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Antenna and Test Locations – Quick Tips

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- **Objective**

  -Show how antenna installation and/or test locations may affect tests results

  -The following slides were real test situations, after correction the modem started sending/receiving messages.

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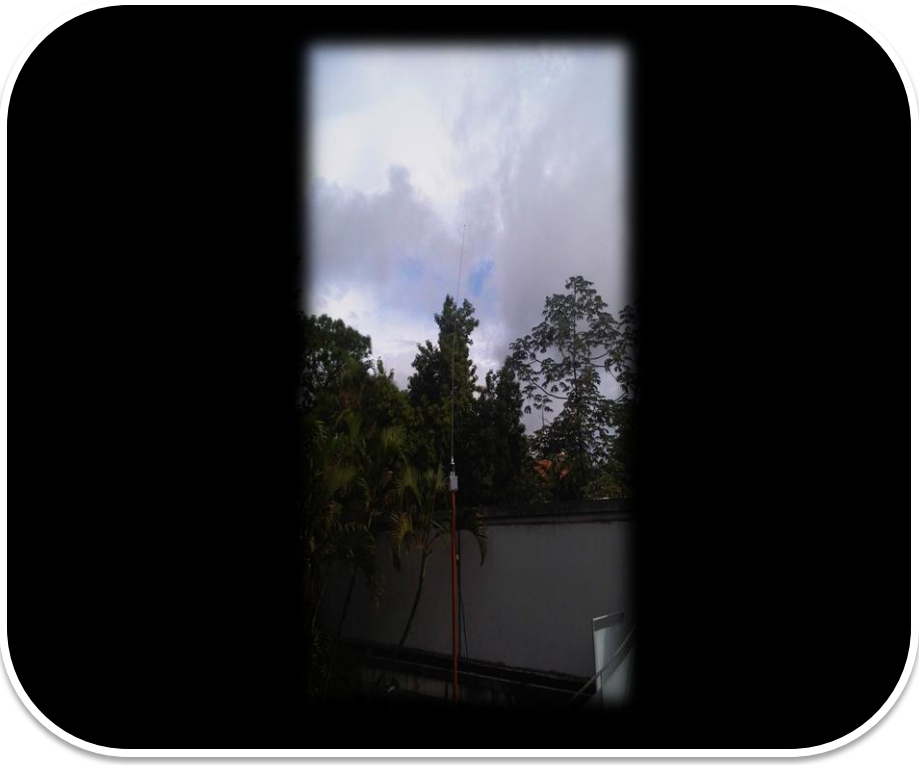
Not good electrical contact between the antenna base and the ground plane surface.
Wall blocking partially the sky view

