



Kalibrier-Zertifikat

Calibration Certificate

MUSTER

Gegenstand Object	Network Analyzer
Hersteller Manufacturer	AGILENT DEUTSCHLAND GMBH
Typ Type description	E5062A
Serien Nr. Serial no.	---
Inventar Nr. Inventory no.	---
Prüfmittel Nr. Test equipment no.	---
Equipment Nr. Equipment no.	---
Standort Location	---
Auftraggeber Customer	Musterfirma GmbH DE-12345 Musterstadt
Kunden Nr. Customer ID no.	1234567
Auftrags Nr. Order no.	123456
Datum der Kalibrierung Date of calibration	15.05.2020
Datum der empfohlenen Rekalibrierung Date of the recommended re-calibration	15.05.2021

Hiermit bestätigen wir, dass das durchführende Kalibrierlabor ein Managementsystem nach ISO 9001:2015, sowie 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 laboratory is working with a management system according to ISO 9001:2015 and 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.

Konformitätsaussage Conformity

- Messwert(e) innerhalb der zulässigen Abweichung¹⁾. Measured value(s) within the allowed deviation¹⁾.
 Messwert(e) außerhalb der zulässigen Abweichung¹⁾. Measured value(s) beyond the allowed deviation¹⁾.

¹⁾ Die erweiterte Messunsicherheit wurde nach EA-4-02 M:2013 mit einer Überdeckungswahrscheinlichkeit von 95% berechnet und enthält die Unsicherheit der Referenz, des Verfahrens sowie die Unsicherheit des Prüflings. Die Konformitätsaussage erfolgt in Anlehnung an ISO 14253-1:2017 auf Basis der Entscheidungsregel 'niedriges Vertrauensniveau' gemäß 4_AA_00120_DE.
¹⁾ The expanded measurement uncertainty was calculated according to EA-4-02 M:2013 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 ISO 14253-1:2017 in accordance with the decision rule 'niedriges Vertrauensniveau' (low level of confidence) according to 4_AA_00120_DE.

Dieser Kalibrierschein darf nur vollständig weiterverbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung des ausstellenden Kalibrierlaboratoriums. Kalibrierscheine ohne Unterschrift und Stempel haben keine Gültigkeit.
 This calibration certificate may not be reproduced other than in full except with permission of the issuing laboratory. Calibration certificates without signature and seal are not valid.

V 4.72 / DE

Stempel Seal



Fachverantwortlicher Supervisor

Max Mustermann
Max Mustermann

Bearbeiter Technician

Martina Musterfrau
Martina Musterfrau



Kalibrier-Zertifikat Calibration Certificate

MUSTER

Messeinrichtung Measuring equipment

Referenz Reference	Rückführung Traceability	Rekal. Next cal.	Zertifikat-Nr. Certificate-no.	EQ-Nr. EQ-no.
Frequency Standard Fluke Corporation 910	GPS locked ---	---	---	10640562
Frequenzzähler Agilent 53152A	GPS locked ---	---	Support device	10954848
Attenuator Driver Hewlett Packard 11713A	-- 2014-02	2022-06	Support Device	10962085
Step Attenuator AGILENT DEUTSCHLAND GMBH 8494H	15070-01-01 2019-09	2020-09	E104332	10996969
Step Attenuator AGILENT DEUTSCHLAND GMBH 8496H	15070-01-01 2019-09	2020-09	E104332	10996970
Type N Calibration Kit AGILENT DEUTSCHLAND GMBH 85032F	15070-01-01 2020-01	2021-01	E113594	11103245
Frequenzzähler HP 5335A	GPS locked ---	---	Support device	11105446
Power Meter AGILENT DEUTSCHLAND GMBH E4417A	15070-01-01 2019-09	2020-09	E103071	11287008
Leistungssensor Keysight E9304A H18	15070-01-01 2019-12	2020-12	E110017	13857669

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 nach Herstelleranweisung
The calibration is performed according to the manufacturer's procedure

Prüfprozedur Procedure E:Agilent:E5062A:TISSD:NWA:IEEE / Rev.:1.2

Messergebnisse Measuring results

Seite Page 3 bis to 27

Besondere Bemerkungen Special remarks



Kalibrier-Zertifikat

Calibration Certificate

MUSTER

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
Device Identification						
Manufacturer:----->Agilent Technologies						
Model:----->E5062A						
Softwarerevision:----->A.02.00						
Serialnummer----->MY44101292						
<hr/>						
Frequency Range and Accuracy						
	299.9990880 kHz		300.000000 kHz	±0.0020999 kHz	43% pass	3.5 mHz
	999.996950 kHz		1000.000000 kHz	±0.006999 kHz	44% pass	12 mHz
	9.99996950 MHz		10.0000000 MHz	±0.00006999 MHz	44% pass	0.12 Hz
	99.9996950 MHz		100.000000 MHz	±0.0006999 MHz	44% pass	1.2 Hz
	999.996943 MHz		1000.00000 MHz	±0.006999 MHz	44% pass	12 Hz
	2.99999083 GHz		3.0000000 GHz	±0.00002099 GHz	44% pass	35 Hz
<hr/>						
Output Power Accuracy and Flatness (Port 1)						
50 MHz	0.000 dBm		-0.24 dBm	±0.8 dB	pass	0.04 dB
Frequency Response relative to 50 MHz						
0.3 MHz	0.000 dB		0.08 dB	±1 dB	pass	0.04 dB
0.5 MHz	0.000 dB		0.06 dB	±1 dB	pass	0.04 dB
1 MHz	0.000 dB		0.07 dB	±1 dB	pass	0.04 dB
2 MHz	0.000 dB		0.08 dB	±1 dB	pass	0.04 dB
5 MHz	0.000 dB		0.07 dB	±1 dB	pass	0.04 dB
10 MHz	0.000 dB		0.04 dB	±1 dB	pass	0.04 dB
20 MHz	0.000 dB		0.02 dB	±1 dB	pass	0.04 dB
100 MHz	0.000 dB		0.06 dB	±1 dB	pass	0.07 dB
200 MHz						



Kalibrier-Zertifikat

Calibration Certificate

MUSTER

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
500 MHz	0.000 dB		0.17 dB	±1 dB		pass 0.07 dB
1000 MHz	0.000 dB		0.11 dB	±1 dB		pass 0.07 dB
2000 MHz	0.000 dB		0.20 dB	±1 dB		pass 0.07 dB
3000 MHz	0.000 dB		-0.00 dB	±1.5 dB		pass 0.07 dB
3000 MHz	0.000 dB		0.29 dB	±1.5 dB		pass 0.07 dB
Output Power Accuracy and Flatness (Port 2)						
	0.000 dBm		-0.24 dBm	±0.8 dB		pass 0.04 dB
Frequency Response relative to 50 MHz						
0.3 MHz	0.000 dB		0.04 dB	±1 dB		pass 0.04 dB
0.5 MHz	0.000 dB		0.04 dB	±1 dB		pass 0.04 dB
1 MHz	0.000 dB		0.05 dB	±1 dB		pass 0.04 dB
2 MHz	0.000 dB		0.07 dB	±1 dB		pass 0.04 dB
5 MHz	0.000 dB		0.06 dB	±1 dB		pass 0.04 dB
10 MHz	0.000 dB		0.04 dB	±1 dB		pass 0.04 dB
20 MHz	0.000 dB		0.02 dB	±1 dB		pass 0.04 dB
100 MHz	0.000 dB		0.06 dB	±1 dB		pass 0.07 dB
200 MHz	0.000 dB		0.15 dB	±1 dB		pass 0.07 dB
500 MHz	0.000 dB		0.08 dB	±1 dB		pass 0.07 dB
1000 MHz	0.000 dB		0.21 dB	±1 dB		pass 0.07 dB
2000 MHz	0.000 dB		-0.02 dB	±1.5 dB		pass 0.07 dB
3000 MHz						



