

ABSTRACT

DESIGN OF LOW-COST WIRELESS DATA LOGGING SYSTEM

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Data collection is a big trend in this era. Enormous amount of data is generated every day. These data collection devices are usually connected to the Internet directly. However, this implementation does not apply to all sensing devices. A wireless sensor node is one example. The goal of this thesis is to design a wireless data logging system which include the sensor node, and the receiver node at a low-cost with the target of deployment in agriculture. Another goal is to compare different data collection algorithms. In the test that involves Node-managed or Sink-managed data collection at 3 m range in a household environment, Sink-managed algorithm performed almost 15% worse compared to Node-managed algorithm when an obstacle is involved.