TEKTRAP

Covert Worldwide RF ID for Maritime Containers

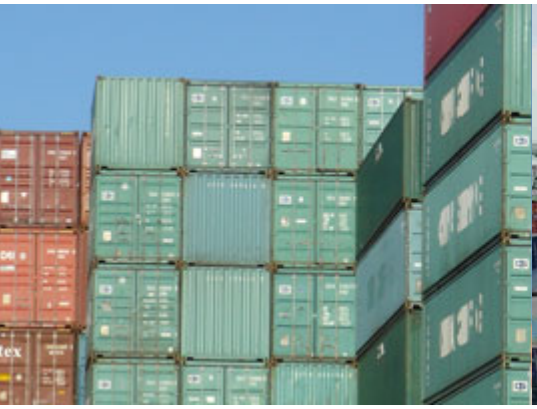
Tektrap System Inc introduces a maritime container active RFID Tag that monitors the integrity of the container, including doors and container interior conditions, all while tracing the path of the container and logging events such as temperature, vibration and humidity with the GIS coordinate of a breach. The RFID Tag includes a WiFi link to send its data to external networks.

Dual FM-GPS patented technology provides redundancy. With the increased popularity of GPS jammers, the FM locator of the RFID Tag, despite being coarse, provides a back-up tracing mechanism. In areas with good satellite reception, the GPS provides fine resolution to +/- 10m. When the GPS signal is missing, the FM location detection algorithm provides coarse location resolution to within +/- 10Km. Despite the conditions, a coarse location is always obtained and stored.

The point of departure, point of temporary disembarkment and point of final destination form the basis for the port authority to decide whether or not to conduct an inspection of incoming shipments. This covert and miniature RFID Tag is mounted inside the door seal of a maritime cargo container and then reset at the point of departure and interrogated at the point of arrival to provide reliable worldwide tracing information to assist port authorities in making wiser decisions.

TekTrap Systems

Located inside the door seal of the maritime container, held in place with magnet



Specifications

- **LOCATION ACCURACY**
  - GPS: +/- 10m
  - FM: +/- 10Km
- **DIMENSION (excluding battery)**
  - 1.7cm X 0.5cm X 15cm
  - 3/4 X 1/4 X 6 inch
- **ENVIRONMENTAL RESISTANCE**
  - Hermetically sealed
  - No contact points
- **OPERATING CONDITIONS**
  - Temp: -40ºC - 70ºC (-40ºF - 120ºF)
  - Shock: 10g, all 3 axis
- **DATA STORAGE CAPACITY**
  - 2 GB, micro-SD card
- **RF LINK RANGE**
  - Wake-up: 30m (100ft)
  - Read (download): 100m (300ft)

Benefits

COVERT	Invisible → more difficult to defeat No exposed antenna → increased reliability No external components → weather resistant
MINIATURE	Ease of installation → no penetrating holes Low cost → disposable (one time use)
BUILT-IN SENSOR	Door intrusion sensor → alarm log (time + GIS) Others sensors → temp., humidity & vibration
LOW DC POWER	Battery operated → no external solar panel
GPS-BACKUP	No direct sky view → operates inside hangar → stacked containers
FM BROADCAST-BASED	Worldwide signal → worldwide coverage Very strong RF signal → difficult to jam or fool Public signals → no user licensing fees
NETWOKABLE	WiFi mesh network → Intranet & Internet RF wakeup → save battery life when stationary Remote readings → no need for direct access

System Blok Diagram

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