6 Series B MSO

Mixed Signal Oscilloscope Datasheet

Confidence in numbers

Input channels

- 4, 6, or 8 FlexChannel® inputs
- Each FlexChannel provides:
  - One analog signal that can be displayed as a waveform view, a spectral view, or both simultaneously
  - Eight digital logic inputs with TLP058 logic probe

Bandwidth (all analog channels)

- 1 GHz, 2.5 GHz, 4 GHz, 6 GHz, 8 GHz, 10 GHz (upgradable)

Sample rate (all analog / digital channels)

- Real-time: 50 GS/s (2 channels), 25 GS/s (4 channels), 12.5 GS/s (> 4 channels)
- Interpolated: 2.5 TS/s

Record length (all analog / digital channels)

- 62.5 Mpoints standard
- 125, 250, 500 Mpoints, or 1 Gpoints (optional)

Waveform capture rate

- >500,000 waveforms/s

Vertical resolution

- 12-bit ADC
- Up to 16-bits in High Res mode

Standard trigger types

- Edge, Pulse Width, Runt, Timeout, Window, Logic, Setup & Hold, Rise/Fall Time, Parallel Bus, Sequence, Visual Trigger, Video (optional), RF vs. Time (optional)
- Auxiliary Trigger ≤5 V_{RMS}, 50Ω, 400 MHz (Edge Trigger only)

Standard analysis

- Cursors: Waveform, V Bars, H Bars, V&H Bars
- Measurements: 36
- Spectrum View: Frequency-domain analysis with independent controls for frequency and time domains
- FastFrame™: Segmented memory acquisition mode with maximum trigger rate >5,000,000 waveforms per second
- Plots: Time Trend, Histogram, Spectrum and Phase Noise
- Math: Basic waveform arithmetic, FFT, and advanced equation editor
- Search: Search on any trigger criteria
- Jitter: TIE and Phase Noise

Optional analysis

- Advanced Jitter and Eye Diagram Analysis
- Advanced Spectrum View
- RF vs. Time traces (magnitude, frequency, phase)
- Digital Power Management
- Mask/Limit Testing
- Inverters, Motors, and Drives
- LVDS Debug and Analysis
- PAM3 Analysis
- Advanced Power Measurements and Analysis

Optional serial bus trigger, decode and analysis

- I^2C, SPI, I3C, RS-232/422/485/UART, SPMI, CAN, CAN FD, LIN, FlexRay, SENT, PSI5, Automotive Ethernet, MIPI D-PHY, USB 2.0, eUSB2, Ethernet, Audio, MIL-STD-1553, ARINC 429, Spacewire, 8B/10B, NRZ, Manchester, SVID, MDIO

Optional serial compliance test

- Ethernet, USB 2.0, Automotive Ethernet, Industrial Ethernet , MIPI D-PHY 1.2

Optional memory analysis

- DDR3 debug, analysis, and compliance test

Arbitrary/Function Generator [1]

- 50 MHz waveform generation
- Waveform Types: Arbitrary, Sine, Square, Pulse, Ramp, Triangle, DC Level, Gaussian, Lorentz, Exponential Rise/Fall, Sin(x)/x, Random Noise, Haversine, Cardiac

Digital voltmeter [2]

- 4-digit AC RMS, DC, and DC+AC RMS voltage measurements

Trigger frequency counter [2]

- 8-digit

Display

- 15.6-inch (396 mm) TFT color
- High Definition (1,920 x 1,080) resolution
- Capacitive (multi-touch) touchscreen

Connectivity

- USB Host (7 ports), USB 3.0 Device (1 port), LAN (10/100/1000 Base-T Ethernet), Display Port, DVI-I, VGA

1 Optional and upgradable.

2 Free with product registration.

e*Scope ®

- Remotely view and control the oscilloscope over a network connection through a standard web browser

Warranty

- 1 year standard

Dimensions

- 12.2 in (309 mm) H x 17.9 in (454 mm) W x 8.0 in (204 mm) D
- Weight: <28.4 lbs. (12.88 kg)

With the lowest input noise and up to 10 GHz analog bandwidth, the 6 Series MSO provides the best signal fidelity for analyzing and debugging today's embedded systems with GHz clock and bus speeds. The remarkably innovative pinch-swipe-zoom touchscreen user interface coupled with the industry's largest high definition display and up to 8 FlexChannel® inputs that let you measure one analog or eight digital signals per channel, the 6 Series MSO is ready for today's toughest challenges and tomorrow's too.

Never let a lack of channels slow down your verification and debug process again

The 6 Series MSO offers better visibility into complex systems by offering four, six and eight-channel models with a large 15.6-inch high-definition (1,920 x 1,080) display. Many applications, such as embedded systems, three-phase power electronics, automotive electronics, power supply design, and Power Integrity require the observation of more than four analog signals to verify and characterize device performance and to debug challenging system issues.

Most engineers can recall situations in which they were debugging a particularly difficult problem and wanted greater system visibility and context, but the oscilloscope they were using was limited to two or four analog channels. Using a second oscilloscope involves significant effort to align the trigger points, difficulty in determining the timing relationships across the two displays, and documentation challenges.

You might assume that a six and eight-channel oscilloscope would cost 50% or 100% more than a four-channel oscilloscope, you'll be pleasantly surprised to find that six-channel models are only ~25% more than four channel models and eight-channel models are only ~67% (or less) more than four channel models. The additional analog channels can pay for themselves quickly by enabling you to keep current and future projects on schedule.

FlexChannel® technology enables maximum flexibility and broader system visibility

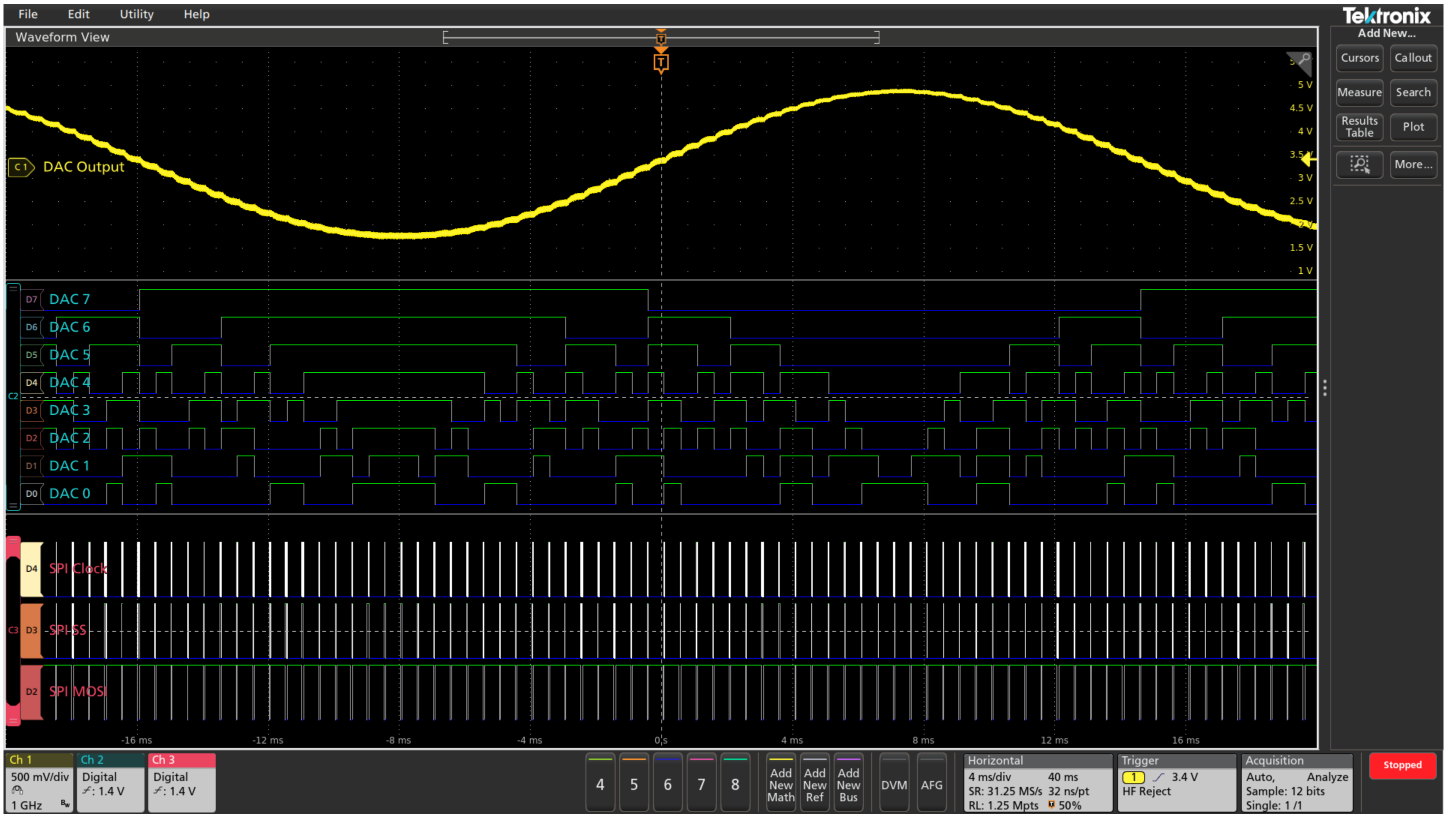
The 6 Series MSO redefines what a Mixed Signal Oscilloscope (MSO) should be. FlexChannel technology enables each channel input to be used as a single analog channel, eight digital logic inputs (with the TLP058 logic probe), or simultaneous analog and spectrum views with independent acquisition controls for each domain. Imagine the flexibility and configurability this provides.

You can change the configuration at any time by simply adding or removing TLP058 logic probes, so you always have the right number of digital channels.

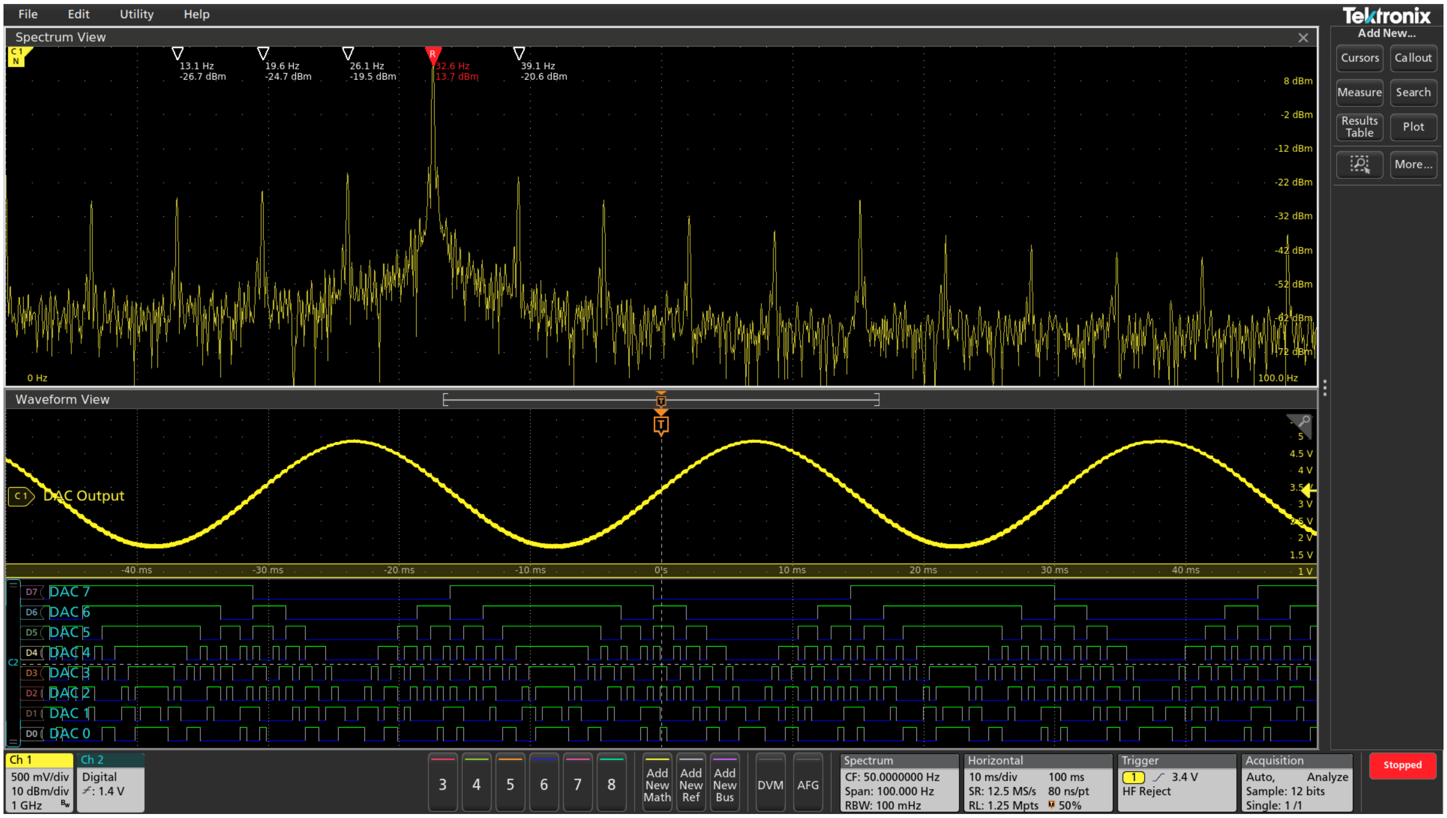
FlexChannel technology enables the ultimate in flexibility. Each input can be configured as a single analog or eight digital channels based on the type of probe you attach.

Previous-generation MSOs required tradeoffs, with digital channels having lower sample rates or shorter record lengths than analog channels. The 6 Series MSO offers a new level of integration of digital channels. Digital channels share the same high sample rate (up to 50 GS/s), and long record length (up to 1 Gpoints) as analog channels.

The TLP058 provides eight high performance digital inputs. Connect as many TLP058 probes as you like, enabling up to a maximum of 64 digital channels.



Channel 2 has a TLP058 Logic Probe connected to the eight inputs of a DAC. Notice the green and blue color coding, where ones are green and zeros are blue. Another TLP058 Logic Probe on Channel 3 is probing the SPI bus driving the DAC. The white edges indicate higher frequency information is available by either zooming in or moving to a faster sweep speed on the next acquisition.

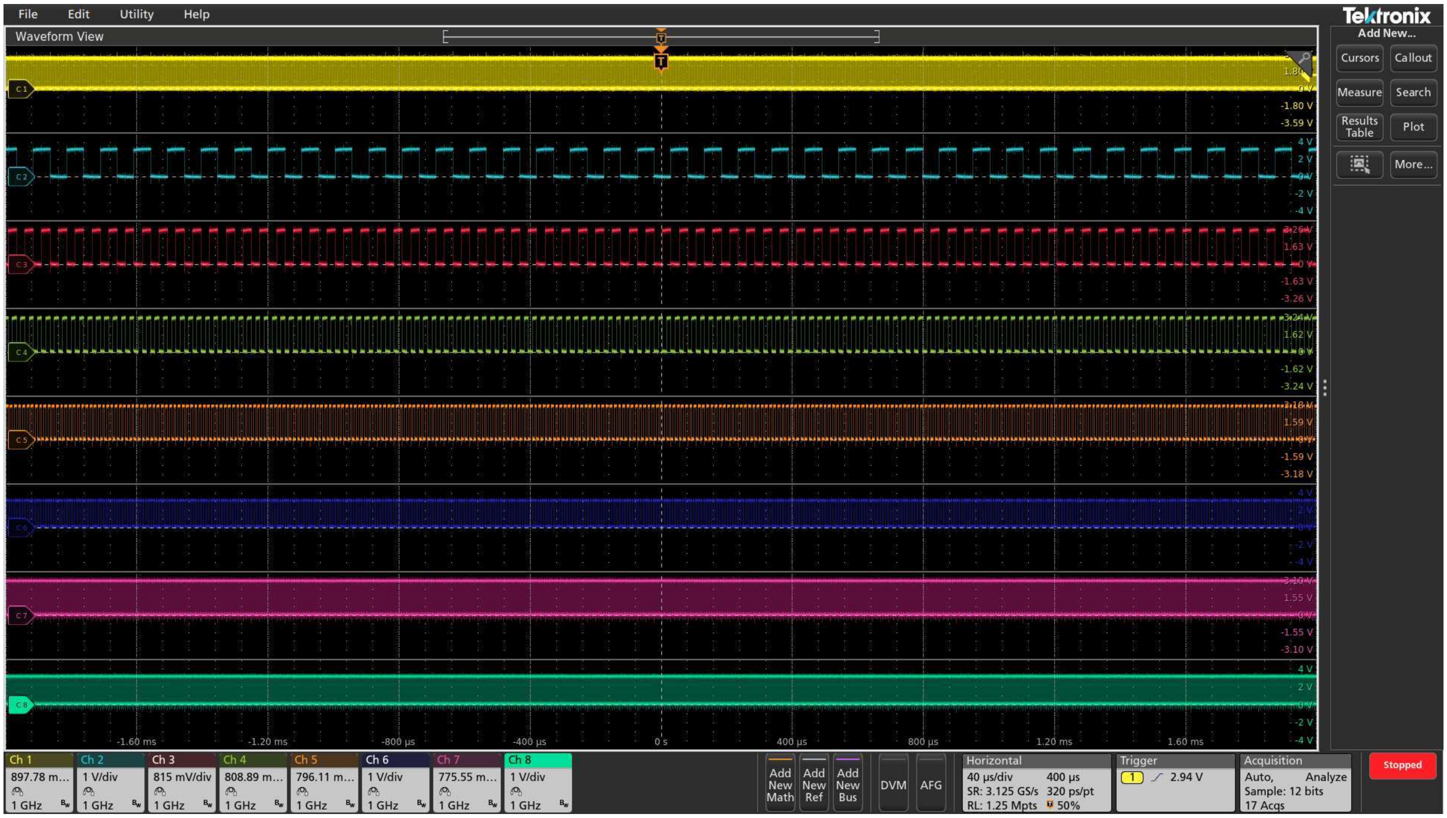


Beyond just analog and digital, FlexChannel inputs include Spectrum View. This Tektronix-patented technology enables you to simultaneously view both analog and spectral views of all your analog signals, with independent controls in each domain. For the first time ever, oscilloscope-based frequency-domain analysis is as easy as using a spectrum analyzer while retaining the ability to correlate frequency-domain activity with other time-domain phenomena.

Unprecedented signal viewing capability

The stunning 15.6" (396 mm) display in the 6 Series MSO is the largest display in the industry. It is also the highest resolution display, with full HD resolution (1,920 x 1,080), enabling you to see many signals at once with ample room for critical readouts and analysis.

The viewing area is optimized to ensure that the maximum vertical space is available for waveforms. The Results Bar on the right can be hidden, enabling the waveform view to use the full width of the display.



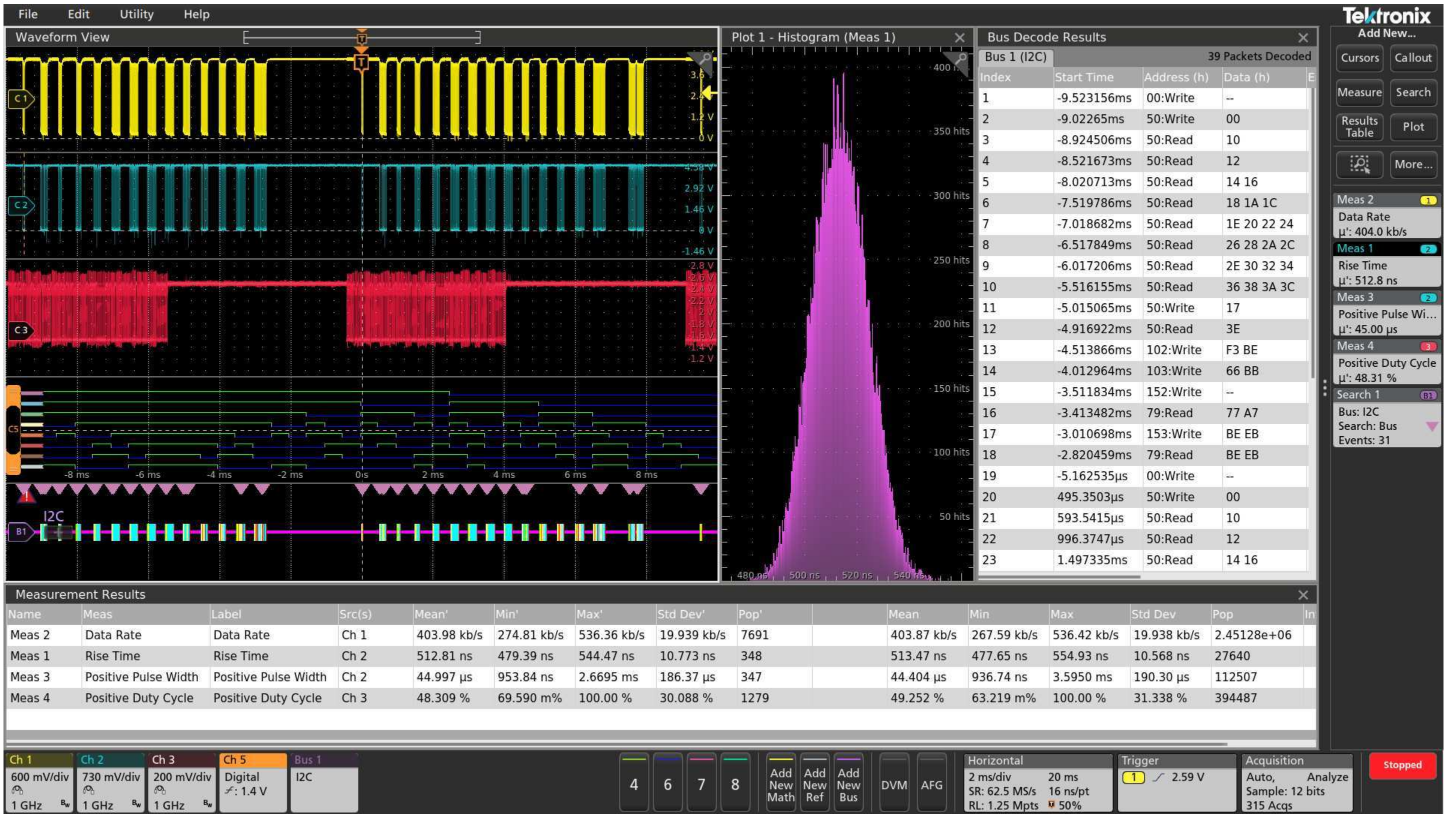
Stacked display mode enables easy visibility of all waveforms while maintaining maximum ADC resolution on each input for the most accurate measurements.

The 6 Series MSO offers a revolutionary new Stacked display mode. Historically, scopes have overlaid all waveforms in the same graticule, forcing difficult tradeoffs:

- To make each waveform visible, you vertically scale and position each waveform so that they don't overlap. Each waveform uses a small percentage of the available ADC range, leading to less accurate measurements.
- For measurement accuracy, you vertically scale and position each waveform to cover the entire display. The waveforms overlap each other, making it hard to distinguish signal details on individual waveforms

The new Stacked display eliminates this tradeoff. It automatically adds and removes additional horizontal waveform 'slices' (additional graticules) as waveforms are created and removed. Each slice represents the full ADC range for the waveform. All waveforms are visually separated from each other while still using the full ADC range, enabling maximum visibility and accuracy. And it's all done automatically as waveforms are added or removed! Channels can easily be reordered in stacked display mode by dragging and dropping the channel and waveform badges in the Settings bar at the bottom of the display. Groups of channels can also be overlaid within a slice to simplify visual comparison of signals.

