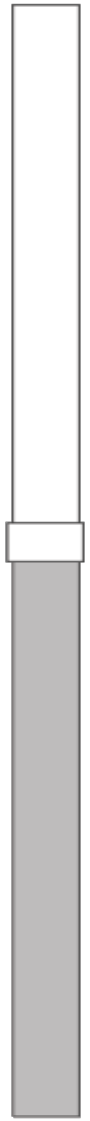
WiFi Device
Installation Requirements Guide

Viasat™

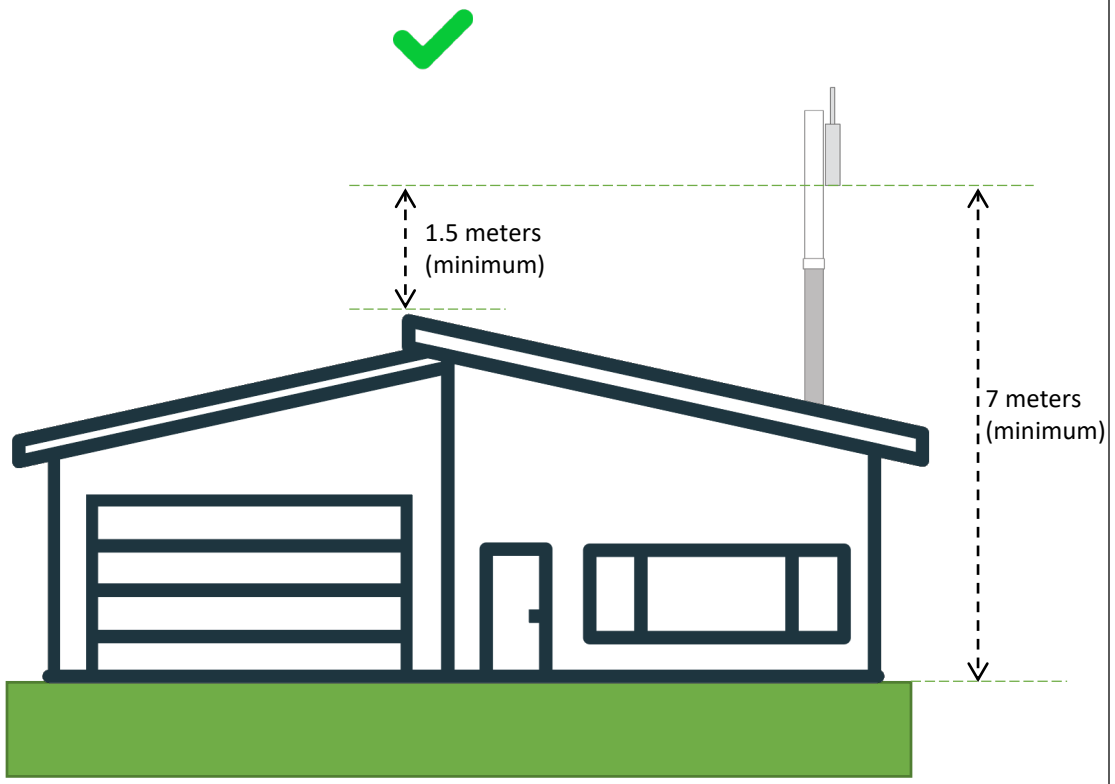
PVC: All devices must be installed to a PVC pole attached to a galvanized steel pole. See Complete Equipment List for details and recommendations on required material.



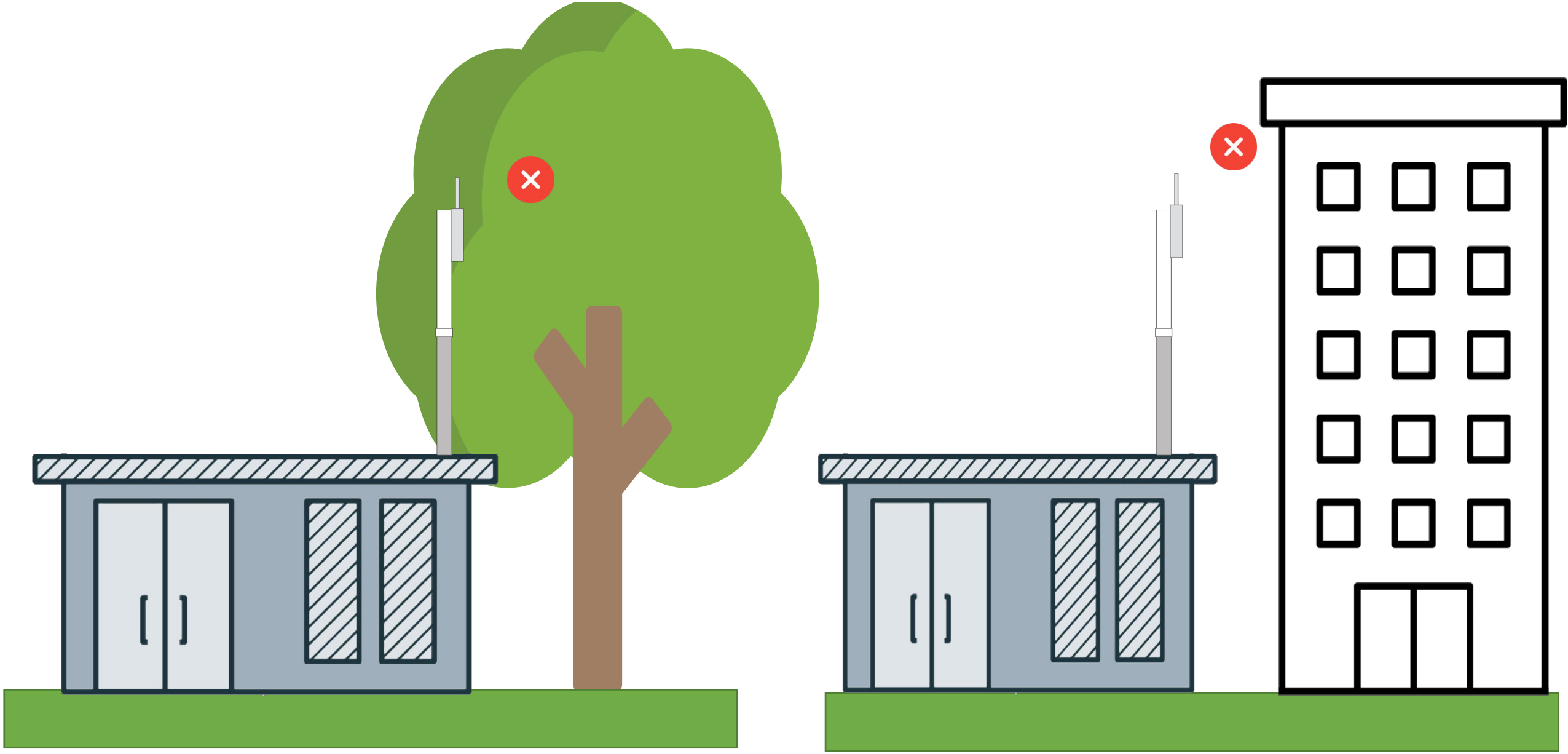
Grounding: In addition to grounding the satellite ODU, all galvanized steel poles must be grounded. If no grounding source exists, then a grounding rod must be installed.

