

TSSCBASE 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 & Conducted Line

EQUIPMENT:	MANUFACTURER:	MODEL:	CAL DATE:	CAL DUE DATE:
Spectrum Analyzer	Rohde & Schwarz	FSEA-20	05/09/2013	05/09/2014
Spectrum Analyzer	Rohde & Schwarz	FSU26	05/09/2013	05/09/2014
Spectrum Analyzer	Rohde & Schwarz	FSU3	05/09/2013	05/09/2014
Antenna ('Biconilog')	ETS (EMCO)Lindgren	3149	07/08/2013	07/08/2014
LISN	COM-POWER	LI-115	10/17/2013	10/17/2014
Horn Antenna	Electro-Metrics	RGA 60 SN 3127	05/17/2013	05/17/2014
Low Loss Coax	MEGA PHASE	DC24GHz	CAL BEFORE USE	
LNA	MITEQ	AFS42	CAL BEFORE USE	
High Pass Filter	Mini-Circuits	UHF-1300	CAL BEFORE USE	
High Pass Filter	Mini-Circuits	UHF-3100	CAL BEFORE USE	

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

Certificate of Calibration

Issue Date: 10/14/2013

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

Certificate #: GC49-10325
Work Order #: GC49 -135
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.: 018675
Manufacturer: R&S
Description: SPECTRUM ANALYZER
Department: ALARMNET
Temp./RH: 22.0 C / 45.0 %
Cal. Interval: 12 MONTHS
Cal Date: 10/14/2013

Purchase Order: 583920

Asset Tag No.: 10506
Model Number: FSEA20
Serial Number: DE23427
Inspected By: MR1
Job Title: METROLOGIST
Calibration Result: PASSED
Cal. Due Date: 10/14/2014

Procedure #GCP: RS FSEA20

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	1017	ATTENUATOR	1017	11/01/2013
GENERAL CALIBRATION	1039	FUNCTION GENERATOR	2847A09631	04/11/2014
GENERAL CALIBRATION	1103	POWER METER	3048U03479	10/18/2013
GENERAL CALIBRATION	332	FREQUENCY COUNTER	CCN200100126	06/03/2014
GENERAL CALIBRATION	418	DIGITAL MULTIMETER	2201A12339	01/16/2014
GENERAL CALIBRATION	588	ATTENUATOR	2522A40468	07/19/2014
GENERAL CALIBRATION	636	SYNTHESIZED SWEEPER, 26GHZ	2520A01164	04/19/2014
GENERAL CALIBRATION	650	POWER SPLITTER	51530	01/14/2014

This is to certify that General Calibration, Inc. is accredited by A2LA and that its calibration system is in compliance with ISO/IEC 17025-2005, 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: 5/13/2013



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

Certificate #: 1034725
Work Order #: RH509
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 / 53.0 %
Cal. Interval: 12 MONTHS
Cal Date: 05/09/2013

Purchase Order:

583920

Asset Tag No.: 11496
Model Number: FSU26
Serial Number: 100303
Inspected By: RH1
Job Title: METROLOGIST
Calibration Result: PASSED
Cal. Due Date: 05/09/2014

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	335	SYNTHESIZED SWEEPER, 50GHZ	3614A00157	08/02/2014
GENERAL CALIBRATION	676	LEVEL GENERATOR	2516A04043	05/21/2013
GENERAL CALIBRATION	856	FREQUENCY COUNTER	51002-5	06/28/2013
GENERAL CALIBRATION	874	POWER SENSOR	3318A15971	10/18/2013
GENERAL CALIBRATION	974	POWER METER	2709A29063	06/04/2013

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Approved By

Robert D. Mflare
General Calibration, Inc. - Q. A. Manager

Certificate of Calibration

Issue Date: 5/13/2013



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

Certificate #: 1034723
Work Order #: RH509
Customer #: 001464

Performed By:

GENERAL CALIBRATION, INC.
2 MARS COURT

Location of Calibration:

HONEYWELL SECURITY (001464)
2 CORPORATE CENTER DRIVE

BOONTON, NJ 07005

MELVILLE, NY 11747

Equipment Information:

Job No.: 066615
Manufacturer: R&S
Description: SPECTRUM ANALYZER
Department:
Temp./RH: 22.0 C / 53.0 %
Cal. Interval: 12 MONTHS
Cal Date: 05/09/2013

Purchase Order: 583920
Asset Tag No.: 11493
Model Number: FSU3
Serial Number: 100029
Inspected By: RH1
Job Title: METROLOGIST
Calibration Result: PASSED
Cal. Due Date: 05/09/2014

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	335	SYNTHESIZED SWEEPER, 50GHZ	3614A00157	08/02/2014
GENERAL CALIBRATION	661	POWER SENSOR	US37298428	07/06/2013
GENERAL CALIBRATION	676	LEVEL GENERATOR	2516A04043	05/21/2013
GENERAL CALIBRATION	856	FREQUENCY COUNTER	51002-5	06/28/2013
GENERAL CALIBRATION	974	POWER METER	2709A29063	06/04/2013

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Approved By

General Calibration, Inc. - Q. A. Manager



ETS-LINDGREN™

An ESCO Technologies Company

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

Cert I.D.: 97937

Certificate of Calibration Conformance

Page 1 of 5

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 000028197	Alternate ID:	11243
Date Completed:	08-Jul-13	Customer:	HONEYWELL (NY)
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 N5230C PNA-L Net/Wrk Analyzer MY49002145 13-Jul-13

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 08-Jul-13

Doug Kramer, EMC/Wireless Lab Manager

This document provides traceability of measurements to recognized national standards using controlled processes at the ETS-Lindgren Calibration Laboratory. Uncertainties listed are derived from the methods described by NIST Tech Note 1297. This certificate and report may not be reproduced, except in full, without the written approval of ETS-Lindgren Calibration Laboratory in accordance with ISO/IEC 17025-2005 and ANSI/NCSL Z540-1-1994. QAF 1127 (03/11)

Certificate of Calibration

Issue Date: 10/17/2013



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

Certificate #: GC49-10365
Work Order #: GC49-135
Customer #: 001464

Performed By:

GENERAL CALIBRATION, INC.
2 MARS COURT

Location of Calibration:

HONEYWELL SECURITY (001464)
2 CORPORATE CENTER DRIVE

BOONTON, NJ 07005

MELVILLE, NY 11747

Equipment Information:

Job No.: 076905
Manufacturer: COM-POWER
Description: LISN
Department: DAVID KALMUS
Temp./RH: 22.0 C / 24.0 %
Cal. Interval: 12 MONTHS
Cal Date: 10/17/2013

Purchase Order: 583920
Asset Tag No.: 11262 ✓
Model Number: LI-115
Serial Number: 241050
Inspected By: MR1
Job Title: METROLOGIST
Calibration Result: PASSED
Cal. Due Date: 10/17/2014

Procedure #GCP: COM-POWER LI-115

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	418	DIGITAL MULTIMETER	2201A12339	01/16/2014
GENERAL CALIBRATION	700	DIGITAL MULTIMETER	77820175	02/11/2014

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Approved By

General Calibration, Inc. - Q. A. Manager