

# Keysight Technologies

## Next-Generation Infiniium User Interface

### Data Sheet

#### Features

- Personalized viewing
- Better, faster documentation
- Best usability, including touch



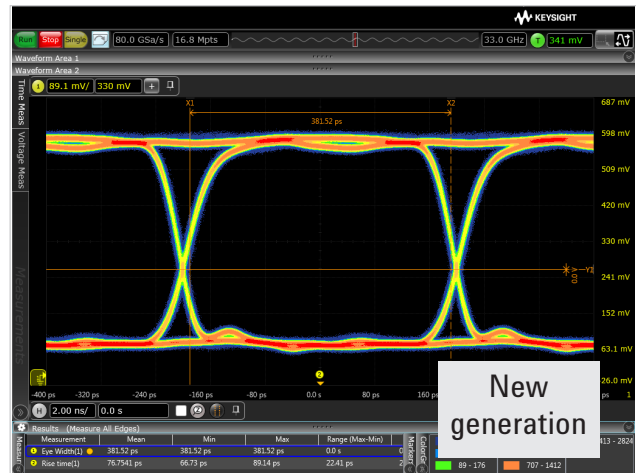
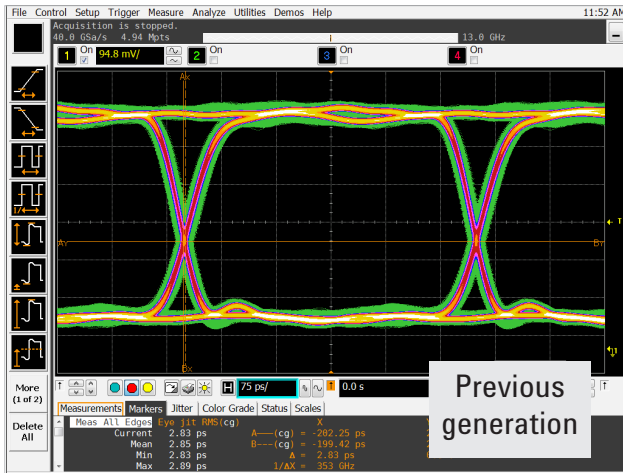
# Time for a Change

In 1997, Keysight Technologies, Inc. introduced its first Infiniium user interface.

Since then, Infiniium oscilloscopes have seen many innovations. It was the first line to release 33 and 63 GHz scopes and the only line to feature

1 and 2 Gpts oscilloscopes. It also released many award-winning applications like EZJIT, EZJIT Plus, SDA, InfiniiScan, InfiniiSim, PrecisionProbe, and Serial Data Equalization. Now it's time for a user interface revolution to complement the Infiniium oscilloscopes' history of innovation.

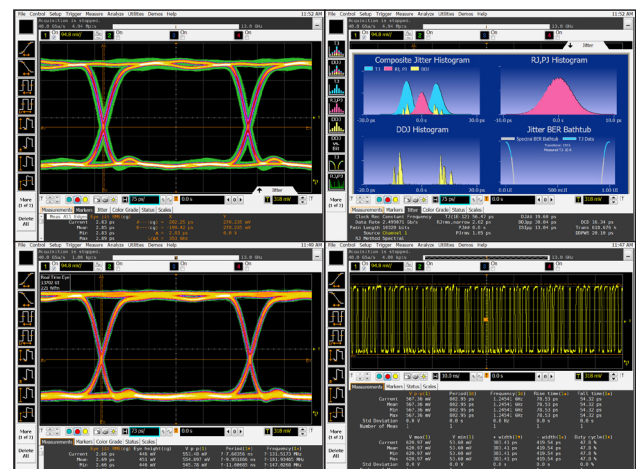
- The new user interface delivers:
- Personalized viewing
  - Better, faster documentation
  - Best usability, including touch



# Continuing the legacy of greatness

More than two years of research went into creating this user interface. One of the biggest pieces of advice that the Infiniium research team received was not to mess up what makes Infiniium real-time oscilloscopes great. Keysight oscilloscopes are intuitive to use, making it easier for users to quickly become scope

experts. We didn't want to lose this important feature, so the new user interface will use the same SCPI commands, easy-to-use wizards, and familiar menu system. But now measurements that used to take four screen shots and setups to make can be done with a single screen shot, saving you valuable time.

