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(57) Abstract :

The proposed disclosure presents a miniaturized dual-band substrate integrated waveguide (SIW) cavity-backed antenna 100 with quadrant ring shaped slot. The miniaturized dual-band SIW cavity-backed antenna 100 comprises a dielectric substrate 101, a pair of metal layers 102 printed on front and back sides of the dielectric substrate 101, plurality of grounded vias 103 are uniformly distributed along edges of the antenna 100 to build the circular SIW cavity 104 on the dielectric substrate 101, a radiating slot 105 which is configured with a quadrant slot is engraved at the top plate of the circular SIW cavity 104 and a probe feeding circuit 106 is used to stimulate circular SIW cavity 104. The proposed miniaturized dual-band SIW cavity-backed antenna 100 with quadrant slot achieves dual-band response and provides high gain, unidirectional pattern and low cross polarization levels.

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