Keysight Technologies

InfiniiVision 6000 X–Series versus Danaher–Tektronix DPO/MSO4000B Series

Competitive Comparison

InfiniiVision 6000 X-Series

New price performance standard 6 GHz starting at $29,500

New bandwidth standard
– Up to 6 GHz upgradable bandwidth
– 115 uVrms noise floor at 1 mV/div (1 GHz/50 Ω)
– 154 mm (6 inches) deep, 6.8 kg (15 lbs.)

New visualization standard
– 12.1-inch capacitive multi-touch display
– > 450,000 wfms/s update rate
– Hardware InfiniiScan Zone touch trigger
– Standard color grade/histogram, optional jitter/real time eye diagram analysis

New integration standard
– 6-in-1 instrument integration with 10-digit counter/totalizer
– 14 multi-language voice control
– Enhanced color FFT with peak search

	Keysight 6000 X-Series		Tektronix 4000B Series	
Bandwidth	1.0/2.5/4.0/6.0 GHz	√	350/500 MHz, 1.0 GHz	x
Channels	2 or 4 analog + 16 digital	√	2 or 4 analog + 16 digital	√
Bandwidth and MSO upgrade	Yes	√	Not available	x
Sample rate	20 GSa/s	√	5 GSa/s	x
Standard memory depth	4 Mpts MegaZoom IV smart memory	x	20 Mpts	√
Segmented memory	Standard	√	Not available	x
Display	12.1-inch capacitive multi-touch display	√	10.4-inch	x
Waveform update rate (analog only)	> 450,000 wfms/s (max update mode)	√	> 55,000 wfms/s	x
Waveform update rate (with digital)	> 450,000 wfms/s (max update mode)	√	> 114 wfms/s	x
Hardware-based zone trigger	InfiniiScan Zone touch trigger	√	Not available	x
Color grade and histogram	Standard (analog ch, math, and reference)	√	Histogram only	x
Jitter analysis	Option	√	Not available	x
Real-time eye diagram analysis	Option	√	Not available	x
Measurements	56, 10 simultaneously, cursor gating	√	29, 8 simultaneously, cursor gating	x
Math functions	Displays four math functions	√	Displays one math function	x
Search and navigate	Standard with lister	√	Standard, no lister	x
WaveGen	Option, dual-channel WaveGen	√	Not available	x
Integrated digital voltmeter	Option	√	Not available	x
10-digit counter with totalizer	Option	√	Not available	x
Hardware-based serial decode and mask test	Yes	√	No, software post processing	x
USB signal quality testing (eye pattern)	Option	√	Not available	x
Enhanced color FFT with peak search	Standard	√	Not available	x
Multi-language voice control	Standard	√	Not available	x
USB keyboard and mouse	Keyboard and mouse	√	Keyboard only	x
Standard passive probe	700 MHz passive	x	500 MHz or 1 GHz passive	√
High-sensitivity dynamic range current probe	Supported (N2820A Series)	√	Not available	x
Extreme temperature active probe (–40 to +85 °C)	Supported (N2797A)	√	Not available	x
Offline analysis software	Yes, N8900A Infiniium Offline	√	Not available	x

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New Bandwidth Standard
Superior signal integrity with lowest total cost of ownership.

Adequate bandwidth
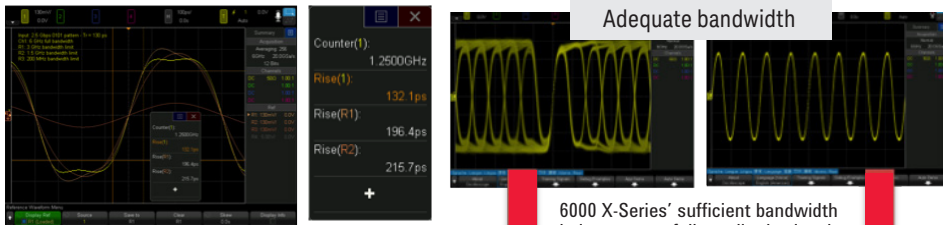
6000 X-Series' sufficient bandwidth helps you see full-amplitude signal with details.

