

ENET Test Report

Overall result: Pass

DUT: Colibri iMX6ULL
Comment: Iris Carrier Board
Time of session start: 06/19/2018 14:59:59
Operator: AST
Temperature: 25° C
Standard in use: ENET

Session ID: 284, Continuation #: 1:

Time of run: 2018/06/19 15:00:30
Configuration in use: 10/100BASE-T All tests
Limits in use: Default
Oscilloscope Name: LCRY0856N75079 Model: WM808ZI-B
Oscilloscope Serial #: LCRY0856N75079
Computer: LCRY0856N75079
Oscilloscope firmware version: 8.5.0.5a (Build 240488)
QualiPHY core version: 8.5.0.1 (Build 241419)

QualiPHY script version: 8.5.0.0
Stylesheet version: 1.2.0.7

Summary Table


[Hide Table]

Pass #	Test	Measurement	Current Value	Test Criteria
✓	1 14.3.1.2.1	Peak Differential Output Voltage	2.77 V	2.20 V < x < 2.80 V
✓	1 14.3.1.2.3	8BT Output Timing Jitter 100 ohm without TPM Internal MAU	986 ps	x <= 22.000 ns
✓	1 14.3.1.2.3	8.5BT Output Timing Jitter 100 ohm without TPM Internal MAU	1.173 ns	x <= 22.000 ns
✓	1 14.3.1.2.1	TP_IDL 100 ohm without TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	TP_IDL 100 ohm without TPM (Tail)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse 100 ohm without TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse 100 ohm without TPM (Tail)	AllPass	match
✓	1 14.3.1.2.1	Differential Output Voltage Harmonics	33.2 dB	x >= 27.0 dB
✓	1 14.3.1.2.1	TP_IDL Load 1 without TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	TP_IDL Load 1 without TPM (Tail)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse Load 1 without TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse Load 1 without TPM (Tail)	AllPass	match
✓	1 14.3.1.2.1	TP_IDL Load 2 without TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	TP_IDL Load 2 without TPM (Tail)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse Load 2 without TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse Load 2 without TPM (Tail)	AllPass	match
✓	1 14.3.1.2.1	Template - Internal MAU Normal	AllPass	match
✓	1 14.3.1.2.1	Template - Internal MAU Inverted	AllPass	match
✓	1 14.3.1.2.1	TP_IDL 100 ohm with TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	TP_IDL 100 ohm with TPM (Tail)	AllPass	match
✓	1 14.3.1.2.3	8BT Output Timing Jitter 100 ohm with TPM Internal MAU	6.686 ns	x <= 22.000 ns
✓	1 14.3.1.2.3	8.5BT Output Timing Jitter 100 ohm with TPM Internal MAU	9.441 ns	x <= 22.000 ns
✓	1 14.3.1.2.1	Link Pulse 100 ohm with TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse 100 ohm with TPM (Tail)	AllPass	match
✓	1 14.3.1.2.1	TP_IDL Load 1 with TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	TP_IDL Load 1 with TPM (Tail)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse Load 1 with TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse Load 1 with TPM (Tail)	AllPass	match
✓	1 14.3.1.2.1	TP_IDL Load 2 with TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	TP_IDL Load 2 with TPM (Tail)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse Load 2 with TPM (Head)	AllPass	match
✓	1 14.3.1.2.1	Link Pulse Load 2 with TPM (Tail)	AllPass	match
✓	1 14.3.1.2.5	Common mode output voltage	36.1 mV	x <= 50.0 mV
✓	1 ANSI Appendix J	Twisted Pair Active Output Interface template	AllPass	match
✓	1 ANSI 9.1.9	Jitter Base to Upper	576 ps	x <= 1.400 ns
✓	1 ANSI 9.1.9	Jitter Base to Lower	598 ps	x <= 1.400 ns
✓	1 ANSI 9.1.2.2	UTP DOV Base to Upper	1.0124 V	950.0 mV < x < 1.0500 V
✓	1 ANSI 9.1.2.2	UTP DOV Base to Lower	1.0147 V	950.0 mV < x < 1.0500 V
✓	1 ANSI 9.1.4	Signal Amplitude Symmetry	997.7 m	980.0 m < x < 1.0200
✓	1 ANSI 9.1.3	Overshoot Positive	1.7 %	x <= 5.0 %
✓	1 ANSI 9.1.3	Overshoot Negative	1.5 %	x <= 5.0 %
✓	1 ANSI 9.1.6	Rise Base to Upper	3.741 ns	x = 4.000 ns +/- 1.000 ns
✓	1 ANSI 9.1.6	Fall Upper to Base	3.526 ns	x = 4.000 ns +/- 1.000 ns
✓	1 ANSI 9.1.6	Rise Lower to Base	3.659 ns	x = 4.000 ns +/- 1.000 ns
✓	1 ANSI 9.1.6	Fall Base to Lower	3.442 ns	x = 4.000 ns +/- 1.000 ns
✓	1 ANSI 9.1.6	Rise/Fall Symmetry	299 ps	x <= 500 ps
✓	1 ANSI 9.1.8	Duty Cycle Distortion	135.0 ps	-250.0 ps < x < 250.0 ps

Details


Test 14.3.1.2.1 - Differential output voltage

[\[Up\]](#)

 Pass	Measurement: Peak Differential Output Voltage	
	Current Value: 2.77 V	Test Criteria: $2.20\text{ V} < x < 2.80\text{ V}$
	Timestamp: 06/19/2018 15:00:45	Limit Name: 10BT-DOV


Test 14.3.1.2.3 - Output timing jitter 8 BT

[\[Up\]](#)

 Pass	Measurement: 8BT Output Timing Jitter 100 ohm without TPM Internal MAU	
	Current Value: 986 ps	Test Criteria: $x \leq 22.000\text{ ns}$
	Timestamp: 06/19/2018 15:00:59	Limit Name: 10BT-8BT-Int-Jitter


Test 14.3.1.2.3 - Output timing jitter 8.5 BT

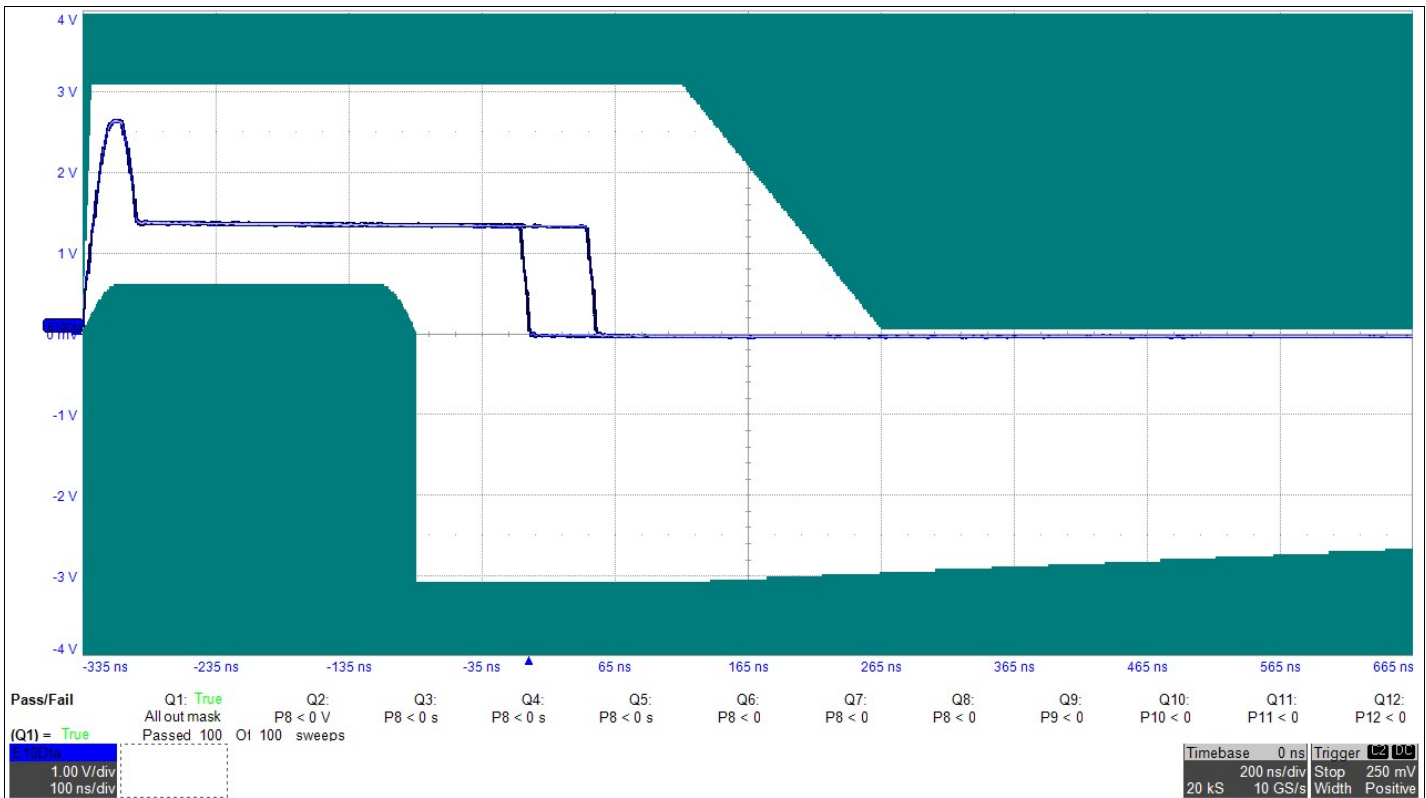
[\[Up\]](#)

 Pass	Measurement: 8.5BT Output Timing Jitter 100 ohm without TPM Internal MAU	
	Current Value: 1.173 ns	Test Criteria: $x \leq 22.000\text{ ns}$
	Timestamp: 06/19/2018 15:01:00	Limit Name: 10BT-85BT-Int-Jitter

Test 14.3.1.2.1 - TP_IDL Head

[\[Up\]](#)

 Pass	Measurement: TP_IDL 100 ohm without TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:01:08	Limit Name: Mask-Test




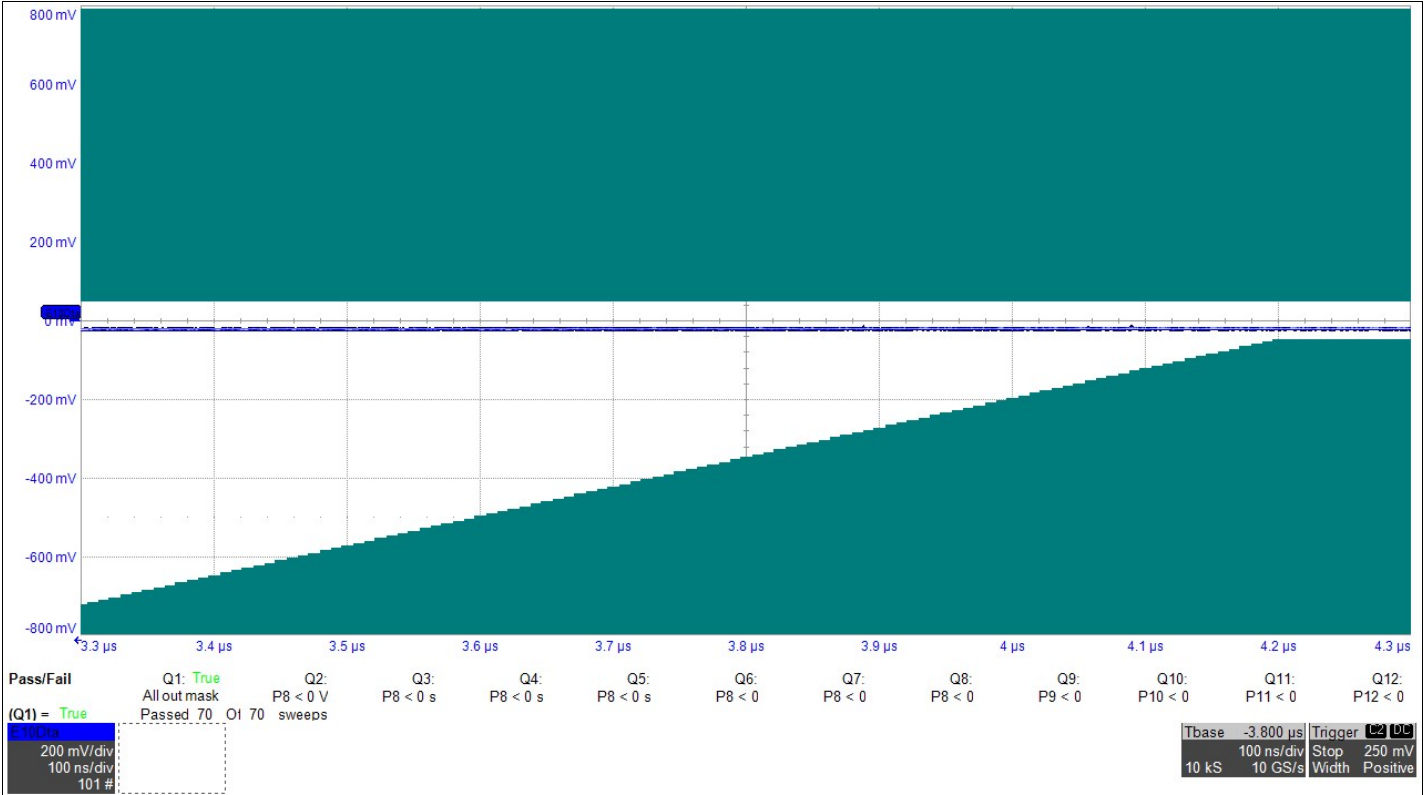
TP_IDL Head mask - 100 Ohm without twisted pair model

Timestamp: 06/19/2018 15:01:08

Test 14.3.1.2.1 - TP_IDL Tail

[\[Up\]](#)

 Pass	Measurement: TP_IDL 100 ohm without TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:01:13	Limit Name: Mask-Test




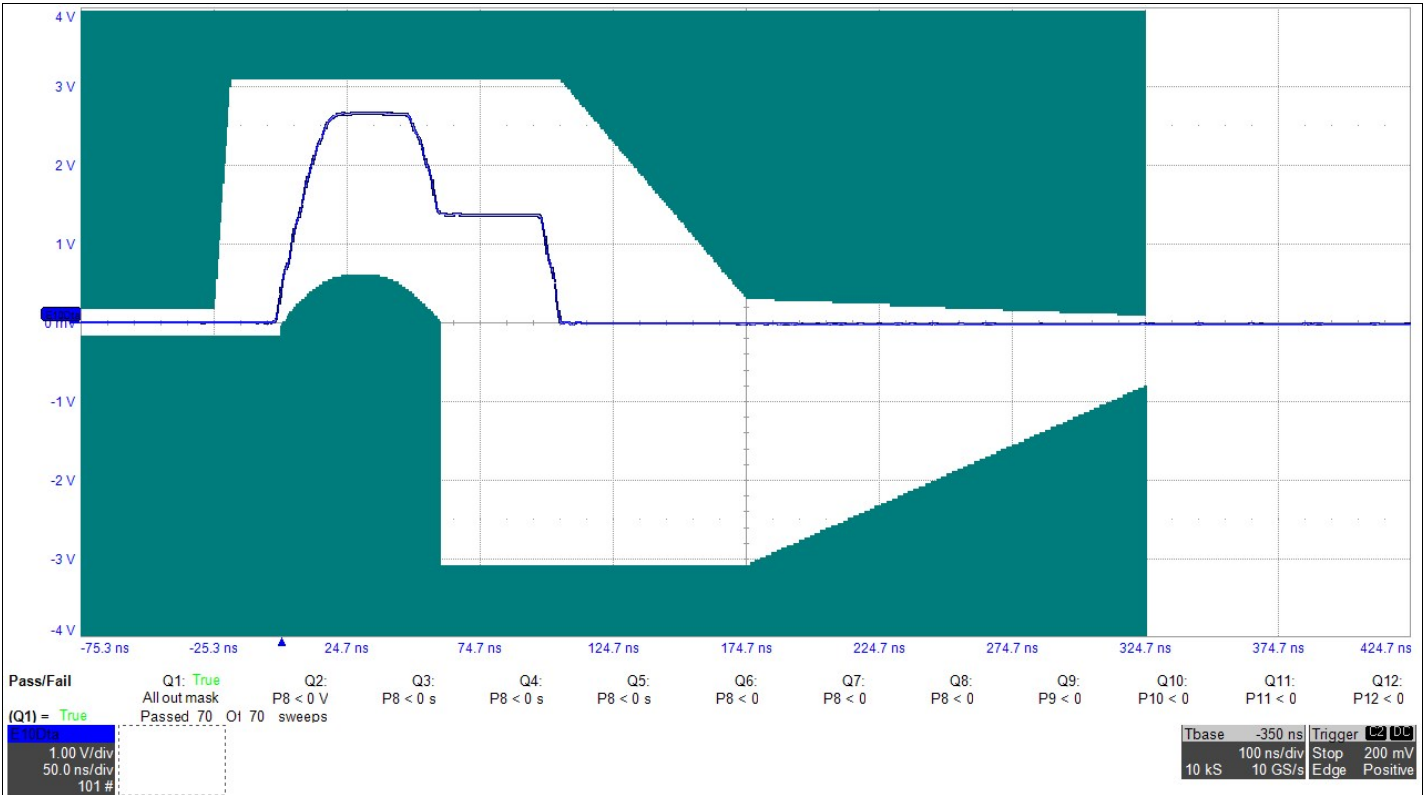
TP_IDL Tail mask - 100 Ohm without twisted pair model

