



FCC TEST REPORT
for
AOR USA, INC.
COMMUNICATIONS RECEIVER
Model: AR5000A+3B

GARWOOD LABORATORIES, INC.
TESTING AND ENGINEERING SERVICES



FCC TEST REPORT
Certification for FCC Part 15
Subpart B – Unintentional Radiators
Section 15.121 – Scanning Receivers

Report for:

AOR USA, INC.
COMMUNICATIONS RECEIVER
Model: AR5000A+3B

*Prepared For: AOR USA, Inc.
20655 S. Western Ave.
Suite 112
Torrance, CA 90501*

*Prepared By: Garwood Laboratories, Inc
7829 Industry Avenue
Pico Rivera, CA 90660*

Created: April 20, 2004



GARWOOD LABORATORIES, INC.

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Phone: 562-949-2727 Fax: 562-949-8757

"EXCELLENCE
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INTEGRITY"

Report No: FR25921-E

FCC TEST REPORT FOR AOR USA, INC.

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DOCUMENT HISTORY

Revision	Issue Date	Affected Page(s)	Description Of Modifications	Revised By	Approved By
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CLIENT INFORMATION	
<i>Purchase Order</i>	TN114FCR
<i>Quote Number</i>	200310066E
<i>EUT Arrival Date</i>	October 23, 2003
<i>Company Name</i>	AOR USA, Inc.
<i>Address</i>	20655 S. Western Ave Suite 112
<i>City, State, Country Zip</i>	Torrance, CA 90501
<i>Contact Name</i>	Mr. Taka Nakayama
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GARWOOD INFORMATION	
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<i>Web Site</i>	www.garwoodtestlabs.com
<i>Contact Name</i>	Tony Masone
<i>Title</i>	EMC Manager

Test Personnel	Test Dates
Arnulfo Tapia – EMC Engineer	23, 24, & 30 October 2003 9 April 2004



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ACCREDITATIONS:

The Open Area Test Site (OATS) and measurement facilities used to collect the test data are located at Garwood Laboratories, Incorporated test facility in Pico Rivera, California.

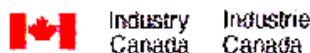
The test facility is also recognized, certified, or accredited by the following organizations:



This site has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration Number: 534174. Date of renewal: September 25, 2003. **Garwood Laboratories** is an authorized test laboratory for the DoC process.



Garwood Laboratories, Inc. has been assessed in accordance with ISO 17025 and with ITI's assessment criteria. Based upon this assessment, Technology International (Europe), Ltd. has granted approval for specifications implementing the EU Directive on EMC (89/336/EEC). The scope of the approval was provided on a Schedule of Assessment supplied with a certificate and is available upon request. Certificate Number: 04-051, effective through February 27, 2005, or until the next agreed assessment date.



Garwood Laboratories, Inc. is registered by Industry Canada for performance of measurements and complies with RSS 212, Issue 1 (Provisional). Reference IC 3298, Dated: January 8, 2003.



Garwood Laboratories, Inc. is authorized, by joint agreement with Korea Electric Testing Institute (KETI), to perform required and necessary South Korean Product Safety and EMC testing (including reports) according to the IEC and CISPR standards.



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FCC TEST REPORT FOR AOR USA, INC.

Measurement / Technical Report Summary

Type of Authorization	Certification for Scanning Receiver
Applicable FCC Rules and Tests	<p>This test report has been prepared in accordance with the requirements of FCC Rules and Regulations as listed in title 47 CFR (10-01-02 Edition). The following parts and subparts are applicable:</p> <p>PART 15 – RADIO Frequency Devices Subpart B – Unintentional Radiators §15.107 – Conducted Limits §15.109 – Radiated Emission Limits §15.121 – Scanning Receivers</p> <p>PART 2 – FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS Subpart J – Equipment Authorization Procedures</p>
Summary of Test Results	The Communications Receiver Model AR5000A+3B complied with all the applicable test requirements.



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FCC TEST REPORT FOR AOR USA, INC.

1.0 GENERAL INFORMATION

1.1 Product Description

Equipment Under Test	Communications Receiver
Model Number	AR5000A+3B
Description	The Communications Receiver Model AR5000A+3B is a wide band all mode scanning receiver. The scanning receiver receives any frequency between 10kHz to 3GHz, except for cellular radiotelephone frequency bands. The unit is an all mode receiver and receives signals modulated in all modes (FM, AM, SSB, CW). The receiver is powered from a 12VDC power adapter Model 15AP-RD121A5-3P.
Operating Frequencies	1st I.F. 622.0 / 622.4 MHz, 2nd I.F. 10.7 MHz, 3rd I.F. 455 kHz

1.2 Details of the Tested System

The Communications Receiver was tested as a stand alone unit. The following table lists the cables that were connected to the receiver during testing.

