



Agilent N5392B Ethernet Electrical Performance Validation & Compliance Software Release Notes

Agilent N5392B Software Version 02.30.0000

Released Date: 25 April 2014

Minimum Infiniium Oscilloscope Baseline Version: 3.00 (9000, 90000 and 90000X series)

File Name: SetupInfEthernetTest02300000.exe

General

- Note: This will be the last version to support Infiniium Oscilloscope Baseline Version 4.20.

1000 Base-T

- Added offset removal for peak measurements.
- Added auto scaling to peak a/peak b measurements.
- Fixed "worst" tag showing on test results that are for information only.
- Added support for droop G/J tests to measure peaks that exceed 1V.

10 Base-T

- Added reporting of peak to peak jitter in 10BT jitter tests.

Agilent N5392B Software Version 02.21.0000

Released Date: 4 July 2013

Minimum Infiniium Oscilloscope Baseline Version: 5.71 (54830, 54850, 8000 and 80000 series), 3.00 (9000, 90000 and 90000X series)

File Name: SetupInfEthernetTest02210000.exe

General

- Added support for automatic calibration of disturbing signal for 81150A.

1000 Base-T

- Fixed jitter histogram not showing on report.

Agilent N5392B Software Version 02.20.0000

Released Date: 21 Feb 2013

Minimum Infiniium Oscilloscope Baseline Version: 5.71 (54830, 54850, 8000 and 80000 series), 3.00 (9000, 90000 and 90000X series)

File Name: SetupInfEthernetTest02200000.exe



General

- Added EEE tests.

100 Base-TX

- Improved performance of AOI template test.

10 Base-T

- Split the 10Base-T TP_IDL test to two tests to support 2 TP_IDL lengths.

Agilent N5392A Software Version 02.19.0000

Released Date: 4 September 2012

Minimum Infiniium Oscilloscope Baseline Version: 5.71 (54830, 54850, 8000 and 80000 series), 3.00 (9000, 90000 and 90000X series)

File Name: SetupInfEthernetTest02190000.exe

General

- Fixed trial deletion issue.
- Added option to manually align mask when mask test fails.
- Fixed mask test failing when channel 2-4 is used.

100 Base-TX

- Changed AOI template test to single pass.

10 Base-T

- Enabled color grade on MAU template.

Agilent N5392A Software Version 02.18.0001

Released Date: 26 April 2012

Minimum Infiniium Oscilloscope Baseline Version: 5.71 (54830, 54850, 8000 and 80000 series), 3.00 (9000, 90000 and 90000X series)

File Name: SetupInfEthernetTest02180001.exe

General

- Fixed "unable to find entry point" in returnloss.dll error.
- Fixed "object reference not set to an instance" error when loading a project with 10BT Harmonic Content test result.

10 Base-T

- Modified triggering for the TP_IDL template test.
- Fixed 10BT Harmonic Content test for the case when selecting 0 harmonic averages.
- Fixed double waveforms appearing in TP_IDL mask tests.



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- Fixed infinite loop in Harmonic Content test when using non-periodic waveform.
- Fixed TP_IDL mask test with TPM.
- Fixed Harmonic Content test acquiring wrong result.
- Added option to increase vertical range for the second part (End) of TP_IDL mask test.

1000 Base-T

- Fixed template-H better vertical alignment.
- Fixed calibration of function generators (disturbing signal) for 80k scopes.
- Fixed mask not appearing in non-disturbing signal template test in new baseline ($\geq 3.22.0004$).

Agilent N5392A Software Version 02.17

Released Date: 1 October 2011

Minimum Infiniium Oscilloscope Baseline Version: 5.71 (54830, 54850, 8000 and 80000 series), 3.00 (9000, 90000 and 90000X series)

File Name: SetupInfEthernetTest02170000.exe

General

- Added support for Windows7
- Better support for connection to network analyzer for return loss tests.

