Jacob’s quick research into RF.

Higher frequency means more data can be transmitted over the same period of time.

30-300 MHz is considered VHF or very high frequency. Wavelengths are between 10-1 m.

300-3000 MHz is considered UHF or ultra high frequency. Wavelengths are between 100-10 cm.

3-30 GHz is SHF or super high frequency. Wavelengths are between 10- 1 cm.

Regular wifi is 2.4 GHz so UHF and wavelengths on the order of 10-100cm.

Newer wifi uses 5.0 GHz and is SHF. Wavelengths 10cm or less.

Pros of RF:

* Can penetrate walls and objects based on frequency and power.
* Can travel extremely long distances
* Potentially low cost and moderate complexity.

Cons of RF:

* Antennas can get expensive
* High performance antennas, directional antennas, high bandwidth applications are difficult to work with.
* Many applications are governed by regulations limiting power or range.
* Basic communication is not encrypted.