

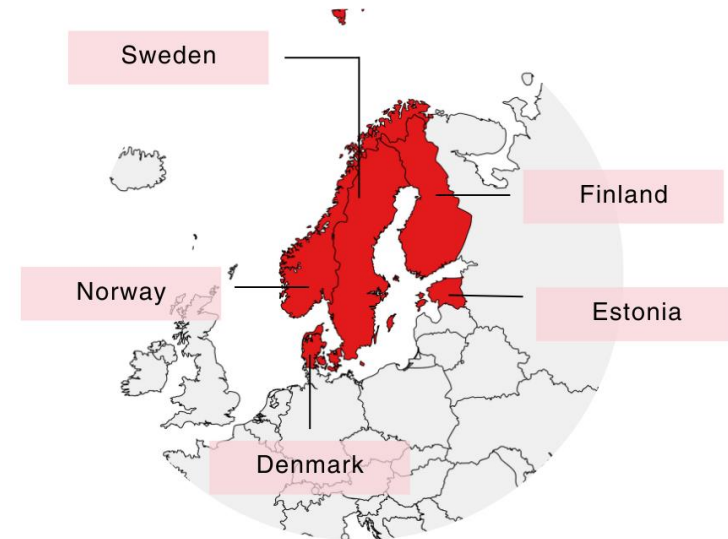
The All-New InfiniiVision HD3 Series

Making Precision Portable
Petri Sutela, Testhouse Nordic



About Testhouse Nordic

- Founded in 2005, Testhouse Nordic is a leading distributor of Test and Measurement products and solutions in the Nordic countries.
- Testhouse Nordic has office locations in Espoo, Finland and Täby, Sweden. Our distribution network spans across Sweden, Finland, Estonia, Norway and Denmark.
- In 2021, Testhouse Nordic was acquired by German dataTec - a leading specialist distributor of test and measurement technology, expanding across Europe.



We Represent 20+ Top T&M Suppliers





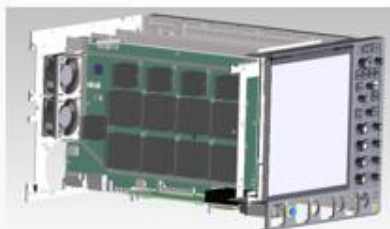
New Keysight HD3 series

The Infiniium UXR-Series

MORE ACCURATE ANALYSIS - RUNS FASTER - FULLY UPGRADABLE



Fully upgradable modular design



- Models from **5 GHz to 110 GHz** of real-time bandwidth
- 2 or 4 channels per scope - **ALL** with **FULL** rated bandwidth
- Best in class sample rates:
 - 10 – 33 GHz 3.5 mm models: 128 GSa/s per channel
 - 40 – 70 GHz 1.85 mm models: 256 GSa/s per channel
 - 5 – 110 GHz 1 mm models: 256 GSa/s per channel
- 200 Mpts/ch standard – Upgradable to 2 Gpts per channel
- **High-Definition 10-bit Analog-to-Digital Converter (ADC)**
- **Hardware based acceleration ASICs**

Down-Deploying Advanced Technology, Making Precision Portable



Infiniium UXR Series
5 GHz to 110 GHz



Infiniium MXR/EXR Series
500 MHz to 6 GHz



InfiniiVision HD3 Series
200 MHz to 1 GHz

NEW!

Keysight InfiniiVision Family



	1000 X-Series	2000 X-Series	3000G X-Series	4000G X-Series	6000 X-Series
Bandwidth	50 – 200 MHz	70 – 200 MHz	100 MHz – 1 GHz	200 MHz – 1.5 GHz	1 – 6 GHz
Sample Rate	2 GSa/s	2 GSa/s	5 GSa/s	5 GSa/s	20 GSa/s
Update Rate	>200,000 wfm/s	>200,000 wfm/s	>1,000,000 wfm/s	>1,000,000 wfm/s	>450,000 wfm/s
Zone Trigger	N/A	N/A	Yes	Yes	Yes
MSO	N/A	8 channel	16 channel	16 channel	16 channel
Active Probing	N/A	N/A	Up to 4	Up to 4	Up to 4