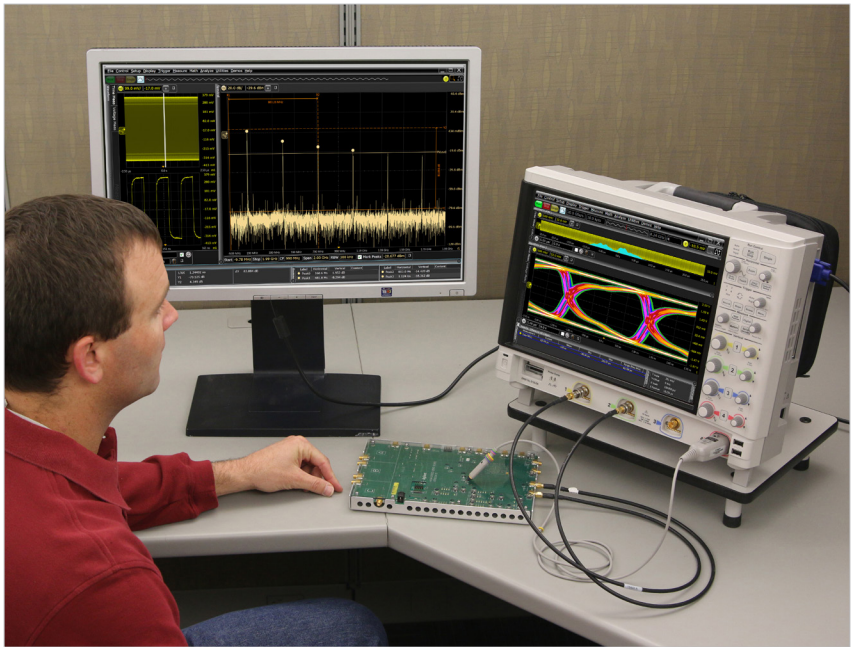


## Display Data Like Never Before

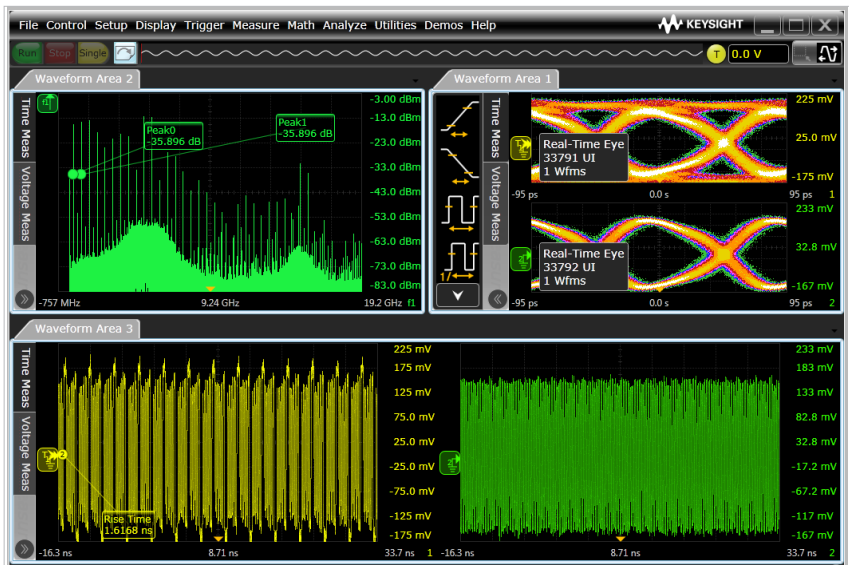
The new user interface significantly improves your oscilloscope user experience. An FFT drives like a spectrum analyzer. You can manipulate function scales and time bases without having to use the function menu. Measurements are easier to view, and you can use many displays at any screen resolution that you want.

This user interface has more than 30 features that have never existed before on an oscilloscope. The user interface has an unmatched 128 grids, all with their own signal-to-noise ratio. (The previous industry high was 16 grids.) Every signal can be turned into its own real time eye.

Finally, everything that you do on the oscilloscope can be done on your PC!

