AVIATION SUPPLIES AND ACADEMICS, INC.

FOR THE

MULTIBAND RADIO RECEIVER, AR-1

FCC PART 15 SUBPART B SECTIONS
15.107, 15.109 & 15.121 CLASS B

COMPLIANCE

DATE OF ISSUE: FEBRUARY 1, 2002

PREPARED FOR:

Aviation Supplies and Academics, Inc.
7005 132nd Place SE
Newcastle, WA 98059-3153

PREPARED BY:

Joyce Walker
CKC Laboratories, Inc.
5473A Clouds Rest
Mariposa, CA 95338

Date of test: January 17-25, 2002

W.O. No.: 78297

Report No.: FC02-012

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	January 17-25, 2002
DATE OF RECEIPT:	January 17, 2002
PURPOSE OF TEST:	To demonstrate the compliance of the Multiband Radio Receiver, AR-1 with the requirements for FCC Part 15 Subpart B Sections 15.107, 15.109 & 15.121 Class B devices.
TEST METHOD:	ANSI C63.4 (1992)
MANUFACTURER:	Aviation Supplies and Academics, Inc. 7005 132nd Place SE Newcastle, WA 98059-3153
REPRESENTATIVE:	Larry Clifton – Clifton Labs, Ltd. Fred Boyns - Aviation Supplies and Academics, Inc.
TEST LOCATION:	CKC Laboratories, Inc. 22105 Wilson River Hwy Tillamook, OR 97141 5473 A Clouds Rest Mariposa, CA 95338

SUMMARY OF RESULTS

As received, the Clifton Labs, Ltd. Multiband Radio Receiver, AR-1 was found to be fully compliant with the following standards and specifications:

United States

- FCC Part 15 Subpart B Sections 15.107, 15.109 & 15.121 Class B
- ANSI C63.4 (1992) method

Canada

RSS-210 using:

- FCC Part 15 Subpart B Sections 15.107, 15.109 & 15.121 Class B
- ANSI C63.4 (1992) method

Industry of Canada File No. IC 3173-A

CONDITIONS FOR COMPLIANCE

During FCC 15.107 & 15.109 testing a 100 pF Cap was added to BAT and Gnd vias on the upper left corner of the analog board.

APPROVALS

QUALITY ASSURANCE:

Dennis Ward, Quality Manager

Ron Dulmage, Chief Operations Officer

TEST PERSONNEL:

Mike Wilkinson, Test Engineer

Chuck Kendall, EMC/Lab Manager

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The EUT tested by CKC Laboratories was a production unit. AM, FM, Aviation, and NOAA weather bands receive only. Aviation band has squelch and scan with 5 preset frequencies. AM single conversion to 455 kHz, FM single conversion to 10.7 MHz, Aviation and NOAA double conversion to 10.7 and then to 455 kHz.

EQUIPMENT UNDER TEST

Multiband Radio Receiver
Manuf: Aviation Supplies and Academics, Inc.
Model: AR-1
Serial: 01-15-02
FCC ID: (pending)

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

Power Supply
Manuf: Radio Shack
Model: 273-1695
Serial: None
FCC ID: DoC

Head Set
Manuf: Radio Shack
Model: 33-1162
Serial: None
FCC ID: DoC

Antenna Requirements
The EUT has an internal ferrite rode for AM and an external non-removable helical for the other bands. Note: The EUT is not an intentional radiator and therefore does not fall under 15.203 requirements.

15.33(a) FREQUENCY RANGES TESTED

15.107 Conducted Emissions:	450 kHz – 30 MHz
15.109 Radiated Emissions:	30 – 2000 MHz

MODES OF OPERATION

The Receiver must be tested in the following modes or configurations to comply with section 15.31(m):

1. Receiver tuned in the AM band (Lowest Channel and Highest Channel)
   - Operating on battery Power
   - Operating on AC Power
2. Receiver tuned to the FM Band (Lowest Channel and Highest Channel)
   - Operating on battery power
   - Operating on AC Power
3. Receiver tuned to the Aviation Band (Low, Middle and high Channels)
   - Operating on battery power
   - Operating on AC Power
4. Receiver tuned to the NOAA Band (Center Channel, 162.475MHz)
   - Operating on battery power
   - Operating on AC Power

TEMPERATURE AND HUMIDITY DURING TESTING

The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

REPORT OF MEASUREMENTS

The following tables report the worst case emissions levels recorded during the tests performed on the Multiband Radio Receiver, AR-1. All readings taken were peak readings unless otherwise stated. The data sheets from which the emissions tables were compiled are contained in Appendix C.

Table 1: Six Highest Conducted Emission Levels

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Lisn dB		Cable dB	dB	CORRECTED READING dBµV	SPEC LIMIT dBµV	MARGIN dB	NOTES
0.504327	34.5	0.0		0.2		34.7	48.0	-13.3	B
0.746709	34.4	0.1		0.2		34.7	48.0	-13.3	B
2.694920	34.4	0.0		0.4		34.8	48.0	-13.2	B
2.796410	34.1	0.0		0.4		34.5	48.0	-13.5	B
2.909840	34.5	0.0		0.5		35.0	48.0	-13.0	B
3.029240	33.9	0.0		0.6		34.5	48.0	-13.5	B

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Section 15.107 Class B

NOTES: B = Black Lead
W = White Lead

COMMENTS: Radio is tuned to Aviation Band 118.00 MHz (worst case). Headset attached & powered from the AC power supply. All EUT controls are set to maximum. The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 450 kHz to 30 MHz. Power supply connected to 120V AC.

Table 2: Six Highest Radiated Emission Levels: AM Bands

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	Dist dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
30.470	30.8	18.9	-27.2	1.3		23.8	40.0	-16.2	V
32.411	30.4	17.8	-27.2	1.4		22.4	40.0	-17.6	H
32.414	31.5	17.8	-27.2	1.4		23.5	40.0	-16.5	H
39.320	36.0	14.0	-27.2	1.5		24.3	40.0	-15.7	V
55.990	39.1	6.9	-27.2	1.8		20.6	40.0	-19.4	V
78.190	40.6	7.2	-27.1	2.2		22.9	40.0	-17.1	V

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Section 15.109 Class B
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization

COMMENTS: Radio is tuned to AM Band 530 kHz (lowest) and 1710 kHz (Highest) as indicated in the data notes for each reading (see Appendix C). Headset attached & powered from the AC power supply. All EUT controls are set to maximum. The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 30 MHz to 1.0 GHz.

Table 3: Six Highest Radiated Emission Levels: FM Bands

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	Dist dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
307.210	44.9	13.3	-26.5	4.3		36.0	46.0	-10.0	H
435.003	42.1	16.5	-27.5	4.9		36.0	46.0	-10.0	H
486.998	45.7	17.5	-27.7	5.3		40.8	46.0	-5.2	H
1546.300	28.8	28.8	-25.1	10.5		43.0	54.0	-11.0	H
1737.500	28.1	29.0	-24.0	11.8		44.9	54.0	-9.1	V
1860.000	28.7	29.0	-22.8	12.2		47.1	54.0	-6.9	H

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart B Section 15.109 Class B
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization

COMMENTS: Radio is tuned to FM Band 87.5 MHz (lowest), 97.7 MHz (Middle) and 108.1 (Highest) MHz as indicated in the data notes for each reading (see Appendix C). Headset attached & powered from the AC power supply. All EUT controls are set to maximum. The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 30 MHz to 2.0 GHz.

