

RADAR AND ELECTRONIC WARFARE

EFFICIENTLY DESIGN AND VALIDATE RF SYSTEMS





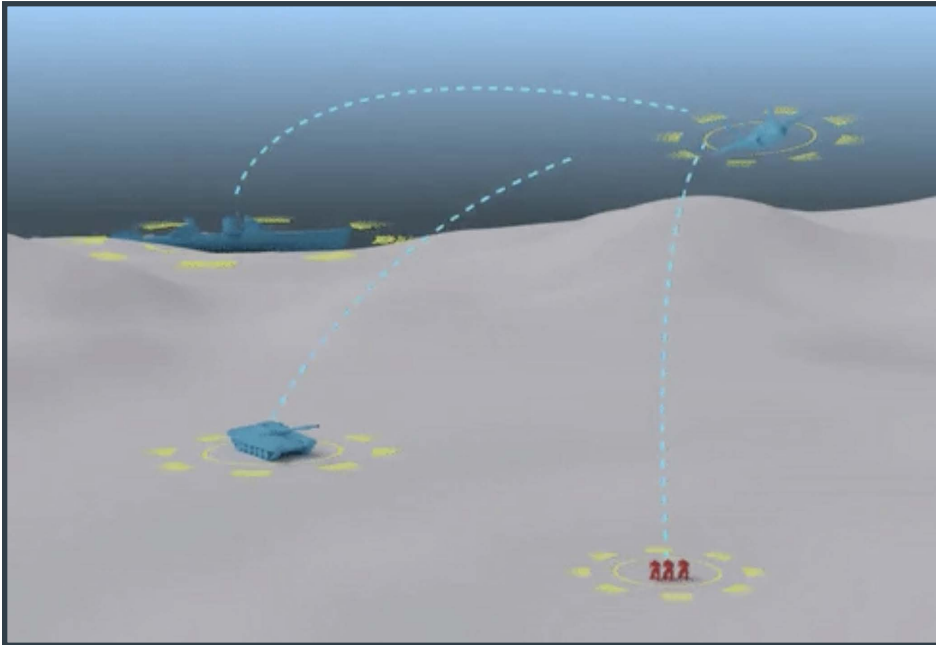
PRODUCTS FOR THE ENTIRE SYSTEM DEVELOPMENT LIFECYCLE

Tektronix offers a wide range of hardware and software built to help you design and test mission-critical RF systems, such as military comms, radar and electronic warfare—from algorithm prototyping to testing to ongoing maintenance. Our products are choreographed to work together seamlessly to help you design and validate systems more efficiently. And with industry-leading pre- and post-sale support, Tektronix is a true partner in design.

Explore a selection of our Aerospace and Defense products below, including ultra-wide bandwidth arbitrary waveform generators as well as real-time spectrum analyzers and oscilloscopes that display time-correlated measurements.



RE-CREATE REALISTIC RF ENVIRONMENTS AT ULTRA-WIDE INSTANTANEOUS BANDWIDTHS



With ultra-wide instantaneous bandwidths, AWGs can help you evaluate RF systems in the lab with emulations of extremely realistic electromagnetic environments and operational conditions.

Recreating realistic RF environments often requires chaining together multiple vector signal generators, which historically have compromised on bandwidth and signal fidelity. With arbitrary waveform generators (AWGs), you can instantly recreate complex signal environments at ultra-wide bandwidths—much wider than those created by any vector signal generators.

Whether you're playing back real-life recordings, creating software-simulated waveforms and noise, or importing custom waveforms from external tools, AWGs are the ideal tool for the job. With extended memory options, phase-aligned channels and pre-compensation, an AWG can help you produce identical signals, every time.

TROUBLESHOOT FASTER WITH TIME-CORRELATED MEASUREMENTS

When designing RF systems, identifying defect origins in hardware, firmware and software can be a challenge. Because problems are identified when looking at signals in a frequency domain, you're forced to use multiple instruments to tediously identify the time signal associated with the frequency behavior.