The massive display in the 6 Series MSO also provides plenty of viewing area not only for signals, but also for plots, measurement results tables, bus decode tables and more. You can easily resize and relocate the various views to suit your application.



Viewing three analog channels, eight digital channels, a decoded serial bus waveform, decoded serial packet results table, four measurements, a measurement histogram, measurements results table with statistics and a search on serial bus events - simultaneously!

Exceptionally easy-to-use user interface lets you focus on the task at hand

The Settings Bar - key parameters and waveform management

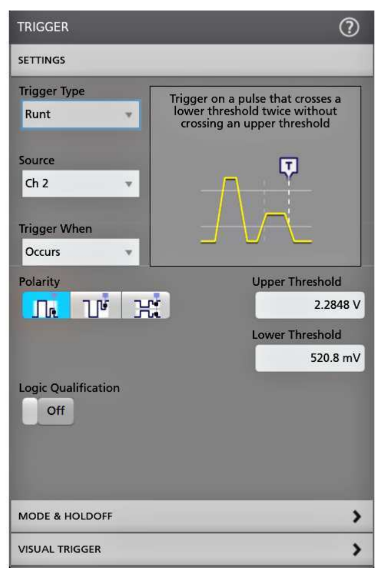
Waveform and scope operating parameters are displayed in a series of “badges” in the Settings Bar that runs along the bottom of the display. The Settings Bar provides Immediate access for the most common waveform management tasks. With a single tap, you can:

- Turn on channels
- Add math waveforms
- Add reference waveforms
- Add bus waveforms
- Enable the optional integrated Arbitrary/Function generator (AFG)
- Enable the optional integrated digital voltmeter (DVM)

The Results Bar - analysis and measurements

The Results Bar on the right side of the display includes immediate, one-tap access to the most common analytical tools such as cursors, measurements, searches, measurement and bus decode results tables, plots, and callouts.

DVM, measurement and search results badges are displayed in the Results Bar without sacrificing any waveform viewing area. For additional waveform viewing area, the Results Bar can be dismissed and brought back at any time.



Configuration menus are accessed by simply double-tapping on the item of interest on the display. In this case, the Trigger badge was double-tapped to open the Trigger configuration menu.

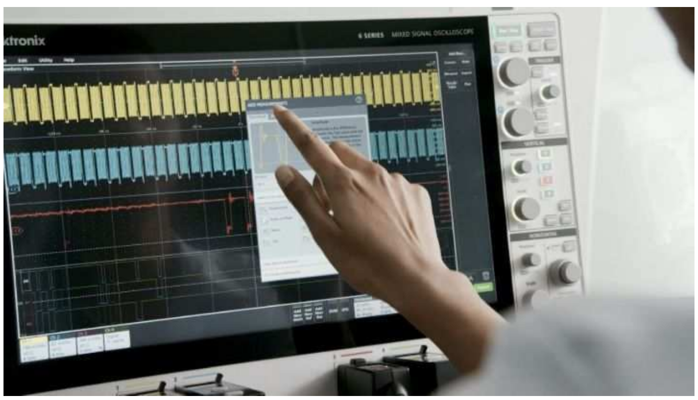
Touch interaction finally done right

Scopes have included touch screens for years, but the touch interface has been an afterthought. The 6 Series MSO's 15.6" display includes a capacitive touchscreen and provides the industry's first oscilloscope user interface truly designed for touch.

The touch interactions that you use with phones and tablets, and expect in a touch enabled device, are supported in the 6 Series MSO.

- Drag waveforms left/right or up/down to adjust horizontal and vertical position or to pan a zoomed view
- Pinch and expand to change scale or zoom in/out in either horizontal or vertical directions
- Flick items off the edge of the screen to delete them
- Swipe in from the right to reveal the Results Bar or down from the top to access the menus in the upper left corner of the display

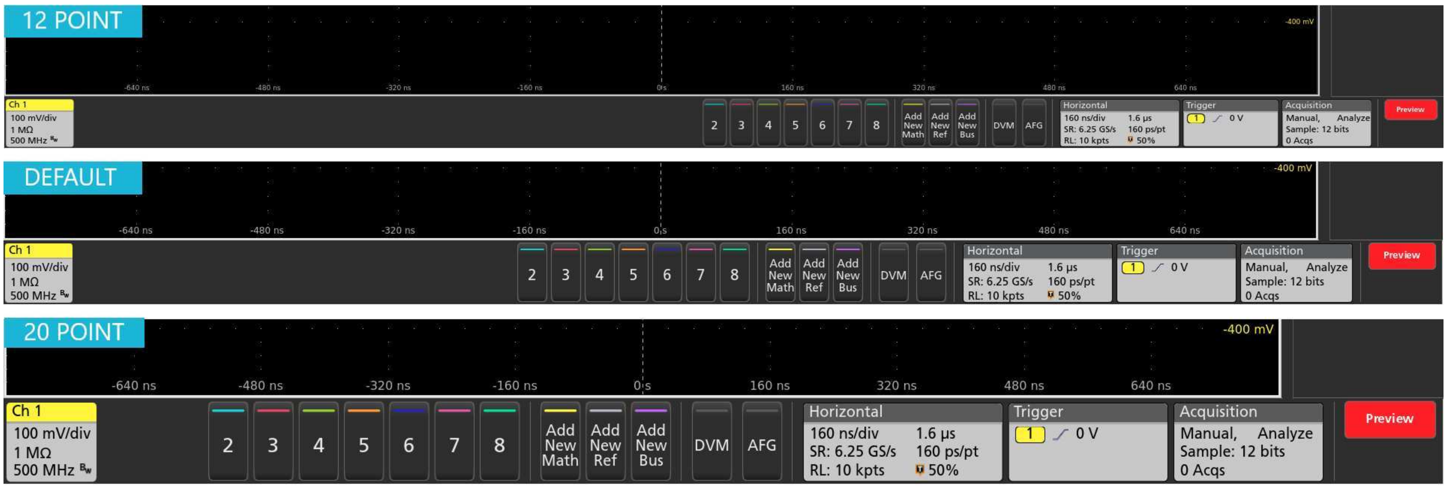
Smooth, responsive front panel controls allow you to make adjustments with familiar knobs and buttons, and you can add a mouse or keyboard as a third interaction method.



Interact with the capacitive touch display in the same way you do on your phones and tablets.

Variable font size

Historically, oscilloscope user interfaces have been designed with fixed font sizes to optimize viewing of waveforms and readouts. This implementation is fine if all users have the same viewing preferences, but they don't. Users spend a significant amount of time staring at screens, and Tektronix recognizes this. The 6 Series MSO offers a user preference for variable font sizes; scaling down to 12 points or up to 20 points. As you adjust the font size, the user interface dynamically scales so you can easily choose the best size for your application.



Comparison showing how the user interface scales as font size changes.

Efficient and intuitive front panel provides critical controls while still leaving room for the massive 15.6" high definition display.

Attention to detail in the front-panel controls

Traditionally, the front face of a scope has been roughly 50% display and 50% controls. The 6 Series MSO display fills about 85% of the face of the instrument. To achieve this, it has a streamlined front panel that retains critical controls for simple intuitive operation, but with a reduced number of menu buttons for functions directly accessed via objects on the display.

Color-coded LED light rings indicate trigger source and vertical scale/ position knob assignments. Large, dedicated Run/ Stop and Single Sequence buttons are placed prominently in the upper right, and other functions like Force Trigger, Trigger Slope, Trigger Mode, Default Setup, Auto-set and Quick-save functions are all available using dedicated front panel buttons.

Windows or not - you choose

The 6 Series MSO offers you the choice of whether to include a Microsoft Windows™ operating system.

The 6 Series MSO comes with a standard removable SSD that contains a closed embedded operating system that will boot as a dedicated scope with no ability to run or install other programs. An optional SSD with Windows 10 operating system is available that will boot to an open Windows 10 configuration, so you can minimize the oscilloscope application and access a Windows desktop where you can install and run additional applications on the oscilloscope or you can connect additional monitors and extend your desktop. Simply swap the drives as needed through an access panel on the bottom of the instrument.

Whether you run Windows or not, the oscilloscope operates in exactly the same way with the same look and feel and UI interaction.

Need higher channel density?

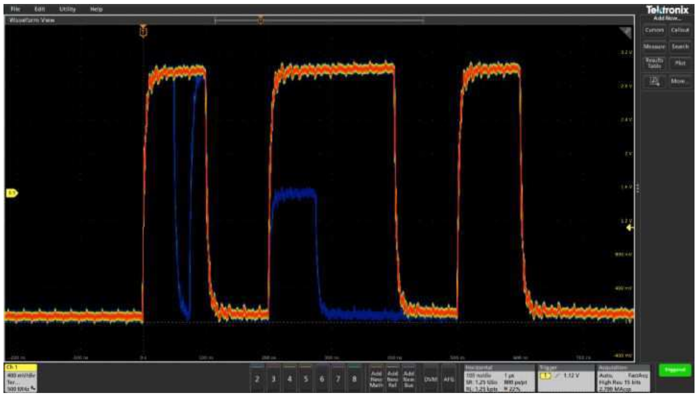
The 6 Series is also available as a low-profile digitizer - the LPD64. With four SMA input channels plus an auxiliary trigger input, in a 2U high package and 12-bit ADC's, the 6 Series Low Profile Digitizer sets a new standard for performance in applications where extreme channel density is required.

Experience the performance difference

With up to 10 GHz analog bandwidth, 50 GS/s sample rates, standard 62.5 Mpts record length and a 12-bit analog to digital converter (ADC), the 6 Series MSO has the performance you need to capture waveforms with the best possible signal fidelity and resolution for seeing small waveform details.

Digital Phosphor technology with FastAcq™ high-speed waveform capture

To debug a design problem, first you must know it exists. Digital phosphor technology with FastAcq provides you with fast insight into the real operation of your device. Its fast waveform capture rate - greater than 500,000 waveforms per second - gives you a high probability of seeing the infrequent problems common in digital systems: runt pulses, glitches, timing issues, and more. To further enhance the visibility of rarely occurring events, intensity grading indicates how often rare transients are occurring relative to normal signal characteristics.



FastAcq's high waveform capture rate enables you to discover infrequent problems common in digital design.

Industry leading vertical resolution

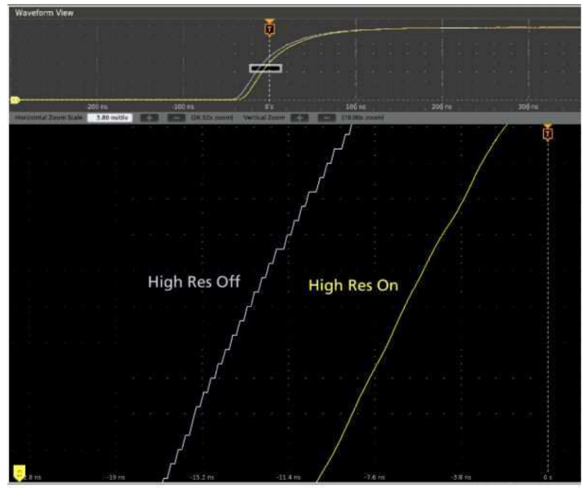
The 6 Series MSO provides the performance to capture the signals of interest while minimizing the effects of unwanted noise when you need to capture high-amplitude signals while seeing smaller signal details. At the heart of the 6 Series MSO are 12-bit analog-to-digital converters (ADCs) that provide 16 times the vertical resolution of traditional 8-bit ADCs.

A new High Res mode applies a hardware-based unique Finite Impulse Response (FIR) filter based on the selected sample rate. The FIR filter maintains the maximum bandwidth possible for that sample rate while preventing aliasing and removing noise from the oscilloscope amplifiers and ADC above the usable bandwidth for the selected sample rate.

High Res mode always provides at least 12 bits of vertical resolution and extends all the way to 16 bits of vertical resolution at ≤ 625 MS/s sample rates and 200 MHz of bandwidth. The following table shows the number of bits of vertical resolution for each sample rate setting when in High Res.

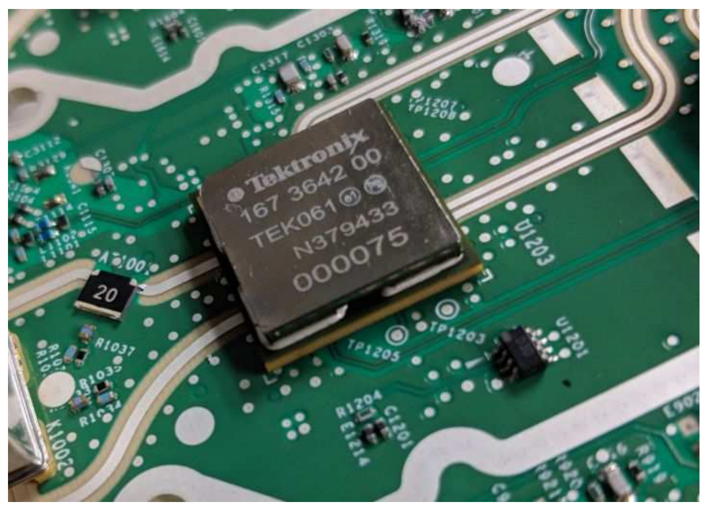
Sample rate	Number of bits of vertical resolution
50 GS/s	8
25 GS/s	8
12.5 GS/s	12
6.25 GS/s	13
3.125 GS/s	14
1.25 GS/s	15
≤625 MS/s	16

New lower-noise front end amplifiers further improve the 6 Series MSO's ability to resolve fine signal detail.



The 6 Series MSO's 12-bit ADC, along with the new High Res mode, enable industry leading vertical resolution.

A new TEK061 front end amplifier sets a new standard for low-noise acquisition providing the best signal fidelity to capture small signals with high resolution.



A key attribute to being able to view fine signal details on small, high-speed signals is noise. The higher a measurement systems' intrinsic noise, the less true signal detail will be visible. This becomes more critical on an oscilloscope when the vertical settings are set to high sensitivity (like ≤ 10mV/div) in order to view small signals that are prevalent in high-speed bus topologies. The 6 Series MSO has a new front-end ASIC, the TEK061, that enables breakthrough noise performance at the highest sensitivity settings. The 'B' version of the 6 Series MSO has a new 50 GS/s low noise interleave sample rate on up to two channels that reduces noise by almost 3 dB at higher volts/div settings, furthering the advantage over competitive scopes in low noise performance. The table below shows a comparison of typical noise performance of the 6 Series MSO and prior generations of Tektronix oscilloscopes in this bandwidth range.

50 Ω, RMS voltage, typical

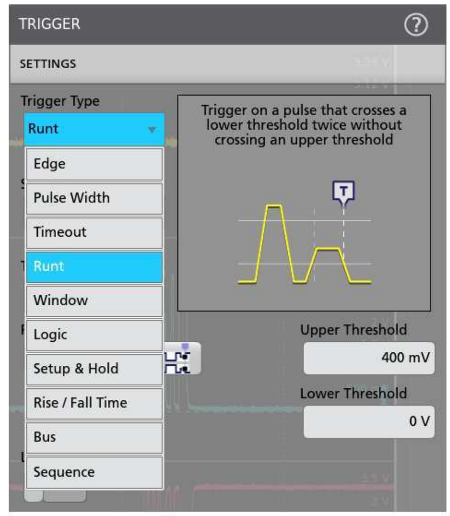
Bandwidth	V/Div	6 Series B MSO	DPO7000C	MSO/ DPO70000C
1 GHz	1 mV	51.8 µV	90 µV [3]	N/A
	10 mV	82.9 µV	279 µV	N/A
	100 mV	829 µV	2.7 mV	N/A
4 GHz	1 mV	97.4 µV	N/A	N/A
	10 mV	171 µV	N/A	500 µV
	100 mV	1.73 mV	N/A	4.3 mV
8 GHz	1 mV	153 µV	N/A	N/A
	10 mV	287 µV	N/A	580 µV
	100 mV	2.94 mV	N/A	4.5 mV

Triggering

Discovering a device fault is only the first step. Next, you must capture the event of interest to identify root cause. The 6 Series MSO provides a complete set of advanced triggers, including:

- Runt
- Logic
- Pulse width
- Window
- Timeout
- Rise/Fall time
- Setup and Hold violation
- Serial packet
- Parallel data
- Sequence
- Video
- Visual Trigger
- RF Frequency vs. Time
- RF Magnitude vs. Time

With up to a 1 Gpoint record length, you can capture many events of interest, even thousands of serial packets in a single acquisition, providing high-resolution to zoom in on fine signal details and record reliable measurements.

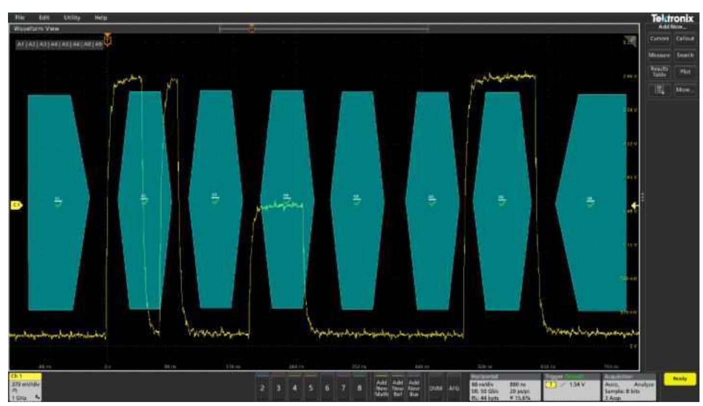


The wide variety of trigger types and context-sensitive help in the trigger menu make it easier than ever to isolate the event of interest.

Visual trigger - Finding the signal of interest quickly

Finding the right cycle of a complex bus can require hours of collecting and sorting through thousands of acquisitions for an event of interest. Defining a trigger that isolates the desired event speeds up debug and analysis efforts.

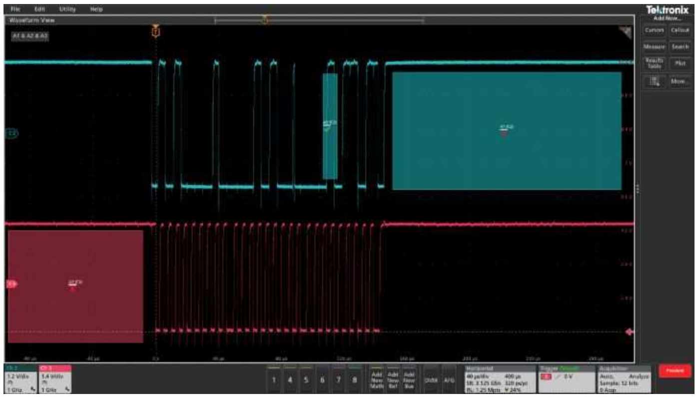
Visual Trigger extends the 6 Series MSO's triggering capabilities by scanning through all waveform acquisitions and comparing them to on-screen areas (geometric shapes). An unlimited number of areas can be created using a mouse or touchscreen, and a variety of shapes (triangles, rectangles, hexagons, or trapezoids) can be used to specify the desired trigger behavior. Once shapes are created, they can be edited interactively to create custom shapes and ideal trigger conditions.



Visual Trigger areas isolate an event of interest, saving time by only capturing the events you want to see.

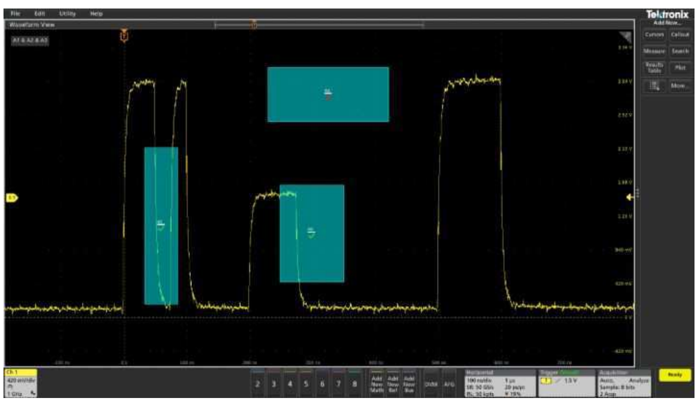
3 Bandwidth limited to 200 MHz.

By triggering only on the most important signal events, Visual Trigger can save hours of capturing and manually searching through acquisitions. In seconds or minutes, you can find the critical events and complete your debug and analysis efforts. Visual Trigger even works across multiple channels, extending its usefulness to complex system troubleshooting and debug tasks.



Multiple channel triggering. Visual Trigger areas can be associated with events spanning multiple channels such as packets transmitted on two bus signals simultaneously.

Once multiple areas are defined, a Boolean logic equation can be used to set complex trigger conditions using on-screen editing features.



Boolean logic trigger qualification. Boolean logic using logical OR allows triggering on a specific anomaly in the signal.

TekVPI Probe Interface

The TekVPI® probe interface sets the standard for ease of use in probing. In addition to the secure, reliable connection that the interface provides, many TekVPI probes feature status indicators and controls, as well as a probe menu button right on the comp box itself. This button brings up a probe menu on the oscilloscope display with all relevant settings and controls for the probe. The TekVPI interface enables direct attachment of current probes without requiring a separate power supply. TekVPI probes can be controlled remotely through USB or LAN, enabling more versatile solutions in ATE environments. The 6 Series MSO provides up to 80 W of power to the front panel connectors, sufficient to power all connected TekVPI probes without the need for an additional probe power supply.

Convenient high speed passive voltage probing

The TPP Series passive voltage probes included with every 6 Series MSO offer all the benefits of general-purpose probes - high dynamic range, flexible connection options, and robust mechanical design - while providing the performance of active probes. Up to 1 GHz analog bandwidth enables you to see high frequency components in your signals, and extremely low 3.9 pF capacitive loading minimizes adverse effects on your circuits and is more forgiving of longer ground leads.

An optional, low-attenuation (2X) version of the TPP probe is available for measuring low voltages. Unlike other low-attenuation passive probes, the TPP0502 has high bandwidth (500 MHz) as well as low capacitive loading (12.7 pF).

6 Series MSOs come with standard one TPP1000 (1 GHz, 2.5 GHz models) probe per channel.

TDP7700 Series TriMode Probes

The TDP7700 Series TriMode probes provide the highest probe fidelity available for real-time oscilloscopes. The TDP7700 is designed for use with the 6 Series MSO, with full AC calibration of the probe and tip's signal path based on unique S-parameter models. The probe communicates the S-parameters to the scope via the TekVPI probe interface and the 6 Series MSO includes them to achieve the very best signal fidelity possible from probe tip to acquisition memory. Connectivity innovations such as solder-down tips with the probe's input buffer mounted only a few millimeters from the end of the tip, the TDP7700 Series probes provide unmatched usability for connecting to today's most challenging electronic designs.

TDP7700 Series probe with a selection of available tips

With TriMode probing one probe setup makes differential, single ended, and common mode measurements accurately. This unique capability allows you to work more effectively and efficiently, switching between differential, single ended and common mode measurements without moving the probe's connection point.

IsoVu™ Isolated Measurement System

Whether designing an inverter, optimizing a power supply, testing communication links, measuring across a current shunt resistor, debugging EMI or ESD issues, or trying to eliminate ground loops in your test setup, common mode interference has caused engineers to design, debug, evaluate, and optimize "blind" until now.