10 Base-T

- Added support for various burst gap length in harmonic tests.
- Better support for 8000 and 9000 series triggering.
- Better support for all channels other than channel 1 in jitter tests.

Agilent N5392A Software Version 02.16

Released Date: 22 April 2011

Minimum Infiniium Oscilloscope Baseline Version: 5.70 (54830, 54850, 8000 and 80000 series), 3.00 (9000, 90000 and 90000X series)

File Name: SetupInfEthernetTest02160000.exe

Addition:

General

- When you open legacy projects created by older versions of this application, they will be loaded read-only mode and you will not be able to append new results to them. Versions that will be affected are from Version 02.15 and below.
- Added MSO8000 Series as one of the supported oscilloscopes.



- Separated the setup diagram for TM1 and TM4 disturbing signal in the calibration instruction.

1000 Base-T

- Added more accurate trigger method (Glitch Trigger) for Point H.
- Added Jitter Test without TX_TCLK to suit for DUT which does not provide access to TX_TCLK.

10 Base-T

- Added 1 new feature for Harmonic Content Test which is the ability to report the results in Table form for certain numbers of harmonics that can be decided through Configure Tab. The table will display all possible harmonics together with correspond frequency, magnitude and dB down.

Modifications:

1000 Base-T

- Changed template mask alignment method.
- Updated new formula for difference between Point A and Point B which is

$$100 * \frac{\text{abs}(|\text{PeakA}| - |\text{PeakB}|)}{\frac{|\text{PeakA}| + |\text{PeakB}|}{2}}$$

- Displayed pair used on the captured images.

100 Base-TX

- Automated the amount of memory depth required for template test.
- Added 1 more zone region in Duty Cycle Distortion to enhance the test to search for a valid waveform.

10 Base-T

- Changed the way to capture a valid waveform for Harmonic Content Test.
- Altered Mask Y2 scale for MAU template test to prevent signal clipped off.
- Modified the triggering method for TP_IDL template test.

Agilent N5392A Software Version 02.15

Released Date: 1 October 2010

Minimum Infiniium Oscilloscope Baseline Version: 5.70 (80000 series), 2.00 (90000 series) , 2.00 (9000 series), 3.00 (90000X series)

File Name: SetupInfEthernetTest02150000.exe

Modifications:



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General

- Added support for 90000X series. Will require Microsoft .Net Framework 3.5.

1000 Base-T

- Changed template for B,D and H. Mask coordinates are flipped rather than using the scale to flip.
- Added more value for Point H trigger level configuration to suite for different DUT.
- Added Test Mode 1 Trigger Hold Off configuration to suit for different DUT.
- Added Number of Segment for disturbing signal removal configuration to let user can fine tune disturbing signal removal algorithm.
- Updated the reference to IEEE 802.3-2008.
- Changed TestMode4 Distortion test where all phases will be analyze but 0.6UI phase will be used for determining pass fail. This is based on IEEE 802.3-2008.
- Updated connection diagram.

100 Base-T

- Change trigger for Transmitter Jitter and Duty Cycle Distortion tests to accommodate more pseudo random patterns.

Agilent N5392A Software Version 02.14

Released Date: 29 June 2009

Minimum Infiniium Oscilloscope Baseline Version: 5.70 (80000 series), 1.40 (90000 series) , 2.00 (9000 series)

File Name: SetupInfEthernetTest0214.exe

Additions:

General

- Supports different languages in Windows Operating System.

1000 Base-T

- Added the selection option in the configure tab to either use baseline high pass filter or user defined high pass filter Without Disturbing Signal tests.

Modifications:

General

- Fixed the mask align function of the 1000Base-T template tests.
- Fixed the missing configuration details after comments are added.



1000 Base-T

- Removed the cal file requirement in using non-33250A waveform generator.

