

Advanced
Compliance Laboratory

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ELECTROMAGNETIC EMISSION COMPLIANCE REPORT

of

RF CORDLESS HEADPHONE RECEIVER

MODEL: SRF2010

FCC ID: LPV-SRF2010

February 25, 2004

This report concerns (check one): Original grant ☒ Class II change ☐
Equipment type: RECEIVER

Deferred grant requested per 47 CF 0.457(d)(1)(ii)? yes ☐ no ☒
If yes, defer until: _____ (date)
Company agrees to notify the Commission by _____ (date)
of the intended date of announcement of the product so that the grant can be
issued on that date.

Transition Rules Request per 15.37? yes ☐ no ☒
If no, assumed Part 15, Subpart B for unintentional radiators - the new 47 CFR
[10-1-90 Edition] provision.

Report prepared for: ALFORD INDUSTRIES LTD.
Report prepared by: Advanced Compliance Lab
Report number: 0048-040217-01-RX



The test result in this report IS supported and covered by the NVLAP accreditation

Table of Contents

Report Cover Page.....	1
Table of Contents	2
Figures.....	3
1. GENERAL INFORMATION	4
1.1 Verification of Compliance	4
1.2 Equipment Modifications.....	5
1.3 Product Information.....	6
1.4 Test Methodology.....	6
1.5 Test Facility	6
1.6 Test Equipment.....	6
1.7 Statement of the Document Use.....	7
2. PRODUCT LABELING.....	8
3. SYSTEM TEST CONFIGURATION	9
3.1 Justification	9
3.2 Special Accessories.....	9
3.3 Configuration of Tested System	9
4. SYSTEM BLOCK DIAGRAM/SCHEMATICS.....	12
5. RADIATED EMISSION DATA.....	13
5.1 Field Strength Calculation	13
5.2 Test Methods and Conditions	13
5.3 Test Data	13
6. PHOTOS OF TESTED EUT	15

Figures

Figure 2.1 FCC ID Label.....	8
Figure 2.2 Location of Label on Back of the EUT	8
Figure 3.1 Cable Interlink Configuration.....	10
Figure 3.2 Radiated Front.....	11
Figure 3.3 Radiated Rear	11
Figure 4.1 EUT Block Diagram/Schematics	12
Figure 6.1 External View.....	16
Figure 6.2 Left Side Open View.....	17
Figure 6.3 Right Side Open View	18
Figure 6.4 PCB Component Side.....	19
Figure 6.5 PCB Foil Side	20

1. GENERAL INFORMATION

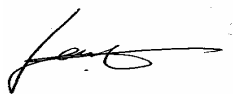
1.1 Verification of Compliance

EUT: RF CORDLESS HEADPHONE RECEIVER
 Model: SRF2010
 Applicant: ALFORD INDUSTRIES LTD.
 Unit 201, 2nd Fl., Park Building, 476 Castle Peak Rd.,
 Kowloon, Hong Kong
 Test Type: FCC Part 15C CERTIFICATION
 Result: PASS
 Tested by: ADVANCED COMPLIANCE LAB
 Test Date: February 25, 2004
 Report Number: 0048-040217-01-RX

The above equipment was tested by Advanced Compliance Laboratory for compliance with the requirement set forth in the FCC rules and regulations Part 15, subpart C. This said equipment in the configuration described in the report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

The estimated uncertainty of the test result is given as following. The method of uncertainty calculation is provided in Advanced Compliance Lab. Doc. No. 0048-01-01.

	Prob. Dist.	Uncertainty(dB)	Uncertainty(dB)	Uncertainty(dB)
		30-1000MHz	1-6.5GHz	Conducted
Combined Std. Uncertainty u_c	norm.	± 2.36	± 2.99	± 1.83



Wei Li
 Lab Manager
 Advanced Compliance Laboratory

Date: February 25, 2004

1.2 Equipment Modifications

N/A

1.3 Product Information

System Configuration

ITEM	DESCRIPTION	FCC ID	CABLE
Product	RECEIVER	LPV-SRF2010(1)	
Housing	PLASTICS		
Power Supply	DC3V		
Operation Freq.	49.86MHz		
Device Type	Continuous Operation		
Transmitter	FCC Part 15 Certificate	LPV-STF2010	

(1) EUT submitted for grant.

1.4 Test Methodology

Radiated tests were performed according to the procedures in ANSI C63.4-2001 at an antenna to EUT distance of 3 meters.

1.5 Test Facility

The open area test site and conducted measurement facility used to collect the radiated and conducted data are located at Somerset, New Jersey. This site has been accepted by FCC to perform measurements under Part 15 or 18 in a letter dated May 19, 1997 (Refer to: 31040/PRV 1300F2). The NVLAP Lab code for accreditation of FCC EMC Test Method is: 200101-0.

