Kalibrier-Zertifikat Calibration Certificate

MUSTER

Gegenstand Object	V-LISN
Hersteller Manufacturer	Schwarzbeck Mess-Elektronik
Typ Type description	NSLK 8128 RC
Serien Nr. Serial no.	12345
Inventar Nr. Inventory no.	---
Prüfmittel Nr. Test equipment no.	---
Equipment Nr. Equipment no.	12345678
Standort Location	---
Auftraggeber Customer	Mustermann GmbH DE-12345 Musterhausen
Kunden Nr. Customer ID no.	1234567
Auftrags Nr. Order no.	654321
Datum der Kalibrierung Date of calibration	13.05.2024
Datum der empfohlenen Rekalibrierung Date of the recommended re-calibration	13.05.2025
Konformitätsaussage Conformity	pass

Hiermit bestätigen wir, dass das durchführende Kalibrierlabor ein Managementsystem nach ISO 9001:2015, sowie DIN EN ISO/IEC 17025:2018 eingeführt hat. Die Urkunden finden Sie auf www.testotis.de. Die für die Kalibrierung verwendeten Messeinrichtungen werden regelmäßig kalibriert und sind rückführbar auf die nationalen Normale der Physikalisch Technischen Bundesanstalt (PTB) Deutschlands oder auf andere nationale Normale. Wo keine nationalen Normale existieren, entspricht das Messverfahren den derzeit gültigen technischen Regeln und Normen. Die für diesen Vorgang angefertigte Dokumentation kann eingesehen werden. Alle erforderlichen Messdaten sind in diesem Kalibrier-Zertifikat aufgelistet.

Hereby we confirm that the performing calibration labratory is working with a management system according to ISO 9001:2015 and DIN EN ISO/IEC 17025:2018. Accreditation certificates can be found under www.testotis.de. The measuring installations used for calibration are regularly calibrated and traceable to the national standards of the German Federal Physical Technical Institute (PTB) or other national standards. Should no national standards exist, the measuring procedure corresponds with the technical regulations and norms valid at the time of the measurement. The documents established for this procedure are available for viewing. All the necessary measured data can be found on the following page(s) of this calibration certificate.

[1]) Die erweiterte Messunsicherheit wurde nach EA-4/02 M:2022 mit einer Überdeckungswahrscheinlichkeit von 95% berechnet und enthält die Unsicherheit der Referenz, des Verfahrens sowie die Unsicherheit des Prüflings. Die Konformitätsaussage erfolgt nach der Entscheidungsregel 'Vertrauensniveau 50' .

[1]) The expanded measurement uncertainty was calculated according to EA-4/02 M:2022 with a coverage probability of 95% and contains the uncertainty of the reference, the method and the uncertainty of the unit under test. The statement of conformity is based on the decision rule 'confidence level 50' .

V 5.16 / DE

Stempel Seal

TESTO INDUSTRIAL SERVICES testo KIRCHZARTEN

Fachverantwortlicher Supervisor

Martina Musterfrau

Bearbeiter Technician

Max Mustermann

Kalibrier-Zertifikat Calibration Certificate

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Messeinrichtung Measuring equipment

Referenz Reference	Rückführung Traceability	Rekal. Next cal.	Zertifikat-Nr. Certificate-no.	EQ-Nr. EQ-no.
GPS Controlled Frequency Standard Fluke 910	GPS locked ---	---	---	10640562
Network Analyser Keysight Technologies E5071C	15070-01-00 2023-07	2024-07	E251447	14292834
ECAL Modul N4431B KEYSIGHT Technologies N4431B-ATO-61565	15070-01-00 2023-11	2024-11	E264886	15087229

Referenzzertifikate sind auf www.primasonline.com abrufbar Reference certificates are available at www.primasonline.com

Umgebungsbedingungen Ambient conditions

Temperatur Temperature (23 ± 1) °C
Relative Luftfeuchte Relative Humidity (20...70) %

Messverfahren Measuring procedure

Die Kalibrierung erfolgt gemäß den Anforderungen der DIN EN 55016-1-2:2019-10
The calibration is performed according to the DIN EN 55016-1-2:2019-10 standard

Prüfprozedur Procedure F:CEKON+Schuko+AH:9k-30MHz:NNB:DAKKS / Rev.:1.20

Messergebnisse Measuring results

Seite Page 3 bis to 34

Besondere Bemerkungen Special remarks

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
Input Impedance						
DUT Specified Impedance = 50 µH + 5 Ohm || 50 Ohms						
RF Output / Receiver Port Connection: 50 Ohms						
Mains Connection: Short						
EuT Connection: VNA Port 1						
Path N0/N						
4.927 Ω	9 kHz	5.22 Ω	0.29 Ω	±1.044 Ω	28 % pass	0.65 Ω
15.634 °	9 kHz	26.55 °	10.9 °	±11.5 °	95 % pass	1.2 °
6.537 Ω	15 kHz	6.22 Ω	-0.32 Ω	±1.244 Ω	25 % pass	0.65 Ω
35.297 °	15 kHz	38.41 °	3.1 °	±11.5 °	27 % pass	1.2 °
7.526 Ω	20 kHz	7.25 Ω	-0.28 Ω	±1.45 Ω	19 % pass	0.65 Ω
42.498 °	20 kHz	44.97 °	2.5 °	±11.5 °	22 % pass	1.2 °
8.707 Ω	25 kHz	8.38 Ω	-0.33 Ω	±1.676 Ω	20 % pass	0.65 Ω
47.455 °	25 kHz	49.39 °	1.9 °	±11.5 °	17 % pass	1.2 °
9.958 Ω	30 kHz	9.56 Ω	-0.40 Ω	±1.912 Ω	21 % pass	0.65 Ω
50.601 °	30 kHz	52.33 °	1.7 °	±11.5 °	15 % pass	1.2 °
12.514 Ω	40 kHz	11.99 Ω	-0.52 Ω	±2.398 Ω	22 % pass	0.65 Ω
53.657 °	40 kHz	55.43 °	1.8 °	±11.5 °	15 % pass	1.2 °
15.026 Ω	50 kHz	14.41 Ω	-0.62 Ω	±2.882 Ω	21 % pass	0.65 Ω
54.403 °	50 kHz	56.40 °	2.0 °	±11.5 °	17 % pass	1.2 °
17.434 Ω	60 kHz	16.77 Ω	-0.66 Ω	±3.354 Ω	20 % pass	0.65 Ω
53.998 °	60 kHz	56.23 °	2.2 °	±11.5 °	19 % pass	1.2 °
19.714 Ω	70 kHz	19.04 Ω	-0.67 Ω	±3.808 Ω	18 % pass	0.65 Ω
52.960 °	70 kHz	55.40 °	2.4 °	±11.5 °	21 % pass	1.2 °
21.846 Ω	80 kHz	21.19 Ω	-0.66 Ω	±4.238 Ω	16 % pass	0.65 Ω
51.586 °	80 kHz	54.19 °	2.6 °	±11.5 °	23 % pass	1.2 °
23.825 Ω	90 kHz	23.22 Ω	-0.61 Ω	±4.644 Ω	13 % pass	0.65 Ω
50.048 °	90 kHz	52.77 °	2.7 °	±11.5 °	24 % pass	1.2 °
25.658 Ω	100 kHz	25.11 Ω	-0.55 Ω	±5.022 Ω	11 % pass	0.65 Ω
48.417 °	100 kHz	51.22 °	2.8 °	±11.5 °	24 % pass	1.2 °
32.753 Ω	150 kHz	34.29 Ω	1.54 Ω	±6.858 Ω	22 % pass	0.65 Ω
40.521 °	150 kHz	46.70 °	6.2 °	±11.5 °	54 % pass	1.2 °
34.806 Ω	170 kHz	36.50 Ω	1.69 Ω	±7.3 Ω	23 % pass	0.65 Ω
37.739 °	170 kHz	43.11 °	5.4 °	±11.5 °	47 % pass	1.2 °

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37.266 Ω	200 kHz	39.12 Ω	1.85 Ω	±7.824 Ω	24 % pass	0.65 Ω
34.064 °	200 kHz	38.51 °	4.4 °	±11.5 °	39 % pass	1.2 °
40.162 Ω	250 kHz	42.18 Ω	2.02 Ω	±8.436 Ω	24 % pass	0.65 Ω
29.101 °	250 kHz	32.48 °	3.4 °	±11.5 °	29 % pass	1.2 °
42.081 Ω	300 kHz	44.17 Ω	2.09 Ω	±8.834 Ω	24 % pass	0.65 Ω
25.284 °	300 kHz	27.95 °	2.7 °	±11.5 °	23 % pass	1.2 °
43.411 Ω	350 kHz	45.52 Ω	2.11 Ω	±9.104 Ω	23 % pass	0.65 Ω
22.295 °	350 kHz	24.45 °	2.2 °	±11.5 °	19 % pass	1.2 °
44.339 Ω	400 kHz	46.46 Ω	2.12 Ω	±9.292 Ω	23 % pass	0.65 Ω
19.923 °	400 kHz	21.70 °	1.8 °	±11.5 °	16 % pass	1.2 °
45.544 Ω	500 kHz	47.65 Ω	2.11 Ω	±9.53 Ω	22 % pass	0.65 Ω
16.419 °	500 kHz	17.66 °	1.2 °	±11.5 °	11 % pass	1.2 °
46.278 Ω	600 kHz	48.33 Ω	2.05 Ω	±9.666 Ω	21 % pass	0.65 Ω
13.970 °	600 kHz	14.86 °	0.9 °	±11.5 °	8 % pass	1.2 °
46.736 Ω	700 kHz	48.76 Ω	2.02 Ω	±9.752 Ω	21 % pass	0.65 Ω
12.183 °	700 kHz	12.81 °	0.6 °	±11.5 °	5 % pass	1.2 °
47.033 Ω	800 kHz	49.04 Ω	2.01 Ω	±9.808 Ω	21 % pass	0.66 Ω
10.826 °	800 kHz	11.25 °	0.4 °	±11.5 °	4 % pass	1.2 °
47.257 Ω	900 kHz	49.24 Ω	1.98 Ω	±9.848 Ω	20 % pass	0.66 Ω
9.767 °	900 kHz	10.03 °	0.3 °	±11.5 °	2 % pass	1.2 °
47.425 Ω	1 MHz	49.38 Ω	1.96 Ω	±9.876 Ω	20 % pass	0.66 Ω
8.913 °	1 MHz	9.04 °	0.1 °	±11.5 °	1 % pass	1.2 °
47.662 Ω	1.2 MHz	49.57 Ω	1.91 Ω	±9.914 Ω	19 % pass	0.66 Ω
7.623 °	1.2 MHz	7.56 °	-0.1 °	±11.5 °	1 % pass	1.2 °
47.881 Ω	1.5 MHz	49.72 Ω	1.84 Ω	±9.944 Ω	19 % pass	0.66 Ω
6.318 °	1.5 MHz	6.06 °	-0.3 °	±11.5 °	2 % pass	1.2 °
48.060 Ω	2 MHz	49.84 Ω	1.78 Ω	±9.968 Ω	18 % pass	0.66 Ω
4.982 °	2 MHz	4.55 °	-0.4 °	±11.5 °	4 % pass	1.2 °
47.991 Ω	2.5 MHz	49.90 Ω	1.91 Ω	±9.98 Ω	19 % pass	0.67 Ω
4.358 °	2.5 MHz	3.64 °	-0.7 °	±11.5 °	6 % pass	1.2 °
48.035 Ω	3 MHz	49.93 Ω	1.90 Ω	±9.986 Ω	19 % pass	0.67 Ω
4.138 °	3 MHz	3.04 °	-1.1 °	±11.5 °	10 % pass	1.2 °
48.261 Ω	4 MHz	49.96 Ω	1.70 Ω	±9.992 Ω	17 % pass	0.67 Ω
3.973 °	4 MHz	2.28 °	-1.7 °	±11.5 °	15 % pass	1.2 °

Kalibrier-Zertifikat Calibration Certificate MUSTER

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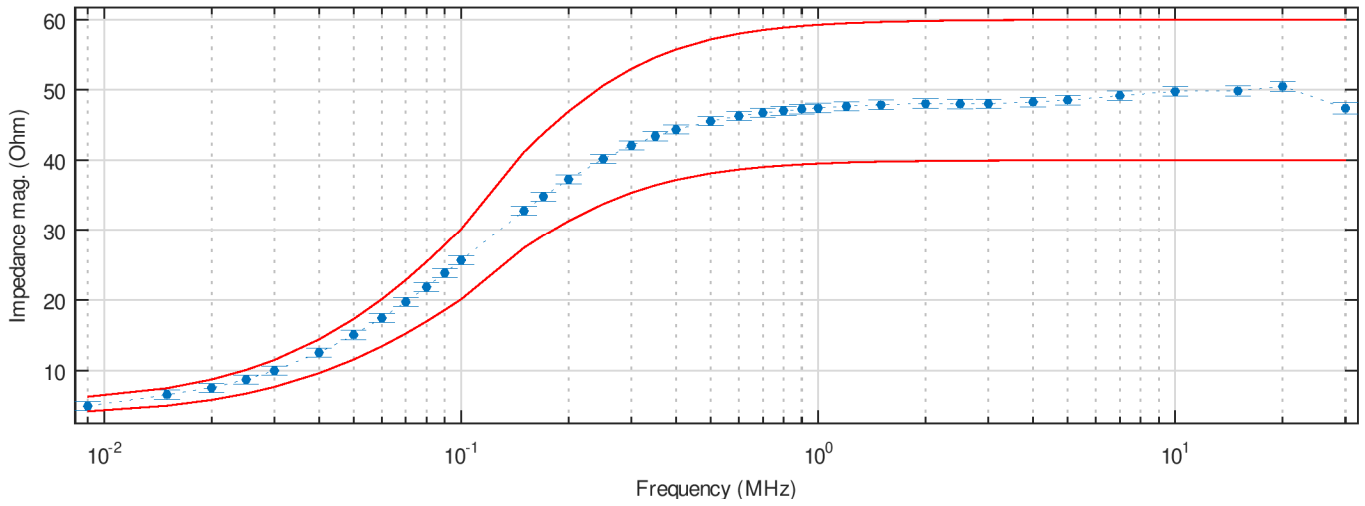
48.534 Ω	5 MHz	49.98 Ω	1.45 Ω	±9.996 Ω	15 % pass	0.68 Ω
3.957 °	5 MHz	1.82 °	-2.1 °	±11.5 °	19 % pass	1.2 °
49.165 Ω	7 MHz	49.99 Ω	0.82 Ω	±9.998 Ω	8 % pass	0.69 Ω
3.913 °	7 MHz	1.30 °	-2.6 °	±11.5 °	23 % pass	1.2 °
49.796 Ω	10 MHz	49.99 Ω	0.19 Ω	±9.998 Ω	2 % pass	0.71 Ω
3.609 °	10 MHz	0.91 °	-2.7 °	±11.5 °	24 % pass	1.2 °
49.860 Ω	15 MHz	50.00 Ω	0.14 Ω	±10 Ω	1 % pass	0.74 Ω
5.408 °	15 MHz	0.61 °	-4.8 °	±11.5 °	42 % pass	1.2 °
50.490 Ω	20 MHz	50.00 Ω	-0.49 Ω	±10 Ω	5 % pass	0.77 Ω
1.464 °	20 MHz	0.46 °	-1.0 °	±11.5 °	9 % pass	1.2 °
47.382 Ω	30 MHz	50.00 Ω	2.62 Ω	±10 Ω	26 % pass	0.83 Ω
-0.216 °	30 MHz	0.30 °	0.5 °	±11.5 °	4 % pass	1.2 °



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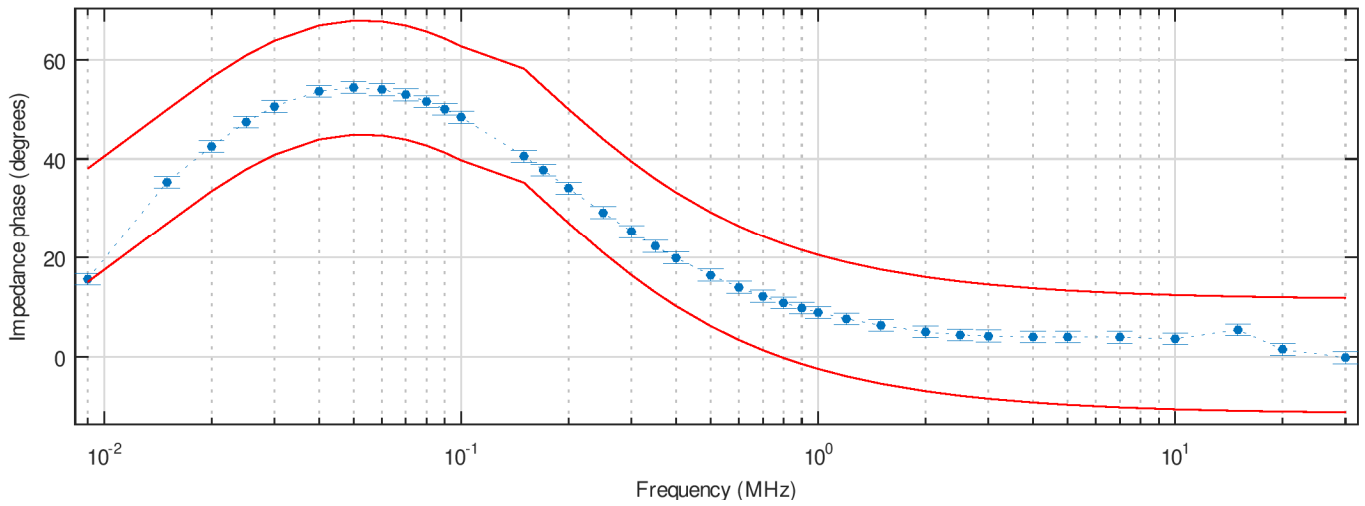
Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)



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Path L1/R

4.516 Ω 16.216 °	9 kHz 9 kHz	5.22 Ω 26.55 °	0.70 Ω 10.3 °	±1.044 Ω ±11.5 °	67 % pass 90 % pass	0.65 Ω 1.2 °
6.158 Ω 36.961 °	15 kHz 15 kHz	6.22 Ω 38.41 °	0.06 Ω 1.4 °	±1.244 Ω ±11.5 °	5 % pass 13 % pass	0.65 Ω 1.2 °
7.141 Ω 44.292 °	20 kHz 20 kHz	7.25 Ω 44.97 °	0.11 Ω 0.7 °	±1.45 Ω ±11.5 °	8 % pass 6 % pass	0.65 Ω 1.2 °
8.317 Ω 49.200 °	25 kHz 25 kHz	8.38 Ω 49.39 °	0.06 Ω 0.2 °	±1.676 Ω ±11.5 °	4 % pass 2 % pass	0.65 Ω 1.2 °
9.561 Ω 52.229 °	30 kHz 30 kHz	9.56 Ω 52.33 °	0.00 Ω 0.1 °	±1.912 Ω ±11.5 °	0 % pass 1 % pass	0.65 Ω 1.2 °
12.087 Ω 55.086 °	40 kHz 40 kHz	11.99 Ω 55.43 °	-0.10 Ω 0.3 °	±2.398 Ω ±11.5 °	4 % pass 3 % pass	0.65 Ω 1.2 °
14.562 Ω 55.702 °	50 kHz 50 kHz	14.41 Ω 56.40 °	-0.15 Ω 0.7 °	±2.882 Ω ±11.5 °	5 % pass 6 % pass	0.65 Ω 1.2 °
16.935 Ω 55.209 °	60 kHz 60 kHz	16.77 Ω 56.23 °	-0.16 Ω 1.0 °	±3.354 Ω ±11.5 °	5 % pass 9 % pass	0.65 Ω 1.2 °
19.181 Ω 54.121 °	70 kHz 70 kHz	19.04 Ω 55.40 °	-0.14 Ω 1.3 °	±3.808 Ω ±11.5 °	4 % pass 11 % pass	0.65 Ω 1.2 °
21.283 Ω 52.709 °	80 kHz 80 kHz	21.19 Ω 54.19 °	-0.09 Ω 1.5 °	±4.238 Ω ±11.5 °	2 % pass 13 % pass	0.65 Ω 1.2 °