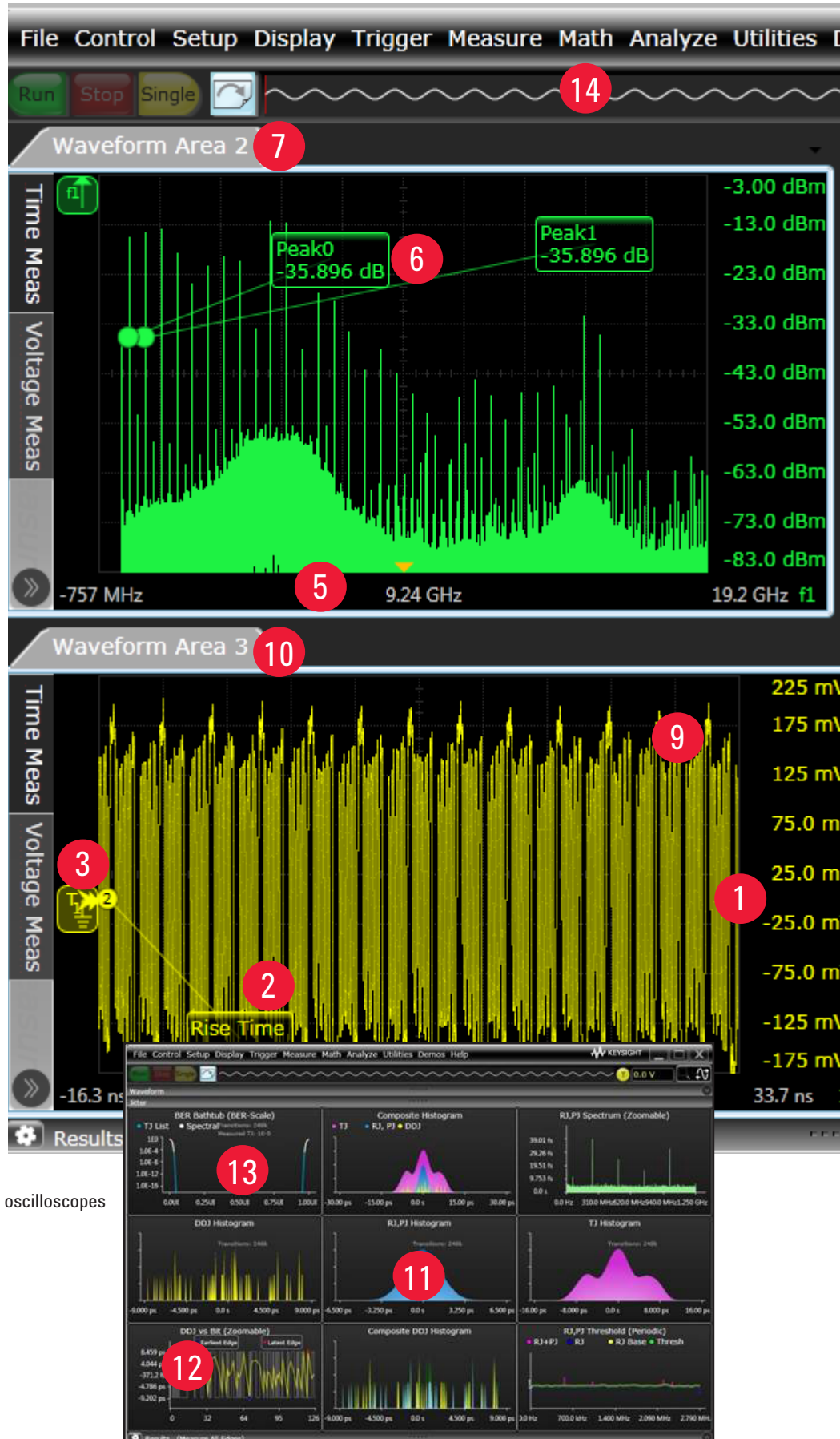


Download Infiniium Offline today and experience the new user interface immediately. (NEED URL CTA)



