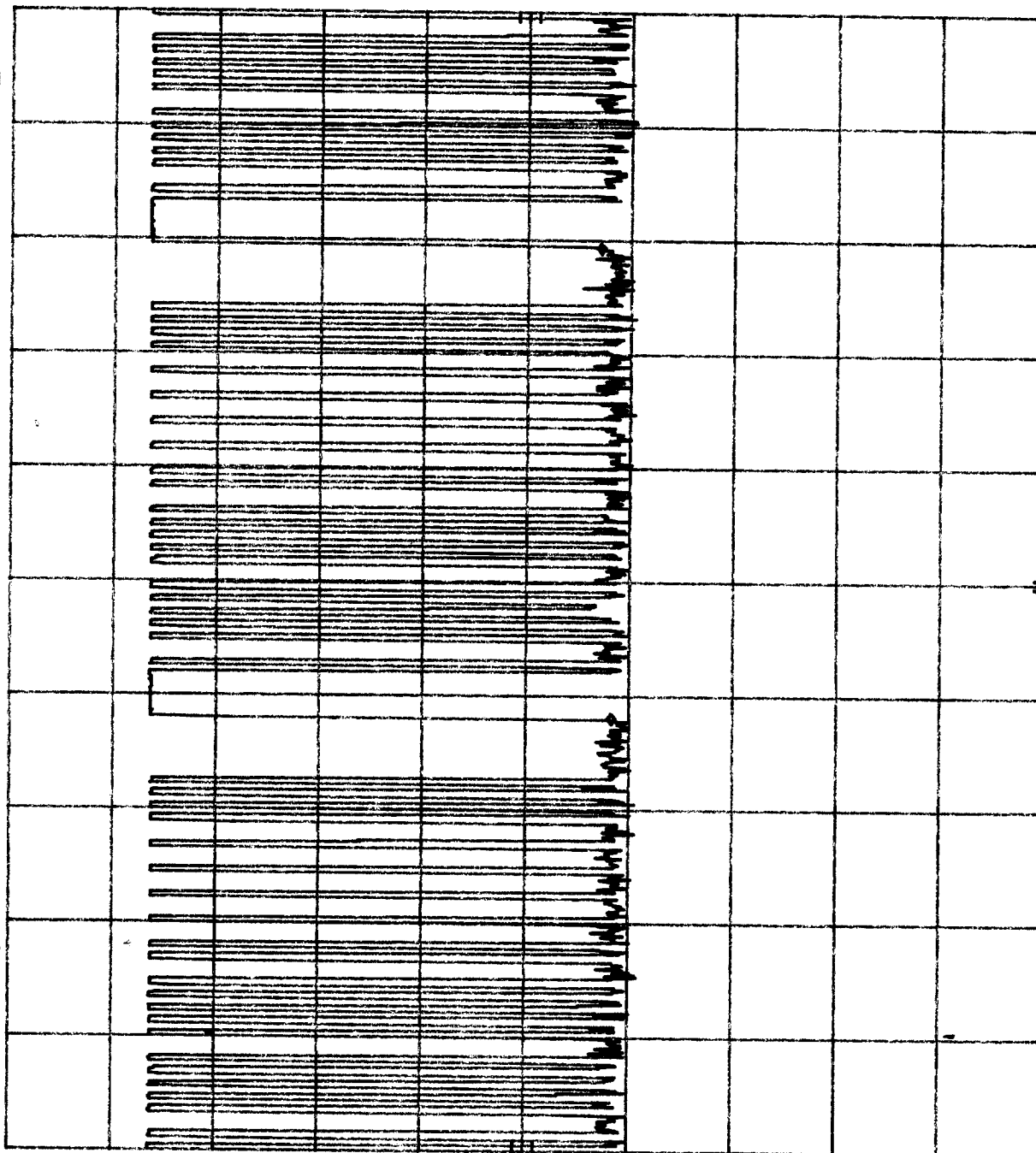


R-10116-3 X-10 R1000 DUTY CYCLE CW 10/21/03MKR Δ 41.30 msec
 REF 85.0 dBμV ATTN 0 dB

