



*Spectrum Monitoring
& Interference
Analysis with Anritsu
Handheld Products*



Protect Your Investment ... Protect Your Customers

Whether your task is planning, maintaining, or troubleshooting

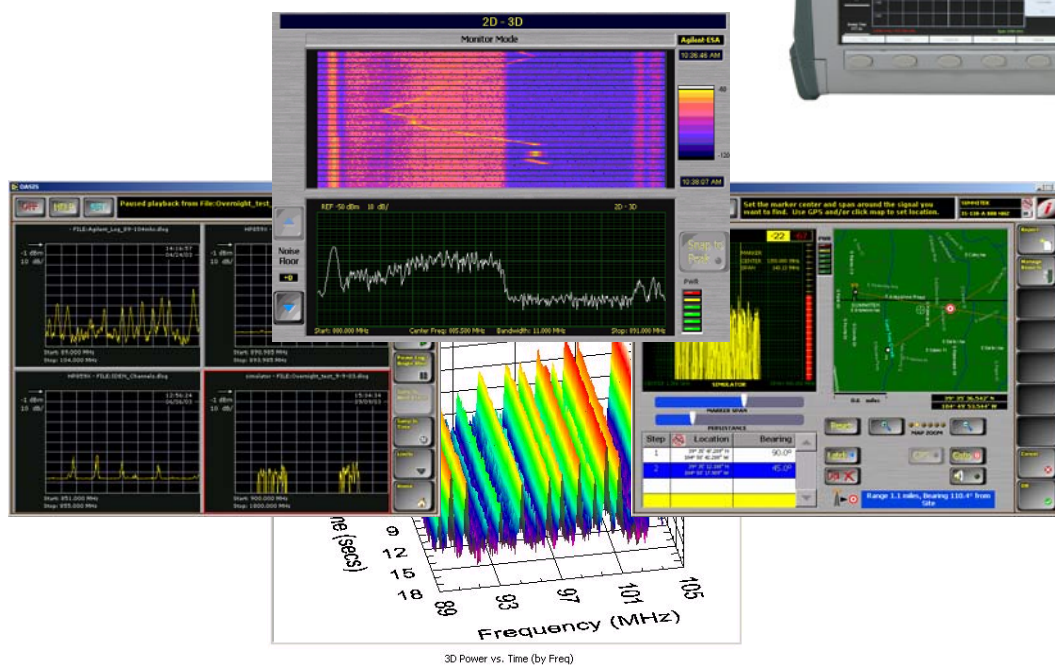
Whether your application is cellular, land mobile or satellite communication, patient monitoring, inventory control, or other form of wireless transmission or data monitoring

OASIS provides the tools to make sure your network is available when you need it. And, to determine why, when it is not.



OASIS extends the feature set of your Anritsu Spectrum Analyzer

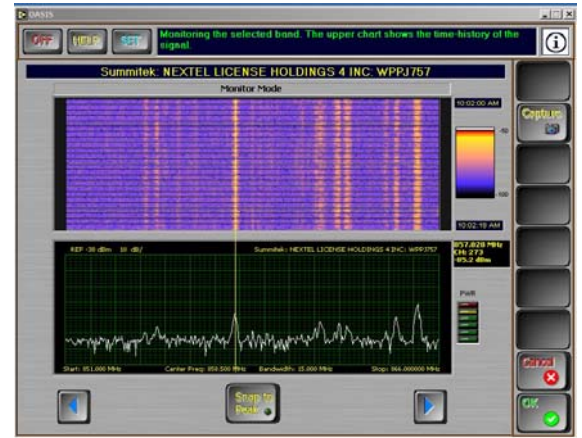
- Record spectrum activity for later playback and evaluation
- Record and view multiple frequency bands – even if you have only one spectrum analyzer.
- Perform unattended data logging for hours, days or weeks for later analysis
- Remotely monitor the site and change test scenarios over an Ethernet connection
- Apply emission masks and trigger monitoring alarms to identify unexpected transmitter characteristics



Leverage your limited technical resources

You can put the power of your most talented network support people on the job without ever sending them to the site.

- Step 1: Create test scenarios and email to the site.
- Step 2: On-site operator runs the test and sends back the data files
- Step 3: Support engineer replays and evaluates the data as if they were on site
- Step 4: Run additional tests or suggest corrective action and reevaluate.



Monitoring and interference questions you can answer using OASIS

- Is this frequency band available for my wireless service?
- What has changed since my last visit to this site?
- Who owns the transmitters I am measuring?
- What transmitters in the area can create interference?
- What transmitters were active when my noise floor increased?
- Do I have sufficient link margin throughout my network coverage area?
- Where is that transmitter located?
- What percentage of the time is this band in use? What are the usage characteristics?



