

<u>APPLICANT</u>	<u>MANUFACTURER</u>
X-10 USA, Inc. 91 Ruckman Road Closter, NJ 07624	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: VT36A FCC ID: B4SVT36A

TYPE: 2.4 GHz FM Transmitter

FREQUENCY RANGE: 2410 to 2472 MHZ

POWER REQUIREMENTS: 12 VDC derived from an AC Adapter

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: B4SVT36A
Power Requirements: 12 VDC derived from an AC Adapter
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

Para. 15.249(a)

(See separate e-file attachments named REFundHarm.doc)

EXHIBIT 4

Spurious Emissions

Para. 15.249(c)

(See separate e-file attachment RESpur.doc)

EXHIBIT 4

Occupied Bandwidth

Para. 15.249(c)

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

EXHIBIT 4

Conducted Emissions

Para. 15.207(a)

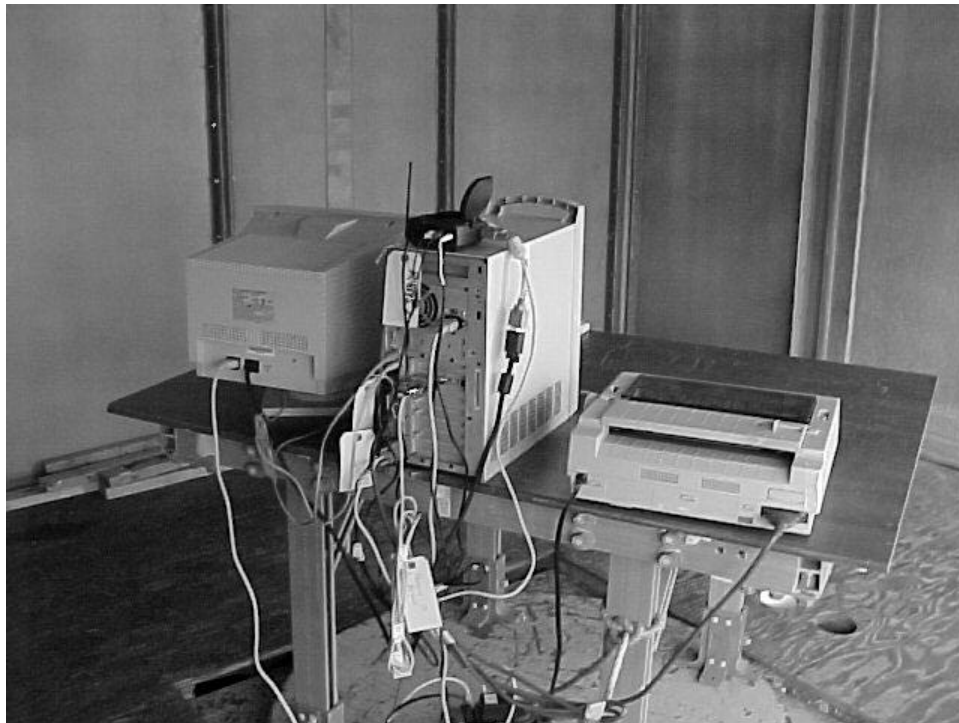
(See separate e-file attachment named CEdata.pdf)

EQUIPMENT LIST

FCC 15.249 Compliance Testing

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3 Meter	RNY	9/20/00	9/20/03
076	LISN	Solar Electronics	10 kHz - 30 MHz	8012-50-R-24BNC	2/9/01	2/9/02
088A	Conical Log Spiral	Electro-Mechanics	200 MHz - 1 GHz	3101	1/3/01	1/3/02
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	6/13/00	6/13/01
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	2/20/01	8/20/01
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	8/20/01
202	Transient Limiter	Hewlett Packard	.009 MHz - 200 MHz	11947A	7/24/00	7/24/01
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/13/00	6/13/01
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
456	LISN	Solar Electronics	DC - 60 Hz	9409-50-R-24	7/26/00	7/26/01
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	6/8/00	6/8/01
530	AM/FM Signal Generator	Marconi Instru.	10 kHz - 1.2 GHz	2023	5/1/00	5/1/01
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	6/16/99	6/16/01
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	2/27/01	2/27/02