Timestamp: 06/19/2018 15:01:13

Test 14.3.1.2.1 - Link Test Pulse Head

[\[Up\]](#)


 Pass	Measurement: Link Pulse 100 ohm without TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:01:36	Limit Name: Mask-Test

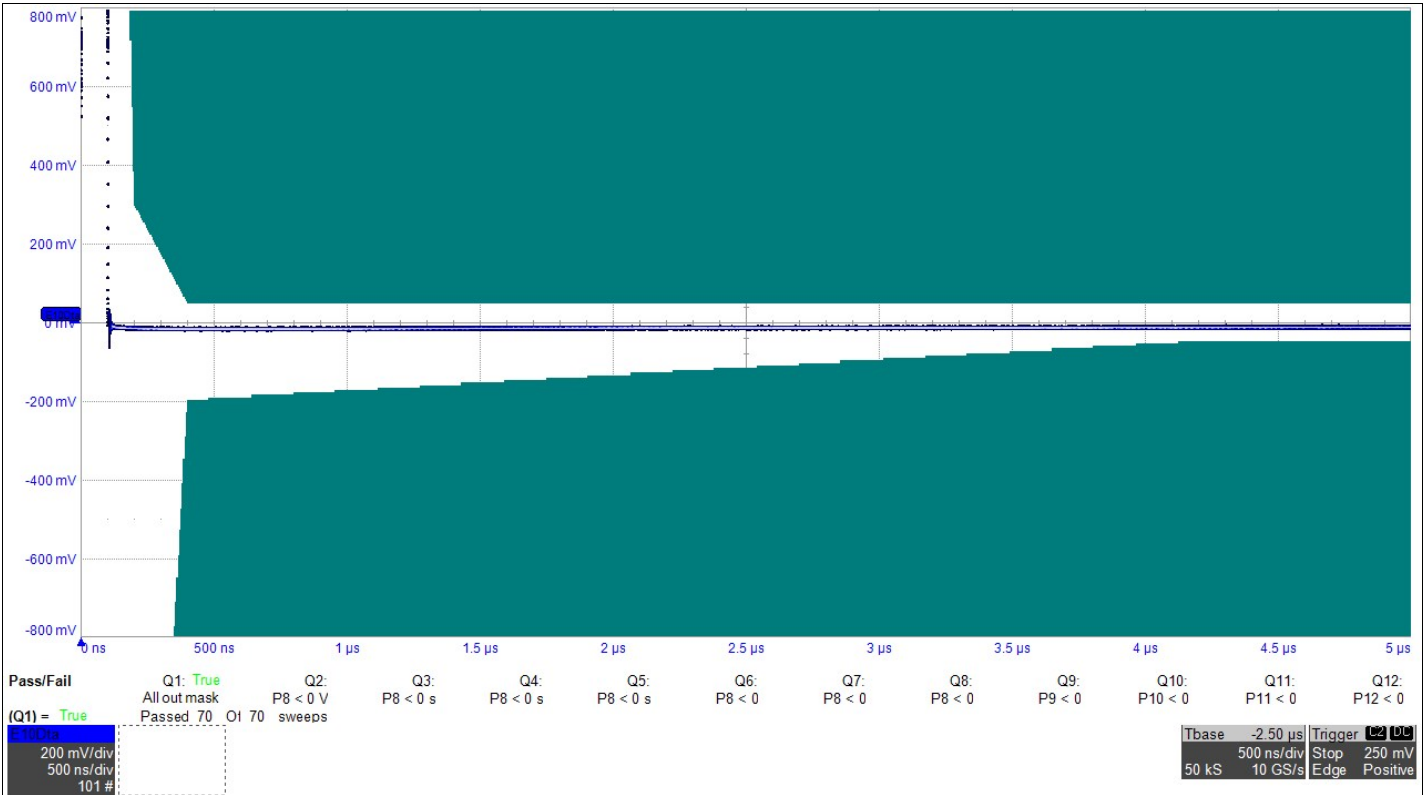


Link Test Pulse, Head mask - 100 ohm without TPM
 Timestamp: 06/19/2018 15:01:36

Test 14.3.1.2.1 - Link Test Pulse Tail

[\[Up\]](#)


 Pass	Measurement: Link Pulse 100 ohm without TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:01:44	Limit Name: Mask-Test



Link Test Pulse, Tail mask - 100 ohm without TPM
Timestamp: 06/19/2018 15:01:44


Test 14.3.1.2.1 - Differential output voltage Harmonics

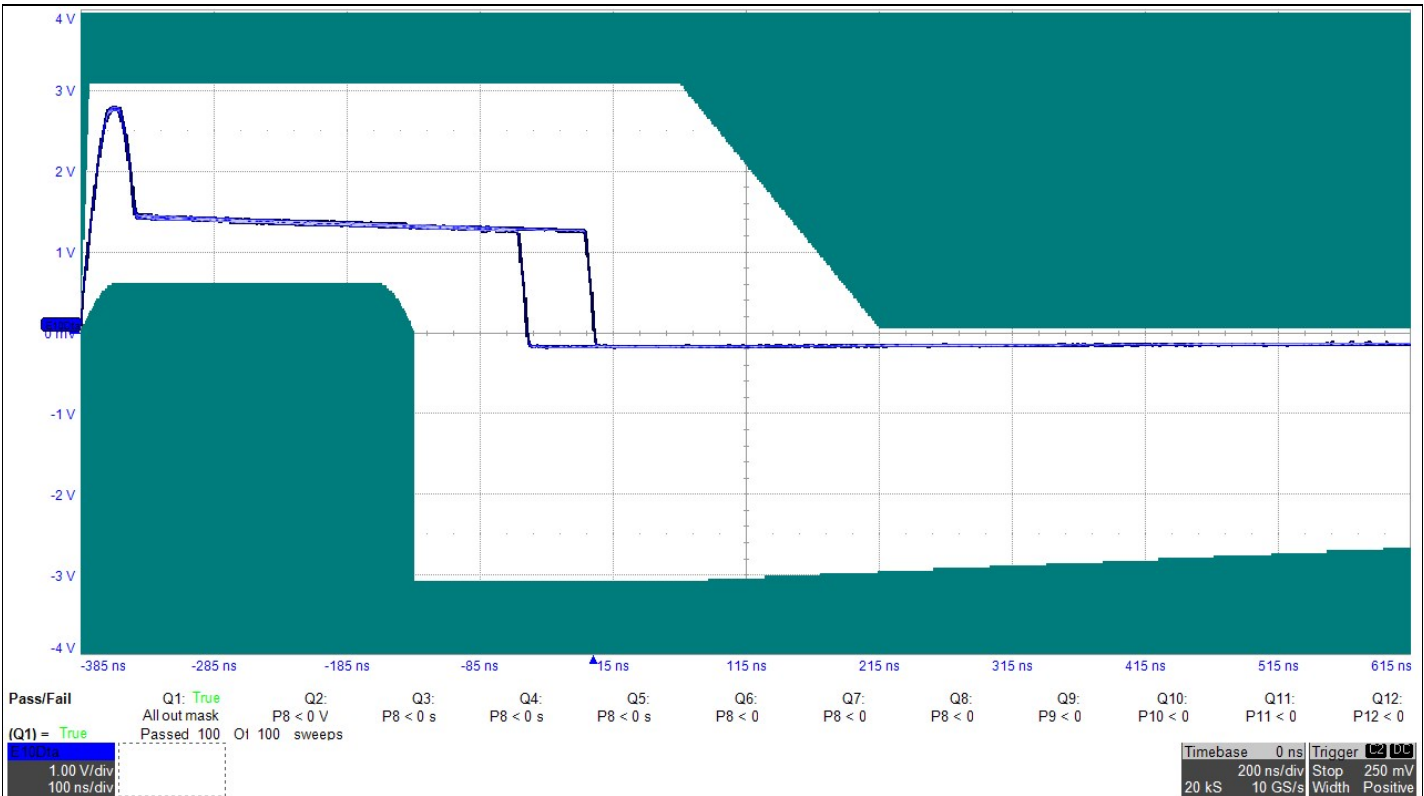
[\[Up\]](#)

 Pass	Measurement: Differential Output Voltage Harmonics	
	Current Value: 33.2 dB	Test Criteria: $x \geq 27.0$ dB
	Timestamp: 06/19/2018 15:03:05	Limit Name: 10BT-Harmonics

Test 14.3.1.2.1 - TP_IDL Head

[\[Up\]](#)


 Pass	Measurement: TP_IDL Load 1 without TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:03:24	Limit Name: Mask-Test

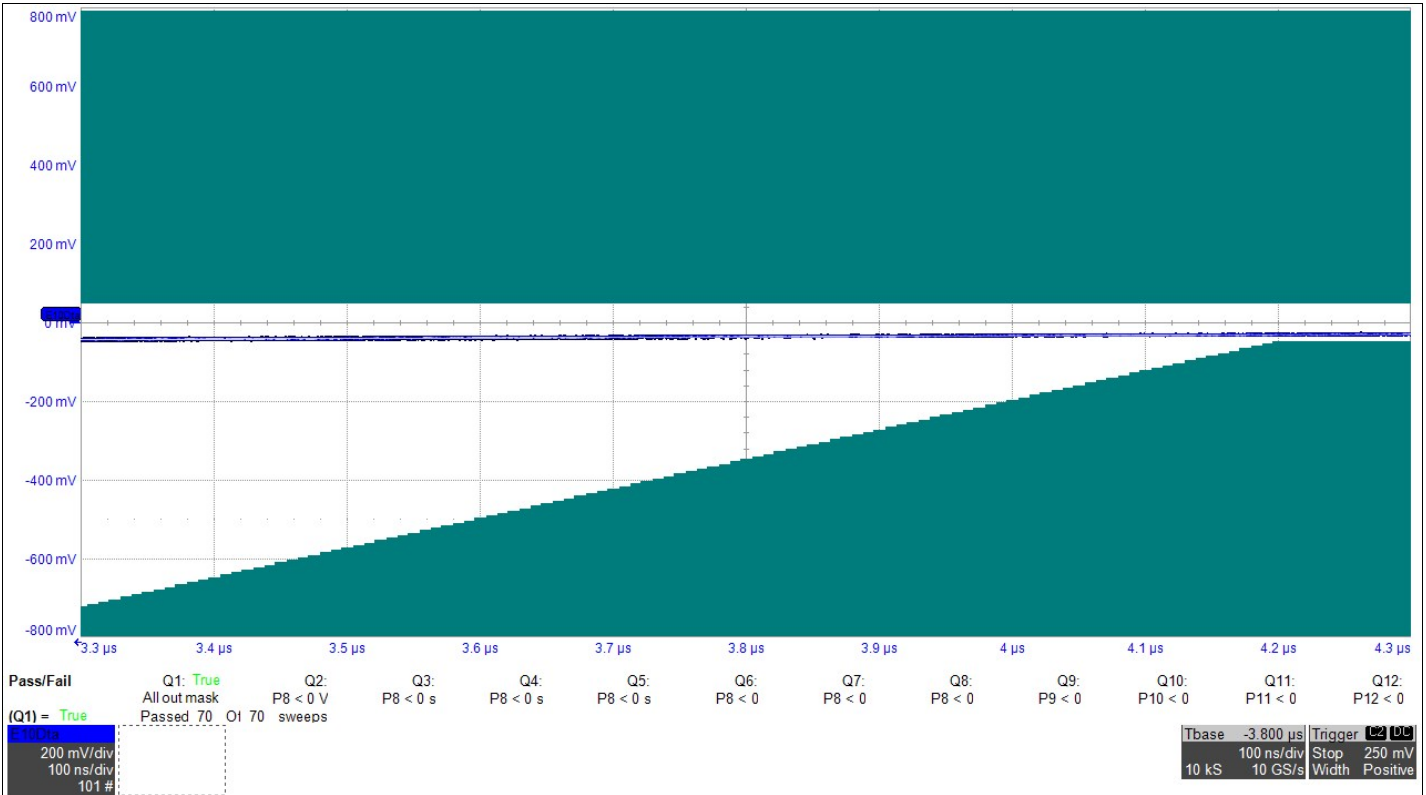


TP_IDL Head mask - Load 1 without TPM
 Timestamp: 06/19/2018 15:03:25

Test 14.3.1.2.1 - TP_IDL Tail

[\[Up\]](#)


 Pass	Measurement: TP_IDL Load 1 without TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:03:30	Limit Name: Mask-Test

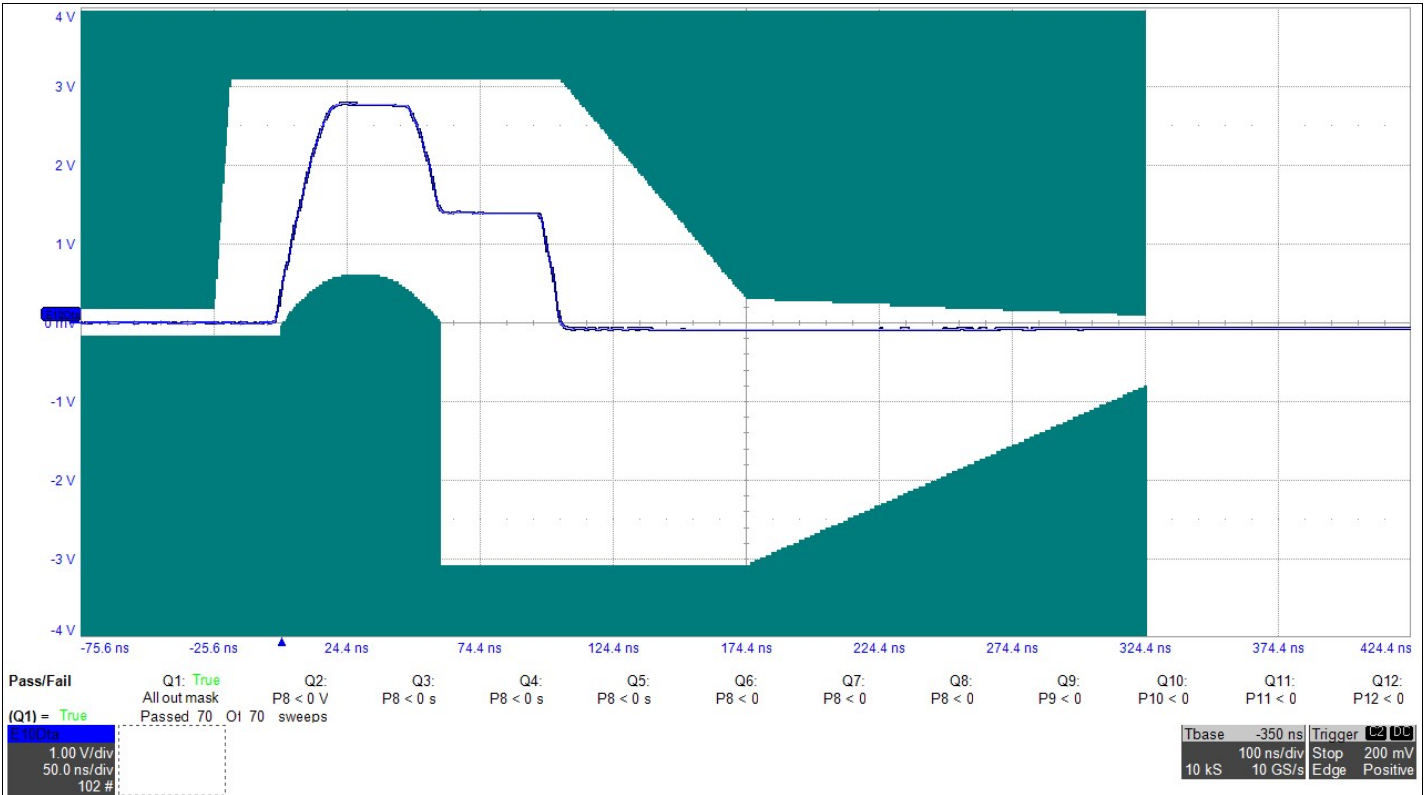


TP_IDL Tail mask - Load 1, without TPM
Timestamp: 06/19/2018 15:03:30

Test 14.3.1.2.1 - Link Test Pulse Head

[\[Up\]](#)


