

# Rectangular Dielectric Resonator Antenna Array for 5.8GHz WLAN Applications

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**Abstract :** In this paper, design of two rectangular dielectric resonator antenna (DRA) array is presented for wireless local area networks (WLAN) applications (in the dual frequency range 5.15-5.35 GHz and 5.72-5.85 GHz). The DRA array is excited by microstrip feed line through a single slot located in the ground plane. The numerical analysis is carried out based on the finite difference time-domain (FDTD) method. The numerical results in term of return losses and radiation patterns of the dielectric resonator (DR) antenna operating in  $TE_{111}$  mode are presented and compared with those of a commercial electromagnetic software HFSS. A good agreement between the two simulated results was obtained.

**Keywords :** Rectangular DRA array, wireless local area network (WLAN), FDTD method