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23.243 Ω	90 kHz	23.22 Ω	-0.02 Ω	±4.644 Ω	0 % pass	0.65 Ω
51.134 °	90 kHz	52.77 °	1.6 °	±11.5 °	14 % pass	1.2 °
25.056 Ω	100 kHz	25.11 Ω	0.05 Ω	±5.022 Ω	1 % pass	0.65 Ω
49.481 °	100 kHz	51.22 °	1.7 °	±11.5 °	15 % pass	1.2 °
32.151 Ω	150 kHz	34.29 Ω	2.14 Ω	±6.858 Ω	31 % pass	0.65 Ω
41.449 °	150 kHz	46.70 °	5.3 °	±11.5 °	46 % pass	1.2 °
34.221 Ω	170 kHz	36.50 Ω	2.28 Ω	±7.3 Ω	31 % pass	0.65 Ω
38.627 °	170 kHz	43.11 °	4.5 °	±11.5 °	39 % pass	1.2 °
36.706 Ω	200 kHz	39.12 Ω	2.41 Ω	±7.824 Ω	31 % pass	0.65 Ω
34.891 °	200 kHz	38.51 °	3.6 °	±11.5 °	32 % pass	1.2 °
39.651 Ω	250 kHz	42.18 Ω	2.53 Ω	±8.436 Ω	30 % pass	0.65 Ω
29.836 °	250 kHz	32.48 °	2.6 °	±11.5 °	23 % pass	1.2 °
41.612 Ω	300 kHz	44.17 Ω	2.56 Ω	±8.834 Ω	29 % pass	0.65 Ω
25.933 °	300 kHz	27.95 °	2.0 °	±11.5 °	18 % pass	1.2 °
42.964 Ω	350 kHz	45.52 Ω	2.56 Ω	±9.104 Ω	28 % pass	0.65 Ω
22.877 °	350 kHz	24.45 °	1.6 °	±11.5 °	14 % pass	1.2 °
43.924 Ω	400 kHz	46.46 Ω	2.54 Ω	±9.292 Ω	27 % pass	0.65 Ω
20.440 °	400 kHz	21.70 °	1.3 °	±11.5 °	11 % pass	1.2 °
45.164 Ω	500 kHz	47.65 Ω	2.49 Ω	±9.53 Ω	26 % pass	0.65 Ω
16.832 °	500 kHz	17.66 °	0.8 °	±11.5 °	7 % pass	1.2 °
45.899 Ω	600 kHz	48.33 Ω	2.43 Ω	±9.666 Ω	25 % pass	0.65 Ω
14.308 °	600 kHz	14.86 °	0.6 °	±11.5 °	5 % pass	1.2 °
46.377 Ω	700 kHz	48.76 Ω	2.38 Ω	±9.752 Ω	24 % pass	0.65 Ω
12.459 °	700 kHz	12.81 °	0.4 °	±11.5 °	3 % pass	1.2 °
46.697 Ω	800 kHz	49.04 Ω	2.34 Ω	±9.808 Ω	24 % pass	0.66 Ω
11.047 °	800 kHz	11.25 °	0.2 °	±11.5 °	2 % pass	1.2 °
46.938 Ω	900 kHz	49.24 Ω	2.30 Ω	±9.848 Ω	23 % pass	0.66 Ω
9.947 °	900 kHz	10.03 °	0.1 °	±11.5 °	1 % pass	1.2 °
47.118 Ω	1 MHz	49.38 Ω	2.26 Ω	±9.876 Ω	23 % pass	0.66 Ω
9.053 °	1 MHz	9.04 °	0.0 °	±11.5 °	0 % pass	1.2 °
47.367 Ω	1.2 MHz	49.57 Ω	2.20 Ω	±9.914 Ω	22 % pass	0.66 Ω
7.700 °	1.2 MHz	7.56 °	-0.1 °	±11.5 °	1 % pass	1.2 °
47.602 Ω	1.5 MHz	49.72 Ω	2.12 Ω	±9.944 Ω	21 % pass	0.66 Ω
6.324 °	1.5 MHz	6.06 °	-0.3 °	±11.5 °	2 % pass	1.2 °

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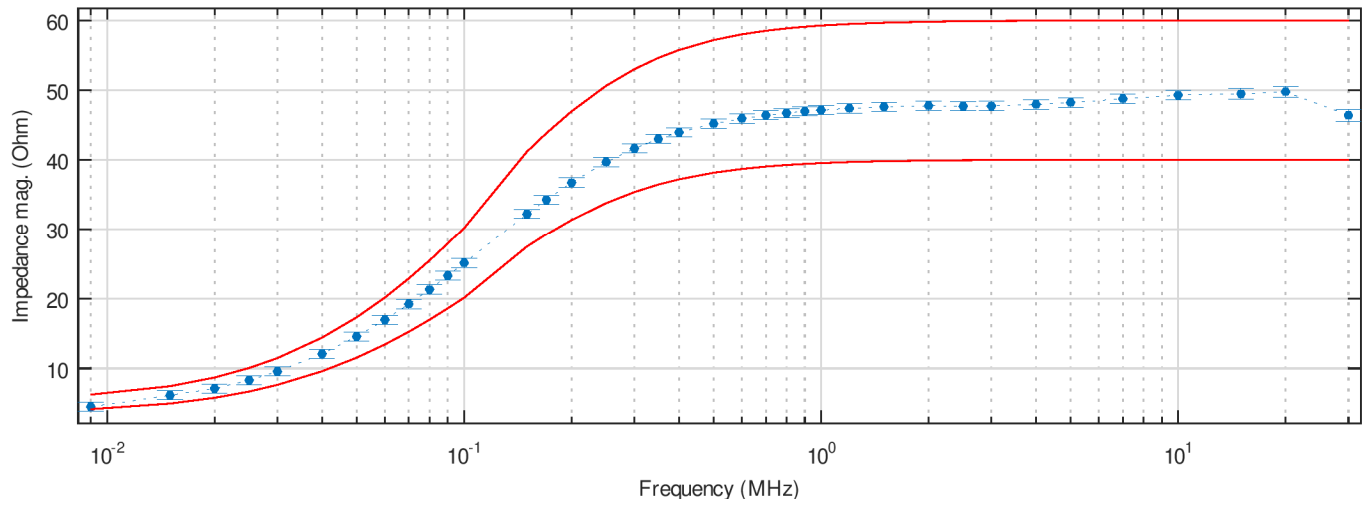
47.740 Ω	2 MHz	49.84 Ω	2.10 Ω	±9.968 Ω	21 % pass	0.66 Ω
4.889 °	2 MHz	4.55 °	-0.3 °	±11.5 °	3 % pass	1.2 °
47.673 Ω	2.5 MHz	49.90 Ω	2.23 Ω	±9.98 Ω	22 % pass	0.67 Ω
4.184 °	2.5 MHz	3.64 °	-0.5 °	±11.5 °	5 % pass	1.2 °
47.713 Ω	3 MHz	49.93 Ω	2.22 Ω	±9.986 Ω	22 % pass	0.67 Ω
3.898 °	3 MHz	3.04 °	-0.9 °	±11.5 °	7 % pass	1.2 °
47.935 Ω	4 MHz	49.96 Ω	2.03 Ω	±9.992 Ω	20 % pass	0.67 Ω
3.621 °	4 MHz	2.28 °	-1.3 °	±11.5 °	12 % pass	1.2 °
48.202 Ω	5 MHz	49.98 Ω	1.78 Ω	±9.996 Ω	18 % pass	0.68 Ω
3.493 °	5 MHz	1.82 °	-1.7 °	±11.5 °	15 % pass	1.2 °
48.737 Ω	7 MHz	49.99 Ω	1.25 Ω	±9.998 Ω	13 % pass	0.69 Ω
3.280 °	7 MHz	1.30 °	-2.0 °	±11.5 °	17 % pass	1.2 °
49.283 Ω	10 MHz	49.99 Ω	0.71 Ω	±9.998 Ω	7 % pass	0.71 Ω
2.740 °	10 MHz	0.91 °	-1.8 °	±11.5 °	16 % pass	1.2 °
49.467 Ω	15 MHz	50.00 Ω	0.53 Ω	±10 Ω	5 % pass	0.74 Ω
4.999 °	15 MHz	0.61 °	-4.4 °	±11.5 °	38 % pass	1.2 °
49.747 Ω	20 MHz	50.00 Ω	0.25 Ω	±10 Ω	3 % pass	0.77 Ω
0.619 °	20 MHz	0.46 °	-0.2 °	±11.5 °	1 % pass	1.2 °
46.352 Ω	30 MHz	50.00 Ω	3.65 Ω	±10 Ω	37 % pass	0.83 Ω
-0.743 °	30 MHz	0.30 °	1.0 °	±11.5 °	9 % pass	1.2 °



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Kalibrier-Zertifikat Calibration Certificate MUSTER

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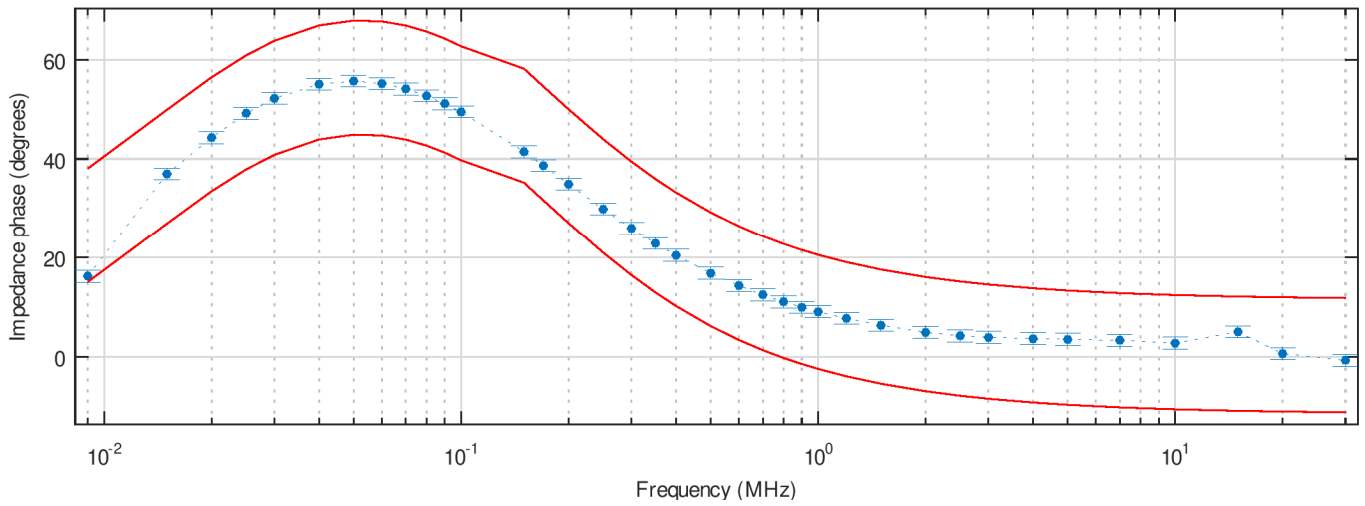

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Path L2/S

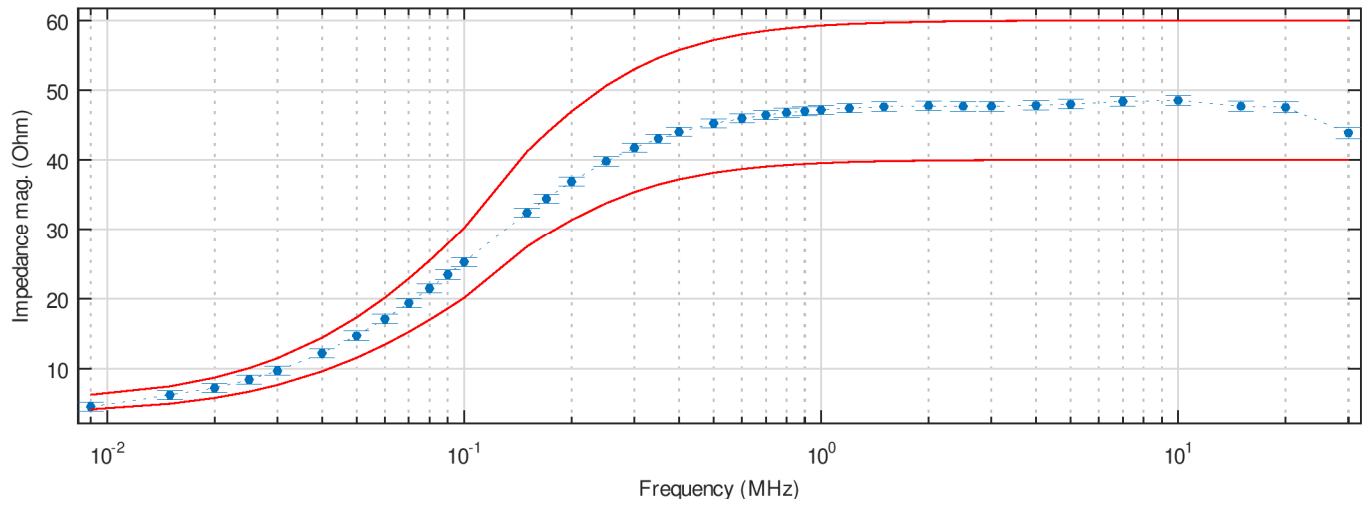
4.541 Ω 16.660 °	9 kHz 9 kHz	5.22 Ω 26.55 °	0.68 Ω 9.9 °	±1.044 Ω ±11.5 °	65 % pass 86 % pass	0.65 Ω 1.2 °
6.237 Ω 36.818 °	15 kHz 15 kHz	6.22 Ω 38.41 °	-0.02 Ω 1.6 °	±1.244 Ω ±11.5 °	1 % pass 14 % pass	0.65 Ω 1.2 °
7.226 Ω 44.141 °	20 kHz 20 kHz	7.25 Ω 44.97 °	0.02 Ω 0.8 °	±1.45 Ω ±11.5 °	2 % pass 7 % pass	0.65 Ω 1.2 °
8.412 Ω 49.018 °	25 kHz 25 kHz	8.38 Ω 49.39 °	-0.03 Ω 0.4 °	±1.676 Ω ±11.5 °	2 % pass 3 % pass	0.65 Ω 1.2 °
9.666 Ω 52.029 °	30 kHz 30 kHz	9.56 Ω 52.33 °	-0.11 Ω 0.3 °	±1.912 Ω ±11.5 °	6 % pass 3 % pass	0.65 Ω 1.2 °
12.209 Ω 54.859 °	40 kHz 40 kHz	11.99 Ω 55.43 °	-0.22 Ω 0.6 °	±2.398 Ω ±11.5 °	9 % pass 5 % pass	0.65 Ω 1.2 °
14.698 Ω 55.465 °	50 kHz 50 kHz	14.41 Ω 56.40 °	-0.29 Ω 0.9 °	±2.882 Ω ±11.5 °	10 % pass 8 % pass	0.65 Ω 1.2 °
17.083 Ω 54.959 °	60 kHz 60 kHz	16.77 Ω 56.23 °	-0.31 Ω 1.3 °	±3.354 Ω ±11.5 °	9 % pass 11 % pass	0.65 Ω 1.2 °
19.340 Ω 53.865 °	70 kHz 70 kHz	19.04 Ω 55.40 °	-0.30 Ω 1.5 °	±3.808 Ω ±11.5 °	8 % pass 13 % pass	0.65 Ω 1.2 °
21.451 Ω 52.449 °	80 kHz 80 kHz	21.19 Ω 54.19 °	-0.26 Ω 1.7 °	±4.238 Ω ±11.5 °	6 % pass 15 % pass	0.65 Ω 1.2 °

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
23.417 Ω	90 kHz	23.22 Ω	-0.20 Ω	±4.644 Ω	4 % pass	0.65 Ω
50.866 °	90 kHz	52.77 °	1.9 °	±11.5 °	17 % pass	1.2 °
25.234 Ω	100 kHz	25.11 Ω	-0.12 Ω	±5.022 Ω	2 % pass	0.65 Ω
49.208 °	100 kHz	51.22 °	2.0 °	±11.5 °	18 % pass	1.2 °
32.327 Ω	150 kHz	34.29 Ω	1.96 Ω	±6.858 Ω	29 % pass	0.65 Ω
41.151 °	150 kHz	46.70 °	5.5 °	±11.5 °	48 % pass	1.2 °
34.383 Ω	170 kHz	36.50 Ω	2.12 Ω	±7.3 Ω	29 % pass	0.65 Ω
38.326 °	170 kHz	43.11 °	4.8 °	±11.5 °	42 % pass	1.2 °
36.846 Ω	200 kHz	39.12 Ω	2.27 Ω	±7.824 Ω	29 % pass	0.65 Ω
34.599 °	200 kHz	38.51 °	3.9 °	±11.5 °	34 % pass	1.2 °
39.755 Ω	250 kHz	42.18 Ω	2.42 Ω	±8.436 Ω	29 % pass	0.65 Ω
29.576 °	250 kHz	32.48 °	2.9 °	±11.5 °	25 % pass	1.2 °
41.696 Ω	300 kHz	44.17 Ω	2.47 Ω	±8.834 Ω	28 % pass	0.65 Ω
25.713 °	300 kHz	27.95 °	2.2 °	±11.5 °	19 % pass	1.2 °
43.035 Ω	350 kHz	45.52 Ω	2.48 Ω	±9.104 Ω	27 % pass	0.65 Ω
22.686 °	350 kHz	24.45 °	1.8 °	±11.5 °	15 % pass	1.2 °
43.986 Ω	400 kHz	46.46 Ω	2.47 Ω	±9.292 Ω	27 % pass	0.65 Ω
20.271 °	400 kHz	21.70 °	1.4 °	±11.5 °	12 % pass	1.2 °
45.215 Ω	500 kHz	47.65 Ω	2.44 Ω	±9.53 Ω	26 % pass	0.65 Ω
16.698 °	500 kHz	17.66 °	1.0 °	±11.5 °	8 % pass	1.2 °
45.944 Ω	600 kHz	48.33 Ω	2.39 Ω	±9.666 Ω	25 % pass	0.65 Ω
14.197 °	600 kHz	14.86 °	0.7 °	±11.5 °	6 % pass	1.2 °
46.415 Ω	700 kHz	48.76 Ω	2.34 Ω	±9.752 Ω	24 % pass	0.65 Ω
12.366 °	700 kHz	12.81 °	0.4 °	±11.5 °	4 % pass	1.2 °
46.733 Ω	800 kHz	49.04 Ω	2.31 Ω	±9.808 Ω	24 % pass	0.66 Ω
10.968 °	800 kHz	11.25 °	0.3 °	±11.5 °	2 % pass	1.2 °
46.971 Ω	900 kHz	49.24 Ω	2.27 Ω	±9.848 Ω	23 % pass	0.66 Ω
9.879 °	900 kHz	10.03 °	0.2 °	±11.5 °	1 % pass	1.2 °
47.146 Ω	1 MHz	49.38 Ω	2.23 Ω	±9.876 Ω	23 % pass	0.66 Ω
8.994 °	1 MHz	9.04 °	0.0 °	±11.5 °	0 % pass	1.2 °
47.393 Ω	1.2 MHz	49.57 Ω	2.18 Ω	±9.914 Ω	22 % pass	0.66 Ω
7.650 °	1.2 MHz	7.56 °	-0.1 °	±11.5 °	1 % pass	1.2 °
47.623 Ω	1.5 MHz	49.72 Ω	2.10 Ω	±9.944 Ω	21 % pass	0.66 Ω
6.287 °	1.5 MHz	6.06 °	-0.2 °	±11.5 °	2 % pass	1.2 °

