

WSN SENSOR NETWORK DEVELOPMENT SYSTEM

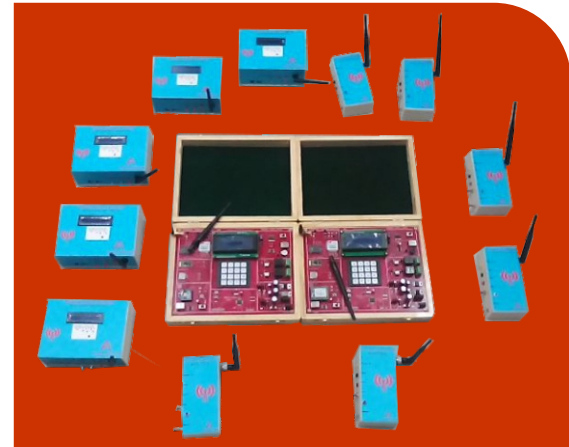
The complete wsn system must be provided with all accessories, sensors, intelligent nodes, Coordinator and gate ways, as well as the configuration and monitoring software. The system must be able to interface with lab view GUI software for graphical display.

WSN configuration software

The software must provide the facility to e Configuration and Test Utility for various zigbee processors etc to know the status of wireless nodes in network. The system must be supplied with libraries for the **ARM Processor** for various utilities, for application programs. This software have the facility to receive the data from number of xbee nodes and to show the current position of each sensor. It must be provided with a Serial-Terminal program to interact with XBee modem. Zigbee software is compatible with windows.

a) WSN Coordinator Gate way

The WSN coordinators must be with **ARM LPC 2148 processor** based, Zigbee 2.4 Ghz/ 865 Mhz with external antenna Supporting various Network Topology with RF data rate 250 kbps/80 kbps On board data storage facility using SD Card Wireless Module for outer world (GSM/GPRS & Bluetooth) On Board Power supply (5V, 3.3V) With On board Zigbee 2.4 Ghz/ 865 Mhz with external antenna The nodes must be with 2200 mah chargeable battery based, There must be a battery indicator on the box. Supporting various Network Topology with RF data rate 250 kbps/80 kbps Facility for digital out with 6V relays with isolated Output & On board Buzzer indicator On board 20X4 LCD display for data setting and user configuration and data display 4 digital Input 4X4 Hex Keypad digital Input data setting and user configuration. On Board Power supply (5V, 3.3V) with battery



b) WSN Non Intelligent End Devices or Router 2.4 Ghz OR 865MHz

The system must be provided with small size, basic nodes for data transfer and handling Zigbee 2.4 Ghz/865 Mhz with external antenna. On Board Configuration facility with USB End Devices to connect with **sensor*** in range 0 to 3.3 V analog or digital On Board Power supply (5V, 3.3V) Field deployable ready to use, USB Powered/ Battery for zigbee Supporting various Network Topology with RF data rate 250 kbps End device with 2.4 ghz radio nodes. With software selectable Data rate, with input / output range 10-100* meter. 4 Channel 10 bit internal A/D, 8 Digital Input / Output End device with 865 MHz f req range Supporting various 2148 Network Topology with RF data rate 80 kbps With software selectable Data rate, with input / output range 100-1000* meter 4 Channel 10 bit internal A/D, 8 Digital Input / Output



c. WSN Intelligent END Device 2.4 GHz OR 865 MHz

The intelligent nodes must be **ARM LPC 2148** processor based, With On board Zigbee 2.4 Ghz/ 865 Mhz with external antenna. The nodes must be with 2200 mah rechargeable battery based, There must be a battery indicator on the box. Supporting various **Network Topology** with RF data rate 250 kbps/80 kbps Facility for digital out with 6V relays with isolated Output & On board Buzzer indicator On board 16X2 LCD display for data setting and user configuration and data display 4 digital Input, On Board Power supply (5V, 3.3V) with battery Can connect with any digital **Sensor and analog sensors** All devices must be in a proper plastic case with rechargeable battery,

* **Distance: Depend on physical/installations Conditions**

* **Sensors: LM35, Humidity, PIR, vibration, Magnetic, Smoke etc.**

* **2.4 GHz and 865 MHz cannot be used in single setup**