

Study on Wireless Transmission for Reconnaissance UAV with Wireless Sensor Network and Cylindrical Array of Microstrip Antennas

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Abstract : It is important for a commander to have real-time information to aware situations and to make decision in the battlefield. Results of modern technique developments have brought in this kind of information for military purposes. Unmanned aerial vehicle (UAV) is one of the means to gather intelligence owing to its widespread applications. It is still not clear whether or not the mini UAV with short-range wireless transmission system is used as a reconnaissance system in Taiwanese. In this paper, previous experience on the research of the sort of aerial vehicles has been applied with a data-relay system using the ZigBee modulus. The mini UAV developed is expected to be able to collect certain data in some appropriate theaters. The omni-directional antenna with high gain is also integrated into mini UAV to fit the size-reducing trend of airborne sensors. Two advantages are so far obvious. First, mini UAV can fly higher than usual to avoid being attacked from ground fires. Second, the data will be almost gathered during all maneuvering attitudes.

Keywords : mini UAV, reconnaissance, wireless transmission, ZigBee modulus

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