



ROHDE & SCHWARZ

Calibration Certificate

Certificate Number 4180-12361/2014

Unit Data

Item **Spectrum Analyser**

Manufacturer **ANRITSU**

Type **S331A**

Material No. **0001.0001.00** Serial No. **708019**

Asset No.

This calibration certificate documents, that the named item is tested and measured against defined specifications. Measurement results are located usually in the corresponding interval with a probability of approx. 95% (coverage factor $k=2$). Calibration is performed with test equipment and standards directly or indirectly traceable by means of approved calibration techniques to the PTB/DKD or other national/international standards, which realize the physical units of measurement according to the International System of Units (SI). In all cases where no national standards are available, measurements are referenced to standards of the R&S laboratories.

Principles and methods of calibration correspond with ISO / IEC 17025. The metrological confirmation system for the measuring equipment used is in compliance with DIN ISO 10012-1. The applied quality system is certified to DIN EN ISO 9001.

This calibration certificate may not be reproduced other than in full. Calibration certificates without signatures are not valid. The user is obliged to have the object recalibrated at appropriate intervals.

Order Data

Customer **Metalcom Közép-Európai Technológiai és Szolgáltató Holding Zrt.
Nagynyomás 16.
Szentés
6600
Hungary**

Order No.

Date of Receipt **2014-09-15**

Performance

Place and date of calibration **1.RSHU, 2014-09-22**

Scope of calibration **Standard Calibration**

Statement of Compliance (Incoming) **All measured values are within the data sheet specifications**

Statement of Compliance (Outgoing) **All measured values are within the data sheet specifications**

Extent of Calibration Documents **3 pages test report**

Rohde & Schwarz Hungária Szolgáltató Kft.

Date of issue

Head of laboratory

Person Responsible

(YYYY-MM-DD)
2014-09-22


Bíró Zsolt


Török Attila

Page 1 / 3
PT 3583.9833.00

ROHDE & SCHWARZ Hungária Szolgáltató Kft.
H-1138 Budapest, Madarász Viktor utca 47-49.

Ambient temperature

23 +/- 3° C

Relative humidity 20%-60%

Calibration instruction

According to Performance Test

This Calibration fulfils the requirements of the standard / guidelines

Working Standards used				
Item	Type	Serial No.	Certificate No.	Cal. due
Spectrum analyzer	FSP7	100133	-11738/2014	2016-06-15
Cal.kit N, 50Ohm	ZV-Z21	100642	10-300319959	2016-01-23
RF step attenuator 50 Ohm, 1 W, DC - 5.2 GHz, 139 dB	RSG	843247/0012	10-300312774	2016-05-12
Average power sensor 10 MHz - 18 GHz, 200 pW - 200 mW,N(m)	NRP-Z21	102142	-9999/2013	2015-07-16

UGB1 A compliance statement may be possible where a confidence level of less than 95 % is acceptable.
UGB2 A non-compliance statement may be possible where a confidence level of less than 95 % is acceptable.

Notes

Installed options are included in calibration. Depending on installed options, number of pages of the record are not consecutive.

Object Anritsu Site Master

Type S331A

Date 2014-09-22

Page 3 of 3

Serial No. 708019

Material No. --

Certificate No. 4180-12361/2014



ROHDE & SCHWARZ

Hungária Szolgáltató Kft.

EXE-Vers: 2.11.1.1/MesOp6 2.01/2014-09-18 10:21 INI-Vers: V1-14/243580/2014-09-22 V1-01/Ams1/TOE/2013-10

V1-01/Temp/RSJU/2013-09

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
1 Frequency Accuracy 1000 MHz	-75000.00 Hz	-8001.83 Hz	75000.00 Hz	0.06 Hz
2 Output Level Accuracy Center: 25 MHz 100 MHz 200 MHz 300 MHz 400 MHz 500 MHz 600 MHz 700 MHz 800 MHz 900 MHz 1000 MHz 1250 MHz 1500 MHz 1750 MHz 2000 MHz 2500 MHz 2500 MHz 2750 MHz 3000 MHz 3300 MHz	-- --	-5.90 dBm -6.30 dBm -4.63 dBm -4.01 dBm -4.73 dBm -5.90 dBm -5.79 dBm -5.89 dBm -3.80 dBm -1.62 dBm -1.59 dBm -2.10 dBm -2.40 dBm -5.65 dBm -4.94 dBm -5.14 dBm -5.14 dBm -5.22 dBm -4.99 dBm -4.49 dBm	-- --	0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.21 dB 0.29 dB 0.29 dB 0.29 dB 0.29 dB 0.29 dB
<p style="text-align: center;">Output Level Accuracy</p>				
3 Return Loss Accuracy 6 dB (Worst Case) 20 dB (Worst Case)	-1.00 dB -1.50 dB	-0.58 dB -0.75 dB	1.00 dB 1.50 dB	0.20 dB 0.20 dB
4 Dynamic Range 25MHz-3.3GHz (Worst Case)	--	50.46 dB	--	1.7 dB