PulsON 452

Radar Development Kit

Ultra Wideband is redefining radar performance for the toughest environments

The TDSR Radar Development Kit is designed for developers aiming to integrate Ultra Wideband (UWB) radar into their products and applications. Its core platform, the PulsON 452 (P452) radar sensor,can be used as a standalone monostatic radar or as a system of bi- or multistatic radars. Using the UWB pulsed signaling technique, it is a cost-effective replacement for more expensive radar sensors in many detection and monitoring applications, both indoors and outdoors, and in all weather and lighting conditions. It adds a unique capability to augment existing security technologies and provide real-time alerts, camera cueing, and interdiction functionality.

Using the Monostatic Radar Module (MRM) software, raw waveform scans can be displayed in real-time, as well as detection lists consisting of the distance and reflection amplitude of targets within its scan range. Sample C and sample MATLAB code are provided so that researchers and educators can write their own applications. The published API also supports user creation of custom interfaces.

The Channel Analysis Tool (CAT) software allows Radar Development Kit users to view and log the waveforms as they propagate through an RF channel. These captured waveforms can be used as a propagation tool to develop a channel model or as a bistatic or multistatic radar.

FEATURES & BENEFITS

- Monostatic / Bistatic / Multistatic radar operation
- Exceptional clutter rejection
- High resolution
- Short range operation (a few inches to hundreds of feet) with minimal blind range
- Detailed API with sample C and MATLAB code
- Highest possible RF bandwidth at the lowest possible center frequency
- Fast update rates (up to 20 kHz)
- Raw radar scan data can be motion filtered and processed for detections / Doppler shift
- Ideal for propagation analysis and development of RF channel models
- OEM device capable of operation at industrial temperatures and in high shock/vibration environments
- 5G-compatible or full UWB versions available

APPLICATIONS

- Motion / presence detection
- Synthetic Aperture Radar (SAR) imaging
- Vital sign detection and monitoring
- Tagless people tracking
- Collision and obstacle avoidance
- Drone altimetry / detection
- Security fences and proximity sensing
- Advanced research & education

KIT ELEMENTS

- 2 P452 OEM radar sensor modules in protective enclosures
- 4 BroadSpec UWB antennas
- 2 Rechargeable USB batteries with chargers
- Monostatic Radar Module (MRM) software
- Channel Analysis Tool (CAT) software
- 5 hours of engineering support (phone/email)