



1000BASE-T1 Test Report



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General Information

Device	
User	
Site	
Date	9/9/2022
Temperature	
Instrument	RTO 2024
Oscilloscope FW Version	4.80.1.0
Scope Suite Version	4.80.1.0
Comments	



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Test Summary

1000BASE-T1 97.5.3.3 Transmitter timing MDI jitter

Result	Test	Description	Run
✓	97.5.3.3	Measures the TIE jitter of the MDI to an un-jittered reference	1

1000BASE-T1 97.5.3.4 Transmitter power spectral density (PSD)

Result	Test	Description	Run
✗	97.5.3.4	Measures the PSD	2

1000BASE-T1 97.5.3.4 Transmitter power level

Result	Test	Description	Run
✓	97.5.3.4	Measures the Power Level	2

1000BASE-T1 97.5.3.5 Transmitter peak differential output

Result	Test	Description	Run
✓	97.5.3.5	Measures the Peak Differential output	2

1000BASE-T1 97.5.3.1 Maximum output droop (test mode 6)

Result	Test	Description	Run
✓	97.5.3.1	Measured with respect to an initial value at 4 ns after the zero crossing and a final value at 16 ns after the zero crossing (12 ns period).	1

1000BASE-T1 MDI Mode Conversion Loss and Return Loss

Result	Test	Description	Run
✗	97.7.2.2 and 97.7.2.1	MDI Mode Conversion Loss and Return Loss	2



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Test Details



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97.5.3.3 Transmitter timing MDI jitter



Description	Measures the TIE jitter of the MDI to an un-jittered reference
Run	1
Result	Pass
Time	09/07/2022 15:56:35
Comment	

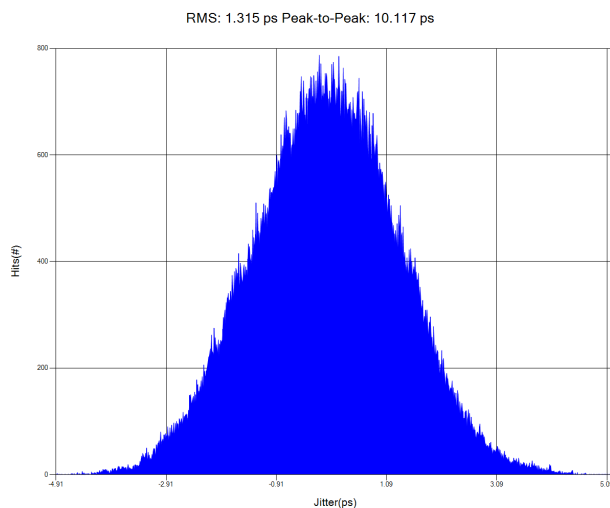
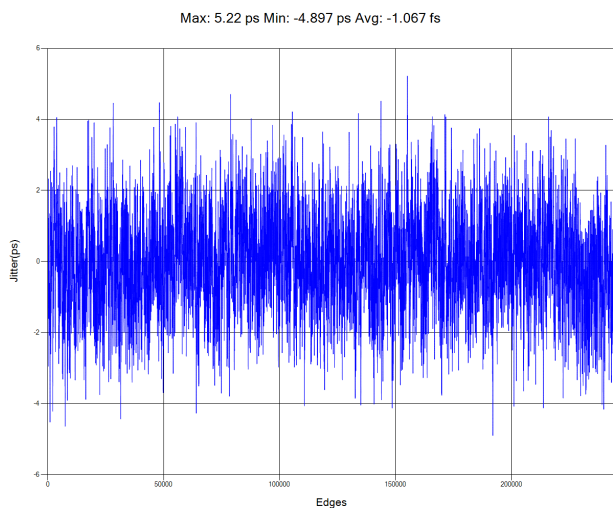
Properties

Name	Value	Name	Value
HD Mode	Yes	Measurement Time	0.001 s
Signal Type(BI_DA)	Single-Ended	5MHz Bandpass Filter	Yes
Expert Mode	No	Offline Mode	No

