

Technical Information

APPLICANT	MANUFACTURER
Name: <u>X10 (USA), Inc.</u>	Name: <u>X-10 Electronics (Shenzhen) Co. Ltd.</u>
<u>Blackriver Corporate Park</u>	<u>Together Rich Industrial Park B</u>
Address: <u>620 Naches Ave SW, Building A</u>	Address: <u>Xixiang Town</u>
<u>City, State, Zip: Renton, WA 98057</u>	<u>Baoan County,</u>
	City, State, Zip: <u>Shenzhen, China</u>

TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart B, Section 15.107 (a)
and 15.109 (a)

TEST PROCEDURE: ANSI C63.4:2003

Test Sample Description

Test Sample: 433 MHz Superregenerative Receiver
Brandname(s): X10 (USA)
Model(s): VT50A
FCC ID: B4SVT50A
Type: Superregenerative Receiver
Power Requirements: 6 VDC, 300 mA derived from external AC Adapter
Frequency Of Operation: 433 MHz
Applicable Rule Section: Part 15, Subpart B, Section 15.107 (a) and 15.109 (a)

Tests Performed

Receiver:

- 15.107(a) Conducted Emissions
- 15.109(a) Radiated Emissions

Test Results

Receiver:

15.107 (a): The radio frequency voltage that was conducted back on to the AC power line on any frequency/frequencies within the bandwidth of 150 kHz to 30 MHz did not exceed Class B limits as specified in CISPR 22.

15.109(a): The field strength of spurious radiated emissions did not exceed Class B limits specified in paragraph 15.109(a).

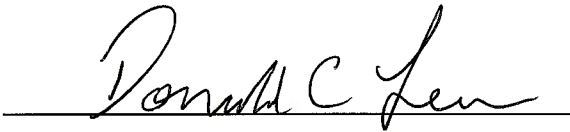
Spectrum Analyzer Desensitization Considerations

General Notes

1. The device was tested with the following external accessories:
 - AC switching power supply Model Number: S002CU0720020.
 - IR extender Cable - 4.0 meters long.
 - Audio/Video Cable - 1.5 meters long.
 - 2 S-Video Cables - 1.5 meters long.
 - Panasonic VCR Model Number: PV-V4020.
- 2 Measurements of Conducted Emissions were performed utilizing a 50 ohm / 50 μ henry Line Impedance Stabilization Network (LISN).
- 3 The frequency range was scanned from 30 MHz to 2 GHz. All emissions not reported were more than 20 dB over the specified limit.
- 4 The Superregenerative Receiver was tested per "ANSI STANDARD C63.4-2003 12.1.1.1 Superregenerative Receiver: A Signal Generator was set to the test sample operating Frequency. An un-Modulated continuous wave (CW) signal was radiated at the Superregenerative Receiver operating frequency to cohere the characteristic broadband emissions from the receiver."

Certification and Signatures

We certify that this report is a true representation of the results obtained from the tests of the equipment stated. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.

A handwritten signature in cursive script, reading "Donald C Lerner", written over a horizontal line.

Donald C. Lerner
EMC Test Engineer

A handwritten signature in cursive script, reading "Nicholas Dragotta", written over a horizontal line.

Nicholas Dragotta
Laboratory Supervisor

Non-Warranty Provision

The testing services have been performed, findings obtained and reports prepared in accordance with generally accepted laboratory principles and practices. This warranty is in lieu of all others, either expressed or implied.

Non-Endorsement

This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement or certification of the product or material tested. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

Equipment List

Receiver

FCC Part 15, Subpart B, Conducted Emissions, 150 kHz to 30 MHz

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due
078	LISN	Solar Electronics	10 kHz - 30 MHz	8028-50-TS24BNC	7/5/2007	7/5/2008
079	LISN	Solar Electronics	10 kHz - 30 MHz	8028-50-TS24BNC	7/5/2007	7/5/2008
333	Attenuator	Narda	DC - 11 GHz	768-10	8/10/2007	8/10/2008
456	LISN	Solar Electronics	DC - 60 Hz	9409-50-R-24	12/4/2006	12/4/2007
7016	EMC Analyzer	Hewlett Packard	9 kHz - 1.8GHz	8591EM	7/25/2007	7/25/2008
762	AM/FM Signal Generator	Marconi Instru.	10 kHz - 1.2 GHz	2023	7/24/2007	7/24/2008

