



L.S. Compliance, Inc.

W66 N220 Commerce Court

Cedarburg, WI 53012

262-375-4400 Fax: 262-375-4248

Compliance Testing of the Commando Base

Prepared For:

Sports Communications, Inc.

Attn.: Mr. Tom Turkington

205 Technology Parkway

Auburn, AL 36830

Test Report Number:

303137 TX

Test Date:

February 6th, 18th and 21st, 2003

All results of this report relate only to the items that were tested. This report may not be reproduced, except in full, without written approval of L.S. Compliance, Inc.

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1. L.S. Compliance in Review

L. S. Compliance, Inc. is located in Cedarburg, Wisconsin – United States.

We may be contacted by:

Mail: L. S. Compliance, Inc.
W66 N220 Commerce Court
Cedarburg, Wisconsin 53102

Phone: 262-375-4400
Fax: 262-375-4248
E-Mail: eng@lsr.com

As an EMC testing laboratory, our accreditation and assessments are recognized through the following:

A2LA – American Association for Laboratory Accreditation

Accreditation based on ISO/IEC 17025: 2005

With electrical (EMC) Scope of Accreditation

A2LA Certificate Number: **1255.01**

U.S. Conformity Assessment Body (CAB) Validation

Validated by the European Commission as a U.S. conformity assessment Body operating under the U.S./EU, Mutual Recognition Agreement (MRA) operating under the European Union EMC Directive 89/336/EEC, Article 10.2

Date of Validation: **January 16, 2001**

Federal Communications Commission (FCC) – USA

Listing of 3 Meter Semi-Anechoic Chamber based on 47CFR 2.948

FCC Registration Number: **90756**

Listing of 3 and 10 Meter OATS based on 47CFR 2.948

FCC Registration Number: **90757**

Industry Canada

On-file, 3 Meter Semi-Anechoic Chamber based on 47CFR 2.948

File Number: **IC 3088**

On-file 3 and 10 meter OATS based on RSS-210

File Number: **IC 3088-A**

2. A2LA Certificate of Accreditation



**THE AMERICAN
ASSOCIATION
FOR LABORATORY
ACCREDITATION**

ACCREDITED LABORATORY

A2LA has accredited

L.S. COMPLIANCE, INC.
Cedarburg, WI


for technical competence in the field of

Electrical Testing

The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 "General Requirements for the Competence of Testing and Calibration Laboratories" and any additional program requirements in the identified field of testing. Testing and calibration laboratories that comply with this International Standard also operate in accordance with ISO 9001 or ISO 9002 (1994).

Presented this 26th day of March 2003.




President
For the Accreditation Council
Certificate Number 1255.01
Valid to January 31, 2005

For tests or types of tests to which this accreditation applies,
please refer to the laboratory's Electrical Scope of Accreditation.

3. A2LA Scope of Accreditation



American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC 17025-1999

L.S. COMPLIANCE, INC.
W66 N220 Commerce Court
Cedarburg, WI 53012
James Blaha Phone: 262 375 4400

ELECTRICAL (EMC)

Valid to: January 31, 2005

Certificate Number: 1255-01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests:

Test

Test Method(s)

Emissions

Conducted Emissions
Continuous/Discontinuous

Code of Federal Regulations (CFR) 47, FCC Method Parts
15 and 18 using ANSI C63.4;
EN: 55011, 55022, 55081-1, 55081-2;
CISPR: 11, 22; CNS 13438

Radiated Emissions

Code of Federal Regulations (CFR) 47, FCC Method Parts
15 and 18 using ANSI C63.4;
EN: 55011, 55022, 55081-1, 55081-2;
CISPR: 11, 22; CNS 13438

Current Harmonics

EN 61000-3-2

Voltage Fluctuations & Flicker

EN 61000-3-3

Immunity

Conducted Immunity
Fast Transients/Burst

IEC: 1000-4-4, 801-4;
EN: 61000-4-4, 50082-1, 50082-2
IEC: 1000-4-5, 801-5; ENV 50142;
EN: 61000-4-5, 50082-1, 50082-2
IEC: 1000-4-6, 801-6; ENV 50141;
EN: 61000-4-6, 50082-1, 50082-2

Surge

RF Fields

Voltage Dips/Interruptions




IEC 1000-4-11;
EN: 61000-4-11, 50082-1, 50082-2

(A2LA Cert. No. 1255.01) 03/26/03

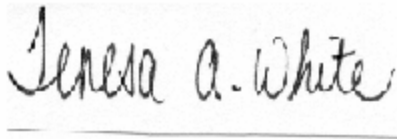
5301 Buckeystown Pike, Suite 350 • Frederick, MD 21704-8373 • Phone: 301-644 3248 • Fax: 301-662 2974