Additional Information

Measurement	Value	Limits
MDI Output RMS Jitter	1.315 ps	x <= 5 ps
MDI Output Peak-to-Peak Jitter	10.117 ps	x <= 50 ps
Measured time	1 ms	

MDI Output RMS Jitter





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97.5.3.4 Transmitter power spectral density (PSD)



Description	Measures the PSD
Run	2
Result	Fail
Time	09/07/2022 16:05:28
Comment	

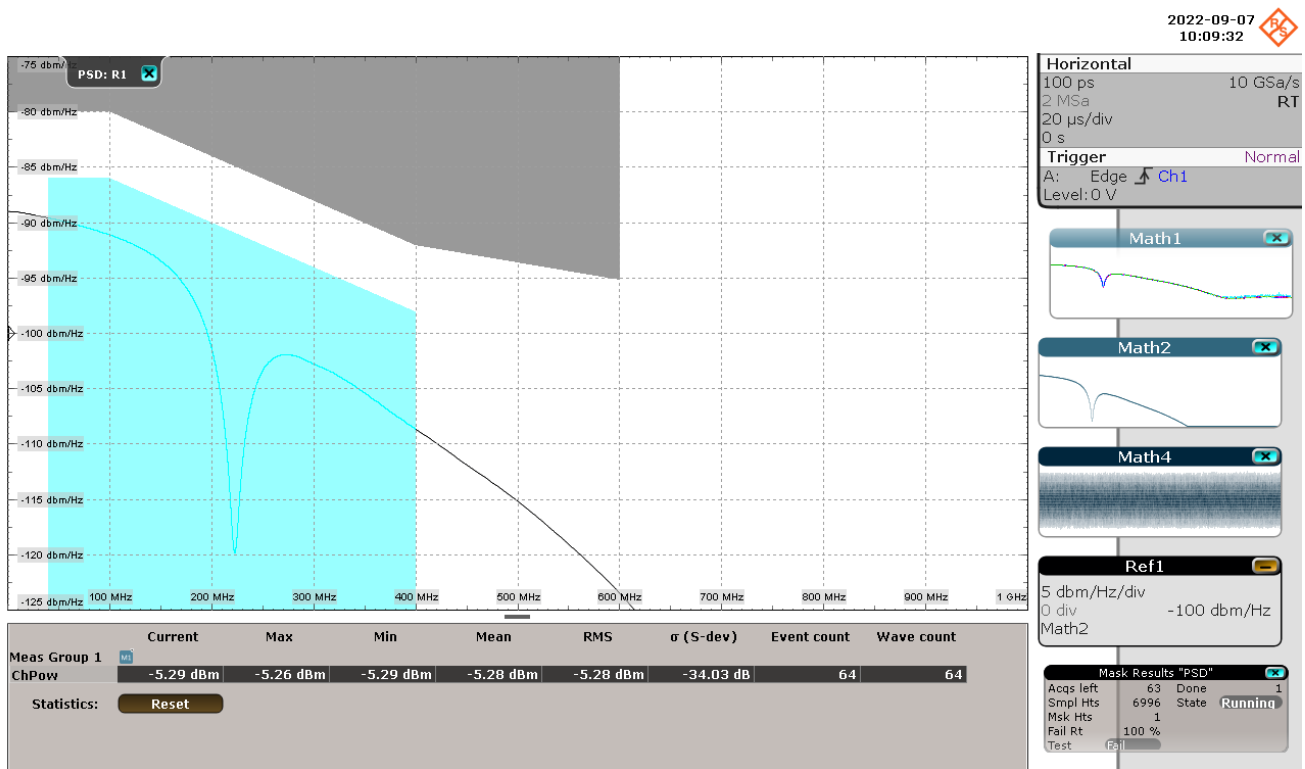
Properties

Name	Value	Name	Value
No. of Acqs	64	Average Count	10
Signal Type(BI_DA)	Single-Ended	Smoothing	Yes
Expert Mode	No		