hp

10 dB/



SPAN 0 Hz
 SWP 100 msec

VBW 3 MHz

CENTER 434.600 000 MHz
 RES BW 1 MHz

Customer:	X-10 Wireless Technologies Inc.		
Test Sample:	433 Mhz Pulsed Transmitter		
Model No:	R1000	FCC ID:	B4SR1000
Test Method:	FCC 15.35 Duty Cycle Determination		
Notes:	Measurement of Transmitter Cycle Time= 41.3 msec		
	Duty Cycle = $[3.95 \text{ mSec} + (21 \times 0.65 \text{ mSec})] / 41.3 \text{ mSec} = 0.426 = 42.6\%$		
Date:	October 22, 2003	Tech:	C. Weber
	Sheet	1	of 3



Retlif Testing Laboratories

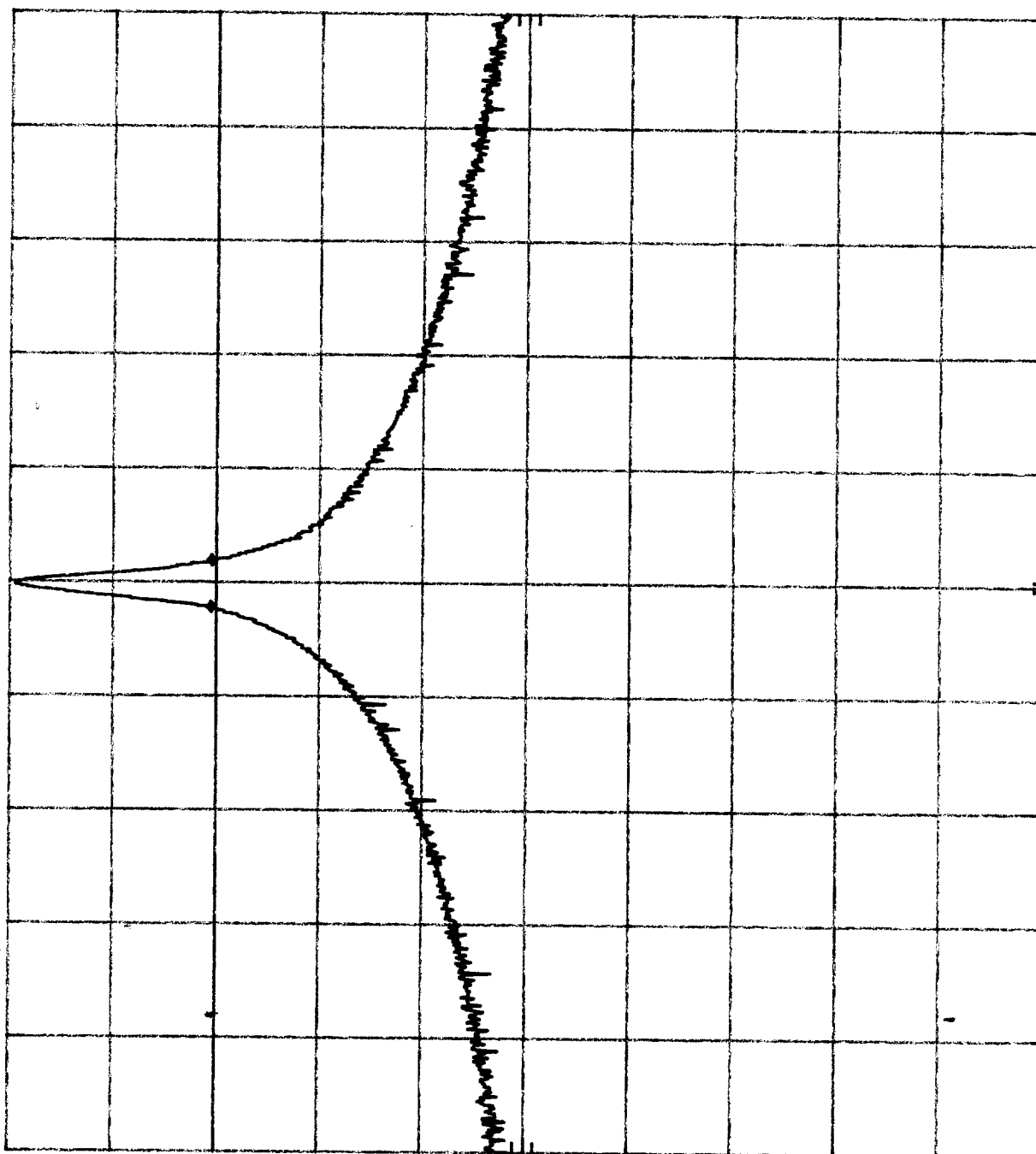
Report No. 10116-3

R-10116-3 X-10 R1000 OCCUPIED BW. CW 10/21/03 MKR Δ 45 KHz
 REF 76.9 dB μ V ATTEN 10 dB

hp

10 dB/

DL
 56.9
 dB μ V



SPAN 1.09 MHz
 SWP 200 msec

VBW 30 KHz

CENTER 434.10 MHz
 RES BW 10 KHz

Customer:	X-10
Test Sample:	433 Mhz Pulsed Transmitter
Model No:	R1000 FCC ID: B4SR1000
Test Method:	FCC 15.231 (c) Occupied Bandwidth
Notes:	Bandwidth 0.25% of the center frequency, 20dB down (0.0025 x 433 = 1.085 MHz)
Date:	October 22, 2003
Tech:	C. Weber
Sheet:	1 of 1



Retlif Testing Laboratories

Report No. R-10116-3

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 Wireless Technology, Inc.				Job No.	R-10116-3	
Test Sample:	433.92 MHz Pulsed RF Transmitter				Paragraph:	15.231 (b)	
Model No.:	R1000				FCC ID:	B4SR1000	
Operating Mode:	Continuously Transmitting a pulsed 433.92 MHz Signal						