Tektronix' revolutionary IsoVu technology uses optical communications and power-over-fiber for complete galvanic isolation. When combined with the 6 Series MSO equipped with the TekVPI interface, it is the first, and only, measurement system capable of accurately resolving high bandwidth, differential signals, in the presence of large common mode voltage with:

- Complete galvanic isolation
- Up to 1 GHz bandwidth
- 1 Million to 1 (120 dB) common mode rejection at 100 MHz
- 10,000 to 1 (80 dB) of common mode rejection at full bandwidth
- Up to 2,500 V differential dynamic range
- 60 kV common mode voltage range

The Tektronix TIVM Series IsoVu™ Measurement System offers a galvanically isolated measurement solution to accurately resolve high bandwidth, differential signals up to 2,500 Vpk in the presence of large common mode voltages, with the best in class common mode rejection performance across its bandwidth.

Comprehensive analysis for fast insight

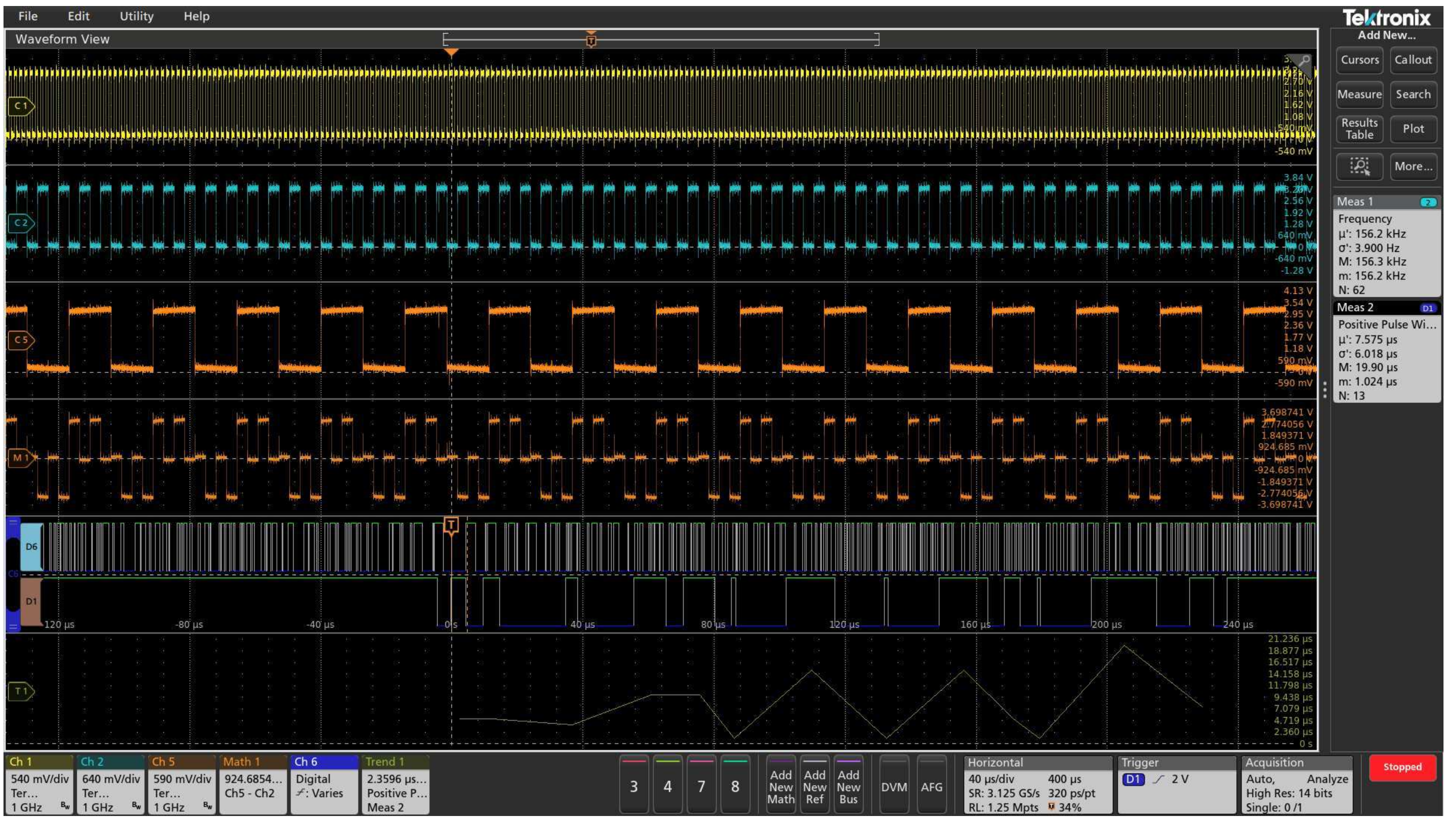
Basic waveform analysis

Verifying that your prototype's performance matches simulations and meets the project's design goals requires careful analysis, ranging from simple checks of rise times and pulse widths to sophisticated power loss analysis, characterization of system clocks, and investigation of noise sources.

The 6 Series MSO offers a comprehensive set of standard analysis tools including:

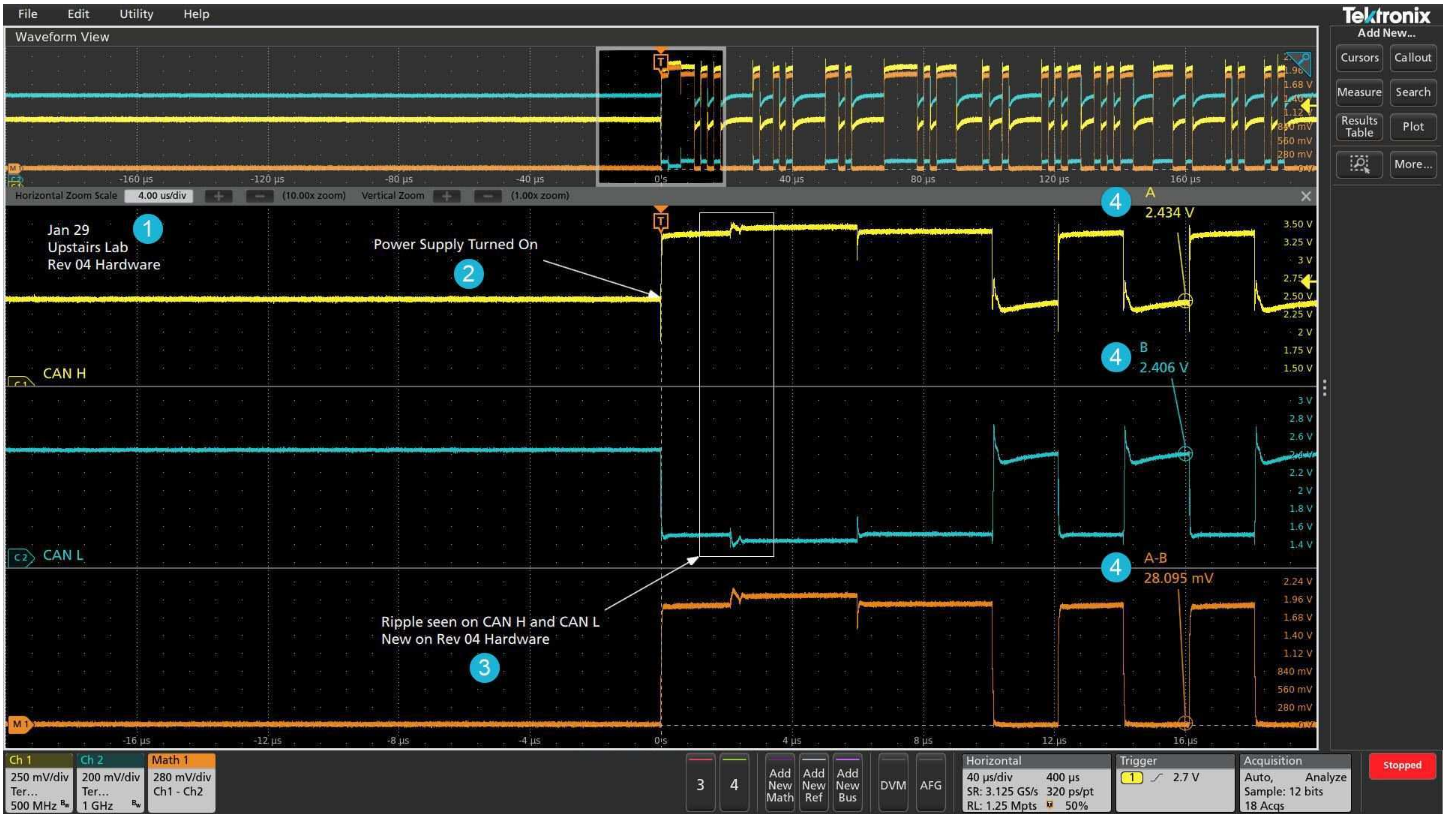
- Waveform- and screen-based cursors
- 36 automated measurements. Measurement results include all instances in the record, the ability to navigate from one occurrence to the next, and immediate viewing of the minimum or maximum result found in the record
- Basic waveform math
- Basic FFT analysis
- Advanced waveform math including arbitrary equation editing with filters and variables
- Spectrum view frequency domain analysis with independent controls for time and frequency domains
- FastFrame™ Segmented Memory enables you to make efficient use of the oscilloscope's acquisition memory by capturing many trigger events in a single record while eliminating the large time gaps between events of interest. View and measure the segments individually or as an overlay.

Measurement results tables provide comprehensive statistical views of measurement results with statistics across both the current acquisition and all acquisitions.



Using measurements to characterize burst width and Frequency.

Callouts



Easy to use callouts (Note, Arrow, Rectangle, Bookmark) that are detailing the specifics of this test setup and corresponding results.

1	**Note**	Write and position a text box on the screen.
2	**Arrow**	Write and position a text box, then add an arrow to a specific location on the screen.
3	**Rectangle**	Write text and outline a specific region on the screen indicated by a resizable box.
4	**Bookmark**	Create a dynamic readout at a specified time relative to a trigger point. This readout includes text, magnitude of the signal, signal units, as well as a line and target indicating the bookmark reference point.

Documenting test results and methods is critical when sharing data across a team, recreating a measurement at a later date, or delivering a customer report. With a few taps on the screen, you can create as many custom callouts as needed; enabling you to document the specific details of your test results. With each callout, you can customize the text, location, color, font size, and font.

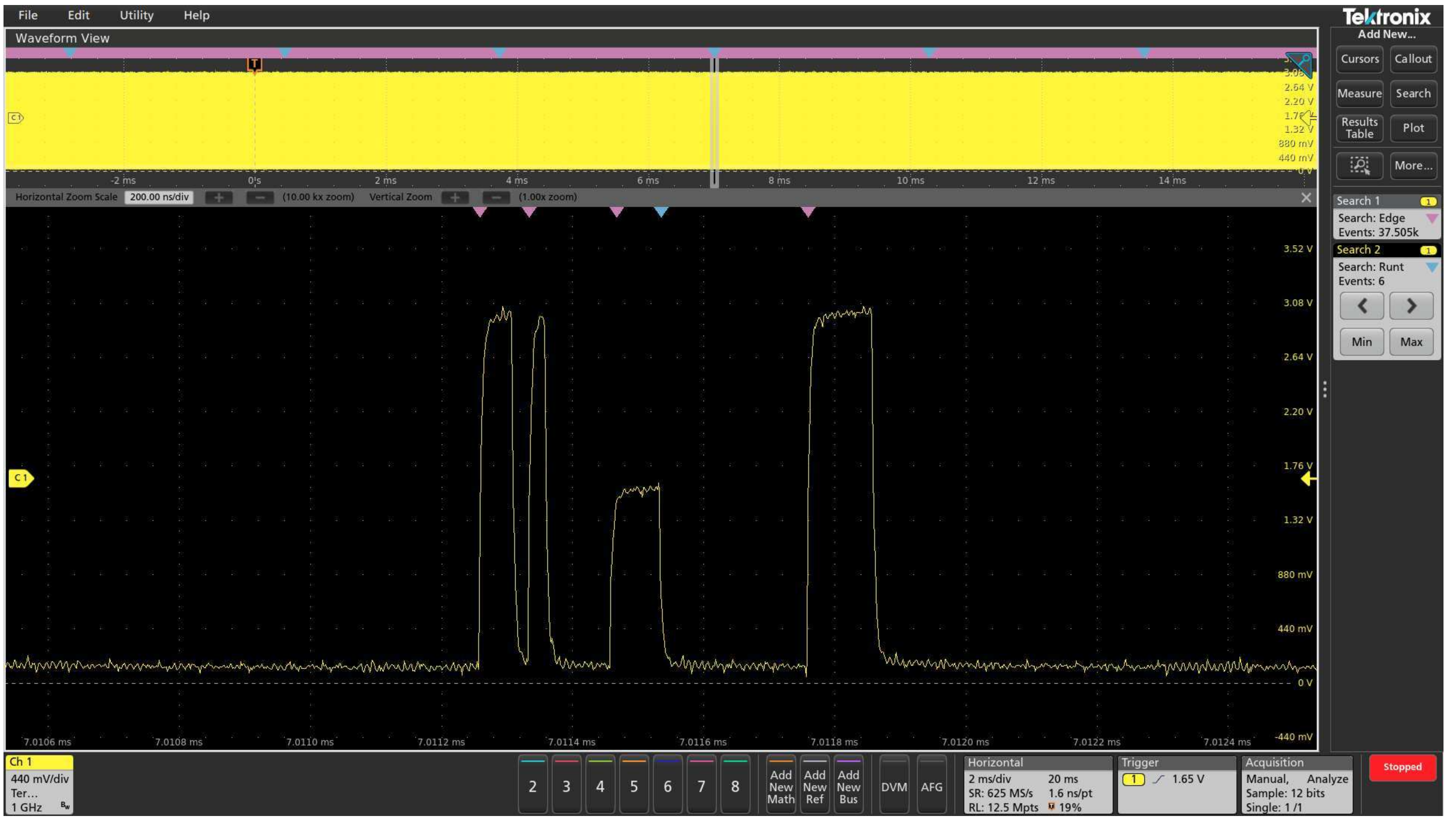
Navigation and search

Finding your event of interest in a long waveform record can be time consuming without the right search tools. With today's record lengths of many millions of data points, locating your event can mean scrolling through literally thousands of screens of signal activity.

The 6 Series MSO offers the industry's most comprehensive search and waveform navigation with its innovative Wave Inspector® controls. These controls speed panning and zooming through your record. With a unique force-feedback system, you can move from one end of your record to the other in just seconds. Or, use intuitive drag and pinch/expand gestures on the display itself to investigate areas of interest in a long record.

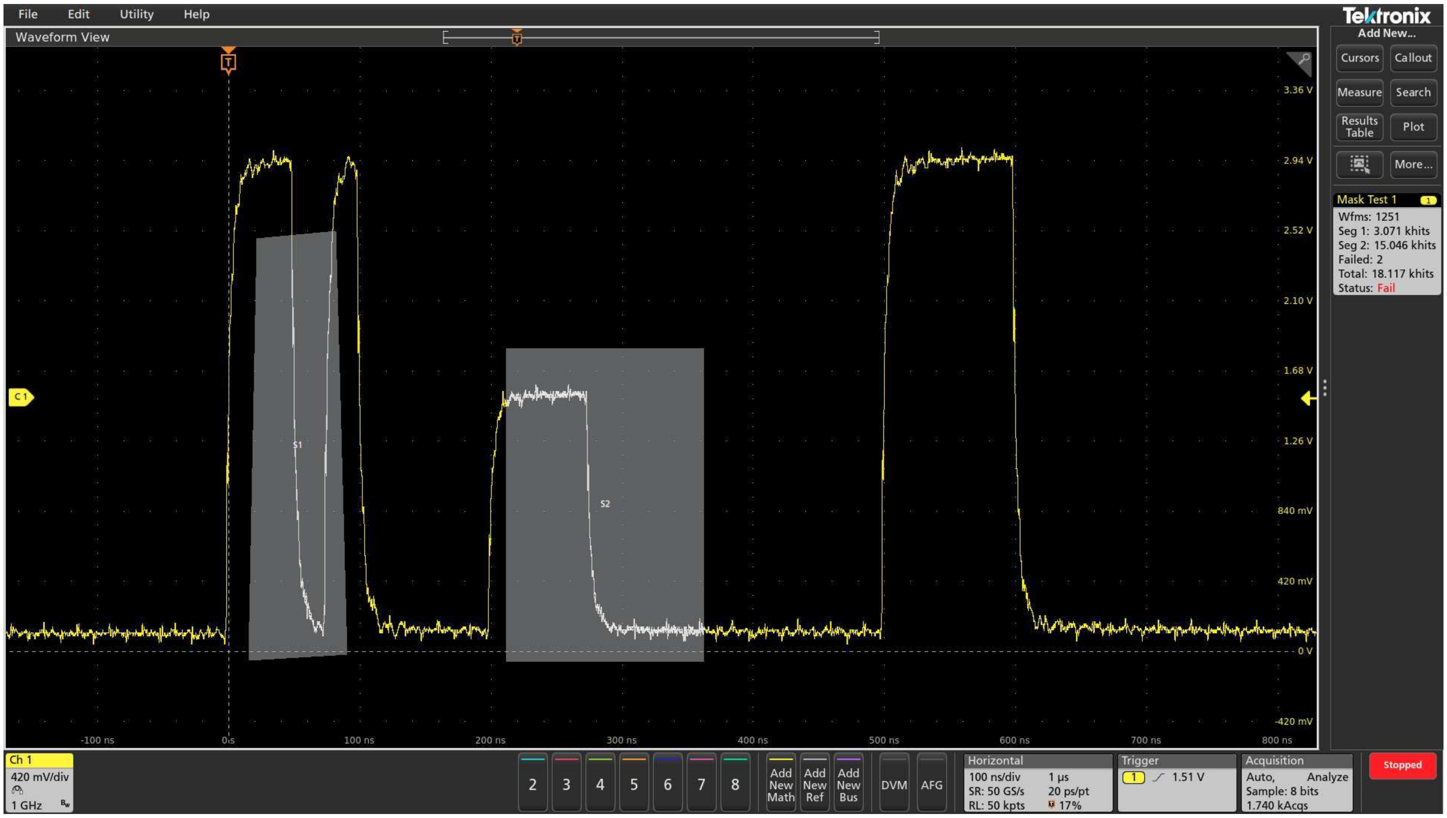
The Search feature allows you to automatically search through your long acquisition looking for user-defined events. All occurrences of the event are highlighted with search marks and are easily navigated to, using the Previous (←) and Next (→) buttons found on the front panel or on the Search badge on the display. Search types include edge, pulse width, timeout, runt, window, logic, setup and hold, rise/fall time and parallel/serial bus packet content. You can define as many unique searches as you like.

You can also quickly jump to the minimum and maximum value of search results by using the Min and Max buttons on the Search badge.



Earlier, FastAcq revealed the presence of a runt pulse in a digital data stream prompting further investigation.

Mask and limit testing (optional)



Custom, multiple segment mask capturing the presence of a signal glitch and runt pulse in a waveform.

Whether you are focused on signal integrity or setting up pass/fail conditions for production, mask testing is an efficient tool to characterize the behavior of certain signals in a system. Quickly create custom masks by drawing mask segments on the screen. Tailor a test to your specific requirements and set actions to take when a mask hit is registered, or when a complete test passes or fails.

Limit testing is an insightful way to monitor the long-term behavior of signals, helping you characterize a new design or confirm hardware performance during production line testing. Limit tests compare your live signal to an ideal, or golden version of the same signal with user-defined vertical and horizontal tolerances.

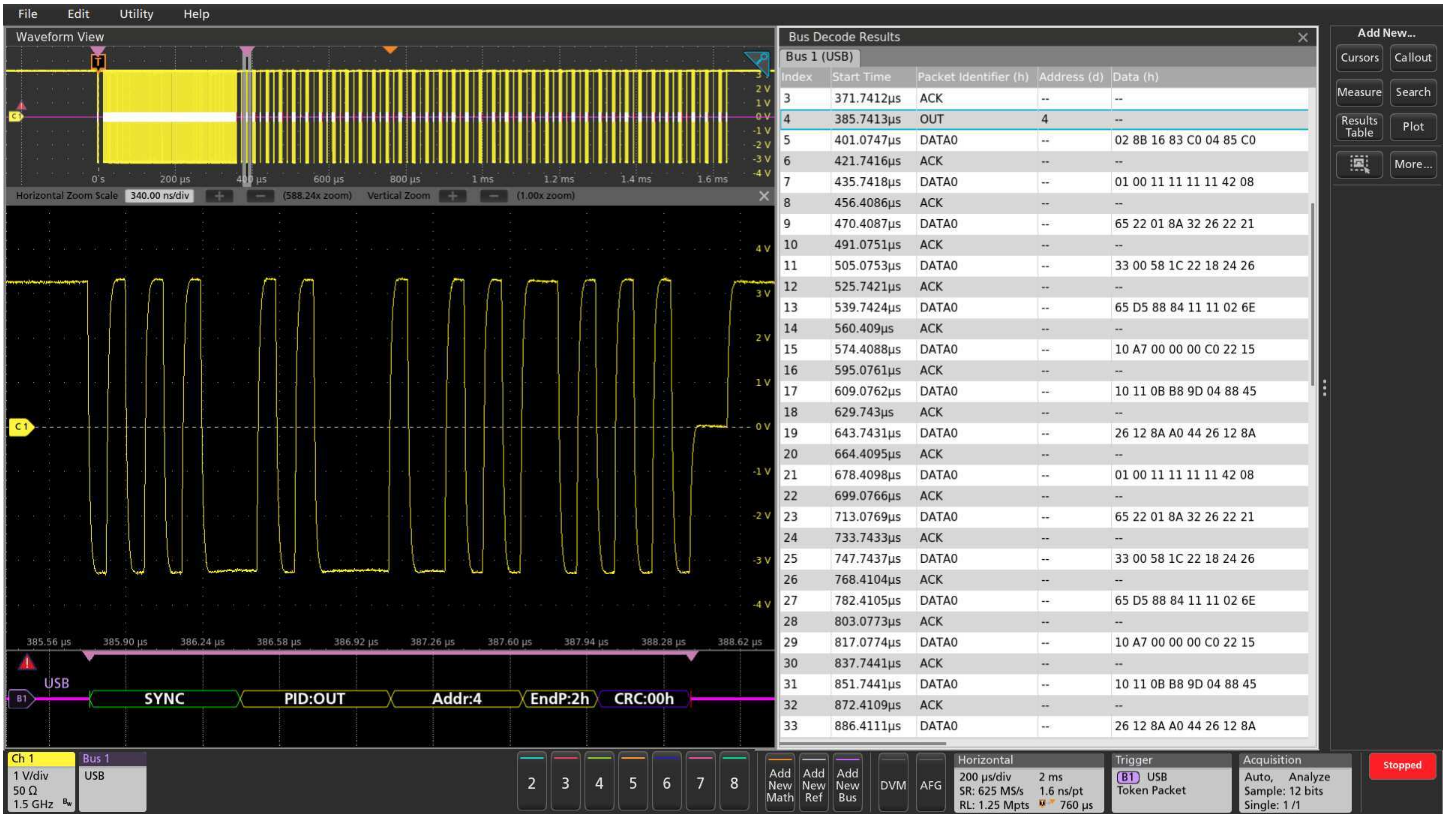
You can easily tailor a mask or limit test to your specific requirements by:

- Defining test duration in number of waveforms
- Setting a violation threshold that must be met before considering a test a failure
- Counting violations/failures and reporting statistical information
- Setting actions upon violations, test failure, and test complete

Serial protocol triggering and analysis (optional)

During debugging, it can be invaluable to trace the flow of activity through a system by observing the traffic on one or more serial buses. It could take many minutes to manually decode a single serial packet, much less the thousands of packets that may be present in a long acquisition.

And if you know the event of interest that you are attempting to capture occurs when a particular command is sent across a serial bus, wouldn't it be nice if you could trigger on that event? Unfortunately, it's not as easy as simply specifying an edge or a pulse width trigger.



