**SUBJECT:** WIRELESS SENSOR NETWORKS

## IEEE 802.15.4 Standard

## **Elementrix Classes**

IEEE 802.15.4 is a standard for wireless personal area networks (WPANs), which are low-rate, low-power, and short-range wireless networks that are used for communication between devices that are in close proximity to each other. The standard defines the physical and media access control (MAC) layers for WPANs, and it specifies the characteristics of the wireless communication, including the frequency band, the data rate, the modulation scheme, and the power levels.

IEEE 802.15.4 is widely used in wireless sensor networks (WSNs) and the Internet of Things (IoT), as it provides a reliable and low-cost solution for low-rate wireless communication. The standard defines several different operating modes, including star, peer-to-peer, and mesh, which allow it to be used in a variety of applications and network architectures.

IEEE 802.15.4 is a flexible and widely adopted standard, and it has been extended by several other standards, such as Zigbee, 6LoWPAN, and Thread, which add additional features and capabilities on top of the basic 802.15.4 specification.



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