



Certificate of Calibration Fluke Nederland B.V.

Certificate Number:	SA01282202	Date of Calibration:	08 May 2024	
Receive Condition:	IN TOLERANCE	Date of Recalibration:	08 May 2026	
Return Condition:	IN TOLERANCE AFTER REPAIR/ADJUSTMENT	Place of Calibration:	Eindhoven	
Manufacturer:	FLUKE NETWORKS	Temperature within:	(23.0 ± 3) °C	
Model:	DSX-5000 INTL	Humidity within:	(45 ± 20) %rh	
Serial Number:	18390457			
Description:	1 GHZ DSX CABLE ANALYZER			
Procedure:	Manual Procedure			
Customer:	JMP TELEFON PIOTR KURYLO			
	KRAKOW			
Customer Asset ID:	-			
Customer Asset ID: RMA Number:	- 606328938			

All measurements are traceable to national and/or international standards or have been derived by approved ratio techniques. When possible standards used for this calibration are ISO/IEC 17025 accredited calibrated.

This calibration is performed by a DEKRA certified lab for ISO 9001. This certificate may not be reproduced other than in full. Calibration certificates without signatures, either electronic or handwritten, are not valid.



Issue Date: 08 May 2024

Electronically signed

Authorized By

D.B.J. Smits

Fluke Nederland B.V.

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Certificate of Calibration

Certificate Number: SA01282202

Remarks

- The calibration status found in this certificate on the top of each results page must be interpreted as:

As Found	: Data collected before the unit was adjusted and / or repaired
As Left	: Data collected after the unit has been adjusted and / or repaired
Found / Left	: Data collected without any adjustment and / or repair performed

- The calibration interval (due date) is the responsibility of the end user.
- According to the European norm 'Operation of electrical installations' NEN-EN 50110-1 release 2013 and the Dutch norm NEN 3140 release 2015 paragraph 5.102.12 through 5.102.16, a safety test is not required. Therefore not performed.
- Temperature conversions (if applicable) are performed according to ISO/IEC 60584:2013 for thermocouples, and ISO/IEC 60751:2022 for resistance temperature devices.

Standards and test-equipment used

Inventory No	Model	Serial No
WP2391	DSX-CALVERST	E000062



DSX Cable Analyzer

As-Left Report

Model

DSX-5000 CAT 6A/CLASS Fa 1000MHz Copper Module

Serial Number

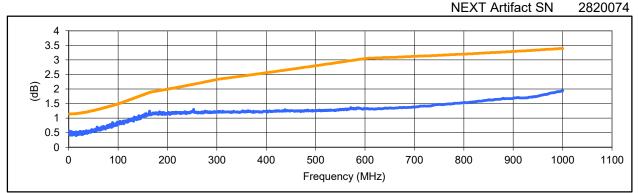
18390457

Test date 8-May-24

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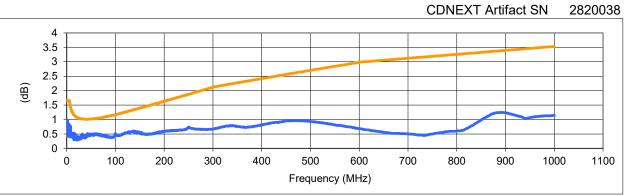


r ago r or o

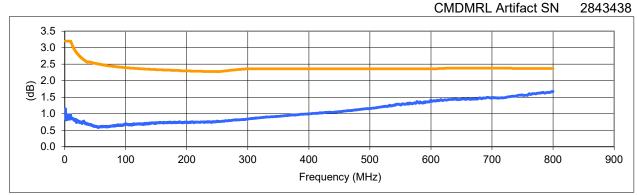


Pass Worst margin: 0.580 at 88.75 MHz in pair 12-36. Worst accuracy at each frequency shown.





Pass Worst margin: 0.490 at 42.75 MHz in pair 45-78. Worst accuracy at each frequency shown.



CMRL

Pass Worst margin: 0.690 at 800 MHz in pair 36. Worst accuracy at each frequency shown.