Triggering on a USB full-speed serial bus. A bus waveform provides time-correlated decoded packet content including Start, Sync, PID, Address, End Point, CRC, Data values, and Stop, while the bus decode table presents all packet content from the entire acquisition.

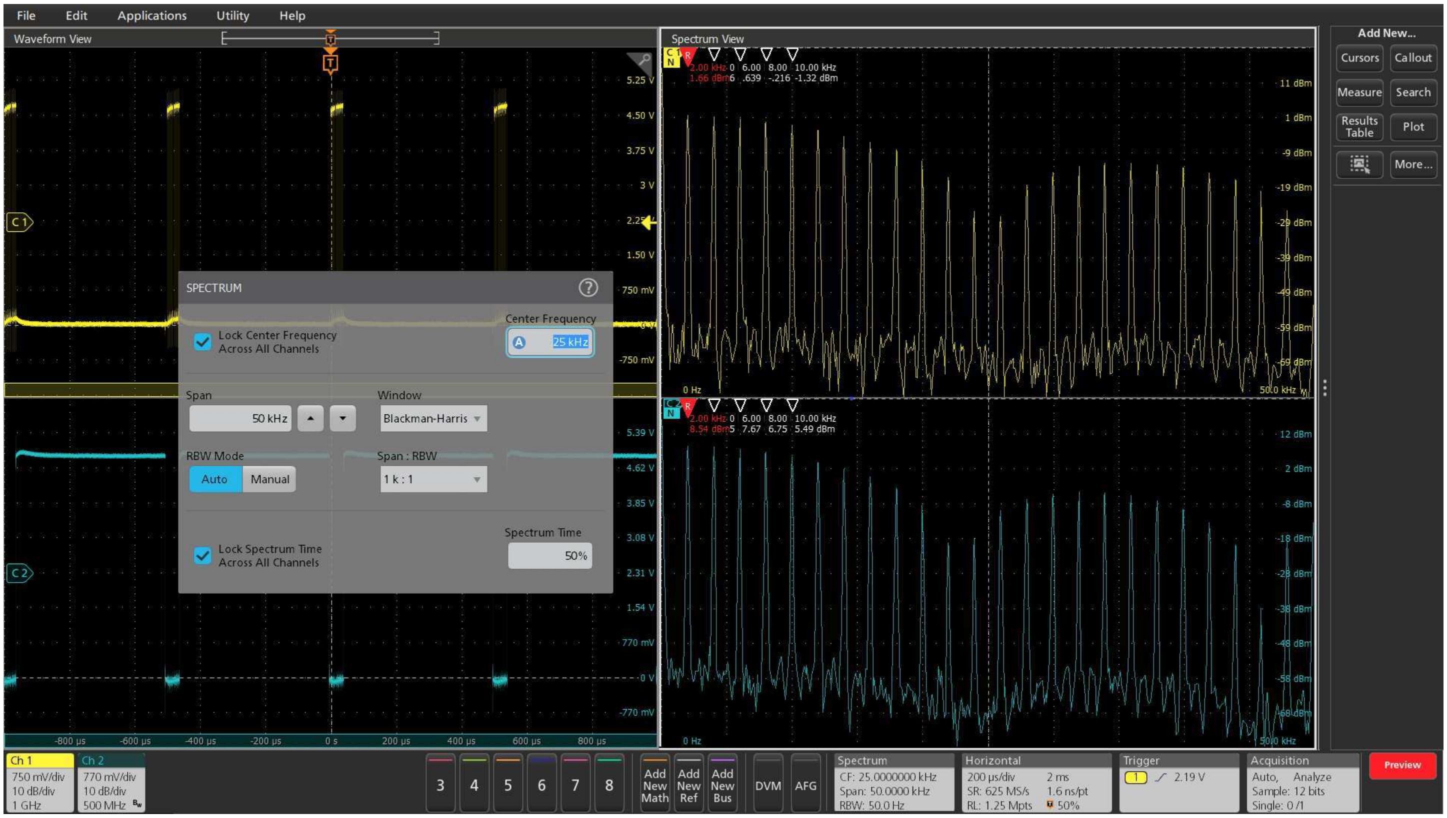
The 6 Series MSO offers a robust set of tools for working with the most common serial buses found in embedded design including I^{2}C, SPI, I3C, RS-232/422/485/UART, SPMI, CAN, CAN FD, LIN, FlexRay, SENT, PSI5, Automotive Ethernet, MIPI D-PHY, USB LS/FS/HS, eUSB 2.0, Ethernet 10/100, Audio (I^{2}S/LJ/RJ/TDM), MIL-STD-1553, ARINC 429, Spacewire, 8B/10B, MDIO, SVID, Manchester, and NRZ.

Serial protocol search enables you to search through a long acquisition of serial packets and find the ones that contain the specific packet content you specify. Each occurrence is highlighted by a search mark. Rapid navigation between marks is as simple as pressing the Previous (←) and Next (→) buttons on the front panel or in the Search badge that appears in the Results Bar.

The tools described for serial buses also work on parallel buses. Support for parallel buses is standard in the 6 Series MSO. Parallel buses can be up to 64 bits wide and can include a combination of analog and digital channels.

- Serial protocol triggering lets you trigger on specific packet content including start of packet, specific addresses, specific data content, unique identifiers, and errors.
- Bus waveforms provide a higher-level, combined view of the individual signals (clock, data, chip enable, and so on) that make up your bus, making it easy to identify where packets begin and end, and identifying sub-packet components such as address, data, identifier, CRC, and so on.
- The bus waveform is time aligned with all other displayed signals, making it easy to measure timing relationships across various parts of the system under test.
- Bus decode tables provide a tabular view of all decoded packets in an acquisition much like you would see in a software listing. Packets are time stamped and listed consecutively with columns for each component (Address, Data, and so on).

Spectrum View



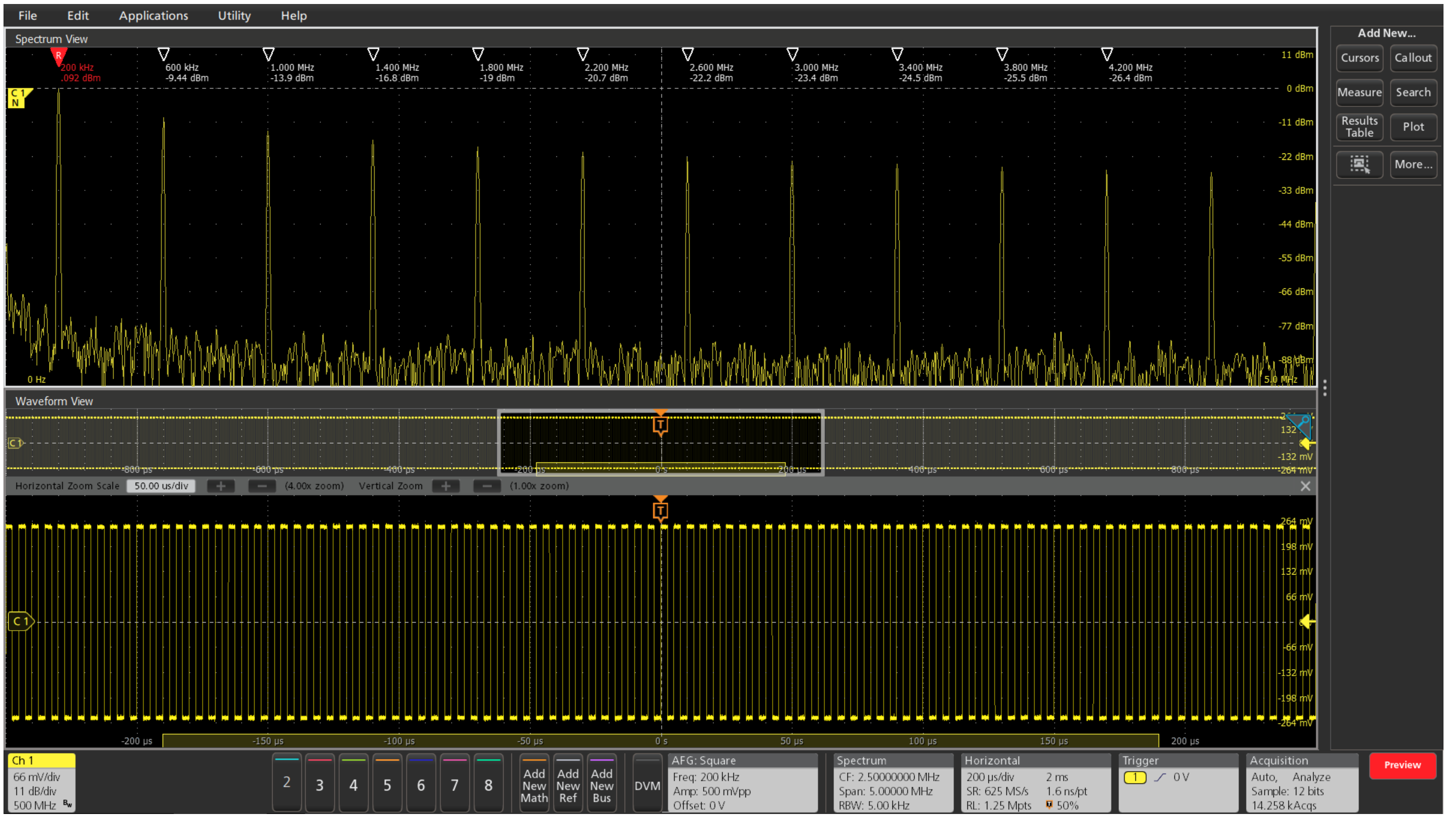
Intuitive spectrum analyzer controls like center frequency, span and resolution bandwidth (RBW), independent from time domain controls, provide easy setup for frequency domain analysis. A spectrum view is available for each FlexChannel analog input, enabling multi-channel mixed domain analysis.

It is often easier to debug an issue by viewing one or more signals in the frequency domain. Oscilloscopes have included math-based FFTs for decades in an attempt to address this need. However, FFTs are notoriously difficult to use for two primary reasons.

First, when performing frequency-domain analysis, you think about controls like Center Frequency, Span, and Resolution Bandwidth (RBW), as you would typically find on a spectrum analyzer. But then you use an FFT, where you are stuck with traditional scope controls like sample rate, record length and time/div and have to perform all the mental translations to try to get the view you're looking for in the frequency-domain.

Second, FFTs are driven by the same acquisition system that's delivering the analog time-domain view. When you optimize acquisition settings for the analog view, your frequency-domain view isn't what you want. When you get the frequency-domain view you want, your analog view is not what you want. With math-based FFTs, it is virtually impossible to get optimized views in both domains.

Spectrum View changes all of this. Tektronix' patented technology provides both a decimator for the time-domain and a digital downconverter for the frequency-domain behind each FlexChannel. The two different acquisition paths let you simultaneously observe both time- and frequency-domain views of the input signal with independent acquisition settings for each domain. Other manufacturers offer various 'spectral analysis' packages that claim ease-of-use, but they all exhibit the limitations described above. Only Spectrum View provides both exceptional ease-of-use and the ability to achieve optimal views in both domains simultaneously.

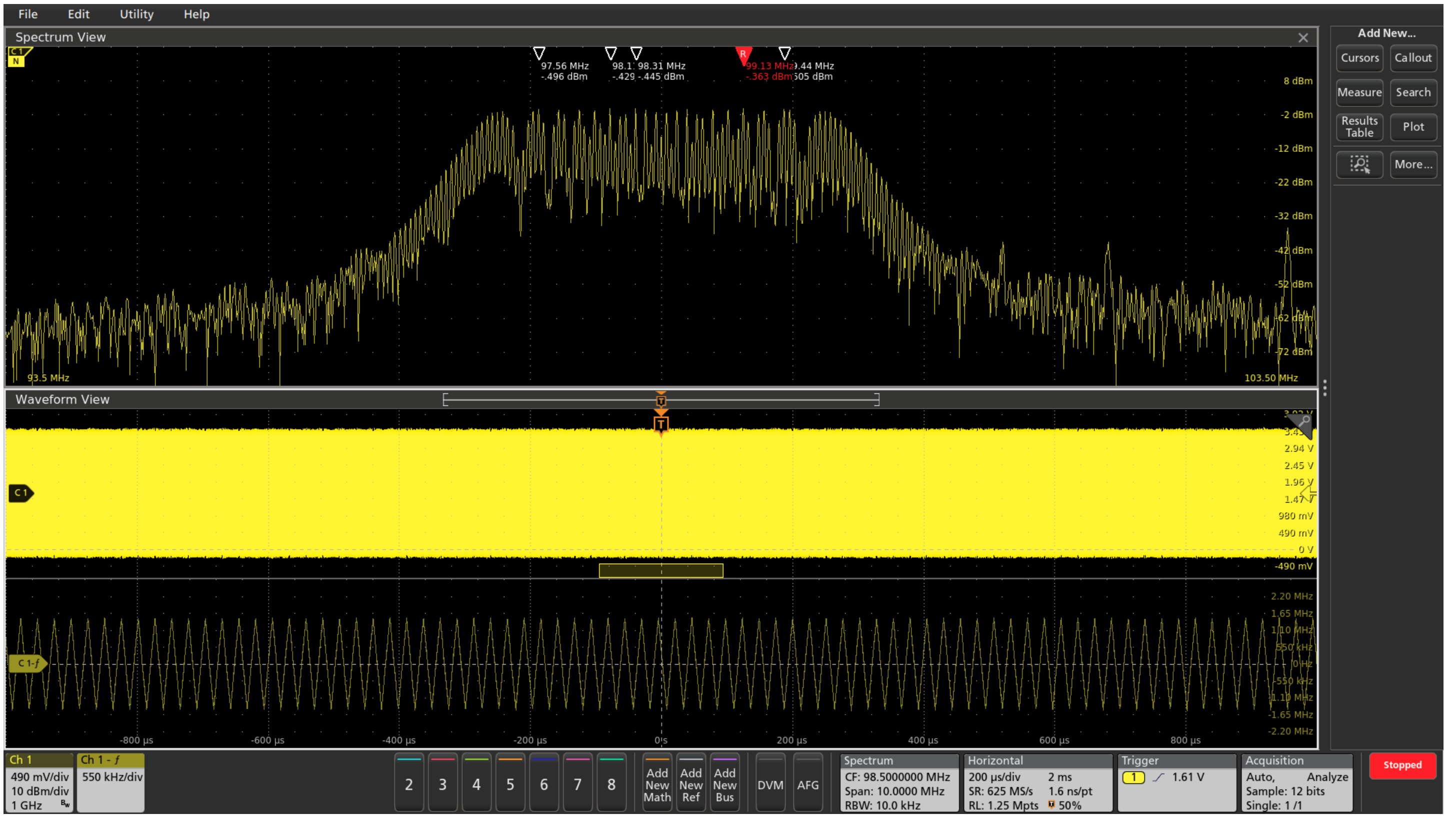


Spectrum Time gates the range of time where the FFT is being calculated. Represented by a small graphical rectangle in the time domain view, it can be positioned to provide time correlation with the time domain waveform. Perfect for conducting Mixed Domain Analysis. Up to 11 automated peak markers provide frequency and magnitude values of each peak. The Reference marker is always the highest peak shown and is indicated in red.

Visualizing changes in the RF signal (optional) – RF time domain traces make it easy to understand what's happening with a time-varying RF signal. There are three RF time domain traces that are derived from the underlying I and Q data of Spectrum View:

- Magnitude – The instantaneous amplitude of the spectrum vs. time.
- Frequency – The instantaneous frequency of the spectrum relative to the center frequency vs. time.
- Phase – The instantaneous phase of the spectrum relative to the center frequency vs. time.

Each of these traces can be turned on and off independently, and all three can be displayed simultaneously.



The lower trace is the frequency vs. time trace derived from the input signal. Notice that the Spectrum Time is positioned during a transition from the lowest frequency to the middle frequency, so the energy is spread across a number of frequencies. With the frequency vs. time trace, you can easily see the different frequency hops, simplifying characterization of how the device switches between frequencies.

Triggering on changes in the RF signal (optional)

Whether you need to find the source of electromagnetic interference or understand the behavior of a VCO, hardware triggers for RF versus time make it easy to isolate, capture, and understand the RF signal behavior. Trigger on edges, pulse widths, and timeout behavior of RF magnitude vs. time and RF frequency vs. time.

Comprehensive vector signal analysis with SignalVu-PC (optional)

When analysis needs go beyond the basic spectrum, amplitude, frequency, and phase vs. time you can employ the SignalVu-PC vector signal analysis application. This enables in-depth transient RF signal analysis, detailed RF pulse characterization, and comprehensive analog and digital RF modulation analysis.

Three options are required to enable SignalVu-PC running on your 6 Series Oscilloscope. First, unless you plan to run the application from a separate Windows PC, the Windows SSD (6-WIN) needs to be installed in the scope. Second, the Spectrum View RF versus time traces option (6-SV-RFVT) needs to be installed in the scope to enable I/Q data to be transferred. Third, the Connect (CONxx-SVPC) license needs to be installed in SignalVu-PC to enable base features of SignalVu-PC, which includes 16+ RF measurements and displays.

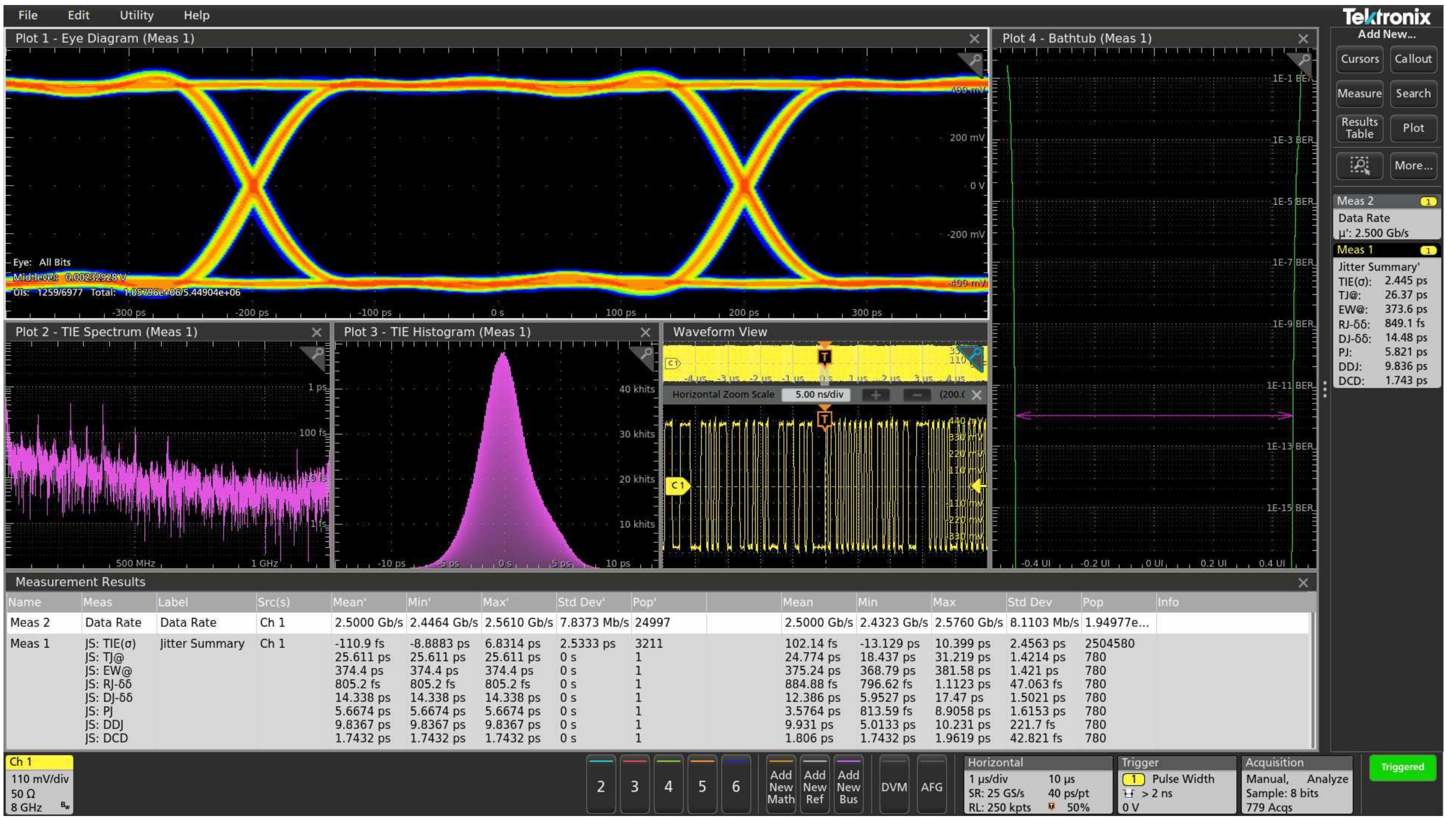
The RF digital down-converters and integrated measurement engines behind each channel have your complex mixed-signal and mixed-domain analysis needs covered in one instrument.

Jitter analysis

The 6 Series MSO has seamlessly integrated the DPOJET Essentials jitter and eye pattern analysis software package, extending the oscilloscope's capabilities to take measurements over contiguous clock and data cycles in a single-shot real-time acquisition. This enables measurement of key jitter and timing analysis parameters such as Time Interval Error and Phase Noise to help characterize possible system timing issues.

Analysis tools, such as plots for time trends and histograms, quickly show how timing parameters change over time, and spectrum analysis quickly shows the precise frequency and amplitude of jitter and modulation sources.

Option 6-DJA adds additional jitter analysis capability to better characterize your device's performance. The 31 additional measurements provide comprehensive jitter and eye-diagram analysis and jitter decomposition algorithms, enabling the discovery of signal integrity issues and their related sources in today's high-speed serial, digital, and communication system designs. Option 6-DJA also provides eye diagram mask testing for automated pass/fail testing.



The unique Jitter Summary provides a comprehensive view of your device's performance in a matter of seconds.

