thinkRF™ S1000 Spectraware

Real-Time Spectrum Analysis Software

Comprehensive data visualization and measurement tools for both spectrum and signal analysis

SIGNAL DEMODULATION

for deeper signal analysis

SIGNAL DISPLAYS

Spectral Plot
Spectrogram
Persistence Plot
IQ Constellation
Frequency Domain
Time Domain

RECORD & PLAYBACK

Spectral data with context or full demodulated streams with graphing and audio support

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OVERVIEW

S1000 Spectraware Real-Time Spectrum Analysis Software

Extract the original information-bearing signal from a carrier wave for a deeper signal analysis

1

9 kHz to 8, 18 or 27 GHz

2

0.1 / 10 / 40 MHz
Real-time bandwidth (RTBW)

3

Demodulation capabilities for signal analysis applications

4

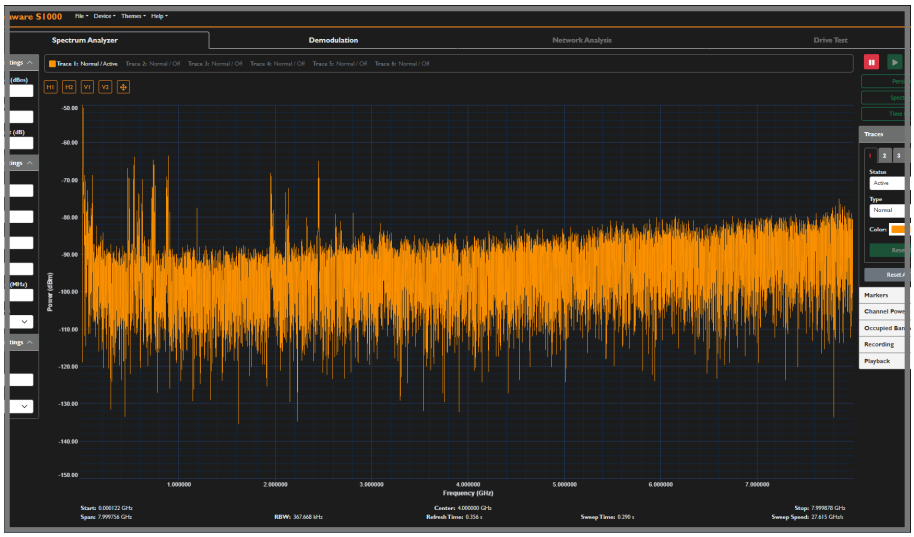
Multiple traces & persistence

5

Spectral power measurements

6

Record/Playback



Provides comprehensive data visualization and measurement tools for both spectrum and signal analysis

The thinkRF™ S1000 Spectraware software harnesses the power of the thinkRF Real-Time Spectrum Analyzers to provide all the visualization capabilities you'd expect, while still being cost-effective and easy to use.
The intuitive graphical user interface (GUI) has been designed with the end-user in mind, focusing on center, span, start and stop coupled mode rather than on RFE mode as its primary control model, simplifying the user experience and keeping the view of the spectrum front and center.
Along with this enhanced usability, the S1000 software has more measurement capabilities, including occupied bandwidth and calibrated time-domain data. It also expands on its signal analysis capabilities to include signal demodulation.
Working with the thinkRF Real-Time Spectrum Analyzers, the S1000 gives users the performance and capabilities they need. With 40 MHz, 10 MHz or 100 kHz real-time bandwidth at frequency ranges of 9 kHz to either 8 GHz, 18 GHz or 27 GHz, it is powerful enough for any application, including regulatory and intelligence monitoring, telecom deployment optimization, test and measurement, situational awareness, research or real-time spectrum monitoring.

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FEATURES & CAPABILITIES

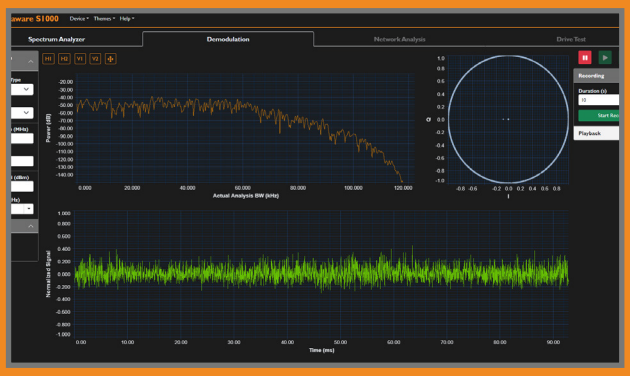
S1000 Spectraware | Real-Time Spectrum Analysis Software

1 AUTOMATIC MEASUREMENTS

The S1000 supports two standard measurements that are critically important for users analyzing modern devices and signals such as Wi-Fi, Bluetooth, and cellular standards such as 3G/4G/5G/LTE.
The Channel Power measurement determines the power contained within a channel bandwidth. The Occupied Bandwidth measurement determines the bandwidth which contains a percentage of the total integrated power of the signal, centered on the assigned channel frequency.

