

P440

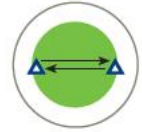
The world's most capable UWB smart sensor



location



radar



comms



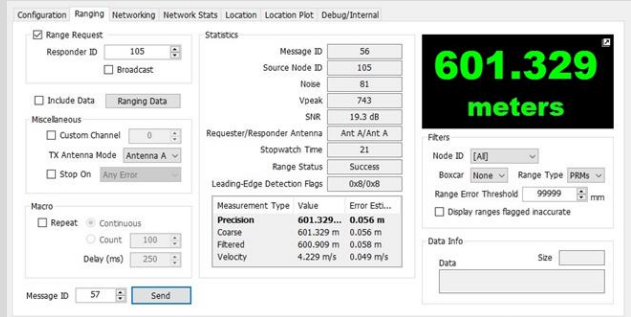
- **Most precise two-way ranging radio on the market today (<2 cm accuracy)**
- **Fully coherent short-range radar offers excellent clutter rejection and 1.4 GHz instantaneous bandwidth**
- **OEM device capable of operation at industrial temperatures and in high shock/vibration environments**

The PulsON[®] 440 (P440) is Time Domain's high performance UWB OEM module, featuring the company's revolutionary FIFE (Fully Integrated Front End) custom silicon chip. The versatile P440 excels as an extremely precise ranging radio or radar sensor in the type of high multipath, highly reflective environments where GPS and other systems struggle.

Dimensions	56 mm x 103 mm x 18 mm* *Includes antenna connectors and Ethernet RJ-45 jack
Input Power Range	4.5V to 48V DC
Typical Power Consumption	1.8 Watts
User Interface Options	Ethernet, USB, Serial, SPI, CAN
Ranging Performance: Clear Line of Sight (CLOS)	Accuracy (bias error): 2.1 cm Max Operating Range: 300 m to 1100 m, depending on antenna height and ground surface characteristics
Radar Performance	Detection Range: 40 m (FCC / EU compliant power), 80 m (high power)
Spectrum	Region 1, US FCC Part 15: 3.1 to 5.3 GHz (certified) Region 2, EU ETSI EN 302 065: 3.1 to 4.8 GHz

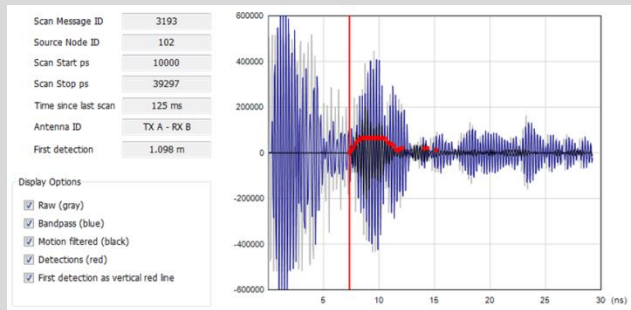
Software

Time Domain's RangeNet localization software enables both peer-to-peer ranging as well as a layer that automates the ranging process for network operation, and allows users the option of creating custom networks based on ALOHA or TDMA scheduling. A location layer takes the coordinated range measurements and converts them into real-time 2D locations. RangeNet supports automatic survey of anchor nodes and Extended Kalman Filtering (EKF) for autonomous navigation of mobile nodes.



RangeNet Ranging Tab displays distance measurements and real-time statistics

The Monostatic Radar Module (MRM) software allows a P440 to function as a simple monostatic radar device, issuing raw and filtered waveform scans as well as detection lists consisting of the distance and reflection amplitude of targets within its scan range. The Channel Analysis Tool (CAT) software provides the ability to perform propagation analysis, measure communications statistics, and operate as a bistatic or multistatic radar.



MRM software displays raw radar returns as well as bandpassed, motion-filtered, and detection data

Development Kits and Lab Packages



The P440 PulsON[®] Lab

Time Domain offers a variety of kits and packages that serve as entry points for developers, researchers, and students based on your application need.

P440 Ranging and Localization Development Kit
(includes 5 modules and RangeNet software)

P440 Radar Development Kit
(includes 2 modules with MRM & CAT software)

P440 PulsON[®] Lab
(includes 10 modules with RangeNet, MRM, and CAT software)

Each Kit / Lab package includes engineering support hours to assist new users with development questions. **Contact us today to put the power of PulsON[®] to work for you.**