

Certificate of Calibration



Keysight Calibration

Certificate Number 1-5729827586-1

Model Number 86205A
Manufacturer Keysight Technologies Inc
Description 50 Ohm RF bridge 300kHz to 6GHz
Serial Number 00168
Customer Asset No. DE2924

Customer
Keysight Technologies Deutschland GmbH
Herrenberger Strasse 130
71034 BOEBLINGEN
Germany

Date of Calibration 3 Mar 2014
Procedure STE-50114026-A.00.18
Temperature (23±5) °C
Humidity (50±30) %RH

Location of Calibration
Keysight Technologies Deutschland GmbH
Herrenberger Strasse 130, Geb 4
D-71034 Boeblingen
Germany

This certifies that the equipment has been calibrated using applicable Keysight Technologies procedures in compliance with a quality management system registered to ISO 9001:2008.

As Received Conditions

The measured values of the equipment were observed IN SPECIFICATION at the points tested.

Action Taken

- No corrective actions were necessary.

As Completed Conditions

The measured values of the equipment were observed IN SPECIFICATION at the points tested.

A team of engineers and metrologists develops performance tests procedures and selects specific instruments considering the uncertainty of measurement. In this report, conformance statements of "Passed" or "Failed" are determined by simple comparison of observed measurements to the warranted specifications. Uncertainty of measurement is not reported.

Remarks or Special Requirements

This calibration certificate may reference instruments manufactured by HP, Agilent and Keysight as being manufactured by Keysight Technologies, Inc.

The test limits stated in the report correspond to the published specifications of the equipment, at the points tested.

Keysight Technologies
Deutschland GmbH
Herrenberger Strasse 130, Geb 4
D-71034 Boeblingen
Germany

A handwritten signature in black ink that reads "Edgar Leckel".

Edgar Leckel - European Operations Manager

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Traceability Information

Technician ID Number 00125947

Measurements are traceable to the International System of Units (SI) via national metrology institutes (e.g., NIST, NPL, PTB, NMIJ, NRC, KRISS, SIRIM, etc.) that are signatories to the CIPM Mutual Recognition Arrangement.

This certificate shall not be reproduced, except in full, without prior written approval of the laboratory.

Calibration Equipment Used

<u>Model Number</u>	<u>Model Description</u>	<u>Equipment ID</u>	<u>Cal Due Date</u>	<u>Certificate Number</u>
85032B	50-Ohm Type-N calibration kit	DE1602	29 Oct 2014	1-5435669520-1
8753ES	2-Port Vector network analyzer	DE2076	25 Oct 2014	1-5102990589-1
E5071C	ENA Series Network analyzer	DE2833	3 Aug 2014	1-5311765849-1

Measurement Report

Keysight Technologies Inc
Service Center Test & Measurement
Boeblingen
Germany

As Received Data

Report Number: 1-5729827586-1

Customer: Keysight Technologies Inc

Manufacturer: Keysight Technologies Inc

Model Number: 86205A (86205A)

Serial Number: 00168

Options Installed:

Test Date: 3 Mar 2014

Tested By: 00125947

Temperature: 23.0±5 °C

Humidity: 20 to 80% RH

Test Program Name: 86205A Part No. 5011-4026

Test Program Version: A.00.18

Test Executive: STE/9000 C.08.83W (MENDOR B.06.32)

Specification Limits:

Unless indicated otherwise, the units for minimum and/or maximum specification limits are the same as the units stated for the measured value.

Report Number: 1-5729827586-1
Model Number: 86205A
Serial Number: 00168

Test Date: 3 Mar 2014

PERFORMANCE TEST RESULTS SUMMARY

<u>Test Name</u>	<u>Status</u>
INITIAL SETUP	DONE
FUNCTIONAL TEST	PASSED
RETURN LOSS TEST	PASSED
DIRECTIVITY TEST	PASSED
RETURN LOSS ABOVE 3 GHz TEST	DONE
DIRECTIVITY ABOVE 3 GHz TEST	DONE

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FUNCTIONAL TEST

PASSED

<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MEASURED</u>	<u>MAX</u>
Insertion Loss			
Maximum	0.00	2.18 dB	3.00
Minimum	0.00	1.47 dB	3.00
Coupling Loss			
Maximum	14.00	16.62 dB	18.00
Minimum	14.00	16.02 dB	18.00

RETURN LOSS TEST

PASSED

<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MEASURED</u>
Port 1		
300 kHz - 2.0 GHz	23.0	25.6 dB
2.0 GHz - 3.0 GHz	20.0	24.8 dB
Port 2		
300 kHz - 2.0 GHz	23.0	26.1 dB
2.0 GHz - 3.0 GHz	20.0	23.8 dB
Port 3		
300 kHz - 2.0 GHz	23.0	36.7 dB
2.0 GHz - 3.0 GHz	20.0	35.4 dB

DIRECTIVITY TEST

PASSED

<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MEASURED</u>
300 kHz - 5.0 MHz	30.0	36.6 dB
5.0 MHz - 2.0 GHz	40.0	47.1 dB
2.0 GHz - 3.0 GHz	30.0	36.0 dB

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RETURN LOSS ABOVE 3 GHz TEST

DONE

Typical Return Loss for 3.0 GHz ~ 5.0 GHz: > 18.0 dB
Typical Return Loss for 5.0 GHz ~ 6.0 GHz: > 16.0 dB

<u>TEST CONDITIONS</u>	<u>MEASURED</u>
Port 1	
3.0 GHz - 5.0 GHz	21.9 dB
5.0 GHz - 6.0 GHz	20.9 dB
Port 2	
3.0 GHz - 5.0 GHz	21.3 dB
2.0 GHz - 3.0 GHz	22.6 dB
Port 3	
3.0 GHz - 5.0 GHz	29.8 dB
5.0 GHz - 6.0 GHz	23.7 dB

DIRECTIVITY ABOVE 3 GHz TEST

DONE

Typical Directivity for 3.0 GHz - 5.0 GHz: > 20.0 dB
Typical Directivity for 5.0 GHz - 6.0 GHz: > 16.0 dB

<u>TEST CONDITIONS</u>	<u>MEASURED</u>
3.0 GHz - 5.0 GHz	22.3 dB
5.0 GHz - 6.0 GHz	19.9 dB