

Spectra DTP4700 Probe Toolbox

Five Probes to Facilitate Efficient Waveform Development and Debugging

The Spectra DTP4700 Probe Toolbox is designed to reduce turn-around time for developing new waveforms on Spectra DTP4700 by providing a multi-processor debugging capability during integration.

The Probe Toolbox is a real-time debugging tool with the ability to probe and excite waveform elements, thus allowing the piecemeal integration of waveform components one-by-one, and the validation of component temporal, processor, and memory behaviors independently. Probe data is visualized either with the toolbox's internal visualizer, ProbeViz, or through MATLAB/Simulink, thus eliminating the need for additional 3rd-party tooling licenses for data visualization.

The toolbox's **Data Probe** allows monitoring or injection of real-time system flow data. The **Resource Probe** provides graphical or textual representation of memory and CPU utilization, CPU resources, and allow memory Peeks and Pokes. The **Latency Probe** provides a graphical display of latency for user-defined probe points based on a uniform system time reference. The **Traffic Probe** captures and displays network traffic. The **SCA Adapter Probe** provides latency, traffic and data probes in an SCA-compliant environment. By using the Probe Toolbox, a developer or systems engineer can thus study real-time data in any connected waveform with ease.

Benefits

- ▶ Using the Probe Toolbox through the waveform porting cycle
- ▶ Increases engineer productivity
- ▶ Reduces porting and integration effort
- ▶ Decreases defect-error rates
- ▶ Reduces time-to-deploy
- ▶ Lowers overall project cost and schedule risk
- ▶ With the Probe Toolbox, the waveform developer can study critical waveform and platform traffic on multiple processors and the interaction between the processors.

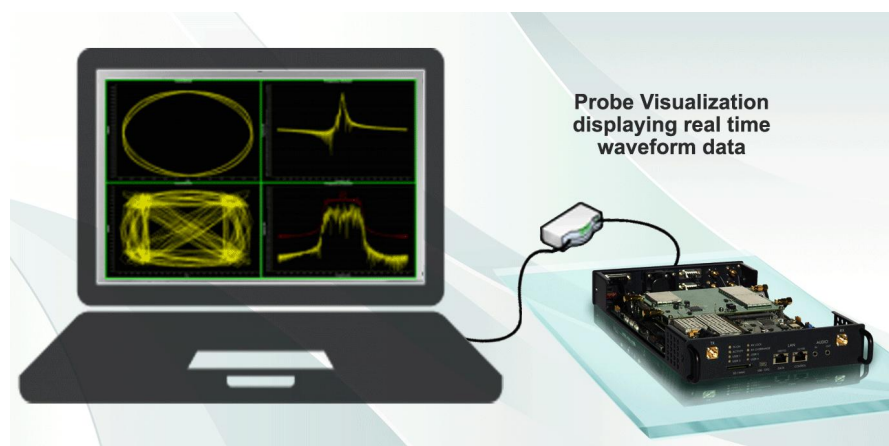
Features

- ▶ Data Probe
- ▶ Inject or capture GPP/DSP stream data
- ▶ Synchronize and trigger multiple probe points
- ▶ Capture block data
- ▶ Interface to MATLAB/Simulink

- ▶ Resource Probe
 - Memory and CPU utilization graphs
 - CPU resource detail
 - Memory Peeks and Pokes
- ▶ Latency Probe
 - Capture and display timestamp information with a synchronized time base across the GPP and DSP
- ▶ Traffic Probe
 - Capture and display network traffic
- ▶ SCA Adapter Probe
 - Integrated with PrismTech's Spectra Core Framework to show traffic, latency, and data in an SCA environment

