

# LoRaWAN - FAQ

- What is LoRaWAN?
  - It is a Low Power, Long Range radio technology using patented chirp spread spectrum (CSS) technology.
- What are the benefits of LoRaWAN?
  - Long range, low power consumption, low interference, secure, broad adoption – compared to other wireless technologies.
  - See LoRaWAN Alliance <https://lora-alliance.org>
- What frequencies does it use? Does it interfere with WiFi, Bluetooth or cell phones?
  - 915 MHz band (902–928 MHz) in North America divided into multiple channels (can channel hop)
  - The 915 MHz band is a different frequency than WiFi, Bluetooth and cellular, so no interference
- What is the transmission range of LoRaWAN?
  - Maximum range can be up to 10 miles – but bandwidth and battery consumption suffers.
  - WTL range is 100-150 ft typically, on a single floor. Crossing floor plates or thick walls reduce range by up to 50%.
- Does LoRaWAN use repeaters to extend range?
  - No, it uses a STAR topology where each WTL communicates directly with the Gateway. There are no repeaters.

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- Can it be used in hospitals and other RF sensitive locations?
  - Yes, see <https://resources.lora-alliance.org/healthcare>
- Can 3rd party LoRaWAN devices use the Cypress gateways?
  - Yes, once a LoRaWAN gateway is installed, other 3<sup>rd</sup> party LoRaWAN sensors and devices can use the same gateway. It is necessary to configure the Gateway and write code to parse payload formats – a service provided by Cypress Envirosystems.
- Is LoRaWAN secure?
  - LoRaWAN has built-in mandatory authentication and encryption.
  - The WGR system has been tested and is in use by critical industries including nuclear power plants and NASA.