



# Kalibrier-Zertifikat

# Calibration Certificate

# MUSTER

Gegenstand Object	Signalgenerator
Hersteller Manufacturer	RIGOL Technologies Inc.
Typ Type description	DSG830
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	08.04.2020
Datum der empfohlenen Rekalibrierung Date of the recommended re-calibration	08.04.2021

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 Abweichung<sup>1)</sup>. Measured value(s) within the allowed deviation<sup>1)</sup>.  
 Messwert(e) außerhalb der zulässigen Abweichung<sup>1)</sup>. Measured value(s) beyond the allowed deviation<sup>1)</sup>.

<sup>1)</sup> 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.  
<sup>1)</sup> 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



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## Messeinrichtung Measuring equipment

Referenz Reference	Rückführung Traceability	Rekal. Next cal.	Zertifikat-Nr. Certificate-no.	EQ-Nr. EQ-no.
Signal Generator Agilent E8257D	GPS locked ---	---	Support device	10971083
Spektrumanalyzer Rohde & Schwarz FSEK30	15070-01-01 2019-11	2020-11	E109183	10971094
Audio Analyzer HEWLETT PACKARD 8903B	15070-01-01 2019-10	2020-10	E106572	11307396
Frequenzzähler HEWLETT PACKARD 5335A	GPS locked ---	---	Support device	11374124
Microwave Counter EIP 578B	GPS locked ---	---	Support Device	12018663
Leistungssensor Keysight E9304A H18	15070-01-01 2019-12	2020-12	E110017	13857669

Referenzzertifikate sind auf [www.primasonline.com](http://www.primasonline.com) abrufbar Reference certificates are available at [www.primasonline.com](http://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:Rigol:DSG830:TISSD:SG / Rev.:1.0

## Messergebnisse Measuring results

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## Besondere Bemerkungen Special remarks

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Calibration conforms to VDI/VDE/DGQ/DKD 2622 Sep.2003						
<b>Device Identification</b>						
Manufacturer:----->Rigol Technologies						
Model:----->DSG830						
Serial Number:----->DSG8E190400001						
Softwarerevision:----->00.01.06						
<b>Options:</b>						
-NONE						
<b>Function</b>						
Rotary Knob						pass
Keyboard						pass
Display						pass
<b>10 MHz Reference Frequency Accuracy</b>						
* Drift not tested						
	9.99999930 MHz		10.0000000 MHz	±0.00002 MHz	4%	pass 0.12 Hz
<b>Frequency deviation of synthesis</b>						
<b>Output level @ 0 dBm</b>						
	1000.000000 MHz		1000.00000 MHz	±0.001 MHz	0%	pass 12 Hz
	3.00000000 GHz		3.0000000 GHz	±0.000003 GHz	0%	pass 35 Hz
	9.000000530 kHz		9.000000000 kHz	±0.000009 kHz	6%	pass 0.10 mHz
	10.00000040 kHz		10.0000000 kHz	±0.00001 kHz	4%	pass 0.12 mHz
	100.0000000 kHz		100.0000000 kHz	±0.0001 kHz	0%	pass 1.2 mHz
	1000.000000 kHz		1000.00000 kHz	±0.001 kHz	0%	pass 12 mHz
	10.00000000 MHz		10.0000000 MHz	±0.00001 MHz	0%	pass 0.12 Hz
	100.0000000 MHz		100.0000000 MHz	±0.0001 MHz	0%	pass 1.2 Hz
<b>Harmonic purity/subharmonics</b>						
<b>Output level @ 13 dBm</b>						



