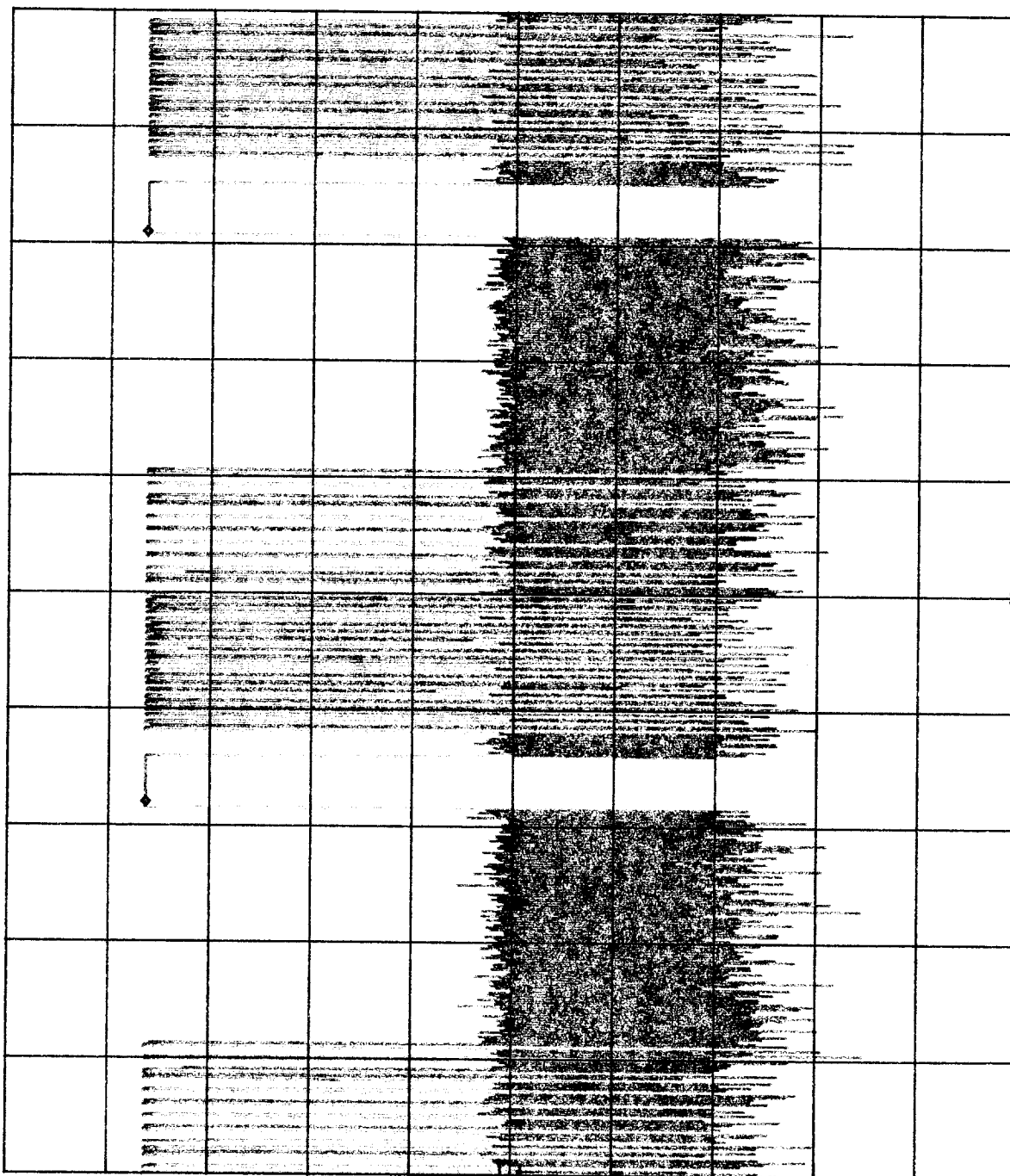


MKR Δ 98.00 msec
0.20 dB

R-9963-2 X-10 ZFR1 Duty Cycle ND
REF 75.0 dB μ V ATTEN 10 dB

hp
10 dB/



SPAN 0 Hz
SWP 200 msec

VBW 300 KHz

CENTER 418.000 000 MHz
RES BW 100 KHz

Customer:	X-10 Wireless Technology, Inc.		
Test Sample:	418 MHz Pulsed RF Transmitter		
Model No.:	ZFR1	FCC ID:	B4SZFR1
Test Method:	FCC 15.235(a) Duty Cycle Determination		
Notes:	Transmitter Cycle Time: 98 milliseconds		
	Duty Cycle = $(8.64 + (33 \times 4.40)) / 98 = 23.6\%$		
Date:	July 3, 2003	Tech:	N. Dragotta
Sheet	1	of	3