Test Setup Photographs

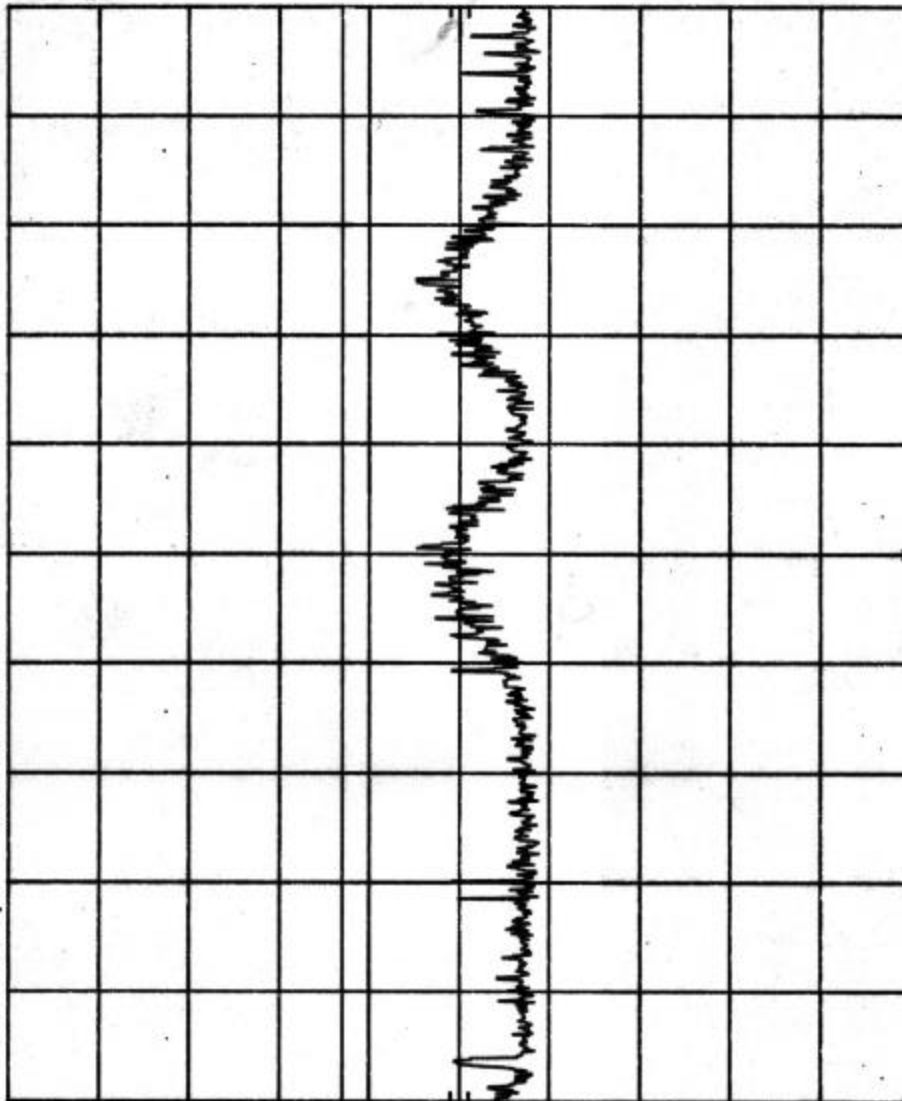


R-8957 X-10 VT36A Conducted Emissions 4/25/01 PL LEAD-HOT
 REF 85.0 dBμV ATTEN 10 dB

hp
 10 dB/

OFFSET
 10.0
 dB

DL
 48.0
 dBμV



START 450 kHz RES BW 10 kHz VBW 30 kHz STOP 30.0 MHz
 SWP 20.0 sec

Customer:	X-10 USA
Test Sample:	2.4GHz FM Transmitter
Model No.:	VT36A
Test Method:	FCC 15.207(a) Conducted Emissions, 450kHz to 30MHz
Notes:	Lead-HOT Channel A= 2.410GHz Detector=Peak
Date:	April 25, 2001
Tech:	Peter Lananna
Sheet	1 of 6



Retlif Testing Laboratories

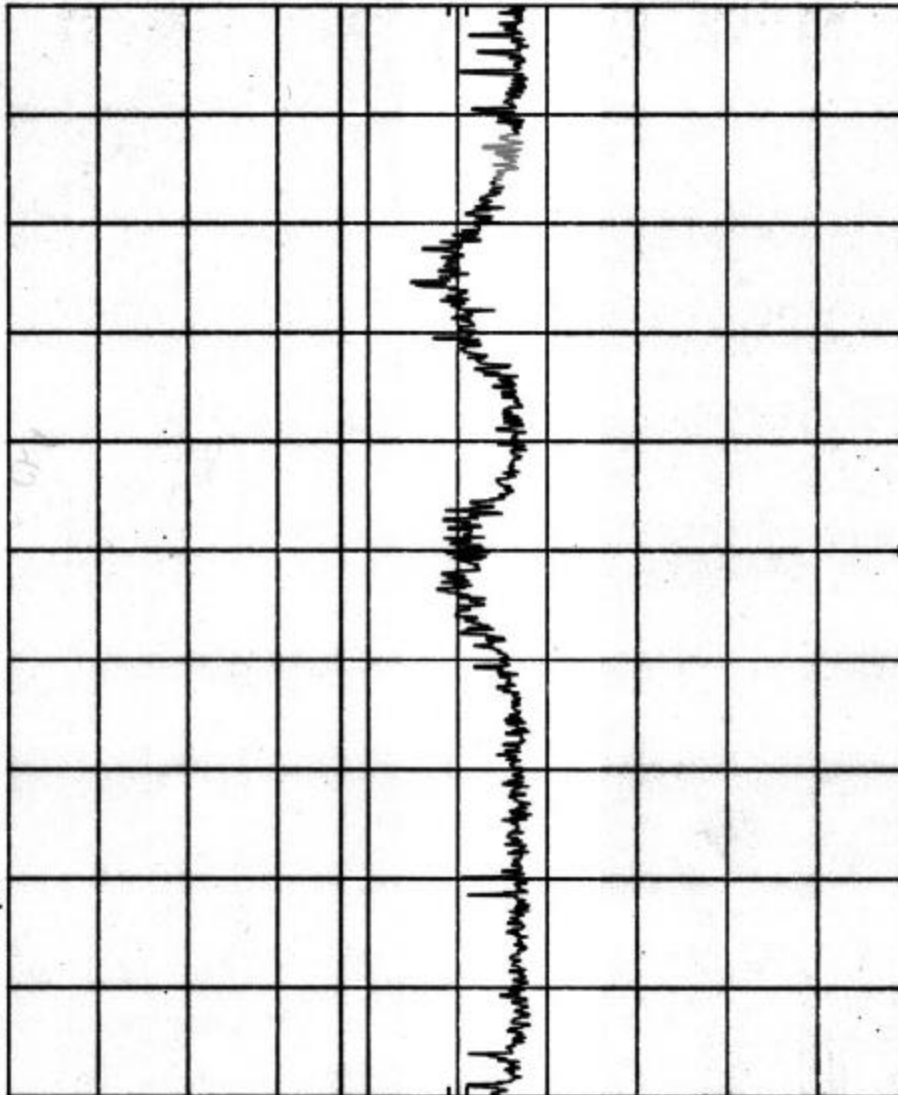
Report No. R-8957-2

R-8957 X-10 VT36A Conducted Emissions 4/25/01 PL LEAD-Neutral
 REF 85.0 dBμV ATTEN 10 dB

HP
 10 dB/

OFFSET
 10.0
 dB

DL
 48.0
 dBμV



START 450 kHz RES BW 10 kHz VBW 30 kHz STOP 30.0 MHz SWP 20.0 sec

Customer:	X-10 USA
Test Sample:	2.4GHz FM Transmitter
Model No.:	VT36A
Test Method:	FCC 15.207(a) Conducted Emissions, 450kHz to 30MHz
Notes:	Lead-NEUTRAL
	Channel A= 2.410GHz
	Detector=Peak
Date:	April 25, 2001
Tech:	Peter Lananna
Sheet:	2 of 6



