



100Base-T1 Test Report



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General Information

Device	
User	
Site	
Date	3/10/2023
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

Transmitter output droop

Result	Test	Description	Run
✓	96.5.4.1	Transmitter output droop	1

Transmitter distortion No TX_TCLK With Disturber

Result	Test	Description	Run
✓	96.5.4.2	Transmitter Distortion	1

Transmitter Timing Jitter Mastermode and Clock Frequency

Result	Test	Description	Run
✓	96.5.4.3 and 96.5.4.5	MASTER transmitter timing jitter and clock frequency	1

Power Spectral Density and Peak Differential Output

Result	Test	Description	Run
✓	96.5.4.4 and 96.5.1.8	Power Spectral Density and Peak Differential Output	1

MDI Mode Conversion Loss and Return Loss

Result	Test	Description	Run
✓	96.8.2.2 and 96.8.2.1	MDI Mode Conversion Loss and Return Loss	1

MDI common mode emission

Result	Test	Description	Run
✗	OABR_PMA_TX_07	MDI common mode emission	11



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Test Details

Transmitter output droop



Description	Transmitter output droop
Run	1
Result	Pass
Time	03/10/2023 14:38:12
Comment	

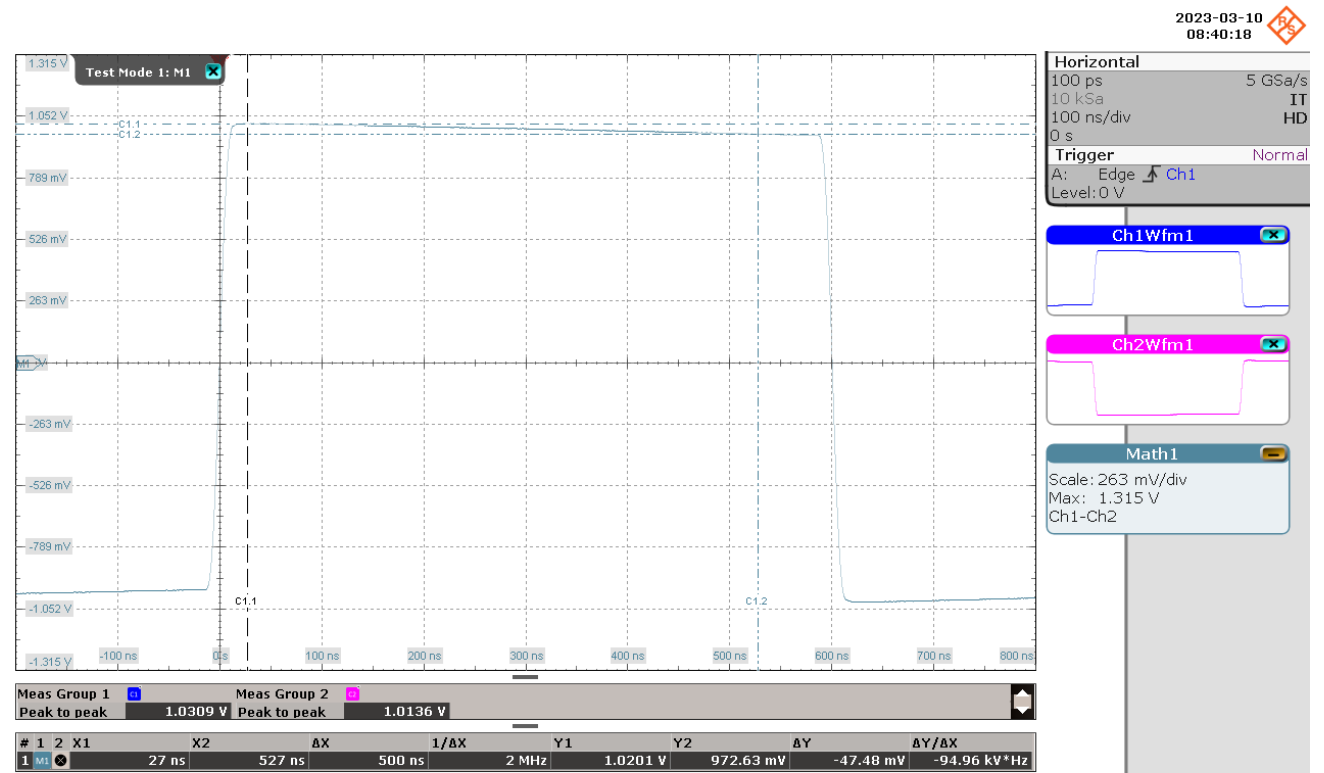
Properties

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

Additional Information

Measurement	Value	Limits
Positive droop	4.65 %	x <= 45 %
Negative droop	4.76 %	x <= 45 %

