

Better signals intelligence with thinkRF

Monitor

more locations for better situational awareness

Detect

unknown signals of interest from adversaries

Analyze

captured signals to control the battlefield



Never Miss a Threat

Signals intelligence and electronic intelligence (SIGINT/ELINT) are critical components of situational awareness and command and control (C2) systems to combat global terrorism. Adversaries are increasingly relying on wireless communication technologies which must be detected and intercepted to alert military personnel to enemy positions and possible threats. As the battle shifts to the information domain and the spectrum environment becomes more congested, SIGINT/ELINT users will require powerful, reliable, and versatile spectrum monitoring solutions.

Applications and Requirements

SIGINT users require a solution that is:

Capable of detecting unknown, faint, intermittent, and short duration signals of interest

Able to provide consistent measurements across signals, deployment scenarios, and applications

Networked and remote deployable in a wide range of complex and rapidly changing environments

Compact and portable to be used by soldiers in the field, or integrated into a larger system

Reliable during mission critical and sensitive operations

Capable of determining the source and location of the signal

DESIGNED FOR





Software-Defined Spectrum Analysis

ThinkRF Software-Defined Spectrum Analysis solutions are built on innovative and highly optimizable software-defined radio (SDR) technologies. This approach gives users greater versatility, better performance, and additional capabilities to detect and analyze signals of interest in mission critical applications.

These solutions have been designed for spectrum monitoring from the start. Fewer hardware components means units are compact, lightweight, and portable, while purpose built networking capabilities allow them to be deployed remotely for continuous and distributed monitoring. Software-defined spectrum analysis equipment can be easily upgraded without replacing the hardware itself, allowing for greater flexibility and extending the useful life of the equipment.

ThinkRF Software-Defined Spectrum Analysis solutions allow users to:

Detect short duration, low powered, or infrequent signals to locate opposition

Improve situational awareness by monitoring multiple remote units from a single location

Maintain control over the information domain and provide critical information to soldiers on the battlefield

Reduce size, weight, and power (SWaP) requirements compared to traditional equipment

Integrate with larger systems based on standard APIs, programming environments, and standards



ThinkRF R5500 Real-Time Spectrum Analyzer Features

27 GHz frequency range, 100 MHz instantaneous bandwidth, rapid sweep rates of up to 28 GHz/s at 10 kHz RBW and 40 MHz IBW, and high probability of intercept (POI) to maximize detection of signals of interest

Purpose built networking and triggering capabilities, standard GigE interface and streaming rates of 360 Mbit/s for remote and distributed deployment in any environment

Compact form factor (10.58" x 6.81" x 2.4") for increased portability, versatility, and the ability to be embedded into a larger system

Advanced geolocation capabilities to pinpoint the location of the signal source

ThinkRF D2030 RF Downconverter Features

RF Downconversion for signals between 27-30 GHz to extend the range of the ThinkRF R5500 and/or existing third-party spectrum analysis equipment for 5G analysis

Up to 160 MHz instantaneous bandwidth, with the ability to run multiple units in parallel for wideband signal analysis

Easily integrate with existing third-party spectrum analysis equipment with an intermediate frequency of 3.55 GHz and SCPI over Ethernet control

Compact form factor (7.5" x 8.5" x 1") to maintain portability and versatility in any deployment scenario



Multi-Vendor Capabilities

ThinkRF Real-Time Spectrum Analysis Solutions are open and feature a rich suite of APIs and programming environments to work with best in class third-party hardware and software, such as MATLAB®, LabVIEW®, and C/C++ drivers and DLLs depending on your requirements.

The ThinkRF R5500 analyzer is the first, third-party hardware to integrate directly with the leading Keysight 89600 VSA to provide advanced capabilities in a compact and cost-effective solution.

The ThinkRF R5500 analyzer and Keysight VSA software features:

Robust, consistent and detailed analysis of various signal standards and modulation types for aerospace and defense applications

Sophisticated graphical user interface with persistence, cumulative history, and spectrogram displays useful for infrequently occurring events

Industry first multi-measurement capability and powerful display options that allow users to connect multiple analyzers at the same time for deeper analysis

ABOUT THINKRF

ThinkRF is the leader in software-defined spectrum analysis solutions that monitor, detect and analyze complex waveforms in today's rapidly evolving wireless landscape. Built on patented technology and quality by design principles, the ThinkRF platform offers greater versatility, better performance and additional capabilities for 5G, monitoring, signals intelligence (SIGINT), technical surveillance countermeasures (TSCM), and test and measurement applications. Aerospace and defense companies, spectrum regulators and wireless communications providers use the remotely deployable, PC-driven and easily-upgraded platform to replace traditional lab equipment for wireless spectrum analysis.

To learn more, please visit thinkrf.com, or contact sales@thinkrf.com to discuss your unique requirements.

