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DESIGN OF GROUND STATION SMART ANTENNA SYSTEM FOR MULTIMEDIA COMMUNICATIONS IN SMALL DRONE APPLICATIONS

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ABSTRACT

Since broadband and mobility communications is an unavoidable requirement according to the drone operation requirements. In this paper, a circularly polarized microstrip antenna array, as a part of smart antenna system, operating at 2.45GHz, is analyzed and designed. The return loss of the proposed microstrip patch antenna is simulated. The proposed 2×2 microstrip antenna array is designed and analyzed for ground station to be utilized in the small drone communication system. The FDSC model is adopted in this research to reduce the error on the frequency-dependent characteristics by including into the antenna design procedure. The proposed smart antenna system at ground station in this research is mainly applied for small drone applications with broadband and mobility requirements. The procedure in this research is compatible with Computer Aided Design (CAD) with fast and user-friendly implementations.

KEYWORDS: Micro Strip, Smart Antenna, Ground Station, Multimedia, Drone

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