



Ethernet 1000BASE-T Test Report



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General Information

Device	
User	
Site	
Date	1/2/2018
Temperature	
Instrument	RTO 1024
Oscilloscope FW Version	3.0.1.1
Scope Suite Version	3.0.4.0
Comments	



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Test Summary

1000BASE-T Peak Voltage No Disturber - (Pair A)

Result	Test	Description	Run
✓	40.6.1.2.1	Peak Differential Output Voltage and Level Accuracy Test No Disturber	1

1000BASE-T Maximum Output Droop No Disturber - (Pair A)

Result	Test	Description	Run
✓	40.6.1.2.2	Maximum Output Droop	1

1000BASE-T Differential Output Templates No Disturber - (Pair A)

Result	Test	Description	Run
✗	40.6.1.2.3	Normalized Time Domain Transmit Template	1

1000BASE-T Transmitter Distortion No Disturber No TX_TCLK - (Pair A)

Result	Test	Description	Run
✗	40.6.1.2.4	Transmitter Distortion	1

1000BASE-T Jitter Mastermode No TX_TCLK - (Pair A)

Result	Test	Description	Run
✓	40.6.1.2.5	Jitter Mastermode No TX_TCLK	1

1000BASE-T Jitter Slavemode No TX_TCLK - (Pair A)

Result	Test	Description	Run
✓	40.6.1.2.5	Jitter Slavemode No TX_TCLK (Recorded Waveform Length 104ms)	1



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Test Details

1000BASE-T Peak Voltage No Disturber - 40.6.1.2.1

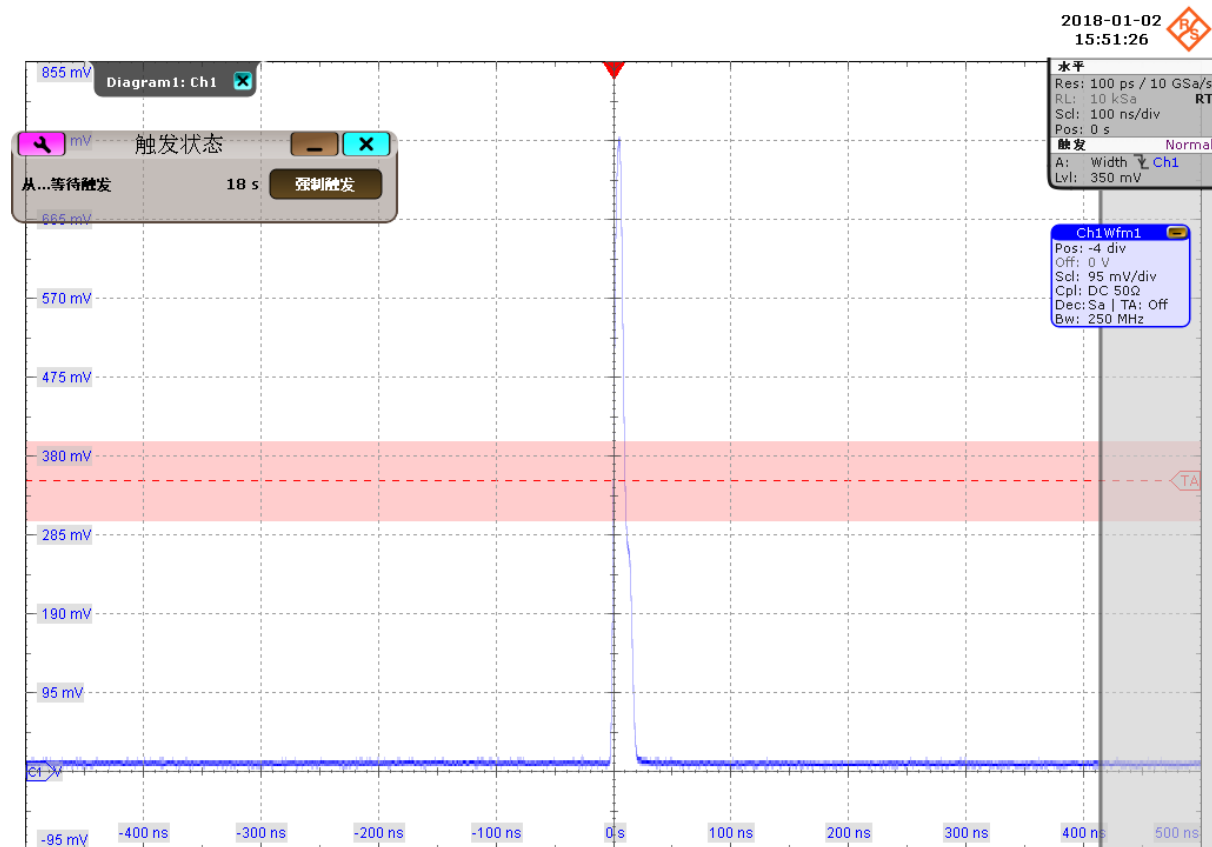


Description	Peak Differential Output Voltage and Level Accuracy Test No Disturber
Pair	A
Run	1
Result	Pass
Time	01/02/2018 15:51:07

Additional Information

Measurement	Value	Limits
Voltage Point A	747.233 mV	670 mV $\leq x \leq$ 820 mV
Voltage Point B	754.743 mV	670 mV $\leq x \leq$ 820 mV
Voltage Point A B difference	0.9950256%	$x \leq 1 \%$
Voltage difference between Point C and Point A and B	1.349475%	$x \leq 2 \%$
Voltage difference between Point D and Point A and B	0.09999611%	$x \leq 2 \%$

