

# MDO/MSO/DPO4000B Series vs. Agilent MSO/DSO-X 4000A Series

## Competitive Fact Sheet

### Navigation and Search

#### Tektronix MDO/MSO/DPO4000B



- ✓ Wave Inspector® controls for easy scrolling through long records
- ✓ Play/Pause button scrolls the waveform across the screen automatically
- ✓ Search/Mark controls to automatically find events of interest, mark them, then navigate through the record mark by mark
- ✓ Search based on signal data values
- ✓ Automated search mark table
- ✓ Manually mark events of interest

#### Agilent MSO/DSO-X 4000A Series



- ✗ Limited navigation buttons and multiplexed horizontal controls
- ✓ Auto scrolling of horizontal position to scroll through data
- ✗ No automated search for Setup/Hold or Logic/Pattern
- ✗ Search based on displayed data points
- ✗ No automated or manual marks

### Optional Serial Bus Analysis

#### Tektronix MDO/MSO/DPO4000B Series

- ✓ **Serial Bus Support** – I<sup>2</sup>C, SPI, CAN, LIN, FlexRay, RS-232/422/485/UART, USB 2.0, MIL-STD-1553, I<sup>2</sup>S/LJ/RJ/TDM, 10BASE-T and 100BASE-TX Ethernet.
- ✓ **Bus Display** – View up to 4 serial buses simultaneously, positioned where you want.
- ✓ **Serial Triggering** – Trigger on packet content.
- ✓ **Event Table** – View captured packets in a tabular listing view

#### Agilent X 4000A Series

- ✓ **Serial Bus Support** – I<sup>2</sup>C, SPI, CAN, LIN, FlexRay, RS-232/UART, USB 2.0, MIL-STD-1553, ARINC 429, and I<sup>2</sup>S.
- ✗ **Bus Display** – View up to 1 or 2 serial buses, anchored at the bottom of the screen. Decoding limited to signal in zoom window if zoom is in use.
- ✓ **Serial Triggering** – Trigger on packet content.
- ✓ **Event Table** – View captured packets in a tabular listing view. View up to 2 buses simultaneously. Disables zoom.

### Key Specifications Comparison

	Tektronix MDO/MSO/DPO4000B	Agilent MSO/DSO-X 4000A Series
<b>Channels</b>	✓ 2, 4 (+16 digital on MSO/MDO)	✓ 2, 4 (+16 digital on MSO)
<b>Bandwidth</b>	✓ 100 MHz, 350 MHz, 500 MHz, 1 GHz	✓ 200 MHz, 350 MHz, 500 MHz, 1 GHz, 1.5 GHz
<b>Bandwidth with Standard Probes</b>	✓ 1 GHz on 1 GHz models	✗ ~700 MHz on 1 and 1.5 GHz models
<b>Waveform Capture Rate</b>	✓ >340k wfms/s, with color- and intensity-graded display	✓ >1M wfms/s, with limited intensity-graded display
<b>Max. Sample Rate (All channels on)</b>	✓ Up to 5 GS/s	✗ 2.5 GS/s
<b>Max. Record Length (All channels on)</b>	✓ Up to 20 M	✗ 4 M
<b>DC Gain Accuracy</b>	✓ ±1.5%	✗ ±2%
<b>Display</b>	✓ 10.4 inch, XGA resolution, 8 in. X 5.25 in. graticule	✓ 12.1 inch, SVGA resolution, 7.75 in. X 5.75 in. graticule

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## Competitive Fact Sheet

### Measurements

#### Tektronix

##### MDO/MSO/DPO4000B Series

- ✓ Two multipurpose controls for convenient cursor control
- ✓ Automated measurements can be gated by cursors or by zoom
- ✓ Automatic measurements based on signal data values

