

Certificate of Calibration

Data Type: FOUND-LEFT

Certificate No: 1710817

Instrument	Description	CABLE ANALYZER
	Manufacturer	FLUKE NETWORKS
	Model	DTX-1800
	Serial Number	2352057-2352058
	Inventory Number	-

Customer	Name	JMP TELEFON
	City	KRAKOW
	Site Number	5250286

Order Number	RMA Number	624013339
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Environmental Conditions	Temperature within	(23.0 ± 3.0) °C
	Humidity within	(45 ± 20) %rh

Calibration Procedure	Excel Certificate and traceability procedure (3.20)
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Results	The instrument meets its specifications at all points measured. The results of the measurements are shown on page 3 through 5
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Date of Calibration	11 Aug 2016
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Issue date: 11 Aug 2016

Date of Recalibration	11 Aug 2017
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Place of Calibration	Son
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Tested by	W.H.J. van Hulten
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G.J.J. Sprik
Head of laboratory

This calibration is performed by a DEKRA certified lab for ISO 9001:2008. 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 17025:2005 accredited calibrated. This certificate may not be reproduced other than in full. Calibration certificates without signature are not valid.

Certificate of Calibration

Data Type: FOUND-LEFT

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Remarks

- The data type found in this certificate on the top of each page must be interpreted as:
 - As-Found : Calibration data collected before the unit is adjusted and / or repaired
 - As-Left : Calibration data collected after the unit has been adjusted and / or repaired
 - Found-Left : Calibration data collected without any adjustment and / or repair performed

- If the unit under test is used under rough conditions we recommend to decrease the calibration interval period, 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 2005 and the Dutch norm NEN 3140 release 2015 paragraph 5.102.12 through 5.102.16, is a safety test not required. Therefore not performed.

Standards and test-equipment used for this calibration:

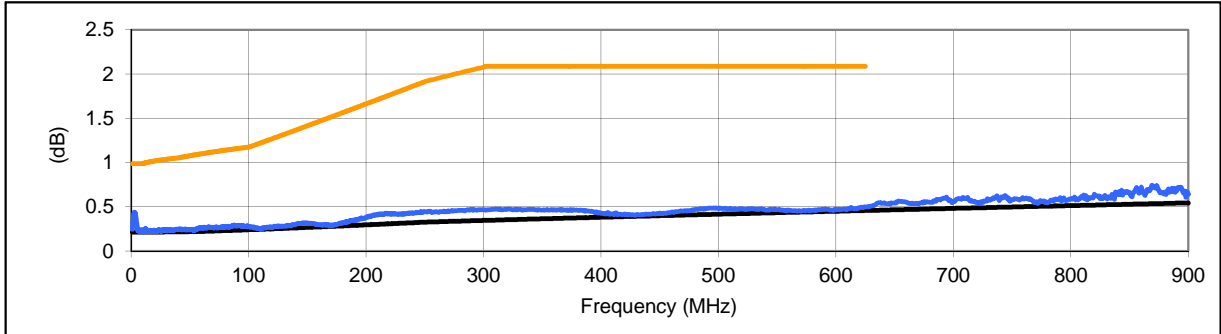
Model	Serial No	Inventory No	Due to	Certificate No
DTX ARTIFACT SET	WP2406	WP2406	14 Oct 2016	181944
FTE1895	5745014	WP0758	17 Sep 2016	1345247

DTX CableAnalyzer
FoundLeft Calibration Certification Report

Main	DTX-1800	2352057	Test Date	11 08 2016
Remote	DTX-1800R	2352058	Test Pgm	UluTest v1.3.001 12-Jun-2014