4. Validation Letter – U.S. Competent Body for EMC Directive 89/336/EEC

 1901-2001 NIST CENTENNIAL	 DEPARTMENT OF COMMERCE UNITED STATES OF AMERICA	UNITED STATES DEPARTMENT OF COMMERCE National Institute of Standards and Technology Gaithersburg, Maryland 20899-
January 16, 2001		
Mr. James J. Blaha L.S. Compliance Inc. W66 N220 Commerce Court Cedarburg, WI 53012-2636		
Dear Mr. Blaha:		
I am pleased to inform you that the European Commission has validated your organization's nomination as a U.S. Conformity Assessment Body (CAB) for the following checked (✓) sectoral annex(es) of the U.S.-EU Mutual Recognition Agreement (MRA).		
<input checked="" type="checkbox"/> Electromagnetic Compatibility-Council Directive 89/336/EEC, Article 10(2) <input type="checkbox"/> Telecommunication Equipment-Council Directive 98/13/EC, Annex III <input type="checkbox"/> Telecommunication Equipment-Council Directive 98/13/EC, Annex III and IV Identification Number: <input type="checkbox"/> Telecommunication Equipment-Council Directive 98/13/EC, Annex V Identification Number:		
This validation is only for the location noted in the address block, unless otherwise indicated below.		
<input checked="" type="checkbox"/> Only the facility noted in the address block above has been approved. <input type="checkbox"/> Additional EMC facilities: <input type="checkbox"/> Additional R&TTE facilities:		
Please note that an organization's validations for various sectors of the MRA are listed on our web site at http://ts.nist.gov/mra . You may now participate in the conformity assessment activities for the operational period of the MRA as described in the relevant sectoral annex or annexes of the U.S.-EU MRA document.		
NIST will continue to work with you throughout the operational period. All CABs validated for the operational phase of the Agreement must sign and return the enclosed CAB declaration form, which states that each CAB is responsible for notifying NIST of any relevant changes such as accreditation status, liability insurance, and key staff involved with projects under the MRA. Please be sure that you fully understand the terms under which you are obligated to operate as a condition of designation as a CAB. As a designating authority, NIST is responsible for monitoring CAB performance to ensure continued competence under the terms of the MRA.		
		

5. Signature Page



April 29, 2003

Prepared By:

Teresa A. White, Document Coordinator

Date

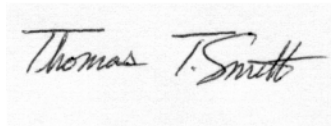


April 29, 2003

Tested By:

Abtin Spantman, EMC Engineer

Date

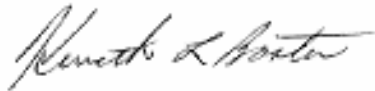


April 29, 2003

Tested By:

Thomas T. Smith, EMC Engineer

Date



April 29, 2003

Approved By:

Kenneth L. Boston, EMC Lab Manager
PE #31926 Licensed Professional Engineer
Registered in the State of Wisconsin, United States

Date

6. Product and General Information

Manufacturer:	Sports Communications, Inc.
Model Number:	Commando Base
Serial Number:	Engineering Unit
Frequency Range:	902-928 MHz
Test Voltage:	5 VDC, supplied by AC wall pack

Environmental Conditions in the Test Lab:

Temperature:	20-25° C
Atmospheric Pressure:	86kPa-106kPa
Humidity:	30-60%

7. Introduction

During February 3rd, - 6th, 2003, a series of Radiated Emissions tests were performed on one sample of the CoachComm Remote Unit, Transmitter Reference-Design, here forth referred to as the "*Equipment Under Test*" or "*EUT*". This product operates by means of transmitting packets of data containing embedded codes.

These tests were performed using the test procedure outlined in ANSI C63.4, 2001 for intentional radiators, and in accordance with the limits set forth in FCC Part 15.249, for a manually operated transmitter.

8. Purpose

The above-mentioned tests were performed in order to determine the compliance of the equipment under test (EUT), with limits contained in various provisions of Title 47CFR, FCC Part 15, including: 15.205, 15.209, and 15.249.

All radiated emission tests were performed to measure the emissions in the frequency bands described in Section 12i, and to determine whether said emissions are below the limits established by the above sections.

These tests were performed in accordance with the procedures described in the American National Standard for methods of measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (ANSI C63.4, 2001).

Also used as a reference, for the EMI Receiver specification, is the International Special Committee on Radio Interference – CISPR 16-1, 2002.

9. Product Description

The Commando Control RF Base Unit is a low power device used in a remote control application. The transceiver operates in the 902-928 MHz I.S.M. band, on one of ten channels, using FSK for the modulation method. The lowest channel (1), has a fundamental frequency of 903.0 MHz, and the highest channel (10) has a fundamental frequency of 911.0 MHz.

The Commando Control RF Base is operated in a system with the Commando RF Wireless Remote to allow for the remote control of a video device, particularly in a sports electronics application.

10. Test Requirements

The EUT was to be tested for radiated emissions, and compliance with the limits set forth by 47 CFR, Parts 15.205, 15.209, and 15.249, for manually operated periodic transmitters.

11. Summary of Test Report

The Equipment Under Test (EUT) was found to **MEET** the requirements as described within the specifications of Title 47 CFR, Part 15.249.

12. Radiated Emission Test

12a. Test Setup

The EUT was operated within the 3 Meter FCC listed Semi-Anechoic Chamber, located at L.S. Compliance, Inc., Cedarburg, Wisconsin. The EUT was placed on an 80cm high wooden pedestal, which was centered on the flush-mounted 2m diameter metal turntable. The test sample was operated in continuous transmit CW mode for the radiated emissions measurements, and in normal mode for all other measurements, running a simulated set of commands.

12b. Test Procedure

The fundamental and spurious (harmonic) emissions of the transmitter were tested for compliance to Title 47CFR, FCC Part 15.249 limits for a low power transmitter in the ISM bands.