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
47.741Ω	2 MHz	49.84Ω	2.10Ω	±9.968Ω	21% pass	0.66 Ω
4.865°	2 MHz	4.55°	-0.3°	±11.5°	3% pass	1.2 °
47.651Ω	2.5 MHz	49.90Ω	2.25Ω	±9.98Ω	23% pass	0.67 Ω
4.164°	2.5 MHz	3.64°	-0.5°	±11.5°	5% pass	1.2 °
47.656Ω	3 MHz	49.93Ω	2.27Ω	±9.986Ω	23% pass	0.67 Ω
3.903°	3 MHz	3.04°	-0.9°	±11.5°	8% pass	1.2 °
47.819Ω	4 MHz	49.96Ω	2.14Ω	±9.992Ω	21% pass	0.67 Ω
3.651°	4 MHz	2.28°	-1.4°	±11.5°	12% pass	1.2 °
47.970Ω	5 MHz	49.98Ω	2.01Ω	±9.996Ω	20% pass	0.68 Ω
3.576°	5 MHz	1.82°	-1.8°	±11.5°	15% pass	1.2 °
48.373Ω	7 MHz	49.99Ω	1.62Ω	±9.998Ω	16% pass	0.69 Ω
3.515°	7 MHz	1.30°	-2.2°	±11.5°	19% pass	1.2 °
48.532Ω	10 MHz	49.99Ω	1.46Ω	±9.998Ω	15% pass	0.71 Ω
3.260°	10 MHz	0.91°	-2.3°	±11.5°	20% pass	1.2 °
47.663Ω	15 MHz	50.00Ω	2.34Ω	±10Ω	23% pass	0.74 Ω
6.135°	15 MHz	0.61°	-5.5°	±11.5°	48% pass	1.2 °
47.513Ω	20 MHz	50.00Ω	2.49Ω	±10Ω	25% pass	0.77 Ω
3.448°	20 MHz	0.46°	-3.0°	±11.5°	26% pass	1.2 °
43.849Ω	30 MHz	50.00Ω	6.15Ω	±10Ω	62% pass	0.83 Ω
7.342°	30 MHz	0.30°	-7.0°	±11.5°	61% pass	1.2 °



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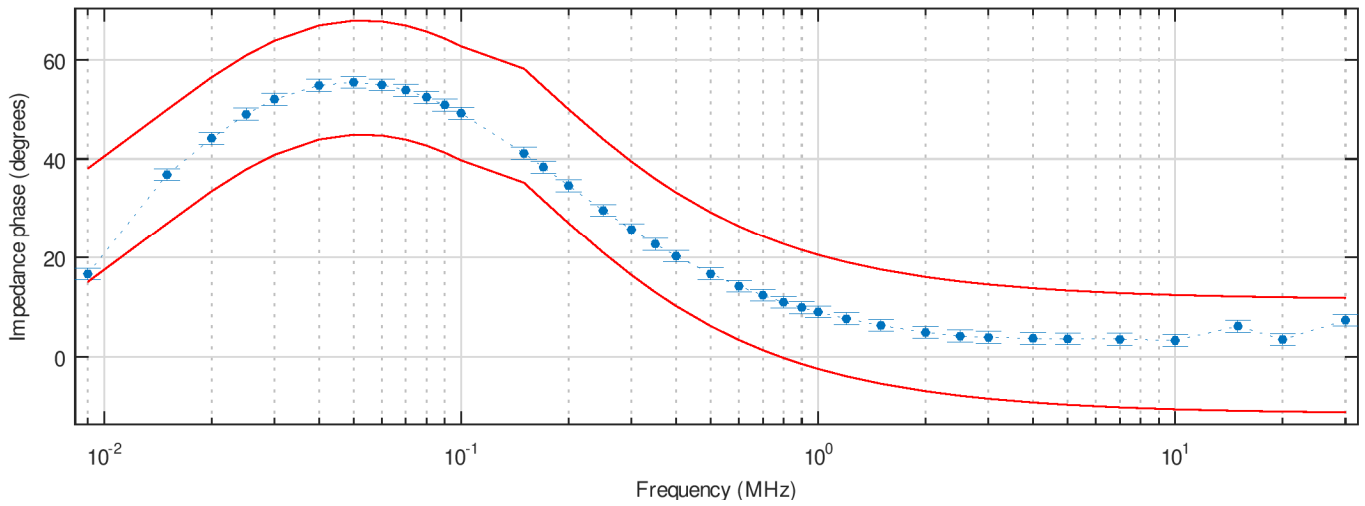
Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)



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Path L3/T

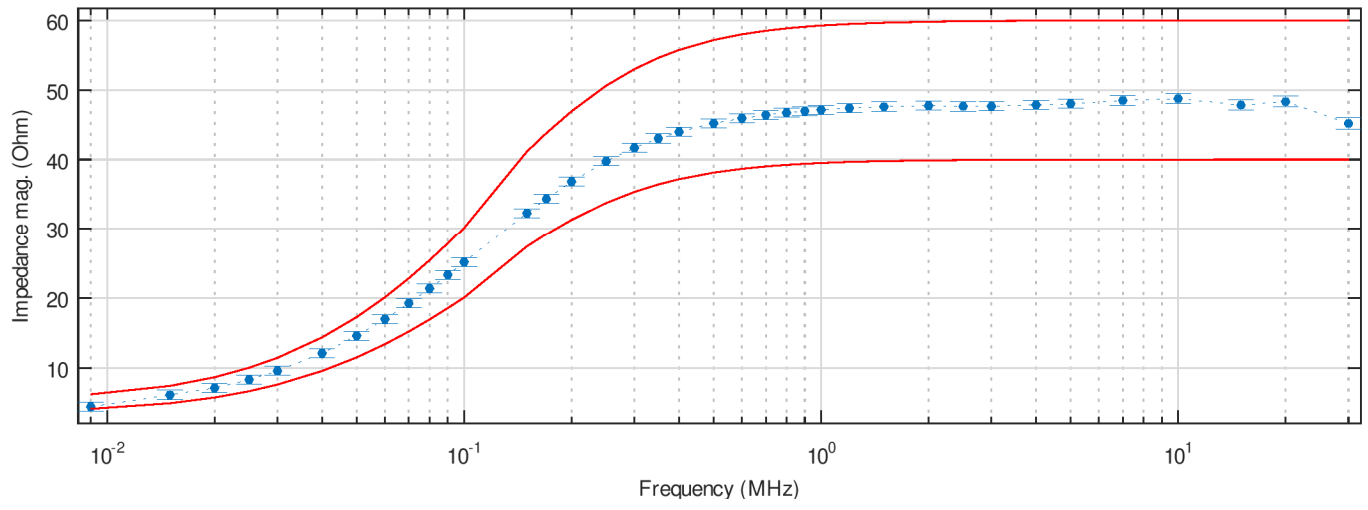
4.474 Ω	9 kHz	5.22 Ω	0.75 Ω	±1.044 Ω	71 % pass	0.65 Ω
15.494 °	9 kHz	26.55 °	11.1 °	±11.5 °	96 % pass	1.2 °
6.191 Ω	15 kHz	6.22 Ω	0.03 Ω	±1.244 Ω	2 % pass	0.65 Ω
37.292 °	15 kHz	38.41 °	1.1 °	±11.5 °	10 % pass	1.2 °
7.169 Ω	20 kHz	7.25 Ω	0.08 Ω	±1.45 Ω	6 % pass	0.65 Ω
44.367 °	20 kHz	44.97 °	0.6 °	±11.5 °	5 % pass	1.2 °
8.350 Ω	25 kHz	8.38 Ω	0.03 Ω	±1.676 Ω	2 % pass	0.65 Ω
49.249 °	25 kHz	49.39 °	0.1 °	±11.5 °	1 % pass	1.2 °
9.600 Ω	30 kHz	9.56 Ω	-0.04 Ω	±1.912 Ω	2 % pass	0.65 Ω
52.264 °	30 kHz	52.33 °	0.1 °	±11.5 °	1 % pass	1.2 °
12.140 Ω	40 kHz	11.99 Ω	-0.15 Ω	±2.398 Ω	6 % pass	0.65 Ω
55.100 °	40 kHz	55.43 °	0.3 °	±11.5 °	3 % pass	1.2 °
14.629 Ω	50 kHz	14.41 Ω	-0.22 Ω	±2.882 Ω	8 % pass	0.65 Ω
55.695 °	50 kHz	56.40 °	0.7 °	±11.5 °	6 % pass	1.2 °
17.012 Ω	60 kHz	16.77 Ω	-0.24 Ω	±3.354 Ω	7 % pass	0.65 Ω
55.188 °	60 kHz	56.23 °	1.0 °	±11.5 °	9 % pass	1.2 °
19.268 Ω	70 kHz	19.04 Ω	-0.23 Ω	±3.808 Ω	6 % pass	0.65 Ω
54.085 °	70 kHz	55.40 °	1.3 °	±11.5 °	11 % pass	1.2 °
21.380 Ω	80 kHz	21.19 Ω	-0.19 Ω	±4.238 Ω	4 % pass	0.65 Ω
52.661 °	80 kHz	54.19 °	1.5 °	±11.5 °	13 % pass	1.2 °

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
23.345 Ω	90 kHz	23.22 Ω	-0.13 Ω	±4.644 Ω	3 % pass	0.65 Ω
51.072 °	90 kHz	52.77 °	1.7 °	±11.5 °	15 % pass	1.2 °
25.165 Ω	100 kHz	25.11 Ω	-0.05 Ω	±5.022 Ω	1 % pass	0.65 Ω
49.410 °	100 kHz	51.22 °	1.8 °	±11.5 °	16 % pass	1.2 °
32.270 Ω	150 kHz	34.29 Ω	2.02 Ω	±6.858 Ω	30 % pass	0.65 Ω
41.340 °	150 kHz	46.70 °	5.4 °	±11.5 °	47 % pass	1.2 °
34.335 Ω	170 kHz	36.50 Ω	2.16 Ω	±7.3 Ω	30 % pass	0.65 Ω
38.513 °	170 kHz	43.11 °	4.6 °	±11.5 °	40 % pass	1.2 °
36.812 Ω	200 kHz	39.12 Ω	2.31 Ω	±7.824 Ω	30 % pass	0.65 Ω
34.775 °	200 kHz	38.51 °	3.7 °	±11.5 °	33 % pass	1.2 °
39.741 Ω	250 kHz	42.18 Ω	2.44 Ω	±8.436 Ω	29 % pass	0.65 Ω
29.724 °	250 kHz	32.48 °	2.8 °	±11.5 °	24 % pass	1.2 °
41.689 Ω	300 kHz	44.17 Ω	2.48 Ω	±8.834 Ω	28 % pass	0.65 Ω
25.833 °	300 kHz	27.95 °	2.1 °	±11.5 °	18 % pass	1.2 °
43.031 Ω	350 kHz	45.52 Ω	2.49 Ω	±9.104 Ω	27 % pass	0.65 Ω
22.792 °	350 kHz	24.45 °	1.7 °	±11.5 °	14 % pass	1.2 °
43.980 Ω	400 kHz	46.46 Ω	2.48 Ω	±9.292 Ω	27 % pass	0.65 Ω
20.367 °	400 kHz	21.70 °	1.3 °	±11.5 °	12 % pass	1.2 °
45.211 Ω	500 kHz	47.65 Ω	2.44 Ω	±9.53 Ω	26 % pass	0.65 Ω
16.782 °	500 kHz	17.66 °	0.9 °	±11.5 °	8 % pass	1.2 °
45.939 Ω	600 kHz	48.33 Ω	2.39 Ω	±9.666 Ω	25 % pass	0.65 Ω
14.279 °	600 kHz	14.86 °	0.6 °	±11.5 °	5 % pass	1.2 °
46.410 Ω	700 kHz	48.76 Ω	2.35 Ω	±9.752 Ω	24 % pass	0.65 Ω
12.445 °	700 kHz	12.81 °	0.4 °	±11.5 °	3 % pass	1.2 °
46.727 Ω	800 kHz	49.04 Ω	2.31 Ω	±9.808 Ω	24 % pass	0.66 Ω
11.051 °	800 kHz	11.25 °	0.2 °	±11.5 °	2 % pass	1.2 °
46.963 Ω	900 kHz	49.24 Ω	2.28 Ω	±9.848 Ω	23 % pass	0.66 Ω
9.966 °	900 kHz	10.03 °	0.1 °	±11.5 °	1 % pass	1.2 °
47.141 Ω	1 MHz	49.38 Ω	2.24 Ω	±9.876 Ω	23 % pass	0.66 Ω
9.083 °	1 MHz	9.04 °	0.0 °	±11.5 °	0 % pass	1.2 °
47.391 Ω	1.2 MHz	49.57 Ω	2.18 Ω	±9.914 Ω	22 % pass	0.66 Ω
7.753 °	1.2 MHz	7.56 °	-0.2 °	±11.5 °	2 % pass	1.2 °
47.618 Ω	1.5 MHz	49.72 Ω	2.10 Ω	±9.944 Ω	21 % pass	0.66 Ω
6.404 °	1.5 MHz	6.06 °	-0.3 °	±11.5 °	3 % pass	1.2 °

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
47.741Ω	2 MHz	49.84Ω	2.10Ω	±9.968Ω	21% pass	0.66 Ω
5.004°	2 MHz	4.55°	-0.5°	±11.5°	4% pass	1.2 °
47.643Ω	2.5 MHz	49.90Ω	2.26Ω	±9.98Ω	23% pass	0.67 Ω
4.343°	2.5 MHz	3.64°	-0.7°	±11.5°	6% pass	1.2 °
47.655Ω	3 MHz	49.93Ω	2.28Ω	±9.986Ω	23% pass	0.67 Ω
4.121°	3 MHz	3.04°	-1.1°	±11.5°	9% pass	1.2 °
47.846Ω	4 MHz	49.96Ω	2.11Ω	±9.992Ω	21% pass	0.67 Ω
3.941°	4 MHz	2.28°	-1.7°	±11.5°	14% pass	1.2 °
48.033Ω	5 MHz	49.98Ω	1.95Ω	±9.996Ω	20% pass	0.68 Ω
3.926°	5 MHz	1.82°	-2.1°	±11.5°	18% pass	1.2 °
48.498Ω	7 MHz	49.99Ω	1.49Ω	±9.998Ω	15% pass	0.69 Ω
3.970°	7 MHz	1.30°	-2.7°	±11.5°	23% pass	1.2 °
48.759Ω	10 MHz	49.99Ω	1.23Ω	±9.998Ω	12% pass	0.71 Ω
3.820°	10 MHz	0.91°	-2.9°	±11.5°	25% pass	1.2 °
47.832Ω	15 MHz	50.00Ω	2.17Ω	±10Ω	22% pass	0.74 Ω
8.030°	15 MHz	0.61°	-7.4°	±11.5°	65% pass	1.2 °
48.342Ω	20 MHz	50.00Ω	1.66Ω	±10Ω	17% pass	0.77 Ω
4.478°	20 MHz	0.46°	-4.0°	±11.5°	35% pass	1.2 °
45.177Ω	30 MHz	50.00Ω	4.82Ω	±10Ω	48% pass	0.83 Ω
8.177°	30 MHz	0.30°	-7.9°	±11.5°	69% pass	1.2 °



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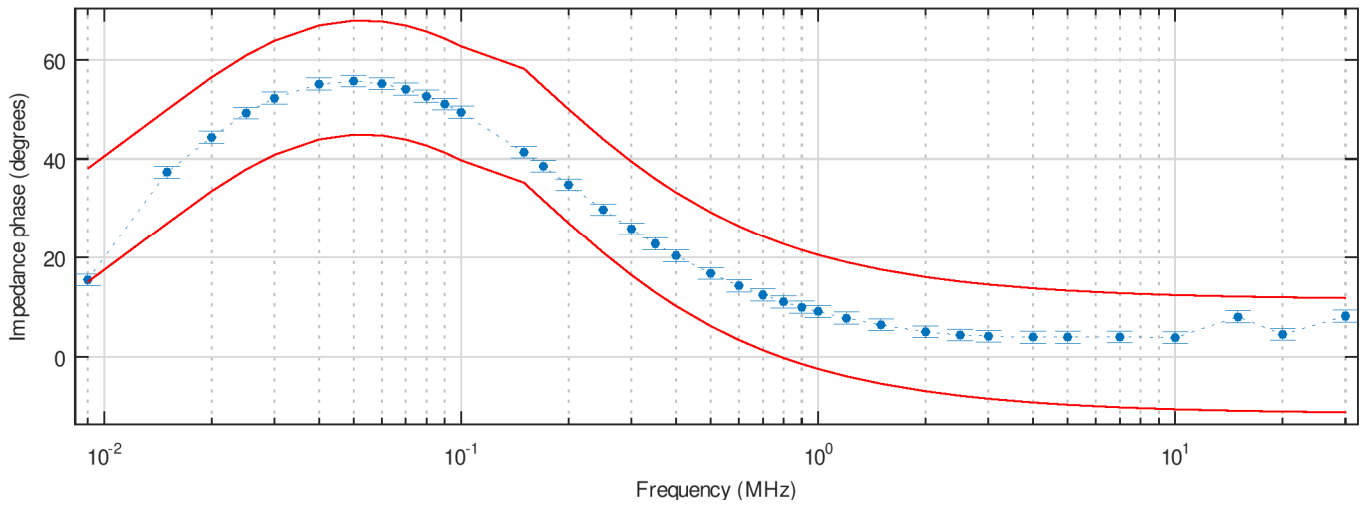
Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)