Keysight InfiniiVision Family



	1000 X-Series	2000 X-Series	3000 X-Series	6000 X-Series
Bandwidth	50 – 200 MHz	70 – 200 MHz	100 MHz – 3 GHz	1 – 6 GHz
Sample Rate	2 GSa/s	2 GSa/s	5 GSa/s	20 GSa/s
Update Rate	>200,000 wfm/s	>200,000 wfm/s	>1,000,000 wfm/s	>450,000 wfm/s
Zone Trigger	N/A	N/A	Yes	Yes
MSO	N/A	8 channel	16 channel	16 channel
Active Probing	N/A	N/A	Up to 4	Up to 4

InfiniiVision HD3 Series

Portable Precision

200 MHz – 1 GHz

Meet the InfiniiVision HD3 Series oscilloscope



Specifications

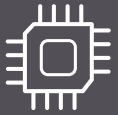
Channels	2 or 4 analog + 16 digital
Bandwidth	200 MHz → 1 GHz
Resolution	14 bits, 16 bits high-res
Low Noise	50 μ VRMS (2mV/div, 50 Ω , 1 GHz)
Max Memory	100 Mpts/ch
Sample rate	3.2 GSa/s (per channel!)
Update Rate	1.3M wfms/sec



Portable Precision



Analyze with the High Accuracy



Custom Technology

High ADC and ENOB



Versatile Functionality

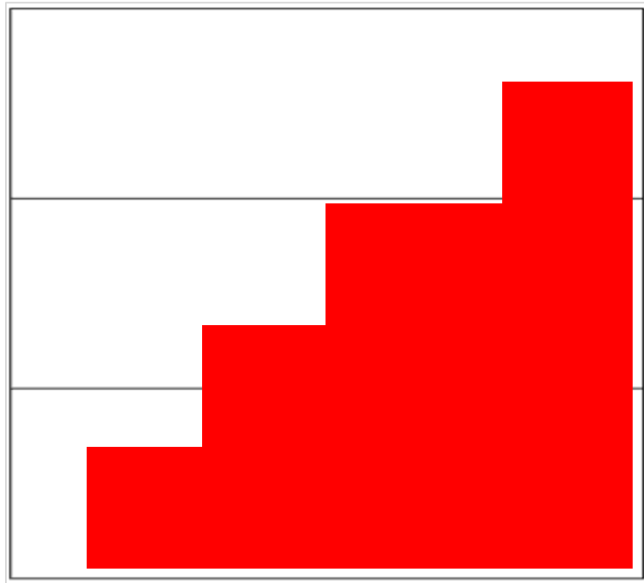
Low Noise Front-End

Analyze with High Accuracy

Portable Precision

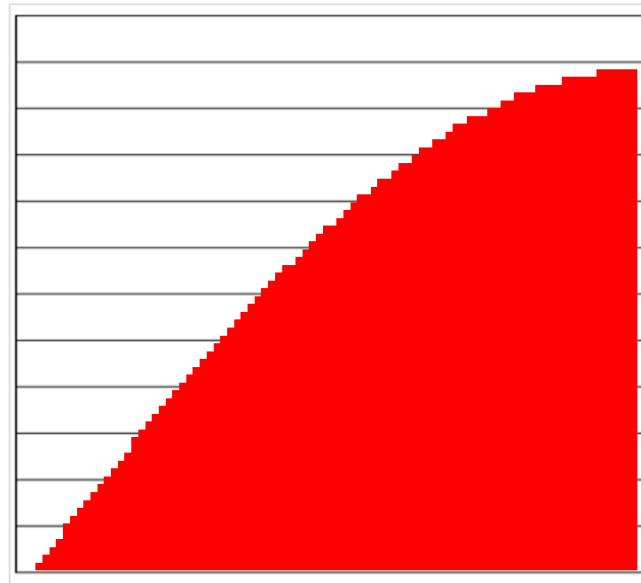
8 bits

256 Q-Levels



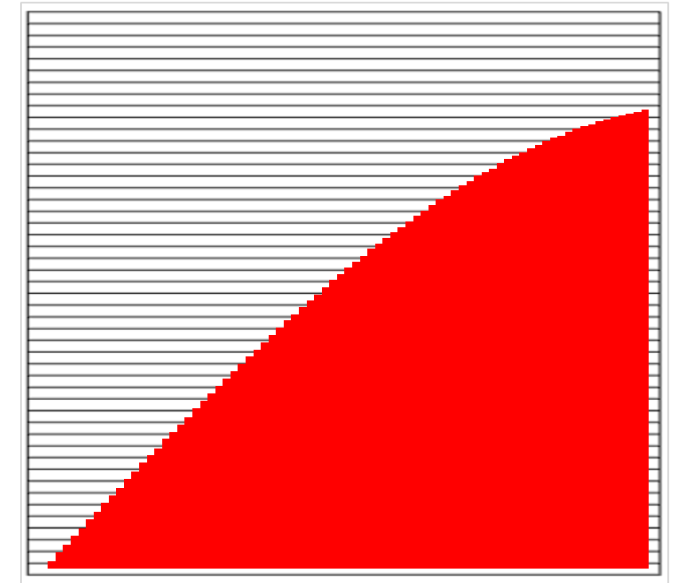
12 bits

4,096 Q-Levels



14 bits

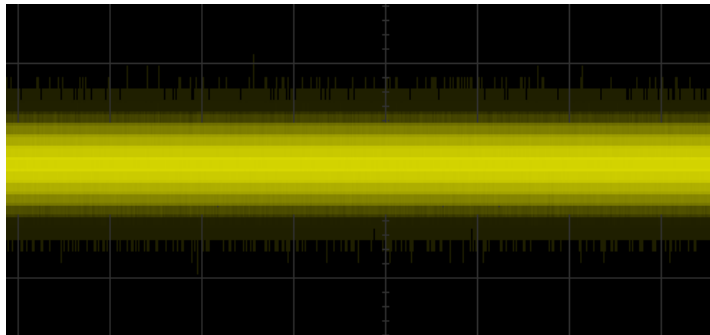
16,384 Q-Levels



Low Noise Front-End

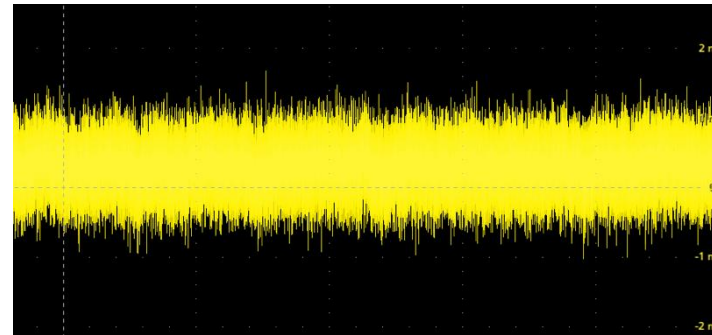
Portable Precision

3000G X-Series



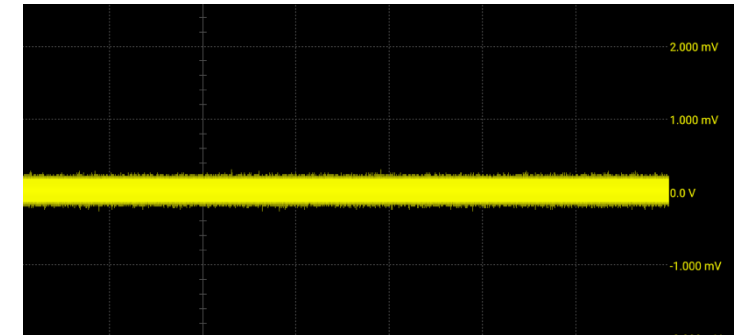
277 μV_{RMS}

Competitor



>280 μV_{RMS}

HD3 Series



31.5 μV_{RMS}

Up to **10x less noise** than the 3000G/4000G and the competition!