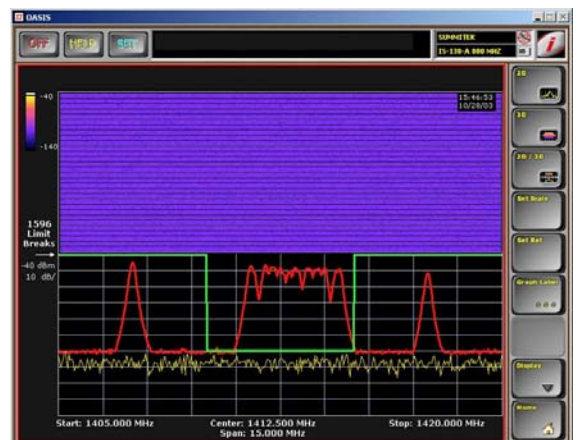
Summittek, LLC
Found 455 transmitters within 328 feet of this site.

CallSign	Name	Center, MHz	BW, MHz	Distance, ft
WJRB8	SATOR BROADCASTING OF COLORADO, INC.	949.388	0.325	20341
W926	CITICASTERS LICENSES, L.P.	949.600	0.500	22509
W080	CITICASTERS LICENSES, L.P.	950.375	0.250	22509
W085	CITICASTERS LICENSES, L.P.	950.625	0.250	22509
W300	ENTERCOM DENVER LICENSE, LLC	951.375	0.250	22596
W300	ENTERCOM DENVER LICENSE, LLC	951.625	0.250	22596
W19629	DENVER, CITY AND COUNTY OF	952.281	0.012	26310
APCS	A-SIDE PCS CARRIER	1937.565	15.000	0
BPCC	D-SIDE PCS CARRIER	1947.510	5.070	0
BPCC	B-SIDE PCS CARRIER	1957.515	15.060	0
BPCC	E-SIDE PCS CARRIER	1967.520	5.070	0

ENTERCOM DENVER LICENSE, LLC
39° 39' 10.900" N; 104° 52' 0.900" W
10300 E GIBBARD AVE
DENVER, CO, USA

Frequency: 951.375 MHz BW: 0.250 MHz
ERP: 20 W Power: 20 W
Distance: 4.3 miles Bearing: 352.1 Deg.
CallSign: W300 Emissions: 2500F99

User Def? Always Check? Concat? From Meas?
 Co-locate? Never Check? Multi-User? Active?



OASIS Modules

Measurement & Analysis

Provides powerful spectrum monitoring capabilities when used with a customer furnished receiver/spectrum analyzer.

Frequency	Start/Stop, Center/Span, Channels, Update Rate, Select Receiver
Display	2D, 3D, 2D/3D, Scale, Reference Level, Average Data, Peak Hold
Window	Display up to 4 windows simultaneously. Each window can display data from up to 4 different receivers and/or log files.
Markers	Display up to 4 markers with a delta marker. Identify emitter by license name or ITU regulation. Snap to Peak, Snap to Local Peak, Snap to Frequency
Limits	Define a simple Limit line, Create a complex Limit from Measured Data, Export and Import Limit Definitions (for example, a channel plan), View Limit Break History.
Log	Log to File, Replay Log, Pause, Step through File, Jump to Time. Jump to the point in the log file where the limit break occurred. Note that all Display, Marker and Limit functions can be used with Log Files
Reports	3D Power vs. Time (multiple frequency) Power vs. Time (single frequency) Channel Occupancy vs. Time (Multiple Channel) Channel Occupancy vs. Time (Single Channel) Number of Channels Occupied vs. Time Average Power vs. Time (Single Channel) Distribution Plot of Signal Levels (Single Channel) Distribution Plot of Signal Levels (Single Frequency)

Analysis

Same as Measurement & Analysis, but it does not include any instrument control. Analysis is used to replay and evaluate logged data.

Emitter Manager

Emitter Manager is used to create and/or work with an emitter database.

Filter List	Filter an existing database. Filter options include: distance from current location; frequency band; received power levels;
Who's Here	Performs a frequency sweep over the operator specified band. Associates measured signals with a database or can be used to create a database. ITU frequency allocation rules are included.
Monitor	Automatically narrow the sweep to view specific signals of interest.

Interference Tools

Adds tools for use in identifying potential sources of interference.

Smart DF	Used to direction find to an RF transmitter of interest.
Intermodulation Interference Analysis	Uses knowledge of what transmitters are in the region to determine which transmitters or combination of transmitters (up to 2) can mathematically generate IM products that fall within an operator specified frequency band.
Adjacent Transmitter Interference Analysis	Based upon knowledge of the power in nearby transmitters, generates a list of transmitters that are adjacent in frequency and high in power, and therefore a potential source of interference.
Event Correlate	Measures both the potential interference signal and the band being protected to determine if there is a time correlation between on/off cycles and the interference event.

FCC Database

Database of all licensed transmitters in the United States. Includes license holder identification, call sign, location, frequency and bandwidth, ERP.

Instrument Drivers

Supported instruments are listed in the following table. Please contact Summitek Instruments for a current list.

Anritsu MS2711A, MS2711B, MS2711D, S332D and MS2721A Spectrum Analyzer

Other instruments can be supported on request.

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