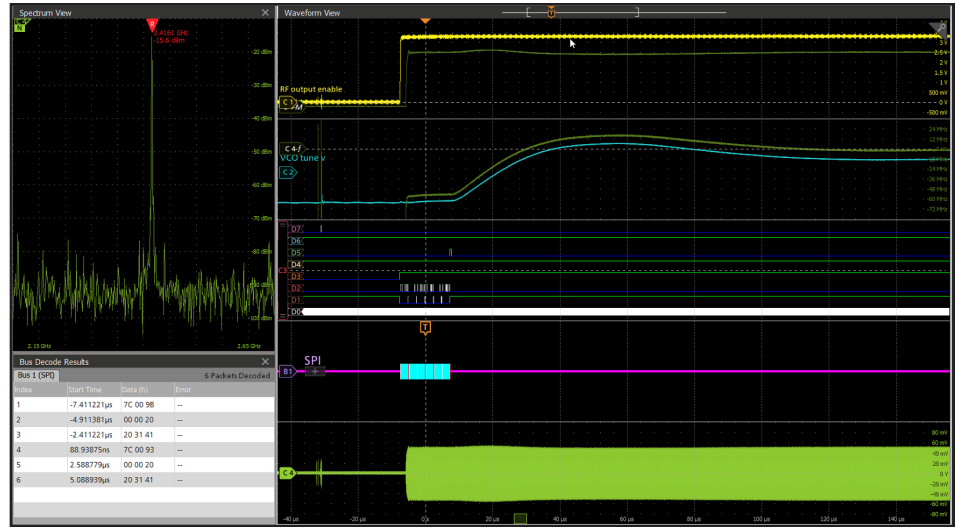
Tektronix's SignalVu-PC software allows for time-correlated RF measurements, so you can identify defects and debug systems faster.



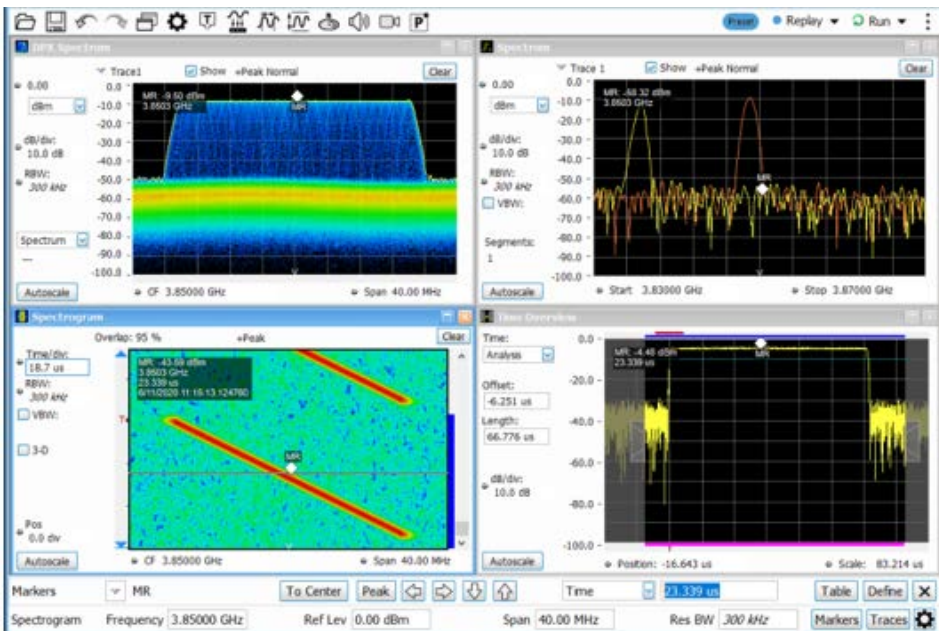
THE CHOREOGRAPHY OF SIGNALS

Tektronix oscilloscopes support multiple domains and multiple channels, so you can easily correlate RF signal characteristics to other signals in a system. Our oscilloscopes allow for up to eight channel inputs, each of which can be used to look at one analog signal or eight digital logic signals. Examine the RF spectrum of any channel alongside—and independent of—typical time domain measurements up to 10 GHz.