Table 4: Six Highest Radiated Emission Levels: Aviation Bands

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	Dist dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
107.298	50.7	10.4	-27.0	2.4		36.5	43.5	-7.0	V
126.272	50.0	11.6	-27.1	2.7		37.2	43.5	-6.3	V
487.929	46.7	17.5	-27.8	5.2		41.6	46.0	-4.4	VQ
487.963	50.3	17.5	-27.8	5.2		45.2	46.0	-0.8	HQ
497.211	49.3	17.7	-27.8	5.3		44.5	46.0	-1.5	HQ
505.103	48.4	17.8	-27.8	5.4		43.8	46.0	-2.2	HQ

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart B Section 15.109 B
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization
Q = Quasi Peak Reading

COMMENTS: Radio is tuned to Aviation Band 118.00 MHz (lowest), 127.00 MHz (Middle) and 136.975 (Highest) MHz as indicated in the data notes for each reading (see Appendix C). Headset attached & powered from the AC power supply. All EUT controls are set to maximum. The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 30 MHz to 2.0 GHz.

Table 5: Six Highest Radiated Emission Levels: NOAA Bands

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	Dist dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
151.779	50.5	11.8	-26.9	2.9		38.3	43.5	-5.2	VQ
151.780	50.9	11.8	-26.9	2.9		38.7	43.5	-4.8	H
303.558	40.7	13.2	-26.4	4.3		31.8	46.0	-14.2	V
607.105	36.6	19.7	-27.9	6.0		34.4	46.0	-11.6	H
1716.088	28.9	28.9	-24.2	11.7		45.3	54.0	-8.7	H
1793.800	27.8	29.0	-23.5	12.1		45.4	54.0	-8.6	V

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Section 15.107 Class B
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization
Q = Quasi Peak Reading

COMMENTS: Radio is tuned to NOAA Band at 162.475 MHz. Headset attached & power from the AC power supply. All EUT controls are set to maximum. The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 30 MHz to 2.0 GHz.

MEASUREMENT UNCERTAINTY

Associated with data in this report is ± 2.94 dB measurement uncertainty for radiated and 1.56 dB measurement uncertainty for conducted.

EUT SETUP

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the photographs in Appendix A. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables. The corrected data was then compared to the applicable emission limits to determine compliance.

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available I/O ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. I/O cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected. The interval between different pieces of equipment was approximately 10 centimeters. All excessive interconnecting cable was bundled in 30-40 centimeter lengths.

The radiated and conducted emissions data of the Multiband Radio Receiver, AR-1, was taken with the HP Spectrum Analyzer. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in Table A.

Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula in Table A. This reading was then compared to the applicable specification limit to determine compliance.

TABLE A: SAMPLE CALCULATIONS

	Meter reading	(dBµV)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBµV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed in Appendix B were used to collect both the radiated and conducted emissions data for the Multiband Radio Receiver, AR-1. For frequencies from 30 to 1000 MHz, the biconilog antenna was used. The horn antenna was used for frequencies above 1000 MHz. Conducted emissions tests required the use of the FCC type LISNs.

The HP spectrum analyzer was used for all measurements. Table B shows the analyzer bandwidth settings that were used in designated frequency bands. For conducted emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used. A 10 dB external attenuator was also used during conducted tests, with internal offset correction in the analyzer. During radiated testing, the measurements were made with 0 dB of attenuation, a reference level of 97 dBµV, and a vertical scale of 10 dB per division.

FCC SECTION 15.35:
TABLE B: ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE

TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	450 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	2 GHz	1 MHz

SPECTRUM ANALYZER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the Tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the six highest readings, this is indicated as a "Q" or an "A" in the appropriate table. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data for the Multiband Radio Receiver, AR-1.

Peak

In this mode, the Spectrum Analyzer or test engineer recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the analyzer called "peak hold," the analyzer had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the analyzer made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the HP Quasi-Peak Adapter for the HP Spectrum Analyzer. The detailed procedure for making quasi peak measurements contained in the HP Quasi-Peak Adapter manual were followed.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer. To make these measurements, the test engineer reduces the video bandwidth on the analyzer until the modulation of the signal is filtered out. At this point the analyzer is set into the linear mode and the scan time is reduced.

EUT TESTING

Mains Conducted Emissions

During conducted emissions testing, the EUT was located on a wooden table measuring approximately 80 cm high, 1 meter deep, and 1.5 meters in length. One wall of the room where the EUT was located has a minimum 2 meter by 2 meter conductive plane. The EUT was mounted on the wooden table 40 cm away from the conductive plane, and 80 cm from any other conductive surface.

The vertical metal plane used for conducted emissions was grounded to the earth. Power to the EUT was provided through a LISN. The LISN was grounded to the ground plane. All other objects were kept a minimum of 80 cm away from the EUT during the conducted test.

For conducted emissions testing, a 30 to 50 second sweep time was used for automated measurements in the frequency bands of 450 kHz to 1.705 MHz, 1.705 MHz to 3 MHz, and 3 MHz to 30 MHz. All readings within 20 dB of the limit were recorded. At frequencies where the recorded emissions were close to the limit, further investigation was performed manually at a slower sweep rate.

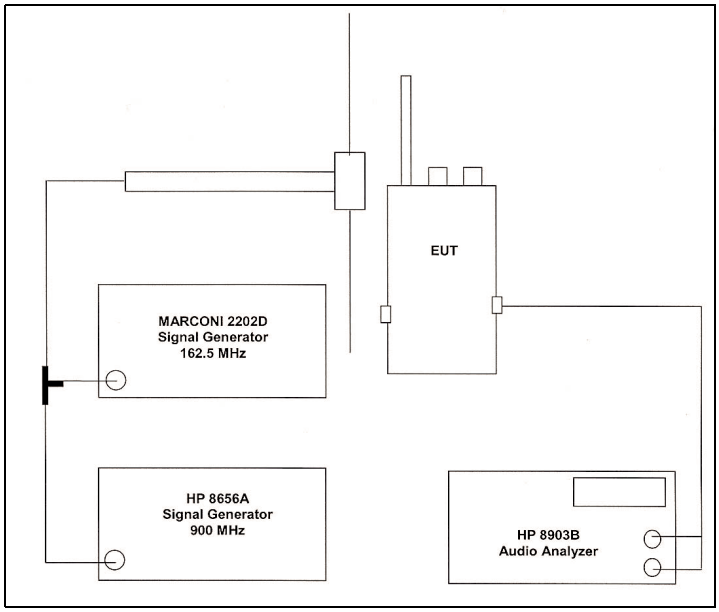
Radiated Emissions

The EUT was mounted on a nonconductive, rotating table 80 cm above the conductive grid. The nonconductive table dimensions were 1 meter by 1.5 meters.