 Pass	Measurement: Link Pulse Load 1 without TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:03:41	Limit Name: Mask-Test

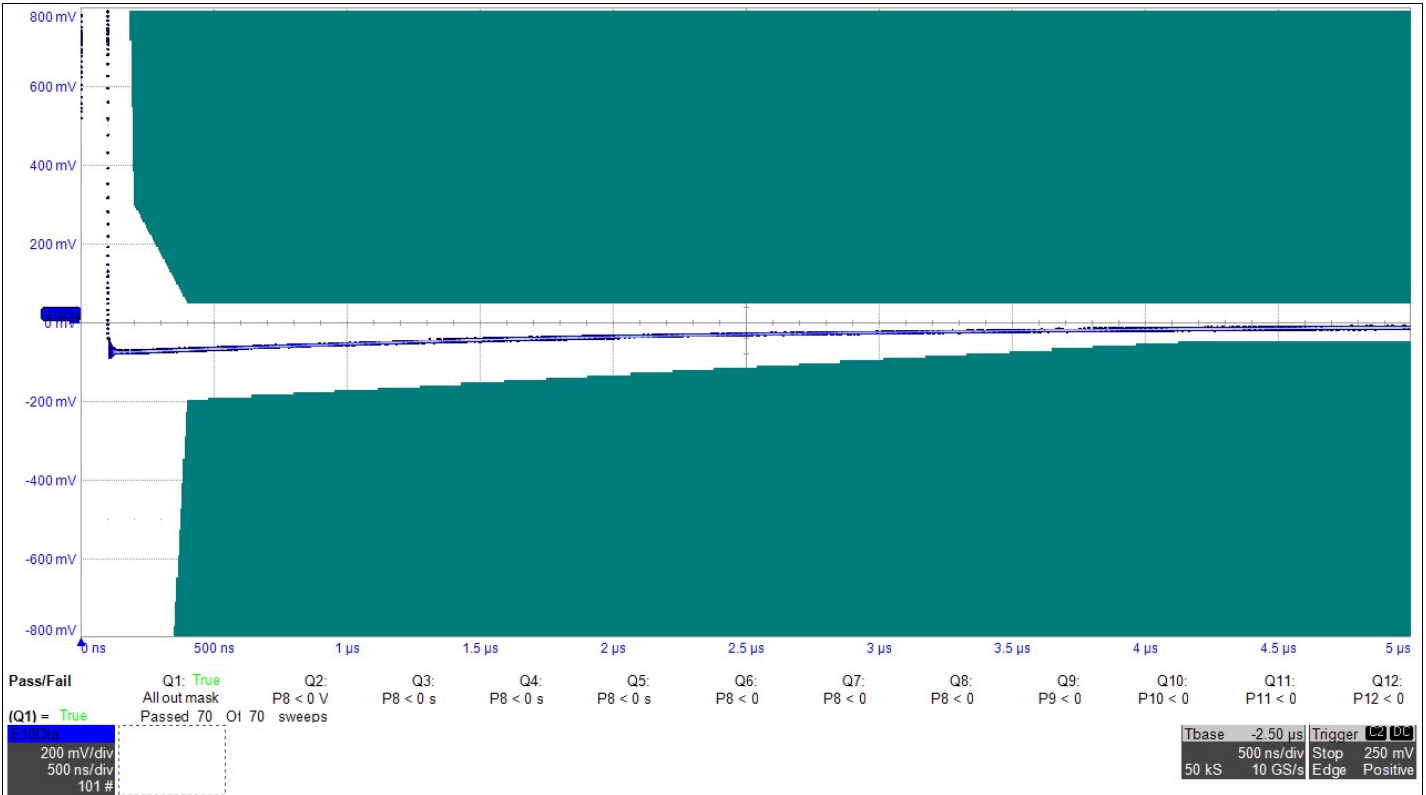


Link Test Pulse, Head Mask - Load 1, without TPM
 Timestamp: 06/19/2018 15:03:41

Test 14.3.1.2.1 - Link Test Pulse Tail

[\[Up\]](#)


 Pass	Measurement: Link Pulse Load 1 without TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:03:50	Limit Name: Mask-Test

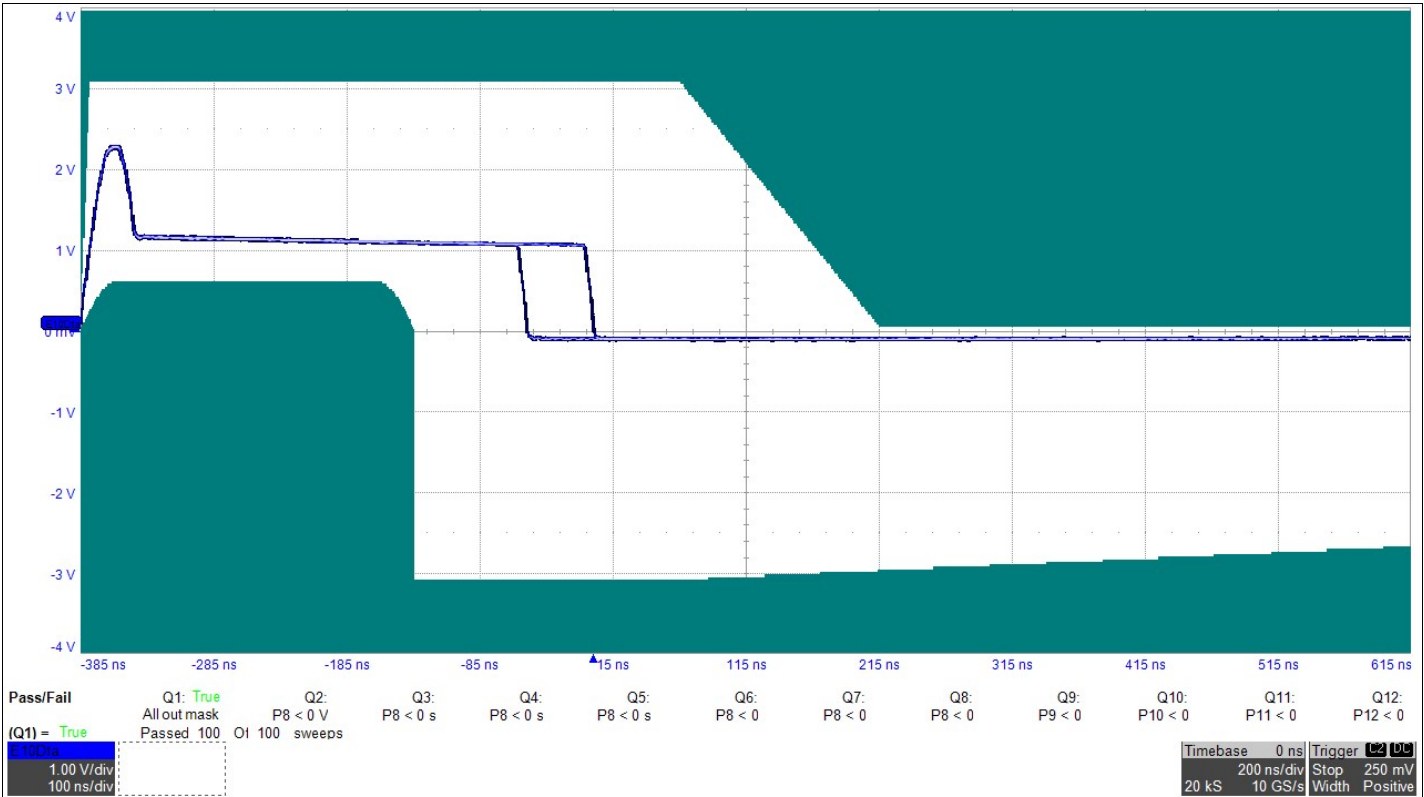


Link Test Pulse, Tail Mask - Load 1, without TPM
Timestamp: 06/19/2018 15:03:50

Test 14.3.1.2.1 - TP_IDL Head

[\[Up\]](#)


 Pass	Measurement: TP_IDL Load 2 without TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:04:19	Limit Name: Mask-Test

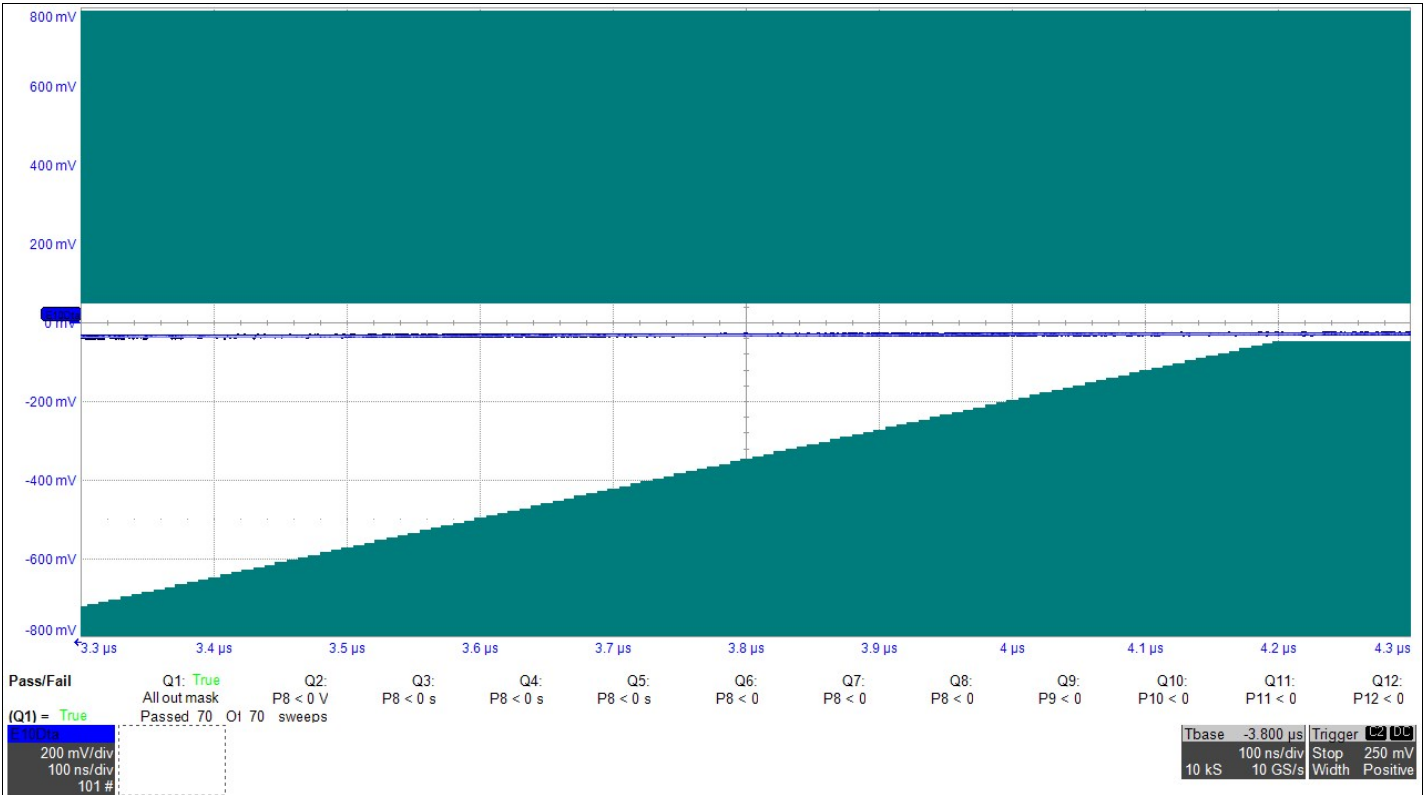


TP_IDL Head mask - Load 2, without TPM
 Timestamp: 06/19/2018 15:04:19

Test 14.3.1.2.1 - TP_IDL Tail

[\[Up\]](#)


 Pass	Measurement: TP_IDL Load 2 without TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:04:25	Limit Name: Mask-Test

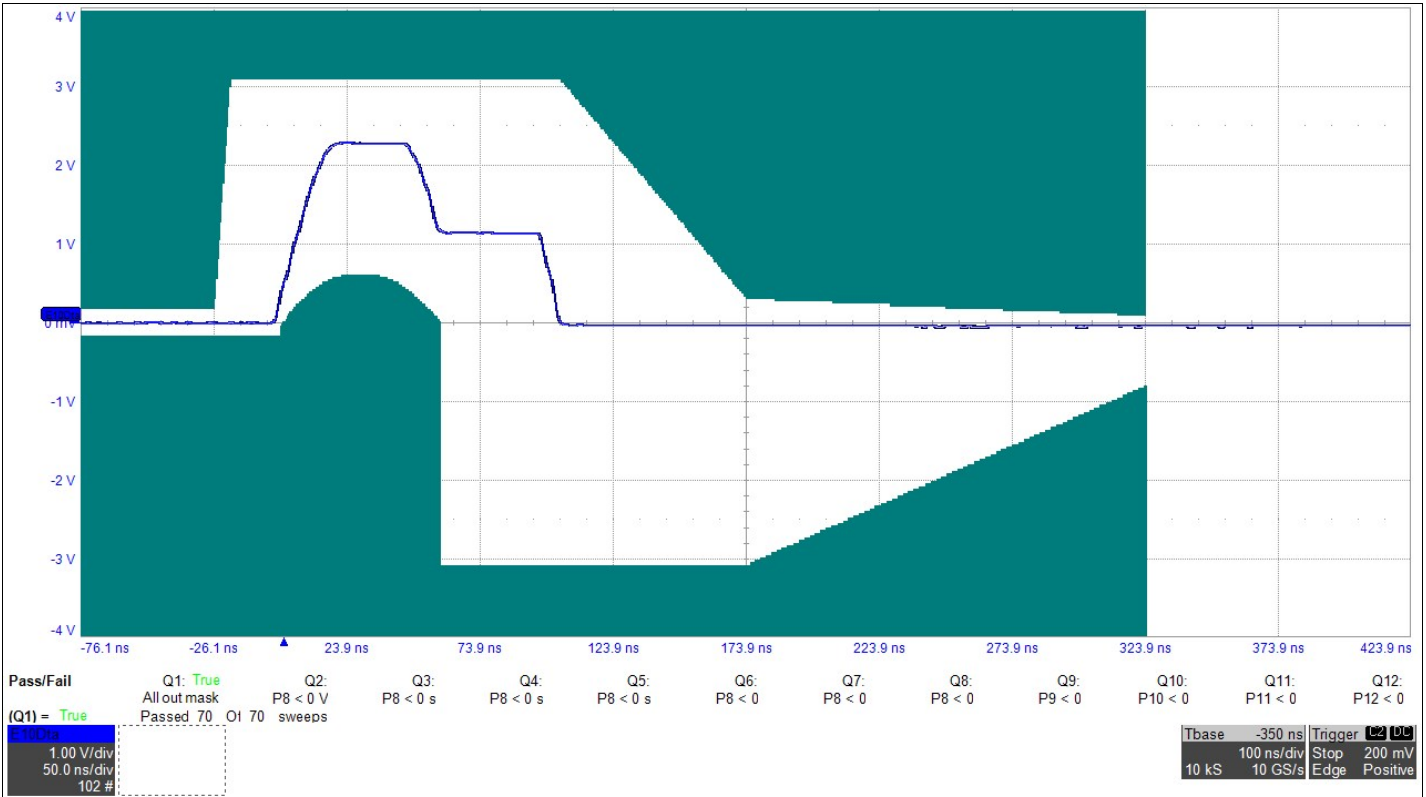


TP_IDL Tail mask - Load 2, without TPM
Timestamp: 06/19/2018 15:04:25

Test 14.3.1.2.1 - Link Test Pulse Head

[\[Up\]](#)