# Next-Generation Infiniium New User

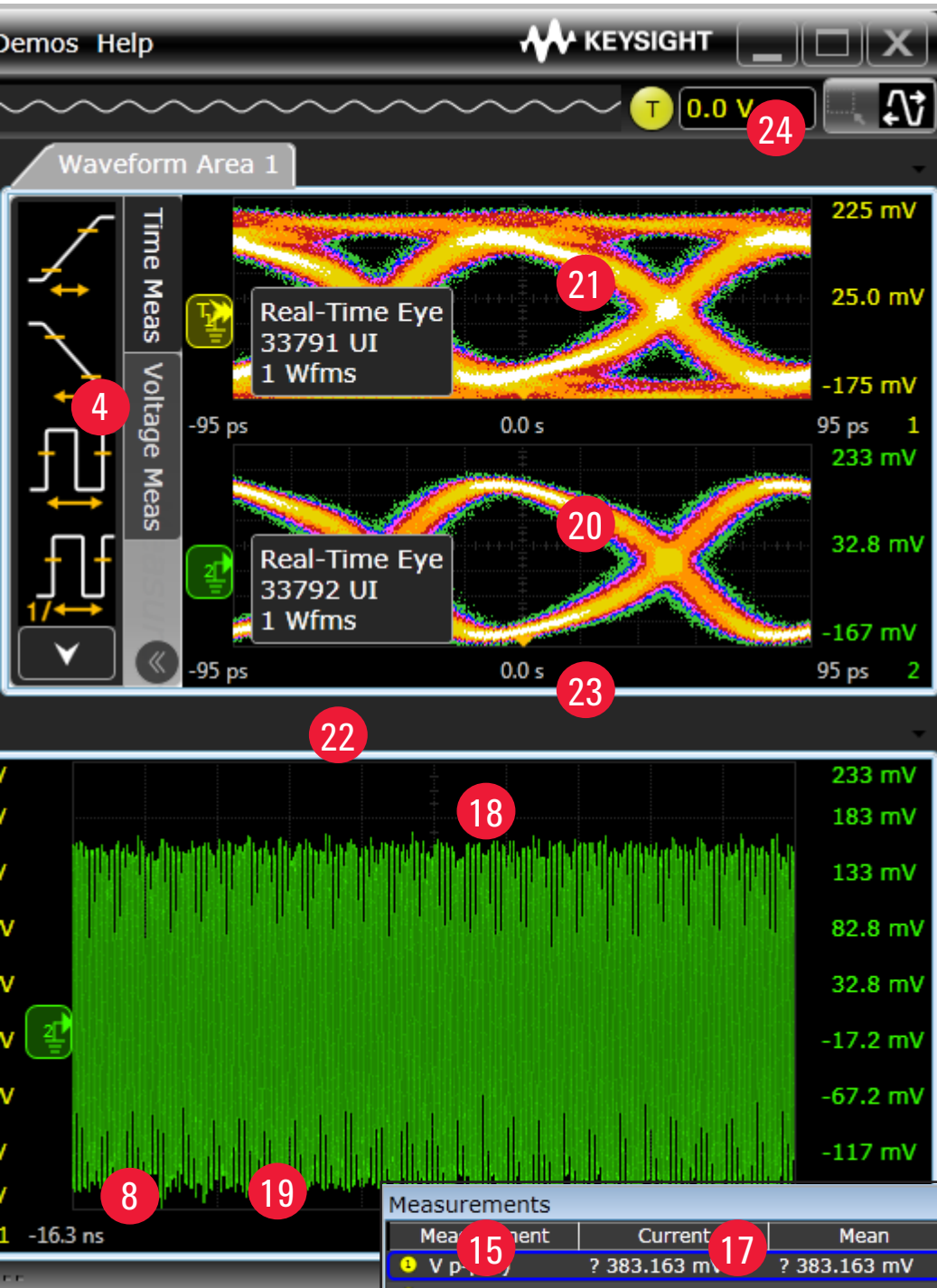
1. Displayed vertical scale\*
2. Measurement callouts\*
3. Large icons for easy touch control\*
4. Drag-and-drop measurements\*
5. FFT bandwidth scale\*
6. FFT peak callouts\*\*
7. Tabbed window layout\*
8. Timescale display\*
9. Up to 16 grids per waveform are\*\*
10. Up to 8 waveform areas\*
11. Analysis charts for easy jitter analysis\*\*
12. Undockable chart windows\*
13. Tailfit vs. spectral char\*
14. Memory display bar\*



\* This feature can only be found on Infiniium oscilloscopes

\*\* This feature is the best in the industry





- 15. Dockable/floating measurement window\*
- 16. Display up to 20 measurements\*\*
- 17. Full statistic controls
- 18. Displayed marker measurements
- 19. Handles for touch control\*
- 20. Color grade per signal\*\*
- 21. Up to 16 real time eyes\*\*
- 22. Slider bar\*
- 23. Timescale per eye
- 24. Signal versus display control
- 25. Multiple right click controls
- 26. Windows multi-touch (gestures)\*
- 27. Plus much more

# Personalized Viewing

## Slider bar and tabbed viewing

Windows flexibility has never been a part of a user interface before now. The Infiniium user interface is the first to allow windows to be resized by simply moving a slider bar. Take the flexibility one step further by choosing tabbed viewing and float your window. Each waveform area then has the ability to be floated to separate displays. Use this mode to increase your productivity by seeing waveform signals at the same time you use in-depth analysis charts.

## Waveform areas

The Infiniium user interface features 8 waveform areas, and each waveform area has up to 16 grids. The waveform areas can be found in the display menu. Some other vendors have as few as one waveform area and only one grid, making it difficult to see multiple waveforms at once without compromising precious signal-to-noise ratios. In addition to the waveform areas, every signal can be dragged across grids or waveform areas to the location that you want to see it.