Insufficient bandwidth
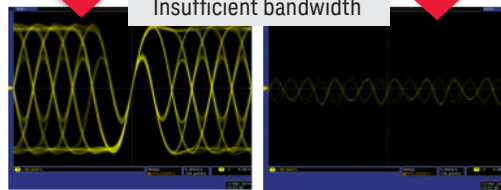
Tek 4000B's insufficient bandwidth attenuates the signal and slows the edge, hiding the true signal details.

– More bandwidth sees more signal frequency content, making more accurate measurements.

– Measuring 130 ps rise time signal with 6 GHz (measured 132 ps), 3 GHz (measured 196 ps), and 1.5 GHz (measured 216 ps) oscilloscope.

New Integration Standard
With class' only fully-upgradable 6-in-1 instrument integration.
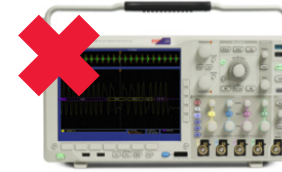
Bandwidth and MSO upgrade, dual-channel AWG, DVM, 10-digit counter/totalizer, and voice control are not available with Tek 4000B.

6-in-1 includes
– Best-in-class oscilloscope
– Logic timing analyzer (MSO)
– Protocol analysis
– 20-MHz dual-channel function/arbitrary waveform generator
– Integrated 3-digit digital voltmeter
– 10-digit counter and totalizer

Plus
– Industry-exclusive multi-language voice control.
– New 10-digit counter provides near-standalone counter-class frequency measurements.
– Totalizer counts edges and all trigger-qualified events like protocol errors and advanced trigger events.
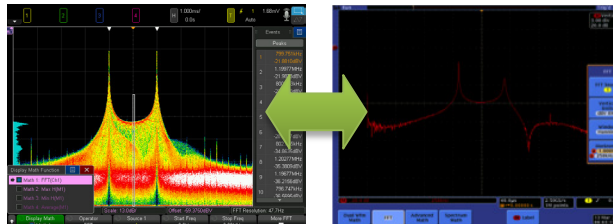
New Visualization Standard
If you can't see it, you can't fix it.
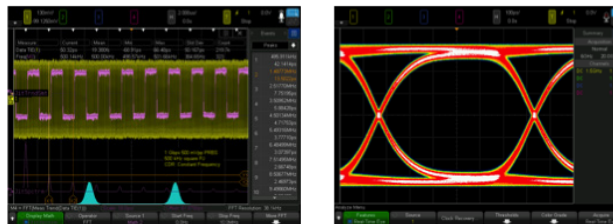

450,000 wfms/sec

114 wfms/sec

The 6000 X-Series' uncompromised 450,000 wfms/s update rate shows infrequent signal anomalies even with digital channels, protocol decodes, measurements, and math functions turned on. With compromised update rate, the Tek 4000B failed to capture anomalies.

The 6000 X-Series has an enhanced color FFT with histogram and peak search.

The Tek 4000B's standard FFT has no color grade, persistence, peak search, max/min hold, or histogram.

InfiniiScan Zone, enhanced FFT, jitter analysis, and real-time eye diagram analysis are not available with the Tek 4000B.

"If you can see it, you can trigger on it." The hardware InfiniiScan Zone trigger helps you isolate signals of interest by drawing the zones with your finger. Unlike software-based solutions, it scans as fast as 160,000 wfms/s.
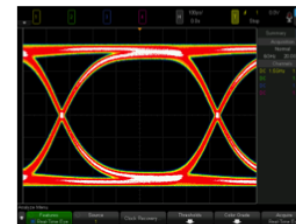
The 6000 X-Series' jitter analysis revealed the periodic jitter inside 1 Gbps PRBS signal.

The real-time eye diagram is the only way to learn the signal quality of embedded clock data signals.

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