

<u>APPLICANT</u>	<u>MANUFACTURER</u>
X-10 USA, Inc. 400 Forge Way, Suite 412 Rockaway, NJ 07866	X-10 Electronics Shenzhen Co. Ltd. X-10 Building Labour Industrial District Shenzhen, Xixiang, Bao An Guang Dong, China, 518102

TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C

TEST PROCEDURE: ANSI C63.4:1992

TEST SAMPLE DESCRIPTION

BRANDNAME: X-10

MODEL: VT38A FCC ID: B4SVT38A

TYPE: 2.4 GHz FM Transmitter

FREQUENCY RANGE: 2410 to 2472 MHZ

POWER REQUIREMENTS: 120 VAC, 60 Hz

TESTS PERFORMED

- 15.249(a) Radiated Emissions, Fundamental and Harmonics
- 15.294(c) Occupied Bandwidth
- 15.249(c)/15.209 Radiated Emissions, Spurious Case
- 15.207(a) Conducted Emissions

REPORT OF MEASUREMENTS

Applicant: X-10 (USA), Inc.

Device: 2.4 GHz Transmitter

FCC ID: B4SVT38A

Power Requirements: 120 VAC, 60 Hz

Applicable Rule Section: Part 15, Subpart C, Section 15.249

TEST RESULTS

- 15.207(a): The radio frequency voltage that was conducted back on to the AC power line on any frequency/frequencies within the bandwidth of 450kHz to 30MHz did not exceed 250 microvolts.
- 15.249(a): The unit operates in the 2.4 to 2.4835 GHz band at 4 frequencies as follows:
1) 2.410 GHz 2) 2.433 GHz
3) 2.453 GHz 4) 2.472 GHz
Field strength readings were taken at 3 frequencies (low, middle and high) because the device operates over a range greater than 10 MHz.
The field strength of the fundamental did not exceed 50milliV/M AVERAGE. The field strength of the harmonics did not exceed 500 microV/M AVERAGE.
- 15.249(b): Field strength readings were taken at three meters unless otherwise noted.
- 15.249(c): Emissions radiated outside band edges were greater than 50 dB below the specified the level of the fundamental or met the general radiated emission requirements of 15.209(a), whichever provided the lesser attenuation.
- 15.249(d): The peak field strength of any emission did not exceed the maximum permitted average field strength by more than 20dB under any condition of modulation.

EXHIBIT 4

Radiated Emissions, Fundamental & Harmonics, Spurious Case

Para. 15.249(a)

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 (USA)				Job No.	R-9159-2	
Test Sample:	2.4GHz FM Transmitter				Paragraph:	15.249	
Model No.:	VT38A				FCC ID:	B4SVT38A	
Operating Mode:	Continuously Transmitting a 2.410GHz Signal						
Technician:	Peter Lananna				Date:	September 5, 2001	
Notes:	Test Distance: 3 Meters Detector: Peak, Unless otherwise specified Channel A						
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Average Limit
GHz	(V/H)/Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	uV/m
2.410	H / 1.8	X	55.9	28.9	84.8	17378.0	50000
	H / 2.0	Y	60.7	28.9	89.6	30199.5	
	H / 1.8	Z	56.2	28.9	85.1	17988.7	
	V / 1.8	X	55.9	28.9	84.8	17378.0	
	V / 1.8	Y	51.3	28.9	80.2	10232.9	
2.410	V / 2.0	Z	53.0	28.9	81.9	12445.1	50000
4.820	H / 1.0	X	32.0	-4.1	27.9	24.8*	500
	H / 1.0	Y	32.0	-4.1	27.9	24.8*	
	H / 1.0	Z	32.0	-4.1	27.9	24.8*	
	V / 1.0	X	32.0	-4.1	27.9	24.8*	
	V / 1.0	Y	32.0	-4.1	27.9	24.8*	
4.820	V / 1.0	Z	32.0	-4.1	27.9	24.8*	500
7.230	H / 1.0	X	32.0	-2.0	32.0	39.8*	500
	H / 1.0	Y	32.0	-2.0	30.0	31.6*	
	H / 1.0	Z	32.0	-2.0	30.0	31.6*	
	V / 1.0	X	32.0	-2.0	30.0	31.6*	
	V / 1.0	Y	32.0	-2.0	30.0	31.6*	
7.230	V / 1.0	Z	32.0	-2.0	30.0	31.6*	500
9.640	H / 1.0	X	33.0	-1.9	31.1	35.9*	500
	H / 1.0	Y	33.0	-1.9	31.1	35.9*	
	H / 1.0	Z	33.0	-1.9	31.1	35.9*	
	V / 1.0	X	33.0	-1.9	31.1	35.9*	
	V / 1.0	Y	33.0	-1.9	31.1	35.9*	
9.640	V / 1.0	Z	33.0	-1.9	31.1	35.9*	500
12.05	H / 1.0	X	33.0	3.8	36.8	69.2*	500
	H / 1.0	Y	33.0	3.8	36.8	69.2*	
	H / 1.0	Z	33.0	3.8	36.8	69.2*	
	V / 1.0	X	33.0	3.8	36.8	69.2*	
	V / 1.0	Y	33.0	3.8	36.8	69.2*	
12.05	V / 1.0	Z	33.0	3.8	36.8	69.2*	500
	The frequency range was scanned from 30 MHz to25GHz. 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)						

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 (USA)				Job No.	R-9159-2	
Test Sample:	2.4GHz FM Transmitter				Paragraph:	15.249	
Model No.:	VT38A				FCC ID:	B4SVT38A	
Operating Mode:	Continuously Transmitting a 2.410GHz Signal						
Technician:	Peter Lananna				Date:	September 5, 2001	
Notes:	Test Distance: 3 Meters **=Readings taken @ 1 meter, correction factors includes test distance correction. Detector: Peak, Unless otherwise specified						
	Channel A						
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Average Limit
GHz	(V/H)-Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	uV/m
14.46	H / 1.0	X	33.0	10.8	43.8	154.9*	500
	H / 1.0	Y	33.0	10.8	43.8	154.9*	
	H / 1.0	Z	33.0	10.8	43.8	154.9*	
	V / 1.0	X	33.0	10.8	43.8	154.9*	
	V / 1.0	Y	33.0	10.8	43.8	154.9*	
14.46	V / 1.0	Z	33.0	10.8	43.8	154.9*	500
16.87	H / 1.0	X	33.0	15.5	48.5	266.1*	500
	H / 1.0	Y	33.0	15.5	48.5	266.1*	
	H / 1.0	Z	33.0	15.5	48.5	266.1*	
	V / 1.0	X	33.0	15.5	48.5	266.1*	
	V / 1.0	Y	33.0	15.5	48.5	266.1*	
16.87	V / 1.0	Z	33.0	15.5	48.5	266.1*	500
19.28	H / 1.0	X	30.0	22.9	52.9	441.6**	500
	H / 1.0	Y	30.0	22.9	52.9	441.6**	
	H / 1.0	Z	30.0	22.9	52.9	441.6**	
	V / 1.0	X	30.0	22.9	52.9	441.6**	
	V / 1.0	Y	30.0	22.9	52.9	441.6**	
19.28	V / 1.0	Z	30.0	22.9	52.9	441.6**	500
21.69	H / 1.0	X	30.0	23.2	53.2	457.1**	500
	H / 1.0	Y	30.0	23.2	53.2	457.1**	
	H / 1.0	Z	30.0	23.2	53.2	457.1**	
	V / 1.0	X	30.0	23.2	53.2	457.1**	
	V / 1.0	Y	30.0	23.2	53.2	457.1**	
21.69	V / 1.0	Z	30.0	23.2	53.2	457.1**	500
24.10	H / 1.0	X	30.0	23.4	53.4	467.7**	500
	H / 1.0	Y	30.0	23.4	53.4	467.7**	
	H / 1.0	Z	30.0	23.4	53.4	467.7**	
	V / 1.0	X	30.0	23.4	53.4	467.7**	
	V / 1.0	Y	30.0	23.4	53.4	467.7**	
24.10	V / 1.0	Z	30.0	23.4	53.4	467.7**	500
	The frequency range was scanned from 30 MHz to 25GHz. 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)						