Additional Information

Measurement	Value	Limits
Power Spectral Density	6996 violations	0 violation

Power Spectral Density





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97.5.3.4 Transmitter power level



Description	Measures the Power Level
Run	2
Result	Pass
Time	09/07/2022 16:05:28
Comment	

Properties

Name	Value	Name	Value
No. of Acqs	64	Average Count	10
Signal Type(BI_DA)	Single-Ended	Smoothing	Yes
Expert Mode	No		

Additional Information

Measurement	Value	Limits
Average transmit power	-5.284 dBm	x < 5 dBm
Maximum transmit power	-5.264 dBm	x < 5 dBm
Minimum transmit power	-5.288 dBm	x < 5 dBm



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97.5.3.5 Transmitter peak differential output



Description	Measures the Peak Differential output
Run	2
Result	Pass
Time	09/07/2022 16:05:28
Comment	

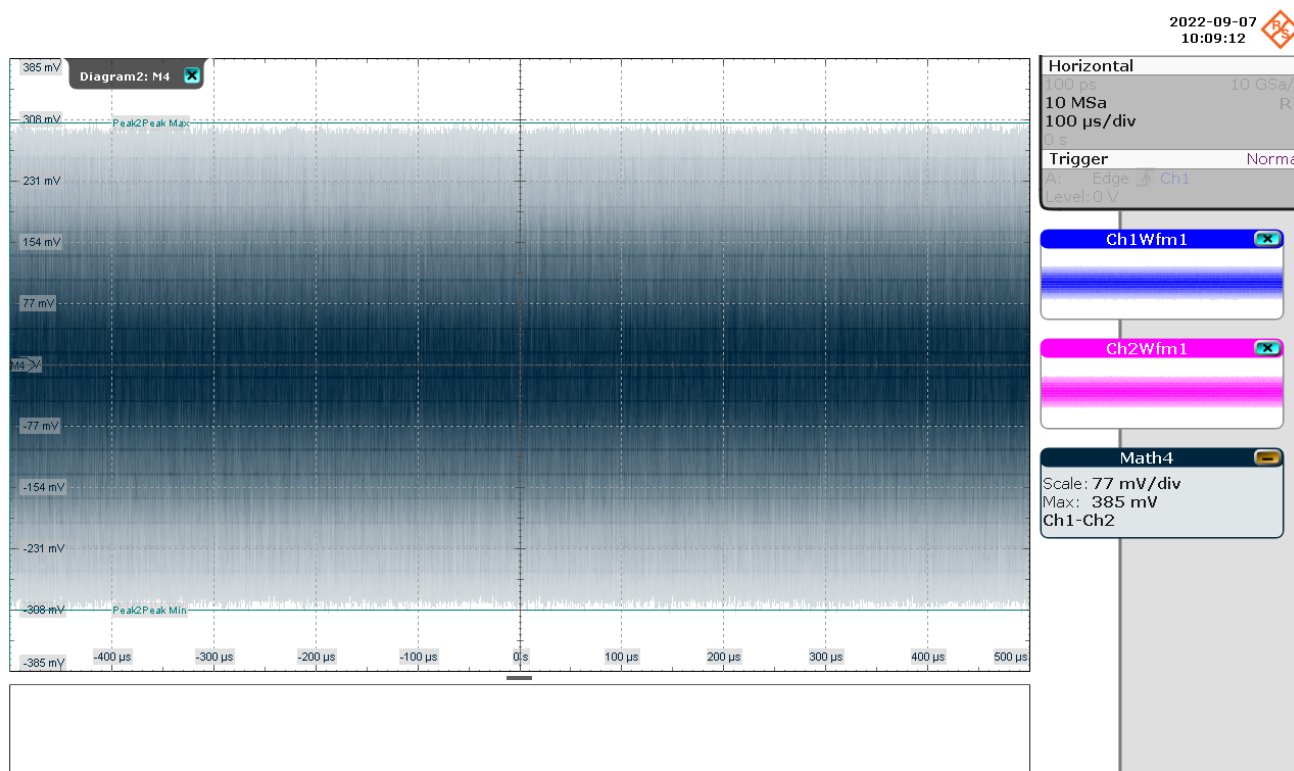
Properties

Name	Value	Name	Value
No. of Acqs	64	Average Count	10
Signal Type(BI_DA)	Single-Ended	Smoothing	Yes
Expert Mode	No		

