Nemko Test Report:	6L0355RUS1 rev3
Applicant:	Innovation First, Inc. 6611 Interstate 30 West Greenville, TX 75402 USA
Equipment Under Test: (E.U.T.)	Robot Controller
In Accordance With:	**FCC Part 15, Subpart C, 15.249** Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0-24.25 GHz.
Tested By:	Nemko USA Inc. 802 N. Kealy Lewisville, Texas 75057-3136

TESTED BY: _____ **DATE:** **06 December 2006**

Kevin Rose Wireless Engineer

APPROVED BY: _____ **DATE:** **06 December 2006**

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Total Number of Pages: 15

Table Of Contents

Section 1. Summary Of Test Results

Manufacturer: Innovation First, Inc.

Model No.: Operator Radio

Serial No.: None

General: **All measurements are traceable to national standards.**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15.249. All tests were conducted using measurement procedure ANSI C63.4-2003. Radiated Emissions were made on an open area test site.

☒ New Submission ☐ Production Unit

☐ Class II Permissive Change ☒ Pre-Production Unit

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".

NVLAP LAB CODE: 100426-0

Summary Of Test Data

NAME OF TEST	PARA. NO.	RESULT
Conducted Emissions	15.207	N/A
Radiated Emissions	15.249	Complies

Footnotes For N/A's:

The EUT is Battery operated

Receiver measurements were made from 30MHz to 10GHz worst case was recorded.

Section 2. General Equipment Specification

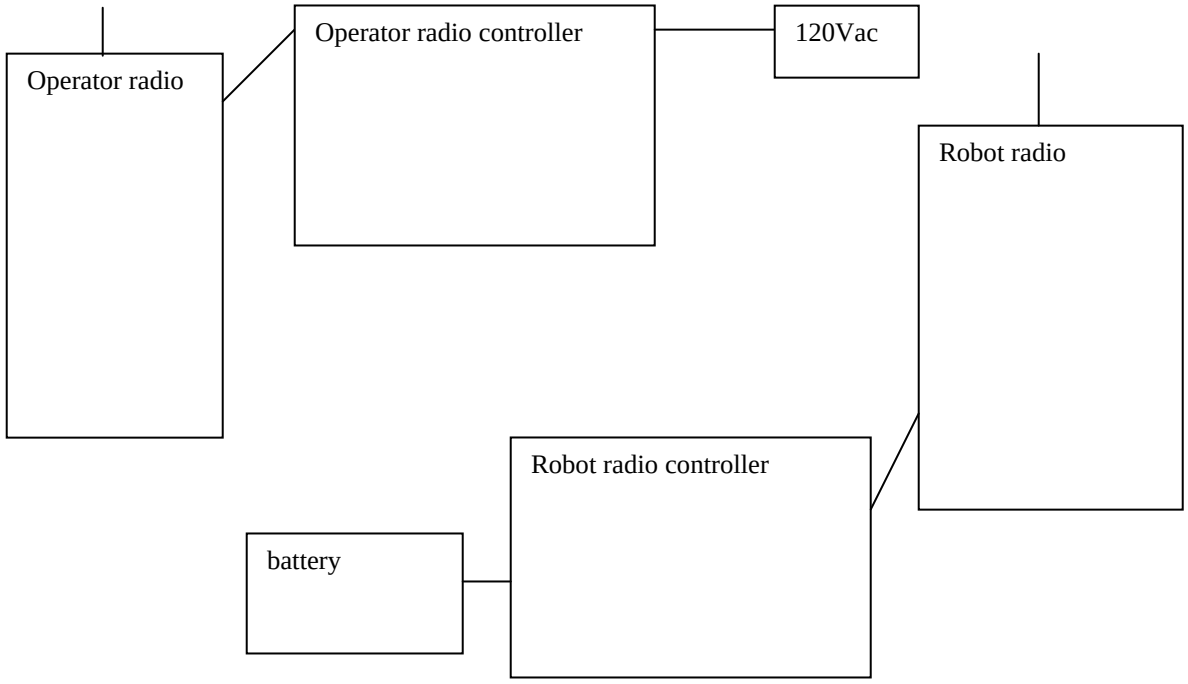
Frequency Range:	902-928
Operating Frequency(ies) of Sample:	902.1-907.95
User Frequency Adjustment:	None

	Yes	No
Integral Antenna	☒	☐

Description of EUT

The Robot Controller is a 902-928 MHz Frequency Shift Keyed (FSK) transceiver Modem.