Good contact and a better sky view

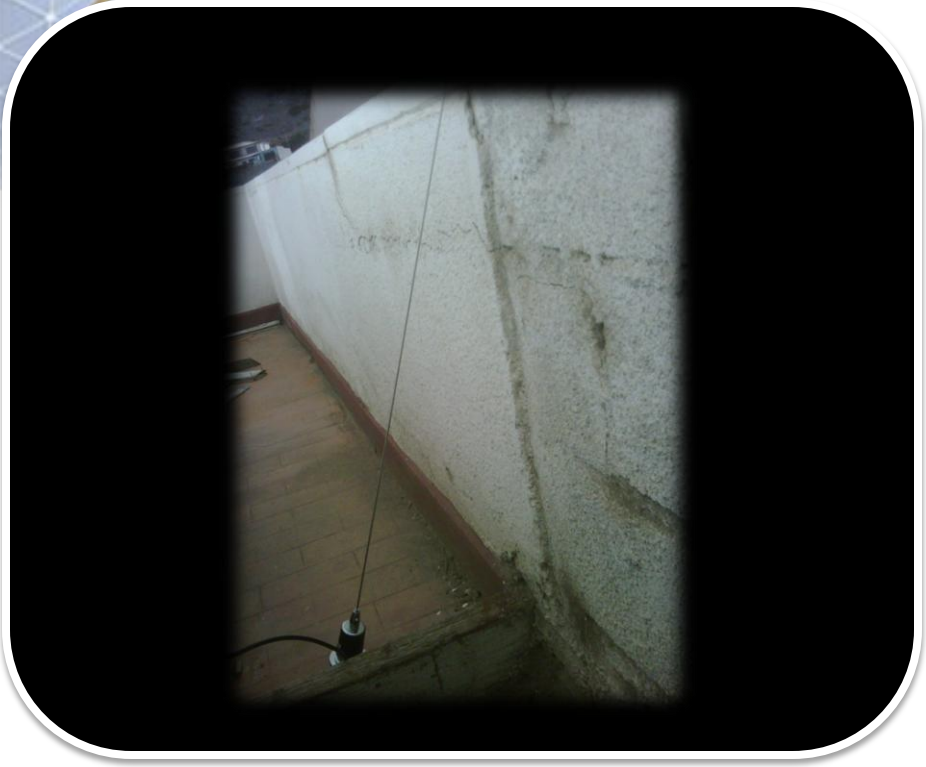
Laird ½ wave antenna

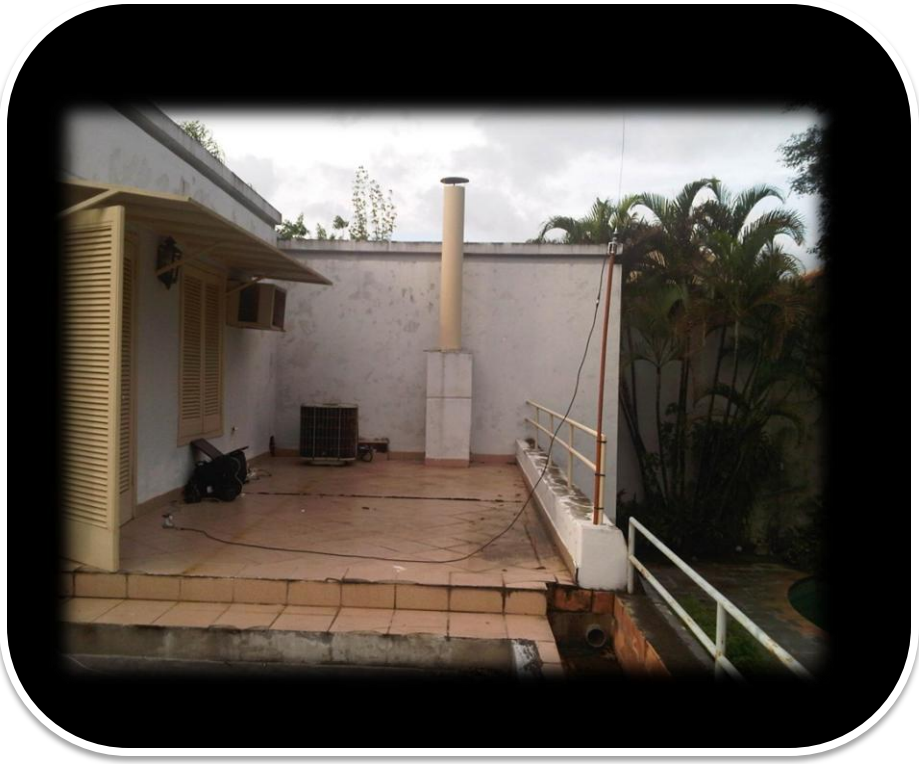


Metal near the antenna rod base

Antenna is at the top of the mounting base.

Laird ½ wave antenna





Antenna is touching the wall

Antenna is at the top of the mounting base.

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Antenna has no reference base

Antenna has a fiber glass roof base

¼ wave antenna

No ground plane

Simmetrical ground plane

Laird ¼ wave antenna

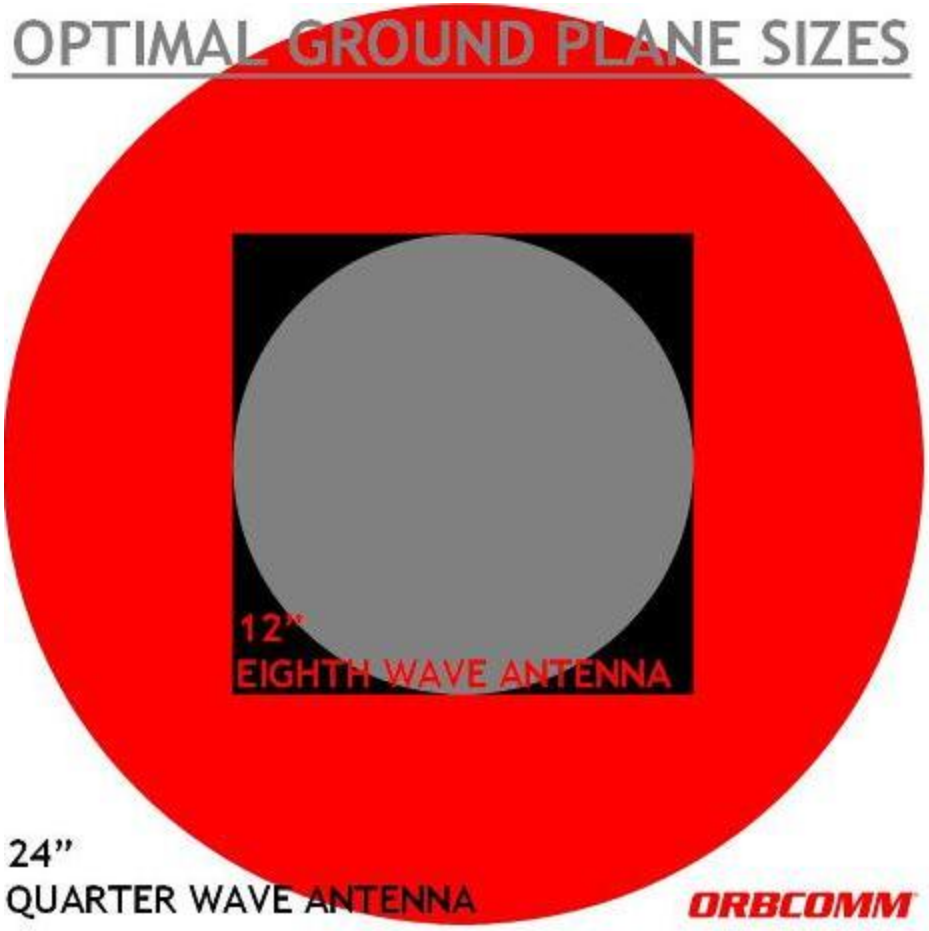
Non simmetrical ground plane
Wall is affecting the antenna

Simmetrical gronud plane
No walls near the radiating area

ARS ¼ wave antenna

No GROUND plane -See next slide for Recommended sizes!

¼ wave antenna REQUIRES GROUND PLANE



Case 5 – Hirschmann ¼ wave antenna

Antenna is ¼ wave requiring a metallic ground plane to work
Vehicle roof is plastic

Metallic earth plane below the plastic roof connected to the vehicle earth