Abstracts

High-Q tunable YBCO disk resonator filters for transmitter combiners in radio base stations

B.A. Aminov, A. Baumfalk, H.J. Chaloupka, M. Hein, T. Kaiser, S. Kolesov, H. Piel, H. Medelius and E. Wikborg. "High-Q tunable YBCO disk resonator filters for transmitter combiners in radio base stations." 1998 MTT-S International Microwave Symposium Digest 98.1 (1998 Vol. I [MWSYM]): 363-366.

Results on the development of a tunable HTS resonator structure for transmitter combiners of radio base stations are reported. The design goal was the minimization of the dissipative insertion loss of a one-pole filter with a 3-dB bandwidth of 630 kHz under the impediment of a required tunability of the center frequency between 1.93 and 1.99 GHz and a power handling capability for 10 W transmitted power. At 70 K the quality factor of the utilized disk resonator structure turned out to be limited to 10/sup 5/ due to dielectric losses in LaAlO/sub 3/ substrate, but in a lower temperature range where dielectric losses are no longer dominating, Q/sub 0//spl ap/290000 was obtained for the tunable version.

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