NOTE: A grounding bus is required if the distance from the pole to the grounding source is over 6.5 meters. If a grounding bus is used you can run an additional 6.5 meters of grounding wire 10 awg (or thicker) from the grounding bus to the grounding source.

Height: All devices must be installed at a minimum of 1.5 meters (preferably 3 meters) above the *peak* roof line and a minimum of 7 meters from the ground. Devices cannot be installed against a wall.

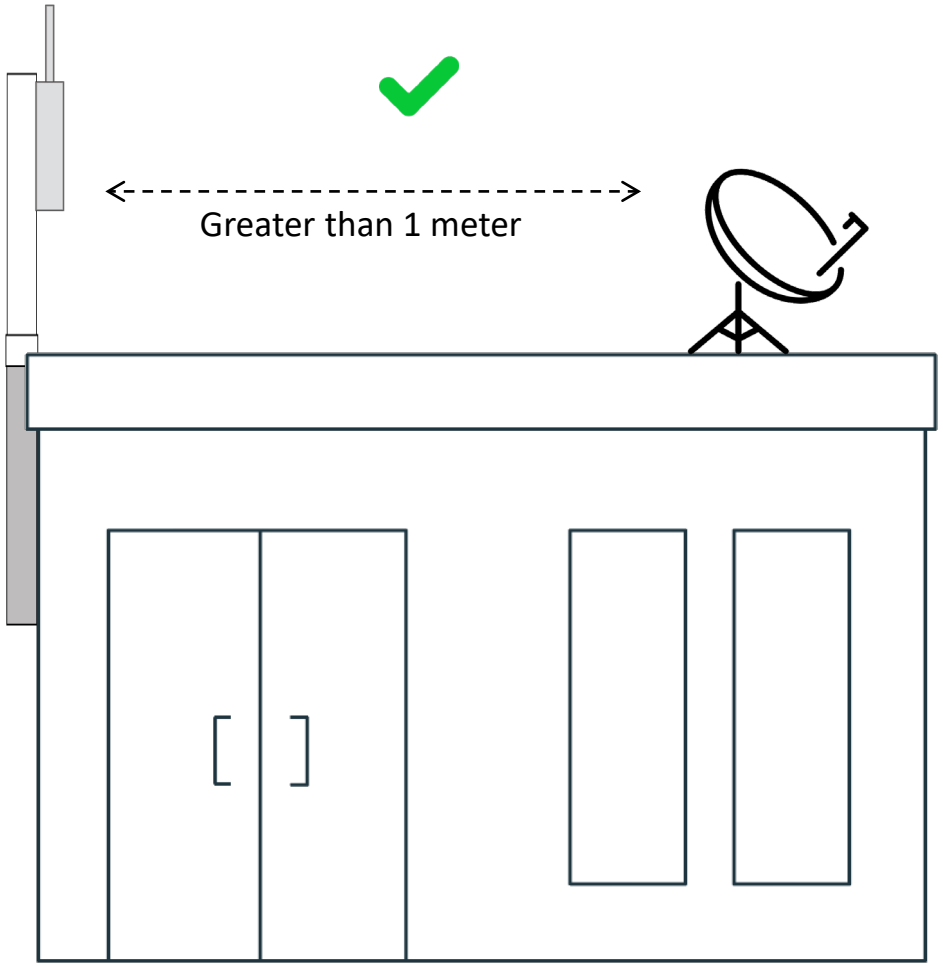


Object Interference: Devices **must not** be installed against a wall or below the roof line and must be higher than any surrounding foliage or buildings.