High ENOB

Portable Precision

Max ENOB

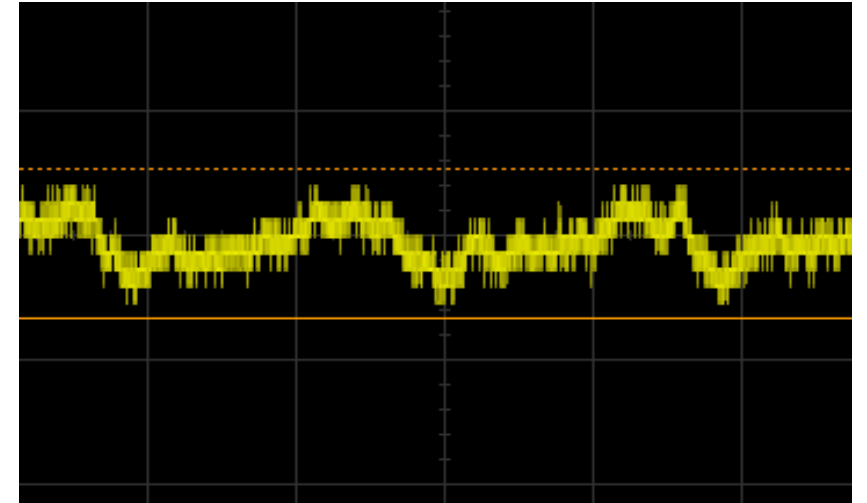
HD3 Series	>10.4 bits
Closest Competitor Spec	8.9 bits
Keysight 3000G/4000G	6.9 bits



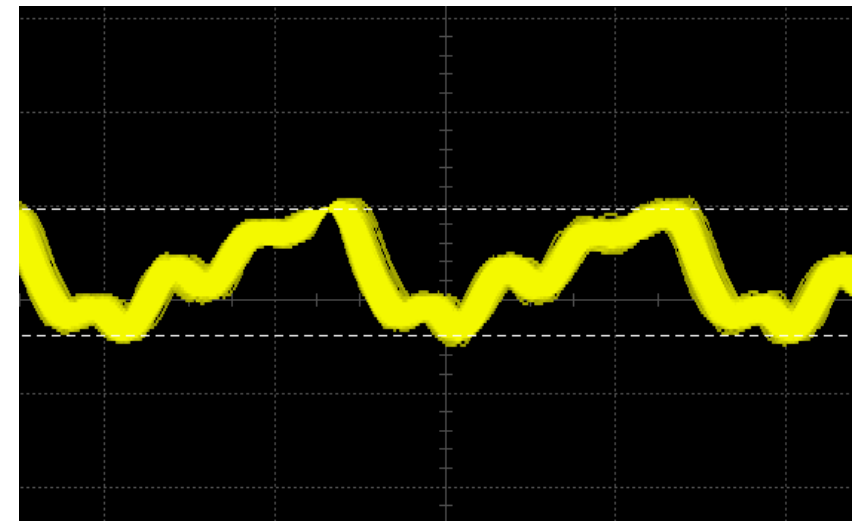
Analyze with High Accuracy

Portable Precision

**3000G with
8 bits +
high noise:**



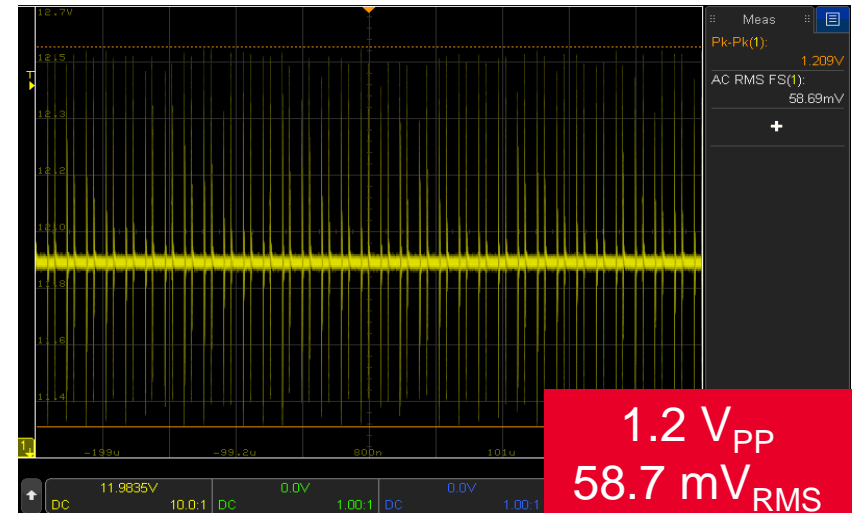
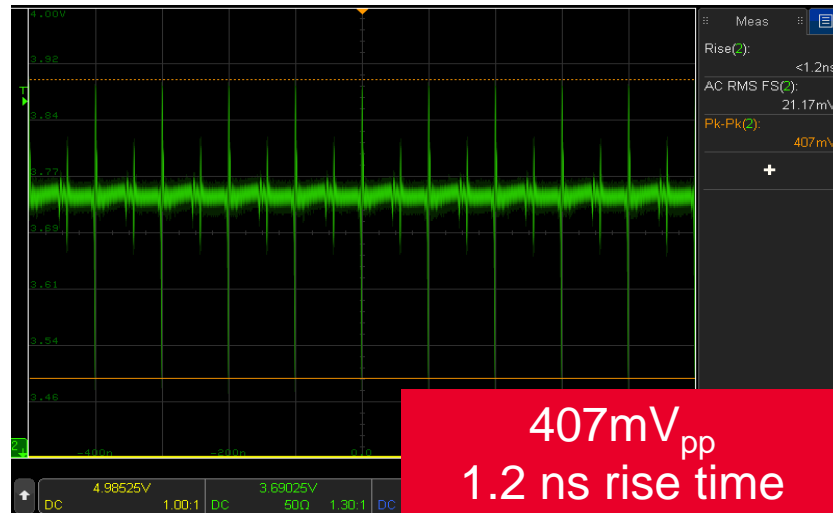
**HD3 with
14 bits +
low noise:**