Kalibrier-Zertifikat

Calibration Certificate

MUSTER

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	0.000 dB		0.24 dB	±1.5 dB		pass 0.07 dB
Output Power Linearity (Port 1)						
Tolerance of Absolute Level by Laboratory						
1 MHz						
	-5.000 dBm		-5.18 dBm	±1.5 dB		pass 0.04 dB
	-4.000 dBm		-4.17 dBm	±1.5 dB		pass 0.04 dB
	-3.000 dBm		-3.18 dBm	±1.5 dB		pass 0.04 dB
	-2.000 dBm		-2.18 dBm	±1.5 dB		pass 0.04 dB
	-1.000 dBm		-1.18 dBm	±1.5 dB		pass 0.04 dB
	0.000 dBm		-0.18 dBm	±1.5 dB		pass 0.04 dB
	1.000 dBm		0.81 dBm	±1.5 dB		pass 0.04 dB
	2.000 dBm		1.82 dBm	±1.5 dB		pass 0.04 dB
	3.000 dBm		2.81 dBm	±1.5 dB		pass 0.04 dB
	4.000 dBm		3.81 dBm	±1.5 dB		pass 0.04 dB
	5.000 dBm		4.80 dBm	±1.5 dB		pass 0.04 dB
	6.000 dBm		5.80 dBm	±1.5 dB		pass 0.04 dB
	7.000 dBm		6.79 dBm	±1.5 dB		pass 0.04 dB
	8.000 dBm		7.78 dBm	±1.5 dB		pass 0.04 dB
	9.000 dBm		8.78 dBm	±1.5 dB		pass 0.04 dB
	10.000 dBm		9.78 dBm	±1.5 dB		pass 0.04 dB
Linearity Deviation Max-Min						
	0.000 dB	1MHz	0.05 dB	±1.5 dB	4%	pass
100 MHz						
	-5.000 dBm		-5.17 dBm	±1.5 dB		pass 0.07 dB
	-4.000 dBm		-4.16 dBm	±1.5 dB		pass 0.07 dB
	-3.000 dBm		-3.16 dBm	±1.5 dB		pass 0.07 dB
	-2.000 dBm		-2.16 dBm	±1.5 dB		pass 0.07 dB
	-1.000 dBm		-1.18 dBm	±1.5 dB		pass 0.07 dB
	0.000 dBm		-0.18 dBm	±1.5 dB		pass 0.07 dB
	1.000 dBm		0.82 dBm	±1.5 dB		pass 0.07 dB
	2.000 dBm		1.82 dBm	±1.5 dB		pass 0.07 dB
	3.000 dBm		2.82 dBm	±1.5 dB		pass 0.07 dB
	4.000 dBm		3.82 dBm	±1.5 dB		pass 0.07 dB
	5.000 dBm		4.82 dBm	±1.5 dB		pass 0.07 dB
	6.000 dBm		5.82 dBm	±1.5 dB		pass 0.07 dB
	7.000 dBm		6.82 dBm	±1.5 dB		pass 0.07 dB
	8.000 dBm		7.82 dBm	±1.5 dB		pass 0.07 dB



Kalibrier-Zertifikat

Calibration Certificate

MUSTER

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	9.000 dBm		8.82 dBm	±1.5 dB		pass 0.07 dB
	10.000 dBm		9.82 dBm	±1.5 dB		pass 0.07 dB
Linearity Deviation Max-Min						
	0.000 dB	100MHz	0.02 dB	±1.5 dB	2%	pass
1.5 GHz						
	-5.000 dBm		-4.99 dBm	±1.5 dB		pass 0.07 dB
	-4.000 dBm		-3.99 dBm	±1.5 dB		pass 0.07 dB
	-3.000 dBm		-2.98 dBm	±1.5 dB		pass 0.07 dB
	-2.000 dBm		-1.99 dBm	±1.5 dB		pass 0.07 dB
	-1.000 dBm		-1.00 dBm	±1.5 dB		pass 0.07 dB
	0.000 dBm		0.00 dBm	±1.5 dB		pass 0.07 dB
	1.000 dBm		0.99 dBm	±1.5 dB		pass 0.07 dB
	2.000 dBm		1.98 dBm	±1.5 dB		pass 0.07 dB
	3.000 dBm		2.98 dBm	±1.5 dB		pass 0.07 dB
	4.000 dBm		3.98 dBm	±1.5 dB		pass 0.07 dB
	5.000 dBm		4.97 dBm	±1.5 dB		pass 0.07 dB
	6.000 dBm		5.96 dBm	±1.5 dB		pass 0.07 dB
	7.000 dBm		6.96 dBm	±1.5 dB		pass 0.07 dB
	8.000 dBm		7.95 dBm	±1.5 dB		pass 0.07 dB
	9.000 dBm		8.94 dBm	±1.5 dB		pass 0.07 dB
	10.000 dBm		9.94 dBm	±1.5 dB		pass 0.07 dB
Linearity Deviation Max-Min						
	0.000 dB	1.5GHz	0.07 dB	±1.5 dB	5%	pass
3 GHz						
	-5.000 dBm		-4.92 dBm	±1.5 dB		pass 0.07 dB
	-4.000 dBm		-3.92 dBm	±1.5 dB		pass 0.07 dB
	-3.000 dBm		-2.94 dBm	±1.5 dB		pass 0.07 dB
	-2.000 dBm		-1.95 dBm	±1.5 dB		pass 0.07 dB
	-1.000 dBm		-0.96 dBm	±1.5 dB		pass 0.07 dB
	0.000 dBm		0.04 dBm	±1.5 dB		pass 0.07 dB
	1.000 dBm		1.04 dBm	±1.5 dB		pass 0.07 dB
	2.000 dBm		2.03 dBm	±1.5 dB		pass 0.07 dB
	3.000 dBm		3.02 dBm	±1.5 dB		pass 0.07 dB
	4.000 dBm		4.02 dBm	±1.5 dB		pass 0.07 dB
	5.000 dBm		5.01 dBm	±1.5 dB		pass 0.07 dB
	6.000 dBm		6.01 dBm	±1.5 dB		pass 0.07 dB
	7.000 dBm		7.01 dBm	±1.5 dB		pass 0.07 dB



