

## Comblined Cavity Bandpass Filter Design and Implementation Using EM Simulation Tool

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**Abstract :** Comblined cavity filters have gained significant attention in recent years due to their exceptional narrowband characteristics, high unloaded Q, remarkable out-of-band rejection, and versatile post-manufacturing tuning capabilities. These filters play a vital role in various wireless communication systems, radar applications, and other advanced technologies where stringent frequency selectivity and superior performance are required. This paper represents combined cavity filter design and implementation by coupling matrix synthesis. Limited filter length, 50 dB out-of-band rejection, and agile design were aimed. To do so, CAD tools and intuitive methods were used.

**Keywords :** cavity, band pass filter, cavity comblined filter, coupling matrix synthesis

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