Analyze with High Accuracy

Portable Precision

3000G with
8 bits +
high noise:



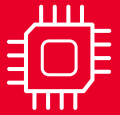
HD3 with
14 bits +
low noise:





Portable Precision

Optimized for Scope Measurements



Custom Technology

Deep Memory Architecture



Versatile Functionality

Automated Software Technology

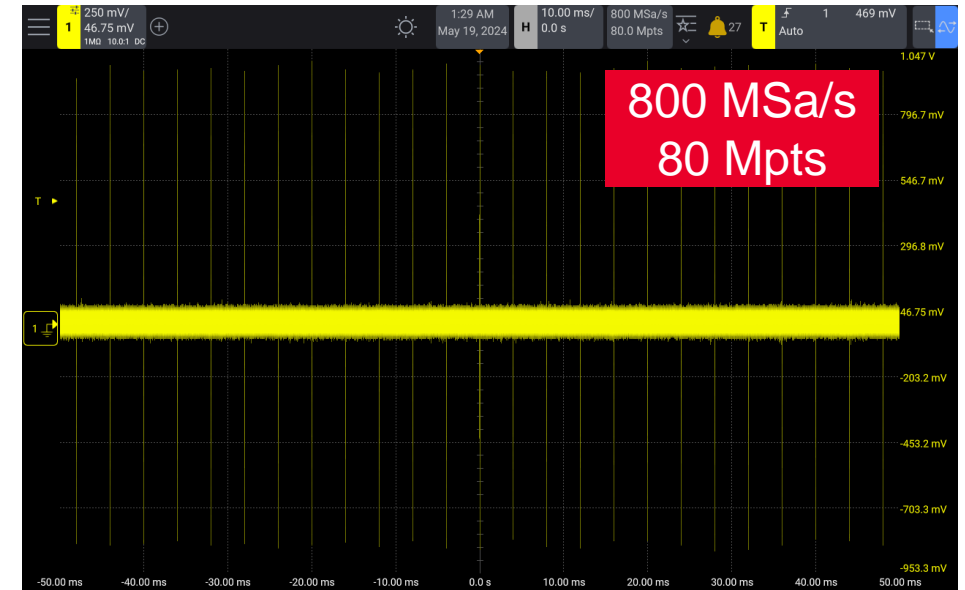
Optimized for Oscilloscope Measurements

Custom Technology

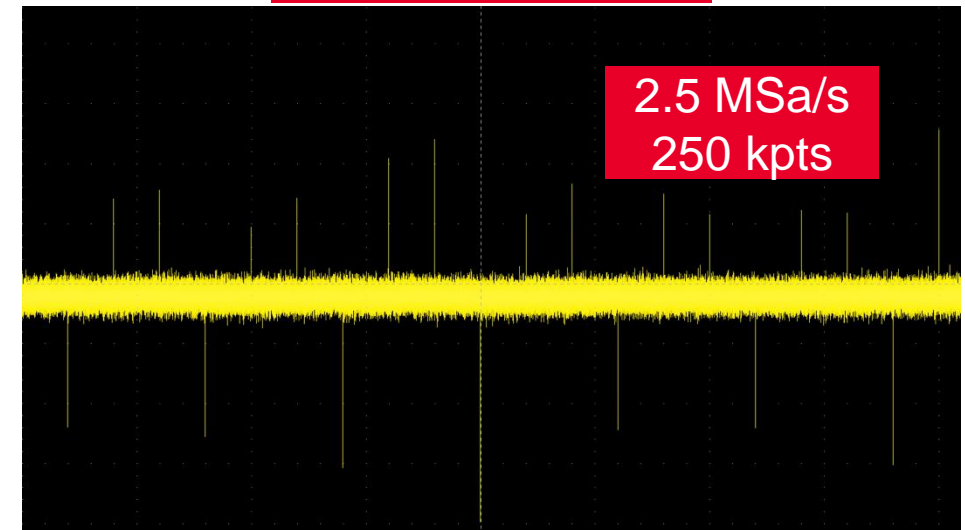
By developing **custom components rather than utilizing off-the-shelf parts** like our competitors, the HD3 Series offers:

- Higher sample rate and memory under typical testing conditions
- Uncompromised waveform update rate
- High vertical resolution, maximizing use of the ADC
- Hardware-based functions: mask, zone, serial, etc.

Keysight HD3 Series



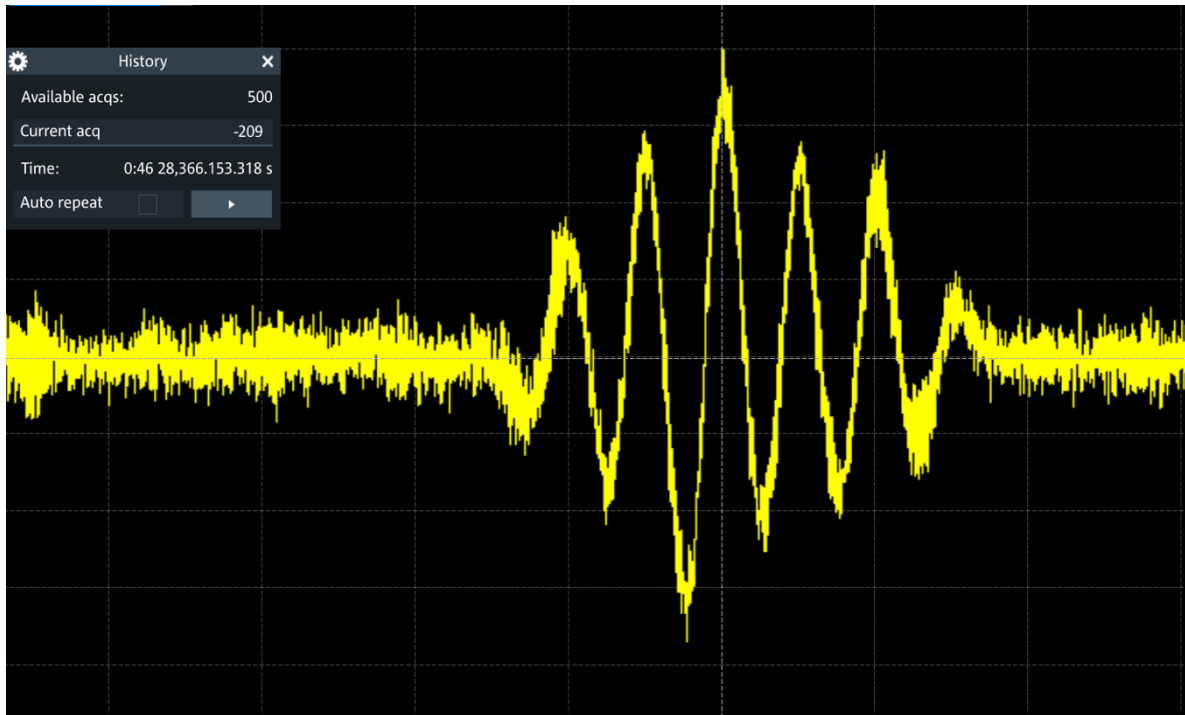
Competitor



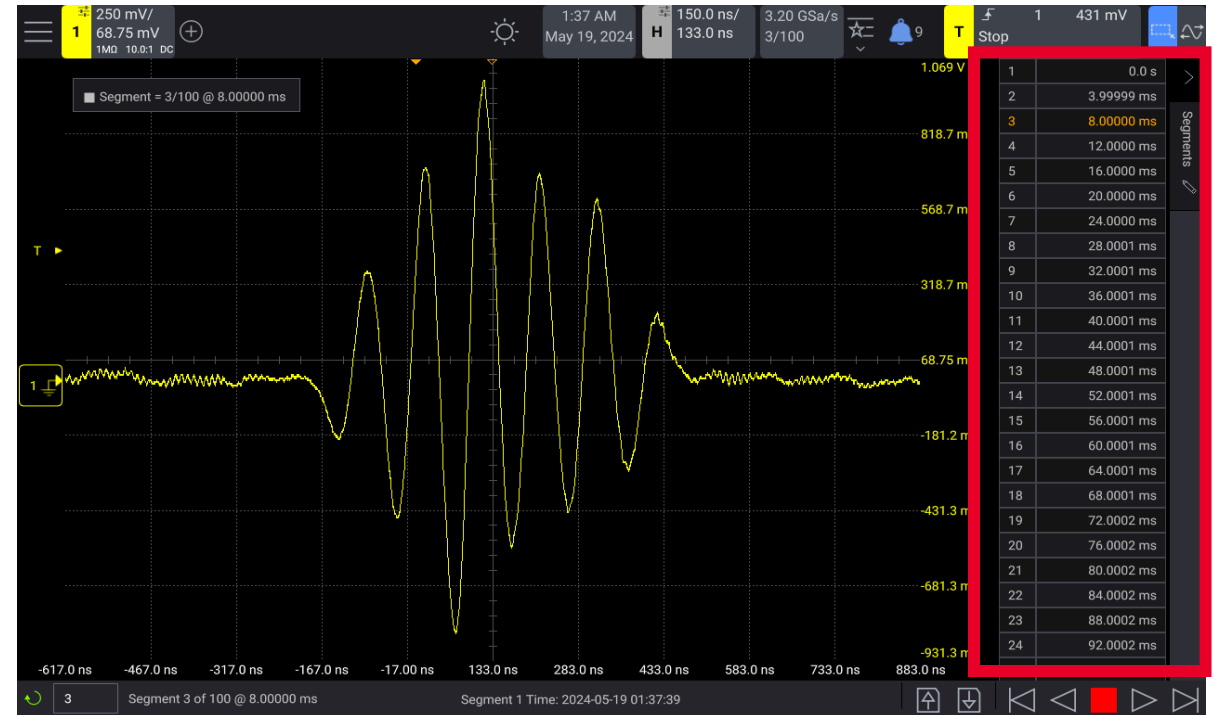
Deep Memory Architecture

Custom Technology

Extend your memory to the Gpts with segmented memory & a time correlated list



Competitor with no list display

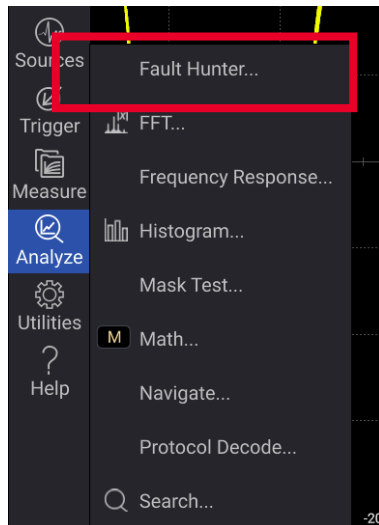


Keysight HD3 Series with time-correlated list

Automated Software Technology

Custom Technology

- Automatic **Fault Hunter!**
- The perfect tool for general debugging
- Analyze glitches, slow edges, and runts while you do other work



A screenshot of the Fault Hunter tool interface. The 'Tests Complete' section shows a table of test results. A red arrow points from the 'View' button for the 'Positive Glitch' test to the oscilloscope waveform above. The table has columns for Test, Result, Mean, Std Dev, and Acceptable Range. Below the table is a 'Measurements' section with a table of measurements.

