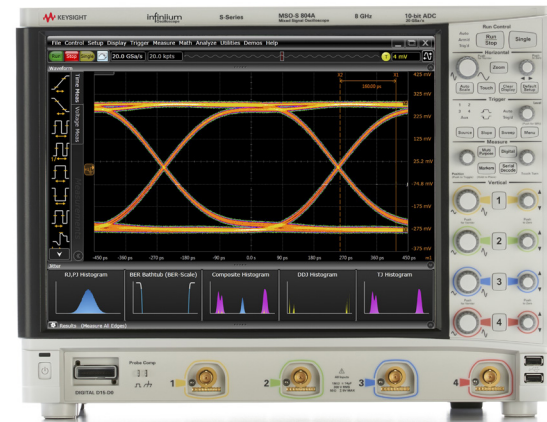# Keysight Technologies

Keysight S-Series versus Rohde & Schwarz RTO1000
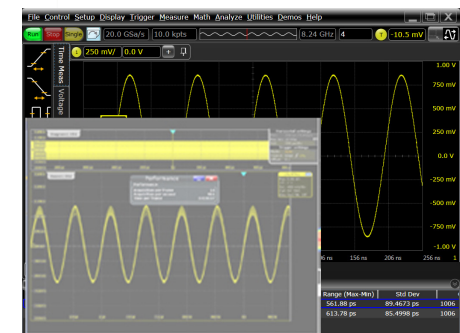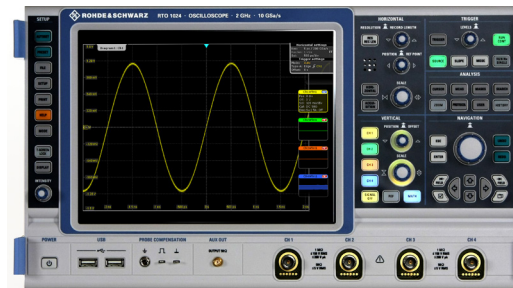
Competitive Comparison

The Keysight Technologies, Inc. S-Series oscilloscope provides bandwidths up to 8 GHz with class-leading signal integrity and analysis. Custom ASICs, including the industry's first 40 GSa/s, 10-bit ADC, allow you to see your real signal. Class-leading deep memory and a large suite of analysis tools complement a designed-for-touch user interface and the industry's first 15" multi-touch capacitive touch-screen display.

Keysight S-Series

Rohde & Schwarz RTO1000 Series

A 15" multi-touch capacitive touch-screen display offers 2x more viewing area and much greater sensitivity to user inputs.

	R&S RTO1000		Keysight S-Series	
Bandwidth	Up to 4 GHz	X	Up to 8 GHz	√
Max sampling rate	10 GSa/s on up to 2 GHz	X	20 GSa/s on all models	√
Standard memory depth (4 ch)	20 GSa/s on 4 GHz	√		√
	20 Mpts	X	50 Mpts	√
Max memory depth (2 ch)	200 Mpts	X	800 Mpts	√
ADC bits	8 bits	X	10 bits	√
ENOB at 1 GHz	7.1 bits	X	8.0 bits	√
RMS noise at 1 mV/div	240 uV at 4 GHz	X	153 uV at 4 GHz	√
Waveform update rate (vectors on)	Up to 600,000 wfms/s	√	Up to 2,000 wfms/s	X
Internal drive	HDD	X	SSD	√
Display	10.4" resistive touch	X	15" capacitive multi-touch	√
Math functions	4	X	16	√
Compliance, protocol, analysis applications	Limited	X	Extensive	√
Supported probes	Limited	X	Extensive	√
Time scale accuracy	± 5,000 ppb	X	± 75 ppb	√
Standard warranty	1 year	X	3 years	√
BenchVue support	Not available	X	Yes	√