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<b>2nd harmonic for carrier frequency 50 MHz (Tol. -30 dBc)</b>						
	-42.902 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>3rd harmonic for carrier frequency 50 MHz (Tol. -30 dBc)</b>						
	-41.419 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>Sub-harmonic (f/2) for carrier frequency 50 MHz (Tol. -30 dBc)</b>						
	-94.693 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>2nd harmonic for carrier frequency 300 MHz (Tol. -30 dBc)</b>						
	-37.527 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>3rd harmonic for carrier frequency 300 MHz (Tol. -30 dBc)</b>						
	-48.832 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>Sub-harmonic (f/2) for carrier frequency 300 MHz (Tol. -30 dBc)</b>						
	-87.227 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>2nd harmonic for carrier frequency 500 MHz (Tol. -30 dBc)</b>						
	-50.083 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>3rd harmonic for carrier frequency 500 MHz (Tol. -30 dBc)</b>						
	-53.774 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>Sub-harmonic (f/2) for carrier frequency 500 MHz (Tol. -30 dBc)</b>						
	-81.934 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>2nd harmonic for carrier frequency 1000 MHz (Tol. -30 dBc)</b>						
	-39.990 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>3rd harmonic for carrier frequency 1000 MHz (Tol. -30 dBc)</b>						
	-43.282 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>Sub-harmonic (f/2) for carrier frequency 1000 MHz (Tol. -30 dBc)</b>						
	-79.302 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>2nd harmonic for carrier frequency 2000 MHz (Tol. -30 dBc)</b>						
	-42.408 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>3rd harmonic for carrier frequency 2000 MHz (Tol. -30 dBc)</b>						
	-53.947 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>Sub-harmonic (f/2) for carrier frequency 2000 MHz (Tol. -30 dBc)</b>						
	-75.485 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>2nd harmonic for carrier frequency 3000 MHz (Tol. -30 dBc)</b>						
	-54.497 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>3rd harmonic for carrier frequency 3000 MHz (Tol. -30 dBc)</b>						
	-72.006 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<b>Sub-harmonic (f/2) for carrier frequency 3000 MHz (Tol. -30 dBc)</b>						
	-72.157 dBc		-200.00 dBc	±170 dB		pass 1.0 dB
<hr/>						
<b>Spurious emissions/spurs</b>						
<b>Output level @ 0 dBm</b>						



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<b>Spurious 0.01-10 MHz offset @f_c= 50 MHz</b>						
	-73.384 dBc		-200.00 dBc	±140 dB		pass 1.0 dB
<b>Spurious 0.01-100 MHz offset @f_c= 300 MHz</b>						
	-80.253 dBc		-200.00 dBc	±140 dB		pass 1.0 dB
<b>Spurious 0.01-100 MHz offset @f_c= 500 MHz</b>						
	-74.957 dBc		-200.00 dBc	±140 dB		pass 1.0 dB
<b>Spurious 0.01-100 MHz offset @f_c= 1000 MHz</b>						
	-74.672 dBc		-200.00 dBc	±140 dB		pass 1.0 dB
<b>Spurious 0.01-100 MHz offset @f_c= 2000 MHz</b>						
	-66.802 dBc		-200.00 dBc	±146 dB		pass 1.0 dB
<b>Spurious 0.01-100 MHz offset @f_c= 3000 MHz</b>						
	-65.338 dBc		-200.00 dBc	±146 dB		pass 1.0 dB
<b>Maximum HF level of the carrier signal (13 dBm)</b>						
<b>0.1 MHz</b>	13.136 dBm		13.00 dBm	±0.9 dB		pass 0.09 dB
<b>1 MHz</b>	13.148 dBm		13.00 dBm	±0.9 dB		pass 0.28 dB
<b>10 MHz</b>	13.034 dBm		13.00 dBm	±0.9 dB		pass 0.28 dB
<b>100 MHz</b>	13.060 dBm		13.00 dBm	±0.9 dB		pass 0.28 dB
<b>200 MHz</b>	13.096 dBm		13.00 dBm	±0.9 dB		pass 0.28 dB
<b>500 MHz</b>	13.143 dBm		13.00 dBm	±0.9 dB		pass 0.28 dB
<b>1000 MHz</b>						