Tektronix also gives you the unique ability to capture analog, digital and RF signals simultaneously in a single acquisition, triggered by any of the three domains. For example, power supply rails, command and controls, and RF characteristics can all be tied together—along with the frequency and time domain views of the RF content—to give you a more holistic view of incoming signals.



SEE ALL SPECTRAL CONTENT IN ONE VIEW



Tektronix Real-Time Spectrum Analyzers are powered by our patented Digital Phosphor technology (DPX[®]), which allows you to view live spectral content and perform analysis in the frequency, time and modulation domain—all at the same time.

By instantly correlating your signal with other domains, you'll be able to find the source of a problem more quickly.

Spectrogram display (bottom left panel) shows the frequency of an LFM pulse changing over time. By selecting a point in time in the spectrogram during the on time of the pulse, the chirp behavior can be seen as it sweeps from low to high (upper right panel).

SIMULTANEOUSLY RECORD AND ANALYZE THE RF SPECTRUM

Previously, spectrum recorders were unable to perform a live analysis while recording a test, so the analysis team had to wait until the test was complete to run an analysis.

But with the new Tektronix Real-Time Spectrum Analyzers, you can conduct a live analysis while recording, or you can trigger on the RF spectrum during your recording to mark events of interest for later, all while storing I/Q data locally. The live view ensures you're capturing the data you need from your test event, while avoiding any unfortunate surprises during post-processing.

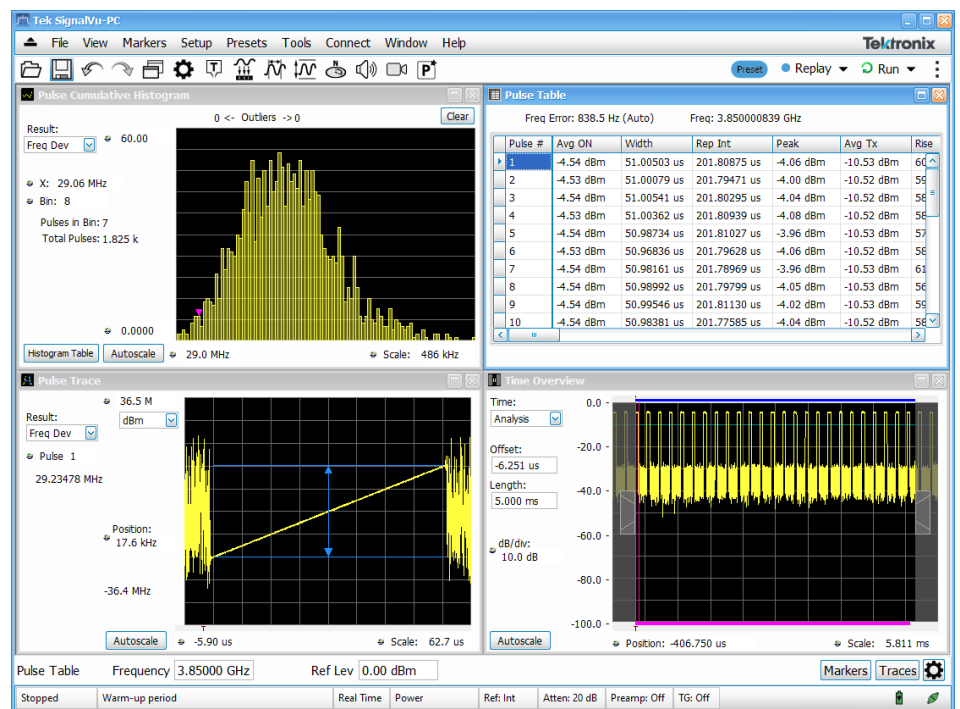


Streaming IQ with Ethernet

ANALYZE PULSE CHARACTERISTICS WITH GREATER ACCURACY

Knowing your system's time domain characteristics such as pulse width and repetition interval are just as important as its frequency and phase characteristics. Too often, mission-critical RF system failures are a result of pulses not being generated correctly in the time and frequency domain, so it's essential to be able to properly analyze pulse characteristics.

