

APPLICANT	MANUFACTURER
Name: <u>X10 (USA), Inc.</u>	Name: <u>X-10 Electronics (Shenzhen) Co. Ltd.</u>
<u>Blackriver Corporate Park</u>	<u>Together Rich Industrial Park B</u>
Address: <u>620 Naches Ave SW, Building A</u>	Address: <u>Sanwei Industrial District,</u>
	<u>Xixiang Town</u>
	<u>Baoan County,</u>
City, State, Zip: <u>Renton, WA 98057</u>	City, State, Zip: <u>Shenzhen, China</u>

Test Specification: FCC Rules and Regulations Part 15, Subpart C, Para. 15.231

Test Procedure: ANSI C63.4:2003

Test Sample Description

Test Sample: 310.0 MHz Pulsed Transmitter

Brandname(s): X10 (USA), Inc.

Model Number: IR26A

FCC ID: B4SIR26A

Type: Pulsed Transmitter

Power Requirements: 4.5 VDC Derived from three alkaline batteries

Frequency of Operation: 310.0 MHz

Applicable Rule Section: Part 15, Subpart C, Section 15.231

Tests Performed

Para. 15.231(a), Radiated Emissions, Fundamental and Harmonics

Para. 15.231(b), Radiated Emissions, Spurious Case

Para. 15.231(b), Duty Cycle Determination

Para. 15.231(c), Occupied Bandwidth

Test Results

- 15.231 (a): This device transmits a control signal and is used as an: remote control transmitter.
- 15.231 (a)(1) The transmitter is manually operated. Transmission ends within 5 seconds of deactivation.
- 15.231 (a)(3): The transmitter does not perform periodic transmissions
- 15.231 (b): The fundamental field strength did not exceed 5833.3 $\mu\text{V/M}$ (Average) at a test distance of 3 meters. In addition, the requirements of section 15.35 for averaging pulsed emissions and for limiting peak emissions were met. The field strength of harmonic and spurious emissions did not exceed 583.3 $\mu\text{V/M}$ (AVERAGE).
- 15.231 (c) The Bandwidth of the emission was no wider than 0.25% of the center frequency (775 kHz) as measured 20 db down from the modulated carrier.

Determination of Field Strength Limits

The field strength limits shown below are found in Section 15.231:

Frequency		Limit	
F1 =	260	3750 =	L1
Fo =	<u>310.0 MHz</u>		Lo
F2 =	470	12500 =	L2

The formula below was utilized to determine the limits:

$$\text{Limit} = L1 + [(Fo-F1)(L2-L1)/(F2-F1)]$$

Solving Yields

Fundamental Limit = 5833.3 $\mu\text{V/M}$ (AVERAGE) @ 3 Meters

Harmonic Limit = 583.3 $\mu\text{V/M}$ (AVERAGE) @ 3 Meters

Duty Cycle Determination

The unit's RF output was directly coupled to the input of the spectrum analyzer. The analyzer was set for a frequency span of 0 Hz. The sweep time was then adjusted in order to display one full pulse train. The transmitter on time was then summed and compared to the time for one full cycle in order to obtain the duty cycle. (See plots for additional information.)

Transmitter On Time = 109.8 milliseconds (maximum per cycle)

Transmitter Cycle Time = 100.0 milliseconds (100 ms maximum)

Transmitter Duty Cycle = 28 %

Calculation

$$\begin{aligned} & 1 \text{ Large Pulse} = \underline{9.0} \text{ milliseconds} \\ & \underline{33} \times \underline{580} \quad \mu\text{s (small pulse)} = \underline{19.14} \text{ milliseconds} \\ & \underline{9.0} + \underline{19.14} = \underline{28.14} \text{ milliseconds} \\ & \text{Duty Cycle (28.6/100)} = \underline{28} \% \\ & \text{Correction Factor} = 20 \log \underline{0.28} = \underline{-11.0} \text{ dB} \end{aligned}$$

Spectrum Analyzer Desensitization Considerations

Due to the nature of the emissions being measured, care was taken to ensure that the resolution bandwidth of the spectrum analyzer was adequate to provide accurate measurements. The following formula was utilized: $\text{minimum bandwidth} = 1 / \{\text{minimum pulse width (in seconds)} \times 1.5\} = \text{Hz}$. Setting pulse desensitization equal to zero and utilizing the minimum observed pulse width of 580.0 μs yields a minimum required bandwidth of 1149 Hz. FCC specified bandwidths of 100 kHz and 1 MHz were utilized below and above 1 GHz, respectively.

General Notes

1. All readings were taken utilizing a peak detector function at a test distance of 3 meters.
2. The duty cycle was applied to the peak readings in order to determine the average value of the emissions.
3. The frequency range was scanned from 30 MHz to 3.1 GHz. All emissions not reported were more than 20 dB below the specified limit.
4. The device was tested with the following accessories:
No accessories utilized.

Certification and Signatures

We certify that this report is a true representation of the results obtained from the tests of the equipment stated. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.



Donald C. Lerner
EMC Test Engineer



Nicholas Dragotta
EMC Laboratory Supervisor

Non-Warranty Provision

The testing services have been performed, findings obtained and reports prepared in accordance with generally accepted laboratory principles and practices. This warranty is in lieu of all others, either expressed or implied.