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SCHUKO N0/N

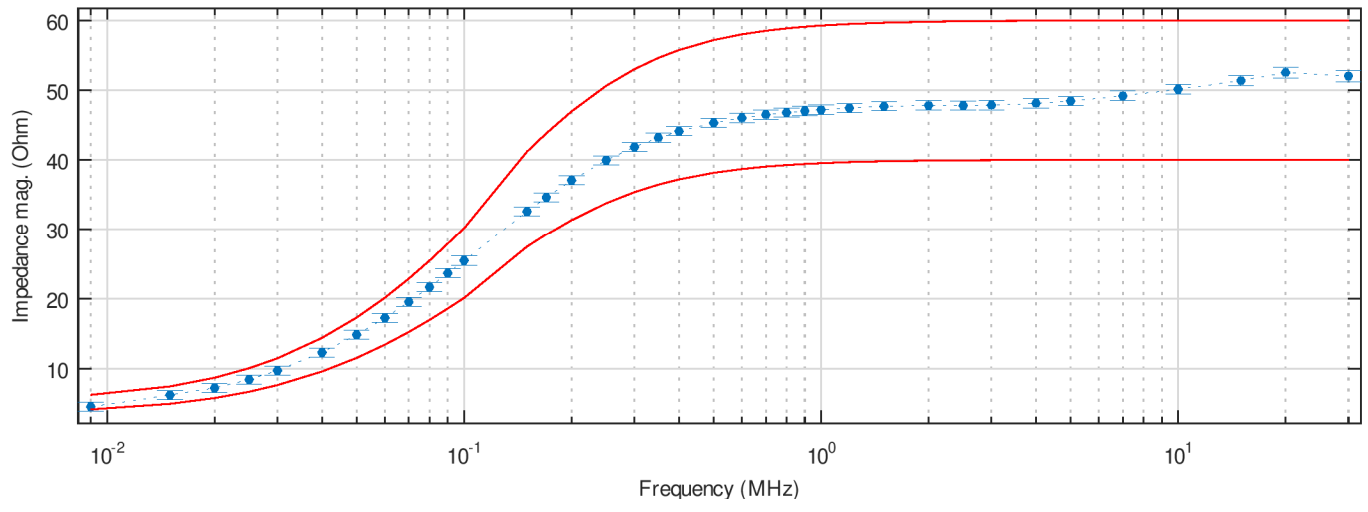
4.554 Ω	9 kHz	5.22 Ω	0.67 Ω	±1.044 Ω	64 % pass	0.65 Ω
17.130 °	9 kHz	26.55 °	9.4 °	±11.5 °	82 % pass	1.2 °
6.236 Ω	15 kHz	6.22 Ω	-0.02 Ω	±1.244 Ω	1 % pass	0.65 Ω
37.348 °	15 kHz	38.41 °	1.1 °	±11.5 °	9 % pass	1.2 °
7.249 Ω	20 kHz	7.25 Ω	0.00 Ω	±1.45 Ω	0 % pass	0.65 Ω
44.641 °	20 kHz	44.97 °	0.3 °	±11.5 °	3 % pass	1.2 °
8.457 Ω	25 kHz	8.38 Ω	-0.08 Ω	±1.676 Ω	5 % pass	0.65 Ω
49.469 °	25 kHz	49.39 °	-0.1 °	±11.5 °	1 % pass	1.2 °
9.729 Ω	30 kHz	9.56 Ω	-0.17 Ω	±1.912 Ω	9 % pass	0.65 Ω
52.415 °	30 kHz	52.33 °	-0.1 °	±11.5 °	1 % pass	1.2 °
12.310 Ω	40 kHz	11.99 Ω	-0.32 Ω	±2.398 Ω	13 % pass	0.65 Ω
55.134 °	40 kHz	55.43 °	0.3 °	±11.5 °	3 % pass	1.2 °
14.830 Ω	50 kHz	14.41 Ω	-0.42 Ω	±2.882 Ω	15 % pass	0.65 Ω
55.641 °	50 kHz	56.40 °	0.8 °	±11.5 °	7 % pass	1.2 °
17.242 Ω	60 kHz	16.77 Ω	-0.47 Ω	±3.354 Ω	14 % pass	0.65 Ω
55.057 °	60 kHz	56.23 °	1.2 °	±11.5 °	10 % pass	1.2 °
19.517 Ω	70 kHz	19.04 Ω	-0.48 Ω	±3.808 Ω	13 % pass	0.65 Ω
53.893 °	70 kHz	55.40 °	1.5 °	±11.5 °	13 % pass	1.2 °
21.644 Ω	80 kHz	21.19 Ω	-0.45 Ω	±4.238 Ω	11 % pass	0.65 Ω
52.420 °	80 kHz	54.19 °	1.8 °	±11.5 °	15 % pass	1.2 °

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
23.619 Ω	90 kHz	23.22 Ω	-0.40 Ω	±4.644 Ω	9 % pass	0.65 Ω
50.795 °	90 kHz	52.77 °	2.0 °	±11.5 °	17 % pass	1.2 °
25.443 Ω	100 kHz	25.11 Ω	-0.33 Ω	±5.022 Ω	7 % pass	0.65 Ω
49.100 °	100 kHz	51.22 °	2.1 °	±11.5 °	18 % pass	1.2 °
32.530 Ω	150 kHz	34.29 Ω	1.76 Ω	±6.858 Ω	26 % pass	0.65 Ω
40.964 °	150 kHz	46.70 °	5.7 °	±11.5 °	50 % pass	1.2 °
34.580 Ω	170 kHz	36.50 Ω	1.92 Ω	±7.3 Ω	26 % pass	0.65 Ω
38.133 °	170 kHz	43.11 °	5.0 °	±11.5 °	43 % pass	1.2 °
37.032 Ω	200 kHz	39.12 Ω	2.09 Ω	±7.824 Ω	27 % pass	0.65 Ω
34.396 °	200 kHz	38.51 °	4.1 °	±11.5 °	36 % pass	1.2 °
39.922 Ω	250 kHz	42.18 Ω	2.26 Ω	±8.436 Ω	27 % pass	0.65 Ω
29.367 °	250 kHz	32.48 °	3.1 °	±11.5 °	27 % pass	1.2 °
41.835 Ω	300 kHz	44.17 Ω	2.34 Ω	±8.834 Ω	26 % pass	0.65 Ω
25.503 °	300 kHz	27.95 °	2.4 °	±11.5 °	21 % pass	1.2 °
43.148 Ω	350 kHz	45.52 Ω	2.37 Ω	±9.104 Ω	26 % pass	0.65 Ω
22.489 °	350 kHz	24.45 °	2.0 °	±11.5 °	17 % pass	1.2 °
44.080 Ω	400 kHz	46.46 Ω	2.38 Ω	±9.292 Ω	26 % pass	0.65 Ω
20.090 °	400 kHz	21.70 °	1.6 °	±11.5 °	14 % pass	1.2 °
45.281 Ω	500 kHz	47.65 Ω	2.37 Ω	±9.53 Ω	25 % pass	0.65 Ω
16.547 °	500 kHz	17.66 °	1.1 °	±11.5 °	10 % pass	1.2 °
45.994 Ω	600 kHz	48.33 Ω	2.34 Ω	±9.666 Ω	24 % pass	0.65 Ω
14.079 °	600 kHz	14.86 °	0.8 °	±11.5 °	7 % pass	1.2 °
46.455 Ω	700 kHz	48.76 Ω	2.30 Ω	±9.752 Ω	24 % pass	0.65 Ω
12.272 °	700 kHz	12.81 °	0.5 °	±11.5 °	5 % pass	1.2 °
46.767 Ω	800 kHz	49.04 Ω	2.27 Ω	±9.808 Ω	23 % pass	0.66 Ω
10.895 °	800 kHz	11.25 °	0.4 °	±11.5 °	3 % pass	1.2 °
47.000 Ω	900 kHz	49.24 Ω	2.24 Ω	±9.848 Ω	23 % pass	0.66 Ω
9.825 °	900 kHz	10.03 °	0.2 °	±11.5 °	2 % pass	1.2 °
47.174 Ω	1 MHz	49.38 Ω	2.21 Ω	±9.876 Ω	22 % pass	0.66 Ω
8.959 °	1 MHz	9.04 °	0.1 °	±11.5 °	1 % pass	1.2 °
47.424 Ω	1.2 MHz	49.57 Ω	2.15 Ω	±9.914 Ω	22 % pass	0.66 Ω
7.648 °	1.2 MHz	7.56 °	-0.1 °	±11.5 °	1 % pass	1.2 °
47.660 Ω	1.5 MHz	49.72 Ω	2.06 Ω	±9.944 Ω	21 % pass	0.66 Ω
6.325 °	1.5 MHz	6.06 °	-0.3 °	±11.5 °	2 % pass	1.2 °

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
47.809 Ω	2 MHz	49.84 Ω	2.03 Ω	±9.968 Ω	20 % pass	0.66 Ω
4.956 °	2 MHz	4.55 °	-0.4 °	±11.5 °	4 % pass	1.2 °
47.764 Ω	2.5 MHz	49.90 Ω	2.14 Ω	±9.98 Ω	21 % pass	0.67 Ω
4.305 °	2.5 MHz	3.64 °	-0.7 °	±11.5 °	6 % pass	1.2 °
47.831 Ω	3 MHz	49.93 Ω	2.10 Ω	±9.986 Ω	21 % pass	0.67 Ω
4.060 °	3 MHz	3.04 °	-1.0 °	±11.5 °	9 % pass	1.2 °
48.103 Ω	4 MHz	49.96 Ω	1.86 Ω	±9.992 Ω	19 % pass	0.67 Ω
3.848 °	4 MHz	2.28 °	-1.6 °	±11.5 °	14 % pass	1.2 °
48.428 Ω	5 MHz	49.98 Ω	1.55 Ω	±9.996 Ω	16 % pass	0.68 Ω
3.790 °	5 MHz	1.82 °	-2.0 °	±11.5 °	17 % pass	1.2 °
49.167 Ω	7 MHz	49.99 Ω	0.82 Ω	±9.998 Ω	8 % pass	0.69 Ω
3.688 °	7 MHz	1.30 °	-2.4 °	±11.5 °	21 % pass	1.2 °
50.117 Ω	10 MHz	49.99 Ω	-0.13 Ω	±9.998 Ω	1 % pass	0.71 Ω
3.267 °	10 MHz	0.91 °	-2.4 °	±11.5 °	21 % pass	1.2 °
51.361 Ω	15 MHz	50.00 Ω	-1.36 Ω	±10 Ω	14 % pass	0.74 Ω
4.893 °	15 MHz	0.61 °	-4.3 °	±11.5 °	37 % pass	1.2 °
52.506 Ω	20 MHz	50.00 Ω	-2.51 Ω	±10 Ω	25 % pass	0.77 Ω
0.589 °	20 MHz	0.46 °	-0.1 °	±11.5 °	1 % pass	1.2 °
52.018 Ω	30 MHz	50.00 Ω	-2.02 Ω	±10 Ω	20 % pass	0.83 Ω
-2.447 °	30 MHz	0.30 °	2.7 °	±11.5 °	24 % pass	1.2 °



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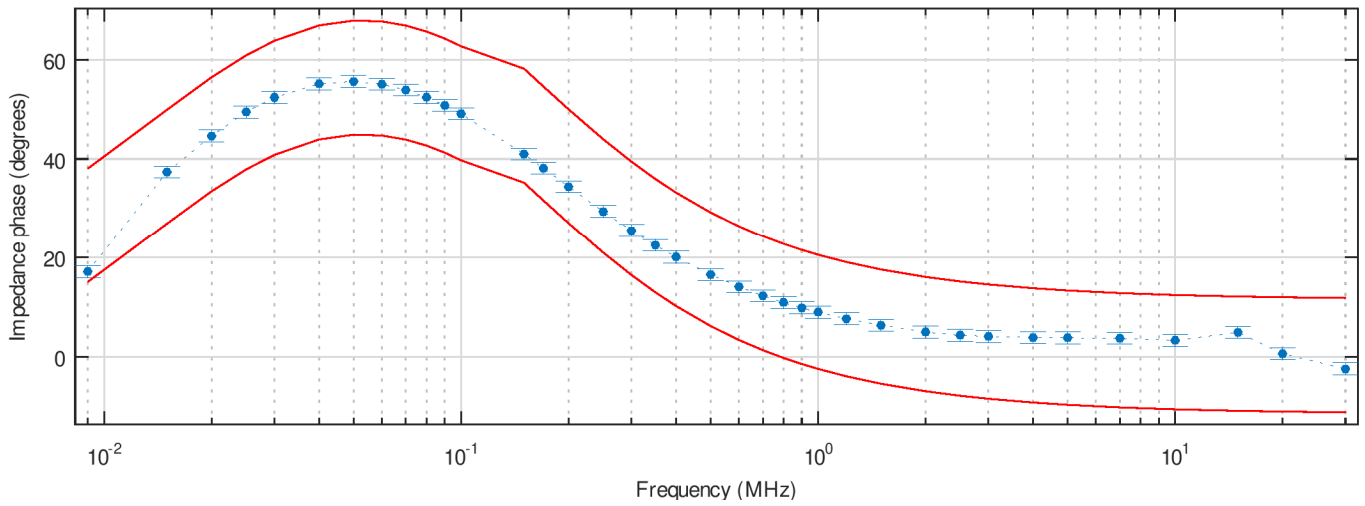
Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)



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SCHUKO L1/R

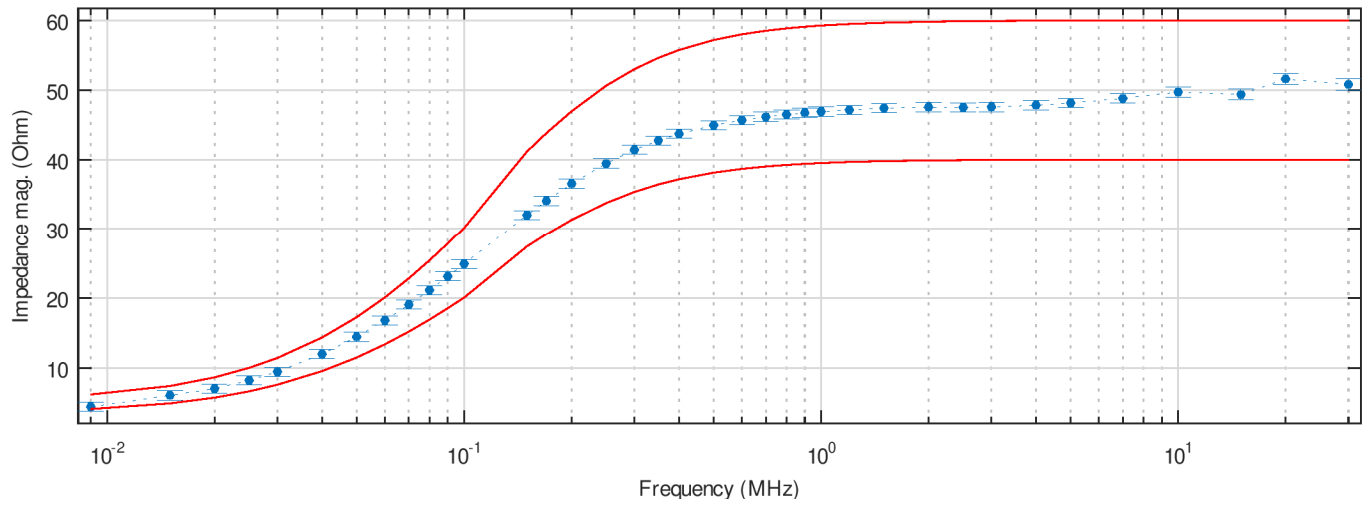
4.493 Ω	9 kHz	5.22 Ω	0.73 Ω	±1.044 Ω	70 % pass	0.65 Ω
16.085 °	9 kHz	26.55 °	10.5 °	±11.5 °	91 % pass	1.2 °
6.124 Ω	15 kHz	6.22 Ω	0.10 Ω	±1.244 Ω	8 % pass	0.65 Ω
36.908 °	15 kHz	38.41 °	1.5 °	±11.5 °	13 % pass	1.2 °
7.100 Ω	20 kHz	7.25 Ω	0.15 Ω	±1.45 Ω	10 % pass	0.65 Ω
44.266 °	20 kHz	44.97 °	0.7 °	±11.5 °	6 % pass	1.2 °
8.270 Ω	25 kHz	8.38 Ω	0.11 Ω	±1.676 Ω	7 % pass	0.65 Ω
49.186 °	25 kHz	49.39 °	0.2 °	±11.5 °	2 % pass	1.2 °
9.507 Ω	30 kHz	9.56 Ω	0.05 Ω	±1.912 Ω	3 % pass	0.65 Ω
52.222 °	30 kHz	52.33 °	0.1 °	±11.5 °	1 % pass	1.2 °
12.020 Ω	40 kHz	11.99 Ω	-0.03 Ω	±2.398 Ω	1 % pass	0.65 Ω
55.087 °	40 kHz	55.43 °	0.3 °	±11.5 °	3 % pass	1.2 °
14.482 Ω	50 kHz	14.41 Ω	-0.07 Ω	±2.882 Ω	3 % pass	0.65 Ω
55.707 °	50 kHz	56.40 °	0.7 °	±11.5 °	6 % pass	1.2 °
16.843 Ω	60 kHz	16.77 Ω	-0.07 Ω	±3.354 Ω	2 % pass	0.65 Ω
55.218 °	60 kHz	56.23 °	1.0 °	±11.5 °	9 % pass	1.2 °
19.077 Ω	70 kHz	19.04 Ω	-0.04 Ω	±3.808 Ω	1 % pass	0.65 Ω
54.130 °	70 kHz	55.40 °	1.3 °	±11.5 °	11 % pass	1.2 °
21.170 Ω	80 kHz	21.19 Ω	0.02 Ω	±4.238 Ω	0 % pass	0.65 Ω
52.719 °	80 kHz	54.19 °	1.5 °	±11.5 °	13 % pass	1.2 °