1000BASE-T Peak Voltage No Disturber - 40.6.1.2.1 - Voltage Point A



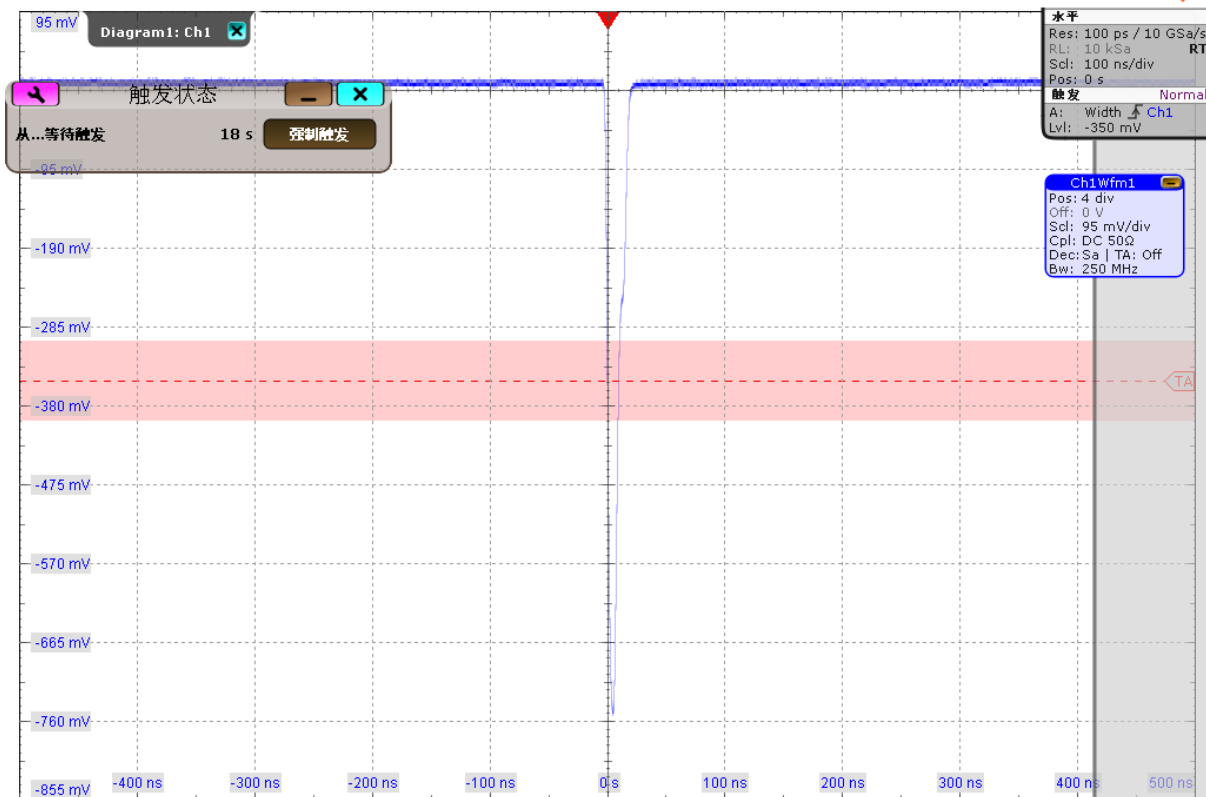


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1000BASE-T Peak Voltage No Disturber - 40.6.1.2.1 - Voltage Point B

2018-01-02
15:51:27



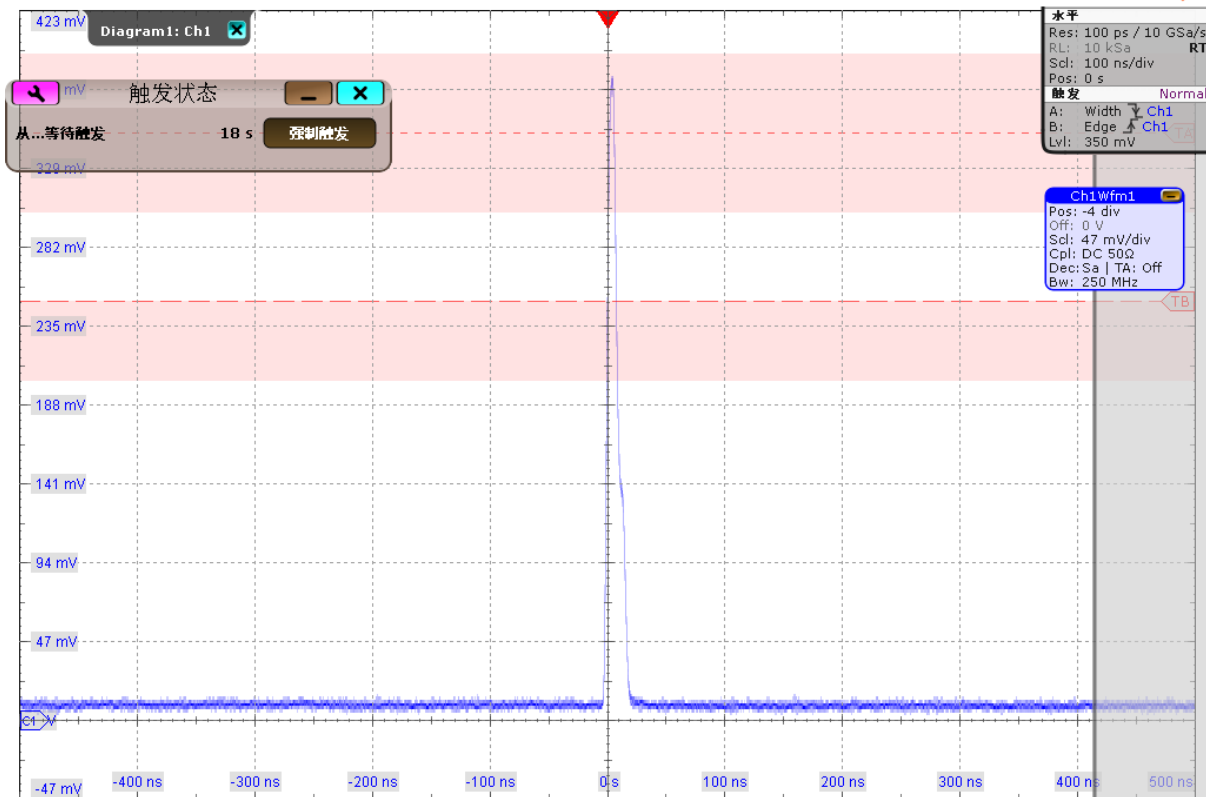


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1000BASE-T Peak Voltage No Disturber - 40.6.1.2.1 - Voltage difference between Point C and Point A and B