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 (USA)				Job No.	R-9159-2	
Test Sample:	2.4GHz FM Transmitter				Paragraph:	15.249	
Model No.:	VT38A				FCC ID:	B4SVT38A	
Operating Mode:	Continuously Transmitting a 2.433GHz Signal						
Technician:	Peter Lananna				Date:	September 5, 2001	
Notes:	Test Distance: 3 Meters Detector: Peak, Unless otherwise specified Channel B						
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Average Limit
GHz	(V/H)/Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	uV/m
2.433	H / 1.8	X	55.3	28.9	84.2	16218.1	50000
	H / 1.8	Y	58.5	28.9	87.4	23442.3	
	H / 2.0	Z	49.8	28.9	78.7	8609.9	
	V / 2.0	X	55.0	28.9	83.9	15667.5	
	V / 1.3	Y	56.2	28.9	85.1	17988.7	
2.433	V / 1.5	Z	55.6	28.9	84.5	16788.0	50000
4866	H / 1.0	X	32.0	-4.1	27.9	24.8*	500
	H / 1.0	Y	32.0	-4.1	27.9	24.8*	
	H / 1.0	Z	32.0	-4.1	27.9	24.8*	
	V / 1.0	X	32.0	-4.1	27.9	24.8*	
	V / 1.0	Y	32.0	-4.1	27.9	24.8*	
4.866	V / 1.0	Z	32.0	-4.1	27.9	24.8*	500
7.299	H / 1.0	X	32.0	-2.0	32.0	39.8*	500
	H / 1.0	Y	32.0	-2.0	30.0	31.6*	
	H / 1.0	Z	32.0	-2.0	30.0	31.6*	
	V / 1.0	X	32.0	-2.0	30.0	31.6*	
	V / 1.0	Y	32.0	-2.0	30.0	31.6*	
7.299	V / 1.0	Z	32.0	-2.0	30.0	31.6*	500
9.732	H / 1.0	X	33.0	-1.9	31.1	35.9*	500
	H / 1.0	Y	33.0	-1.9	31.1	35.9*	
	H / 1.0	Z	33.0	-1.9	31.1	35.9*	
	V / 1.0	X	33.0	-1.9	31.1	35.9*	
	V / 1.0	Y	33.0	-1.9	31.1	35.9*	
9.732	V / 1.0	Z	33.0	-1.9	31.1	35.9*	500
12.17	H / 1.0	X	33.0	3.8	36.8	69.2*	500
	H / 1.0	Y	33.0	3.8	36.8	69.2*	
	H / 1.0	Z	33.0	3.8	36.8	69.2*	
	V / 1.0	X	33.0	3.8	36.8	69.2*	
	V / 1.0	Y	33.0	3.8	36.8	69.2*	
12.17	V / 1.0	Z	33.0	3.8	36.8	69.2*	500
	The frequency range was scanned from 30 MHz to 25GHz. 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)						

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 (USA)				Job No.	R-9159-2	
Test Sample:	2.4GHz FM Transmitter				Paragraph:	15.249	
Model No.:	VT38A				FCC ID:	B4SVT38A	
Operating Mode:	Continuously Transmitting a 2.433GHz Signal						
Technician:	Peter Lananna				Date:	September 5, 2001	
Notes:	Test Distance: 3 Meters **=Readings taken @ 1 meter, correction factors includes test distance correction. Detector: Peak, Unless otherwise specified						
	Channel B						
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Average Limit
GHz	(V/H)-Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	uV/m
14.60	H / 1.0	X	33.0	10.8	43.8	154.9*	500
	H / 1.0	Y	33.0	10.8	43.8	154.9*	
	H / 1.0	Z	33.0	10.8	43.8	154.9*	
	V / 1.0	X	33.0	10.8	43.8	154.9*	
	V / 1.0	Y	33.0	10.8	43.8	154.9*	
14.60	V / 1.0	Z	33.0	10.8	43.8	154.9*	500
17.03	H / 1.0	X	33.0	15.5	48.5	266.1*	500
	H / 1.0	Y	33.0	15.5	48.5	266.1*	
	H / 1.0	Z	33.0	15.5	48.5	266.1*	
	V / 1.0	X	33.0	15.5	48.5	266.1*	
	V / 1.0	Y	33.0	15.5	48.5	266.1*	
17.03	V / 1.0	Z	33.0	15.5	48.5	266.1*	500
19.46	H / 1.0	X	30.0	22.9	52.9	441.6**	500
	H / 1.0	Y	30.0	22.9	52.9	441.6**	
	H / 1.0	Z	30.0	22.9	52.9	441.6**	
	V / 1.0	X	30.0	22.9	52.9	441.6**	
	V / 1.0	Y	30.0	22.9	52.9	441.6**	
19.46	V / 1.0	Z	30.0	22.9	52.9	441.6**	500
21.90	H / 1.0	X	30.0	23.2	53.2	457.1**	500
	H / 1.0	Y	30.0	23.2	53.2	457.1**	
	H / 1.0	Z	30.0	23.2	53.2	457.1**	
	V / 1.0	X	30.0	23.2	53.2	457.1**	
	V / 1.0	Y	30.0	23.2	53.2	457.1**	
21.90	V / 1.0	Z	30.0	23.2	53.2	457.1**	500
24.33	H / 1.0	X	30.0	23.4	53.4	467.7**	500
	H / 1.0	Y	30.0	23.4	53.4	467.7**	
	H / 1.0	Z	30.0	23.4	53.4	467.7**	
	V / 1.0	X	30.0	23.4	53.4	467.7**	
	V / 1.0	Y	30.0	23.4	53.4	467.7**	
24.33	V / 1.0	Z	30.0	23.4	53.4	467.7**	500
	The frequency range was scanned from 30 MHz to 25GHz. 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)						

