



3D Imaging Through Wall Radar **CEM440**

CEM440 3D through wall radar is a detection device based on UWB radar technology and biomedical engineering technology. It can penetrate obstacles such as building walls, and obtain real-time information such as 3D imaging, position,

posture, and quantity of human targets. It is widely applied for variety of emergency search tasks include but not limited to street fighting, counter terrorism, hostage rescue, border security, etc.



Portable HCI & Data Management

Featuring foldable handles and compact form factor for single soldier operation, with intuitive user controls, bidirectional Type-C charging, and real-time detection data recording/re-play capabilities for mission analysis.



Multi-Layer Penetration & Reconstruction

Utilizing low-frequency broadband FMCW radar to penetrate non-metallic barriers (walls, floors, masonry) across adjacent levels, while reconstructing structural layouts and providing obstacle-avoidance guidance with tactical breach point identification.

Multi-Target Tracking & Visualization

Delivering combat-accurate 3D imaging and spatial localization of moving/static targets with posture recognition (standing/crouching), supported by adaptive 3D/2D/1D displays that contextually highlight environmental obstacles.

Extreme-Environment Endurance

Engineered for 24-hour continuous operation in all-weather conditions (rain, fog, snow, dust) via extended battery life and IP67-rated environmental hardening.

SPECIFICATIONS

Permeable Media	Building walls, floor slabs, cement, gypsum, concrete, glass, wood and other non-metallic, low-water content objects
Thickness of Wall Penetration	≥37cm (brick-concrete wall)
Detection Distance	≥50m
Multi-target Capacity	≥5
Battery Life	≥9h (2 batteries)
Host Size	≤500mm×450mm×50mm
Host Weight	≤5.2kg (including battery)