Non-Endorsement

This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement or certification of the product or material tested. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

Equipment List

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

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
128	Double Ridged Guide	Electro-Mechanics	1 GHz - 18 GHz	3105	2/21/2008	2/21/2009
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/27/2007	6/27/2008
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/19/2007	10/19/2008
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	10/24/2007	10/24/2008
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/26/2007	9/26/2008
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	10/24/2007	10/24/2008
723	H.P. Filter	Mini-Circuits	1 GHz	BHP-1000	8/13/2007	8/13/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	11/1/2007	11/1/2008
896	EMI Test Receiver	Rohde & Schwarz	20 Hz - 40 GHz	ESIB40	8/27/2007	8/27/2008

FCC Part 15 Subpart C, Radiated Emissions Spurious Case

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
128	Double Ridged Guide	Electro-Mechanics	1 GHz - 18 GHz	3105	2/21/2008	2/21/2009
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/27/2007	6/27/2008
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/19/2007	10/19/2008
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	10/24/2007	10/24/2008
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/26/2007	9/26/2008
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	10/24/2007	10/24/2008
723	H.P. Filter	Mini-Circuits	1 GHz	BHP-1000	8/13/2007	8/13/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	11/1/2007	11/1/2008
896	EMI Test Receiver	Rohde & Schwarz	20 Hz - 40 GHz	ESIB40	8/27/2007	8/27/2008

FCC Part 15.231(b), Duty Cycle Determination

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/19/2007	10/19/2008

FCC Part 15.231(c), Occupied Bandwidth.

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/19/2007	10/19/2008

**FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions
Test Data**

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions, Para.15.231(a)						
Customer:	X-10 (USA), Inc.			Job No.	R-12401-1		
Test Sample:	310.0 MHz Pulsed Transmitter						
Model No.:	IR26A			FCC ID:	B4SIR26A		
Operating Mode:	Continuously transmitting a Pulsed 310.0 MHz signal.						
Technician:	R. Soodoo			Date:	April 2, 2008		
Notes:	Test Distance: 3 Meters Detector: Peak, Unless otherwise specified						
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)/Meters	X / Y / Z	dBμV	dB	dBμV/m	uV/m	uV/m
310.0	V / 2.7	X	64.3	-3.3	61.0	1122.0	58333.0
	V / 2.5	Y	68.5	-3.3	65.2	1819.7	
	V / 1.7	Z	74.4	-3.3	71.1	3589.2	
	H / 1.0	X	76.7	-3.3	73.4	4677.4	
	H / 1.0	Y	74.0	-3.3	70.7	3427.7	
310.0	H / 1.0	Z	61.6	-3.3	58.3	822.2	58333.0
620.0	V / 1.5	X	42.2	4.9	47.1	226.5	5833.3
	V / 1.0	Y	42.9	4.9	47.8	245.5	
	V / 1.6	Z	45.6	4.9	50.5	335.0	
	H / 1.0	X	47.9	4.9	52.8	436.5	
	H / 1.0	Y	46.1	4.9	51.0	354.8	
620.0	H / 1.0	Z	34.9	4.9	39.8	97.7	5833.3
930.0	V / 1.3	X	33.9	10.0	43.9	156.7	5833.3
	V / 1.0	Y	31.0	10.0	41.0	112.2	
	V / 1.0	Z	33.3	10.0	43.3	146.2	
	H / 1.3	X	31.6	10.0	41.6	120.2	
	H / 1.2	Y	31.8	10.0	41.8	123.0	
930.0	H / 1.4	Z	28.5	10.0	38.5	84.1	5833.3
1240.0	V / 1.0	X	44.0	1.5	45.5	188.4	5000.0
	V / 1.0	Y	44.2	1.5	45.7	192.8	
	V / 1.7	Z	44.0	1.5	45.5	188.4	
	H / 1.0	X	44.2	1.5	45.7	192.8	
	H / 1.0	Y	43.9	1.5	45.4	186.2	
1240.0	H / 1.5	Z	44.9	1.5	46.4	208.9	5000.0
1550.0	V / 1.3	X	46.3	1.0	47.3	231.7	5000.0
	V / 1.0	Y	44.1	1.0	45.1	179.9	
	V / 1.3	Z	45.1	1.0	46.1	201.8	
	H / 1.0	X	44.6	1.0	45.6	190.5	
	H / 1.8	Y	45.6	1.0	46.6	213.8	
1550.0	H / 1.6	Z	44.4	1.0	45.4	186.2	5000.0
	The frequency range was scanned from 30 MHz to 3.1 GHz. All emissions not recorded were more than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*= Noise Floor Measurements (minimum sensitivity).						