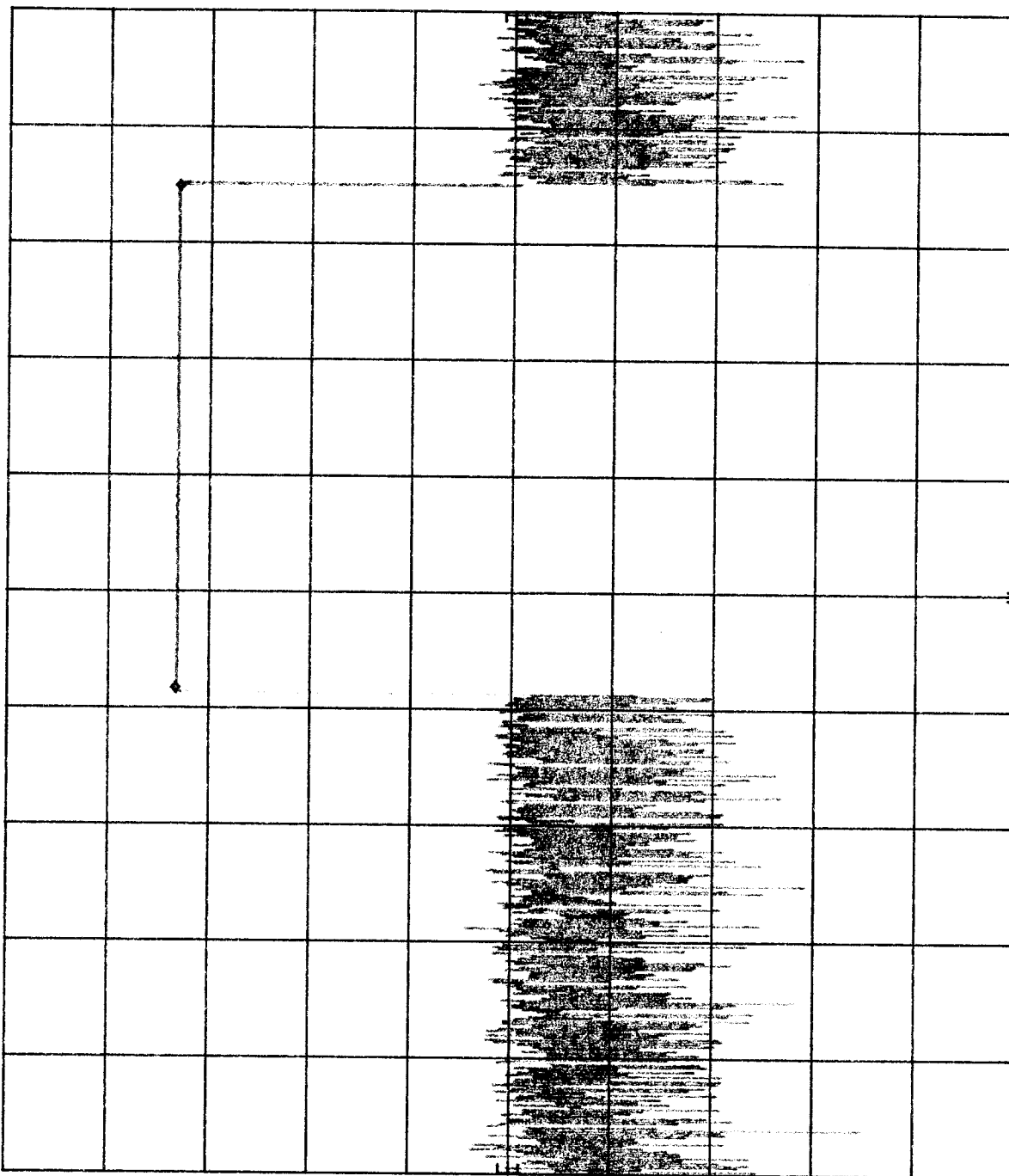


Retlif Testing Laboratories

Report No. R-9963-2

R-9963-2 X-10 ZFR1 Duty Cycle ND
 REF 75.0 dBμV ATTEN 10 dB
 MKR Δ 8.640 msec
 -0.20 dB

hp
 10 dB/



CENTER 418.000 000 MHz
 RES BW 100 kHz
 VBW 300 kHz
 SWP 20.0 msec
 SPAN 0 Hz

Customer:	X-10 Wireless Technology, Inc.		
Test Sample:	418 MHz Pulsed RF Transmitter		
Model No.:	ZFR1	FCC ID:	B4SZFR1
Test Method:	FCC 15.240 Duty Cycle Determination		
Notes:	Large Pulse Duration: 8.64 milliseconds	Quantity:	1
	Duty Cycle = $(8.64 + (33 \times .440)) / 98 = 23.6\%$		
Date:	July 3, 2003	Tech:	N. Dragotta
		Sheet	2 of 3

