testforce

THE
SIGNAL

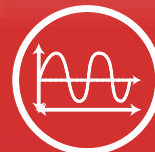**Cable Sweeping**

Subscriber Gear Testing

OTA Testing

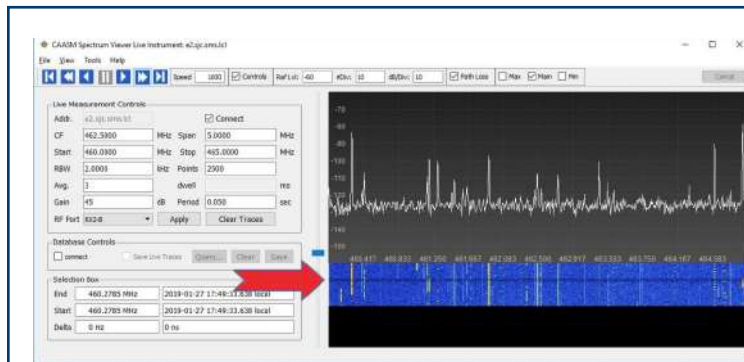**Filter Tuning**

Infrastructure Testing

General Purpose

Signal Monitoring Solutions

Defend your Spectrum!
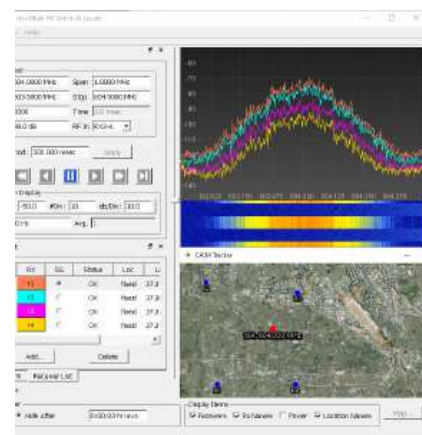## Quickly Detect, Locate and Isolate Interference Signals

- Designed to Automatically and Autonomously Monitor RF Systems First
- Cut Interference Hunting Time by up to 90%
- Rapidly Detect RF Spectrum Incursions and Anomalies
- Geo-Location Software uses TDOA (Time Difference of Arrival) to Map Interference Source
- Narrow Band Continuous 24/7 Monitoring on your Channels
- Broadband Monitoring Clearly Shows Signals that "Walk" Through Your Spectrum
- Record and Playback Provides Evidence of RF Intrusions
- Multi-Channel Monitoring Across Broad Geographic Regions
- Remote Monitor Multiple Sites from the Home, Office or Field
- Rack Mount or Portable, Battery Operated Systems Available

Capture and Overwatch

- Real Time Capture and Overwatch provides spectrum and waterfall display simultaneously
- Go back in time with stored trace data to view and verify interference issues with GPS time stamped data
- Ease of operation allows you to detect signals that could potentially interfere with your operations
- Multi-channel monitoring allows you to verify that desired channels and signals are present
- Wideband monitoring mode simultaneously looks at your entire spectrum

- Time Difference of Arrival allows users to plot the location of the transmitter generating the offending signals using multiple receivers
- Real time or historical data can be used to isolate and analyze problem signals
- CAASM Geo allows you to map, locate or track the problem signal
- GPS synchronization means all systems on the network automatically stay within time calibration
- Map data can be shared via a phone app to track the signal of interest

VIAVI — CX300

NEW

Communications Service Monitor Solution

- Frequency range from 100 kHz to 6 GHz
- P25, P25 Phase II, DMR (MOTOTRBO), NXDN, TETRA
- Multiple tab user interface, similar to an internet browser
- Intelligent color-coded meters for at-a-glance test verification
- VIAVI Auto-Test applications for all major LMR and PMR radios
- VIAVI StrataSync integration offers asset, configuration, and test data management
- Remotely control the test set using Windows, Android, and iOS with Smart Access Anywhere