Retlif Job Number R-12401-1

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions, Para.15.231(a)						
Customer:	X-10 (USA), Inc.			Job No.	R-12401-1		
Test Sample:	310.0 MHz Pulsed Transmitter						
Model No.:	IR26A			FCC ID:	B4SIR26A		
Operating Mode:	Continuously transmitting a Pulsed 310.0 MHz signal.						
Technician:	R. Soodoo			Date:	April 2, 2008		
Notes:	Test Distance: 3 Meters Detector: Peak, unless otherwise specified						
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)-Meters	X / Y / Z	dBμV	dB	dBμV/m	uV/m	uV/m
1860.0	V / 1.0	X	41.9	2.5	44.4	*166.0	5833.3
	V / 1.0	Y	41.9	2.5	44.4	*166.0	
	V / 1.0	Z	41.9	2.5	44.4	*166.0	
	H / 1.0	X	41.9	2.5	44.4	*166.0	
	H / 1.0	Y	41.9	2.5	44.4	*166.0	
1860.0	H / 1.0	Z	41.9	2.5	44.4	*166.0	5833.3
2170.0	V / 1.0	X	38.9	4.0	42.9	*139.6	5833.3
	V / 1.0	Y	38.9	4.0	42.9	*139.6	
	V / 1.0	Z	38.9	4.0	42.9	*139.6	
	H / 1.0	X	38.9	4.0	42.9	*139.6	
	H / 1.0	Y	38.9	4.0	42.9	*139.6	
2170.0	H / 1.0	Z	38.9	4.0	42.9	*139.6	5833.3
2480.0	V / 1.0	X	40.9	4.7	45.6	*190.5	5833.3
	V / 1.0	Y	40.9	4.7	45.6	*190.5	
	V / 1.0	Z	40.9	4.7	45.6	*190.5	
	H / 1.0	X	40.9	4.7	45.6	*190.5	
	H / 1.0	Y	40.9	4.7	45.6	*190.5	
2480.0	H / 1.0	Z	40.9	4.7	45.6	*190.5	5833.3
2790.0	V / 1.0	X	43.8	6.0	49.8	*309.0	5000.0
	V / 1.0	Y	43.8	6.0	49.8	*309.0	
	V / 1.0	Z	43.8	6.0	49.8	*309.0	
	H / 1.0	X	43.8	6.0	49.8	*309.0	
	H / 1.0	Y	43.8	6.0	49.8	*309.0	
2790.0	H / 1.0	Z	43.8	6.0	49.8	*309.0	5000.0
3100.0	V / 1.0	X	43.8	7.5	51.3	*367.3	5833.3
	V / 1.0	Y	43.8	7.5	51.3	*367.3	
	V / 1.0	Z	43.8	7.5	51.3	*367.3	
	H / 1.0	X	43.8	7.5	51.3	*367.3	
	H / 1.0	Y	43.8	7.5	51.3	*367.3	
3100.0	H / 1.0	Z	43.8	7.5	51.3	*367.3	5833.3
	The frequency range was scanned from 30 MHz to 3.1 GHz. All emissions not recorded were more than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*=Noise Floor Measurements (Minimum system sensitivity)						

Retlif Job Number R-12401-1

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions, Para.15.231(a)						
Customer:	X-10 (USA), Inc.			Job No.	R-12401-1		
Test Sample:	310.0 MHz Pulsed Transmitter						
Model No.:	IR26A			FCC ID:	B4SIR26A		
Operating Mode:	Continuously transmitting a Pulsed 310.0 MHz signal.						
Technician:	R. Soodoo			Date:	April 2, 2008		
Notes:	Test Distance: 3 Meters			Duty Cycle: 28%			
	Detector: Peak, unless otherwise specified			Duty Cycle Correction: -11.0 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	dBµV	dB	dBµV/m	uV/m	uV/m
310.0	V / 2.7	X	61.0	-11.0	50.0	316.2	5833.3
	V / 2.5	Y	65.2	-11.0	54.2	512.9	
	V / 1.7	Z	71.1	-11.0	60.1	1011.6	
	H / 1.0	X	73.4	-11.0	62.4	1318.3	
	H / 1.0	Y	70.7	-11.0	59.7	966.1	
310.0	H / 1.0	Z	58.3	-11.0	47.3	231.7	5833.3
620.0	V / 1.5	X	47.1	-11.0	36.1	63.8	583.3
	V / 1.0	Y	47.8	-11.0	36.8	69.2	
	V / 1.6	Z	50.5	-11.0	39.5	94.4	
	H / 1.0	X	52.8	-11.0	41.8	123.0	
	H / 1.0	Y	51.0	-11.0	40.0	100.0	
620.0	H / 1.0	Z	39.8	-11.0	28.8	27.5	583.3
930.0	V / 1.3	X	43.9	-11.0	32.9	44.2	583.3
	V / 1.0	Y	41.0	-11.0	30.0	31.6	
	V / 1.0	Z	43.3	-11.0	32.3	41.2	
	H / 1.3	X	41.6	-11.0	30.6	33.9	
	H / 1.2	Y	41.8	-11.0	30.8	34.7	
930.0	H / 1.4	Z	38.5	-11.0	27.5	23.7	583.3
1240.0	V / 1.0	X	45.5	-11.0	34.5	53.1	500.0
	V / 1.0	Y	45.7	-11.0	34.7	54.3	
	V / 1.7	Z	45.5	-11.0	34.5	53.1	
	H / 1.0	X	45.7	-11.0	34.7	54.3	
	H / 1.0	Y	45.4	-11.0	34.4	52.5	
1240.0	H / 1.5	Z	46.4	-11.0	35.4	58.9	500.0
1550.0	V / 1.3	X	47.3	-11.0	36.3	65.3	500.0
	V / 1.0	Y	45.1	-11.0	34.1	50.7	
	V / 1.3	Z	46.1	-11.0	35.1	56.9	
	H / 1.0	X	45.6	-11.0	34.6	53.7	
	H / 1.8	Y	46.6	-11.0	35.6	60.3	
1550.0	H / 1.6	Z	45.4	-11.0	34.4	52.5	500.0
	The frequency range was scanned from 30 MHz to 3.1 GHz. All emissions not recorded were more						
	Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*=Noise Floor Measurements (Minimum system sensitivity)						