System Diagram



Section 3. Powerline Conducted Emissions

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.207
TESTED BY:	DATE:

Minimum Standard: §15.207 Conducted limits.

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 mH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of Emission (MHz)	Conducted Limit (dBmV) Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

Test Results: N'A

Section 4. Radiated Emissions

NAME OF TEST: Radiated Emissions PARA. NO.: 15.249

TESTED BY: Kevin Rose DATE:10/27/06

Minimum Standard: Para no. 15.249

(a) The field strengths shall not exceed the following:

Carrier (MHz)	Field Strength (mV/m)	Field Strength (dBµV/m)	Harmonic (µV/m)	Harmonic (dBµV)
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54
24000-24250	250	108	2500	68

(b) Field strength limits are specified at a distance of 3 metres.

(c) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated limits of 15.209 whichever is the less attenuation.

(d) …for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

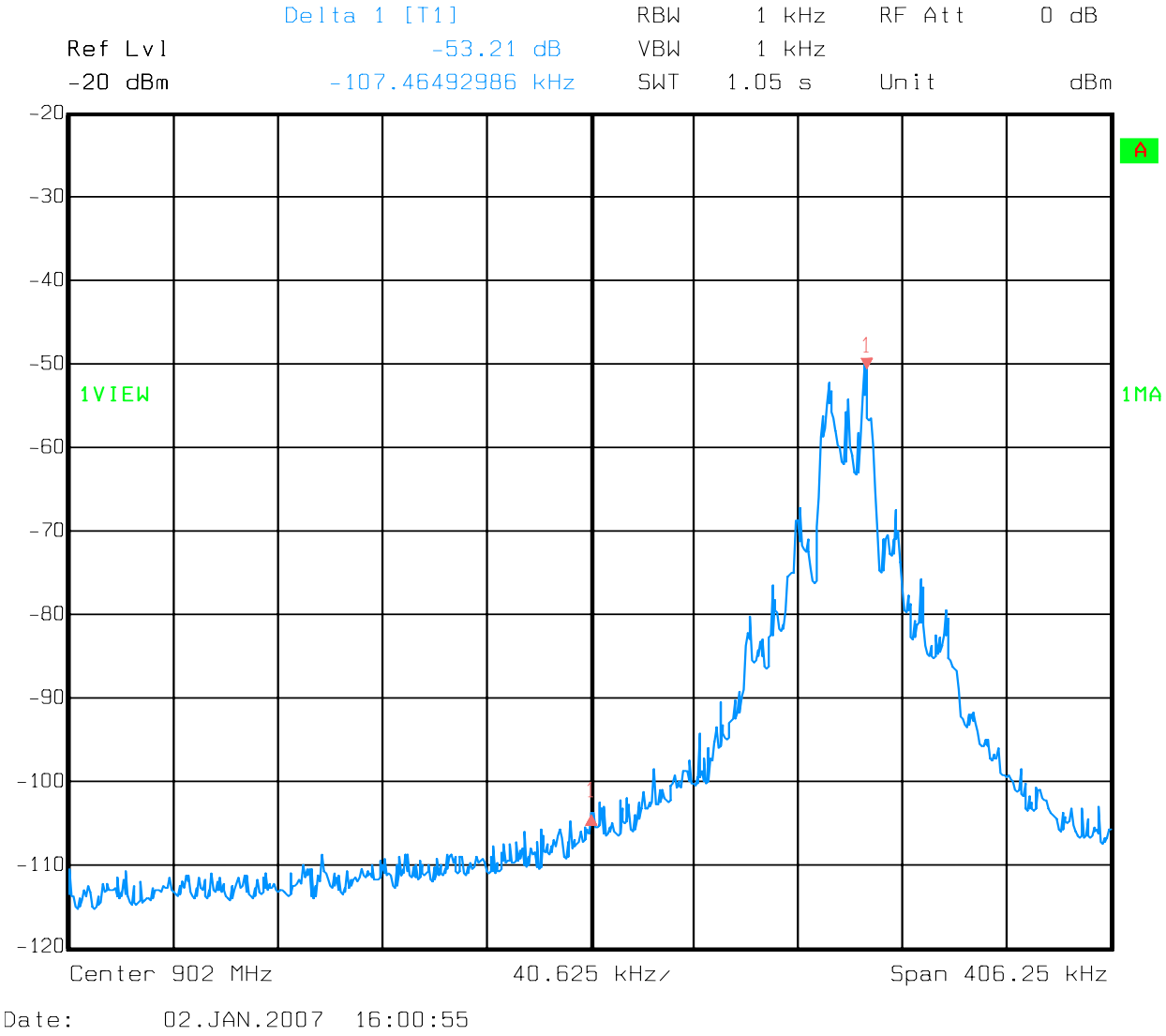
Test Results: Complies No emissions above 1GHz were detected

Measurement Data: See attached table.

