RSA500A Series vs. R&S FSH Series

COMPETITIVE FACT SHEET

www.tektronix.com/usbrsa

Real Time for interference hunting

Tektronix RSA500A Series

- ✓ **Real Time Analysis** - Detects signals others miss
- ✓ **40 MHz Bandwidth** - support for wideband IoT wireless standards, record/playback, IQ acquisition,
- ✓ **Many Standard Features** - DPX, Spectrogram, internal GPS, Preamp, and Interference Hunting software

- ✓ **VSA and Applications Support** - General VSA purpose support with 27 different modulation formats, and wireless standards support
- ✓ **Integrated software**: SignalVu-PC is a single SW pack containing all analysis functions, including mapping, signal classification
- ✓ **Take the weight off your hands** - 1 kg tablet in your hands

R&S FSH Series

- ✗ **Swept Spectrum Analysis** - misses signals
- ✗ **20 MHz Bandwidth too small** – misses support for wider bandwidth signal acquisition and analysis,
- ✗ **Individual options add cost** - Spectrogram, GPS, Interference Hunting, Preamp

- ✓ **Vector Signal Analysis** - support most of commercial wireless, digital TV broadcast standards
- ✗ **Separate mode required** – for Interference analyzers (mapping, spectrogram). Long switching times between modes of operation
- ✗ **3 kg spectrum analyzer in your hands**

Fast Sweeps for low noise floor

Tektronix RSA500A

- ✓ Conventional Spectrum Analyzer features
- ✓ Unique HW architecture to complete low noise floor sweeps very quickly, still maintains traditional Spectrum Analyzer controls
- ✓ Much faster sweep times for RBW settings less than 30 KHz
- ✓ 100 Hz is the narrowest selectable RBW for a 3 GHz Span – reveal a lower noise floor without sacrificing sweep speeds
- ✓ Example: sweep times for a -120 dBm noise floor with a 10 kHz RBW is 1.8 second (3 GHz)

R&S FSH Series

- ✓ Conventional Spectrum Analyzer features
- ✗ Conventional Spectrum Analyzer architecture sweeps quickly in default settings, but slowly when looking at low noise floors
- ✗ Much slower sweep times for RBW settings less than 30 KHz
- ✗ 10 kHz is the narrowest selectable RBW for the 3 GHz span sweep.
- ✗ Example: sweep times for a -114 dBm noise floor with a 10 kHz RBW is 150 second (3 GHz).

Key Specifications Comparison

	Tektronix RSA500A Series		**R&S** FSH Series	
Bandwidth	✓	40 MHz	✗	20 MHz
Frequency Range	✗	9 kHz up yo 18 GHz	✓	9 kHz up to 20 GHz
Real Time Analysis	✓	100% POI 15us	✗	Not available
DANL (1 GHz)	✓	-163 dBm/Hz	✓	-165 dBm/Hz
SFDR	✓	-73 dBc	✗	-60 dBc
Tracking Generator	✓	Yes	✓	Yes, opt with 2-port testing
Weight	✓	1 kg tablet on hands, 3 kg instrument on shoulder	✓	3 kg

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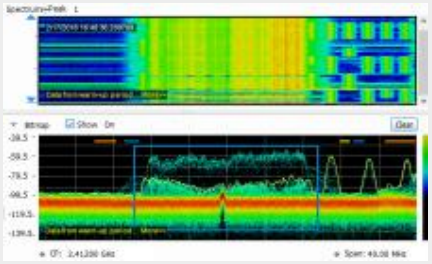
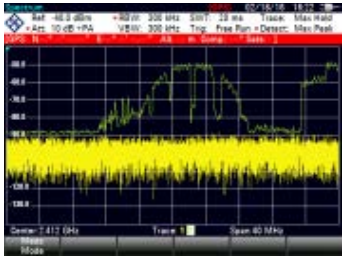
Real Time for live signal viewing

Tektronix RSA500A Series



- ✓ 10,000 FFT's per second for Live Signal Viewing with colorful spectrum display
- ✓ Co-channel interference clearly visible with real-time displays due to fast update rate
- ✓ Color shows the number of times a spectral event has occurred
- ✓ Probability of Intercept displayed on screen to let you know performance with current settings
- ✓ Example – View all signals of interest with 100 usec POS with Colors of Bitmap trace as well as traditional traces

R&S FSH Series

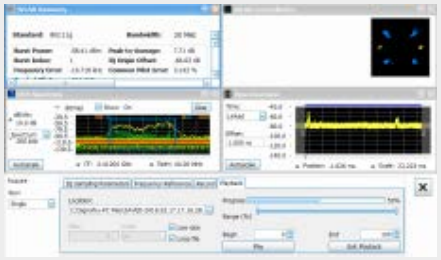


- ✗ Slow sweep time gives blind spots to miss short duration signals
- ✗ Co-channel interference or signal under signal is no way to be shown
- ✗ Example – Even with a fast or slow sweep speed, signals are missed with the help of maximum hold trace. Only two traces available.

Record/Playback

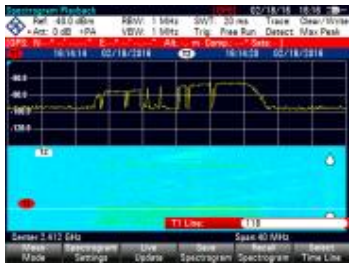
Tektronix RSA500A

- ✓ No limits on recording length – store 0.3 TB per hour of recording on a PC's SSD
- ✓ Playback file works just like a live measurement- make changes to settings, add measurements on the replay data
- ✓ Example – Recorded the 40 MHz ISM band IQ data seamless data, and adjust settings for the WLAN demodulation analysis with multiple displays



R&S FSH Series

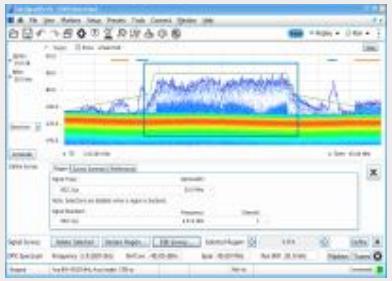
- ✗ Spectrogram is not standard, need to buy the Interference Analyzer and Spectrogram option
- ✗ Spectrogram records and playbacks the spectrum trace only, not underlying signal IQ data
- ✗ Example – Record/Playback the normal spectrum traces only



Signal classification Test

Tektronix RSA500A

- ✓ The optional signal classification toolset helps you classify signals.



R&S FSH Series

- ✗ No signal classification measurements

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