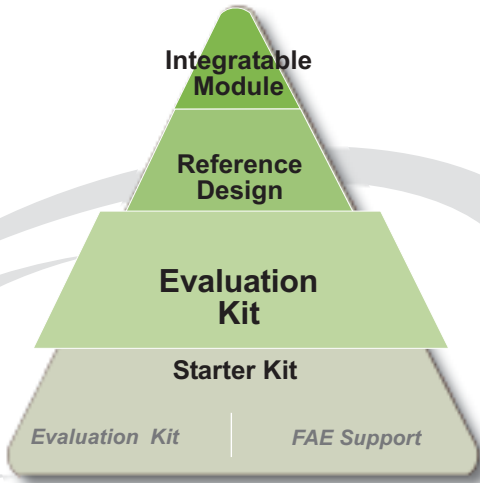


Fostering Ultra-Wideband (UWB) Innovation and Integration

Evaluate | Innovate



The PulsON 220 family of products supports customers beginning with UWB familiarization, through every step to final UWB-based product deployment. We have encapsulated Time Domain's industry leading technology and experience in user-friendly packages, demystifying UWB and accelerating our partners to success.

- Starter Kit —————> Discover and Experiment
- **Evaluation Kit** —————> **Evaluate and Innovate**
- Reference Design —————> Implement and Prototype
- Integratable Module —————> Integrate and Deploy

No other company provides such a comprehensive suite of UWB development tools, nor supports you so thoroughly with its industry leading team of engineers.

Product Description

For those ready to proceed toward a UWB deployment, Time Domain's PulsON 220 (P220) UWB Evaluation Kit (EVK) is a flexible hardware platform intended to serve researchers as well as developers. The EVK includes two P220 UWB Reference Design (RD) radios, operational documentation, and software. These tools allow you to evaluate the performance, capabilities, and properties of UWB technology. The EVK enables you to perform complex UWB system performance studies and provides the ideal platform for application development and proof-of-concept prototyping through flexible software interfaces.



Time Domain's PulsON 220™ EVK includes two UWB radios, and the Systems Analysis Module (SAM).

Support for PulsON 220 Evaluation Kit

Many customers find that continued interaction with Time Domain during every phase of product development can save time and money. We offer comprehensive UWB product training and Field Application Engineer (FAE) support from senior UWB engineers. You can purchase this type of support as-needed, or bundled with an Evaluation Kit (EVK) in Time Domain's UWB Starter Kit. More importantly, our industry-leading engineers team with you during every phase of UWB evaluation, product prototyping and deployment through custom engineering support contracts. Please contact your international distributor or Time Domain directly at 256.990.4217 or via email at support@timedomain.com for further details.



Software Applications

Systems Analysis Module (SAM)

The PulsON 220 System Analysis Module is a software module that can be used to perform Propagation Studies, Data Rate Studies, Performance/Quality of Signal Analyses, Ambient Noise Analyses, and Link Budget Analyses. Statistical Tools include Throughput, Eb/Neff, Bit Error Rate, Total Packets Sent, Dropped Packets, Acquisition Statistics, Forward Error Correction, and Nulling.

UWB Radio Sample Application (URSA)

This sample application of a simple radio analysis tool shows users how to interface with the UWB Kernel to develop embedded applications. URSA includes source code and implementation notes, and enables the user to evaluate radio parameters such as data rate, variable gain, and acquisition threshold and to capture and display a sample waveform.

Documentation

PulsON 220™ Programming Guide

This guide thoroughly describes Time Domain's UWB Kernel for users familiar with the VxWorks development environment. Users can host embedded applications on the available StrongARM microprocessor.

PulsON 220™ Getting Started Guide

This guide takes the user from initial radio set-up through first power-up and radio connection to the computer interface.

Specifications

- PRF (Pulse Repetition Frequency): 9.6 MHz
- Center Frequency (radiated): appr. 4.7 GHz
- Bandwidth (10 dB radiated): 3.2 GHz
- EIRP: -12.8 dBm
- Power Consumption: 5.7 Watts
- Dimensions: 16.5cm x 10.2cm x 5.1cm (housing w/o antenna)

Fused Ranging & Communications Sample Application

The fused communications and ranging sample application provides source code and application notes demonstrating how to create a fused (communications and ranging) UWB packet for simultaneous real-time data transmission and ranging between two radios.

Bi-Static Radar Application

The Bi-static Radar (BSR) application demonstrates how to use 2 P220s in a bi-static radar configuration. BSR consists of an embedded component running on the radio, which is provided as a binary module, and a PC-based GUI sample application, which is provided in source form. The BSR Programming Guide describes in detail the Transmission Control Protocol/Internet Protocol (TCP/IP) socket interface to the embedded component. Customers may use the BSR GUI sample to investigate UWB radar technology, or they may employ it as a guide for developing custom bi-static radar applications.

PulsON 220™ Application Notes

The P220 EVK documentation includes application notes for each of the provided sample applications: Fused Ranging & Communications, URSA, and Bi-Static Radar. Each provides a detailed explanation of how to load and run the application. The Bi-Static Radar Application also includes its own programming guide.

Raw Data Rate	Free Space Average Range of Operation	Residential / Office Average Range Of Operation
9.6 Mbps	17-20 meters	6.4-7.4 meters
2.4 Mbps	35-40 meters	10-12 meters
600 kbps	70-80 meters	16-19 meters
150 kbps	130-160 meters	25-30 meters

Data based on standard FCC 15.517 power.

Suggested Markets for PulsON Technology

COMMUNICATIONS

- Secure Data Links & Networks
- Unmanned Vehicle Command & Control Systems
- Wireless Intercoms
- Wireless Telemetry

RADAR

- Intrusion Detection
- Remote Breathing Detection
- Target Detection, Classification & Tracking
- Obstacle Avoidance
- Proximity Fuzing

TRACKING

- 1st Responder/Soldier Tracking
- Precision Surveying & Measurement
- Real-Time Location Systems for Delivery Personnel & Assets
- P-Commerce
- L-based Content

- Just imagine what PulsON Technology can do for you -