Retlif Job Number R-12401-1

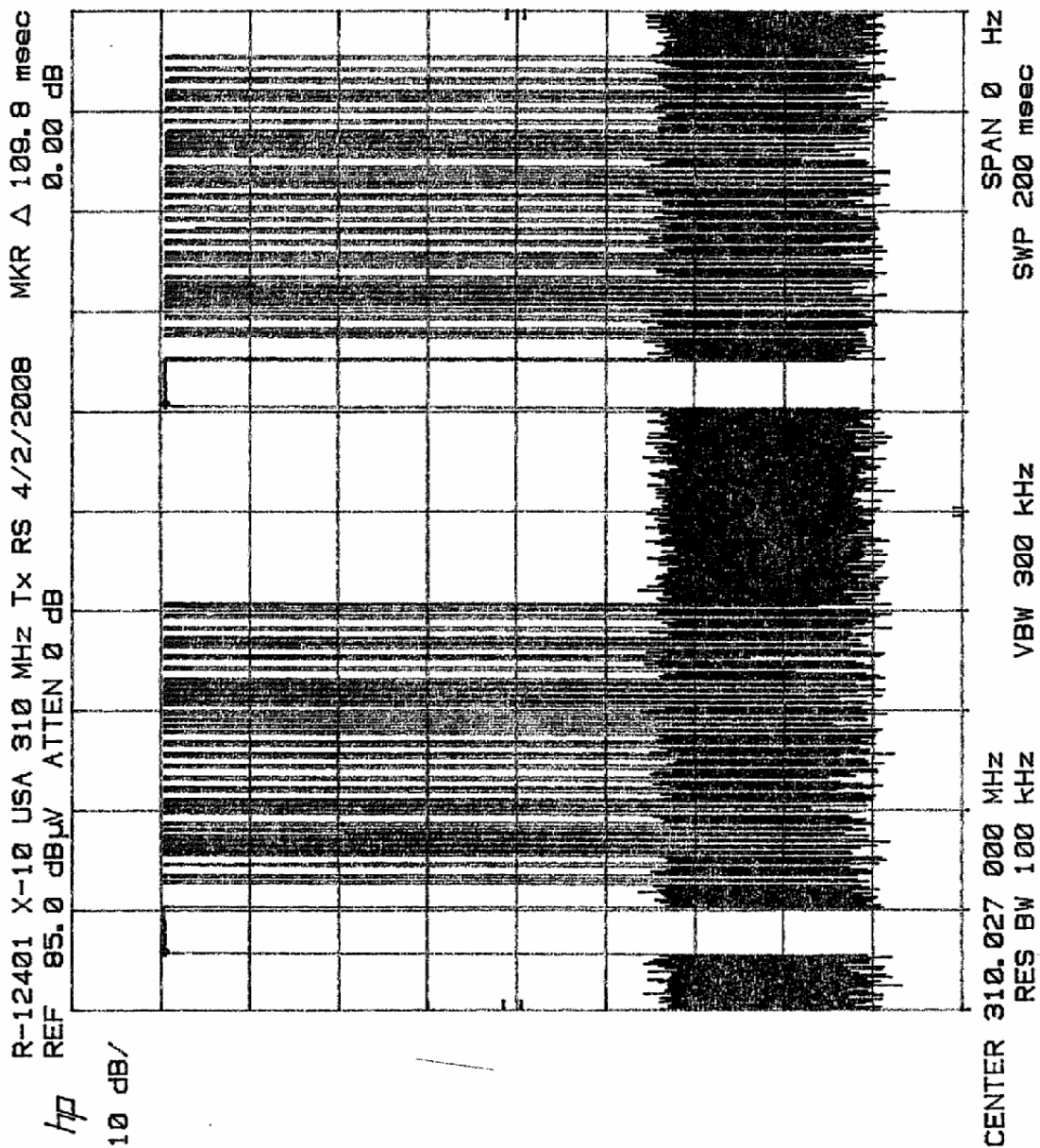
Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions, Para.15.231(a)						
Customer:	X-10 (USA), Inc.				Job No.	R-12401-1	
Test Sample:	310.0 MHz Pulsed Transmitter						
Model No.:	IR26A				FCC ID:	B4SIR26A	
Operating Mode:	Continuously transmitting a Pulsed 310.0 MHz signal.						
Technician:	R. Soodoo				Date:	April 2, 2008	
Notes:	Test Distance: 3 Meters Detector: Peak, unless otherwise specified				Duty Cycle: 28% Duty Cycle Correction: -11.0 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	dBμV	dB	dBμV/m	uV/m	uV/m
1860.0	V / 1.0	X	44.4	-11.0	33.4	*46.8	583.3
	V / 1.0	Y	44.4	-11.0	33.4	*46.8	
	V / 1.0	Z	44.4	-11.0	33.4	*46.8	
	H / 1.0	X	44.4	-11.0	33.4	*46.8	
	H / 1.0	Y	44.4	-11.0	33.4	*46.8	
1860.0	H / 1.0	Z	44.4	-11.0	33.4	*46.8	583.3
2170.0	V / 1.0	X	42.9	-11.0	31.9	*39.4	583.3
	V / 1.0	Y	42.9	-11.0	31.9	*39.4	
	V / 1.0	Z	42.9	-11.0	31.9	*39.4	
	H / 1.0	X	42.9	-11.0	31.9	*39.4	
	H / 1.0	Y	42.9	-11.0	31.9	*39.4	
2170.0	H / 1.0	Z	42.9	-11.0	31.9	*39.4	583.3
2480.0	V / 1.0	X	45.6	-11.0	34.6	*53.7	583.3
	V / 1.0	Y	45.6	-11.0	34.6	*53.7	
	V / 1.0	Z	45.6	-11.0	34.6	*53.7	
	H / 1.0	X	45.6	-11.0	34.6	*53.7	
	H / 1.0	Y	45.6	-11.0	34.6	*53.7	
2480.0	H / 1.0	Z	45.6	-11.0	34.6	*53.7	583.3
2790.0	V / 1.0	X	49.8	-11.0	38.8	*87.1	500.0
	V / 1.0	Y	49.8	-11.0	38.8	*87.1	
	V / 1.0	Z	49.8	-11.0	38.8	*87.1	
	H / 1.0	X	49.8	-11.0	38.8	*87.1	
	H / 1.0	Y	49.8	-11.0	38.8	*87.1	
2790.0	H / 1.0	Z	49.8	-11.0	38.8	*87.1	500.0
3100.0	V / 1.0	X	51.3	-11.0	40.3	*103.5	583.3
	V / 1.0	Y	51.3	-11.0	40.3	*103.5	
	V / 1.0	Z	51.3	-11.0	40.3	*103.5	
	H / 1.0	X	51.3	-11.0	40.3	*103.5	
	H / 1.0	Y	51.3	-11.0	40.3	*103.5	
3100.0	H / 1.0	Z	51.3	-11.0	40.3	*103.5	583.3
	The frequency range was scanned from 30 MHz to 3.1 GHz. All emissions not recorded were more						
	Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*=Noise Floor Measurements (Minimum system sensitivity)						