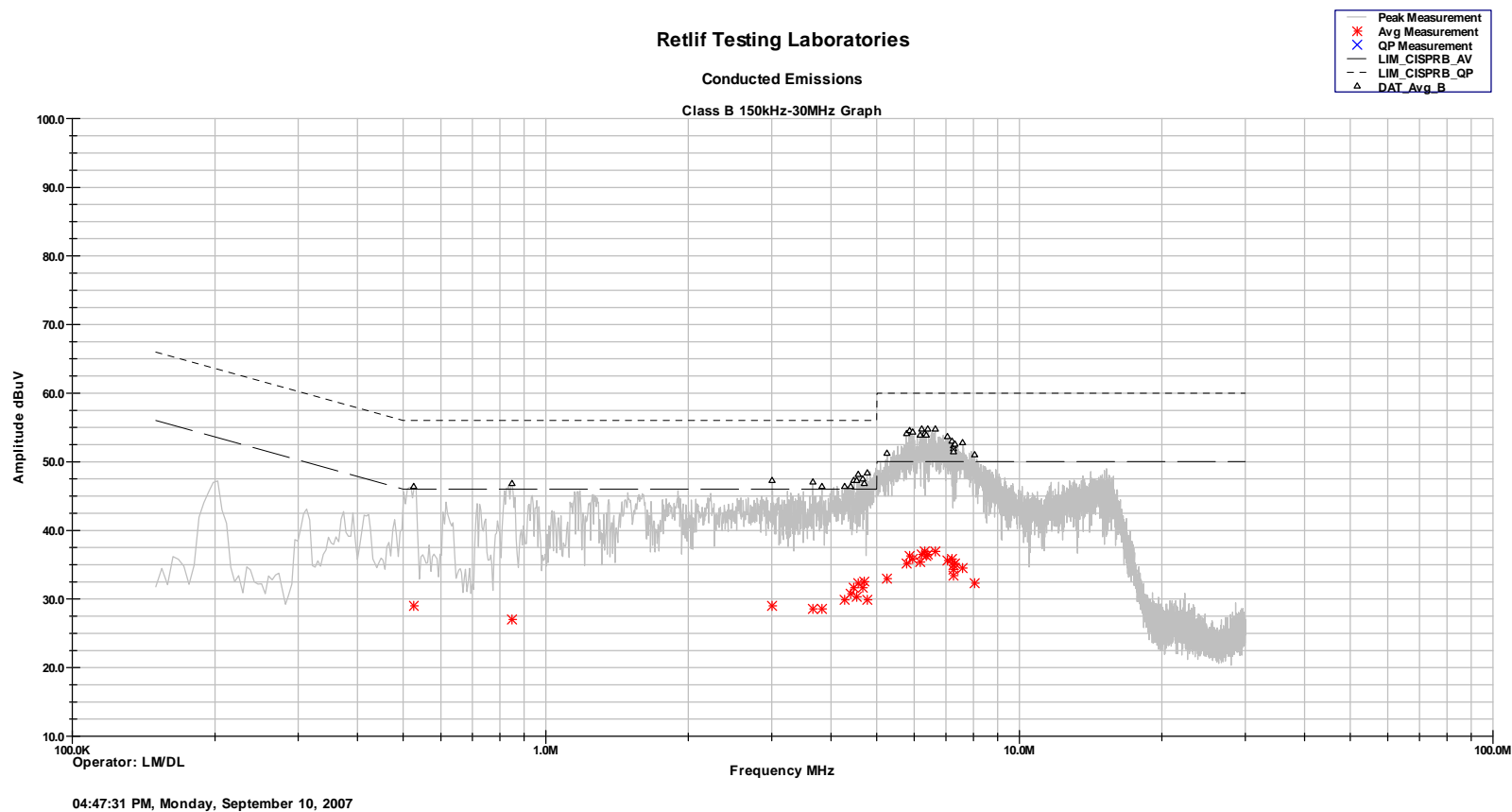
FCC Part 15, Subpart B, Radiated Emissions, 30 MHz to 2.0 GHz

