

Communicate, Track, Locate in Harsh Environments

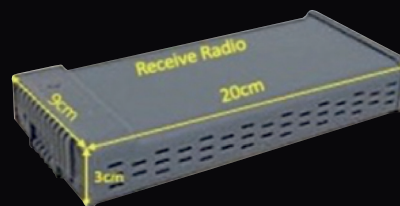
Secure Wireless Monitoring of Radioactive Materials in Storage and Transportation Without Batteries

DSI Battery-free RFID tags close the technological gap related to limited battery lifetime of active (battery-powered) tags, while providing data security, tamper indication and authentication with the following characteristics:

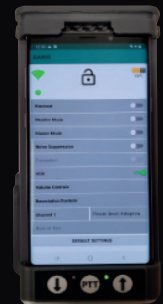
- Unlimited lifetime, maintenance free, environmentally safe;
- Specifically designed for reliable operations on metallic objects;
- Long range, up to 100 ft., depending on size and operational environments;
- Authenticated tags;
- Resistant to Gamma, and fast neutron radiation;
- Passive RF seal tag, tamper indication;
- Sensor integration (strain gauge, temperature, pressure, etc.);
- Accurate localization, tracking, and motion detection;
- Network and database integration;
- Continuous and on-demand remote monitoring;
- Low cost.

Secure, Wireless Audio, Video, and Sensor communications in Hostile Environments: Applications SMR, MSR, Geological Repositories

- Adaptive to the operational environment (software-defined-radio platform);
- Low power;
- Non-interfering with legacy communications systems;
- Jam resistant;
- Physical layer security in addition to conventional encryption techniques;
- TCP/IP sensor networking with radio;
- Small, low-cost reliable communications;
- Ability to communicate sensor and video data through 5 ft nuclear concrete containment walls.



Pulse-Based Through-the-Concrete-Wall Video & Sensor Data Communications



Pulse-Based Voice Communications Integrated with Smart Phone



DSI Passive (battery-free) RFID Tags



Accurate Asset Localization with < 10 cm Accuracy Using Battery-Free Passive Tags