2018-01-02
15:51:29

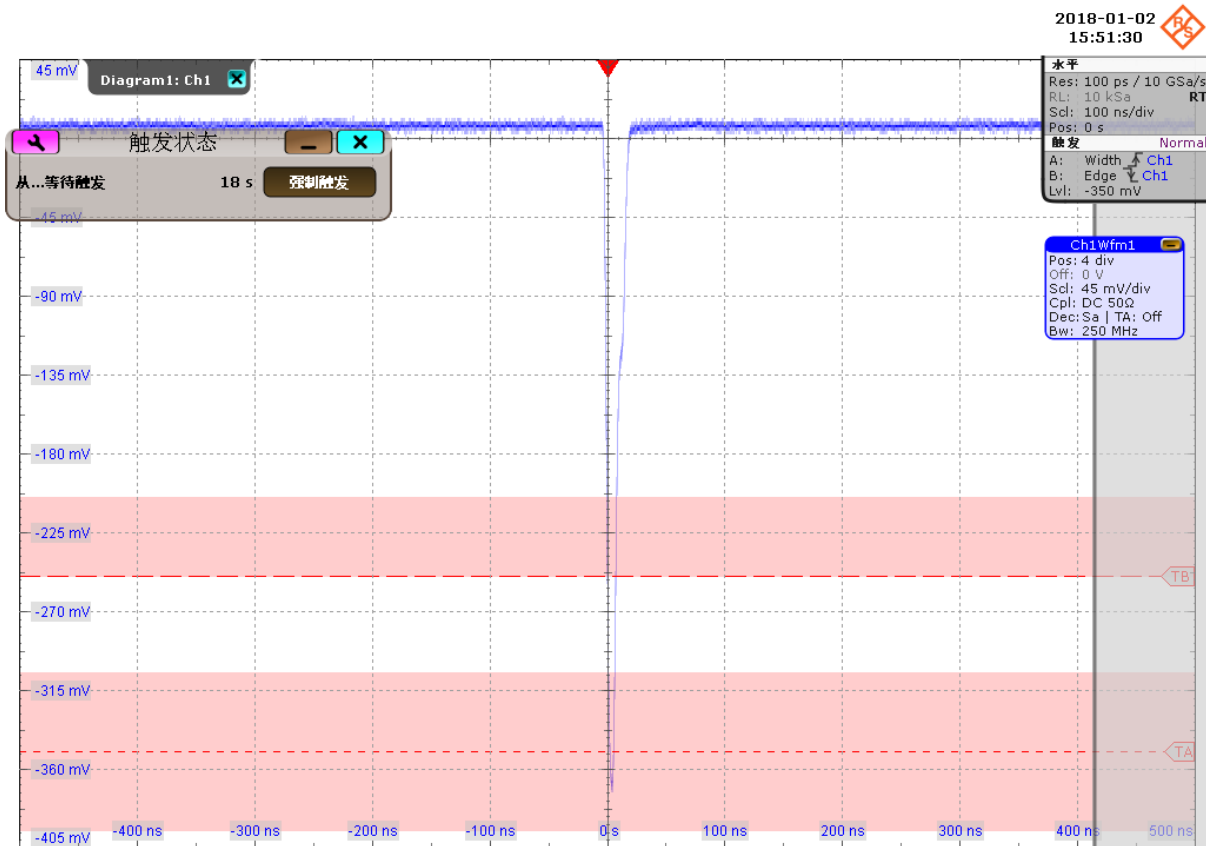




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1000BASE-T Peak Voltage No Disturber - 40.6.1.2.1 - Voltage difference between Point D and Point A and B



1000BASE-T Maximum Output Droop No Disturber - 40.6.1.2.2



Description	Maximum Output Droop
Pair	A
Run	1
Result	Pass
Time	01/02/2018 15:51:35

Additional Information

Measurement	Value	Limits
Voltage magnitude at point G versus point F	97.43 %	x >= 73.1 %
Voltage magnitude at point J versus point H	98.44 %	x >= 73.1 %

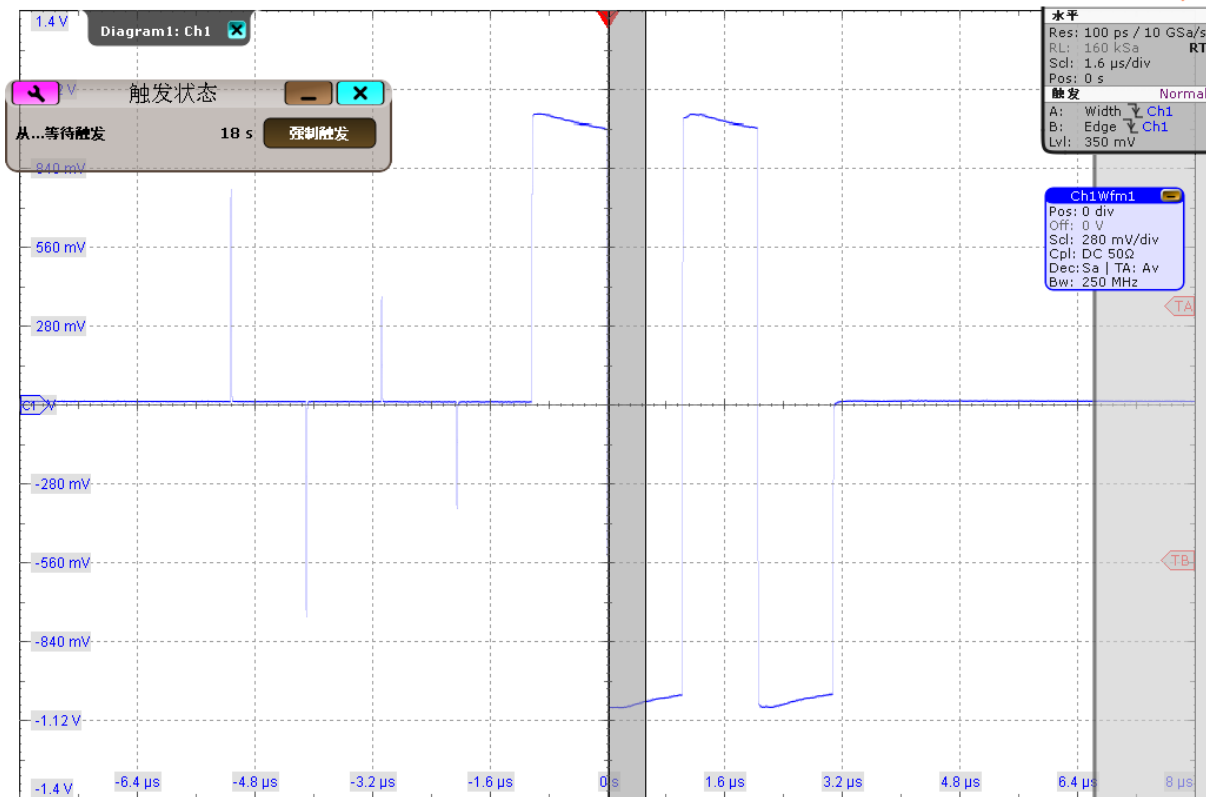


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1000BASE-T Maximum Output Droop No Disturber - 40.6.1.2.2 - Voltage magnitude at point G versus point F