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 (USA)				Job No.	R-9159-2	
Test Sample:	2.4GHz FM Transmitter				Paragraph:	15.249	
Model No.:	VT38A				FCC ID:	B4SVT38A	
Operating Mode:	Continuously Transmitting a 2.472GHz Signal						
Technician:	Peter Lananna				Date:	September 5, 2001	
Notes:	Test Distance: 3 Meters Detector: Peak, Unless otherwise specified						
	Channel D						
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Average Limit
GHz	(V/H)/Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	uV/m
2.472	H / 1.5	X	53.2	28.9	82.1	12735.0	50000
	H / 2.0	Y	50.7	28.9	79.6	9549.9	
	H / 2.0	Z	52.2	28.9	81.1	11350.1	
	V / 1.8	X	53.7	28.9	82.6	13489.6	
	V / 2.0	Y	50.9	28.9	79.8	9772.4	
2.472	V / 1.8	Z	50.8	28.9	79.7	9660.5	50000
4944	H / 1.0	X	32.0	-4.1	27.9	24.8*	500
	H / 1.0	Y	32.0	-4.1	27.9	24.8*	
	H / 1.0	Z	32.0	-4.1	27.9	24.8*	
	V / 1.0	X	32.0	-4.1	27.9	24.8*	
	V / 1.0	Y	32.0	-4.1	27.9	24.8*	
4.944	V / 1.0	Z	32.0	-4.1	27.9	24.8*	500
7.416	H / 1.0	X	32.0	-2.0	32.0	39.8*	500
	H / 1.0	Y	32.0	-2.0	30.0	31.6*	
	H / 1.0	Z	32.0	-2.0	30.0	31.6*	
	V / 1.0	X	32.0	-2.0	30.0	31.6*	
	V / 1.0	Y	32.0	-2.0	30.0	31.6*	
7.416	V / 1.0	Z	32.0	-2.0	30.0	31.6*	500
9.888	H / 1.0	X	33.0	-1.9	31.1	35.9*	500
	H / 1.0	Y	33.0	-1.9	31.1	35.9*	
	H / 1.0	Z	33.0	-1.9	31.1	35.9*	
	V / 1.0	X	33.0	-1.9	31.1	35.9*	
	V / 1.0	Y	33.0	-1.9	31.1	35.9*	
9.888	V / 1.0	Z	33.0	-1.9	31.1	35.9*	500
12.36	H / 1.0	X	33.0	3.8	36.8	69.2*	500
	H / 1.0	Y	33.0	3.8	36.8	69.2*	
	H / 1.0	Z	33.0	3.8	36.8	69.2*	
	V / 1.0	X	33.0	3.8	36.8	69.2*	
	V / 1.0	Y	33.0	3.8	36.8	69.2*	
12.36	V / 1.0	Z	33.0	3.8	36.8	69.2*	500
	The frequency range was scanned from 30 MHz to 25GHz. 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)						

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10 (USA)				Job No.	R-9159-2	
Test Sample:	2.4GHz FM Transmitter				Paragraph:	15.249	
Model No.:	VT38A				FCC ID:	B4SVT38A	
Operating Mode:	Continuously Transmitting a 2.472GHz Signal						
Technician:	Peter Lananna				Date:	September 5, 2001	
Notes:	Test Distance: 3 Meters **=Readings taken @ 1 meter, correction factors includes test distance correction. Detector: Peak, Unless otherwise specified						
	Channel D						
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Average Limit
GHz	(V/H)-Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	uV/m
14.83	H / 1.0	X	33.0	10.8	43.8	154.9*	500
	H / 1.0	Y	33.0	10.8	43.8	154.9*	
	H / 1.0	Z	33.0	10.8	43.8	154.9*	
	V / 1.0	X	33.0	10.8	43.8	154.9*	
	V / 1.0	Y	33.0	10.8	43.8	154.9*	
14.83	V / 1.0	Z	33.0	10.8	43.8	154.9*	500
17.30	H / 1.0	X	33.0	15.5	48.5	266.1*	500
	H / 1.0	Y	33.0	15.5	48.5	266.1*	
	H / 1.0	Z	33.0	15.5	48.5	266.1*	
	V / 1.0	X	33.0	15.5	48.5	266.1*	
	V / 1.0	Y	33.0	15.5	48.5	266.1*	
17.30	V / 1.0	Z	33.0	15.5	48.5	266.1*	500
19.78	H / 1.0	X	30.0	22.9	52.9	441.6**	500
	H / 1.0	Y	30.0	22.9	52.9	441.6**	
	H / 1.0	Z	30.0	22.9	52.9	441.6**	
	V / 1.0	X	30.0	22.9	52.9	441.6**	
	V / 1.0	Y	30.0	22.9	52.9	441.6**	
19.78	V / 1.0	Z	30.0	22.9	52.9	441.6**	500
22.25	H / 1.0	X	30.0	23.2	53.2	457.1**	500
	H / 1.0	Y	30.0	23.2	53.2	457.1**	
	H / 1.0	Z	30.0	23.2	53.2	457.1**	
	V / 1.0	X	30.0	23.2	53.2	457.1**	
	V / 1.0	Y	30.0	23.2	53.2	457.1**	
22.25	V / 1.0	Z	30.0	23.2	53.2	457.1**	500
24.72	H / 1.0	X	30.0	23.4	53.4	467.7**	500
	H / 1.0	Y	30.0	23.4	53.4	467.7**	
	H / 1.0	Z	30.0	23.4	53.4	467.7**	
	V / 1.0	X	30.0	23.4	53.4	467.7**	
	V / 1.0	Y	30.0	23.4	53.4	467.7**	
24.72	V / 1.0	Z	30.0	23.4	53.4	467.7**	500
	The frequency range was scanned from 30 MHz to 25GHz. 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)						

EXHIBIT 4

Spurious Emissions

Para. 15.249(c)

Test Method:	FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.209(a)						
Customer:	X-10 (USA)				Job No.	R-9159-2	
Test Sample:	2.4GHz FM Transmitter						
Model No.:	VT38A				FCC ID:	B4SVT38A	
Operating Mode:	Continuously Transmitting a 2.410GHz Signal.						
Technician:	Peter Lananna				Date:	September 5, 2001	
Notes:	Test Distance: 3 Meters Temp:30C Humidity:18% Channel A Detector: Quasi-Peak Below 30 MHz to 1 GHz, Peak above 1 GHz						
Test Freq.	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	<u>LIMIT</u>
MHz	(V/H) /	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30.00							100
1							
88.00							100
88.00							150
1							
No emissions detected at specified test distance.							
1							
216.00							150
216.00							200
1							
960.00							200
960.00							500
1							
1							
25000.0							500
	The EUT was scanned from 30 MHz to 25 GHz						
	The emissions observed from the EUT do not exceed the specified limits. Emissions not recorded						
	were more than 10dB under the specified limit						