During the preliminary radiated scan, the EUT was powered up and operating in its defined FCC test mode. The frequency range of 30 MHz to 1000 MHz was scanned with the biconilog antenna located about 1.5 meter above the ground plane in the vertical polarity. During this scan, the turntable was rotated and all peaks at or near the limit were recorded. A scan of the FM band from 88 to 110 MHz was then made using a reduced resolution bandwidth and frequency span. The biconilog antenna was changed to the horizontal polarity and the above steps were repeated. For frequencies exceeding 1000 MHz, the horn antenna was used. Care was taken to ensure that no frequencies were missed within the FM and TV bands. An analysis was performed to determine if the signals that were at or near the limit were caused by an ambient transmission. If unable to determine by analysis, the equipment was powered down to make the final determination if the EUT was the source of the emission.

A thorough scan of all frequencies was made manually using a small frequency span, rotating the turntable as needed. The test engineer maximized the readings with respect to the table rotation, antenna height, and configuration of EUT. Maximizing of the EUT was achieved by monitoring the spectrum analyzer on a closed circuit television monitor. Photographs showing the final worst case configuration of the EUT are contained in Appendix A.

15.121(a) Scanning Receivers



Test Setup Diagram

Equipment set up in the following manner: The headphones were opened up and three leads were soldered onto the left, right and ground of the earphones. Left and ground was input to the measurement side of the audio analyzer. Two signal generators were attached to a dipole antenna via a BNC tee connector. The dipole antenna was placed some 2-3 inches away from the antenna on the radio receiver. One signal generator was set the highest signal that could be received by the scanning radio receiver—set to 162.5 MHz.

This signal generator amplitude was increased until a 12 dB SINAD signal was indicated on the Audio Analyzer. This signal generator was FM modulated by a 400 Hz tone. It was then a second signal generator was input to the other port of the BNC tee. This signal generator was set to 900 MHz and FM modulated with a 1 kHz tone. The amplitude of the 900 MHz signal generator was increased slowly while monitoring the output in the headphones. When the other tone was detected in the headphones, the level setting on the 900 MHz generator was noted and recorded.

Results: It took an output of 60dBuV to produce a 12dB SINAD signal. The 1 kHz tone was detectable when the 900 MHz signal generator's amplitude was set to 109 dBuV. The difference between the two amplitudes was the rejection level of the input to the 900 MHz signal. This level was 49 dB or the difference between 109-60 or 49 dB.