1.6 Test Equipment

Manufacture	Model	Serial No.	Description	Last Cal dd/mm/yy	Cal Due dd/mm/yy
Hewlett-Packard	HP8546A	3625A00341	EMI Receiver	23/10/03	23/10/04
EMCO	3104C	9307-4396	20-300MHz Biconical Antenna	11/03/03	11/03/04
EMCO	3146	9008-2860	200-1000MHz Log-Periodic Antenna	09/02/04	09/02/05
Fischer Custom	LISN-2	900-4-0008	Line Impedance Stabilization Networks	03/07/03	03/07/04
Fischer Custom	LISN-2	900-4-0009	Line Impedance Stabilization Networks	03/07/03	03/07/04
EMCO	3115	4945	Double Ridge Guide Horn Antenna	15/09/03	15/09/04

All Test Equipment Used are Calibrated Traceable to NIST Standards.

1.7 Statement for the Document Use

This report shall not be reproduced except in full, without the written approval of the laboratory. And this report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

2. PRODUCT LABELING

FCC ID: LPV-SRF2010

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

Figure 2.1 FCC ID Label



Figure 2.2 Location of the Label

3. SYSTEM TEST CONFIGURATION

3.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it). And its antenna was permanently attached to the EUT with maximum length, 15 inches.

When the power is ON, the red LED on the right side of EUT is lit.

Testing was performed as EUT was receiving the signal continuously.

3.2 Special Accessories

N/A

3.3 Configuration of Tested System

Figure 3.1 and Figure 3.3 illustrate this system, which is tested standing along.