Test Method:	FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.209(a)						
Customer:	X-10 (USA)				Job No.	R-9159-2	
Test Sample:	2.4GHz FM Transmitter						
Model No.:	VT38A				FCC ID:	B4SVT38A	
Operating Mode:	Continuously Transmitting a 2.433GHz Signal.						
Technician:	Peter Lananna				Date:	September 5, 2001	
Notes:	Test Distance: 3 Meters Temp:30C Humidity:18% Channel B Detector: Quasi-Peak Below 30 MHz to 1 GHz, Peak above 1 GHz						
Test Freq.	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	<u>LIMIT</u>
MHz	(V/H) /	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30.00							100
1							
88.00							100
88.00							150
1							
No emissions detected at specified test distance.							
1							
216.00							150
216.00							200
1							
960.00							200
960.00							500
1							
1							
25000.0							500
	The EUT was scanned from 30 MHz to 25 GHz						
	The emissions observed from the EUT do not exceed the specified limits. Emissions not recorded						
	were more than 10dB under the specified limit						

Test Method:	FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.209(a)						
Customer:	X-10 (USA)				Job No.	R-9159-2	
Test Sample:	2.4GHz FM Transmitter						
Model No.:	VT38A				FCC ID:	B4SVT38A	
Operating Mode:	Continuously Transmitting a 2.472GHz Signal.						
Technician:	Peter Lananna				Date:	September 5, 2001	
Notes:	Test Distance: 3 Meters Temp:30C Humidity:18% Channel D Detector: Quasi-Peak Below 30 MHz to 1 GHz, Peak above 1 GHz						
Test Freq.	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	<u>LIMIT</u>
MHz	(V/H) /	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30.00							100
1							
88.00							100
88.00							150
1							
No emissions detected at specified test distance.							
1							
216.00							150
216.00							200
1							
960.00							200
960.00							500
1							
1							
25000.0							500
	The EUT was scanned from 30 MHz to 25 GHz						
	The emissions observed from the EUT do not exceed the specified limits. Emissions not recorded						
	were more than 10dB under the specified limit						

EXHIBIT 4

Occupied Bandwidth

Para. 15.249(c)

(See separate e-file attachment named Occbw.pdf)

EXHIBIT 4

Conducted Emissions

Para. 15.207(a)

(See separate e-file attachment named CEdata.pdf)

EQUIPMENT LIST

FCC Part 15 Subpart C Compliance Testing						
EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
062	High Gain Horn Antenna	Microlab/FXR	1.7 GHz - 2.6 GHz	R638A	10/11/00	10/11/01
067	Open Area Test Site	Retlif	3 Meter	RNY	9/20/00	9/20/03
077	LISN	Solar Electronics	10 kHz - 30 MHz	8028-50-TS24BNC	2/9/01	2/9/02
079	LISN	Solar Electronics	10 kHz - 30 MHz	8028-50-TS24BNC	5/2/01	5/2/02
091	Shielded Enclosure	Retlif	10 kHz - 1 GHz	Room 6	8/20/01	8/20/02
128C	Double Ridge Guide	Eaton Corporation	1 GHz - 18 GHz	96001	9/18/00	9/18/01
129E	High Gain Horn Antenna	Microlab/FXR	18 GHz - 26.5 GHz	K638A	9/18/00	9/18/01
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/13/01	6/13/02
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	7/2/01	1/2/02
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	3/5/01	3/5/02
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	2/20/01	1/2/02
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/13/01	6/13/02
420	Amplifier	Hewlett Packard	2.0 GHz - 18 GHz	11975A	9/29/00	9/29/01
421	Harmonic Mixer	Hewlett Packard	18 GHz - 26.5 GHz	11970K	9/29/00	9/29/01
512	Graphics Plotter	Hewlett Packard	N/A	7470A	11/13/00	11/13/01
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	6/8/00	9/8/01
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	6/27/01	6/27/02
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	2/27/01	2/27/02
7016	EMC Analyzer	Hewlett Packard	9kHz - 1.8GHz	8591EM	3/6/01	3/6/02
7017	Transient Limiter	Hewlett Packard	9kHz - 200MHz	11947A	4/9/01	4/9/02

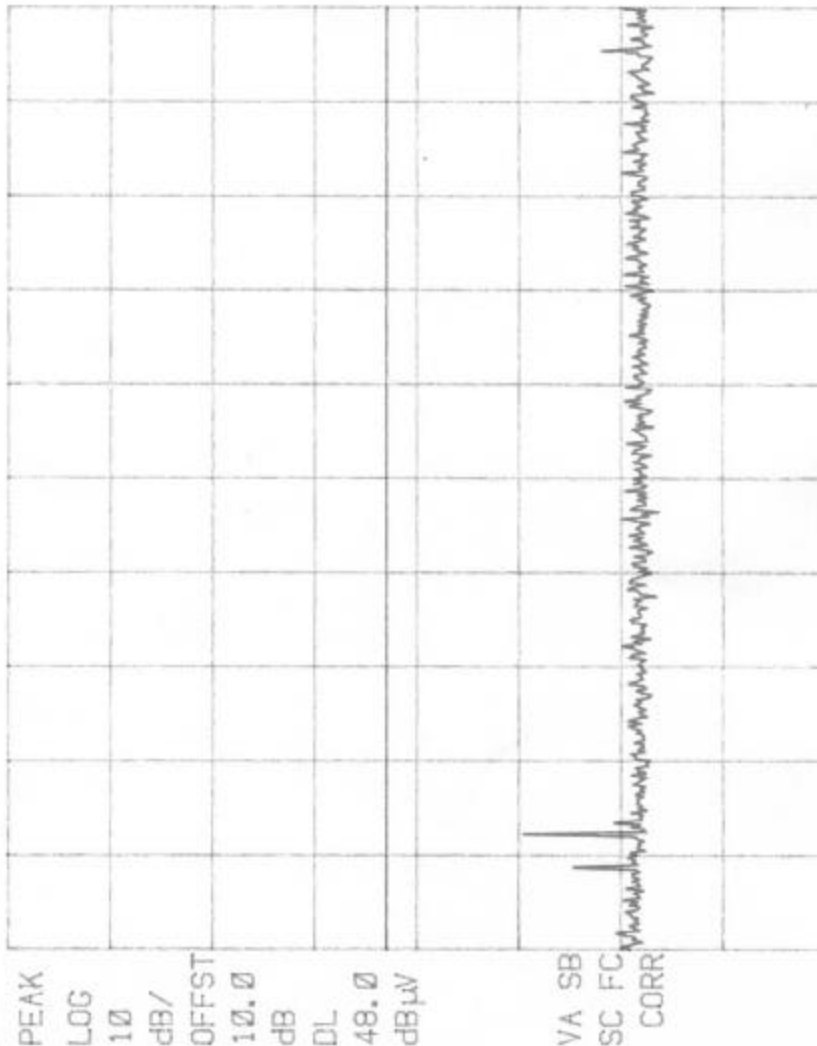
Test Setup Photographs



Test Setup Photographs



16:26:00 SEP 04, 2001
 R-9159-2 X-10 VT38A 2.4G Tx Conducted Emissions Lead-Hot
 REF 85.0 dBμV AT 10 dB