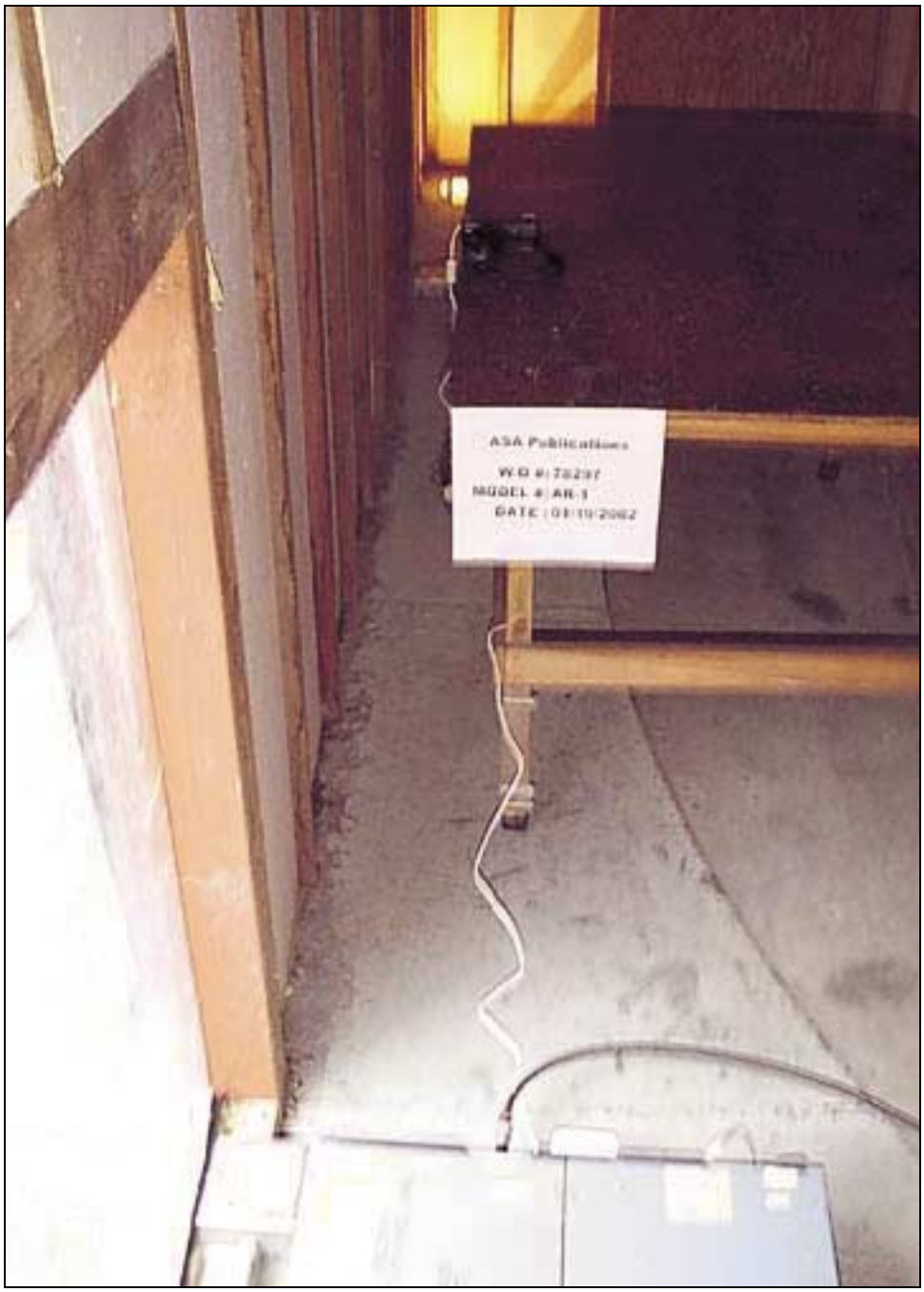
APPENDIX A

TEST SETUP PHOTOGRAPHS

PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS

Mains Conducted Emissions - Front View

PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS

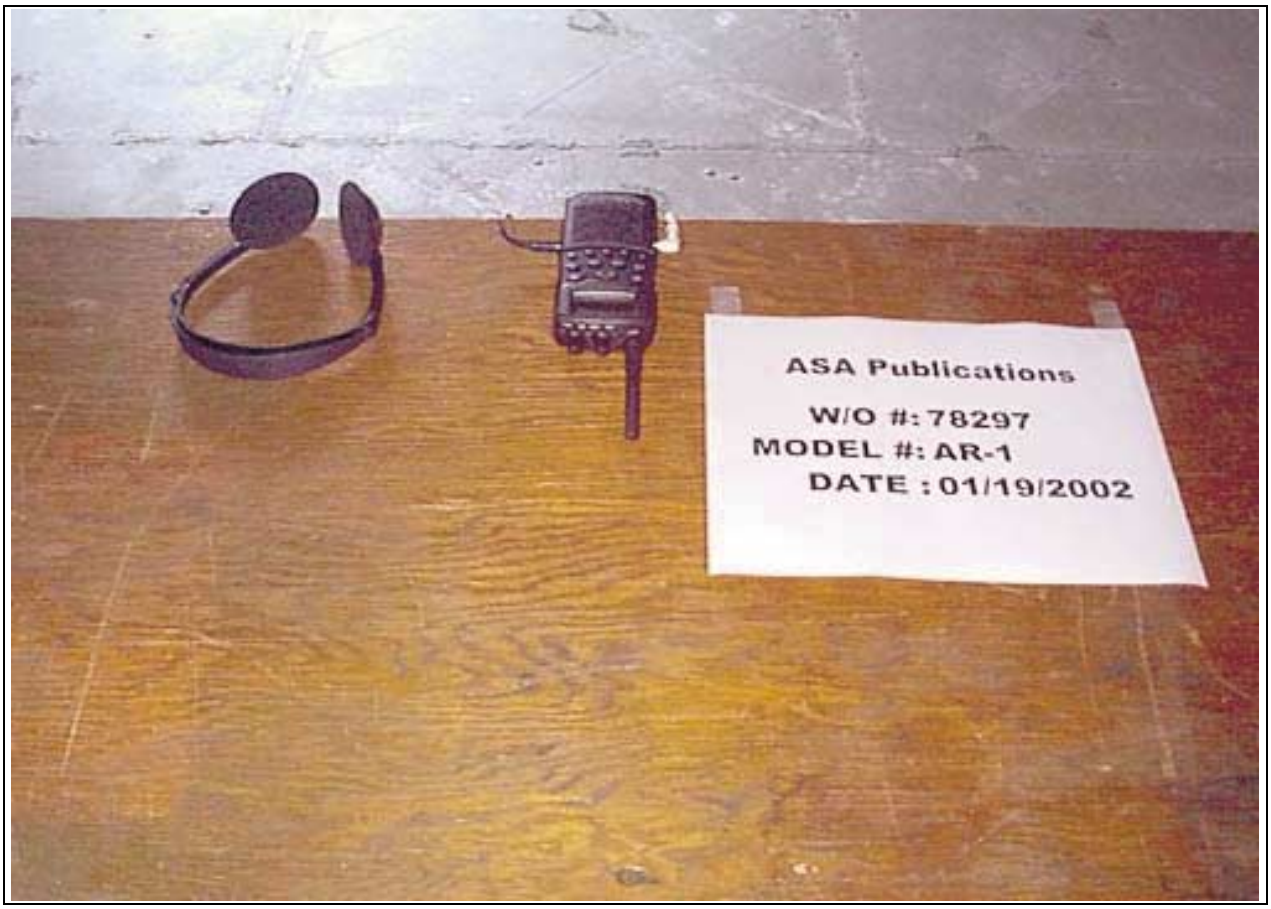


Mains Conducted Emissions - Side View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Front View

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Back View

PHOTOGRAPH SHOWING SCANNING RECEIVER

Emissions - Front View

APPENDIX B

TEST EQUIPMENT LIST

***15.107 Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8593EM EMC Analyzer	3624A00159	09/21/2001	09/21/2002	2111
Fischer LISN	none	11/15/2001	11/15/2002	14
Fischer LISN	none	11/15/2001	11/15/2002	13

***15.109 Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8593EM EMC Analyzer	3624A00159	09/21/2001	09/21/2002	2111
HP 8447D Amplifier	2727A05392	08/17/2001	08/17/2002	10
Chase CBL6111C Bilog Antenna	2455	02/09/2001	02/09/2002	1992
EMCO 3115 1-18 GHz Horn Antenna	9006-3413	06/07/2001	06/07/2002	327

***15.121 Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Marconi Sig Generator	119259/015	09/05/2001	09/05/2002	01870
HP Sig	2208A02884	09/06/2001	09/06/2002	01645
HP Audio	3011A09432	11/20/2001	11/20/2002	02338

APPENDIX C

Test Location: CKC Laboratories, Inc. • 22105 Wilson River Hwy • Tillamook, Or 97141 • 503 842-5577

Customer: **Clifton Labs, Ltd.**
Specification: **FCC B RADIATED**
Work Order #: **78297** Date: 01/19/2002
Test Type: **Radiated Scan** Time: 10:25:20
Equipment: **Multiband Radio Receiver** Sequence#: 6
Manufacturer: Avaiation Supplies and Academics, Inc. Tested By: Mike Wilkinson
Model: AR-1
S/N: 01-15-02

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Multiband Radio Receiver*	Avaiation Supplies and Academics, Inc.	AR-1	01-15-02

Support Devices:

Function	Manufacturer	Model #	S/N
Head Set	Radio Shack	33-1162	None
Power Supply	Radio Shack	273-1695	None

Test Conditions / Notes:

Radio is tuned to AM Band 530 kHz (lowest) and 1710 kHz (Highest) as indicated in the data notes for each reading. Headset attached & powered from the AC power supply. All EUT controls are set to maximum The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 30 MHz to 1.0 GHz.

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Amp-A dB	Bilog dB	Cable dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	39.320M	36.0	-27.2	+14.0	+1.5		+0.0	24.3	40.0 530 kHz tune frequency	-15.7	Vert
2	30.470M	30.8	-27.2	+18.9	+1.3		+0.0	23.8	40.0 530 kHz tune frequency	-16.2	Vert
3	32.414M	31.5	-27.2	+17.8	+1.4		+0.0	23.5	40.0 530 kHz tune frequency	-16.5	Horiz
4	78.190M	40.6	-27.1	+7.2	+2.2		+0.0	22.9	40.0 1710 kHz tune frequency	-17.1	Vert
5	32.411M	30.4	-27.2	+17.8	+1.4		+0.0	22.4	40.0 1710 kHz tune frequency	-17.6	Horiz
6	55.990M	39.1	-27.2	+6.9	+1.8		+0.0	20.6	40.0 530 kHz tune frequency	-19.4	Vert

7	110.138M	36.1	-27.0	+10.6	+2.4	+0.0	22.1	43.5	-21.4	Vert 530 kHz tune frequency
8	110.510M	35.4	-27.0	+10.6	+2.4	+0.0	21.4	43.5	-22.1	Vert 1710 kHz tune frequency
9	43.128M	28.6	-27.2	+11.8	+1.5	+0.0	14.7	40.0	-25.3	Vert 1710 kHz tune frequency
10	52.083M	30.4	-27.2	+7.9	+1.7	+0.0	12.8	40.0	-27.2	Horiz 1710 kHz tune frequency