10 Base-T

- Fixed the Return Loss measurement to meet the specification – 85, 100 and 111 ohms.
- Repaired the graph plotting feature of the Return Loss VNA file tests.
- Fixed the incorrect instructions of 10BASE-T Return Loss tests in the manual.

Agilent N5392A Software Version 02.12

Released Date: 18 July 2008

Minimum Infiniium Oscilloscope Baseline Version: 5.50 (80000 series), 1.21 (90000 series)

File Name: SetupInfEthernetTest0212.exe

Additions:

General

- Added bandwidth reduction option for 1000 Base-T and 100 Base-T tests.

1000 Base-T

- Added the calibration checking for TM1 and TM4 tests.

100 Base-TX

- Added the ground reference measurement option for the Peak Voltage tests.
- Added scaling value selection for the UTP AOI Template test.
- Used the eye folding and clock recovery function for the template test.

10 Base-T

- Added the measurement point option for the Jitter test.

Modifications:

General



- Fixed the mask align function for the template tests (1000Base-T and 10 Base-T).
- Fixed the View Waveform function in the connection diagram windows.
- Fixed the graph plotting feature of the return loss tests.

1000 Base-T

- Fixed the error message that occurs due to low memory depth (8000/54830 oscilloscope).

10 Base-T

- Modified the trigger mode from Auto to Triggered for the Link Test Pulse tests.

Agilent N5392A Software Version 02.11

Released Date: 05 Feb 2008

Minimum Infiniium Oscilloscope Baseline Version: 5.20 (80000 series), 1.00 (90000 series)

File Name: SetupInfEthernet0211.exe

Modifications:

General

- Supports UDF function tests in the Infiniium 90000 Series High Performance Oscilloscope.

Agilent N5392A Software Version 02.10

Released Date: 10 Jan 2008

Minimum Infiniium Oscilloscope Baseline Version: 5.20 (80000 series), 1.00 (90000 series)

File Name: SetupInfEthernet0210.exe

Additions:

- Supports the Remote Interface Control.
- Supports the Infiniium 90000 Series High Performance Oscilloscope.
- Supports the Multi-trial testing.

Modifications:



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General

- Support deep memory up to 10M for the Test Mode 4 Signal Tests.

Agilent N5392A Software Version 02.01

Released Date: 28 June 2007

Minimum Infiniium Oscilloscope Baseline Version: 05.20.0000

File Name: SetupInfEthernetTest0201.exe

Modifications:

General

- Moved the memory checking from the Ethernet test application startup to the start of a test.
- Fixed communication problem between the application and the function generators used as the disturbing signal source.

1000 Base-T

- Modified trigger level for the TM1 Template test point F and Droop test point G.
- Modified the TM4 Signal Tests (with Disturbing signal) averaging from “No Averaging” to “150” by default.
- Modified the signal display scaling for the TM1 Droop tests to get an accurate measurement.

Agilent N5392A Software Version 02.00

Released Date: 30 Apr 2006

Minimum Infiniium Oscilloscope Baseline Version: 05.20.0000

File Name: SetupInfEthernetTest0200.exe

Additions:

1000 Base-T

- Added the TestMode1 tests with disturbing signal.
- Added the TestMode4 tests with and without disturbing signal.
- Added the MDI Return Loss tests.

100 Base-TX

- Added the Transmitter/Receiver Return Loss tests.



10 Base-T

- Added the Transmitter/Receiver Return Loss tests.

Modifications:

General

- Modified the connection diagrams to reflect the new test fixture.

1000 Base-T

- Modified the jitter test histogram plotting.

10 Base-T

- Modified the range for Link Test Pulse trigger to >35ns and <130ns.

Agilent N5392A Software Version 01.02

Released Date: 31 Jan 2006

Minimum Infiniium Oscilloscope Baseline Version: 03.50.0000

File Name: SetupInfEthernetTest0102.exe

General

- Remove deprecated use of *IDN? for options (4.90 Scope SW), in favor of new *OPT? query.
- Use HIGH sensitivity trigger for the high performance oscilloscopes, to improve the trigger robustness.

