

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 (USA), Inc.				Job No.	R-9688-1	
Test Sample:	433 MHz Pulsed Transmitter				Paragraph:	15.231	
Model No.:	VR40A				FCC ID:	B4SVR40A	
Operating Mode:	Continuously transmitting a 433 MHz signal						
Technician:	Peter Lananna				Date:	November 12, 2002	
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	dBuV	dB	dBuV/m	uV/m	uV/m
433	H / 1.0	X	89.7	-0.7	89.0	28183.8	110000
	H / 2.3	Y	88.6	-0.7	87.9	24831.3	
	H / 2.3	Z	91.2	-0.7	90.5	33496.5	
	V / 2.5	X	91.3	-0.7	90.6	33884.4	
	V / 2.3	Y	89.7	-0.7	89.0	28183.8	
433	V / 2.3	Z	91.1	-0.7	90.4	33113.1	110000
866	H / 1.0	X	59.7	8.1	67.8	2454.7*	11000
	H / 1.0	Y	59.7	8.1	67.8	2454.7*	
	H / 1.0	Z	59.7	8.1	67.8	2454.7*	
	V / 1.0	X	59.7	8.1	67.8	2454.7*	
	V / 1.0	Y	59.7	8.1	67.8	2454.7*	
866	V / 1.0	Z	59.7	8.1	67.8	2454.7*	11000
1299	H / 2.0	X	52.3	-0.6	51.7	384.6	11000
	H / 1.5	Y	50.2	-0.6	49.6	302.0	
	H / 2.3	Z	55.0	-0.6	54.4	524.8	
	V / 1.5	X	53.8	-0.6	53.2	457.1	
	V / 1.3	Y	52.8	-0.6	52.2	407.4	
1299	V / 1.5	Z	50.4	-0.6	49.8	309.0	11000
1732	H / 1.3	X	54.9	4.1	59.0	891.3	11000
	H / 1.8	Y	53.3	4.1	57.4	741.3	
	H / 2.0	Z	57.7	4.1	61.8	1230.3	
	V / 1.5	X	54.9	4.1	59.0	891.3	
	V / 1.0	Y	55.5	4.1	59.6	955.0	
1732	V / 1.5	Z	54.7	4.1	58.8	871.0	11000
2165	H / 1.8	X	54.0	1.2	55.2	575.4	11000
	H / 1.0	Y	55.8	1.2	57.0	707.9	
	H / 1.8	Z	57.4	1.2	58.6	851.1	
	V / 1.5	X	53.1	1.2	54.3	518.8	
	V / 2.3	Y	55.3	1.2	56.5	668.3	
2165	V / 1.5	Z	56.6	1.2	57.8	776.2	11000
	The frequency range was scanned from 30 MHz to 4.4GHz. All emissions not recorded were more						
	Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*= High ambient signal masking harmonic.						



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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
2598	H / 3.0	X	48.5	4.8	53.3	462.4	11000
	H / 3.0	Y	47.2	4.8	52.0	398.1	
	H / 2.0	Z	57.0	4.8	61.8	1230.3	
	V / 2.0	X	48.9	4.8	53.7	484.2	
	V / 1.3	Y	51.7	4.8	56.5	668.3	
2598	V / 1.8	Z	47.9	4.8	52.7	431.5	11000
3031	H / 1.0	X	38.9	6.4	45.3	184.1*	11000
	H / 1.0	Y	38.9	6.4	45.3	184.1*	
	H / 1.0	Z	38.9	6.4	45.3	184.1*	
	V / 1.0	X	38.9	6.4	45.3	184.1*	
	V / 1.0	Y	38.9	6.4	45.3	184.1*	
3031	V / 1.0	Z	38.9	6.4	45.3	184.1*	11000
3464	H / 1.0	X	38.0	8.3	46.3	206.5*	11000
	H / 1.0	Y	38.0	8.3	46.3	206.5*	
	H / 1.0	Z	38.0	8.3	46.3	206.5*	
	V / 1.0	X	38.0	8.3	46.3	206.5*	
	V / 1.0	Y	38.0	8.3	46.3	206.5*	
3464	V / 1.0	Z	38.0	8.3	46.3	206.5*	11000
3897	H / 1.0	X	38.4	9.8	48.2	257.0*	5000
	H / 1.0	Y	38.4	9.8	48.2	257.0*	
	H / 1.0	Z	38.4	9.8	48.2	257.0*	
	V / 1.0	X	38.4	9.8	48.2	257.0*	
	V / 1.0	Y	38.4	9.8	48.2	257.0*	
3897	V / 1.0	Z	38.4	9.8	48.2	257.0*	5000
4330	H / 1.0	X	38.6	11.0	49.6	302.0*	5000
	H / 1.0	Y	38.6	11.0	49.6	302.0*	
	H / 1.0	Z	38.6	11.0	49.6	302.0*	
	V / 1.0	X	38.6	11.0	49.6	302.0*	
	V / 1.0	Y	38.6	11.0	49.6	302.0*	
4330	V / 1.0	Z	38.6	11.0	49.6	302.0*	5000
	The frequency range was scanned from 30 MHz to 4.4 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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Operating Mode:		Continuously transmitting a 433 MHz signal						
