Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER

State Secretariat for Economic Affairs SECO
Swiss Accreditation Service SAS

SCS Directory

Accreditation number: SCS 0097

International standard:	ISO/IEC 17025:2017
Swiss standard:	SN EN ISO/IEC 17025:2018

Rohde & Schwarz Schweiz AG
SCS-Kalibrationslabor
Mühlestrasse 7
3063 Ittigen

Head:	Ralph Siegfried
Responsible for MS:	Heinz Scholl
Telephone:	+41 31 922 15 22
E-Mail:	support.switzerland@rohde-schwarz.com
Internet:	www.rohde-schwarz.com
Initial accreditation:	25.01.2001
Current accreditation:	14.09.2020 to 13.09.2025
Scope of accreditation see:	www.sas.admin.ch (Accredited bodies)

Scope of accreditation as of 19.12.2023

Calibration laboratory for electrical quantities

Calibration and Measurement Capability (CMC)

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Uncertainty ± [1)]	Remarks
RF-capacity Calibration of signal generators	-60 dBm ... < -50 dBm	8 kHz ... < 1 GHz 1 GHz ... < 12 GHz 12 GHz … 18 GHz	5,4 % 5,4 % 5,4 %	N-connector Additional measurement uncertainty for a VSWR > 1,1
	-50 dBm ... < -40 dBm	8 kHz ... < 1 GHz 1 GHz ... < 12 GHz 12 GHz … 18 GHz	1,4 % 1,3 % 1,5 %	and temperature >23°C+/-1°
	-40 dBm ... -0 dBm	8 kHz ... < 1 GHz 1 GHz ... < 12 GHz 12 GHz … 18 GHz	1,2 % 1,1 % 1,4 %	
	0 dBm ... 23 dBm	8 kHz ... < 1 GHz 1 GHz ... < 12 GHz 12 GHz … 18 GHz	1,2 % 1,0 % 1,3 %	

The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.

SCS Directory

Accreditation number: SCS 0097

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Uncertainty ± [1)]	Remarks
Calibration of power meters	-120 dBm ... < -110 dBm	8 kHz ... < 1 GHz 1 GHz ... < 12 GHz 12 GHz … 18 GHz	2,2 % 1,9 % 2,5 %	N-connector Additional measure-ment uncertainty for a VSWR > 1,1
	-110 dBm ... < -90 dBm	8 kHz ... < 1 GHz 1 GHz ... < 12 GHz 12 GHz … 18 GHz	1,4 % 1,8 % 1,9 %	and temperature >23°C+/-1°
	-90 dBm ... < -30 dBm	8 kHz ... < 1 GHz 1 GHz ... < 12 GHz 12 GHz … 18 GHz	1,2 % 1,6 % 1,7 %	
	-30 dBm ... < 0 dBm	8 kHz ... < 1 GHz 1 GHz ... < 12 GHz 12 GHz … 18 GHz	1,0 % 1,3 % 1,6 %	
	0 dBm ... 15 dBm	8 kHz ... < 1 GHz 1 GHz ... < 12 GHz 12 GHz … 18 GHz	1,0 % 1,3 % 1,5 %	
Reflexion Linear (S11, S22) and derived im-pedances	0,01 ... < 0, 5	9 kHz ... < 30 kHz 30 kHz ... < 1 GHz 1 GHz ... < 8 GHz 8 GHz … 18 GHz	0,003 // 0.4° 0,002 // 0.3° 0,002 //0.4° 0,003 // 0.6°	Z = 50 Ω N-connector Amplitude and phase Plus measurement uncertainty for addi-tional contacts and ca-ble movements
	0,3 ... < 1	9 kHz ... < 30 kHz 30 kHz ... < 1 GHz 1 GHz ... < 8 GHz 8 GHz … 18 GHz	0,002 // 0.3° 0,002 //0.2° 0,002 //0.2° 0,003 // 0.4°	
Attenuation Transmission (S21, S12)	0 dB ... < 10 dB	9 kHz ... < 30 kHz 30 kHz ... < 1 GHz 1 GHz ... < 8 GHz 8 GHz …18 GHz	0,01 dB // 0.4° 0,01 dB // 0.1° 0,01 dB // 0.2° 0,02 dB // 0.5°	Z = 50 Ω N-plug Amplitude and phase Plus measurement uncertainty for addi-tional contacts, cable movements and S11, S22> 0.2
	10 dB ... < 50 dB	9 kHz ... < 30 kHz 30 kHz ... < 1 GHz 1 GHz ... < 8 GHz 8 GHz … 18 GHz	0,04 dB // 0.3° 0,03 dB // 0.2° 0,03 dB // 0.3° 0,03 dB // 0.6°	Additional measure-ment uncertainty S11 resp. S22 > 0,2
	50 dB ... < 70 dB	9 kHz ... < 30 kHz 30 kHz ... < 1 GHz 1 GHz ... < 8 GHz 8 GHz … 18 GHz	0,04 dB // 0.3° 0,03 dB // 0.2° 0,03 dB // 0.3° 0,03 dB // 0.6°	

The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.

