Abstracts

A novel high-Q image guide resonator using band-gap structures

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This paper presents a novel high-Q resonator using photonic band-gap structures in an image guide. Our initial measurement with an X-band prototype demonstrates a Q-factor of 697, which is limited by the dielectric material (Duroid) used for experiment. A new planar integration technique for image guides using Yagi-Uda slot array is also developed. This resonator structure is potentially useful for millimeter-wave integrated circuits.

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