Retlif Job Number R-12401-1

FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.231(b)
Test Data

Page 1 of 1

**FCC Part 15.231(b), Duty Cycle Determination
Test Data**

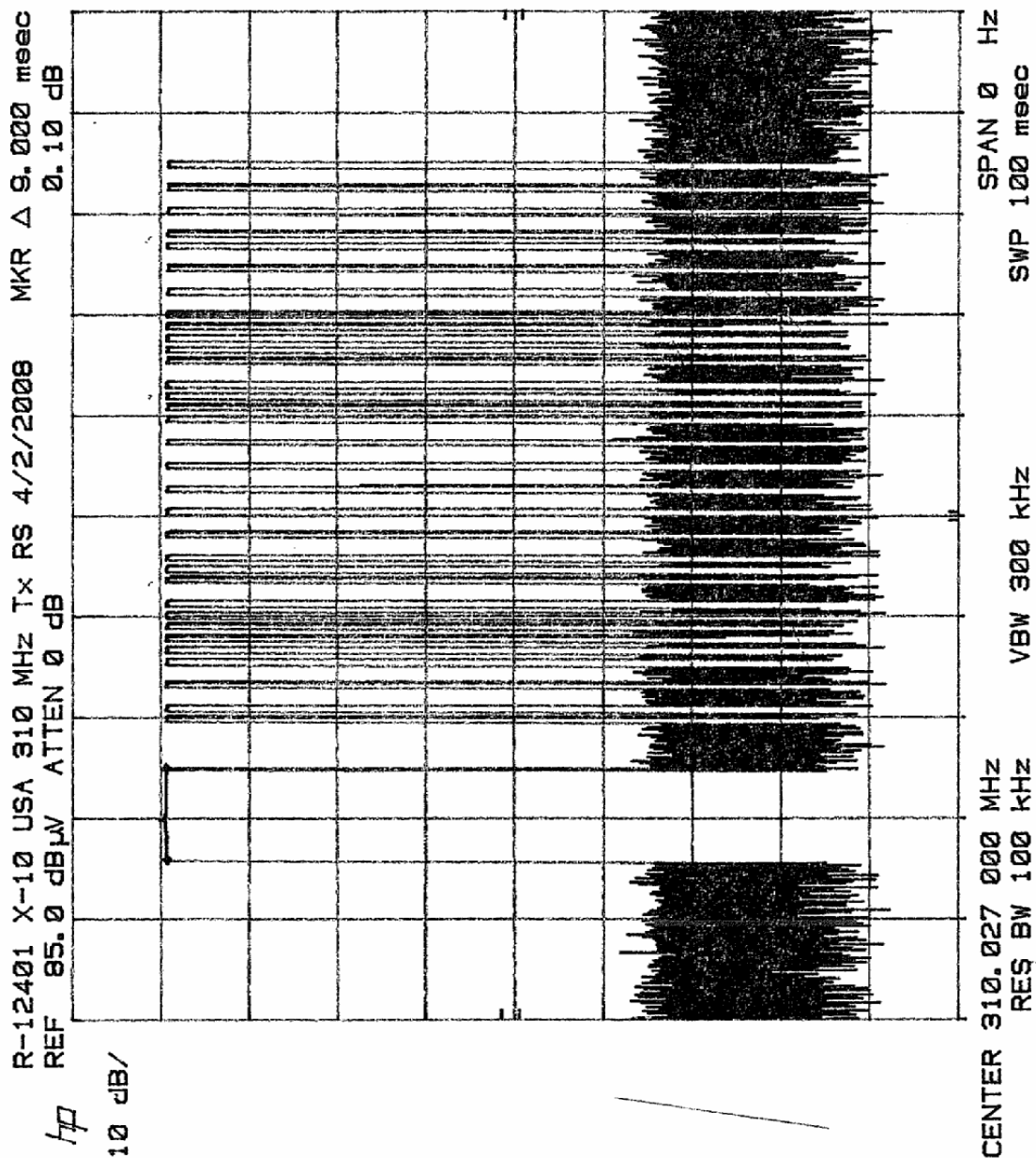


Test Method: FCC Part 15.35, Duty Cycle Determination.

Notes: Measurement of cycle time = 109.8mSec.

FCC ID.: B4SIR26A

Customer	X-10 (USA), Inc.		
Test Sample	310 MHz Pulsed Transmitter		
Model No.:	IR26A		
Date: April 2, 2008	Tech: R.Soodoo	Sheet 1 of 4	

