ThinkRF E300 Enabler

For Keysight 89600 VSA

The most complete third-party integration with Keysight

Features and Benefits

- Enable complete vector signal analysis in a low-cost and flexible solution

- Make consistent measurements across signals, deployments, and applications with more than 75 signal standards and modulation types

- Monitor complex waveforms in more locations with the PC-driven and remotely deployable ThinkRF R5500 analyzer

Applications

- Aerospace & Defense

- Government

- Regulatory Monitoring

- Applications that require robust signal analysis capabilities
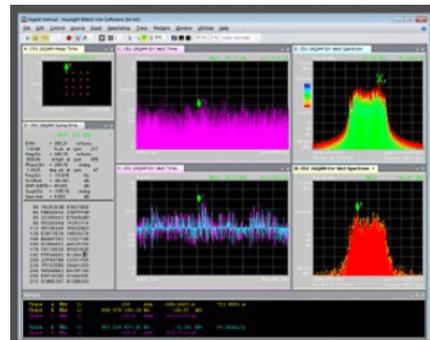
Integrate the ThinkRF R5500 with Keysight 89600 VSA using the ThinkRF E300 Enabler

The ThinkRF E300 Enabler allows the ThinkRF R5500 Real-Time Spectrum Analyzer to fully connect with the leading Keysight 89600 VSA software. The combined solution provides an integrated and easy-to-use platform that supports over 75 modulation types, enables greater insight into captured signals, and allows for complete vector signal analysis for various research, deployment, and monitoring applications.

ThinkRF is the first third-party product to directly connect with Keysight VSA. Leading software-defined spectrum analysis solutions from ThinkRF give users access to a low-cost, portable, and flexible platform that maintains the performance and capabilities of the Keysight 89600 VSA.

89600 VSA Software
+ Multi-vendor hardware connectivity
(option 301)

E300 Enabler

ThinkRF R5500 Analyzer and Keysight 89600 VSA Software

With faster data rates and a more crowded spectral environment, spectrum analysis has become more complex. Achieving the clarity required to pinpoint a signal problem is a difficult challenge.

Open, flexible, robust spectrum monitoring and analysis

The combination of the ThinkRF R5500 Real-Time Spectrum Analyzer and the leading Keysight 89600 VSA software, powered by the ThinkRF E300 Enabler, allows users, for the first time, to perform robust and powerful analysis for all forms of signals. Expand your measurement capabilities and perform consistent signal analysis across applications and deployments, including portable, remote, and distributed.

The ThinkRF R5500 Real-Time Spectrum Analyzer has the best price-performance ratio on the market, and gives users more flexibility and greater coverage. The R5500 analyzer serves as the ideal spectrum monitoring and analysis platform having wide bandwidth, deep dynamic range, and 27 GHz frequency range in a small, one-box platform designed for distributed deployment.

Combined with the Keysight 89600 VSA software, users can reach deeper into signals in time, frequency, and modulation domains, view multiple signals at once, and isolate unexpected interactions with powerful vector signal analysis.

ThinkRF Software-Defined Spectrum Analysis Platform

The ThinkRF R5500 Real-Time Spectrum Analyzer is built on innovative and highly optimizable software-defined radio (SDR) technologies. Users gain more flexibility, greater coverage, and increased functionality in a compact and cost-effective unit that provides the best price-performance ratio on the market. An inexpensive standard PC can then be connected to provide the necessary computing power for digital signal processing, signal analysis, and other capabilities.

Advantages of Software-Defined Technologies

- Greater versatility and flexibility to deploy and monitor in more environments and scenarios

- Better frequency and bandwidth performance to detect complex waveforms and a variety of signals of interest

- Easily upgradable and feature rich platform to detect signals in real-time

- Best price-performance ratio on the market in a compact form-factor

- Designed and built for today's complex spectrum monitoring applications and requirements

ThinkRF R5500 Real-Time Spectrum Analyzer

Large Frequency Range

The frequencies and bandwidths of commercial wireless systems have been increasing steadily to accommodate the growing demand for larger data rates. The R5500 supports frequency ranges from 9 kHz up to 27 GHz which enables testing of modern systems including tests such as third-order intercept.

