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Technical Reference

UHF Long-Range Readers -- Application

People at Portals: Holding the Tag or Hands-Free?

The primary purpose of AWID's UHF long-range readers and tags is automated **vehicle** *identification (AVI) for access at gates. When the same products are used to grant access for* **people** *walking up to doors, different factors must be considered.*

Application

In common use, a person approaches a doorway with a compatible card or tag, to gain access at a secured portal. In some cases, the person physically presents a card or tag to the reader as the person passes through the reader's "effective RF field". For *hands-free* access, the person may have a card or tag clipped to the clothing or on a lanyard.

Products

The **reader** in this application is any of the AWID UHF long-range readers with model number LR-3000 or LR-2000 (LR-2200 in Europe), including the "HiLo" dual-antenna set. (Use LR-3000 if the reader is exposed to the environment.)

The **credentials** may be any of AWID's UHF "hand-held" cards or tags, and the portable "vehicle-mounted" tags if they are presented to the reader by the user, with clear line-of-sight between the tag and the reader, and away from metal.

The "vehicle-mounted" tags that may be suitable for some "people" applications are:
SV-UHF Sideview Mirror Tag, **PT-UHF** Portable Tag, **VT-UHF** Sunvisor Tag, and **HT-UHF** Hangtag.

Special Considerations

- There should be only *one or two tags* present in the reader's effective RF field at any time while reading.
- The tag must be in clear *line-of-sight* to the reader, aligned with the reader, and about parallel to it.
- If held in the *fingers*, do not cover the card's antenna. Clamp the card between your thumb and fingertips.
- The tag must not be covered by *clothing* or any other material. It needs open space to read the code.

RF Field Size

Some applications work better if the size of the reader's RF field is made smaller, for example, to cover a narrow aisle in front of the door. The field size can be reduced by changing the aiming of the reader, or by using AWID's no-cost downloaded program, "LongRangeReaderSettings" (LRRS). It is zipped with an instruction sheet.

RF Field Characteristic

Both the reader and the credentials are directional. This should be considered when planning an application, and when installing the products. The directional nature of the products, and the ability to adjust the size of the effective RF field, let you use the products at a multi-door site, where the readers may be separated by just the width of the door.

Special Applications

Car-pooling: Present one card at a time to the reader. Other passengers may need to cover their cards to prevent reading.

Sally ports: The hands-free nature of these products can be important in this application for law enforcement.

Mustering: These products may be useful for mustering people. Special software in the host system may be necessary.

(continued)

Tip for Good Reading

Avoid multiple cards: In the "People at Portals" application, the AWID card or tag should be carried or attached alone – not combined with other cards or other devices. The UHF cards and tags need clear, open space facing the reader.

Effective RF Field

LR- . . . Long-Range Reader

Effective RF Field with UHF Credentials

READER'S EFFECTIVE RF FIELD

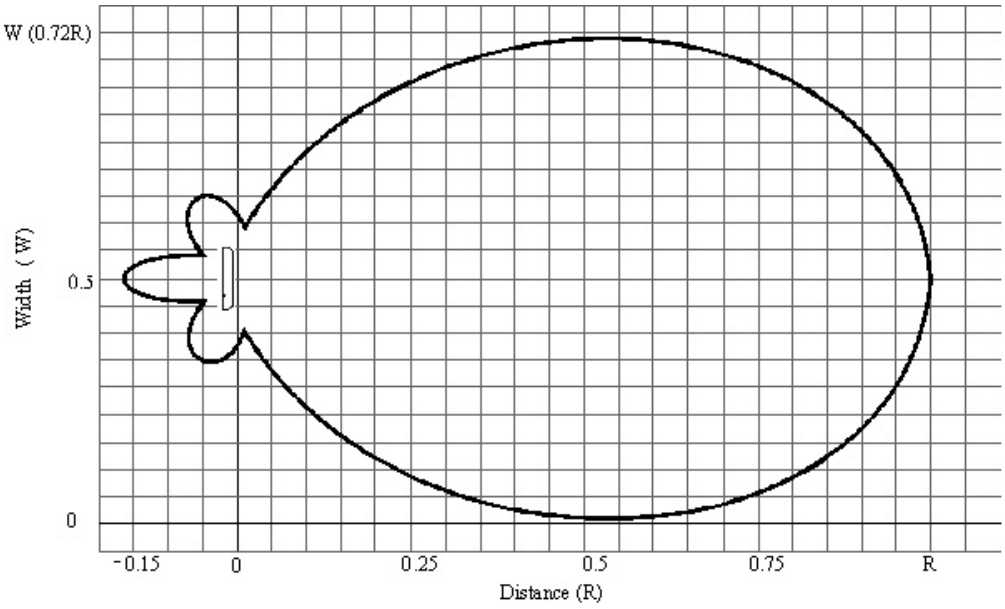

Figure 1. Effective RF field for tags with long-range reader.

- The effective RF field is a 3-dimension figure of rotation of this diagram about its horizontal axis.
- Polarity of the reader's transmitted RF is circular.
- Distance "R" is the read range for AWID's UHF tag or card. It varies with different credentials and installations.
- Typical reading distance of 15 feet to 25 feet, depending upon the tag or card type, is less than "R".
- In a typical installation, maximum field width "W" may be about 16 feet. This width can be reduced in the field.