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(57) Abstract :

The present invention discloses a single feed broadband substrate integrated waveguide (SIW) back cavity rectangle slot antenna 100, which comprises a dielectric substrate 101, upper and lower metal layer 102, a micro-strip line 103, a feed connector 104, a metal through hole 105, and a long rectangle slot 107. Upper and lower metal layers are placed in respectively on the top and bottom sides of the dielectric substrate 101; Multiple metal through holes 105 are sequentially distributed to construct the SIW cavity 106 on the dielectric substrate 101, where cavity in rectangle surrounding the rectangle slot 107. A radiating slot 107 is etched at the lower metal layer of the SIW cavity 106. The micro-strip line 103 is electrically connected to a feed connector 104 to excite the SIW cavity 106, including rectangle slot 107. The proposed single feed broadband SIW back antenna 100 with rectangle shaped slot achieves wide fractional bandwidth and provides high gain, unidirectional pattern and low cross polarization levels.

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