Positive droop

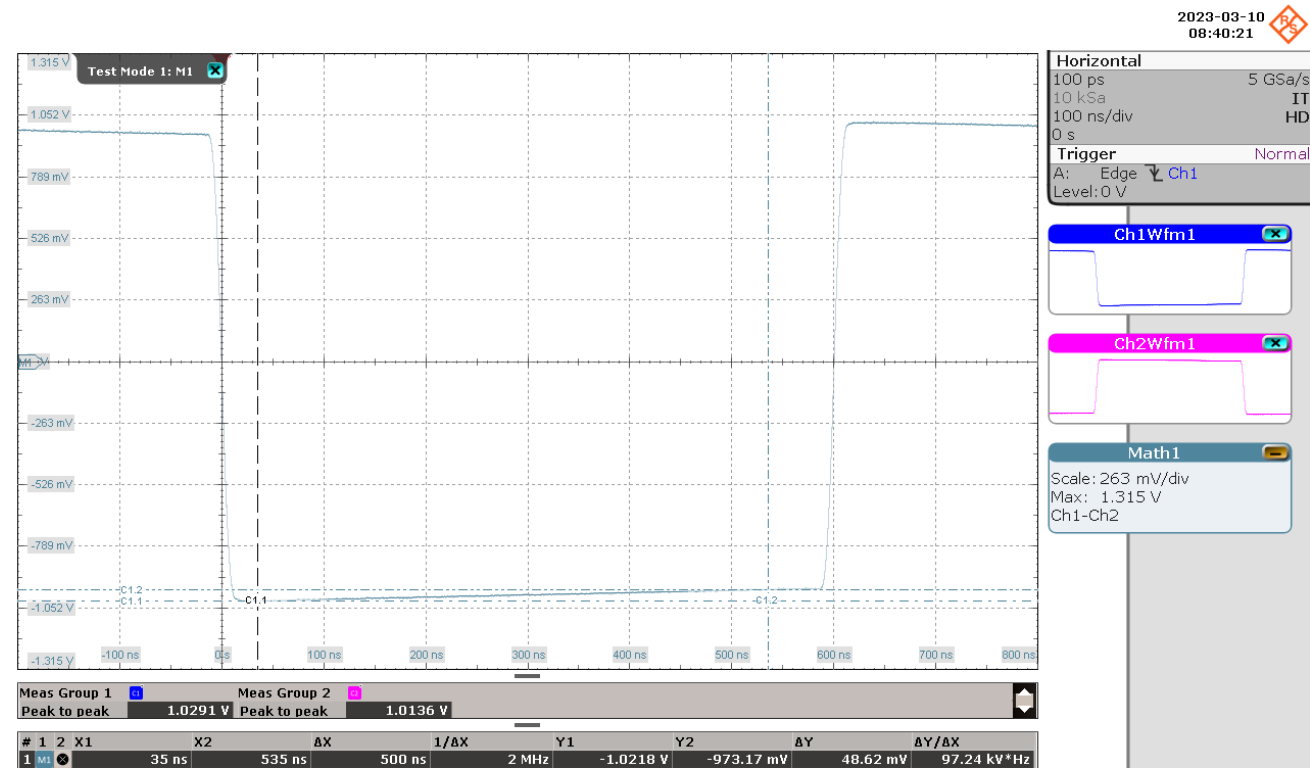




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Negative droop



Transmitter distortion No TX_TCLK With Disturber



Description	Transmitter Distortion
Run	1
Result	Pass
Time	03/10/2023 14:45:22
Comment	