Technician:	C. Weber				Date:	October 22, 2003	
Notes:	Test Distance: 3 Meters				Temperature: 22.0°C		Humidity: 58%
	Detector: Peak, unless otherwise specified						
Frequency	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
433.92	H/1.0	X	72.4	1.0	73.4	4677.3	109,967
	H/1.0	Y	81.0	1.0	82.0	12589.2	
	H/1.0	Z	78.2	1.0	79.2	9120.1	
	V/1.0	X	83.4	1.0	84.4	16595.8	
	V/2.5	Y	76.4	1.0	77.4	7413.1	
433.92	V/1.5	Z	75.8	1.0	76.8	6918.3	109,967
867.84	H/1.0	X	36.8	9.2	46.0	199.5	10,996.7
	H/1.0	Y	43.2	9.2	52.4	416.8	
	H/1.0	Z	39.4	9.2	48.6	269.1	
	V/1.0	X	44.8	9.5	54.3	518.8	
	V/1.0	Y	40.0	9.5	49.5	298.5	
867.84	V/1.0	Z	40.7	9.5	50.2	323.5	10,996.7
1301.76	H/1.2	X	40.0	-0.6	39.4	93.3	5,000
	H/1.7	Y	38.2	-0.6	37.6	75.8	
	H/1.1	Z	43.0	-0.6	42.4	131.8	
	V/1.0	X	43.6	-1.5	42.1	127.3	
	V/1.0	Y	41.4	-1.5	39.9	98.8	
1301.76	V/1.0	Z	40.7	-1.5	39.2	91.2	5,000
1735.68	H/1.0	X	33.3	4.4	37.7	76.7*	10,996.7
	H/1.0	Y	33.3	4.4	37.7	76.7*	
	H/1.0	Z	33.3	4.4	37.7	76.7*	
	V/1.2	X	33.3	2.8	36.1	63.8*	
	V/1.0	Y	35.0	2.8	37.8	77.6	
1735.68	V/1.0	Z	33.3	2.8	36.1	63.8*	10,996.7
2169.60	H/1.0	X	29.6	-2.9	26.7	21.6*	10,996.7
	H/1.0	Y	29.6	-2.9	26.7	21.6*	
	H/1.0	Z	29.6	-2.9	26.7	21.6*	
	V/1.0	X	29.6	-2.9	26.7	21.6*	
	V/1.0	Y	29.6	-2.9	26.7	21.6*	
2169.60	V/1.0	Z	29.6	-2.9	26.7	21.6*	10,996.7
	The frequency range was scanned from 30 MHz to 4.3392 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-10116-3