The EUT was tested from the lowest frequency generated by the transmitter (without going below 9kHz) to the 10th harmonic of the fundamental frequency generated by the device. The appropriate limits were also observed when the fundamental or spurious signals were located within any of the restricted bands as described in FCC Part 15.205a.

The EUT was placed on an 80 cm high pedestal, with the Antenna Mast placed 3 m from the EUT.

A Bi-conical Antenna was used to measure emissions from 30 MHz to 300 MHz, a Log Periodic Antenna was used to measure emissions from 300 MHz to 1000 MHz, and a Double Ridged Waveguide Horn Antenna was used to measure emissions above 1 GHz. Operation was checked with the base by itself, and also with the remote unit connected to the base and charging. The unit was powered from an AC wall transformer that supplied 5 volts D.C. to the connection on the Device Cabinet.

The EUT was modified to produce a continuous CW signal. The resultant signals from the fundamental, harmonics, and spurious signals were maximized by rotating the turntable 360 degrees, and by raising and lowering the Antenna between 1 and 4 meters. The EUT was also given different orientations to determine the maximum signal levels, using both horizontal and vertical antenna polarities. Fundamental radiated output was also observed while varying the AC power to the wall transformer from 85% to 115% of the nominal 115 VAC supplied, with no variation in RF output observed.

12c. Test Results

The Equipment Under Test (EUT) was found to **MEET** the requirements as described within the specifications of Title 47 CFR, Part 15.249 for Radiated Emission.

12d. Occupied Bandwidth

All fundamental signals were seen to fall completely within the 902-928 MHz I.S.M. band.

12e. Test Equipment Utilized, Radiated Emissions

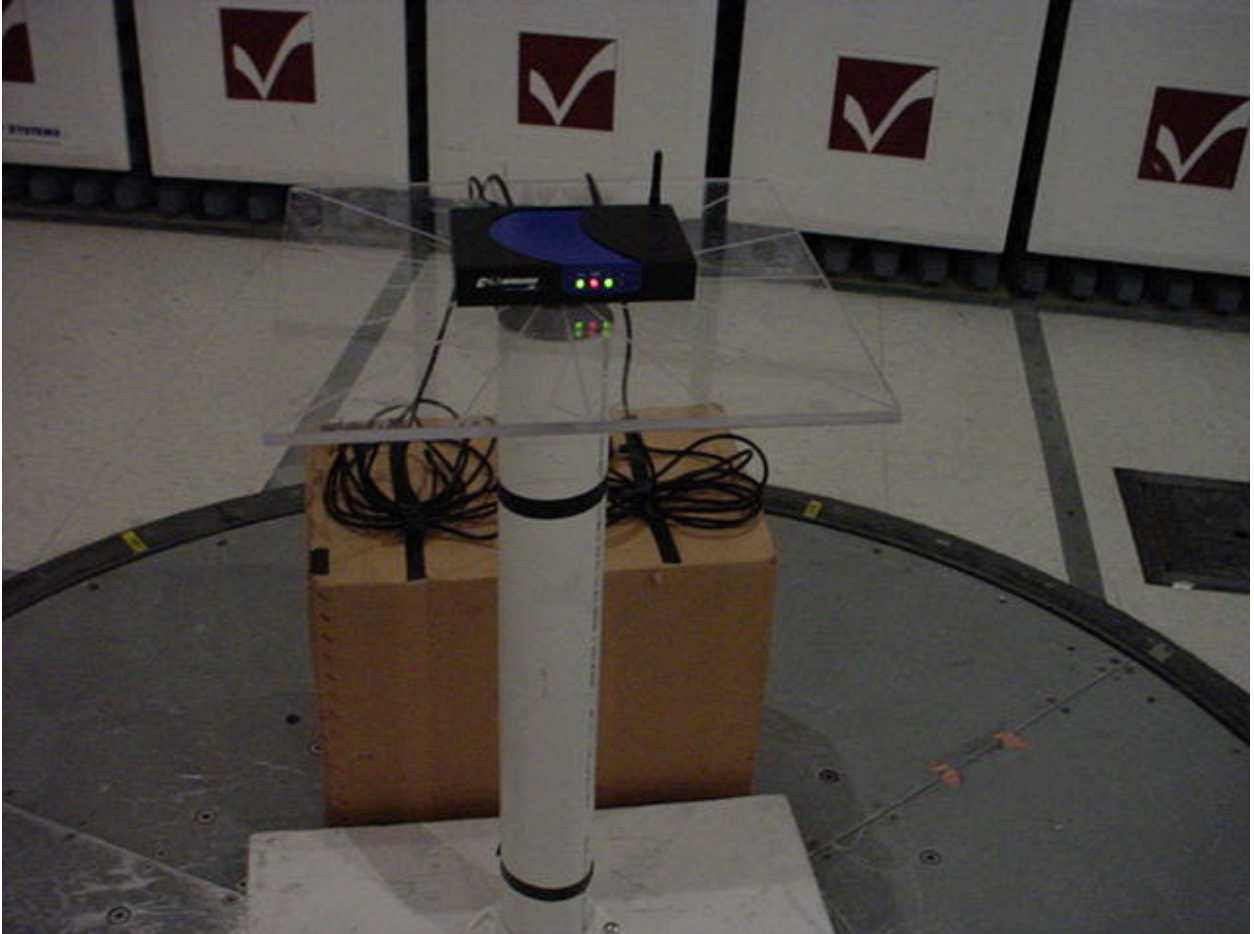
A list of the test equipment used for the tests can be found in Appendix B. All equipment is calibrated and used according to the operation manuals supplied by the manufacturers. All antenna calibrations were performed at a N.I.S.T. traceable site, and the resultant correction factors were entered into the HP8546A EMI Receiver software database.