Properties

Name	Value	Name	Value
DUT TX_TCLK	No	Disturbing Signal	Yes
Signal Type	Single-Ended	Expert Mode	No
Test Fixture	RT-ZF8		



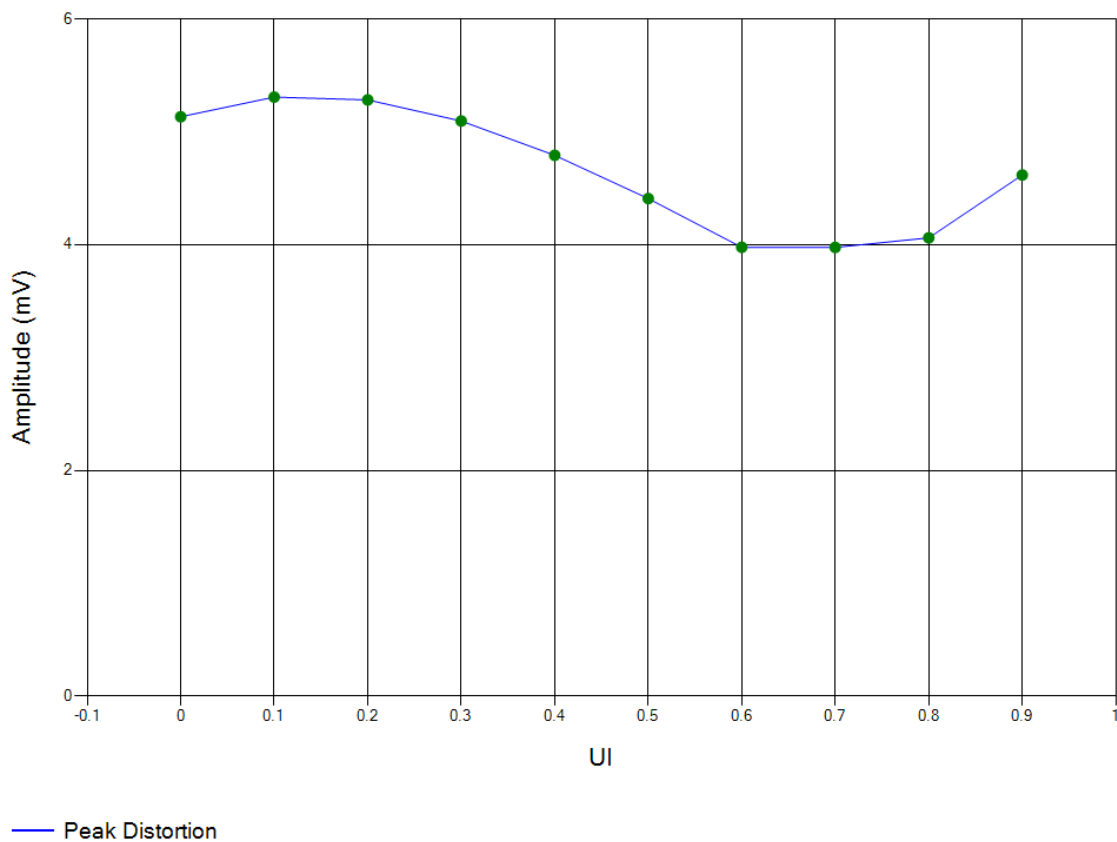
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Additional Information

Measurement	Value	Limits
Percentage of eye opening within limit	100 %	$x = 100 \%$
Peak distortion at 0 UI	5.134 mV	$x < 15 \text{ mV}$
Peak distortion at 0.1 UI	5.308 mV	$x < 15 \text{ mV}$
Peak distortion at 0.2 UI	5.283 mV	$x < 15 \text{ mV}$
Peak distortion at 0.3 UI	5.097 mV	$x < 15 \text{ mV}$
Peak distortion at 0.4 UI	4.792 mV	$x < 15 \text{ mV}$
Peak distortion at 0.5 UI	4.409 mV	$x < 15 \text{ mV}$
Peak distortion at 0.6 UI	3.977 mV	$x < 15 \text{ mV}$
Peak distortion at 0.7 UI	3.976 mV	$x < 15 \text{ mV}$
Peak distortion at 0.8 UI	4.061 mV	$x < 15 \text{ mV}$
Peak distortion at 0.9 UI	4.618 mV	$x < 15 \text{ mV}$

