Abstracts

Intermodulation Characteristics of High-Power Bandpass Filter Using Dielectric Rod Resonators Loaded in a High-Tc Superconducting Cylinder

Y. Kobayashi, M. Sasaki, T. Senju, Y. Kasuga and K. Haginuma. "Intermodulation Characteristics of High-Power Bandpass Filter Using Dielectric Rod Resonators Loaded in a High-Tc Superconducting Cylinder." 1995 MTT-S International Microwave Symposium Digest 95.2 (1995 Vol. II [MWSYM]): 733-736.

A narrow-bandwidth bandpass filter with a bandwidth of 36MHz at a center frequency of 12GHz, is constructed by orienting a pair of TM/sub 01delta/-mode dielectric rod resonators in the center of a YBCO high-Tc superconducting bulk cylinder. The high-power and intermodulation characteristics of this filter is compared with those for a similar filter structure using a Cu cylinder in place of the YBCO cylinder. This filter realizes the low-loss characteristic below 0.2dB up to 5W, the high power-handling capability over 10W and the third-order intermodulation intercept of 100dBm at 77K.

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