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2000 MHz	13.214 dBm		13.00 dBm	±0.9 dB		pass 0.28 dB
3000 MHz	13.075 dBm		13.00 dBm	±0.9 dB		pass 0.28 dB
	13.200 dBm		13.00 dBm	±0.9 dB		pass 0.97 dB
<b>Level deviation / frequency response</b>						
0.1 MHz	0.334 dBm		0.00 dBm	±0.9 dB		pass 0.04 dB
0.2 MHz	0.327 dBm		0.00 dBm	±0.9 dB		pass 0.04 dB
0.5 MHz	0.200 dBm		0.00 dBm	±0.9 dB		pass 0.04 dB
1 MHz	0.171 dBm		0.00 dBm	±0.9 dB		pass 0.04 dB
2 MHz	0.164 dBm		0.00 dBm	±0.9 dB		pass 0.04 dB
5 MHz	0.098 dBm		0.00 dBm	±0.9 dB		pass 0.04 dB
10 MHz	0.080 dBm		0.00 dBm	±0.9 dB		pass 0.04 dB
20 MHz	0.117 dBm		0.00 dBm	±0.9 dB		pass 0.04 dB
50 MHz	0.152 dBm		0.00 dBm	±0.9 dB		pass 0.04 dB
100 MHz	0.131 dBm		0.00 dBm	±0.9 dB		pass 0.07 dB
200 MHz	0.132 dBm		0.00 dBm	±0.9 dB		pass 0.07 dB
500 MHz	0.180 dBm		0.00 dBm	±0.9 dB		pass 0.07 dB
1000 MHz	0.221 dBm		0.00 dBm	±0.9 dB		pass 0.07 dB
2000 MHz	0.096 dBm		0.00 dBm	±0.9 dB		pass 0.07 dB
3000 MHz	0.230 dBm		0.00 dBm	±0.9 dB		pass 0.07 dB
<b>Single-sideband phase noise</b>						



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<b>Output level @ 0 dBm</b>						
<b>@ 20 kHz offset and carrier frequency 50 MHz</b>						
	-107.995 dBc/Hz		-200.00 dBc/Hz	±95 dB		pass 1.0 dB
<b>@ 20 kHz offset and carrier frequency 300 MHz</b>						
	-109.435 dBc/Hz		-200.00 dBc/Hz	±95 dB		pass 1.0 dB
<b>@ 20 kHz offset and carrier frequency 500 MHz</b>						
	-107.318 dBc/Hz		-200.00 dBc/Hz	±95 dB		pass 1.0 dB
<b>@ 20 kHz offset and carrier frequency 1000 MHz</b>						
	-108.097 dBc/Hz		-200.00 dBc/Hz	±95 dB		pass 1.0 dB
<b>@ 20 kHz offset and carrier frequency 2000 MHz</b>						
	-104.029 dBc/Hz		-200.00 dBc/Hz	±101 dB		pass 1.0 dB
<b>@ 20 kHz offset and carrier frequency 3000 MHz</b>						
	-109.673 dBc/Hz		-200.00 dBc/Hz	±101 dB		pass 1.0 dB
<b>Deviation of the built-in attenuator</b>						
<b>100 MHz</b>						
	0.160 dBm		0.00 dBm	±0.9 dB		pass 0.07 dB
	-9.860 dBm		-10.00 dBm	±0.9 dB		pass 0.07 dB
	-19.810 dBm		-20.00 dBm	±0.9 dB		pass 0.26 dB
	-29.780 dBm		-30.00 dBm	±0.9 dB		pass 0.26 dB
	-39.780 dBm		-40.00 dBm	±0.9 dB		pass 0.26 dB
	-49.900 dBm		-50.00 dBm	±0.9 dB		pass 0.26 dB
	-59.860 dBm		-60.00 dBm	±1.1 dB		pass 0.26 dB
	-69.830 dBm		-70.00 dBm	±1.1 dB		pass 0.26 dB
	-79.870 dBm		-80.00 dBm	±1.1 dB		pass 0.26 dB
	-89.670 dBm		-90.00 dBm	±1.1 dB		pass 0.27 dB