Test Location: CKC Laboratories, Inc. • 22105 Wilson River Hwy • Tillamook, Or 97141 • 503 842-5577

Customer: **Clifton Labs, Ltd.**
Specification: **FCC B RADIATED**
Work Order #: **78297** Date: 01/19/2002
Test Type: **Radiated Scan** Time: 08:53:33
Equipment: **Multiband Radio Receiver** Sequence#: 5
Manufacturer: Avaiation Supplies and Academics, Inc. Tested By: Mike Wilkinson
Model: AR-1
S/N: 01-15-02

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Multiband Radio Receiver*	Avaiation Supplies and Academics, Inc.	AR-1	01-15-02

Support Devices:

Function	Manufacturer	Model #	S/N
Head Set	Radio Shack	33-1162	None
Power Supply	Radio Shack	273-1695	None

Test Conditions / Notes:

Radio is tuned to FM Band 87.5 MHz (lowest), 97.7 MHz (Middle) and 108.1 (Highest) MHz as indicated in the data notes for each reading. Headset attached & powered from the AC power supply. All EUT controls are set to maximum The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 30 MHz to 2.0 GHz.

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Amp-A dB	Bilog dB	Cable dB	Horn dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	486.998M	45.7	-27.7	+17.5	+5.3	+0.0	+0.0	40.8	46.0 108.1 MHz tune frequency	-5.2	Horiz
2	1860.000M	28.7	-22.8	+0.0	+12.2	+29.0	+0.0	47.1	54.0 87.5 MHz tune frequency	-6.9	Horiz
3	1737.500M	28.1	-24.0	+0.0	+11.8	+29.0	+0.0	44.9	54.0 87.5 MHz tune frequency	-9.1	Vert
4	435.003M	42.1	-27.5	+16.5	+4.9	+0.0	+0.0	36.0	46.0 97.7 MHz tune frequency	-10.0	Horiz
5	307.210M	44.9	-26.5	+13.3	+4.3	+0.0	+0.0	36.0	46.0 87.5 MHz tune frequency	-10.0	Horiz
6	1546.300M	28.8	-25.1	+0.0	+10.5	+28.8	+0.0	43.0	54.0 97.7 MHz tune frequency	-11.0	Horiz

7	584.398M	37.3	-27.9	+19.4	+5.9	+0.0	+0.0	34.7	46.0	-11.3	Horiz 108.1 MHz tune frequency
8	260.997M	43.7	-26.4	+12.6	+3.8	+0.0	+0.0	33.7	46.0	-12.3	Horiz 97.7 MHz tune frequency
9	261.003M	43.6	-26.4	+12.6	+3.8	+0.0	+0.0	33.6	46.0	-12.4	Vert 97.7 MHz tune frequency
10	487.002M	37.9	-27.8	+17.5	+5.3	+0.0	+0.0	32.9	46.0	-13.1	Vert 108.1 MHz tune frequency
11	1673.135M	24.6	-24.4	+0.0	+11.4	+28.9	+0.0	40.5	54.0	-13.5	Horiz 108.1 MHz tune frequency
12	307.201M	41.1	-26.5	+13.3	+4.3	+0.0	+0.0	32.2	46.0	-13.8	Vert 87.5 MHz tune frequency
13	584.392M	34.4	-27.9	+19.4	+5.9	+0.0	+0.0	31.8	46.0	-14.2	Vert 108.1 MHz tune frequency
14	292.209M	41.0	-26.4	+13.0	+4.1	+0.0	+0.0	31.7	46.0	-14.3	Vert 108.1 MHz tune frequency
15	292.208M	41.0	-26.4	+13.0	+4.1	+0.0	+0.0	31.7	46.0	-14.3	Horiz 108.1 MHz tune frequency
16	782.966M	30.0	-27.9	+21.9	+6.9	+0.0	+0.0	30.9	46.0	-15.1	Vert 97.7 MHz tune frequency
17	1242.500M	28.5	-26.8	+0.0	+8.9	+27.1	+0.0	37.7	54.0	-16.3	Horiz 97.7 MHz tune frequency
18	1186.885M	29.0	-26.9	+0.0	+8.5	+26.7	+0.0	37.3	54.0	-16.7	Horiz 108.1 MHz tune frequency
19	1089.600M	30.1	-27.2	+0.0	+8.2	+26.0	+0.0	37.1	54.0	-16.9	Vert 87.5 MHz tune frequency
20	86.982M	39.4	-27.0	+8.4	+2.3	+0.0	+0.0	23.1	40.0	-16.9	Vert 97.7 MHz tune frequency
21	76.391M	40.4	-27.1	+7.1	+2.1	+0.0	+0.0	22.5	40.0	-17.5	Vert 87.5 MHz tune frequency
22	435.000M	34.4	-27.5	+16.5	+4.9	+0.0	+0.0	28.3	46.0	-17.7	Vert 97.7 MHz tune frequency
23	522.012M	32.2	-27.8	+18.2	+5.5	+0.0	+0.0	28.1	46.0	-17.9	Horiz 97.7 MHz tune frequency

24	348.002M	35.7	-26.8	+14.2	+4.6	+0.0	+0.0	27.7	46.0	-18.3	Horiz 97.7 MHz tune frequency
25	384.000M	32.2	-27.1	+15.2	+4.6	+0.0	+0.0	24.9	46.0	-21.1	Horiz 87.5 MHz tune frequency
26	383.994M	31.7	-27.1	+15.2	+4.6	+0.0	+0.0	24.4	46.0	-21.6	Vert 87.5 MHz tune frequency
27	194.799M	35.6	-26.7	+8.8	+3.3	+0.0	+0.0	21.0	43.5	-22.5	Vert 108.1 MHz tune frequency
28	230.408M	35.2	-26.6	+11.1	+3.5	+0.0	+0.0	23.2	46.0	-22.8	Vert 87.5 MHz tune frequency
29	153.606M	29.4	-26.9	+11.2	+2.9	+0.0	+0.0	16.6	43.5	-26.9	Vert 87.5 MHz tune frequency

Test Location: CKC Laboratories, Inc. • 22105 Wilson River Hwy • Tillamook, Or 97141 • 503 842-5577

Customer: **Clifton Labs, Ltd.**
Specification: **FCC B RADIATED**
Work Order #: **78297** Date: 01/19/2002
Test Type: **Radiated Scan** Time: 10:47:25
Equipment: **Multiband Radio Receiver** Sequence#: 3
Manufacturer: Avaiation Supplies and Academics, Inc. Tested By: Mike Wilkinson
Model: AR-1
S/N: 01-15-02

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Multiband Radio Receiver*	Avaiation Supplies and Academics, Inc.	AR-1	01-15-02

Support Devices:

Function	Manufacturer	Model #	S/N
Head Set	Radio Shack	33-1162	None
Power Supply	Radio Shack	273-1695	None

Test Conditions / Notes:

Radio is tuned to Aviation Band 118.00 MHz (lowest), 127.00 MHz (Middle) and 136.975 (Highest) MHz as indicated in the data notes for each reading. Headset attached & powered from the AC power supply. All EUT controls are set to maximum The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 30 MHz to 2.0 GHz.