The connecting cables used were also measured for loss using a calibrated Signal Generator and the HP8546A EMI Receiver. The resulting loss factors were entered into the HP8546A database. This allowed for automatic change in the antenna correction factor. The resulting data taken from the HP8546A EMI Receiver is an actual reading and can be entered into the database as a corrected meter reading. The resulting reading can then be compared to the appropriate limit in order to determine compliance. The HP8546A EMI Receiver was operated with a bandwidth of 120 kHz when receiving signals below 1 GHz, and with a bandwidth of 1 MHz when receiving signals above 1 GHz, in accordance with CISPR 16.

The Peak, Quasi-Peak and Average detector functions were all used.

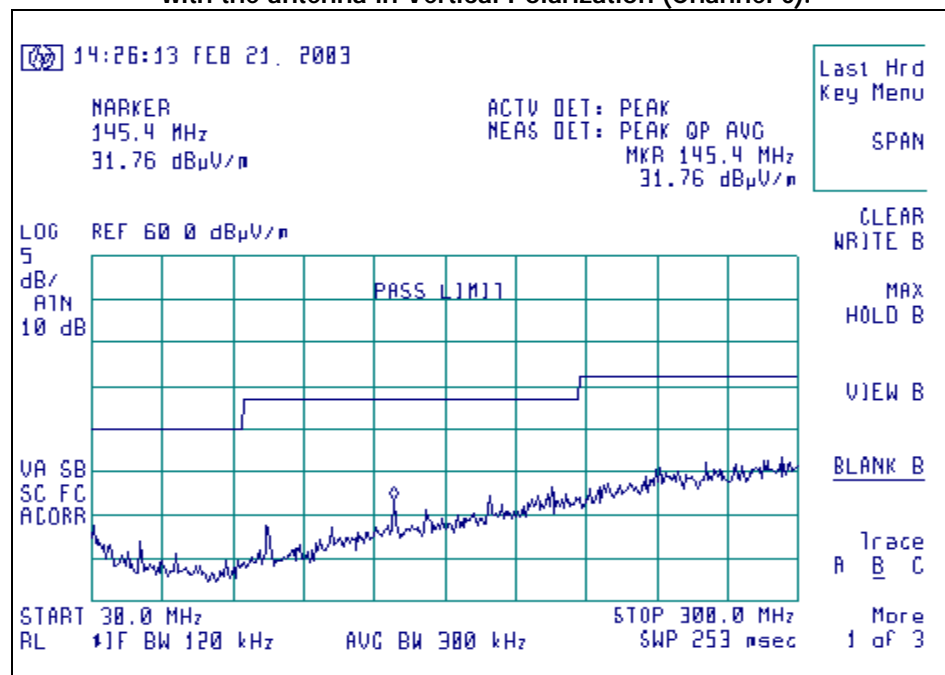
12f. Photo of Setup for Radiated Emissions Test

