Tektronix

# 6 Series B MSO

## More Bandwidth. More Channels. Less Noise.

8 FEBRUARY 2021

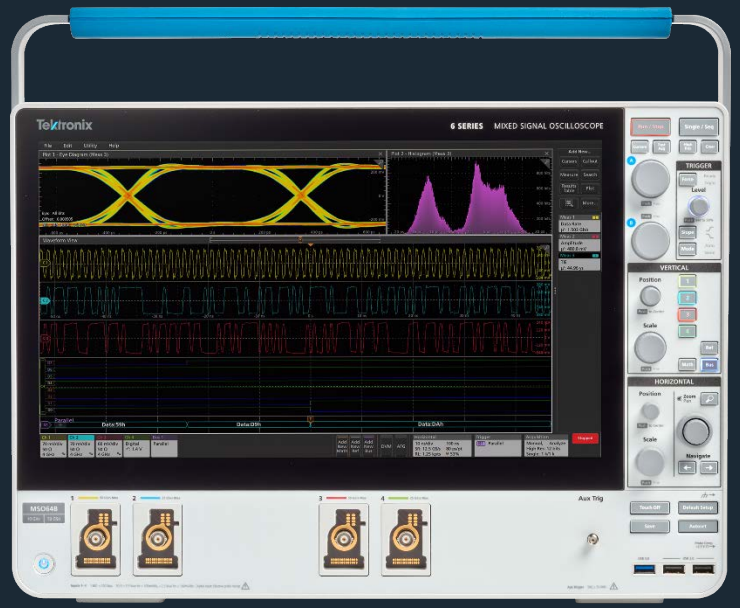
# Current Customer and Market Trends

- Embedded designs are getting smarter and incorporating **more sensors that generate more data**
  - Video
  - Motion/position
  - 3-D sensing
- Embedded designs are using **faster clocks and higher-speed serial buses** to move and process more data
  - Need higher performance test equipment to keep pace
- Embedded systems are stressing power technologies as designers **minimize power consumption** and **ensure clean power to ASICs and FPGAs** that demand precisely-controlled DC voltages
  - Smaller signals in noisy environments
- Fewer resources and tighter project timelines mean design engineers need to **solve problems faster than ever** to stay on schedule
- Getting progressively harder to justify new capital purchases. It is expected that oscilloscopes will be:
  - **Utilized longer and across more projects** than in the past
  - **Upgradeable** as new requirements arise

# 6 Series B MSO Product Overview

More bandwidth. More channels. Less noise

# 6 Series B Mixed Signal Oscilloscopes






Up to 10 GHz bandwidth

Best signal fidelity with 12-bit ADCs and ultra-low noise

4, 6 or 8 FlexChannel inputs

Analyze and debug gigahertz+ designs with these powerful, elegant instruments

# 6 Series B MSO

**3 Industry Firsts!**

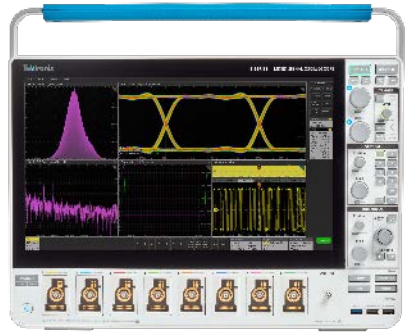

## Industry Firsts!

1. 4, 6 and 8 channel product family above 2 GHz
2. <51.1 µV of noise at 1mV/div and 1 GHz
   <1.39 mV of noise at 50mV/div and 10 GHz
3. Only 10 GHz scope with choice of OS (Windows or not)

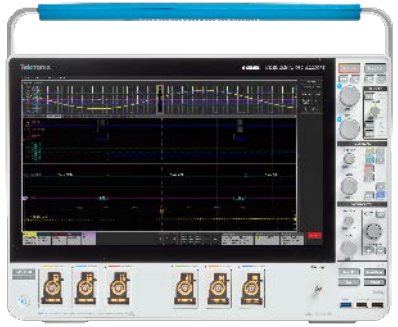
# Introducing the 6 Series B MSO

## 6 SERIES B MSO FAMILY

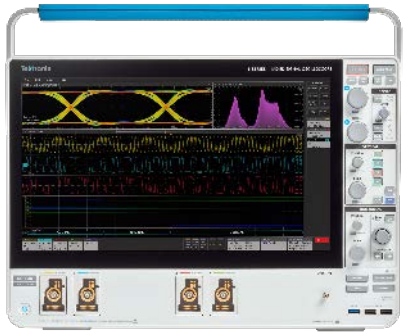
| | MSO64B | MSO66B | MSO68B |
|---|---|---|---|
| Bandwidth | 1 GHz, 2.5 GHz, 4 GHz, 6 GHz, 8 GHz, 10 GHz | | |
| FlexChannel inputs | 4 | 6 | 8 |
| Analog sample rate<br>All channels | 25 GS/s<br>(Supports up to 10 GHz, all ch) | 12.5 GS/s<br>(Supports up to 5 GHz on >4 ch) | |
| 4 channels | 25 GS/s (Supports up to 10 GHz on 4 ch) | | |
| 2 channels | 50 GS/s (Supports up to 10 GHz on 2 ch) | | |
| Maximum digital channels | 32 (opt.) | 48 (opt.) | 64 (opt.) |
| Digital sample rate | 25 GS/s | | |
| Record length standard (all chans) | 62.5 M | | |
| Record length optional (all chans) | 125 M, 250 M, 500 M, or 1 G | | |
| Waveform capture rate | >500,000 wfms/s | | |
| Arbitrary / Function Generator | 50 MHz w/ 128 k Arbitrary memory (opt.) | | |
| DVM | 4-bit DCRMS, ACRMS, AC+DC (free with product registration) | | |
| Operating system | Closed Embedded O/S (standard) on removable SSD<br>Open Windows 10 O/S (opt.) on removable SSD | | |
| Display | 15.6 inch HD (1920 x 1080) capacitive touch | | |
| Warranty period | 1 Year | | |



MSO68B



MSO66B



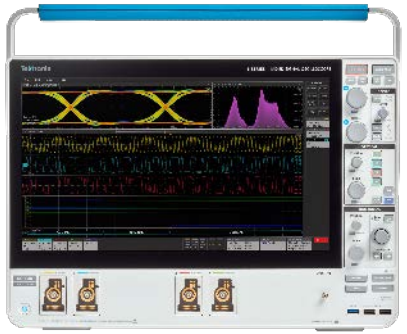
MSO64B

# MSO64 vs. MSO6xB Differences

| Specification | MSO64 | MSO64B, MSO66B, MSO68B |
|---|---|---|
| Bandwidth Range | 1 GHz – 8 GHz | 1 GHz – 10 GHz |
| Bandwidth at 12.5 GS/s sample rate | 4 GHz | 5 GHz |
| Bandwidth at 12-bits of ADC | 4 GHz | 5 GHz |
| Number of FlexChannels | 4 | 4, 6, or 8 |
| Record Length | **Standard** 62.5 M<br>**Optional** 125 M, 250 M, 500 M, 1 G | **Standard** 62.5 M<br>**Optional** 125 M, 250 M, 500 M, 1 G |
| Number of Digital Channels | Up to 32 in groups of 8 | Up to 64 in groups of 8 |
| Maximum Sample Rate | 25 GS/s on 4 channels | 50 GS/s on 2 channels<br>25 GS/s on 4 channels<br>12.5 GS/s on >4 channels |
| RMS Noise | Industry leading at <20mV/div | Industry leading at every V/div setting as a % of full scale |
| Reduction in RMS Noise @ ≥20mV/div | N/A | Reduction of ~2dB of RMS Noise when 50 GS/s sample rate is used |
| Mass Storage Architecture | **Standard** Internal 250GB M.2 drive with Closed Embedded O/S<br>**Optional** 500GB Removable Windows 10 SSD | **Standard** 250GB Removable SSD with Closed Embedded O/S<br>**Optional** 500GB Removable SSD with Windows 10<br>**Optional** 500GB Removable SSD with Closed Embedded O/S |
| Security Option Structure | • Secure password protected BIOS<br>• Password protected enabling/disabling of I/O ports and firmware upgrades<br>• Calibration constants, licenses, and SPC saved on internal M.2 drive<br>• No internal storage<br>• No Windows 10 SSD allowed | • Secure password protected BIOS<br>• Password protected enabling/disabling of I/O ports and firmware upgrades<br>• Calibration constants, licenses, and SPC saved on separate, non-user-accessible memory that stays with mainframe<br>• Storage on Removable SSD with either Closed Embedded O/S or Windows 10 |
| Display | 15.6 inch., Full HD (1920 x 1080) with capacitive touch | 15.6 inch., Full HD (1920 x 1080) with capacitive touch, now even brighter |
| Warranty | 3 Year | 1 Year |

# Why You Need a 6 Series B MSO

| Distinctive Features | Why it Matters |
|---|---|
| **Look at fast signals** | 1 – 10 GHz bandwidth and up to 50 GS/s sample rate enable you to see signals in higher speed designs. Bandwidth is fully upgradeable. |
| **High Resolution and Low Noise** | A unique combination of bandwidth, sample rate, record length, vertical resolution, low noise, and high ENOB provide superior measurements and confidence. |
| **More than 4 Channels** | The first oscilloscope with bandwidth more than 2 GHz to offer more than 4 channels. So you can see more of your system – more power rails, more clocks, more data lanes. Each FlexChannel™ input can be converted into 8 digital channels for even more visibility. |
| **Great User Experience** | Industry's largest 15.6 inch HD capacitive touch display (now even brighter) with innovative drag 'n' drop, object oriented user interface. Responsive, Intuitive, Modern. |
| **Unmatched Probing Solutions** | TekVPI probes communicate with the scope to simplify setup, reduce errors and are available up to 10 GHz. |
| **Advanced Measurements and Automated Solutions** | Powerful statistics and trends provide deep insight. Advanced jitter analysis…<br>Compliance testing for USB2, Automotive Ethernet, DDR3/LPDDR3, MIPI D-PHY…<br>Automated Power Analysis and Inverter Motor Drive Analysis<br>Spectrum View with up to 2 GHz capture bandwidth and integrated digital down conversion (DDC) for deep analysis of Frequency domain correlated with Time domain |
| **Upgradeable** | World's only >2 GHz oscilloscope capable of switching between Open Windows and closed OS operating modes, without making trade-offs in performance or ease-of-use. |



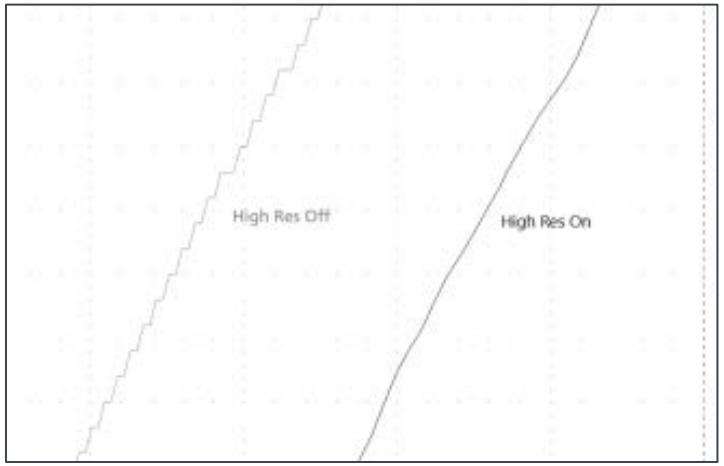
# Fast signals. High resolution. Low noise.

See better

# Introducing the 6 Series B MSO

## HIGH RES

- The 6 Series B MSO has a 12 bit ADC
- As long as we are decimating by at least a factor of 2 (12.5 GS/s or slower sample rate), memory bandwidth allows up to 16 bit data storage
- Mathematically, each additional decimate by 2 increases vertical resolution by 1 bit
  - 12.5 GS/s:  12 bits
  - 6.25 GS/s: 13 bits
  - 3.125 GS/s:  14 bits
  - 1.25 GS/s:  15 bits
  - 625 MS/s and slower:  16 bits

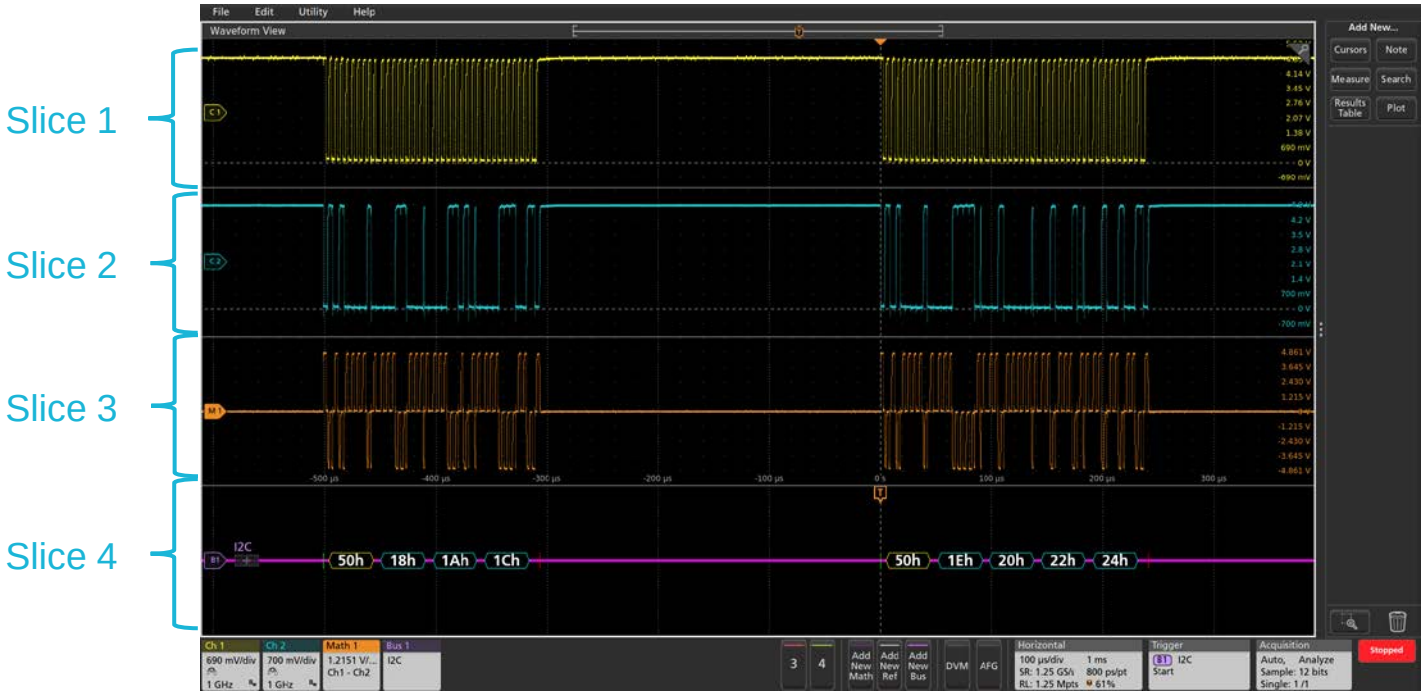



- In addition, a unique DSP filter is applied at each sample rate that limits bandwidth and thus, noise, providing a more accurate view of the signal

# Stacked vs. Overlay Display Mode

## MAKE THE MOST EFFICIENT USE OF YOUR 12-BIT ADC

- Stacked mode creates a ‘slice’ for each waveform
  - As waveforms are turned on/off or created/deleted, slices are automatically added or removed as needed
- Each slice uses the full range of the ADC
  - You can now have both visual separation as well as maximum accuracy