2018-01-02
15:52:24



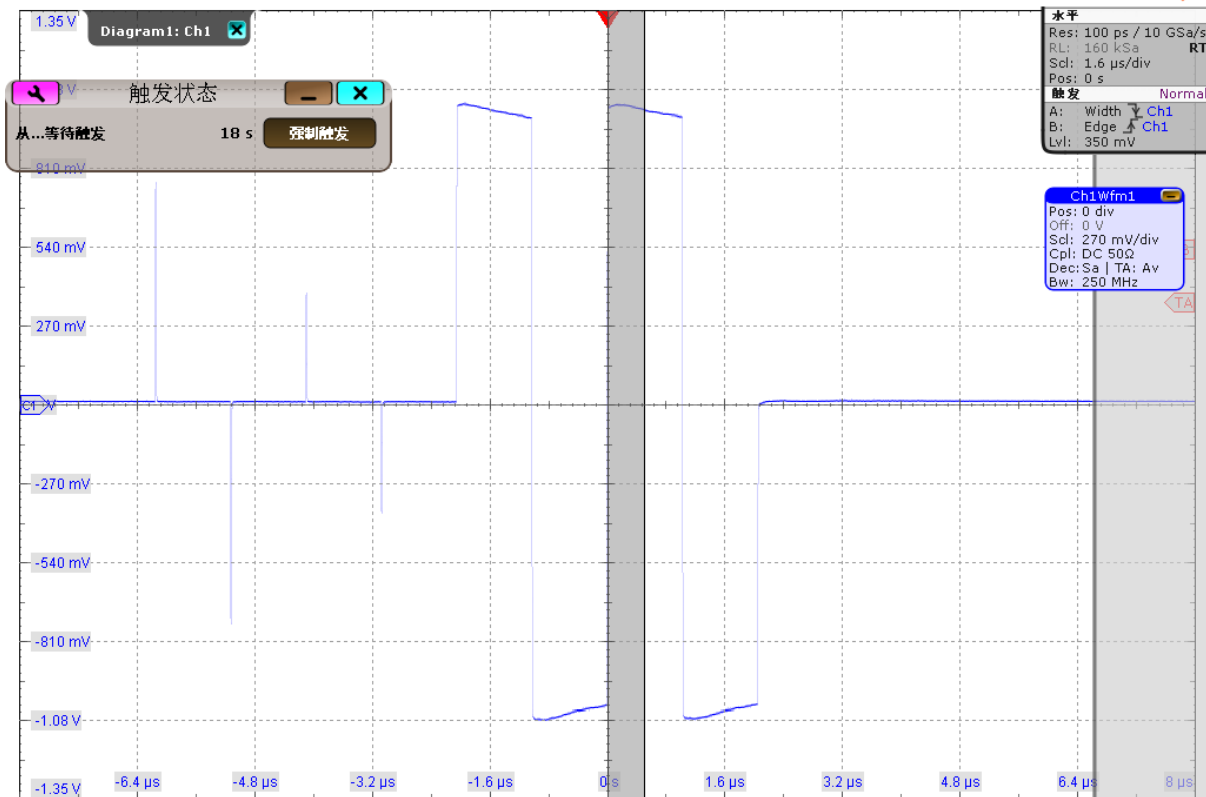


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1000BASE-T Maximum Output Droop No Disturber - 40.6.1.2.2 - Voltage magnitude at point J versus point H

2018-01-02
15:52:28



1000BASE-T Differential Output Templates No Disturber - 40.6.1.2.3



Description	Normalized Time Domain Transmit Template
Pair	A
Run	1
Result	Fail
Time	01/02/2018 15:52:33

Additional Information

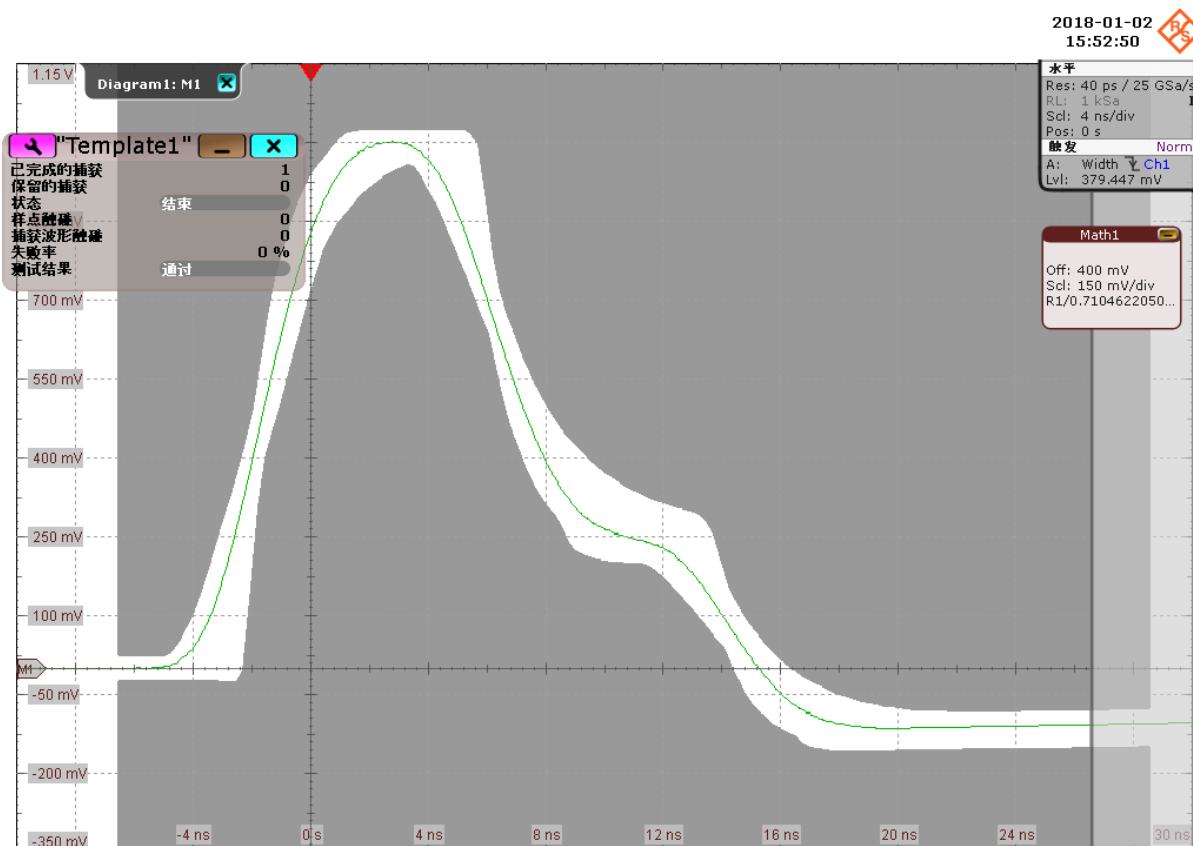


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Measurement	Value	Limits
Point A mask	Pass	Meet normalized time domain voltage template 1
Point A normalized time domain voltage template 1 violation points	0	x = 0 Violation Point
Point B mask	Pass	Meet normalized time domain voltage template 1
Point B normalized time domain voltage template 1 violation points	0	x = 0 Violation Point
Point C mask	Pass	Meet normalized time domain voltage template 1
Point C normalized time domain voltage template 1 violation points	0	x = 0 Violation Point
Point D mask	Pass	Meet normalized time domain voltage template 1
Point D normalized time domain voltage template 1 violation points	0	x = 0 Violation Point
Point F mask	Fail	Meet normalized time domain voltage template 2
Point F normalized time domain voltage template 2 violation points	78	x = 0 Violation Point
Point H mask	Fail	Meet normalized time domain voltage template 2
Point H normalized time domain voltage template 2 violation points	111	x = 0 Violation Point

1000BASE-T Differential Output Templates No Disturber - 40.6.1.2.3 - Point A mask