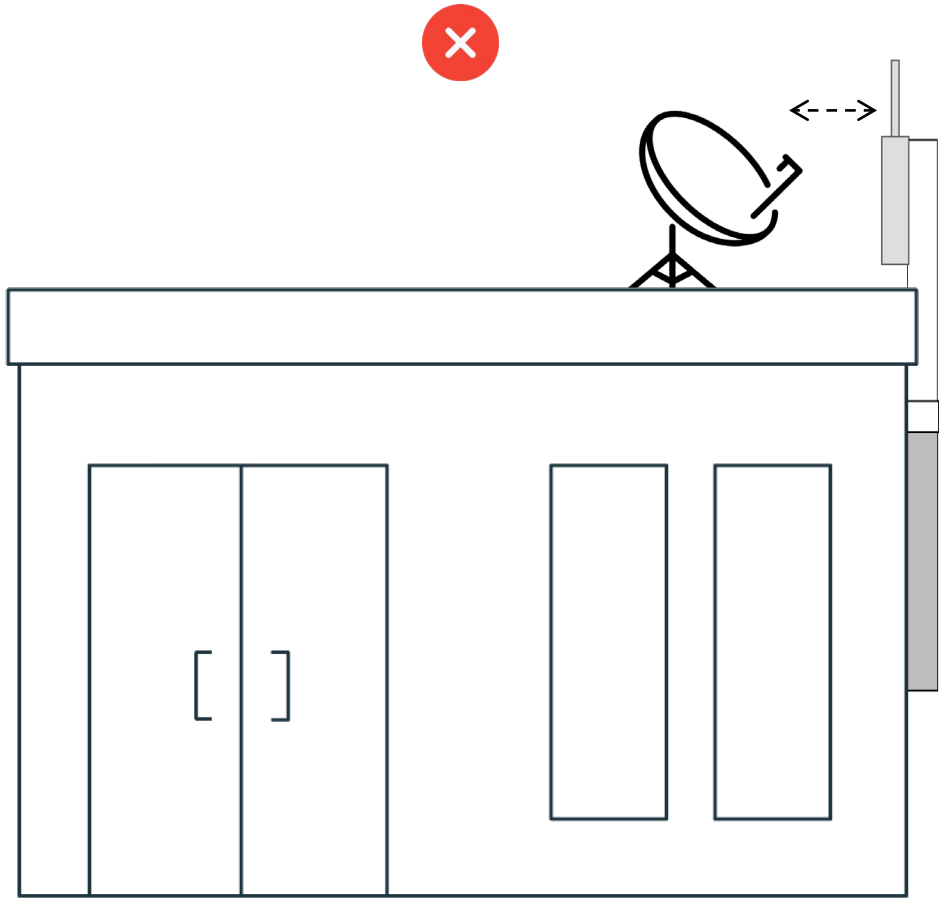


Device Adjacency: Devices must be installed at least **1 meter away** from any other telecommunications device on the building.

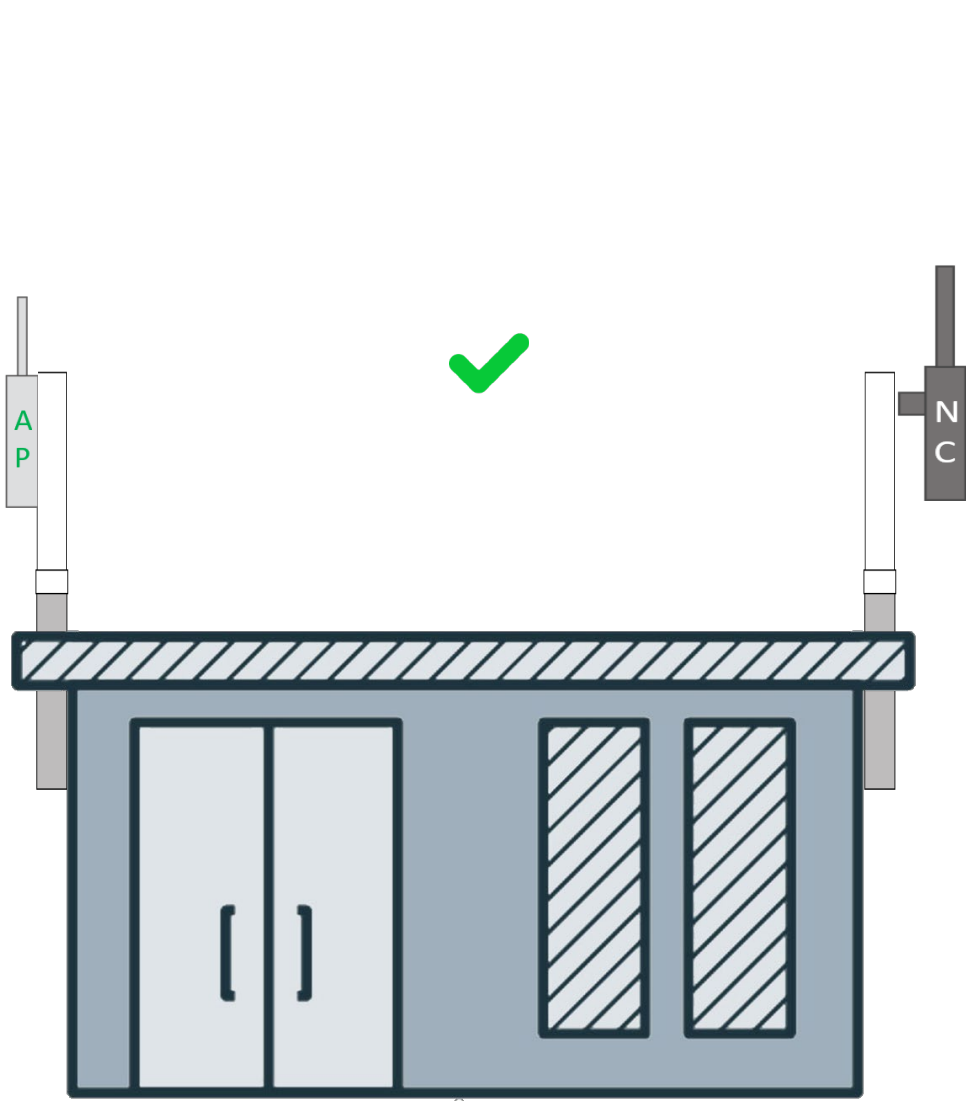
At least 1 meter away from other telecommunication device