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
23.120 Ω	90 kHz	23.22 Ω	0.10 Ω	±4.644 Ω	2 % pass	0.65 Ω
51.146 °	90 kHz	52.77 °	1.6 °	±11.5 °	14 % pass	1.2 °
24.924 Ω	100 kHz	25.11 Ω	0.19 Ω	±5.022 Ω	4 % pass	0.65 Ω
49.492 °	100 kHz	51.22 °	1.7 °	±11.5 °	15 % pass	1.2 °
31.984 Ω	150 kHz	34.29 Ω	2.31 Ω	±6.858 Ω	34 % pass	0.65 Ω
41.462 °	150 kHz	46.70 °	5.2 °	±11.5 °	46 % pass	1.2 °
34.044 Ω	170 kHz	36.50 Ω	2.46 Ω	±7.3 Ω	34 % pass	0.65 Ω
38.641 °	170 kHz	43.11 °	4.5 °	±11.5 °	39 % pass	1.2 °
36.517 Ω	200 kHz	39.12 Ω	2.60 Ω	±7.824 Ω	33 % pass	0.65 Ω
34.906 °	200 kHz	38.51 °	3.6 °	±11.5 °	31 % pass	1.2 °
39.449 Ω	250 kHz	42.18 Ω	2.73 Ω	±8.436 Ω	32 % pass	0.65 Ω
29.850 °	250 kHz	32.48 °	2.6 °	±11.5 °	23 % pass	1.2 °
41.401 Ω	300 kHz	44.17 Ω	2.77 Ω	±8.834 Ω	31 % pass	0.65 Ω
25.946 °	300 kHz	27.95 °	2.0 °	±11.5 °	17 % pass	1.2 °
42.746 Ω	350 kHz	45.52 Ω	2.77 Ω	±9.104 Ω	31 % pass	0.65 Ω
22.890 °	350 kHz	24.45 °	1.6 °	±11.5 °	14 % pass	1.2 °
43.702 Ω	400 kHz	46.46 Ω	2.76 Ω	±9.292 Ω	30 % pass	0.65 Ω
20.453 °	400 kHz	21.70 °	1.2 °	±11.5 °	11 % pass	1.2 °
44.940 Ω	500 kHz	47.65 Ω	2.71 Ω	±9.53 Ω	28 % pass	0.65 Ω
16.845 °	500 kHz	17.66 °	0.8 °	±11.5 °	7 % pass	1.2 °
45.675 Ω	600 kHz	48.33 Ω	2.66 Ω	±9.666 Ω	28 % pass	0.65 Ω
14.320 °	600 kHz	14.86 °	0.5 °	±11.5 °	5 % pass	1.2 °
46.151 Ω	700 kHz	48.76 Ω	2.61 Ω	±9.752 Ω	27 % pass	0.65 Ω
12.471 °	700 kHz	12.81 °	0.3 °	±11.5 °	3 % pass	1.2 °
46.471 Ω	800 kHz	49.04 Ω	2.57 Ω	±9.808 Ω	26 % pass	0.66 Ω
11.059 °	800 kHz	11.25 °	0.2 °	±11.5 °	2 % pass	1.2 °
46.713 Ω	900 kHz	49.24 Ω	2.53 Ω	±9.848 Ω	26 % pass	0.66 Ω
9.955 °	900 kHz	10.03 °	0.1 °	±11.5 °	1 % pass	1.2 °
46.894 Ω	1 MHz	49.38 Ω	2.49 Ω	±9.876 Ω	25 % pass	0.66 Ω
9.062 °	1 MHz	9.04 °	0.0 °	±11.5 °	0 % pass	1.2 °
47.149 Ω	1.2 MHz	49.57 Ω	2.42 Ω	±9.914 Ω	24 % pass	0.66 Ω
7.706 °	1.2 MHz	7.56 °	-0.1 °	±11.5 °	1 % pass	1.2 °
47.391 Ω	1.5 MHz	49.72 Ω	2.33 Ω	±9.944 Ω	23 % pass	0.66 Ω
6.326 °	1.5 MHz	6.06 °	-0.3 °	±11.5 °	2 % pass	1.2 °

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
47.541Ω	2 MHz	49.84Ω	2.30Ω	±9.968Ω	23% pass	0.66 Ω
4.884°	2 MHz	4.55°	-0.3°	±11.5°	3% pass	1.2 °
47.494Ω	2.5 MHz	49.90Ω	2.41Ω	±9.98Ω	24% pass	0.67 Ω
4.171°	2.5 MHz	3.64°	-0.5°	±11.5°	5% pass	1.2 °
47.553Ω	3 MHz	49.93Ω	2.38Ω	±9.986Ω	24% pass	0.67 Ω
3.875°	3 MHz	3.04°	-0.8°	±11.5°	7% pass	1.2 °
47.813Ω	4 MHz	49.96Ω	2.15Ω	±9.992Ω	22% pass	0.67 Ω
3.574°	4 MHz	2.28°	-1.3°	±11.5°	11% pass	1.2 °
48.133Ω	5 MHz	49.98Ω	1.85Ω	±9.996Ω	19% pass	0.68 Ω
3.422°	5 MHz	1.82°	-1.6°	±11.5°	14% pass	1.2 °
48.809Ω	7 MHz	49.99Ω	1.18Ω	±9.998Ω	12% pass	0.69 Ω
3.159°	7 MHz	1.30°	-1.9°	±11.5°	16% pass	1.2 °
49.698Ω	10 MHz	49.99Ω	0.29Ω	±9.998Ω	3% pass	0.71 Ω
2.531°	10 MHz	0.91°	-1.6°	±11.5°	14% pass	1.2 °
49.368Ω	15 MHz	50.00Ω	0.63Ω	±10Ω	6% pass	0.74 Ω
3.935°	15 MHz	0.61°	-3.3°	±11.5°	29% pass	1.2 °
51.581Ω	20 MHz	50.00Ω	-1.58Ω	±10Ω	16% pass	0.77 Ω
-0.253°	20 MHz	0.46°	0.7°	±11.5°	6% pass	1.2 °
50.788Ω	30 MHz	50.00Ω	-0.79Ω	±10Ω	8% pass	0.83 Ω
-3.461°	30 MHz	0.30°	3.8°	±11.5°	33% pass	1.2 °



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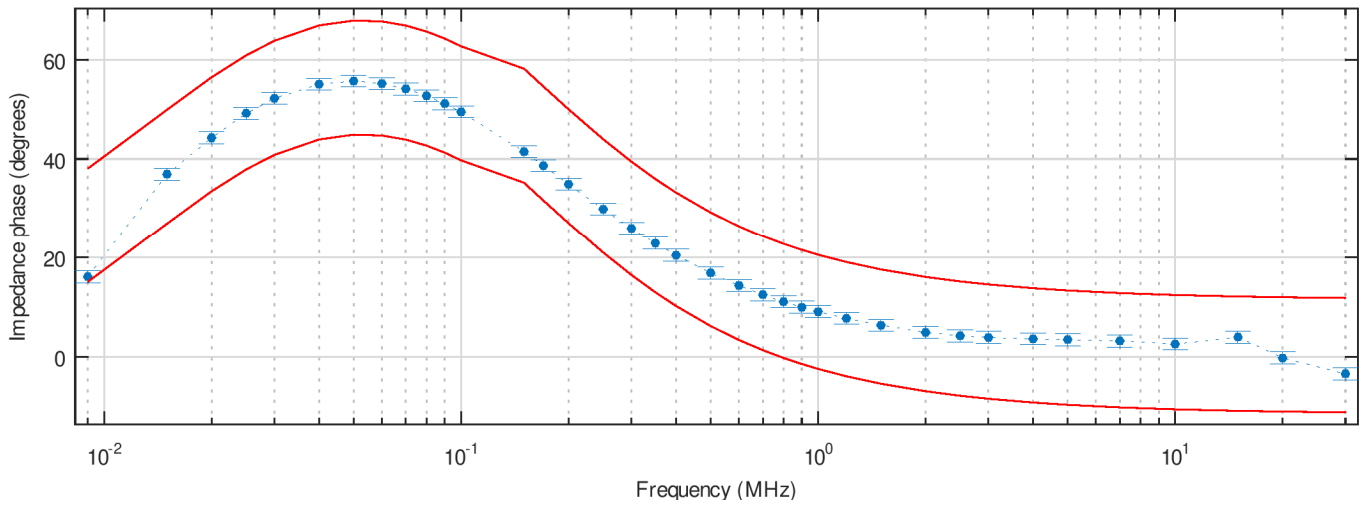
Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)



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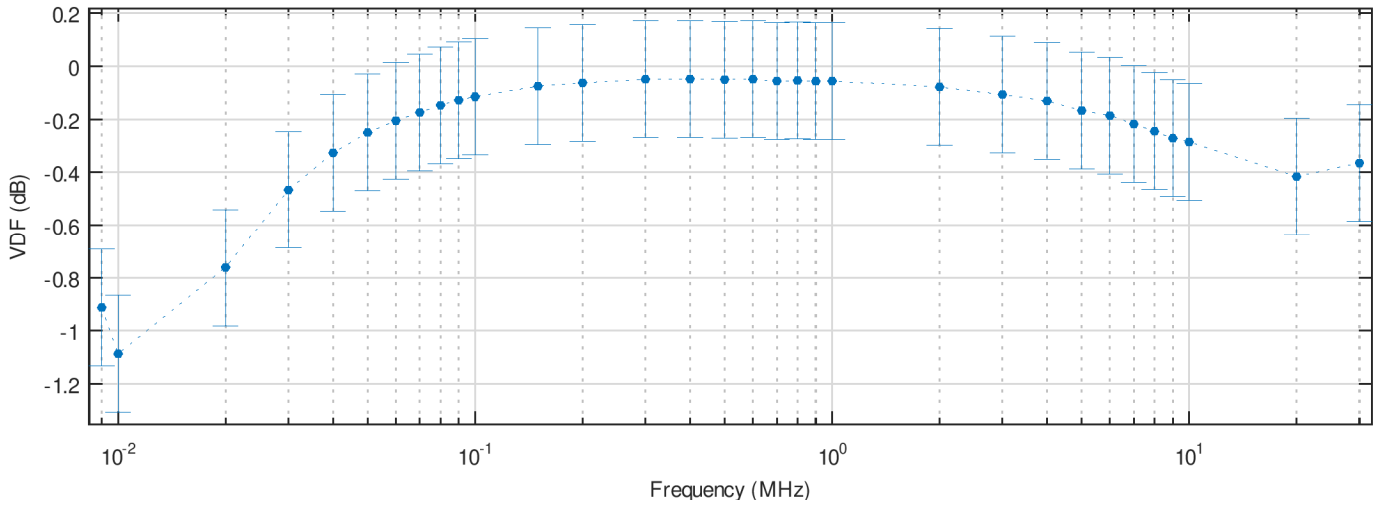
Attenuation / Voltage Division Ratio
Path: EUT to Receiver Output
RF Output / Receiver Port Connection: VNA Port 2
Mains Connection: 50 Ohm Termination
EuT Connection: VNA Port 1

Path N0/N

-0.913 dB	9 kHz	0.00 dB	0.91 dB	--- dB	---	0.22 dB
-1.087 dB	10 kHz	0.00 dB	1.09 dB	--- dB	---	0.22 dB
-0.761 dB	20 kHz	0.00 dB	0.76 dB	--- dB	---	0.22 dB
-0.467 dB	30 kHz	0.00 dB	0.47 dB	--- dB	---	0.22 dB
-0.326 dB	40 kHz	0.00 dB	0.33 dB	--- dB	---	0.22 dB
-0.250 dB	50 kHz	0.00 dB	0.25 dB	--- dB	---	0.22 dB
-0.205 dB	60 kHz	0.00 dB	0.20 dB	--- dB	---	0.22 dB
-0.174 dB	70 kHz	0.00 dB	0.17 dB	--- dB	---	0.22 dB
-0.147 dB	80 kHz	0.00 dB	0.15 dB	--- dB	---	0.22 dB
-0.127 dB	90 kHz	0.00 dB	0.13 dB	--- dB	---	0.22 dB
-0.115 dB	100 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.076 dB	150 kHz	0.00 dB	0.08 dB	--- dB	---	0.22 dB
-0.062 dB	200 kHz	0.00 dB	0.06 dB	--- dB	---	0.22 dB
-0.050 dB	300 kHz	0.00 dB	0.05 dB	--- dB	---	0.22 dB
-0.048 dB	400 kHz	0.00 dB	0.05 dB	--- dB	---	0.22 dB
-0.050 dB	500 kHz	0.00 dB	0.05 dB	--- dB	---	0.22 dB
-0.049 dB	600 kHz	0.00 dB	0.05 dB	--- dB	---	0.22 dB
-0.056 dB	700 kHz	0.00 dB	0.06 dB	--- dB	---	0.22 dB
-0.054 dB	800 kHz	0.00 dB	0.05 dB	--- dB	---	0.22 dB
-0.057 dB	900 kHz	0.00 dB	0.06 dB	--- dB	---	0.22 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
-0.056 dB	1 MHz	0.00 dB	0.06 dB	--- dB	---	0.22 dB
-0.078 dB	2 MHz	0.00 dB	0.08 dB	--- dB	---	0.22 dB
-0.107 dB	3 MHz	0.00 dB	0.11 dB	--- dB	---	0.22 dB
-0.131 dB	4 MHz	0.00 dB	0.13 dB	--- dB	---	0.22 dB
-0.167 dB	5 MHz	0.00 dB	0.17 dB	--- dB	---	0.22 dB
-0.186 dB	6 MHz	0.00 dB	0.19 dB	--- dB	---	0.22 dB
-0.218 dB	7 MHz	0.00 dB	0.22 dB	--- dB	---	0.22 dB
-0.246 dB	8 MHz	0.00 dB	0.25 dB	--- dB	---	0.22 dB
-0.272 dB	9 MHz	0.00 dB	0.27 dB	--- dB	---	0.22 dB
-0.286 dB	10 MHz	0.00 dB	0.29 dB	--- dB	---	0.22 dB
-0.416 dB	20 MHz	0.00 dB	0.42 dB	--- dB	---	0.22 dB
-0.365 dB	30 MHz	0.00 dB	0.36 dB	--- dB	---	0.22 dB



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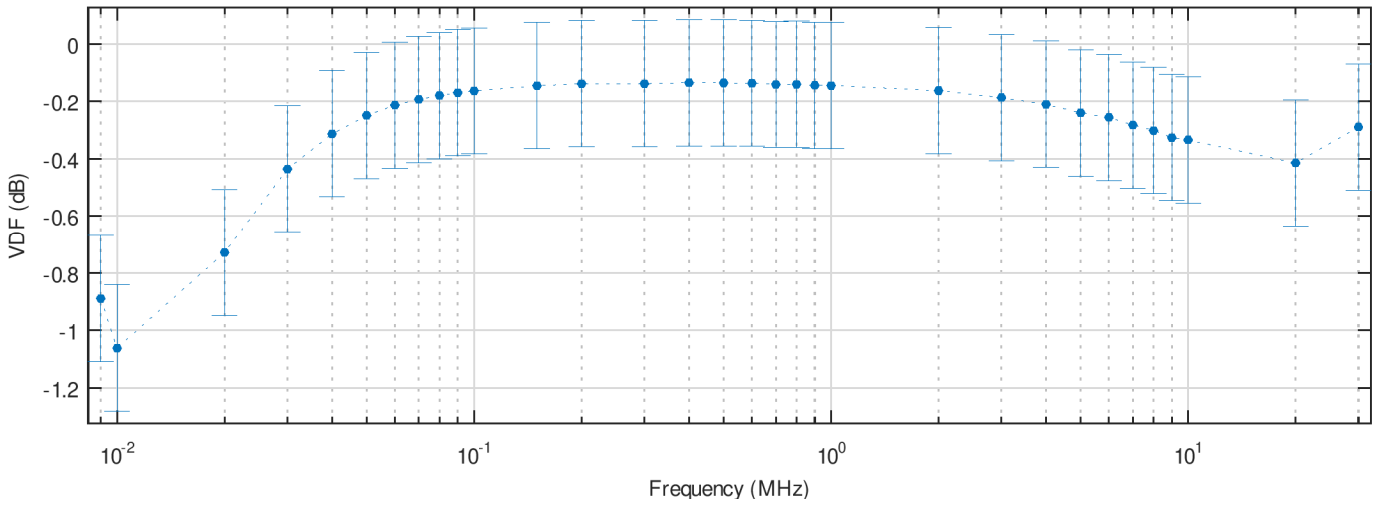
Path L1/R

-0.889 dB	9 kHz	0.00 dB	0.89 dB	--- dB	---	0.22 dB
-1.062 dB	10 kHz	0.00 dB	1.06 dB	--- dB	---	0.22 dB
-0.729 dB	20 kHz	0.00 dB	0.73 dB	--- dB	---	0.22 dB
-0.436 dB	30 kHz	0.00 dB	0.44 dB	--- dB	---	0.22 dB
-0.313 dB	40 kHz	0.00 dB	0.31 dB	--- dB	---	0.22 dB
-0.249 dB	50 kHz	0.00 dB	0.25 dB	--- dB	---	0.22 dB
-0.213 dB	60 kHz	0.00 dB	0.21 dB	--- dB	---	0.22 dB
-0.193 dB	70 kHz	0.00 dB	0.19 dB	--- dB	---	0.22 dB
-0.180 dB	80 kHz	0.00 dB	0.18 dB	--- dB	---	0.22 dB
-0.170 dB	90 kHz	0.00 dB	0.17 dB	--- dB	---	0.22 dB
-0.164 dB	100 kHz	0.00 dB	0.16 dB	--- dB	---	0.22 dB
-0.145 dB	150 kHz	0.00 dB	0.15 dB	--- dB	---	0.22 dB
-0.139 dB	200 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.139 dB	300 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.135 dB	400 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.136 dB	500 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.137 dB	600 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.141 dB	700 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
-0.141 dB	800 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.144 dB	900 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.145 dB	1 MHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.163 dB	2 MHz	0.00 dB	0.16 dB	--- dB	---	0.22 dB
-0.187 dB	3 MHz	0.00 dB	0.19 dB	--- dB	---	0.22 dB
-0.210 dB	4 MHz	0.00 dB	0.21 dB	--- dB	---	0.22 dB
-0.240 dB	5 MHz	0.00 dB	0.24 dB	--- dB	---	0.22 dB
-0.256 dB	6 MHz	0.00 dB	0.26 dB	--- dB	---	0.22 dB
-0.283 dB	7 MHz	0.00 dB	0.28 dB	--- dB	---	0.22 dB
-0.301 dB	8 MHz	0.00 dB	0.30 dB	--- dB	---	0.22 dB
-0.326 dB	9 MHz	0.00 dB	0.33 dB	--- dB	---	0.22 dB
-0.335 dB	10 MHz	0.00 dB	0.33 dB	--- dB	---	0.22 dB
-0.415 dB	20 MHz	0.00 dB	0.41 dB	--- dB	---	0.22 dB
-0.290 dB	30 MHz	0.00 dB	0.29 dB	--- dB	---	0.22 dB