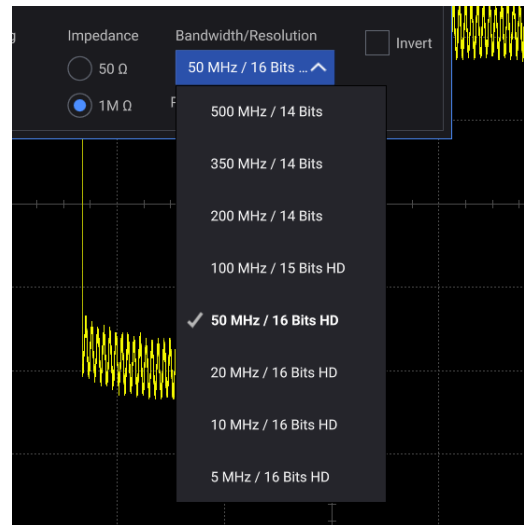
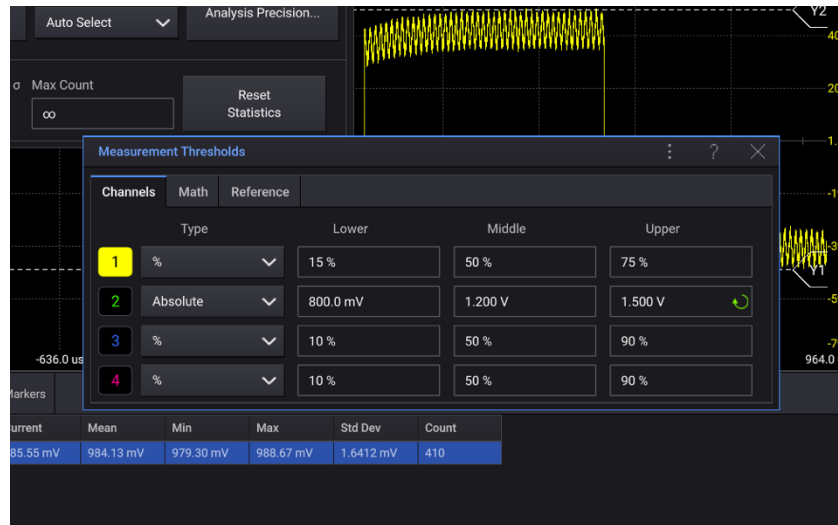
Test	Result	Mean	Std Dev	Acceptable Range	Run	View	Copy to Trigger
Positive Glitch	Failed	130.64 ns	38.170 ns	> 71 ns	Run	View	Copy to Trigger
Negative Glitch	Passed	130.64 ns	38.170 ns	> 71 ns	Run	View	Copy to Trigger
Slow Rising Edge	Passed	45 ns	1.04 ns	< 47 ns	Run	View	Copy to Trigger
Slow Falling Edge	Passed	45 ns	1.24 ns	< 47 ns	Run	View	Copy to Trigger
Positive Runt	Passed	Low 96.985 mV Hi 2.0157 V	8.77 mV	> 481 mV & < 1.63 V	Run	View	Copy to Trigger
Negative Runt	Passed	Low 96.985 mV Hi 2.0157 V	6.56 mV	> 481 mV & < 1.63 V	Run	View	Copy to Trigger

Measurement	Current	Mean	Min	Max	Std Dev	Count
Rise(1)	45.467 ns	45.369 ns	43.325 ns	49.015 ns	608.59 ps	4.695 k
B Rate(1)	7.6407 Mbps	7.6414 Mbps	7.5862 Mbps	7.7006 Mbps	11.630 kbps	4.695 k
Top(1)	2.0203 V	2.0199 V	2.0016 V	2.0297 V	2.4843 mV	4.695 k
Base(1)	89.06 mV	91.164 mV	79.69 mV	107.81 mV	4.1900 mV	4.695 k

New User Interface Flexibility

Versatile Functionality

- Split grids - utilize full ADC and vertical resolution for every channel
- Several bandwidth limit options – enables HD mode
- Custom measurement thresholds



Immediate License Upgradability

Versatile Functionality

Software Upgrades

- ✓ 200 MHz to 1 GHz bandwidth
- ✓ 20 to 100 Mpts memory
- ✓ 100 MHz Waveform Generator (HD3WAVEGEN)
- ✓ Protocol decode/trigger (HD3EMBA, HD3AUTA)
- ✓ Application support
- ✓ Warranty, services



Included Standard

- ✓ Frequency Response Analysis
- ✓ Fault Hunter
- ✓ Zone trigger
- ✓ Segmented Memory
- ✓ MSO License
- ✓ Mask Testing
- ✓ Histograms, FFT, and more!

Thank you!



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Your Trusted Advisor for Test & Measurement