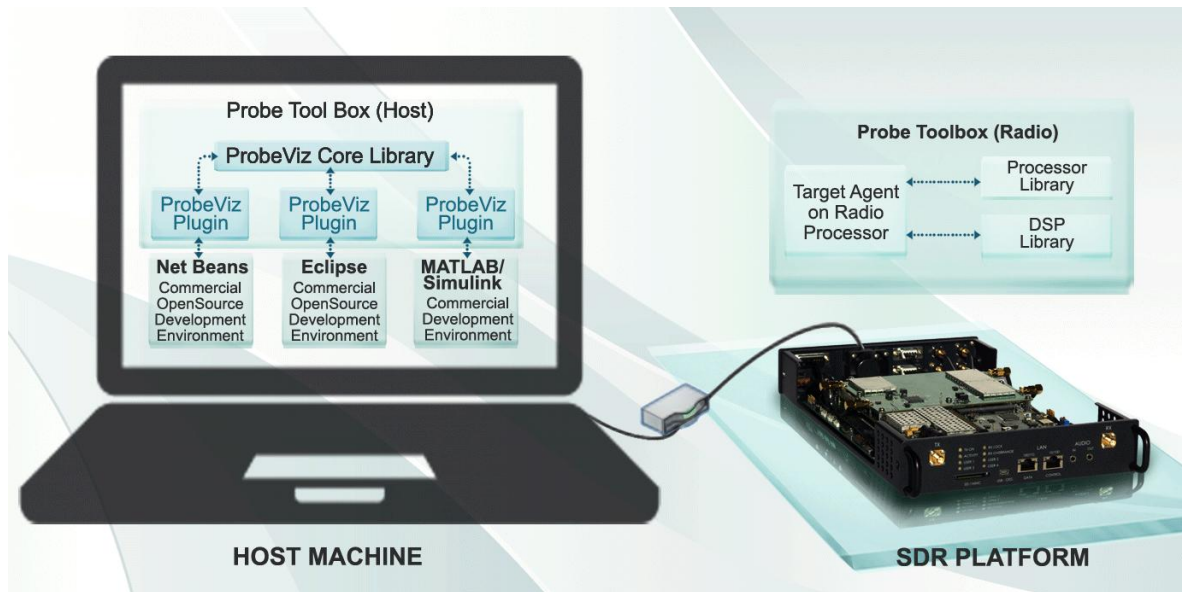
Applications

- ▶ Validate waveform and platform data by applying probes at varying points in the GPP and DSP
- ▶ Gather data in heterogeneous multiprocessor environments

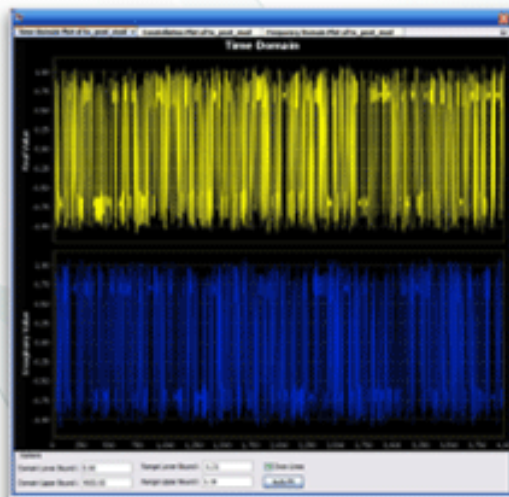




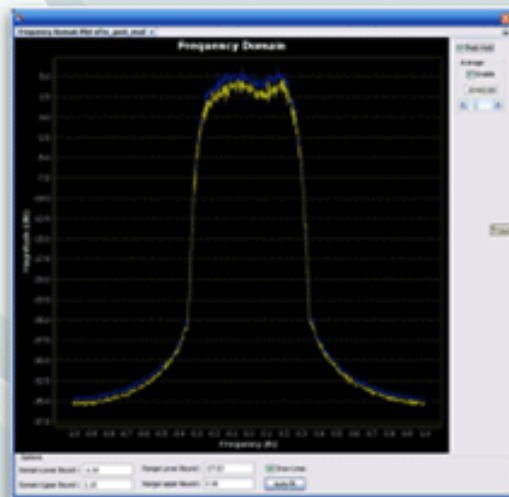
Probe Toolbox Configuration



Probe Visualizer Examples



Real-time I&Q samples gathered with the data probe and displayed with ProbeViz (Time Domain)



Frequency domain plot with smoothing functions provides real-time spectrum analysis