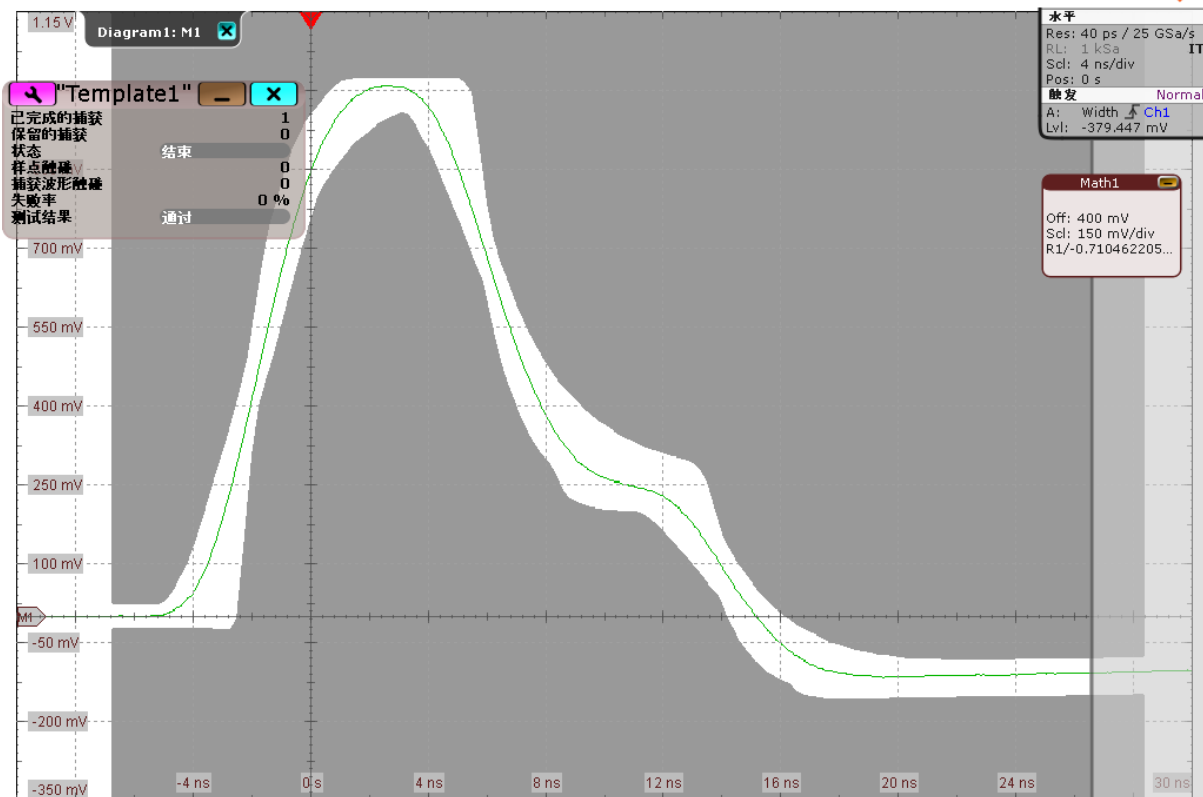


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1000BASE-T Differential Output Templates No Disturber - 40.6.1.2.3 - Point B mask

2018-01-02
15:53:00



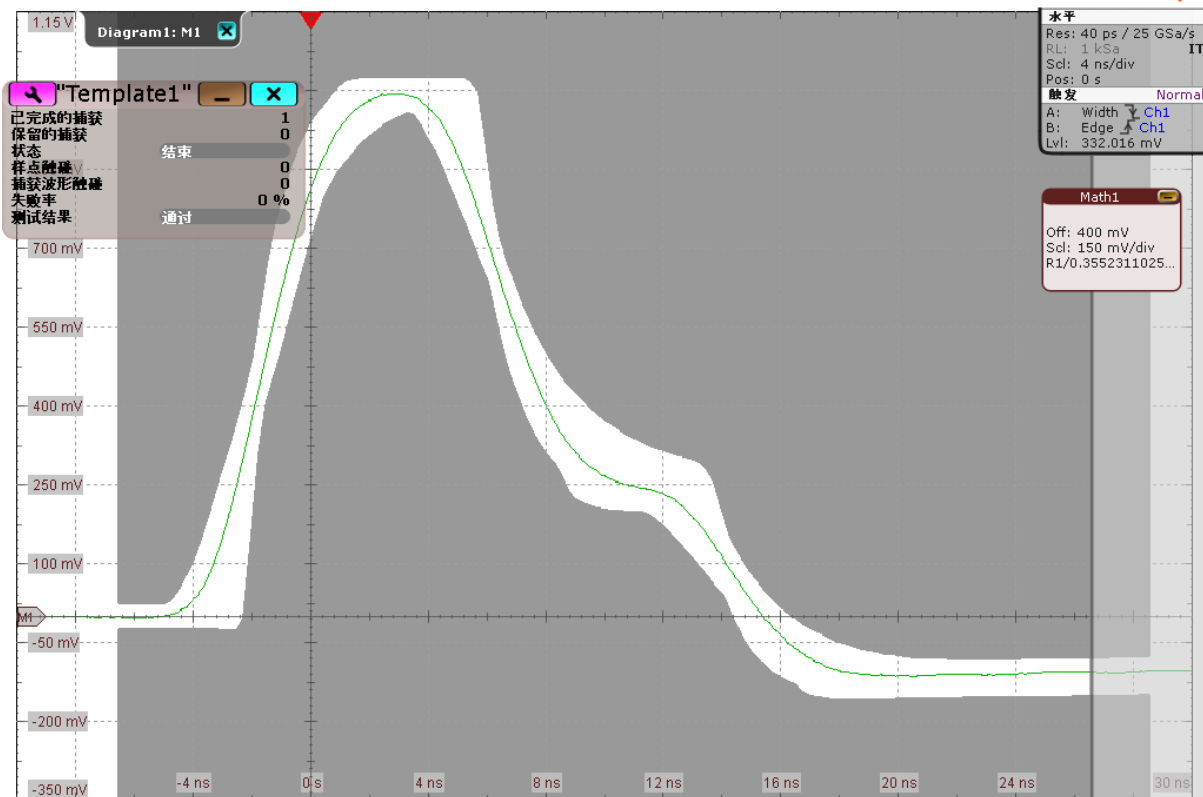


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1000BASE-T Differential Output Templates No Disturber - 40.6.1.2.3 - Point C mask

