

Gas Sensing System using An Unmanned Aerial Vehicle

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Abstract

A prototype is designed for the analysis of CO₂ concentration. In this paper, to evaluate its functionality, data sending tests are executed. A low cost E34-2G4H20D RF module installed in a UAV (unmanned aerial vehicle) is used for data transmission. CO₂ concentration measurement were made at the “Universidad de la Costa” in Barranquilla - Colombia. For this, a device was built for monitor the concentration of CO₂ using the Arduino UNO platform and the MQ135 gas sensor. Tests were carried out at different heights to analyze package loss and CO₂ concentration levels. The results show the effectiveness of the RF module in all tests for data transmission. The concentration of CO₂ is evaluated in three zones to determine the minimum and maximum levels in each of them.

Keywords

Wireless network, Unmanned Aerial Vehicle Monitoring, MQ135 Sensor, Drone Sensing