**DESIGN AND SIMULATION OF RF ANTENNA FOR UAV APPLICATION ABSTRACT**

Unmanned aerial vehicles (UAV) have been continuously used for many applications because of rapid and cost-effective deployment. UAV applications are mostly used in the field of reconnaissance and been applied for communication platform. As we compare with satellite communication platform, reconnaissance has simple and easy construction. As an has simple and easy construction, no lag for communication capability and has high-speed using UAV application. Here, auxiliary plays a vital role for communication and easy way to transmit the information. In this new application the requirements of UAV increased for autonomy, intelligence, multitasking, efficiency, and intelligence level of UAV have gradually decreased to acquire the task application. When the drone flying alone, there is a limitations of energy supply and for operation range. At the same time, it also affects various networks and communication is not proper for longer distance UAV makes the communication network composed of multiple UAV can effectively improve and development of communication. UAV is an open network for communication, and it is advanced in communication network. UAVs have the ability of interaction. UAV technology makes quick operation effectively and its merits of many functionalities and survivability. In recent years, Unmanned Aerial Vehicle (UAV) have been used for emergency purposes and surveillance catastrophic situation, for which it is necessary for a signal detection system. This application is based on hardware to send data to transmit in UWB (Ultra-Wide Band). Communication with UAV applications is a big challenge because of dragging issues while drone is in motion and of instability. The characteristics of UAV antenna is ultra- wideband, low-profile, and aerodynamic. UAV should have a directive pattern to the earth and spatial diversity. Generally, the UAV antenna are flat square patches and dipoles, UAV cannot be used for UWB applications. Antenna design that can be easily located on the UAV with the spatial diversity for UAV application. This antenna H-shape structure should be conformal to avoid drag problems that suffer during the flights. Using UWB antenna, we can provide flexible antennas. In recent years, UAV applications based on designs of antenna have also been proposed. Here, reflector was used to increase gain at 2.4 GHz for UAV applications. Here, we used to dual-polarize conformal antenna array at frequency range at 9.8 GHz was proposed. This is the conformal antenna with circular polarization and the band range from 1.5GHz to1.65 GHz. The operation of conformal circular antenna at 700 MHz A conformal monopole antenna with operation at 700 MHz. The UAV antenna was designed with fixed-wing drones .For example, a helix antenna installed on a drone. This antenna provides an Isolux pattern. An Isolux pattern is omnidirectional (circularly symmetric) with the azimuth angle and has cosecant-squared dependence on the elevation angle. This produces constant signal level at allthe points over the beam footprint on the ground surface. This antenna works at the frequency range from865 MHz to 871 MHz and it is circular polarization. The above-mentioned antennasare mainly focused on UAV applications with a narrow frequency range not for UWB signal detection. In recent years, UWB conformal semi-spherical antenna works within the range from1.85 GHz to 10 GHz. The fixed-wing drone was situated at the center of UAV antenna. The electrical dimension of volumetric shape is 400mm × 200mm × 800mm. This antenna is made with the square pattern and this antenna is mainly for signal detection system. For MIMO systems wings of quadcopters drones with linearly polarized conformal antenna. Quadcopter helicopters and convertiplanes have long been flown experimentally, the configuration remained a curiosity until the arrival of the modern UAV or drone.