Kalibrier-Zertifikat

Calibration Certificate

MUSTER

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	8.000 dBm		8.01 dBm	±1.5 dB		pass 0.07 dB
	9.000 dBm		9.01 dBm	±1.5 dB		pass 0.07 dB
	10.000 dBm		10.04 dBm	±1.5 dB		pass 0.97 dB
Linearity Deviation Max-Min						
	0.000 dB	3GHz	0.07 dB	±1.5 dB	5%	pass
Trace Noise Test						
Trace Noise S21, 500 kHz TOL = <0.008 dB, U = N/A						
	Trace Noise = 0.0008 dB (rms)					pass
Trace Noise S21, 50 MHz TOL = <0.005 dB, U = N/A						
	Trace Noise = 0.0018 dB (rms)					pass
Trace Noise S21, 3 GHz TOL = <0.005 dB, U = N/A						
	Trace Noise = 0.0009 dB (rms)					pass
Trace Noise S12, 500 kHz TOL = <0.008 dB, U = N/A						
	Trace Noise = 0.0007 dB (rms)					pass
Trace Noise S12, 50 MHz TOL = <0.005 dB, U = N/A						
	Trace Noise = 0.0017 dB (rms)					pass
Trace Noise S12, 3 GHz TOL = <0.005 dB, U = N/A						
	Trace Noise = 0.0007 dB (rms)					pass
Crosstalk Test						
Port 1-->2						
Crosstalk 1-2, 300kHz - 100MHz TOL = <-110 dB, U = N/A						
	Port 1-2 Crosstalk = -115.82 dB					pass
Crosstalk 1-2, 100MHz - 1.5GHz TOL = <-110 dB, U = N/A						
	Port 1-2 Crosstalk = -116.08 dB					pass
Crosstalk 1-2, 1.5GHz - 3GHz TOL = <-110 dB, U = N/A						
	Port 1-2 Crosstalk = -121.75 dB					pass
Port 2-->1						



Kalibrier-Zertifikat Calibration Certificate

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
Crosstalk 2-1, 300kHz - 100MHz TOL = <-110 dB, U = N/A						
			Port 2-1 Crosstalk = -119.75 dB			pass
Crosstalk 2-1, 100MHz - 1.5GHz TOL = <-110 dB, U = N/A						
			Port 2-1 Crosstalk = -117.01 dB			pass
Crosstalk 2-1, 1.5GHz - 3GHz TOL = <-110 dB, U = N/A						
			Port 2-1 Crosstalk = -121.03 dB			pass
Dynamic Accuracy (S21)						
50 MHz	-10.0460 dB		-10.054 dB	±0.2 dB		pass 0.17 dB
100 MHz	-10.0450 dB		-10.055 dB	±0.2 dB		pass 0.17 dB
500 MHz	-10.030 dB		-10.05 dB	±0.2 dB		pass 0.17 dB
1000 MHz	-10.0180 dB		-10.055 dB	±0.2 dB		pass 0.17 dB
2000 MHz	-10.0230 dB		-10.042 dB	±0.2 dB		pass 0.17 dB
3000 MHz	-10.0240 dB		-10.057 dB	±0.2 dB		pass 0.17 dB
50 MHz	-19.940 dB		-19.95 dB	±0.2 dB		pass 0.17 dB
100 MHz	-19.9370 dB		-19.947 dB	±0.2 dB		pass 0.17 dB
500 MHz	-19.920 dB		-19.94 dB	±0.2 dB		pass 0.17 dB
1000 MHz	-19.9020 dB		-19.931 dB	±0.2 dB		pass 0.17 dB
2000 MHz	-19.9160 dB		-19.948 dB	±0.2 dB		pass 0.17 dB
3000 MHz	-19.9110 dB		-19.948 dB	±0.2 dB		pass 0.17 dB
50 MHz	-29.9860 dB		-29.993 dB	±0.2 dB		pass 0.17 dB
100 MHz						



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	-29.9860 dB		-29.994 dB	±0.2 dB		pass 0.17 dB
500 MHz						
	-29.9650 dB		-29.983 dB	±0.2 dB		pass 0.17 dB
1000 MHz						
	-29.9480 dB		-29.989 dB	±0.2 dB		pass 0.17 dB
2000 MHz						
	-29.9570 dB		-29.978 dB	±0.2 dB		pass 0.17 dB
3000 MHz						
	-29.9610 dB		-29.997 dB	±0.2 dB		pass 0.17 dB
50 MHz						
	-39.6720 dB		-39.671 dB	±0.2 dB		pass 0.17 dB
100 MHz						
	-39.6650 dB		-39.670 dB	±0.2 dB		pass 0.17 dB
500 MHz						
	-39.6420 dB		-39.661 dB	±0.2 dB		pass 0.17 dB
1000 MHz						
	-39.6230 dB		-39.652 dB	±0.2 dB		pass 0.17 dB
2000 MHz						
	-39.6330 dB		-39.662 dB	±0.2 dB		pass 0.17 dB
3000 MHz						
	-39.6410 dB		-39.670 dB	±0.2 dB		pass 0.17 dB
50 MHz						
	-49.7140 dB		-49.717 dB	±0.2 dB		pass 0.17 dB
100 MHz						
	-49.7140 dB		-49.717 dB	±0.2 dB		pass 0.17 dB
500 MHz						
	-49.6910 dB		-49.702 dB	±0.2 dB		pass 0.17 dB
1000 MHz						
	-49.6770 dB		-49.706 dB	±0.2 dB		pass 0.17 dB
2000 MHz						
	-49.6880 dB		-49.698 dB	±0.2 dB		pass 0.17 dB
3000 MHz						
	-49.6980 dB		-49.722 dB	±0.2 dB		pass 0.17 dB
50 MHz						
	-59.6540 dB		-59.621 dB	±0.3 dB		pass 0.17 dB
100 MHz						
	-59.6150 dB		-59.613 dB	±0.3 dB		pass 0.17 dB
500 MHz						
	-59.5850 dB		-59.604 dB	±0.3 dB		pass 0.17 dB
1000 MHz						



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	-59.5730 dB		-59.593 dB	±0.3 dB		pass 0.17 dB
2000 MHz						
	-59.5730 dB		-59.609 dB	±0.3 dB		pass 0.17 dB
3000 MHz						
	-59.5950 dB		-59.632 dB	±0.3 dB		pass 0.17 dB
50 MHz						
	-69.5560 dB		-69.678 dB	±0.5 dB		pass 0.18 dB
100 MHz						
	-69.6750 dB		-69.679 dB	±0.5 dB		pass 0.18 dB
500 MHz						
	-69.6190 dB		-69.674 dB	±0.5 dB		pass 0.18 dB
1000 MHz						
	-69.5580 dB		-69.641 dB	±0.5 dB		pass 0.18 dB
2000 MHz						
	-69.5710 dB		-69.652 dB	±0.5 dB		pass 0.18 dB
3000 MHz						
	-69.6310 dB		-69.665 dB	±0.5 dB		pass 0.18 dB
Dynamic Accuracy (S12)						
50 MHz						
	-10.0460 dB		-10.048 dB	±0.2 dB		pass 0.17 dB
100 MHz						
	-10.0450 dB		-10.048 dB	±0.2 dB		pass 0.17 dB
500 MHz						
	-10.030 dB		-10.04 dB	±0.2 dB		pass 0.17 dB
1000 MHz						
	-10.0180 dB		-10.048 dB	±0.2 dB		pass 0.17 dB
2000 MHz						
	-10.0230 dB		-10.052 dB	±0.2 dB		pass 0.17 dB
3000 MHz						
	-10.0240 dB		-10.049 dB	±0.2 dB		pass 0.17 dB
50 MHz						
	-19.940 dB		-19.94 dB	±0.2 dB		pass 0.17 dB
100 MHz						
	-19.9370 dB		-19.942 dB	±0.2 dB		pass 0.17 dB
500 MHz						
	-19.920 dB		-19.93 dB	±0.2 dB		pass 0.17 dB
1000 MHz						
	-19.9020 dB		-19.943 dB	±0.2 dB		pass 0.17 dB