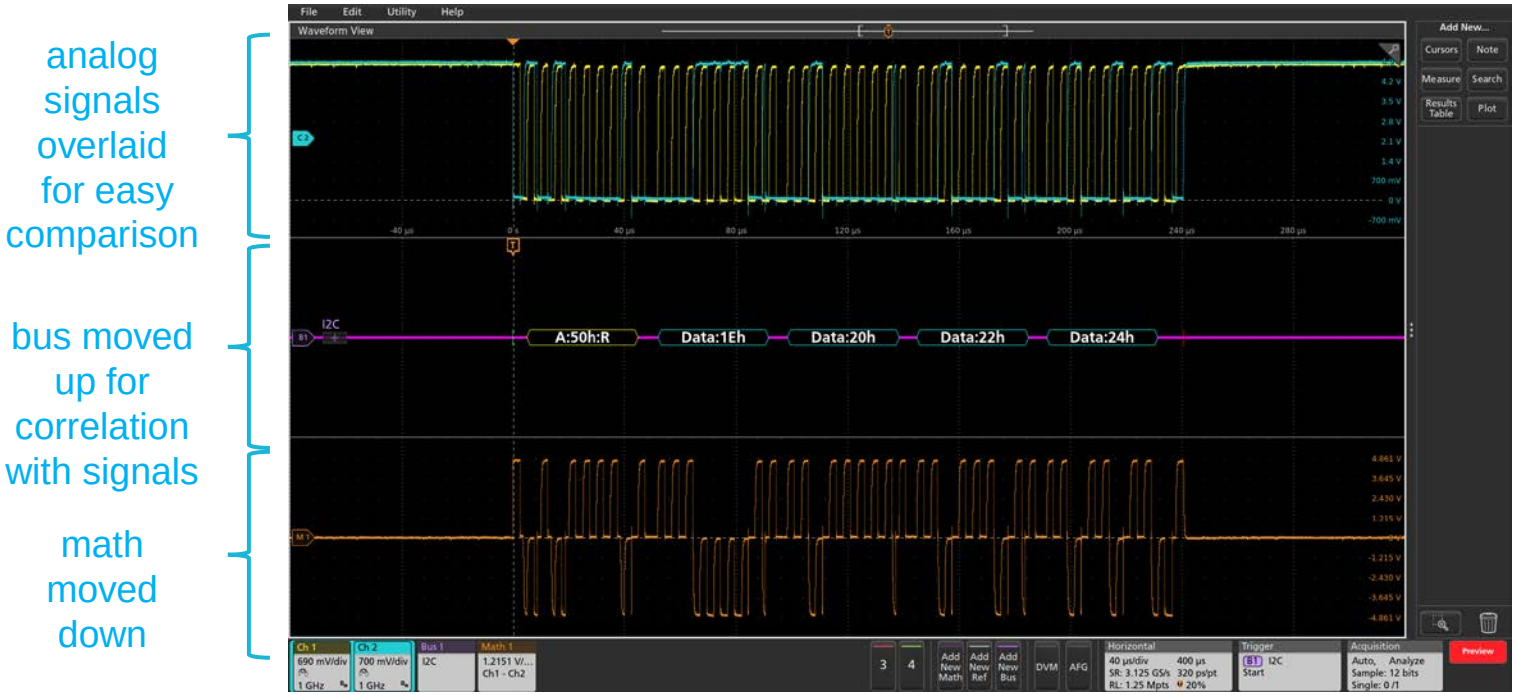



- Stacked display mode is the new default display mode
- Change the ordering of slices by rearranging badges

# Stacked / Overlay Display Mode

## NEW STACKED/OVERLAY MODE PROVIDES THE BEST OF BOTH WORLDS!

- Stacked mode
  - Optimizes vertical resolution and easy viewing of many signals
  - Signals can be reordered
- Overlay mode
  - Optimizes comparison of signal amplitudes and timing
- Stacked/Overlay mode
  - Easy comparison of some of the signals, without compromising vertical resolution or ease of viewing multiple signals

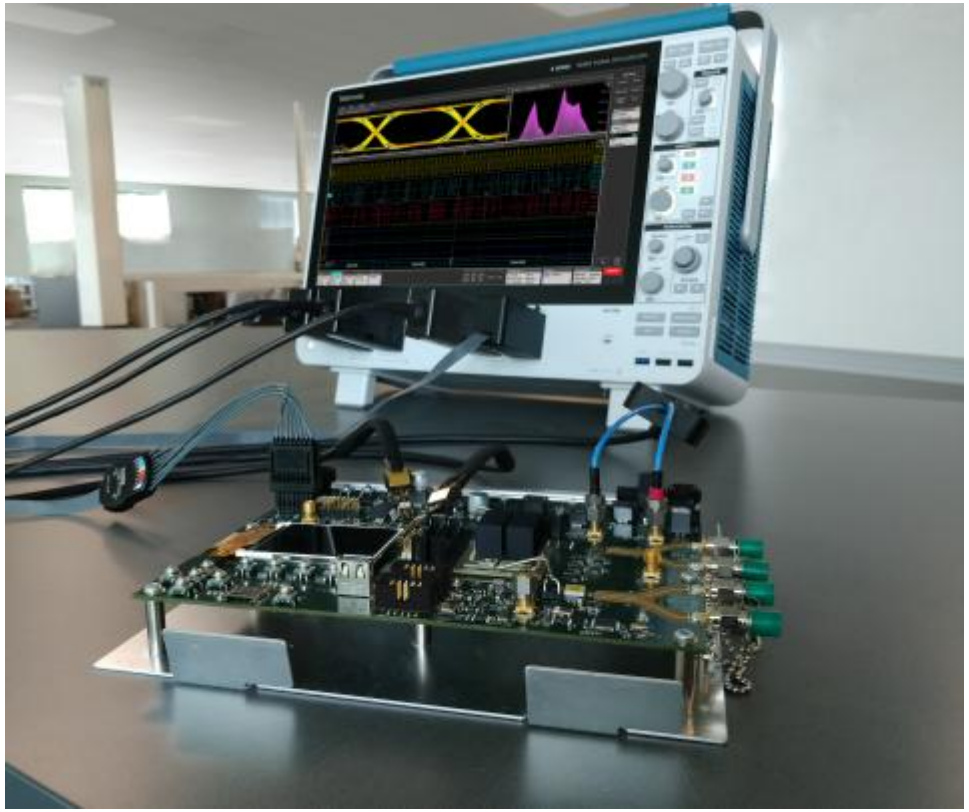


# Highest Sample Rate

## CAPTURE MORE HIGH-SPEED SIGNALS AT ONCE REDUCING DEBUG TIME

- 1 – 10 GHz bandwidths available
- 50 GS/s on two channels
- 25 GS/s on four channels
- 12.5 GS/s on >four channels
- Many instruments give up channels at high sample rates

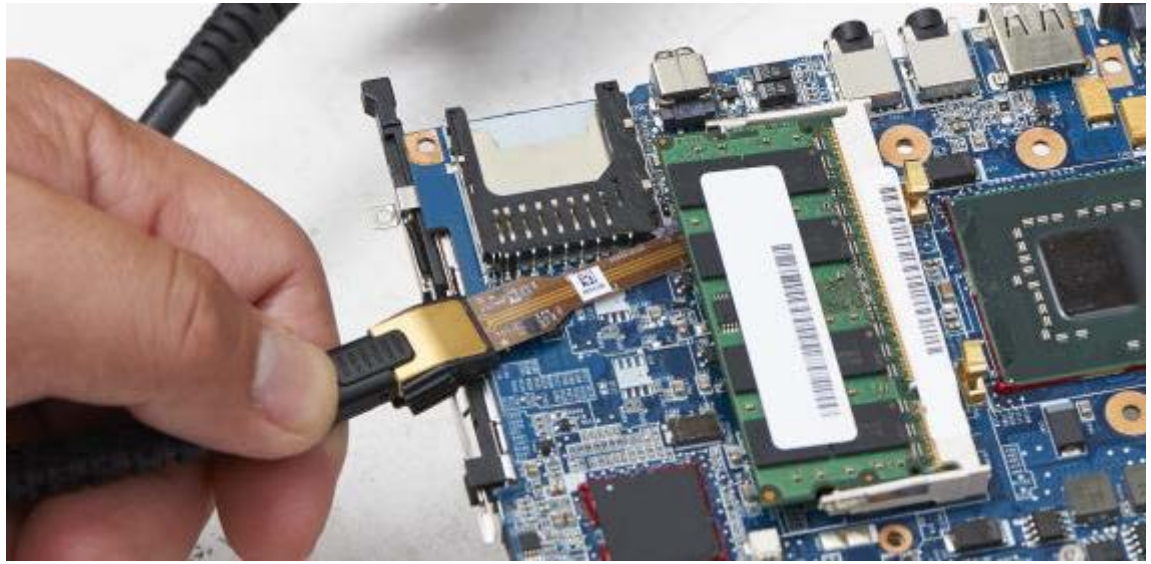
| Product Series | Sample Rate 4 Channels | Bandwidth 4 Channels | Sample Rate 8 Channels | Bandwidth 8 Channels |
|---|---|---|---|---|
| Tektronix 6 Series B MSO | 25 GS/s | 10 GHz | 12.5 GS/s | 5 GHz |
| Rohde & Schwarz RTP | 20 GS/s | 8 GHz | N/A | N/A |
| Keysight MXR | 16 GS/s | 6 GHz | 16 GS/s | 6 GHz |
| Keysight S-Series | 10 GS/s | 4 GHz | N/A | N/A |
| LeCroy WavePro HD | 10 GS/s | 4 GHz | N/A | N/A |
| Rohde & Schwarz RTO2000 | 10 GS/s | 4 GHz | N/A | N/A |



# Why Is This Important?

## REDUCE DEBUG & CHARACTERIZATION TIME BY AS MUCH AS 3X

- DDR3 memory characterization requires acquisition of a system clock and up to 64 data channels
  - 1600MT/s systems require at least 6.7 GHz of bandwidth to measure accurately
- Interleaving, or “half-channel” sampling reduces the available channels at full bandwidth on many competitors' scopes
- The 6 Series B MSO enables viewing multiple data channels at once, accelerating the process significantly

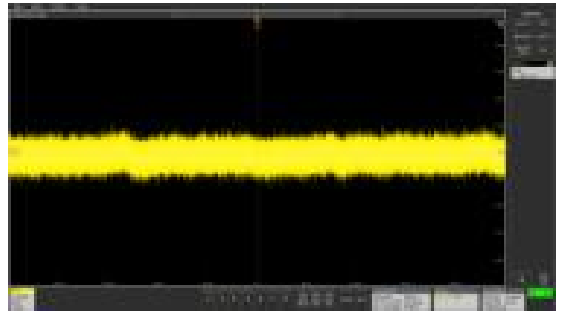


**Accelerate time to insight with confidence**

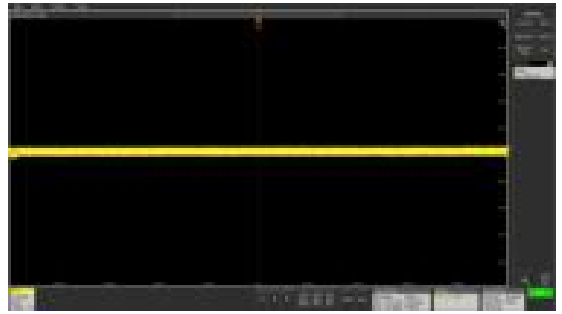
# Less Noise

## UP TO 20% INCREMENTAL NOISE IMPROVEMENTS

- TEK061 front-end ASIC for 50Ω, high bandwidth signal path
- >75% reduction in noise from 5 Series MSO at 1mV/div
- *NEW* 50 GS/s interleave on two channels provides ~2dB noise improvement at ≥20mV/div



5 Series MSO – 1mV/div, High Res



6 Series MSO – 1mV/div, High Res

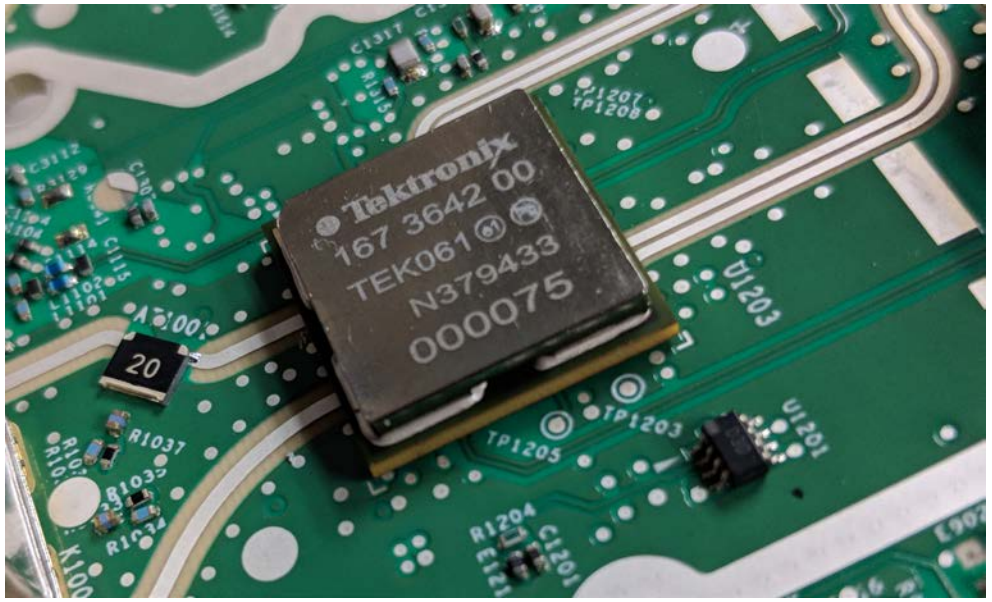
Industry leading noise performance

# Why Is This Important?

## SEE IT. MEASURE IT.

- Modern embedded designs demand clean, precisely-controlled DC power supplies to feed ASIC and FPGA devices
- Hunting down interfering signals is challenging when you can't see them through the noise
- The 6 Series B breakthrough noise performance lets you See It. Measure It.

**Gain measurement confidence on the smallest of signals**




| *4 GHz, 50Ω, 1mV/div, typical* | **RMS Noise** |
|---|---|
| Tektronix 6 Series B MSO | 97 µV |
| Keysight MXR | 132 uV |
| Keysight S-Series | 153 µV |
| LeCroy WavePro HD | 228 µV |
| Rohde & Schwarz RTO | 240 µV |
| Rohde & Schwarz RTP | 270 µV |

# 4, 6, or 8 FlexChannel™ Inputs.

See more

# Introducing the 6 Series B MSO

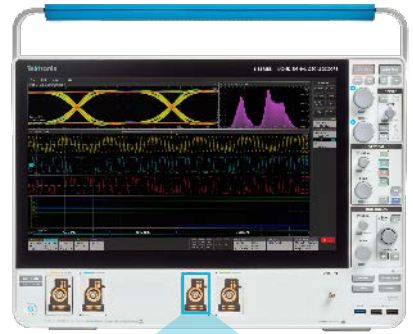
## FlexChannels®

- FlexChannel® technology enables each input to be configured as either:
  - (1) analog channel
  - (8) digital channels
- Enables unprecedented flexibility and adaptability to the debug task at hand
- Possible configurations include:

| MSO64B | |
|---|---|
| Analog | Digital |
| 4 | 0 |
| 3 | 8 |
| 2 | 16 |
| 1 | 24 |
| 0 | 32 |

| MSO66B | |
|---|---|
| Analog | Digital |
| 6 | 0 |
| 5 | 8 |
| 4 | 16 |
| 3 | 24 |
| 2 | 32 |
| 1 | 40 |
| 0 | 48 |

| MSO68B | |
|---|---|
| Analog | Digital |
| 8 | 0 |
| 7 | 8 |
| 6 | 16 |
| 5 | 24 |
| 4 | 32 |
| 3 | 40 |
| 2 | 48 |
| 1 | 56 |
| 0 | 64 |



Traditional VPI connection accepts existing probes

Additional connections enable new digital probe

Each TLP058 probe accesses the 8 digital channels in the FlexChannel

# Powerful but elegant

# Introducing the 6 Series B MSO

## INDUSTRIAL DESIGN

Rugged, sturdy metal handle

Only 7” deep! ~28 pounds


Modern color schemes in both physical package and UI

Streamlined, intuitive front panel with LED light rings indicating selected waveform and trigger source

Aux Trigger enables efficient use of analog/digital inputs

Non-collapsing front feet (won’t fold back with weight on them)

Easy access to channel inputs for connecting/disconnecting probes

# Drag. Pinch. Double Tap.

## USER INTERFACE


Immediate access to cursors, notes, measurements, searches, results tables or plots

Measurement and Search results badges are displayed in Results Bar

Massive waveform viewing area!