Main Insertion Loss

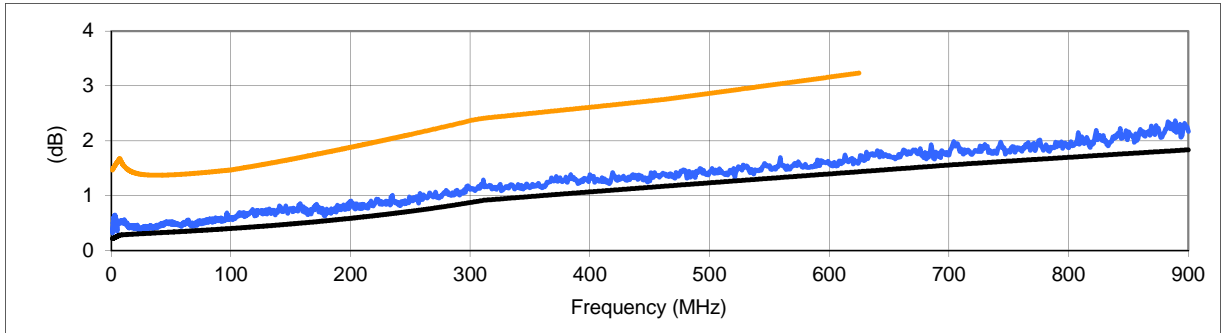
FEXT/IL Artifact SN 2181036



Pass Worst margin: 0.548 at 2.875 MHz in pair 36. Worst accuracy at each frequency shown.

Main FEXT

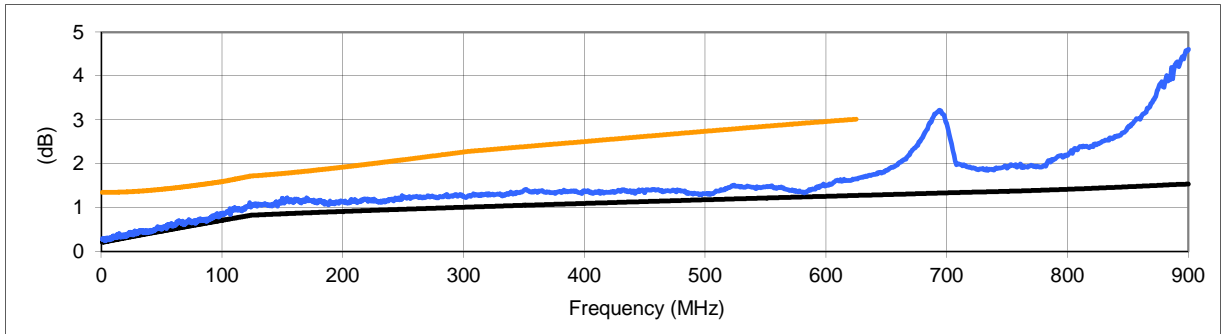
FEXT/IL Artifact ID 2181036



Pass Worst margin: 0.778 at 96.75 MHz in pair 45-78. Worst accuracy at each frequency shown.

Main NEXT

NEXT Ver Artifact ID 2078037



Pass Worst margin: 0.559 at 150 MHz in pair 12-45. Worst accuracy at each frequency shown.

- Measurement accuracy requirement for nominally compliant Level IV field testers.
- Measured difference of DTX and reference laboratory equipment added to measurement accuracy of reference laboratory equipment. Worst accuracy at each frequency shown.
- Estimated accuracy of reference laboratory equipment.