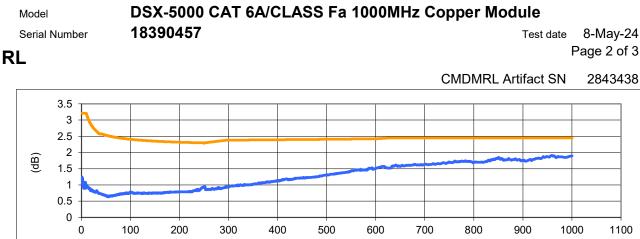
Measured difference of DSX and reference laboratory equipment added to measurement accuracy of reference laboratory equipment. Worst accuracy at each frequency shown.

Corresponding measurement accuracy requirement for nominally compliant Level IV or Level 2G/VI field tester.



DSX Cable Analyzer

As-Left Report



Frequency (MHz)

Pass Worst margin: 0.540 at 958 MHz in pair 78. Worst accuracy at each frequency shown.

TCL

TCL Artifact SN 2843446 3.0 2.5 2.0 କ୍ର 1.5 1.0 0.5 0.0 n 100 200 300 400 500 600 700 800 900 1000 1100 Frequency (MHz)

Pass Worst margin: 0.530 at 2.25 MHz in pair 12. Worst accuracy at each frequency shown.

IL ILFEXT Artifact SN 22170704 3.5 3.0 2.5 2.0 (ap) 2.0 ₽ 1.5 1.0 0.5 0.0 0 100 200 300 400 500 600 700 800 1000 900 1100 Frequency (MHz)

Pass Worst margin: 0.660 at 1.88 MHz in pair 12. Worst accuracy at each frequency shown.

— Measured difference of DSX and reference laboratory equipment added to measurement accuracy of reference laboratory equipment. Worst accuracy at each frequency shown.

Corresponding measurement accuracy requirement for nominally compliant Level IV or Level 2G/VI field tester.

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DSX Cable Analyzer

As-Left Report

DSX-5000 CAT 6A/CLASS Fa 1000MHz Copper Module Model 18390457 Test date Serial Number 8-May-24 Page 3 of 3 FEXT ILFEXT Artifact SN 22170704 3.5 3.0 2.5 2.0 (dB) 1.5 1.0 0.5 0.0 100 200 300 400 500 600 700 800 1000 0 900 1100 Frequency (MHz)

Pass Worst margin: 0.420 at 64 MHz in pair 36-12. Worst accuracy at each frequency shown.

Measured difference of DSX and reference laboratory equipment added to measurement accuracy of reference laboratory equipment. Worst accuracy at each frequency shown.

- Corresponding measurement accuracy requirement for nominally compliant Level IV or Level 2G/VI field tester.

Loop Resistance

_oop Resistance		Loop Resistance A	sistance Artifact SN	
	Measured	Expected	Limit	
Resistance on pair 12	0.04	0.00	0.80	Pass
Resistance on pair 36	50.06	49.80	0.60	Pass
Resistance on pair 45	100.07	99.80	1.60	Pass
Resistance on pair 78	453.04	453.00	4.00	Pass

Resistance Unbalance Artifact SN 22170720

Resistance imbalance

	Measured	Expected	Limit	
Resistance on pair 12	0.04	0.00	0.80	Pass
Resistance on pair 36	25.10	24.90	0.90	Pass
Resistance on pair 45	12.37	12.13	0.90	Pass
Resistance on pair 78	24.27	24.05	0.90	Pass
Resistance imbalance on pair 12	0.01	0.00	0.05	Pass
Resistance imbalance on pair 36	0.00	0.00	0.13	Pass
Resistance imbalance on pair 45	0.37	0.32	0.06	Marginal
Resistance imbalance on pair 78	0.84	0.85	0.12	Pass

DSX-8000 only: M_IL and M_FEXT measurements validate the ability of the DSX-8000 to make measurements with DSX-5000 adapters.

MIL	Not applicable	M_ILFEXT Artifact SN	-
M FEXT	Not applicable	M_ILFEXT Artifact SN	-