

## Technical Reference

### TAGS FOR LONG-RANGE READERS

*This is a digest of ideas for selection, location and installation of tags in LR-911 reader applications. Assumption: That the reader is mounted above the vehicle (overhead or to the side). Use the LRIN Installation Kit for all testing. Lock the gate open during tests.*

#### WS TAGS

##### Location

- ❑ The most popular location is in a lower corner of the windshield. Place the tag several inches from the door post and above the bottom of the windshield, so that UHF communications between the reader and the tag are not blocked. Attach the WS tag horizontally (“landscape”).
- ❑ An alternative location is at the top center of the windshield, near the inside rear-view mirror. Place the WS tag a few inches below the top of the windshield, to prevent the vehicle’s roof from blocking UHF communications.
- ❑ Experiment with different orientations of the WS tag – aligned vertically (portrait”) or horizontally (“landscape”). Typically the WS tag is vertical if the reader is to the side of the lane, or horizontal if the reader is overhead – but try both to be sure.

##### Testing

- ❑ *First* Hold the WS tag, as you receive it in the carton, by pressing an edge between your thumb and forefinger, with the unprinted white label toward the reader. Maximum read range may be a few inches to a few feet. The tag may be enrolled in an auto-enrollment system.
- ❑ *Second* Gently press the tag inside the windshield, with the unprinted label against the glass. Use your fingers at the *edges* (not at the center) of the tag, or tape it with masking or electrical tape. Try the tag in various locations and orientations to find the position with best read range, typically about 5 feet.
- ❑ *Third* Carefully peel the unprinted label from the tag, exposing its adhesive. Apply the tag permanently in the best location and orientation, rubbing with your fingers at the edges of the tag (not at the center).

#### MT TAGS

##### Location

- ❑ Even if the WS tag does not communicate well with the reader through the windshield, the MT tag may operate well when it is lying on the dashboard, away from the windshield (close to the passengers). Try different locations and orientations of the MT tag. Use Velcro dots to hold the tag in place.
- ❑ The MT tag may be attached to a flat surface outside the vehicle, using silicone sealant or cable ties or non-metallic screws. Popular locations are the top surface of the front license plate, the front bumper, the radiator grill, and the bottom of the windshield.
- ❑ The MT tag may be used as a handheld tag by squeezing it between the thumb and forefinger at one of the tag’s screw-holes. The “AWID” logo should face the reader.

##### Testing

- ❑ To find the best location, move the MT tag to different positions and orientations. On the dashboard, try the center, or toward the left or right, away from the windshield. Outside the vehicle, find the position where RF reflection from the vehicle’s metal components is minimized (that is, read range is best).

Notes:     o Do not attach MT tags directly to the inside of the windshield. o Do not bend MT tags.

Reference: “Vehicle Mounting Recommendations” for WS Tags and for MT Tags.

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