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
2000 MHz	-19.9160 dB		-19.969 dB	±0.2 dB		pass 0.17 dB
3000 MHz	-19.9110 dB		-19.942 dB	±0.2 dB		pass 0.17 dB
50 MHz	-29.9860 dB		-29.988 dB	±0.2 dB		pass 0.17 dB
100 MHz	-29.9860 dB		-29.988 dB	±0.2 dB		pass 0.17 dB
500 MHz	-29.9650 dB		-29.979 dB	±0.2 dB		pass 0.17 dB
1000 MHz	-29.9480 dB		-29.992 dB	±0.2 dB		pass 0.17 dB
2000 MHz	-29.9570 dB		-30.008 dB	±0.2 dB		pass 0.17 dB
3000 MHz	-29.9610 dB		-29.992 dB	±0.2 dB		pass 0.17 dB
50 MHz	-39.6720 dB		-39.664 dB	±0.2 dB		pass 0.17 dB
100 MHz	-39.6650 dB		-39.665 dB	±0.2 dB		pass 0.17 dB
500 MHz	-39.6420 dB		-39.653 dB	±0.2 dB		pass 0.17 dB
1000 MHz	-39.6230 dB		-39.664 dB	±0.2 dB		pass 0.17 dB
2000 MHz	-39.6330 dB		-39.689 dB	±0.2 dB		pass 0.17 dB
3000 MHz	-39.6410 dB		-39.664 dB	±0.2 dB		pass 0.17 dB
50 MHz	-49.7140 dB		-49.714 dB	±0.2 dB		pass 0.17 dB
100 MHz	-49.7140 dB		-49.714 dB	±0.2 dB		pass 0.17 dB
500 MHz	-49.6910 dB		-49.702 dB	±0.2 dB		pass 0.17 dB
1000 MHz	-49.6770 dB		-49.718 dB	±0.2 dB		pass 0.17 dB
2000 MHz	-49.6880 dB		-49.735 dB	±0.2 dB		pass 0.17 dB
3000 MHz	-49.6980 dB		-49.719 dB	±0.2 dB		pass 0.17 dB



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
50 MHz	-59.6540 dB		-59.603 dB	±0.3 dB		pass 0.16 dB
100 MHz	-59.6150 dB		-59.613 dB	±0.3 dB		pass 0.17 dB
500 MHz	-59.5850 dB		-59.589 dB	±0.3 dB		pass 0.17 dB
1000 MHz	-59.5730 dB		-59.621 dB	±0.3 dB		pass 0.17 dB
2000 MHz	-59.5730 dB		-59.627 dB	±0.3 dB		pass 0.17 dB
3000 MHz	-59.5950 dB		-59.607 dB	±0.3 dB		pass 0.17 dB
50 MHz	-69.5560 dB		-69.653 dB	±0.5 dB		pass 0.18 dB
100 MHz	-69.6750 dB		-69.656 dB	±0.5 dB		pass 0.18 dB
500 MHz	-69.6190 dB		-69.641 dB	±0.5 dB		pass 0.18 dB
1000 MHz	-69.5580 dB		-69.697 dB	±0.5 dB		pass 0.18 dB
2000 MHz	-69.5710 dB		-69.672 dB	±0.5 dB		pass 0.18 dB
3000 MHz	-69.6310 dB		-69.680 dB	±0.5 dB		pass 0.18 dB
Uncorrected System Performance						
with laboratory provided cable: Agilent 8120-8862						
Directivity, Port 1						
0.3 MHz	25.00 dB		53.5 dB	-0/ +75 dB		pass 0.50 dB
100 MHz	25.00 dB		56.1 dB	-0/ +75 dB		pass 0.50 dB
200 MHz	25.00 dB		55.3 dB	-0/ +75 dB		pass 0.50 dB
300 MHz	25.00 dB		53.3 dB	-0/ +75 dB		pass 0.50 dB
400 MHz	25.00 dB		52.1 dB	-0/ +75 dB		pass 0.50 dB



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
500 MHz	25.00 dB		50.7 dB	-0/ +75 dB		pass 0.50 dB
600 MHz	25.00 dB		50.3 dB	-0/ +75 dB		pass 0.50 dB
700 MHz	25.00 dB		49.7 dB	-0/ +75 dB		pass 0.50 dB
800 MHz	25.00 dB		49.3 dB	-0/ +75 dB		pass 0.50 dB
900 MHz	25.00 dB		48.5 dB	-0/ +75 dB		pass 0.50 dB
1000 MHz	25.00 dB		47.8 dB	-0/ +75 dB		pass 0.50 dB
1100 MHz	25.00 dB		47.6 dB	-0/ +75 dB		pass 0.50 dB
1200 MHz	25.00 dB		48.1 dB	-0/ +75 dB		pass 0.50 dB
1300 MHz	25.00 dB		48.3 dB	-0/ +75 dB		pass 0.50 dB
1400 MHz	25.00 dB		48.4 dB	-0/ +75 dB		pass 0.50 dB
1500 MHz	25.00 dB		48.3 dB	-0/ +75 dB		pass 0.50 dB
1600 MHz	25.00 dB		48.5 dB	-0/ +75 dB		pass 0.50 dB
1700 MHz	25.00 dB		48.6 dB	-0/ +75 dB		pass 0.50 dB
1800 MHz	25.00 dB		48.5 dB	-0/ +75 dB		pass 0.50 dB
1900 MHz	25.00 dB		48.4 dB	-0/ +75 dB		pass 0.50 dB
2000 MHz	25.00 dB		48.3 dB	-0/ +75 dB		pass 0.50 dB
2100 MHz	25.00 dB		48.0 dB	-0/ +75 dB		pass 0.50 dB
2200 MHz	25.00 dB		48.2 dB	-0/ +75 dB		pass 0.50 dB
2300 MHz	25.00 dB		48.3 dB	-0/ +75 dB		pass 0.50 dB
2400 MHz	25.00 dB		48.2 dB	-0/ +75 dB		pass 0.50 dB
2500 MHz	25.00 dB		48.5 dB	-0/ +75 dB		pass 0.50 dB
2600 MHz						