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 Wireless Technology, Inc.				Job No.	R-10116-3	
Test Sample:	433.92 MHz Pulsed RF Transmitter				Paragraph:	15.231 (b)	
Model No.:	R1000				FCC ID:	B4SR1000	
Operating Mode:	Continuously Transmitting a pulsed 433.92 MHz Signal						
Technician:	C. Weber				Date:	October 22, 2003	
Notes:	Test Distance: 3 Meters Detector: Peak, unless otherwise specified				Temperature: 22.0°C Humidity: 58%		
Frequency	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
2603.52	H/1.3	X	37.5	-7.3	30.2	32.3	10,996.7
	H/1.0	Y	33.0	-7.3	25.7	19.2*	
	H/1.6	Z	35.4	-7.3	28.1	25.4	
	V/1.0	X	33.0	-7.3	25.7	19.2*	
	V/1.4	Y	36.8	-7.3	29.5	29.8	
2603.52	V/1.0	Z	33.0	-7.3	25.7	19.2*	10,996.7
3037.44	H/1.0	X	31.1	-7.7	23.4	14.7*	10,996.7
	H/1.0	Y	31.1	-7.7	23.4	14.7*	
	H/1.0	Z	31.1	-7.7	23.4	14.7*	
	V/1.0	X	31.1	-7.7	23.4	14.7*	
	V/1.0	Y	31.1	-7.7	23.4	14.7*	
3037.44	V/1.0	Z	31.1	-7.7	23.4	14.7*	10,996.7
3471.36	H/1.0	X	31.9	-8.7	23.2	14.4*	10,996.7
	H/1.0	Y	31.9	-8.7	23.2	14.4*	
	H/1.0	Z	31.9	-8.7	23.2	14.4*	
	V/1.0	X	31.9	-8.7	23.2	14.4*	
	V/1.0	Y	31.9	-8.7	23.2	14.4*	
3471.36	V/1.0	Z	31.9	-8.7	23.2	14.4*	10,996.7
3905.28	H/1.0	X	32.3	-12.1	20.2	10.2	5,000
	H/1.0	Y	30.2	-12.1	18.1	8.0*	
	H/1.0	Z	30.2	-12.1	18.1	8.0*	
	V/1.0	X	30.2	-12.1	18.1	8.0*	
	V/1.0	Y	30.2	-12.1	18.1	8.0*	
3905.28	V/1.0	Z	30.2	-12.1	18.1	8.0*	5,000
4339.20	H/1.0	X	31.7	-13.4	18.3	8.2*	5,000
	H/1.0	Y	31.7	-13.4	18.3	8.2*	
	H/1.0	Z	31.7	-13.4	18.3	8.2*	
	V/1.0	X	31.7	-13.4	18.3	8.2*	
	V/1.0	Y	31.7	-13.4	18.3	8.2*	
4339.20	V/1.0	Z	31.7	-13.4	18.3	8.2*	5,000
	The frequency range was scanned from 30 MHz to 4.3392 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-10116-3