2018-01-02
15:53:09



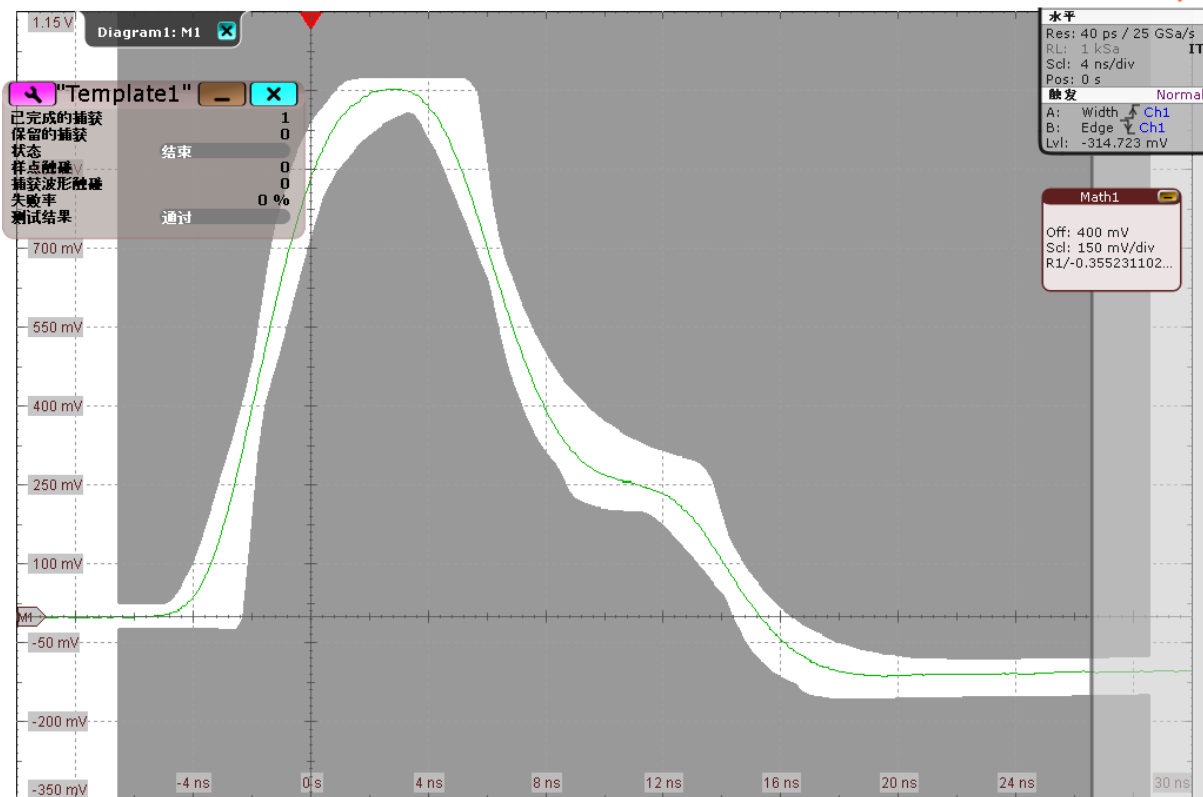


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1000BASE-T Differential Output Templates No Disturber - 40.6.1.2.3 - Point D mask

2018-01-02
15:53:19



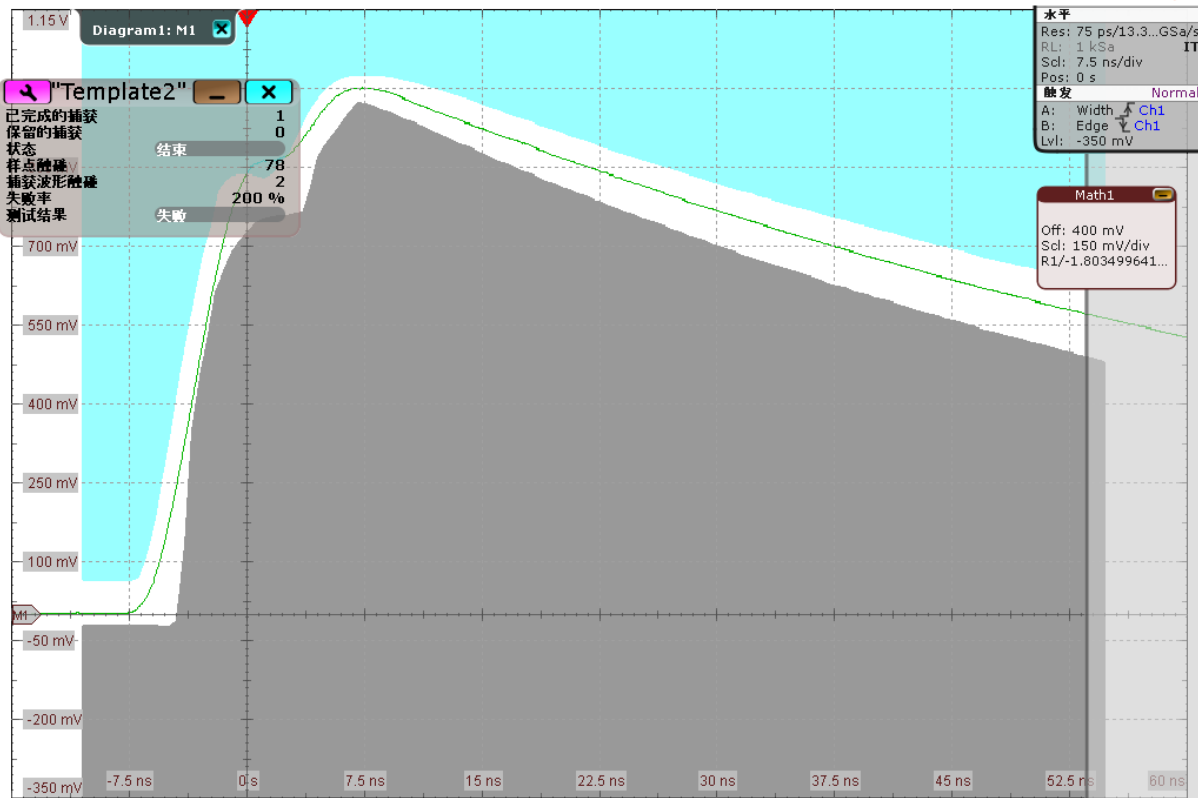


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1000BASE-T Differential Output Templates No Disturber - 40.6.1.2.3 - Point F mask