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	25.00 dB		49.7 dB	-0/ +75 dB		pass 0.50 dB
2700 MHz	25.00 dB		52.1 dB	-0/ +75 dB		pass 0.50 dB
2800 MHz	25.00 dB		55.3 dB	-0/ +75 dB		pass 0.50 dB
2900 MHz	25.00 dB		62.1 dB	-0/ +75 dB		pass 0.50 dB
3000 MHz	25.00 dB		71.2 dB	-0/ +75 dB		pass 0.50 dB
Directivity, Port 2						
0.3 MHz	25.00 dB		41.8 dB	-0/ +75 dB		pass 0.50 dB
100 MHz	25.00 dB		59.3 dB	-0/ +75 dB		pass 0.50 dB
200 MHz	25.00 dB		58.1 dB	-0/ +75 dB		pass 0.50 dB
300 MHz	25.00 dB		55.0 dB	-0/ +75 dB		pass 0.50 dB
400 MHz	25.00 dB		52.3 dB	-0/ +75 dB		pass 0.50 dB
500 MHz	25.00 dB		49.6 dB	-0/ +75 dB		pass 0.50 dB
600 MHz	25.00 dB		47.2 dB	-0/ +75 dB		pass 0.50 dB
700 MHz	25.00 dB		45.4 dB	-0/ +75 dB		pass 0.50 dB
800 MHz	25.00 dB		43.8 dB	-0/ +75 dB		pass 0.50 dB
900 MHz	25.00 dB		42.2 dB	-0/ +75 dB		pass 0.50 dB
1000 MHz	25.00 dB		41.1 dB	-0/ +75 dB		pass 0.50 dB
1100 MHz	25.00 dB		40.1 dB	-0/ +75 dB		pass 0.50 dB
1200 MHz	25.00 dB		39.1 dB	-0/ +75 dB		pass 0.50 dB
1300 MHz	25.00 dB		38.3 dB	-0/ +75 dB		pass 0.50 dB
1400 MHz	25.00 dB		37.7 dB	-0/ +75 dB		pass 0.50 dB
1500 MHz	25.00 dB		37.1 dB	-0/ +75 dB		pass 0.50 dB



Kalibrier-Zertifikat Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
1600 MHz	25.00 dB		36.8 dB	-0/ +75 dB		pass 0.50 dB
1700 MHz	25.00 dB		36.6 dB	-0/ +75 dB		pass 0.50 dB
1800 MHz	25.00 dB		36.5 dB	-0/ +75 dB		pass 0.50 dB
1900 MHz	25.00 dB		36.2 dB	-0/ +75 dB		pass 0.50 dB
2000 MHz	25.00 dB		36.2 dB	-0/ +75 dB		pass 0.50 dB
2100 MHz	25.00 dB		36.4 dB	-0/ +75 dB		pass 0.50 dB
2200 MHz	25.00 dB		36.4 dB	-0/ +75 dB		pass 0.50 dB
2300 MHz	25.00 dB		36.4 dB	-0/ +75 dB		pass 0.50 dB
2400 MHz	25.00 dB		36.5 dB	-0/ +75 dB		pass 0.50 dB
2500 MHz	25.00 dB		36.7 dB	-0/ +75 dB		pass 0.50 dB
2600 MHz	25.00 dB		36.7 dB	-0/ +75 dB		pass 0.50 dB
2700 MHz	25.00 dB		36.3 dB	-0/ +75 dB		pass 0.50 dB
2800 MHz	25.00 dB		35.6 dB	-0/ +75 dB		pass 0.50 dB
2900 MHz	25.00 dB		34.7 dB	-0/ +75 dB		pass 0.50 dB
3000 MHz	25.00 dB		33.8 dB	-0/ +75 dB		pass 0.50 dB
Source Match, Port 1						
0.3 MHz	25.00 dB		50.8 dB	-0/ +75 dB		pass 0.50 dB
100 MHz	25.00 dB		56.2 dB	-0/ +75 dB		pass 0.50 dB
200 MHz	25.00 dB		54.8 dB	-0/ +75 dB		pass 0.50 dB
300 MHz	25.00 dB		52.8 dB	-0/ +75 dB		pass 0.50 dB
400 MHz	25.00 dB		51.3 dB	-0/ +75 dB		pass 0.50 dB
500 MHz						



Kalibrier-Zertifikat Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	25.00 dB		50.3 dB	-0/ +75 dB		pass 0.50 dB
600 MHz	25.00 dB		49.7 dB	-0/ +75 dB		pass 0.50 dB
700 MHz	25.00 dB		48.9 dB	-0/ +75 dB		pass 0.50 dB
800 MHz	25.00 dB		48.4 dB	-0/ +75 dB		pass 0.50 dB
900 MHz	25.00 dB		48.6 dB	-0/ +75 dB		pass 0.50 dB
1000 MHz	25.00 dB		48.5 dB	-0/ +75 dB		pass 0.50 dB
1100 MHz	25.00 dB		47.1 dB	-0/ +75 dB		pass 0.50 dB
1200 MHz	25.00 dB		46.4 dB	-0/ +75 dB		pass 0.50 dB
1300 MHz	25.00 dB		46.0 dB	-0/ +75 dB		pass 0.50 dB
1400 MHz	25.00 dB		45.3 dB	-0/ +75 dB		pass 0.50 dB
1500 MHz	25.00 dB		45.0 dB	-0/ +75 dB		pass 0.50 dB
1600 MHz	25.00 dB		44.9 dB	-0/ +75 dB		pass 0.50 dB
1700 MHz	25.00 dB		45.2 dB	-0/ +75 dB		pass 0.50 dB
1800 MHz	25.00 dB		45.9 dB	-0/ +75 dB		pass 0.50 dB
1900 MHz	25.00 dB		46.8 dB	-0/ +75 dB		pass 0.50 dB
2000 MHz	25.00 dB		48.9 dB	-0/ +75 dB		pass 0.50 dB
2100 MHz	25.00 dB		51.3 dB	-0/ +75 dB		pass 0.50 dB
2200 MHz	25.00 dB		52.4 dB	-0/ +75 dB		pass 0.50 dB
2300 MHz	25.00 dB		51.3 dB	-0/ +75 dB		pass 0.50 dB
2400 MHz	25.00 dB		48.9 dB	-0/ +75 dB		pass 0.50 dB
2500 MHz	25.00 dB		46.9 dB	-0/ +75 dB		pass 0.50 dB
2600 MHz	25.00 dB		45.3 dB	-0/ +75 dB		pass 0.50 dB



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
2700 MHz	25.00 dB		44.2 dB	-0/ +75 dB		pass 0.50 dB
2800 MHz	25.00 dB		43.5 dB	-0/ +75 dB		pass 0.50 dB
2900 MHz	25.00 dB		42.9 dB	-0/ +75 dB		pass 0.50 dB
3000 MHz	25.00 dB		42.2 dB	-0/ +75 dB		pass 0.50 dB
Source Match, Port 2						
0.3 MHz	25.00 dB		45.1 dB	-0/ +75 dB		pass 0.50 dB
100 MHz	25.00 dB		49.9 dB	-0/ +75 dB		pass 0.50 dB
200 MHz	25.00 dB		47.4 dB	-0/ +75 dB		pass 0.50 dB
300 MHz	25.00 dB		46.2 dB	-0/ +75 dB		pass 0.50 dB
400 MHz	25.00 dB		45.4 dB	-0/ +75 dB		pass 0.50 dB
500 MHz	25.00 dB		45.7 dB	-0/ +75 dB		pass 0.50 dB
600 MHz	25.00 dB		46.8 dB	-0/ +75 dB		pass 0.50 dB
700 MHz	25.00 dB		48.4 dB	-0/ +75 dB		pass 0.50 dB
800 MHz	25.00 dB		50.4 dB	-0/ +75 dB		pass 0.50 dB
900 MHz	25.00 dB		51.8 dB	-0/ +75 dB		pass 0.50 dB
1000 MHz	25.00 dB		51.6 dB	-0/ +75 dB		pass 0.50 dB
1100 MHz	25.00 dB		49.4 dB	-0/ +75 dB		pass 0.50 dB
1200 MHz	25.00 dB		47.2 dB	-0/ +75 dB		pass 0.50 dB
1300 MHz	25.00 dB		44.9 dB	-0/ +75 dB		pass 0.50 dB
1400 MHz	25.00 dB		42.7 dB	-0/ +75 dB		pass 0.50 dB
1500 MHz	25.00 dB		40.4 dB	-0/ +75 dB		pass 0.50 dB
1600 MHz						