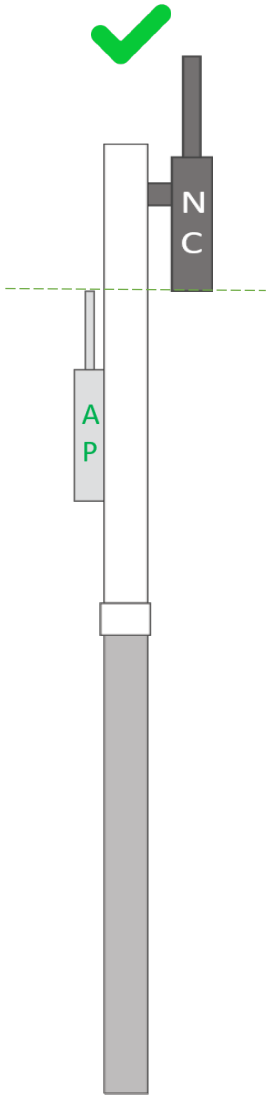


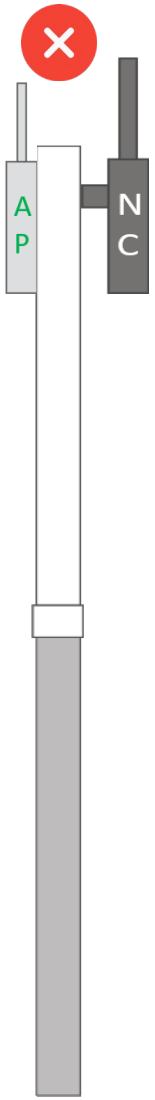
Less than 1 meter away from other telecommunication device

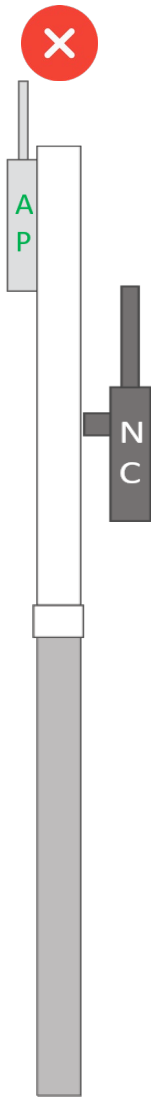


NC Placement: The NC (Network Controller) can be installed on a pole by itself but **If the AP is installed on the same pole as the NC**, it must be installed **FULLY UNDER THE NC**.