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<b>1000 MHz</b>						
	0.250 dBm		0.00 dBm	±0.9 dB		pass 0.07 dB
	-9.630 dBm		-10.00 dBm	±0.9 dB		pass 0.07 dB
	-19.410 dBm		-20.00 dBm	±0.9 dB		pass 0.26 dB
	-29.430 dBm		-30.00 dBm	±0.9 dB		pass 0.26 dB
	-39.450 dBm		-40.00 dBm	±0.9 dB		pass 0.26 dB
	-49.530 dBm		-50.00 dBm	±0.9 dB		pass 0.26 dB
	-59.550 dBm		-60.00 dBm	±1.1 dB		pass 0.26 dB
	-69.790 dBm		-70.00 dBm	±1.1 dB		pass 0.26 dB
	-79.890 dBm		-80.00 dBm	±1.1 dB		pass 0.26 dB
	-89.890 dBm		-90.00 dBm	±1.1 dB		pass 0.27 dB
<b>3000 MHz</b>						
	0.110 dBm		0.00 dBm	±0.9 dB		pass 0.07 dB
	-9.770 dBm		-10.00 dBm	±0.9 dB		pass 0.07 dB
	-19.550 dBm		-20.00 dBm	±0.9 dB		pass 0.40 dB
	-29.570 dBm		-30.00 dBm	±0.9 dB		pass 0.40 dB
	-39.630 dBm		-40.00 dBm	±0.9 dB		pass 0.40 dB
	-49.730 dBm		-50.00 dBm	±0.9 dB		pass 0.40 dB
	-59.660 dBm		-60.00 dBm	±1.1 dB		pass 0.40 dB
	-69.680 dBm		-70.00 dBm	±1.1 dB		pass 0.40 dB
	-79.780 dBm		-80.00 dBm	±1.1 dB		pass 0.40 dB
	-89.760 dBm		-90.00 dBm	±1.1 dB		pass 0.40 dB
<b>Residual FM (30 Hz - 15 kHz) @ carrier 50 MHz</b>						
	48.045 Hz		0.00 Hz	-50/ +0 Hz	96%	pass 0.50 Hz
<b>Residual FM (30 Hz - 15 kHz) @ carrier 300 MHz</b>						
	46.450 Hz		0.00 Hz	-50/ +0 Hz	93%	pass 0.50 Hz
<b>Residual FM (30 Hz - 15 kHz) @ carrier 500 MHz</b>						
	38.269 Hz		0.00 Hz	-50/ +0 Hz	77%	pass 0.50 Hz
<b>Residual FM (30 Hz - 15 kHz) @ carrier 1000 MHz</b>						
	41.229 Hz		0.00 Hz	-50/ +0 Hz	83%	pass 0.50 Hz
<b>Residual FM (30 Hz - 15 kHz) @ carrier 2000 MHz</b>						
	19.960 Hz		0.00 Hz	-50/ +0 Hz	40%	pass 0.50 Hz
<b>Residual FM (30 Hz - 15 kHz) @ carrier 3000 MHz</b>						
	34.310 Hz		0.00 Hz	-50/ +0 Hz	69%	pass 0.50 Hz
<b>Tolerances estimated by laboratory</b>						
<b>Residual AM (30 Hz - 15 kHz) @ carrier 100 MHz</b>						
	0.021 %		0.00 %	-0.05/ +0 %	43%	pass 0.50 %
<b>Residual AM (30 Hz - 15 kHz) @ carrier 1000 MHz</b>						
	0.017 %		0.00 %	-0.05/ +0 %	34%	pass 0.50 %
<b>Residual AM (30 Hz - 15 kHz) @ carrier 3000 MHz</b>						
	0.045 %		0.00 %	-0.05/ +0 %	89%	pass 0.50 %





