



FEATURES & BENEFITS

- High performance UWB ranging and radar
- Centimeter-scale precision over hundreds of meters
- Collected waveform data logged to MATLAB-compatible files
- Sample C and MATLAB code allow development of custom applications
- FCC-certified transmissions
- Independent operating channels allow multiple users in the same area

TEACHING & RESEARCH AREAS

- Electromagnetics and RF propagation
- Precision range measurement, tracking, and navigation
- Radar
- RF Communications
- Ad hoc network formation
- RF image processing
- Target tracking based on radar or two-way ranging

KIT ELEMENTS

- 10 KinetIQ 100 dev boards in protective enclosures
- 20 Broadspec UWB antennas
- 10 Rechargeable USB batteries with chargers
- RangeNet software (supports networks up to 10 nodes)
- Monostatic Radar Module (MRM) software
- Channel Analysis Tool (CAT) software

A full microlocation lab for research and education

Humatics' KinetIQ 100 Lab offers researchers and educators the full spectrum of microlocation functionality – ranging & localization, communications, radar, and channel analysis. The Lab bundles KinetIQ 100 development boards with a variety of software tools intended to support product development, postgraduate research, and undergraduate labs.

The KinetIQ 100 Lab has been used for a variety of research activities, including but not limited to:

- Development of UWB Networks
- GPS-denied navigation and tracking
- Radar imaging and vital signs detection
- Development of multistatic radar sensor fields
- Fused ranging/communications/radar applications
- RF propagation and channel modeling

The Lab is a powerful teaching tool intended to bridge the gap between theory, as presented in lecture and text, and practice, as demonstrated in a laboratory exercise. The Lab is also ideal for Senior and Capstone projects or researchers working on larger microlocation initiatives.