Abstracts

A Superconducting-Dielectric Resonator at W-Band

C.-S. Pao, Y. Li and S.-P. Chou. "A Superconducting-Dielectric Resonator at W-Band." 1988 MTT-S International Microwave Symposium Digest 88.1 (1988 Vol. I [MWSYM]): 457-458.

This paper describes the electromagnetic properties of a superconducting-dielectric resonator (SDR) at W-band. We report that a fairly high factor (in excess of 10/sup 5/-10/sup 6/ at cryogenic temperature) for a resonator based on a sapphire tube loaded with two plates of Y-Ba-Cu oxides (its chemical composition is Y, Ba/sub 2/Cu/sub 5/O/sub 7/, zero resistance at T/sub c/>~80°K). Resonators of this type have potentially valuable application such as ultrahigh stability low phase noise oscillators, descrimininators.

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