 Pass	Measurement: Link Pulse Load 2 without TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:04:41	Limit Name: Mask-Test

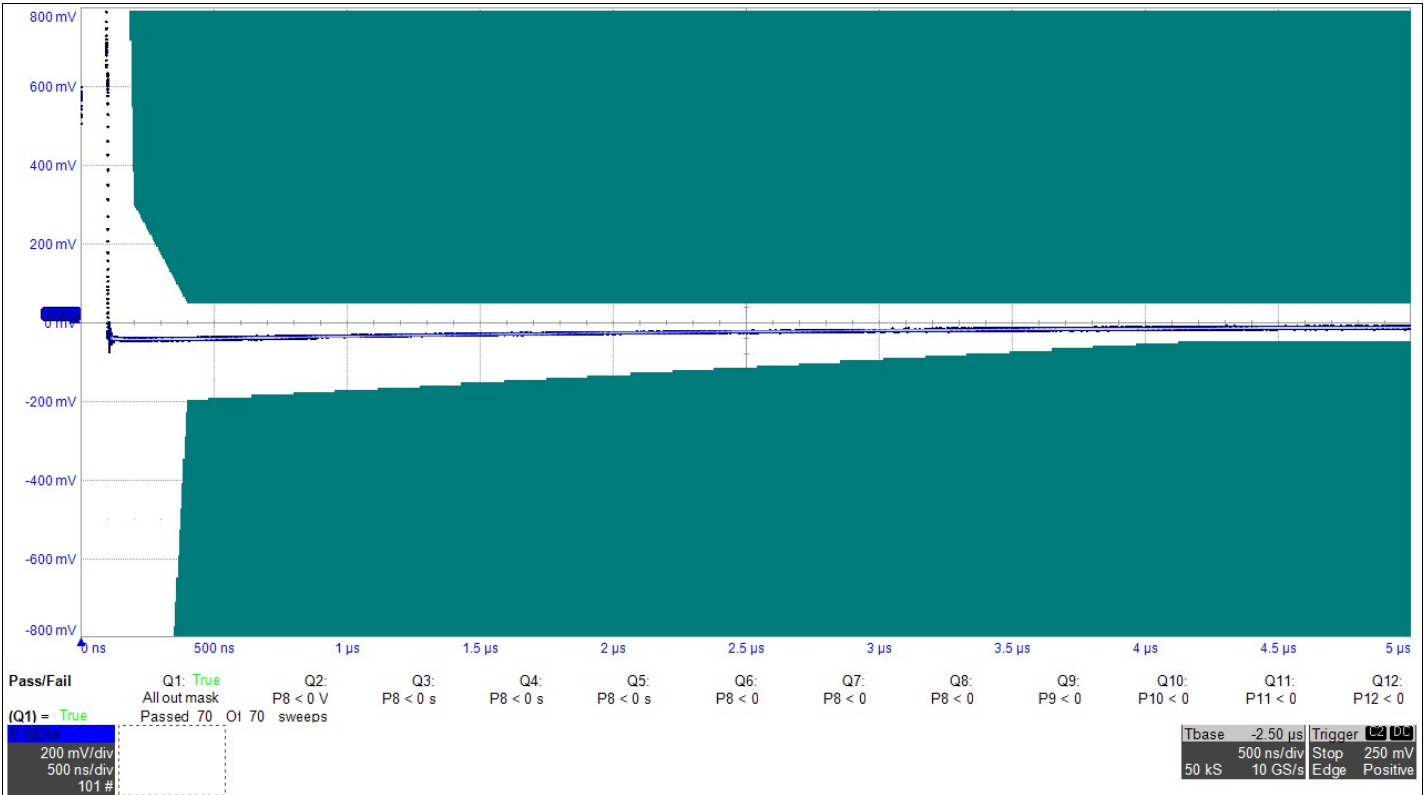


Link Test Pulse, Head Mask - Load 2, without TPM
 Timestamp: 06/19/2018 15:04:41

Test 14.3.1.2.1 - Link Test Pulse Tail

[\[Up\]](#)


 Pass	Measurement: Link Pulse Load 2 without TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:04:49	Limit Name: Mask-Test

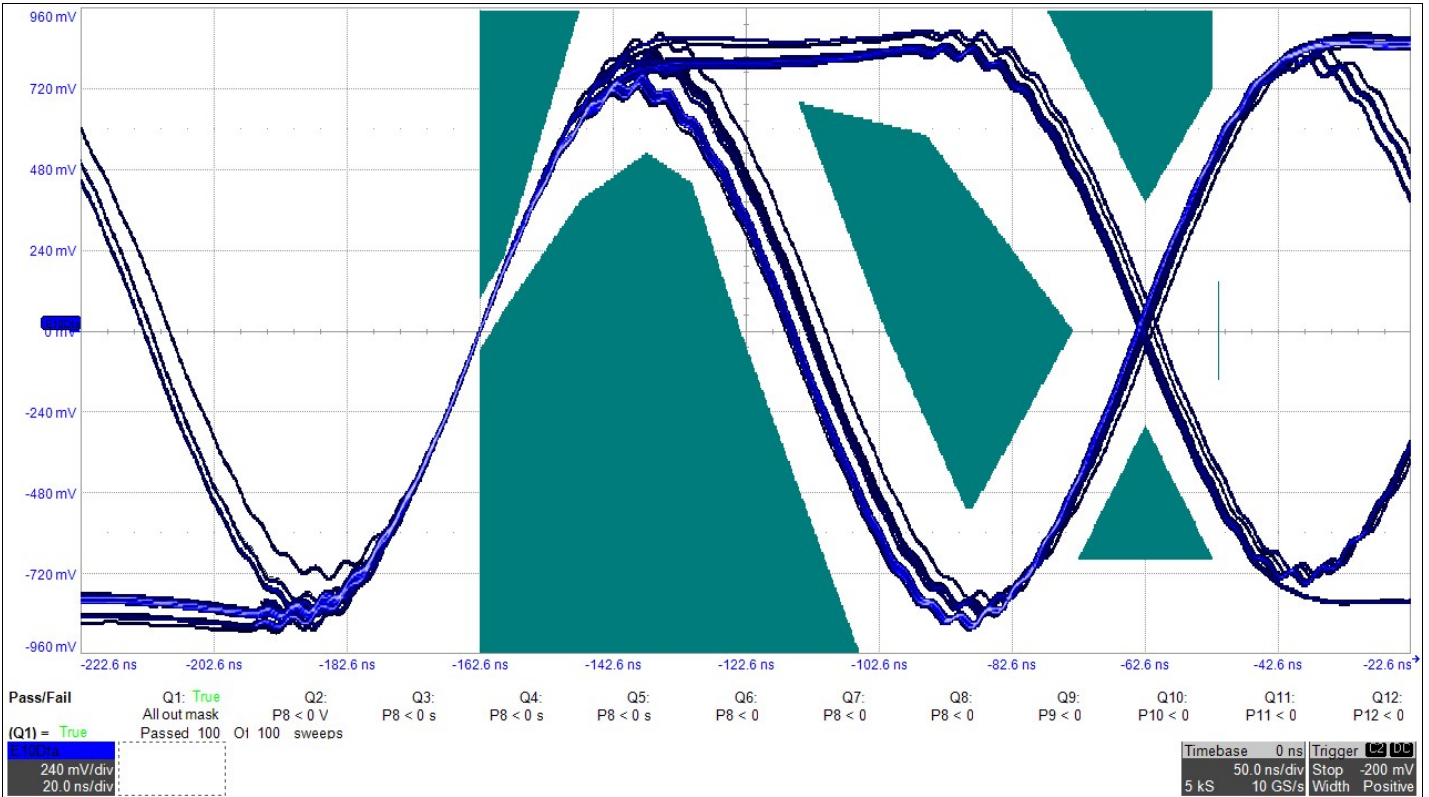


Link Test Pulse, Tail Mask - Load 2, without TPM
Timestamp: 06/19/2018 15:04:50

Test 14.3.1.2.1 - DOV Internal MAU Normal

[\[Up\]](#)


 Pass	Measurement: Template - Internal MAU Normal	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:05:24	Limit Name: Mask-Test

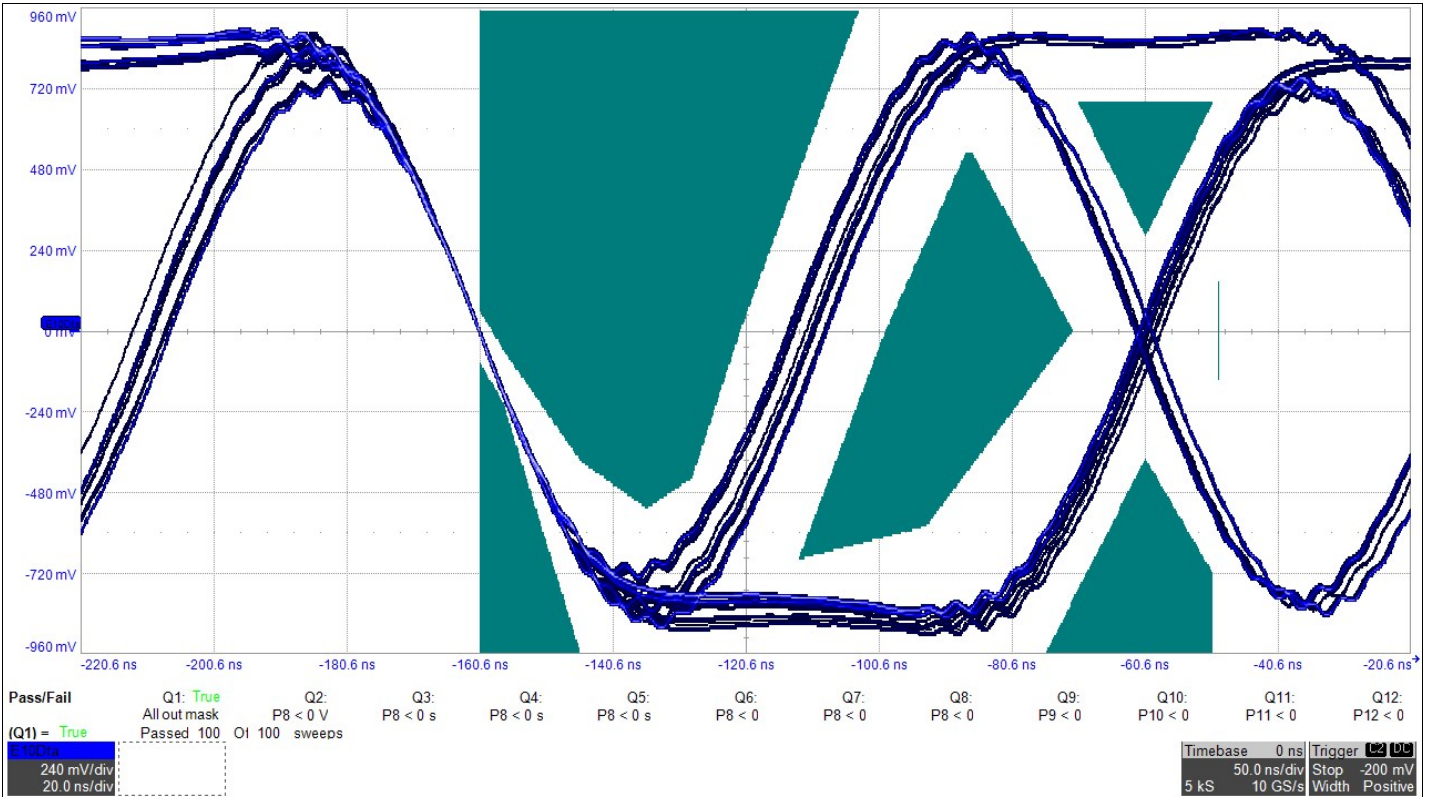


DOV Template Internal MAU
Timestamp: 06/19/2018 15:05:24

Test 14.3.1.2.1 - DOV Internal MAU Inverted

[Up]

 Pass	Measurement: Template - Internal MAU Inverted	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:05:30	Limit Name: Mask-Test




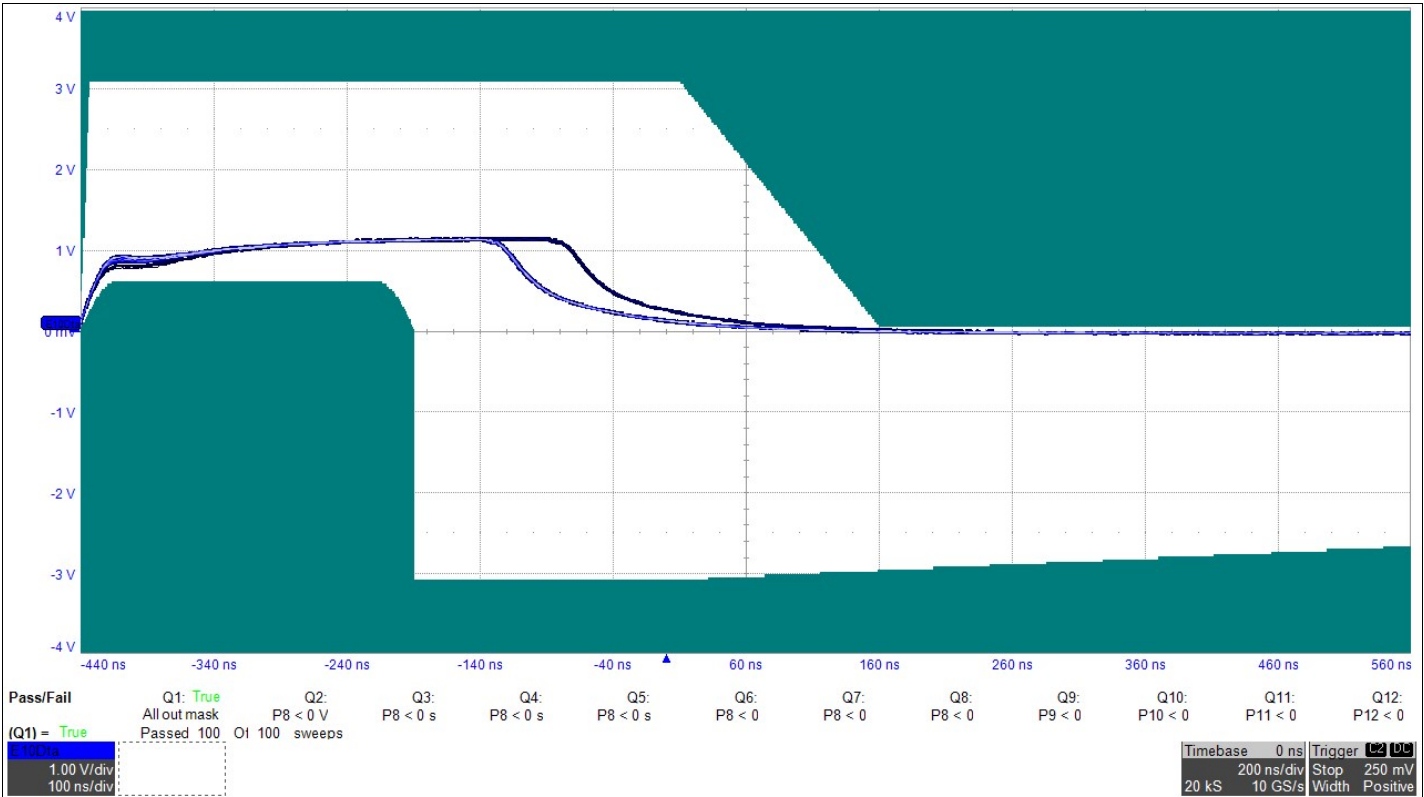
DOV Template Internal MAU, Inverted

Timestamp: 06/19/2018 15:05:30

Test 14.3.1.2.1 - DOV TP_IDL Head

[Up]


