MINIATURIZED FRACTAL BANDPASS FILTER BASED ON MICROSTRIP SQUARE RING RESONATOR

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A novel fractal multi-mode microstrip band pass filter design has been introduced for modern wireless applications with highly miniaturized size. The structure of the filter has been generated based on the third iteration, using the conventional square ring resonator as the initiator in the generation process of fractal structure. The self-similarity, diagonal symmetry and the space-filling property of the structures corresponding to the consecutive iteration levels of the fractal geometry have found to produce acceptable performance with reduced size filter structure. The third iterative band pass filter structure can be considered as a novel design with adequate performance. When compared with square ring resonator this design structure possess about 72% of reduction. In addition, this new design technique seems reliable, since it provides the filter designers with further size reduction.

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