Percentage of eye opening within limit



Transmitter Timing Jitter Mastermode and Clock Frequency





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Description	MASTER transmitter timing jitter and clock frequency
Run	1
Result	Pass
Time	03/10/2023 14:39:16
Comment	

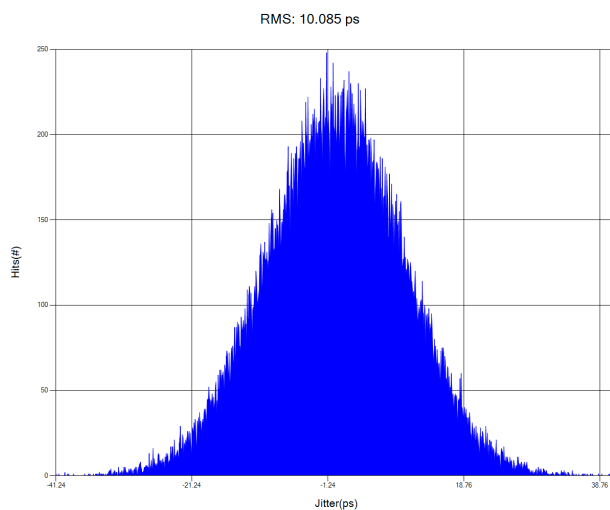
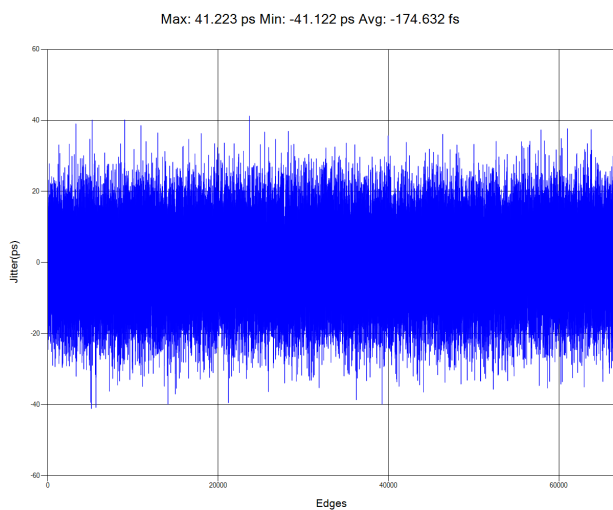
Properties

Name	Value	Name	Value
HD Mode	Yes	Signal Type	Single-Ended
Expert Mode	No	Offline Mode	No

Additional Information

Measurement	Value	Limits
RMS Jitter	10.085 ps	$x \leq 50$ ps
Transmitter Clock Frequency	66.6691 MHz	$66.6603 \text{ MHz} < x < 66.6736 \text{ MHz}$
Measured time	1 ms	