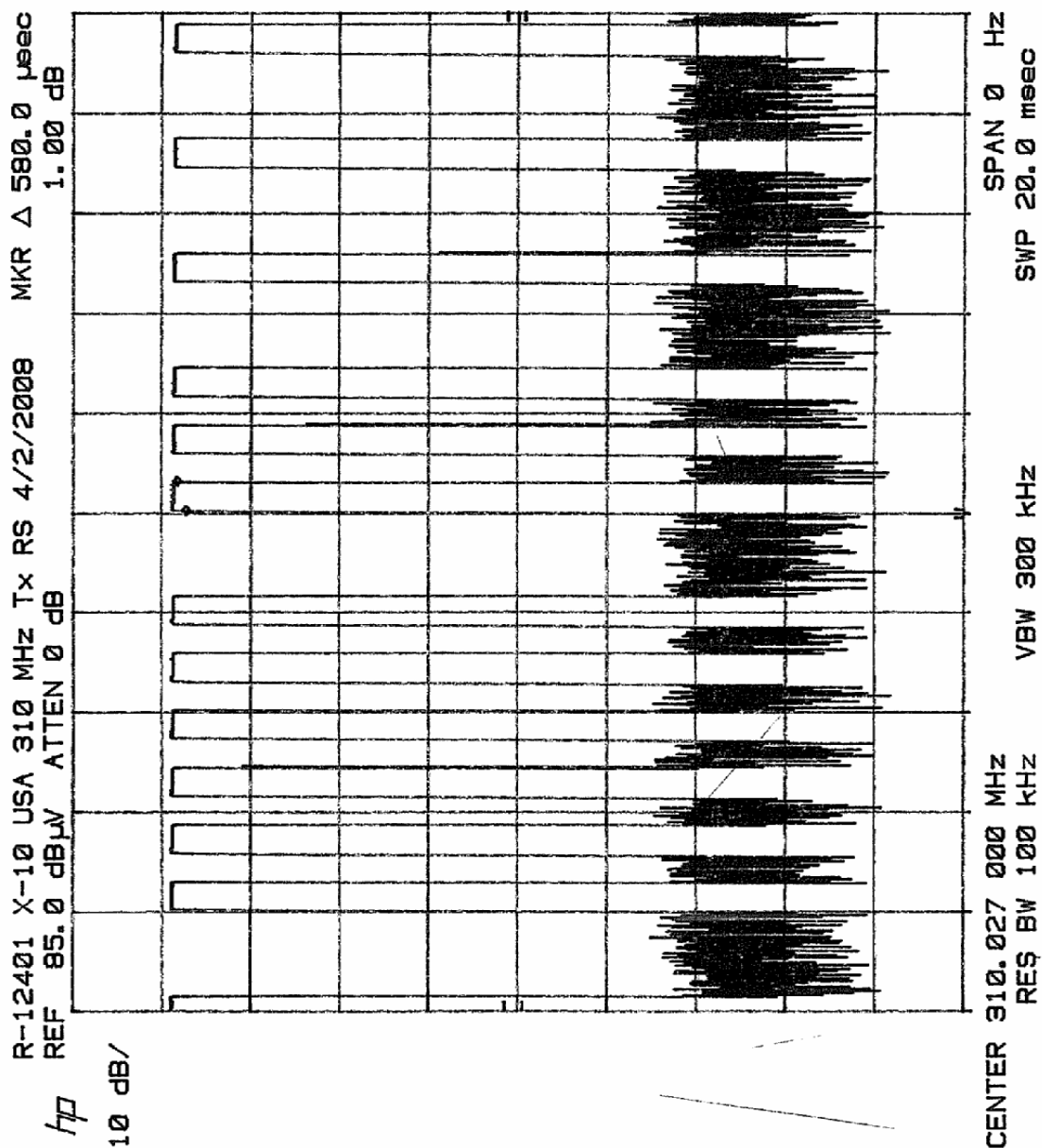


Test Method: FCC Part 15.35, Duty Cycle Determination.

Notes: Measurement of 1 large pulse = 9.0 mSec.

FCC ID.: B4SIR26A

Customer	X-10 (USA), Inc.		
Test Sample	310 MHz Pulsed Transmitter		
Model No.:	IR26A		
Date: April 2, 2008	Tech: R.Soodoo	Sheet 2 of 4	



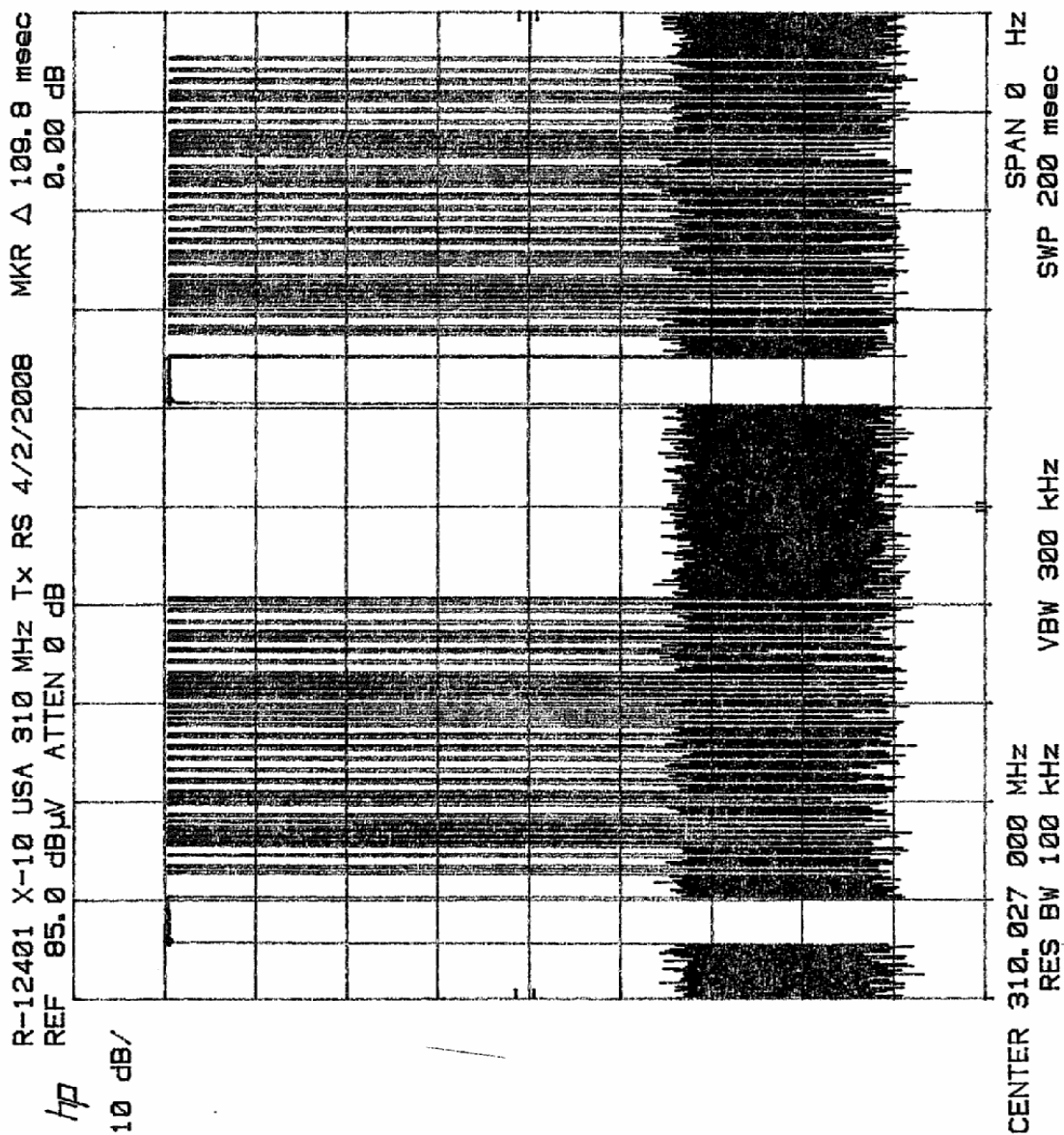
Test Method: FCC Part 15.35, Duty Cycle Determination.

