APPLICANT		MANUFACTU	RER	
X-10 USA, Inc. 19823, 58 <sup>th</sup> Place S. Kent, WA 98032		X-10 Electronic Together Rich Sanwei Industr Baoan County,	cs (Shenzhen) Industrial Parl ial District, Xix Shenzhen, C	) Co. Ltd. k B kiang Town hina
TEST SPECIFICATION:	FCC Rule	s and Regulatior	ns Part 15, Su	bpart C
TEST PROCEDURE:	ANSI C63	.4:2003		
<u>]</u>	EST SAMF	PLE DESCRIPTI	<u>ON</u>	
BRANDNAME:	X-10			_
MODEL:	AT15A		FCC ID:	B4SAT15A
TYPE:	924 MHz (	(FM) Wireless Tr	ransmitter	
FREQUENCY RANGE:	Channel 1	: 924.19 MHz		
	Channel 2	2: 924.89 MHz		
POWER REQUIREMENTS:	1.2 VDC (	1) NiMH Rechar	geable Batter	y

## TESTS PERFORMED

- 15.249(a)	Radiated Emissions, Fundamental and Harmonics
- 15.249(c)	Band Edge Verification
- 15.249(c)	Radiated Emissions, Spurious Case

## **REPORT OF MEASUREMENTS**

### TEST RESULTS

- 15.249(a): The unit operates in the 902 to 928 MHz band at 924.19 and 924.89 MHz. The field strength of the fundamental did not exceed 50 milliV/M Average. The field strength of the harmonics did not exceed 500 microV/M Average.
- 15.249(b): Field strength readings were taken at three meters unless otherwise noted.
- 15.249(c): Emissions radiated outside band edges were greater than 50 dB below the specified the level of the fundamental or met the general radiated emission requirements of 15.209(a), whichever provided the lesser attenuation.
- 15.249(d): The peak field strength of any emission did not exceed the maximum permitted average field strength by more than 20dB under any condition of modulation.

### **GENERAL NOTES**

- 1. All measurements were made with a fully charged 1.2 VDC NiMH rechargeable battery installed in the unit.
- 2. All user accessible controls were adjusted to produce maximum emissions.
- 3. The device was tested with the following external accessories: I Pod NANO
- 4. The unit operates at the following frequencies: 924.19 and 924.89 MHz The unit was tested at the following frequency: 924.19 MHz
- 5. The frequency range was scanned from 30 MHz to 10 GHz. All emissions not reported were more than 20 dB below the specified limit.

## EXHIBIT 4

Radiated Emissions, Fundamental & Harmonics

Para. 15.249(a)

Test Metho	d:	FCC Pa	rt 15, Subpart C	, Radiated Emi	ssions, Funda	amental & Harm	onic Emissions 15	.249(a)	
Customer:		X-10 Wi	reless Technolo	gy, Inc.		Job No.	R-11282-3		
Test Sampl	le:	924.19 I	MHz Transmitter			Paragraph:	15.249		
Model No.:		AT15A				FCC ID:	B4SAT15A		
Operating	Mode:	Continu	ously Transmittir	ng a 924.17MH	lz signal, Tune	ed to channel 1.			
Technician	:	R. Sood	00	0		Date:	January 19, 2006		
Notes:	- Toot Dict	anco: 3 M	lotoro			24101		•	
Notes.	Detector:	: Peak, un	less otherwise s	pecified					
Test Freq.	Ante Pol./H	enna Height	EUT Orientation	Peak Reading	Correction Factor	Corrected Reading	Converted Reading	Avg. Limit	
MHz	(V/H)-	Meters	X/Y/Z	dBuV	dB	dBuV/m	uV/m	uV/m	
02/ 10	V /	20	×	60.0	8.8	78.7	8609.9	50000	
	V/	2.0	Ŷ	64.3	8.8	73.1	4518.6	00000	
<u> </u>	V /	1.0	Z	64.6	8.8	73.4	4677.4	1	
	Η/	1.0	Х	66.2	8.8	75.0	5623.4	İ.	
	Η/	1.0	Y	60.6	8.8	69.4	2951.2		
924.19	Η/	1.0	Z	62.4	8.8	71.2	3630.8	50000	
18/8 3		1.0	Y	50.8	-25	/8.3	260.0	500	
1040.5	V /	1.0	× v	45.0	-2.5	40.5	133.4	500	
	V /	1.0	7	54 1	-2.5	51.6	380.2		
	H/	1.0	x	46.1	-2.5	43.6	151.2	ł	
	H/	1.25	Y	45.2	-2.5	42.7	136.5		
1848.3	Η/	1.5	Z	42.0	-2.5	39.5	94.4	500	
0770 F	N//	1 5	~	40.1	1.0	47.0	249.2	500	
2112.5	V /	1.5	×	49.1 50.0	-1.2	47.9	240.3	500	
	V /	1.5	7	45.2	-1.2	49.7	158.5		
	н/	1.5	X	47.8	-1.2	46.6	213.8		
	H/	1.5	Ŷ	54.2	-1.2	53.0	446.7		
2772.5	Η/	2.0	Z	48.0	-1.2	46.8	218.8	500	
2606.7	N//	1.0	~	42.6	1.0	45.5	*100.4	500	
3090.7	V /	1.0	×	43.0	1.9	45.5	*188.4	500	
	V /	1.0	7	46.0	1.9	43.3	248.3		
	H/	1.9	X	45.1	1.9	47.0	223.9		
	H/	2.0	Y	47.3	1.9	49.2	288.4		
3699.7	H/	1.0	Z	43.2	1.9	45.1	*179.9	500	
1620 0	\//	1.0	~	44.0	20	17 0	*045 5	E00	
4020.0	V /	1.0	$\sim$	44.0	3.0 2.0	41.0 17 Q	240.0 *245.5	500	
I	V /	1.0	7	44.0	3.0	47.0	*245.5		
	H/	1.0	x	43.2	3.8	47.0	*223.9		
	H/	1.0	Ŷ	43.2	3.8	47.0	*223.9		
4620.8	H/	1.0	Z	43.2	3.8	47.0	*223.9	500	
	The Freq	uency Ran	ge was scanned f	rom the first to th	e tenth harmon	ic. All emissions	not reported herein a	re at least 20	
	dB below	the specif	ied limit.						
	*=Noise Floor Measurements (Minimum system sensitivity)								



