

## Section 15.231 and ANSI C63.4

This is a list of all test equipment used.

## Test Equipment list for Honeywell OATS:

Equipment	Mfg	Model	Cal Date	Cal Due
Spectrum Analyzer	Rohde & Schwarz	FSEA20	10/12/09	10/12/10
Spectrum Analyzer	Rohde & Schwarz	FSEA20	10/14/08	10/14/09
Antenna ('Biconilog')	ETS (EMCO)Lindgren	3149	07/10/09	07/10/10
Transient Limiter	HP	11947A	05/12/09	05/12/10
LISN	EMCO	3825/2	10/16/09	10/19/10
LISN	EMCO	3825/2	10/17/08	10/17/09

PLEASE SEE PAGE 2-5 FOR TEST EQUIPMENT TRACEABILITY

If you need any additional information from Honeywell please contact:

Greg Barbato RF Engineer  
(Acting for Ken Eskildsen)  
Phone (Direct): (516) 577-5863  
Email: [greg.barbato@honeywell.com](mailto:greg.barbato@honeywell.com)

# Certificate of Calibration

Issue Date: 10/16/2009



General Calibration, Inc.

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

Certificate #: 15434MR  
Purchase Order: 5105648  
Work Order #: MR309  
Customer #: 001464

**Performed By:**  
GENERAL CALIBRATION, INC.  
2 MARS COURT

**Location of Calibration:**  
HONEYWELL SECURITY (001464)  
2 CORPORATE CENTER DRIVE

MONTVILLE, NJ 07045

MELVILLE, NY 11747

## Equipment Information

Job No.: 004345  
Manufacturer: EMCO  
Description: LISN  
Department: BLDG. 163  
Temp./RH: 22 C / 45 %  
Cal. Interval: 12 MONTHS  
Cal Date: 10/16/2009

Asset Tag No.: 04832  
Model Number: 3825/2  
Serial Number: 1076  
Inspected By: MR1  
Job Title: METROLOGIST  
Calibration Result: PASS  
Cal. Due Date: 10/16/2010

## Calibration Notes

Condition: Found In Tolerance and Left In Tolerance

**Procedure #GCP: EMCO 3825/2**

## Standards Used To Calibrate Equipment

Company	I.D.	Description	Cal. Due Date
GENERAL CALIBRATION	1004	DIGITAL MULTIMETER	05/28/2010
GENERAL CALIBRATION	700	DIGITAL MULTIMETER	01/16/2010

The above instrument has been checked and calibrated against the above working standard(s) which are traceable to the NIST. The test limits stated in the report correspond to the published specifications of the equipment, at the points tested. Also, the collective uncertainties of measurement standards do not exceed 25% of the tolerance of the characteristics being calibrated, where possible. The metrology procedures utilized conform to and satisfy the requirements set forth in ANSI/NCSL Z540-1-1994, 10 CFR part 21, ISO 9001-2000, ISO 10012-2003, and MIL-STD 45662A.

Approved By \_\_\_\_\_  
General Calibration, Inc. - Q. A. Manager

# Certificate of Calibration

Issue Date: 10/12/2009



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

Certificate #: 15395MR  
Purchase Order: 5105648  
Work Order #: MR309  
Customer #: 001464

**Performed By:**  
GENERAL CALIBRATION, INC.  
2 MARS COURT

**Location of Calibration:**  
HONEYWELL SECURITY (001464)  
2 CORPORATE CENTER DRIVE

MONTVILLE, NJ 07045

MELVILLE, NY 11747

## Equipment Information

Job No.: 018675  
Manufacturer: R&S  
Description: SPECTRUM ANALYZER  
Department: ALARMNET  
Temp./RH: 22 C / 45 %  
Cal. Interval: 12 MONTHS  
Cal Date: 10/12/2009

Asset Tag No.: 10506  
Model Number: FSEA20  
Serial Number: DE23427  
Inspected By: MR1  
Job Title: METROLOGIST  
Calibration Result: PASS  
Cal. Due Date: 10/12/2010