Additional Information

Measurement	Value	Limits
Peak Differential Output Voltage	615.391 mV	x < 1.3 V

Peak Differential Output Voltage



97.5.3.1 Maximum output droop (test mode 6)





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Description	Measured with respect to an initial value at 4 ns after the zero crossing and a final value at 16 ns after the zero crossing (12 ns period).
Run	1
Result	Pass
Time	09/07/2022 16:08:36
Comment	

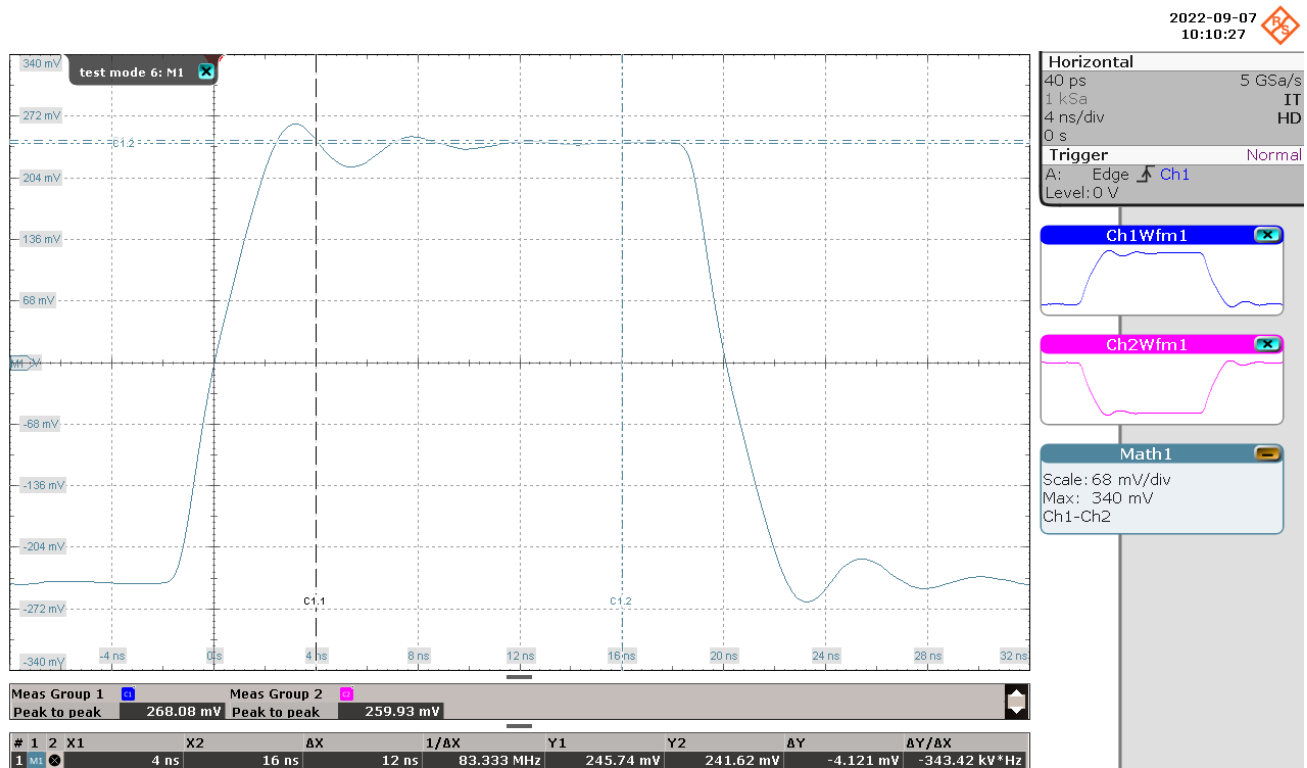
Properties

Name	Value	Name	Value
HD Mode	Yes	Average Count	10
Signal Type(BI_DA)	Single-Ended	Expert Mode	No

