



## **DEVELOPMENT OF SMART DETACHABLE WIRELESS SENSING SYSTEM FOR ENVIRONMENTAL MONITORING**

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*Abstract- We present the work on development of Smart Detachable Wireless Sensing System for environment monitoring (SDWSS) complying with the IEEE 1451 standard. Barometric and alcohol two different detachable smart sensor have been developed by incorporating generic transducer, customized peripheral interface controller (PIC) 18LF2550 microcontroller and with other peripherals. Detachable smart transducer interface module (DSTIM) implemented using centralized PIC 18F4550 microcontroller based embedded platform, and wireless communication is achieved by 2.4 GHZ XBEE, and CC2500 based wireless module. Various intelligent power management protocols have been implemented on the detachable sensors. This is a flexible cost effective smart system ideal for distributed environment monitoring application.*

**Index terms:** Smart sensor, IEEE 1451, SDWSS, peripheral interface controller, Detachable smart transducer interface module (DSTIM), distributed monitoring, XBEE.