Design WSN Node for Protection of Forest Trees Against Poaching based on ZigBee

Abstract:

Smuggling/theft of most important trees such as sandal wood in forests, poses a serious threat to forest resources, causes significant economic damage and ultimately has quite a devastating effect on the environment all over the world. This paper propose a microcontroller based anti poaching system employing WSN technology, which is capable of detecting theft by monitoring the vibrations produced by the cutting of trees/branches using a 3 axis MEMS accelerometer. A low power MSP430F5529 microcontroller is used along with Xbee RF modules based on IEEE 802.15.4 Zigbee standards to

Communicate to a central server from a remote place. WSN is widely used technology in remote monitoring applications. The embedded system architecture and the hardware/software designs are described in detail. Vibration data collected by various tests on wood and simulated using Lab view.

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