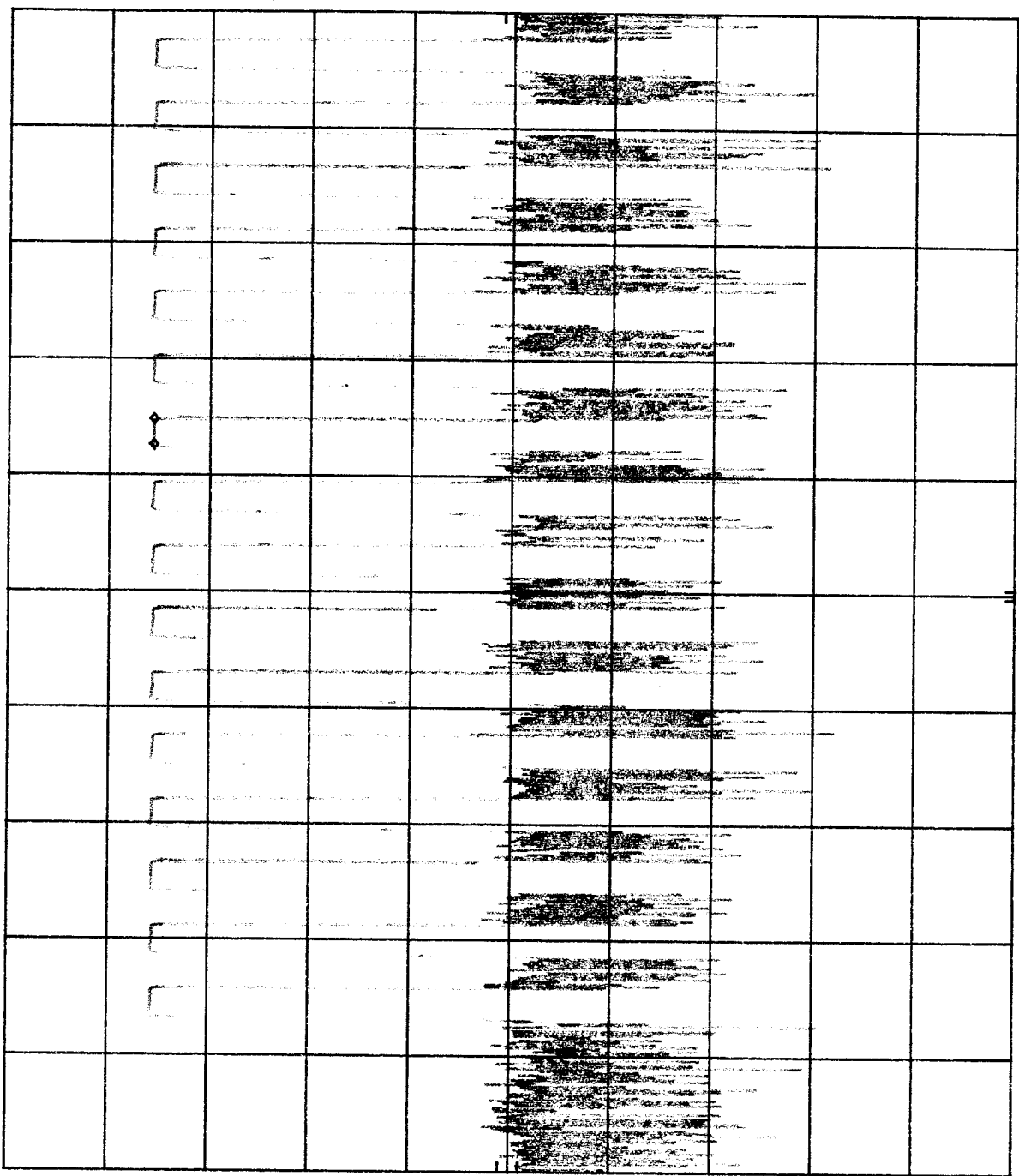


Retlif Testing Laboratories

Report No. R-9963-2

R-9963-2 X-10 ZFR1 Duty Cycle ND
 REF 75.0 dBμV ATTEN 10 dB
 MKR Δ 440.0 μsec
 0.00 dB

hp
 10 dB/



CENTER 418.000 000 MHz
 RES BW 100 KHz
 VBW 300 KHz
 SWP 20.0 msec
 SPAN 0 Hz

Customer:	X-10 Wireless Technology, Inc.		
Test Sample:	418 MHz Pulsed RF Transmitter		
Model No.:	ZFR1	FCC ID:	B4SZFR1
Test Method:	FCC 15.239 Duty Cycle Determination		
Notes:	Small Pulse Duration: 0.440 milliseconds	Quantity:	33
Duty Cycle = $(8.64 + (33 \times .440)) / 98 = 23.6\%$			
Date:	July 3, 2003	Tech:	N. Dragotta
Sheet	3	of	3



