Abstracts

Compact low-loss monolithic CPW filters using air-gap overlay structures

Hong-Teuk Kim, Jae-Hyoung Park, Yong-Kweon Kim and Youngwoo Kwon. "Compact low-loss monolithic CPW filters using air-gap overlay structures." 2001 Microwave and Wireless Components Letters 11.8 (Aug. 2001 [MWCL]): 328-330.

In this letter, two types of compact low-loss monolithic coplanar waveguide (CPW) filters using air-gap overlay structures are presented. Vertical stacking in overlay structures offers size reduction. Furthermore, air-gap overlay structures do not require additional dielectric process and are free from dielectric losses. An X-band bandpass filter using air-gap overlaid artificial transmission lines showed 67% size reduction. A stepped-impedance low-pass filter using highly separated metal-air-metal (MAM) capacitors as low-impedance lines achieved not only size but also loss reduction. Small size, low loss, and simple process steps make the air-gap overlay structures very promising for monolithic CPW passive devices such as filters.

❑ Return to main document.