RMS Jitter

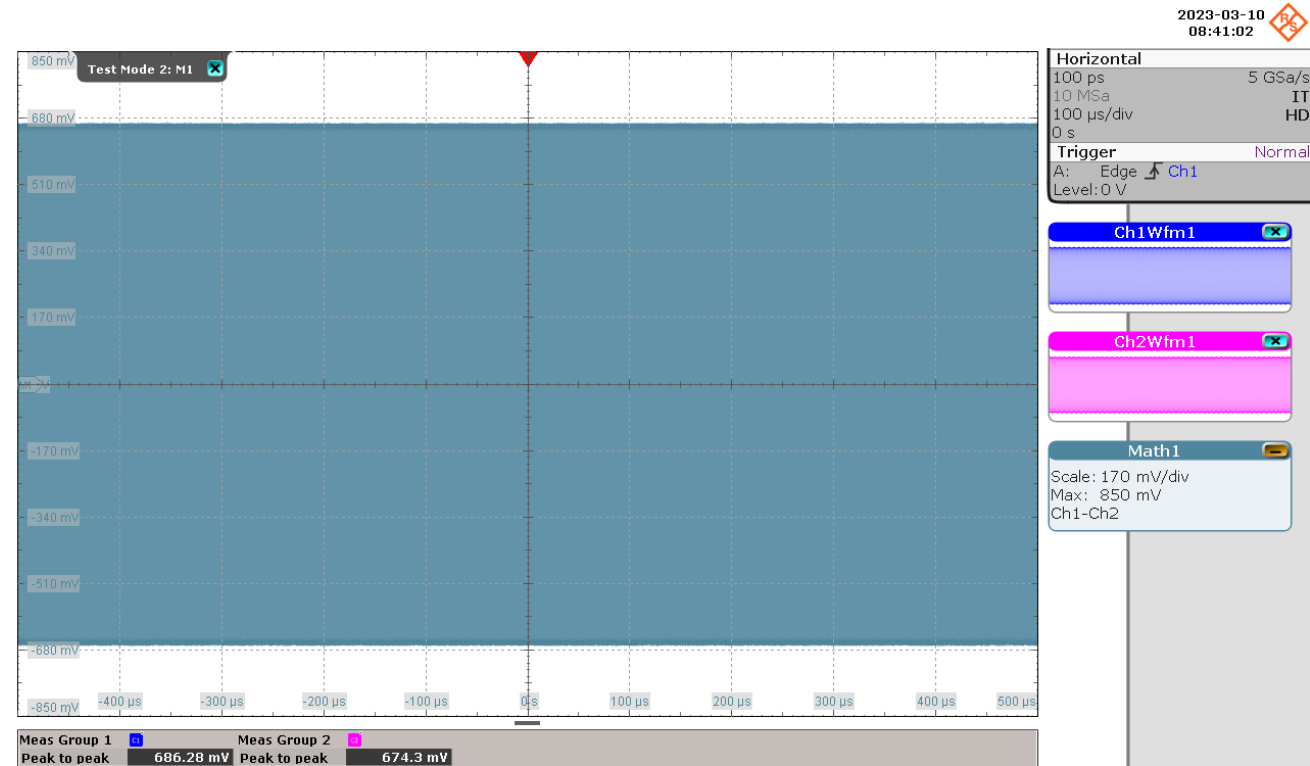




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Transmitter Clock Frequency



Power Spectral Density and Peak Differential Output



Description	Power Spectral Density and Peak Differential Output
Run	1
Result	Pass
Time	03/10/2023 14:39:25
Comment	

Properties

Name	Value	Name	Value
Signal Type	Single-Ended	Use Smoothing	Yes
Expert Mode	No		

Additional Information

Measurement	Value	Limits
Peak Differential Output Voltage	2.168 V	$x < 2.2 \text{ V}$
Power Spectral Density	0 violation	0 violation