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Report No. R-8957-2

R-8957 X-10 VT36A Conducted Emissions 4/25/01 PL LEAD-



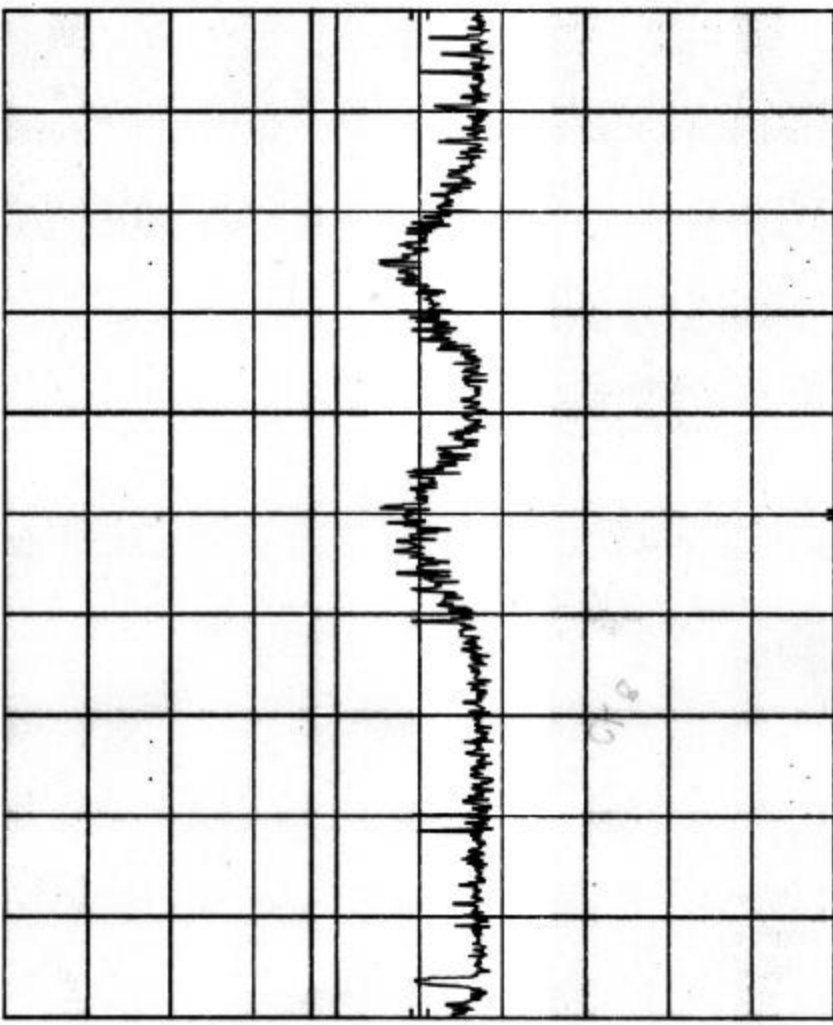
10 dB/

OFFSET

10.0
dB

DL

48.0
dBμV



START 450 kHz

RES BW 10 kHz

VBW 30 kHz

STOP 30.0 MHz

SWP 20.0 sec

Customer:	X-10 USA
Test Sample:	2.4GHz FM Transmitter
Model No.:	VT36A
Test Method:	FCC 15.207(a) Conducted Emissions, 450kHz to 30MHz
Notes:	Lead-HOT
	Channel B= 2.433GHz
	Detector=Peak
Date:	April 25, 2001
Tech:	Peter Lannos
Sheet	3 of 6



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Report No. R-8957-2

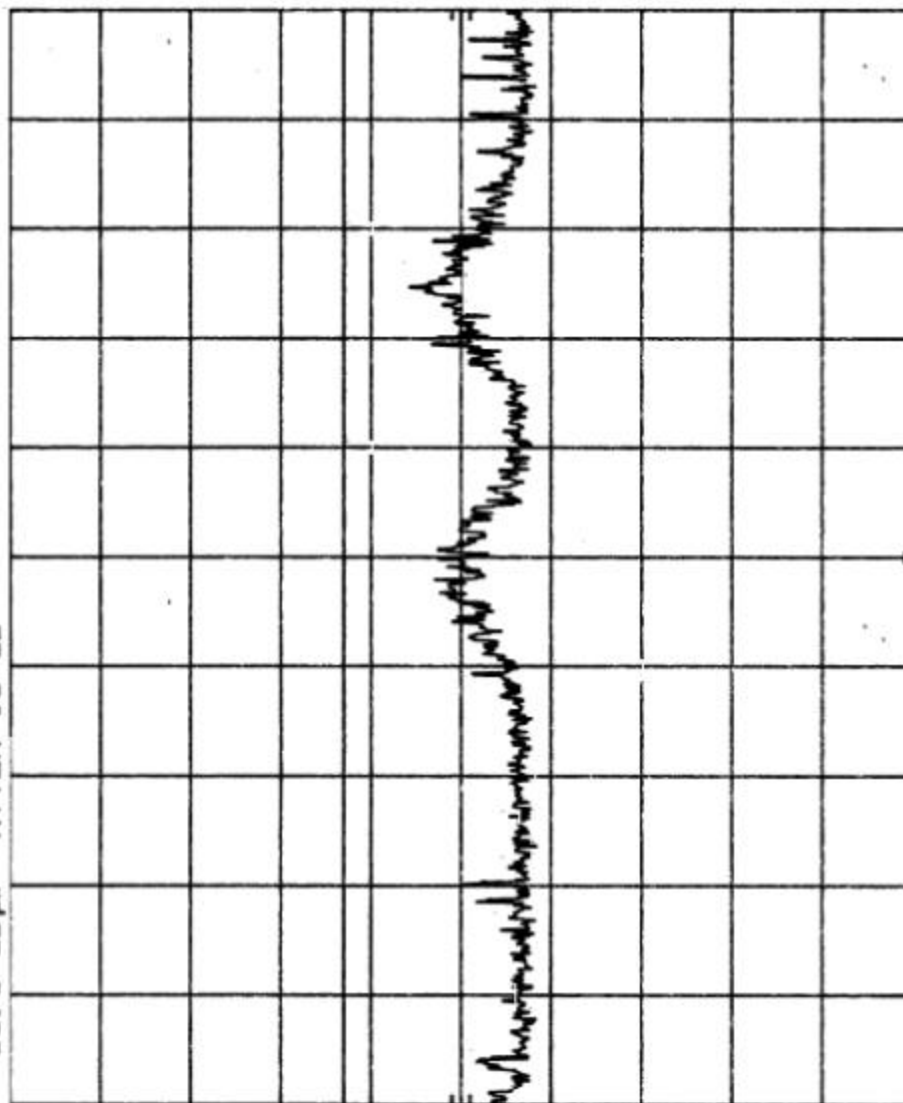
R-8957 X-10 VT36A Conducted Emissions 4/25/01 PL LEAD-North

hp

10 dB/

OFFSET
10.0
dB

DL
48.0
dBμV



START 450 kHz RES BW 10 kHz VBW 30 kHz STOP 30.0 MHz SWP 20.0 sec

Customer:	X-10 USA
Test Sample:	2.4GHz FM Transmitter
Model No.:	VT36A
Test Method:	FCC 15.207(a) Conducted Emissions, 450kHz to 30MHz
Notes:	Lead-NEUTRAL Channel B= 2.433GHz Detector=Peak
Date:	April 25, 2001
Technician:	Peter Lanza
Sheet:	4 of 8



