



11317 Frederick Avenue
Beltsville, MD 20705-2088
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CERTIFICATE OF CALIBRATION

Antenna Research Associates, Inc.
11317 Frederick Avenue
Beltsville, MD 20705
Phn. 301-937-8888 Fax. 301-937-2796

Customer:
Southwest Microwave
9055 South McKemy Street
Tempe, AZ 85284-2946

OWNER: Southwest Microwave
MANUFACTURER: Antenna Research
MODEL NUMBER: ALA-130/RS

DESCRIPTION: Active Loop Antenna
SERIAL NUMBER: 1040
ASSET NUMBER:

JOB NUMBER: 404-067
PO NUMBER: R56584
PROCEDURE NUMBER: Q.A.I 40810
REPORT NUMBER: 02170406
CONTROL NUMBER:

Calibration Performed In Accordance With: ANSI / NCSL Z540-1 1994

Reports Sent With Certificate of Calibration: Antenna Factor

Out Of Tolerance Conditions: None

Calibration Equipment Used: TE-405, TE-109

NIST Traceability: 811791

Date Of Calibration: February 17, 2004 Temperature: 70° F

Calibration Due Date: February 17, 2005 Humidity: 62% rH

Calibrated By: Bob E. Gary

Certified By: RL

Date: 2-17-04

Calibrations of reference standards and instrumentation that have been used in obtaining results, are traceable to the National Institute of Standards and Technology (NIST) or other nationally accepted measuring systems. This certificate relates only to the equipment listed and shall not be reproduced except in full, without the written approval of Antenna Research Associates, Inc. All calibrations have been performed using standards having an accuracy of four times or better than the instrument(s) listed above. Instruments and Standards are periodically calibrated and maintained.



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Model: ALA-130/A

H-FIELD ANTENNA FACTOR CALIBRATION

$$H(\text{dB V/m}) = V_0(\text{dB V}) + AFH(\text{dB AVm}^{-1})$$

Frequency	AFH
MHz	dB/AV
1khz	3.9
3khz	-8.6
10khz	-20.8
30khz	-32.2
50 khz	-36.8
80khz	-41.4
100khz	-42.2
200khz	-48.5
500khz	-56.4
700khz	-58.8
1mhz	-61.2
2mhz	-65.6
3mhz	-65.9
6mhz	-64.0
10mhz	-60.6
20mhz	-53.4
30mhz	-49.0

Model Number: ALA-130/RS

Serial Number: 1040

Temperature: 70°F

Job Number: 404-067

Humidity: 62%

Standard: BBH-3100/A, TE-109

Traceability: 811791

Remarks: 1 meter cal

Date: February 17, 2004

fol 8/2004

Calibrated by