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 Wireless Technology, Inc.				Job No.	R-10116-3	
Test Sample:	433.92 MHz Pulsed RF Transmitter				Paragraph:	15.231 (b)	
Model No.:	R1000				FCC ID:	B4SR1000	
Operating Mode:	Continuously Transmitting a pulsed 433.92 MHz Signal						
Technician:	C. Weber				Date:	October 22, 2003	
Notes:	Test Distance: 3 Meters				Duty Cycle: 42.6 %		
	Detector: Peak, unless otherwise specified				Duty Cycle Correction: -7.4 dB		
Frequency	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
433.92	H/1.0	X	73.4	-7.4	66.0	1995.2	10,996.7
	H/1.0	Y	82.0	-7.4	74.6	5370.3	
	H/1.0	Z	79.2	-7.4	71.8	3890.4	
	V/1.0	X	84.4	-7.4	77.0	7079.4	
	V/2.5	Y	77.4	-7.4	70.0	3162.2	
433.92	V/1.5	Z	76.8	-7.4	69.4	2951.2	10,996.7
867.84	H/1.0	X	46.0	-7.4	38.6	85.1	1,099.7
	H/1.0	Y	52.4	-7.4	45.0	177.8	
	H/1.0	Z	48.6	-7.4	41.2	114.8	
	V/1.0	X	54.3	-7.4	46.9	221.3	
	V/1.0	Y	49.5	-7.4	42.1	127.3	
867.84	V/1.0	Z	50.2	-7.4	42.8	138.0	1,099.7
1301.76	H/1.2	X	39.4	-7.4	32.0	39.8	500
	H/1.7	Y	37.6	-7.4	30.2	32.3	
	H/1.1	Z	42.4	-7.4	35.0	56.2	
	V/1.0	X	42.1	-7.4	34.7	54.3	
	V/1.0	Y	39.9	-7.4	32.5	42.1	
1301.76	V/1.0	Z	39.2	-7.4	31.8	38.9	500
1735.68	H/1.0	X	37.7	-7.4	30.3	32.7/	1,099.7
	H/1.0	Y	37.7	-7.4	30.3	32.7*	
	H/1.0	Z	37.7	-7.4	30.3	32.7*	
	V/1.2	X	36.1	-7.4	28.7	27.2*	
	V/1.0	Y	37.8	-7.4	30.4	33.1	
1735.68	V/1.0	Z	36.1	-7.4	28.7	27.2*	1,099.7
2169.60	H/1.0	X	26.7	-7.4	19.3	9.2*	1,099.7
	H/1.0	Y	26.7	-7.4	19.3	9.2*	
	H/1.0	Z	26.7	-7.4	19.3	9.2*	
	V/1.0	X	26.7	-7.4	19.3	9.2*	
	V/1.0	Y	26.7	-7.4	19.3	9.2*	
2169.60	V/1.0	Z	26.7	-7.4	19.3	9.2*	1,099.7
	The frequency range was scanned from 30 MHz to 4.3392 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-10116-3