Wide Instantaneous Bandwidth

Modern waveforms such as 802.11ac standard utilize waveforms that occupy up to 80 MHz in bandwidth and LTE-Advanced aims to utilize bandwidths of up to 100 MHz. The R5500 provides up to 100 MHz of instantaneous bandwidth in its direct conversion mode.

Deep Dynamic Range

RF measurements for characterizing IP3 generally require a dynamic range of around 100 dB. The R5500 supports multiple ADCs thereby providing wide IBW with 70 dB dynamic range and a narrow IBW with 100 dB dynamic range.

Real-Time Acquisition Memory and Trigger Capability

Modern waveforms such as those associated with the wireless LAN standards utilize packet-based signaling techniques. The R5500 enable real-time capture of multiple data packets by providing real-time hardware-based frequency domain triggering capability in conjunction with real-time memory storage of up to 128 million samples.

Fast Scan Speed

Scan speed determines how fast the analyzer can jump from analyzing one set of frequencies to another set. The R5500 has fast setup times and provides sophisticated capture control.

Small Size, Weight, and Power

The R5500 has a length and width less than a sheet of paper, weighs less than 3 kg and consumes less than 20 W of power making it a fraction of the size, weight and power of traditional lab-grade spectrum analyzers.

Keysight 89600 VSA Vector Signal Analysis software

The leading Keysight 89600 VSA Software is a powerful measurement tool that lets users see through the complexity and analyze and troubleshoot signals in cellular, wireless-connectivity, aerospace, defense, and general-purpose applications. Apply vector signal analysis at virtually any point in your design for consistent and accurate measurements across applications and deployment scenarios.

Analyze and display multiple signals at once

The industry's first multi-measurement capability can configure, execute and display multiple measurements simultaneously. Connect to multiple analyzers at the same time to acquire signals from different test points or frequency bands in parallel, and compare and correlate results from different measurements.
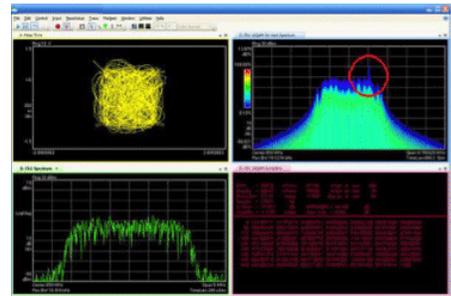
Over 75 signal standards and modulation types

Measure and analyze proprietary signals plus more than 75 signal standards and modulation types. Test today's signals and be ready for tomorrow's standards and modulations, including Cellular LTE, W-CDMA, WLAN 802.11ac/n/a/b/g, Bluetooth, Zigbee, RFID, AM, FM, PM, BPSK, QPSK, QAM, OFDM, and others.
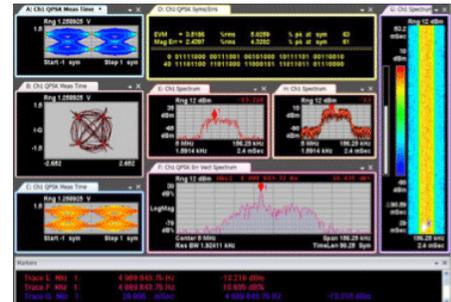
Powerful measurement tools and capabilities

Perform detailed analysis of dynamic signal behaviors with advanced display types including spectrogram, digital persistence, and cumulative history displays, and a comprehensive set of measurement tools and functions. Catch elusive or short duration signals with external triggers, and view multiple facets of complex signals with unlimited markers and traces.

Ordering Information

ThinkRF R5500-VSA Driver	Part Number	Description
ThinkRF R5500-VSA Driver	E300	R5500-VSA Driver (required, from ThinkRF)

Keysight Vector Signal Analysis Software	Part Number	Description
Vector Signal Analysis Software	89601B-200	Basic vector signal analysis (required, from Keysight)
Multi-Vendor Connectivity option	89601B-301	R5500 connectivity (required, from Keysight)
Signal Analysis options	89601B-xxx	Demodulation and analysis (optional)

ThinkRF Real-Time Spectrum Analyzers	Part Number	Description
8 GHz RTSA	R5500-408	9 kHz to 8 GHz, RTBW up to 100 MHz
18 GHz RTSA	R5500-418	9 kHz to 18 GHz, RTBW up to 100 MHz
27 GHz RTSA	R5500-427	9 kHz to 27 GHz, RTBW up to 100 MHz

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 counter measures (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.

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