplanar waveguide low-pass filter made of high critical temperature superconducting YBa/sub 2/Cu/sub 3/O/sub 7-delta/ (YBCO) film on a LaAIO/sub 3/ substrate is described. The patterned and packaged coplanar waveguide low pass filter of YBCO exhibited measured insertion losses in liquid nitrogen superior to the loss of a similar thin-film copper filter throughout the 0 to 9.5 GHz passband. Coplanar waveguide models for use with thin film normal metal (with thickness either greater or less than the skin depth) and YBCO are discussed and used to compare the losses of the measured YBCO and copper circuits.

❑ Return to main document.