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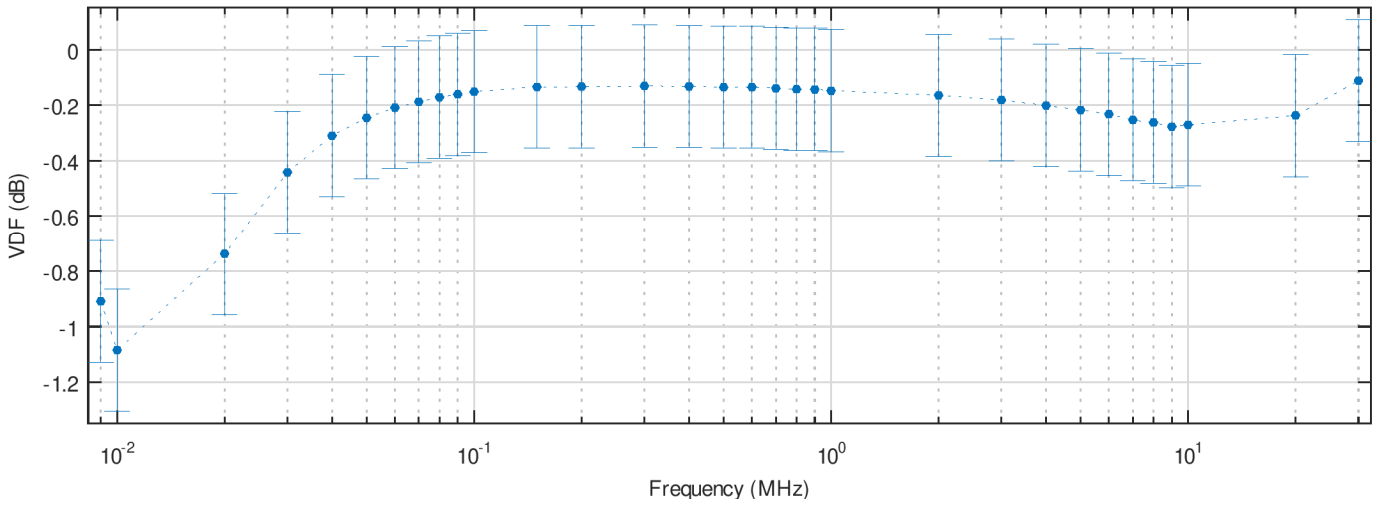
Path L2/S

-0.909 dB	9 kHz	0.00 dB	0.91 dB	--- dB	---	0.22 dB
-1.085 dB	10 kHz	0.00 dB	1.08 dB	--- dB	---	0.22 dB
-0.738 dB	20 kHz	0.00 dB	0.74 dB	--- dB	---	0.22 dB
-0.442 dB	30 kHz	0.00 dB	0.44 dB	--- dB	---	0.22 dB
-0.310 dB	40 kHz	0.00 dB	0.31 dB	--- dB	---	0.22 dB
-0.245 dB	50 kHz	0.00 dB	0.25 dB	--- dB	---	0.22 dB
-0.209 dB	60 kHz	0.00 dB	0.21 dB	--- dB	---	0.22 dB
-0.187 dB	70 kHz	0.00 dB	0.19 dB	--- dB	---	0.22 dB
-0.171 dB	80 kHz	0.00 dB	0.17 dB	--- dB	---	0.22 dB
-0.161 dB	90 kHz	0.00 dB	0.16 dB	--- dB	---	0.22 dB
-0.152 dB	100 kHz	0.00 dB	0.15 dB	--- dB	---	0.22 dB
-0.134 dB	150 kHz	0.00 dB	0.13 dB	--- dB	---	0.22 dB
-0.133 dB	200 kHz	0.00 dB	0.13 dB	--- dB	---	0.22 dB
-0.131 dB	300 kHz	0.00 dB	0.13 dB	--- dB	---	0.22 dB
-0.132 dB	400 kHz	0.00 dB	0.13 dB	--- dB	---	0.22 dB
-0.135 dB	500 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
-0.135 dB	600 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.139 dB	700 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.143 dB	800 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.143 dB	900 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.148 dB	1 MHz	0.00 dB	0.15 dB	--- dB	---	0.22 dB
-0.164 dB	2 MHz	0.00 dB	0.16 dB	--- dB	---	0.22 dB
-0.181 dB	3 MHz	0.00 dB	0.18 dB	--- dB	---	0.22 dB
-0.201 dB	4 MHz	0.00 dB	0.20 dB	--- dB	---	0.22 dB
-0.217 dB	5 MHz	0.00 dB	0.22 dB	--- dB	---	0.22 dB
-0.233 dB	6 MHz	0.00 dB	0.23 dB	--- dB	---	0.22 dB
-0.253 dB	7 MHz	0.00 dB	0.25 dB	--- dB	---	0.22 dB
-0.262 dB	8 MHz	0.00 dB	0.26 dB	--- dB	---	0.22 dB
-0.277 dB	9 MHz	0.00 dB	0.28 dB	--- dB	---	0.22 dB
-0.270 dB	10 MHz	0.00 dB	0.27 dB	--- dB	---	0.22 dB
-0.237 dB	20 MHz	0.00 dB	0.24 dB	--- dB	---	0.22 dB
-0.112 dB	30 MHz	0.00 dB	0.11 dB	--- dB	---	0.22 dB



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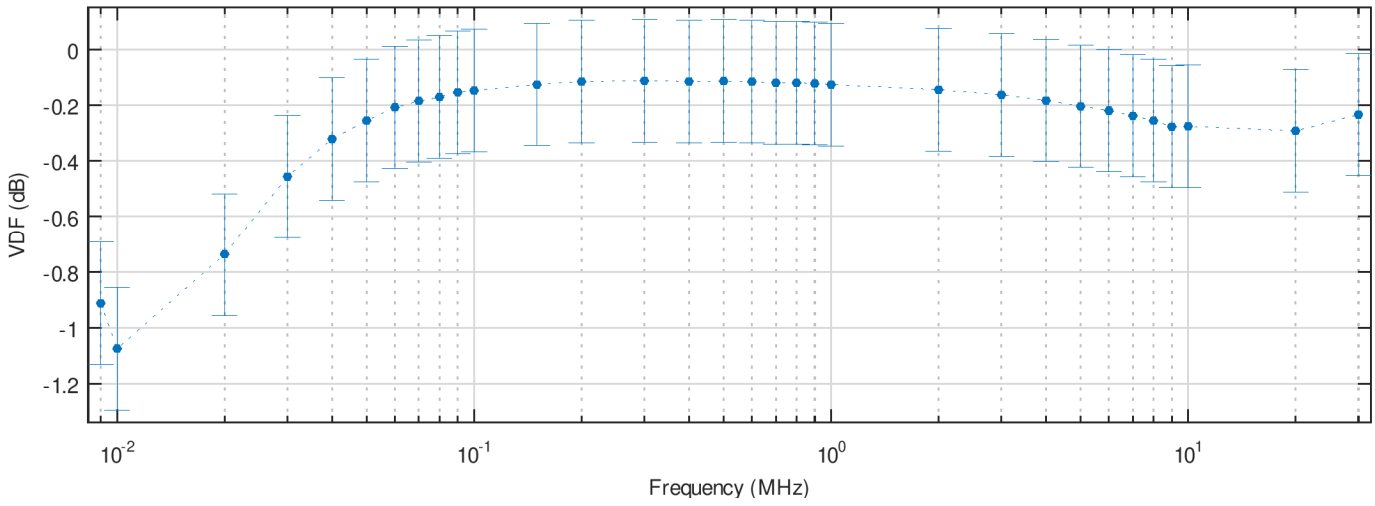
Path L3/T

-0.912 dB	9 kHz	0.00 dB	0.91 dB	--- dB	---	0.22 dB
-1.075 dB	10 kHz	0.00 dB	1.07 dB	--- dB	---	0.22 dB
-0.738 dB	20 kHz	0.00 dB	0.74 dB	--- dB	---	0.22 dB
-0.456 dB	30 kHz	0.00 dB	0.46 dB	--- dB	---	0.22 dB
-0.322 dB	40 kHz	0.00 dB	0.32 dB	--- dB	---	0.22 dB
-0.255 dB	50 kHz	0.00 dB	0.26 dB	--- dB	---	0.22 dB
-0.208 dB	60 kHz	0.00 dB	0.21 dB	--- dB	---	0.22 dB
-0.185 dB	70 kHz	0.00 dB	0.18 dB	--- dB	---	0.22 dB
-0.171 dB	80 kHz	0.00 dB	0.17 dB	--- dB	---	0.22 dB
-0.153 dB	90 kHz	0.00 dB	0.15 dB	--- dB	---	0.22 dB
-0.147 dB	100 kHz	0.00 dB	0.15 dB	--- dB	---	0.22 dB
-0.125 dB	150 kHz	0.00 dB	0.13 dB	--- dB	---	0.22 dB
-0.115 dB	200 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.112 dB	300 kHz	0.00 dB	0.11 dB	--- dB	---	0.22 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
-0.115 dB	400 kHz	0.00 dB	0.11 dB	--- dB	---	0.22 dB
-0.113 dB	500 kHz	0.00 dB	0.11 dB	--- dB	---	0.22 dB
-0.115 dB	600 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.119 dB	700 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.119 dB	800 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.122 dB	900 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.126 dB	1 MHz	0.00 dB	0.13 dB	--- dB	---	0.22 dB
-0.144 dB	2 MHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.163 dB	3 MHz	0.00 dB	0.16 dB	--- dB	---	0.22 dB
-0.183 dB	4 MHz	0.00 dB	0.18 dB	--- dB	---	0.22 dB
-0.203 dB	5 MHz	0.00 dB	0.20 dB	--- dB	---	0.22 dB
-0.219 dB	6 MHz	0.00 dB	0.22 dB	--- dB	---	0.22 dB
-0.238 dB	7 MHz	0.00 dB	0.24 dB	--- dB	---	0.22 dB
-0.256 dB	8 MHz	0.00 dB	0.26 dB	--- dB	---	0.22 dB
-0.277 dB	9 MHz	0.00 dB	0.28 dB	--- dB	---	0.22 dB
-0.276 dB	10 MHz	0.00 dB	0.28 dB	--- dB	---	0.22 dB
-0.292 dB	20 MHz	0.00 dB	0.29 dB	--- dB	---	0.22 dB
-0.233 dB	30 MHz	0.00 dB	0.23 dB	--- dB	---	0.22 dB



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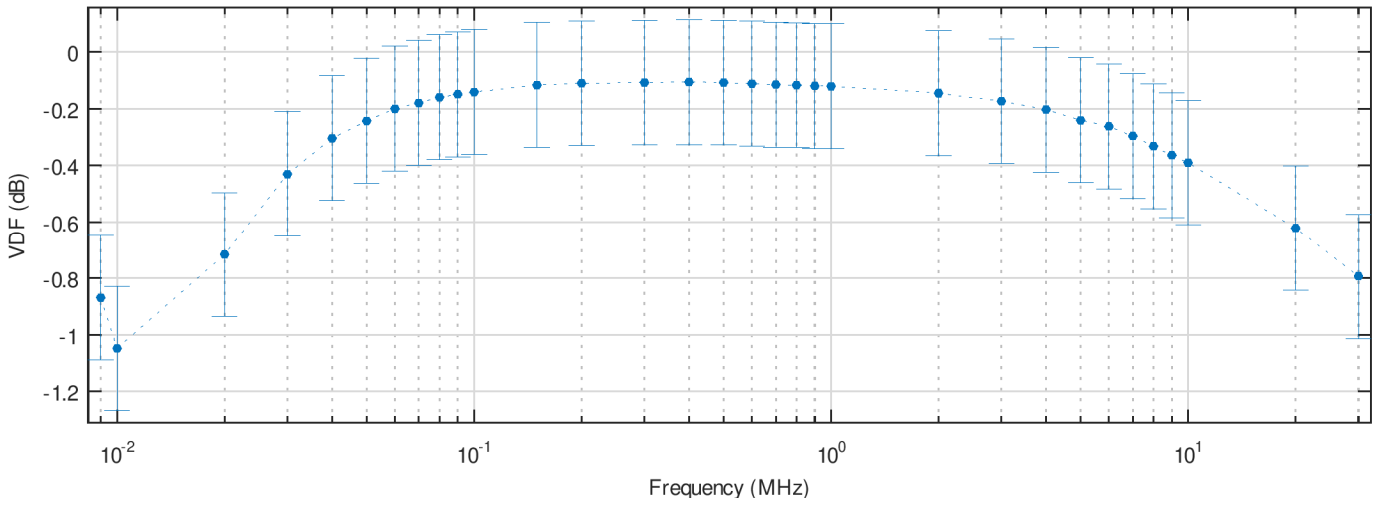
SCHUKO N0/N

-0.869 dB	9 kHz	0.00 dB	0.87 dB	--- dB	---	0.22 dB
-1.048 dB	10 kHz	0.00 dB	1.05 dB	--- dB	---	0.22 dB
-0.716 dB	20 kHz	0.00 dB	0.72 dB	--- dB	---	0.22 dB
-0.431 dB	30 kHz	0.00 dB	0.43 dB	--- dB	---	0.22 dB
-0.304 dB	40 kHz	0.00 dB	0.30 dB	--- dB	---	0.22 dB
-0.243 dB	50 kHz	0.00 dB	0.24 dB	--- dB	---	0.22 dB
-0.200 dB	60 kHz	0.00 dB	0.20 dB	--- dB	---	0.22 dB
-0.180 dB	70 kHz	0.00 dB	0.18 dB	--- dB	---	0.22 dB
-0.160 dB	80 kHz	0.00 dB	0.16 dB	--- dB	---	0.22 dB
-0.150 dB	90 kHz	0.00 dB	0.15 dB	--- dB	---	0.22 dB
-0.141 dB	100 kHz	0.00 dB	0.14 dB	--- dB	---	0.22 dB
-0.117 dB	150 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
-0.111 dB	200 kHz	0.00 dB	0.11 dB	--- dB	---	0.22 dB
-0.108 dB	300 kHz	0.00 dB	0.11 dB	--- dB	---	0.22 dB
-0.106 dB	400 kHz	0.00 dB	0.11 dB	--- dB	---	0.22 dB
-0.108 dB	500 kHz	0.00 dB	0.11 dB	--- dB	---	0.22 dB
-0.112 dB	600 kHz	0.00 dB	0.11 dB	--- dB	---	0.22 dB
-0.115 dB	700 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.117 dB	800 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.120 dB	900 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.121 dB	1 MHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.146 dB	2 MHz	0.00 dB	0.15 dB	--- dB	---	0.22 dB
-0.174 dB	3 MHz	0.00 dB	0.17 dB	--- dB	---	0.22 dB
-0.203 dB	4 MHz	0.00 dB	0.20 dB	--- dB	---	0.22 dB
-0.241 dB	5 MHz	0.00 dB	0.24 dB	--- dB	---	0.22 dB
-0.263 dB	6 MHz	0.00 dB	0.26 dB	--- dB	---	0.22 dB
-0.297 dB	7 MHz	0.00 dB	0.30 dB	--- dB	---	0.22 dB
-0.333 dB	8 MHz	0.00 dB	0.33 dB	--- dB	---	0.22 dB
-0.364 dB	9 MHz	0.00 dB	0.36 dB	--- dB	---	0.22 dB
-0.390 dB	10 MHz	0.00 dB	0.39 dB	--- dB	---	0.22 dB
-0.622 dB	20 MHz	0.00 dB	0.62 dB	--- dB	---	0.22 dB
-0.793 dB	30 MHz	0.00 dB	0.79 dB	--- dB	---	0.22 dB



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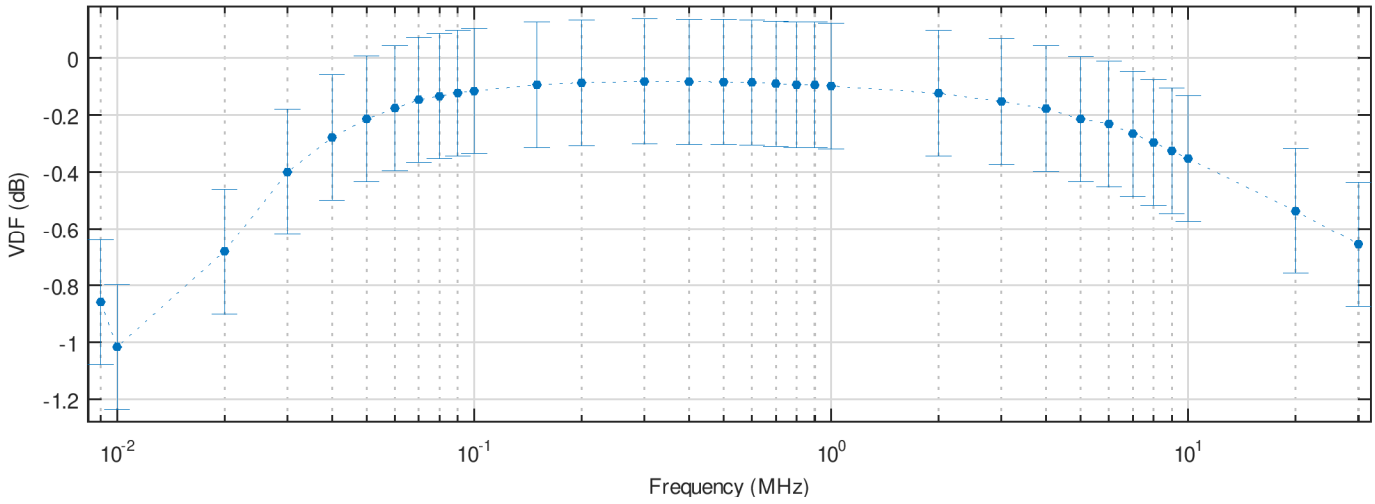
SCHUKO L1/R

-0.860 dB	9 kHz	0.00 dB	0.86 dB	--- dB	---	0.22 dB
-1.017 dB	10 kHz	0.00 dB	1.02 dB	--- dB	---	0.22 dB
-0.681 dB	20 kHz	0.00 dB	0.68 dB	--- dB	---	0.22 dB
-0.400 dB	30 kHz	0.00 dB	0.40 dB	--- dB	---	0.22 dB
-0.279 dB	40 kHz	0.00 dB	0.28 dB	--- dB	---	0.22 dB
-0.214 dB	50 kHz	0.00 dB	0.21 dB	--- dB	---	0.22 dB
-0.176 dB	60 kHz	0.00 dB	0.18 dB	--- dB	---	0.22 dB
-0.147 dB	70 kHz	0.00 dB	0.15 dB	--- dB	---	0.22 dB
-0.134 dB	80 kHz	0.00 dB	0.13 dB	--- dB	---	0.22 dB
-0.123 dB	90 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)
-0.116 dB	100 kHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.094 dB	150 kHz	0.00 dB	0.09 dB	--- dB	---	0.22 dB
-0.087 dB	200 kHz	0.00 dB	0.09 dB	--- dB	---	0.22 dB
-0.082 dB	300 kHz	0.00 dB	0.08 dB	--- dB	---	0.22 dB
-0.084 dB	400 kHz	0.00 dB	0.08 dB	--- dB	---	0.22 dB
-0.085 dB	500 kHz	0.00 dB	0.08 dB	--- dB	---	0.22 dB
-0.087 dB	600 kHz	0.00 dB	0.09 dB	--- dB	---	0.22 dB
-0.091 dB	700 kHz	0.00 dB	0.09 dB	--- dB	---	0.22 dB
-0.094 dB	800 kHz	0.00 dB	0.09 dB	--- dB	---	0.22 dB
-0.095 dB	900 kHz	0.00 dB	0.10 dB	--- dB	---	0.22 dB
-0.098 dB	1 MHz	0.00 dB	0.10 dB	--- dB	---	0.22 dB
-0.124 dB	2 MHz	0.00 dB	0.12 dB	--- dB	---	0.22 dB
-0.153 dB	3 MHz	0.00 dB	0.15 dB	--- dB	---	0.22 dB
-0.178 dB	4 MHz	0.00 dB	0.18 dB	--- dB	---	0.22 dB
-0.215 dB	5 MHz	0.00 dB	0.21 dB	--- dB	---	0.22 dB
-0.231 dB	6 MHz	0.00 dB	0.23 dB	--- dB	---	0.22 dB
-0.266 dB	7 MHz	0.00 dB	0.27 dB	--- dB	---	0.22 dB
-0.297 dB	8 MHz	0.00 dB	0.30 dB	--- dB	---	0.22 dB
-0.326 dB	9 MHz	0.00 dB	0.33 dB	--- dB	---	0.22 dB
-0.353 dB	10 MHz	0.00 dB	0.35 dB	--- dB	---	0.22 dB
-0.537 dB	20 MHz	0.00 dB	0.54 dB	--- dB	---	0.22 dB
-0.656 dB	30 MHz	0.00 dB	0.66 dB	--- dB	---	0.22 dB



