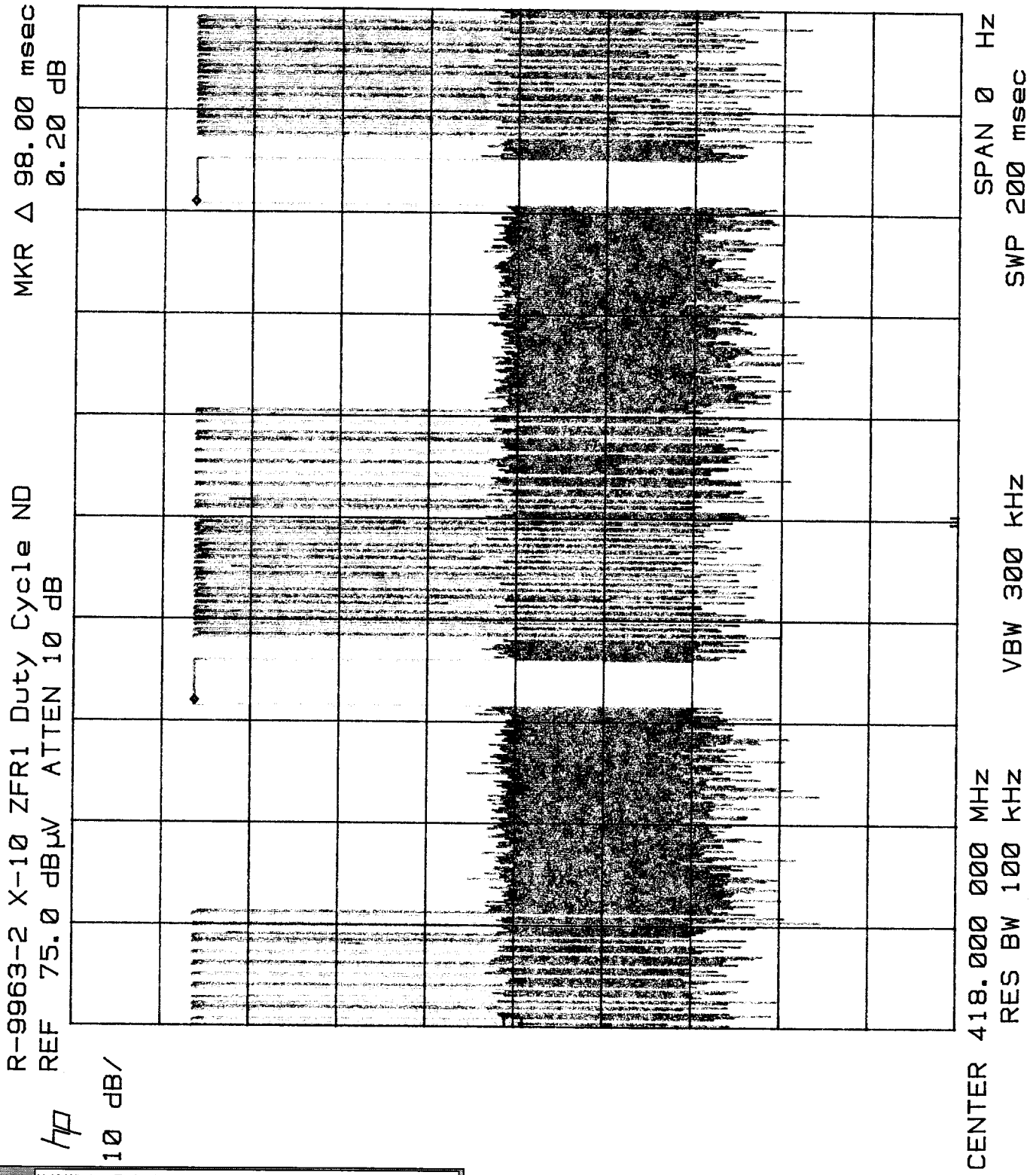