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
128	Double Ridged Guide	Electro-Mechanics	1 GHz - 18 GHz	3105	3/27/2007	3/27/2008
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/27/2007	6/27/2008
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	3/12/2007	3/12/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/18/2006	10/18/2007
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/9/2005	9/21/2007
574	AM/FM Signal Generator	Marconi Instru.	9 kHz - 2.4 GHz	2024	7/24/2007	7/24/2008
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	6/13/2007	6/13/2008
723	H.P. Filter	Mini-Circuits	1 GHz	BHP-1000	8/13/2007	8/13/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	10/12/2006	10/12/2007

**FCC Part 15, Subpart B, Section 15.107(a), Conducted Emissions, Power Leads,
150 kHz to 30 MHz
Test Data
433.8 MHz Receiver Mode**

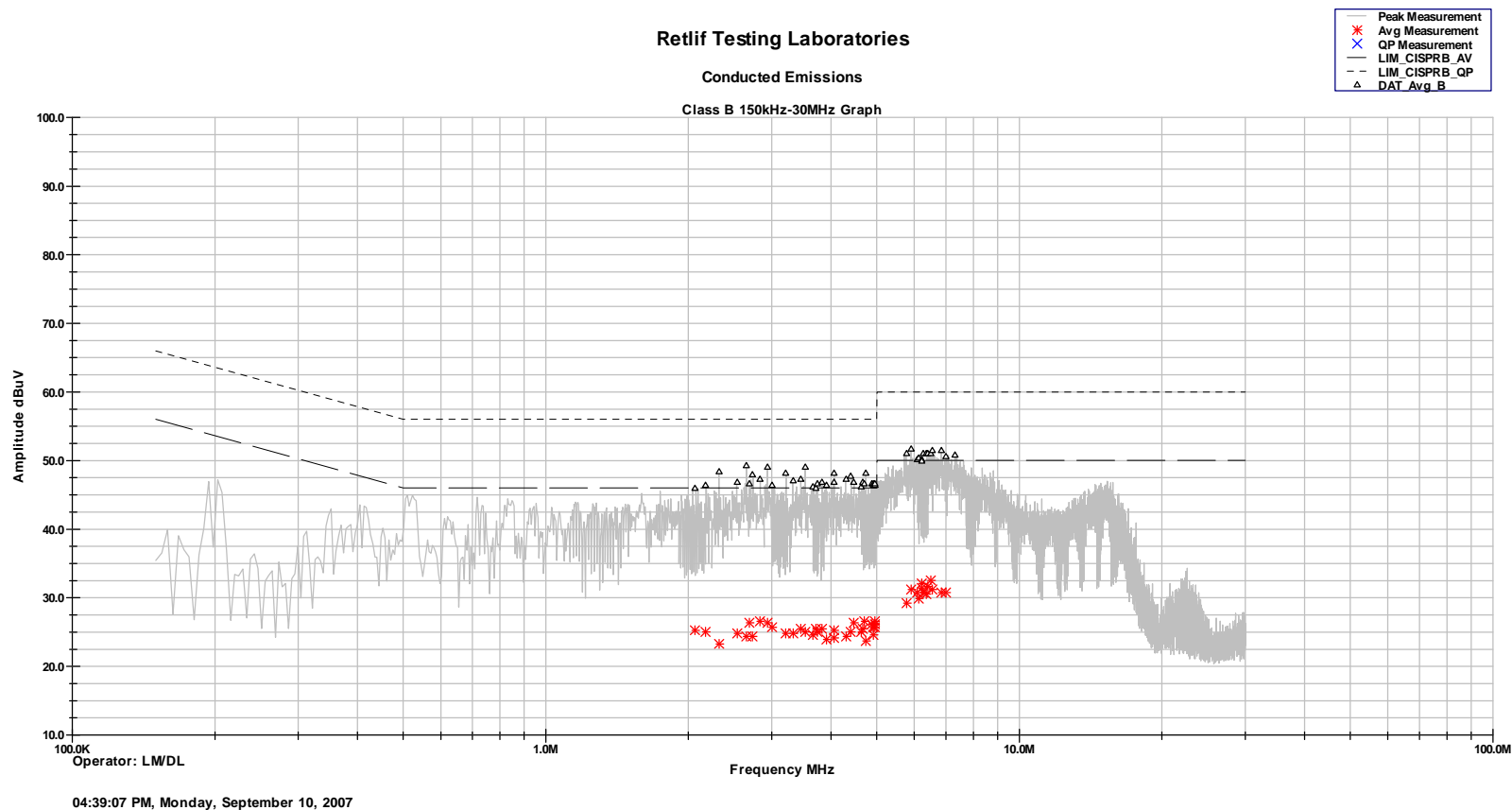
FCC Part 15, Subpart B, Conducted Emissions, 150 kHz to 30 MHz.