START 450 kHz
 #RES BW 10 kHz
 STOP 30.00 MHz
 #SWP 20.0 sec
 VBW 10 kHz

Customer:	X-10 (USA)
Test Sample:	2.4 GHz Transmitter
Model No.:	VT38A
Test Method:	FCC 15.207 (a) Conducted Emissions (450 kHz to 30 MHz)
Notes:	Lead Tested: CHA, Hot Detector Function: Peak FCC ID: B43VT38A
Date:	September 4, 2001
Tech:	N. Dragotta
Sheet:	1 of 2



Retlif Testing Laboratories
 Report No. R-9159-2

16:30:44 SEP 04, 2001
 R-9159-2 X-10 VT38A 2.4G Tx Conducted Emissions Lead-Neutral
 REF 85.0 dBμV AT 10 dB



START 450 kHz
 #RES BW 10 kHz
 STOP 30.00 MHz
 #SWP 20.0 sec

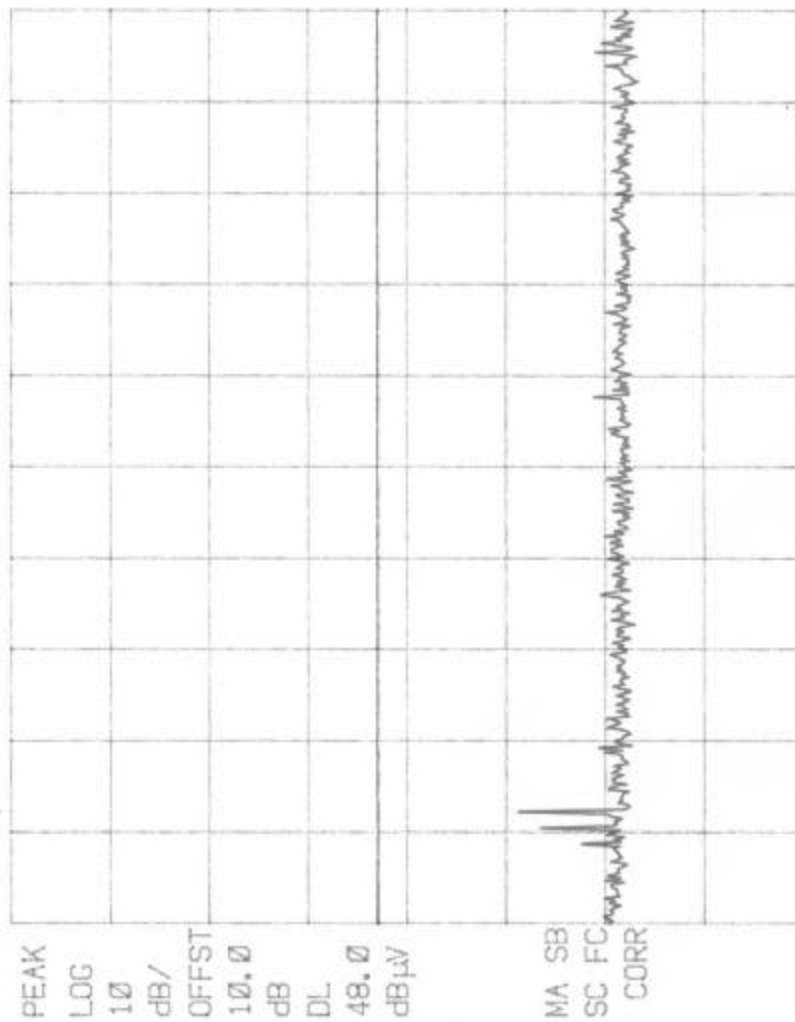
Customer:	X-10 (USA)
Test Sample:	2.4 GHz Transmitter
Model No.:	VT38A
Test Method:	FCC 15.207 (a) Conducted Emissions (450 kHz to 30 MHz)
Noise:	Lead Tested: GR A, Neutral
	Detector Function: Peak
FCC ID: R45VT38A	
Date:	September 4, 2001
Test:	PL Dragota
Sheet:	2 of 2



Retlif Testing Laboratories

Report No. R-9159-2

16:19:39 SEP 04, 2001
 R-9159-2 X-10 VT38A 2.4G Tx Conducted Emissions Lead-Hor
 REF 85.0 dBμV AT 10 dB



START 450 kHz #RES BW 10 kHz
 STOP 30.00 MHz #SWP 20.0 sec

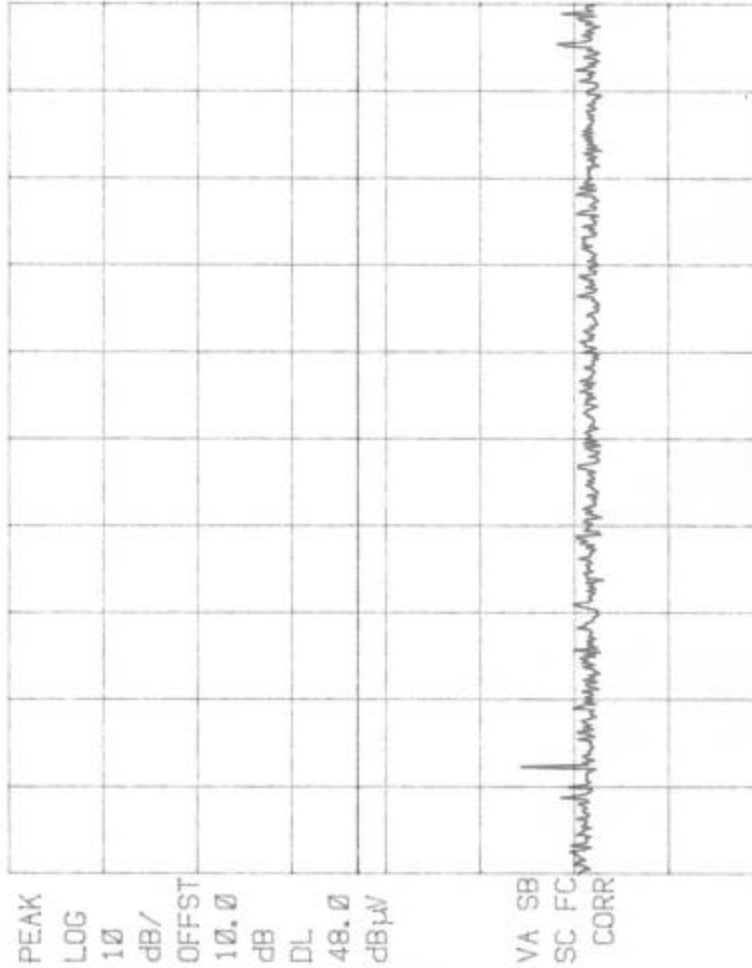
Customer:	X-10 (USA)
Test Sample:	2.4 GHz Transmitter
Model No.:	VT38A
Test Method:	FCC 15.207 (a) Conducted Emissions (400 kHz to 30 MHz)
Notes:	Lead Tested: CH B, Hot Detector Function: Peak
FCC ID: B45VT38A	
Date:	September 4, 2001
Tech:	N. Dragotta
Sheet:	1 of 2