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Report No. R-8957-2

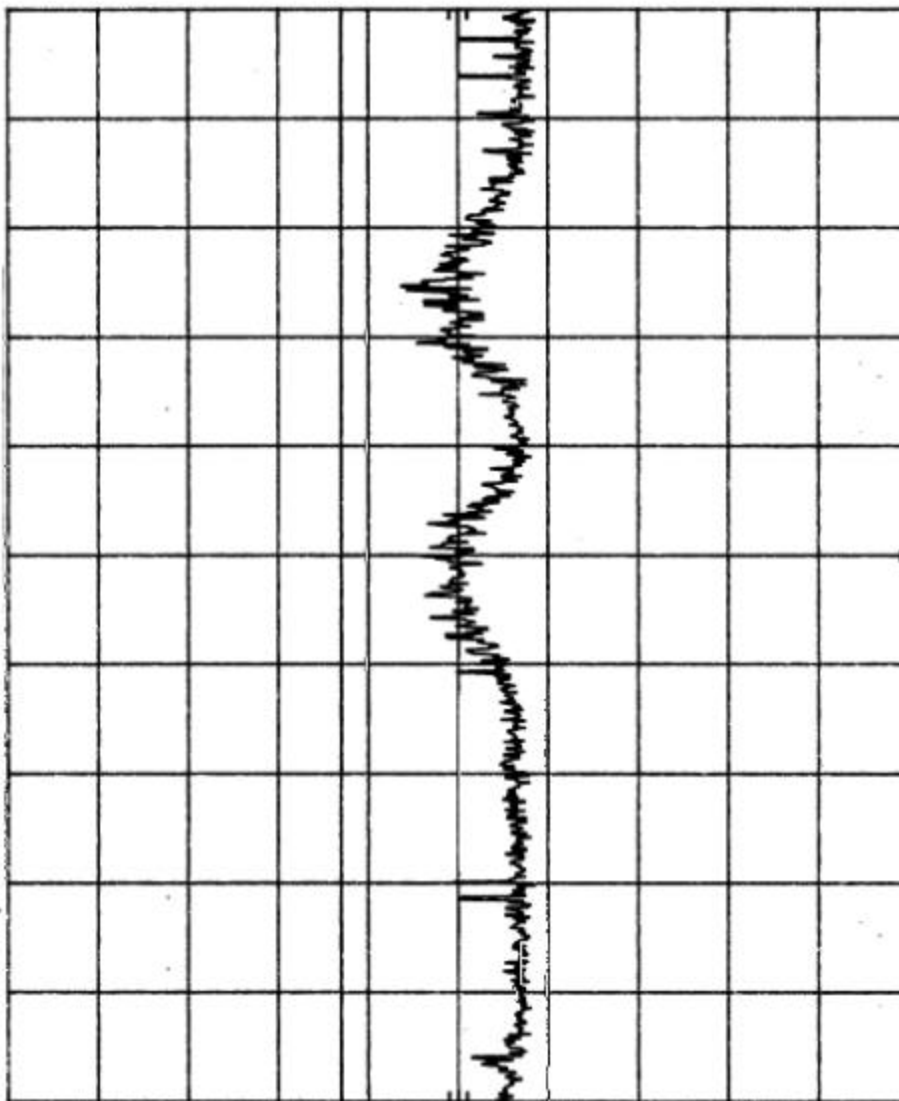
R-8957 X-10 VT36A Conducted Emissions 4/25/01 PL LEAD-1/1
 REF 85.0 dBμV ATTEN 10 dB

hp

10 dB/

OFFSET
 10.0
 dB

DL
 48.0
 dBμV



START 450 kHz RES BW 10 kHz VBW 30 kHz STOP 30.0 MHz
 SWP 20.0 sec

Customer:	JL-10 USA
Test Sample:	2.4GHz FM Transmitter
Model No.:	VT36A
Test Method:	FCC 15.207(a) Conducted Emissions, 450kHz to 30MHz
Notes:	Lead-HOT Channel D= 2.472GHz Detector: Peak
Date:	April 25, 2001
Tech:	Peter Lianina
Sheet	5 of 6