Additional Information

Measurement	Value	Limits
Positive droop	1.68 %	$x < 10 \%$
Negative droop	1.42 %	$x < 10 \%$

Positive droop

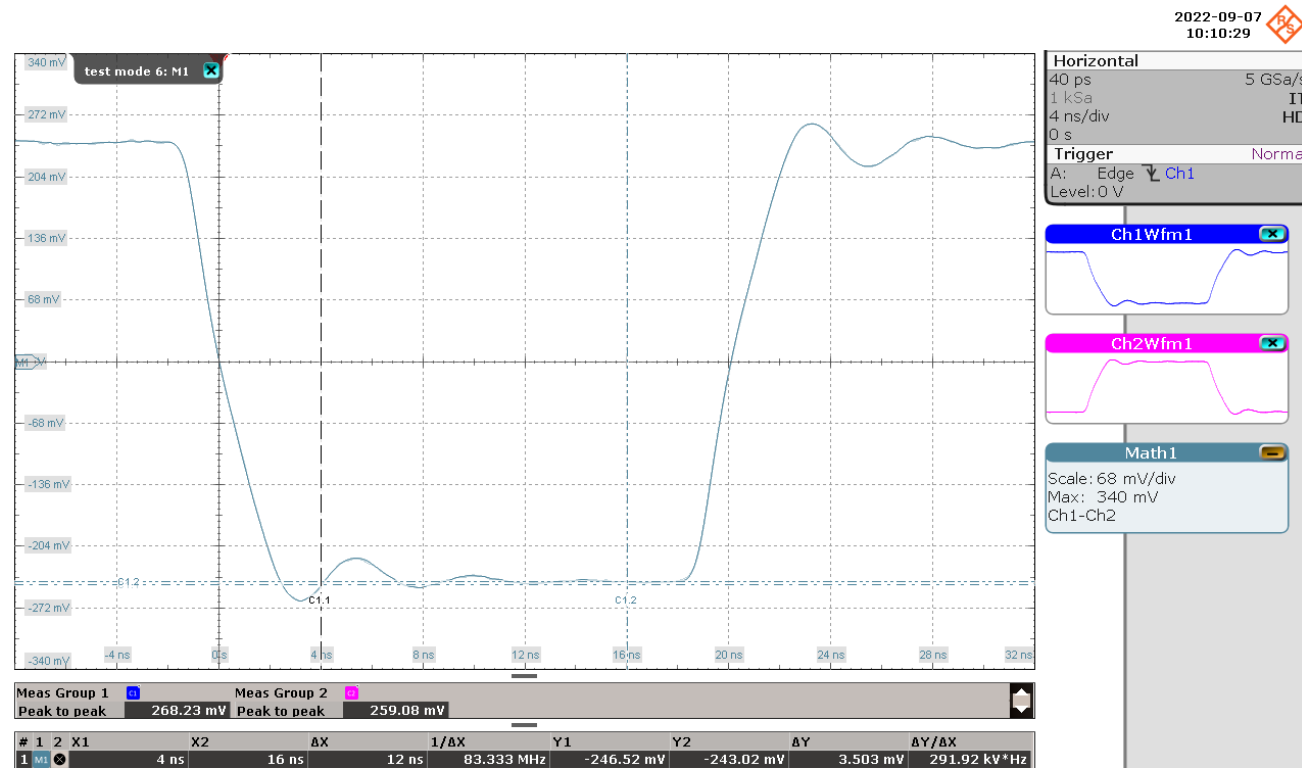




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Negative droop



MDI Mode Conversion Loss and Return Loss



Description	MDI Mode Conversion Loss and Return Loss
Run	2
Result	Fail
Time	09/07/2022 17:06:23
Comment	