## Calibration Notes

Condition: Found In Tolerance and Left In Tolerance

Procedure #GCP: R&S FSEA20

## Standards Used To Calibrate Equipment

Company	I.D.	Description	Cal. Due Date
GENERAL CALIBRATION	1031	SYNTHESIZED SWEEPER	02/02/2010
GENERAL CALIBRATION	434	POWER SPLITTER	09/18/2010
GENERAL CALIBRATION	650	POWER SPLITTER	12/08/2009
GENERAL CALIBRATION	774	POWER SENSOR	07/13/2010
GENERAL CALIBRATION	967	FUNCTION GENERATOR	09/15/2010

The above instrument has been checked and calibrated against the above working standard(s) which are traceable to the NIST. The test limits stated in the report correspond to the published specifications of the equipment, at the points tested. Also, the collective uncertainties of measurement standards do not exceed 25% of the tolerance of the characteristics being calibrated, where possible. The metrology procedures utilized conform to and satisfy the requirements set forth in ANSI/NCSL Z540-1-1994, 10 CFR part 21, ISO 9001-2000, ISO 10012-2003, and MIL-STD 45662A.

Approved By \_\_\_\_\_  
General Calibration, Inc. - Q. A. Manager

# Certificate of Calibration

Issue Date: 05/12/2009



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

Certificate #: 14309MR  
Purchase Order: 5105648  
Work Order #: MR267  
Customer #: 001464

**Performed By:**  
GENERAL CALIBRATION, INC.  
2 MARS COURT

**Location of Calibration:**  
HONEYWELL SECURITY (1464)  
2 CORPORATE CENTER DRIVE

MONTVILLE, NJ 07045

MELVILLE, NY 11747

## Equipment Information

BarCode: 096188  
Manufacturer: HP  
Description: TRANSIENT LIMITER  
Department:  
Temp./RH: 22 C / 45 %  
Cal. Interval: 12 MONTHS  
Cal Date: 05/12/2009

Instrument I.D.: 10131  
Model Number: 11947A  
Serial Number: 3107A02782  
Inspected By: MR1  
Job Title: METROLOGIST  
Calibration Result: PASS  
Cal. Due Date: 5/12/2010

## Calibration Notes

Condition: Found In Tolerance and Left In Tolerance

## Standards Used To Calibrate Equipment

Company	I.D.	Description	Cal. Due Date
GENERAL CALIBRATION	503	SPECTRUM ANALYZER	03/11/2010
GENERAL CALIBRATION	838	SIGNAL GENERATOR	08/25/2009

The above instrument has been checked and calibrated against the above working standard(s) which are traceable to the NIST. The test limits stated in the report correspond to the published specifications of the equipment, at the points tested. Also, the collective uncertainties of measurement standards do not exceed 25% of the tolerance of the characteristics being calibrated, where possible. The metrology procedures utilized conform to and satisfy the requirements set forth in ANSI/NC SL Z540-1-1994, 10 CFR part 21, ISO 9001-2000, ISO 10012-2003, and MIL-STD 45662A.

Approved By *Richard D. Hoff*  
General Calibration, Inc. - Q. A. Manager



Cert I.D.: 74136

*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.

<b>Manufacturer:</b>	EMCO	<b>Operating Range:</b>	80 MHz - 6 GHz
<b>Model Number:</b>	3149	<b>Instrument Type:</b>	Biconilog (Type 5)
<b>Serial Number/ ID:</b>	00045682	<b>Date Code:</b>	
<b>Tracking Number:</b>	S000016846	<b>Alternate ID:</b>	11242
<b>Date Completed:</b>	10-Jul-09	<b>Customer:</b>	HONEYWELL (NY)
<b>Test Type:</b>	3 meter, Horizontal and Vertical		
<b>Calibration Uncertainty:</b>	01m	80 - 1000 MHz, +/-0.9 dB; 1000 - 2000 MHz, +/-0.8 dB; 2000 - 6000 MHz, +/-1.2 dB	
k=2, (95% Confidence Level)	03m	80 - 1000 MHz, +/-0.9 dB; 1000 - 2000 MHz, +/-0.8 dB; 2000 - 6000 MHz, +/-1.3 dB	
	10m	80 - 1000 MHz, +/-1.0 dB; 1000 - 2000 MHz, +/-1.4 dB; 2000 - 6000 MHz, +/-2.3 dB	

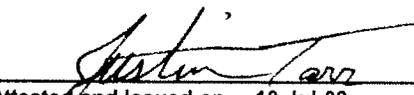
**Test Remarks:** Unit was calibrated down to 26 MHz.