 Pass	Measurement: TP_IDL 100 ohm with TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:05:41	Limit Name: Mask-Test

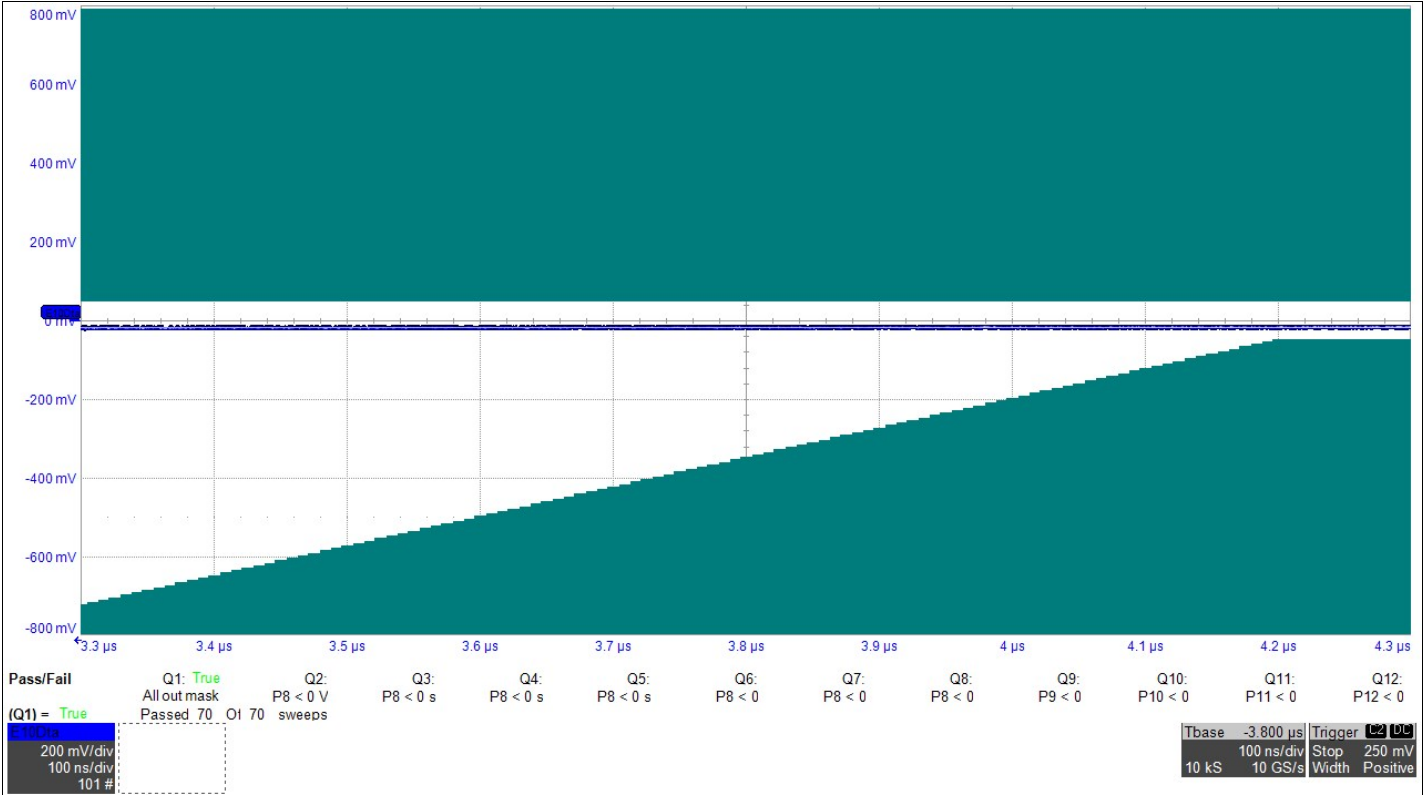


TP_IDL Head Mask, 100 Ohm load with TPM
 Timestamp: 06/19/2018 15:05:41

Test 14.3.1.2.1 - DOV TP_IDL Tail

[Up]


 Pass	Measurement: TP_IDL 100 ohm with TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:05:46	Limit Name: Mask-Test



TP_IDL Tail Mask, 100 Ohm load with TPM
Timestamp: 06/19/2018 15:05:46


Test 14.3.1.2.3 - Output Timing Jitter 8 BT

[\[Up\]](#)

 Pass	Measurement: 8BT Output Timing Jitter 100 ohm with TPM Internal MAU	
	Current Value: 6.686 ns	Test Criteria: x <= 22.000 ns
	Timestamp: 06/19/2018 15:05:52	Limit Name: 10BT-8BT-Int-Jitter


Test 14.3.1.2.3 - Output Timing Jitter 8.5 BT

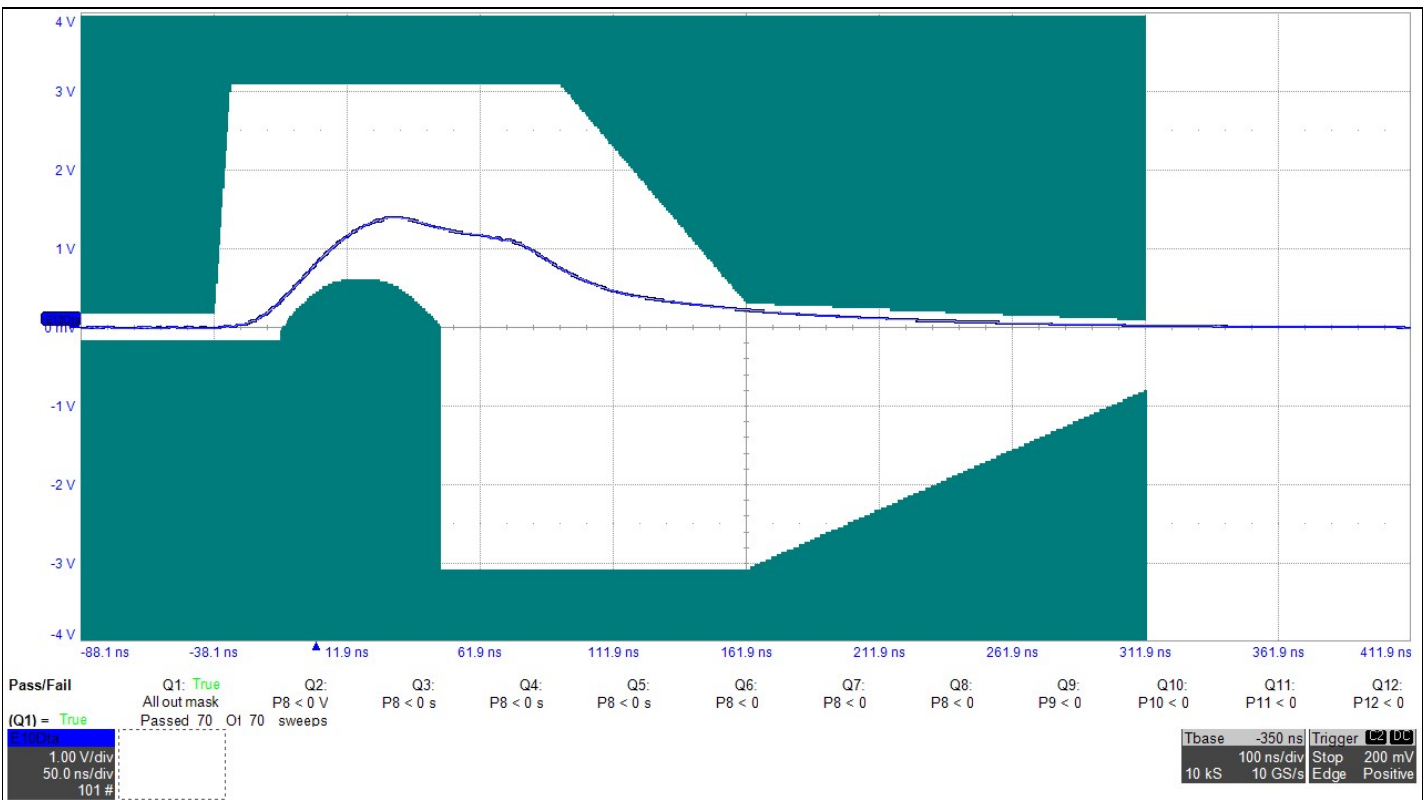
[\[Up\]](#)

 Pass	Measurement: 8.5BT Output Timing Jitter 100 ohm with TPM Internal MAU	
	Current Value: 9.441 ns	Test Criteria: x <= 22.000 ns
	Timestamp: 06/19/2018 15:05:54	Limit Name: 10BT-85BT-Int-Jitter

Test 14.3.1.2.1 - DOV Link Test Pulse Head

[\[Up\]](#)

 Pass	Measurement: Link Pulse 100 ohm with TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:06:04	Limit Name: Mask-Test




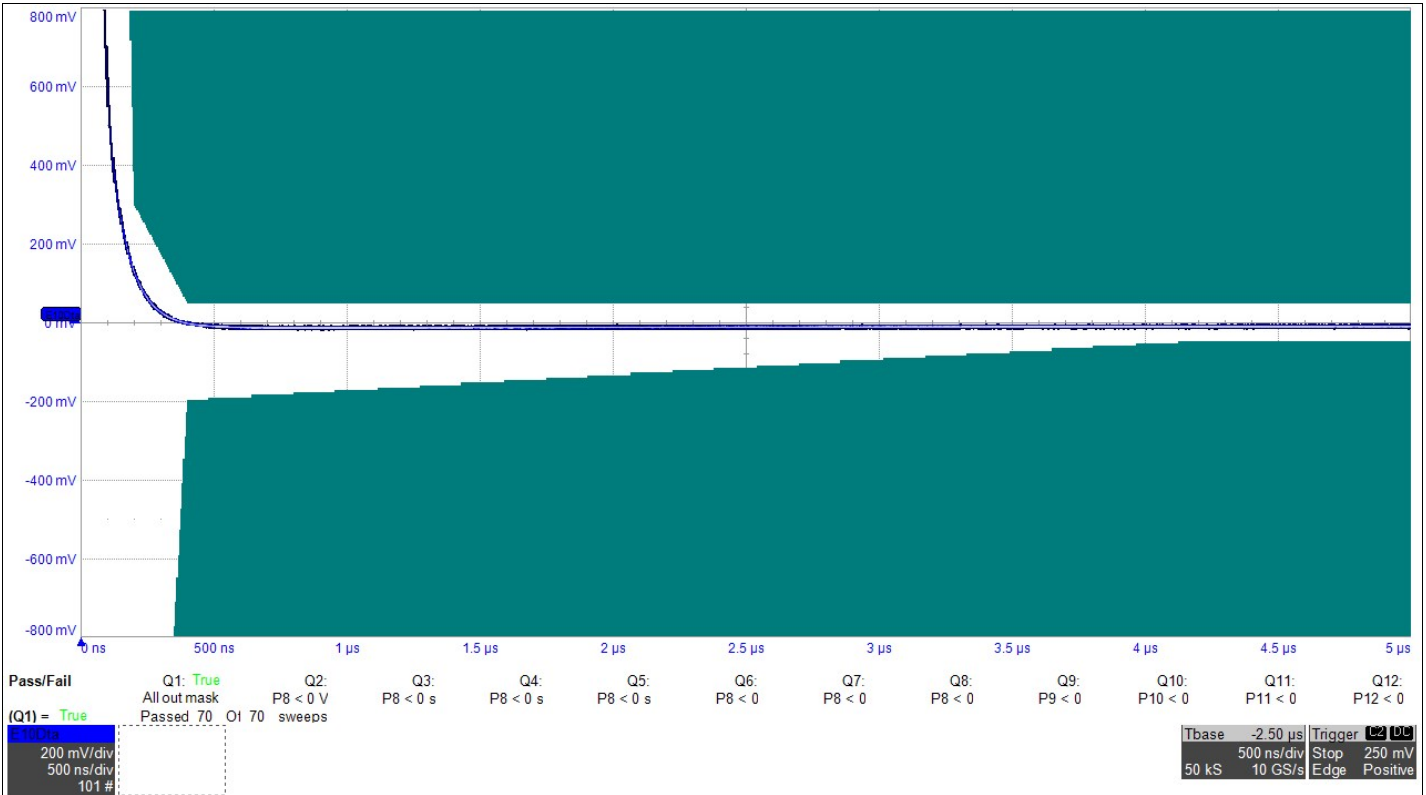
Link Test Pulse Head mask - 100 Ohm load with TPM

Timestamp: 06/19/2018 15:06:04

Test 14.3.1.2.1 - DOV Link Test Pulse Tail

[\[Up\]](#)

 Pass	Measurement: Link Pulse 100 ohm with TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:06:12	Limit Name: Mask-Test




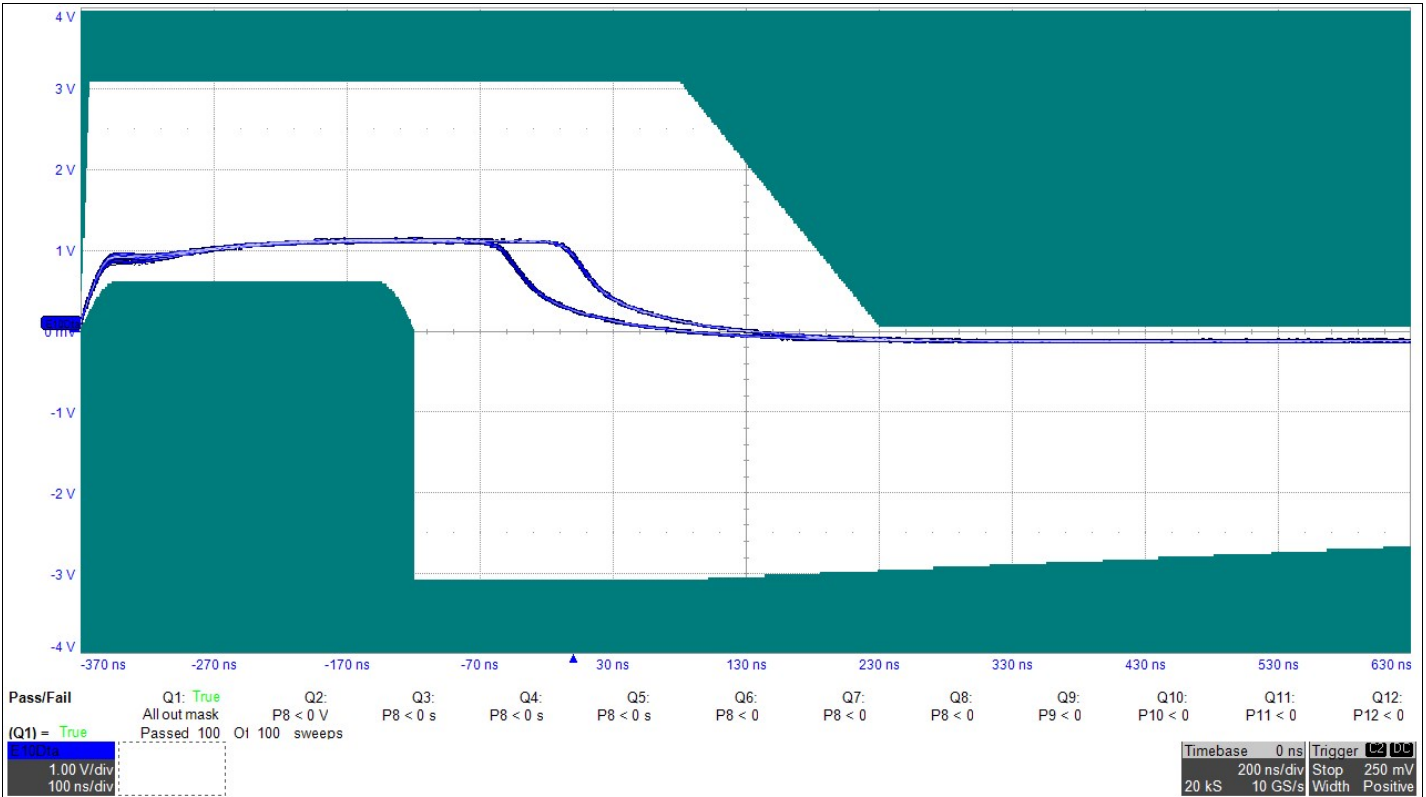
Link Test Pulse Tail mask - 100 Ohm load with TPM