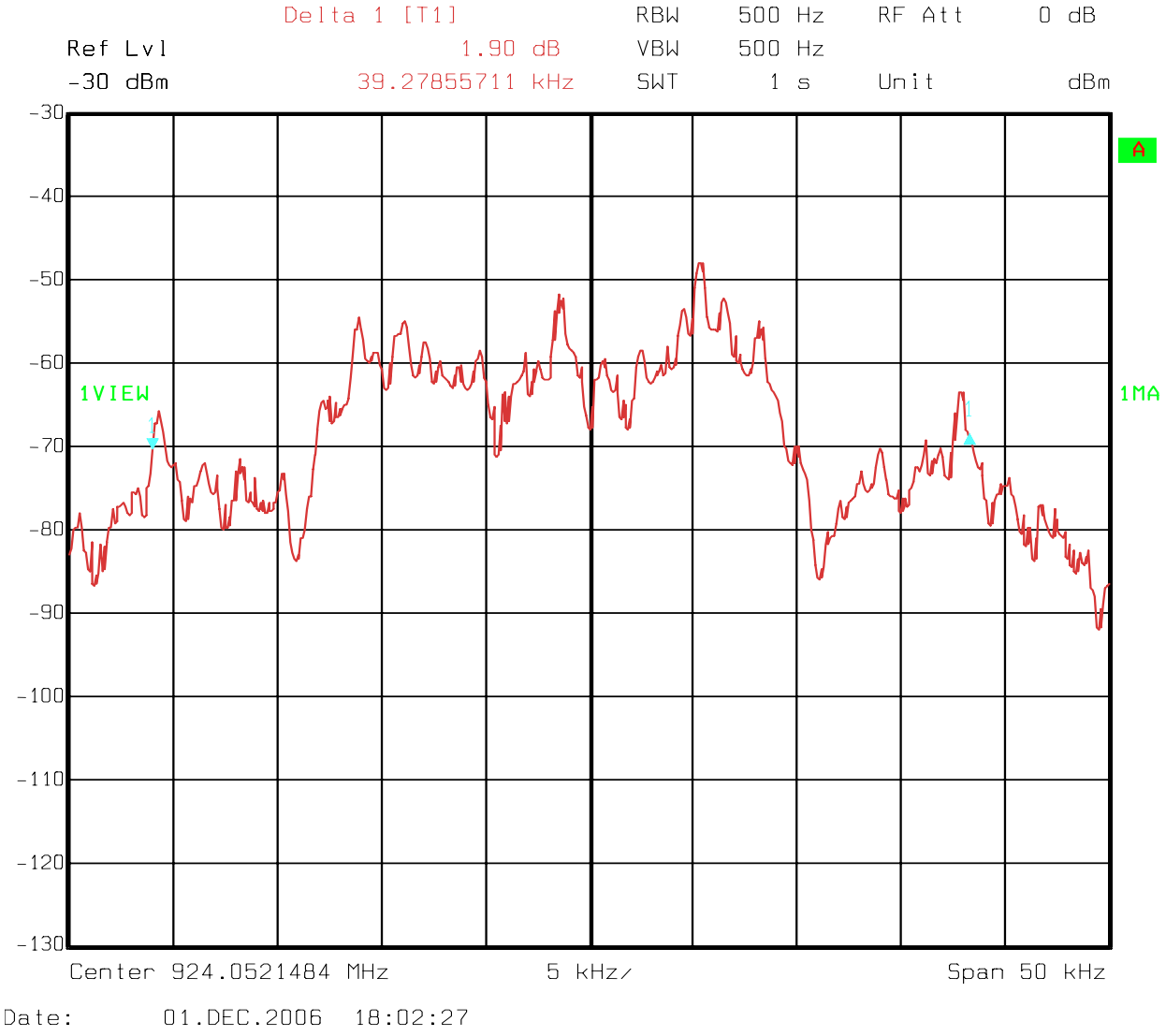
TEST EQUIPMENT

Asset Number	Description	Manufacturer	Model Number	Serial Number	Last Cal	Cal Due
759	ANTENNA, LP	A.H. SYSTEMS	SAS-200/510	556	02/13/06	02/13/07
1306	Antenna biconical	Nemko USA,	BCON 30300	212	02/10/06	02/10/07
1522	Cable Assy, LAB 5	Nemko USA,	Site D OATS	N/A	05/09/06	05/09/07
678	PREAMP, 15DB	Nemko USA	30-1400 MHz	408	10/03/06	10/03/07
1284	Spectrum analyzer display	HP	8566B	1811A00223	02/16/06	02/16/07
D oats	Open Area Test Site	Nemko USA,	None	D	03/21/06	03/21/07
993	Horn Antenna	A.H.	SAS-200/571	XXX	08/01/05	08/02/07
1016	Preamplifier, 1-20 GHz	HP	8449A	2749A00159	04/20/06	04/20/07
1464	Spectrum analyzer	HP	8563E	3551A04428	01/14/05	01/15/07
1484	Cable	Storm	PR90-010-072	NA	10/02/06	10/02/07
1485	Cable	Storm	PR90-010-216	NA	10/02/06	10/02/07

Lower bandedge



Occupied bandwidth



Test Data - Radiated Emissions

Radiated Emissions Data

Complete X Job # : 6L0355E Test # : REHE-01
Preliminary Page 1 of 1

Client Name : Innovation First Inc.
EUT Name : Robot Controller
EUT Model # : none
EUT Part # : none
EUT Serial # : none
EUT Config. : full Transmit with a fresh battery

Specification : CFR47 Part 15, Subpart B, Class B Reference :