Retlif Testing Laboratories

Report No. R-9159-2

16:15:02 SEP 04, 2001
 R-9159-2 X-10 VT38A 2.4G Tx Conducted Emissions Lead-Neutral
 REF 85.0 dBμV AT 10 dB



START 450 kHz STOP 30.00 MHz
 #RES BW 10 kHz #SWP 20.0 sec

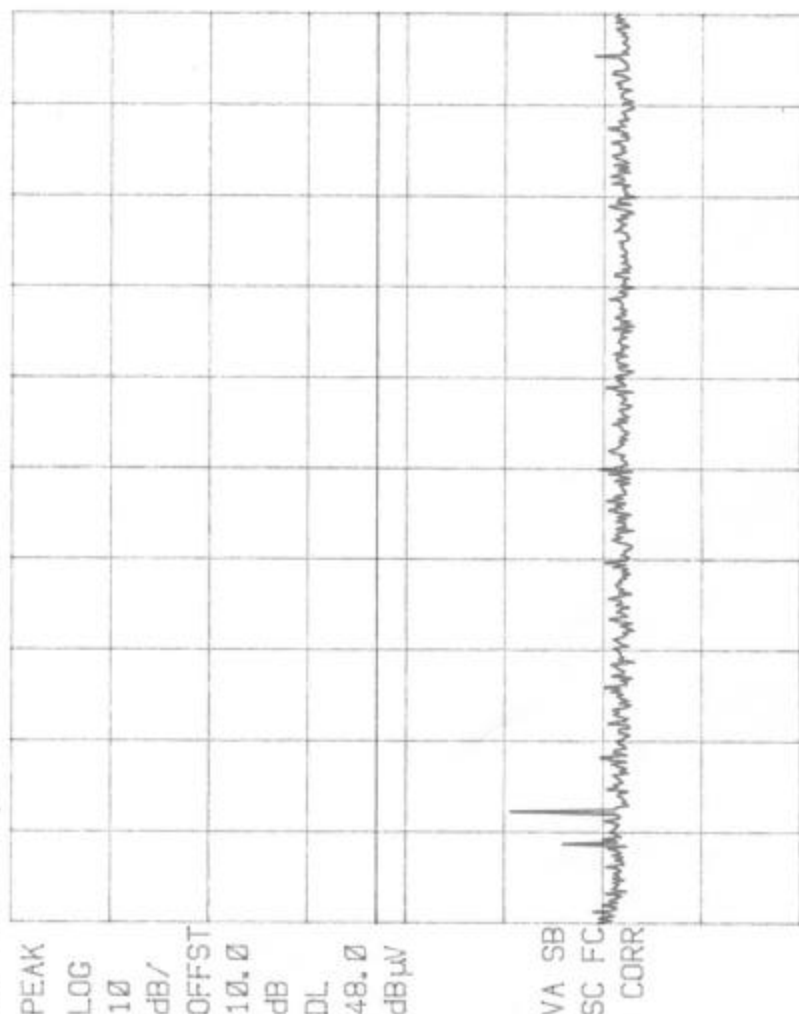
Customer:	X-10 (USA)
Test Sample:	2.4 GHz Transmitter
Model No.:	VT38A
Test Method:	FCC 15.207 (a) Conducted Emissions (450 kHz to 30 MHz)
Notes:	Lead Tested: CH B, Neutral Detector Function: Peak
FCC ID: 243 VT38A	
Date:	September 4, 2001
Tech:	N. Dragoshe
Sheet:	2 of 2



Retlif Testing Laboratories

Report No. R-9159-2

16:06:03 SEP 04, 2001
 R-9159-2 X-10 VT38A 2.4G Tx Conducted Emissions Lead - Hot
 REF 85.0 dBμV AT 10 dB



START 450 kHz
 #RES BW 10 kHz
 STOP 30.00 MHz
 #SWP 20.0 sec
 VBW 10 kHz

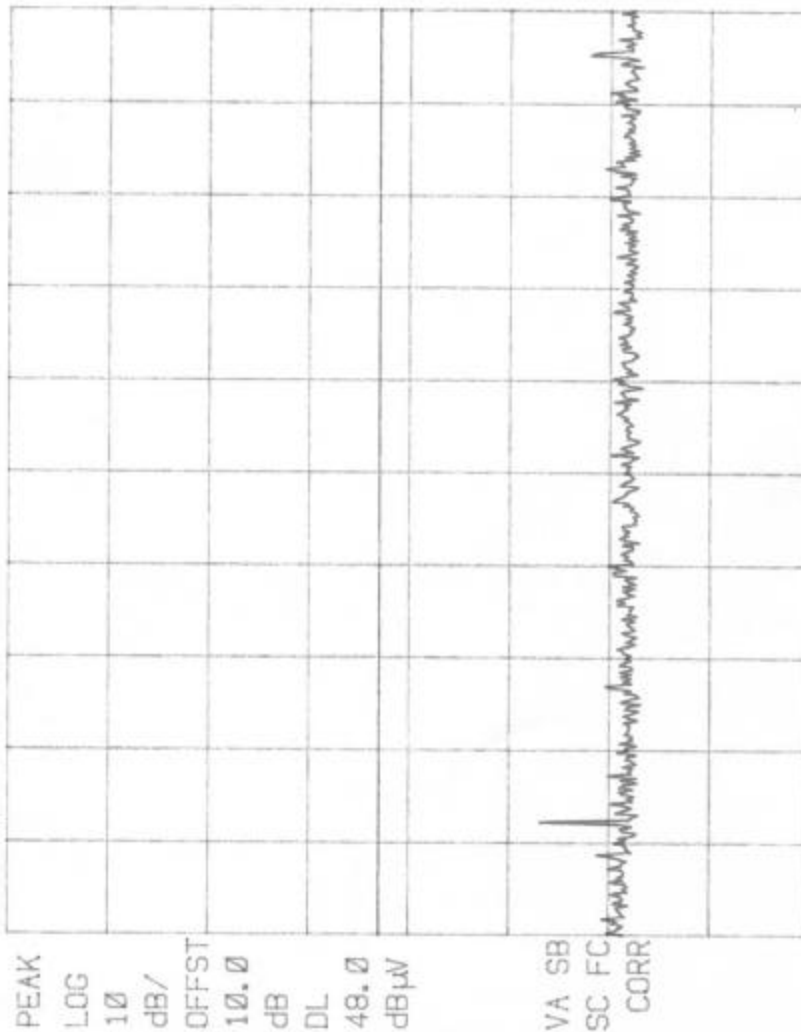
Customer:	X-10 (USA)
Test Sample:	2.4 GHz Transmitter
Model No:	VT38A
Test Method:	FCC 15.207 (a) Conducted Emissions (450 kHz to 30 MHz)
Notes:	Lead Tested: CH D, Hot Detector Function: Peak
FCC ID: B43VT38A	
Date: September 4, 2001	Tech: N. Dragotta
Sheet: 1 of 2	