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 Wireless Technology, Inc.				Job No.	R-10116-3	
Test Sample:	433.92 MHz Pulsed RF Transmitter				Paragraph:	15.231 (b)	
Model No.:	R1000				FCC ID:	B4SR1000	
Operating Mode:	Continuously Transmitting a pulsed 433.92 MHz Signal						
Technician:	C. Weber				Date:	October 22, 2003	
Notes:	Test Distance: 3 Meters				Duty Cycle: 42.6 %		
	Detector: Peak, unless otherwise specified				Duty Cycle Correction: -7.4 dB		
Frequency	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
2603.52	H/1.3	X	30.2	-7.4	22.8	13.8	1,099.7
	H/1.0	Y	25.7	-7.4	18.3	8.2*	
	H/1.6	Z	28.1	-7.4	20.7	10.8	
	V/1.0	X	25.7	-7.4	18.3	8.2*	
	V/1.4	Y	29.5	-7.4	22.1	12.7	
2603.52	V/1.0	Z	25.7	-7.4	18.3	8.2*	1,099.7
3037.44	H/1.0	X	23.4	-7.4	16.0	6.3*	1,099.7
	H/1.0	Y	23.4	-7.4	16.0	6.3*	
	H/1.0	Z	23.4	-7.4	16.0	6.3*	
	V/1.0	X	23.4	-7.4	16.0	6.3*	
	V/1.0	Y	23.4	-7.4	16.0	6.3*	
3037.44	V/1.0	Z	23.4	-7.4	16.0	6.3*	1,099.7
3471.36	H/1.0	X	23.2	-7.4	15.8	6.1*	1,099.7
	H/1.0	Y	23.2	-7.4	15.8	6.1*	
	H/1.0	Z	23.2	-7.4	15.8	6.1*	
	V/1.0	X	23.2	-7.4	15.8	6.1*	
	V/1.0	Y	23.2	-7.4	15.8	6.1*	
3471.36	V/1.0	Z	23.2	-7.4	15.8	6.1*	1,099.7
3905.28	H/1.0	X	20.2	-7.4	12.8	4.3	500
	H/1.0	Y	18.1	-7.4	10.7	3.4*	
	H/1.0	Z	18.1	-7.4	10.7	3.4*	
	V/1.0	X	18.1	-7.4	10.7	3.4*	
	V/1.0	Y	18.1	-7.4	10.7	3.4*	
3905.28	V/1.0	Z	18.1	-7.4	10.7	3.4*	500
4339.20	H/1.0	X	18.3	-7.4	10.9	3.5*	500
	H/1.0	Y	18.3	-7.4	10.9	3.5*	
	H/1.0	Z	18.3	-7.4	10.9	3.5*	
	V/1.0	X	18.3	-7.4	10.9	3.5*	
	V/1.0	Y	18.3	-7.4	10.9	3.5*	
4339.20	V/1.0	Z	18.3	-7.4	10.9	3.5*	500
	The frequency range was scanned from 30 MHz to 4.3392 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