In the 3 Meter Semi-Anechoic Chamber

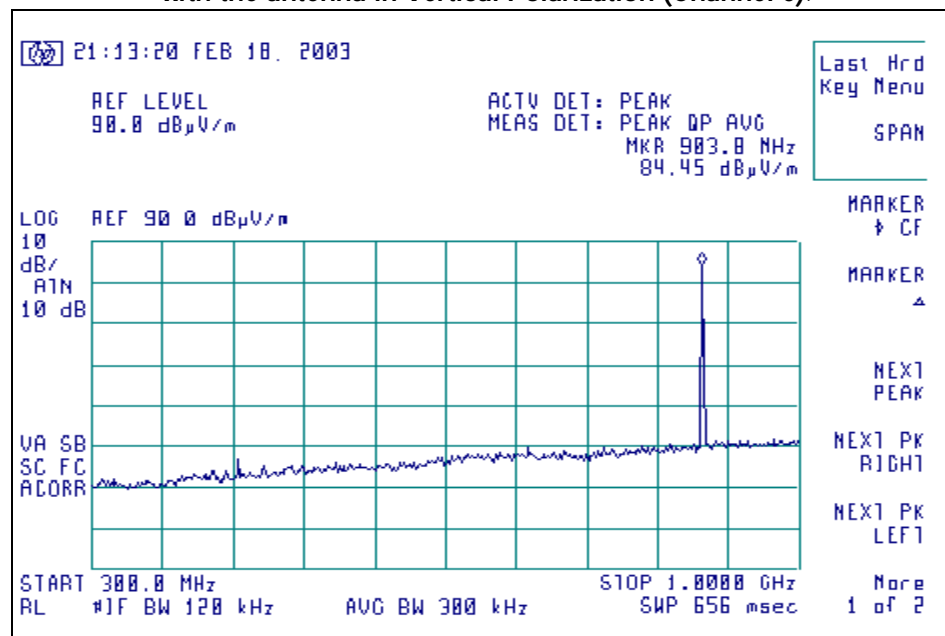


12g. Signature Scans – Radiated Emissions

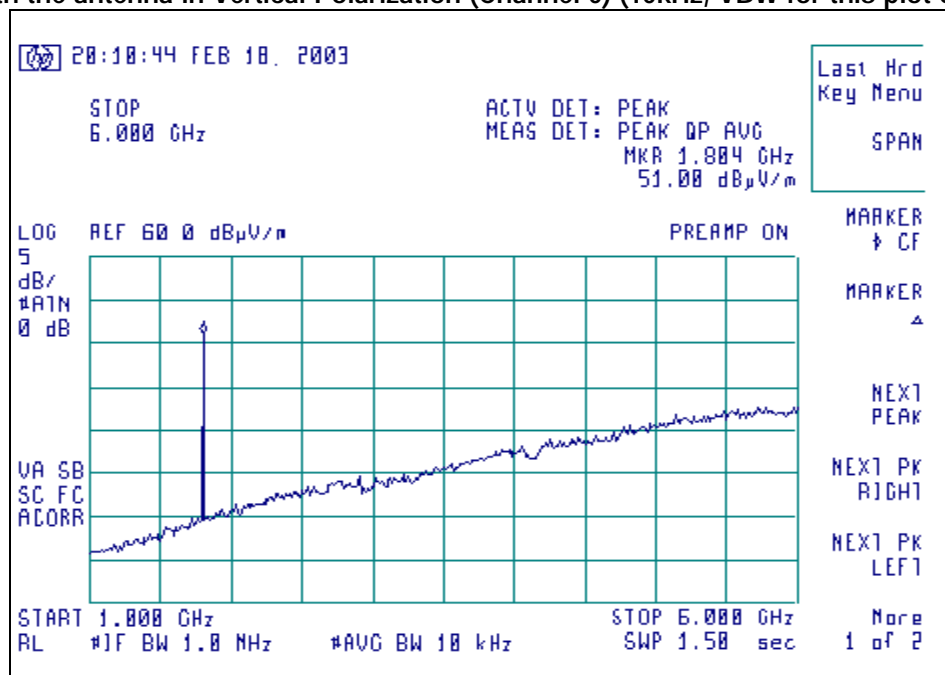
Signature Scan from 30 MHz to 300 MHz,
with the antenna in Vertical Polarization (Channel 0).



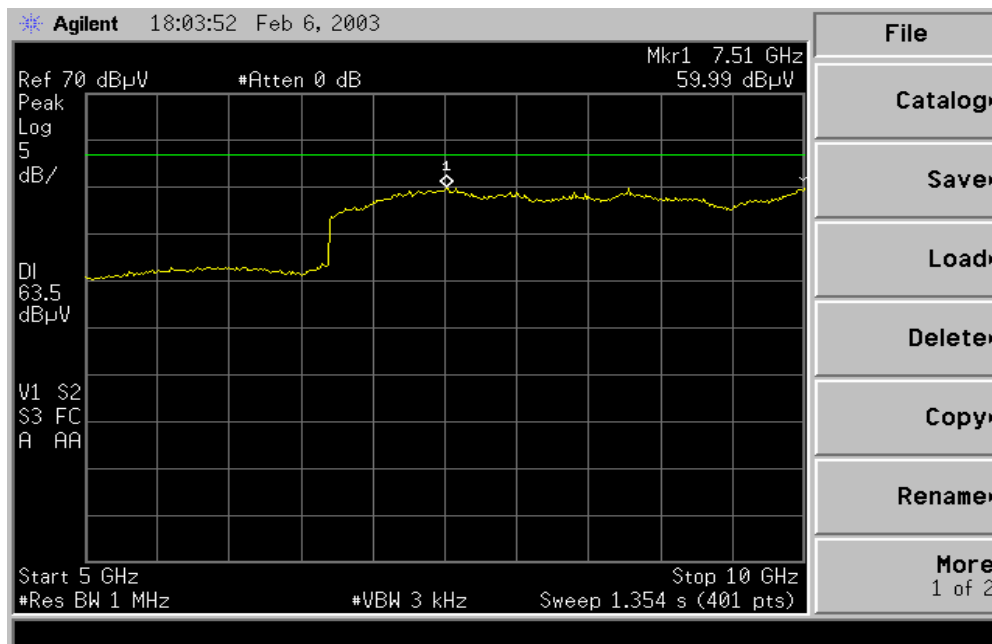
Signature Scan from 300 MHz to 1000 MHz,
with the antenna in Vertical Polarization (Channel 0).



**Signature Scan from 1000 MHz to 6000 MHz,
with the antenna in Vertical Polarization (Channel 0) (10kHz, VBW for this plot only)**



**Signature Scan of 5000 MHz – 10000 MHz
with the antenna in Horizontal Polarization.**



Note: The above plot is performed while inspecting emissions with the device at 1 meter (or 0.3 meters to determine if the product is emitting spurious signals in this frequency range) 3 kHz VBW was used for this plot only. Highest noise floor at 7.51 GHz was 58.0 dBμV with 10 Hz VBW.

12h. Measurement of Electromagnetic Radiated Emission

Measurement of Electromagnetic Radiated Emission Within the 3 Meter Semi-Anechoic FCC Listed Chamber

Manufacturer: Sports Communications, Inc.

Date of Test: February 6th, 18th, and 21st, 2003

Model: Commando Base Unit (both with and without remote attached)

Serial: Engineering Unit

Test

Specifications: FCC Parts 15.205, 15.209, and 15.249.