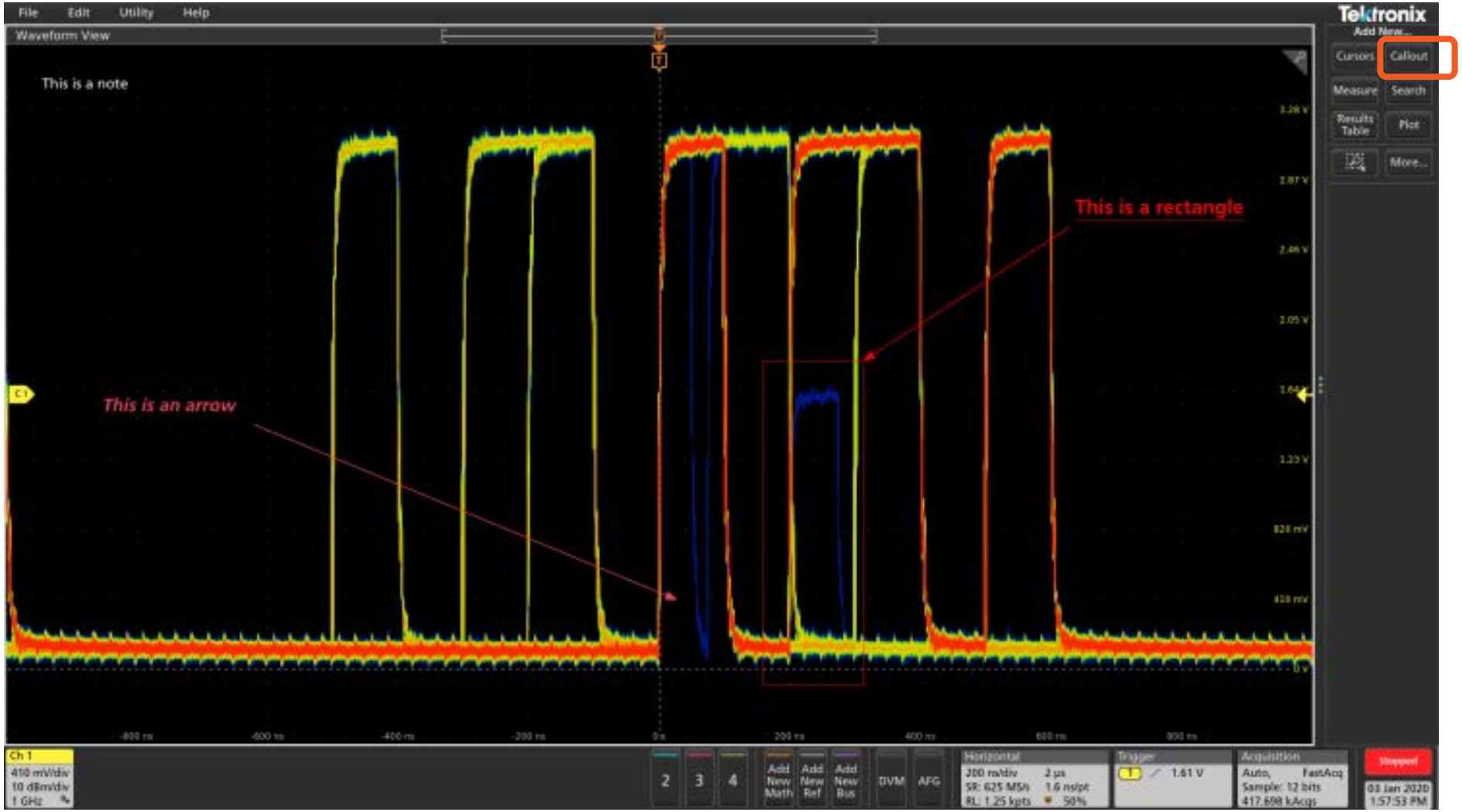
Waveform badges show relevant info for all displayed waveforms

Immediate access to new Math, Reference, and Bus waveforms

All critical horizontal, trigger and acquisition parameters

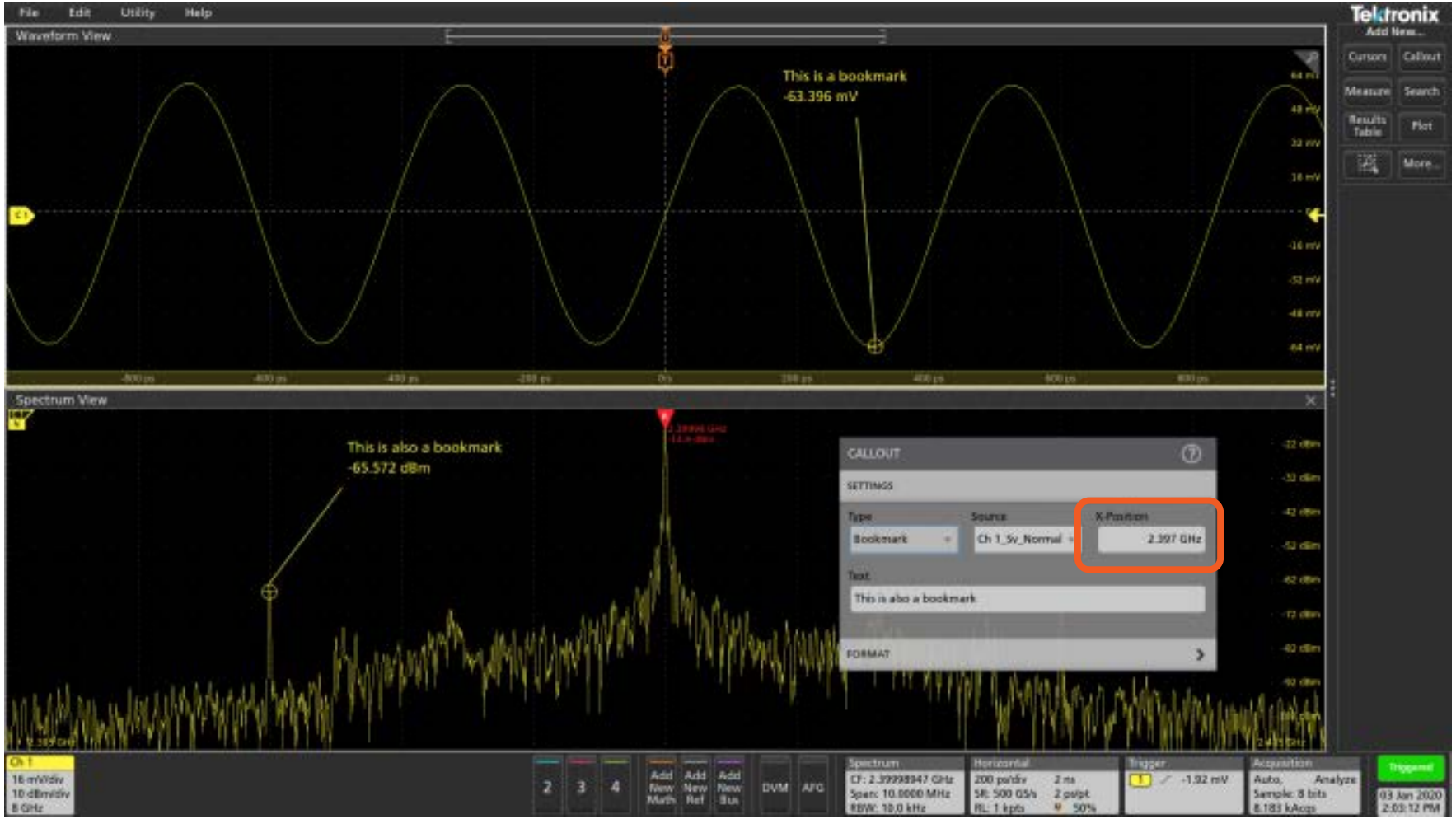
# Annotate Thoroughly.  Easily.

- “Notes” have been replaced with “Callouts”
- Four types of Callouts
  - Note
  - Arrow
  - Rectangle
  - Bookmarks
- Usual formatting options available
  - Font, size, color, bold, italics, underline, etc.



# Annotate Thoroughly.  Easily.

- Bookmarks are attached to a user specified source at a user-specified point in time
  - Indicates amplitude of waveform at that point
- They are compatible with Spectrum View
  - Effectively unlimited markers!
- Can specify precise horizontal position in menu



# Run Windows or not.  You choose.

## USER SELECTABLE OPERATING SYSTEM

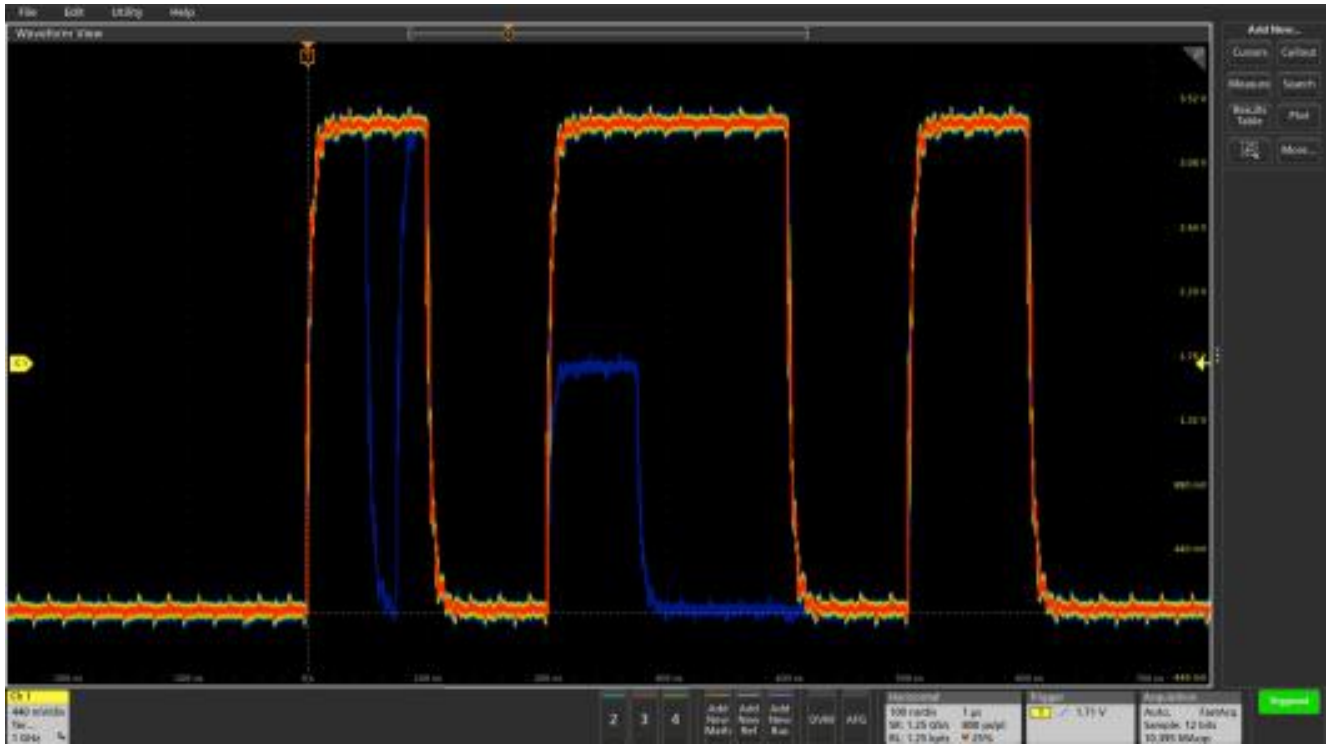
- **Standard configuration is a removable SSD with a closed embedded operating system** installed behind an access panel on the bottom of the instrument
- **An optional SSD with a Windows 10 license** can be installed behind an access panel on the bottom of the instrument
- When a Windows 10 SSD is installed:
  - You can minimize the scope app and get to a Windows desktop
  - You can install and run other applications on the scope
  - You can attach a second monitor and extend your desktop
- Regardless of OS, the scope user interface runs exactly the same

# Awesome analysis

See deeper

# Find Anomalies Fast

## FastAcq™ ENABLES YOU TO FIND SIGNAL ANOMALIES FASTER

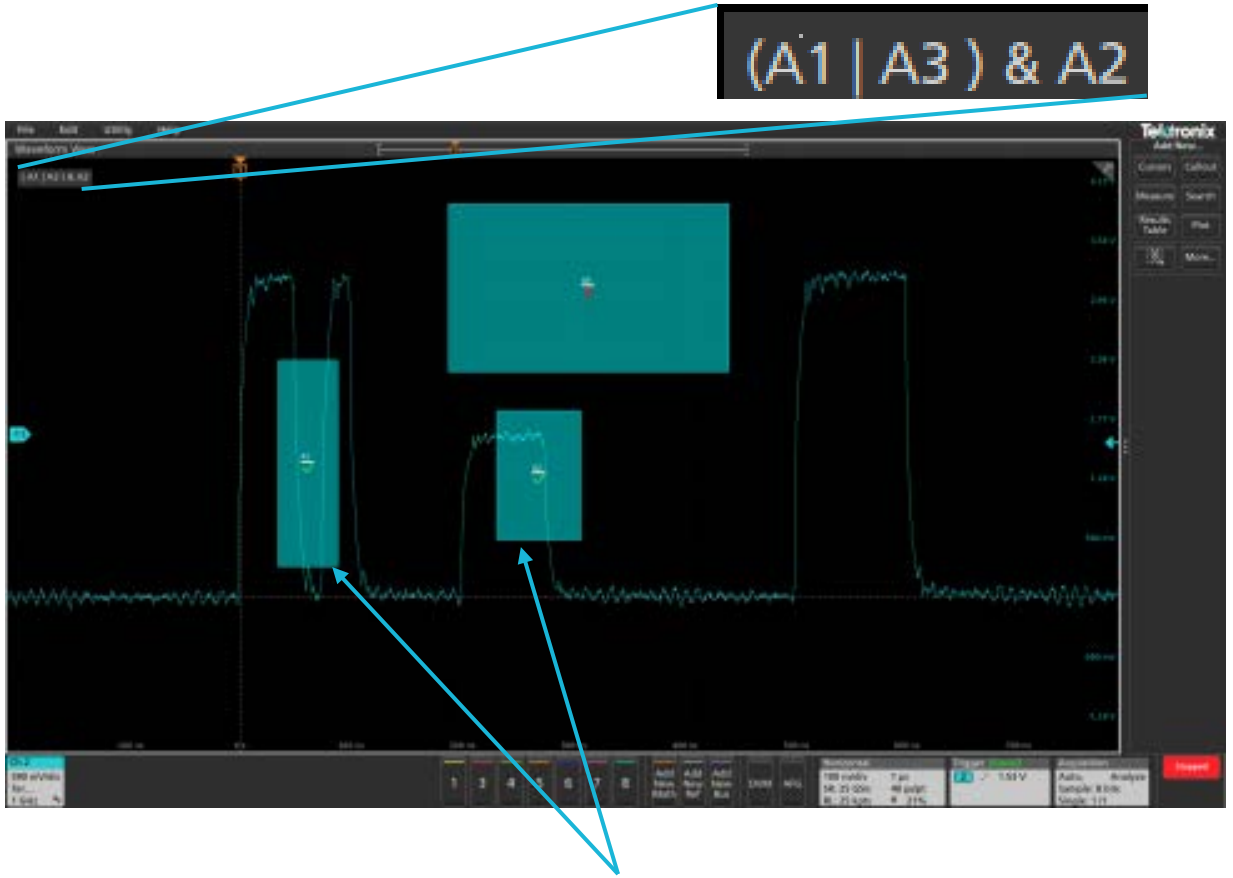


- Powered by custom ASIC's
- Visualize intermittent signal behavior quickly
- Acquire at >500,000 wfms/sec to gain insight into true signal behavior instantly
- Color-graded display provides information about how frequently anomalous events are occurring relative to repetitive signal characteristics

# Use Graphics to Define Triggers Easily

## VISUAL TRIGGER - USE GRAPHICAL AREAS TO QUALIFY TRIGGERS AND SAVE TIME HUNTING FOR THE SIGNAL OF INTEREST

- Filter using graphical ‘Areas’
  - In, Out or Don’t Care for each Area
- Standard shapes - rectangle, triangle, trapezoid and hexagon
  - Or build your own custom shapes
- Use logical expressions of multiple areas to determine trigger condition



# Extensive Serial Bus Support

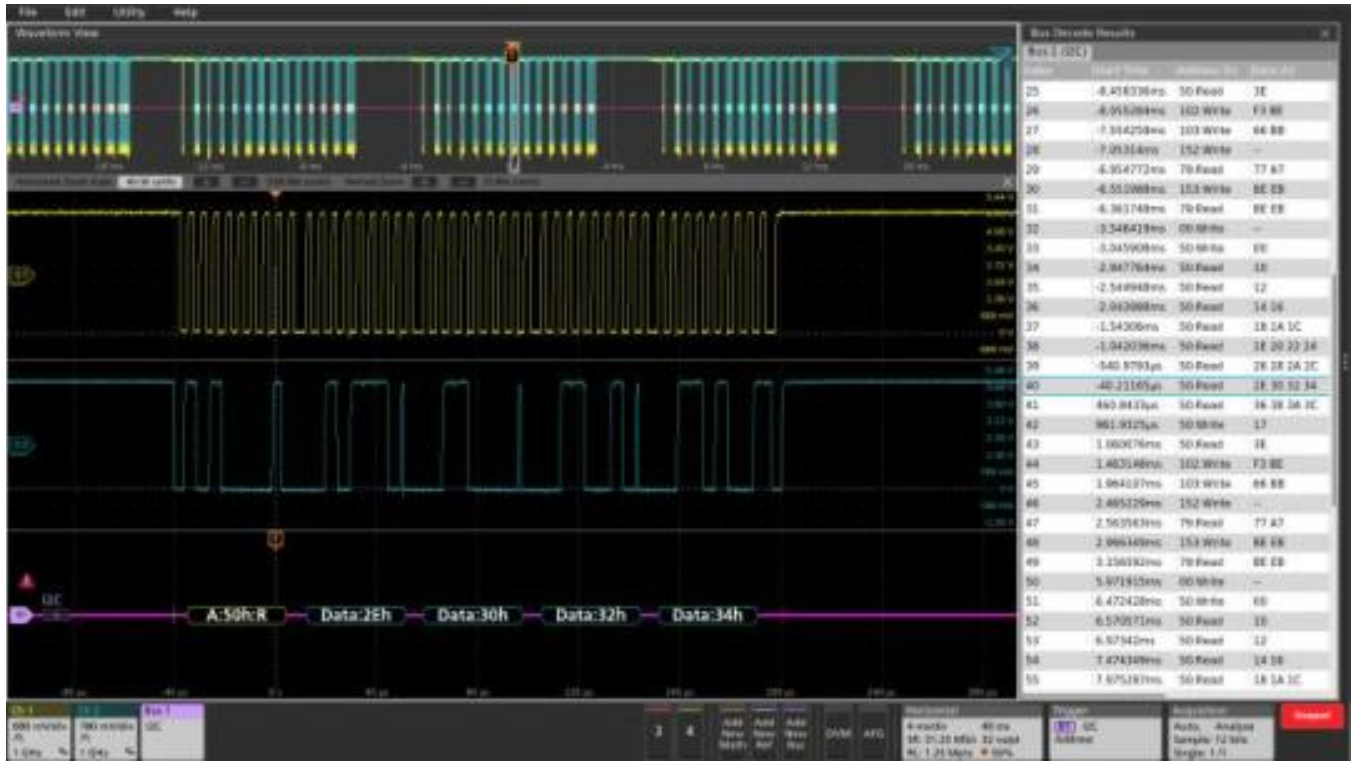
## SPEED TIME TO INSIGHT AND ELIMINATE ERRORS WHEN DEBUGGING BUSES

- Trigger on, and decode, packet content of common serial standards
- Decoded bus presented time aligned with other inputs
- Decoded packet content also available for viewing in a tabular view