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	25.00 dB		38.5 dB	-0/ +75 dB		pass 0.50 dB
1700 MHz	25.00 dB		37.1 dB	-0/ +75 dB		pass 0.50 dB
1800 MHz	25.00 dB		35.9 dB	-0/ +75 dB		pass 0.50 dB
1900 MHz	25.00 dB		35.4 dB	-0/ +75 dB		pass 0.50 dB
2000 MHz	25.00 dB		35.2 dB	-0/ +75 dB		pass 0.50 dB
2100 MHz	25.00 dB		35.3 dB	-0/ +75 dB		pass 0.50 dB
2200 MHz	25.00 dB		35.9 dB	-0/ +75 dB		pass 0.50 dB
2300 MHz	25.00 dB		36.5 dB	-0/ +75 dB		pass 0.50 dB
2400 MHz	25.00 dB		36.9 dB	-0/ +75 dB		pass 0.50 dB
2500 MHz	25.00 dB		36.8 dB	-0/ +75 dB		pass 0.50 dB
2600 MHz	25.00 dB		36.4 dB	-0/ +75 dB		pass 0.50 dB
2700 MHz	25.00 dB		36.0 dB	-0/ +75 dB		pass 0.50 dB
2800 MHz	25.00 dB		35.3 dB	-0/ +75 dB		pass 0.50 dB
2900 MHz	25.00 dB		34.6 dB	-0/ +75 dB		pass 0.50 dB
3000 MHz	25.00 dB		34.0 dB	-0/ +75 dB		pass 0.50 dB
Load Match, Port 1						
0.3 MHz	15.00 dB		22.7 dB	-0/ +85 dB		pass 0.50 dB
100 MHz	15.00 dB		33.3 dB	-0/ +85 dB		pass 0.50 dB
200 MHz	15.00 dB		29.3 dB	-0/ +85 dB		pass 0.50 dB
300 MHz	15.00 dB		29.1 dB	-0/ +85 dB		pass 0.50 dB
400 MHz	15.00 dB		32.9 dB	-0/ +85 dB		pass 0.50 dB
500 MHz	15.00 dB		31.4 dB	-0/ +85 dB		pass 0.50 dB



Kalibrier-Zertifikat Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
600 MHz	15.00 dB		34.1 dB	-0/ +85 dB		pass 0.50 dB
700 MHz	15.00 dB		40.0 dB	-0/ +85 dB		pass 0.50 dB
800 MHz	15.00 dB		39.8 dB	-0/ +85 dB		pass 0.50 dB
900 MHz	15.00 dB		47.0 dB	-0/ +85 dB		pass 0.50 dB
1000 MHz	15.00 dB		32.4 dB	-0/ +85 dB		pass 0.50 dB
1100 MHz	15.00 dB		27.6 dB	-0/ +85 dB		pass 0.50 dB
1200 MHz	15.00 dB		34.1 dB	-0/ +85 dB		pass 0.50 dB
1300 MHz	15.00 dB		28.8 dB	-0/ +85 dB		pass 0.50 dB
1400 MHz	15.00 dB		28.5 dB	-0/ +85 dB		pass 0.50 dB
1500 MHz	15.00 dB		32.3 dB	-0/ +85 dB		pass 0.50 dB
1600 MHz	15.00 dB		34.1 dB	-0/ +85 dB		pass 0.50 dB
1700 MHz	15.00 dB		33.0 dB	-0/ +85 dB		pass 0.50 dB
1800 MHz	15.00 dB		39.1 dB	-0/ +85 dB		pass 0.50 dB
1900 MHz	15.00 dB		28.7 dB	-0/ +85 dB		pass 0.50 dB
2000 MHz	15.00 dB		26.6 dB	-0/ +85 dB		pass 0.50 dB
2100 MHz	15.00 dB		38.7 dB	-0/ +85 dB		pass 0.50 dB
2200 MHz	15.00 dB		32.9 dB	-0/ +85 dB		pass 0.50 dB
2300 MHz	15.00 dB		35.0 dB	-0/ +85 dB		pass 0.50 dB
2400 MHz	15.00 dB		39.6 dB	-0/ +85 dB		pass 0.50 dB
2500 MHz	15.00 dB		30.5 dB	-0/ +85 dB		pass 0.50 dB
2600 MHz	15.00 dB		26.5 dB	-0/ +85 dB		pass 0.50 dB
2700 MHz						



Kalibrier-Zertifikat Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	15.00 dB		42.5 dB	-0/ +85 dB		pass 0.50 dB
2800 MHz	15.00 dB		23.2 dB	-0/ +85 dB		pass 0.50 dB
2900 MHz	15.00 dB		23.6 dB	-0/ +85 dB		pass 0.50 dB
3000 MHz	15.00 dB		36.7 dB	-0/ +85 dB		pass 0.50 dB
Load Match, Port 2						
0.3 MHz	15.00 dB		22.7 dB	-0/ +85 dB		pass 0.50 dB
100 MHz	15.00 dB		32.1 dB	-0/ +85 dB		pass 0.50 dB
200 MHz	15.00 dB		28.8 dB	-0/ +85 dB		pass 0.50 dB
300 MHz	15.00 dB		30.9 dB	-0/ +85 dB		pass 0.50 dB
400 MHz	15.00 dB		32.8 dB	-0/ +85 dB		pass 0.50 dB
500 MHz	15.00 dB		29.2 dB	-0/ +85 dB		pass 0.50 dB
600 MHz	15.00 dB		33.5 dB	-0/ +85 dB		pass 0.50 dB
700 MHz	15.00 dB		31.7 dB	-0/ +85 dB		pass 0.50 dB
800 MHz	15.00 dB		37.2 dB	-0/ +85 dB		pass 0.50 dB
900 MHz	15.00 dB		34.7 dB	-0/ +85 dB		pass 0.50 dB
1000 MHz	15.00 dB		36.2 dB	-0/ +85 dB		pass 0.50 dB
1100 MHz	15.00 dB		38.5 dB	-0/ +85 dB		pass 0.50 dB
1200 MHz	15.00 dB		37.3 dB	-0/ +85 dB		pass 0.50 dB
1300 MHz	15.00 dB		30.8 dB	-0/ +85 dB		pass 0.50 dB
1400 MHz	15.00 dB		34.6 dB	-0/ +85 dB		pass 0.50 dB
1500 MHz	15.00 dB		35.6 dB	-0/ +85 dB		pass 0.50 dB
1600 MHz	15.00 dB		33.6 dB	-0/ +85 dB		pass 0.50 dB