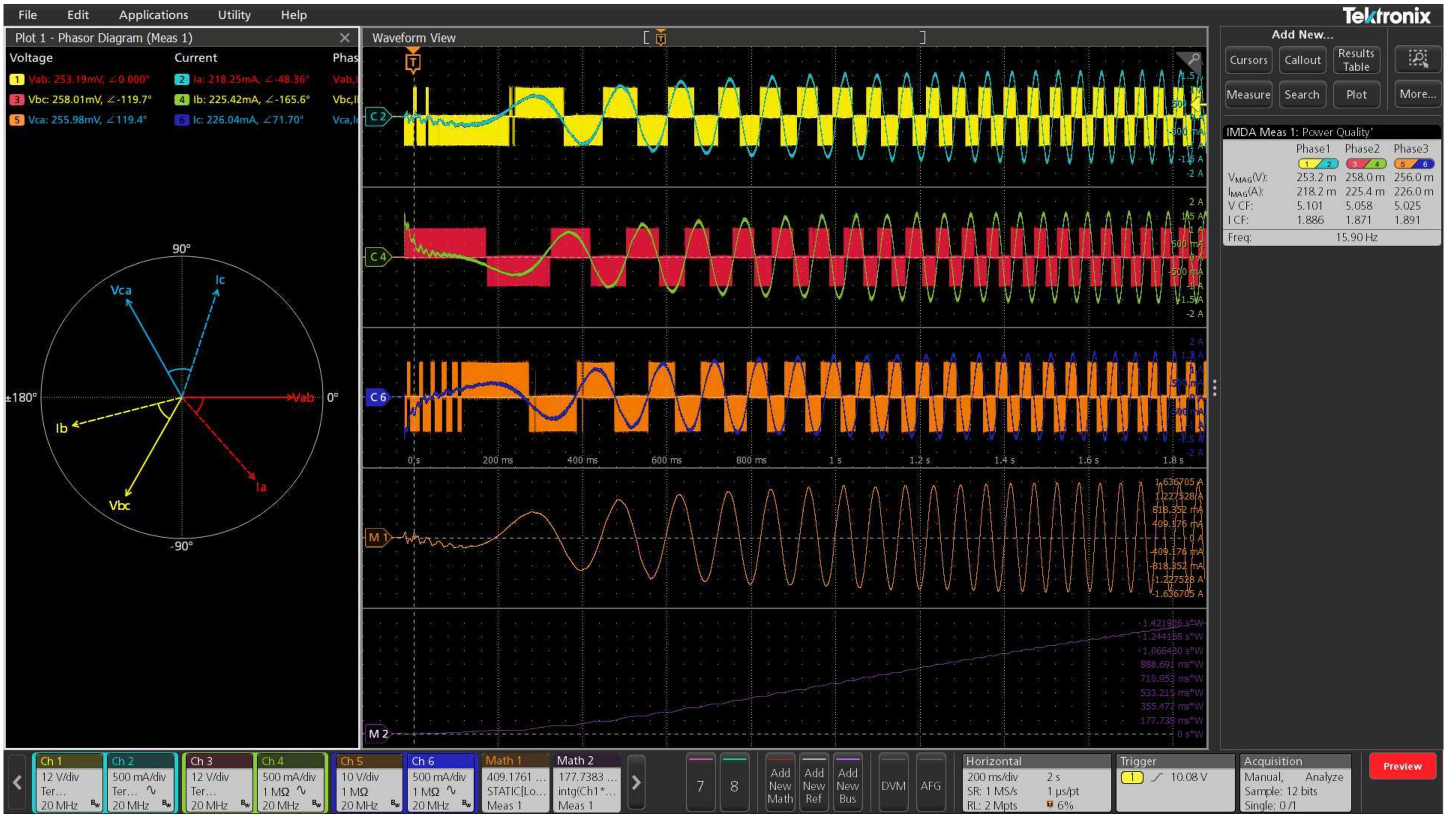
Power analysis (optional)

The 6 Series MSO has also integrated the optional 6-PWR power analysis package into the oscilloscope's automatic measurement system to enable quick and repeatable analysis of power quality, input capacitance, in-rush current, harmonics, switching loss, safe operating area (SOA), modulation, ripple, magnetics measurements, efficiency, amplitude and timing measurements, slew rate (dv/dt and di/dt), Control Loop Response (Bode Plot), and Power Supply Rejection Ratio (PSRR).

Measurement automation optimizes the measurement quality and repeatability at the touch of a button, without the need for an external PC or complex software setup.

The Power Analysis measurements display a variety of waveforms and plots.

Inverter Motor Drive Analysis (IMDA)(optional)



During the design and validation of systems that utilize 3-Phase power, it can be difficult to correlate control systems and power electronics with the performance of the overall system.

This will give you deeper insights enabling you to debug the design, efficiency and reliability of:

- 3-Phase power inverters, converters, power supplies, and automotive 3-Phase designs for DC-AC topology
- Motors (brushless AC, brushless DC, induction, permanent magnet, universal, stepper, rotor)
- Drives (AC, DC, variable frequency, servo)

The automated measurements that are included with 6-IMDA are:

- Input analysis
  - Power quality with phasor diagram
  - Harmonics
  - Input voltage
  - Input current
  - Input power
- Ripple analysis
  - Line Ripple
  - Switching Ripple
- Output analysis
  - Phasor diagram
  - Efficiency
- Wiring configurations
  - 1 Volt/1 Current - 1P2W
  - 2 Volt/2 Current - 1P3W
  - 2 Volt/2 Current - 3P3W
  - 3 Volt/3 Current - 3P3W
  - 3 Volt/3 Current - 3P4W

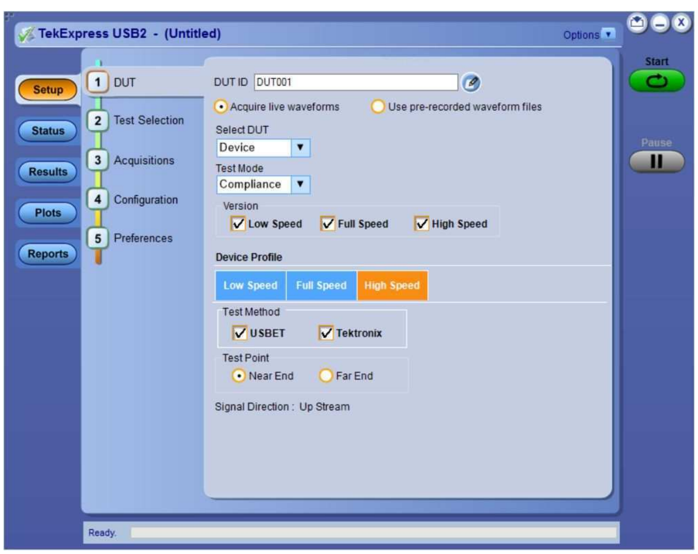
Compliance test

A key focus area for embedded designers is testing various embedded and interface technologies for compliance. This ensures the device passes the logo certification at plugfests and achieves successful interoperability when working with other compliant devices.

The compliance test specifications for high speed serial standards like USB, Ethernet, Memory, Display and MIPI are developed by the respective consortiums, or governing bodies. Working closely with these consortiums, Tektronix has developed oscilloscope-based compliance applications that not only focus on providing pass/fail results but also provide deeper insight into any failures by providing relevant measurement tools such as jitter and timing analysis to debug failing designs.

These automated compliance applications are built on a framework that provides:

- Complete test coverage per the specification.
- Fast test times with optimized acquisitions and test sequencing based on customized settings.
- Analysis based on previously-acquired signals, allowing the device under test (DUT) to be disconnected from the setup once all acquisitions are completed. This also allows analysis of waveforms acquired on a different oscilloscope or captured at a remote lab, facilitating a very collaborative test environment.
- Signal validation during acquisition to ensure the right signals are being captured.
- Additional parametric measurements for design debug.
- Custom eye diagram mask testing for insight into design margin.
- Detailed reports in multiple formats with setup information, results, margins, waveform screenshots and plot images.



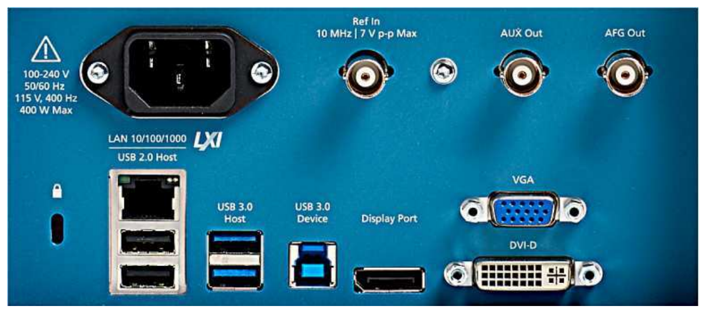
TekExpress USB2 (Option 6-CMUSB2) DUT panel configures the DUT-specific settings

Designed with your needs in mind

Connectivity

The 6 Series MSO contains a number of ports which you can use to connect the instrument to a network, directly to a PC, or to other test equipment.

- Two USB 2.0 and one USB 3.0 host ports on the front and four more USB host ports (two 2.0, two 3.0) on the rear panel enable easy transfer of screen shots, instrument settings, and waveform data to a USB mass storage device. A USB mouse and keyboard can also be attached to USB host ports for instrument control and data entry.
- The rear panel USB Device port is useful for controlling the oscilloscope remotely from a PC.
- The standard 10/100/1000BASE-T Ethernet port on the rear of the instrument enables easy connection to networks and provides LXI Core 2011 compatibility.
- DVI-D, Display Port and VGA ports on the rear of the instrument lets you duplicate the instrument display on an external monitor or projector.



The I/O you need to connect the 6 Series MSO to the rest of your design environment.

Remote operation to improve collaboration

Want to collaborate with a design team on the other side of the world?

The embedded e*Scope® capability enables fast control of the oscilloscope over a network connection through a standard web browser. Simply enter the IP address or network name of the oscilloscope and a web page will be served to the browser. Control the oscilloscope remotely in the exact same way that you do in-person. Alternatively, you can use Microsoft Windows Remote Desktop™ capability to connect directly to your oscilloscope and control it remotely.

The industry-standard TekVISA™ protocol interface is included for using and enhancing Windows applications for data analysis and documentation. IVI-COM instrument drivers are included to enable easy communication with the oscilloscope using LAN or USBTMC connections from an external PC.

*e*Scope provides simple remote viewing and control using common web browsers.*

PC-based analysis and remote connection to your scope

Get the analysis capability of an award-winning oscilloscope on your PC. Analyze waveforms anywhere, anytime. The basic package is free and lets you scale and measure waveforms. Purchased options add advanced capabilities such as multi-scope analysis, bus decoding, power analysis and jitter analysis.

TekScope PC analysis software runs on a Windows computer with the same award-winning user experience as the 4, 5, and 6 Series MSO's.

Key features of the TekScope PC analysis software include:

- Recall Tektronix oscilloscope sessions and waveform files from equipment made by Tektronix and other vendors. Waveform file formats supported include .wfm, .isf, .csv, .h5, .tr0, .trc, and .bin
- Remotely connect to Tektronix 4/5/6 Series MSOs to acquire data in real time
- Share data remotely with your colleagues so that they can perform analysis and make measurements as if they were sitting in front of the oscilloscope
- Synchronize waveforms from multiple oscilloscopes in real time
- Perform advanced analysis even if your oscilloscope isn't equipped with it

Arbitrary/Function Generator (AFG)

The instrument contains an optional integrated arbitrary/function generator, perfect for simulating sensor signals within a design or adding noise to signals to perform margin testing. The integrated function generator provides output of predefined waveforms up to 50 MHz for sine, square, pulse, ramp/triangle, DC, noise, sin(x)/x (Sinc), Gaussian, Lorentz, exponential rise/fall, Haversine and cardiac. The AFG can load waveform records up to 128 k points in size from an internal file location or a USB mass storage device.

The AFG feature is compatible with Tektronix' ArbExpress PC-based waveform creation and editing software, making creation of complex waveforms fast and easy.

Digital Voltmeter (DVM) and Trigger Frequency Counter

The instrument contains an integrated 4-digit digital voltmeter (DVM) and 8-digit trigger frequency counter. Any of the analog inputs can be a source for the voltmeter, using the same probes that are already attached for general oscilloscope usage. The trigger frequency counter provides a very precise readout of the frequency of the trigger event on which you're triggering.

Both the DVM and trigger frequency counter are available for free and are activated when you register your product.

Enhanced security option

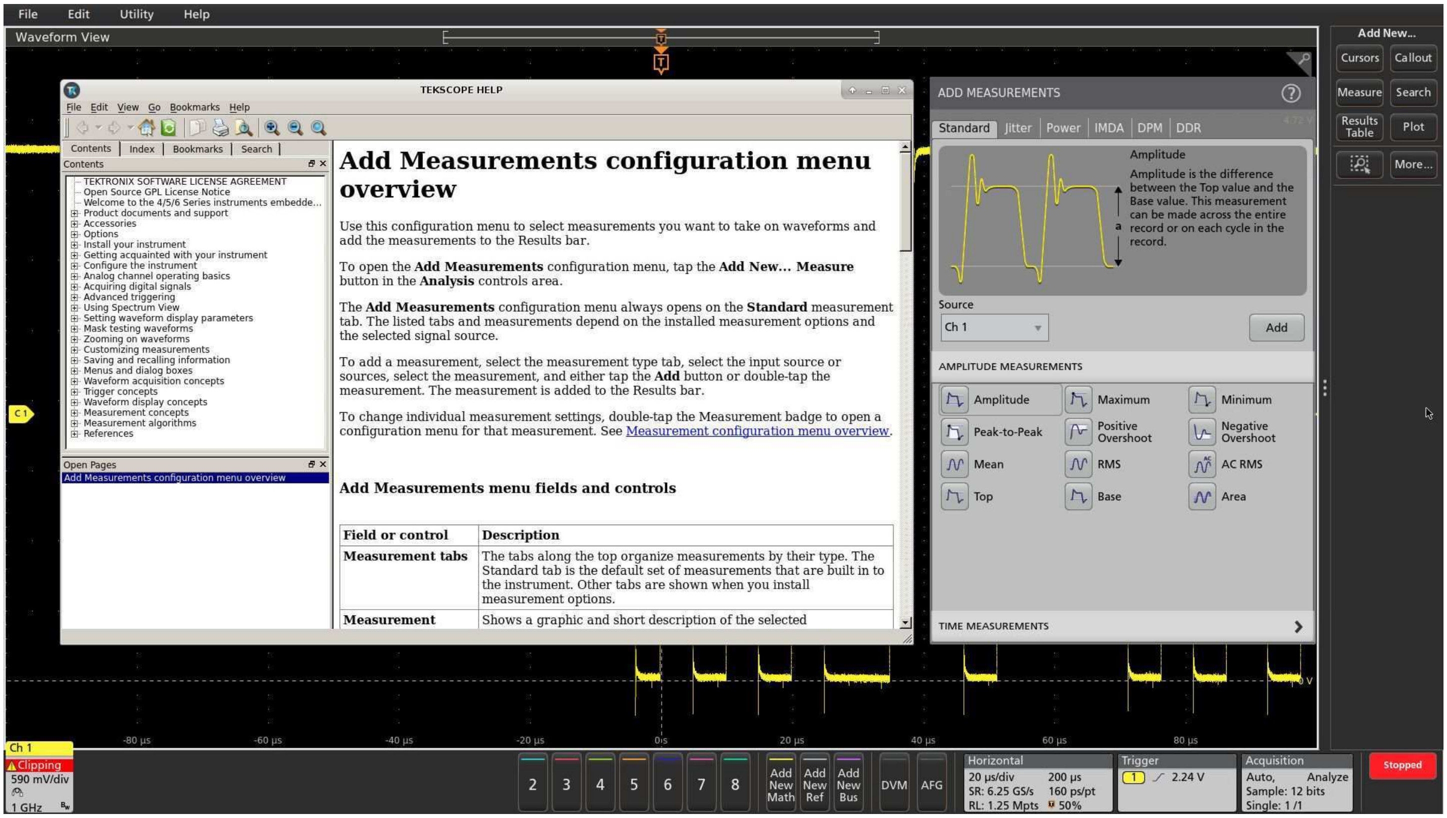
The optional 6-SEC enhanced security option enables password-protected enabling/disabling of all instrument I/O ports and firmware upgrades. In addition, a password protected BIOS is installed enabling protection to changes in the compute platform. Option 6-SEC is developed in compliance with National Industrial Security Program Operating Manual (NISPOM) DoD 5220.22-M, Chapter 8 requirements and Defense Security Service Manual for the Certification and Accreditation of Classified Systems under the NISPOM. This ensures that you can confidently move the instrument out of a secure area.

Sanitization of the instrument is easy, simply remove the SSD from the instrument and remove power. You can then remove the instrument from a secure environment for calibration or movement to a new location.

Help when you need it

The 6 Series MSO includes several helpful resources so you can get your questions answered rapidly without having to find a manual or go to a website:

- Graphical images and explanatory text are used in numerous menus to provide quick feature overviews.
- All menus include a question mark icon in the upper right that takes you directly to the portion of the integrated help system that applies to that menu.
- A short user interface tutorial is included in the Help menu for new users to come up to speed on the instrument in a matter of a few minutes.



Integrated help answers your questions rapidly without having to find a manual or go to the internet.

Specifications

All specifications are guaranteed and apply to all models unless noted otherwise.

Model overview

Oscilloscope

	MSO64B	MSO66B	MSO68B
FlexChannel inputs	4	6	8
Maximum analog channels	4	6	8
Maximum digital channels (with optional logic probes)	32	48	64
Bandwidth (calculated rise time)	1 GHz (400 ps), 2.5 GHz (160 ps), 4 GHz (100 ps), 6 GHz (66.67 ps), 8 GHz (50 ps), 10 GHz (40 ps)		
DC Gain Accuracy	50 Ω: ±2.0% [4] at >2 mV/div (±2.0% at 2 mV/div typical, ±4% at 1 mV/div typical) 50 Ω: ±1.0% [5] of full scale at >2 mV/div, (±1.0% of full scale at 2 mV/div typical, ±2% at 1 mV/div typical) 1 MΩ: ±2.0% [4] at >2 mV/div (±2% at 2 mV/div, ±2.5% at 1 mV/div typical and 500 µV/div typical) 1 MΩ: ±1.0% [5] of full scale at >2 mV/div, (±1.0% of full scale at 2 mV/div typical, ±1.25% at 1 mV/div and 500 µV/div, typical)		
ADC Resolution	12 bits		
Vertical Resolution	8 bits @ 50 GS/s; 10 GHz on 2 channels 8 bits @ 25 GS/s; 10 GHz on 4 channels 12 bits @ 12.5 GS/s; 5 GHz on all channels 13 bits @ 6.25 GS/s (High Res); 2 GHz on all channels 14 bits @ 3.125 GS/s (High Res); 1 GHz on all channels 15 bits @ 1.25 GS/s (High Res); 500 MHz on all channels 16 bits @ ≤625 MS/s (High Res); 200 MHz on all channels		
Sample Rate	50 GS/s on 2 analog / digital channels (20 ps resolution); 25 GS/s on 4 analog / digital channels (40 ps resolution); 12.5 GS/s on > 4 analog / digital channels (80 ps resolution)		
Record Length	62.5 Mpoints on all analog / digital channels, (125 Mpoints, 250 Mpoints, 500 Mpoints, and 1 Gpoints on all analog / digital channels optional)		
Waveform Capture Rate	>500,000 wfms/s (Peak Detect, Envelope acquisition mode), >30,000 wfms/s (all other acquisition modes)		
Arbitrary/Function Generator (opt.)	13 predefined waveform types with up to 50 MHz output		
DVM	4-digit DVM (free with product registration)		
Trigger Frequency Counter	8-digit frequency counter (free with product registration)		

Vertical system - analog channels

Input coupling	DC, AC
Input impedance 1 MΩ DC coupled	1 MΩ ±1%
Input capacitance 1 MΩ DC coupled, typical	14.5 pF ±1.5 pF
Input impedance 50 Ω, DC coupled	50 Ω ±3%

Input sensitivity range

1 MΩ	500 µV/div to 10 V/div in a 1-2-5 sequence Note: 500 µV/div is a 2X digital zoom of 1 mV/div.

4 Immediately after SPC, add 2% for every 5 °C change in ambient.

5 Immediately after SPC, add 1% for every 5 °C change in ambient.

Vertical system - analog channels

50 Ω 1 mV/div to 1 V/div in a 1-2-5 sequence

Note: 1 mV/div is a 2X digital zoom of 2 mV/div.

Maximum input voltage

50 Ω: 2.3 V_{RMS} at <100 mV/div, with peaks ≤ ±20 V (DF ≤ 6.25%)

50 Ω: 5.5 V_{RMS} at ≥100 mV/div, with peaks ≤ ±20 V (DF ≤ 6.25%)

1 MΩ: 300 V_{RMS}

For 1 MΩ, derate at 20 dB/decade from 4.5 MHz to 45 MHz;

Derate at 14 dB/decade from 45 MHz to 450 MHz; > 450 MHz, 5.5 V_{RMS}

Effective bits (ENOB), typical

2 mV/div, High Res mode, 50 Ω, 10 MHz input with 90% full screen

Bandwidth	ENOB
5 GHz	5.7
4 GHz	5.9
3 GHz	6.1
2.5 GHz	6.2
2 GHz	6.35
1 GHz	6.8
500 MHz	7.25
350 MHz	7.5
250 MHz	7.65
200 MHz	7.85
20 MHz	9.25

50 mV/div, High Res mode, 50 Ω, 10 MHz input with 90% full screen

Bandwidth	ENOB
5 GHz	7.4
4 GHz	7.6
3 GHz	7.85
2.5 GHz	7.95
2 GHz	8.1
1 GHz	8.45
500 MHz	8.65
350 MHz	8.8
250 MHz	8.85
200 MHz	8.9
20 MHz	9.85

Vertical system - analog channels

2 mV/div, Sample mode, 50 Ω, 10 MHz input with 90% full screen

Bandwidth	ENOB
10 GHz	4.95
9 GHz	5.1
8 GHz	5.2
7 GHz	5.35
6 GHz	5.55

50 mV/div, Sample mode, 50 Ω, 10 MHz input with 90% full screen

Bandwidth	ENOB
10 GHz	6.6
9 GHz	6.75
8 GHz	6.85
7 GHz	7
6 GHz	7.15

Position range ±5 divisions

Offset ranges, maximum

Input signal cannot exceed maximum input voltage for the 50 Ω input path.