Item	Cable Type	Length (m)	From	To
A.	Coax Cable	1.8	EUT – Antenna 1 Port	Antenna
B.	Coax Cable	1.8	EUT – IF Out Port	Un-terminated
C.	DB-9 Serial Cable	2.4	EUT – Remote Port	Un-terminated
D.	Coax Cable	1.8	EUT –STD In Port	Un-terminated
E.	Coax Cable	1.8	EUT – Phones Port	Un-terminated
F.	Adapter Output Line	1.9	AC to DC Adapter	EUT – 12VDC Input
G.	Adapter Input Line	1.9	AC Source	AC to DC Adapter



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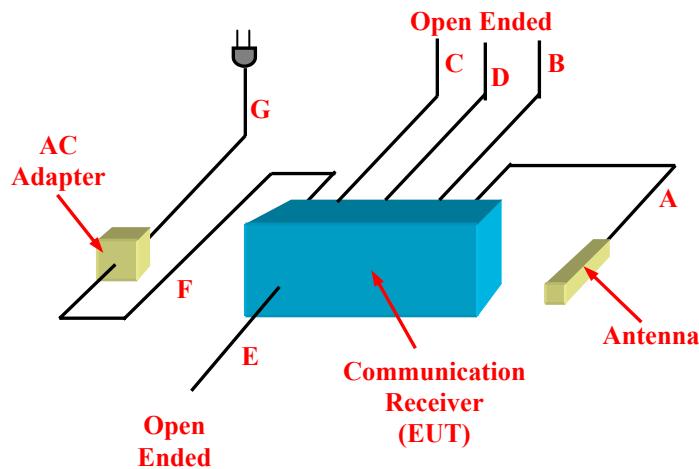
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1.3 Configuration of the Test Set-Up



1.4 Operating Modes

To exercise the functions of the EUT during testing, the Communications Receiver was connected to power, and then activated. The receiver can either be tuned to a single frequency or it can be set to scan mode. Since the operating frequency band of the Communications Receiver was greater than 10MHz, the receiver was tested in several modes. First, three emissions scans were performed with the unit tuned to a low, mid, and high frequency. Then, an emissions test was performed with the unit operating in scan mode.

1.5 Equipment Modifications

Several shielding improvements were made to the enclosure of the Communications Receiver. These modifications were necessary in order to comply with the FCC specification requirements above 1GHz. The manufacturer approved all modifications and is responsible for ensuring that all modifications are implemented.



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2.0 PRODUCT LABELING

2.1 FCC ID Label

The FCC ID consists of two elements, a grantee code and an equipment product code (EPC), in the exact order as shown in the example below (Ref: §2.925(a)).

Example FCC ID:

FCC ID: XXX123

XXX = The three-character grantee code is assigned permanently by the FCC to a specific grantee (applicant) and is valid only for the party listed and at the address listed in the Notification of Code Assignment.

123 = The equipment product code (EPC) is assigned by the grantee (applicant) and should consist of a series of Arabic numerals, capital letters or a combination thereof and may include the dash or hyphen (-). The series of characters of the EPC should not exceed 14.

In addition, the manufacturer is responsible for having the compliance label produced, and for having it affixed to each unit that is marketed or imported.

FCC Compliance Label:

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference including interference that may cause undesired operation.

Please refer to the Attachment Section for a drawing of the FCC ID label for the Communications Receiver.

2.2 Location of the Label on the EUT

In order to validate the grant of equipment authorization, the FCC ID label should be permanently affixed to the equipment and should be in a conspicuous location on the device where it is readily visible (Ref: §2.925(d)).

For the FCC Compliance Label, when the device is so small or for such use that it is not practicable to place the statement specified above, the information should be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, should be placed on the container in which the device is marketed (Ref §15.19). However, the FCC identifier must be displayed on the device.



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2.3 Information to the User

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2.4 Additional Labeling for Scanning Receivers

Scanning receivers should have a label permanently affixed to the product and this label should read as follow (Ref §15.121(f)):

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR
RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND
FEDERAL LAW.



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3.0 SUMMARY OF TEST RESULTS

3.1 Conducted Emissions Limits

FCC Part 15, Subpart B, Conducted Emissions Limits			
Frequency (MHz)	Quasi Peak Limit (dB μ V)	Average Limit (dB μ V)	Remarks
0.15 - 0.50	66-56	56-46	Decreasing Logarithmically
0.50 - 5.0	56	46	None
5.0 - 30.0	60	50	None

3.2 Summary Table for Highest Conducted Emissions Levels

The initial step in collecting data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the data page, and these signals are then quasi-peaked if necessary. Spectrum analyzer plots and additional tabulated data are included in Section 5. The following data lists the significant emission frequencies and measured levels measured from the EUT. See Section 5 for supplemental test data sheets.