Distance: 3 Meters, 1 Meter (or 0.3m) >5 GHz			Frequency Range Inspected: 30 MHz to 10,000 MHz			
Configuration: Continuous Data Transmit						
Detector(s) Used:	v	Peak	v	Quasi-Peak	v	Average

Test Equipment Used:

EMI Receiver: HP 8546A	Log Periodic Antenna: EMCO 93146
Double-Ridged Horn Antenna: EMCO 3115	Biconical Antenna: EMCO 93110B
Microwave Spectrum Analyzer HP E4407	

The following table depicts the level of significant fundamental and harmonic emissions found.

Higher order harmonics were found to be below the noise floor of the receiving system.

Frequency (MHz)	Antenna Polarity	Channel	Height (Meters)	Azimuth (0°-360°)	EMI Meter Reading (dBµV/m)	Limits per 15.249, 15.209 (dBµV/m)	Margin (dB)
48.0	V	0	1.0	90	25.7	40.0	14.3
96.0	V	0	1.0	95	27.9	43.5	15.6
144.0	V	0	1.0	0	28.8	43.5	14.7
200.0	H	0	1.0	0	26.1	43.5	17.4
295.0	H	0	1.0	0	32.2	46.0	13.8
324.0	H	9	1.0	245	30.7	46.0	15.3
444.0	H	0	1.0	175	41.2	46.0	4.8
468.0	H	0	1.0	175	40.9	46.0	5.1
612.0	H	0	1.0	330	37.3	46.0	8.7
636.0	H	9	1.2	290	41.5	46.0	4.5
902.9	H	0	1.0	0	90.4	94.0	3.6
910.9	H	9	1.0	250	91.1	94.0	2.9
1806	V	0	1.0	330	50.6	54.0	3.4
1822	H	9	1.1	20	48.2	54.0	5.8
2709	V	0	1.0	260	36.6	54.0	17.4
2733	H	9	1.0	255	36.1	54.0	17.9

Note: Peak readings were also performed above 1 GHz; all were found to be greater than 20 dB below the 74 dBµV/m limit (highest: 52.1 dBµV at 1806 MHz using 1 MHz/1MHz RBW/VBW).

12i. Test Equipment Utilized

A list of the test equipment and antennas used for the tests can be found in Appendix B. All equipment is calibrated and used according to the operation manuals supplied by the manufacturers. All antenna calibrations were performed at a N.I.S.T. traceable site, and the resultant correction factors were entered into the HP8546A EMI Receiver software database.

The connecting cables used were also measured for loss using a calibrated Signal Generator and the HP8546A EMI Receiver. The resulting loss factors were entered into the HP8546A database. This allowed for automatic change in the antenna correction factor, as well as cable. The resulting data taken from the HP8546A EMI Receiver is an actual reading and can be entered into the database as a corrected meter reading.

The resulting reading was then compared to the appropriate limit in order to determine compliance. The HP8546a EMI Receiver was operated with a bandwidth of 120 kHz when receiving signals below 1 GHz, and with a bandwidth of 1 MHz when receiving signals above 1 GHz, in accordance with CISPR 16 standards. An Agilent E4407B Microwave Spectrum Analyzer was used above 6 GHz.

The Peak, Quasi-Peak and Average detector functions were all used.

13. Conducted Emissions Test (AC Line)

13a. Test Setup

The Conducted Emissions test was performed within a Shielded Room located at L.S. Compliance, Inc. in Cedarburg, Wisconsin. The test area and setup are in accordance with ANSI C63.4-2001 and with Title 47 CFR, FCC Part 15, Subpart B (Industry Canada RSS-210). The EUT was placed on a non-conductive wooden table, with a height of 80 cm above the reference ground plane. The EUT's power supply was plugged into a 50 Ω (ohm), 50/250 μ H Line Impedance Stabilization Network (LISN). The AC power supply of 115VAC was fed into the Shielded Room via an appropriate broadband EMI Filter, and then to the LISN line input. Final readings were then taken and recorded. After the EUT was setup in the 3 Meter Semi-Anechoic Chamber and connected to the LISN, the RF Sampling Port of the LISN was cabled to a 10 dB Attenuator-Limiter, and then to the HP 85462A EMI Receiver. The EMCO LISN used has the ability to terminate the unused port with a 50 Ω (ohm) load when switched to either L1 (line) or L2 (neutral).

13b. Test Procedure

The appropriate frequency range and bandwidths were entered into the EMI Receiver, and measurements were made. The bandwidth used for these measurements is 9 kHz, as specified in CISPR 16-1 (2002), Section 1, Table 1, for Quasi-Peak and Average detectors in the frequency range of 150 kHz to 30MHz. Final readings were then taken and recorded.

13c. Test Equipment Utilized

A list of the test equipment and accessories utilized for the Conducted Emissions test is found in Appendix A. This list includes calibration information and equipment descriptions. All equipment is calibrated and used according to the operation manuals supplied by the manufacturers. Calibrations of the LISN and Limiter are traceable to N.I.S.T. All cables are calibrated and checked periodically for conformance. The emissions are measured on the HP 85462A EMI Receiver, which has automatic correction for all factors stored in memory and allows direct readings to be taken.

13d. Test Results

The EUT was found to **MEET** the Conducted Emission requirements of FCC Part 15.207 for an Intentional Radiator. See the Data Charts and Graphs for more details of the test results.