N/A

Figure 3.1 Cable Interlink Configuration

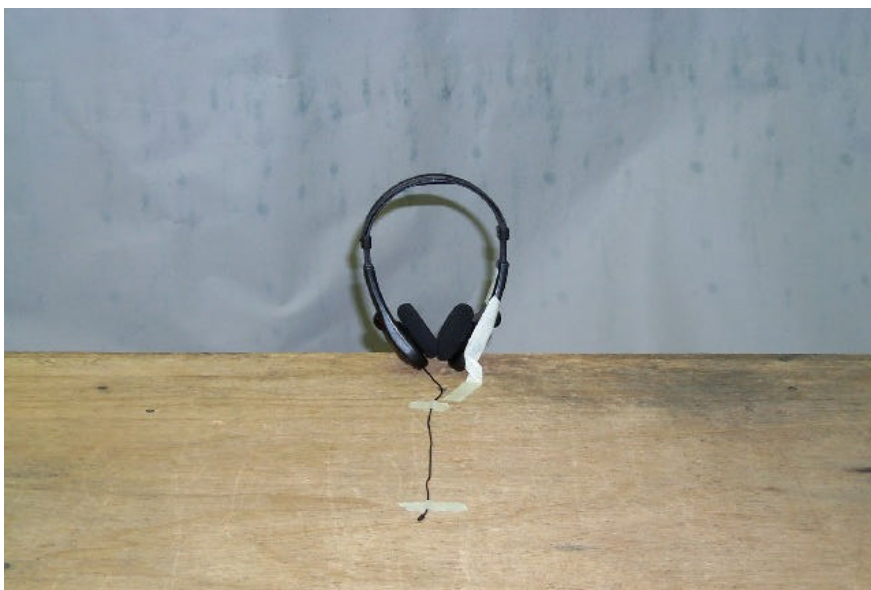


Figure 3.2 Radiated Front



Figure 3.3 Radiated Rear

4. SYSTEM BLOCK DIAGRAM/SCHEMATICS

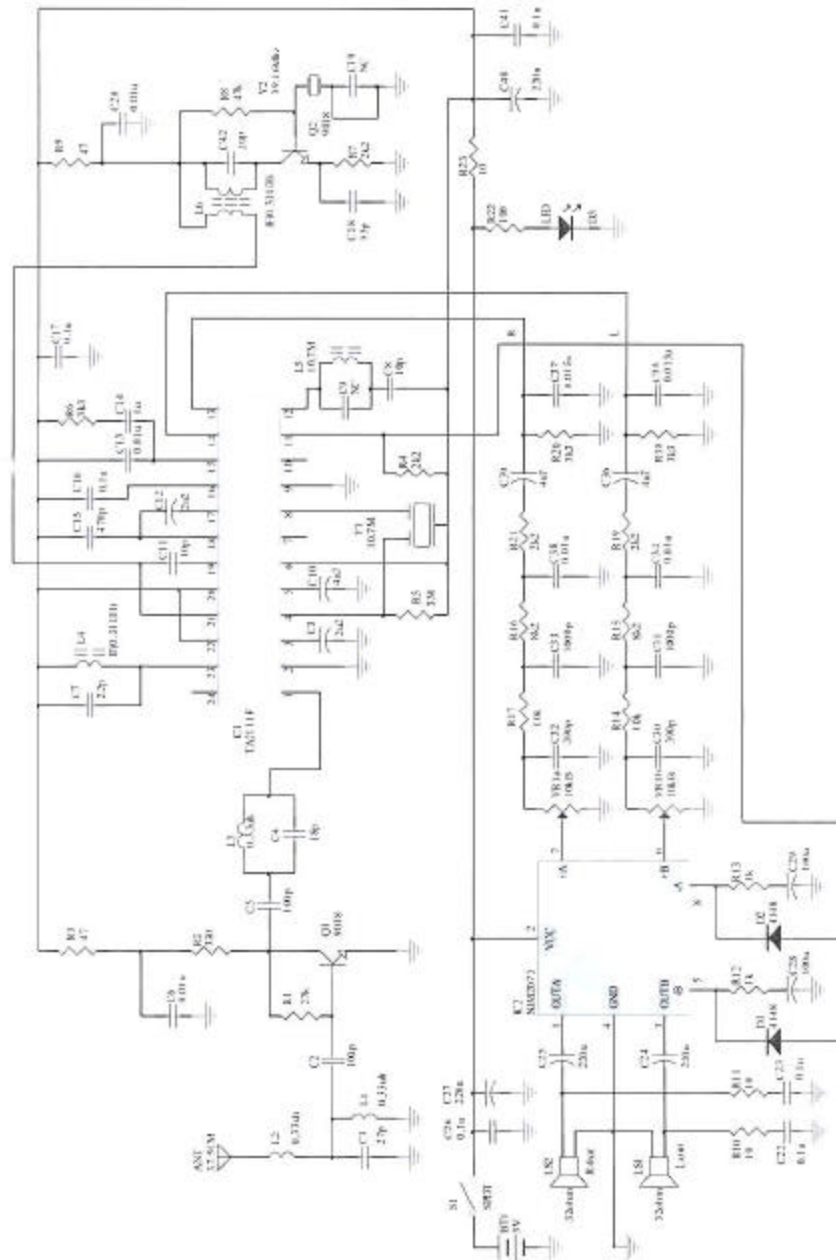


Figure 4.1 EUT Block Diagram /Schematics

5. RADIATED EMISSION DATA

5.1 Field Strength Calculation

The corrected field strength is automatically calculated by EMI Receiver using following:

$$FS = RA + AF + CF + AG$$

where FS: Corrected Field Strength in dB μ V/m

RA: Amplitude of EMI Receiver before correction in dB μ V

AF: Antenna Factor in dB/m

CF: Cable Attenuation Factor in dB

AG: Built-in Preamplifier Gain in dB (Stored in receiver as part of the calibration data)

5.2 Test Methods and Conditions


The initial step in collecting radiated data is a EMI Receiver scan of the measurement range below 30MHz using peak detector and 9KHz IF bandwidth / 30KHz video bandwidth. For the range 30MHz - 1GHz, 120KHz, IF bandwidth / 30KHz video bandwidth are used. Both bandwidths are 1MHz for above 1GHz measurement. The highest radiated emissions below 10GHz are recorded.

5.3 Test Data

The following data lists the significant emission frequencies, polarity and position, peak reading of the EMI Receiver, the FCC limit, and the difference between the peak reading and the limit. Explanation of the correction and calculation are given in section 5.1.

Testing was performed as EUT was receiving the signal continuously.

Test Personnel:

Tester Signature: 

Typed/Printed Name: Edward Lee

Date: February 25, 2004

Radiated Test Data

Worst Case : receiving frequency=49.86MHz

Frequency (MHz)	Polarity [H, V] Position	Height (m)	Azimuth (Degree)	Peak Reading (dBmV/m)	Part 15 3m Limit (dBmV/m)	Difference from limit (dB)
117.48	H	1.6	180	27.9	43.5	-15.6
156.64	H	1.6	180	31.0	43.5	-12.5
195.80	H	1.5	180	39.0	43.5	-4.5
234.96	H	1.4	45	36.4	46.0	-9.6
274.12	H	1.4	90	36.5	46.0	-9.5
313.30	H	1.2	270	34.1	46.0	-11.9
117.48	V	1.1	270	26.6	43.5	-16.9
195.80	V	1.4	180	35.6	43.5	-7.9
234.96	V	1.2	0	36.1	46.0	-9.9

6. PHOTOS OF TESTED EUT

The following photos show the inside details of the EUT.