Retlif Testing Laboratories

Report No. R-9963-2

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 Wireless Technology, Inc.				Job No.	R-9963-1	
Test Sample:	Pulsed RF Transmitter				Paragraph:	15.231 (a)	
Model No.:	SFR1				FCC ID:	B4SSFR1	
Operating Mode:	Continuously Transmitting a pulsed 418 MHz Signal						
Technician:	T. Schneider				Date:	July 2, 2003	
Notes:	Test Distance: 3 Meters Detector: Peak, Unless otherwise specified				Temp: 31°C	Humidity: 45%	
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)/Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	uV/m
	H / 2.1	Y	71.0	-0.9	70.1	3198.9	
	H / 2.1	Z	58.5	-0.9	57.6	758.6	
	V / 1.0	X	64.8	-0.9	63.9	1566.8	
	V / 1.0	Y	64.9	-0.9	64.0	1584.9	
418	V / 1.0	Z	75.8	-0.9	74.9	5559.0	103,300
836	H / 1.0	X	39.9	+7.4	47.3	231.7	10,330
	H / 1.0	Y	42.4	+7.4	49.8	309.0	
	H / 2.1	Z	43.0	+7.4	50.4	331.1	
	V / 1.3	X	47.1	+7.4	54.5	530.9	
	V / 1.3	Y	41.3	+7.4	48.7	272.3	
836	V / 1.0	Z	44.4	+7.4	51.8	389.0	10,330
1254	H / 1.2	X	49.0	-1.1	47.9	248.3	10,330
	H / 1.3	Y	46.8	-1.1	45.7	192.8	
	H / 1.4	Z	49.0	-1.1	47.9	248.3	
	V / 1.0	X	49.6	-1.1	48.5	266.1	
	V / 1.0	Y	46.8	-1.1	45.7	192.8	
1254	V / 1.2	Z	47.0	-1.1	45.9	197.2	10,330
1672	H / 1.2	X	48.8	+3.2	52.0	398.1	5,000
	H / 1.5	Y	44.9	+3.2	48.1	254.1	
	H / 1.4	Z	50.1	+3.2	53.3	462.4	
	V / 1.0	X	46.0	+3.2	49.2	288.4	
	V / 1.0	Y	46.0	+3.2	49.2	288.4	
1672	V / 1.0	Z	45.5	+3.2	48.7	272.3	5,000
2090	H / 1.2	X	45.4	+11.0	56.4	660.7	10,330
	H / 1.0	Y	43.8	+11.0	54.8	549.5	
	H / 1.0	Z	50.3	+11.0	61.3	1161.4	
	V / 1.0	X	45.9	+11.0	56.9	699.8	
	V / 1.0	Y	44.9	+11.0	55.9	623.7	
2090	V / 1.0	Z	44.3	+11.0	55.3	582.1	10,330
	The frequency range was scanned from 30 MHz to 4.18 GHz. All emissions not recorded were more than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*=Noise Floor Measurements (Minimum system sensitivity)						