Notes:

13e. Measurement of Electromagnetic Conducted Emission In the Shielded Room

Frequency Range Inspected: 150 KHz to 30 MHz

Manufacturer: Sports Communications, Inc.

Date of Test: February 6th, 18th, and 21st, 2003

Model No.: Commando Base Unit

Serial No.: Engineering Unit

Test Requirements: FCC 15.207

Distance: N/A				Frequency Range Inspected: 0.15 to 30 MHz		
Configuration: Continuous Data Transmit						
Detector(s) Used:			Peak	v	Quasi-Peak	v Average

Test Equipment Used:

EMI Receiver: HP 8546A, E4407B	L.I.S.N: EMCO 3816
--------------------------------	--------------------

Frequency (MHz)	Line	EMI Quasi-Peak Reading (dBmV/m)	Limit (dBmV/m)	Margin (dB)	Average Reading (dBμV/m)	Average Limit (dBμV/m)	Average Margin (dB)
24.0	L1	43.0	60.0	17.0	42.8	50.0	7.2
24.0	L2	36.6	60.0	23.4	34.7	50.0	15.3

Note: All other Conducted Emissions seen were greater than 20 dB below the 15.207 limits.

Emissions were measured with the EUT standing alone, and with the remote device connected and charging.

13f. Photos Taken During Conducted Emission Testing

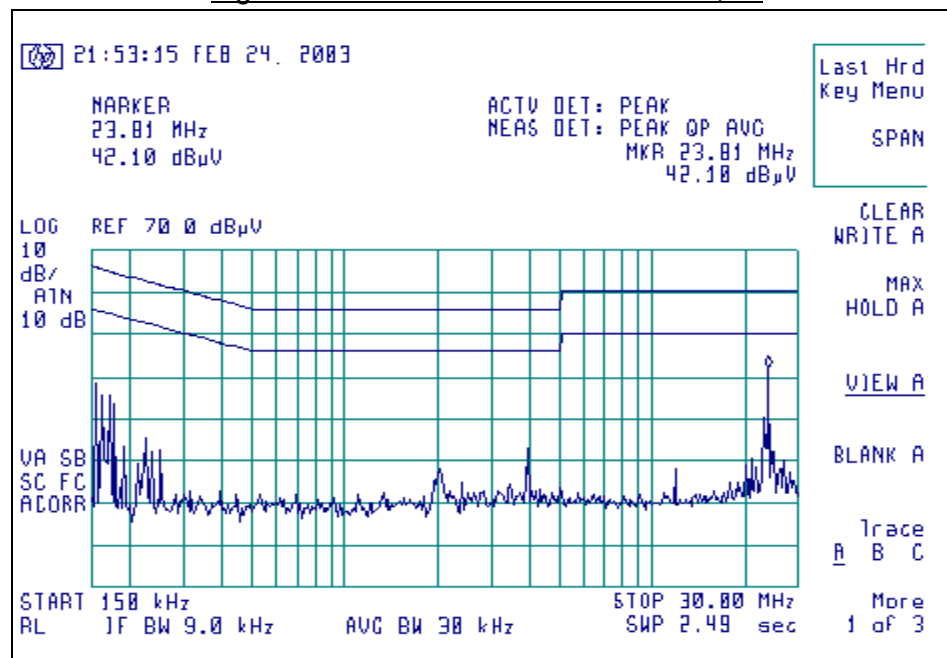
Setup for the Conducted Emissions Test



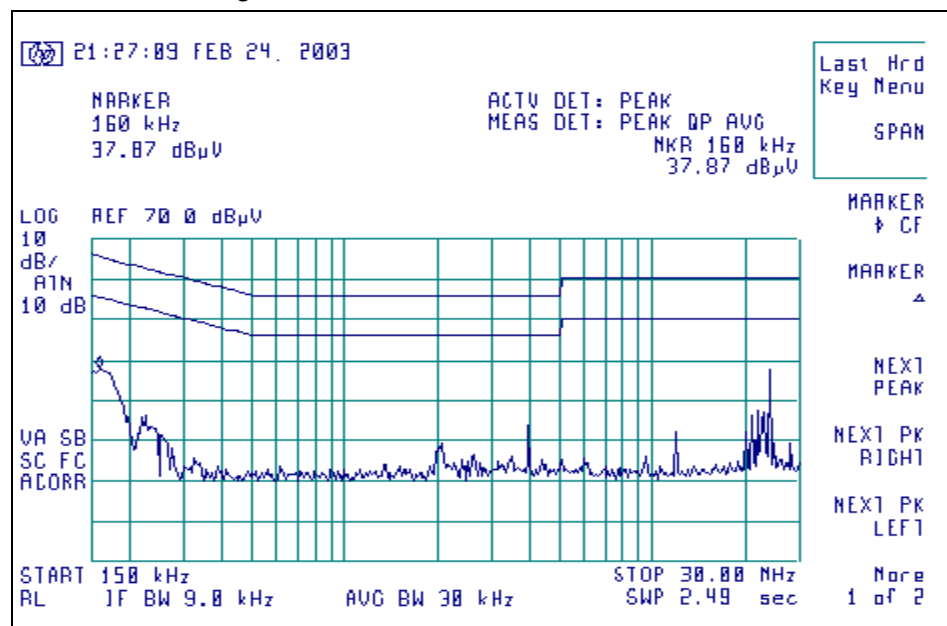
View of the EUT during Conducted Emissions Testing

13g. Graphs made during Conducted Emission Testing

Signature Scan of Conducted Emissions, L1



Signature Scan of Conducted Emissions, L2



APPENDIX A

Calculations

Manufacturer: Sports Communications, Inc.