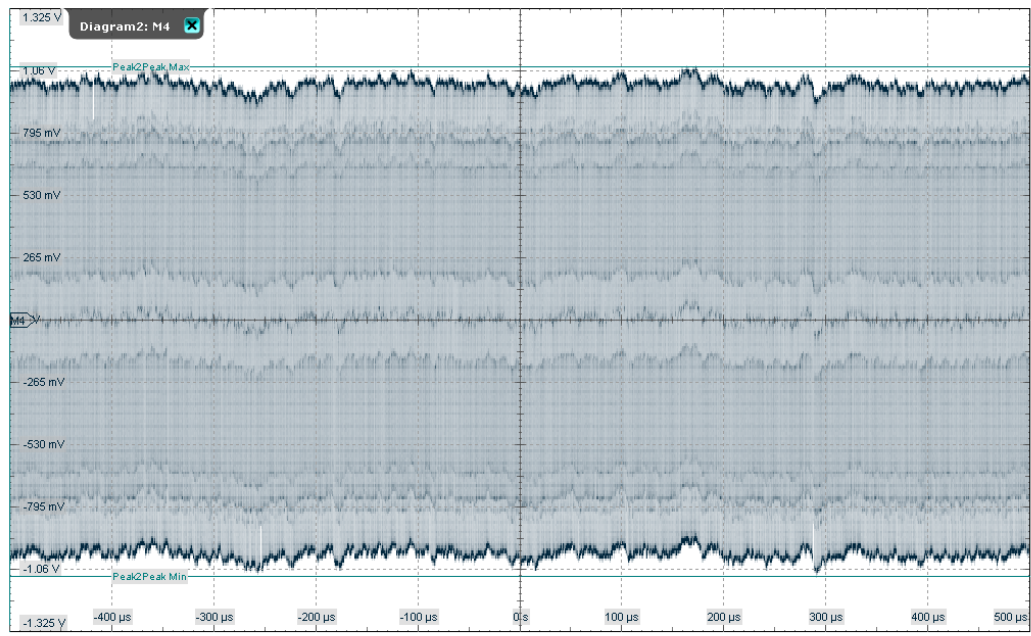


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Peak Differential Output Voltage

2023-03-10 08:41:53



Meas Group 1	2.1472 V
Peak to peak	

Horizontal
100 ps 10 GSa/s
10 MSa RT
100 μs/div
0 s
Trigger Normal
A: Edge Ch1
Level: 0 V

Ch1Wfm1

Ch2Wfm1

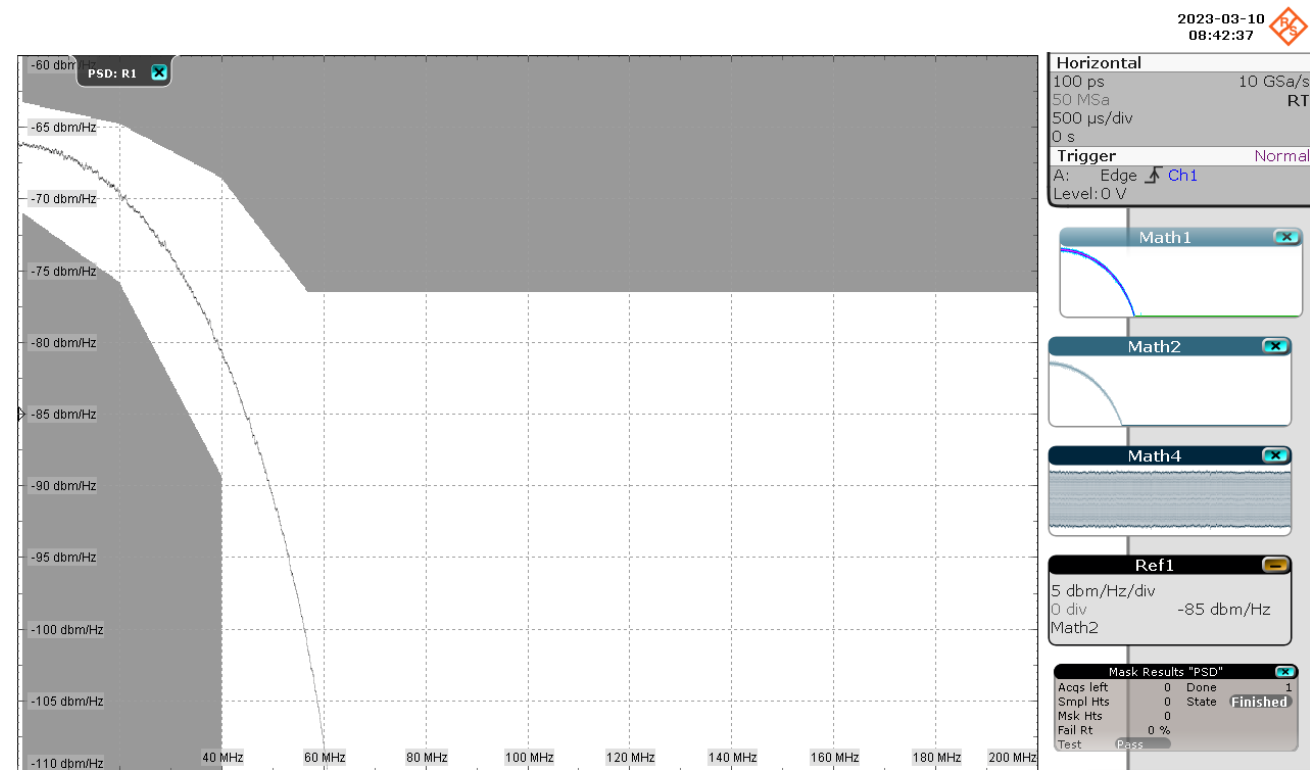
Math4
Scale: 265 mV/div
Max: 1.325 V
Ch1-Ch2