Additions:

100 Base-TX

- Added overall Rise/Fall Symmetry measurement to cover the symmetry across +/-Vout.

10 Base-T

- 10BT Jitter Improvements -- added packet block analysis which allows us to deal with arbitrary packet payloads.

Modifications:

100 Base-TX

- Corrected documentation error for the connection with link partner (should use fixture 6 and not 7).
- Rise/Falltime: Improved the Trigger flexibility (support more cases).



- +/- Vout Meas: Changed scale to 300mV/div to fit the signal onscreen.
- Changed +/-Vout and Rise/Fall default # averages to 256.

10 Base-T

- Changed 10BT LTP Mask Scaling to further reduce the quantization error.
- IDL mask: Increased mask align search radius to accommodate marginal signals.

Agilent N5392A Software Version 01.01

Released Date: 18 Mar 2005

Minimum Infiniium Oscilloscope Baseline Version: 03.50.0000

File Name: SetupInfEthernetTest0101.exe

General

- Adds Support for Infiniium 80000 Series High Performance Oscilloscopes
- Workaround for the problem with WindowsXP Compressed Folders Utility. This Utility is unable to handle "," character in the filenames. Therefore, opening a compressed project folder on a Windows XP computer would not extract/show these files. We no longer use "," character in the filenames generated by the application.
- Improved usability of Connection Dialog, making it more intuitive how to continue forward.
- Load Splash screen earlier to provide more feedback during the loading process.
- Fixed view synchronization problem between the TestTree selection view and Results List view.

Additions:

1000 Base-T

- Added user-configurable control over channel used for Link Partner Data.
- Added user-configurable sample rate selection for jitter tests.

100 Base-TX

- Allow User-specification of the pattern used for DCD tests. Note that this test can be (and is by default) performed on 100 Base-TX Random Data.



The software will find the required pattern in the random data signal. However, if the users wish, they may specify the 010101 pattern. In this case, the scope will prompt the user to make the DUT configuration change.

10 Base-T

- Added better Auto-Triggering capability for the Jitter tests. This allows the user to run jitter tests on any consistently-sized random-data packets.
- Allow user-configurable amount of trigger-holdoff for the manual trigger method for jitter tests (This is a feature for advanced users).
- Allow users to specify the Start/End or Both (default) for the TP_IDL and LTP template tests.

Modifications:

1000 Base-T

- Improved support for the multi-channel measurements using 2-channel oscilloscopes
- Modified the Default (user configurable) Channel assignments for jitter measurements to make better use of 2 or 4 channels, depending on the number of channels available.

100 Base-TX

- Relaxed Trigger conditions to accommodate a wider range of signals for various tests. Note that all tests can be performed on the 100Base-TX Random data.
- Changed Test Grouping to reduce depth of the Tree.
- Include alternate connectivity instructions using fixture 6 with a link-partner.

10 Base-T

- Improved Algorithms for more practical TP_IDL tests.
- Isolates Pulse of the same pulse-width so that average can be used.
- Set Default amount of averaging to 512.
- Changed default MAU Type to "Integrated".
- Provide user-configurable control over the min/max scaling used for the MAU Template Tests



- Changed Default Number of Averages for the LTP/TP_IDL tests to 512.
- Widened acceptable trigger range for TP_IDL signal to accommodate for the full range of the spec.
- Fixed some typographical errors in the Connection Instructions.
- Use math magnify function to expand signal further and improve template testing precision, reducing pixel quantization error.
- Fixed the issue with the 10BT Common Mode measurement -- negative CMV < -50mV now FAIL as required by the specification.

Agilent N5392A Software Version 01.00

Released Date: 8 Oct 2004

Minimum Infiniium Oscilloscope Baseline Version: 03.50.0000

File Name: SetupInfEthernetTest0100.exe

Initial release.