2018-01-02
15:53:36

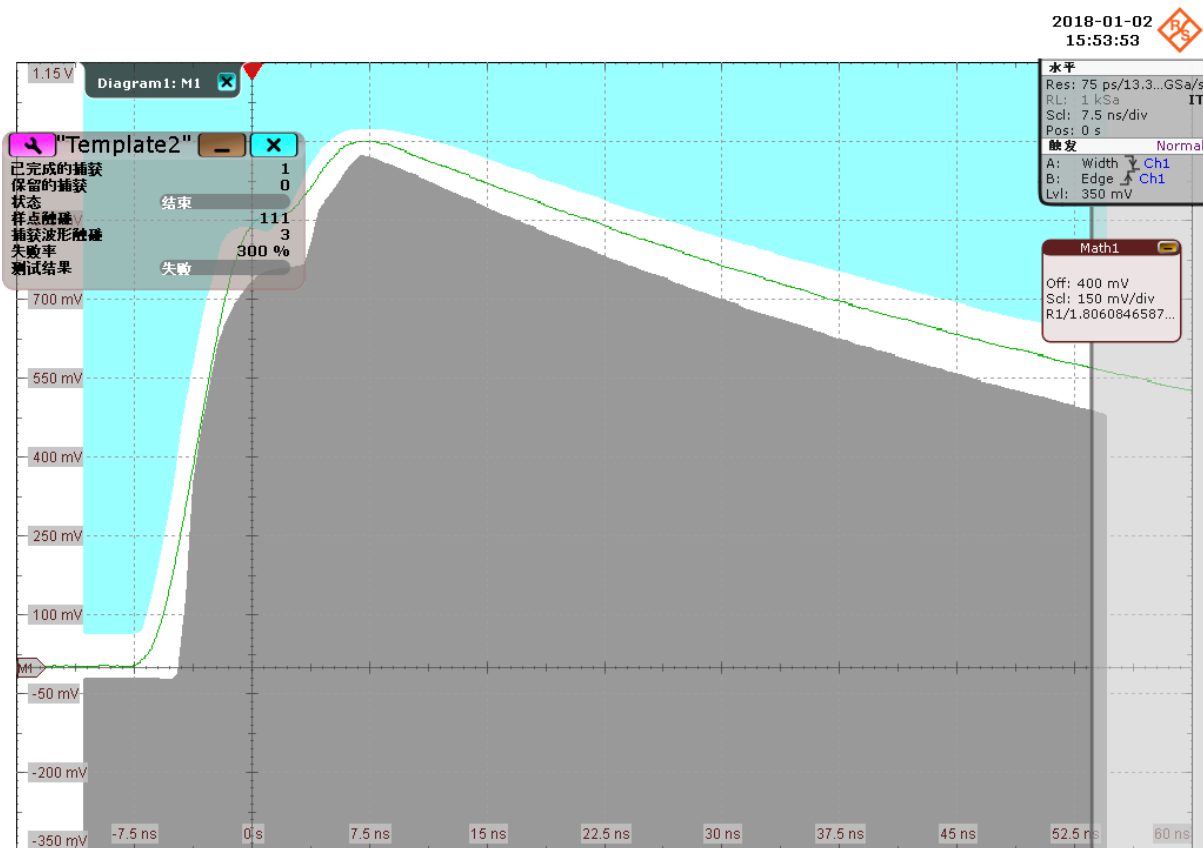




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1000BASE-T Differential Output Templates No Disturber - 40.6.1.2.3 - Point H mask



1000BASE-T Transmitter Distortion No Disturber No TX_TCLK - 40.6.1.2.4



Description	Transmitter Distortion
Pair	A
Run	1
Result	Fail
Time	01/02/2018 15:53:58

Additional Information

Measurement	Value	Limits
Minimum peak distortion occurs at 0.1 UI	6.451 mV	$x < 10 \text{ mV}$
Minimum signal-to-noise ratio	50.49152 dB	
Percentage of eye opening within limit	10 %	$x \geq 60 \%$

1000BASE-T Jitter Mastermode No TX_TCLK - 40.6.1.2.5



Description	Jitter Mastermode No TX_TCLK
Pair	A
Run	1
Result	Pass
Time	01/02/2018 15:59:11



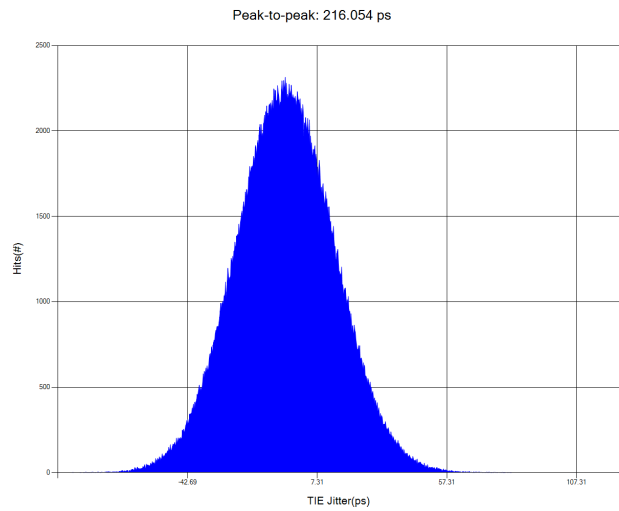
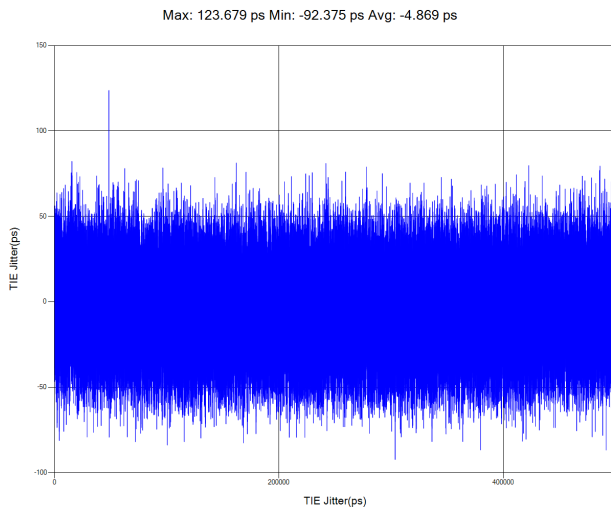
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Additional Information

Measurement	Value	Limits
Unfiltered TIE jitter	216.054 ps	$x \leq 1.4$ ns
Filtered TIE jitter	211.572 ps	$x \leq 300$ ps

1000BASE-T Jitter Mastermode No TX_TCLK - 40.6.1.2.5 - Unfiltered TIE jitter

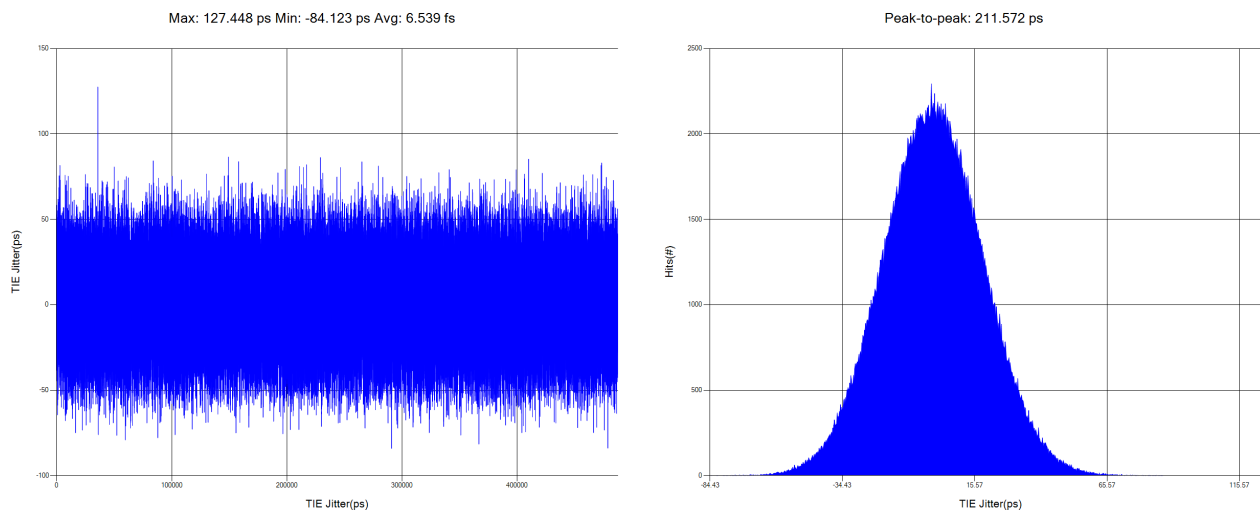




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1000BASE-T Jitter Mastermode No TX_TCLK - 40.6.1.2.5 - Filtered TIE jitter



1000BASE-T Jitter Slavemode No TX_TCLK - 40.6.1.2.5



Description	Jitter Slavemode No TX_TCLK (Recorded Waveform Length 104ms)
Pair	A
Run	1
Result	Pass
Time	01/02/2018 16:10:09