Calibration Traceability: All Measuring and Test Equipment (M/TE) identified below are traceable to the National Institute for Standards and Technology (NIST). Calibration Laboratory and Quality System controls are compliant with ISO/IEC 17025-2005.

**Standards and Equipment Used:**

Make / Model / Name / S/N / Recall Date					Condition of Instrument Upon Receipt:
Hewlett Packard	8753C	Network Analyzer	3029A01587	11-Feb-10	In Tolerance to Internal Quality Standards
Hewlett Packard	85047A	S-parameter Test Set	3033A02186	11-Feb-10	
					<b>On Release:</b>
Rohde & Schwarz	ZVK	Vector Network Analyzer	1127.8651.60	26-Feb-10	In Tolerance to Internal Quality Standards

  
 Calibration Completed By  
 Slav Ligai, Calibration Technician

  
 Attested and Issued on 10-Jul-09  
 Justin Tarr, Calibration Supervisor



Cert I.D.: 74136

1301 Arrow Point Drive  
Cedar Park, Texas 78613  
(512) 531-6498

### 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.

<b>Manufacturer:</b>	EMCO	<b>Operating Range:</b>	80 MHz - 6 GHz
<b>Model Number:</b>	3149	<b>Instrument Type:</b>	Biconilog (Type 5)
<b>Serial Number/ ID:</b>	00045682	<b>Date Code:</b>	
<b>Tracking Number:</b>	S000016846	<b>Alternate ID:</b>	11242
<b>Date Completed:</b>	10-Jul-09	<b>Customer:</b>	HONEYWELL (NY)
<b>Test Type:</b>	3 meter, Horizontal and Vertical		

<b>Calibration Uncertainty:</b>	01m	80 - 1000 MHz, +/-0.9 dB; 1000 - 2000 MHz, +/-0.8 dB; 2000 - 6000 MHz, +/-1.2 dB
k=2, (95% Confidence Level)	03m	80 - 1000 MHz, +/-0.9 dB; 1000 - 2000 MHz, +/-0.8 dB; 2000 - 6000 MHz, +/-1.3 dB
	10m	80 - 1000 MHz, +/-1.0 dB; 1000 - 2000 MHz, +/-1.4 dB; 2000 - 6000 MHz, +/-2.3 dB

**Test Remarks:** Unit was calibrated down to 26 MHz.

Calibration Traceability: All Measuring and Test Equipment (M/TE) identified below are traceable to the National Institute for Standards and Technology (NIST). Calibration Laboratory and Quality System controls are compliant with ISO/IEC 17025-2005.

**Standards and Equipment Used:**

Make / Model / Name / S/N / Recall Date					Condition of Instrument Upon Receipt:
Hewlett Packard	8753C	Network Analyzer	3029A01587	11-Feb-10	In Tolerance to Internal Quality Standards
Hewlett Packard	85047A	S-parameter Test Set	3033A02186	11-Feb-10	
					<b>On Release:</b>
Rohde & Schwarz	ZVK	Vector Network Analyzer	1127.8651.60	26-Feb-10	In Tolerance to Internal Quality Standards

Calibration Completed By  
Slav Ligai, Calibration Technician

Attested and Issued on 10-Jul-09  
Justin Tarr, Calibration Supervisor

Issue Date: 10/14/2008



### General Calibration, Inc.

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

Certificate #: 12962MR  
Purchase Order: 4965832  
Work Order #: MR219  
Customer #: 001464

GENERAL CALIBRATION, INC.  
2 MARS COURT  
MONTVILLE, NJ 07045

HONEYWELL SECURITY (1464)  
2 CORPORATE CENTER DRIVE  
MELVILLE, NY 11747

BarCode: 018675  
Manufacturer: R&S  
Description: SPECTRUM ANALYZER  
Current Location: ALARMNET  
Temp./RH: 22 C / 40 %  
Cal. Interval: 12 MONTHS  
Cal Date: 10/14/2008

Instrument I.D.: 10506  
Model Number: FSEA20  
Serial Number: DE23427  
Inspected By: MR1  
Job Title: METROLOGIST  
Calibration Result: PASS  
Cal. Due Date: 10/14/2009