Retlif Testing Laboratories

Retlif Test Report R-11282-3

<b>T</b>								= 0.40( )	
Test Method:		FCC Part 15, Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions 15.249(a)							
Customer:		X-10 Wi	reless Technolo	ogy, Inc.		Job No.	R-11282-3		
Test Sample	:	924.17 I	MHz Transmitte	r		Paragraph:	15.249		
Model No.:		AT15A				FCC ID:	B4SAT15A		
<b>Operating Mode:</b> Continuously Transmitting a 924.19 MHz signal, Tuned to channel 1.									
Technician: R. Soodoo Date: January 19, 2		January 19, 2006	6.						
Notes:	Test Dist	ance: 3 M	leters				<b>_</b> ,	-	
	Detector	: Peak, ur	less otherwise	specified					
Test Freq	Ante	enna	EUT	Peak	Correction	Corrected	Converted	Ava Limit	
10001104	Pol./H	leight	Orientation	Reading	Factor	Reading	Reading	, tvg. Einit	
MHz	(V/H)-	Meters	X/Y/Z	dBuV	dB	dBuV/m	uV/m	uV/m	
5545.0	\//	10	Y	42.3	51	A7 7	*2/2 7	500	
5545.0	V /	1.0	Ŷ	42.3	5.4	47.7	*242.7	1	
	V /	1.0	Z	42.3	5.4	47.7	*242.7		
	H/	1.0	X	39.9	5.4	45.3	*184.1		
	H/	1.0	Y	39.9	5.4	45.3	*184.1	İ	
5545.0	Η/	1.0	Z	39.9	5.4	45.3	*184.1	500	
6469.3	V/	1.0	X	++33.8	6.0	39.8	*97.7	500	
	V /	1.0	Y	++33.8	6.0	39.8	*97.7		
	V /	1.0	Z	++33.8	6.0	39.8	^97.7		
	H/	1.0	X	++30.0	6.0	36.0	*63.1		
6469 3	<u>п/</u> Н/	1.0	ř 7	++30.0	6.0	36.0	*63.1	500	
0409.3	11/	1.0	۲	++30.0	0.0	30.0	03.1	500	
7393.4	V /	1.0	Х	++33.8	8.3	42.1	*127.4	500	
	V /	1.0	Y	++33.8	8.3	42.1	*127.4		
	V /	1.0	Z	++33.8	8.3	42.1	*127.4		
	Η/	1.0	Х	++30.0	8.3	38.3	*82.2		
	Η/	1.0	Y	++30.0	8.3	38.3	*82.2		
7393.4	Η/	1.0	Z	++30.0	8.3	38.3	*82.2	500	
0047.0		1.0	N N		0.4	40.0	*444 5	500	
8317.6	V /	1.0	X	++33.8	9.4	43.2	*144.5	500	
	V /	1.0	т 7	++33.0	9.4	43.2	144.0		
	V/ Ц/	1.0	<u> </u>	++33.0 ++21.1	9.4 0.1	43.2	144.0		
	H/	1.0	Ŷ	++31.1	9.4	40.5	*105.9		
8317.6	H/	1.0	Z	++31.1	9.4	40.5	*105.9	500	
		-							
9241.8	V /	1.0	Х	++33.8	11.9	45.7	*192.8	500	
	V /	1.0	Y	++33.8	11.9	45.7	*192.8		
	V /	1.0	Z	++33.8	11.9	45.7	*192.8		
	Η/	1.0	X	++31.1	11.9	43.0	*141.3		
	Η/	1.0	Y	++31.1	11.9	43.0	*141.3		
9241.8		1.0	Z	++31.1	11.9	43.0	*141.3	500	
	The Frequency Range was scanned from the first to the tenth harmonic. All emissions not reported herein are at least 20							are at least 20	
	dB below the specified limit. The EUT complies with the applicable limit.								
	*=Noise Floor Measurements (Minimum system sensitivity)								