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<b>AM Depth Accuracy and Distortion</b>						
UUT Settings: internal mod, Level 0 dBm						
<b>Distortion @ 100 MHz, f_mod = 1 kHz</b>						
	0.03 %	AM	0.0 %	±1 %	3%	pass 5.0 %
<b>Distortion @ 100 MHz, f_mod = 1 kHz</b>						
	0.26 %		0.0 %	-3/ +0 %	9%	pass 9.0 %
	9.75 %	AM	10.0 %	±1.39 %	18%	pass 8.0 %
<b>Distortion @ 100 MHz, f_mod = 1 kHz</b>						
	0.37 %		0.0 %	-3/ +0 %	12%	pass 9.0 %
	19.53 %	AM	20.0 %	±1.78 %	26%	pass 8.1 %
<b>Distortion @ 100 MHz, f_mod = 1 kHz</b>						
	0.22 %		0.0 %	-3/ +0 %	7%	pass 9.0 %
	29.32 %	AM	30.0 %	±2.17 %	31%	pass 9.8 %
<b>Carrier @ 100 MHz, f_mod = 1 kHz</b>						
	39.26 %	AM	40.0 %	±2.57 %	29%	pass 8.1 %
<b>Carrier @ 100 MHz, f_mod = 1 kHz</b>						
	59.20 %	AM	60.0 %	±3.36 %	24%	pass 8.3 %
<b>Carrier @ 100 MHz, f_mod = 1 kHz</b>						
	78.20 %	AM	80.0 %	±4.12 %	44%	pass 8.6 %
<b>AM Frequency response and Distortion</b>						
UUT Settings: depth 30 %, Level 0 dBm						
<b>Distortion @ 1 MHz, f_mod = 1 kHz</b>						
	0.45 %		0.0 %	-3/ +0 %	15%	pass 9.0 %
	29.40 %	AM	30.0 %	±2.17 %	28%	pass 8.1 %
<b>Distortion @ 2 MHz, f_mod = 1 kHz</b>						
	0.24 %		0.0 %	-3/ +0 %	8%	pass 9.0 %
	29.29 %	AM	30.0 %	±2.17 %	33%	pass 9.8 %
<b>Distortion @ 5 MHz, f_mod = 1 kHz</b>						
	0.33 %		0.0 %	-3/ +0 %	11%	pass 9.0 %
	29.15 %	AM	30.0 %	±2.16 %	39%	pass 8.1 %
<b>Distortion @ 10 MHz, f_mod = 1 kHz</b>						
	0.35 %		0.0 %	-3/ +0 %	12%	pass 9.0 %
	29.45 %	AM	30.0 %	±2.17 %	25%	pass 8.1 %
<b>Distortion @ 20 MHz, f_mod = 1 kHz</b>						
	0.20 %		0.0 %	-3/ +0 %	7%	pass 9.0 %
	29.20 %	AM	30.0 %	±2.16 %	37%	pass 9.8 %
<b>Distortion @ 50 MHz, f_mod = 1 kHz</b>						



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	0.33 %		0.0 %	-3/ +0 %	11%	pass 9.0 %
	29.55 %	AM	30.0 %	±2.18 %	21%	pass 8.1 %
<b>Distortion @ 100 MHz, f_mod = 1 kHz</b>						
	0.25 %		0.0 %	-3/ +0 %	8%	pass 9.0 %
	29.33 %	AM	30.0 %	±2.17 %	31%	pass 8.1 %
<b>Distortion @ 200 MHz, f_mod = 1 kHz</b>						
	0.41 %		0.0 %	-3/ +0 %	14%	pass 9.0 %
	30.47 %	AM	30.0 %	±2.21 %	21%	pass 8.1 %
<b>Distortion @ 500 MHz, f_mod = 1 kHz</b>						
	0.16 %		0.0 %	-3/ +0 %	5%	pass 9.0 %
	29.73 %	AM	30.0 %	±2.18 %	12%	pass 9.9 %
<b>Distortion @ 1000 MHz, f_mod = 1 kHz</b>						
	0.22 %		0.0 %	-3/ +0 %	7%	pass 9.0 %
	30.06 %	AM	30.0 %	±2.2 %	3%	pass 9.8 %
<b>Distortion @ 2000 MHz, f_mod = 1 kHz</b>						
	0.64 %		0.0 %	-3/ +0 %	22%	pass 9.0 %
	29.36 %	AM	30.0 %	±2.17 %	29%	pass 8.2 %
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>						
	1.02 %		0.0 %	-3/ +0 %	34%	pass 9.0 %
	29.01 %	AM	30.0 %	±2.16 %	46%	pass 4.0 %
<hr/>						
<b>AM LF accuracy</b>						
UUT Settings: AM Depth 30 %, Level 0 dBm						
Tolerance by Laboratory						
<b>Carrier @ 100 MHz, f_mod = 0.02 kHz</b>						
	29.560 %	AM	30.00 %	±2.956 %	15%	pass 9.8 %
<b>Carrier @ 100 MHz, f_mod = 0.05 kHz</b>						
	29.660 %	AM	30.00 %	±2.966 %	12%	pass 9.8 %
<b>Carrier @ 100 MHz, f_mod = 0.1 kHz</b>						
	29.620 %	AM	30.00 %	±2.962 %	13%	pass 8.1 %
<b>Carrier @ 100 MHz, f_mod = 0.3 kHz</b>						
	29.380 %	AM	30.00 %	±2.938 %	21%	pass 8.1 %
<b>Carrier @ 100 MHz, f_mod = 1 kHz</b>						
	29.350 %	AM	30.00 %	±2.935 %	22%	pass 8.1 %
<b>Carrier @ 100 MHz, f_mod = 3 kHz</b>						
	29.350 %	AM	30.00 %	±2.935 %	22%	pass 8.1 %
<b>Carrier @ 100 MHz, f_mod = 10 kHz</b>						
	29.370 %	AM	30.00 %	±2.937 %	22%	pass 10 %
<b>Carrier @ 100 MHz, f_mod = 30 kHz</b>						
	31.480 %	AM	30.00 %	±3.148 %	47%	pass 8.2 %
<b>Carrier @ 100 MHz, f_mod = 50 kHz</b>						