Sensor Location	Frequency Band (MHz)	Detection Mode	Measured* (dB μ V)	Delta To Limit (dB)
Line 1	0.1676	Peak	49.2	-5.8
	0.1615	Peak	49.0	-6.3
	0.1557	Peak	49.2	-6.4
	0.1721	Peak	48.4	-6.4
	0.1825	Peak	47.9	-6.4
	0.1854	Peak	47.3	-6.9
Line 2 (Neutral)	0.1685	Peak	49.0	-6.0
	0.1721	Peak	48.6	-6.2
	0.1615	Peak	48.9	-6.4
	0.1749	Peak	48.3	-6.4
	0.1873	Peak	47.5	-6.6
	0.1903	Peak	46.8	-7.2

Test Personnel:	Arnulfo Tapia - EMC Test Engineer
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FCC TEST REPORT FOR AOR USA, INC.

3.3 Radiated Emissions Limits

FCC Part 15, Subpart B, Class B Radiated Emissions Limits		
Frequency Range (MHz)	3 Meter Test Limit (dB μ V)	1 Meter Test Limit (dB μ V)
30 to 88	40.0	50.0
88 to 216	43.5	53.5
216 to 960	46.0	56.0
above 960	54.0	64.0

3.4 Summary Table for Highest Radiated Emissions Levels

The following tables lists the significant emission frequencies, detection mode, antenna polarity, corrected reading, and the compliance margin.

The following table displays the six highest peaks for frequencies 30 MHz to 1000 MHz. The EUT was measured at 3 meters while in test mode 1, scanning:

Frequency (MHz)	Detection Mode	Polarity (V/H)	Corrected Reading (dB μ V/m)	Delta To Highest Peak Limit (dB)
611.526	Peaks	H	40.0	-6.0
617.578	Peaks	H	35.9	-10.1
59.999	Peaks	V	26.6	-13.4
184.553	Peaks	V	28.9	-14.6
665.779	Peaks	V	31.1	-14.9
134.200	Peaks	V	19.6	-23.9

The following table displays the six highest peaks for frequencies 30 MHz to 1000 MHz. The EUT was measured at 3 meters while in test mode 2, not scanning and set to low frequency:

Frequency (MHz)	Detection Mode	Polarity (V/H)	Corrected Reading (dB μ V/m)	Delta To Highest Peak Limit (dB)
611.682	Peaks	H	40.2	-5.8
617.560	Peaks	H	36.5	-9.5
59.991	Peaks	V	26.6	-13.4
665.964	Peaks	V	31.1	-14.9
184.553	Peaks	V	28.5	-15.0
134.200	Peaks	V	22.2	-21.3



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The following table displays the six highest peaks for frequencies 30 MHz to 1000 MHz. The EUT was measured at 3 meters while in test mode 2, not scanning and set to mid frequency:

Frequency (MHz)	Detection Mode	Polarity (V/H)	Corrected Reading (dB μ V/m)	Delta To Highest Peak Limit (dB)
761.201	Peaks	V	43.3	-2.7
611.677	Peaks	H	41.1	-4.9
617.578	Peaks	H	38.1	-7.9
59.997	Peaks	V	26.5	-13.5
665.999	Peaks	V	31.3	-14.7
184.678	Peaks	V	25.5	-18.0

The following table displays the six highest peaks for frequencies 30 MHz to 1000 MHz. The EUT was measured at 3 meters while in test mode 2, not scanning and set to high frequency:

Frequency (MHz)	Detection Mode	Polarity (V/H)	Corrected Reading (dB μ V/m)	Delta To Highest Peak Limit (dB)
611.279	Peaks	H	40.8	-5.2
688.999	Peaks	H	38.8	-7.2
617.586	Peaks	H	37.5	-8.5
60.016	Peaks	V	25.7	-14.3
665.999	Peaks	V	31.5	-14.5
134.270	Peaks	V	21.3	-22.2

The following table displays the six highest peaks for frequencies 1 GHz to 5 GHz. The EUT to antenna measurement distance was 1 meter. The worst case signals are presented:

Frequency (GHz)	Detection Mode	Polarity (V/H)	Corrected Reading (dB μ V/m)	Delta To Highest Peak Limit (dB)
4.133	Peaks	V	61.593	-2.387
1.377	Peaks	V	61.019	-2.961
2.755	Peaks	H	60.837	-3.143
2.065	Peaks	V	52.837	-11.945

Test Personnel:

Arnulfo Tapia - EMC Test Engineer



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4.0 TEST MEASUREMENT PHOTOS

Refer to test setup exhibit

Photo: Radiated Emissions (Front View)

Refer to test setup exhibit

Photo: Radiated Emissions (Rear View)



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Refer to test setup exhibit

Photo: Conducted Emissions (Front View)

Refer to test setup exhibit

Photo: Conducted Emissions (Front View)



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5.0 – DETAILED TEST RESULTS

General Comments Section 5 pertains to the detailed test results for each of the test types applied to the EUT as summarized in section 3. All test equipment information is located in Appendix A.