Timestamp: 06/19/2018 15:06:12

Test 14.3.1.2.1 - DOV TP_IDL Head

[Up]

 Pass	Measurement: TP_IDL Load 1 with TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:06:32	Limit Name: Mask-Test




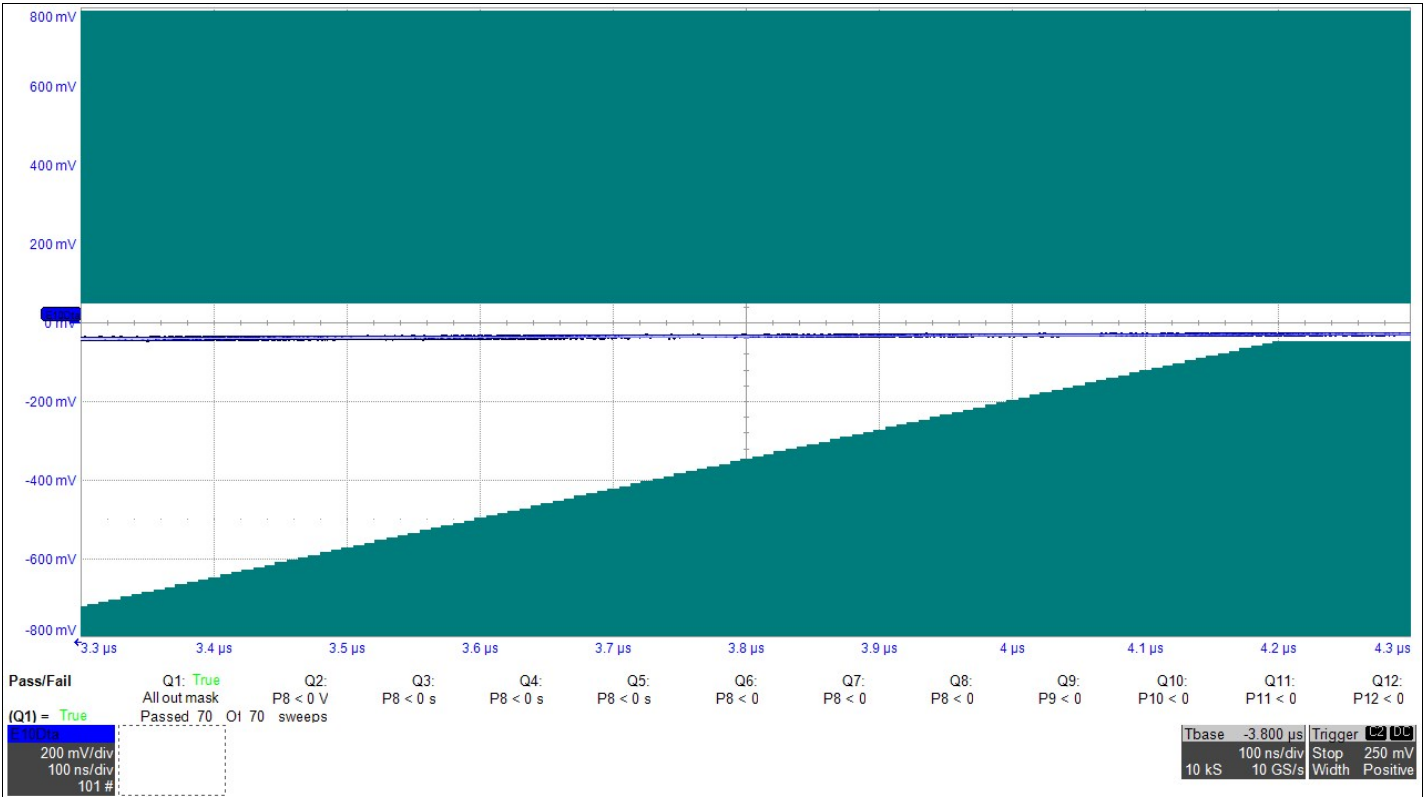
TP_IDL Head mask - Load 1, with TPM

Timestamp: 06/19/2018 15:06:32

Test 14.3.1.2.1 - DOV TP_IDL Tail

[\[Up\]](#)


 Pass	Measurement: TP_IDL Load 1 with TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:06:38	Limit Name: Mask-Test

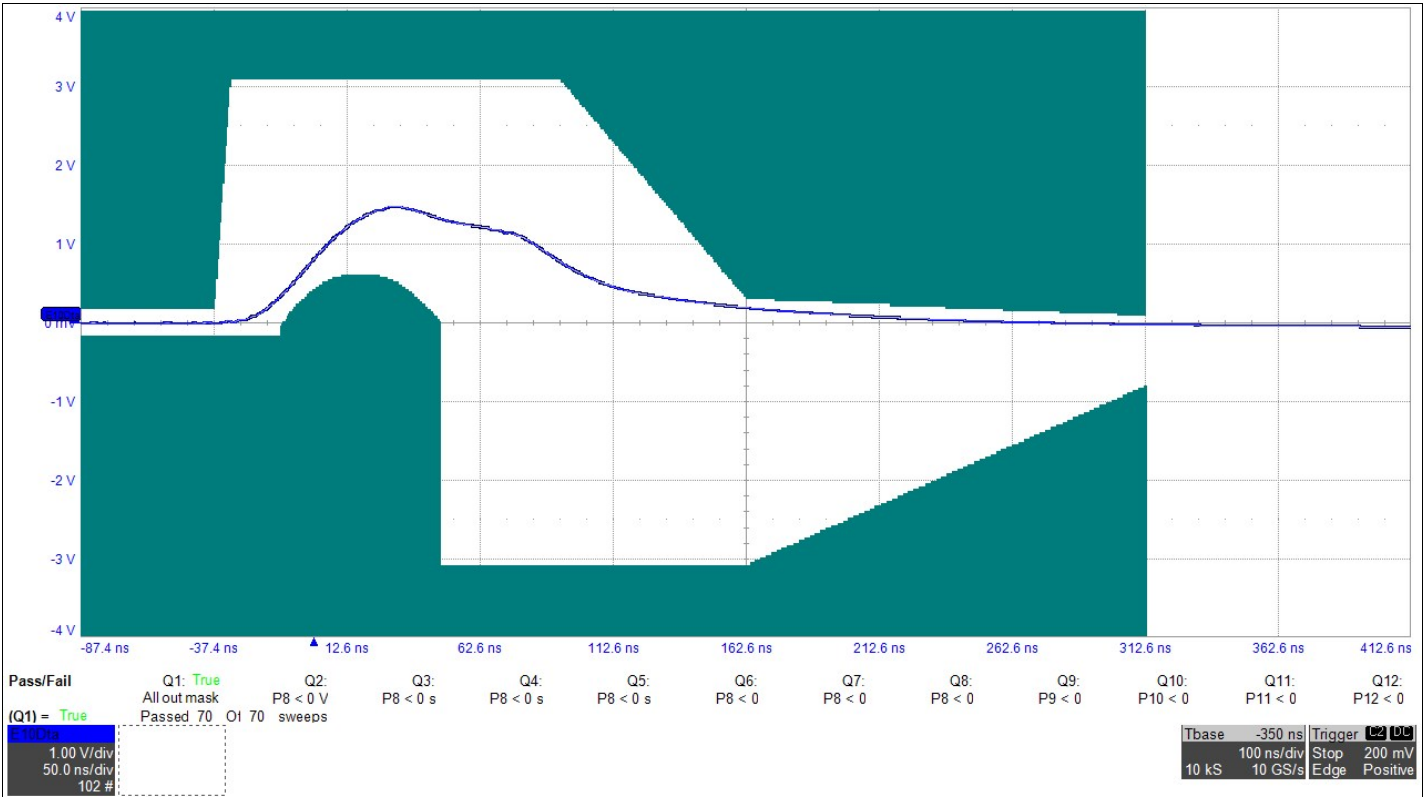


TP_IDL Tail mask - Load 1, with TPM
 Timestamp: 06/19/2018 15:06:38

Test 14.3.1.2.1 - DOV Link Test Pulse Head

[\[Up\]](#)


 Pass	Measurement: Link Pulse Load 1 with TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:06:58	Limit Name: Mask-Test

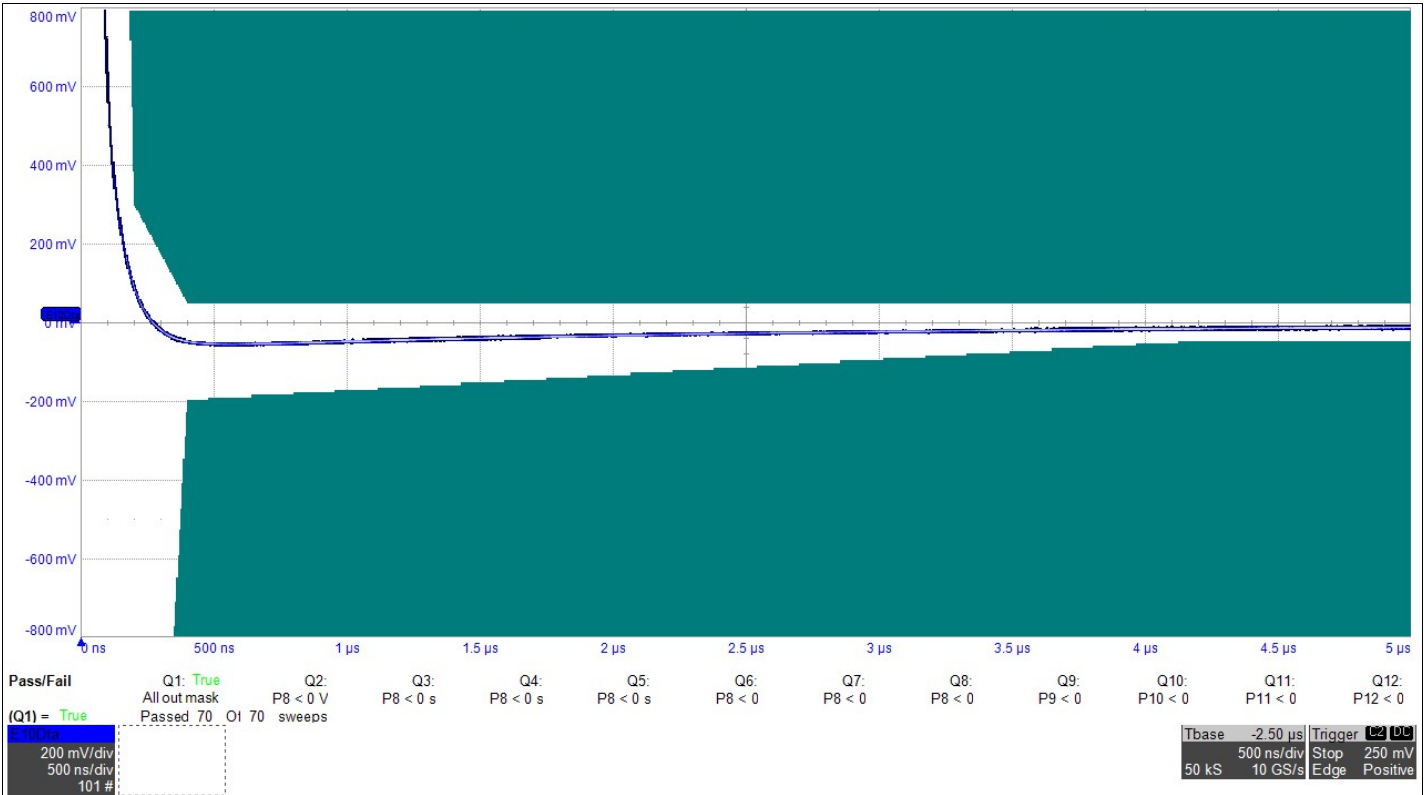


Link Test Pulse Head mask - Load 1, with TPM
 Timestamp: 06/19/2018 15:06:59

Test 14.3.1.2.1 - DOV Link Test Pulse Tail

[\[Up\]](#)

 Pass	Measurement: Link Pulse Load 1 with TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:07:06	Limit Name: Mask-Test




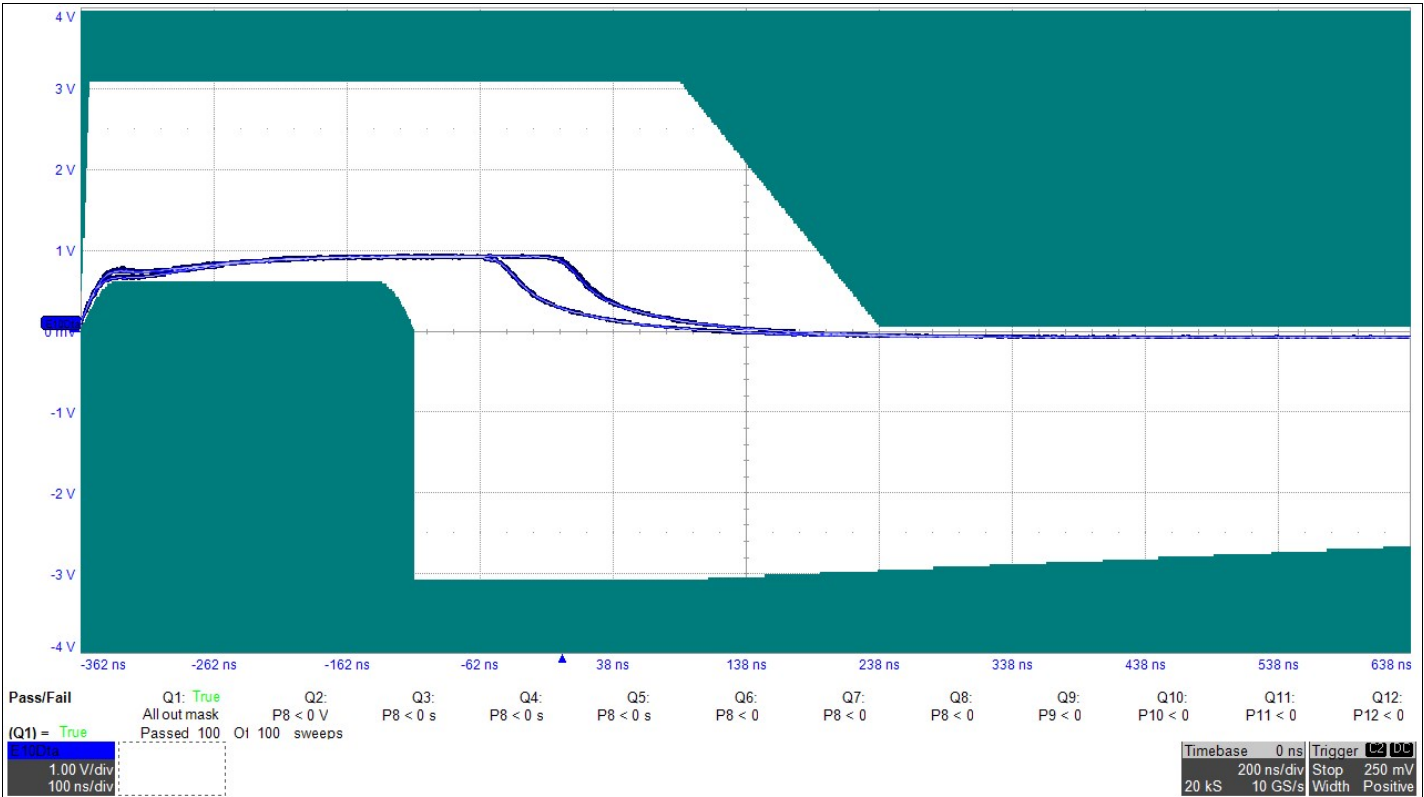
Link Test Pulse Tail mask - Load 1, with TPM