## Color grading per signal

Color grading makes analysis on things such as real time eyes and waveforms more viewable by clearly showing where signal anomalies are. Color grading makes it possible to view details that you could otherwise miss. Every signal, including waveforms, functions, and memories, has the ability to be changed to color-graded viewing.

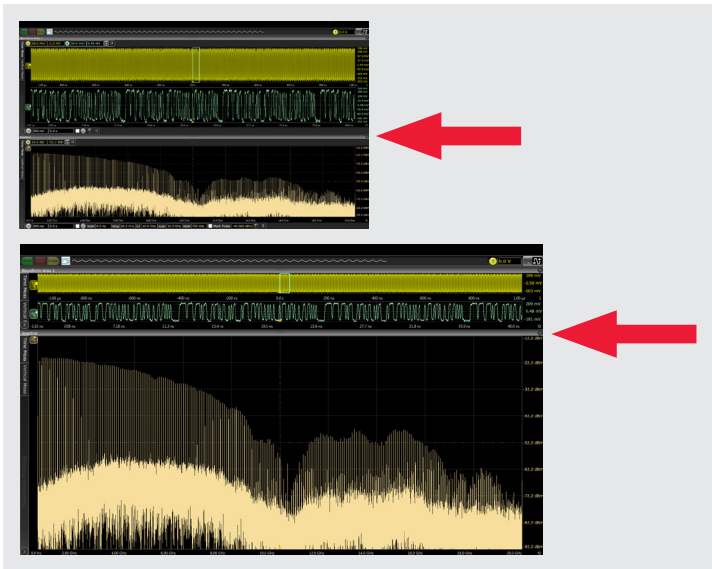


Figure 1. The FFT viewing area has increased by simply moving the slider bar.



Figure 2. Waveform areas make it easy to separate waveform analysis into the view you want to see.

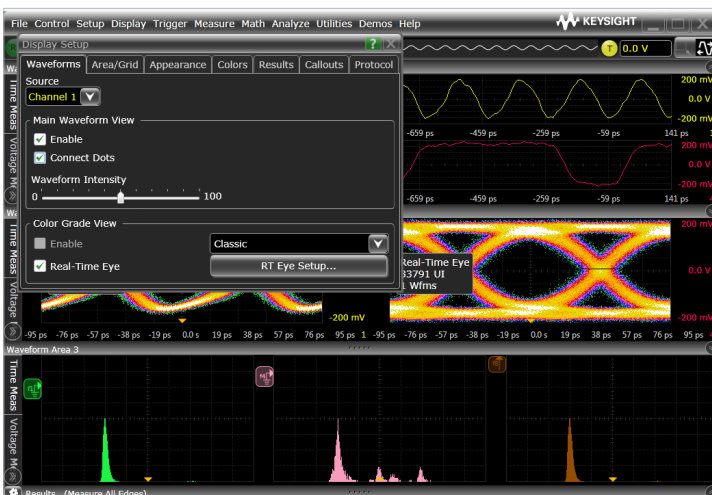


Figure 3. Every signal has the ability to be viewed with color grading.

# Better, Faster Documentation

## Viewable horizontal and vertical scales

While this may seem obvious now, never before have you had the option to see the scaling of your signals right on the screen. By enabling these views, you are able to quickly see how big your signal is and to what frequency scale your FFT is set. Your screen shots now tell a significantly better story.

## Displayed marker deltas

Historically, markers have been very poorly documented in oscilloscope user interfaces but not with the new Keysight user interface. It displays the delta value right where the markers are on the screen, making it easy to see marker deltas even in screen shots.

## Measurement annotations

Have you ever wanted to display measurement results in an easier way? This user interface's measurement annotation provides this capability. Measurement annotations show the result of the measurements that you have chosen, right on the screen in an easy, viewable format.

## Bookmarks

Collaboration just got easier. Bookmarks are annotations placed right onto the waveform. With callouts, you can see the exact information of the bookmark right on the screen.

## Composite files

Save all the information, including bookmarks, markers, and waveform files, in a composite file for the most comprehensive data sharing in the industry. Data sharing has become more vital as today's companies and teams have become more multi-national. Composite files save all information the oscilloscope has about the waveform, including the waveform and bookmarks. Composite files can be shared back and forth among colleagues and customers, enabling true team collaboration.

