
72 MHz vs 216 MHz Considerations

Overview:

The purpose of this document is to assist in determining which of the available 72 MHz and 216 MHz frequency bands would be suitable for an application by describing the pros and cons of both frequencies.

72 MHz and 216 MHz are the two RF frequency bands that are used for Assistive Listening Systems (ALS) within the United States. Each frequency has its own characteristics and can be more advantageous to use than the other.

Considerations:

72 MHz – Primarily used for indoor applications, multiple channels, numerous adjacent rooms, and for higher audio quality.

Pros:

- Up to 6 channels can be used simultaneously within the same space.
- Lower coaxial cable loss and better signal penetration through obstructions.
- Superior sound quality at 80dB SNR.

Cons:

- Limited range. Up to 1,000 ft. using dipole LA-122 antenna.
- No outdoor rated antenna.
- Potential installation issues with antenna clearance space. Requires 80 inches of vertical clearance for the dipole LA-122 or LA-116 antenna.

216 MHz – Primarily used for outdoor applications and when maximum range is necessary.

Pros:

- Transmission range of up to 3,000 ft. using the LA-122, LA-117 or LA-107 antenna.
- LA-107 is an outdoor rated antenna.
- Shorter antennas make for easier installations where space is limited. Requires 25 inches of vertical clearance for the dipole LA-122 or LA-117 antenna.

Cons:

- Maximum of 3 channels can be used simultaneously within the same space.
- Higher coaxial cable loss and greater signal attenuation through obstructions.
- Lower sound quality at 70dB SNR.

It is important to note that both frequency bands are open for use within the US and are not region specific. Due to this, one or both frequency bands may already be in use by other systems in an area, which could result in RF interference issues for an ALS install.

Listen offers a free, 30-day demo program, so that a system can be tested to validate there is no outside interference that could cause issues with an ALS install.

Should you have any questions or require further assistance in determining a proper system for your application, please contact Listen Technologies' technical services team at 801.233.8992 or support@listentech.com for further assistance.