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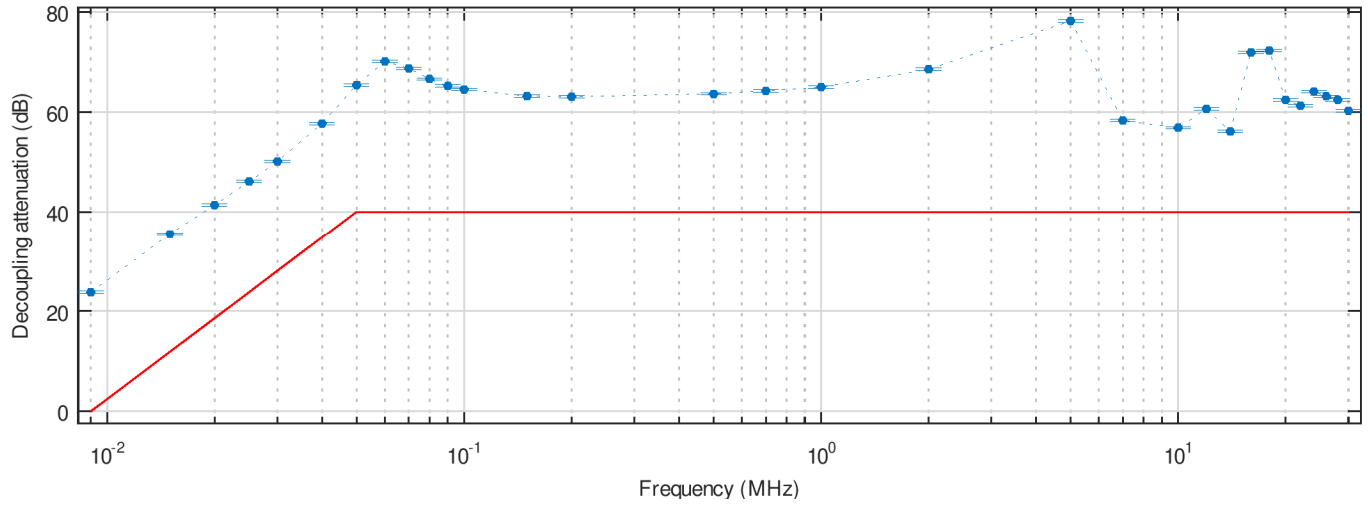
Isolation
Path: Mains to Receiver Output
RF Output / Receiver Port Connection: VNA Port 2
Mains Connection: VNA Port 1
EuT Connection: 50 Ohm

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %		Messunsicherheit (k=2) Measuring uncertainty (k=2)
Path N0/N							
23.77 dB	9 kHz	0.0 dB	-23.77 dB	---/ +0 dB	---	pass	0.25 dB
35.50 dB	15 kHz	11.9 dB	-23.60 dB	---/ +0 dB	---	pass	0.25 dB
41.36 dB	20 kHz	18.6 dB	-22.76 dB	---/ +0 dB	---	pass	0.25 dB
46.09 dB	25 kHz	23.8 dB	-22.29 dB	---/ +0 dB	---	pass	0.25 dB
50.12 dB	30 kHz	28.1 dB	-22.02 dB	---/ +0 dB	---	pass	0.25 dB
57.70 dB	40 kHz	34.8 dB	-22.90 dB	---/ +0 dB	---	pass	0.25 dB
65.39 dB	50 kHz	40.0 dB	-25.39 dB	---/ +0 dB	---	pass	0.25 dB
70.12 dB	60 kHz	40.0 dB	-30.12 dB	---/ +0 dB	---	pass	0.25 dB
68.74 dB	70 kHz	40.0 dB	-28.74 dB	---/ +0 dB	---	pass	0.25 dB
66.60 dB	80 kHz	40.0 dB	-26.60 dB	---/ +0 dB	---	pass	0.25 dB
65.21 dB	90 kHz	40.0 dB	-25.21 dB	---/ +0 dB	---	pass	0.25 dB
64.52 dB	100 kHz	40.0 dB	-24.52 dB	---/ +0 dB	---	pass	0.25 dB
63.18 dB	150 kHz	40.0 dB	-23.18 dB	---/ +0 dB	---	pass	0.25 dB
63.05 dB	200 kHz	40.0 dB	-23.05 dB	---/ +0 dB	---	pass	0.25 dB
63.62 dB	500 kHz	40.0 dB	-23.62 dB	---/ +0 dB	---	pass	0.25 dB
64.23 dB	700 kHz	40.0 dB	-24.23 dB	---/ +0 dB	---	pass	0.25 dB
64.98 dB	1 MHz	40.0 dB	-24.98 dB	---/ +0 dB	---	pass	0.25 dB
68.53 dB	2 MHz	40.0 dB	-28.53 dB	---/ +0 dB	---	pass	0.25 dB
78.24 dB	5 MHz	40.0 dB	-38.24 dB	---/ +0 dB	---	pass	0.25 dB
58.29 dB	7 MHz	40.0 dB	-18.29 dB	---/ +0 dB	---	pass	0.25 dB
56.84 dB	10 MHz	40.0 dB	-16.84 dB	---/ +0 dB	---	pass	0.25 dB
60.61 dB	12 MHz	40.0 dB	-20.61 dB	---/ +0 dB	---	pass	0.25 dB
56.09 dB	14 MHz	40.0 dB	-16.09 dB	---/ +0 dB	---	pass	0.25 dB
71.94 dB	16 MHz	40.0 dB	-31.94 dB	---/ +0 dB	---	pass	0.25 dB
72.28 dB	18 MHz	40.0 dB	-32.28 dB	---/ +0 dB	---	pass	0.25 dB
62.43 dB	20 MHz	40.0 dB	-22.43 dB	---/ +0 dB	---	pass	0.25 dB
61.25 dB	22 MHz	40.0 dB	-21.25 dB	---/ +0 dB	---	pass	0.25 dB
64.09 dB	24 MHz	40.0 dB	-24.09 dB	---/ +0 dB	---	pass	0.25 dB
63.12 dB	26 MHz	40.0 dB	-23.12 dB	---/ +0 dB	---	pass	0.25 dB
62.44 dB	28 MHz	40.0 dB	-22.44 dB	---/ +0 dB	---	pass	0.25 dB
60.27 dB	30 MHz	40.0 dB	-20.27 dB	---/ +0 dB	---	pass	0.25 dB



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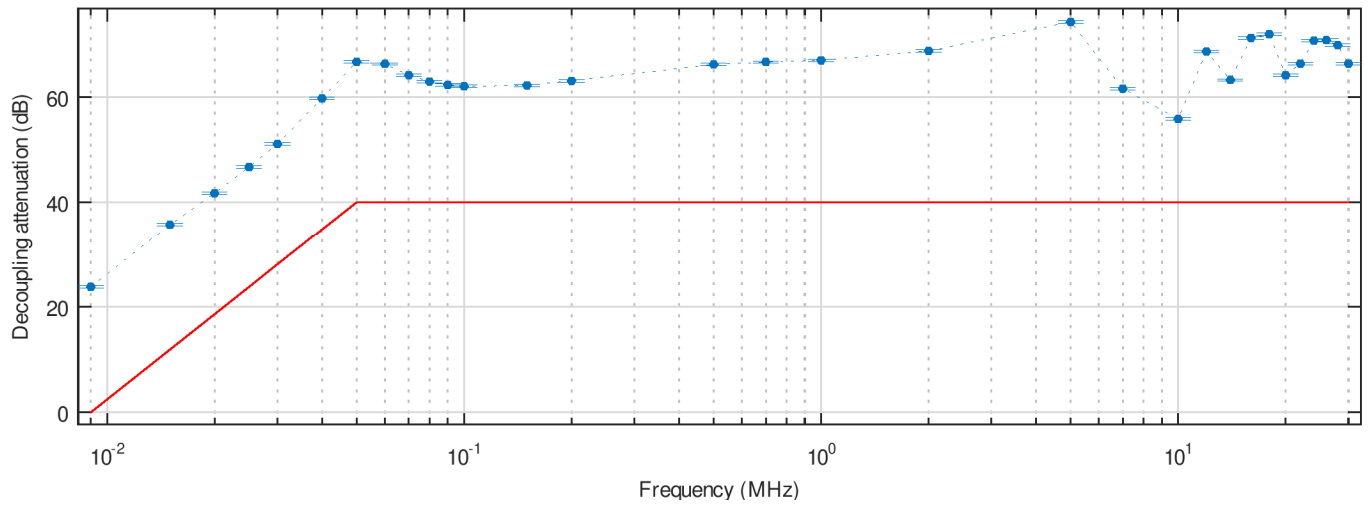
Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %		Messunsicherheit (k=2) Measuring uncertainty (k=2)
Path L1/R							
23.79 dB	9 kHz	0.0 dB	-23.79 dB	---/ +0 dB	---	pass	0.25 dB
35.70 dB	15 kHz	11.9 dB	-23.80 dB	---/ +0 dB	---	pass	0.25 dB
41.73 dB	20 kHz	18.6 dB	-23.13 dB	---/ +0 dB	---	pass	0.25 dB
46.72 dB	25 kHz	23.8 dB	-22.92 dB	---/ +0 dB	---	pass	0.25 dB
51.10 dB	30 kHz	28.1 dB	-23.00 dB	---/ +0 dB	---	pass	0.25 dB
59.74 dB	40 kHz	34.8 dB	-24.94 dB	---/ +0 dB	---	pass	0.25 dB
66.69 dB	50 kHz	40.0 dB	-26.69 dB	---/ +0 dB	---	pass	0.25 dB
66.28 dB	60 kHz	40.0 dB	-26.28 dB	---/ +0 dB	---	pass	0.25 dB
64.19 dB	70 kHz	40.0 dB	-24.19 dB	---/ +0 dB	---	pass	0.25 dB
62.97 dB	80 kHz	40.0 dB	-22.97 dB	---/ +0 dB	---	pass	0.25 dB
62.31 dB	90 kHz	40.0 dB	-22.31 dB	---/ +0 dB	---	pass	0.25 dB
62.04 dB	100 kHz	40.0 dB	-22.04 dB	---/ +0 dB	---	pass	0.25 dB
62.24 dB	150 kHz	40.0 dB	-22.24 dB	---/ +0 dB	---	pass	0.25 dB
63.11 dB	200 kHz	40.0 dB	-23.11 dB	---/ +0 dB	---	pass	0.25 dB
66.21 dB	500 kHz	40.0 dB	-26.21 dB	---/ +0 dB	---	pass	0.25 dB
66.65 dB	700 kHz	40.0 dB	-26.65 dB	---/ +0 dB	---	pass	0.25 dB
67.01 dB	1 MHz	40.0 dB	-27.01 dB	---/ +0 dB	---	pass	0.25 dB
68.77 dB	2 MHz	40.0 dB	-28.77 dB	---/ +0 dB	---	pass	0.25 dB
74.29 dB	5 MHz	40.0 dB	-34.29 dB	---/ +0 dB	---	pass	0.25 dB
61.61 dB	7 MHz	40.0 dB	-21.61 dB	---/ +0 dB	---	pass	0.25 dB
55.83 dB	10 MHz	40.0 dB	-15.83 dB	---/ +0 dB	---	pass	0.25 dB
68.68 dB	12 MHz	40.0 dB	-28.68 dB	---/ +0 dB	---	pass	0.25 dB
63.23 dB	14 MHz	40.0 dB	-23.23 dB	---/ +0 dB	---	pass	0.25 dB
71.26 dB	16 MHz	40.0 dB	-31.26 dB	---/ +0 dB	---	pass	0.25 dB
71.93 dB	18 MHz	40.0 dB	-31.93 dB	---/ +0 dB	---	pass	0.25 dB
64.16 dB	20 MHz	40.0 dB	-24.16 dB	---/ +0 dB	---	pass	0.25 dB
66.35 dB	22 MHz	40.0 dB	-26.35 dB	---/ +0 dB	---	pass	0.25 dB
70.72 dB	24 MHz	40.0 dB	-30.72 dB	---/ +0 dB	---	pass	0.25 dB
70.80 dB	26 MHz	40.0 dB	-30.80 dB	---/ +0 dB	---	pass	0.25 dB
69.86 dB	28 MHz	40.0 dB	-29.86 dB	---/ +0 dB	---	pass	0.25 dB
66.39 dB	30 MHz	40.0 dB	-26.39 dB	---/ +0 dB	---	pass	0.25 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %	Messunsicherheit (k=2) Measuring uncertainty (k=2)	



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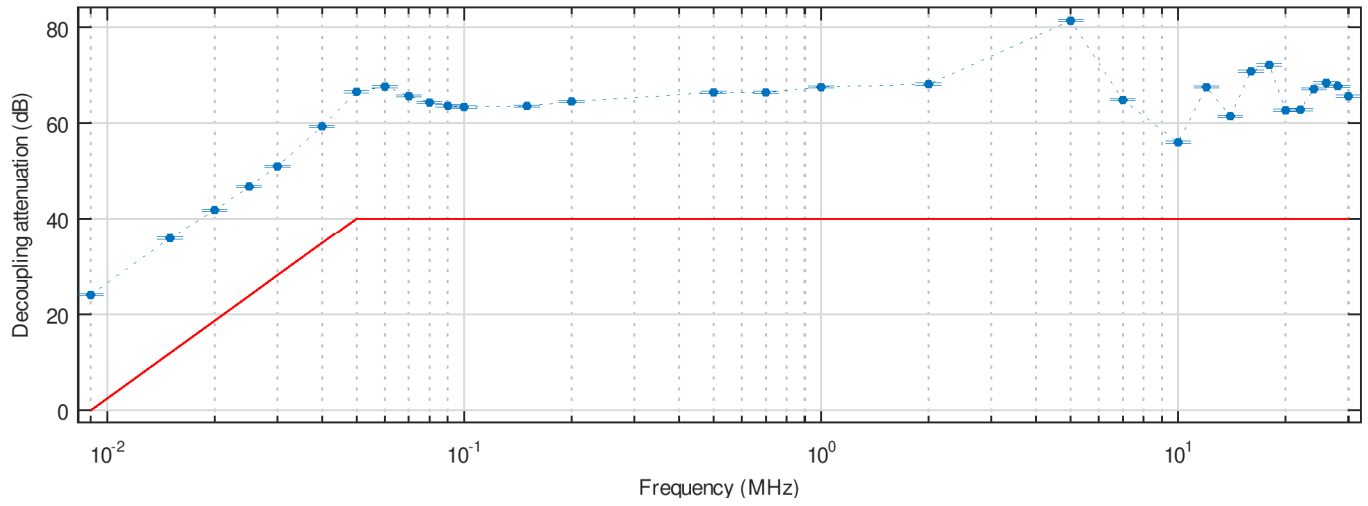
Path L2/S

24.01 dB	9 kHz	0.0 dB	-24.01 dB	---/ +0 dB	---	pass	0.25 dB
35.83 dB	15 kHz	11.9 dB	-23.93 dB	---/ +0 dB	---	pass	0.25 dB
41.81 dB	20 kHz	18.6 dB	-23.21 dB	---/ +0 dB	---	pass	0.25 dB
46.73 dB	25 kHz	23.8 dB	-22.93 dB	---/ +0 dB	---	pass	0.25 dB
51.00 dB	30 kHz	28.1 dB	-22.90 dB	---/ +0 dB	---	pass	0.25 dB
59.31 dB	40 kHz	34.8 dB	-24.51 dB	---/ +0 dB	---	pass	0.25 dB
66.59 dB	50 kHz	40.0 dB	-26.59 dB	---/ +0 dB	---	pass	0.25 dB
67.67 dB	60 kHz	40.0 dB	-27.67 dB	---/ +0 dB	---	pass	0.25 dB
65.68 dB	70 kHz	40.0 dB	-25.68 dB	---/ +0 dB	---	pass	0.25 dB
64.35 dB	80 kHz	40.0 dB	-24.35 dB	---/ +0 dB	---	pass	0.25 dB
63.66 dB	90 kHz	40.0 dB	-23.66 dB	---/ +0 dB	---	pass	0.25 dB
63.39 dB	100 kHz	40.0 dB	-23.39 dB	---/ +0 dB	---	pass	0.25 dB
63.58 dB	150 kHz	40.0 dB	-23.58 dB	---/ +0 dB	---	pass	0.25 dB
64.51 dB	200 kHz	40.0 dB	-24.51 dB	---/ +0 dB	---	pass	0.25 dB
66.43 dB	500 kHz	40.0 dB	-26.43 dB	---/ +0 dB	---	pass	0.25 dB
66.43 dB	700 kHz	40.0 dB	-26.43 dB	---/ +0 dB	---	pass	0.25 dB
67.56 dB	1 MHz	40.0 dB	-27.56 dB	---/ +0 dB	---	pass	0.25 dB
68.13 dB	2 MHz	40.0 dB	-28.13 dB	---/ +0 dB	---	pass	0.25 dB
81.45 dB	5 MHz	40.0 dB	-41.45 dB	---/ +0 dB	---	pass	0.25 dB
64.88 dB	7 MHz	40.0 dB	-24.88 dB	---/ +0 dB	---	pass	0.25 dB
55.97 dB	10 MHz	40.0 dB	-15.97 dB	---/ +0 dB	---	pass	0.25 dB
67.56 dB	12 MHz	40.0 dB	-27.56 dB	---/ +0 dB	---	pass	0.25 dB
61.45 dB	14 MHz	40.0 dB	-21.45 dB	---/ +0 dB	---	pass	0.25 dB
70.86 dB	16 MHz	40.0 dB	-30.86 dB	---/ +0 dB	---	pass	0.25 dB
72.16 dB	18 MHz	40.0 dB	-32.16 dB	---/ +0 dB	---	pass	0.25 dB
62.69 dB	20 MHz	40.0 dB	-22.69 dB	---/ +0 dB	---	pass	0.25 dB
62.82 dB	22 MHz	40.0 dB	-22.82 dB	---/ +0 dB	---	pass	0.25 dB
67.16 dB	24 MHz	40.0 dB	-27.16 dB	---/ +0 dB	---	pass	0.25 dB
68.45 dB	26 MHz	40.0 dB	-28.45 dB	---/ +0 dB	---	pass	0.25 dB
67.71 dB	28 MHz	40.0 dB	-27.71 dB	---/ +0 dB	---	pass	0.25 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %		Messunsicherheit (k=2) Measuring uncertainty (k=2)
65.62 dB	30 MHz	40.0 dB	-25.62 dB	---/ +0 dB	---	pass	0.25 dB