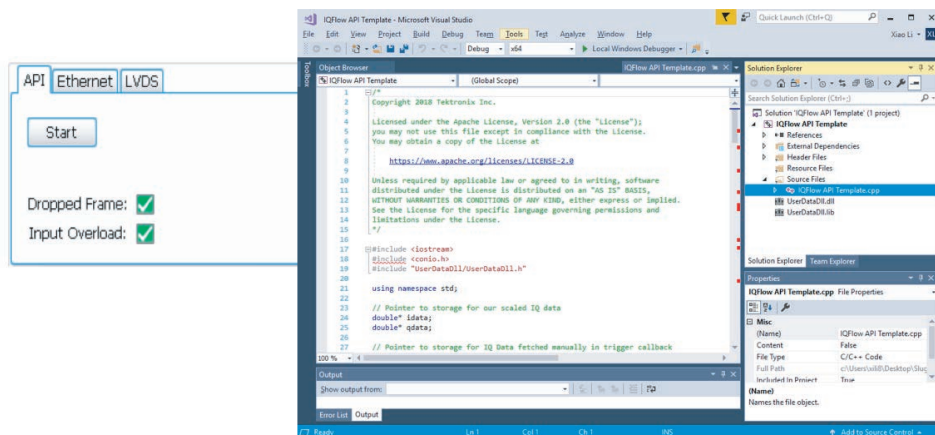
Tektronix software gives you the most in-depth understanding of your radar pulses by simultaneously analyzing millions of pulses, over 31 different measurement parameters, giving you the most complete picture of your system performance.



PROTOTYPE EW ALGORITHMS FASTER WITH REAL-TIME SIGNAL PROCESSING

Speed up demonstration of your new electronic warfare algorithms by streaming I/Q data into your own application through a software API with IQFlow™.

With this new technology, custom applications can run on a commercial off-the-shelf platform, enabling your program to speed up the prototyping and experimentation process before needing to change or develop hardware for your system.