Model: Commando Base

Serial: Engineering Unit

CALCULATION OF RADIATED EMISSIONS LIMITS FOR FCC PARTS 15.209, and 15.249 (260-470 MHz)

FIELD STRENGTH OF FUNDAMENTAL FREQUENCIES:

The fundamental emissions for a 916 MHz transmitter, operating under FCC Part 15.249 limits, must have a field strength no greater than 50mV/m at 3 meters, and a harmonic field strength no greater than 500μV/m at 3 meters.

Spurious emissions outside the 902 MHz - 928 MHz band shall be attenuated by at least 50 dB below the level of the fundamental, or meet the limits expressed in FCC Parts 15.205, and 15.209, under general emission limits.

Where $f_0 = 916.75$ MHz

Fundamental:

$$20 \text{ Log } (50\text{mV} / 1\mu\text{V}) = 93.97 \text{ dB}\mu\text{V/m @ 3m}$$

Harmonic

$$20 \text{ Log } (500\mu\text{V} / 1\mu\text{V}) = 53.97 \text{ dB}\mu\text{V/m @ 3m}$$

Frequency (MHz)	Fundamental Limit (μV/m @ 3m)	Fundamental Limit (dBμV/m @ 3m)	Harmonic Limit (μV/m @ 3m)	Harmonic Limit (dBμV/m @ 3m)
916.75	50,000	93.97	500	53.97

APPENDIX B

Test Equipment List

Asset #	Manufacturer	Model #	Serial #	Description	Calibration Information	
					Date	Due Date
AA960007	EMCO	3115	9311-4138	Horn Antenna	12-06-02	12-06-03
AA960008	EMCO	3816/2NM	9701-1057	Line Impedance Stabilization	09-19-02	09-19-03
AA960014	Fischer	FCC-801-M3-25	148	Coupler-De-Coupler Network	05-02-02	05-02-03
AA960023	Werlatone	C3910	5167	Directional Coupler 40dB	06-19-01	Note 1*
AA960024	Pasternack	100 Watts	PE 7021-6	DC-1.5 GHz Attenuator	I/O	Note 1*
AA960050	Chase	BiCBL6140A	Bilog 1106	Bilog Antenna	06-19-01	Note 1*
AA960054	Giga-Tronics	80301A	1830164	Power Sensor	05-02-02	05-02-03
AA960074	Fischer	F2031-32mm	361	EM Injection Clamp	01-03-03	01-03-04
AA960076	Fischer	F201-32mm	347	Absorbing Clamp	08-29-02	08-29-03
AA960077	EMCO	93110B	9702-2918	Biconical Antenna	09-19-02	09-19-03
AA960078	EMCO	93146	9701-4855	Log-Periodic Antenna	09-19-02	09-19-03
CC00181C	HP	33120A	US36013549	Signal Generator	09-29-00	N/A
CC00221C	Agilent	E4407B (26.5GHz)	US39160256	Spectrum analyzer	10-28-02	10-28-03
EE960003	Amplifier Research	100W 1000M1A	19821	100 Watts Amp	06-19-01	Note 1*
EE960005	Giga-Tronics	8542C	1831450	Dual Channel Power Meter	09-19-02	09-19-03
EE960006	Haefely Trench	PESD 1600	H604079	ESD Gun	09-19-02	09-19-03
EE960007	Haefely Trench	P-line 1610	083732-19	Line Fluctuation Generator	09-19-02	09-19-03
EE960010	Haefely Trench	P-Surge-4	083061-08	Power Surge Generator	08-07-02	08-07-03
EE960011	Haefely Trench	PEFT 4010	083180-21	EFT/Burst Generator	09-19-02	09-19-03
EE960013	HP	8546A	3617A00320	Receiver RF Section	09-20-02	09-20-03
EE960014	HP	85460A	3448A00296	Receiver Pre-Selector	09-20-02	09-20-03
EE960015	HP	6843A	3531A-00145	AC Power Source/Analyzer	10-22-00	N/A
EE960016	Marconi	2024	112120/044	Signal Generator	09-19-02	09-19-03
EE960055	Amplifier Research	75A250	21952	75 Watt Amp	06-22-01	Note 1*

Note 1* - Equipment calibrated within a traceable system.

Table of Expanded Uncertainty Values, (K=2) for Specified Measurements

Measurement Type	Particular Configuration	Uc Value in Appropriate Units
Radiated Emissions	3 – Meter chamber, Biconical Antenna	4.24 dB
Radiated Emissions	3-Meter Chamber, Log Periodic Antenna	4.8 dB
Radiated Emissions	10-Meter OATS, Biconical Antenna	4.18 dB
Radiated Emissions	10-Meter OATS, Log Periodic Antenna	3.92 dB
Conducted Emissions	Shielded Room/EMCO LISN	1.60 dB
Radiated Immunity	3 Volts/Meter in 3Meter Chamber	1.128 Volts/Meter
Conducted Immunity	3 Volts level	1.0 V