Notes: Measurement of 1 small pulse = 580 μ Sec.

Measurements of 33 small pulses = 33(580 μ Sec) = 19.14mSec.

FCC ID.: B4SIR26A

Customer	X-10 (USA), Inc.		
Test Sample	310 MHz Pulsed Transmitter		
Model No.:	IR26A		
Date: April 2, 2008	Tech: R.Soodoo	Sheet 3 of 4	



Test Method: FCC Part 15.35, Duty Cycle Determination.

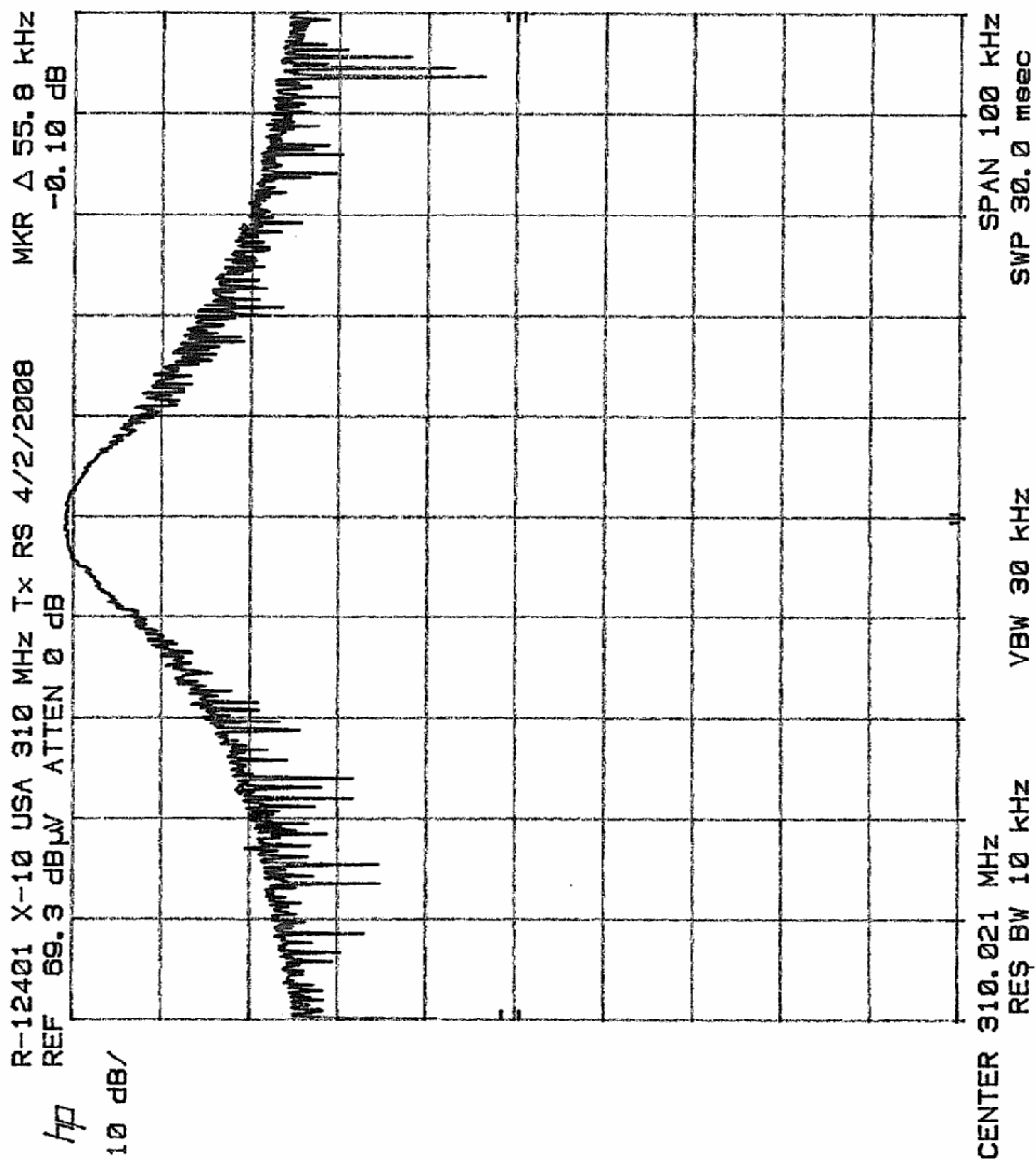
Notes: Duty cycle = (1) (9.0 mSec) + (33) (580 μ Sec) = 28.14 mSec.