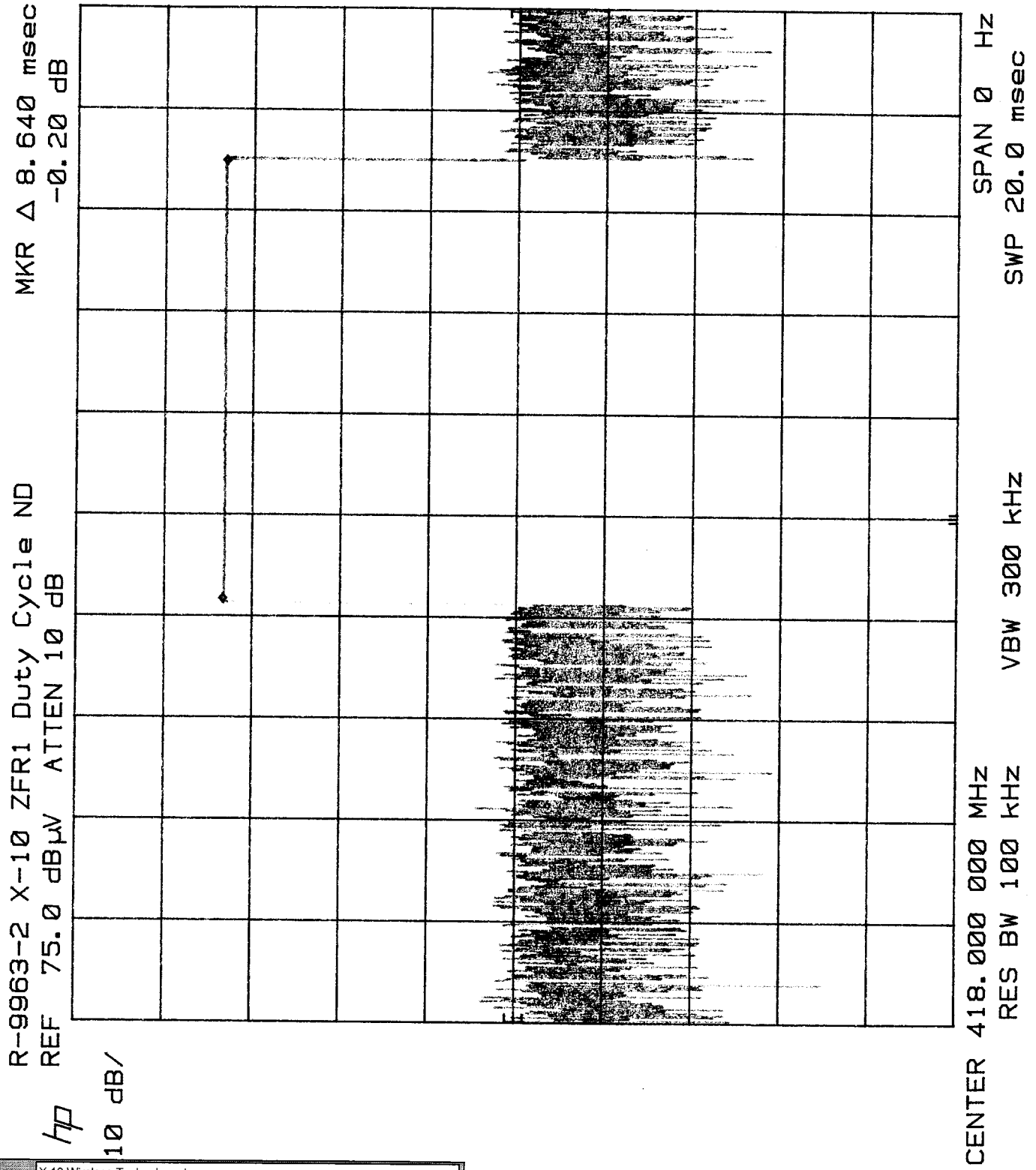