SCS Directory

Accreditation number: SCS 0097

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Uncertainty ± [1)]	Remarks
Frequency Calibration of frequency counters and generators	100 kHz ... < 1 MHz 1 MHz ... < 10 MHz 10 MHz ... < 100 MHz 100 MHz ... < 1 GHz 1 GHz ... < 10 GHz 10 GHz ... < 40 GHz		6,7•10-10 5,8•10-10 5,8•10-10 5,8•10-10 5,8•10-10 5,8•10-10	Measurement period > 10 s
Calibration of reference frequencies	1 MHz; 2 MHz; 3 MHz 4 MHz; 5 MHz, 6 MHz 7 MHz; 8 MHz; 9 MHz 10 MHz		2,2•10-10	Measurement period > 60 s
Direct voltage Calibration of voltmeters	1 mV … < 330 mV 330 mV ... < 3,3 V 3,3 V ... < 33 V 33 V ... < 330 V 330 V ... 1000 V		21•10-6 + 1,2 µV 11•10-6 + 6.1 µV 18•10-6 + 160 µV 18•10-6 + 0,6 mV 18•10-6 + 1,6 mV	
Direct current Calibration of current measurement instrument	1 mA … < 3,3 mA 3,3 mA … < 330 mA 330 mA … < 1,1 A 1,1 A … < 3 A 3 A … < 11 A 11 A … 20,5 A		100•10-6 + 0,1 µA 100•10-6 + 2,6 µA 200•10-6 + 41 µA 380•10-6 + 41 µA 0,6•10-2 + 0,5 mA 1•10-2 + 0,8 mA	
Alternating voltage	10 mV ... < 33 mV	10 Hz ... < 45 Hz 45 Hz ... < 10 kHz 10 kHz ... < 20 kHz 20 kHz ... < 50 kHz 50 kHz … < 100 kHz 100 kHz … < 500 kHz	800•10-6 + 6,3 µV 150•10-6 + 6,3 µV 150•10-6 + 6,3 µV 200•10-6 + 6,3 µV 1•10-2 + 6,3 µV 3.5•10-2 + 12 µV	
Calibration of voltmeter	33 mV ... < 330 mV	10 Hz ... < 45 Hz 45 Hz ... < 10 kHz 10 kHz ... < 20 kHz 20 kHz ... < 50 kHz 50 kHz … < 100 kHz 100 kHz … < 500 kHz	300•10-6 + 21 µV 150•10-6 + 21 µV 150•10-6 + 21 µV 160•10-6 + 21 µV 350•10-6 + 21 µV 800•10-6 + 37 µV	
	330 mV ... < 3,3 V	10 Hz ... < 45 Hz 45 Hz ... < 10 kHz 10 kHz ... < 20 kHz 20 kHz ... < 50 kHz 50 kHz … < 100 kHz 100 kHz … < 500 kHz	300•10-6 + 54 µV 150•10-6 + 54 µV 150•10-6 + 63 µV 190•10-6 + 54 µV 300•10-6 + 54 µV 700•10-6 + 130 µV	
	3,3 V ... < 33 V	10 Hz ... < 45 Hz 45 Hz ... < 10 kHz 10 kHz ... < 20 kHz 20 kHz ... < 50 kHz 50 kHz … < 100 kHz	300•10-6 + 653 µV 150•10-6 + 600 µV 150•10-6 + 600 µV 240•10-6 + 600 µV 350•10-6 + 600 µV	

The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.