Additional Information

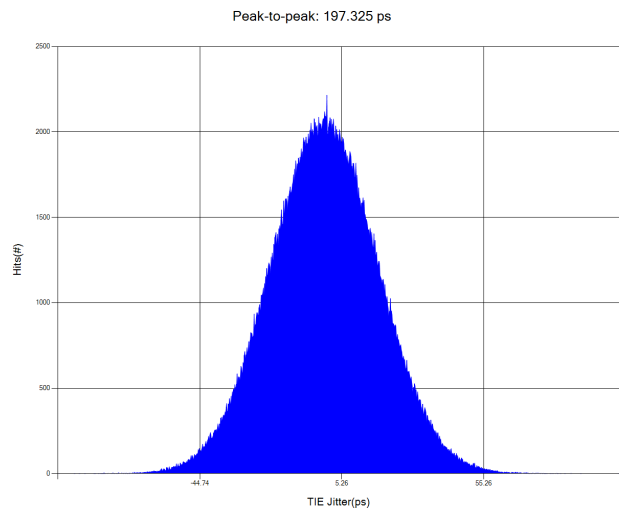
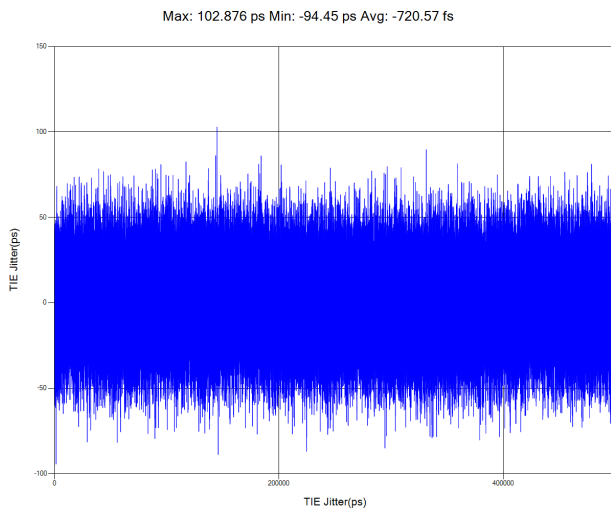
Measurement	Value	Limits
TM2 Unfiltered TIE jitter	197.325 ps	
TM2 Filtered TIE jitter	197.897 ps	
TM3 Unfiltered TIE jitter	202.261 ps	
TM3 Filtered TIE jitter	204.498 ps	
Unfiltered TIE jitter	4.936 ps	x <= 1.4 ns
Filtered TIE jitter	6.601 ps	x <= 400 ps



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1000BASE-T Jitter Slavemode No TX_TCLK - 40.6.1.2.5 - TM2 Unfiltered TIE jitter

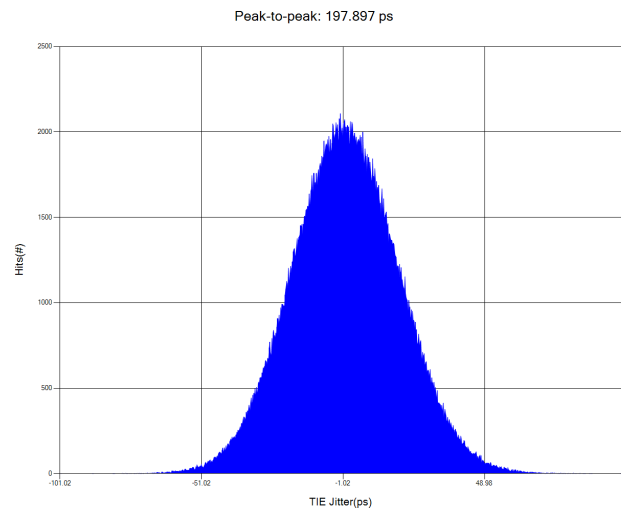
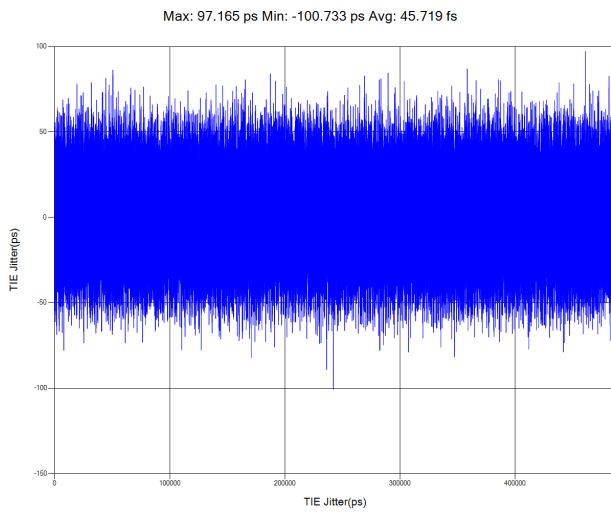




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1000BASE-T Jitter Slavemode No TX_TCLK - 40.6.1.2.5 - TM2 Filtered TIE jitter

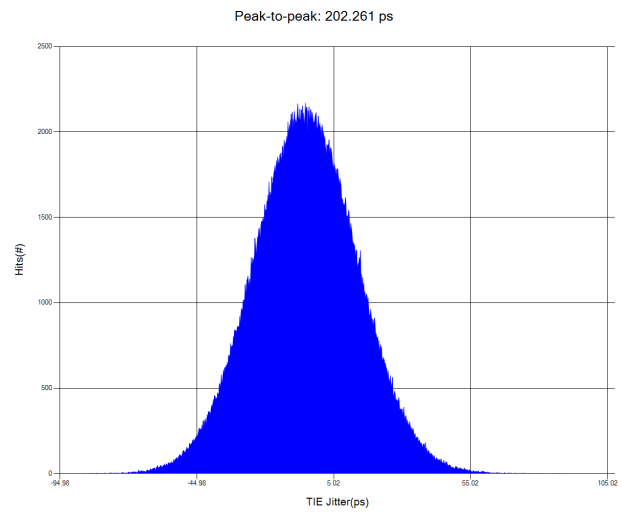
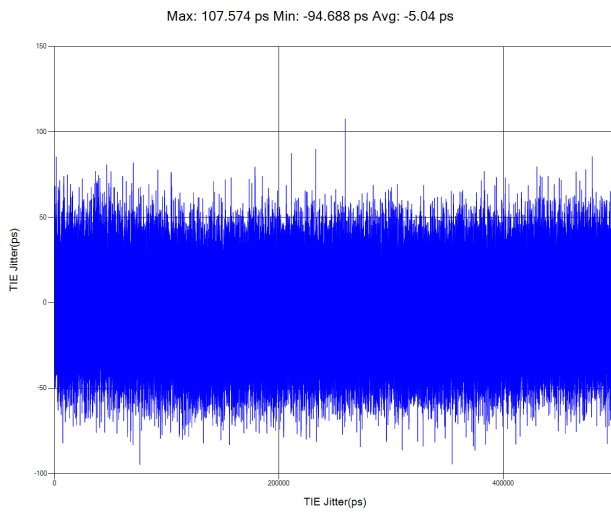




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1000BASE-T Jitter Slavemode No TX_TCLK - 40.6.1.2.5 - TM3 Unfiltered TIE jitter





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1000BASE-T Jitter Slavemode No TX_TCLK - 40.6.1.2.5 - TM3 Filtered TIE jitter