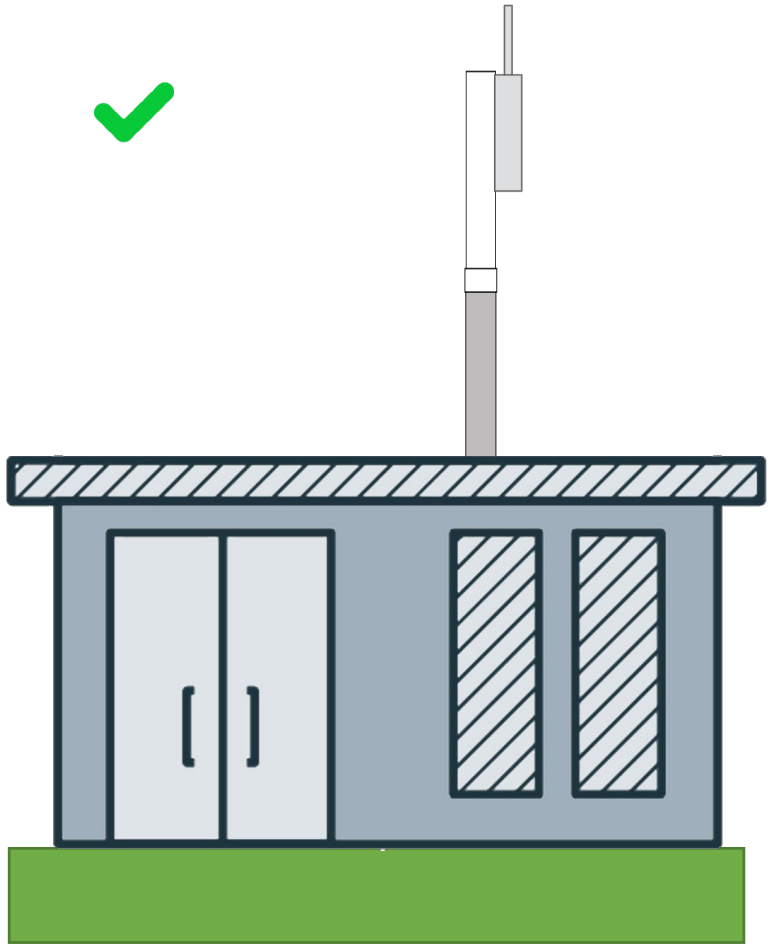


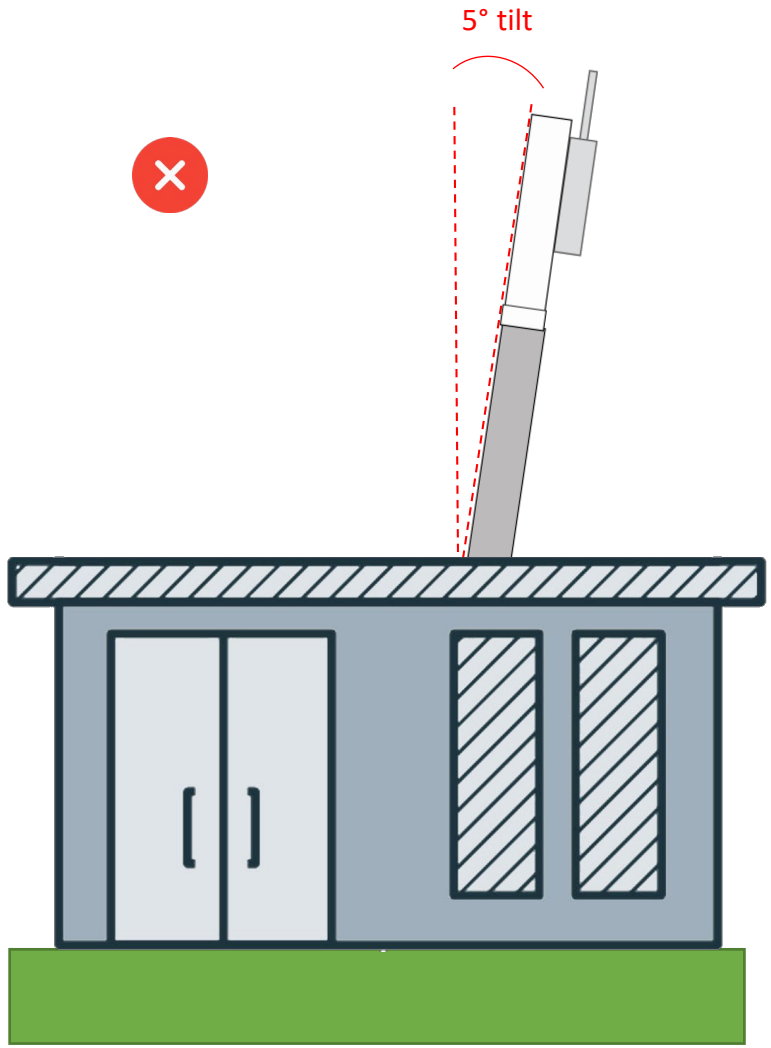




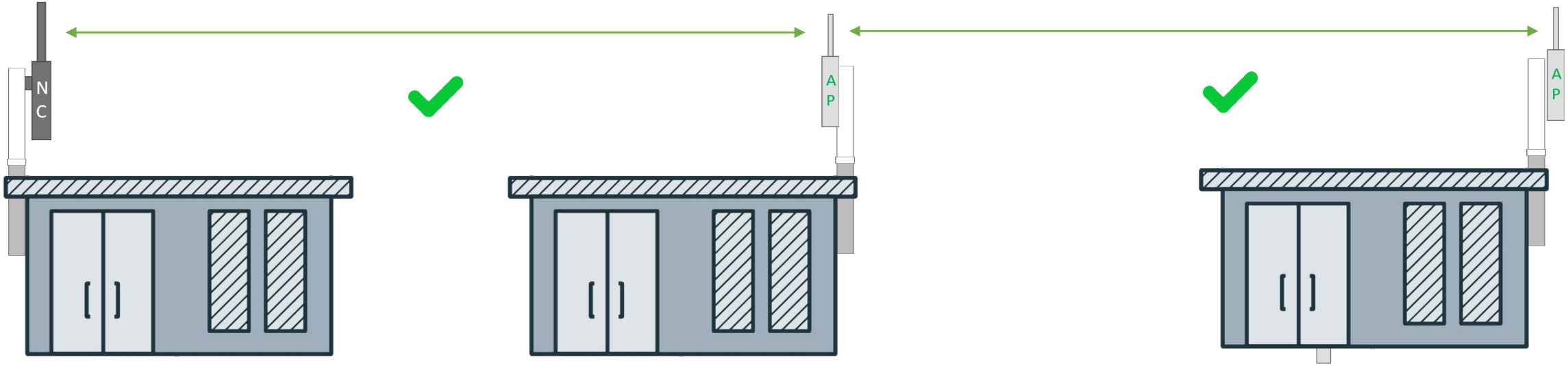


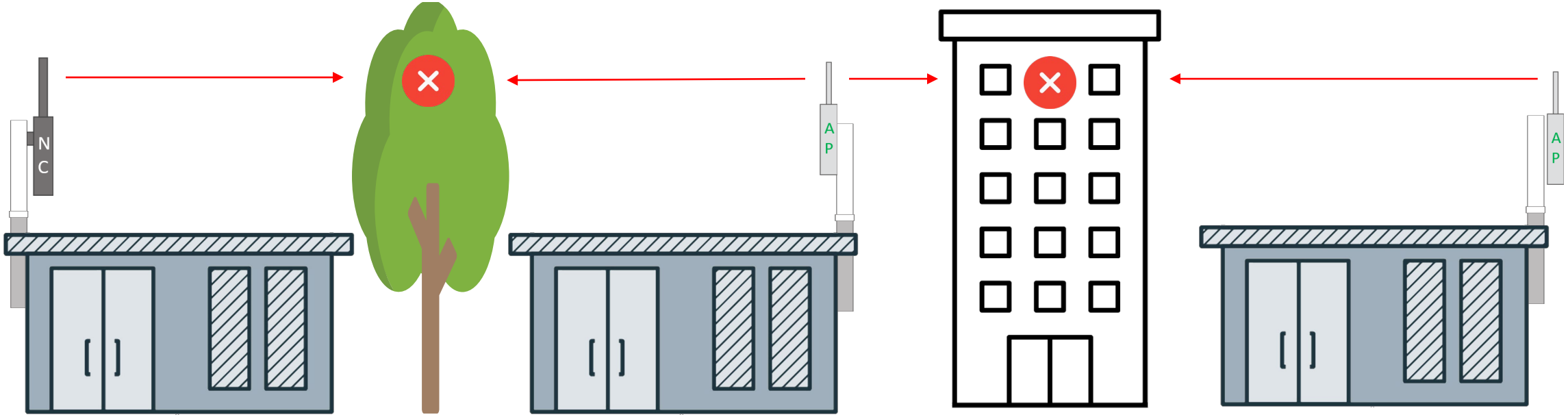
Verticality: Devices must be installed **vertically** with no more than a **2 degree** tilt on the pole – if there is too much tilt then the install will be rejected upon review by Support.