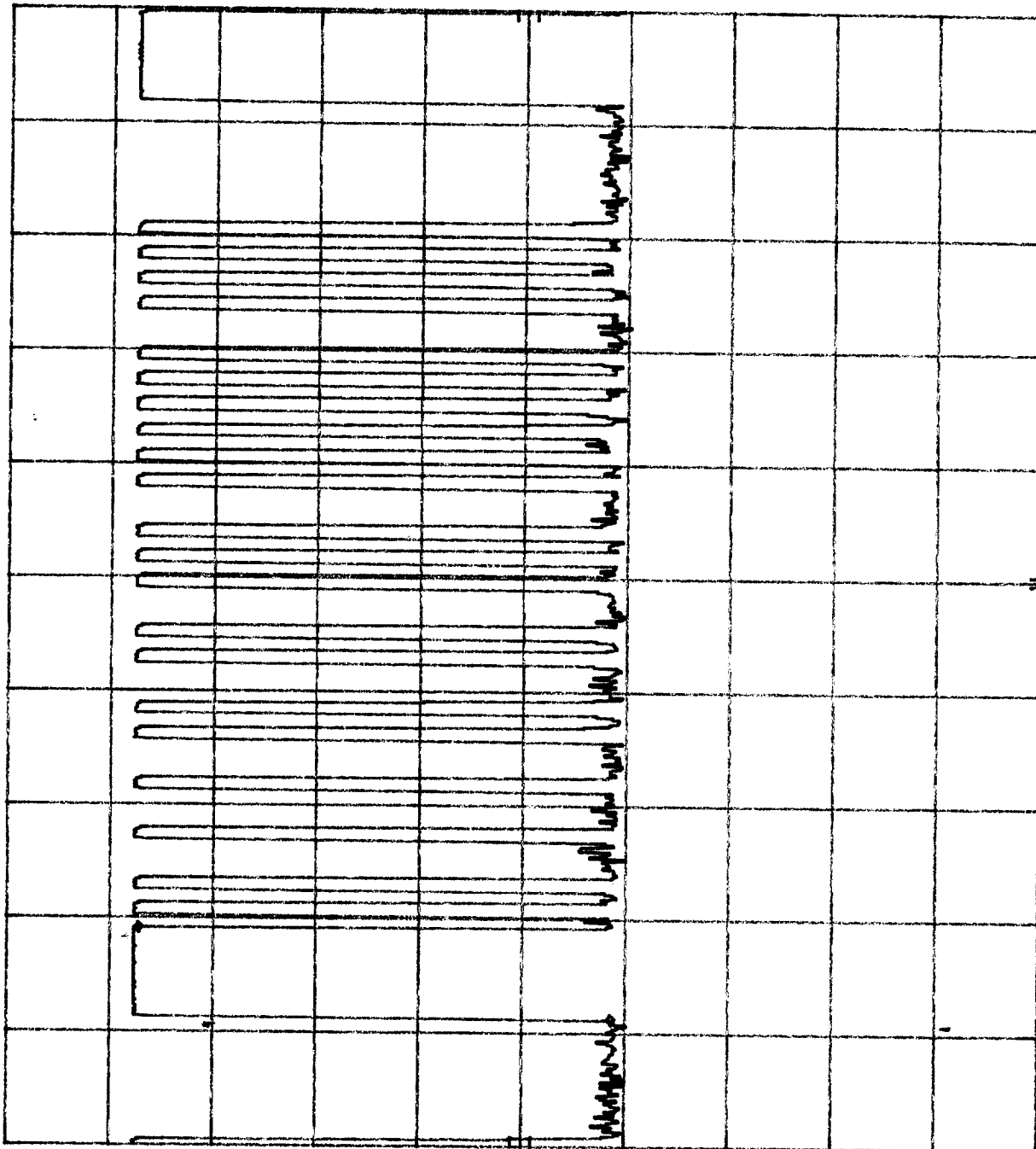
Retlif Job Number R-10116-3



R-10116-3 X-10 R1000 DUTY CYCLE CW 10/21/03MKR Δ 3.950 msec
 REF 85.0 dBμV ATTN 0 dB

hp

10 dB/



CENTER 434.600 000 MHz
 RES BW 1 MHz
 VBW 3 MHz
 SWP 50.0 msec
 SPAN 0 Hz

Customer:	X-10 Wireless Technologies Inc.
Test Sample:	433 Mhz Pulsed Transmitter
Model No:	R1000 FCC ID: B4SR1000
Test Method:	FCC 15.35 Duty Cycle Determination
Notes:	Measurement of Transmitter large pulse Time= 3.95 msec Duty Cycle = $[3.95 \text{ mSec} + (21 \times 0.65 \text{ mSec})] / 41.3 \text{ mSec} = 0.426 = 42.6\%$
Date:	October 22, 2003
Tech:	C. Weber
Sheet	2 of 3