Customer:	X-10 Wireless Technology, Inc.
Test Sample:	418 MHz Pulsed RF Transmitter
Model No.:	ZFR1 FCC ID: B4SZFR1
Test Method:	FCC 15.~~201(c)~~ 35 Duty Cycle Determination
Notes:	Transmitter Cycle Time: 98 milliseconds Duty Cycle = (8.64 + (33 X.440)) / 98 = 23.6%
Date: July 3, 2003	Tech: N. Dragotta Sheet 1 of 3

Retlif Testing Laboratories

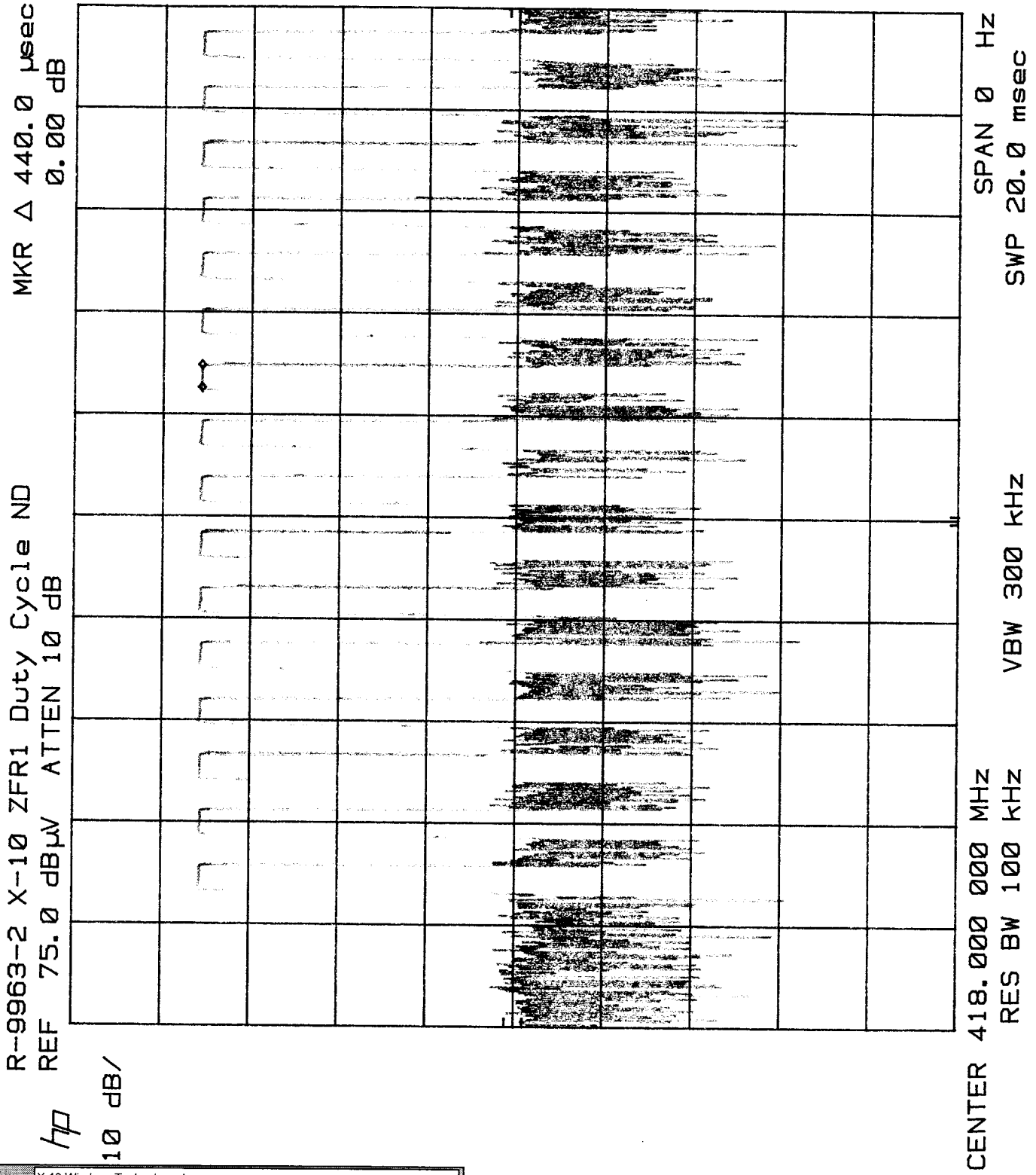
Report No. R-9963-2



Customer:	X-10 Wireless Technology, Inc.
Test Sample:	418 MHz Pulsed RF Transmitter
Model No.:	ZFR1 FCC ID: B4SZFR1
Test Method:	FCC 15.231(c) Duty Cycle Determination
Notes:	Large Pulse Duration: 8.64 milliseconds Quantity: 1
	Duty Cycle = (8.64 + (33 X .440)) / 98 = 23.6%
Date: July 3, 2003	Tech: N. Dragotta Sheet 2 of 3