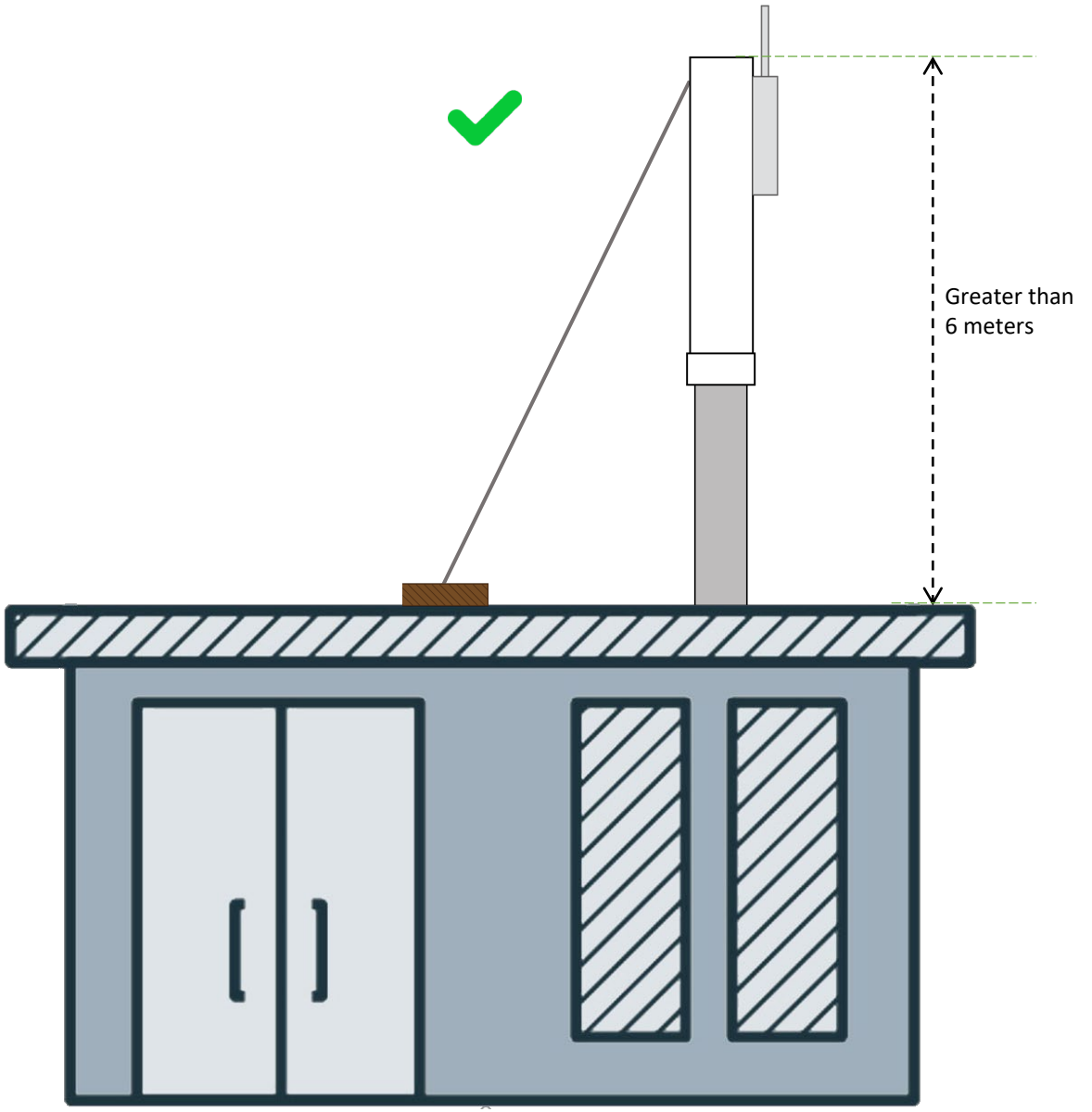


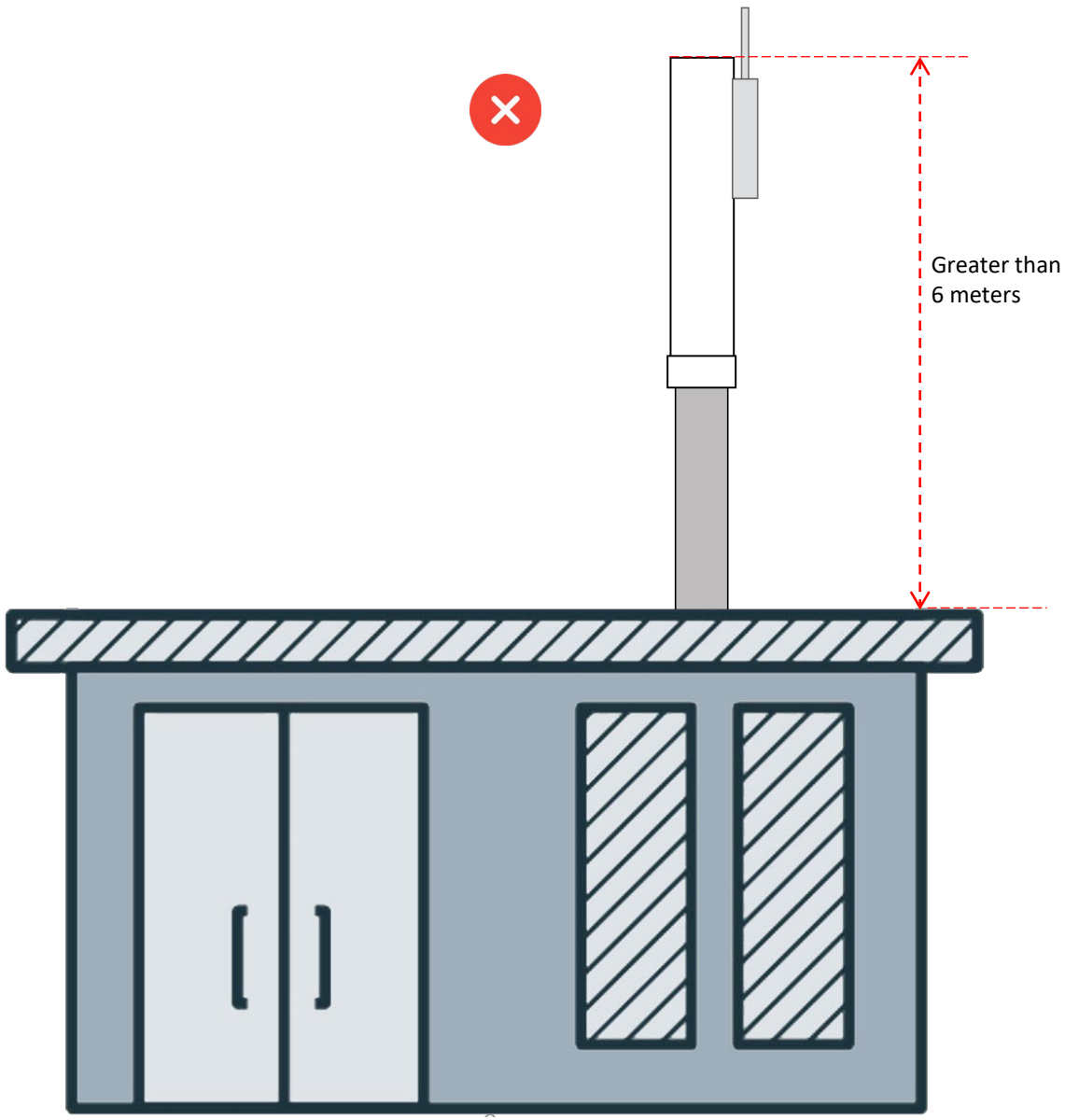
Line of Sight: The NC (Network Controller) must have **clear line of sight** to all first ring Coverage Points. All second ring Coverage Points must have clear line of sight to first ring Coverage Points.



