



RADIO PHYSICS

Concealed Threat Detection

MiRTLE™

MiRTLE 10 provides excellent detection of concealed weapons at ranges of up to 10 meters. Operating in real time, MiRTLE autonomously alerts the operator to a wide range of concealed weapons, including handguns and suicide vests. Easy to use remote operation provides a safe stand-off for the operator.

Unique Concealed Threat Detection

Unlike its competitors, MiRTLE uses a very low power, ultra wide band millimeter-wave radio to interrogate personnel for concealed weaponry. Radio has advantages over passive imagery as this modality is unaffected by environmental conditions and allows a greater stand-off distance. The system produces excellent detection rates for Person Borne Improvised Explosive Devices, handguns and knives.

Using advanced software, MiRTLE removes the need for user interpretation and provides an autonomous Threat/No Threat decision in real time. A miniature video camera allows the operator to identify the location of potential threats with ease. Benign items such as keys and mobile phones are classified as harmless by the software.

Key Features

- Stand-off range between system and target of up to 10 meters
- Wired or wireless remote operation between operator and system
- Real time threat indication
- Autonomous Threat/No Threat decision
- Indoor and outdoor operation
- Truly non-invasive as no revealing imagery captured
- Reliable detection of wide spectrum of threats with discrimination of benign items
- Entirely safe with a power output 0.1% of a typical cell phone



The MiRTLE system is an extremely mobile and adaptable sensor, which takes minutes to set up.

| Hardware | |
|-----------------------|-----------------------|
| Size (L x H x W) | 450mm x 250mm x 250mm |
| Operating temperature | -10°C to 45°C |
| Power consumption | 35W |
| Input Voltage | 24V DC |
| Detection range | 6m to 10m |
| Weight | 2.8 kg |

| Sensor Parameters | |
|---------------------|---|
| Beam size | 200mm at 3m, increasing to 500mm at 10m |
| Transmit power | 2 mW |
| Transmit wavelength | 75-110 GHz |
| Receivers | 2 direct power receivers, co- and cross-polarized |

| Product Codes | |
|---------------|------------------------------|
| RPS MT101 | MiRTLE System |
| RPS ROW | Remote operation by wireless |
| RPS ROC | Remote operation by cable |

Example CONOPS

- Person walks towards and away from the sensor in a serpentine.
- Line of sight screening for non-cooperative groups using multiple sensors.
- High throughput screening via a turnstile.

Options and Accessories

- Batteries and chargers
- Ruggedized laptop
- Bespoke display and integration with wider systems
- Touch screen subject lock



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