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
1700 MHz	15.00 dB		27.6 dB	-0/ +85 dB		pass 0.50 dB
1800 MHz	15.00 dB		31.2 dB	-0/ +85 dB		pass 0.50 dB
1900 MHz	15.00 dB		31.0 dB	-0/ +85 dB		pass 0.50 dB
2000 MHz	15.00 dB		25.7 dB	-0/ +85 dB		pass 0.50 dB
2100 MHz	15.00 dB		30.7 dB	-0/ +85 dB		pass 0.50 dB
2200 MHz	15.00 dB		32.3 dB	-0/ +85 dB		pass 0.50 dB
2300 MHz	15.00 dB		34.7 dB	-0/ +85 dB		pass 0.50 dB
2400 MHz	15.00 dB		45.2 dB	-0/ +85 dB		pass 0.50 dB
2500 MHz	15.00 dB		31.2 dB	-0/ +85 dB		pass 0.50 dB
2600 MHz	15.00 dB		27.6 dB	-0/ +85 dB		pass 0.50 dB
2700 MHz	15.00 dB		31.2 dB	-0/ +85 dB		pass 0.50 dB
2800 MHz	15.00 dB		22.0 dB	-0/ +85 dB		pass 0.50 dB
2900 MHz	15.00 dB		24.9 dB	-0/ +85 dB		pass 0.50 dB
3000 MHz	15.00 dB		27.6 dB	-0/ +85 dB		pass 0.50 dB
Reflection Tracking, Port 1						
0.3 MHz	0.000 dB		-0.04 dB	±1 dB		pass 0.10 dB
100 MHz	0.000 dB		-0.01 dB	±1 dB		pass 0.10 dB
200 MHz	0.000 dB		-0.01 dB	±1 dB		pass 0.10 dB
300 MHz	0.000 dB		-0.01 dB	±1 dB		pass 0.10 dB
400 MHz	0.000 dB		-0.03 dB	±1 dB		pass 0.10 dB
500 MHz	0.000 dB		-0.04 dB	±1 dB		pass 0.10 dB
600 MHz						



Kalibrier-Zertifikat Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	0.000 dB		-0.05 dB	±1 dB		pass 0.10 dB
700 MHz	0.000 dB		-0.04 dB	±1 dB		pass 0.10 dB
800 MHz	0.000 dB		-0.02 dB	±1 dB		pass 0.10 dB
900 MHz	0.000 dB		-0.01 dB	±1 dB		pass 0.10 dB
1000 MHz	0.000 dB		-0.05 dB	±1 dB		pass 0.10 dB
1100 MHz	0.000 dB		-0.08 dB	±1 dB		pass 0.10 dB
1200 MHz	0.000 dB		-0.05 dB	±1 dB		pass 0.10 dB
1300 MHz	0.000 dB		-0.04 dB	±1 dB		pass 0.10 dB
1400 MHz	0.000 dB		-0.04 dB	±1 dB		pass 0.10 dB
1500 MHz	0.000 dB		-0.06 dB	±1 dB		pass 0.10 dB
1600 MHz	0.000 dB		-0.05 dB	±1 dB		pass 0.10 dB
1700 MHz	0.000 dB		-0.05 dB	±1 dB		pass 0.10 dB
1800 MHz	0.000 dB		-0.04 dB	±1 dB		pass 0.10 dB
1900 MHz	0.000 dB		-0.06 dB	±1 dB		pass 0.10 dB
2000 MHz	0.000 dB		-0.03 dB	±1 dB		pass 0.10 dB
2100 MHz	0.000 dB		-0.03 dB	±1 dB		pass 0.10 dB
2200 MHz	0.000 dB		-0.03 dB	±1 dB		pass 0.10 dB
2300 MHz	0.000 dB		-0.03 dB	±1 dB		pass 0.10 dB
2400 MHz	0.000 dB		-0.04 dB	±1 dB		pass 0.10 dB
2500 MHz	0.000 dB		-0.05 dB	±1 dB		pass 0.10 dB
2600 MHz	0.000 dB		-0.06 dB	±1 dB		pass 0.10 dB
2700 MHz	0.000 dB		-0.08 dB	±1 dB		pass 0.10 dB



Kalibrier-Zertifikat Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
2800 MHz	0.000 dB		-0.08 dB	±1 dB		pass 0.10 dB
2900 MHz	0.000 dB		-0.09 dB	±1 dB		pass 0.10 dB
3000 MHz	0.000 dB		-0.06 dB	±1 dB		pass 0.10 dB
Reflection Tracking, Port 2						
0.3 MHz	0.000 dB		-0.07 dB	±1 dB		pass 0.10 dB
100 MHz	0.000 dB		0.00 dB	±1 dB		pass 0.10 dB
200 MHz	0.000 dB		0.00 dB	±1 dB		pass 0.10 dB
300 MHz	0.000 dB		0.00 dB	±1 dB		pass 0.10 dB
400 MHz	0.000 dB		0.00 dB	±1 dB		pass 0.10 dB
500 MHz	0.000 dB		0.00 dB	±1 dB		pass 0.10 dB
600 MHz	0.000 dB		0.01 dB	±1 dB		pass 0.10 dB
700 MHz	0.000 dB		0.01 dB	±1 dB		pass 0.10 dB
800 MHz	0.000 dB		-0.01 dB	±1 dB		pass 0.10 dB
900 MHz	0.000 dB		-0.00 dB	±1 dB		pass 0.10 dB
1000 MHz	0.000 dB		0.00 dB	±1 dB		pass 0.10 dB
1100 MHz	0.000 dB		0.02 dB	±1 dB		pass 0.10 dB
1200 MHz	0.000 dB		0.00 dB	±1 dB		pass 0.10 dB
1300 MHz	0.000 dB		-0.00 dB	±1 dB		pass 0.10 dB
1400 MHz	0.000 dB		-0.00 dB	±1 dB		pass 0.10 dB
1500 MHz	0.000 dB		-0.01 dB	±1 dB		pass 0.10 dB
1600 MHz	0.000 dB		-0.01 dB	±1 dB		pass 0.10 dB
1700 MHz						