Retlif Testing Laboratories

Retlif Job Number R-9963-1

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 Wireless Technology, Inc.				Job No.	R-9963-1	
Test Sample:	Pulsed RF Transmitter				Paragraph:	15.231 (a)	
Model No.:	SFR1				FCC ID:	B4SSFR1	
Operating Mode:	Continuously Transmitting a pulsed 418 MHz Signal						
Technician:	T. Schneider				Date:	July 2, 2003	
Notes:	Test Distance: 3 Meters Detector: Peak, Unless otherwise specified				Temp: 31°C		Humidity: 45%
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)-Meters	X / Y / Z	dBuV	DB	dBuV/m	uV/m	uV/m
	H / 1.0	Y	39.5	-1.5	38.0	79.4*	
	H / 1.0	Z	39.5	-1.5	38.0	79.4*	
	V / 1.0	X	39.5	-1.5	38.0	79.4*	
	V / 1.0	Y	39.5	-1.5	38.0	79.4*	
2508	V / 1.0	Z	39.5	-1.5	38.0	79.4*	10,330
2926	H / 1.0	X	40.7	+0.3	41.0	112.2*	10,330
	H / 1.5	Y	40.7	+0.3	41.0	112.2*	
	H / 1.0	Z	40.7	+0.3	41.0	112.2*	
	V / 1.0	X	40.7	+0.3	41.0	112.2*	
	V / 1.5	Y	40.7	+0.3	41.0	112.2*	
2926	V / 1.0	Z	40.7	+0.3	41.0	112.2*	10,330
3344	H / 3.0	X	40.4	+0.7	41.1	113.5*	10,330
	H / 2.0	Y	40.4	+0.7	41.1	113.5*	
	H / 1.0	Z	40.4	+0.7	41.1	113.5*	
	V / 1.0	X	40.4	+0.7	41.1	113.5*	
	V / 1.0	Y	40.4	+0.7	41.1	113.5*	
3344	V / 1.5	Z	40.4	+0.7	41.1	113.5*	10,330
3762	H / 2.0	X	39.2	+1.7	40.9	110.9*	5,000
	H / 2.0	Y	39.2	+1.7	40.9	110.9*	
	H / 1.0	Z	39.2	+1.7	40.9	110.9*	
	V / 1.5	X	39.2	+1.7	40.9	110.9*	
	V / 1.0	Y	39.2	+1.7	40.9	110.9*	
3762	V / 1.0	Z	39.2	+1.7	40.9	110.9*	5,000
4180	H / 1.0	X	38.2	+2.7	40.9	110.9*	5,000
	H / 1.0	Y	38.2	+2.7	40.9	110.9*	
	H / 1.5	Z	38.2	+2.7	40.9	110.9*	
	V / 1.0	X	38.2	+2.7	40.9	110.9*	
	V / 1.0	Y	38.2	+2.7	40.9	110.9*	
4180	V / 1.0	Z	38.2	+2.7	40.9	110.9*	5,000
	The frequency range was scanned from 30 MHz to 4.18 GHz. All emissions not recorded were more Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*=Noise Floor Measurements (Minimum system sensitivity)						



