

## Low cost wireless EEG system for medical and non-medical applications

### ABSTRACT

In this paper, the design and implementation of wireless data transmission and low power consumption of a low cost electroencephalogram (EEG) to monitor the brainwave signals for medical and non-medical applications is presented. It can be used in smart city applications such as for brain-computer interface in industrial and transportation applications or intelligent wireless wearable EEG solutions for daily life applications. The wireless EEG wearable system is designed, simulated, constructed and tested to monitor the brainwave signals. The Zigbee module was used to construct the wireless data transmission system. The experimental results show that the proposed EEG system was successfully developed and tested. Its total cost is cheaper compared to the commercial EEG system.

**Keyword:** EEG; Zigbee modules; Brainwave