5.1 Conducted Emissions Test Results

GARWOOD LABORATORIES, INC. EMI TEST DATA

DATE: OCTOBER 23, 2003 TEST NO.:

TITLE OF TEST: FCC PT.15 SUBPART B CLASS B - CONDUCTED EMISSIONS

CUSTOMER: AOR USA, INC.

EUT DESCRIPTION: SCANNING COMMUNICATIONS RECEIVER

MODEL NO.: AR500A+3B SERIAL NO.:

TEST MODE: RECEIVER SCANNING

SENSOR LOCATION: LINE SENSOR POL.:

FREQUENCY RANGE: 0.15 - 30MHz

TEST PERFORMED BY: A. TAPIA

TEST RESULTS: COMPLIED

TEST CONDITIONS: TESTED AT 120VAC 60Hz

INSP AT GL 29

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GARWOOD LABORATORIES, INC. 23 Oct 2003 10:44:54

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1. AOR USA, INC. TEST SETUPS

1.1 FCC PT.15 SUBPART B CLASS B

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AOR USA, INC.

SCANNING RECEIVER

MODEL: AR500A+3B

LISN: LINE 120VAC 60Hz MODE 1

6 highest Peaks above -25 dB of Limit Line #2
peak criteria = .5 dB

PEAK#	FREQ (MHz)	(dBuV)	DELTA
1	.1676	49.2	-5.8
2	.1615	49	-6.3
3	.1557	49.2	-6.4
4	.1721	48.4	-6.4
5	.1825	47.9	-6.4
6	.1854	47.3	-6.9



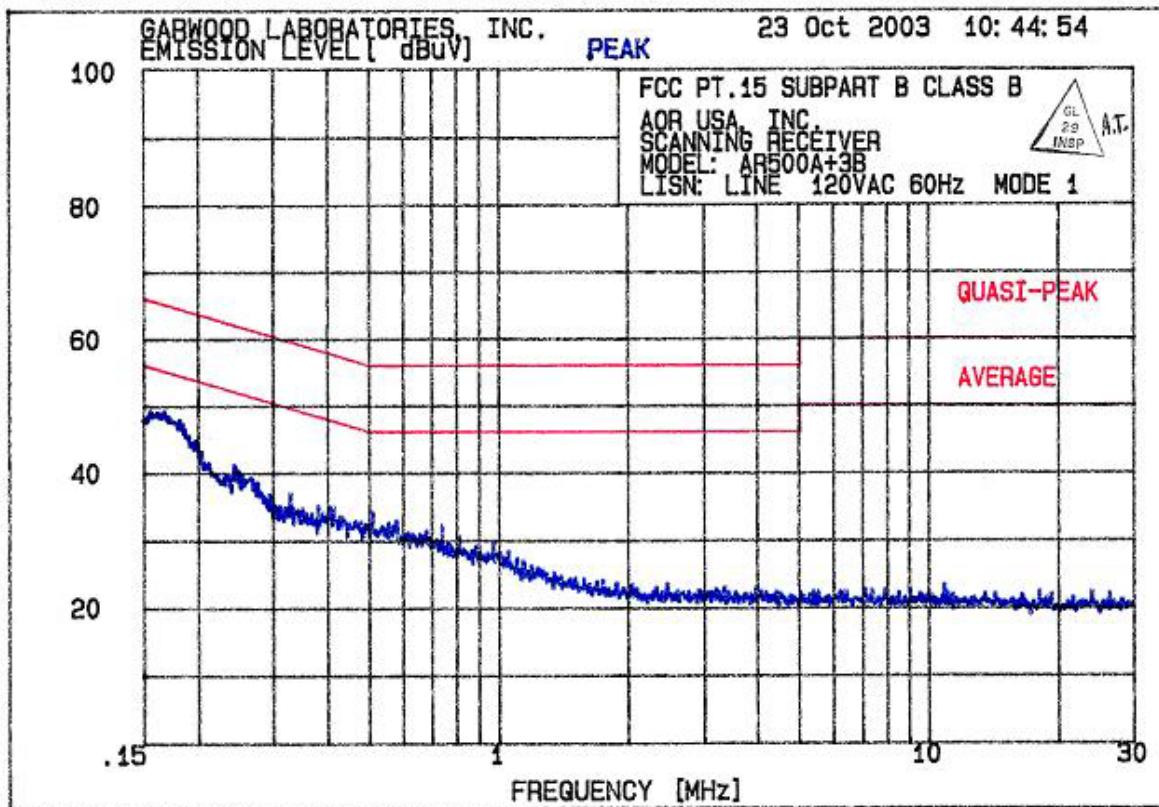
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FCC TEST REPORT FOR AOR USA, INC.

GARWOOD LABORATORIES, INC. EMI TEST DATA

DATE: OCTOBER 23, 2003 TEST NO.:

TITLE OF TEST: FCC PT.15 SUBPART B CLASS B - CONDUCTED EMISSIONS

CUSTOMER: AOR USA, INC.

