**5. Compare and contrast Wi-Fi 6 and Wi-Fi 6E in terms of range, bandwidth, and interference.**

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| **Aspect** | **Wi-Fi 6** | **Wi-Fi 6E** |
| Frequency Bands | 2.4 GHz & 5 GHz | 2.4 GHz, 5 GHz & 6 GHz |
| Range | Better range, especially at 2.4 GHz | Slightly shorter range at 6 GHz due to higher frequency (more signal loss) |
| Bandwidth (Capacity) | Moderate, shared with legacy devices | Higher – adds up to 1200 MHz of clean spectrum |
| Interference | Can face more interference (due to other Wi-Fi, Bluetooth, microwaves) | Low interference – 6 GHz is currently less crowded |
| Device Support | Compatible with older Wi-Fi devices | Only works with Wi-Fi 6E compatible devices |
| Performance in Crowded Areas | Improved over Wi-Fi 5 (due to OFDMA & MU-MIMO) | Even better – more spectrum + less noise |