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Power Spectral Density



MDI Mode Conversion Loss and Return Loss



Description	MDI Mode Conversion Loss and Return Loss
Run	1
Result	Pass
Time	03/10/2023 14:16:13
Comment	

Properties

Name	Value	Name	Value
Average Count	16	BandWidth	100 Hz
Fixture Compensation	Yes	Expert Mode	No
Test Limit	IEEE	Calibration File	Default100BaseT1_MDI

Additional Information

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

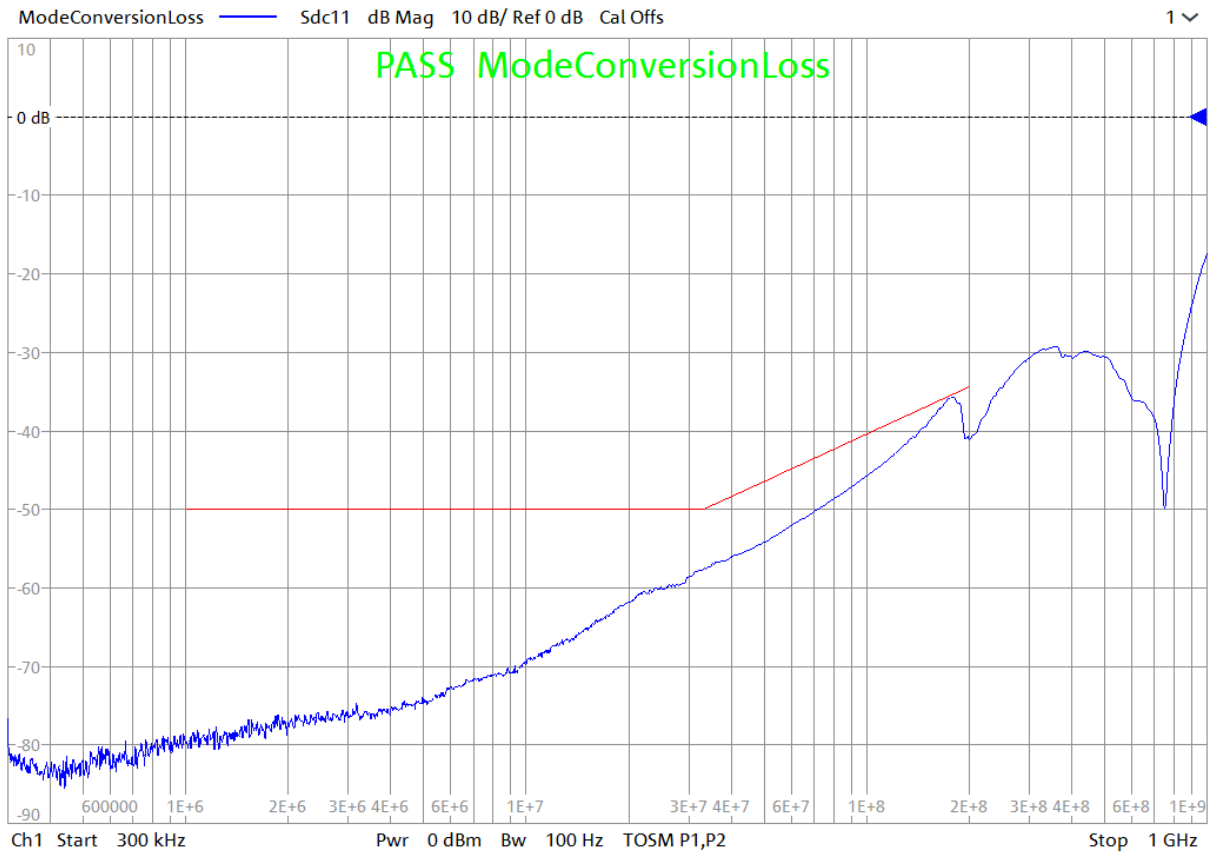


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MDI Mode Conversion Loss

3/10/2023 6:23:58 AM