EUT DESCRIPTION: SCANNING COMMUNICATIONS RECEIVER

MODEL NO.: AR500A+3B SERIAL NO.:

TEST MODE: RECEIVER SCANNING

SENSOR LOCATION: NEUTRAL SENSOR POL.:

FREQUENCY RANGE: 0.15 - 30MHz

TEST PERFORMED BY: A. TAPIA  TEMP. 71F HUM. 35%

TEST RESULTS: COMPLIED

TEST CONDITIONS: TESTED AT 120VAC 60Hz

=====

GARWOOD LABORATORIES, INC. 23 Oct 2003 10:57:07

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1. AOR USA, INC. TEST SETUPS

1.1 FCC PT.15 SUBPART B CLASS B

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AOR USA, INC.
SCANNING RECEIVER
MODEL: AR500A+3B MODE 1
LISN: NEUTRAL 120VAC 60Hz

6 highest Peaks above -25 dB of Limit Line #2
peak criteria = .5 dB

PEAK#	FREQ (MHz)	(dBuV)	DELTA
1	.1685	49	-6.0
2	.1721	48.6	-6.2
3	.1615	48.9	-6.4
4	.1749	48.3	-6.4
5	.1873	47.5	-6.6
6	.1903	46.8	-7.2



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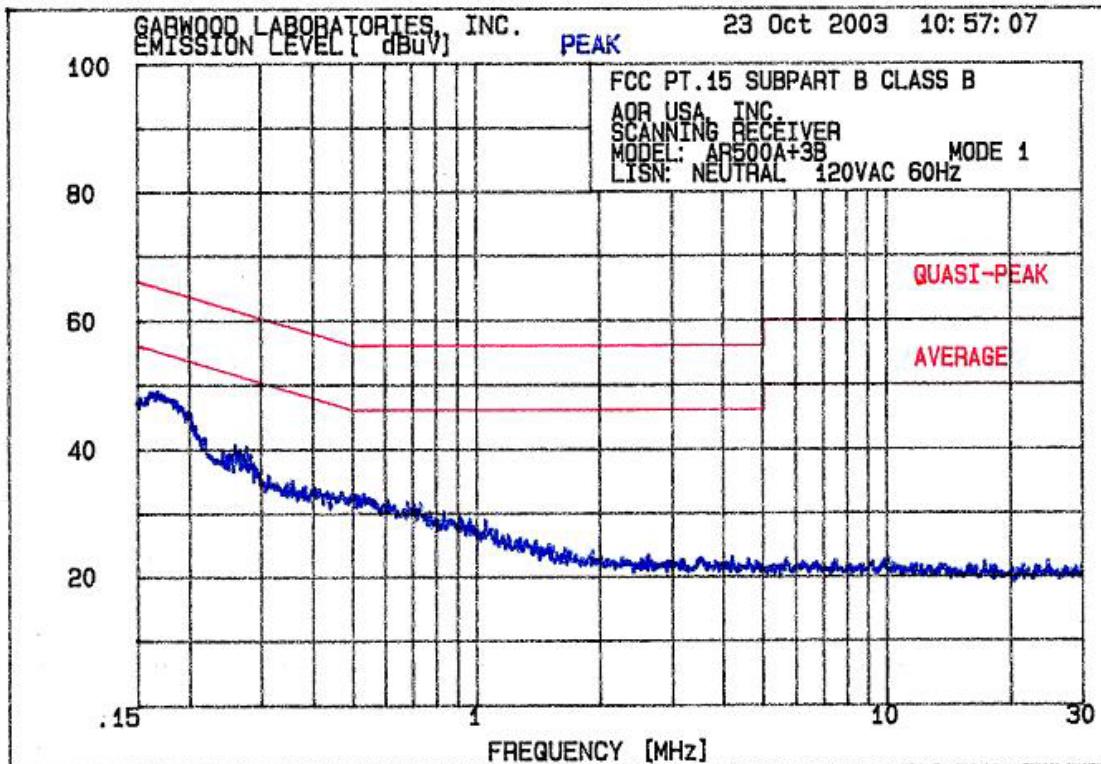
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5.2 Radiated Emissions Test Results

5.2.1 Radiated Emissions Test Results – Mode 1 (Scanning)

GARWOOD LABORATORIES INC. EMI TEST DATA

DATE: OCTOBER 24, 2003 TEST NO.:

TITLE OF TEST: FCC PT.15 SUBPART B CLASS B - RADIATED EMISSIONS

CUSTOMER: AOR USA, INC.