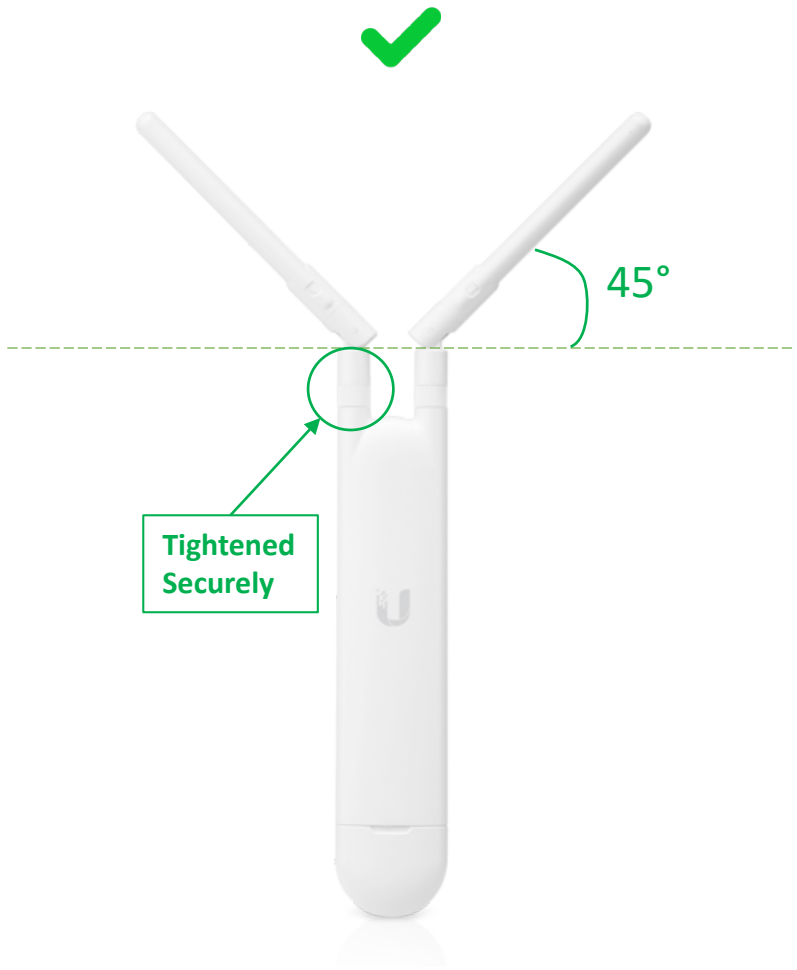


Sturdiness: **If the pole length is greater than 6 meters** (including the PVC) it must be **reinforced** with guy wires or other approved means of support to ensure it will not tilt, even with strong wind.



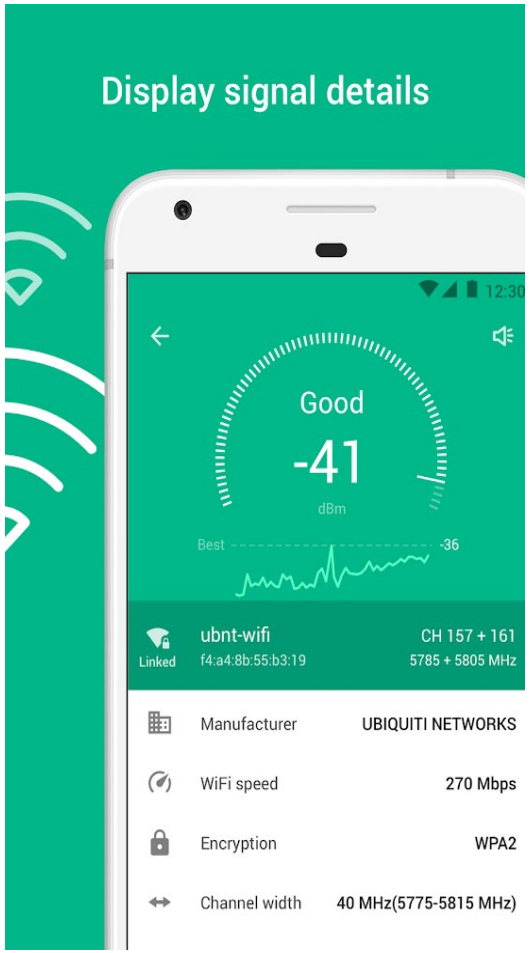


AP Orientation and Tightening: The WIM AP antennas must each be oriented at 45 degrees and the SMA connectors on the antenna bases must be tightened securely.