Results bar can be hidden for more viewing area

- $I^2C$
- SPI
- I3C
- CAN
- CAN-FD
- LIN
- FlexRay
- SENT
- Automotive Ethernet
- PSI5
- D-PHY
- RS-232
- SPMI
- USB LS/FS/HS
- eUSB2
- Ethernet 10/100BASE-T
- Audio $I^2S$/LJ/RJ/TDM
- MIL-STD-1553
- ARINC429
- Spacewire
- 8b/10b
- NRZ
- SVID
- MDIO
- Manchester

Coming soon: eMMC, JTAG, QSPI



# Automated Compliance Testing Packages

## COMPLIANCE TESTING BUILDS INTEROPERABILITY CONFIDENCE

Automated compliance solutions provide

- Detailed test summary during execution
- Comprehensive pass/fail reports with embedded images and plots
- Debug using the base measurement library

- Faster test times
- Offline waveform analysis
- Margin testing

Compliance Test Solutions Available

- USB2.0
- Ethernet (100/1000Base-T; NBase-T, XGBT)
- Automotive Ethernet (10BaseT1S; 100/1000Base-T1)
- Industrial Ethernet (10Base-T1L)
- MIPI D-PHY v1.2
- DDR3 & LPDDR3

*Note: Serial Compliance solutions require option 6-WIN (SSD with Windows)*

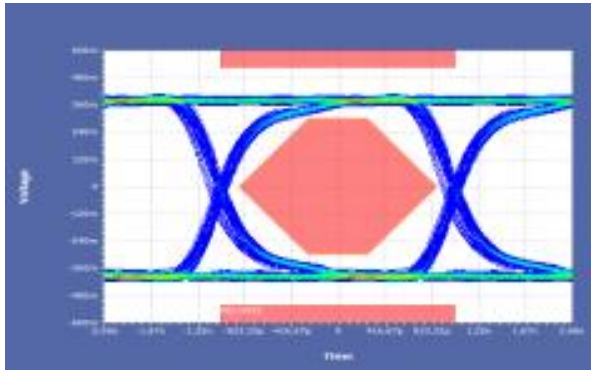
Debug Test Solutions Available

- LVDS
- PAM3
- DDR3 & LPDDR3

# Integration Between Compliance & Debug

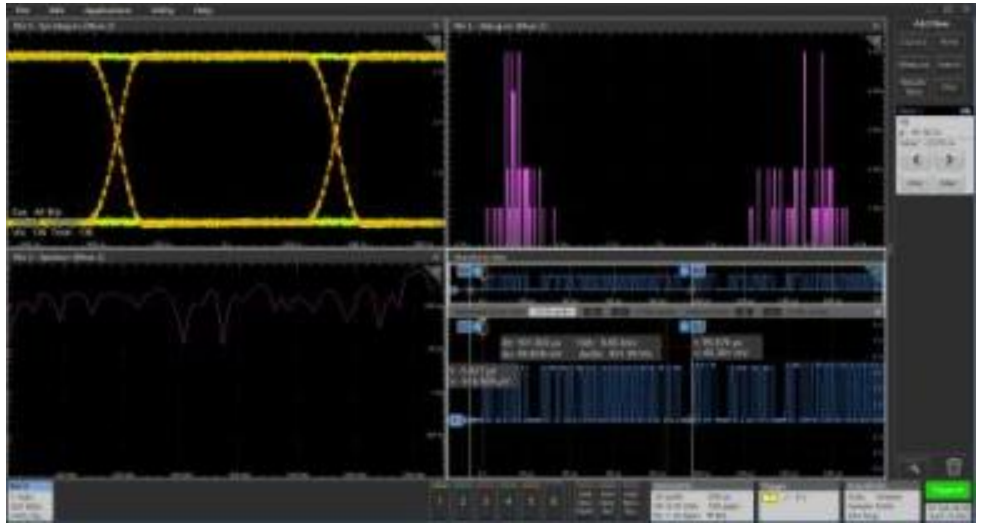
## UTILIZE PASS/FAIL TESTING AND QUICKLY MOVE TO MANUAL TEST ON FAILURE

*1. Automated test finds an error condition*



Compliance Eye diagram plot generated by USB 2.0 application

*2. Analyze the failure using base measurement libraries and analysis tools*



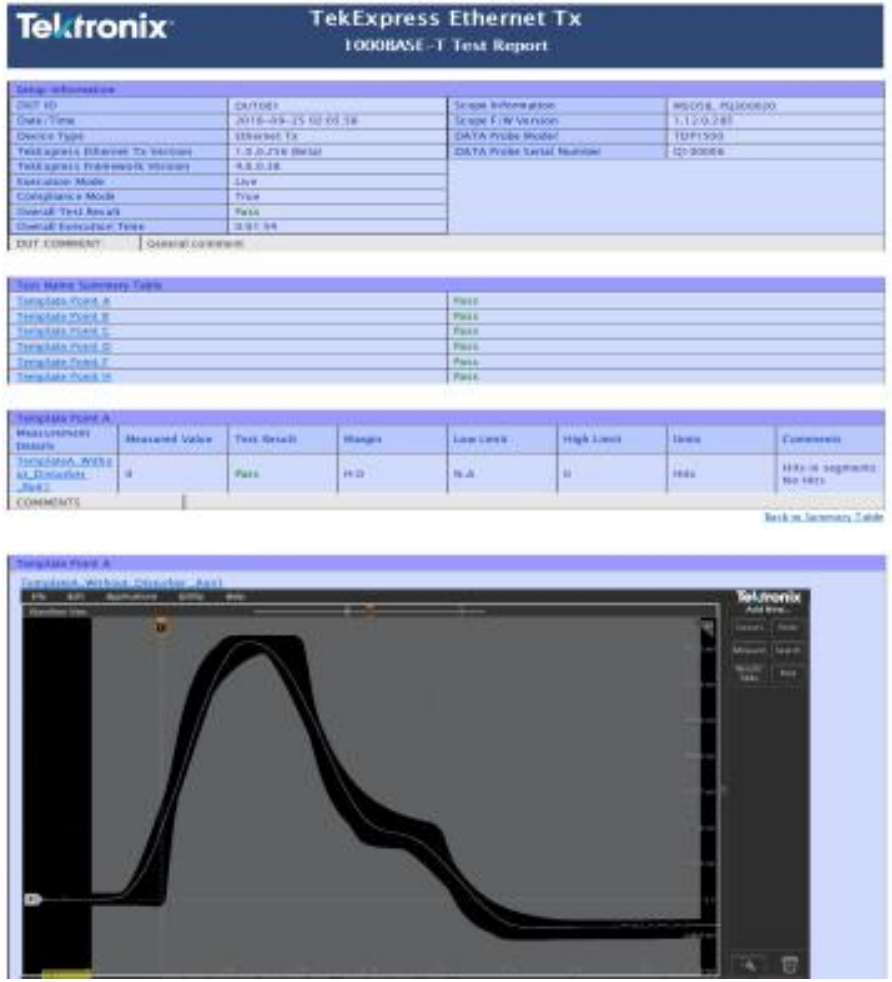
Debugging a USB 2.0 waveform by placing cursors using Option DJA

*Easily switch between Compliance and Debug*

# Automated Reporting

## AUTOMATED TEST RESULTS WITH COMPREHENSIVE REPORTS

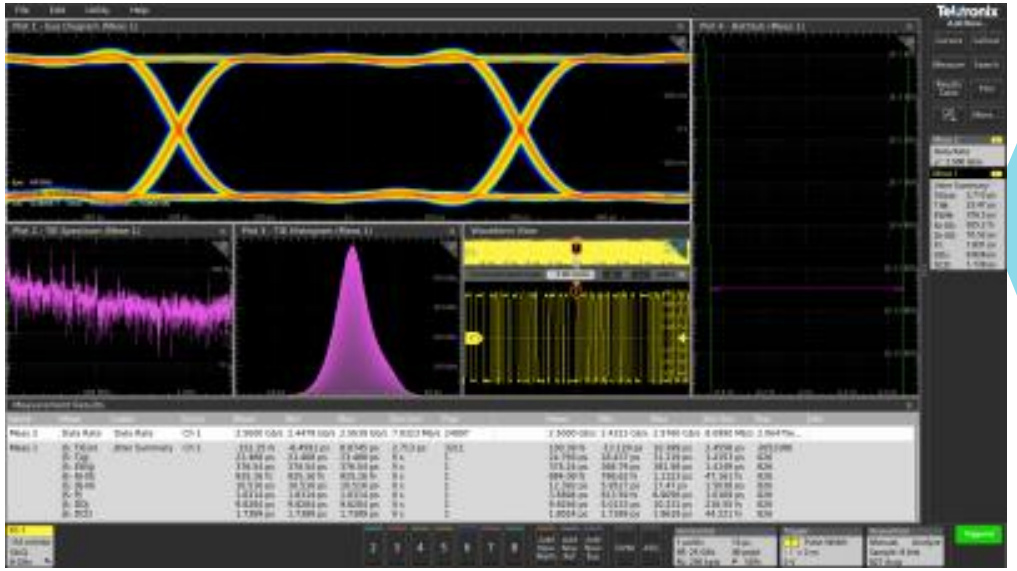
- Pass/Fail results with margin information for all included tests
- Images of mask test results
- Images of test waveforms
- Easily consumable report formats (pdf)

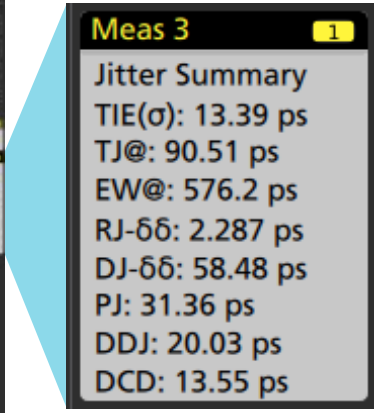


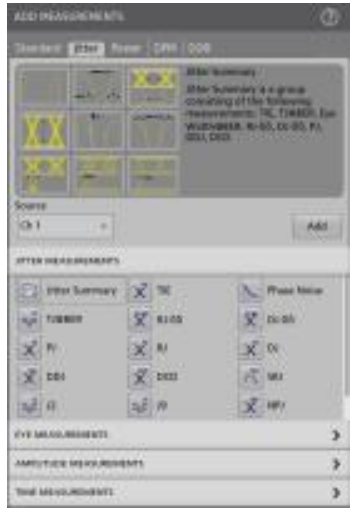
# Jitter and Eye Analysis

## CHARACTERIZE KEY SYSTEM TIMING WITH JITTER & EYE ANALYSIS

- DPOJET functionality is integrated into the scope application for faster and more intuitive operation
- Jitter measurements are accessed in the same manner as basic measurements
- Jitter Summary simplifies set up of the most common jitter measurements and plots



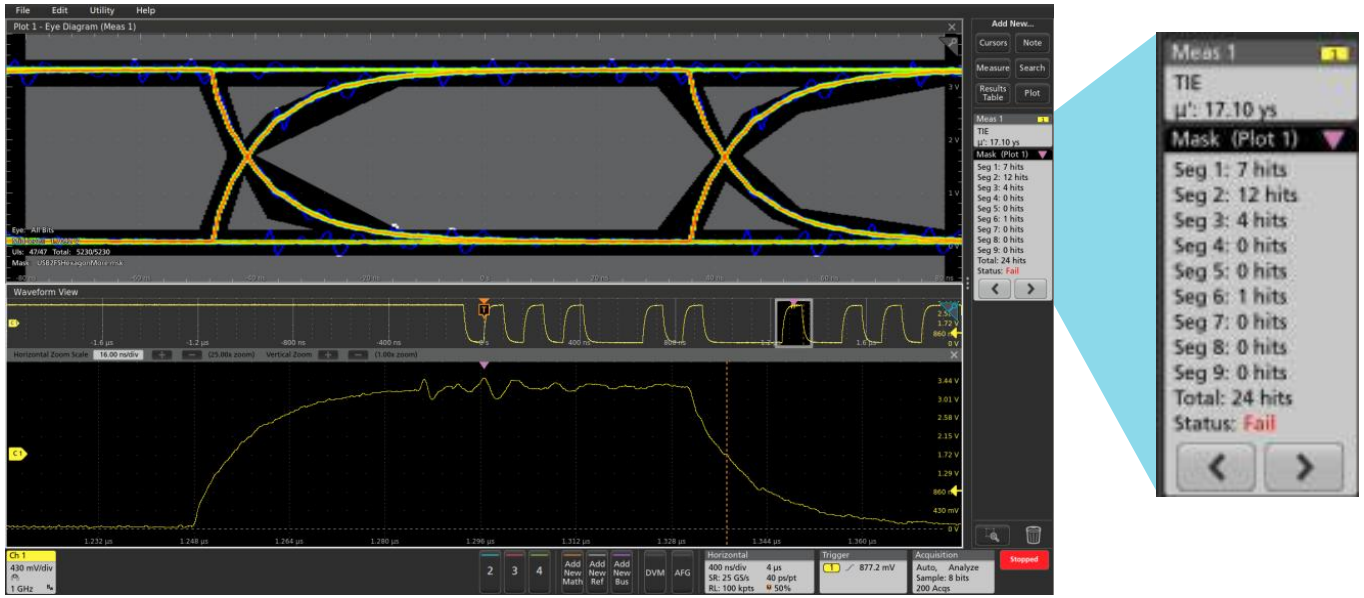


# Automated Eye Diagram Pass/Fail Testing

## AUTOMATED PASS/FAIL TESTING FOR SERIAL SIGNALS

- Automated pass/fail mask testing on eye diagrams:
  - Included in 6-DJA jitter option
  - Verifies signal amplitudes and noise, timing jitter, and rise- and fall-times, with a single test
  - Masks specified by simple text file
  - Unlimited number of mask segments
  - User-specified pass/fail threshold and number of acquisitions to test
  - Manual navigation between violations
  - Eye diagram and mask hit data export for further analysis

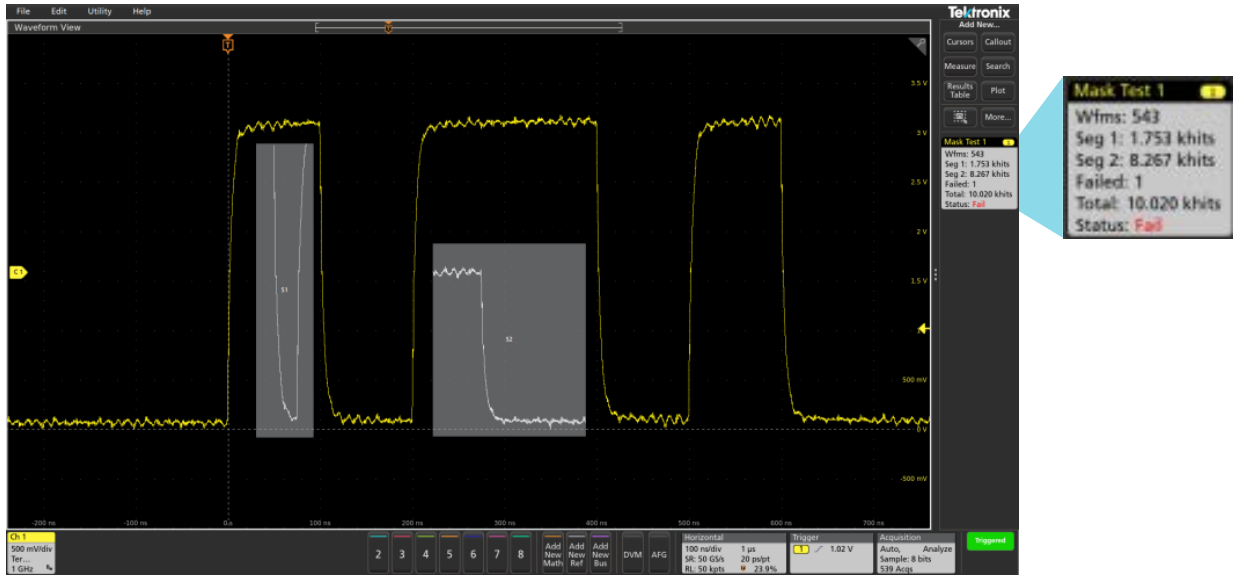



*Eye diagram mask test, with user-specified pass-fail threshold of 10 mask violations (hits). This example shows navigation between hits and correlation to time-domain waveform.*