Properties

Name	Value	Name	Value
Average Count	16	BandWidth	100 Hz
Fixture Compensation	Yes	Expert Mode	No
Test Limit	IEEE	Calibration File	Default1000BaseT1_MDI

Additional Information

Measurement	Value	Limits
MDI Mode Conversion Loss	Some points failed	No point failed
MDI Return Loss	Some points failed	No point failed

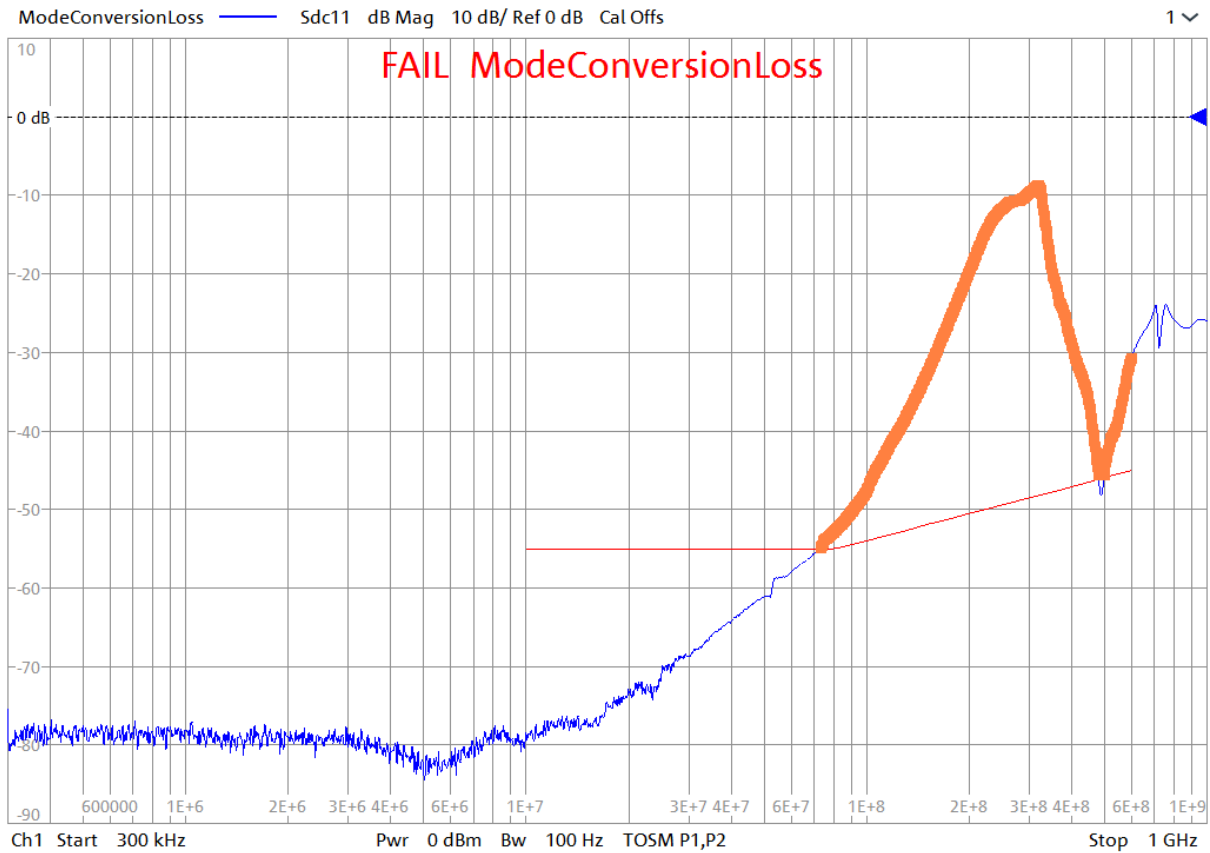


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MDI Mode Conversion Loss

9/7/2022 9:12:05 AM
1328.5170K92-102384-Rx





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MDI Return Loss

9/7/2022 9:12:08 AM
1328.5170K92-102384-Rx