1328.5170K92-102384-Rx



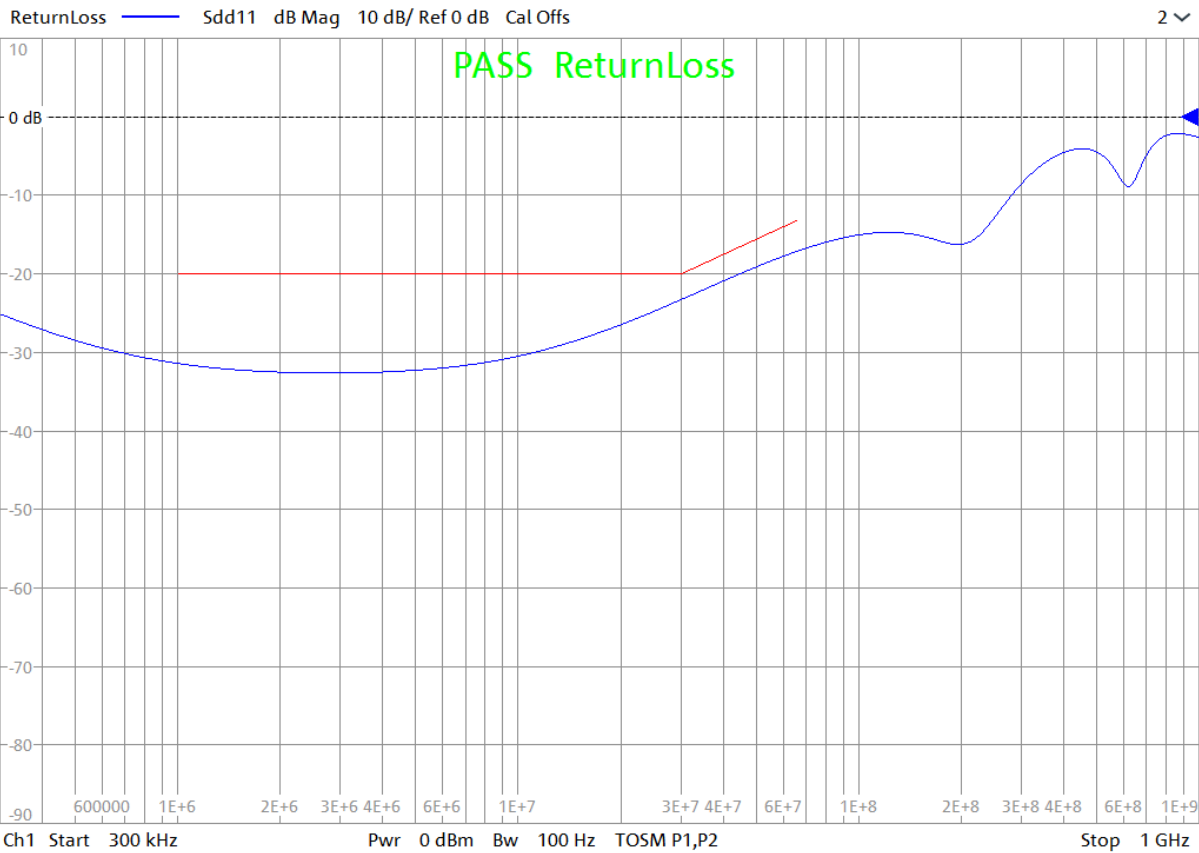


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MDI Return Loss

3/10/2023 6:24:01 AM
1328.5170K92-102384-Rx





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MDI common mode emission



Description	MDI common mode emission
Run	11
Result	Fail
Time	03/10/2023 15:00:20
Comment	

Properties

Name	Value	Name	Value
Mask Limit	24 dBuV	Average Count	20
Expert Mode	No		

Additional Information

Measurement	Value	Limits
MDI common mode emission	64750 violations	0 violation
MDI common mode emission Optional	152 violations	0 violation

MDI common mode emission