KEYSIGHT
TECHNOLOGIES

Keysight 6000 X-Series versus Rohde & Schwarz RTO1000
## Competitive Comparison

Keysight's 6000 X-Series oscilloscopes offer bandwidths up to 6 GHz with the key benefits of the InfiniiVision line: affordability, excellent visualization, 6-in-1 integration and investment protection. Speed your debugging with its uncompromised fast update rate, combined with the industry's only hardware zone trigger. Operation is simplified with a localized GUI that is designed for touch and the industry's first 12.1" multi-touch capacitive display. Voice control makes doing oscilloscope inputs easy while your hands are holding probes.

|	R&S RTO1000		Keysight 6000 X-Series	
Bandwidth	Up to 4 GHz	X	Up to 6 GHz	√
Max sampling rate	10 GSa/s to up to 2 GHz	X	20 GSa/s to all models	√
Standard memory depth (2 ch)	20 GSa/s to 4 GHz	√		
	Up to 40 M	√	Up to 4 M	X
RMS noise at 1 mV/div, 50 Ω	240 uV at 4 GHz	X	147 uV at 4 GHz	√
Waveform update rate (vectors on)	Up to 600,000 wfms/s	√	Up to 450,000 wfms/s	√
Zone trigger	Not available	X	Yes – hardware based > 100 K triggers/s	√
Display	10.4" resistive touch	X	12.1" capacitive multi-touch	√
Other integration	Not available	X	2 ch AWG, counter, DVM	√
Operating system	Windows 7	X	Embedded	√
Std passive probe	500 MHz	X	700 MHz	√
Input voltage	150 Vrms	X	300 Vrms	√
Localized GUI	No	X	Yes	√
Voice control	No	X	Yes – localized	√
Size	8.0" deep, 21 lbs.	X	6.1" deep, 15 lbs.	√
Operating range	0 to 45 °C, 3,000 M	X	0 to 50 °C, 4,000 M	√
Power consumption	450 W max	X	250 W max	√
Sound level	35 to 38 dB SPL	X	32 dB SPL (up to 4x quieter)	√
Standard calibration interva	1 year	X	2 years	√
Mean Time Between Failure (MTBF)	Not specified	X	> 120,000 hours	√
Standard warranty	1 year	X	3 years	√
BenchVue support	Not available	X	Yes	√
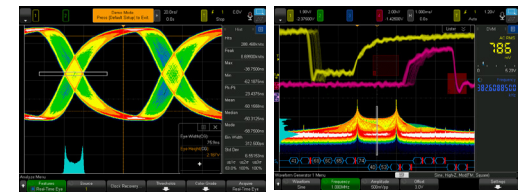
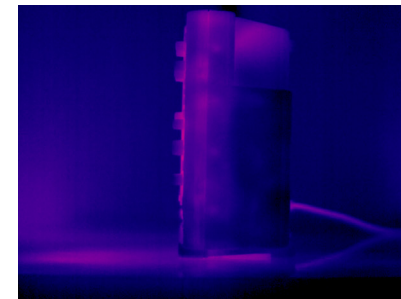Jitter/RTE

FFT
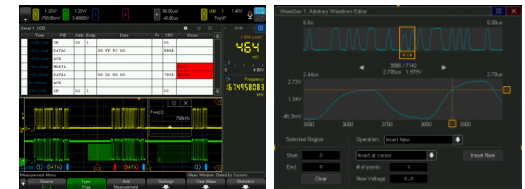
Protocol

Built-in AWG

A fast update rate allows you to see an infrequent glitch, but then you want to isolate it. With the 6000 X-Series' hardware zone trigger, you can draw a box to isolate the signal of interest. If you can see it, you can trigger on it.
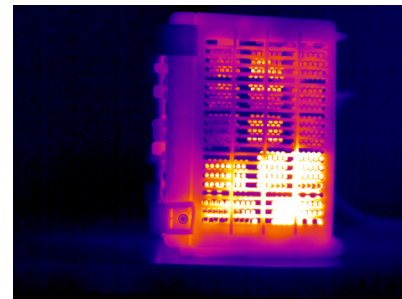
Rohde RTO consumes almost double the power and runs significantly hotter than the 6000 X-Series.

The 6000 X-Series' low power consumption helps it reach an excellent MTBF of > 120,000 hours.

KEYSIGHT TECHNOLOGIES