Timestamp: 06/19/2018 15:07:06

Test 14.3.1.2.1 - DOV TP_IDL Head

[\[Up\]](#)


 Pass	Measurement: TP_IDL Load 2 with TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:07:24	Limit Name: Mask-Test

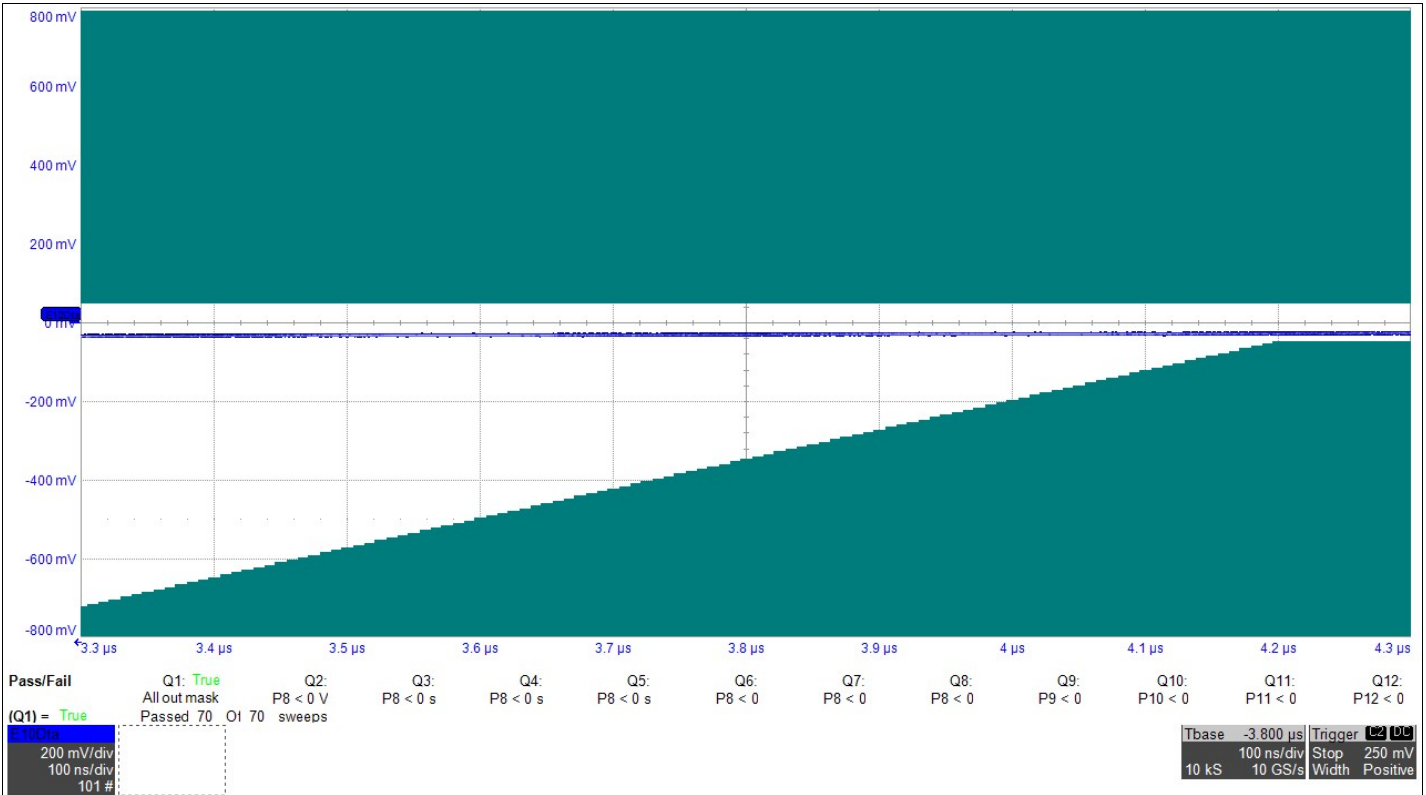


TP_IDL Head mask - Load 2, with TPM
 Timestamp: 06/19/2018 15:07:25

Test 14.3.1.2.1 - DOV TP_IDL Tail

[\[Up\]](#)


 Pass	Measurement: TP_IDL Load 2 with TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:07:30	Limit Name: Mask-Test

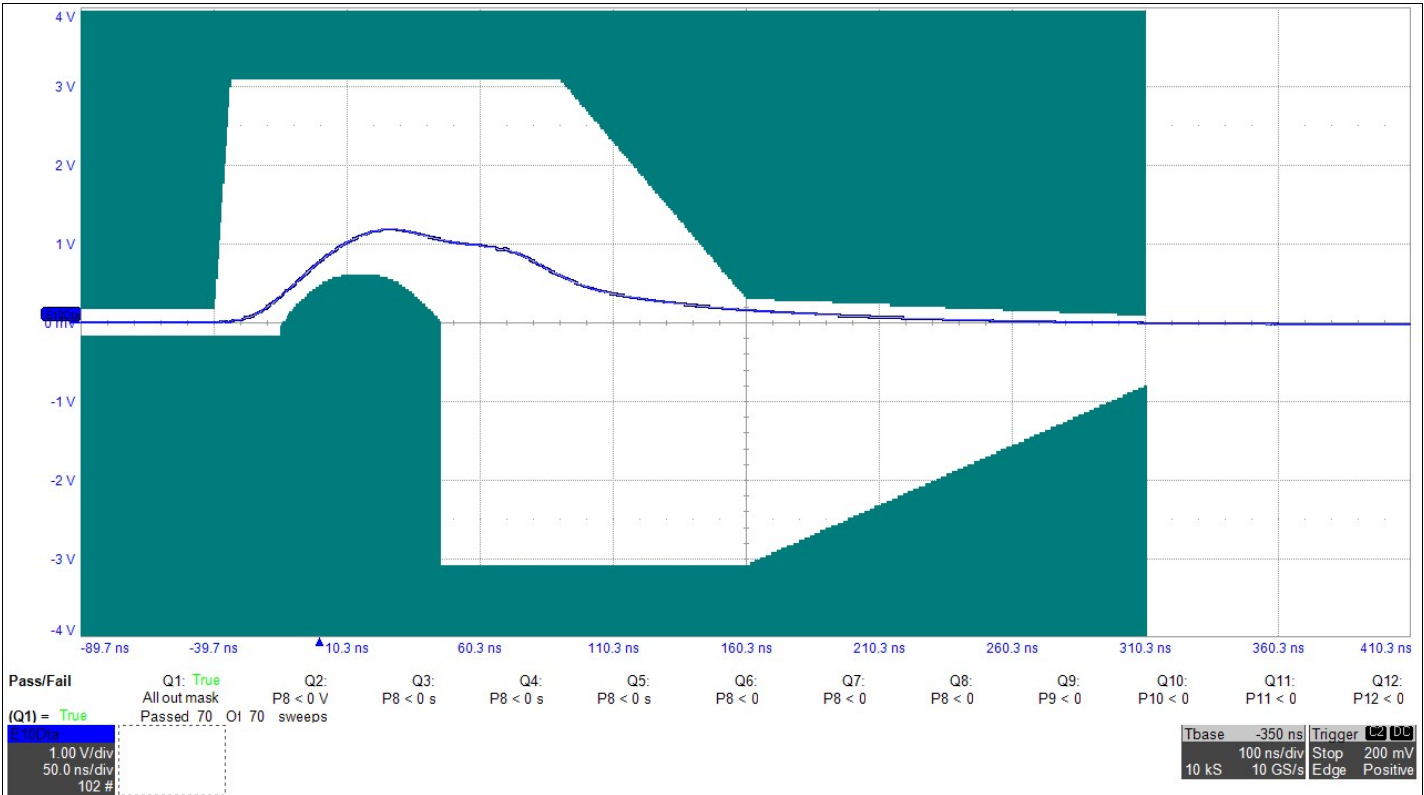


TP_IDL Tail mask - Load 2, with TPM
 Timestamp: 06/19/2018 15:07:30

Test 14.3.1.2.1 - DOV Link Test Pulse Head

[\[Up\]](#)


 Pass	Measurement: Link Pulse Load 2 with TPM (Head)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:07:43	Limit Name: Mask-Test

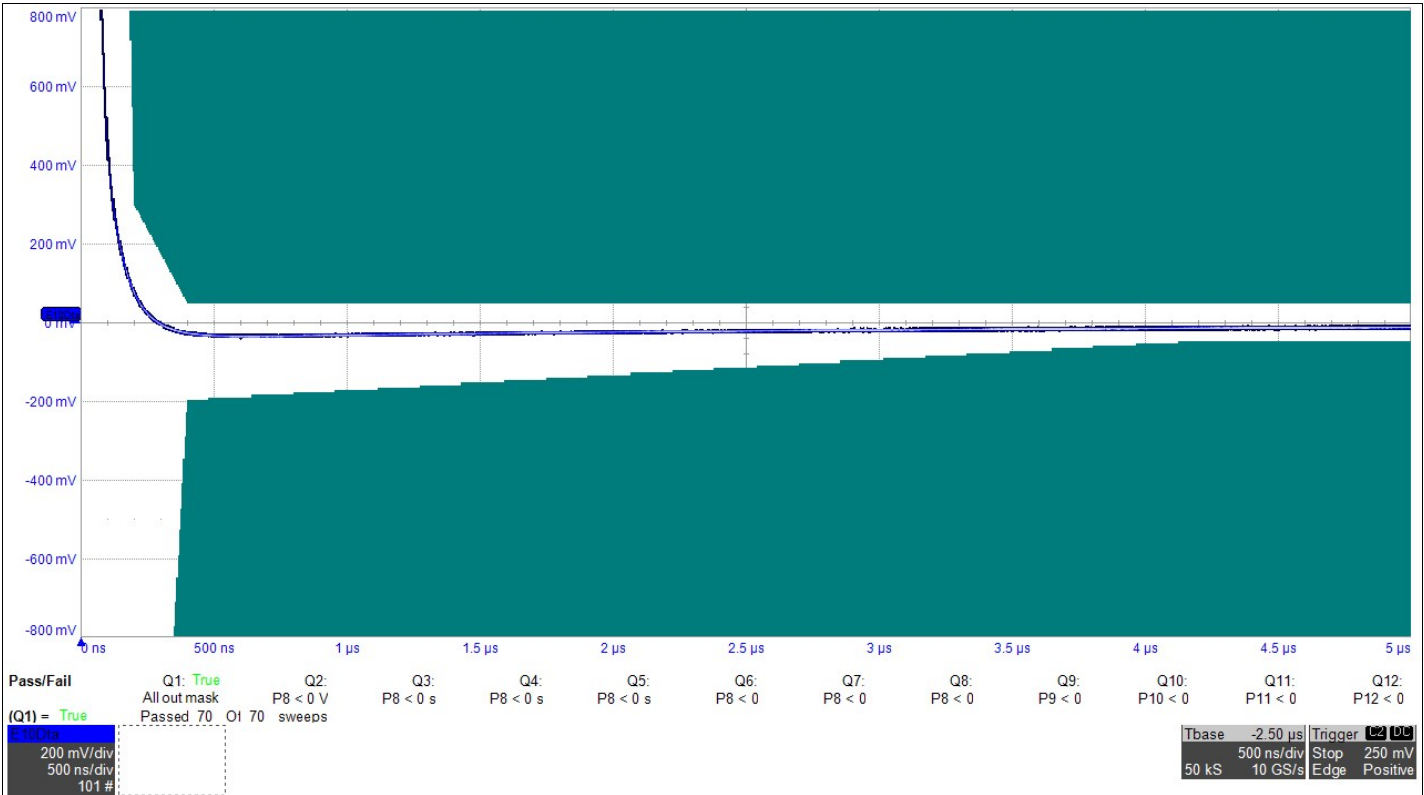


Link Test Pulse Head mask - Load 2, with TPM
 Timestamp: 06/19/2018 15:07:43

Test 14.3.1.2.1 - DOV Link Test Pulse Tail

[\[Up\]](#)


 Pass	Measurement: Link Pulse Load 2 with TPM (Tail)	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:07:51	Limit Name: Mask-Test



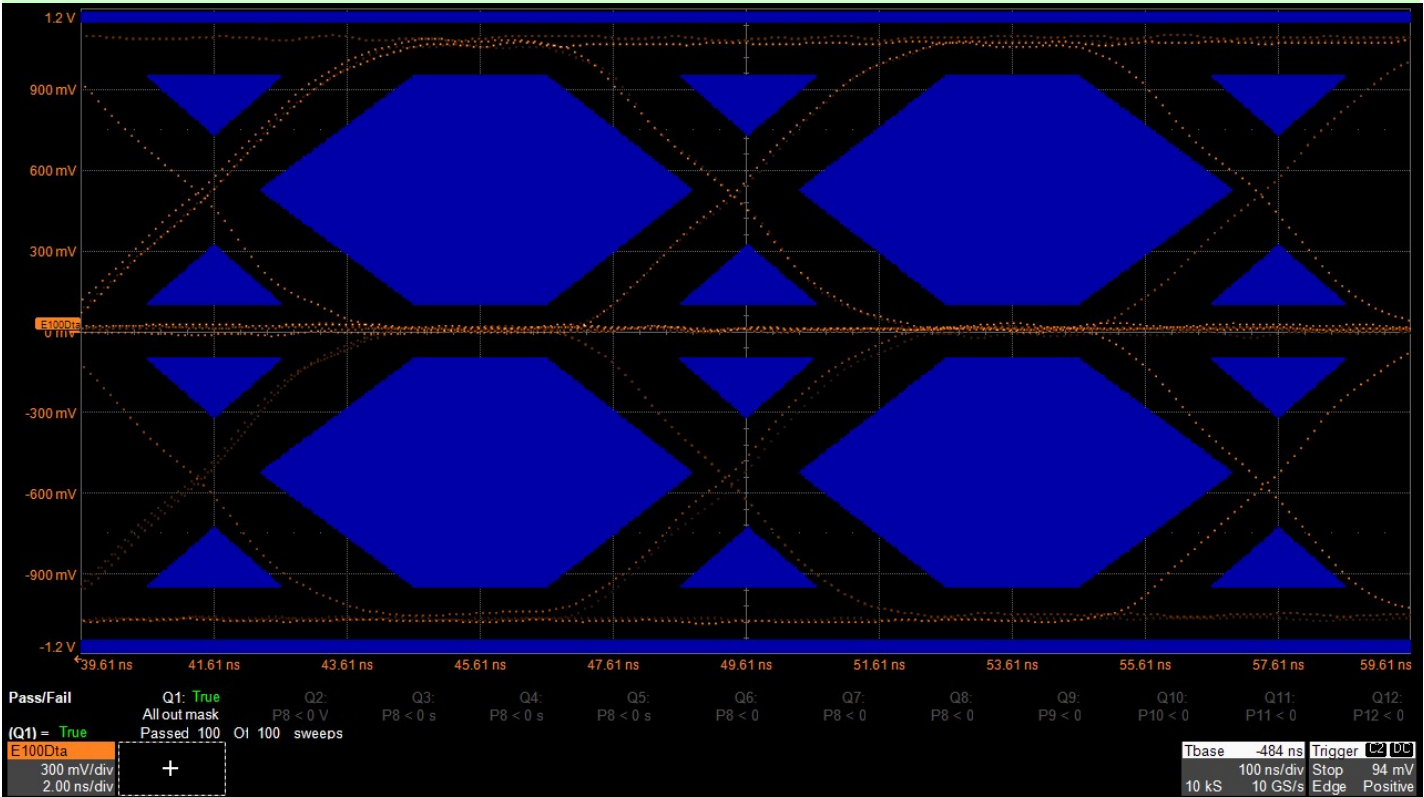
Link Test Pulse Tail mask - Load 2, with TPM
 Timestamp: 06/19/2018 15:07:51