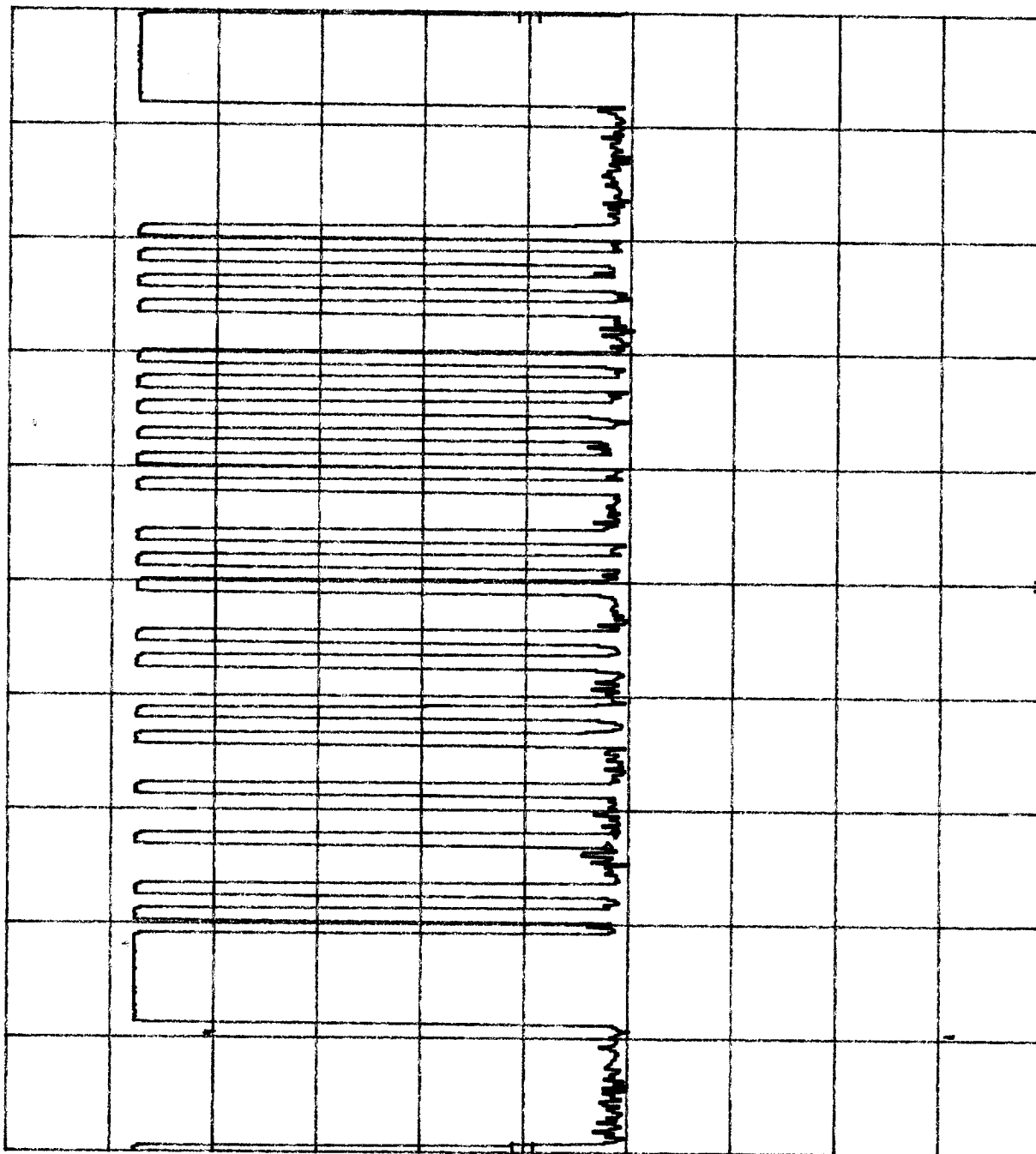
Retlif Testing Laboratories

Report No. 10116-3

R-10116-X-10 R1000 DUTY CYCLE CW 10/21/03MKR Δ 650.0 μsec
 REF 85.0 dBμV ATTN 0 dB

hp

10 dB/



CENTER 434.600 000 MHz
 RES BW 1 MHz
 VBW 3 MHz
 SWP 50.0 msec
 SPAN 0 Hz

Customer:	X-10 Wireless Technologies Inc.		
Test Sample:	433 Mhz Pulsed Transmitter		
Model No.:	R1000	FCC ID:	B4SR1000
Test Method:	FCC 15.35 Duty Cycle Determination		
Notes:	Measurement of Transmitter small pulse Time= 0.65 msec		
	Duty Cycle =[3.95 mSec+(21 x 0.65mSec)/41.3mSec=0.426=42.6%		
Date:	October 22, 2003	Tech:	C. Weber
	Sheet	3	of 3



Retlif Testing Laboratories

Report No. 10116-3