Tektronix 6 Series B MSO vs. Keysight MXR

COMPETITIVE FACT SHEET

Oscilloscope Performance Specs

Tektronix 6 Series B MSO	**Keysight** MXR
✓ 10 GHz max BW & 50 GS/s max SR ✓ 10 GHz & 25 GS/s on four channels ✗ 5 GHz & 12.5 GS/s on eight channels	✗ 6 GHz max BW and 16 GS/s max SR ✗ 6 GHz and 16 GS/s on four channels ✓ 6 GHz and 16 GS/s on eight channels
✓ 12-bit Analog-to-Digital Converter (ADC)	✗ 10-bit Analog-to-Digital Converter
✓ Up to 64 digital channels (500MHz, 25GS/s)	✗ 16 digital channels (300 MHz, 8 GS/s)
✓ 500,000 wfms/s capture rate with Fast Acq	✗ 200,000 wfms/s max capture rate
✓ All trigger types available on ALL 8 channels	✗ Pulse width, runt, timeout, burst, more triggers ONLY available on channels 1-4
✓ **Industry's Only** Std. closed embedded OS or Optional Windows 10 OS	✗ Windows 10 OS Only

*The **6 Series B MSO** features the same award-winning user interface as the **5 Series MSO***

Best in Class Noise Performance[1,2]

Bandwidth	Volts / Div	6 Series B MSO		MXR
1 GHz	1 mV	51.1 µV	✓	73 µV
	10 mV	82.9 µV	✓	99 µV
	100 mV	829 µV	✓	821 µV
	1 V	6.22 mV	✓	6.33 mV
4 GHz	1 mV	97.4 µV	✓	132 µV
	10 mV	171 µV	✓	189 µV
	100 mV	1.73 mV	✓	1.46 mV
	1 V	13.3 mV	✓	11.91 mV
6 GHz	1 mV	124 µV	✓	193 µV
	10 mV	197 µV	✓	251 µV
	100 mV	2.39 mV	✓	2.03 mV
	1 V	19 mV	✓	16.26 mV

Vertical Resolution and Signal Clarity

Tektronix 6 Series B MSO	**Keysight** MXR
✓ ENOB: 8.2 bits (1 GHz), 7.7 bits (2.5 GHz), 7.2 bits (4 GHz), 6.8 bits (6 GHz)	✗ ENOB: 8.0 bits (1 GHz), 7.6 bits (2.5 GHz), 7.2 bits (4 GHz), 6.8 bits (6 GHz)
✓ Signal-to-Noise Ratio: -36 dB (1 mV/div), -51 dB (10 mV/div), -53 dB (1 V/div)	✗ Signal-to-Noise Ratio: -32 dB (1 mV/div), -49 dB (10 mV/div), -51 dB (1 V/div)

Spectrum Analysis

Tektronix 6 Series B MSO	**Keysight** MXR
✓ Spectrum View w/ 2 GHz span **FREE** 0-10 GHz center frequency **FREE**	✗ RTSA with 2 GHz span **PAID OPTION** 0-6 GHz center frequency **PAID OPTION**
✓ Simultaneous view of time and frequency domains	✗ Time and frequency analysis are separate operating modes; no correlation on same input
✓ RF vs. Time waveforms (mag, freq, phase) and RF vs. Time trigger optional	✗ No RF vs. Time analysis or triggering capabilities

Note 1: Green checks are awarded for lowest noise as a percentage of full scale. Note that full scale is different for the two vendors; Tektronix oscilloscopes display 10 divisions full scale, and Keysight oscilloscopes display 8 divisions.
Note 2: All noise levels are at full bandwidth and represent typical values from both vendors datasheets

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Key Specifications Comparison

	Tektronix 6 Series B MSO		Keysight MXR	
Max Bandwidth (on <u>four</u> / <u>eight</u> channels)	✓	10 GHz / 5 GHz	✓	6 GHz / 6 GHz
Analog Sample Rate (on <u>two</u> / <u>four</u> / <u>eight</u> channels)	✓	50 GS/s / 25 GS/s / 12.5 GS/s	✓	16 GS/s / 16 GS/s / 16 GS/s
Number of Digital Channels	✓	Up to 64 – with FlexChannels probes (8x TLP058)	✗	MSO option provides only 16 digital channels
Digital Channel Specifications	✓	25 GS/s on <u>32</u> ch. / 12.5 GS/s on <u>64</u> ch, 500 MHz	✗	8 GS/s, 300 MHz
Number of Math / Bus channels / Measurements	✓	As many as you want! (until memory runs out)	✗	16 math / 4 buses / 20 measurements
Automated Search and Mark Functionality	✓	On all Trigger and Decode Bus Events (standard)	✓	Fault Hunter, error reporting tool
Optional Arbitrary Function Generator (AFG)	✓	Yes – 50 MHz	✗	Not currently available, planned option – 50 MHz
Optional DVM/ Trigger Freq. Counter	✓	Yes – Free with Registration, supports all 8 channels	✗	Yes – standard, supports only channels 1-4
Standard Record Length	✗	62.5 Mpts on all channels	✓	200 Mpts on <u>all channels</u>
Max Optional Record Length	✓	1 Gpts (optional)	✗	400 Mpts (optional)
Max Segmented Memory segments	✓	Up to 1,000,000 segments	✗	5,205 segments
Waveform Capture Rate (non-segmented memory)	✓	>500,000 wfms/second	✗	200,000 wfms/second
Effective Number of Bits (ENOB)**	✓	8.4 bits (500 MHz), 8.2 bits (1 GHz), 7.6 bits (2.5 GHz), 7.25 bits (4GHz), 6.5 bits (8 GHz), 6.25 bits (10 GHz)	✗	8.2 bits (500 MHz), 8.0 bits (1 GHz), 7.6 bits (2.5 GHz), 7.2 bits (4 GHz), 6.8 bits (6 GHz)
DC Gain Accuracy - Warranted	✓	+/- 1.0%	✗	+/- 2.0%
Visual Trigger / Zone Trigger	✓	Included Standard – Draw as many as you want!	✗	Optional – Only up to 8 zones
Offline Analysis	✓	TekScope PC Offline (free) (advanced analysis, compliance, mutli-scope sync optional)	✗	Infiniium Offline (paid software) (no advanced analysis, compliance, or multi-scope sync)
Screen Size & Resolution	✓	15.6" Full High Definition 1920 x 1080	✓	15.6" Full High Definition 1920 x 1080
Operating System	✓	Std. Embedded OS or optional Windows 10 OS	✗	Windows 10 Only
Standard Warranty	✓	1 Year Standard Warranty	✓	1 Year Standard Warranty
Analysis / Compliance Packages	✗	Jitter, Power Analysis, DPM, IMDA USB, Automotive, Ethernet, MIPI, DDR3 & LPDDR3	✓	Jitter, Power Analysis, USB, PCIe, Automotive, Ethernet, MIPI, DDR, HDMI, eMMC, MHL

** ENOB was tested at 500mV Full Scale and 90% of screen

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