



## WiFi Coverage: How Far Will a WiFi Signal Reach?

A WiFi network's coverage can vary depending on many factors that effect, hinder, or reduce the WiFi signal and its strength. The WiFi signal originates from the wireless gateway, and becomes weaker the farther it goes.

*Keep reading to find out how you can improve WiFi signal reach.*

### The distance that WiFi may reach depends on several factors:



# 1

#### Wireless Gateway

- Higher power wireless gateways will provide more range.
- Comtrend Gateways include high power (400mW) and ultra high power (1W) which is the highest that the FCC allows.
- Note: The wireless connection between the gateway and end device (e.g. mobile phones, laptops, etc.) may be limited by the radio of the end device as well.



# 2

#### Wireless Protocol

- In general, the higher the data rate, the shorter the distance the WiFi signal will cover. Additionally, the wider the signal bandwidth (20/40/80/160), the shorter the distance covered.
- This is mostly true, however, the latest 802.11ax standard uses new technologies to provide the highest throughput at relatively long distances as well.



# 3

#### Physical Environment

- The placement of the wireless gateway matters. The more obstructions between the wireless gateway and end device, the weaker the signal will become.
- Obstructions can be physical items (e.g. furniture, walls, building material) as well as noise (e.g. neighboring WiFi signals, household appliances).

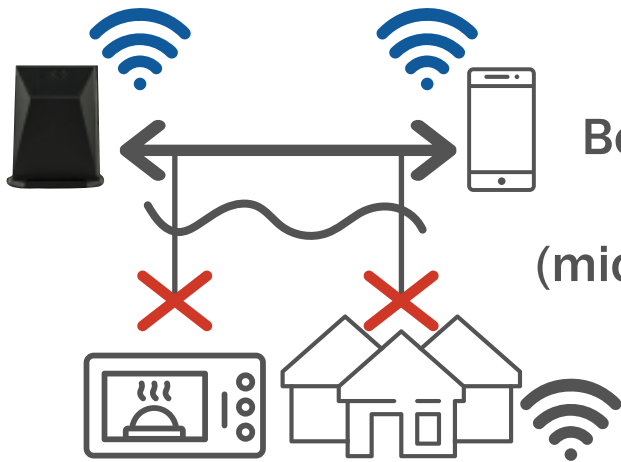
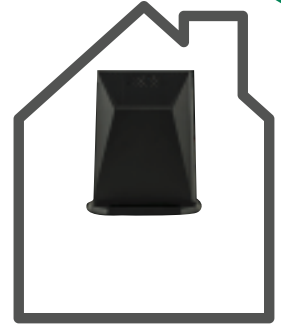
[LEARN HOW TO IMPROVE WIFI SIGNAL REACH \(PAGE 2\)](#)



# How Can You Improve WiFi Signal Reach?

## Assess Positioning

The higher and more central and open the placement of the wireless gateway the better.



## Minimize Interference

Be mindful of interference from neighboring WiFi networks, household appliances (microwaves, florescent lights), and other WiFi devices (WiFi security cameras, video game controllers).

## Avoid Materials that Block & Obstacles

Keep in mind that WiFi signal loss can occur with metal, concrete, water, wood, sheetrock, stucco, stone, mirrors, furniture, metal appliances, closets, drawers.

