



Delivering Portable Standoff Detection for Counter-IED and Security Operations

ChemImage Sensor Systems (CISS) Aperio™ is a unique handheld short-wave infrared (SWIR) hyperspectral imaging (HSI) sensor that provides real-time, standoff detection capability, and is designed to address the growing need for portable, safe, and easy-to-use sensing technology for military, public safety, explosive ordinance disposal, and law enforcement personnel to screen for chemicals, explosives and narcotics.

Designed for Operator Safety

The design of the Aperio™ keeps user safety in mind, allowing for wide area imaging for the detection of materials of interest for ranges of up to 20 meters and without the use of reagents or lasers. Unlike many point detection systems on the market, the Aperio™ gives users rapid access to visual information to improve situational awareness and reduces response times to react to a potential threat. The ability to target varying material concentrations in the field is essential, and Aperio™ is capable of detecting bulk and residue materials on surfaces.

Lightweight and portable, the Aperio™ is equipped with an integrated battery that will provide up to 5 hours of operational detection time.

Key Features

- Wide-area surveillance capability used for standoff examination of an area for materials of interest
- ChemImage Multi Conjugate Filter (MCF) technology used for wavelength tuning
- Noncontact, passive sensing that does not require lasers or reagents for detection
- Detection of materials of interest including altered surfaces, chemicals and precursors
- Lightweight, portable, and battery powered
- Detection of materials on many surfaces including people, vehicles, and buildings
- Embedded motion compensation enabling handheld operation
- Optimized system design and efficient software for real-time data collection & processing



Target Applications

- Screening for unlawful materials by law enforcement or border patrol
- Screening and detection of explosives and explosive precursors in uncontrolled environment by bomb squad teams
- Screening and detection of chemicals by first responder and hazmat teams
- Critical infrastructure and private security
- Entry and/or traffic control point vehicle and personnel screening such as transportation security
- Border checkpoint surveillance by immigration and customs officials

Specifications

Device Type	SWIR hyperspectral imaging device
Detected Threats	Chemical and explosive threats, precursors, and narcotics
Standoff Range	1-20 m
Horizontal Viewing Region	Close up: 0.33 m @ 1 m Standoff Widefield: 6.2 m @ 10 m Standoff
Angular Field-of-View	18.0°
Dimensions	14"L x 8"W x 8.25"H
Weight	Sensor: 6.3 lb. Battery: 2.0 lb.
Power Supply	83Wh Li-Ion rechargeable battery pack Sensor: 14.5 W Lighting: 28 W
Accessories	Auxiliary lighting for operation in low light conditions