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Report No. R-8957-2

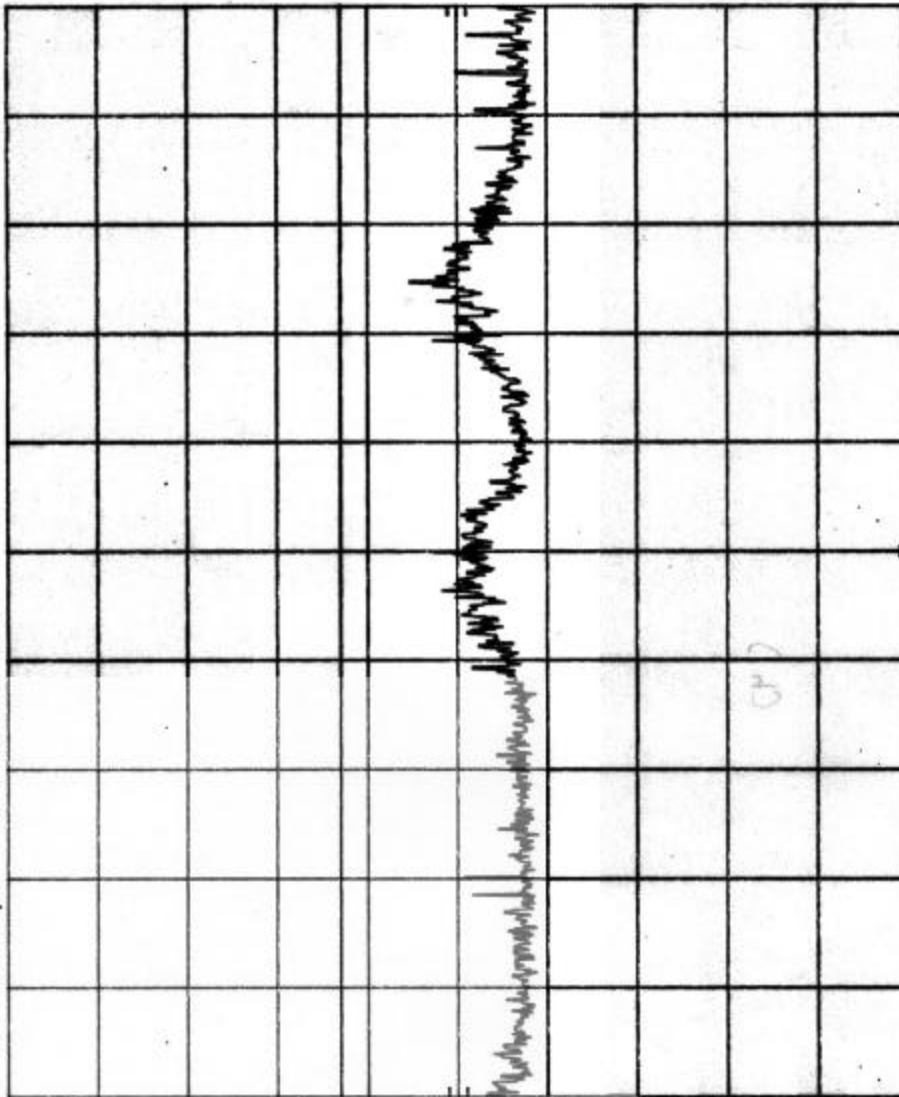
R-8957 X-10 VT36A Conducted Emissions 4/25/01 PL LEAD-Neutral

hp

10 dB/

OFFSET
10.0
dB

DL
48.0
dBμV



START 450 kHz
RES BW 10 kHz
VBW 30 kHz
SWP 20.0 sec
STOP 30.0 MHz

Customer:	X-10 USA
Test Sample:	2.4GHz FM Transmitter
Model No.:	VT36A
Test Method:	FCC 15.207(a) Conducted Emissions, 450kHz to 30MHz
Notes:	Lead-NEUTRAL Channel D= 2.472GHz Detector=Peak
Date:	April 25, 2001
Tech:	Peter Laranna
Sheet:	6 of 6



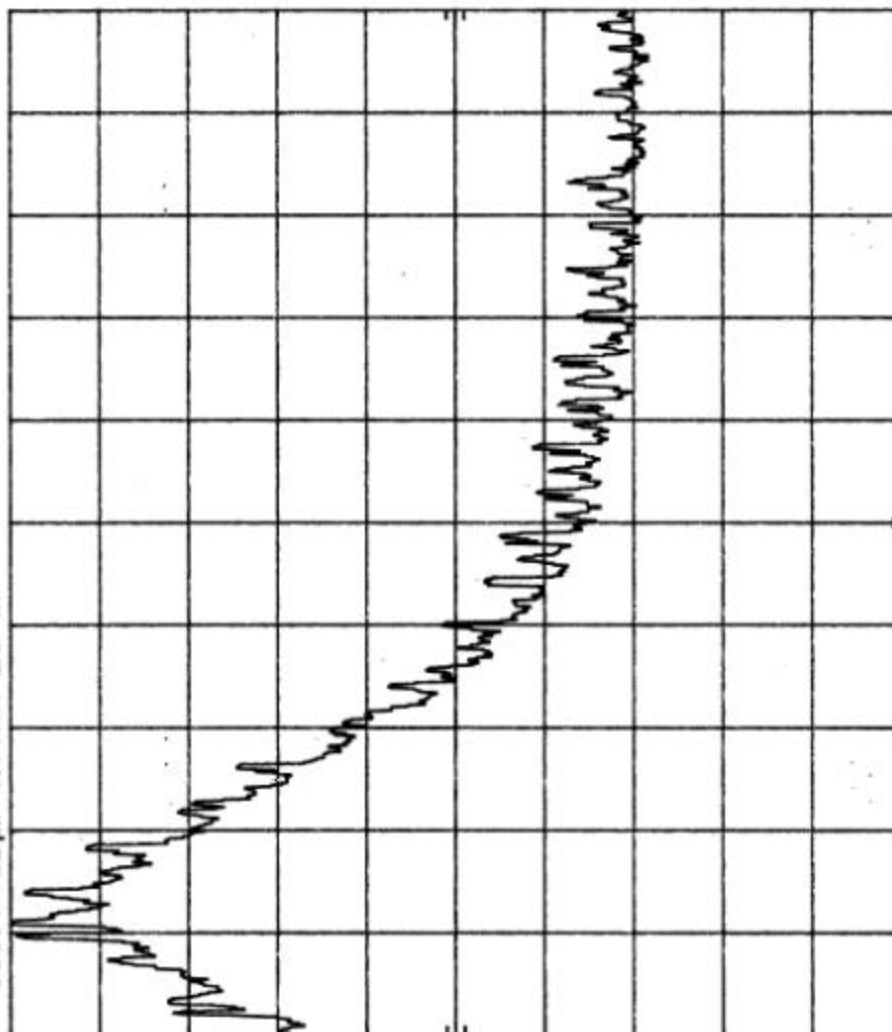
Retlif Testing Laboratories

Report No. R-8957-2

R-8957 X-10 VT36A Occ. Bw. 4/27/01 PL Channel A
 REF 113.3 dBμV ATTEN 20 dB

hp
 10 dB/

DL
 63.3
 dBμV



STOP 2.483 5 GHz
 SWP 25.1 mhz

VBW 300 kHz

START 2.400 0 GHz
 RES BW 100 kHz

Customer:	X-10 USA
Test Sample:	2.4 GHz Transmitter
Model No.:	VT36A FCC ID: B451736A
Test Method:	15.249(c) <i>Occupied Bandwidth</i>
Notes:	Channel: A(2.410 GHz) See spurious radiated emissions for lower bandedge compliance
Date:	April 27, 2001
Tech:	P Lananna
Sheet	1 of 3