Customer: X10 (USA), Inc.
Test Sample: 5.8 GHz Wireless Audio/Video Sender with/IR Extender Feature
Model Number: VT50A
FCC ID: B4SVT50A
Test Specification: FCC Part 15, Subpart B, 15.107(a)
Mode of Operation: EUT receiving a 433.8 MHz CW signal, receiver coherent.
Lead Tested: 120 VAC / 60 Hz hot input to AC adapter.
Technician / Date: M. Kubik / September 10, 2007.
Detector / Note: Peak / Peak emissions passed Quasi-peak limit. Average detector required.
Detector / Note: Average / Average emissions passed average limit.



FCC Part 15, Subpart B, Conducted Emissions, 150 kHz to 30 MHz.

Customer: X10 (USA), Inc.
Test Sample: 5.8 GHz Wireless Audio/Video Sender with/IR Extender Feature
Model Number: VT50A
FCC ID: B4SVT50A
Test Specification: FCC Part 15, Subpart B, 15.107(a)
Mode of Operation: EUT receiving a 433.8 MHz CW signal, receiver coherent.
Lead Tested: 120 VAC / 60 Hz neutral input to AC adapter.
Technician / Date: M. Kubik / September 10, 2007.
Detector / Note: Peak / Peak emissions passed Quasi-peak limit. Average detector required.
Detector / Note: Average / Average emissions passed average limit.



**FCC Part 15, Subpart B, Class B, Radiated Emissions, 30 MHz to 2.0 GHz,
Paragraph 15.109(a)
Receiver Test Data**

Test Method:	FCC Part 15, Subpart B, Class B, Radiated Emissions, 30 MHz to 1 GHz, Para:15.109(a)						
Customer:	X-10 (USA),Inc.				Job No.:	R-12106-1	
Test Sample:	5.8 GHz Wireless Audio / Video Sender with IR Extender Feature.						
Model No.:	VT50A				FCC ID.:	B4SVT50A	
Operating Mode:	EUT receiving a 433.8 MHz CW signal, receiver coherent.						
Technician:	R. Soodoo				Date:	September 12, 2007.	
Notes:	Test Distance: 3 Meters Detector: Quasi-Peak Below 1 GHz, Peak above 1 GHz Temp: 25.5°C Humidity: 44%						
Frequency	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
36.60	V / 1.0	200.0	20.0	18.0	38.0	79.4	
46.60	V / 1.0	200.0	12.0	12.0	24.0	15.8	
88.00							100
88.00							150
171.8	V / 1.0	64.0	14.0	11.0	25.0	17.8	
216.0							150
216.0							200
400.0	V / 1.0	50.0	9.0	20.3	29.3	29.2	
404.0	H / 1.9	75.0	9.0	20.3	31.3	36.7	
406.4	H / 1.9	75.0	11.0	20.3	29.3	29.2	
407.0	V / 1.0	50.0	9.0	20.3	31.3	36.7	
409.0	H / 1.6	75.0	11.0	20.3	26.3	20.7	
411.0	V / 1.0	50.0	6.0	20.3	31.1	35.9	
421.3	H / 1.9	66.0	11.0	20.1	32.1	40.3	
423.8	H / 1.9	66.0	12.0	20.1	31.1	35.9	
426.3	V / 1.0	13.0	11.0	20.1	32.1	40.3	
428.8	H / 1.9	66.0	12.0	20.1	33.3	46.2	
431.3	V / 1.0	16.0	12.0	21.3	32.3	41.2	
436.6	H / 1.5	127.0	11.0	21.3	35.3	58.2	
438.7	V / 1.0	16.0	14.0	21.3	32.3	41.2	
439.2	V / 1.0	16.0	11.0	21.3	30.3	32.7	
441.0	V / 1.0	16.0	9.0	21.3	30.3	32.7	
443.0	V / 1.0	16.0	9.0	21.3	29.3	29.2	
960.00							200
960.00							500
2000.0							500
The frequency range was scanned from 30 MHz to 2.0 GHz.							
The emissions observed from the EUT do not exceed the specified limits.							
Emissions not recorded were more than 20dB under the specified limit.							