VIAVI — 8800SX

Portable Analog & Digital Radio Test Set Service Monitor

- Automated test and alignment procedures for the most popular manufacturers such as Motorola (APX and APX "B") and Kenwood NXDN
- Full support for mobiles, repeaters and infrastructure testing
- 10 MHz external reference
- Battery or AC powered, ruggedized for field or bench use
- Digital Modulation Plots: distribution, constellation and eye diagram
- Tracking Generator: VSWR, return loss, DTF, and tuning duplexers
- P25, P25 Phase II, DMR (MOTOTRBO), NXDN, TETRA, dPMR, ARIB T98, PTC supported
- Optional internal in-line watt meter

Anritsu — S412E

Land Mobile Radio Modulation Analyzer

- Coverage Mapping: P25, P25 Phase 2, DMR (MotoTRBO™), TETRA, NXDN™, dPMR, PTC-ITCR, TCACSES, NBFM, FDD & TDD LTE
- Broadband Signal Analyzers: LTE, WiMAX
- Interference Analyzer with mapping & support for MA2700A Handheld Interference Hunter
- Spectrum Analyzer: 9 kHz to 1.6 GHz (opt 6 GHz)
- Cable/Antenna Analyzer: 500 kHz to 1.6 GHz (opt 6 GHz)
- Return Loss, VSWR, Insertion Loss, S11/S21, DTF, PIM Hunting
- Internal Power Meter, optional External Power Sensor
- Handheld, battery-operated design (weighs < 7.6 lbs)

Public Safety Network Testing Solution
PCTEL®

Motorola Approved

Verify and Document Critical Communications Coverage

- Grid Test Features
- Simultaneous testing – automatically test multiple public safety, cellular, WiFi and private radio frequencies with one tap
- Automated reports – pass-fail grading to comply with
- NFPA, IFC, and local codes
- Commissioning – automatically incorporate equipment room tests into reports
- Signal quality – fast, accurate, repeatable measurements for P25, DMR, TETRA, LTE/FirstNet and UMTS

VIAVI — NEON® Signal Mapper

In-Building Coverage and Mapping Application

- Works with 3550R and 8800 Series radio test sets
- Record and analyze two-way radio signals inside building and outdoors
- Automate the geo-referencing cloud storage, and 3D visualization of LMR test data
- Automatically calculate the indoor location and correlate with radio signal data
- Coverage heat maps can be visualized in two and three dimensions
- Combination of multiple paths enable the user to create a single 3D view of a mapped building

LOCUS USA™ — DiagnostX

Long Range Over-the-Air Radio Analyzer

- Monitor and measure all radios on a network OTA, in real time, all the time
- Verify and analyze the alignment and performance of all portable and mobile radios while radios are deployed in the field
- Monitor the base station receive control channel
- Find problems with radios before the user even knows about them
- Protocol options: P25 Trunked, P25 Conventional, SmartNet/SmartZone, MOTOTRBO, EDACS, NXDN, and TETRA

ROHDE&SCHWARZ — Make ideas real — ZPH Cable Rider Series

Rugged, Portable, Handheld 4 GHz, 2-Port VNA and Spectrum Analyzers

- Frequency range: 2 MHz to 3/4 GHz
- One port model features S11 DTF, VSWR, cable loss measurements
- 2 port model adds S21 measurements, spectrum and interference analysis
- Ideal for field use: 9-hour battery life, 5.5 lbs
- Large colour touchscreen
- Power meter option
- Easy operation with user-configurable test wizard

ROHDE&SCHWARZ — Make ideas real — Spectrum Rider Series

44 GHz

Rugged, Portable, Handheld 44 GHz Spectrum Analyzers

- Frequency range: 5 kHz to 2/3/4/6/8/13.6/20/26.5/31/44 GHz
- Ideal for field use: 8-hour battery life, 5.5 lbs, backlight keypad, fast boot time, non-reflective display, small footprint, and ruggedized housing
- Large colour display with touch and gesture operation
- Measurement wizard that supports measurement campaigns speeds up measurements and avoids errors display
- Tracking generator to 44 GHz