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Amp-A dB	Bilog dB	Cable dB	Horn dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	487.963M QP	50.3	-27.8	+17.5	+5.2	+0.0	+0.0	45.2	46.0 118 MHz tune frequency	-0.8	Horiz
2	497.211M QP	49.3	-27.8	+17.7	+5.3	+0.0	+0.0	44.5	46.0 127 MHz tune frequency	-1.5	Horiz
3	505.103M QP	48.4	-27.8	+17.8	+5.4	+0.0	+0.0	43.8	46.0 136.975 MHz tune frequency	-2.2	Horiz
4	487.929M QP	46.7	-27.8	+17.5	+5.2	+0.0	+0.0	41.6	46.0 118 MHz tune frequency	-4.4	Vert
5	126.272M	50.0	-27.1	+11.6	+2.7	+0.0	+0.0	37.2	43.5 136.975 MHz tune frequency	-6.3	Vert
6	116.299M	49.9	-27.1	+11.2	+2.5	+0.0	+0.0	36.5	43.5 127 MHz tune frequency	-7.0	Horiz

7	107.298M	50.7	-27.0	+10.4	+2.4	+0.0	+0.0	36.5	43.5 118 MHz tune frequency	-7.0	Vert
8	505.101M	43.2	-27.8	+17.8	+5.4	+0.0	+0.0	38.6	46.0 136.975 MHz tune frequency	-7.4	Vert
9	126.277M	46.8	-27.1	+11.6	+2.7	+0.0	+0.0	34.0	43.5 136.975 MHz tune frequency	-9.5	Horiz
10	1768.800M	27.3	-23.7	+0.0	+11.9	+29.0	+0.0	44.5	54.0 136.975 MHz tune frequency	-9.5	Vert
11	595.234M	37.9	-27.9	+19.5	+5.9	+0.0	+0.0	35.4	46.0 118 MHz tune frequency	-10.6	Horiz
12	1521.300M	28.8	-25.2	+0.0	+10.4	+28.8	+0.0	42.8	54.0 136.975 MHz tune frequency	-11.2	Vert
13	1535.000M	28.3	-25.1	+0.0	+10.5	+28.8	+0.0	42.5	54.0 127 MHz tune frequency	-11.5	Vert
14	595.226M	35.2	-27.9	+19.5	+5.9	+0.0	+0.0	32.7	46.0 118 MHz tune frequency	-13.3	Vert
15	465.202M	38.0	-27.7	+17.1	+5.1	+0.0	+0.0	32.5	46.0 127 MHz tune frequency	-13.5	Horiz
16	380.656M	39.9	-27.1	+15.1	+4.6	+0.0	+0.0	32.5	46.0 118 MHz tune frequency	-13.5	Horiz
17	1272.500M	30.8	-26.7	+0.0	+9.0	+27.3	+0.0	40.4	54.0 127 MHz tune frequency	-13.6	Horiz
18	380.899M	38.2	-27.1	+15.1	+4.6	+0.0	+0.0	30.8	46.0 127 MHz tune frequency	-15.2	Horiz
19	378.825M	38.0	-27.0	+15.0	+4.6	+0.0	+0.0	30.6	46.0 136.975 MHz tune frequency	-15.4	Horiz
20	1166.300M	29.5	-27.0	+0.0	+8.5	+26.6	+0.0	37.6	54.0 118 MHz tune frequency	-16.4	Horiz
21	108.227M	37.6	-27.0	+10.5	+2.4	+0.0	+0.0	23.5	43.5 136.975 MHz tune frequency	-20.0	Vert
22	109.721M	36.1	-27.0	+10.6	+2.4	+0.0	+0.0	22.1	43.5 127 MHz tune frequency	-21.4	Vert

Test Location: CKC Laboratories, Inc. • 22105 Wilson River Hwy • Tillamook, Or 97141 • 503 842-5577

Customer: **Clifton Labs, Ltd.**
Specification: **FCC B RADIATED**
Work Order #: **78297** Date: 01/18/2002
Test Type: **Radiated Scan** Time: 13:16:08
Equipment: **Multiband Radio Receiver** Sequence#: 4
Manufacturer: Avaiation Supplies and Academics, Inc. Tested By: Mike Wilkinson
Model: AR-1
S/N: 01-15-02

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Multiband Radio Receiver*	Avaiation Supplies and Academics, Inc.	AR-1	01-15-02

Support Devices:

Function	Manufacturer	Model #	S/N
Head Set	Radio Shack	33-1162	None
Power Supply	Radio Shack	273-1695	None

Test Conditions / Notes:

Radio is tuned to NOAA Band at 162.475 MHz. Headset attached & power from the AC power supply. All EUT controls are set to maximum The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 30 MHz to 2.0 GHz.

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Amp-A dB	Bilog dB	Cable dB	Horn dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	151.780M	50.9	-26.9	+11.8	+2.9	+0.0	+0.0	38.7	43.5	-4.8	Horiz
2	151.779M QP	50.5	-26.9	+11.8	+2.9	+0.0	+0.0	38.3	43.5	-5.2	Vert
3	1793.800M	27.8	-23.5	+0.0	+12.1	+29.0	+0.0	45.4	54.0	-8.6	Vert
4	1716.088M	28.9	-24.2	+0.0	+11.7	+28.9	+0.0	45.3	54.0	-8.7	Horiz
5	607.105M	36.6	-27.9	+19.7	+6.0	+0.0	+0.0	34.4	46.0	-11.6	Horiz
6	455.326M	37.5	-27.6	+16.9	+5.0	+0.0	+0.0	31.8	46.0	-14.2	Vert
7	303.558M	40.7	-26.4	+13.2	+4.3	+0.0	+0.0	31.8	46.0	-14.2	Vert
8	111.610M	38.6	-27.0	+10.8	+2.4	+0.0	+0.0	24.8	43.5	-18.7	Vert
9	1023.800M	29.1	-27.4	+0.0	+7.9	+25.4	+0.0	35.0	54.0	-19.0	Vert

Test Location: CKC Laboratories, Inc. • 22105 Wilson River Hwy • Tillamook, Or 97141 • 503 842-5577

Customer: **Clifton Labs, Ltd.**
Specification: **FCC B COND**
Work Order #: **78297** Date: 01/19/2002
Test Type: **Conducted Emissions** Time: 11:47:12 AM
Equipment: **Multiband Radio Receiver** Sequence#: 7
Manufacturer: Avaiation Supplies and Academics, Inc. Tested By: Mike Wilkinson
Model: AR-1
S/N: 01-15-02

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Multiband Radio Receiver*	Avaiation Supplies and Academics, Inc.	AR-1	01-15-02

Support Devices:

Function	Manufacturer	Model #	S/N
Head Set	Radio Shack	33-1162	None
Power Supply	Radio Shack	273-1695	None

