



## **Technical Reference**

### **TAGS FOR LR-911 READERS – READING ON ALL VEHICLES**

*There is no list of vehicles on which the tags for UHF long-range readers will or will not read well. The characteristics of the vehicles that may cause interference with the tags' transmission are generally options (either factory "packages" or after-market additions). The following notes help to identify the individual vehicles that may not have good performance with AWID's WS tag. These vehicles are almost always "high-end" passenger cars – typically expensive makes. Suggested solutions are shown.*

#### **Metallic Coating on Windshield**

- Automatic windshield wipers, using a coating outside the windshield to sense moisture.
- Anti-glare coating that reflects polarized light, identified by a purple appearance.

*Solution:* MT tag on dashboard (away from windshield), or MT tag outside vehicle.

#### **Metal Embedded in Windshield**

- Heated wires inside laminated glass for defrosting or demisting the windshield.
- Wires inside laminated glass for radio antenna.

*Solution:* MT tag on dashboard (away from windshield), or MT tag outside vehicle.

#### **Metal Compounds in the Glass**

- Heavy tinting for sunlight attenuation, especially in a band along the top of the windshield.

*Solution:* WS tag moved to clear area of windshield, or MT tag on dashboard.

#### **RF Transmission from On-Vehicle Devices**

- Anti-collision sensors – radar-like devices at front and rear of vehicle, to detect roadway hazards.
- Various RF communications equipment in the vehicle.

*Solution:* Switch installed to disable device's RF transmission while tag is in reader's effective field, or MT tag held by hand out of side window toward the reader.

#### **Notes**

- The MT tag offers great flexibility of use. It almost always works when a WS tag may be blocked. If the MT tag is blocked inside the vehicle, it can be mounted outside in many places.
- The WS tag may work on a coated windshield if a small rectangle is cut in the coating, just large enough for the WS tag to be attached inside the cleared space.
- The WS tag may be applied inside a *side* window of the vehicle if the tag faces a reader, and if the window is fixed in position.
- Highways that use UHF readers and tags for toll collection have the same problem. They often require that the tag be mounted on a special bracket outside the vehicle when traveling.
- "Lead" glass has no effect on RF transmission. Virtually every kind of glass contains lead.