Retlif Testing Laboratories

Retlif Job Number R-9963-1

Test Method:		FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:		X-10 Wireless Technology, Inc.			Job No.		R-9963-1	
Test Sample:		Pulsed RF Transmitter			Paragraph:		15.231 (a)	
Model No.:		SFR1			FCC ID:		B4SSFR1	
Operating Mode:		Continuously Transmitting a pulsed 418 MHz Signal						
Technician:		T. Schneider			Date:		July 2, 2003	
Notes:		Test Distance: 3 Meters			Duty Cycle: 13.2 %			
		Detector: Peak, unless otherwise specified			Duty Cycle Correction: -17.6 dB			
Test Freq.		Antenna Pol./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
		H / 1.5	Y	70.1	-17.6	52.5	421.7	
		H / 1.5	Z	57.6	-17.6	40.0	100.0	
		V / 1.0	X	63.9	-17.6	46.3	206.5	
		V / 1.0	Y	64.0	-17.6	46.4	208.9	
418		V / 1.0	Z	74.9	-17.6	57.3	732.8	10,330
836		H / 1.0	X	47.3	-17.6	29.7	30.5	1,033
		H / 1.0	Y	49.8	-17.6	32.2	40.7	
		H / 2.0	Z	50.4	-17.6	32.8	43.7	
		V / 1.0	X	54.5	-17.6	36.9	70.0	
		V / 1.0	Y	48.7	-17.6	31.1	35.9	
836		V / 1.0	Z	51.8	-17.6	34.2	51.3	1,033
1254		H / 1.0	X	47.9	-17.6	30.3	32.7	1,033
		H / 2.0	Y	45.7	-17.6	28.1	25.4	
		H / 1.5	Z	47.9	-17.6	30.3	32.7	
		V / 1.0	X	48.5	-17.6	30.9	35.1	
		V / 1.0	Y	45.7	-17.6	28.1	25.4	
1254		V / 1.0	Z	45.9	-17.6	28.3	26.0	1,033
1672		H / 1.0	X	52.0	-17.6	34.4	52.5	500
		H / 1.5	Y	48.1	-17.6	30.5	33.5	
		H / 1.5	Z	53.3	-17.6	35.7	61.0	
		V / 1.0	X	49.2	-17.6	31.6	38.0	
		V / 1.0	Y	49.2	-17.6	31.6	38.0	
1672		V / 1.0	Z	48.7	-17.6	31.1	35.9	5,0
2090		H / 1.5	X	56.4	-17.6	38.8	87.1	1,033
		H / 1.5	Y	54.8	-17.6	37.2	72.4	
		H / 1.0	Z	61.3	-17.6	43.7	153.1	
		V / 1.5	X	56.9	-17.6	39.3	92.3	
		V / 1.0	Y	55.9	-17.6	38.3	82.2	
2090		V / 1.0	Z	55.3	-17.6	37.7	76.7	1,033
The frequency range was scanned from 30 MHz to 4.18 GHz. All emissions not recorded were more								
Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.								
*=Noise Floor Measurements (Minimum system sensitivity)								