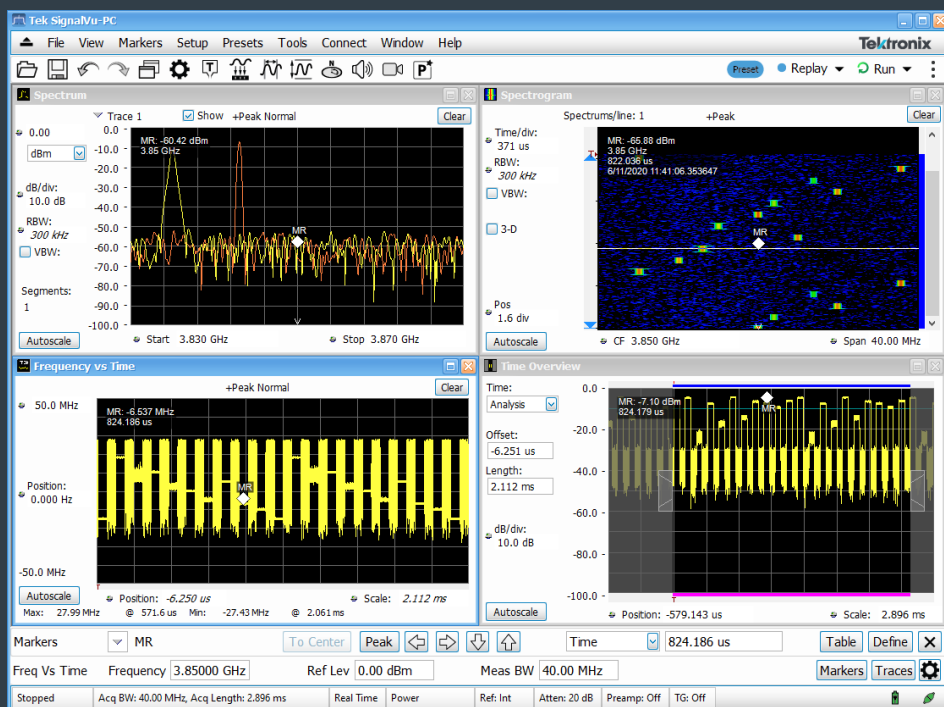


Streaming IQ to Custom Application

DESKTOP ANALYSIS WITH SIGNALVU-PC

SignalVu-PC provides a detailed analysis of the signals captured by real-time spectrum analyzers and select oscilloscopes, and is available as a free download from Tek.com.

The application's time-correlated, multi-domain view provides a new level of insight into design problems not available with conventional analysis solutions.





AEROSPACE AND DEFENSE SOLUTIONS

Real-Time Spectrum Analyzers

Our industry-leading real-time spectrum analyzers are powered by SignalVu-PC software and provide advanced analysis capabilities. Tektronix offers a suite of powerful RF analysis solutions delivering high fidelity and low noise to provide the RF situational awareness you need.



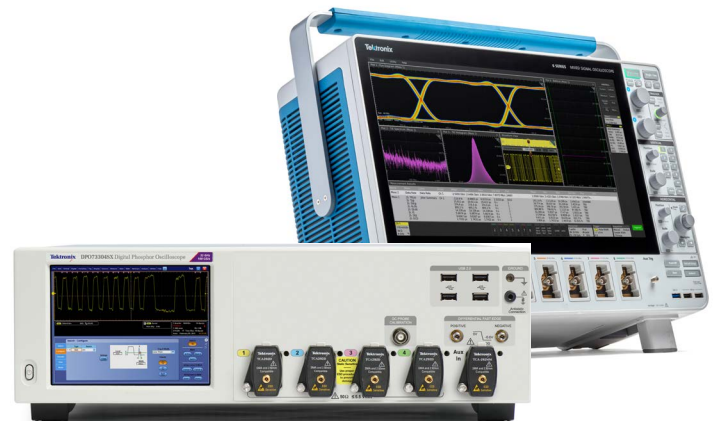
Arbitrary Waveform Generators

Tektronix arbitrary waveform generators (AWGs) enable complex signal generation with simple, easy-to-use tools. The AWG family provides leading-edge performance with instantaneous bandwidths up to 20 GHz or up to eight channels and software packages that simplify the creation of these complex signals.



Oscilloscopes

Gather data faster for your wideband RF research with ultra-wide bandwidths, easier signal connectivity and the flexibility to perform open-ended online and offline analysis of RF signal behavior. Tektronix oscilloscopes also include robust pulse analysis and demodulation tools with our SignalVu spectral analysis package.



Bench Instruments

Tektronix and Keithley bench instrument solutions range from Digital Multimeters (DMMs) and Arbitrary Function Generators (AFGs) to Source Measure Units (SMUs) and RF Switches. Gather more with the fastest digitizing DMMs in their class, debug less with ArbBuilder on the AFG31000 Series, and do more with the easiest to use graphical SMUs.



YOUR PARTNER IN DESIGN, FROM THE LAB TO THE FIELD



Tektronix is a leader in delivering integrated measurement tools that help military and government personnel accurately recreate the physical and electromagnetic environment exposed during field operations and electronic warfare.



Let us help you see aspects of your signals that were previously invisible and recreate stimuli and environmental factors with impressive fidelity. Tektronix gives you the insight to increase the capabilities of your systems, shorten your design cycle and build confidence in your final design.

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