Retlif Testing Laboratories

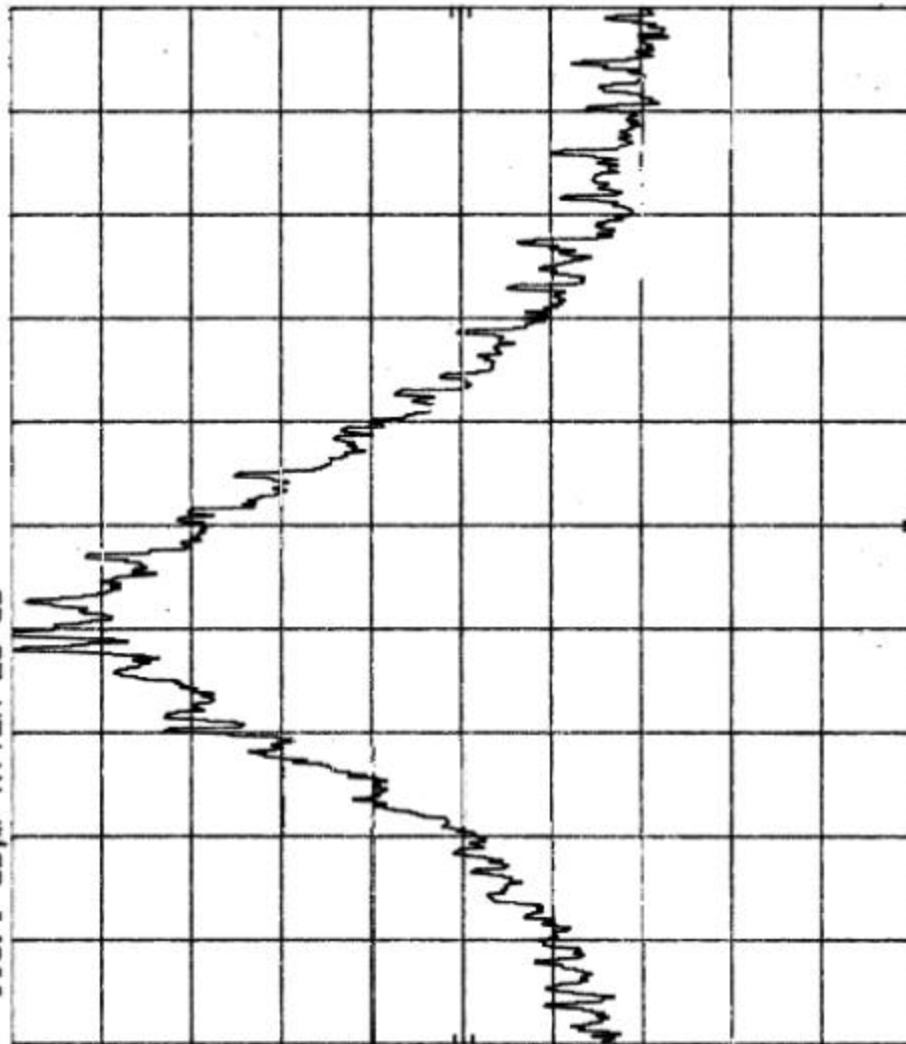
Report No. R-8957-2

R-8957 X-10 VT36A Occ. Bw. 4/27/01 PL Channel B

REF 115.1 dB μ V ATTEN 20 dB

hp 10 dB/

DL 65.1 dB μ V



STOP 2.483 5 GHz
SWP 25.1 mhz

VBW 300 kHz

START 2.400 0 GHz
RES BW 100 kHz

Customer:	X-10 USA
Test Sample:	2.4 GHz Transmitter
Model No.:	VT36A FCC ID: B45VT36A
Test Method:	15.249(c) Occupied bandwidth
Notes:	Channel: B(2.433 GHz) Emissions > 50 dB down at bandedges
Date:	April 27, 2001
Tech:	P Lananna
Sheet:	2 of 3



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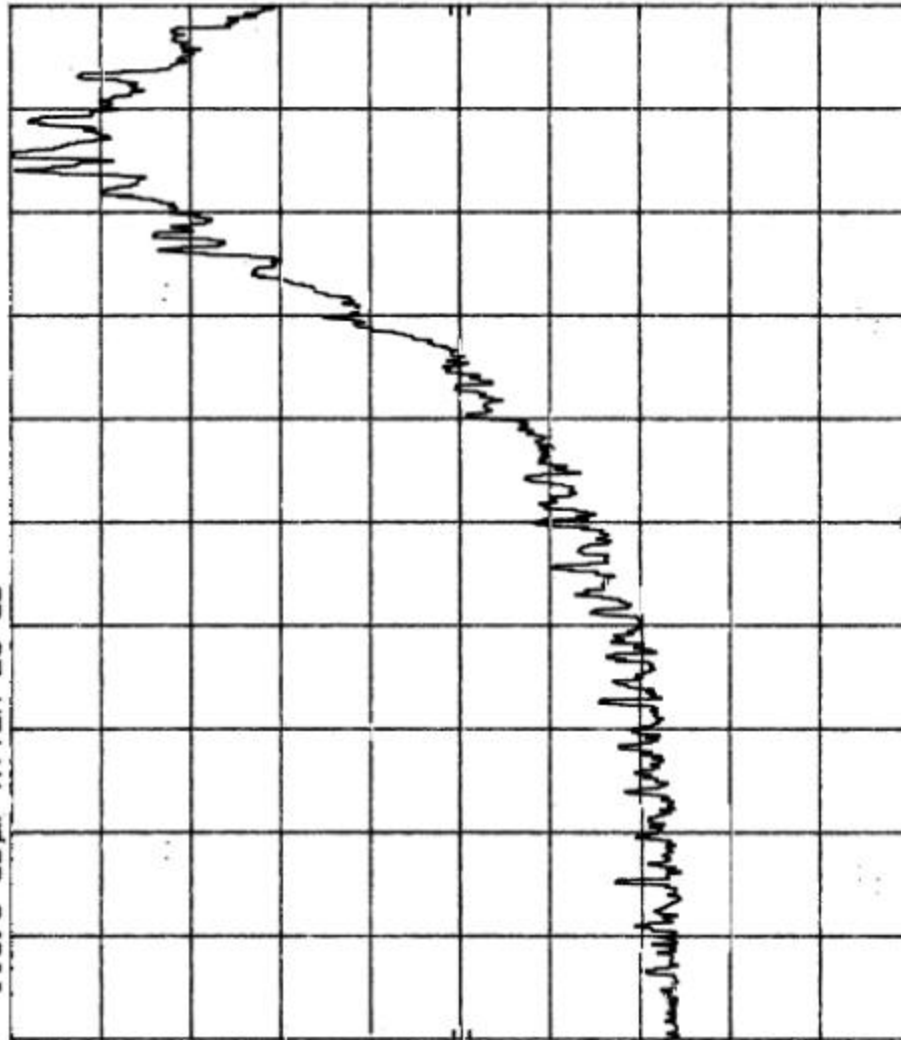
Report No. R-8957-2