Technician:		Peter Lananna			Date:		November 12, 2002	
Notes:		Test Distance: 3 Meters			Duty Cycle: 13.7%			
		Detector: Peak, unless otherwise specified			Duty Cycle Correction: -17.3dB			
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	
433	H / 1.0	X	89.0	-17.3	71.7	3845.9	11000	
	H / 2.3	Y	87.9	-17.3	70.6	3388.4		
	H / 2.3	Z	90.5	-17.3	73.2	4570.9		
	V / 2.5	X	90.6	-17.3	73.3	4623.8		
	V / 2.3	Y	89.0	-17.3	71.7	3845.9		
433	V / 2.3	Z	90.4	-17.3	73.1	4518.6	11000	
866	H / 1.0	X	67.8	-17.3	50.5	335.0*	1100	
	H / 1.0	Y	67.8	-17.3	50.5	335.0*		
	H / 1.0	Z	67.8	-17.3	50.5	335.0*		
	V / 1.0	X	67.8	-17.3	50.5	335.0*		
	V / 1.0	Y	67.8	-17.3	50.5	335.0*		
866	V / 1.0	Z	67.8	-17.3	50.5	335.0*	1100	
1299	H / 2.0	X	51.7	-17.3	34.4	52.5	1100	
	H / 1.5	Y	49.6	-17.3	32.3	41.2		
	H / 2.3	Z	54.4	-17.3	37.1	71.6		
	V / 1.5	X	53.2	-17.3	35.9	62.4		
	V / 1.3	Y	52.2	-17.3	34.9	55.6		
1299	V / 1.5	Z	49.8	-17.3	32.5	42.2	1100	
1732	H / 1.3	X	59.0	-17.3	41.7	121.6	1100	
	H / 1.8	Y	57.4	-17.3	40.1	101.2		
	H / 2.0	Z	61.8	-17.3	44.5	167.9		
	V / 1.5	X	59.0	-17.3	41.7	121.6		
	V / 1.0	Y	59.6	-17.3	42.3	130.3		
1732	V / 1.5	Z	58.8	-17.3	41.5	118.9	1100	
2165	H / 1.8	X	55.2	-17.3	37.9	78.5	1100	
	H / 1.0	Y	57.0	-17.3	39.7	96.6		
	H / 1.8	Z	58.6	-17.3	41.3	116.1		
	V / 1.5	X	54.3	-17.3	37.0	70.8		
	V / 2.3	Y	56.5	-17.3	39.2	91.2		
2165	V / 1.5	Z	57.8	-17.3	40.5	105.9	1100	
	The frequency range was scanned from 30 MHz to 4.4GHz. All emissions not recorded were more							
	Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.							
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		Detector: Peak, unless otherwise specified			Duty Cycle Correction: -17.3dB		
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
2598	H / 3.0	X	53.3	-17.3	36.0	63.1	1100
	H / 3.0	Y	52.0	-17.3	34.7	54.3	
	H / 2.0	Z	61.8	-17.3	44.5	167.9	
	V / 2.0	X	53.7	-17.3	36.4	66.1	
	V / 1.3	Y	56.5	-17.3	39.2	91.2	
2598	V / 1.8	Z	52.7	-17.3	35.4	58.9	1100
3031	H / 1.0	X	45.3	-17.3	28.0	25.1*	1100
	H / 1.0	Y	45.3	-17.3	28.0	25.1*	
	H / 1.0	Z	45.3	-17.3	28.0	25.1*	
	V / 1.0	X	45.3	-17.3	28.0	25.1*	
	V / 1.0	Y	45.3	-17.3	28.0	25.1*	
3031	V / 1.0	Z	45.3	-17.3	28.0	25.1*	1100
3464	H / 1.0	X	46.3	-17.3	29.0	28.2*	1100
	H / 1.0	Y	46.3	-17.3	29.0	28.2*	
	H / 1.0	Z	46.3	-17.3	29.0	28.2*	
	V / 1.0	X	46.3	-17.3	29.0	28.2*	
	V / 1.0	Y	46.3	-17.3	29.0	28.2*	
3464	V / 1.0	Z	46.3	-17.3	29.0	28.2*	1100
3897	H / 1.0	X	48.2	-17.3	30.9	35.1*	500
	H / 1.0	Y	48.2	-17.3	30.9	35.1*	
	H / 1.0	Z	48.2	-17.3	30.9	35.1*	
	V / 1.0	X	48.2	-17.3	30.9	35.1*	
	V / 1.0	Y	48.2	-17.3	30.9	35.1*	
3897	V / 1.0	Z	48.2	-17.3	30.9	35.1*	500
4330	H / 1.0	X	49.6	-17.3	32.3	41.2*	500
	H / 1.0	Y	49.6	-17.3	32.3	41.2*	
	H / 1.0	Z	49.6	-17.3	32.3	41.2*	
	V / 1.0	X	49.6	-17.3	32.3	41.2*	
	V / 1.0	Y	49.6	-17.3	32.3	41.2*	
4330	V / 1.0	Z	49.6	-17.3	32.3	41.2*	500
	The frequency range was scanned from 30 MHz to 4.4 GHz. All emissions not recorded were more						
	Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
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