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	0.000 dB		0.01 dB	±1 dB		pass 0.10 dB
1800 MHz						
	0.000 dB		-0.02 dB	±1 dB		pass 0.10 dB
1900 MHz						
	0.000 dB		0.01 dB	±1 dB		pass 0.10 dB
2000 MHz						
	0.000 dB		0.01 dB	±1 dB		pass 0.10 dB
2100 MHz						
	0.000 dB		0.01 dB	±1 dB		pass 0.10 dB
2200 MHz						
	0.000 dB		0.02 dB	±1 dB		pass 0.10 dB
2300 MHz						
	0.000 dB		0.02 dB	±1 dB		pass 0.10 dB
2400 MHz						
	0.000 dB		0.02 dB	±1 dB		pass 0.10 dB
2500 MHz						
	0.000 dB		0.01 dB	±1 dB		pass 0.10 dB
2600 MHz						
	0.000 dB		0.01 dB	±1 dB		pass 0.10 dB
2700 MHz						
	0.000 dB		0.02 dB	±1 dB		pass 0.10 dB
2800 MHz						
	0.000 dB		0.01 dB	±1 dB		pass 0.10 dB
2900 MHz						
	0.000 dB		0.00 dB	±1 dB		pass 0.10 dB
3000 MHz						
	0.000 dB		-0.02 dB	±1 dB		pass 0.10 dB
Transmission Tracking, Port 1						
0.3 MHz						
	0.000 dB		-0.02 dB	±1 dB		pass 0.10 dB
100 MHz						
	0.000 dB		0.05 dB	±1 dB		pass 0.10 dB
200 MHz						
	0.000 dB		0.07 dB	±1 dB		pass 0.10 dB
300 MHz						
	0.000 dB		0.10 dB	±1 dB		pass 0.10 dB
400 MHz						
	0.000 dB		0.10 dB	±1 dB		pass 0.10 dB
500 MHz						
	0.000 dB		0.12 dB	±1 dB		pass 0.10 dB
600 MHz						
	0.000 dB		0.11 dB	±1 dB		pass 0.10 dB



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
700 MHz	0.000 dB		0.12 dB	±1 dB		pass 0.10 dB
800 MHz	0.000 dB		0.15 dB	±1 dB		pass 0.10 dB
900 MHz	0.000 dB		0.19 dB	±1 dB		pass 0.10 dB
1000 MHz	0.000 dB		0.17 dB	±1 dB		pass 0.10 dB
1100 MHz	0.000 dB		0.17 dB	±1 dB		pass 0.10 dB
1200 MHz	0.000 dB		0.17 dB	±1 dB		pass 0.10 dB
1300 MHz	0.000 dB		0.20 dB	±1 dB		pass 0.10 dB
1400 MHz	0.000 dB		0.22 dB	±1 dB		pass 0.10 dB
1500 MHz	0.000 dB		0.21 dB	±1 dB		pass 0.10 dB
1600 MHz	0.000 dB		0.22 dB	±1 dB		pass 0.10 dB
1700 MHz	0.000 dB		0.24 dB	±1 dB		pass 0.10 dB
1800 MHz	0.000 dB		0.25 dB	±1 dB		pass 0.10 dB
1900 MHz	0.000 dB		0.26 dB	±1 dB		pass 0.10 dB
2000 MHz	0.000 dB		0.30 dB	±1 dB		pass 0.10 dB
2100 MHz	0.000 dB		0.30 dB	±1 dB		pass 0.10 dB
2200 MHz	0.000 dB		0.31 dB	±1 dB		pass 0.10 dB
2300 MHz	0.000 dB		0.31 dB	±1 dB		pass 0.10 dB
2400 MHz	0.000 dB		0.30 dB	±1 dB		pass 0.10 dB
2500 MHz	0.000 dB		0.26 dB	±1 dB		pass 0.10 dB
2600 MHz	0.000 dB		0.28 dB	±1 dB		pass 0.10 dB
2700 MHz	0.000 dB		0.26 dB	±1 dB		pass 0.10 dB
2800 MHz						



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
	0.000 dB		0.27 dB	±1 dB		pass 0.10 dB
2900 MHz						
	0.000 dB		0.28 dB	±1 dB		pass 0.10 dB
3000 MHz						
	0.000 dB		0.28 dB	±1 dB		pass 0.10 dB
Transmission Tracking, Port 2						
0.3 MHz						
	0.000 dB		-0.09 dB	±1 dB		pass 0.10 dB
100 MHz						
	0.000 dB		0.06 dB	±1 dB		pass 0.10 dB
200 MHz						
	0.000 dB		0.09 dB	±1 dB		pass 0.10 dB
300 MHz						
	0.000 dB		0.12 dB	±1 dB		pass 0.10 dB
400 MHz						
	0.000 dB		0.13 dB	±1 dB		pass 0.10 dB
500 MHz						
	0.000 dB		0.16 dB	±1 dB		pass 0.10 dB
600 MHz						
	0.000 dB		0.18 dB	±1 dB		pass 0.10 dB
700 MHz						
	0.000 dB		0.21 dB	±1 dB		pass 0.10 dB
800 MHz						
	0.000 dB		0.20 dB	±1 dB		pass 0.10 dB
900 MHz						
	0.000 dB		0.21 dB	±1 dB		pass 0.10 dB
1000 MHz						
	0.000 dB		0.22 dB	±1 dB		pass 0.10 dB
1100 MHz						
	0.000 dB		0.24 dB	±1 dB		pass 0.10 dB
1200 MHz						
	0.000 dB		0.27 dB	±1 dB		pass 0.10 dB
1300 MHz						
	0.000 dB		0.27 dB	±1 dB		pass 0.10 dB
1400 MHz						
	0.000 dB		0.28 dB	±1 dB		pass 0.10 dB
1500 MHz						
	0.000 dB		0.28 dB	±1 dB		pass 0.10 dB
1600 MHz						
	0.000 dB		0.29 dB	±1 dB		pass 0.10 dB
1700 MHz						
	0.000 dB		0.31 dB	±1 dB		pass 0.10 dB



Kalibrier-Zertifikat

Calibration Certificate

3576208

Bereich Range	Referenzwert (Normal) Reference value	Messbedingung Measuring condition	Angezeigter Wert UUT Indicated value UUT	zulässige Abweichung allowed deviation	Ausnutzung der Abw. in % Utilization of allowed dev. in %	zul. Messunsicherheit (k=2) Measuring uncertainty (k=2)
1800 MHz	0.000 dB		0.29 dB	±1 dB	pass	0.10 dB
1900 MHz	0.000 dB		0.31 dB	±1 dB	pass	0.10 dB
2000 MHz	0.000 dB		0.33 dB	±1 dB	pass	0.10 dB
2100 MHz	0.000 dB		0.33 dB	±1 dB	pass	0.10 dB
2200 MHz	0.000 dB		0.36 dB	±1 dB	pass	0.10 dB
2300 MHz	0.000 dB		0.36 dB	±1 dB	pass	0.10 dB
2400 MHz	0.000 dB		0.37 dB	±1 dB	pass	0.10 dB
2500 MHz	0.000 dB		0.38 dB	±1 dB	pass	0.10 dB
2600 MHz	0.000 dB		0.41 dB	±1 dB	pass	0.10 dB
2700 MHz	0.000 dB		0.40 dB	±1 dB	pass	0.10 dB
2800 MHz	0.000 dB		0.43 dB	±1 dB	pass	0.10 dB
2900 MHz	0.000 dB		0.45 dB	±1 dB	pass	0.10 dB
3000 MHz	0.000 dB		0.42 dB	±1 dB	pass	0.10 dB

zulässige Abweichung gemäß Herstellerangabe.
allowed deviation in accordance with manufacturer.

Die dimensionslosen Anteile der Messunsicherheit U sind als relative Messunsicherheiten e bezogen auf den Messwert zu verstehen ($U = e \cdot MW$).

The non-dimensional fractions of the measuring uncertainty U are relative values e in relation to the indicated value ($U = e \cdot i.v.$).

Ausnutzung der zul. Abw. in % = $|Abweichung| / \text{zul. Abw.}$

Utilization of allowed dev. in % = $|deviation| / \text{allowed dev.}$