Retlif Testing Laboratories

Retlif Job Number R-9963-1

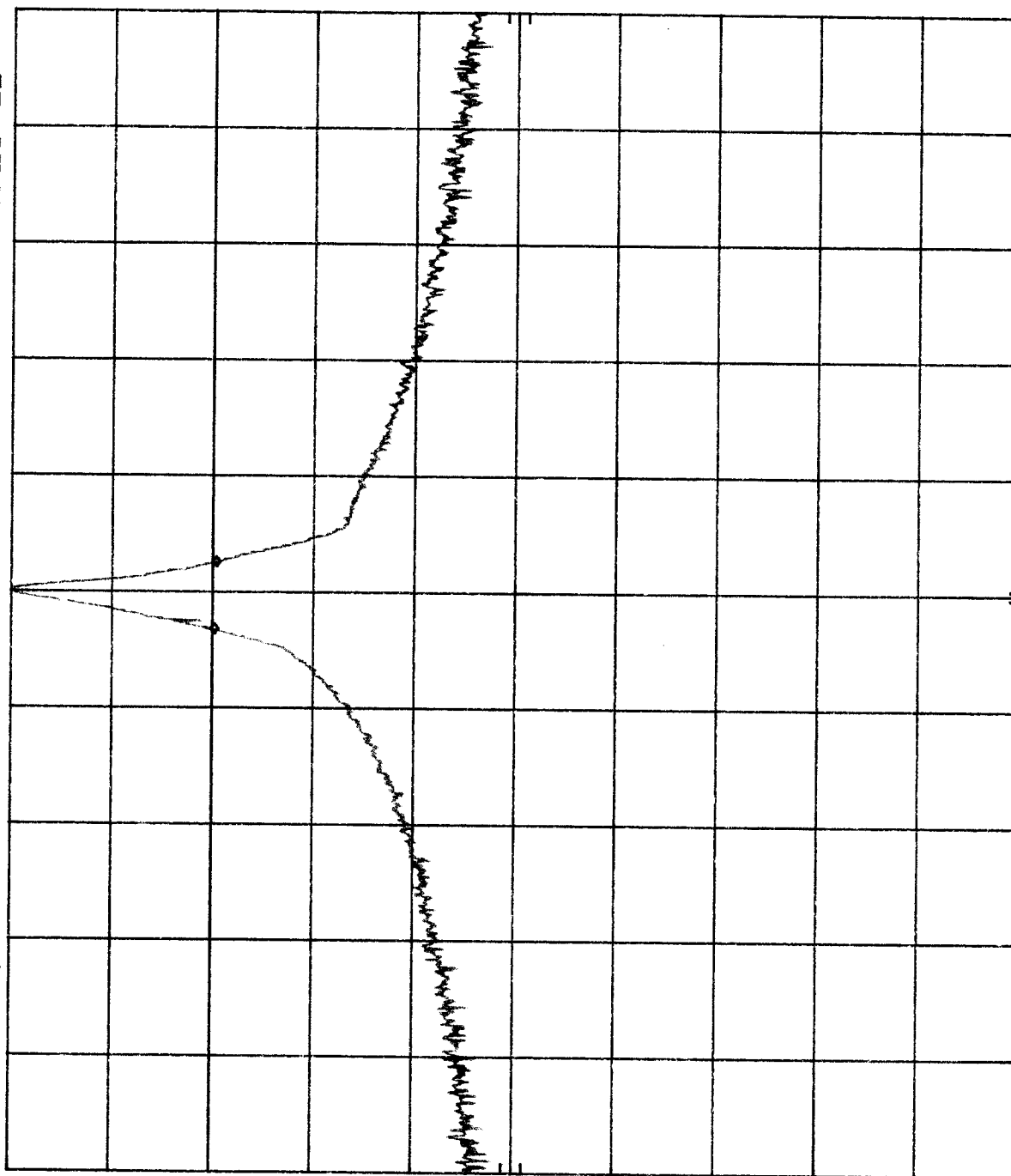
Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 Wireless Technology, Inc.				Job No.	R-9963-1	
Test Sample:	Pulsed RF Transmitter				Paragraph:	15.231 (a)	
Model No.:	SFR1				FCC ID:	B4SSFR1	
Operating Mode:	Continuously Transmitting a pulsed 418 MHz Signal						
Technician:	T. Schneider				Date:	July 2, 2003	
Notes:	Test Distance: 3 Meters				Duty Cycle: 13.2 %		
	Detector: Peak, unless otherwise specified				Duty Cycle Correction: -17.6 dB		
Test Freq.	Antenna Pol./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
	H / 1.0	Y	38.0	-17.6	20.4	10.5*	
	H / 1.0	Z	38.0	-17.6	20.4	10.5*	
	V / 1.0	X	38.0	-17.6	20.4	10.5*	
	V / 1.0	Y	38.0	-17.6	20.4	10.5*	
2508	V / 1.0	Z	38.0	-17.6	20.4	10.5*	1,033
2926	H / 1.0	X	41.0	-17.6	23.4	14.8*	1,033
	H / 1.5	Y	41.0	-17.6	23.4	14.8*	
	H / 1.0	Z	41.0	-17.6	23.4	14.8*	
	V / 1.0	X	41.0	-17.6	23.4	14.8*	
	V / 1.5	Y	41.0	-17.6	23.4	14.8*	
2926	V / 1.0	Z	41.0	-17.6	23.4	14.8*	1,033
3344	H / 3.0	X	41.1	-17.6	23.5	15.0*	1,033
	H / 2.0	Y	41.1	-17.6	23.5	15.0*	
	H / 1.0	Z	41.1	-17.6	23.5	15.0*	
	V / 1.0	X	41.1	-17.6	23.5	15.0*	
	V / 1.0	Y	41.1	-17.6	23.5	15.0*	
3344	V / 1.5	Z	41.1	-17.6	23.5	15.0*	1,033