EUT DESCRIPTION: SCANNING RECEIVER

MODEL NO.: AR500A+3B SERIAL NO.:

TEST MODE: MODE 1 (SCANNING)

SENSOR LOCATION: 3 METERS SENSOR POL.: VERTICAL AND HORIZONTAL

FREQUENCY RANGE: 30 - 1000MHz

TEST PERFORMED BY: A. TAPIA 

TEST RESULTS: COMPLIED

TEST CONDITIONS: INPUT VOLTAGE 120VAC 60Hz

PRODUCT EMISSIONS

FCC PT.15 CLASS B @ 3m Data File: FINAL MODE 1

EMISSION No	FREQUENCY MHz	SPEC LIMIT	MEASUREMENTS			SITE		CORR FACTOR	COMMENTS
			dBuV/m	dB	MODE	POL	HGT cm		
1	59.999	40.0	26.6	-13.4	PK	V	95	1	-16.7
2	134.200	43.5	19.6	-23.8	PK	V	95	1	-9.2
3	184.553	43.5	28.9	-14.6	PK	V	95	1	-11.
4	611.526	46.0	40.0	-6.0	PK	H	95	1	2.8
5	617.578	46.0	35.9	-10.1	PK	H	95	1	2.9
6	665.779	46.0	31.1	-14.9	PK	V	95	1	3.7



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Phone: 562-949-2727 Fax: 562-949-8757

"EXCELLENCE
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Report No: FR25921-E

FCC TEST REPORT FOR AOR USA, INC.

5.2.2 Radiated Emissions Test Results – Mode 2 (Not Scanning), Set to Low Frequency

GARWOOD LABORATORIES INC. EMI TEST DATA

DATE: OCTOBER 24, 2003 TEST NO.:

TITLE OF TEST: FCC PT.15 SUBPART B CLASS B - RADIATED EMISSIONS

CUSTOMER: AOR USA, INC.

EUT DESCRIPTION: SCANNING RECEIVER

MODEL NO.: AR500A+3B SERIAL NO.:

TEST MODE: MODE 2 (NOT SCANNING), SET TO LOW FREQUENCY

SENSOR LOCATION: 3 METERS SENSOR POL.: VERTICAL AND HORIZONTAL

FREQUENCY RANGE: 30 - 1000MHz

TEST PERFORMED BY: A. TAPIA CL 29 AT HSP

TEST RESULTS: COMPLIED

TEST CONDITIONS: INPUT VOLTAGE 120VAC 60Hz

PRODUCT EMISSIONS

FCC PT.15 CLASS B @ 3m Data File: FINAL MODE 2 FREQUENCY LOW

No	EMISSION FREQUENCY	SPEC LIMIT	MEASUREMENTS			SITE		CORR FACTOR	COMMENTS
			MHz	dBuV/m	dB	MODE	POL	HGT	AZM
1	59.991	40.0	26.6	-13.4	PK	V	95	1	-16.7
2	134.200	43.5	22.2	-21.3	PK	V	95	1	-9.2
3	184.553	43.5	28.5	-15.0	PK	V	95	1	-11.
4	611.682	46.0	40.2	-5.8	PK	H	95	1	2.8
5	617.560	46.0	36.5	-9.5	PK	H	95	1	2.9
6	665.964	46.0	31.1	-14.9	PK	V	95	1	3.7



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FCC TEST REPORT FOR AOR USA, INC.

5.2.3 Radiated Emissions Test Results – Mode 2 (Not Scanning), Set to Mid Frequency

GARWOOD LABORATORIES INC. EMI TEST DATA

DATE: OCTOBER 24, 2003 TEST NO.:

TITLE OF TEST: FCC PT.15 SUBPART B CLASS B – RADIATED EMISSIONS

CUSTOMER: AOR USA, INC.

EUT DESCRIPTION: SCANNING RECEIVER

MODEL NO.: AR500A+3B SERIAL NO.:

TEST MODE: MODE 2 NOT SCANNING, SET TO MID FREQUENCY

SENSOR LOCATION: 3 METERS SENSOR POL.: VERTICAL AND HORIZONTAL

FREQUENCY RANGE: 30 - 1000MHz

TEST PERFORMED BY: A. TAPIA  TEMP. 70F HUM. 35%

TEST RESULTS: COMPLIED

TEST CONDITIONS: INPUT VOLTAGE 120VAC 60Hz

PRODUCT EMISSIONS

FCC PT.15 CLASS B @ 3m Data File: FINAL MODE 2 FREQUENCY MID

EMISSION No	FREQUENCY MHz	SPEC LIMIT dBuV/m	MEASUREMENTS			SITE			CORR FACTOR	COMMENTS
			ABS dB	dLIM dB	MODE	POL	HGT cm	AZM deg		
1	59.997	40.0	26.5	-13.5	PK	V	95	1	-16.7	
2	184.678	43.5	25.5	-18.0	PK	V	95	1	-11.	
3	611.677	46.0	41.1	-4.9	PK	H	95	1	2.8	
4	617.578	46.0	38.1	-7.9	PK	H	95	1	2.9	
5	865.999	46.0	31.3	-14.7	PK	V	95	1	3.7	
6	761.201	46.0	43.3	-2.7	PK	V	95	1	6.3	



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FCC TEST REPORT FOR AOR USA, INC.