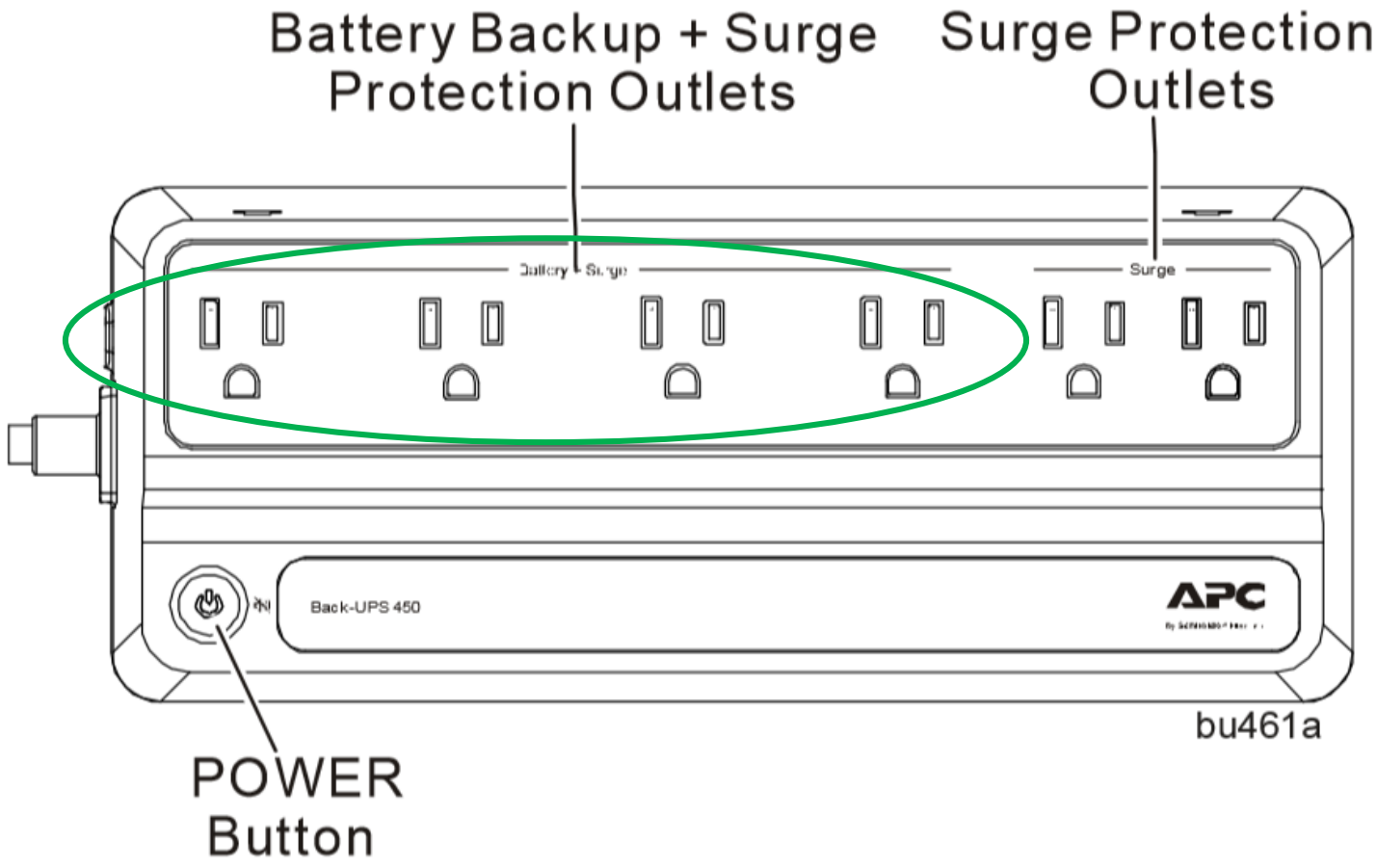
Signal Strength at POS location: After installation, the technician must verify that the signal strength at the exact place where the host plans to sell pins through the POS is less than -80 dBm. Use a WiFi analyzer app such as WiFiMan to get this value.

If it is higher than -70 dBm (for example -88 dBm), then the AP must be moved or an additional device added until this value is below -70 dBm



Powering: All devices must be plugged into a Battery Backup + Surge Protection outlet on the UPS, not a surge protection-only outlet.

Below is an example of an APC UPS, but models may vary. Outlet used must be **Battery Backup**.



Metal Clamps: All devices must be installed to the PVC with metal clamps. Be careful not to tighten so tightly that the plastic device mounting bends or breaks.

UV Ethernet Cabling: The installer must use **UV** ethernet cable on all device installations and must **TEST EVERY CABLE** before installing.

Refer to the RJ45 Cable Termination Guide for installing connectors on ethernet cable.

NOTE: Max functional length of ethernet cable is 100 meters.

Cable Routing of WiFi Devices

Cable Routing Requirements	
1	For horizontal cable runs, attach the cables to the wall surface using screw or nail clips every 45 to 70 centimeters.
2	For vertical cable runs, attach cables to the all surface with screw or nail clips every 76 to 91 centimeters.
3	Keep the cable run as straight as possible but remember to use the correct bend radii of 2.5 centimeters. Follow horizontal and vertical elements (such as the siding) at every opportunity.
4	Diagonal or aerial cable runs are not allowed.
5	Remember! Never put a 90-degree bend in any cable run.
6	These cables can be routed into the building in the same way as the RG6 cabling installed for the satellite ODU