Duty cycle = (28.14 mSec / 100=0.28) $20 \log 0.28 = -11.0$ dB

FCC ID.: B4SIR26A

Customer	X-10 (USA), Inc.	
Test Sample	310 MHz Pulsed Transmitter	
Model No.:	IR26A	
Date: April 2, 2008	Tech: R.Soodoo	Sheet 4 of 4

**FCC Part 15, Subpart C, 15.231(c), Occupied Bandwidth
Test Data**

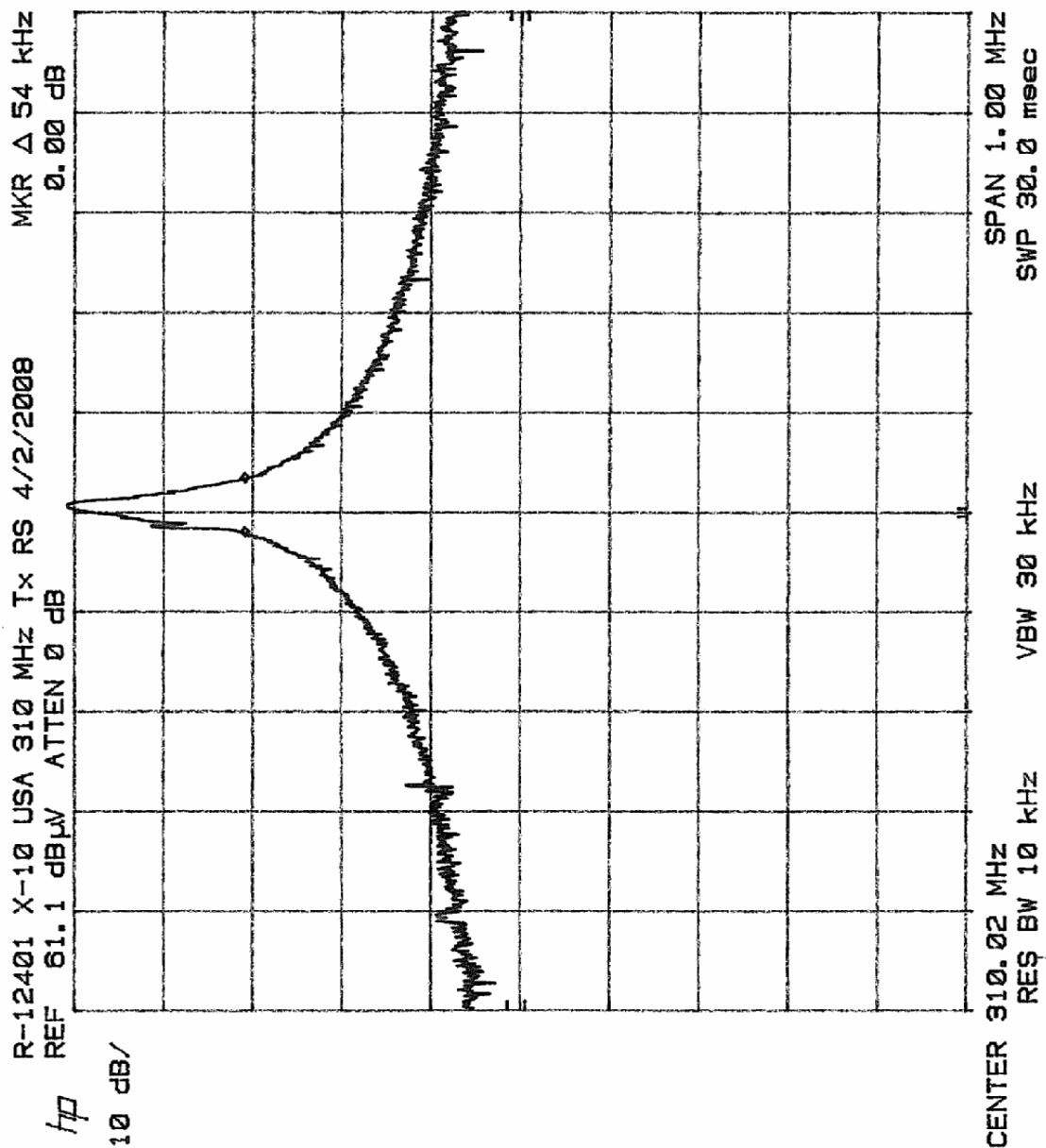


Test Method: FCC Part 15, Subpart C, 15.231(c), Occupied Bandwidth.

Notes: Occupied Bandwidth measured 55.8 kHz, does not exceed 0.25% of center frequency at the 20 dBc points (775 kHz)

FCC ID.: B4SIR26A

Customer	X-10 (USA), Inc.	
Test Sample	310 MHz Pulsed Transmitter	
Model No.:	IR26A	
Date: April 2, 2008	Tech: R.Soodoo	Sheet 1 of 2



Test Method: FCC Part 15, Subpart C, 15.231(c), Occupied Bandwidth.

Notes: Occupied Bandwidth measured 54.0 kHz, does not exceed 0.25% of center frequency at the 20 dBc points (775 kHz)

FCC ID.: B4SIR26A

Customer	X-10 (USA), Inc.		
Test Sample	310 MHz Pulsed Transmitter		
Model No.:	IR26A		
Date: April 2, 2008	Tech: R.Soodoo	Sheet 2 of 2	