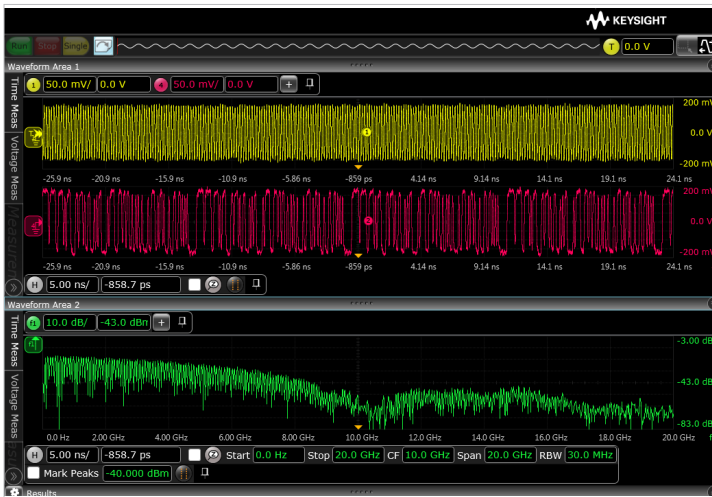


Figure 4. Vertical and horizontal scaling is viewable for quick analysis of waveforms.

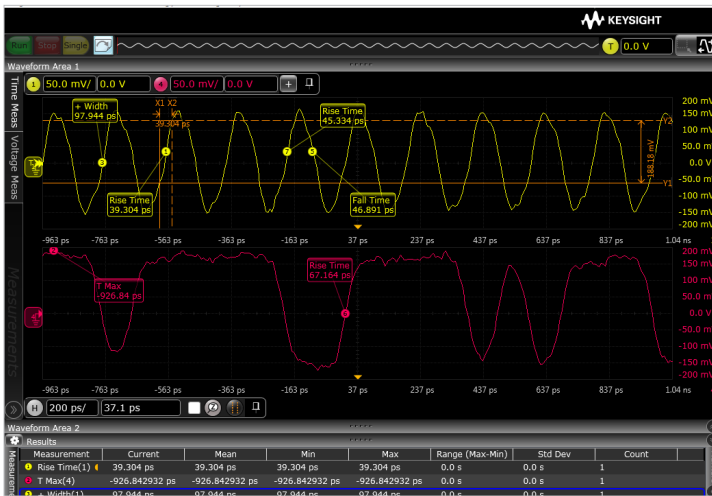


Figure 5. Annotations and displayed marker deltas make sharing information easy.

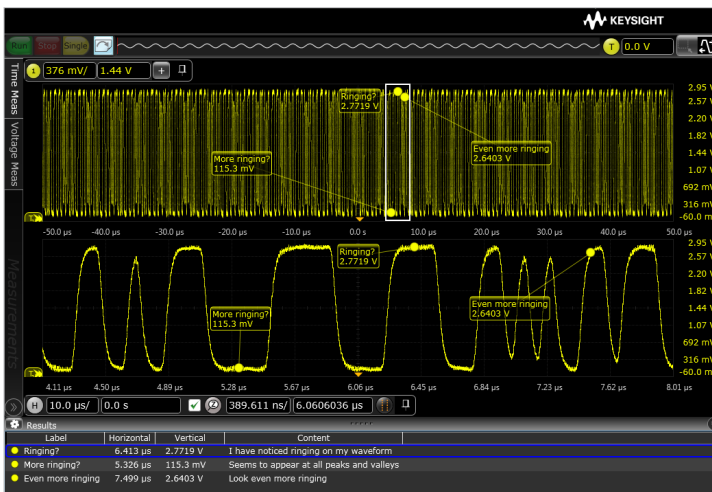


Figure 6. Bookmarks work with gated measurements as well.

# Best Usability, Including Touch

## Multi-touch (gestures)

Ever thought that an oscilloscope touch screen should drive more like the touch screen on your smartphone? Now they can! When you purchase an Infiniium capacitive touch-screen oscilloscope from Keysight, the user interface now supports multi-touch (aka gestures), which enable the touch controls that you would typically use on a smartphone. Now you can swipe your signal to scroll through all the data.

## Intelligent touch screen

In the past, it was virtually impossible to control a menu bar from your touch screen. When you are in touch-screen mode on an Infiniium oscilloscope, the user interface makes the menus bigger so they are easier to select with your finger.

## Draggable charts

Every chart on the Infiniium user interface is draggable. If you don't like the layout, simply click on a chart to drag it to a new position. This lets you see the issues you wish to see with the views you want.

## Marker handles

Handles allow you to easily grab markers with your fingers while using the oscilloscope's touch screen. When you touch the screen, the handle is displayed, making it easy to move the markers on the screen, even with your finger.