Volts/div Setting	Maximum offset range, 50 Ω Input
1 mV/div - 99 mV/div	±1 V
100 mV/div - 1 V/div	±10 V

Volts/div Setting	Maximum offset range, 1 MΩ Input
500 μV/div - 63 mV/div	±1 V
64 mV/div - 999 mV/div	±10 V
1 V/div - 10 V/div	±100 V

Offset accuracy

50 Ohm DC-coupled

≥5mV/div: ± (0.003 X |offset – position| + 0.087 div)

2mV/div: ± (0.003 X |offset – position| + 0.13 div)

1mV/div: ± (0.003 X |offset – position| + 0.224 div)

1 MOhm DC-coupled

≥5mV/div: ± (0.003 X |offset – position| + 0.2 div)

2mV/div: ± (0.003 X |offset – position| + 0.237 div)

1mV/div: ± (0.003 X |offset – position| + 0.384 div)

Offset and position in units of Volts

Bandwidth selections

10 GHz model, 50 Ohm 20 MHz, 200 MHz, 250 MHz, 350 MHz, 500 MHz, 1 GHz, 2 GHz, 2.5 GHz, 3 GHz, 4 GHz, 5 GHz, 6 GHz, 7 GHz, 8 GHz, 9 GHz, and 10 GHz

8 GHz model, 50 Ohm 20 MHz, 200 MHz, 250 MHz, 350 MHz, 500 MHz, 1 GHz, 2 GHz, 2.5 GHz, 3 GHz, 4 GHz, 5 GHz, 6 GHz, 7 GHz, and 8 GHz

6 GHz model, 50 Ohm 20 MHz, 200 MHz, 250 MHz, 350 MHz, 500 MHz, 1 GHz, 2 GHz, 2.5 GHz, 3 GHz, 4 GHz, 5 GHz, and 6 GHz

4 GHz model, 50 Ohm 20 MHz, 200 MHz, 250 MHz, 350 MHz, 500 MHz, 1 GHz, 2 GHz, 2.5 GHz, 3 GHz, and 4 GHz

2.5 GHz model, 50 Ohm 20 MHz, 200 MHz, 250 MHz, 350 MHz, 500 MHz, 1 GHz, 2 GHz, and 2.5 GHz

1 GHz model, 50 Ohm 20 MHz, 200 MHz, 250 MHz, 350 MHz, 500 MHz, and 1 GHz

1M Ohm 20 MHz, 200 MHz, 250 MHz, 350 MHz, and Full (500 MHz)

Vertical system - analog channels

Bandwidth filtering optimized for Flatness or Step response

Random noise, RMS, typical

50 Ω, typical

50 GS/s, Sample Mode, RMS

V/div	1 mV/div	2 mV/div	5 mV/div	10 mV/div	20 mV/div	50 mV/div	100 mV/div	1 V/div
10 GHz	183 μV	188 μV	228 μV	346 μV	602 μV	1.39 mV	3.58 mV	27.4 mV
9 GHz	167 μV	172 μV	208 μV	315 μV	549 μV	1.27 mV	3.22 mV	25 mV
8 GHz	153 μV	156 μV	192 μV	287 μV	501 μV	1.15 mV	2.94 mV	23.1 mV
7 GHz	139 μV	141 μV	175 μV	262 μV	457 μV	1.07 mV	2.68 mV	21.1 mV
6 GHz	124 μV	127 μV	156 μV	234 μV	412 μV	949 μV	2.39 mV	19 mV

25 GS/s, HiRes Mode, RMS

V/div	1 mV/div	2 mV/div	5 mV/div	10 mV/div	20 mV/div	50 mV/div	100 mV/div	1 V/div
5 GHz	111 μV	112 μV	134 μV	197 μV	338 μV	772 μV	1.99 mV	15.4 mV
4 GHz	97.4 μV	98.7 μV	117 μV	171 μV	291 μV	672 μV	1.73 mV	13.3 mV
3 GHz	83.8 μV	85 μV	101 μV	144 μV	245 μV	559 μV	1.46 mV	11.2 mV
2.5 GHz	75.6 μV	76.6 μV	90.7 μV	128 μV	219 μV	498 μV	1.3 mV	9.85 mV
2 GHz	68.9 μV	69.9 μV	81.7 μV	116 μV	195 μV	444 μV	1.17 mV	8.78 mV
1 GHz	51.1 μV	51.8 μV	59.9 μV	82.9 μV	138 μV	314 μV	829 μV	6.22 mV
500 MHz	37.5 μV	38 μV	43.4 μV	60 μV	99.9 μV	230 μV	607 μV	4.61 mV
350 MHz	31.9 μV	32.3 μV	36.9 μV	49.9 μV	82.1 μV	185 μV	499 μV	3.62 mV
250 MHz	28.1 μV	28.5 μV	32.5 μV	44 μV	71.5 μV	161 μV	440 μV	3.19 mV
200 MHz	24.2 μV	24.5 μV	28 μV	37.9 μV	62.3 μV	140 μV	383 μV	2.78 mV
20 MHz	8.68 μV	8.8 μV	10.1 μV	13.8 μV	22.9 μV	52.8 μV	136 μV	1.04 mV

1 MΩ, High Res mode (RMS), typical

V/div	1 mV/div	2 mV/div	5 mV/div	10 mV/div	20 mV/div	50 mV/div	100 mV/div	1 V/div
500 MHz	186 μV	202 μV	210 μV	236 μV	288 μV	522 μV	1.25 mV	13.4 mV
350 MHz	134 μV	138 μV	145 μV	163 μV	216 μV	391 μV	974 μV	10.6 mV
250 MHz	108 μV	110 μV	114 μV	131 μV	182 μV	374 μV	838 μV	9.63 mV
200 MHz	106 μV	108 μV	109 μV	117 μV	149 μV	274 μV	674 μV	8.01 mV
20 MHz	73 μV	73.2 μV	78.1 μV	99.6 μV	158 μV	361 μV	801 μV	8.29 mV

Crosstalk (channel isolation), typical

≥50 dB up to 2 GHz

≥45 dB up to 5 GHz

≥40 dB up to 10 GHz

for any two channels set to 200 mV/div.

Vertical system - digital channels

Number of channels	8 digital inputs (D7-D0) per installed TLP058 (traded off for one analog channel)
Vertical resolution	1 bit
Maximum input toggle rate	500 MHz
Minimum detectable pulse width, typical	1 ns
Thresholds	One threshold per digital channel
Threshold range	±40 V
Threshold resolution	10 mV
Threshold accuracy	± [100 mV + 3% of threshold setting after calibration]
Input hysteresis, typical	100 mV at the probe tip
Input dynamic range, typical	30 V_{pp} for F_{in} ≤ 200 MHz, 10 V_{pp} for F_{in} > 200 MHz
Absolute maximum input voltage, typical	±42 V peak
Minimum voltage swing, typical	400 mV peak-to-peak
Input impedance, typical	100 kΩ
Probe loading, typical	2 pF

Front end and RF system (all measurements are typical)

Sensitivity/Noise density	-157 dBm/Hz (1 mV/div, -38 dBm, 1.0001 GHz CF, 500 kHz span, 3 kHz RBW)
DANL	-163 dBm/Hz 10 MHz to 6 GHz, 1 mV/div -160 dBm/Hz >6 GHz to 10 GHz, 1 mV/div
Noise figure	17 dB (1 mV/div, -38 dBm, 1.001 GHz, 500 kHz span, 3 kHz RBW)
SNR/Dyamic range	112 dB (1 GHz input carrier, 0 dBm scope input range, 1 GHz CF, 100 MHz span, 1 kHz RBW, measured ±20 MHz from center)
Absolute amplitude accuracy	±1 dB (0 - 8 GHz) for max 10 GHz BW
Phase noise @ 1GHz	10 MHz offset: -140 dBc/Hz 1 MHz offset: -132 dBc/Hz 100 kHz offset: -118 dBc/Hz 10 kHz offset: -118 dBc/Hz
EVM (256 QAM)	0.5% @ 20 MSymbols/s 1.1% @ 800 MSymbols/s 1.5% @ 1.2 GSymbols/s 1.6% @ 2 GSymbols/s

SFDR	60 dB @ 3 GHz, 5 GHz span 70 dB @ 2.35 GHz, 1.5 GHz span
Return Loss (<100 mV/div)	12 dB <5GHz 8 dB 5 GHz to 10 GHz
Harmonic distortion	2nd Harmonic: -58 dBC with a 0 dBm, 1 GHz signal 3rd Harmonic: -55 dBC with a 0 dBm, 1 GHz signal
Two-tone third order intercept point (at 99 mV/div)	25 dBm 10 MHz to 6 GHz 20 dBm 6 GHz to 8 GHz 12 dBm 8 GHz to 10 GHz

Horizontal system

Time base range

40 ps/div to 1,000 s/div

Sample rate range

6.25 S/s to 50 GS/s (real time - maximum value depends on channels used)

25 GS/s to 2.5 TS/s (interpolated - minimum value depends on channels used)

Record length range

Applies to analog and digital channels. All acquisition modes are 1 G maximum record length, down to 1 k minimum record length, adjustable in 1 sample increments.

Standard: 62.5 Mpoints

Option 6-RL-1: 125 Mpoints

Option 6-RL-2: 250 Mpoints

Option 6-RL-3: 500 Mpoints

Option 6-RL-4: 1 Gpoints

Seconds/Division range

Model	1 K	10 K	100 K	1 M	10 M	62.5 M	125 M	250 M	500 M	1 G
MSO6xB Standard 62.5 M	40 ps - 16 s	400 ps - 160 s	4 ns - 1000 s			2.5 µs - 1000 s	N/A	N/A	N/A	N/A
MSO6xB Option 6-RL-1 125 M	40 ps - 16 s	400 ps - 160 s	4 ns - 1000 s			2.5 µs - 1000 s	5 µs - 1000 s	N/A	N/A	N/A
MSO6xB Option 6-RL-2 250 M	40 ps - 16 s	400 ps - 160 s	4 ps - 1000 s			2.5 µs - 1000 s	5 µs - 1000 s	10 µs - 1000 s	N/A	N/A
MSO6xB Option 6-RL-3 500 Mpts	40 ps - 16 s	400 ps - 160 s	4 ps - 1000 s			2.5 us - 1000 s	5 us - 1000 s	10 us - 1000 s	20 us - 1000 s	N/A
MSO6xB Option 6-RL-4: 1 Gpts	40 ps - 16 s	400 ps - 160 s	4 ps - 1000 s			2.5 us - 1000 s	5 us - 1000 s	10 us - 1000 s	20 us - 1000 s	40 us - 1000 s

Aperture uncertainty (sample jitter)

Time duration	Typical jitter
<1 µs	80 fs
<1 ms	130 fs

Horizontal system

Timebase accuracy	±1.0 x10^{-7} over any ≥1 ms time interval

Description	Specification
Factory Tolerance	±12 ppb At calibration, 25 °C ambient, over any ≥1 ms interval
Temperature stability	±20 ppb across the full operating range of 0 °C to 50 °C, after a sufficient soak time at the temperature Tested at operating temperatures
Crystal aging	±300 ppb. Frequency tolerance change at 25 °C over a period of 1 year

Delta-time measurement accuracy, nominal

$$DTA_{RMS} = \sqrt{\left(\frac{N}{SR_1}\right)^2 + \left(\frac{N}{SR_2}\right)^2 + t_j^2} + TBA \times t_p$$

(assume edge shape that results from Gaussian filter response)

The formula to calculate delta-time measurement accuracy (DTA) for a given instrument setting and input signal assumes insignificant signal content above Nyquist frequency, where:

SR_1 = Slew Rate (1st Edge) around 1st point in measurement

SR_2 = Slew Rate (2nd Edge) around 2nd point in measurement

N = RSS of input-referred noise (V_{RMS}) and dynamic noise estimate (volts rms)

$$Dynamic\ noise\ estimate^* = \sqrt{\frac{BW}{8\ GHz}}\ X\ 19.9\ X\ 10^{-3}\ X\ volts/div$$

TBA = time base accuracy or reference frequency error (which is 20 ppb)

t_j = aperture uncertainty (sec rms -80 fs for short durations)

t_p = delta-time measurement duration (sec)

Maximum duration at highest sample rate	1.25 ms (std.) or 2.5 ms (opt. 6-RL-1, 125 Mpoints), 5 ms (opt. 6-RL-2, 250 Mpoints), 10 ms (opt. 6-RL-3, 500 Mpoints), or 20 ms (Opt. 6-RL-4, 1 Gpoints)
Time base delay time range	-10 divisions to 5,000 s
Deskew range	-125 ns to +125 ns with a resolution of 40 ps (for Peak Detect and Envelope acquisition modes). -125 ns to +125 ns with a resolution of 1 ps (for all other acquisition modes).
Delay between analog channels, full bandwidth, typical	≤ 10 ps for any two channels with input impedance set to 50 Ω, DC coupling with equal Volts/div or above 10 mV/div
Delay between analog and digital FlexChannels, typical	< 1 ns when using a TLP058 and a passive probe matching the bandwidth of the scope, with no bandwidth limits applied
Delay between any two digital FlexChannels, typical	320 ps
Delay between any two bits of a digital FlexChannel, typical	160 ps

Trigger system

Trigger modes	Auto, Normal, and Single
Trigger coupling	DC, HF Reject (attenuates > 50 kHz), LF Reject (attenuates < 50 kHz), noise reject (reduces sensitivity)

Trigger bandwidth (edge, pulse and logic), typical

Model	Trigger type	Trigger bandwidth
MSO6xB 10 GHz	Edge	10 GHz
MSO6xB 10 GHz	Pulse, Logic	4 GHz
MSO6xB 8 GHz	Edge	8 GHz
MSO6xB 8 GHz	Pulse, Logic	4 GHz
MSO6xB 6 GHz	Edge	6 GHz
MSO6xB 6 GHz	Pulse, Logic	4 GHz
MSO6xB 4 GHz, 2.5 GHz, 1 GHz	Edge, Pulse, Logic	Product Bandwidth

Edge-type trigger sensitivity, DC coupled, typical

Path	Range	Specification
1 MΩ path (all models)	0.5 mV/div to 0.99 mV/div	5 mV from DC to instrument bandwidth
	≥ 1 mV/div	The greater of 5 mV or 0.7 div from DC to lesser of 500 MHz or instrument BW, & 6 mV or 0.8 div from > 500 MHz to instrument bandwidth
50 Ω path	1 mV/div to 1.99 mV/div	3.5 div from DC to instrument bandwidth
	2 mV/div to 4.99 mV/div	2 divisions from DC to instrument bandwidth
	≥ 5 mV/div	< 5 division from DC to instrument bandwidth
Line	90 V to 264 V line voltage at 50 - 60 Hz line frequency	103.5 V to 126.5 V
AUX Trigger in		250 mV_{PP}, DC to 400 MHz

Edge-type trigger sensitivity, not DC coupled, typical

Trigger Coupling	Typical Sensitivity
NOISE REJ	2.5 times the DC Coupled limits
HF REJ	1.0 times the DC Coupled limits from DC to 50 kHz. Attenuates signals above 50 kHz.
LF REJ	1.5 times the DC Coupled limits for frequencies above 50 kHz. Attenuates signals below 50 kHz.

Trigger jitter, typical

≤ 1.5 ps_{RMS} for sample mode and edge-type trigger

≤ 2 ps_{RMS} for edge-type trigger and FastAcq mode

≤ 80 ps_{PP} for non edge-type trigger modes

Trigger jitter, AUX input, typical

≤ 200 ps_{RMS} for edge-type trigger and FastAcq mode

AUX In trigger skew between instruments, typical

±100 ps jitter on each instrument with 1.5 ns skew; ≤1.7 ns total between instruments. With manual deskewing of individual channels, total instrument skew can reach 200 ps between different instrument channels.

Skew improves for pulse input voltages ≥1 V_{pp}

Trigger system

Trigger level ranges

Source	Range
Any Channel	±5 divs from center of screen
Aux In Trigger	±5 V
Line	Fixed at about 50% of line voltage

This specification applies to logic and pulse thresholds.

Trigger frequency counter 8-digits (free with product registration)

Trigger types

Edge: Positive, negative, or either slope on any channel. Coupling includes DC, AC, noise reject, HF reject, and LF reject

Pulse Width: Trigger on width of positive or negative pulses. Event can be time- or logic-qualified

Timeout: Trigger on an event which remains high, low, or either, for a specified time period. Event can be logic-qualified

Runt: Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again. Event can be time- or logic-qualified

Window: Trigger on an event that enters, exits, stays inside or stays outside of a window defined by two user-adjustable thresholds. Event can be time- or logic-qualified

Logic: Trigger when logic pattern goes true, goes false, or occurs coincident with a clock edge. Pattern (AND, OR, NAND, NOR) specified for all input channels defined as high, low, or don't care. Logic pattern going true can be time-qualified

Setup & Hold: Trigger on violations of both setup time and hold time between clock and data present on any input channels

Rise / Fall Time: Trigger on pulse edge rates that are faster or slower than specified. Slope may be positive, negative, or either. Event can be logic-qualified

Video (option 6-VID): Trigger on all lines, odd, even, or all fields of NTSC, PAL, and SECAM video signals

Sequence: Trigger on B event X time or N events after A trigger with a reset on C event. In general, A and B trigger events can be set to any trigger type with a few exceptions: logic qualification is not supported, if A event or B event is set to Setup & Hold, then the other must be set to Edge, and Ethernet and High Speed USB (480 Mbps) are not supported

Visual trigger Qualifies standard triggers by scanning all waveform acquisitions and comparing them to on-screen areas (geometric shapes). An unlimited number of areas can be defined with In, Out, or Don't Care as the qualifier for each area. A boolean expression can be defined using any combination of visual trigger areas to further qualify the events that get stored into acquisition memory. Shapes include rectangle, triangle, trapezoid, hexagon and user-defined.

Parallel Bus: Trigger on a parallel bus data value. Parallel bus can be from 1 to 32 bits (from the digital and analog channels) in size. Supports Binary and Hex radices

I^{2}C Bus (option 6-SREMBD): Trigger on Start, Repeated Start, Stop, Missing ACK, Address (7 or 10 bit), Data, or Address and Data on I^{2}C buses up to 10 Mb/s

SPI Bus (option 6-SREMBD): Trigger on Slave Select, Idle Time, or Data (1-16 words) on SPI buses up to 20 Mb/s

RS-232/422/485/UART Bus (option 6-SRCOMP): Trigger on Start Bit, End of Packet, Data, and Parity Error up to 15 Mb/s

CAN Bus (option 6-SRAUTO): Trigger on Start of Frame, Type of Frame (Data, Remote, Error, or Overload), Identifier, Data, Identifier and Data, End Of Frame, Missing Ack, and Bit Stuff Error on CAN buses up to 1 Mb/s

CAN FD Bus (option 6-SRAUTO): Trigger on Start of Frame, Type of Frame (Data, Remote, Error, or Overload), Identifier (Standard or Extended), Data (1-8 bytes), Identifier and Data, End Of Frame, Error (Missing Ack, Bit Stuffing Error, FD Form Error, Any Error) on CAN FD buses up to 16 Mb/s

LIN Bus (option 6-SRAUTO): Trigger on Sync, Identifier, Data, Identifier and Data, Wakeup Frame, Sleep Frame, and Error on LIN buses up to 1 Mb/s

FlexRay Bus (option 6-SRAUTO): Trigger on Start of Frame, Indicator Bits (Normal, Payload, Null, Sync, Startup), Frame ID, Cycle Count, Header Fields (Indicator Bits, Identifier, Payload Length, Header CRC, and Cycle Count), Identifier, Data, Identifier and Data, End Of Frame, and Errors on FlexRay buses up to 10 Mb/s

SENT Bus (option 6-SRAUTOSEN) Trigger on Start of Packet, Fast Channel Status and Data, Slow Channel Message ID and Data, and CRC Errors

SPMI Bus (option 6-SRPM): Trigger on Sequence Start Condition, Reset, Sleep, Shutdown, Wakeup, Authenticate, Master Read, Master Write, Register Read, Register Write, Extended Register Read, Extended Register Write, Extended Register Read Long, Extended Register Write Long, Device Descriptor Block Master Read, Device Descriptor Block Slave Read, Register 0 Write, Transfer Bus Ownership, and Parity Error

USB 2.0 LS/FS/HS Bus (option 6-SRUSB2): Trigger on Sync, Reset, Suspend, Resume, End of Packet, Token (Address) Packet, Data Packet, Handshake Packet, Special Packet, Error on USB buses up to 480 Mb/s

Trigger system

Ethernet Bus (option 6-SRENET):	Trigger on Start of Frame, MAC Addresses, MAC Q-tag, MAC Length/Type, MAC Data, IP Header, TCP Header, TCP/IPV4 Data, End of Packet, and FCS (CRC) Error on 10BASE-T and 100BASE-TX buses
Audio (I^2S, LJ, RJ, TDM) Bus (option 6-SRAUDIO):	Trigger on Word Select, Frame Sync, or Data. Maximum data rate for I^2S/LJ/RJ is 12.5 Mb/s. Maximum data rate for TDM is 25 Mb/s
MIL-STD-1553 Bus (option 6-SRAERO):	Trigger on Sync, Command (Transmit/Receive Bit, Parity, Subaddress / Mode, Word Count / Mode Count, RT Address), Status (Parity, Message Error, Instrumentation, Service Request, Broadcast Command Received, Busy, Subsystem Flag, Dynamic Bus Control Acceptance, Terminal Flag), Data, Time (RT/IMG), and Error (Parity Error, Sync Error, Manchester Error, Non-contiguous Data) on MIL-STD-1553 buses
ARINC 429 Bus (option -SRAERO):	Trigger on Word Start, Label, Data, Label and Data, Word End, and Error (Any Error, Parity Error, Word Error, Gap Error) on ARINC 429 buses up to 1 Mb/s
RF Magnitude vs. Time and RF Frequency vs. Time (option 6-SV-RFVT)	Trigger on edge, pulse width, and timeout events
Trigger holdoff range	0 ns to 10 seconds

Acquisition system

Sample	Acquires sampled values
Peak Detect	Captures glitches as narrow as 160 ps at all sweep speeds
Averaging	From 2 to 10,240 waveforms
Envelope	Min-max envelope reflecting Peak Detect data over multiple acquisitions
High Res	Applies a unique Finite Impulse Response (FIR) filter for each sample rate that maintains the maximum bandwidth possible for that sample rate while preventing aliasing and removing noise from the oscilloscope amplifiers and ADC above the usable bandwidth for the selected sample rate. High Res mode always provides at least 12 bits of vertical resolution and extends all the way to 16 bits of vertical resolution at ≤ 625 MS/s sample rates.
FastAcq®	FastAcq optimizes the instrument for analysis of dynamic signals and capture of infrequent events. Maximum waveform capture rate: >500,000 wfms/s (Peak Detect or Envelope Acquisition mode) >30,000 wfms/s (All other acquisition modes)

Acquisition system

Roll mode	Scrolls sequential waveform points across the display in a right-to-left rolling motion, at timebase speeds of 40 ms/div and slower, when in Auto trigger mode.
FastFrame™	Acquisition memory divided into segments. Maximum trigger rate >5,000,000 waveforms per second Minimum frame size = 50 points For record lengths up to 250M, and for frame size ≥ 1,000 points, maximum number of frames = record length / frame size. For record lengths of 500M, and when only channels capable of a maximum sample rate of ≥ 25GS/s are used, maximum number of frames = record length / frame size. For record lengths of 500M, and when any channels capable of a maximum sample rate of 12.5 GS/s are used, maximum number of frames is ≥ 250,000. For record lengths of 1G, and when only channels capable of a maximum sample rate of ≥ 25 GS/s are used, maximum number of frames ≥ record length / frame size / 2. For record lengths of 1G, and when only channels capable of a maximum sample rate of 12.5 GS/s are used, maximum number of frames ≥ record length / frame size / 4. For 50 point frames, maximum number of frames = 1,000,000

Waveform measurements

Cursor types: Waveform, V Bars, H Bars, V&H Bars, and Polar (XY/XYZ plots only)

DC voltage measurement accuracy, Average acquisition mode

Measurement Type	DC Accuracy (In Volts)
Average of ≥ 16 waveforms	±(DC Gain Accuracy * |reading - (offset - position)| + Offset Accuracy + 0.15 div + 0.6 mV)
Delta volts between any two averages of ≥ 16 waveforms acquired with the same oscilloscope setup and ambient conditions	±(DC Gain Accuracy * |reading| + 0.15 div + 1.2 mV)

Automatic measurements	36, of which an unlimited number can be displayed as either individual measurement badges or collectively in a measurement results table
Amplitude measurements	Amplitude, Maximum, Minimum, Peak-to-Peak, Positive Overshoot, Negative Overshoot, Mean, RMS, AC RMS, Top, Base, and Area
Timing measurements	Period, Frequency, Unit Interval, Data Rate, Positive Pulse Width, Negative Pulse Width, Skew, Delay, Rise Time, Fall Time, Phase, Rising Slew Rate, Falling Slew Rate, Burst Width, Positive Duty Cycle, Negative Duty Cycle, Time Outside Level, Setup Time, Hold Time, Duration N-Periods, High Time, and Low Time
Jitter measurements (standard)	TIE and Phase Noise
Measurement statistics	Mean, Standard Deviation, Maximum, Minimum, and Population. Statistics are available on both the current acquisition and all acquisitions
Reference levels	User-definable reference levels for automatic measurements can be specified in either percent or units. Reference levels can be set to global for all measurements, per source channel or signal, or unique for each measurement
Gating	Screen, Cursors, Logic, Search, or Time. Specifies the region of an acquisition in which to take measurements. Gating can be set to Global (affects all measurements set to Global) or Local (all measurements can have a unique Time gate setting; only one Local gate is available for Screen, Cursors, Logic, and Search actions).
Measurement plots	Histogram, Time Trend, Spectrum, Eye Diagram (TIE measurement only), Phase Noise (Phase Noise measurement only)