# Automated Pass/Fail Testing

## AUTOMATED PASS/FAIL TESTING

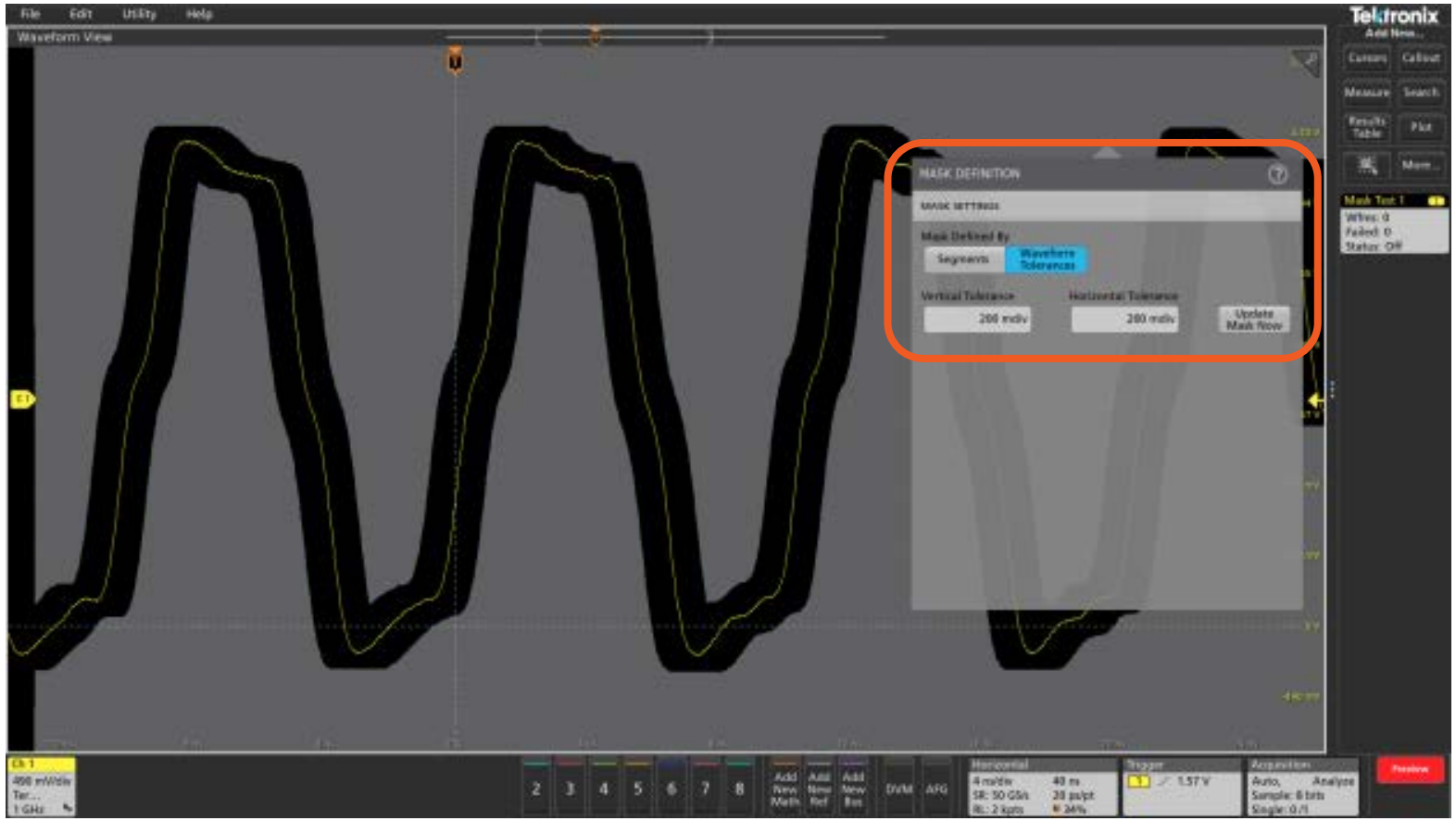
- Automated Pass/Fail testing
  - Option 6-MTM
  - Custom mask definitions created by drawing segments on the display
    - Unlimited number of mask segments
    - Triangle, Rectangle, Trapezoid, or Hexagon starting shapes
  - User-specified pass/fail threshold and number of waveforms to test
  - Action on hit, failure or pass include Save screen capture, Save waveform, Stop Acquisitions, SRQ



# Automated Pass/Fail Mask Testing

## PART OF OPTION 6-MTM

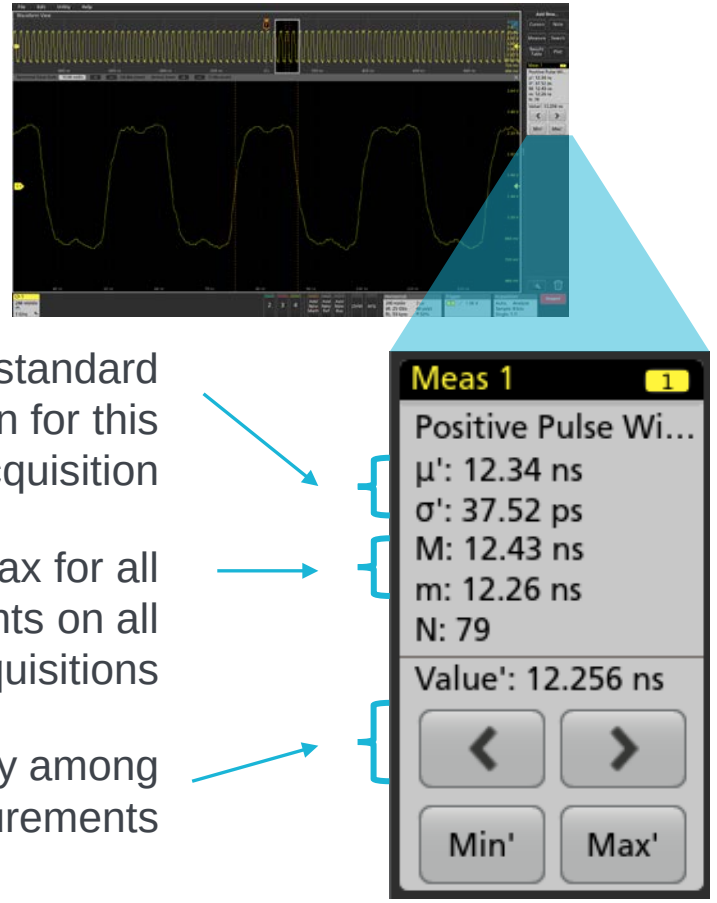
- Can now define mask via Waveform Tolerances
- Tolerance based masks do not move/scale with the waveform
- Can perform limit testing on multiple waveforms simultaneously
- User-specified pass/fail threshold and number of waveforms to test
- Action on hit, failure or pass include Save screen capture, Save waveform, Stop Acquisitions, SRQ



# A Measurement is More than One Number

## INTEGRATED STATISTICS, EASY MIN/MAX NAVIGATION SPEEDS INSIGHT INTO SIGNAL BEHAVIOR

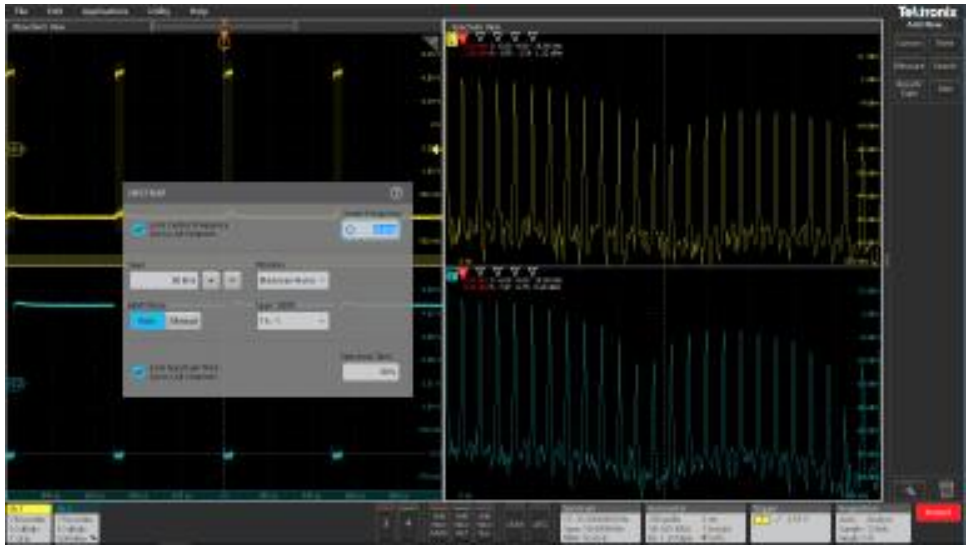
- Each measurement has a badge in the Results Bar
- Turn on statistics to quantify signal characteristics over millions of acquisitions
- Quickly navigate through measurements
  - Arrow buttons move to the previous or next occurrence of the measurement and move the zoom window accordingly
  - Min' and Max' buttons go to Min and Max values in record
- Locally gate measurements by screen, cursors, logic, search or by time

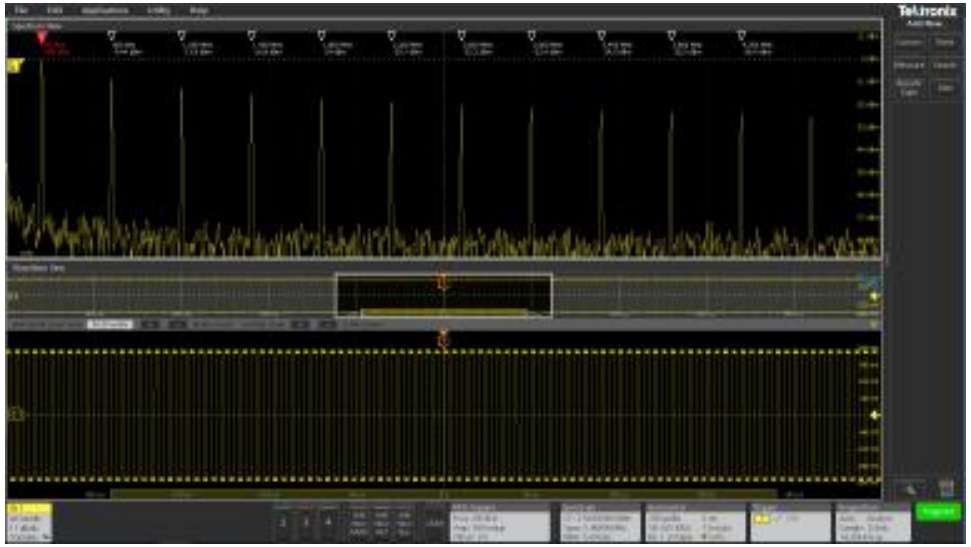


# Spectrum Analysis on Any or All Channels

## SPECTRUM VIEW - MIXED-DOMAIN ANALYSIS CAPABILITY (STANDARD FEATURES)

- Spectrum View provides simultaneous time- and frequency-domain views of each analog input signal with independent acquisition settings in each domain
  - Center Frequency
  - Span
  - Resolution Bandwidth
- Time-correlated time- and frequency-domain displays
- Normal, Max Hold, Min Hold, and Average traces
- Stacked and overlay frequency-domain displays
- Automated peak markers and manual markers

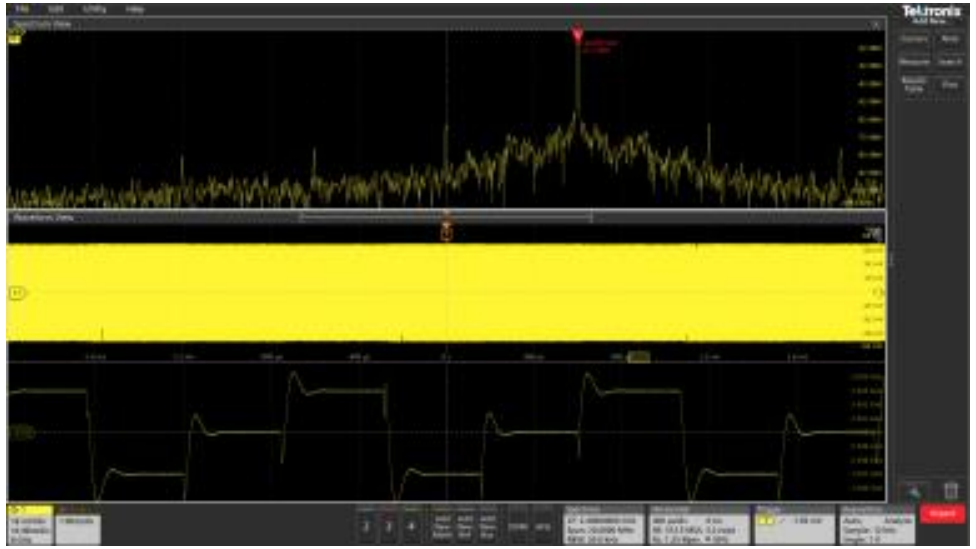


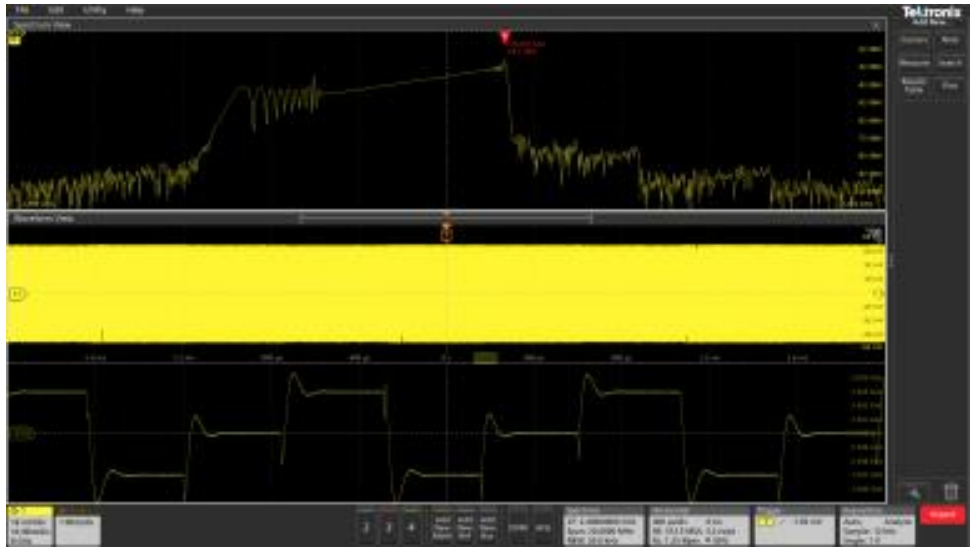


# Spectrum Analysis on Any or All Channels

## SPECTRUM VIEW - RF TIME DOMAIN TRACES (OPTION 6-SV-RFVT)

- Spectrum View Time Domain Traces make is easy to understand what's happening with a time-varying RF signal.
- Three RF time domain traces derived from the underlying I & Q data of Spectrum View
  - **Magnitude** – The instantaneous amplitude of the spectrum vs. time
  - **Frequency** – The instantaneous frequency of the spectrum relative to center frequency vs. time
  - **Phase** – The instantaneous phase of the spectrum relative to the center frequency vs. time
- Trigger on Magnitude vs. Time or Frequency vs. Time waveforms