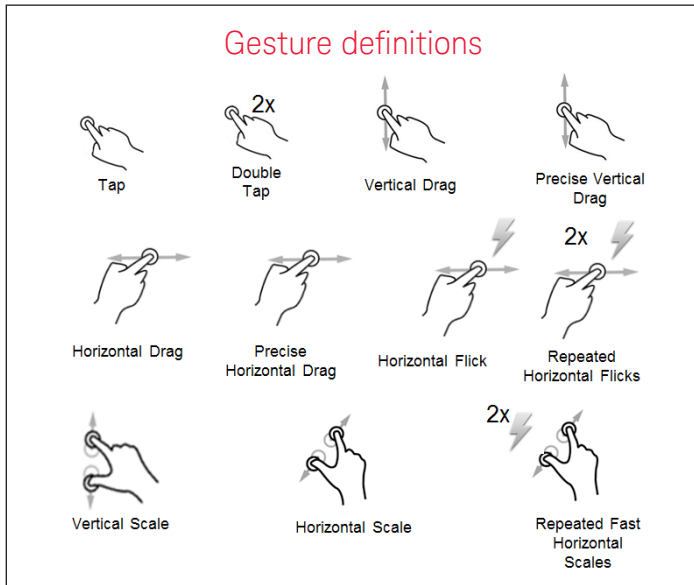


Figure 7. Use multi-touch (gestures) to intuitively control the oscilloscope like you would a smartphone.



Figure 8. Display all the analysis charts at once, then drag them to arrange the charts for faster analysis.

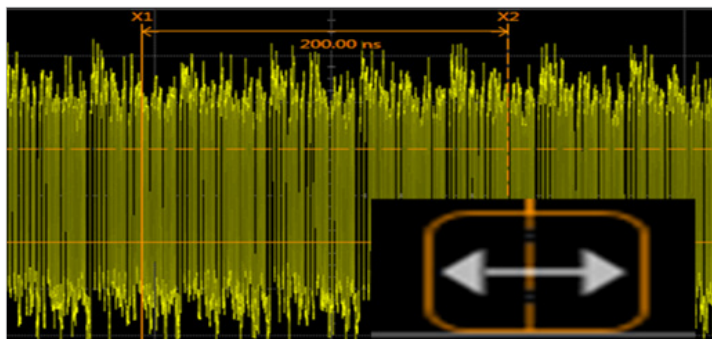


Figure 9. Handles make it easy to move markers and triggers on the touch screen with your finger.



## Other Enhanced Features

### Full offline analysis

Many people share oscilloscopes with co-workers or a manufacturing line. With Infiniium Offline, you can use the new user interface on your PC so you aren't tied to the instrument. Simply save the waveform you are interested in and port it to your PC. Then use Infiniium Offline to do all your analysis, while freeing up the oscilloscope for other users. Infiniium Offline even supports compliance application work, allowing designers to run their full simulated waveforms through the entire compliance suite of tests. No other user interface does this.



Figure 10. Save your waveform and port it to your PC for full offline analysis.

### FFT

Typically, an oscilloscope makes you use complicated menus when running FFTs. This is not the case with Infiniium oscilloscopes' latest software. The Start – Stop – Center Frequency – Span – Resolution Bandwidth controls are all on screen and ready to be used. Zooming into the frequency content you're interested in is as easy as a click of a mouse or touch of the screen. Mark peaks provide a convenient bar so you know exactly at which level you are seeing the peaks. Peak annotation lets you easily see the peaks you are interested in. With the new Infiniium software, you can view up to 16 FFTs at once, all with their own custom time bases and vertical scales that are conveniently displayed on the screen.

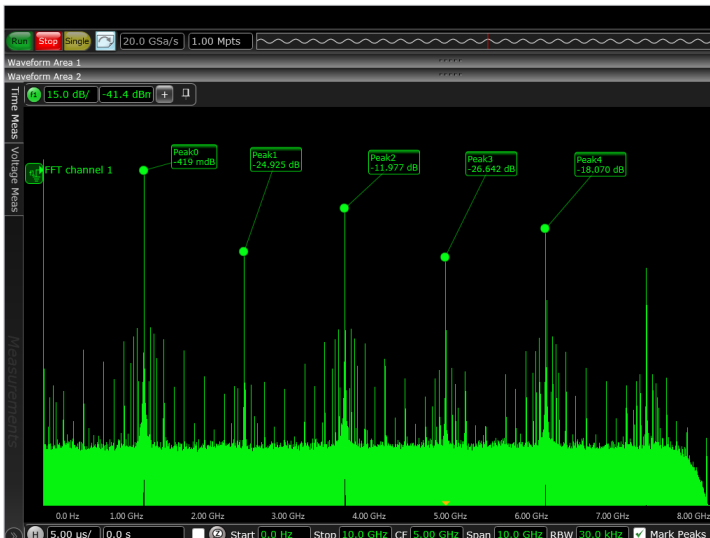


Figure 11. Peak annotation lets you easily see the peaks you are interested in.