Waveform measurements

Measurement limits	Pass/fail testing for user-definable limits on measurement values. Act on event for measurement value failures include Save Screen Capture, Save Waveform, System Request (SRQ), and Stop Acquisitions
Jitter analysis (option 6-DJA) adds the following:	
Measurements	Jitter Summary, TJ@BER, RJ- δδ, DJ- δδ, PJ, RJ, DJ, DDJ, DCD, SRJ, J2, J9, NPJ, F/2, F/4, F/8, Eye Height, Eye Height@BER, Eye Width, Eye Width@BER, Eye High, Eye Low, Q-Factor, Bit High, Bit Low, Bit Amplitude, DC Common Mode, AC Common Mode (Pk-Pk), Differential Crossover, T/nT Ratio, SSC Freq Dev, SSC Modulation Rate
Measurement plots	Eye Diagram and Jitter Bathtub
	Fast eye rendering: Shows the Unit Intervals (UIs) that define the boundaries of the eye along with a user specified number of surrounding UIs for added visual context
	Complete eye rendering: Shows all valid Unit Intervals (UIs)
Measurement limits	Pass/fail testing for user-definable limits on measurement values. Act on event for measurement value failures include Save Screen Capture, Save Waveform, System Request (SRQ), and Stop Acquisitions
Eye diagram mask testing	Automated mask pass/fail testing
Power analysis (option 6-PWR) adds the following:	
Measurements	Input Analysis (Frequency, V_{RMS}, I_{RMS}, voltage and current Crest Factors, True Power, Apparent Power, Reactive Power, Power Factor, Phase Angle, Harmonics, Inrush Current, Input Capacitance)
	Amplitude Analysis (Cycle Amplitude, Cycle Top, Cycle Base, Cycle Maximum, Cycle Minimum, Cycle Peak-to-Peak)
	Timing Analysis (Period, Frequency, Negative Duty Cycle, Positive Duty Cycle, Negative Pulse Width, Positive Pulse Width)
	Switching Analysis (Switching Loss, dv/dt, di/dt, Safe Operating Area, R_{DSon})
	Output Analysis (Line Ripple, Switching Ripple, Efficiency, Turn-on Time, Turn-off Time)
	Magnetic Analysis (Inductance, I vs. Intg(V), Magnetic Loss, Magnetic Property)
	Frequency Response Analysis (Control Loop Response Bode Plot, Power Supply Rejection Ratio, Impedance)
Measurement Plots	Harmonics Bar Graph, Switching Loss Trajectory Plot, and Safe Operating Area
Measurement limits	Pass/fail testing for user-definable limits on measurement values. Act on event for measurement value failures include Save Screen Capture, Save Waveform, System Request (SRQ), and Stop Acquisitions
Inverter Motor Drive Analysis (option 6-IMDA) adds the following:	
Measurements	Input Analysis (Power Quality, Harmonics, Input Voltage, Input Current, Input Power)
	Ripple analysis (Line ripple, Switching Ripple)
	Output analysis (Phasor Diagram, Efficiency)
	DQ0 analysis (DQ0) Requires option 6-IMDA-DQ0
Measurement plots	Harmonics Bar Graph, Phasor Diagram
Digital power management (option 6-DPM) adds the following:	
Measurements	Ripple Analysis (Ripple)
	Transient Analysis (Overshoot, Undershoot, Turn On Overshoot, DC Rail Voltage)
	Power Sequence Analysis (Turn-on, Turn-off)
	Jitter Analysis (TIE, PJ, RJ, DJ, Eye Height, Eye Width, Eye High, Eye Low)

Waveform measurements

DDR3/LPDDR3 memory debug and analysis option (6-DBDDR3) adds the following:

Measurements	Amplitude Measurements (AOS, AUS, Vix(ac), AOS Per tCK, AUS Per tCK, AOS Per UI, AUS Per UI)
	Time Measurements (tRPRE, tWPRE, tPST, Hold Diff, Setup Diff, tCH(avg), tCK(avg), tCL(avg), tCH(abs), tCL(abs), tJIT(duty), tJIT(per), tJIT(cc), tERR(n), tERR(m-n), tDQSCK, tCMD-CMD, tCKSRE, tCKSRX)

LVDS debug and analysis option (option 6-DBLVDS) adds the following:

Data Lane Measurements	Generic Test (Unit Interval, Rise Time, Fall Time, Data Width, Data Intra Skew (PN), Data Inter Skew (Lane-to-Lane), Data Peak-to-Peak)
	Jitter Test (AC Timing, Clock Data Setup Time, Clock Data Hold Time, Eye Diagram (TIE), TJ@BER, DJ Delta, RJ Delta, DDJ, De-Emphasis Level)
Clock Lane Measurements	Generic Test (Frequency, Period, Duty Cycle, Rise Time, Fall Time, Clock Intra Skew (PN), Clock Peak-to-Peak)
	Jitter Test (TIE, DJ, RJ)
	SSC On (Mod Rate, Frequency Deviation Mean)

Waveform math

Number of math waveforms	Unlimited
Arithmetic	Add, subtract, multiply, and divide waveforms and scalars
Algebraic expressions	Define extensive algebraic expressions including waveforms, scalars, user-adjustable variables, and results of parametric measurements. Perform math on math using complex equations. For example (Integral (CH1 - Mean(CH1)) X 1.414 X VAR1)
Math functions	Invert, Integrate, Differentiate, Square Root, Exponential, Log 10, Log e, Abs, Ceiling, Floor, Min, Max, Degrees, Radians, Sin, Cos, Tan, ASin, ACos, and ATan
Relational	Boolean result of comparison >, <, ≥, ≤, =, and ≠
Logic	AND, OR, NAND, NOR, XOR, and EQV
Filtering function	User-definable filters. Users specify a file containing the coefficients of the filter
FFT functions	Spectral Magnitude and Phase, and Real and Imaginary Spectra
FFT vertical units	Magnitude: Linear and Log (dBm) Phase: Degrees, Radians, and Group Delay
FFT window functions	Hanning, Rectangular, Hamming, Blackman-Harris, Flattop2, Gaussian, Kaiser-Bessel, and TekExp

Spectrum view

Center Frequency	Limited by instrument analog bandwidth
Span	74.5 Hz – 1.25 GHz 74.5 Hz - 2 GHz (with option 6-SV-BW-1) Coarse adjustment in a 1-2-5 sequence
RF vs. Time Traces	Magnitude vs. time, Frequency vs. time, Phase vs. time (with option 6-SV-RFVT)
RF vs. Time Trigger	Edge, pulse width, and timeout trigger on RF Magnitude vs. Time and RF Frequency vs. Time (with option 6-SV-RFVT)
Resolution Bandwidth (RBW)	93 µHz to 62.5 MHz 93 µHz to 100 MHz (with option 6-SV-BW-1)

Window types and factors

Window type	Factor
Blackman-Harris	1.90
Flat-Top 2	3.77
Hamming	1.30
Hanning	1.44
Kaiser-Bessel	2.23
Rectangular	0.89

Spectrum Time	FFT Window Factor / RBW
Reference level	Reference level is automatically set by the analog channel Volts/div setting Setting range: -42 dBm to +44 dBm
Vertical Position	-100 divs to +100 divs
Vertical units	dBm, dBµW, dBmV, dBµV, dBmA, dBµA
Vertical scaling	Linear, Log
Horizontal scaling	Linear, Log

Search

Number of searches	Unlimited
Search types	Search through long records to find all occurrences of user specified criteria including edges, pulse widths, timeouts, runt pulses, window violations, logic patterns, setup & hold violations, rise/fall times, and bus protocol events. Search results can be viewed in the Waveform View or in the Results table.

Save

Waveform Type	Tektronix Waveform Data (.wfm), Comma Separated Values (.csv), MATLAB (.mat)
Waveform Gating	Cursors, Screen, Resample (save every nth sample)
Screen Capture Type	Portable Network Graphic (*.png), 24-bit Bitmap (*.bmp), JPEG (*.jpg)
Setup Type	Tektronix Setup (.set)
Report Type	Adobe Portable Documents (.pdf), Single File web Pages (.mht)
Session Type	Tektronix Session Setup (.tss)

Display

Display type	15.6 in. (395 mm) liquid-crystal TFT color display
Resolution	1,920 horizontal × 1,080 vertical pixels (High Definition)
Display modes	Overlay: traditional oscilloscope display where traces overlay each other Stacked: display mode where each waveform is placed in its own slice and can take advantage of the full ADC range while still being visually separated from other waveforms. Groups of channels can also be overlaid within a slice to simplify visual comparison of signals.
Zoom	Horizontal and vertical zooming is supported in all waveform and plot views.
Interpolation	Sin(x)/x and Linear
Waveform styles	Vectors, dots, variable persistence, and infinite persistence
Graticules	Movable and fixed graticules, selectable between Grid, Time, Full, and None
Color palettes	Normal and inverted for screen captures Individual waveform colors are user-selectable
Fonts	Font size is user selectable from 12 to 20 (default is 15)
Format	YT, XY, and XYZ
Local Language User Interface	English, Japanese, Simplified Chinese, Traditional Chinese, French, German, Italian, Spanish, Portuguese, Russian, Korean
Local Language Help	English, Japanese, Simplified Chinese

Arbitrary function generator (optional)

Function types Arbitrary, sine, square, pulse, ramp, triangle, DC level, Gaussian, Lorentz, exponential rise/fall, sin(x)/x, random noise, Haversine, Cardiac

Amplitude range Values are peak-to-peak voltages

Waveform	50 Ω	1 MΩ
Arbitrary	10 mV to 2.5 V	20 mV to 5 V
Sine	10 mV to 2.5 V	20 mV to 5 V
Square	10 mV to 2.5 V	20 mV to 5 V
Pulse	10 mV to 2.5 V	20 mV to 5 V
Ramp	10 mV to 2.5 V	20 mV to 5 V
Triangle	10 mV to 2.5 V	20 mV to 5 V
Gaussian	10 mV to 1.25 V	20 mV to 2.5 V
Lorentz	10 mV to 1.2 V	20 mV to 2.4 V
Exponential Rise	10 mV to 1.25 V	20 mV to 2.5 V
Exponential Fall	10 mV to 1.25 V	20 mV to 2.5 V
Sine(x)/x	10 mV to 1.5 V	20 mV to 3.0 V
Random Noise	10 mV to 2.5 V	20 mV to 5 V
Haversine	10 mV to 1.25 V	20 mV to 2.5 V
Cardiac	10 mV to 2.5 V	20 mV to 5 V

Sine waveform

Frequency range	0.1 Hz to 50 MHz
Frequency setting resolution	0.1 Hz
Frequency accuracy	130 ppm (frequency ≤ 10 kHz), 50 ppm (frequency > 10 kHz) This is for Sine, Ramp, Square and Pulse waveforms only.
Amplitude range	20 mV_{pp} to 5 V_{pp} into Hi-Z; 10 mV_{pp} to 2.5 V_{pp} into 50 Ω
Amplitude flatness, typical	±0.5 dB (relative to 1kHz level) at 30 MHz ±1.0 dB (relative to 1kHz level) at 50 MHz
Total harmonic distortion, typical	1% for amplitude ≥ 200 mVpp into 50 Ω load 2.5% for amplitude > 50 mV AND < 200 mVpp into 50 Ω load
Spurious free dynamic range, typical	40 dB (V_{pp} ≥ 0.1 V); 30 dB (V_{pp} ≥ 0.02 V), 50 Ω load

Square and pulse waveform

Frequency range	0.1 Hz to 25 MHz
Frequency setting resolution	0.1 Hz
Frequency accuracy	130 ppm (frequency ≤ 10 kHz), 50 ppm (frequency > 10 kHz)
Amplitude range	20 mV_{pp} to 5 V_{pp} into Hi-Z; 10 mV_{pp} to 2.5 V_{pp} into 50 Ω
Duty cycle range	10% - 90% or 10 ns minimum pulse, whichever is larger Minimum pulse time applies to both on and off time, so maximum duty cycle will reduce at higher frequencies to maintain 10 ns off time
Duty cycle resolution	0.1%
Minimum pulse width, typical	10 ns. This is the minimum time for either on or off duration.
Rise/Fall time, typical	5 ns, 10% - 90%
Pulse width resolution	100 ps

Arbitrary function generator (optional)

Overshoot, typical	< 6% for signal steps greater than 100 mV_{pp}
	This applies to overshoot of the positive-going transition (+overshoot) and of the negative-going (-overshoot) transition
Asymmetry, typical	±1% ±5 ns, at 50% duty cycle
Jitter, typical	< 60 ps TIE_{RMS}, ≥ 100 mV_{pp} amplitude, 40%-60% duty cycle
	Square and pulse waveforms, 5 GHz measurement BW.
Ramp and triangle waveform	
Frequency range	0.1 Hz to 500 kHz
Frequency setting resolution	0.1 Hz
Frequency accuracy	130 ppm (frequency ≤ 10 kHz), 50 ppm (frequency > 10 kHz)
Amplitude range	20 mV_{pp} to 5 V_{pp} into Hi-Z; 10 mV_{pp} to 2.5 V_{pp} into 50 Ω
Variable symmetry	0% - 100%
Symmetry resolution	0.1%
DC level range	±2.5 V into Hi-Z
	±1.25 V into 50 Ω
Random noise amplitude range	20 mV_{pp} to 5 V_{pp} into Hi-Z
	10 mV_{pp} to 2.5 V_{pp} into 50 Ω
Sin(x)/x	
Maximum frequency	2 MHz
Gaussian pulse, Haversine, and Lorentz pulse	
Maximum frequency	5 MHz
Lorentz pulse	
Frequency range	0.1 Hz to 5 MHz
Amplitude range	20 mV_{pp} to 2.4 V_{pp} into Hi-Z
	10 mV_{pp} to 1.2 V_{pp} into 50 Ω
Cardiac	
Frequency range	0.1 Hz to 500 kHz
Amplitude range	20 mV_{pp} to 5 V_{pp} into Hi-Z
	10 mV_{pp} to 2.5 V_{pp} into 50 Ω
Arbitrary	
Memory depth	1 to 128 k
Amplitude range	20 mV_{pp} to 5 V_{pp} into Hi-Z
	10 mV_{pp} to 2.5 V_{pp} into 50 Ω
Repetition rate	0.1 Hz to 25 MHz
Sample rate	250 MS/s
Signal amplitude accuracy	±[(1.5% of peak-to-peak amplitude setting) + (1.5% of absolute DC offset setting) + 1 mV] (frequency = 1 kHz)
Signal amplitude resolution	1 mV (Hi-Z)
	500 µV (50 Ω)

Arbitrary function generator (optional)

DC offset range	±2.5 V into Hi-Z ±1.25 V into 50 Ω
DC offset resolution	1 mV (Hi-Z) 500 μV (50 Ω)
DC offset accuracy	±[(1.5% of absolute offset voltage setting) + 1 mV] Add 3 mV of uncertainty per 10 °C change from 25 °C ambient

Digital Volt Meter (DVM)

Measurement types	DC, AC_{RMS}+DC, AC_{RMS} , Trigger frequency count
Voltage resolution	4 digits
Voltage accuracy	
DC:	±((1.5% * |reading - offset - position|) + (0.5% * |(offset - position)|) + (0.1 * Volts/div)) De-rated at 0.100%/°C of |reading - offset - position| above 30 °C Signal ± 5 divisions from screen center
AC:	± 3% (40 Hz to 1 kHz) with no harmonic content outside 40 Hz to 1 kHz AC, typical: ± 2% (20 Hz to 10 kHz) For AC measurements, the input channel vertical settings must allow the V_{PP} input signal to cover between 4 and 10 divisions and must be fully visible on the screen

Trigger frequency counter

Resolution	8-digits
Accuracy	±(1 count + time base accuracy * input frequency) The signal must be at least 8 mV_{pp} or 2 div, whichever is greater.
Input frequency	10 Hz to maximum bandwidth of the analog channel The signal must be at least 8 mV_{pp} or 2 div, whichever is greater.

Processor system

Host processor	Intel Core i5-8400H @2.5 GHz, 64-bit, quad core processor
Standard SSD with Embedded OS	≥ 250 GB removable solid state drive
Operating system	Instrument with option 6-WIN installed: Microsoft Windows 10
Solid State Drive (SSD) with Microsoft Windows 10 OS (option 6-WIN)	≥ 500 GB SSD. Form factor is a 2.5-inch SSD with a SATA-3 interface. This drive is customer installable and includes the Microsoft Windows 10 Enterprise IoT 2016 LTSB (64-bit) operating system

Input-Output ports

DisplayPort connector	A 20-pin DisplayPort connector; connect to show the oscilloscope display on an external monitor or projector
DVI connector	A 29-pin DVI-I connector; connect to show the oscilloscope display on an external monitor or projector
VGA	DB-15 female connector; connect to show the oscilloscope display on an external monitor or projector
Probe compensator signal, typical	
Connection:	Connectors are located on the lower front right of the instrument
Amplitude:	0 to 2.5 V
Frequency:	1 kHz
Source impedance:	1 kΩ
External reference input	The time-base system can phase lock to an external 10 MHz reference signal . There are two ranges for the reference clock. The instrument can accept a high-accuracy reference clock of 10 MHz ±2 ppm or a lower-accuracy reference clock of 10 MHz ±1 kppm.
USB interface (Host, Device ports)	Front panel USB Host ports: Two USB 2.0 Hi-Speed ports, one USB 3.0 SuperSpeed port Rear panel USB Host ports: Two USB 2.0 Hi-Speed ports, two USB 3.0 SuperSpeed ports Rear panel USB Device port: One USB 3.0 SuperSpeed Device port providing USBTMC support
Ethernet interface	10/100/1000 Mb/s
Auxiliary output	Rear-panel BNC connector. Output can be configured to provide a positive or negative pulse out when the oscilloscope triggers, the internal oscilloscope reference clock out, or an AFG sync pulse

Characteristic	Limits
Vout (HI)	≥ 2.5 V open circuit; ≥ 1.0 V into a 50 Ω load to ground
Vout (LO)	≤ 0.7 V into a load of ≤ 4 mA; ≤0.25 V into a 50 Ω load to ground

Kensington-style lock	Rear-panel security slot connects to standard Kensington-style lock
LXI	Class: LXI Core 2011 Version: 1.5

Power source

Power	
Power consumption	500 Watts maximum
Source voltage	100 - 240 V ±10% at 50 Hz to 60 Hz 115 V ±10% at 400 Hz

Physical characteristics

Dimensions	Height: 12.2 in (309 mm), feet folded in, handle to back Height: 14.6 in (371 mm) feet folded in, handle up Width: 17.9 in (454 mm) from handle hub to handle hub Depth: 8.0 in (205 mm) from back of feet to front of knobs, handle up Depth: 11.7 in (297.2 mm) feet folded in, handle to the back
Weight	< 28.4 lbs (12.88 kg)
Cooling	The clearance requirement for adequate cooling is 2.0 in (50.8 mm) on the right side of the instrument (when viewed from the front) and on the rear of the instrument
Rackmount configuration	7U (with optional RM5 Rackmount Kit)

Environmental specifications

Temperature	
Operating	+0 °C to +50 °C (32 °F to 122 °F)
Non-operating	-20 °C to +60 °C (-4 °F to 140 °F)
Humidity	
Operating	5% to 90% relative humidity (% RH) at up to +40 °C 5% to 55% RH above +40 °C up to +50 °C, noncondensing
Non-operating	5% to 90% relative humidity (% RH) at up to +60 °C, noncondensing
Altitude	
Operating	Up to 3,000 meters (9,843 feet)
Non-operating	Up to 12,000 meters (39,370 feet)

EMC environment and safety

Regulatory	CE marked for the European Union and UL approved for the USA and Canada RoHS compliant

Software

Software	
IVI driver	Provides a standard instrument programming interface for common applications such as LabVIEW, LabWindows/CVI, Microsoft .NET, and MATLAB. Compatible with Python, C/C++/C# and many other languages through VISA.
e*Scope®	Enables control of the oscilloscope over a network connection through a standard web browser. Simply enter the IP address or network name of the oscilloscope and a web page will be served to the browser. Transfer and save settings, waveforms, measurements, and screen images or make live control changes to settings on the oscilloscope directly from the web browser.
LXI Web interface	Connect to the oscilloscope through a standard Web browser by simply entering the oscilloscope's IP address or network name in the address bar of the browser. The Web interface enables viewing of instrument status and configuration, status and modification of network settings, and instrument control through the e*Scope web-based remote control.
Programming Examples	Programming with the 4/5/6 Series platforms has never been easier. With a programmers manual and a GitHub site you have many commands and examples to help you get started remotely automating your instrument. See https://github.com/tektronix/Programmatic-Control-Examples.

Ordering information

Use the following steps to select the appropriate instrument and options for your measurement needs.

Step 1

Start by selecting the model.

Model	Number of FlexChannels
MSO64B	4
MSO66B	6
MSO68B	8

Each model includes
One TPP1000 1 GHz probe per FlexChannel
Installation and safety manual (translated in English, Japanese, Simplified Chinese)
Embedded Help
Front cover with integrated accessory pouch
Mouse
Power cord
Calibration certificate documenting traceability to National Metrology Institute(s) and ISO9001/ISO17025 quality system registration
One-year warranty covering all parts and labor on the instrument. One-year warranty covering all parts and labor on included probes

Step 2

Configure your oscilloscope by selecting the analog channel bandwidth you need

Choose the bandwidth you need today by choosing one of these bandwidth options. You can upgrade it later by purchasing an upgrade option.

Bandwidth Option	Bandwidth
6-BW-1000	1 GHz
6-BW-2500	2.5 GHz
6-BW-4000	4 GHz
6-BW-6000	6 GHz
6-BW-8000	8 GHz
6-BW-10000	10 GHz

Note: For instruments of 4, 6, 8 or 10 GHz bandwidth, consider a BNC-to-SMA adapter to optimize a high bandwidth connection to the oscilloscope. Tektronix part number 103-0503-XX.

Step 3

Add instrument functionality

Instrument functionality can be ordered with the instrument or later as an upgrade kit.

Instrument Option	Built-in Functionality
6-RL-1	Extend record length from 62.5 Mpoints/channel to 125 Mpoints/channel
6-RL-2	Extend record length from 62.5 Mpts/channel to 250 Mpts/channel
6-RL-3	Extend record length from 62.5 Mpoints/channel to 500 Mpoints/channel
6-RL-4	Extend record length from 62.5 Mpoints/channel to 1 Gpoints/channel
6-AFG	Add Arbitrary / Function Generator
6-SEC [6]	Add enhanced security for instrument declassification and password-protected enabling and disabling of all USB ports and firmware upgrade.
6-WIN	Add removable SSD with Microsoft Windows 10 operating system license

Step 4

Add optional serial bus triggering, decode, and search capabilities

Choose the serial support you need today by choosing from these serial analysis options. You can upgrade later by purchasing an upgrade kit.

Instrument Option	Serial Buses Supported
6-SRAERO	Aerospace (MIL-STD-1553, ARINC 429)
6-SRAUDIO	Audio (I^2S, LJ, RJ, TDM)
6-SRAUTO	Automotive (CAN, CAN FD, LIN, FlexRay, and CAN symbolic decoding)
6-SRAUTOEN1	100BASE-T1 Automotive Ethernet serial analysis
6-SRAUTOSEN	Automotive sensor (SENT)
6-SRCOMP	Computer (RS-232/422/485/UART)
6-SRDPHY	MIPI D-PHY (DSI-1, CSI-2 decode and search only)
6-SREMBD	Embedded (I^2C, SPI)
6-SRENET	Ethernet (10BASE-T, 100BASE-TX)
6-SR8B10B	8B/10B (decode and search only)
6-SRI3C	MIPI I3C (I3C decode and search only)
6-SRMANCH	Manchester (decode and search only)
6-SRMDIO	MDIO (decode and search only)
6-SRNRZ	NRZ (decode and search only)
6-SRPM	Power Management (SPMI)
6-SRPSI5	PSI5 (decode and search only)
6-SRSPACEWIRE	Spacewire (decode and search only)
6-SRSVID	SVID (decode and search only)
6-SRUSB2	USB (USB2.0 LS, FS, HS)
6-SREUSB2	eUSB2.0 (decode and search only)

Differential serial bus? Be sure to check *Add analog probes and adapters* for differential probes.