Retlif Testing Laboratories

Report No. R-9963-2



Customer:	X-10 Wireless Technology, Inc.
Test Sample:	418 MHz Pulsed RF Transmitter
Model No.:	ZFR1 FCC ID: B4SZFR1
Test Method:	FCC 15.~~231(e)~~ 35 Duty Cycle Determination
Notes:	Small Pulse Duration: 0.440 milliseconds Quantity: 33
	Duty Cycle = (8.64 + (33 X .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 Temp: 31°C Humidity: 45%
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	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 Temp: 31°C Humidity: 45%
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	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)

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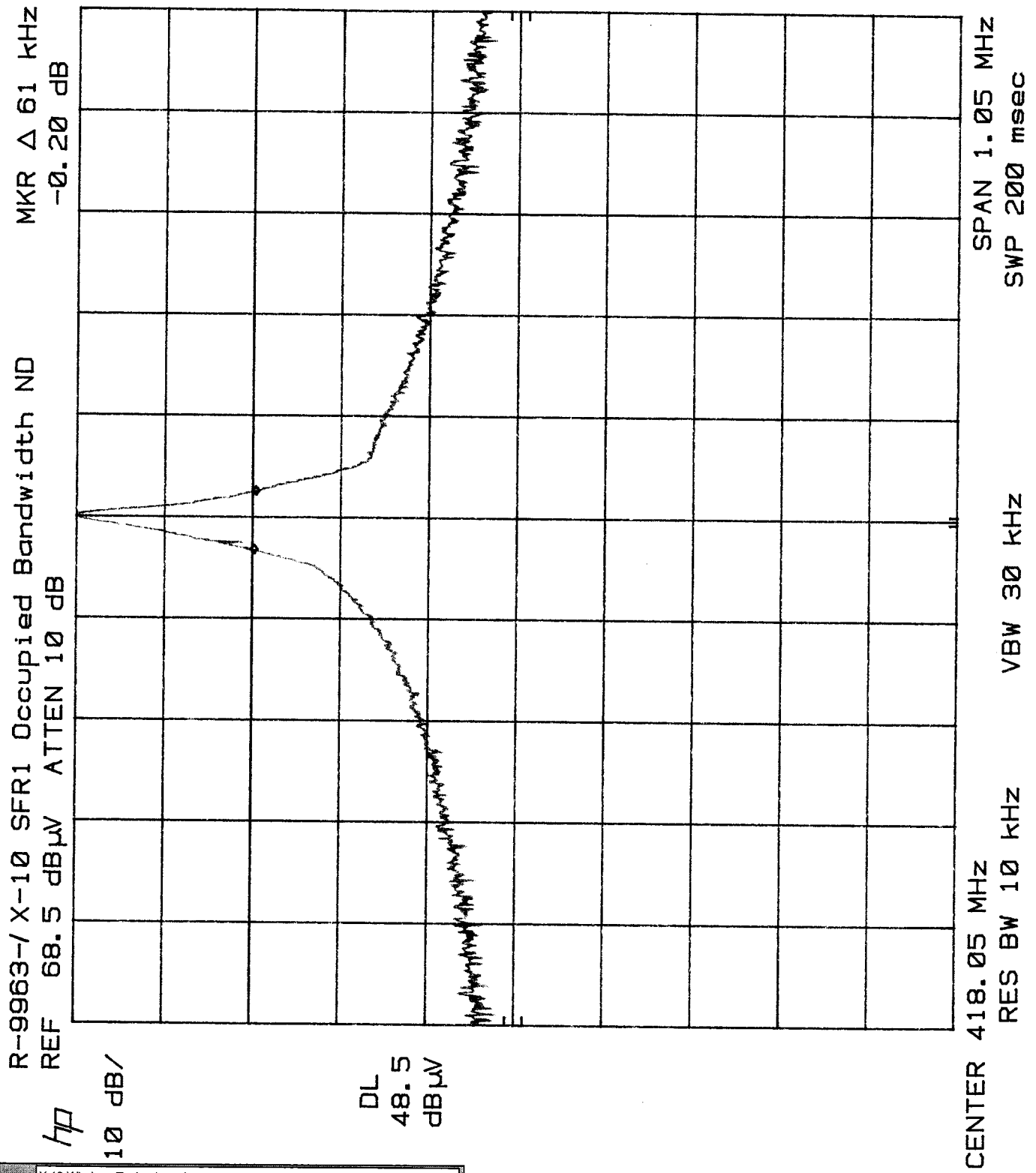
Retlif Job Number R-9963-1



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

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Report No. R-9963-1