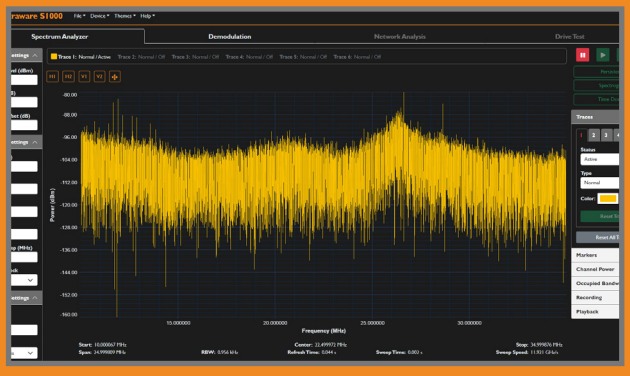
2 DEMODULATION FOR DEEPER SIGNAL ANALYSIS

Conduct both spectrum and signal analysis and extract the original information-bearing signal from the carrier wave with demodulation capabilities. Gapless streaming allows seamless playback of demodulated audio which can be amplified from 0% - 300%. View Constellation, Frequency Domain, and Time Domain graphs in the clean, professional interface and record and play back streams with full demodulation and graphing support.



3 PERFORMANCE YOU NEED

All functions have been made easily accessible in an intuitive soft menu on the right-hand side of the display. Commonly used settings including Amplitude, Frequency and Bandwidth, are presented on the left and are always available to the user.



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VISUALIZATION MODES

S1000 Spectraware | Real-Time Spectrum Analysis Software

1 COMPLETE ANALYSIS

In addition to the standard frequency domain view, the S1000 features additional three data visualizations (Spectrogram, Persistence, Time Domain) that give users a complete view of the spectrum. With a single click, users can easily access whichever view they need and stack them to compare signals across different domains.

2 FREQUENCY DOMAIN

This standard spectrum graph plots power versus frequency and allows the user to see how much of a signal lies within each frequency band. Within this mode, users can apply multiple cursors, traces and measurements to analyze specific signals of interest.

3 SPECTROGRAM VIEW

The Spectrogram view provides a 3-dimensional view of the spectrum by adding the dimension of time. It allows the users to see the periodicity of any given signal or measure how often a signal hops. The vertical axis shows time, with time-zero at the top, while the horizontal axis shows frequency and bandwidth. The color of the measurements can be customized to indicate the relative magnitude of power of the signal.

4 PERSISTENCE VIEW

The Persistence view is commonly called the Power Spectral Density Display. It displays the same information as the frequency domain view, but signals persist on the screen and then gradually fade out over time. This makes it possible to view signals that are too fast to see in the spectrum graph. The color is an indication of how dense or how often the signal is present at respective power levels.

5 TIME DOMAIN VIEW

Scan speed determines how fast the analyzer can jump from analyzing one set of frequencies to another set. The RTSA has fast setup times and provides sophisticated capture control. This view is enabled when Span is set to 40 MHz or lower.

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General Specifications

S1000 Spectraware | Real-Time Spectrum Analysis Software		
Resolution Bandwidth (RBW) Range Windowing	1 Hz to 488.28 kHz Hanning, Cosine, Gaussian...	
Traces	6	Clear/Write, Trace Average, Max Hold, Min Hold
Markers Modes Marker Frequency Resolution	6 Normal (Tracking), Delta, Fixed 0.01 Hz	 Peak Search, Next Peak, Next Left/Right, Center
GNSS Tracking Display (R5750 only)	Real time GPS data, updates every second	
Save/Load Data Configurations	Power Spectral Data with Time Stamp, Context Save/Load Settings	CSV format, optional saving duration Save settings for easy recall
Export Data	CSV	Comma Separated Values
Demodulation Audio Signal Displays	AM / FM 0%-300% IQ Constellation Frequency Domain Time Domain	With Record/Playback Host PC sound card

Recommended PC	
Operating System	Windows 10/11 (32 or 64)
Minimum RAM Size	4 GB
Minimum Free Hard Disk Space	10 GB
Ethernet Port	1 GigE
Display Resolution	1920 x 1080

thinkRF Real-Time Spectrum Analyzers Supported	
R5500 / R5550 / R5750	All models except for WBIQ

Ordering Information

Part Number	Description
S1000	Real-Time Spectrum Analysis software (FREE with the purchase of any thinkRF RTSA)

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CONTACT US TODAY
FOR A FREE DEMO!

thinkRF™ S1000 Spectraware

Real-Time Spectrum Analysis Software

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Intellectual Property - Patents
The thinkRF S1000 product line is protected by patents, (US8,675,781, US9,197,260, US9,350,404, US8,886,794) in the United States. This information is provided to satisfy the patent marking provisions including, but not limited to, the patent marking provisions of the America Invents Act (AIA) and is intended to serve as notice under 35 U.S.C. § 287(a), as amended by Section 16 of the AIA. Additional patents may be pending in the United States and/or elsewhere.

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