Test 14.3.1.2.5 - Common-mode output voltage

[\[Up\]](#)

 Pass	Measurement: Common mode output voltage	
	Current Value: 36.1 mV	Test Criteria: x <= 50.0 mV
	Timestamp: 06/19/2018 15:08:42	Limit Name: Common-mode-voltage

Test ANSI Appendix J - Twisted Pair Active Output Interface template



100Base-TX Template, scale factor 1.05

Timestamp: 06/19/2018 15:27:04

[Up]

Pass	Measurement: Twisted Pair Active Output Interface template	
	Current Value: AllPass	Test Criteria: match
	Timestamp: 06/19/2018 15:27:04	Limit Name: Mask-Test

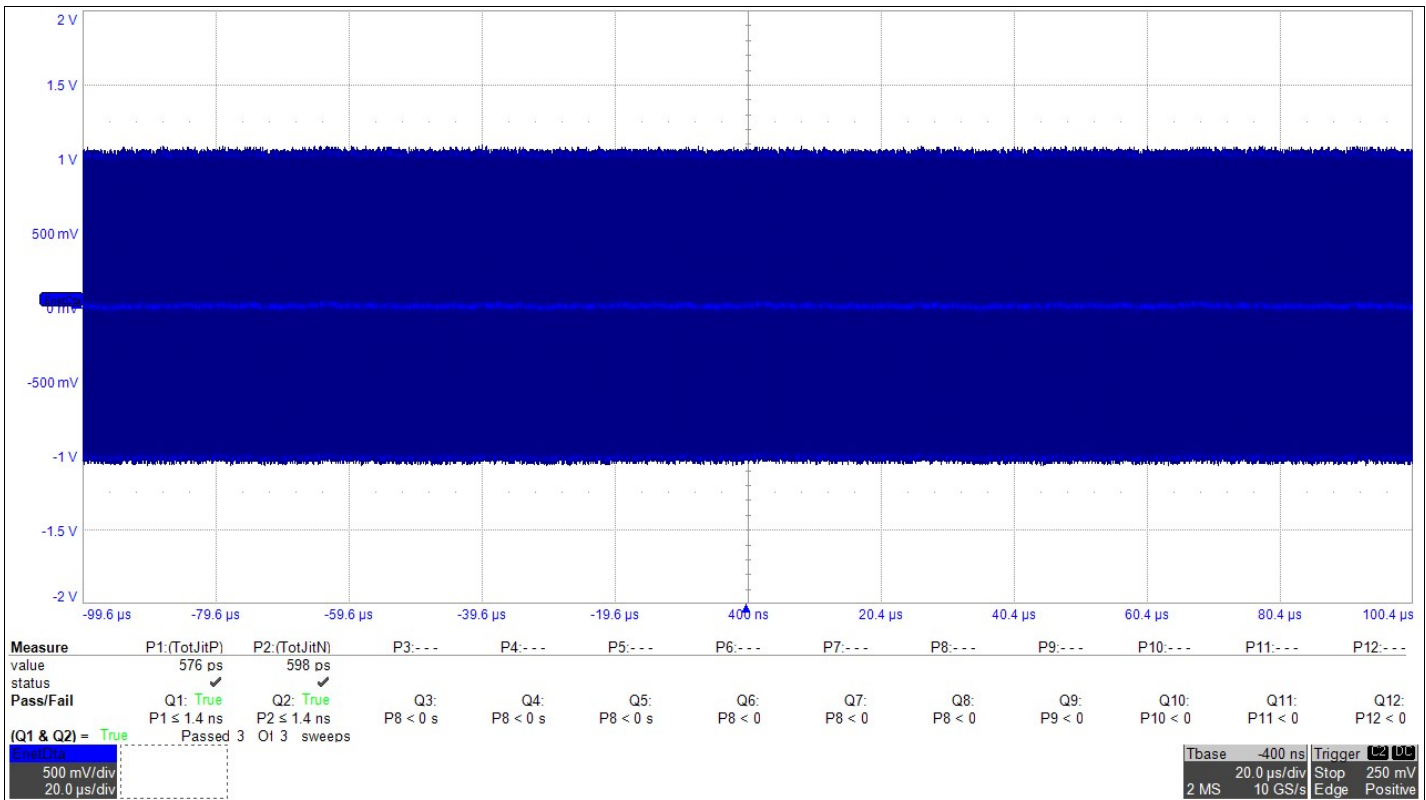
Test ANSI 9.1.9 - Jitter

[Up]

Pass	Measurement: Jitter Base to Upper	
	Current Value: 576 ps	Test Criteria: $x \leq 1.400$ ns
	Timestamp: 06/19/2018 15:27:14	Limit Name: 100BT-Jitter

[Up]

Pass	Measurement: Jitter Base to Lower	
	Current Value: 598 ps	Test Criteria: $x \leq 1.400$ ns
	Timestamp: 06/19/2018 15:27:14	Limit Name: 100BT-Jitter




100Base-TX Jitter


Timestamp: 06/19/2018 15:27:14

Test ANSI 9.1.2.2 - UTP differential output voltage

[\[Up\]](#)


	Measurement: UTP DOV Base to Upper	
	Current Value: 1.0124 V	Test Criteria: 950.0 mV < x < 1.0500 V
	Timestamp: 06/19/2018 15:28:20	Limit Name: 100BT-DOV

[\[Up\]](#)

	Measurement: UTP DOV Base to Lower	
	Current Value: 1.0147 V	Test Criteria: 950.0 mV < x < 1.0500 V
	Timestamp: 06/19/2018 15:28:20	Limit Name: 100BT-DOV


Test ANSI 9.1.4 - Signal amplitude symmetry

[\[Up\]](#)


	Measurement: Signal Amplitude Symmetry	
	Current Value: 997.7 m	Test Criteria: 980.0 m < x < 1.0200
	Timestamp: 06/19/2018 15:28:20	Limit Name: 100BT-SAS

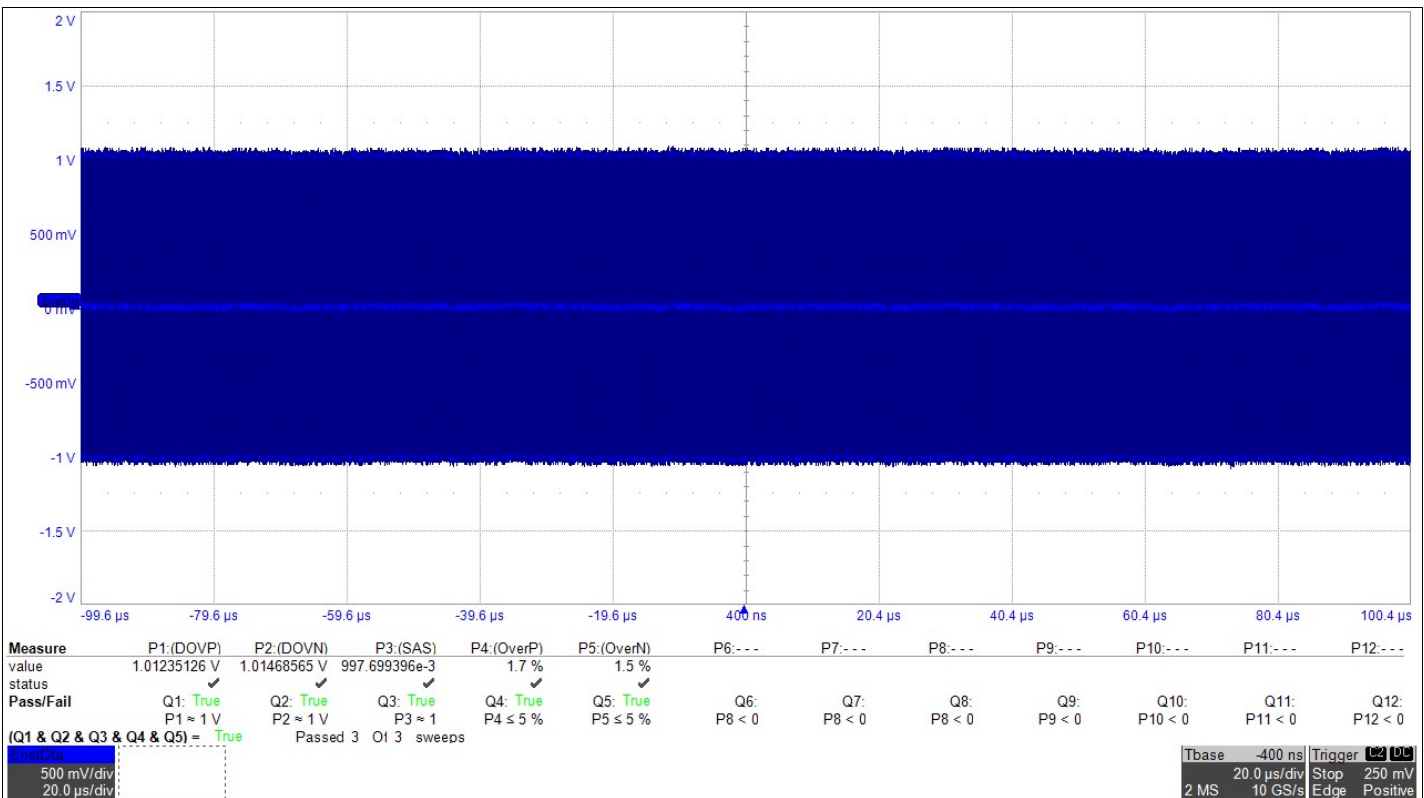
Test ANSI 9.1.3 - Waveform overshoot

[\[Up\]](#)

	Measurement: Overshoot Positive	
	Current Value: 1.7 %	Test Criteria: x <= 5.0 %
	Timestamp: 06/19/2018 15:28:21	Limit Name: 100BT-OverP

[\[Up\]](#)


	Measurement: Overshoot Negative	
	Current Value: 1.5 %	Test Criteria: x <= 5.0 %
	Timestamp: 06/19/2018 15:28:21	Limit Name: 100BT-OverN




100Base-TX Differential Output Voltage, symmetry, overshoot

Timestamp: 06/19/2018 15:28:21


Test ANSI 9.1.6 - Rise/Fall[\[Up\]](#)

 Pass	Measurement: Rise Base to Upper	
	Current Value: 3.741 ns	Test Criteria: $x = 4.000 \text{ ns} \pm 1.000 \text{ ns}$
	Timestamp: 06/19/2018 15:28:25	Limit Name: 100BT-URise


[\[Up\]](#)

 Pass	Measurement: Fall Upper to Base	
	Current Value: 3.526 ns	Test Criteria: $x = 4.000 \text{ ns} \pm 1.000 \text{ ns}$
	Timestamp: 06/19/2018 15:28:26	Limit Name: 100BT-UFall


[\[Up\]](#)

 Pass	Measurement: Rise Lower to Base	
	Current Value: 3.659 ns	Test Criteria: $x = 4.000 \text{ ns} \pm 1.000 \text{ ns}$
	Timestamp: 06/19/2018 15:28:26	Limit Name: 100BT-LRise


[\[Up\]](#)

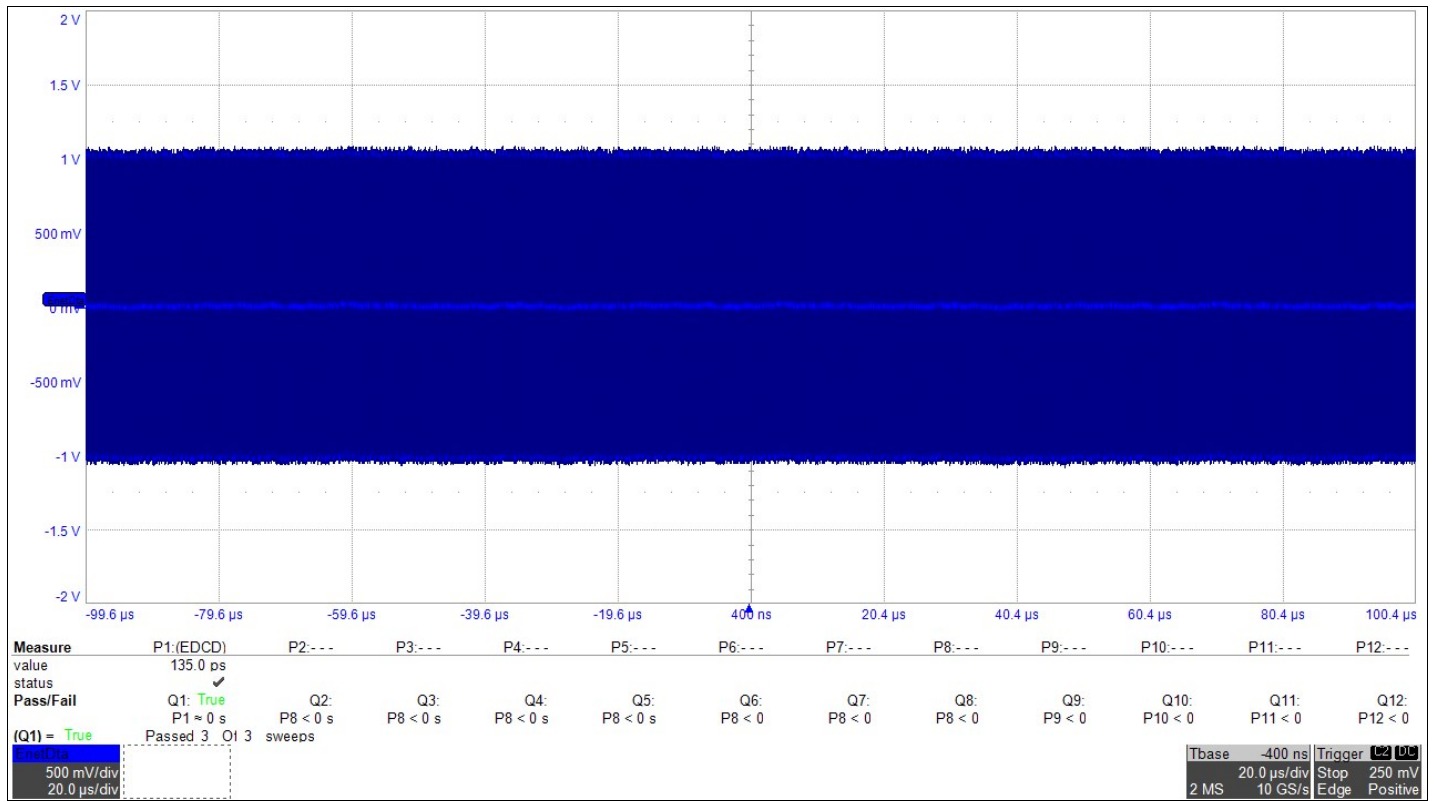
 Pass	Measurement: Fall Base to Lower	
	Current Value: 3.442 ns	Test Criteria: $x = 4.000 \text{ ns} \pm 1.000 \text{ ns}$
	Timestamp: 06/19/2018 15:28:26	Limit Name: 100BT-LFall

[\[Up\]](#)

 Pass	Measurement: Rise/Fall Symmetry	
	Current Value: 299 ps	Test Criteria: $x \leq 500 \text{ ps}$
	Timestamp: 06/19/2018 15:28:26	Limit Name: 100BT-RFSymmetry

Test ANSI 9.1.8 - Duty Cycle Distortion[\[Up\]](#)

 Pass	Measurement: Duty Cycle Distortion	
	Current Value: 135.0 ps	Test Criteria: $-250.0 \text{ ps} < x < 250.0 \text{ ps}$
	Timestamp: 06/19/2018 15:28:59	Limit Name: 100BT-DCD



100Base-TX Duty Cycle Distortion

Timestamp: 06/19/2018 15:28:59

-- End of report --