

THE ZIGBEE PROTOCOL

Zigbee Alliance is a group of companies specializing in semiconductors, software development, and original equipment manufacturers (OEMs) that has created the ZigBee standard. ~~has been come with with the ZigBee Alliance, they made up many member companies, from semiconducting industry and software developers to original equipment manufacturers (OEMs).~~ The ZigBee standards are designed for to ensure inexpensive low costness, low power, and low data rate networking. ~~Devices of ZigBee devices~~ operate in the ~~industries~~ industrial, ~~science~~ scientific, and medical (ISM) radio banding bands: 868 MHz ~~of in~~ Europe, 915 MHz ~~for in~~ North America, and 2.4 GHz ~~in~~ worldwide. [2] The ZigBee standard operates ~~for the in the~~ IEEE 802.15.4 physical radio specifications, ~~which The specifies~~ describes the physical layer (PHY) protocol functions ~~with and~~ the interactions with the medium access control ~~layer~~ (MAC) layer ~~and~~ Moreover, ~~it also~~ defines the minimum hardware-level requirements, ~~like such as~~ the receiver sensitivity and the transmitter output power. ~~The m~~Modulations used in IEEE 802.15.4 are ~~BPSK~~ (binary phase shift keying) (BPSK), ~~ASK~~ (amplitude shift keying) (ASK), and ~~O-QPSK~~ (offset quadrature phase shift keying) (O-QPSK). [2] ~~One~~ of the major benefits ~~in of using~~ ZigBee ~~are is~~ the low cost, ~~that which~~ allows ~~for its wide wide range deployed applications~~ in wireless monitoring and control. ZigBee devices can activate (pass from sleep mode to active mode) in a very quick time (15 ~~ms~~ seconds) so ~~that they have been allotted ean~~ with more sleep ~~most of the time~~. ~~This makes it possible to have a preserving the use of power and thus, providing them~~ -long-lasting battery life, typically lasting for years.

Comment [A1]: The original sentence describes that Zigbee standard and Zigbee Alliance are two different charters that unite to form a cluster of companies. There are many errors in this statement: (a) *has been come* is an incorrect tense; the more appropriate phrase can be *has been developed/was developed by*; (b) *they made up* is incorrect; the better phrasing can be *Zigbee is a group of companies in the fields of*.

Comment [A2]: The hyphen in between is not necessary. *Low* is an adjective to the noun *power*; a compound *low-power* is oftentimes an adjective. For example, *low-power system*.

Comment [A3]: For brevity, we can remove this portion and substitute with a conjunction.

Comment [A4]: *One* is a singular indefinite pronoun in this case; it should agree with a singular verb.

Comment [A5]: Units are usually abbreviated when reporting numerical information.

HARDWARE IMPLEMENTATION

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Master-slave is a model for a communication protocol that involves one device or a process (known as the master) controlling one or more devices or processes (known as the slaves). However, after the master/slave association was set up, the direction of control will always be from the master to the slaves. Systems built in the hardware components of ZigBee devices comprise a created it has two parts respecting to this model: a Master model module and a Slave model module.

The slave system device will be placed in the field and will measure humidity, temperature, and light intensity data, which are then transmitted over the air, with using ZigBee, to the master system device. Upon receipt, the master device sends the transmitted data to a personal computer (PC) for real-time processing, where it will be processed in real-time.

Comment [A6]: Brevity and conciseness is important for journals due to space allocation for accepted manuscripts. Clarity of thoughts and consistency are also major factors in creating a fluent and effective text.