SCS Directory

Accreditation number: SCS 0097

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Uncertainty ± [1)]	Remarks
Alternating current	33 V ... < 330 V	45 Hz ... < 1 kHz 1 kHz ... < 10 kHz 10 kHz ... < 20 kHz 20 kHz … < 50 kHz 50 kHz … < 100 kHz	190•10-6 + 2,1 mV 190•10-6 + 2,1 mV 200•10-6 + 6 mV 250•10-6 + 6 mV 300•10-6 + 6 mV	
	330 V ... 1020 V	45 Hz ... < 1 kHz 1 kHz ... < 5 kHz 5 kHz ... < 10 kHz	300•10-6 + 10 mV 250•10-6 + 10 mV 250•10-6 + 10 mV	
	30 µA ... < 330 µA	10 Hz … < 20 Hz 20 Hz … < 45Hz 45 Hz … <1 kHz 1 kHz … < 5 kHz 5 kHz … < 10 kHz 10 kHz … < 30 kHz	0,2 % + 0,6 µA 0,2 % + 0,6 µA 0,1 % + 0,6 µA 0,1 % + 0,6 µA 0,3 % + 0,6 µA 0,8 % + 0,6 µA	
	0,33 mA ... < 3,3 mA	10 Hz … < 20 Hz 20 Hz … < 45Hz 45 Hz … <1 kHz 1 kHz … < 5 kHz 5 kHz … < 10 kHz 10 kHz … < 30 kHz	0,2 % + 0,6 µA 0,1 % + 0,6 µA 0,1 % + 0,6 µA 0,1 % + 0,6 µA 0,2 % + 0,6 µA 0,5 % + 0,7 µA	
	3,3 mA ... < 33 mA	10 Hz … < 20 Hz 20 Hz … < 45 Hz 45 Hz … <1 kHz 1 kHz … < 5 kHz 5 kHz … < 10 kHz 10 kHz … < 30 kHz	0,2 % + 2.1 µA 0,1 % + 2.1 µA 0,04 % + 2.1 µA 0,04 % + 2.1 µA 0,1 % + 2,1 µA 0,2 % + 3,1 µA	
	33 mA ... < 330 mA	10 Hz … < 20 Hz 20 Hz … < 45Hz 45 Hz … <1 kHz 1 kHz … < 5 kHz 5 kHz … < 10 kHz 10 kHz … < 30 kHz	0,2 % + 20 µA 0,1 % + 20 µA 0,04 % + 20 µA 0,04 % + 20 µA 0,1 % + 50 µA 0,2 % + 100 µA	
	330 mA ... < 1,1 A	10 Hz … < 45 Hz 45 Hz … < 1 kHz 1 kHz … < 5 kHz 5 kHz … < 10 kHz	0,2 % + 0.1 mA 0,1 % + 0.1 mA 0,1 % + 0.1 mA 0,6 % + 1 mA	
	1,1 A ... < 3 A	10 Hz … < 45 Hz 45 Hz … < 1 kHz 1 kHz … < 10 kHz	0,1 % + 0,1 mA 0.1 % + 1.0 mA 2.5 % + 5.0 mA	
	3 A ... < 11 A	10 Hz … < 45 Hz 45 Hz … < 1 kHz 1 kHz … < 5 kHz	0.1 % + 2.0 mA 0.1 % + 2.0 mA 3.0 % + 2.0 mA	
	11 A ... 20 A	10 Hz … < 100 Hz 100 Hz … < 5 kHz	1.3 % + 5.0 mA 3.0 % + 5.0 mA	

The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.

SCS Directory

Accreditation number: SCS 0097

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Uncertainty ± [1)]	Remarks
Calibration of Oscilloscopes Square wave amplitude 1 kHz	1 mV ... 200 V 1 mV ... 5 V	1 MΩ 50 Ω	0,5 % 0,5 %	
Time marker	1 ns ... 55 s	100 mV … 1 V	0,1% + 70 ps	
Flatness	1 mVpp ... 5 Vpp 1 mVpp ... 5 Vpp 1 mVpp ... 3 Vpp	0,1 Hz … < 300 MHz 300 MHz ... < 550 MHz 550 MHz ... < 1,1 GHz	3,5 % 4,1 % 5,6 %	Z = 50 Ω Additional measurement uncertainty measurement range and VSWR > 1,5 Calibrated on U_{inc}
	1 mVpp ... 2 Vpp	1,1 GHz ... 3,0 GHz	6,4 %	
	1 mVpp ... 5 Vpp	0,1 Hz … < 100 MHz 100 MHz ... 200 MHz	2,8 % 5,6 %	Z = 1 MΩ Additional measurement uncertainty measurement range and Cin > 9 pF Calibrated on U_{Last}

The dimensionless fractions of measurement uncertainty are relative values related to the measurand

In case of contradictions in the language versions of the directories, the German version shall apply.

* / * / * / * / *

The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.