Abstracts

A 19-Pole Cellular Bandpass Filter Using 75-mm-Diameter High-Temperature Superconducting Thin Films

D. Zhang, G.-C. Liang, C.F. Shih, Z.H. Lu and M.E. Johansson. "A 19-Pole Cellular Bandpass Filter Using 75-mm-Diameter High-Temperature Superconducting Thin Films." 1995 Microwave and Guided Wave Letters 5.11 (Nov. 1995 [MGWL]): 405-407.

A 19-pole bandpass filter designed for the 900MHz cellular communication band with 25-MHz bandwidth is reported using a compact forward-coupled approach in microstrip configuration. The filter was fabricated using 75-mm-diameter, double-side-coated YBa/sub 2/CU/sub 3/O/sub 7/ (YBCO) high-temperature superconducting (HTS) thin films grown by a single-source MOCVD technique on a LaAIO/sub 3/ substrate. Measurement of the filter at 77 K showed a dissipation loss of 0.5 dB, corresponding to an average unloaded Q-factor of 10000 in 75-mm-diameter microstrip resonators, A minimum return loss of 15 dB was obtained from measurements at 77 K.

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