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	25.210 %	AM	30.00 %	±6 %	80%	pass	7.0 %
<b>Carrier @ 100 MHz, f_mod = 100 kHz</b>							
	24.990 %	AM	30.00 %	±6 %	84%	pass	4.0 %
<b>FM deviation</b>							
<b>UUT Settings: internal mod, Level 0 dBm</b>							
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.014000 kHz	FM	0.00000 kHz	±0.02028 kHz	69%	pass	0.10 Hz
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.036 %		0.00 %	-2/ +0 %	2%	pass	9.0 %
	20.090000 kHz	FM	20.00000 kHz	±0.4218 kHz	21%	pass	166 Hz
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.028 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	50.200000 kHz	FM	50.00000 kHz	±1.024 kHz	20%	pass	322 Hz
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.017 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	100.300000 kHz	FM	100.00000 kHz	±2.026 kHz	15%	pass	574 Hz
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.013 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	200.700000 kHz	FM	200.00000 kHz	±4.034 kHz	17%	pass	1.1 kHz
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.013 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	301.000000 kHz	FM	300.00000 kHz	±6.04 kHz	17%	pass	1.6 kHz
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.015 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	401.400000 kHz	FM	400.00000 kHz	±8.048 kHz	17%	pass	2.1 kHz
<b>FM frequency response</b>							
<b>UUT Settings: deviation 20 kHz, Level 0 dBm</b>							
<b>Distortion @ 1 MHz, f_mod = 1 kHz</b>							
	0.011 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	20.090000 kHz	FM	20.00000 kHz	±0.4218 kHz	21%	pass	162 Hz
<b>Distortion @ 10 MHz, f_mod = 1 kHz</b>							
	0.012 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	20.080000 kHz	FM	20.00000 kHz	±0.4216 kHz	19%	pass	162 Hz
<b>Distortion @ 20 MHz, f_mod = 1 kHz</b>							
	0.012 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	20.080000 kHz	FM	20.00000 kHz	±0.4216 kHz	19%	pass	162 Hz
<b>Distortion @ 50 MHz, f_mod = 1 kHz</b>							



