Abstracts

Novel compact elliptic-function narrow-band bandpass filters using microstrip open-loop resonators with coupled and crossing lines

Cheng-Cheh Yu and Kai Chang. "Novel compact elliptic-function narrow-band bandpass filters using microstrip open-loop resonators with coupled and crossing lines." 1998 Transactions on Microwave Theory and Techniques 46.7 (Jul. 1998 [T-MTT]): 952-958.

Novel compact elliptic-function narrow-band bandpass filters have been designed and fabricated. This new configuration consists of two identical microstrip open-loop resonators with coupled and crossing lines. A theoretical investigation has confirmed that this novel configuration is capable of providing elliptic-function filtering. Furthermore, the feasibility of this filter is verified experimentally. Centered at 2.039 GHz, the fabricated microstrip bandpass filter shows a measured 3-dB bandwidth of 2% and two deep notches in its stopband. In addition, the main circuit of this filter occupies only 2.5 cm/spl times/1.5 cm using a substrate with dielectric constant of 10.5, making it very attractive for applications in the mobile and personal communication systems (PCS's).

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