Rod. Ant. #:		Temp. (deg. C) :	21	Date :	10/27/06
Bicon Ant.#:	1306	Humidity (%) :	42	Time :	15:00
Log Ant.#:	759	EUT Voltage :	3.3Vdc	Staff :	Kevin Rose
Bilog Ant.#:	1306	EUT Frequency :	N/'A	Photo ID:	6L0355E REHE-01
Dipole Ant.#:		Phase:	N/'A	Peak Bandwidth:	100 KHz
Cable#:	1522	Location:	D oats	Video Bandwidth	100 KHz
Preamp#:	678	Distance:	3M	QP Bandwidth:	120 KHz
Limiter#:	NA	Barometric pressure:	1016		
Atten #:	NA				
Detector#:	1284				

Meas. Freq. (MHz)	Ant. Pol. (H/V)	Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	QP readings Comment
902.1	V	0	53.5	23.6	12.1	0.0	89.2	94.0	-4.8	Pass	LOW CHANNEL
907.95	V	0	58.1	23.6	12.1	0.0	93.8	94.0	-0.2	Unc.	HIGH CHANNEL
907.95	H	0	49.8	23.6	12.1	0.0	85.5	94.0	-8.5	Pass	
902.1	H	0	45.1	23.6	12.1	0.0	80.8	94.0	-13.2	Pass	
39.973	V	0	32.6	12.9	2.2	13.8	33.9	40.0	-6.1	Pass	
39.973	H	0	29.8	12.9	2.2	13.8	31.1	40.0	-8.9	Pass	
800	H	0	18	21.2	11.8	12.7	38.3	46.0	-7.7	Pass	NF
500	H	0	13	17.4	8.9	12.5	26.8	46.0	-19.2	Pass	NF
300	H	0	14.6	19.6	6.8	12.8	28.2	46.0	-17.8	Pass	
800	V	0	17	21.2	11.8	12.7	37.3	46.0	-8.7	Pass	NF
500	V	0	14	17.4	8.9	12.5	27.8	46.0	-18.2	Pass	NF
300	V	0	21	19.6	6.8	12.8	34.6	46.0	-11.4	Pass	

