

Installation Guide for High Gain Antennas

Product: 802.11 abgn Wireless Module
Model: SX-PCEAN

For Professional Installation Only – these antennas
cannot be installed by the general public

FCC ID: N6C-SXPCEAN

This installation guide is intended for use with the following antennas.

Laird Technologies:

Model: SR49120DA

Gain: 11 dBi

Polarization: Vertical

Beamwidth: 120° Horizontal; 15° Vertical

Mounting: Wall, Mast

L-COM:

Model: HG5808U

Gain: 8 dBi

Polarization: Vertical

Beamwidth: 360° Horizontal; 16° Vertical

Mounting: Mast

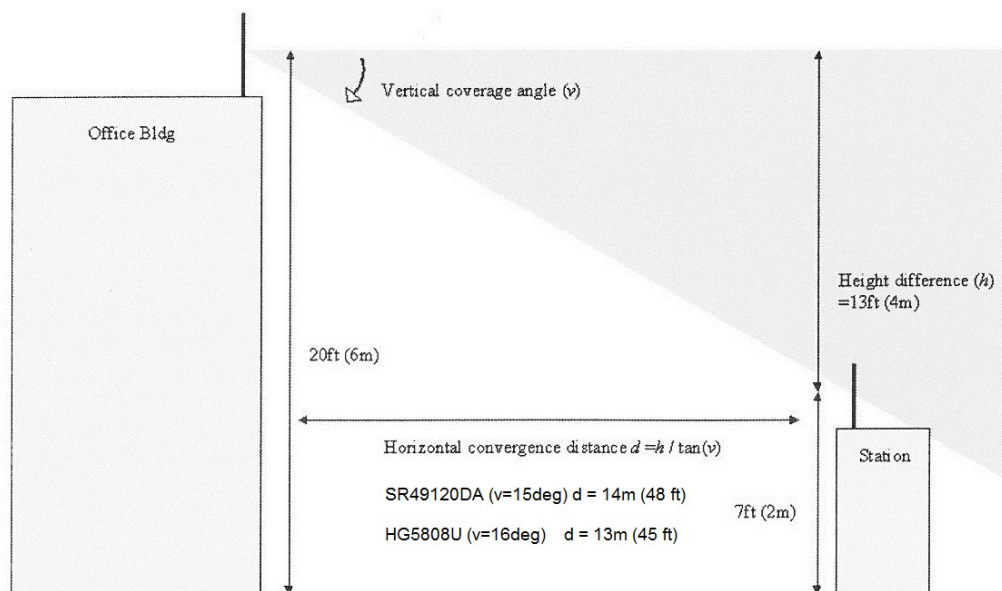
ANTENNA INSTALLATION

1. See the example on the following pages to calculate the appropriate height and distance to obtain best coverage for the transmitting and receiving antennas for your particular installation.
2. The 11 dBi antenna only covers a 120 degree area so a second antenna may be necessary to cover the other side.
3. Secure the antennas to a mast or wall as appropriate.
4. Use 50 ohm coaxial cable with N-type male connector to connect to the antennas.
5. When connecting to the 11 dBi antenna, the minimum loss in the coaxial cable must be at least 0.39 dB to satisfy maximum FCC output power requirements.
6. The other end must use a U.FL plug to connect to the SX-PCEAN Wireless Module. Connector converter adapter/cables can be used.

Vertical convergence angle and minimum distance

Every 'high-gain' antenna has vertical and horizontal selectiveness. The narrower the coverage, the higher the possible gain. However, this selectiveness also creates 'blind spot' in close range, especially if antennas located in different heights.

Vertical convergence angle and minimum distance



Vertical coverage and Line-of-sight

From a vertical convergence point of view, less height difference is better to minimize distance problems. However, it also creates more Non-Line-Of-Sight (NLOS) problems.

In this diagram, the other side of the office building could not be covered by single TX antenna, so another TX set needs to be provided if there are other stations there.

Vertical coverage and Line-of-sight

