Abstract

In this paper a novel compact Substrate Integrated Waveguide (SIW) filter is proposed. A wideband band pass filter for microwave and millimeter-wave systems is investigated at 80 GHz center frequency with 10.5% fractional bandwidth. A Conductor backed coplanar waveguide is inserted in Substrate Integrated Waveguide (SIW) structure as transition to achieve sharper skirt characteristics. Simulated results show good passband characteristics over a frequency range 75.9 GHz to 84.3 GHz depicting 0.1 dB insertion loss and minimum of 56 dB return loss.

References

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Novel Compact Wide-band Substrate Integrated Waveguide Bandpass Filter using Conductor Backed Coplanar Waveguide as Feedline for W-Band Communication Applications


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Index Terms

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Keywords

Millimeter-wave, Substrate Integrated Waveguide (SIW), Bandpass filter, Coplanar waveguide, W-Band.