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	0.012 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	20.080000 kHz	FM	20.00000 kHz	±0.4216 kHz	19%	pass	162 Hz
<b>Distortion @ 100 MHz, f_mod = 1 kHz</b>							
	0.012 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	20.080000 kHz	FM	20.00000 kHz	±0.4216 kHz	19%	pass	162 Hz
<b>Distortion @ 200 MHz, f_mod = 1 kHz</b>							
	0.012 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	20.080000 kHz	FM	20.00000 kHz	±0.4216 kHz	19%	pass	162 Hz
<b>Distortion @ 500 MHz, f_mod = 1 kHz</b>							
	0.014 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	20.080000 kHz	FM	20.00000 kHz	±0.4216 kHz	19%	pass	162 Hz
<b>Distortion @ 1000 MHz, f_mod = 1 kHz</b>							
	0.021 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	20.080000 kHz	FM	20.00000 kHz	±0.4216 kHz	19%	pass	164 Hz
<b>Distortion @ 2000 MHz, f_mod = 1 kHz</b>							
	0.025 %		0.00 %	-2/ +0 %	1%	pass	9.0 %
	20.090000 kHz	FM	20.00000 kHz	±0.4218 kHz	21%	pass	164 Hz
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.035 %		0.00 %	-2/ +0 %	2%	pass	9.0 %
	20.090000 kHz	FM	20.00000 kHz	±0.4218 kHz	21%	pass	166 Hz
<hr/>							
<b>FM LF accuracy</b>							
UUT Settings: FM Dev 100 kHz, Level 0 dBm							
Tolerance by Laboratory							
<b>Carrier @ 1000 MHz, f_mod = 0.02 kHz</b>							
	99.200000 kHz	FM	100.00000 kHz	±9.92 kHz	8%	pass	579 Hz
<b>Carrier @ 1000 MHz, f_mod = 0.05 kHz</b>							
	100.400000 kHz	FM	100.00000 kHz	±10.04 kHz	4%	pass	577 Hz
<b>Carrier @ 1000 MHz, f_mod = 0.1 kHz</b>							
	99.900000 kHz	FM	100.00000 kHz	±9.99 kHz	1%	pass	579 Hz
<b>Carrier @ 1000 MHz, f_mod = 0.2 kHz</b>							
	99.900000 kHz	FM	100.00000 kHz	±9.99 kHz	1%	pass	578 Hz
<b>Carrier @ 1000 MHz, f_mod = 0.5 kHz</b>							
	100.100000 kHz	FM	100.00000 kHz	±10.01 kHz	1%	pass	577 Hz
<b>Carrier @ 1000 MHz, f_mod = 1 kHz</b>							
	100.300000 kHz	FM	100.00000 kHz	±10.03 kHz	3%	pass	574 Hz
<b>Carrier @ 1000 MHz, f_mod = 2 kHz</b>							
	100.300000 kHz	FM	100.00000 kHz	±10.03 kHz	3%	pass	609 Hz
<b>Carrier @ 1000 MHz, f_mod = 5 kHz</b>							
	100.700000 kHz	FM	100.00000 kHz	±10.07 kHz	7%	pass	607 Hz
<b>Carrier @ 1000 MHz, f_mod = 10 kHz</b>							



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	101.400000 kHz	FM	100.00000 kHz	±10.14 kHz	14%	pass	606 Hz
<b>Carrier @ 1000 MHz, f_mod = 20 kHz</b>	102.300000 kHz	FM	100.00000 kHz	±10.23 kHz	23%	pass	883 Hz
<b>Carrier @ 1000 MHz, f_mod = 50 kHz</b>	103.000000 kHz	FM	100.00000 kHz	±10.3 kHz	29%	pass	874 Hz
<b>Carrier @ 1000 MHz, f_mod = 100 kHz</b>	104.000000 kHz	FM	100.00000 kHz	±10.4 kHz	39%	pass	860 Hz
<b>PM Deviation Accuracy and Distortion</b>							
UUT Settings: internal mod, Level 0 dBm							
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.97 %		0.0 %	-1/ +0 %	97%	pass	9.0 %
	0.51 rad	PM	0.5 rad	±0.1 rad	11%	pass	0.08 rad
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.49 %		0.0 %	-1/ +0 %	49%	pass	9.0 %
	1.01 rad	PM	1.0 rad	±0.11 rad	12%	pass	0.08 rad
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.23 %		0.0 %	-1/ +0 %	23%	pass	9.0 %
	2.02 rad	PM	2.0 rad	±0.12 rad	19%	pass	0.09 rad
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.21 %		0.0 %	-1/ +0 %	21%	pass	9.0 %
	2.53 rad	PM	2.5 rad	±0.12 rad	22%	pass	0.09 rad
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>							
	0.10 %		0.0 %	-1/ +0 %	10%	pass	9.0 %
	5.04 rad	PM	5.0 rad	±0.15 rad	27%	pass	0.09 rad
<b>PM Frequency response and Distortion</b>							
UUT Settings: Deviation 1 rad, Level 0 dBm							
<b>Distortion @ 0.25 MHz, f_mod = 1 kHz</b>							
	0.059 %		0.00 %	-1/ +0 %	6%	pass	9.0 %
	1.008 rad	PM	1.00 rad	±0.11 rad	7%	pass	0.05 rad
<b>Distortion @ 0.5 MHz, f_mod = 1 kHz</b>							
	0.053 %		0.00 %	-1/ +0 %	5%	pass	9.0 %
	1.010 rad	PM	1.00 rad	±0.11 rad	9%	pass	0.05 rad
<b>Distortion @ 1 MHz, f_mod = 1 kHz</b>							
	0.054 %		0.00 %	-1/ +0 %	5%	pass	9.0 %
	1.010 rad	PM	1.00 rad	±0.11 rad	9%	pass	0.05 rad
<b>Distortion @ 2 MHz, f_mod = 1 kHz</b>							
	0.063 %		0.00 %	-1/ +0 %	6%	pass	9.0 %



