Abstract

During the last decade the development of Unmanned Aerial Vehicles (UAVs) has increased drastically. Together with the development of technology, Unmanned Air Vehicle System (UAVS)’s usage is growing day by day, so it is very important that UAV’s data link system has to be firm and reliable. Since the data link is the lifeline of UAV being remotely controlled by ground pilot it must be accurate & precise and continuous. Now a day’s UAVS/ Drone are produced by many suppliers but most important thing is to provide reliable and secure data links. To provide the continuous data link between ground system and UAV, Omni and Directional antenna are being used based on the range and coverage requirements. Conventional Airborne Antenna Tracking Systems consisting directional antenna are bulky as they consist mechanical rotating part i.e. Positioner, which needs high degree of stability, of the airborne platform. Proposed software driven Automatic Sector Switching Antenna System (ASSAS) for UAV and for Satcom-On-The-Move (SOTM) applications offers many advantages in terms of weight, volume, size and cost. The key challenge of ASSAS is the development of reliable and ruggedizes software, which has been described in details in this paper.
References


Index Terms

Computer Science

Embedded Systems

Keywords

UAVs, Sector Switching Antenna, Data Link, ACU, RTOS, Embedded Software, ARM cortex M4,freeRTOS.