

## TEST EQUIPMENT USED

Part 15.231, ANSI C63.4, RSS 210

This is a list of all test equipment used.

Note: Calibration Certificates are on following pages.

Test Equipment list for Honeywell OATS

<b>EQUIPMENT:</b>	<b>MANUFACTURER:</b>	<b>MODEL:</b>	<b>CAL DATE:</b>	<b>CAL DUE DATE:</b>
Spectrum Analyzer	Rohde & Schwarz	FSU3	5/7/2014	5/7/2015
Spectrum Analyzer	Rohde & Schwarz	FSU26	5/7/2014	5/7/2015
Antenna ("Biconilog")	ETS (EMCO) Lindgren	3149	7/2/2014	7/2/2015

If you need any additional information from Honeywell, please contact:

Andrew Roussin, Engineer  
(Acting for Mark Schmidt)  
Phone (Direct): 516-577-5935  
Email: [andrew.roussin@honeywell.com](mailto:andrew.roussin@honeywell.com)



# Certificate of Calibration

Issue Date: 5/7/2014

General Calibration, Inc.  
2 Mars Court, Boonton, New Jersey 07005  
Phone (973) 299-2950 Fax (973) 299-0595

Certificate #: GC48-11390  
Work Order #: 48GC147  
Customer #: 001464



## Performed By:

GENERAL CALIBRATION, INC.  
2 MARS COURT

BOONTON, NJ 07005

## Location of Calibration:

HONEYWELL SECURITY (001464)  
2 CORPORATE CENTER DRIVE

MELVILLE, NY 11747

## Equipment Information:

Job No.: 066615  
Manufacturer: R&S  
Description: SPECTRUM ANALYZER  
Department:  
Temp./RH: 22.0 C / 26.0 %  
Cal. Interval: 12 MONTHS  
Cal Date: 05/07/2014  
Owner:

## Purchase Order: 623705

Asset Tag No.: 11493  
Model Number: FSU3  
Serial Number: 100029  
Inspected By: JTR  
Job Title: METROLOGIST  
Calibration Result: PASSED  
Cal. Due Date: 05/07/2015  
Owner's Email:

## Procedure #GCP: RS FSU3

### Calibration Notes:

Condition: Found In Tolerance and Left In Tolerance  
Standards Used To Calibrate Equipment

Company	I.D.	Description	Serial Number	Cal. Due Date
GENERAL CALIBRATION	1001	ATTENUATOR	1204A28252	07/29/2014
GENERAL CALIBRATION	1031	SYNTHESIZED SWEEPER, 26GHZ	3050A02181	04/16/2015
GENERAL CALIBRATION	1153	POWER METER	3125U20840	09/26/2014
GENERAL CALIBRATION	404	ATTENUATOR	219-06280	06/21/2014
GENERAL CALIBRATION	424	FREQUENCY COUNTER	2426A01588	08/15/2014
GENERAL CALIBRATION	485	POWER SENSOR	US37291734	06/26/2014
GENERAL CALIBRATION	649	POWER SPLITTER	51051	01/24/2015
GENERAL CALIBRATION	688	LEVEL GENERATOR	1640A01730	08/09/2014

This is to certify that General Calibration, Inc. is accredited by A2LA and that its calibration system is in compliance with ISO/IEC17025-2005, ANSI NCSL Z540-1, ANSI NCSL Z540.3, and ISO 9001:2008. The test limits stated in the report correspond to the Manufacturer's calibration and published specifications of the equipment, at the points tested. To the best of Gen-Cal's knowledge, the data obtained and as reported was accurate at the time of calibration. Many factors beyond the control of Gen-Cal may affect the performance of equipment after the calibration (verification) on the equipment. Calibration of standards; reference standards and intermediate standards in this calibration have been checked and calibrated against the above working standard(s) which are traceable to the SI units of measurement through National Institute of Standards and Technology or other National Measurement Institutes under CIPM MRA. Any accredited calibration under our A2LA scope of accreditation is denoted with A2LA accredited symbol on the calibration certificate. If the Accredited certificate includes any unaccredited items calibrated, they are clearly marked as unaccredited calibration.

Best Uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

The results documented in this certificate relate only to the item(s) calibrated or tested.

Approved By

General Calibration, Inc. - Q. A. Manager



# Certificate of Calibration

Issue Date: 5/7/2014

General Calibration, Inc.  
2 Mars Court, Boonton, New Jersey 07005  
Phone (973) 299-2950 Fax (973) 299-0595

Certificate #: GC48-11392  
Work Order #: 48GC147  
Customer #: 001464



## Performed By:

GENERAL CALIBRATION, INC.  
2 MARS COURT

BOONTON, NJ 07005

## Location of Calibration:

HONEYWELL SECURITY (001464)  
2 CORPORATE CENTER DRIVE

MELVILLE, NY 11747

## Equipment Information:

Job No.: 066617  
Manufacturer: R&S  
Description: SPECTRUM ANALYZER  
Department:  
Temp./RH: 22.0 C / 26.0 %  
Cal. Interval: 12 MONTHS  
Cal Date: 05/07/2014  
Owner:

