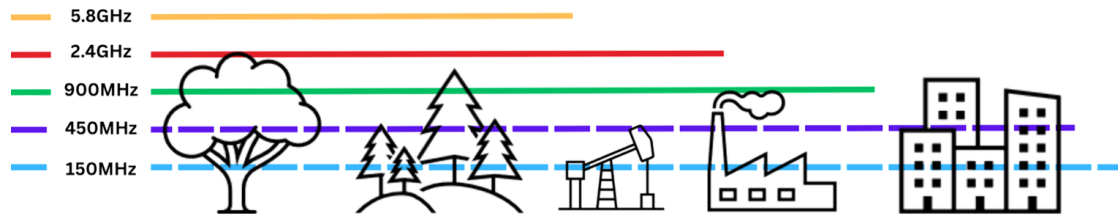


All radios that operate in the United States require a license from the Federal Communications Commission (FCC). Operating in certain frequency bands requires licensing by the radio's owner while others are licensed by the manufacturer. ESTeem manufactures radios that operate in both spectrums.

- **Licensed spectrum** is allocated exclusively to specific operators, granting them dedicated control over their assigned frequencies. This minimizes interference and ensures reliable performance. Slower Data-rates suitable for serial and legacy data networks.
- **Unlicensed spectrum**, on the other hand, is open for public use. However, it is subject to regulatory restrictions—such as limits on transmission power—to reduce the potential for interference among users. Much greater Data-rates for modern Ethernet networking demands



Licensed spectrum

150-174 MHz
450-470 MHz

Exclusive Use
FCC License Required
(Avg \$200/Year)

12.5 Kbps

Maximum LOS
Flexibility

Typical Frequencies

Frequency Use

Wireless Data Rate

Line Of Sight (LOS) Flexibility

Unlicensed spectrum

900 MHz
2.4 GHz
5.8 GHz

Unlicensed to User
Immediate Unlimited Use

Up to 300 Mbps

Minimal LOS
Flexibility


ESTeem Model
195M
195C
Edge900
Horizon900
**Horizon
2.4MIMO**
**Horizon
5.8 (MIMO)**

Frequency

 150-174 MHz
(FCC Licensed)

 450-470 MHz
(FCC Licensed)

 900 MHz
(Unlicensed)

 900 MHz
(Unlicensed)

 2.4 GHz
(Unlicensed)

 5.8 GHz
(Unlicensed)

Maximum Data Rate

12.5 Kbps

12.5 Kbps

1 Mbps

72 Mbps

300 Mbps

300 Mbps

Typical Range

>20 Miles

10-20 Miles

3-5 Miles

5-10 Miles

5-7 Miles

5-7 Miles

 Network Complexity
Support

 Simple With
Repeaters

 Simple With
Repeaters

 Hub &
Spoke

 Full Self-
Healing Mesh

 Full Self-
Healing Mesh

 Full Self-
Healing Mesh