## ++ = 100 kHz RBW used to obtain minimum system Sensitivity

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# EXHIBIT 4

Radiated Emissions, Spurious Emissions

Para. 15.249(c)

Test Method	l:	FCC Par	t 15, Subpart	C, Spurious	Case, Radiated	d Emissions, Paragra	ph 15.249(c)	
Customer:		X-10 Wir	eless Techno	ology, Inc		Job No.	R-11282-3	
Test Sample	e:	924.19 N	IHz Wireless	Transmitter		FCC ID:	15.249 (c)	
Model No.:		AT15A				Serial No.:	B4SAT15A	
Operating M	lode:	Continuo	usly Transm	itting a 924.19	9 MHz signal, T	uned to channel 1.	•	
Technician:	n: R. Soodoo Date: January 19, 2006.							
Notes:	Test Dista	ance: 3 M	eters			Temp: 20°C H	umidity: 21%	
	Detector:	Quasi-Pe	eak from 30 I	MHz to 1 GHz	. Peak above 1	GHz	,, <b>,</b>	
Fraguanay	Antenna	a	EUT	Meter	Correction	Corrected	Converted	LIMIT
			Degrade	Readings	Factor	dBul//m	Reading	
IVIHZ	(V/H) / Me	eters	Degrees	dBuv	dВ	dBuv/m	uv/m	uv/m
20								100
	1							100
I					-			
	1							
	1							
İ								İ
88								100
88								150
			No Emis	sions Obs	erved at spe	ecified test dista	nce	
216								150
216								200
 								200
960								500
	1							
	1							
		1						
10000								500
	The freque	ncy range	was scanned f	from 30 MHz to	10 GHz.			
	The emissi	ons observ	ved from the E	UT do not exce	ed the specified I	imits.		
	Emissions	not recorde	ed were more	than 20dB und	er the specified lir	nit.		



**Retlif Testing Laboratories** 

# EXHIBIT 4

# Band Edge Verification

Para. 15.249(c)

LH2/21



Retlif Test Report R-11282-3

AH2/PCI



## EQUIPMENT LIST

## FCC Part 15, Subpart C, Radiated Emissions, Fundamental and Harmonics

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
128	Double Ridged Guide	Electro-Mechanics	1 GHz - 18 GHz	3105	3/9/2005	3/9/2006
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/9/2005	6/9/2006
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	8/28/2005	2/28/2006
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	2/9/2005	2/9/2006
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	8/28/2005	2/28/2006
141C	Cable	Retlif	1 GHz ~ 18 GHz	1 METER, BLUE	1/4/2006	1/4/2007
141D	Cable	Retlif	1 GHz ~ 18 GHz	10 METER, BLACK	1/4/2006	1/4/2007
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/9/2005	6/9/2006
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	11/10/2005	11/10/2006
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/9/2005	9/9/2007
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	2/4/2005	2/4/2006
723	H.P. Filter	Mini-Circuits	1 GHz	BHP-1000	7/20/2005	7/20/2006

#### EQUIPMENT LIST

#### FCC Part 15, Subpart C, Spurious Case, Radiated Emissions, Paragraph 15.249 (c)

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
128	Double Ridged Guide	Electro-Mechanics	1 GHz - 18 GHz	3105	3/9/2005	3/9/2006
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/9/2005	6/9/2006
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	8/28/2005	2/28/2006
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	2/9/2005	2/9/2006
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	8/28/2005	2/28/2006
141C	Cable	Retlif	1 GHz ~ 18 GHz	1 METER, BLUE	1/4/2006	1/4/2007
141D	Cable	Retlif	1 GHz ~ 18 GHz	10 METER, BLACK	1/4/2006	1/4/2007
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/9/2005	6/9/2006
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	11/10/2005	11/10/2006
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/9/2005	9/9/2007
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	2/4/2005	2/4/2006
723	H.P. Filter	Mini-Circuits	1 GHz	BHP-1000	7/20/2005	7/20/2006

#### EQUIPMENT LIST

## FCC 15.249 Band Edge Verification (902 MHz to 928 MHz)

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	8/28/2005	2/28/2006
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	2/9/2005	2/9/2006
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	8/28/2005	2/28/2006