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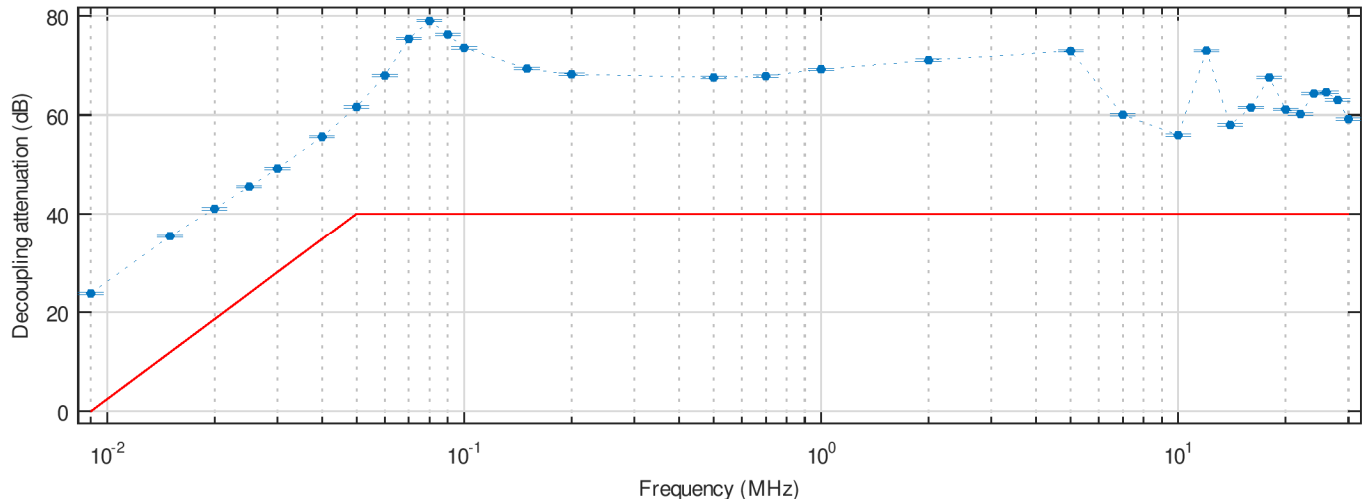
Path L3/T

23.79 dB	9 kHz	0.0 dB	-23.79 dB	---/ +0 dB	---	pass	0.25 dB
35.39 dB	15 kHz	11.9 dB	-23.49 dB	---/ +0 dB	---	pass	0.25 dB
41.05 dB	20 kHz	18.6 dB	-22.45 dB	---/ +0 dB	---	pass	0.25 dB
45.50 dB	25 kHz	23.8 dB	-21.70 dB	---/ +0 dB	---	pass	0.25 dB
49.16 dB	30 kHz	28.1 dB	-21.06 dB	---/ +0 dB	---	pass	0.25 dB
55.59 dB	40 kHz	34.8 dB	-20.79 dB	---/ +0 dB	---	pass	0.25 dB
61.62 dB	50 kHz	40.0 dB	-21.62 dB	---/ +0 dB	---	pass	0.25 dB
67.99 dB	60 kHz	40.0 dB	-27.99 dB	---/ +0 dB	---	pass	0.25 dB
75.41 dB	70 kHz	40.0 dB	-35.41 dB	---/ +0 dB	---	pass	0.25 dB
79.04 dB	80 kHz	40.0 dB	-39.04 dB	---/ +0 dB	---	pass	0.25 dB
76.29 dB	90 kHz	40.0 dB	-36.29 dB	---/ +0 dB	---	pass	0.25 dB
73.59 dB	100 kHz	40.0 dB	-33.59 dB	---/ +0 dB	---	pass	0.25 dB
69.36 dB	150 kHz	40.0 dB	-29.36 dB	---/ +0 dB	---	pass	0.25 dB
68.22 dB	200 kHz	40.0 dB	-28.22 dB	---/ +0 dB	---	pass	0.25 dB
67.58 dB	500 kHz	40.0 dB	-27.58 dB	---/ +0 dB	---	pass	0.25 dB
67.88 dB	700 kHz	40.0 dB	-27.88 dB	---/ +0 dB	---	pass	0.25 dB
69.22 dB	1 MHz	40.0 dB	-29.22 dB	---/ +0 dB	---	pass	0.25 dB
71.04 dB	2 MHz	40.0 dB	-31.04 dB	---/ +0 dB	---	pass	0.25 dB
72.96 dB	5 MHz	40.0 dB	-32.96 dB	---/ +0 dB	---	pass	0.25 dB
60.04 dB	7 MHz	40.0 dB	-20.04 dB	---/ +0 dB	---	pass	0.25 dB
55.95 dB	10 MHz	40.0 dB	-15.95 dB	---/ +0 dB	---	pass	0.25 dB
72.97 dB	12 MHz	40.0 dB	-32.97 dB	---/ +0 dB	---	pass	0.25 dB
57.96 dB	14 MHz	40.0 dB	-17.96 dB	---/ +0 dB	---	pass	0.25 dB
61.54 dB	16 MHz	40.0 dB	-21.54 dB	---/ +0 dB	---	pass	0.25 dB
67.61 dB	18 MHz	40.0 dB	-27.61 dB	---/ +0 dB	---	pass	0.25 dB
61.16 dB	20 MHz	40.0 dB	-21.16 dB	---/ +0 dB	---	pass	0.25 dB
60.23 dB	22 MHz	40.0 dB	-20.23 dB	---/ +0 dB	---	pass	0.25 dB
64.32 dB	24 MHz	40.0 dB	-24.32 dB	---/ +0 dB	---	pass	0.25 dB
64.62 dB	26 MHz	40.0 dB	-24.62 dB	---/ +0 dB	---	pass	0.25 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %		Messunsicherheit (k=2) Measuring uncertainty (k=2)
63.01 dB	28 MHz	40.0 dB	-23.01 dB	---/ +0 dB	---	pass	0.25 dB
59.19 dB	30 MHz	40.0 dB	-19.19 dB	---/ +0 dB	---	pass	0.25 dB



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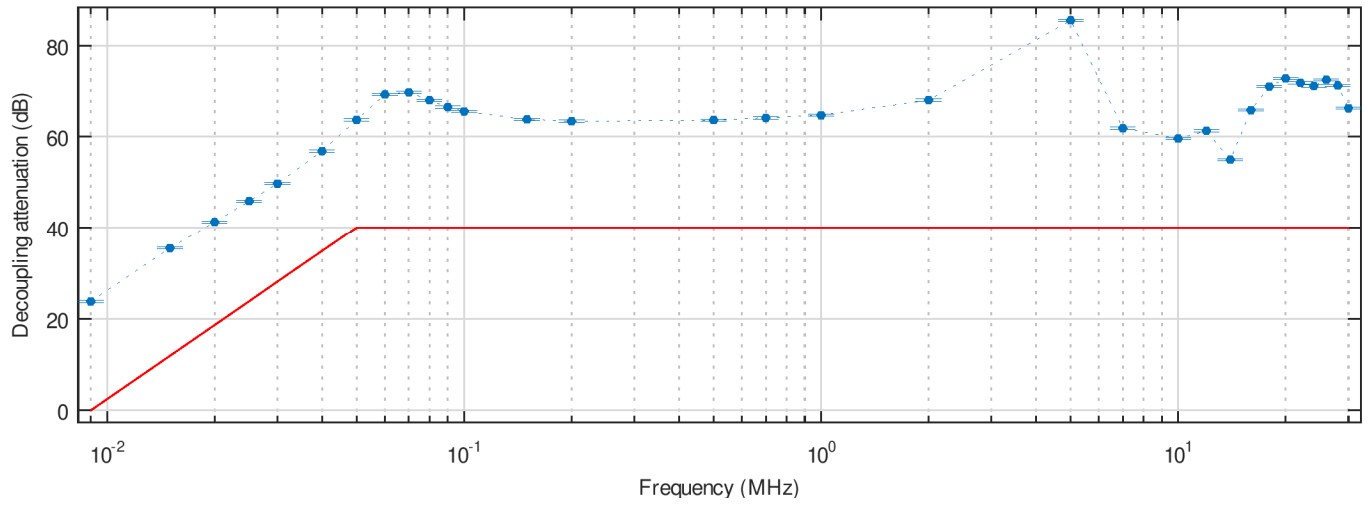
Schuko N0/N

23.76 dB	9 kHz	0.0 dB	-23.76 dB	---/ +0 dB	---	pass	0.25 dB
35.44 dB	15 kHz	11.9 dB	-23.54 dB	---/ +0 dB	---	pass	0.25 dB
41.22 dB	20 kHz	18.6 dB	-22.62 dB	---/ +0 dB	---	pass	0.25 dB
45.84 dB	25 kHz	23.8 dB	-22.04 dB	---/ +0 dB	---	pass	0.25 dB
49.73 dB	30 kHz	28.1 dB	-21.63 dB	---/ +0 dB	---	pass	0.25 dB
56.84 dB	40 kHz	34.8 dB	-22.04 dB	---/ +0 dB	---	pass	0.25 dB
63.70 dB	50 kHz	40.0 dB	-23.70 dB	---/ +0 dB	---	pass	0.25 dB
69.25 dB	60 kHz	40.0 dB	-29.25 dB	---/ +0 dB	---	pass	0.25 dB
69.75 dB	70 kHz	40.0 dB	-29.75 dB	---/ +0 dB	---	pass	0.25 dB
68.02 dB	80 kHz	40.0 dB	-28.02 dB	---/ +0 dB	---	pass	0.25 dB
66.50 dB	90 kHz	40.0 dB	-26.50 dB	---/ +0 dB	---	pass	0.25 dB
65.58 dB	100 kHz	40.0 dB	-25.58 dB	---/ +0 dB	---	pass	0.25 dB
63.78 dB	150 kHz	40.0 dB	-23.78 dB	---/ +0 dB	---	pass	0.25 dB
63.40 dB	200 kHz	40.0 dB	-23.40 dB	---/ +0 dB	---	pass	0.25 dB
63.64 dB	500 kHz	40.0 dB	-23.64 dB	---/ +0 dB	---	pass	0.25 dB
64.14 dB	700 kHz	40.0 dB	-24.14 dB	---/ +0 dB	---	pass	0.25 dB
64.74 dB	1 MHz	40.0 dB	-24.74 dB	---/ +0 dB	---	pass	0.25 dB
68.04 dB	2 MHz	40.0 dB	-28.04 dB	---/ +0 dB	---	pass	0.25 dB
85.51 dB	5 MHz	40.0 dB	-45.51 dB	---/ +0 dB	---	pass	0.25 dB
61.85 dB	7 MHz	40.0 dB	-21.85 dB	---/ +0 dB	---	pass	0.25 dB
59.60 dB	10 MHz	40.0 dB	-19.60 dB	---/ +0 dB	---	pass	0.25 dB
61.30 dB	12 MHz	40.0 dB	-21.30 dB	---/ +0 dB	---	pass	0.25 dB
54.95 dB	14 MHz	40.0 dB	-14.95 dB	---/ +0 dB	---	pass	0.25 dB
65.86 dB	16 MHz	40.0 dB	-25.86 dB	---/ +0 dB	---	pass	0.25 dB
71.06 dB	18 MHz	40.0 dB	-31.06 dB	---/ +0 dB	---	pass	0.25 dB
72.78 dB	20 MHz	40.0 dB	-32.78 dB	---/ +0 dB	---	pass	0.25 dB
71.84 dB	22 MHz	40.0 dB	-31.84 dB	---/ +0 dB	---	pass	0.25 dB
71.11 dB	24 MHz	40.0 dB	-31.11 dB	---/ +0 dB	---	pass	0.25 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %		Messunsicherheit (k=2) Measuring uncertainty (k=2)
72.48 dB	26 MHz	40.0 dB	-32.48 dB	---/ +0 dB	---	pass	0.25 dB
71.21 dB	28 MHz	40.0 dB	-31.21 dB	---/ +0 dB	---	pass	0.25 dB
66.29 dB	30 MHz	40.0 dB	-26.29 dB	---/ +0 dB	---	pass	0.25 dB



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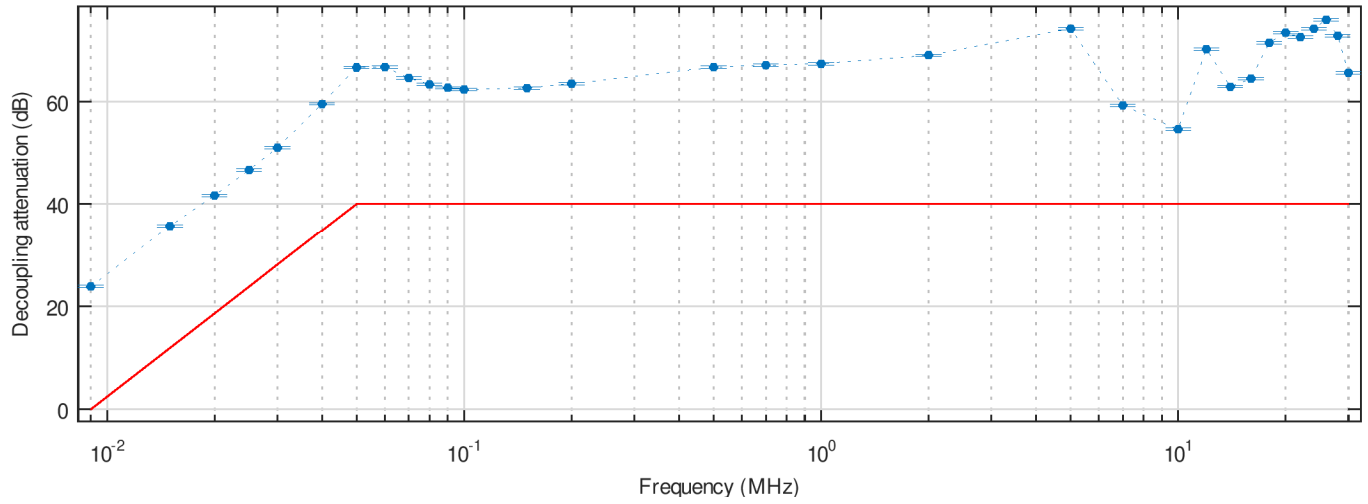
Schuko L1/R1

23.79 dB	9 kHz	0.0 dB	-23.79 dB	---/ +0 dB	---	pass	0.25 dB
35.68 dB	15 kHz	11.9 dB	-23.78 dB	---/ +0 dB	---	pass	0.25 dB
41.70 dB	20 kHz	18.6 dB	-23.10 dB	---/ +0 dB	---	pass	0.25 dB
46.66 dB	25 kHz	23.8 dB	-22.86 dB	---/ +0 dB	---	pass	0.25 dB
51.00 dB	30 kHz	28.1 dB	-22.90 dB	---/ +0 dB	---	pass	0.25 dB
59.54 dB	40 kHz	34.8 dB	-24.74 dB	---/ +0 dB	---	pass	0.25 dB
66.65 dB	50 kHz	40.0 dB	-26.65 dB	---/ +0 dB	---	pass	0.25 dB
66.73 dB	60 kHz	40.0 dB	-26.73 dB	---/ +0 dB	---	pass	0.25 dB
64.59 dB	70 kHz	40.0 dB	-24.59 dB	---/ +0 dB	---	pass	0.25 dB
63.32 dB	80 kHz	40.0 dB	-23.32 dB	---/ +0 dB	---	pass	0.25 dB
62.66 dB	90 kHz	40.0 dB	-22.66 dB	---/ +0 dB	---	pass	0.25 dB
62.35 dB	100 kHz	40.0 dB	-22.35 dB	---/ +0 dB	---	pass	0.25 dB
62.63 dB	150 kHz	40.0 dB	-22.63 dB	---/ +0 dB	---	pass	0.25 dB
63.49 dB	200 kHz	40.0 dB	-23.49 dB	---/ +0 dB	---	pass	0.25 dB
66.71 dB	500 kHz	40.0 dB	-26.71 dB	---/ +0 dB	---	pass	0.25 dB
67.09 dB	700 kHz	40.0 dB	-27.09 dB	---/ +0 dB	---	pass	0.25 dB
67.37 dB	1 MHz	40.0 dB	-27.37 dB	---/ +0 dB	---	pass	0.25 dB
69.02 dB	2 MHz	40.0 dB	-29.02 dB	---/ +0 dB	---	pass	0.25 dB
74.23 dB	5 MHz	40.0 dB	-34.23 dB	---/ +0 dB	---	pass	0.25 dB
59.27 dB	7 MHz	40.0 dB	-19.27 dB	---/ +0 dB	---	pass	0.25 dB
54.58 dB	10 MHz	40.0 dB	-14.58 dB	---/ +0 dB	---	pass	0.25 dB
70.24 dB	12 MHz	40.0 dB	-30.24 dB	---/ +0 dB	---	pass	0.25 dB
62.91 dB	14 MHz	40.0 dB	-22.91 dB	---/ +0 dB	---	pass	0.25 dB
64.47 dB	16 MHz	40.0 dB	-24.47 dB	---/ +0 dB	---	pass	0.25 dB
71.46 dB	18 MHz	40.0 dB	-31.46 dB	---/ +0 dB	---	pass	0.25 dB
73.40 dB	20 MHz	40.0 dB	-33.40 dB	---/ +0 dB	---	pass	0.25 dB
72.55 dB	22 MHz	40.0 dB	-32.55 dB	---/ +0 dB	---	pass	0.25 dB

Kalibrier-Zertifikat Calibration Certificate MUSTER

Bezugswert Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	Abweichung deviation	zulässige Abweichung allowed deviation	Ausnutzung der zul. Abw. in % Utilization of allowed dev. in %		Messunsicherheit (k=2) Measuring uncertainty (k=2)
74.19 dB	24 MHz	40.0 dB	-34.19 dB	---/ +0 dB	---	pass	0.25 dB
75.97 dB	26 MHz	40.0 dB	-35.97 dB	---/ +0 dB	---	pass	0.25 dB
72.85 dB	28 MHz	40.0 dB	-32.85 dB	---/ +0 dB	---	pass	0.25 dB
65.62 dB	30 MHz	40.0 dB	-25.62 dB	---/ +0 dB	---	pass	0.25 dB



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Artificial Hand							
Capacitance							
218.6 pF	1 MHz	220 pF	1.36 pF	±44 pF	3 %	pass	10 pF
Impedance							
500.5 Ω	1 MHz	510 Ω	9.50 Ω	±51 Ω	19 %	pass	0.87 Ω

zulässige Abweichung abgeschätzt durch Testo Industrial Services GmbH.
allowed deviation estimated by Testo Industrial Services.

Ausnutzung der zul. Abw. in % = |Abweichung| / zul. Abw.
Utilization of allowed dev. in % = |deviation| / allowed dev.

Die Angabe der Toleranzausnutzung in % ist bei logarithmischen Einheiten nicht sinnvoll und wird mit "---" entwertet.
The indication of the tolerance utilization in % is not applicable for logarithmic units and is invalidated with "---".