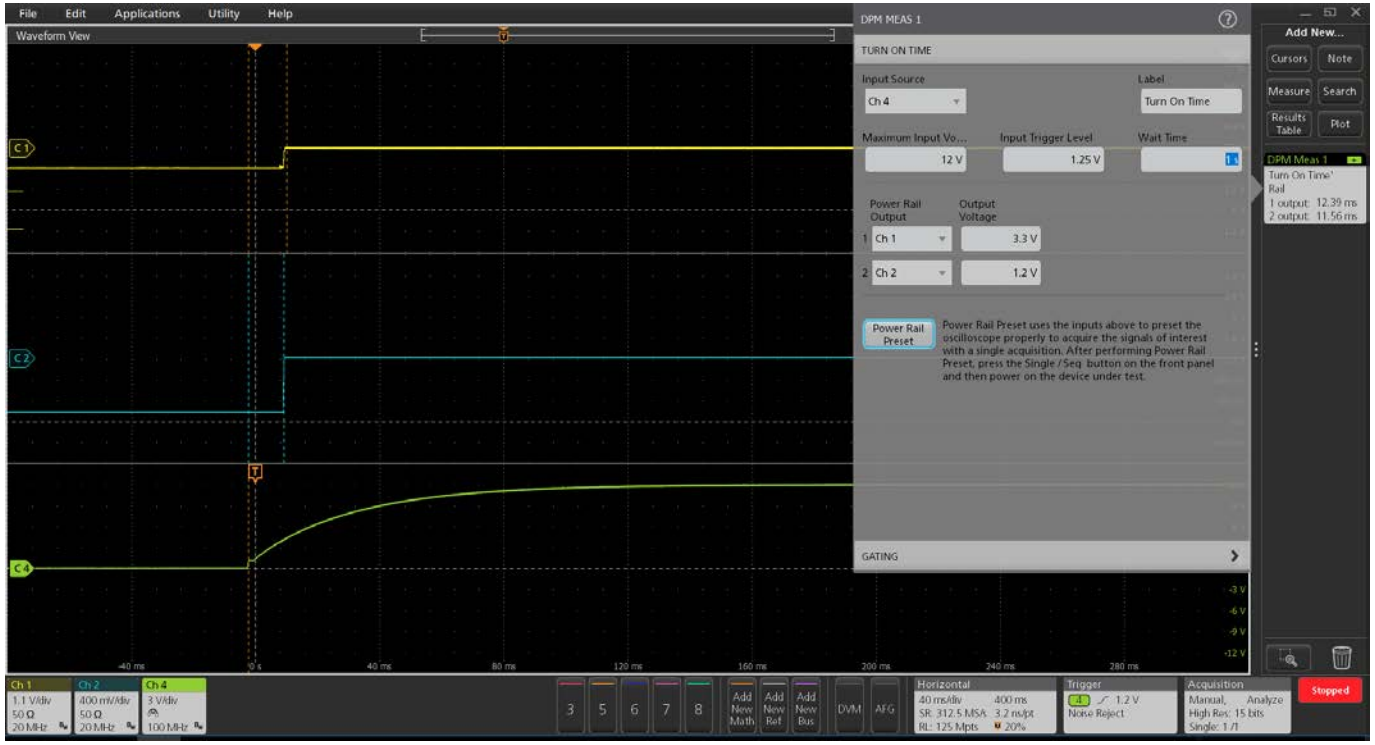




# Measure Power Rails on Eight Channels

## MEASURE MULTIPLE POWER RAILS WITH ACCURACY

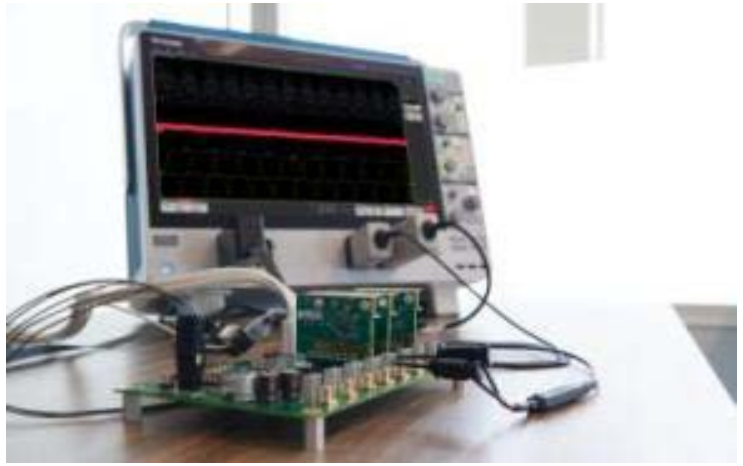
- Low noise measurements to see more real signal activity
- High bandwidth to see more signal content like harmonics and ripple
- Large offsets to view and analyze small signals riding on large DC voltages
- Flexible connectivity options to cover a broad range of challenges
- Digital Power Management (Option 6-DPM) software automates power rail testing

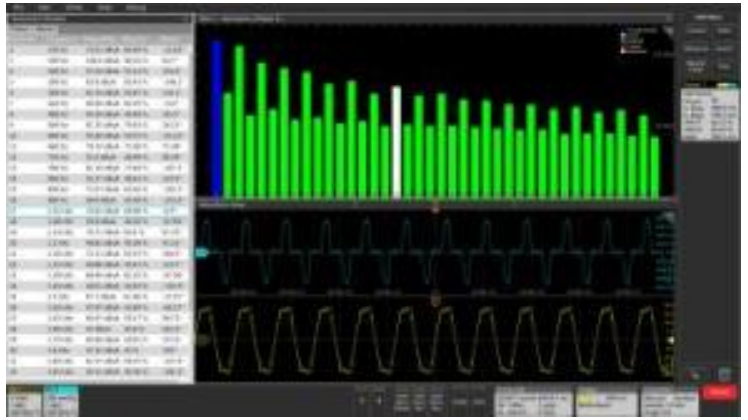


# Power Supply Analysis

## AUTOMATED POWER MEASUREMENTS MADE RELIABLE AND REPEATABLE

- Provides the user with application expertise
  - Algorithms and measurement techniques
  - Test limits for relevant industry standards
- Automates setup for measurements
- Ensures consistent and reliable measurements
- Enables efficient documentation of measurement results





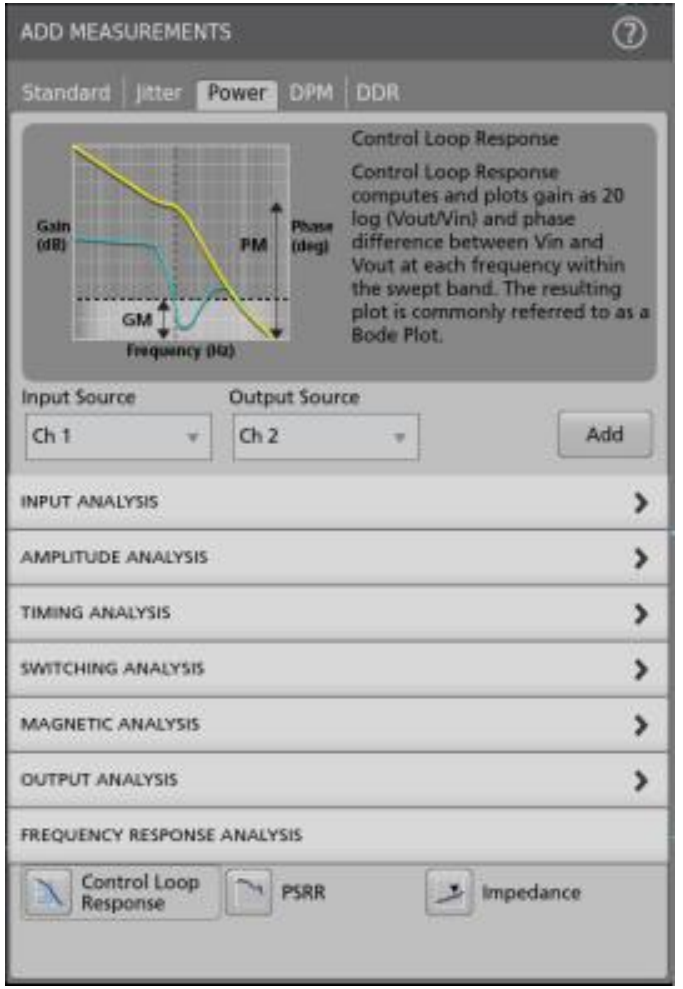
Power Current Harmonics

# Power Supply Analysis

## AUTOMATED POWER MEASUREMENTS

- Option 6-PWR and upgrades SUP6-PWR and SUP6-PWR-FL
- Option 6-DPM and upgrades SUP6-DPM and SUP6-DPM-FL
- Power tab in Add Measurements menu

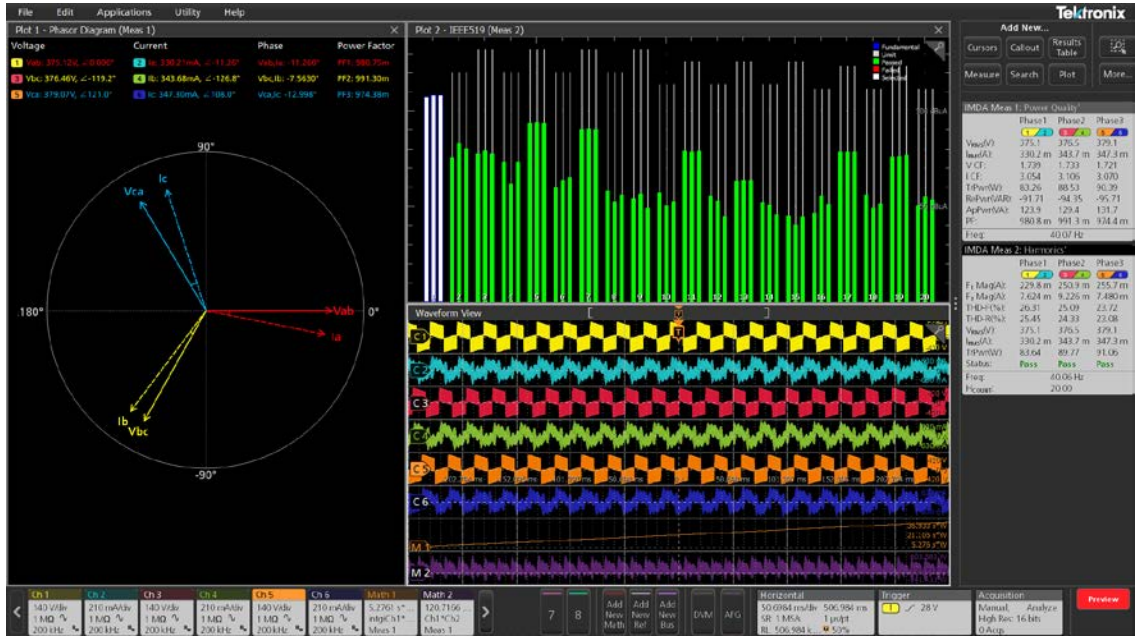
- Input Analysis
  - Power Quality
  - Harmonics
  - Input Capacitance
  - Inrush Current
- Amplitude Analysis
  - Cycle Amplitude, Cycle Top, Cycle Base, Cycle Peak-to-Peak, Cycle Maximum, Cycle Minimum
- New Magnetic Analysis
  - Magnetic Loss
  - Magnetic Property
  - Inductance
  - I vs. ∫V
- Timing Analysis
  - Period, Frequency, Positive Duty Cycle, Negative Duty Cycle, Positive Pulse Width, Negative Pulse Width
- Switching Analysis
  - Switching Loss
  - SOA
  - dv/dt
  - di/dt
  - RDSon
- Output Analysis
  - Line Ripple
  - Switching Ripple
  - Efficiency
  - Turn-on Time / Turn-off Time
- Frequency Response
  - Control Loop Frequency Response (Bode Plot)
  - Power Supply Rejection Ratio (PSRR)
  - Impedance
- Digital Power Management
  - Ripple
  - Overshoot
  - Turn on overshoot
  - Undershoot
  - DC rail voltage
  - Turn-on/Turn-off time
  - Jitter analysis



# Inverters, Motors & Drives Analysis

## INPUT, OUTPUT, HARMONICS, PHASOR DIAGRAM MEASUREMENTS

- Unique phasor diagram enables analysis of load types and designs
  - Displays magnitude and angle between voltage and current
- Power Quality shows ability of electronic equipment to consume the energy being supplied to it
- Efficiency measures the ratio of output power to input power
- Perform Ripple analysis to see AC components on DC voltages
- Full Harmonics analysis can test against standard limits and provide graphical and numerical views



# Unmatched Probing Solutions

# 6 Series B MSO Probing Solutions

## THE TDP7700 TRIMODE PROBE PLATFORM

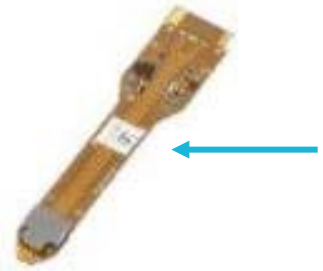
**TekFlex™ Connector**
Leverages convenient accessories from Tektronix' high performance P7700 series

**TriMode Functionality**
One probe setup makes differential, single-ended, and common mode measurements accurately without moving the probe's connection points

**Scalable Bandwidth Options**
- 4 GHz - TDP7704
- 6 GHz - TDP7706
- 8 GHz - TDP7708
- ***NEW!*** 10 GHz – TDP7710

SMA adapter

Browser



Solder-in tips

Thin and flexible solder tips with active buffer amplifier at the tip for low probe loading

# Versatile Probing Solutions

## FROM ROBUST, FLEXIBLE CONFIGURATIONS TO APPLICATION SPECIFIC REQUIREMENTS

| Task | Desired Characteristics | 6 Series MSO Solution |
|---|---|---|
| **General** | • Mechanically robust<br>• Electrically forgiving<br>• Convenient | TPP1000 1 GHz, 3.9 pF loading, 10x |
| **High-Speed Data** | • High bandwidth<br>• Challenging connections<br>• Differential<br>• Single-ended<br>• Common Mode | TDP4000 4 GHz, Differential<br>TAP4000 4 GHz, Single-ended<br>TDP7700 4, 6, 8 , 10 GHz TriMode |
| **Power** | • High voltage differential<br>• Current<br>• High common mode rejection<br>• Low noise, high bandwidth | THDPxxxx, TMDPxxxx Differential<br>TCP0030A Current Probes<br>TIVHxx, TIVMx IsoVu Probes<br>TPRxxxx, Power Rail Probes |
| **Logic** | • Multi-channel<br>• Flexible configuration<br>• Ease of connection | TLP058 8-channel logic probe |

# BNC-to-SMA Adapter

- BNC-to-SMA adapter rated to 12 GHz for use on 6 Series B MSO
- Tek part # 103-0503-00

# Upgradeable Where and When You Need

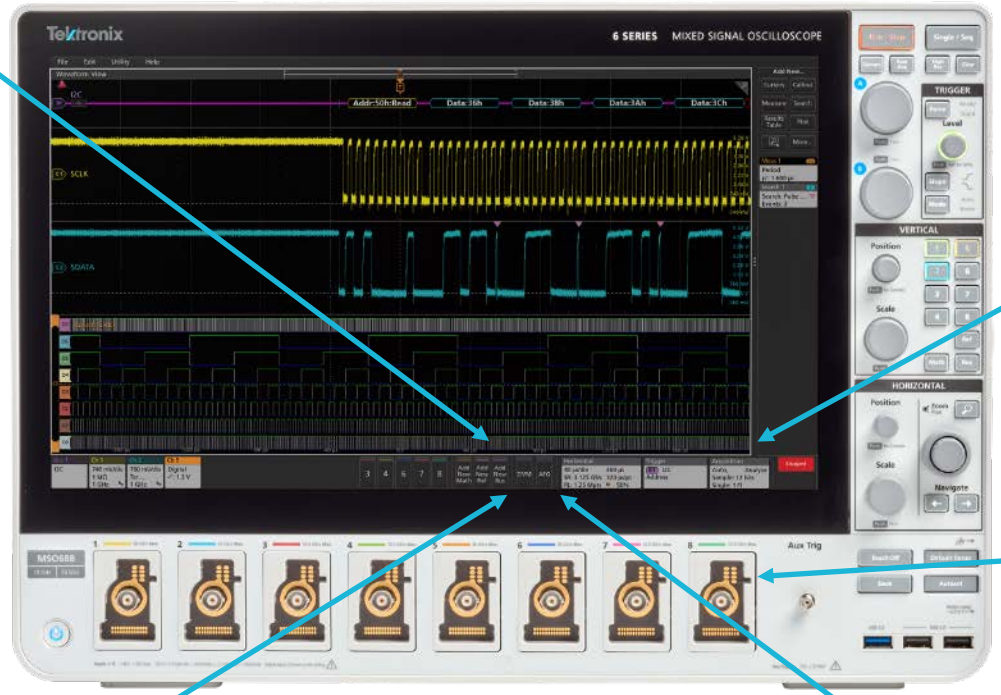
# Upgrade at Any Time

## CONFIDENCE FOR THE FUTURE

**The scope that changes as your needs change**

### Protocol and Analysis Options

- Serial bus trigger and analysis
- Advanced Jitter Analysis
- Advanced Power Analysis and Digital Power Measurements
- Serial Compliance Test
- Memory Analysis
- Debug Test




### Increase Record Length

Increase to 125 Mpts / channel
Increase to 250 Mpts / channel
Increase to 500 Mpts / channel
Increase to 1 Gpts / channel

### Bandwidth Upgrades

- 2.5 GHz
- 4 GHz
- 6 GHz
- 8 GHz
- 10 GHz

### Add TLP058 Logic Probes

Access 8 digital channels on any FlexChannel input

### Digital Voltmeter / Trigger Frequency Counter

Free with product registration

### Windows 10 Upgrade

Add solid state drive with Windows 10 license

### Function Generator Upgrade

Arbitrary/ Function Generator

# Working Remotely

# Remote Operation

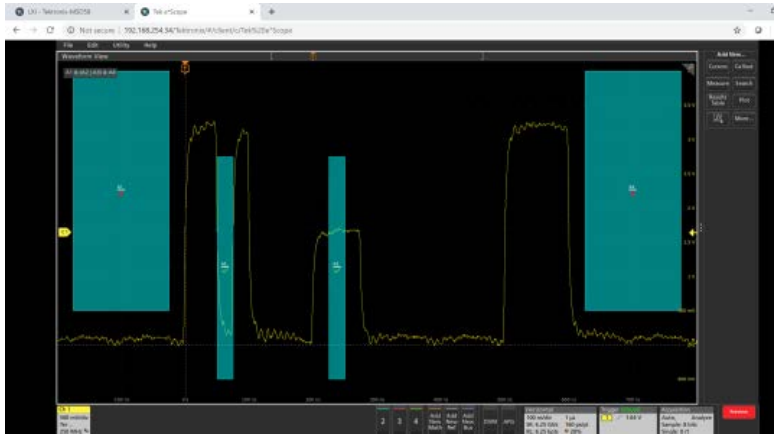
## INCREASE COLLABORATION AND PRODUCTIVITY

### e*Scope

- Control your oscilloscope through any browser
- See live updates of waveforms, analysis results and measurements
- Change acquisition settings, measurements and display configuration

