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Authors:

Lawrence Boaz

Shubi Kaijage

Ramadhani Sinde

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## Abstract

Many different wireless sensor nodes for gas pipeline leak detection and location has been proposed but still there are challenges particularly on environmental issues and signal accuracy. This paper discusses theories and environmental constraints for wireless sensor nodes, a case study of Dar es Salaam - Tanzania and finally presents a design and simulation results of the proposed wireless sensor node using Proteus Design Suite for detecting frequency of sound exited by jetting gas, leaking from higher pressurised gas pipeline. This kind of proposed system can be useful to gas companies or industries whereby gas transportation is done.

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Computer Science

**Index Terms**  
Wireless

### **Keywords**

Wireless sensor node design Gas leak detection Gas pipeline networks