A comparative Analysis of Nonresonant Microstrip Patch-Fed Dielectric Resonator Antenna and Proximity-Fed Annular Slot Antenna

Abstract

This paper shows the comparative analysis of a cylindrical dielectric resonator antenna (CDRA) fed by nonresonant microstrip patch and a proximity-fed planar annular slot (PPAS) antenna. The antenna array having an antenna element for higher directive gain at the center frequency 9.04 GHz. The band-notch is detained by almost a half-wavelength split-ring parasitic element printed around the radiating patch which is excited via a proximity-fed strip line with a planning of EBG via holes. The voltage standing wave ratio (VSWR) of the annular slot antenna is less than 2.0 in the frequency band of 7.92 GHz i.e. from 2.82 to 10.74 GHz. The PPAS antenna provides good gain flatness, high efficiency and omnidirectional field pattern over its whole frequency band and is appropriate for UWB applications. While CDRA array offer a bandwidth of 3.8 GHz and maximum gain of 14.8 dBi at the operating frequency

References

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