3762	H / 2.0	X	40.9	-17.6	23.3	14.6*	500
	H / 2.0	Y	40.9	-17.6	23.3	14.6*	
	H / 1.0	Z	40.9	-17.6	23.3	14.6*	
	V / 1.5	X	40.9	-17.6	23.3	14.6*	
	V / 1.0	Y	40.9	-17.6	23.3	14.6*	
3762	V / 1.0	Z	40.9	-17.6	23.3	14.6*	500
4180	H / 1.0	X	40.9	-17.6	23.3	14.6*	500
	H / 1.0	Y	40.9	-17.6	23.3	14.6*	
	H / 1.5	Z	40.9	-17.6	23.3	14.6*	
	V / 1.0	X	40.9	-17.6	23.3	14.6*	
	V / 1.0	Y	40.9	-17.6	23.3	14.6*	
4180	V / 1.0	Z	40.9	-17.6	23.3	14.6*	500
	The frequency range was scanned from 30 MHz to 4.18 GHz. All emissions not recorded were more						
	Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*=Noise Floor Measurements (Minimum system sensitivity)						



Retlif Testing Laboratories

Retlif Job Number R-9963-1

R-9963-/ X-10 SFR1 Occupied Bandwidth ND
 REF 68.5 dB μ V ATTEN 10 dB
 MKR Δ 61 kHz
 -0.20 dB



SPAN 1.05 MHz
 SWP 200 msec

VBW 30 kHz

CENTER 418.05 MHz
 RES BW 10 kHz

h_p
 10 dB/

DL
 48.5
 dB μ V

Customer:	X-10 Wireless Technology, Inc.		
Test Sample:	418 MHz Pulsed RF Transmitter		
Model No.:	SFR1	FCC ID:	B4SSFR1
Test Method:	FCC 15.231(c) Occupied Bandwidth		
Notes:	Bandwidth does not exceed .25% of Center Frequency, 20dB down (.0025 X 418 = 1.045 MHz)		
Date:	July 3, 2003	Tech:	N. Dragotta
Sheet	1	of	1



Retlif Testing Laboratories

Report No. R-9963-1