



HF transmitter performance assessment program

Simultaneously measures points in transmitter chain for spectral purity measurement and glitch analysis

BAE Systems Australia's Advanced Direct Digital Receiver (DDRx) and Digital Waveform Generator (DWG) technology has been used to assemble a Transmitter Performance Assessment Program (TPAP) system that is more advanced than any other OTHR transmitter measurement system. It can be scaled up from measuring a single point in the transmitter chain to up to six points simultaneously.

TPAP uses next-generation radar DDRx receivers and waveform generation equipment to assess the performance of a transmitter chain or a group of transmitters. You can connect to points along the transmitter chain and analyse the performance of each component.

TPAP can be configured to use the waveform generation equipment. Waveforms can be captured to allow correlation with the transmitter signal or emulated to allow correlation with the theoretically precise signal. Provision is made for external timing reference, which allows synchronous deployment of multiple receivers with the transmitter's legacy waveforms. TPAP is also capable of running stand-alone, using freerunning oscillators.



The inbuilt BAE Systems DWG can be connected into the chain to allow testing of individual components.

TPAP provides real-time updates of spectral purity ratios (SPR), range doppler maps and transient analysis. All raw data collected can be saved for processing.

TPAP uses BAE Systems-developed software, which was written to support transmitter performance measurements. The System Performance Analyser (SPA) runs on an Intel/Windows XP/Vista based platform. SPA can control up to six DDRx and one DWG.

It provides all the functionality required to conduct a TPAP through control and display windows.

- BAE Systems Advanced Direct Digital Receiver and Digital Waveform Generator technology
- Multiple receiver/measurement point configuration
- Real-time spectral purity ratio analysis
- Real-time transient amplitude analysis
- Raw data capture for offline analysis
- CW or FMCW waveforms.

Specifications

Transportable rack

Operation	110/240VAC 50-60Hz
Test frequency range	2 to 45 MHz
Number of channels	up to 6
Transient detect	<10mdB
Input	+6 dBm max DDRx

Custom input attenuators to suit customer needs

Equipment sensitivity

- Far SPR	>140dB
- Near SPR	>120dB
- Close SPR	>115dB

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