R-8957 X-10 VT36A Occ. Bw. 4/27/01 PL Channel D

REF 116.3 dBμV ATTEN 20 dB

hp 10 dB/

DL 66.3 dBμV



STOP 2.483 5 GHz
SWP 25.1 mhz

VBW 300 kHz

START 2.400 0 GHz
RES BW 100 kHz

Customer:	X-10 USA
Test Sample:	2.4 GHz Transmitter
Model No.:	VT36A FCC ID: B4SYT36A
Test Method:	15.249(c) <i>Occupied Bandwidth</i>
Notes:	Channel D(2.472 GHz)
See spurious radiated emissions for upper bandedge compliance	
Date:	April 27, 2001
Tech:	P. Lananna
Sheet:	3 of 3



Retlif Testing Laboratories

Report No. R-8957-2

Test Method:		FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions					
Customer:		X-10 USA			Job No.		R-8957-2
Test Sample:		2.4GHz FM Transmitter			Paragraph:		15.249
Model No.:		VT36A			FCC ID:		B4SVT36A
Operating Mode:		Continuously Transmitting a 2.410GHz Signal					
Technician:		Peter Lananna			Date:		March 30, 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 / 2.3	X	82.4	3.0	85.4	18620.9	50000
	H / 2.3	Y	76.8	3.0	79.8	9772.4	
	H / 2.3	Z	78.8	3.0	81.8	12302.7	
	V / 2.3	X	76.1	3.0	79.1	9015.7	
	V / 2.0	Y	76.4	3.0	79.4	9332.5	
2.410	V / 1.8	Z	81.4	3.0	84.4	16595.9	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)						



Retlif Testing Laboratories

Retlif Job Number R-8957-2

Test Method:		FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions					
Customer:		X-10 USA			Job No.		R-8957-2
Test Sample:		2.4GHz FM Transmitter			Paragraph:		15.249
Model No.:		VT36A			FCC ID:		B4SVT36A
Operating Mode:		Continuously Transmitting a 2.410GHz Signal					
Technician:		Peter Lananna			Date:		March 30, 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	Peak 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)						



Retlif Testing Laboratories

Retlif Job Number R-8957-2

Test Method:		FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions					
Customer:		X-10 USA			Job No.		R-8957-2
Test Sample:		2.4GHz FM Transmitter			Paragraph:		15.249
Model No.:		VT36A			FCC ID:		B4SVT36A
Operating Mode:		Continuously Transmitting a 2.433GHz Signal					
Technician:		Peter Lananna			Date:		March 30, 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 / 2.0	X	81.6	3.0	84.6	16982.4	50000
	H / 2.0	Y	78.0	3.0	81.0	11220.2	
	H / 2.5	Z	80.3	3.0	83.3	14621.8	
	V / 1.8	X	82.1	3.0	85.1	17988.7	
	V / 2.0	Y	75.0	3.0	78.0	7943.3	
2.433	V / 1.8	Z	81.1	3.0	84.1	16032.5	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 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)						



Retlif Testing Laboratories

Retlif Job Number R-8957-2

Test Method:		FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions					
Customer:		X-10 USA			Job No.	R-8957-2	
Test Sample:		2.4GHz FM Transmitter			Paragraph:	15.249	
Model No.:		VT36A			FCC ID:	B4SVT36A	
Operating Mode:		Continuously Transmitting a 2.433GHz Signal					
Technician:		Peter Lananna			Date:	March 30, 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	Peak 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)						



Retlif Testing Laboratories

Retlif Job Number R-8957-2

Test Method:		FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions					
Customer:		X-10 USA			Job No.	R-8957-2	
Test Sample:		2.4GHz FM Transmitter			Paragraph:	15.249	
Model No.:		VT36A			FCC ID:	B4SVT36A	
Operating Mode:		Continuously Transmitting a 2.472GHz Signal					
Technician:		Peter Lananna			Date:	March 30, 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 / 2.5	X	81.3	3.0	84.3	16405.9	50000
	H / 2.5	Y	81.0	3.0	84.0	15848.9	
	H / 2.7	Z	82.9	3.0	85.9	19724.2	
	V / 1.5	X	85.2	3.0	88.2	25704.0	
	V / 2.5	Y	77.8	3.0	80.8	10964.8	
2.472	V / 1.5	Z	79.2	3.0	82.2	12882.5	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 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)						



Retlif Testing Laboratories

Retlif Job Number R-8957-2

Test Method:		FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions					
Customer:		X-10 USA			Job No.	R-8957-2	
Test Sample:		2.4GHz FM Transmitter			Paragraph:	15.249	
Model No.:		VT36A			FCC ID:	B4SVT36A	
Operating Mode:		Continuously Transmitting a 2.472GHz Signal					
Technician:		Peter Lananna			Date:	March 30, 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	Peak 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)						