5.2.4 Radiated Emissions Test Results – Mode 2 (Not Scanning), Set to High Frequency

GARWOOD LABORATORIES INC. EMI TEST DATA

DATE: OCTOBER 24, 2003 TEST NO.:

TITLE OF TEST: FCC PT.15 SUBPART B CLASS B – RADIATED EMISSIONS

CUSTOMER: AOR USA, INC.

EUT DESCRIPTION: SCANNING RECEIVER

MODEL NO.: AR500A+3B SERIAL NO.:

TEST MODE: MODE 2 (NOT SCANNING), SET TO HIGH FREQUENCY

SENSOR LOCATION: 3 METERS SENSOR POL.: VERTICAL AND HORIZONTAL

FREQUENCY RANGE: 30 – 1000MHz

TEST PERFORMED BY: A. TAPIA  AT TEMP. 70F HUM. 35%

TEST RESULTS: COMPLIED

TEST CONDITIONS: INPUT VOLTAGE 120VAC 60Hz

PRODUCT EMISSIONS

FCC PT.15 CLASS B @ 3m Data File: FINAL MODE 2 FREQUENCY HIGH

No	EMISSION FREQUENCY	SPEC LIMIT	MEASUREMENTS			SITE POL	CORR FACTOR	COMMENTS	
			MHz	dBuV/m	dB				
1	60.016	40.0	25.7	-14.3	PK	V	95	1	-16.7
2	134.270	43.5	21.3	-22.2	PK	V	95	1	-9.2
3	611.279	46.0	40.8	-5.2	PK	H	95	1	2.8
4	617.586	46.0	37.5	-8.5	PK	H	95	1	2.9
5	665.999	46.0	31.5	-14.5	PK	V	95	1	3.7
6	688.999	46.0	38.8	-7.2	PK	H	95	1	4.5



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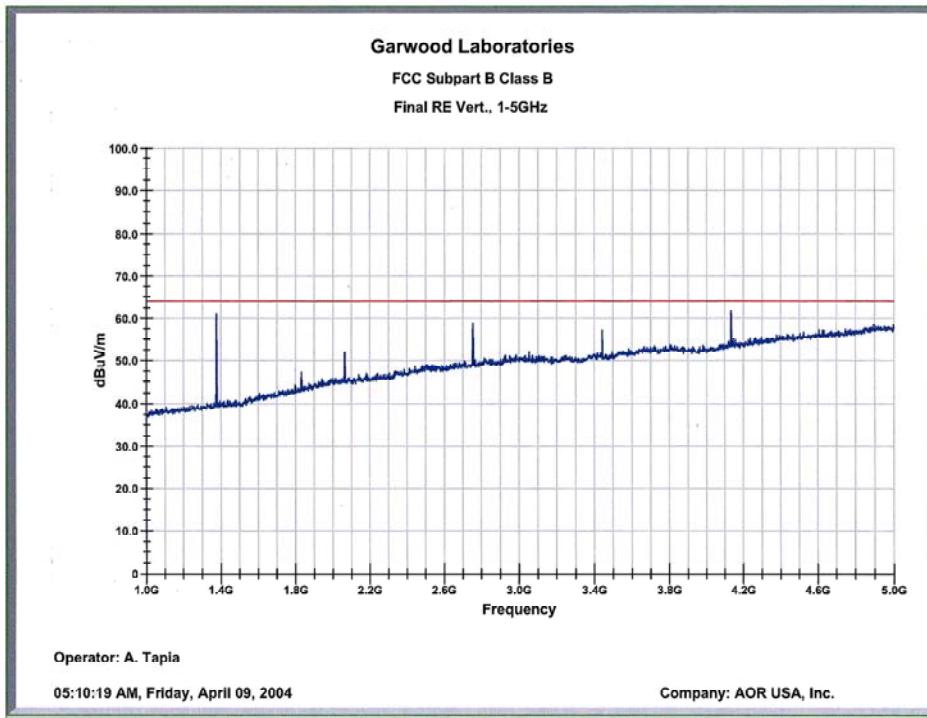
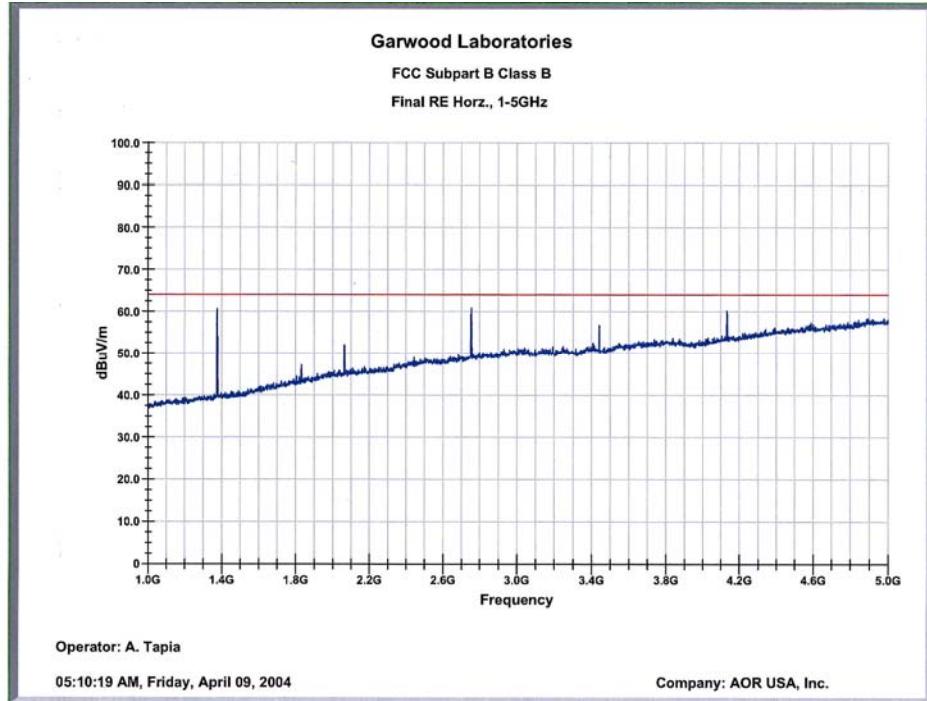
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5.2.5 Radiated Emissions Test Results – Frequency Range 1GHz – 5GHz