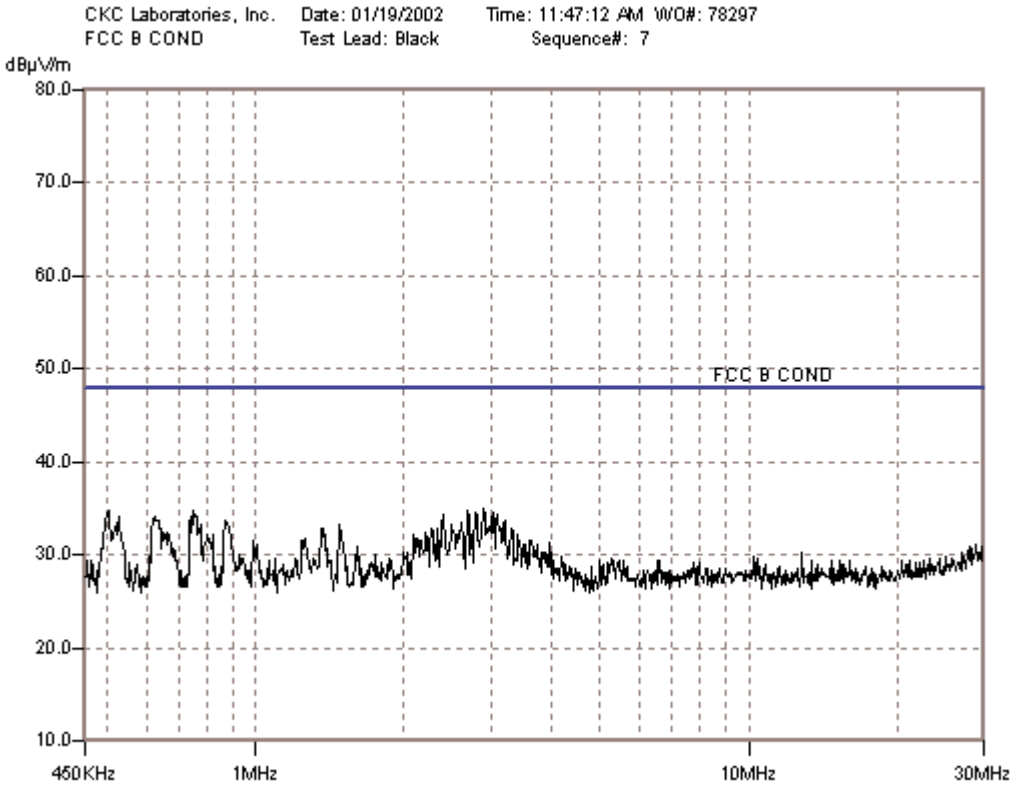
Test Conditions / Notes:

Radio is tuned to Aviation Band 118.00 MHz (worst case) Headset attached & powered from the AC power supply. All EUT controls are set to maximum The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 450 kHz to 30 MHz. Power supply connected to 120V AC.

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq MHz	Rdng dBµV	T1 co dB	dB	L14b dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	2.910M	34.5	+0.5		+0.0		+0.0	35.0	48.0	-13.0	Black
2	2.695M	34.4	+0.4		+0.0		+0.0	34.8	48.0	-13.2	Black
3	746.709k	34.4	+0.2		+0.1		+0.0	34.7	48.0	-13.3	Black
4	504.327k	34.5	+0.2		+0.0		+0.0	34.7	48.0	-13.3	Black
5	3.029M	33.9	+0.6		+0.0		+0.0	34.5	48.0	-13.5	Black
6	2.796M	34.1	+0.4		+0.0		+0.0	34.5	48.0	-13.5	Black
7	2.414M	34.0	+0.4		+0.0		+0.0	34.4	48.0	-13.6	Black
8	3.089M	33.7	+0.6		+0.0		+0.0	34.3	48.0	-13.7	Black
9	742.530k	33.8	+0.2		+0.1		+0.0	34.1	48.0	-13.9	Black

10	625.518k	33.9	+0.1	+0.1	+0.0	34.1	48.0	-13.9	Black
11	527.312k	33.9	+0.2	+0.0	+0.0	34.1	48.0	-13.9	Black
12	867.900k	33.6	+0.2	+0.0	+0.0	33.8	48.0	-14.2	Black
13	3.208M	33.0	+0.6	+0.0	+0.0	33.6	48.0	-14.4	Black
14	736.262k	33.3	+0.2	+0.1	+0.0	33.6	48.0	-14.4	Black
15	2.617M	33.1	+0.4	+0.0	+0.0	33.5	48.0	-14.5	Black
16	521.043k	33.1	+0.2	+0.0	+0.0	33.3	48.0	-14.7	Black
17	2.498M	32.8	+0.4	+0.0	+0.0	33.2	48.0	-14.8	Black
18	1.483M	32.8	+0.3	+0.1	+0.0	33.2	48.0	-14.8	Black
19	773.873k	33.0	+0.2	+0.0	+0.0	33.2	48.0	-14.8	Black
20	1.364M	32.5	+0.3	+0.1	+0.0	32.9	48.0	-15.1	Black
21	3.304M	32.2	+0.6	+0.0	+0.0	32.8	48.0	-15.2	Black
22	2.337M	32.4	+0.4	+0.0	+0.0	32.8	48.0	-15.2	Black
23	2.277M	32.4	+0.4	+0.0	+0.0	32.8	48.0	-15.2	Black
24	1.376M	32.4	+0.3	+0.1	+0.0	32.8	48.0	-15.2	Black
25	2.217M	31.9	+0.5	+0.1	+0.0	32.5	48.0	-15.5	Black
26	658.950k	32.3	+0.1	+0.1	+0.0	32.5	48.0	-15.5	Black
27	533.580k	32.3	+0.2	+0.0	+0.0	32.5	48.0	-15.5	Black
28	2.581M	32.0	+0.4	+0.0	+0.0	32.4	48.0	-15.6	Black
29	650.592k	32.2	+0.1	+0.1	+0.0	32.4	48.0	-15.6	Black
30	671.487k	32.1	+0.1	+0.1	+0.0	32.3	48.0	-15.7	Black


CKC Laboratories, Inc.
Date: 01/19/2002
Time: 11:47:12 AM
WO#: 78297
FCC B COND
Test Lead: Black
Sequence#: 7
dBµV/m
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
FCC B COND
450KHz
1MHz
10MHz
30MHz

Test Location: CKC Laboratories, Inc. • 22105 Wilson River Hwy • Tillamook, Or 97141 • 503 842-5577

Customer: **Clifton Labs, Ltd.**
Specification: **FCC B COND**
Work Order #: **78297** Date: 01/19/2002
Test Type: **Conducted Emissions** Time: 12:00:29 PM
Equipment: **Multiband Radio Receiver** Sequence#: 8
Manufacturer: Avaiation Supplies and Academics, Inc. Tested By: Mike Wilkinson
Model: AR-1
S/N: 01-15-02