### Amplitude demodulation

Envelope mode captures the shape of the waveform and then makes it possible to make measurements on the shape. This is useful for making measurements such as rise and fall times on the modulated signal. The measurement is fully integrated into the oscilloscope user interface, making for fast updates and easy analysis.

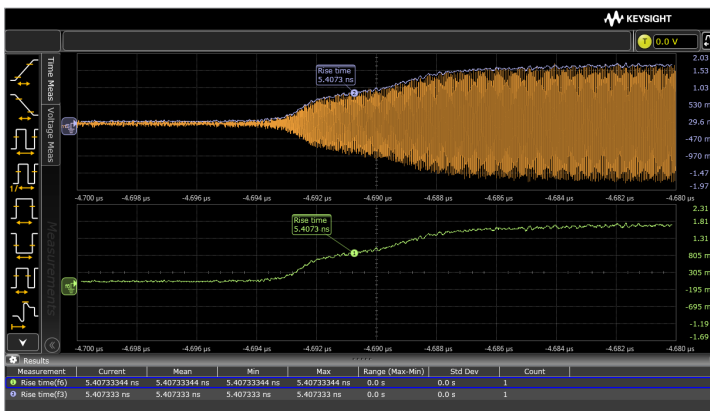


Figure 12. Use envelope mode to capture the shape of the waveform.

## The Next-Generation Infiniium User Interface is a Free Upgrade when You Download Software Version 5.0 or Greater from Keysight.com\*

Upgrade your Windows XP oscilloscope today with the following:

Upgrade part number	Description
N2753A	Window XP to Windows 7 OS for Infiniium 9000, 90000, and 90000 X-Series oscilloscopes
N2754A-001	Windows 7 and M890 motherboard upgrade for Infiniium 9000 Series oscilloscopes
N2754A-002	Windows 7 and M890 motherboard upgrade for Infiniium 90000 Series oscilloscopes

Take full advantage of the user interface by purchasing any of the following applications:

Software applications (description)	Model number	
	Transportable	Node locked
EZJIT jitter analysis software	E2681A-1TP	E2681A-1FP
EZJIT complete	N8813A-1TP	N8813A-1FP
EZJIT+ jitter analysis software	N5400A-1TP	N5400A-1FP
High-speed SDA and clock recovery	E2688A-1TP	E2688A-1FP
InfiniiScan	N5414B-1TP	N5414B-1FP
InfiniiSim basic	N5465A-3FP	N5465A-3FP
InfiniiSim advanced	N5465A-1TP	N5465A-1FP
MultiScope software combining two or more oscilloscopes	N8822A-1TP	N8822A-1FP
User-defined function	N5430A-1TP	N5430A-1FP

Protocol applications (description)	Model number	
	Transportable	Node locked
CAN/FlexRay decode	N8803A-1TP	N8803A-1FP
DigRF v4 protocol decode for Infiniium oscilloscopes	N8807A-1TP	N8807A-1FP
Ethernet 64/66 protocol and decode application	N8815A-1TP	N8815A-1FP
JTAG protocol decode	N8817A-1TP	N8817A-1FP
LLI protocol decode for Infiniium oscilloscopes	N8809A-1TP	N8809A-1FP
I <sup>2</sup> C and SPI serial data analysis	N5391A-1TP	N5391A-1FP
MIPI D-PHY protocol decode	N8802A-1TP	N8802A-1FP
MIPI RFFE protocol decode	N8824A-1TP	N8824A-1FP
PCI Express 1.1 protocol decode	N5463A-1TP	N5463A-1FP
PCI Express Gen3 128/130 protocol and decode application	N8816A-1TP	N8816A-1FP
RS-232/UART protocol decode	N5462A-1TP	N5462A-1FP
UniPro protocol decode for Infiniium oscilloscopes	N8808A-1TP	N8808A-1FP
SVID trigger and decode application	N8812A-1TP	N8812A-1FP
USB 2.0 protocol decode	N5464A-1TP	N5464A-1FP
USB 3.0 SuperSpeed Inter-Chip (SSIC) protocol decode	N8819A-1TP	N8819A-1FP
USB 3.0 protocol decode and triggering	N8805A-1TP	N8805A-1FP

\*Oscilloscope must be running Windows 7. Most of the shown applications have additional costs.

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