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	1.009 rad	PM	1.00 rad	±0.11 rad	8%	pass	0.05 rad
<b>Distortion @ 5 MHz, f_mod = 1 kHz</b>	0.062 %		0.00 %	-1/ +0 %	6%	pass	9.0 %
	1.009 rad	PM	1.00 rad	±0.11 rad	8%	pass	0.05 rad
<b>Distortion @ 10 MHz, f_mod = 1 kHz</b>	0.054 %		0.00 %	-1/ +0 %	5%	pass	9.0 %
	1.009 rad	PM	1.00 rad	±0.11 rad	8%	pass	0.05 rad
<b>Distortion @ 50 MHz, f_mod = 1 kHz</b>	0.058 %		0.00 %	-1/ +0 %	6%	pass	9.0 %
	1.010 rad	PM	1.00 rad	±0.11 rad	9%	pass	0.05 rad
<b>Distortion @ 150 MHz, f_mod = 1 kHz</b>	0.070 %		0.00 %	-1/ +0 %	7%	pass	9.0 %
	1.010 rad	PM	1.00 rad	±0.11 rad	9%	pass	0.05 rad
<b>Distortion @ 500 MHz, f_mod = 1 kHz</b>	0.129 %		0.00 %	-1/ +0 %	13%	pass	9.0 %
	1.009 rad	PM	1.00 rad	±0.11 rad	8%	pass	0.05 rad
<b>Distortion @ 1000 MHz, f_mod = 1 kHz</b>	0.345 %		0.00 %	-1/ +0 %	35%	pass	9.0 %
	1.014 rad	PM	1.00 rad	±0.11 rad	13%	pass	0.05 rad
<b>Distortion @ 2000 MHz, f_mod = 1 kHz</b>	0.330 %		0.00 %	-1/ +0 %	33%	pass	9.0 %
	1.014 rad	PM	1.00 rad	±0.11 rad	13%	pass	0.05 rad
<b>Distortion @ 3000 MHz, f_mod = 1 kHz</b>	0.502 %		0.00 %	-1/ +0 %	50%	pass	9.0 %
	1.016 rad	PM	1.00 rad	±0.11 rad	15%	pass	0.05 rad
<b>PM LF Accuracy</b>							
UUT Settings: Deviation 5 rad, Level 0 dBm							
Tolerance by Laboratory							
<b>Carrier @ 3000 MHz, f_mod = 0.2 kHz</b>	5.020 rad	PM	5.00 rad	±0.502 rad	4%	pass	0.05 rad
<b>Carrier @ 3000 MHz, f_mod = 0.5 kHz</b>	5.050 rad	PM	5.00 rad	±0.505 rad	10%	pass	0.06 rad
<b>Carrier @ 3000 MHz, f_mod = 1 kHz</b>	5.050 rad	PM	5.00 rad	±0.505 rad	10%	pass	0.07 rad
<b>Carrier @ 3000 MHz, f_mod = 3 kHz</b>	5.060 rad	PM	5.00 rad	±0.506 rad	12%	pass	0.08 rad
<b>Carrier @ 3000 MHz, f_mod = 10 kHz</b>	5.120 rad	PM	5.00 rad	±0.512 rad	23%	pass	0.12 rad
<b>Carrier @ 3000 MHz, f_mod = 20 kHz</b>	5.100 rad	PM	5.00 rad	±0.51 rad	20%	pass	0.05 rad



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