



Asqella's multi-band passive submillimetre-wave video cameras

Description

Asqella sells passive multi-band submillimetre-wave cameras intended for stand-off / walk-by security screening of people at very high throughputs.

At the heart of the system lies a patented focal plane array of exceedingly sensitive detectors – superconducting antenna-coupled micro bridge bolometers. These detectors utilise the fundamental properties of superconductors to reach a level of sensitivity that is unreachable by other sensor technologies.

The passive camera technology operates simultaneously at multiple submillimetre-wave frequencies – 250 GHz, 420 GHz and 625 GHz. This provides several significant benefits: the wavelengths at the lower end of the operating range provide better penetration through obscurants, allowing the reliable detection of objects under thicker clothing, while the wavelengths toward the high end of the operating range give superior image resolution.

Thanks to large field of view and real-time frame rate, the camera exhibits exceedingly high detection rate.

Unique features

- Completely passive – no irradiation whatsoever
- Proprietary image processing algorithms allow for optimal image quality across a range of operating conditions.
- Multi-band operation facilitates the detection of low-reflectivity concealed objects which are thermalized close to the body temperature.
- Running at true real-time frame rates, the camera can detect objects on moving subjects.
- A large field-of-view ensures that all objects are detected.
- High image definition and contrast facilitates reliable detection.

What problem does it solve?

Asqella's camera technology enables the screening of large numbers of people for concealed items effectively, rapidly, and with minimal inconvenience, whether in public places, at events, critical infrastructures, border crossings or secure locations.

Existing systems suffer from poor resolution (due to long operating wavelength coupled with small apertures), poor dynamic range (due to small detector arrays with limited sensitivity and short per-pixel dwell-times), poor frame rate, and operation at single band only.

Asqella's camera technology is the first of its kind that provides a true stand-off / walk-by screening capability.



- Concealed CD-ROM
- Large handgun
- 5 meters distance, indoors



- Pipe-bomb vest
- Large handgun
- 5 meters distance, indoors

*Passive imagery from a research prototype, representative but inferior to the product performance
Videos do not play in pdf documents*