Abstracts

26 GHz TM/sub 11/spl delta// mode dielectric resonator filter and duplexer with high-Q performance and compact configuration

A. Enokihara, H. Nanba, T. Nakamura, T. Ishizaki and T. Uwano. "26 GHz TM/sub 11/spl delta// mode dielectric resonator filter and duplexer with high-Q performance and compact configuration." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1781-1784 vol.3.

A novel structure of 26 GHz bandpass filters using TM/sub 11/spl delta// rectangular-mode dielectric cavity resonators is introduced. The resonator of high-permittivity ceramics shows a high quality factor (Q) value of 2600, which is roughly comparable to that of waveguide type ones, in spite of its small structure. A three-stage Tchebyscheff bandpass filter with 0.4% relative bandwidth was fabricated and the passband insertion loss was measured to be 1.7 dB. The filter has input/output ports of microstrip lines for the surface mounting. A duplexer, consisting only of two TM/sub 11/spl delta// mode filters and a microstrip T-junction, is also presented. These filter and duplexer have a configuration compact and easy to manufacture as well as the high-Q performance.

❑ Return to main document.