

Choosing Between Side and Overhead Coverage

Side coverage from low-gain directionals or omnis is recommended as the best and lowest-cost solution for campus extension coverage at up to 9 meters (30 feet) of building height. In a standard campus deployment, multiple APs on adjacent buildings work together to provide complete, overlapping coverage of the target area.

For mounting positions higher than 12 m (40 ft), Aruba strongly recommends the use of squint omni antennas. The reason for this is illustrated in the following diagram. For a standard 60 degree directional antenna such as the ANT-2X2-D607 or ANT-2X2-D805, the -3 dB point where the main lobe intersects the ground moves out 5.2 m (17 ft) from the AP for every additional 1 m (3.2 ft) of mounting height. We have already shown that mechanical downtilt is limited in its ability to compensate for increasing height.

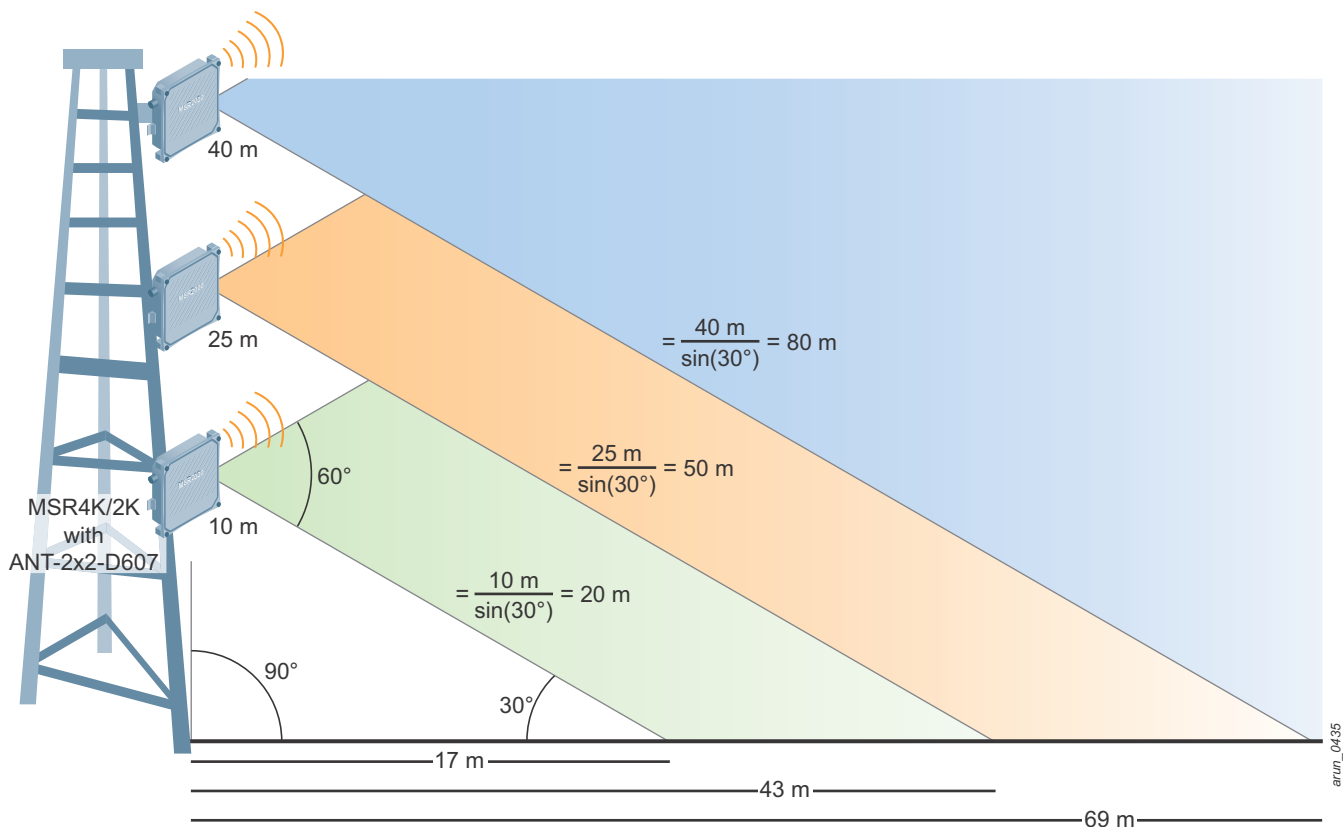


Figure 30 Effect of increasing AP height on main lobe reaching ground level

In summary, for steep down angles and mounting heights over 12 m (40 ft) in outdoor areas, the low-gain squint omnidirectional antenna is ideal:

- It limits range to a predictable area around each AP and reduces AP-to-AP interference
- It reduces client density per AP by employing more, smaller cells
- Its antenna pattern provides users at ground level with a higher signal than APs see to each other
- Adaptive radio management functionality is improved for auto-calibration of the RF network and automation of ongoing operations.