## Purchase Order: 623705

Asset Tag No.: 11496  
Model Number: FSU26  
Serial Number: 100303  
Inspected By: JTR  
Job Title: METROLOGIST  
Calibration Result: PASSED  
Cal. Due Date: 05/07/2015  
Owner's Email:

## Procedure #GCP- RS/FSU26

### Calibration Notes:

Condition: Found In Tolerance and Left In Tolerance  
Standards Used To Calibrate Equipment

Company	I.D.	Description	Serial Number	Cal Due Date
GENERAL CALIBRATION	1001	ATTENUATOR	1204A28252	07/29/2014
GENERAL CALIBRATION	1031	SYNTHESIZED SWEEPER, 26GHZ	3050A02181	04/16/2015
GENERAL CALIBRATION	1153	POWER METER	3125U20840	09/26/2014
GENERAL CALIBRATION	404	ATTENUATOR	219-06280	06/21/2014
GENERAL CALIBRATION	424	FREQUENCY COUNTER	2426A01588	08/15/2014
GENERAL CALIBRATION	553	POWER SENSOR	3318A14976	01/31/2015
GENERAL CALIBRATION	688	LEVEL GENERATOR	1640A01730	08/09/2014
GENERAL CALIBRATION	809	POWER SPLITTER	53143	05/13/2014

This is to certify that General Calibration, Inc. is accredited by A2LA and that its calibration system is in compliance with ISO/IEC17025-2005, ANSI NCSL Z540-1, ANSI NCSL Z540.3, and ISO 9001:2008. The test limits stated in the report correspond to the Manufacturer's calibration and published specifications of the equipment, at the points tested. To the best of Gen-Cal's knowledge, the data obtained and as reported was accurate at the time of calibration. Many factors beyond the control of Gen-Cal may affect the performance of equipment after the calibration (verification) on the equipment. Calibration of standards; reference standards and intermediate standards in this calibration have been checked and calibrated against the above working standard(s) which are traceable to the SI units of measurement through National Institute of Standards and Technology or other National Measurement Institutes under CIPM MRA. Any accredited calibration under our A2LA scope of accreditation is denoted with A2LA accredited symbol on the calibration certificate. If the Accredited certificate includes any unaccredited items calibrated, they are clearly marked as unaccredited calibration.

Best Uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2.

The results documented in this certificate relate only to the item(s) calibrated or tested.

Approved By

General Calibration, Inc. - Q. A. Manager



An ESCO Technologies Company

1301 Arrow Point Drive  
Cedar Park, Texas 78613  
(512) 531-6400



By JH Date 02-Jul-14  
Next Cal Due  
www.ets-lindgren.com

Cert I.D.: 103433

## Certificate of Calibration Conformance

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The instrument identified below has been individually calibrated in compliance with the following standard(s):

SAE, ARP-958 - 2003, Electromagnetic Interference Measurement Antennas; Standard Calibration Method, Society of Automotive Engineers, Aerospace Recommended Practice. Fixed height, three antenna rotation, 1 meter separation. 3 meter separation performed per Annex C. Vertical calibration performed per above listed methodology.

Environment: Laboratory MTE is maintained in a temperature controlled environment with ambient conditions from 18 to 28 C, relative humidity less than 90%. The instrument under test has been calibrated on an open air test site (OATS) with environment temperature conditions ranging from 0 to 40 C which has no known influences on measurement quality.

Manufacturer:	ETS-Lindgren	Operating Range:	80 MHz - 6 GHz
Model Number:	3149.	Instrument Type:	Biconilog (Type 5)
Serial Number/ ID:	00029390	Date Code:	
Tracking Number:	S 000030734	Alternate ID:	11243
Date Completed:	02-Jul-14	Customer:	HONEYWELL (NY) 2 Corporate Center Drive, Melville NY 11747
Test Type:	3 meter, Horizontal and Vertical		

Calibration Uncertainty:	01m	26 - 1000 MHz, +/-0.9 dB; 1000 - 2000 MHz, +/-0.8 dB; 2000 - 6000 MHz, +/-1.2 dB
k=2, (95% Confidence Level)	03m	26 - 1000 MHz, +/-0.9 dB; 1000 - 2000 MHz, +/-0.8 dB; 2000 - 6000 MHz, +/-1.3 dB
	10m	26 - 1000 MHz, +/-1.0 dB; 1000 - 2000 MHz, +/-1.4 dB; 2000 - 6000 MHz, +/-2.3 dB

Test Remarks: Extended Calibration: from 26 MHz to 6 GHz

Calibration Traceability: All Measuring and Test Equipment (M/TE) identified below are traceable to the SI units through the National Institute for Standards and Technology (NIST) or other recognized National Metrology Institute. Calibration Laboratory and Quality System controls are compliant with ISO/IEC 17025-2005 and ANSI/NCSL Z540-1-1994.

### Standards and Equipment Used:

#### Make / Model / Name / S/N / Recall Date

Agilent N5232A-216 PNA-L Network Analyzer MY52221044 03-Jun-15

#### Condition of Instrument Upon Receipt:

In Tolerance to Internal Quality Standards

#### On Release:

In Tolerance to Internal Quality Standards

Calibration Completed By

James Hansell, Calibration Technician

Attested and Issued on 02-Jul-14

Doug Kramer, Manager, Calibration/EMC/Wireless Lab