Retlif Testing Laboratories

Retlif Job Number R-8957-2

Test Method:	FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.209(a)						
Customer:	X-10 USA				Job No.	R-8957-2	
Test Sample:	2.4GHz FM Transmitter						
Model No.:	VT36A				FCC ID:	B4SVT36A	
Operating Mode:	Continuously Transmitting a 2.410GHz Signal						
Technician:	Peter Lananna				Date:	April 24, 2001	
Notes:	Test Distance: 3 Meters Temp:32 C Humidity:19 % Detector: Quasi-Peak Below 30 MHz to 1 GHz, Peak above 1 GHz Channel A						
Test Freq.	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	LIMIT
MHz	(V/H) / Meters	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30.00							100
40.0	V/1.0	270	40	-6.9	33.1	45.2	
63.0	V/1.0	338	49	-11.9	37.1	71.6	
69.8	V/1.0	090	40	-12.6	27.4	23.4	
75.0	V/1.0	225	40	-12.6	27.4	23.4	
80.6	V/1.0	293	43	-12.5	30.5	33.5	
88.00							100
88.00							150
184.7	V/1.8	113	38	-8.4	29.6	30.2	
214.4	H/1.3	022	42	-7.1	34.9	55.6	
216.00							150
216.00							200
225.8	H/1.0	067	45	-6.9	38.1	80.4	
232.7	H/1.0	113	52	-6.5	45.5	188.4	
252.0	H/1.0	113	39	-5.7	33.3	46.2	
291.0	H/1.0	067	39	-4.7	34.3	51.9	
300.0	H/1.0	113	33	-4.4	28.6	26.9	
315.0	V/1.0	180	50	-4.2	45.8	195.0	
323.0	V/1.0	180	41	-3.8	37.2	72.4	
329.0	V/1.0	180	43	-3.2	39.8	97.7	
358.0	V/1.0	180	38	-2.0	36.0	63.1	
394.0	V/1.0	180	42	-1.9	40.1	101.2	
441.8	H/1.0	135	32	-0.6	31.4	37.2	
960.00							200
960.00							500
1026.0	V/1.3	180	49.9	-6.0	43.9	156.7	
1232.0	V/1.0	225	53.6	-3.0	50.6	338.8	
1340.0	V/1.0	180	48.6	-1.5	47.1	226.5	
2399.0	V/1.0	180	42.0	3.0	45.0**	177.8	
25,000.0	The EUT was scanned from 30 MHz to 25 GHz						500
	The emissions observed from the EUT do not exceed the specified limits. Emissions not recorded						
	were more than 10dB under the specified limit **-Noise Floor measurement, minimum sensitivity						



Retlif Testing Laboratories

Retlif Job Number R-8957-2

Test Method:	FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.209(a)						
Customer:	X-10 USA				Job No.	R-8957-2	
Test Sample:	2.4GHz FM Transmitter						
Model No.:	VT36A				FCC ID:	B4SVT36A	
Operating Mode:	Continuously Transmitting a 2.433GHz Signal						
Technician:	Peter Lananna				Date:	April 24, 2001	
Notes:	Test Distance: 3 Meters Temp:32 C Humidity:19 % Detector: Quasi-Peak Below 30 MHz to 1 GHz, Peak above 1 GHz Channel B						
Test Freq.	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	LIMIT
MHz	(V/H) / Meters	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30.00							100
40.0	V/1.0	270	40	-6.9	33.1	45.2	
63.0	V/1.0	338	49	-11.9	37.1	71.6	
69.8	V/1.0	090	40	-12.6	27.4	23.4	
75.0	V/1.0	225	40	-12.6	27.4	23.4	
80.6	V/1.0	293	43	-12.5	30.5	33.5	
88.00							100
88.00							150
184.7	V/1.8	113	38	-8.4	29.6	30.2	
214.4	H/1.3	022	42	-7.1	34.9	55.6	
216.00							150
216.00							200
225.8	H/1.0	067	45	-6.9	38.1	80.4	
232.7	H/1.0	113	52	-6.5	45.5	188.4	
252.0	H/1.0	113	39	-5.7	33.3	46.2	
291.0	H/1.0	067	39	-4.7	34.3	51.9	
300.0	H/1.0	113	33	-4.4	28.6	26.9	
315.0	V/1.0	180	50	-4.2	45.8	195.0	
323.0	V/.10	180	41	-3.8	37.2	72.4	
329.0	V/1.0	180	43	-3.2	39.8	97.7	
358.0	V/1.0	180	38	-2.0	36.0	63.1	
394.0	V/1.0	180	42	-1.9	40.1	101.2	
441.8	H/1.0	135	32	-0.6	31.4	37.2	
960.00							200
960.00							500
1026.0	V/1.3	180	49.9	-6.0	43.9	156.7	
1232.0	V/1.0	225	53.6	-3.0	50.6	338.8	
1340.0	V/1.0	180	48.6	-1.5	47.1	226.5	
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						



Retlif Testing Laboratories

Retlif Job Number R-8957-2

Test Method:	FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.209(a)						
Customer:	X-10 USA				Job No.	R-8957-2	
Test Sample:	2.4GHz FM Transmitter						
Model No.:	VT36A				FCC ID:	B4SVT36A	
Operating Mode:	Continuously Transmitting a 2.472GHz Signal						
Technician:	Peter Lananna				Date:	April 24, 2001	
Notes:	Test Distance: 3 Meters Temp:32 C Humidity:19 % Detector: Quasi-Peak Below 30 MHz to 1 GHz, Peak above 1 GHz Channel D						
Test Freq.	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	LIMIT
MHz	(V/H) / Meters	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30.00							100
40.0	V/1.0	270	40	-6.9	33.1	45.2	
63.0	V/1.0	338	49	-11.9	37.1	71.6	
69.8	V/1.0	090	40	-12.6	27.4	23.4	
75.0	V/1.0	225	40	-12.6	27.4	23.4	
80.6	V/1.0	293	43	-12.5	30.5	33.5	
88.00							100
88.00							150
184.7	V/1.8	113	38	-8.4	29.6	30.2	
214.4	H/1.3	022	42	-7.1	34.9	55.6	
216.00							150
216.00							200
225.8	H/1.0	067	45	-6.9	38.1	80.4	
232.7	H/1.0	113	52	-6.5	45.5	188.4	
252.0	H/1.0	113	39	-5.7	33.3	46.2	
291.0	H/1.0	067	39	-4.7	34.3	51.9	
300.0	H/1.0	113	33	-4.4	28.6	26.9	
315.0	V/1.0	180	50	-4.2	45.8	195.0	
323.0	V/1.0	180	41	-3.8	37.2	72.4	
329.0	V/1.0	180	43	-3.2	39.8	97.7	
358.0	V/1.0	180	38	-2.0	36.0	63.1	
394.0	V/1.0	180	42	-1.9	40.1	101.2	
441.8	H/1.0	135	32	-0.6	31.4	37.2	
960.00							200
960.00							500
1026.0	V/1.3	180	49.9	-6.0	43.9	156.7	
1232.0	V/1.0	225	53.6	-3.0	50.6	338.8	
1340.0	V/1.0	180	48.6	-1.5	47.1	226.5	
2483.5	V/1.0	180	43.0	3.0	46.0	200.0**	
25,000.0	The EUT was scanned from 30 MHz to 25 GHz						500
	The emissions observed from the EUT do not exceed the specified limits. Emissions not recorded were more than 10dB under the specified limit **-Noise Floor measurement, minimum sensitivity						



Retlif Testing Laboratories

Retlif Job Number R-8957-2