Retlif Testing Laboratories

Report No. R-9159-2

16:08:27 SEP 04, 2001
 R-9159-2 X-10 VT38A 2.4G Tx Conducted Emissions Lead - Neutral
 REF 85.0 dBμV AT 10 dB



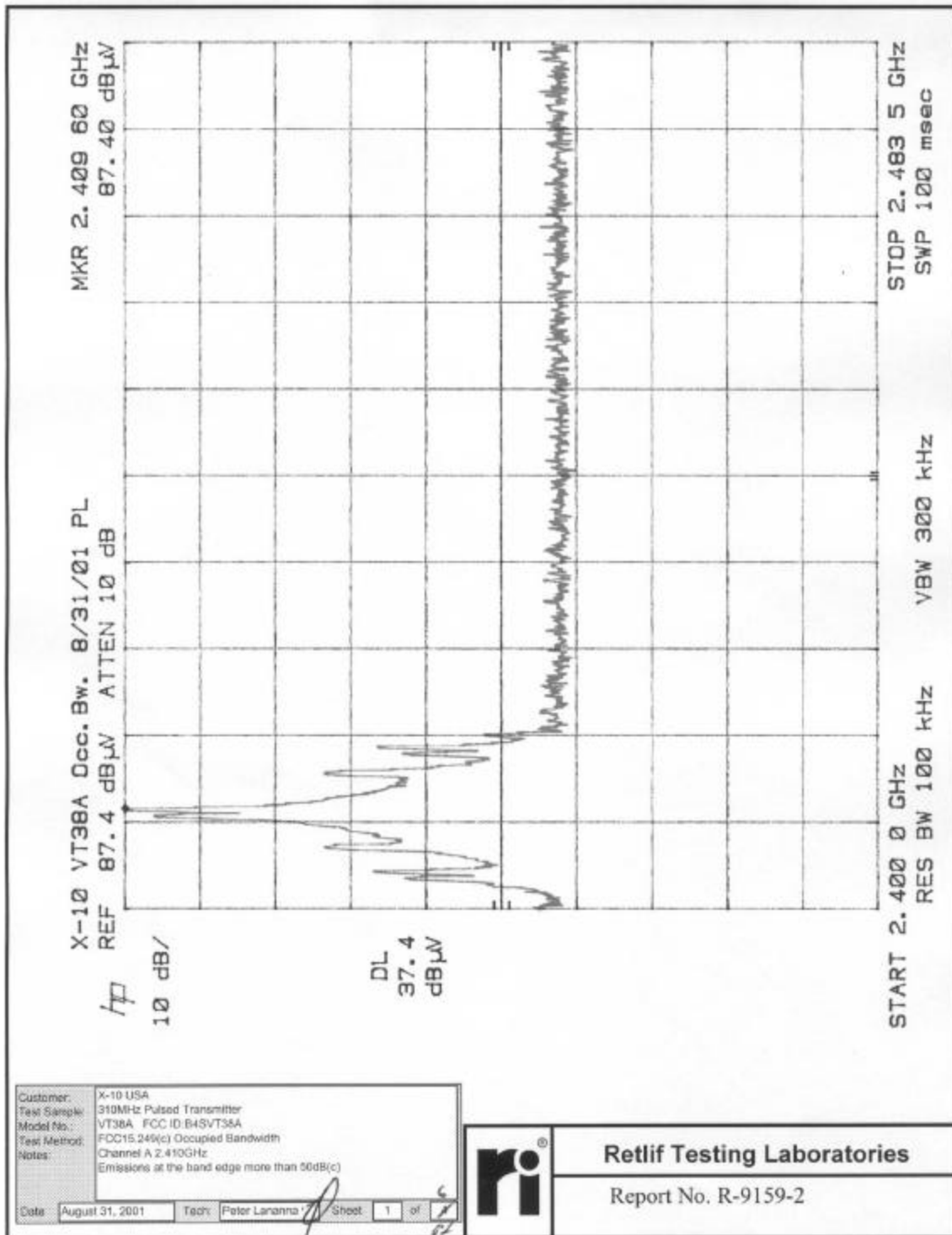
START 450 kHz
 #RES BW 10 kHz
 STOP 30.00 MHz
 #SWP 20.0 sec
 VBW 10 kHz

Customer:	X-10 (USA)
Test Sample:	2.4 GHz Transmitter
Model No.:	VT38A
Test Method:	FCG 15.207 (a) Conducted Emissions (450 kHz to 30 MHz)
Notes:	Lead Tested: CH D, Neutral Detector Function: Peak
ECC ID: 043VT38A	
Date:	September 4, 2001
Tech:	NL Dragotta
Sheet:	2 of 2



