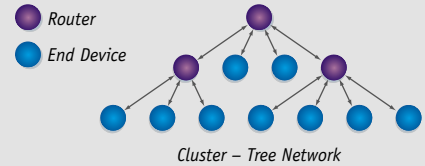
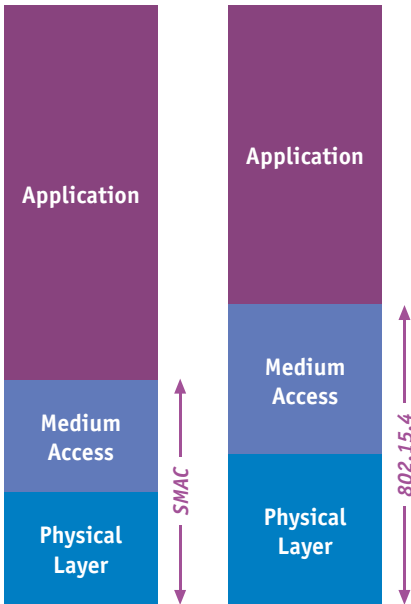


The WST-1000 from Winland provides an 802.15.4 device that combines a 2.4GHz IEEE 802.15.4 compliant radio transceiver with an 8-bit microcontroller. This radio provides excellent RF performance with high sensitivity and transmit power for long range. WST-1000 can be used with 802.15.4 or ZigBee™ protocols, but is optimized for simple network topologies. WST-1000 provides lowest possible component count, high reliability and easy integration into your application. Winland's scalable design process can be used to provide you with a custom implementation or you can use the WST-1000 as is.

### NETWORK TOPOLOGIES



Applications which can be served by peer-to-peer and star topologies can easily be implemented with Winland's WST-1000 and simple media access control (SMAC) protocol. Applications requiring more network nodes or interoperability will be best served by a full ZigBee™ implementation.



Use SMAC in applications with few nodes and a small memory footprint.

Use 802.15.4 in applications with higher node counts.

### COMMUNICATIONS PROTOCOLS

Winland's WST-1000 uses an IEEE 802.15.4 wireless networking protocol for low data rate applications such as wireless sensors, remote control, security, climate control and other systems to be controlled using a network of wireless sensors and switches. The 802.15.4 standard uses carrier sense multiple access with a collision avoidance medium access mechanism and supports peer-to-peer, star, and cluster tree topologies. The Physical and MAC Layers are provided by an 802.15.4 stack. The network and application layers can then be custom designed to your application by Winland's design team.

To provide interoperability between your product and products from other vendors, the ZigBee™ Alliance has developed a superset of the 802.15.4 standard for handling the application framework layer and network layer. Winland can customize WST-1000 with a ZigBee implementation for your product.

### SPECIFICATIONS

- » 2.4 GHz low-power transceiver
- » Supports custom, 802.15.4 and ZigBee™ protocols
- » 0 dBm transmit power
- » -88 dBm receive sensitivity
- » 3.0 Vdc power supply
- » < 100 µA current consumption during sleep mode
- » < 60 mA current consumption during transmit
- » On-board temperature and humidity sensor
- » -40 C to +85 C temperature range

### APPLICATIONS

- » Critical environment monitoring
- » Tank level monitoring
- » Wireless remote control
- » Process/plant monitoring
- » HVAC control
- » Home automation
- » Security systems
- » Lighting control
- » Server room monitoring
- » Wireless medical devices