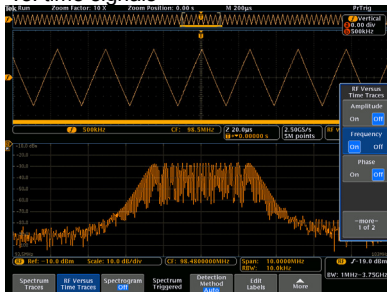
#### Agilent X 4000A Series

- ✗ Single, multiplexed cursor control
- ✓ Automated measurements can be gated by zoom or cursors
- ✗ Automatic measurements based on displayed data points

### Spectrum Analyzer

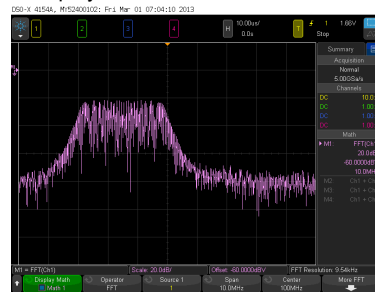
#### Tektronix MDO4000B Series

- ✓ Dedicated RF input, with bandwidths up to 6 GHz
- ✓ Dedicated front panel controls make spectral analysis easy
- ✓ Specialized RF measurements, including Channel Power, Adjacent Channel Power Ratio, and Occupied BW
- ✓ Automatic markers identify spectral peaks
- ✓ Easy viewing / navigation of time-correlated analog, digital, buses, RF spectrum, and RF Ampl, Freq, and Phase vs. time signals



#### Agilent X 4000A Series

- ✗ FFT bandwidth limited to analog channel bandwidth
- ✗ Multiplexed front panel and menu controls for FFT
- ✗ Measurements limited to XY cursors and basic amplitude measurements
- ✗ X@Max(Y) marks only one peak
- ✗ Limited viewing / navigation of analog, digital, buses, and FFT waveforms; no time-correlated RF amplitude, frequency, and phase displays

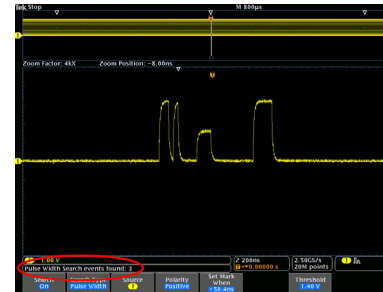


### Automated Search

#### Tektronix

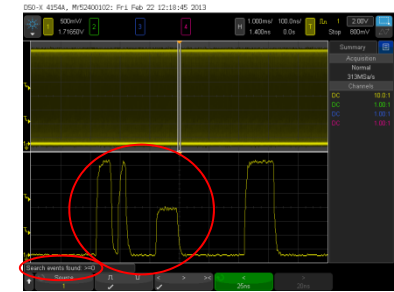
##### MDO/MSO/DPO4000B Series

- ✓ Search on variety of digital features including Setup/Hold, Logic, serial or parallel buses
- ✓ Search based on signal data values, reliably finding specified events (see below, finding 3 glitches)
- ✓ Search mark table



#### Agilent X 4000A Series

- ✗ Limited search capabilities – no Setup/Hold, Logic, or parallel bus.
- ✗ Search based on displayed data points and does not reliably find events (see example, showing “>=0 events found”)
- ✗ No search mark table



### Digital Channels

#### Tektronix MDO/MSO4000B

- ✓ Record lengths up to 20 M, even with analog channels on.
- ✓ Channel-to-channel skew 500 ps typical.
- ✓ MagniVu extends digital channel timing resolution down to 60.6 ps.
- ✓ Bus waveforms can be moved within the display. Up to 4 buses.
- ✓ Event table for parallel bus decode.

#### Agilent MSO-X 4000A Series

- ✗ Maximum record length 2 M with no analog channels on, reduced with analog channels on.
- ✗ Channel-to-channel skew 2 ns typical.
- ✗ Digital channel sample rate of 1.25 GS/s gives 800 ps timing resolution.
- ✗ Bus waveforms anchored to bottom of the display.
- ✗ No event table for parallel bus decode.