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A novel approach for high Q microwave re-entrant cavity resonator at S-band (Conference Paper)

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Abstract

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This research work presents the design, fabrication, and measurement of a compact evanescent mode cavity resonator with a high quality factor. This cavity resonator has unique designs of conical post and feeding technique and may find applications in filters or sensors. Energy is coupled to the cavity with a circular slot in of the ground plane of a microstrip transmission line which is also serving as the enclosure for the cavity. This slot is aligned to the center of the cavity, above the conical post. The prototype resonator was fabricated using a block of high quality copper. A high Quality factor of 741 has been achieved at 2.14GHz. © 2016 IEEE.

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