Anritsu — MS2090A

High-Performance Handheld RF Spectrum Analyzer

- Widest continuous frequency range 9 to 54 GHz
- Real-time spectrum analysis up to 110 MHz
- Fast sweeps & spectrogram display
- Dynamic range: -164 to +30 dBm
- LTE and 5G base station measurements & coverage
- mapping
- RTSA bandwidth: 22, 55, 110 MHz (option dependent)
- IQ capture and streaming

ROHDE&SCHWARZ
Make ideas real

NRT-Z Series

Motorola Approved

Directional Power Sensors

- Frequency range: 25 MHz to 4 GHz
- Measurement of average power, average burst power, peak power, crest factor, CCDF, and mismatch
- Can be used with an NRT2 power meter, PC (via NRT-Z5 cable), or VIAVI 8800SX
- Measure up to 120 W (continuous) or 300 W (peak)
- Low insertion loss, very good matching, excellent intermodulation characteristics
- Measures forward and reflected power - ideal for Antenna Test

Anritsu

MT1000A

Network Performance Visibility

- Compact, rugged battery-powered design
- Supports testing from 1.5 Mbps to 100 Gbps
- Excellent expandability and operability for 10/100 G, OTDR and CPRI tests
- 5G base-station interface eCPRI/RoE, delay measurements and time synchronization tests
- Configurable with various transport testing functions and OTDR modules

Tektronix

Real-Time Spectrum Analyzers

Portable Real-Time Spectrum Analyzers

- Frequency range: 9 kHz to 3/6.2/7.5/13.6/18 GHz
- 40 MHz capture bandwidth with -160 dBm to +20 dBm dynamic range
- 15 µs signal duration for 100% probability of intercept
- Powerful SignalVu vector analysis software with 26 add-on options
- P25 measurement suite
- Spectrum monitoring and interference hunting toolkit

![testforce logo] **Options and Accessories**

Industry Specific Options for Complete Test Systems

- By working with multiple suppliers, Testforce provides complete solutions
- Accessories for portable and mobiles: Battery eliminators, programming cables, antenna adapters
- Accessories for RF test equipment: Cables, connectors, calibration kits, antennas, enclosures
- Accessories for general test equipment: Probes, test cables and harnesses, fixtures, and more
- Training is always included with purchase – We are successful when you are successful

![testforce logo] **Financing Options**

Flexible Purchasing, Leasing, and Renting Options

- Fast, easy, price-competitive programs
- Control cash flow with customizable payment terms and buyout options
- Optimize budget via exclusive Government funded lease options
- Simple online application process with 2-hour approval turnaround
- Support costs including calibration, training and extended warranties can be included in payment terms

![testforce logo] **Trade-In Offers**

Trade-In and Trade-Up to the Newest Technology

- The PMR is changing faster than ever before. Analog radio monitors are no longer sufficient to maintain today's digital equipment
- Testforce understands that budget constraints do not always align with requirements
- Trade-in your old monitors and save
- Promotions change and vary so please contact your local Testforce Account Manager for the latest promotions and trade-in opportunities

Testforce is the leading supplier of test and measurement products for a wide variety of PMR applications. Testforce specializes in helping determine the best solution to tackle your test challenges head-on. Our Technical Account Managers have worked in the PMR Industry, and understand the technical, business, and financial challenges which are unique to this industry. Testforce will work with your team to come up with a practical solution from the leading test and measurement OEMs around the world.

Whether tuning digital radios, sweeping cables, tuning filters or mapping signal strength for interference hunting, Testforce has exactly what you need with accurate and durable equipment providing consistent and reliable results. Our Technical Account Managers will also ensure that your instrument is functioning properly and has all the correct accessories and options such as cables, connectors, calibration kits, antennas and test fixtures.

Having the best equipment is only part of the solution. Knowing how to use the tools creates the most effective team. Testforce stands behind the products we sell by providing training to your team either through on-demand training and webinars, or on-site training.

Full service and calibration labs.

Factory trained technicians. Fast turn around times.

Additional resources available on the website:	**White Papers**	**T&M Experts Guide**	**Power Experts Guide**