6 This option must be purchased at the same time as the instrument. Not available as an upgrade.

Add third party serial bus decode and analysis capabilities

Third-party applications are available that provide serial bus decode and analysis capabilities for use on the 6 Series B MSO. Tektronix part numbers listed below can be ordered directly from Tektronix or through an authorized distributor. Ordered application software will be shipped directly by the third-party. Use of the third-party software applications require a Windows 10 SSD (option 6-WIN).

Tektronix Part Number	Serial Buses Supported
PGY-EMMC	Embedded Multi-media Controller (eMMC) memory
PGY-QSPI	Quad Serial Peripheral Interface (QSPI) - 2 enhanced IO lines for SPI
PGY-SDIO	Secure Digital Input Output (SDIO)

Step 5

Add optional serial bus compliance testing

Choose the serial compliance testing packages you need today by choosing from these options. You can upgrade later by purchasing an upgrade kit. All options in the table below require option 6-WIN (SSD with Microsoft Windows 10 operating system).

Instrument Option	Serial Buses Supported
6-CMAUTOEN	Automotive Ethernet (100Base-T1, 1000Base-T1) automated compliance test solution. ≥2 GHz bandwidth required for 1000BASE-T1
6-CMAUTOEN10	Automotive Ethernet (10BASE-T1S Short Reach) automated compliance test solution.
6-AUTOEN-BND	Automotive Ethernet Compliance, Signal Separation, PAM3 Analysis, 100Base-T1 Decode software (requires options 6-DJA and 6-WIN)
6-AUTOEN-SS	Automotive Ethernet Signal Separation
6-CMINDUEN10	Industrial Ethernet (10Base-T1L Long Reach) automated compliance test solution
6-CMDPHY	MIPI D-DPHY 1.2 automated compliance test solution.
6-CMENET	Ethernet automated compliance test solution (10BASE-T/100BASE-T/1000BASE-T). ≥1 GHz bandwidth required for 1000BASE-T
6-CMNBASET	2.5 and 5 GBASE-T Ethernet automated compliance test solution. 2.5 GHz is recommended
6-CMXGBT	10 GBASE-T Ethernet automated compliance test solution. ≥4 GHz is recommended
6-CMUSB2	USB2.0 automated compliance test solution. Requires TDSUSBF USB test fixture ≥2 GHz bandwidth required for high-speed USB

Step 6

Add optional memory analysis

Instrument Option	Advanced Analysis
6-DBDDR3	DDR3 and LPDDR3 Debug and Analysis
6-CMDDR3	DDR3 and LPDDR3 automated compliance test solution using TekExpress Automation Platform. Requires options 6-DBDDR3, 6-DJA and 6-WIN (SSD with Microsoft Windows 10 operating system). ≥4 GHz required, 8 GHz recommended for testing of all DDR3 speeds.

Step 7

Add optional analysis capabilities

Instrument Option	Advanced Analysis
6-DBLVDS	TekExpress automated LVDS test solution (requires options 6-DJA and 6-WIN)
6-DJA	Advanced Jitter and Eye Analysis
6-DPM	Digital Power Management
6-IMDA [7]	Inverter motor drive analysis
6-IMDA-DQ0 [7]	DQ0 feature for inverter motor drive analysis
6-MTM	Mask and Limit testing
6-PAM3	PAM3 Analysis (requires options 6-DJA and 6-WIN)
6-PS2 [8]	Power solution bundle (6-PWR, THDP0200, TCP0030A, 067-1686-XX deskew fixture)
6-PWR [9]	Power Measurement and Analysis
6-SV-BW-1	Increase Spectrum View Capture Bandwidth to 2 GHz
6-SV-RFVT	Spectrum View RF versus Time analysis and remote IQ data transferring
6-VID	NTSC, PAL, and SECAM video triggering

Step 8

Add digital probes

Each FlexChannel input can be configured as eight digital channels simply by connecting a TLP058 logic probe.

For this instrument	Order	To add
MSO64B	1 to 4 TLP058 Probes	8 to 32 digital channels
MSO66B	1 to 6 TLP058 Probes	8 to 48 digital channels
MSO68B	1 to 8 TLP058 Probes	8 to 64 digital channels

7 This option is not compatible with MSO64B.

8 This option is not compatible with option 6-PWR.

9 This option is not compatible with option 6-PS2.

Step 9

Add analog probes and adapters

Add additional recommended probes and adapters

Recommended Probe / Adapter	Description
TAP1500	1.5 GHz TekVPI® active single-ended voltage probe, ±8 V input voltage
TAP2500	2.5 GHz TekVPI® active single-ended voltage probe, ±4 V input voltage
TAP3500	3.5 GHz TekVPI® active single-ended voltage probe, ±4 V input voltage
TAP4000	4 GHz TekVPI® active single-ended voltage probe, ±4 V input voltage
TCP0020	20 A AC/DC TekVPI® current probe, 50 MHz BW
TCP0030A	30 A AC/DC TekVPI current probe, 120 MHz BW
TCP0150	150 A AC/DC TekVPI® current probe, 20 MHz BW
TCPA300	100 MHz Current Probe, Amplifier (Requires Probe); Recommend using TPA-BNC adapter to provide autoscaling.
TCP312A	DC-100 MHz, AC/DC Current Probe; 30 Amp DC
TRCP0300	30 MHz AC current probe, 250 mA to 300 A
TRCP0600	30 MHz AC current probe, 500 mA to 600 A
TRCP3000	16 MHz AC current probe, 500 mA to 3000 A
TDP0500	500 MHz TekVPI® differential voltage probe, ±42 V differential input voltage
TDP1000	1 GHz TekVPI® differential voltage probe, ±42 V differential input voltage
TDP1500	1.5 GHz TekVPI® differential voltage probe, ±8.5 V differential input voltage
TDP3500	3.5 GHz TekVPI® differential voltage probe, ±2 V differential input voltage
TDP4000	4 GHz TekVPI® differential voltage probe, ±2 V differential input voltage
TDP7704	4 GHz TriMode™ voltage probe
TDP7706	6 GHz TriMode™ voltage probe
TDP7708	8 GHz TriMode™ voltage probe
THDP0100	±6 kV, 100 MHz TekVPI® high-voltage differential probe
THDP0200	±1.5 kV, 200 MHz TekVPI® high-voltage differential probe
TMDP0200	±750 V, 200 MHz TekVPI® high-voltage differential probe
TPR1000	1 GHz, Single-Ended TekVPI® Power-Rail Probe; includes one TPR4KIT accessory kit
TPR4000	4 GHz, Single-Ended TekVPI® Power-Rail Probe; includes one TPR4KIT accessory kit
TIVH02	Isolated Probe; 200 MHz, ±2500 V, TekVPI, 3 Meter Cable
TIVH02L	Isolated Probe; 200 MHz, ±2500 V, TekVPI, 10 Meter Cable
TIVH05	Isolated Probe; 500 MHz, ±2500 V, TekVPI, 3 Meter Cable
TIVH05L	Isolated Probe; 500 MHz, ±2500 V, TekVPI, 10 Meter Cable
TIVH08	Isolated Probe; 800 MHz, ±2500 V, TekVPI, 3 Meter Cable
TIVH08L	Isolated Probe; 800 MHz, ±2500 V, TekVPI, 10 Meter Cable
TIVM1	Isolated Probe; 1 GHz, ±50 V, TekVPI, 3 Meter Cable
TIVM1L	Isolated Probe; 1 GHz, ±50 V, TekVPI, 10 Meter Cable
TPP0502	500 MHz, 2X TekVPI® passive voltage probe, 12.7 pF input capacitance
TPP0850	2.5 kV, 800 MHz, 50X TekVPI® passive high-voltage probe
P6015A	20 kV, 75 MHz high-voltage passive probe
TPA-BNC [10]	TekVPI® to TekProbe™ BNC adapter
103-0503-xx	BNC-to-SMA adapter; rated to 12 GHz

10 Recommended for connecting your existing TekProbe probes to the 6 Series MSO.

Recommended Probe / Adapter	Description
TEK-DPG	TekVPI deskew pulse generator signal source
067-1686-xx	Power measurement deskew and calibration fixture

Looking for other probes? Check out the probe selector tool at www.tek.com/probes.

Step 10

Add accessories

Add traveling or mounting accessories

Optional Accessory	Description
HC5	Hard carrying case
RM5	Rackmount kit
GPIB to Ethernet adapter	Order model 4865B (GPIB to Ethernet to Instrument Interface) directly from ICS Electronics www.icselect.com/gpib_instrument_intfc.html

Step 11

Select power cord option

Power Cord Option	Description
A0	North America power plug (115 V, 60 Hz)
A1	Universal Euro power plug (220 V, 50 Hz)
A2	United Kingdom power plug (240 V, 50 Hz)
A3	Australia power plug (240 V, 50 Hz)
A5	Switzerland power plug (220 V, 50 Hz)
A6	Japan power plug (100 V, 50/60 Hz)
A10	China power plug (50 Hz)
A11	India power plug (50 Hz)
A12	Brazil power plug (60 Hz)
A99	No power cord

Step 12

Add extended service and calibration options

Service Option	Description
T3	Three Year Total Protection Plan, includes repair or replacement coverage from wear and tear, accidental damage, ESD or EOS.
T5	Five Year Total Protection Plan, includes repair or replacement coverage from wear and tear, accidental damage, ESD or EOS.
R3	Standard Warranty Extended to 3 Years. Covers parts, labor and 2-day shipping within country. Guarantees faster repair time than without coverage. All repairs include calibration and updates. Hassle free - a single call starts the process.
R5	Standard Warranty Extended to 5 Years. Covers parts, labor and 2-day shipping within country. Guarantees faster repair time than without coverage. All repairs include calibration and updates. Hassle free - a single call starts the process.
C3	Calibration service 3 Years. Includes traceable calibration or functional verification where applicable, for recommended calibrations. Coverage includes the initial calibration plus 2 years calibration coverage.
C5	Calibration service 5 Years. Includes traceable calibration or functional verification where applicable, for recommended calibrations. Coverage includes the initial calibration plus 4 years calibration coverage.
D1	Calibration Data Report
D3	Calibration Data Report 3 Years (with Option C3)
D5	Calibration Data Report 5 Years (with Option C5)

Feature upgrades after purchase

Add feature upgrades in the future

The 6 Series products offer many ways to easily add functionality after the initial purchase. Node-locked licenses permanently enable optional features on a single product. Floating licenses allow license-enabled options to be easily moved between compatible instruments.

Upgrade feature	Node-locked license upgrade	Floating license upgrade	Description
Add instrument functions	SUP6-AFG	SUP6-AFG-FL	Add arbitrary function generator
	SUP6-RL-1	SUP6-RL-1-FL	Extend record length from 62.5 Mpts to 125 Mpts / channel
	SUP6-RL-2	SUP6-RL-2-FL	Extend record length from 62.5 Mpts to 250 Mpts / channel
	SUP6-RL-3	SUP6-RL-3-FL	Extend record length from 62.5 Mpts to 500 Mpts / channel
	SUP6-RL-4	SUP6-RL-4-FL	Extend record length from 62.5 Mpts to 1 Gpts / channel
	SUP6-RL-1T2	SUP6-RL-1T2-FL	Extend record length from 125 Mpts to 250 Mpts / channel
	SUP6-RL-1T3	SUP6-RL-1T3-FL	Extend record length from 125 Mpts to 500 Mpts / channel
	SUP6-RL-1T4	SUP6-RL-1T4-FL	Extend record length from 125 Mpts to 1 Gpts / channel
	SUP6-RL-2T3	SUP6-RL-2T3-FL	Extend record length from 250 Mpts to 500 Mpts / channel
	SUP6-RL-2T4	SUP6-RL-2T4-FL	Extend record length from 250 Mpts to 1 Gpts / channel
	SUP6-RL-3T4	SUP6-RL-3T4-FL	Extend record length from 500 Mpts to 1 Gpts / channel

Upgrade feature	Node-locked license upgrade	Floating license upgrade	Description
Add protocol analysis	SUP6-SRAERO	SUP6-SRAERO-FL	Aerospace serial triggering and analysis (MIL-STD-1553, ARINC 429)
	SUP6-SRAUDIO	SUP6-SRAUDIO-FL	Audio serial triggering and analysis (I^2S, LJ, RJ, TDM)
	SUP6-SRAUTO	SUP6-SRAUTO-FL	Automotive serial triggering and analysis (CAN, CAN FD, LIN, FlexRay, and CAN symbolic decoding)
	SUP6-SRAUTOEN1	SUP6-SRAUTOEN1-FL	100Base-T1 Automotive Ethernet serial analysis
	SUP6-SRAUTOSEN	SUP6-SRAUTOSEN-FL	Automotive sensor serial triggering and analysis (SENT)
	SUP6-SRCOMP	SUP6-SRCOMP-FL	Computer serial triggering and analysis (RS-232/422/485/UART)
	SUP6-SRDPHY	SUP6-SRDPHY-FL	MIPI D-PHY serial analysis (DSI-1, CSI-2)
	SUP6-SREMBD	SUP6-SREMBD-FL	Embedded serial triggering and analysis (I^2C, SPI)
	SUP6-SRENET	SUP6-SRENET-FL	Ethernet serial triggering and analysis (10Base-T, 100Base-TX)
	SUP6-SREUSB2	SUP6-SRESUB2-FL	Embedded USB2 (eUSB2) serial decoding and analysis
	SUP6-SRI3C	SUP6-SRI3C-FL	MIPI I3C serial decoding and analysis
	SUP6-SRMANCH	SUP6-SRMANCH-FL	Manchester serial analysis
	SUP6-SRMDIO	SUP6-SRMDIO-FL	Management Data Input/Output (MDIO) serial decoding and analysis
	SUP6-SR8B10B	SUP6-SR8B10B-FL	8b/10b serial decoding and analysis
	SUP6-SRNRZ	SUP6-SRNRZ-FL	NRZ serial decoding and analysis
	SUP6-SRPM	SUP6-SRPM-FL	Power Management serial triggering and analysis (SPMI)
	SUP6-SRPSI5	SUP6-SRPSI5-FL	PSI5 serial decoding and analysis
	SUP6-SRSPACEWIRE	SUP6-SRSPACEWIRE-FL	Spacewire serial analysis
	SUP6-SRSVID	SUP6-SRSVID-FL	Serial Voltage Identification (SVID) serial decoding and analysis
	SUP6-SRUSB2	SUP6-SRUSB2-FL	USB 2.0 serial bus triggering and analysis (LS, FS, HS)

Upgrade feature	Node-locked license upgrade	Floating license upgrade	Description
Add serial compliance All serial compliance products require option 6-WIN (SSD with Microsoft Windows 10 operating system)	SUP6-CMAUTOEN	SUP6-CMAUTOEN-FL	Automotive Ethernet automated compliance test solution (100BASE-T1 and 1000BASE-T1)
	SUP6-CMAUTOEN10	SUP6-CMAUTOEN10-FL	Automotive Ethernet (10BASE-T1S Short Reach) automated compliance test solution
	SUP6-AUTOEN-BND		Automotive Ethernet compliance, signal separation, PAM3 analysis, 100Base-T1 serial analysis (requires options 6-DJA and 6-WIN)
	SUP6-AUTOEN-SS	SUP6-AUTOEN-SS-FL	Automotive Ethernet signal separation
	SUP6-CMINDUEN10	SUP6-CMINDUEN10-FL	Industrial Ethernet (10Base-T1L Long Reach) automated compliance test solution
	SUP6-CMDPHY	SUP6-CMDPHY-FL	MIPI D-PHY 1.2 automated compliance test solution
	SUP6-CMENET	SUP6-CMENET-FL	Ethernet automated compliance test solution (10BASE-T, 100BASE-T, and 1000BASE-T) Requires SSD with Microsoft Windows 10 operating system
	SUP6-CMNBASET	SUP6-CMNBASET-FL	2.5 and 5 GBASE-T Ethernet automated compliance test (2.5 GHz is recommended)
	SUP6-CMUSB2	SUP6-CMUSB2-FL	USB 2.0 automated compliance test solution
Add advanced analysis	SUP6-DBLVDS	SUP6-DBLVDS-FL	LVDS debug and analysis (requires options 6-DJA and 6-WIN)
	SUP6-DJA	SUP6-DJA-FL	Advanced jitter and eye analysis
	SUP6-DPM	SUP6-DPM-FL	Digital power management
	SUP6-MTM	SUP6-MTM-FL	Mask and Limit testing
	SUP6-PAM3	SUP6-PAM3-FL	PAM3 analysis (requires options 6-DJA and 6-WIN)
	SUP6-PS2	N/A	Power solution bundle (6-PWR, THDP0200, TCP0030A, and 067-1686-XX deskew fixture)
	SUP6-PWR	SUP6-PWR-FL	Advanced power measurements and analysis
	SUP6-SV-BW-1	SUP6-SV-BW-1-FL	Increase Spectrum View capture bandwidth to 2 GHz
	SUP6-SV-RFVT	SUP6-SV-RFVT-FL	Spectrum View RF versus time analysis and trigger
	SUP6-VID	SUP6-VID-FL	NTSC, PAL, and SECAM video triggering
	SUP6B-IMDA	SUP6B-IMDA-FL	Inverter Motor Drive analysis
	SUP6B-IMDA-DQ0	SUP6B-IMDA-DQ0-FL DQ0	Feature for Inverter Motor Drive analysis
Add memory analysis	SUP6-DBDDR3	SUP6-DBDDR3-FL	DDR3 and LPDDR3 debug and analysis
	SUP6-CMDDR3	SUP6-CMDDR3-FL	DDR3 and LPDDR3 automated compliance test solution using TekExpress Automation Platform. Requires options 6-DBDDR3, 6-DJA and SSD with Microsoft WIndows 10 operating system. ≥4 GHz required, 8 GHz recommended for testing of all DDR3 speeds.
Add digital voltmeter	SUP6-DVM	N/A	Add digital voltmeter / trigger frequency counter (Free with product registration at www.tek.com/register6mso)

Upgrade feature	Upgrade	Description
Add expansion Windows operating system SSD	SUP6B-WIN	Add removable SSD with Windows 10 operating system
Add expansion embedded operating system SSD	SUP6B-LNX	Add removable SSD with embedded operating system

Bandwidth upgrades after purchase

Add bandwidth upgrades in the future

The analog bandwidth of 6 Series products can be upgraded after initial purchase. Bandwidth upgrades are purchased based on the number of FlexChannels, the current bandwidth and the desired bandwidth. All bandwidth upgrades can be performed in the field by installing a software license and a new front panel label.

A calibration data report can also be purchased with the bandwidth upgrade. (Purchase SUP6B-BWx-DATA with option D1, where 'x' is either 4, 6, or 8 depending on the number of FlexChannels on your instrument.)

Oscilloscope model owned	Bandwidth upgrade product	Upgrade option	Upgrade option description
MSO64B	SUP6B-BW4	6B-BW10T25-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 2.5 GHz bandwidth on a (4) FlexChannel model
		6B-BW10T40-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 4 GHz bandwidth on a (4) FlexChannel model
		6B-BW10T60-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 6 GHz bandwidth on a (4) FlexChannel model
		6B-BW10T80-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 8 GHz bandwidth on a (4) FlexChannel model
		6B-BW10T100-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 10 GHz bandwidth on a (4) FlexChannel model
		6B-BW25T40-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 4 GHz bandwidth on a (4) FlexChannel model
		6B-BW25T60-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 6 GHz bandwidth on a (4) FlexChannel model
		6B-BW25T80-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 8 GHz bandwidth on a (4) FlexChannel model
		6B-BW25T100-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 10 GHz bandwidth on a (4) FlexChannel model
		6B-BW40T60-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 4 GHz to 6 GHz bandwidth on a (4) FlexChannel model
		6B-BW40T80-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 4 GHz to 8 GHz bandwidth on a (4) FlexChannel model
		6B-BW40T100-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 4 GHz to 10 GHz bandwidth on a (4) FlexChannel model
		6B-BW60T80-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 6 GHz to 8 GHz bandwidth on a (4) FlexChannel model
		6B-BW60T100-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 6 GHz to 10 GHz bandwidth on a (4) FlexChannel model
		6B-BW80T100-4	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 8 GHz to 10 GHz bandwidth on a (4) FlexChannel model

Oscilloscope model owned	Bandwidth upgrade product	Upgrade option	Upgrade option description
MSO66B	SUP6B-BW6	6B-BW10T25-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 2.5 GHz bandwidth on a (6) FlexChannel model
		6B-BW10T40-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 4 GHz bandwidth on a (6) FlexChannel model
		6B- BW10T60-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 6 GHz bandwidth on a (6) FlexChannel model
		6B-BW10T80-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 8 GHz bandwidth on a (6) FlexChannel model
		6B-BW10T100-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 10 GHz bandwidth on a (6) FlexChannel model
		6B-BW25T40-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 4 GHz bandwidth on a (6) FlexChannel model
		6B-BW25T60-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 6 GHz bandwidth on a (6) FlexChannel model
		6B-BW25T80-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 8 GHz bandwidth on a (6) FlexChannel model
		6B-BW25T100-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 10 GHz bandwidth on a (6) FlexChannel model
		6B-BW40T60-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 4 GHz to 6 GHz bandwidth on a (6) FlexChannel model
		6B-BW40T80-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 4 GHz to 8 GHz bandwidth on a (6) FlexChannel model
		6B-BW40T100-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 4 GHz to 10 GHz bandwidth on a (6) FlexChannel model
		6B-BW60T80-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 6 GHz to 8 GHz bandwidth on a (6) FlexChannel model
		6B-BW60T100-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 6 GHz to 10 GHz bandwidth on a (6) FlexChannel model
		6B-BW80T100-6	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 8 GHz to 10 GHz bandwidth on a (6) FlexChannel model

Oscilloscope model owned	Bandwidth upgrade product	Upgrade option	Upgrade option description
MSO68B	SUP6B-BW8	6B-BW10T25-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 2.5 GHz bandwidth on a (8) FlexChannel model
		6B-BW10T40-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 4 GHz bandwidth on a (8) FlexChannel model
		6B-BW10T60-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 6 GHz bandwidth on a (8) FlexChannel model
		6B-BW10T80-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 8 GHz bandwidth on a (8) FlexChannel model
		6B-BW10T100-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 1 GHz to 10 GHz bandwidth on a (8) FlexChannel model
		6B-BW25T40-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 4 GHz bandwidth on a (8) FlexChannel model
		6B-BW25T60-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 6 GHz bandwidth on a (8) FlexChannel model
		6B-BW25T80-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 8 GHz bandwidth on a (8) FlexChannel model
		6B-BW25T100-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 2.5 GHz to 10 GHz bandwidth on a (8) FlexChannel model
		6B-BW40T60-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 4 GHz to 6 GHz bandwidth on a (8) FlexChannel model
		6B-BW40T80-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 4 GHz to 8 GHz bandwidth on a (8) FlexChannel model
		6B-BW40T100-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 4 GHz to 10 GHz bandwidth on a (8) FlexChannel model
		6B-BW60T80-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 6 GHz to 8 GHz bandwidth on a (8) FlexChannel model
		6B-BW60T100-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 6 GHz to 10 GHz bandwidth on a (8) FlexChannel model
		6B-BW80T100-8	License; Bandwidth upgrade for 6 Series B MSO; Upgrade from 8 GHz to 10 GHz bandwidth on a (8) FlexChannel model

Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.

Product Area Assessed: The planning, design/development and manufacture of electronic Test and Measurement instruments.

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For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit www.tek.com.

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