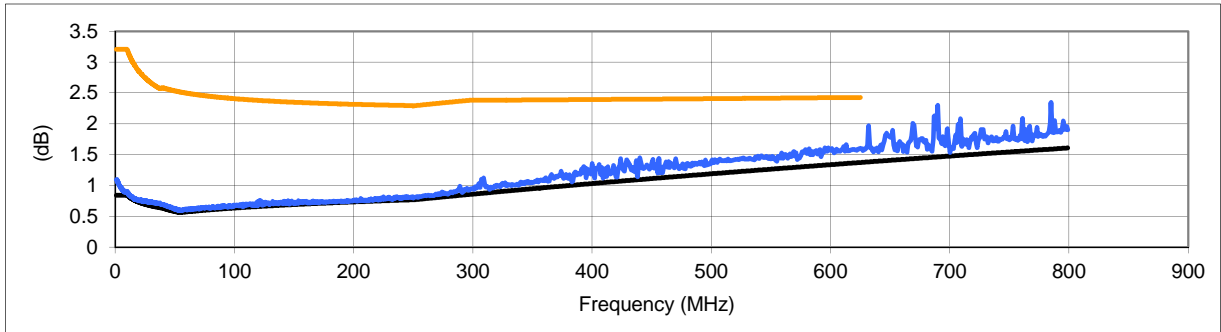
DTX CableAnalyzer

FoundLeft Calibration Certification Report

Main	DTX-1800	2352057	Test Date 11 08 2016
Remote	DTX-1800R	2352058	

Main Return Loss

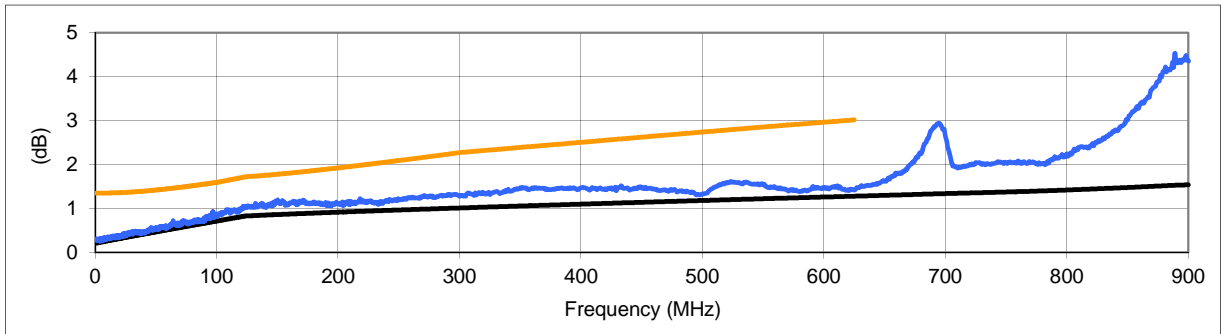
RL Ver Artifact ID 2078038



Pass Worst margin: 0.766 at 613 MHz in pair 78. Worst accuracy at each frequency shown.

Remote NEXT

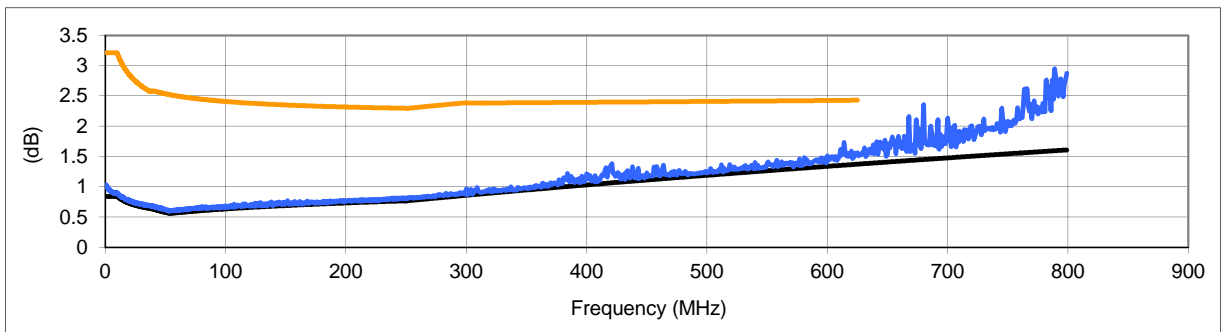
NEXT Ver Artifact ID 2078037



Pass Worst margin: 0.583 at 150 MHz in pair 12-45. Worst accuracy at each frequency shown.

Remote Return Loss

RL Ver Artifact ID 2078038



Pass Worst margin: 0.694 at 614 MHz in pair 78. Worst accuracy at each frequency shown.

- Measurement accuracy requirement for nominally compliant Level IV field testers.
- Measured difference of DTX and reference laboratory equipment added to measurement accuracy of reference laboratory equipment. Worst accuracy at each frequency shown.
- Estimated accuracy of reference laboratory equipment.

DTX CableAnalyzer
FoundLeft Calibration Certification Report

Main	DTX-1800	2352057	Test Date 11 08 2016			
Remote	DTX-1800R	2352058				
Propagation Delay						
	Standard	Meas	Deviation	Allow Dev	Cable Artifact Sn Units	5745014 Result
Pair 12	472.00	469.42	-2.58	20.00	ns	Pass
Pair 36	464.00	463.78	-0.22	20.00	ns	Pass
Pair 45	459.00	457.32	-1.68	20.00	ns	Pass
Pair 78	456.00	454.82	-1.18	20.00	ns	Pass

Report version 3.0.59