# **RFST** RADIO FREQUENCY SCORING TOOL



Textron Systems' Radio Frequency (RF) Scoring Tool (RFST) takes the guess work out of RF environment simulation. During RF environment simulation, the RFST provides clear persistent scoring and recording of the RF simulator's performance. The RFST digitizes all RF signals in the form of digital Pulse Descriptor Words (PDWs) and associated In-phase/Quadrature (I-Q) data. This massive data stream is recorded for later (Post-Scenario) Analysis. Additionally, the RFST provides a real-time visual display of the accuracy of the RF output. The Red/Green indicator is visible across the room. The post analysis toolset allows an unlimited number of users to simultaneously assess previous RF simulator performance with compelling visual representations. The RFST is a perfect complement to our A2PATS product line and is one more reason to be confident that Textron Systems has everything you need for multi-spectral environment simulation.



**TEXTRON** Systems

PUSHING PAST POSSIBLE

# RF SCORING TOOL FOR VALIDATING RF SIMULATOR SIGNAL OUTPUT

#### **TECHNICAL SPECIFICATIONS**

- > 2 to 18 GHz Frequency Range
- > Dual channel recording and operation
- > RF power measurement accuracy of +/- 0.5 dB
- > 48 ns pulse width detection
- Measured PDW/IQ data PRI of 1.5 usec sustained and 0.3 usec burst
- Real-time PDW scoring with 2 Hz update rate
- Post analysis Range Gate Pull OFF (RGPO), Velocity Gate Pull Off (VGPO) and Coordinated Range Gate Pull Off (CRGPO)
- PDW evaluation on an individual PDW basis

- Post analysis display of amplitude, frequency, frequency shift, pulse width, pulse repetition interval (PRI), intrapulse modulation (AMOP, FMOP, or PMOP), spectrum waterfall plot (3-D), histograms
- Automated calibration and performance verification routine
- > 40 GbE network for fast file transfer
- Real Time Display of detected amplitude, frequency, pulse width, and pulse repetition interval
- 64 TB of hard drive space dedicated to I/Q data recording

## BENEFITS

- Know immediately how accurately RF outputs match commanded PDWs
- Record hours of high-fidelity I/Q data for post-analysis
- Have multiple users post process RF Data simultaneously
- With bank switching, RF can be recorded while previous run is being offloaded and analyzed

#### **REAL-TIME COMPARISON**

- Collects and digests data and displayers in user-friendly format
- > Provide continuous comparison of command vs. output
- Performance metrics can be filtered based on target metric (Frequency, PRI, etc.)
- Show persistent, instantaneous output from each individual source

### **TECHNICAL PERFORMANCE**

- Analysis of PDWs and associated BDIF frequencydomain, time-domain, and modulation domain data
- > Deinterleaving and filtering of pulsed data in real time
- > Clearly view pulse summary, statistics and histogram
- Overall Pass/Fail indication for each PDW and percentage of all PDWs that failed
- Visualization of PDWs, amplitude, frequency, frequency shift, pulse width, PRI, MOP, spectrum, waterfall, and histograms
- Queue up I/Q data from corresponding PDW for realtime validation and detailed analysis