### TekScope PC Analysis Software

- Oscilloscope analysis without an oscilloscope
- Uses the 4/5/6 Series MSO user interface
- Connect to up to two scopes for live analysis on up to 16 channels



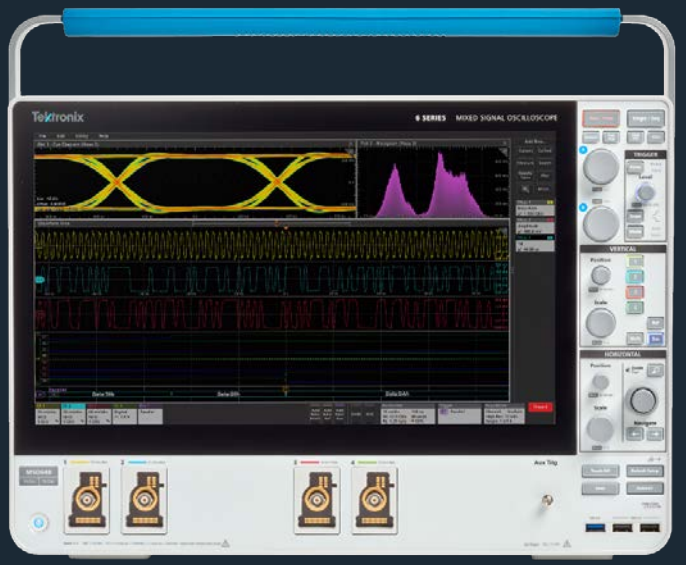
# For the Security Conscious

# Enhanced Security Option

## OPTION 6-SEC

| | MSO64 | *NEW!* MSO64B, MSO66B, MSO68B |
|---|---|---|
| Installation Requirement | Must be installed in the factory | Must be installed in the factory |
| Mass Storage | **Standard** Internal 250GB M.2 drive with Closed Embedded O/S<br>*Note: Internal storage of setups, waveforms and images not available when option 6-SEC is enabled* | **Standard** 250GB Removable SSD with Closed Embedded O/S<br>**Optional** 500GB Removable SSD with Windows 10<br>**Optional** 500GB Removable SSD with Closed Embedded O/S |
| User Data Location | • Current state logs, Signal Path Compensation (SPC), Licenses, stored on internal M.2 drive<br>• No customer setups, waveforms and images stored internally<br>*Note: USB storage devices can be used if ports are enabled* | • SPC and Licenses stored on non-user-accessible memory on front panel<br>• All user data stored on removable SSD |
| Location of Calibration Constants, SPC, Licenses | Internal M.2 drive | Non-user-accessible memory on front panel |
| BIOS | Password protected | Password protected |
| I/O Port Enabling/Disabling | Password protected<br>No USB devices work when ports are disabled | Password protected<br>USB Keyboard and Mouse still functional |
| Firmware Upgrade Enabling/Disabling | Password protected | Password protected |
| Sanitization | Turn off power, remove internal M.2 drive<br>**(Difficult)** | Turn off power and remove SSD<br>**(Easy)** |

# 6 Series B MSO Mixed Signal Oscilloscopes





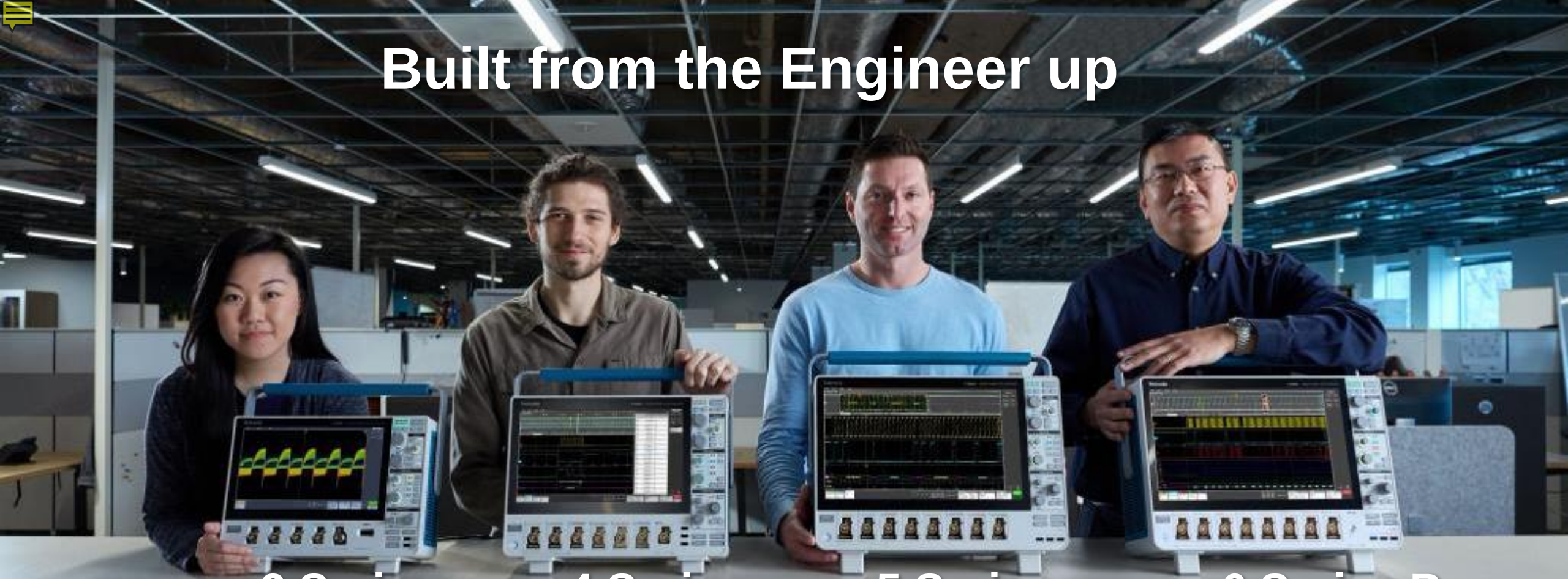

Up to 10 GHz bandwidth

Best signal fidelity with 12-bit ADCs and ultra-low noise

4, 6 or 8 FlexChannel™ inputs

**More bandwidth. More channels. Less noise.**
**Same groundbreaking user experience.**

# Built from the Engineer up



| | 3 Series | 4 Series | 5 Series | 6 Series B |
|---|---|---|---|---|
| # of Analog Channels | 2, 4 | 4, 6 | 4, 6, 8 | 4, 6, 8 |
| Bandwidth | up to 1 GHz | up to 1.5 GHz | up to 2 GHz | up to 10 GHz |
| Vertical Resolution | 8 bits | 12 bits | 12 bits | 12 bits |
| Display | 11.6” HD | 13.3” HD | 15.6” HD | 15.6” HD |
| Inputs | TekVPI | FlexChannel | FlexChannel | FlexChannel |
| Advanced Analysis | | | Compliance/Jitter/Windows | Compliance/Jitter/Windows |

# Ordering Information

# How to Order a 6 Series B MSO

1. Select Base Model: MSO64B, MSO66B, or MSO68B
2. Bandwidth: 1 GHz, 2.5 GHz, 4 GHz, 6 GHz, 8 GHz, 10 GHz
   Record Length: 62.5 M standard; 125 M, 250 M, 500 M, 1 G optional
   Other: Arbitrary/Function Generator; TLP058 digital probes, SEC
3. Operating System: Embedded standard; Windows 10 optional
   Analysis: Power Measurements, Jitter, Serial Protocol, Compliance Test, Spectrum View, Memory, LVDS
4. Accessories: Rack Mount, Hard Case, Probes, Adapters
   Service Options: Extended Repair, Calibration

# 6 Series B MSO

## BASE PRODUCTS WITH UNIQUE BANDWIDTH OPTIONS

| |
|---|
| Mainframe |
| Opt. MSO6xB 6-BW-1000 (1 GHz) |
| Opt. MSO6xB 6-BW-2500 (2.5 GHz) |
| Opt. MSO6xB 6-BW-4000 (4 GHz) |
| Opt. MSO6xB 6-BW-6000 (6 GHz) |
| Opt. MSO6xB 6-BW-8000 (8 GHz) |
| Opt. MSO6xB 6-BW-10000 (10 GHz) |

# 6 Series B MSO

## INSTRUMENT OPTIONS

| Option | Description |
|---|---|
| 6-AFG | License; Installed Option; Arbitrary function generator |
| 6-AUTOEN-BND | Automotive Ethernet Compliance, Signal Separation, PAM3 Analysis, 100BASE-T1 Decode software |
| 6-AUTOEN-SS | Automotive Ethernet Signal Separation |
| 6-CMAUTOEN | License; Installed Option; Automotive Ethernet (100Base-T1, 1000Base-T1) automated compliance test solution using TekExpress Automation Platform |
| 6-CMAUTOEN10 | License; Installed Option; Automotive Ethernet (10Base-T1S Short Reach) automated compliance test solution using TekExpress Automation Platform |
| 6-CMDDR3 | License; Installed Option: DDR3 and LPDDRf3 memory automated compliance test solution using TekExpress Automation Platform |
| 6-CMDPHY | License; Installed Option; MIPI D-PHY v1.2 automated compliance test solution using TekExpress Automation Platform |
| 6-CMENET | License; Installed Option; Ethernet (1000Base-T, 100Base-T) automated compliance solution (Min BW 1 GHz) using TekExpress Automation Platform |
| 6-CMINDUEN10 | License; Installed Option; Industrial Ethernet (10Base-T1L Long Reach) automated compliance test solution |
| 6-CMNBASET | License; Installed Option; Ethernet (2.5G and 5G Base-T) automated compliance solution (Min BW 2.5 GHz) using TekExpress Automation Platform |
| 6-CMUSB2 | License; Installed Option; USB2.0 automated compliance test application using TekExpress Automation Platform (Requires TDSUSBF USB test fixture). ≥2.5 GHz bandwidth required for high-speed USB |
| 6-CMXGBT | License; Installed Option; Ethernet (10G BASE-T) Automated Compliance Solution (Min BW 4 GHz) using TekExpress Automation Platform |

# 6 Series B MSO

## INSTRUMENT OPTIONS

| Option | Description |
|---|---|
| 6-DBDDR3 | License; Installed Option; DDR3 and LPDDR3 Analysis and Debug Solution (Min BW 4 GHz). Requires 6-DJA |
| 6-DBLVDS | License; Installed Option; TekExpress automated LVDS test solution |
| 6-DJA | License; Installed Option; Advanced jitter and eye analysis |
| 6-DPM | License; Installed Option; Digital power management |
| 6-IMDA | License; Installed Option; Inverters, Motors and Drives analysis |
| 6-IMDA-DQ0 | License; Installed Option; DQ0 measurement for IMDA |
| 6-MTM | License; Installed Option; Mask and Limit testing |
| 6-PAM3 | License; Installed Option; PAM Analysis software |
| 6-PWR | License; Installed Option; Power measurement and analysis |
| 6-PS2 | Installed Option; Power Solution Bundle (PWR, THDP0200, TCP0030A, 067-1686-xx (deskew fixture)) |
| 6-RL-1 | License; Installed Option; Extend record length to 125 M/ch maximum |
| 6-RL-2 | License; Installed Option; Extend record length to 250 M/ch maximum |
| 6-RL-3 | License; Installed Option; Extend record length to 500 M/ch maximum |
| 6-RL-4 | License; Installed Option; Extend record length to 1 G/ch maximum |
| 6-VID | License; Installed Option; Analog Video Trigger (NTSC, PAL, SECAM) |

# 6 Series B MSO

## SERIAL DECODE OPTIONS

| Option | Description |
|---|---|
| 6-SRAERO | License; Installed Option; Aerospace serial triggering and analysis (MIL-STD-1553, ARINC429) |
| 6-SRAUDIO | License; Installed Option; Audio serial triggering and analysis (I2S, LJ, RJ, TDM) |
| 6-SRAUTO | License; Installed Option; Automotive serial triggering and analysis (CAN, CAN-FD, LIN, FlexRay) |
| 6-SRAUTOEN1 | License; Installed Option; Automotive Ethernet serial analysis (100Base-T1) |
| 6-SRAUTOSEN | License; Installed Option; Automotive sensor serial triggering and analysis (SENT) |
| 6-SRCOMP | License; Installed Option; Computer serial triggering and analysis (RS-232/422/485/UART) |
| 6-SRDPHY | License; Installed Option; MIPI D-PHY serial analysis (CSI-2, DSI-1) |
| 6-SREMBD | License; Installed Option; Embedded serial triggering and analysis (I2C, SPI) |
| 6-SRENET | License; Installed Option; Ethernet serial triggering and analysis (10BASE-T, 100BASE-TX) |
| 6-SRI3C | License; Installed Option; I3C serial analysis |
| 6-SR8B10B | License; Installed Option; 8b/10b serial analysis |
| 6-SRMANCH | License; Installed Option; Manchester serial analysis |
| 6-SRMDIO | License; Installed Option; MDIO serial analysis |
| 6-SRNRZ | License; Installed Option; NRZ serial analysis |
| 6-SRPM | License; Installed Option; Power management serial triggering and analysis (SPMI) |
| 6-SRPSI5 | License; Installed Option; PSI5 serial analysis |
| 6-SRSPACEWIRE | License; Installed Option; Spacewire serial analysis |
| 6-SRSVID | License; Installed Option; SVID serial analysis |
| 6-SRUSB2 | License; Installed Option; USB serial triggering and analysis (USB 2.0 LS, FS, HS) |
| 6-SREUSB2 | License; Installed Option; Embedded USB2 (eUSB2) serial analysis |

# 6 Series B MSO

## INSTRUMENT OPTIONS

| Option | Description |
|---|---|
| 6-SEC | Installed Option; Enhanced security for instrument declassification and password protected enabling and disabling of all communication ports and firmware upgrades |
| 6-SV-BW-1 | License; Installed Option; Increase Spectrum View Capture Bandwidth to 2 GHz |
| 6-SV-RFVT | License; Installed Option; Spectrum View RF versus Time Analysis and Trigger |
| 6-WIN | Installed Option; Removable SSD with Windows license |

## ACCESSORIES

| Option | Description |
|---|---|
| TLP058 | 8 channel general purpose logic probe for 5 and 6 Series MSO oscilloscopes. Includes accessory kit. |
| HC5 | Hard case for the 5 & 6 Series MSO |
| RM5 | Rackmount kit for the 5 & 6 Series MSO |
| 103-0503-00 | 12 GHz BNC-to-SMA adapter |

# 6 Series B MSO

## SERVICE OPTION

| Option | Description |
|---|---|
| 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. |
| 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. |
| T3 | Three Year Total Protection Plan, includes repair or replacement coverage from wear and tear, accidental damage, ESD or EOS plus preventative maintenance. Including a 5 day turnaround time and priority access to customer support |
| T5 | Five Year Total Protection Plan, includes repair or replacement coverage from wear and tear, accidental damage, ESD or EOS plus preventative maintenance. Including a 5 day turnaround time and priority access to customer support |
| 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) |

# 6 Series B MSO

## POST-PURCHASE UPGRADES

| Option | Description |
|---|---|
| SUP6-AFG | License; Arbitrary function generator for 6 Series Oscilloscopes; Node locked |
| SUP6-AUTOEN-BND | License; Automotive Ethernet Compliance, Signal Separation, PAM3 Analysis, 100BASE-T1 Decode software; Node locked |
| SUP6-AUTOEN-SS | License; Automotive Ethernet signal separation; Node Locked |
| SUP6-CMAUTOEN | License; Automotive Ethernet (100/1000Base-T1) automated compliance test application; Node locked |
| SUP6-CMAUTOEN10 | License; Automotive Ethernet (10Base-T1S Short Reach) automated compliance test application; Node locked |
| SUP6-CMDDR3 | License; DDR3 and LPDDR3 Automated Compliance Solution for 6 Series Oscilloscope (Min BW 8 GHz) using TekExpress Automation Platform; Node Locked |
| SUP6-CMDPHY | License; MIPI D-PHY v1.2 automated compliance test solution using TekExpress Automation Platform |
| SUP6-CMENET | License; Ethernet (1000Base-T, 100Base-T) automated compliance solution (Min BW 1 GHz) using TekExpress Automation Platform |
| SUP6-CMINDUEN10 | License; Industrial Ethernet (10Base-T1L Long Reach) automated compliance test solution; Node Locked |
| SUP6-CMNBASET | License; Ethernet (2.5G and 5G BASE-T) Automated Compliance Solution for 6 Series oscilloscopes (Min BW 2.5 GHz) using TekExpress Automation Platform; Node Locked |
| SUP6-CMUSB2 | License; USB2.0 automated compliance test application (Requires TDSUSBF USB test fixture). ≥2.5 GHz bandwidth required for high-speed USB; Node locked |
| SUP6-CMXGBT | License; Ethernet (10G BASE-T) Automated Compliance Solution for 6 Series oscilloscopes (Min BW 4 GHz) using TekExpress Automation Platform; Node Locked |