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Multiband Radio Receiver*	Avaiation Supplies and Academics, Inc.	AR-1	01-15-02

Support Devices:

Function	Manufacturer	Model #	S/N
Head Set	Radio Shack	33-1162	None
Power Supply	Radio Shack	273-1695	None

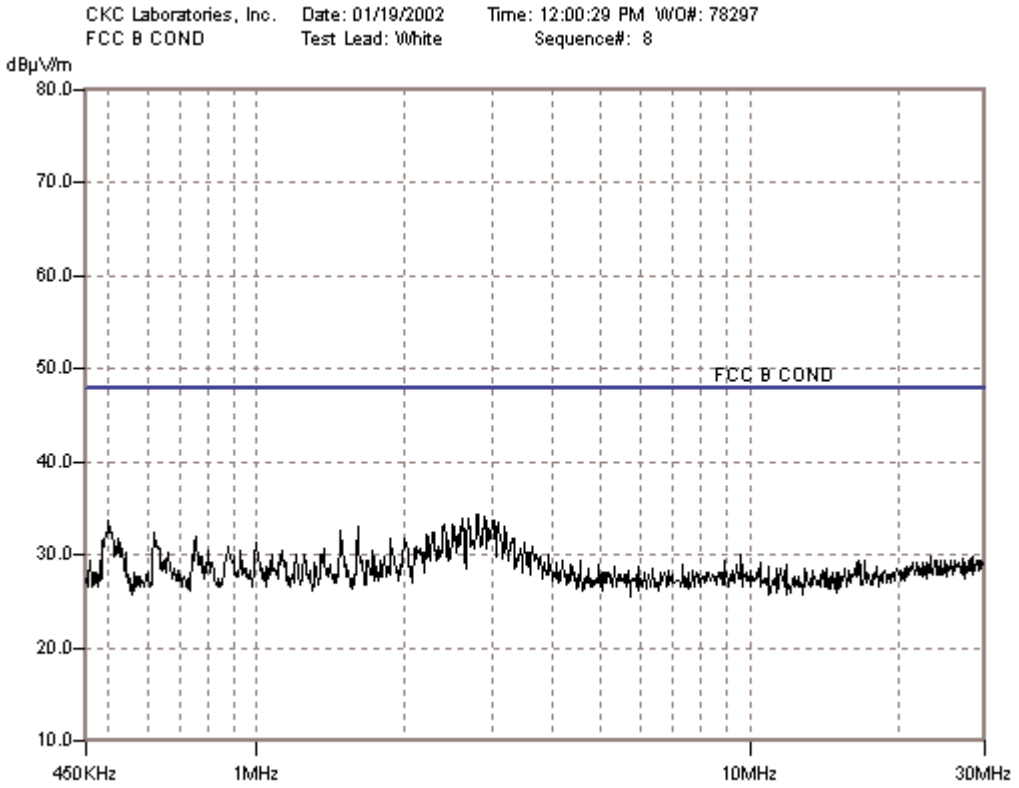
Test Conditions / Notes:

Radio is tuned to Aviation Band 118.00 MHz (worst case) Headset attached & powered from the AC power supply. All EUT controls are set to maximum The temperature was 69°F and the humidity was 45%. Added 100 pF Cap to BAT and Gnd vias on the upper left corner of the analog board. Based on preliminary measurements the worst case orthogonal plane is horizontal and this will be the EUT position for all testing. The EUT has had prescans and preliminary measurements made that show the worst case configuration is with the AC power supply connected. This will be the configuration used throughout the test. Frequency range investigated was 450 kHz to 30 MHz. Power supply connected to 120V AC.

Measurement Data: Reading listed by margin. Test Lead: White

#	Freq MHz	Rdng dBµV	T1 co dB	L13w dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	2.796M	33.9	+0.4	+0.1			+0.0	34.4	48.0	-13.6	White
2	2.904M	33.6	+0.5	+0.1			+0.0	34.2	48.0	-13.8	White
3	2.683M	33.5	+0.4	+0.1			+0.0	34.0	48.0	-14.0	White
4	2.623M	33.4	+0.4	+0.1			+0.0	33.9	48.0	-14.1	White
5	3.029M	33.0	+0.6	+0.1			+0.0	33.7	48.0	-14.3	White
6	2.999M	32.9	+0.6	+0.1			+0.0	33.6	48.0	-14.4	White
7	502.238k	33.3	+0.2	+0.1			+0.0	33.6	48.0	-14.4	White
8	3.089M	32.8	+0.6	+0.1			+0.0	33.5	48.0	-14.5	White
9	2.498M	32.8	+0.4	+0.1			+0.0	33.3	48.0	-14.7	White

10	2.402M	32.7	+0.4	+0.1	+0.0	33.2	48.0	-14.8	White
11	3.190M	32.3	+0.6	+0.1	+0.0	33.0	48.0	-15.0	White
12	2.528M	32.5	+0.4	+0.1	+0.0	33.0	48.0	-15.0	White
13	1.608M	32.5	+0.3	+0.2	+0.0	33.0	48.0	-15.0	White
14	2.970M	32.2	+0.6	+0.1	+0.0	32.9	48.0	-15.1	White
15	1.483M	32.1	+0.3	+0.2	+0.0	32.6	48.0	-15.4	White
16	2.295M	32.0	+0.4	+0.1	+0.0	32.5	48.0	-15.5	White
17	2.271M	32.0	+0.4	+0.1	+0.0	32.5	48.0	-15.5	White
18	621.339k	32.2	+0.1	+0.1	+0.0	32.4	48.0	-15.6	White
19	2.217M	31.6	+0.5	+0.2	+0.0	32.3	48.0	-15.7	White
20	2.570M	31.7	+0.4	+0.1	+0.0	32.2	48.0	-15.8	White
21	2.235M	31.3	+0.5	+0.2	+0.0	32.0	48.0	-16.0	White
22	752.978k	31.7	+0.2	+0.1	+0.0	32.0	48.0	-16.0	White
23	3.322M	31.1	+0.6	+0.1	+0.0	31.8	48.0	-16.2	White
24	1.990M	31.2	+0.4	+0.2	+0.0	31.8	48.0	-16.2	White
25	1.877M	31.1	+0.4	+0.2	+0.0	31.7	48.0	-16.3	White
26	521.043k	31.4	+0.2	+0.1	+0.0	31.7	48.0	-16.3	White
27	2.749M	31.1	+0.4	+0.1	+0.0	31.6	48.0	-16.4	White
28	746.709k	31.2	+0.2	+0.1	+0.0	31.5	48.0	-16.5	White
29	627.608k	31.3	+0.1	+0.1	+0.0	31.5	48.0	-16.5	White
30	487.611k	31.2	+0.2	+0.1	+0.0	31.5	48.0	-16.5	White


CKC Laboratories, Inc.
Date: 01/19/2002
Time: 12:00:29 PM
WO#: 78297
FCC B COND
Test Lead: White
Sequence#: 8
dBµV/m
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
FCC B COND
450KHz
1MHz
10MHz
30MHz