Retlif Testing Laboratories

Report No. R-9159-2



MKR 2.434 24 GHz
 REF 86.1 dB μ V
 ATTN 10 dB

X-10 VT38A Occ. Bw. 8/31/01 PL
 REF 86.1 dB μ V ATTN 10 dB

10 dB/

DL
 36.0
 dB μ V



STOP 2.483 5 GHz
 SWP 100 msec

VBW 300 kHz

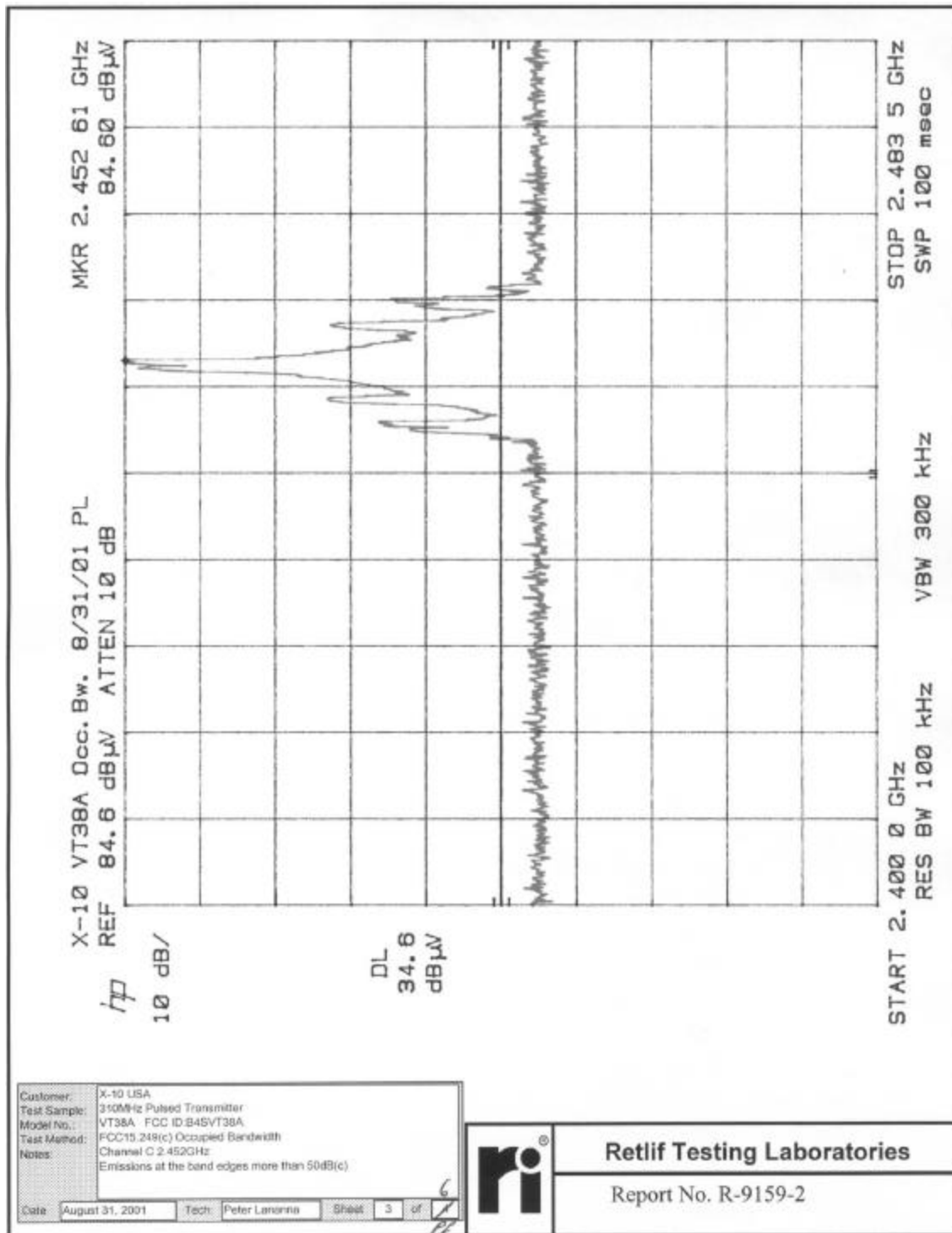
START 2.400 0 GHz
 RES BW 100 kHz

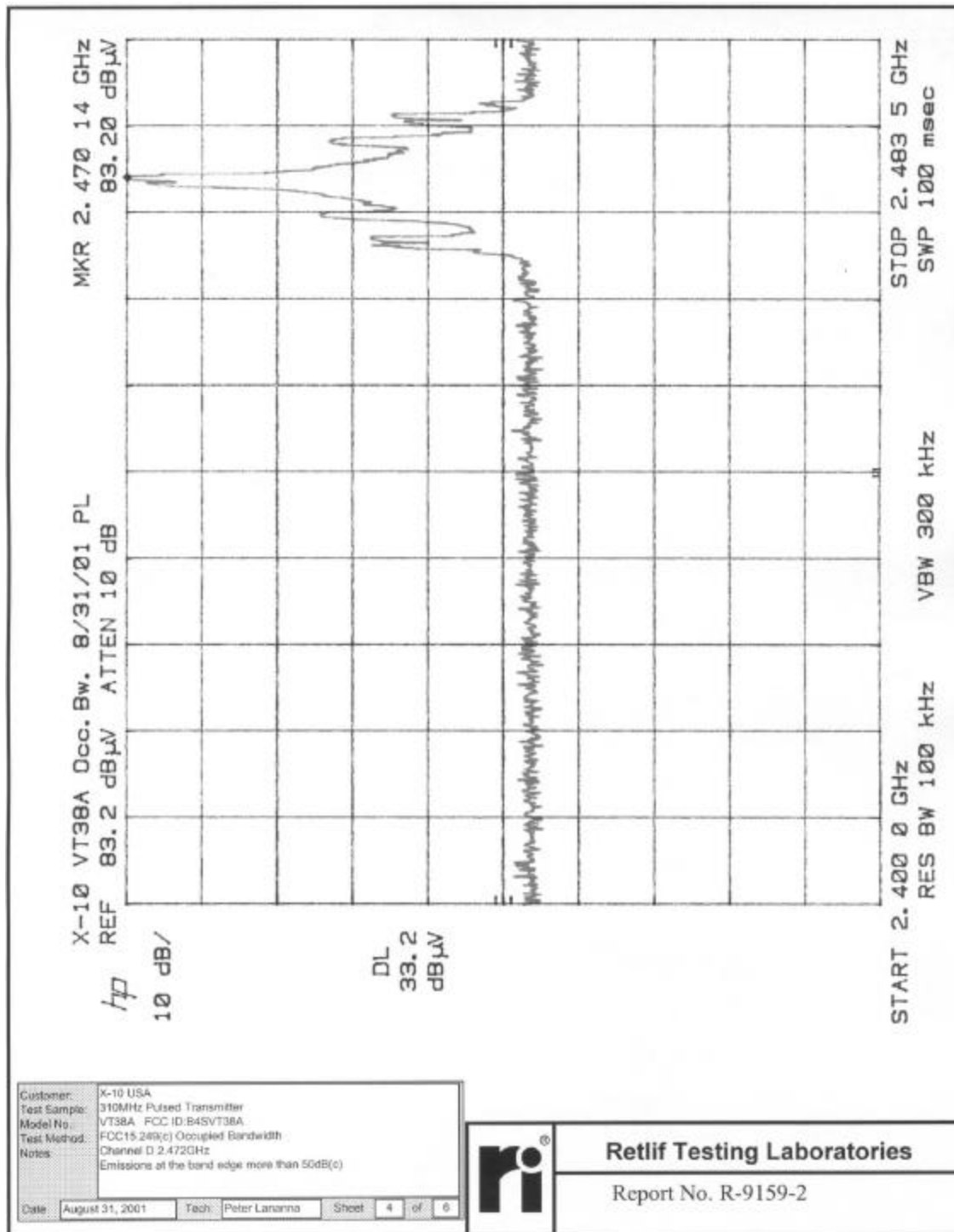
Customer:	X-10 USA
Test Sample:	310MHz Pulsed Transmitter
Model No.:	VT38A FCC ID: B45VT38A
Test Method:	FCC15.249(c) Occupied Bandwidth
Notes:	Channel B 2.433GHz Emissions at the band edges more than 50dB(c)
Date:	August 31, 2001
Tech:	Peter Lananna
Sheet:	2 of 2



Retlif Testing Laboratories

Report No. R-9159-2





Retlif Testing Laboratories

Report No. R-9159-2

MR 2.400 00 GHz
31.50 dBμV

X-10 VT38A Dcc.Bw. 8/31/01 PL
REF 87.4 dBμV ATTN 10 dB

hp

10 dB/

MARKER
2.400 00 GHz
31.50 dBμV

DL
37.4
dBμV

STOP 2.493 5 GHz
SWP 100 mhz

VBW 300 kHz

START 2.390 0 GHz
RES BW 100 kHz

Customer:	X-10 USA
Test Sample:	310MHz Pulsed Transmitter
Model No.:	VT38A - FCC ID B45VT38A
Test Method:	FCC15.249(c) Occupied Bandwidth
Notes:	Channel A 2.410GHz Emissions outside the band, 2.4-2.4835GHz more than 50dB(c)
Date:	August 31, 2001
Tech:	Peter Lianina
Sheet:	5 of 6



Retlif Testing Laboratories

Report No. R-9159-2

