

Radar / Electronic Warfare Solutions Fact Sheet

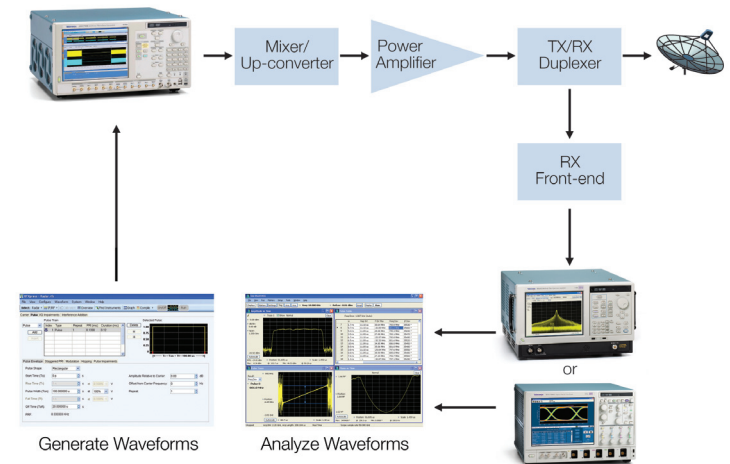
Performance Precision and Insight for Your Radar / EW Designs

The availability of high-speed components (DACs/ADCs/DSPs) has enabled modern radar to improve target ranging and recognition, and where necessary, also avoid detection. Recently employed pulsed techniques involve hopping agility, wider bandwidth chirps, and advanced dynamic pulse coding to improve target detection and resolution. Radar development teams have often seen the need to develop custom test benches to fully characterize and validate their designs due to the lack of commercial off-the-shelf solutions for design and development.

The latest commercial test equipment has enough bandwidth, resolution, timing accuracy and RF performance that can be coupled with automatic signal generation and analysis software to reduce development costs and speed time-to-market for emerging radar designs. While radars can internally test their own function, the validation and verification of emissions and immunity to the anticipated environment require independent test tools.

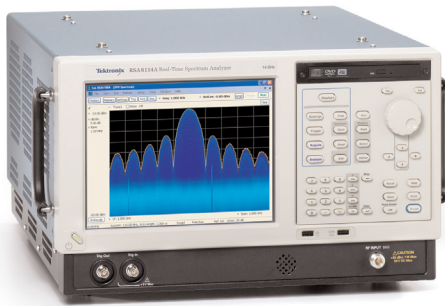
Radar / Electronic Warfare Challenges:

Transmitter Design Verification	<ul style="list-style-type: none"> ■ LO feed thru ■ Signal and power supply coupling ■ Improper hopping sequences at non-zero phase crossing ■ Dynamic changes to modulation, power, or linearization correction that are not sample aligned to baseband ■ Software errors or illegal state values
Stimulus Test	<ul style="list-style-type: none"> ■ Sensitivity and interference testing from the expected operation environment ■ Generation of expected interference signals to verify blocking performance ■ Margin testing of known Tx variables
Testing with Confidence	<ul style="list-style-type: none"> ■ Reproducible test results for short-frame measurements: rise/falltime, droop, pulse width, occupied spectrum ■ Trending information for long-frame analysis: pulse-to-pulse measurements, frequency and power drift, etc.



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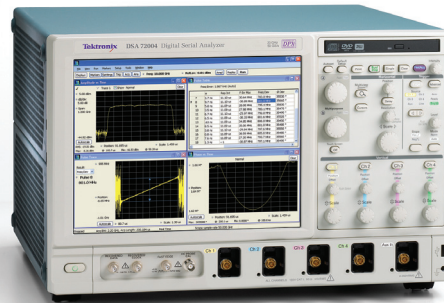
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Transmitter Design Validation

RSA Series Real-Time Spectrum Analyzers

- Discover elusive spectrum events with 100% probability with over 292,000/s spectrum updates and Swept DPX (RSA6000)
- Trigger and isolate spectrum events with 100% probability using patented DPX Density™, Frequency Mask, and Time-qualified Triggering
- Capture the entire short and long frame pulses with the highest combined dynamic range and bandwidth
- Get repeatable results faster with automated pulse measurements for complete pulse and sequence analysis
- Speed troubleshooting with correlation of frequency, time, modulation, and statistical domain on single acquisition



Wideband Transmitter Design Validation

DPO/DSA Series Oscilloscopes with SignalVu™ Software

- Quickly find intermittent events with DPX® acquisition technology that displays up to 250,000 wfms/s
- Pinpoint timing anomalies with full sample rate and record length across all 4 channels
- Analyze the entire short and long frame pulses utilizing the entire memory available in your oscilloscope
- Simplify testing and improve time-to-insight with automated pulses measurements for complete pulse and sequence analysis
- Find difficult problems faster with time-correlated multi-domain analysis



Stimulus for Design Validation

AWG Series Arbitrary Waveform Generators with RFXpress® Software

- Generate digital baseband and analog baseband, IF, RF, and microwave signals with versatile multi-channel AWG
- Synthesize high dynamic range signals directly with up to 9.6 GHz signal bandwidth
- Easy creation of very complex and repeatable radar signals using RFXpress® software
- Verify component and functional designs by emulating common transmitter impairments
- Quantify blocking and desense receiver performance with direct synthesis of both in-channel and out-of-channel interference

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