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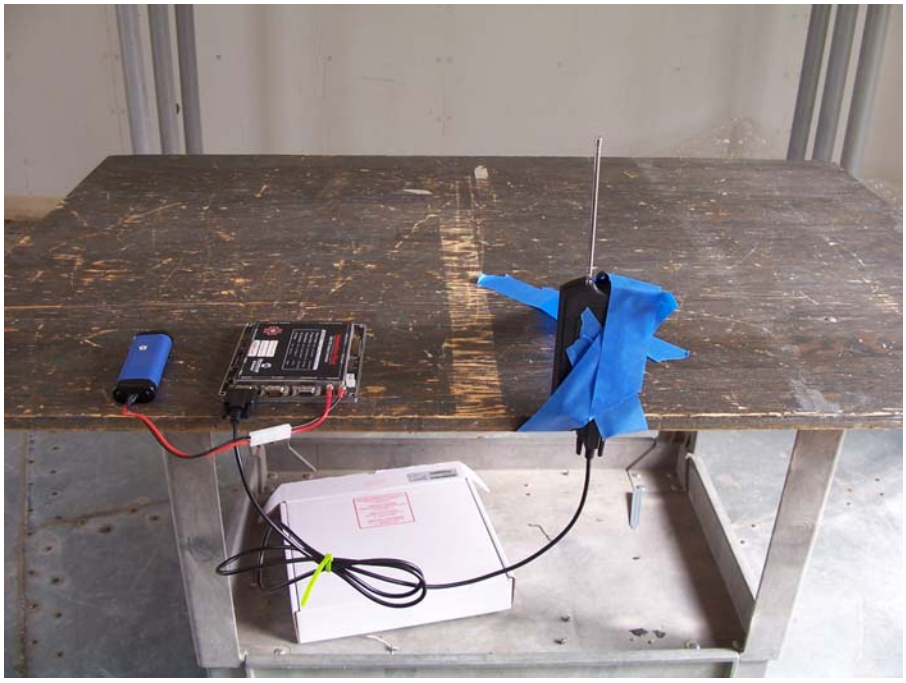
The spectrum was searched from 30 MHz to 10 GHz

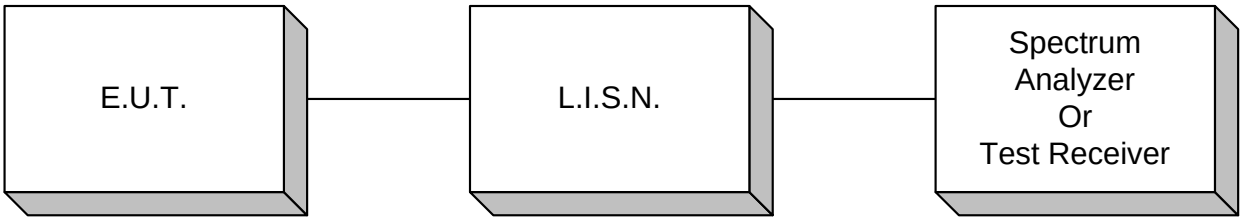
Radiated Photographs



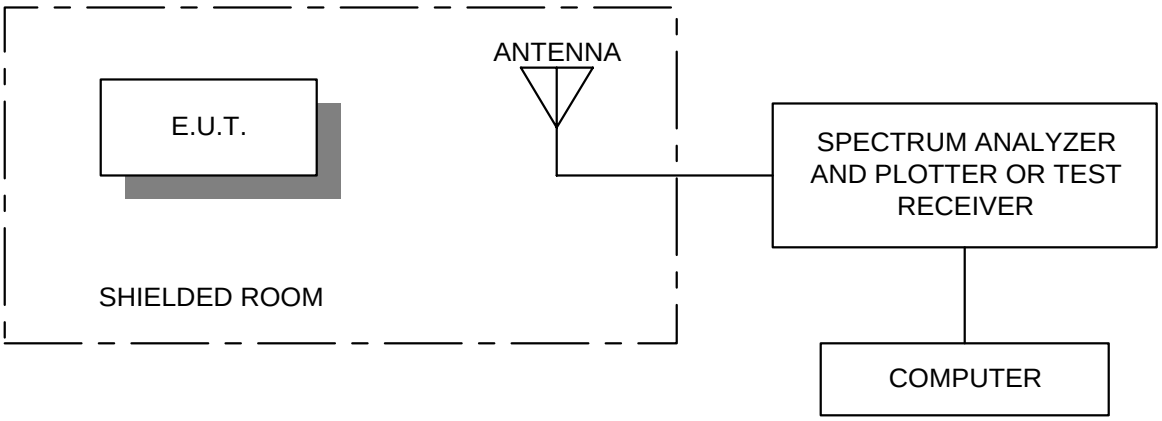
ANNEX A

TEST DIAGRAMS

Conducted Emissions



Radiated Prescan



Test Site For Radiated Emissions