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Report No: FR25921-E

FCC TEST REPORT FOR AOR USA, INC.

GARWOOD LABORATORIES INC. EMI TEST DATA

DATE: APRIL 9, 2004

TEST NO.: FR25921-E

TITLE OF TEST: FCC PT 15, SUBPART B, CLASS B – RADIATED EMISSIONS

CUSTOMER: AOR USA, INC.

EUT DESCRIPTION: SCANNING RECEIVER

MODEL NO.: AR5000A+3B

SERIAL NO.:

SENSOR LOCATION: 1 METER

SENSOR POL.: VERTICAL & HORIZONTAL

FREQUENCY RANGE: 1 – 5GHz

TEST PERFORMED BY: A. TAPIA

TEMPERATURE: HUMIDITY:

TEST RESULTS: COMPLIED

TEST CONDITIONS: TESTED AT 120VAC 60Hz

PRODUCT EMISSIONS

FCC PT 15 CLASS B @ 1 METERS

Data File: FINAL

No	EMISSION FREQUENCY GHz	PEAKS dB μ V	SYSTEM GAIN/LOSS dB	ANTENNA FACTORS dB/m	CORRECTED PEAKS dB μ V/m	POLARITY	DELTA dB
1	4.133	55.700	26.633	32.527	61.593	V	-2.387
2	1.377	68.800	32.436	24.655	61.019	V	-2.961
3	2.755	59.700	29.081	30.219	60.837	H	-3.143
4	2.065	54.100	30.569	28.505	52.035	V	-11.945



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APPENDIX A - TEST EQUIPMENT USED

The absolute performance calibration of equipment requiring calibration is performed on an as needed basis in accordance with ANSI/NCSL Z540-1-1994. However, calibration periods do not exceed one (1) year. The test equipment is capable of making measurements within tolerances of at least +/- 2dB amplitude and +/- 2% frequency deviation. Equipment certifications showing traceability to NIST (National Institute of Standards and Technology) are maintained on file at Garwood Laboratories, Inc. Pico Rivera, California. All equipment is checked and verified for proper operation before and after each series of tests.

A.1 Specific Equipment Used

Test	Instrument	MFG / Model No.	Asset Number	Calibration Due Date
Conducted Emission Test				
	Spectrum Analyzer Display	Hewlett Packard / 85662A	20015	7/24/04
	Spectrum Analyzer	Hewlett Packard / 8566B	20014	7/24/04
	Quasi-Peak Adapter	Hewlett Packard/856850A	20016	7/24/04
	AC Power Source	Pacific/360AMXT-UPC32	20118	UWCE*
	Line Impedance Stabilization Network	EMCO/3825-2	20371	12/11/04
Radiated Emission Test				
	Spectrum Analyzer Display	Hewlett Packard / 85662A	20015	7/24/04
	Spectrum Analyzer	Hewlett Packard / 8566B	20014	7/24/04
	Quasi-Peak Adapter	Hewlett Packard/856850A	20016	7/24/04
	Pre-Amplifier	ISCI / RFPA/Z FL-2000	20007	5/7/04
	Bilog Antenna	Chase / CBL6111A	20062	4/14/04
	Horn Antenna	EMCO / 3115	20056	11/22/04
	RF Preamplifier (>1GHz)	Hewlett Packard / 8449B	20003	5/7/04



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ATTACHMENTS

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Refer to FCC ID Label and Location exhibit.