TALK

# What is Going on in the 2.4GHz Spectrum?

**Keith Parsons** · WLAN Pros channel · 2020-10-01

Some call 2.4 GHz the "garbage band." Keith Parsons walks through each part of the 2.4 GHz spectrum to see what is really going on, including Zigbee and Bluetooth.

## Key points

- A look at the 2.4 GHz band, once called the garbage band, and what shares it.
- A 2.4 GHz wave is about 12.5 cm (about 4.9 inches) long, longer than a 5 GHz wave.
- 802.11b used 22 MHz channels; the later OFDM (orthogonal frequency division multiplexing) standards use 20 MHz, which leaves room for three channels side by side (1, 6 and 11) in most places.
- Using other channels causes adjacent channel interference, which hurts Wi-Fi more than sharing the same channel does.
- Bluetooth, Bluetooth Low Energy (BLE) and Zigbee also use 2.4 GHz, with their own channels and frequency hopping, so the band is crowded.

## Chapters

1. 00:20 The garbage band?
2. 01:01 Wavelength
3. 02:08 Channel widths
4. 03:02 Three channels side by side
5. 04:02 Bluetooth, BLE and Zigbee

Watch on YouTube (https://www.youtube.com/watch?v=-DFpwXDEThA). More conference talks: wlan-talks.net (index by Victor Gatuna).

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