Condition: Found In Tolerance and Left In Tolerance

GENERAL CALIBRATION	434	POWER SPLITTER	N/A	09/12/2009
GENERAL CALIBRATION	531	MEASURING RECEIVER	N/A	09/22/2009
GENERAL CALIBRATION	636	SYNTHESIZED SWEEPER	N/A	09/03/2009
GENERAL CALIBRATION	666	SENSOR MODULE	N/A	04/25/2009

The above instrument has been checked and calibrated against the above working standard(s) which are traceable to the NIST. The test limits stated in the report correspond to the published specifications of the equipment, at the points tested. Also, the collective uncertainties of measurement standards do not exceed 25% of the tolerance of the characteristics being calibrated, where possible. The metrology procedures utilized conform to and satisfy the requirements set forth in ANSI/NCSL Z540-1-1994, 10 CFR part 21, ISO 9001-2000, ISO 10012-2003, and MIL-STD 45662A.

Approved By *[Signature]*  
General Calibration, Inc. - Q. A. Manager

# Certificate of Calibration

Issue Date: 05/12/2009



General Calibration, Inc.

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

Certificate #: 14309MR  
Purchase Order: 5105648  
Work Order #: MR267  
Customer #: 001464

**Performed By:**

GENERAL CALIBRATION, INC.  
2 MARS COURT

**Location of Calibration:**

HONEYWELL SECURITY (1464)  
2 CORPORATE CENTER DRIVE

MONTVILLE, NJ 07045

MELVILLE, NY 11747

**Equipment Information**

BarCode: 096188  
Manufacturer: HP  
Description: TRANSIENT LIMITER  
Department:  
Temp./RH: 22 C / 45 %  
Cal. Interval: 12 MONTHS  
Cal Date: 05/12/2009

Instrument I.D.: 10131  
Model Number: 11947A  
Serial Number: 3107A02782  
Inspected By: MR1  
Job Title: METROLOGIST  
Calibration Result: PASS  
Cal. Due Date: 5/12/2010

**Calibration Notes**

Condition: Found In Tolerance and Left In Tolerance

**Standards Used To Calibrate Equipment**

Company	I.D.	Description	Cal. Due Date
GENERAL CALIBRATION	503	SPECTRUM ANALYZER	03/11/2010
GENERAL CALIBRATION	838	SIGNAL GENERATOR	08/25/2009

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Approved By Richard D. McNamee  
General Calibration, Inc. - Q. A. Manager

Issue Date: 10/17/2008



General Calibration, Inc.

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

Certificate #: 13009MR  
Purchase Order: 4965832  
Work Order #: MR219  
Customer #: 001464

GENERAL CALIBRATION, INC.  
2 MARS COURT  
MONTVILLE, NJ 07045

HONEYWELL SECURITY (1464)  
2 CORPORATE CENTER DRIVE  
MELVILLE, NY 11747

BarCode: 004345  
Manufacturer: EMCO  
Description: LISN  
Current Location: BLDG. 163  
Temp./RH: 22 C / 43 %  
Cal. Interval: 12 MONTHS  
Cal Date: 10/17/2008

Instrument I.D.: 04832  
Model Number: 3825/2  
Serial Number: 1076  
Inspected By: MR1  
Job Title: METROLOGIST  
Calibration Result: PASS  
Cal. Due Date: 10/17/2009

Condition: Found In Tolerance and Left In Tolerance

GENERAL CALIBRATION	511	DIGITAL MULTIMETER	N/A	09/08/2009
GENERAL CALIBRATION	700	DIGITAL MULTIMETER	N/A	01/10/2009

The above instrument has been checked and calibrated against the above working standard(s) which are traceable to the NIST. The test limits stated in the report correspond to the published specifications of the equipment, at the points tested. Also, the collective uncertainties of measurement standards do not exceed 25% of the tolerance of the characteristics being calibrated, where possible. The metrology procedures utilized conform to and satisfy the requirements set forth in ANSI/NCSL Z540-1-1994, 10 CFR part 21, ISO 9001-2000, ISO 10012-2003, and MIL-STD 45662A.

Approved By Richard A. Whelan  
General Calibration, Inc. - Q. A. Manager