# 6 Series B MSO

## POST-PURCHASE UPGRADES

| Option | Description |
|---|---|
| SUP6-DBDDR3 | License; DDR3 and LPDDR3 Analysis and Debug Solution (Min BW 4 GHz). Requires 6-DJA |
| SUP6-DBLVDS | License; TekExpress automated LVDS test solution for 6 Series oscilloscopes; Node locked |
| SUP6-DJA | License; Advanced jitter and eye analysis on 6 Series oscilloscopes; Node locked |
| SUP6-DPM | License; Digital power management |
| SUP6-DVM | License; Digital voltmeter and frequency counter on 6 Series oscilloscopes; Node locked |
| SUP6B-IMDA | License; Inverters, Motors and Drives analysis |
| SUP6B-IMDA-DQ0 | License; DQ0 measurement for IMDA |
| SUP6-MTM | License; Mask and Limit testing; Node locked |
| SUP6-PAM3 | License; PAM3 Analysis (requires option 6-DJA); Node Locked |
| SUP6-PWR | License; Power measurement and analysis; Node locked |
| SUP6-RL-1 | License; Extend record length; from 62.5M/ch to 125M/ch maximum on 6 Series oscilloscopes; Node locked |
| SUP6-RL-2 | License; Extend record length; from 62.5M/ch to 250M/ch maximum on 6 Series oscilloscopes; Node locked |
| SUP6-RL-3 | License; Extend record length; from 62.5M/ch to 500M/ch maximum on 6 Series oscilloscopes; Node locked |
| SUP6-RL-4 | License; Extend record length; from 62.5M/ch to 1G/ch maximum on 6 Series oscilloscopes; Node locked |
| SUP6-RL-1T2 | License; Extend record length; from 125M/ch to 250M/ch maximum on 6 Series oscilloscopes; Node locked |
| SUP6-RL-1T3 | License; Extend record length; from 125M/ch to 500M/ch maximum on 6 Series oscilloscopes; Node locked |
| SUP6-RL-1T4 | License; Extend record length; from 125M/ch to 1G/ch maximum on 6 Series oscilloscopes; Node locked |
| SUP6-RL-2T3 | License; Extend record length; from 250M/ch to 500M/ch maximum on 6 Series oscilloscopes; Node locked |
| SUP6-RL-2T4 | License; Extend record length; from 250M/ch to 1G/ch maximum on 6 Series oscilloscopes; Node locked |
| SUP6-RL-3T4 | License; Extend record length; from 500M/ch to 1G/ch maximum on 6 Series oscilloscopes; Node locked |
| SUP6-VID | License; Analog Video Trigger (NTSC, PAL, SECAM); Node locked |

# 6 Series B MSO

## POST-PURCHASE UPGRADES

| Option | Description |
|---|---|
| SUP6-SRAERO | License; Aerospace serial triggering and analysis (MIL-STD-1553, ARINC429) on 6 Series oscilloscopes; Node locked |
| SUP6-SRAUDIO | License; Audio serial triggering and analysis (I2S, LJ, RJ, TDM) on 6 Series oscilloscopes; Node locked |
| SUP6-SRAUTO | License; Automotive serial triggering and analysis (CAN, CAN-FD, LIN, FlexRay) on 6 Series oscilloscopes; Node locked |
| SUP6-SRAUTOEN1 | License; 100Base-T1 Automotive Ethernet serial decode; Node locked |
| SUP6-SRAUTOSEN | License; Automotive sensor serial triggering and analysis (SENT) on 6 Series oscilloscopes; Node locked |
| SUP6-SRCOMP | License; Computer serial triggering and analysis (RS-232/422/485/UART) on 6 Series oscilloscopes; Node locked |
| SUP6-SRDPHY | License; MIPI D-PHY serial analysis (CSI-2, DSI-1); Node locked |
| SUP6-SREMBD | License; Embedded serial triggering and analysis (I2C, SPI) on 6 Series oscilloscopes; Node locked |
| SUP6-SRENET | License; Ethernet serial triggering and analysis (10BASE-T, 100BASE-TX) on 6 Series oscilloscopes; Node locked |
| SUP6-SRI3C | License; I3C Serial Analysis (I3C); Node Locked |
| SUP6-SR8B10B | License; 8b10b serial analysis; Node locked |
| SUP6-SRMANCH | License; Manchester serial analysis; Node locked |
| SUP6-SRMDIO | License; MDIO serial analysis; Node locked |
| SUP6-SRNRZ | License; Upgrade NRZ serial analysis; Node locked |
| SUP6-SRPM | License; Power management serial triggering and analysis (SPMI); Node locked |
| SUP6-SRPSI5 | License; PSI5 Serial analysis (PSI5); Node locked |
| SUP6-SRSPACEWIRE | License; SPACEWIRE serial analysis; Node locked |
| SUP6-SRSVID | License; SVID serial anlaysis; Node locked |
| SUP6-SRUSB2 | License; USB serial triggering and analysis (USB 2.0 LS, FS, HS); Node locked |
| SUP6-SREUSB2 | License; eUSB2 serial analysis; Node locked |

# 6 Series B MSO

## POST PURCHASE UPGRADES

| Option | Description |
|---|---|
| SUP6-SV-BW-1 | License; Increase Spectrum View Capture Bandwidth to 2 GHz; Node locked |
| SUP6-SV-RFVT | License; Spectrum View RF versus Time Analysis; Node locked |
| SUP6B-WIN | Removable SSD with Windows license on 6 Series B oscilloscopes |
| SUP6B-LNX | Removable SSD with Embedded Operating System on 6 Series B oscilloscopes |

## POST-PURCHASE UPGRADES – FLOATING CONFIGURATION

| Option | Description |
|---|---|
| SUP6-AFG-FL | License; Arbitrary function generator for 6 Series Oscilloscopes; Floating |
| SUP6-AUTOEN-SS-FL | License; Automotive Ethernet signal separation; Floating |
| SUP6-CMAUTOEN-FL | License; Automotive Ethernet (100/1000Base-T1) automated compliance test application; Floating |
| SUP6-CMAUTOEN10-FL | License; Automotive Ethernet (10Base-T1S Short Reach) automated compliance test application; Floating |
| SUP6-CMDDR3-FL | License; DDR3 and LPDDR3 Automated Compliance Solution for 6 Series Oscilloscope (Min BW 8 GHz) using TekExpress Automation Platform; Floating |
| SUP6-CMDPHY-FL | License; MIPI D-PHY v1.2 automated compliance test solution using TekExpress Automation Platform; Floating |
| SUP6-CMENET-FL | License; Ethernet (1000Base-T, 100Base-T) automated compliance solution (Min BW 1 GHz) using TekExpress Automation Platform; Floating |
| SUP6-CMINDUEN10-FL | License; Industrial Ethernet (10Base-T1L Long Reach) automated compliance test solution; Floating |
| SUP6-CMNBASET-FL | License; Ethernet (2.5G and 5G BASE-T) Automated Compliance Solution for 6 Series oscilloscopes (Min BW 2.5 GHz) using TekExpress Automation Platform; Floating |
| SUP6-CMUSB2-FL | License; USB2.0 automated compliance test application (Requires TDSUSBF USB test fixture). ≥2.5 GHz bandwidth required for high-speed USB; Floating |
| SUP6-CMXGBT-FL | License; Ethernet (10G BASE-T) Automated Compliance Solution for 6 Series oscilloscopes (Min BW 4 GHz) using TekExpress Automation Platform; Floating |

# 6 Series MSO B

## POST-PURCHASE UPGRADES – FLOATING CONFIGURATION

| Option | Description |
|---|---|
| SUP6-DBDDR3-FL | License; DDR3 and LPDDR3 Analysis and Debug Solution (Min BW 4 GHz). Requires 6-DJA; Floating |
| SUP6-DBLVDS-FL | License; TekExpress automated LVDS test solution; Floating |
| SUP6-DJA-FL | License; Advanced jitter and eye analysis on 6 Series oscilloscopes; Floating |
| SUP6-DPM-FL | License; Digital power management; Floating |
| SUP6B-IMDA-FL | License; Inverters, Motors and Drives analysis; Floating |
| SUP6B-IMDA-DQ0-FL | License; DQ0 measurement for IMDA; Floating |
| SUP6-MTM-FL | License; Mask testing; Floating |
| SUP6-PAM3-FL | License; PAM3 Analysis (requires option 6-DJA); Floating |
| SUP6-PWR-FL | License; Power measurement and analysis; Floating |
| SUP6-RL-1-FL | License; Extend record length; from 62.5M/ch to 125M/ch maximum on 6 Series oscilloscopes; Floating |
| SUP6-RL-2-FL | License; Extend record length; from 62.5M/ch to 250M/ch maximum on 6 Series oscilloscopes; Floating |
| SUP6-RL-3-FL | License; Extend record length; from 62.5M/ch to 500M/ch maximum on 6 Series oscilloscopes; Floating |
| SUP6-RL-4-FL | License; Extend record length; from 62.5M/ch to 1G/ch maximum on 6 Series oscilloscopes; Floating |
| SUP6-RL-1T2-FL | License; Extend record length; from 125M/ch to 250M/ch maximum on 6 Series oscilloscopes; Floating |
| SUP6-RL-1T3-FL | License; Extend record length; from 125M/ch to 500M/ch maximum on 6 Series oscilloscopes; Floating |
| SUP6-RL-1T4-FL | License; Extend record length; from 125M/ch to 1G/ch maximum on 6 Series oscilloscopes; Floating |
| SUP6-RL-2T3-FL | License; Extend record length; from 250M/ch to 500M/ch maximum on 6 Series oscilloscopes; Floating |
| SUP6-RL-2T4-FL | License; Extend record length; from 250M/ch to 1G/ch maximum on 6 Series oscilloscopes; Floating |
| SUP6-RL-3T4-FL | License; Extend record length; from 500M/ch to 1G/ch maximum on 6 Series oscilloscopes; Floating |
| SUP6-VID-FL | License; Analog Video Trigger (NTSC, PAL, SECAM); Floating |

# 6 Series MSO B

## POST-PURCHASE UPGRADES – FLOATING CONFIGURATION

| Option | Description |
|---|---|
| SUP6-SRAERO-FL | License; Aerospace serial triggering and analysis (MIL-STD-1553, ARINC429); Floating |
| SUP6-SRAUDIO-FL | License; Audio serial triggering and analysis (I2S, LJ, RJ, TDM) |
| SUP6-SRAUTO-FL | License; Automotive serial triggering and analysis (CAN, CAN-FD, LIN, FlexRay); Floating |
| SUP6-SRAUTOEN1-FL | License; 100Base-T1 Automotive Ethernet serial decode; Floating |
| SUP6-SRAUTOSEN-FL | License; Automotive sensor serial triggering and analysis (SENT); Floating |
| SUP6-SRCOMP-FL | License; Computer serial triggering and analysis (RS-232/422/485/UART); Floating |
| SUP6-SRDPHY-FL | License; MIPI D-PHY serial analysis; Floating |
| SUP6-SREMBD-FL | License; Embedded serial triggering and analysis (I2C, SPI); Floating |
| SUP6-SRENET-FL | License; Ethernet serial triggering and analysis (10BASE-T, 100BASE-TX); Floating |
| SUP6-SRI3C-FL | License; I3C Serial Analysis (I3C); Floating |
| SUP6-SR8B10B-FL | License; 8b10b serial analysis; Floating |
| SUP6-SRMANCH-FL | License; Manchester serial analysis; Floating |
| SUP6-SRMDIO-FL | License; MDIO serial analysis; Floating |
| SUP6-SRNRZ-FL | License; NRZ serial analysis; Floating |
| SUP6-SRPM-FL | License; Power management serial triggering and analysis (SPMI); Floating |
| SUP6-SRPSI5-FL | License; PSI5 serial analysis; Floating |
| SUP6-SRSPACEWIRE-FL | License; SPACEWIRE serial analysis; Floating |
| SUP6-SRSVID-FL | License; SVID serial analysis; Floating |
| SUP6-SRUSB2-FL | License; USB serial triggering and analysis (USB 2.0 LS, FS, HS); Floating |
| SUP6-SREUSB2-FL | License; eUSB2 serial analysis; Floating |

# 6 Series B MSO Pricing

## POST PURCHASE UPGRADES – FLOATING CONFIGURATION

| Option | Description |
|---|---|
| SUP6-SV-BW-1-FL | License; Increase Spectrum View Capture Bandwidth to 2 GHz; Floating |
| SUP6-SV-RFVT-FL | License; Spectrum View RF versus Time Analysis; Floating |

# 6 Series B MSO

## STANDARD ACCESSORIES

| Accessory |
|---|
| One TPP1000 passive probe per FlexChannel® |
| Installation and Safety Instructions, printed manual (translated in English, Japanese, Simplified Chinese) |
| Front cover with integrated accessory pouch |
| Mouse |
| Power cord (region specific) |
| Calibration certificate documenting traceability to National Metrology Institute(s) and ISO9001 quality system registration |
| One-year warranty covering all parts and labor on the 6 Series MSO instrument. One-year warranty covering all parts and labor on included probes. |

## RECOMMENDED PROBES AND ADAPTERS

| Probe Type | Recommended Probes | Description |
|---|---|---|
| Voltage Probes | **Passive Voltage** | |
| | TPP0502 | **Passive, 2X, 300V CAT II, 500MHz (TekVPI)** |
| | **Active Voltage** | |
| | TAP1500 | **Active, 10x, 8V, 1.0pF, 1.5 GHz (TekVPI)** |
| | TAP2500 | **Active, 10x, 4V, 0.8pF, 2.5 GHz (TekVPI)** |
| | TAP3500 | **Active, 10x, 4V, 0.8pF, 3.5 GHz (TekVPI)** |
| | TAP4000 | **Active, 10x, 4V, 0.8pF, 4 GHz (TekVPI)** |
| | **High Voltage Differential** | |
| | THDP0100 | **6kV, 100x/1000x, 100MHz high voltage differential probe (TekVPI)** |
| | THDP0200 | **1.5kV, 50x/500x, 200MHz high voltage differential probe (TekVPI)** |
| | TMDP0200 | **750V, 25x/250x, 200MHz high voltage differential probe (TekVPI)** |
| | **High Voltage Single Ended** | |
| | TPP0850 | **2.5kV$_{peak}$, 50x , 800MHz high voltage passive probe (TekVPI)** |
| | **High Speed Differential Probes** | |
| | TDP1000 | **1 GHz differential active FET probe (±42V) (TekVPI)** |
| | TDP1500 | **1.5 GHz differential active FET probe (±8.5V) (TekVPI)** |
| | TDP3500 | **3.5 GHz differential active FET probe (±2V) (TekVPI)** |
| | TDP4000 | **4 GHz differential active FET probe (±2V) (TekVPI) (** |
| | **Tri-mode Probes** | |
| | TDP7704, TDP7706, TDP7708, TDP7710 | **4, 6, 8 GHz TriMode™ with TekFlex™ connector technology** |
| | **Optically Isolated High Voltage Differential Probes** | |
| | TIVH02, TIVH02L | **IsoVu™ 200 MHz high voltage probe with 3m or 10m cable** |
| | TIVH05, TIVH05L | **IsoVu™ 500 MHz high voltage probe with 3m or 10m cable** |
| | TIVH08, TIVH08L | **IsoVu™ 800 MHz high voltage probe with 3m or 10m cable** |
| | TIVM1, TIVM1L | **IsoVu™ 1 GHz medium voltage probe with 3m or 10 cable** |
| | **Power Rail Probes** | |
| | TPR1000 | **1 GHz, single-ended power rail probe with TPR4KIT (TekVPI)** |
| | TPR4000 | **4 GHz, single-ended power rail probe with TPR4KIT (TekVPI)** |
| | **Micro Volt Probes** | |
| | ADA400A | **100x, 10x, 1x, 0.1x high gain differential amplifier** |
| Current Probes | **AC Only** | |
| | P6021 | **120 Hz to 60 MHz, 15A** |
| | P6022 | **935 Hz to 120 MHz, 6A** |
| | A621 | **5 Hz to 50 kHz, 100mA to 2000A** |
| | CT1 | **25 kHz to 1 GHz, 450mA (closed core)** |
| | CT2 | **1.2 kHz to 200 MHz, 2.5A (closed core)** |
| | **AC/DC** | |
| | TCP0030A | **DC to 120 MHz, 30A (TekVPI)** |
| | TCP0020 | **DC to 50 MHz, 20 A (TekVPI)** |
| | TCP0150 | **DC to 20 MHz, 150A (TekVPI)** |
| Adapters | TPA-BNC | **TekVPI to BNC probe adaptor to convert Level II TekProbe interface to VPI interface** |
| | 103-0503-xx | **BNC to SMA adapter** |
| Digital Probe | **TLP058** | **8 channel general purpose logic probe for 5 & 6 Series oscilloscopes. Includes accessory kit.** |

Tektronix®