

TEST REPORT

FCC RULES Part 15 Subpart C §15.231

FCC ID :SPGSV100A

Report File No.	: <u>STROR - 04 - 019</u>
Date of Issue	: <u>Nov 26, 2004</u>
Kind of Product	: <u>Remote Controller</u>
Model Name	: <u>SV100A</u>
Manufacturer	: <u>SSONICS Corp.</u>
Serial No.	: <u>-</u>
Test Result	: <u>Complied</u>

The results shown in this report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of company.



Report File No. : STOR-04-019

Date of Issue : Nov. 26, 2004

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VERIFICATION OF COMPLIANCE

Applicant : SSONICS Corp.
Kind of Product : Remote Controller
Brand Name : -
Model Name : SV100A
Model Difference : -
Report File No. : STOR-04-019
Date of test : Nov 09, 2004 ~ Nov 26, 2004
Receiver EUT : -

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
Part 15 Subpart C §15.231	Complied

The above equipment was tested by SGS Testing Korea Co., Ltd. for compliance with the requirements set forth in the FCC RULES Part 15 Subpart C §15.231. The results of testing in this report apply to the product system that was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:

Date

Nov 26, 2004

Feel Jeong

Approved By

Date

Nov 26, 2004

James Kwon

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1. General Description of EUT

The SSONICS Corp. Model SV100A is a remote controller that controls the direction of the light

2. General Information of EUT

Transmitter

Power Supply	DC 12 V
Operating Frequency	315MHz
Modulation	ASK
Operating Temperature	- 20 ~ + 60
Frequency Generation	SAW resonator
Communication method	One - way
Antenna Type	Built - in on the PCB in the EUT

* DC 12V is powered from an automobile DC12V system.

3. Test Procedure

The test procedures are performed following the test standards ANSI C.63.4-2000 if applicable.

3.1 Conducted Emission

Testing was performed according to ANSI C.63.4-2000 in a shielded room with peripherals placed on a table, 0.8 m high over a metal floor.

It was located more than required distance away from the shield room wall.

3.2 Radiated Emission

Testing was performed according to ANSI C.63.4-2000 at an open field test site. The EUT was placed on a 0.8 m high table along with the peripherals.

The turn table was separated from the antenna at a distance of 3 meters. Cables were placed in a position to produce maximum emissions as determined by experimentation and the operation mode was selected for maximum.

The frequencies and amplitudes of maximum emission were measured at various azimuths, antenna heights and antenna polarities.

Reported are maximized emission levels.

4. Test Condition

4.1 Test Configuration

The device was configured for testing in a typical fashion (as a customer would normally use it).

During the tests, the EUT and the supported equipments were installed to meet FCC requirement and operated in a manner, which tends to maximize its emission level in a typical application.

Conducted Emission Test

It needs not to test requirement, because the EUT supplies from a DC battery.

Radiated Emission Test

Preliminary radiated emission tests were conducted using the procedure in ANSI C63.4-2000 clause 8.3.1.1. to determine the worst operating condition. Final radiated emission tests were measured at 3 meter open field test site. To complete the test configuration required by the FCC, the EUT was tested in all three orthogonal planes.

4.2 EUT Operation

EUT was tested according to the following operation modes provided by the specifications given by the manufacturer, and reported the worst emissions.

4.3 Peripherals / Support Equipment Used

Following peripheral devices and interface cables were connected during the measurement.

Type of Peripheral Equipment Used:

Description	Model Name	Serial NO	Manufacturer	FCC ID

5. Field Strength of the Carrier FCC Part 15, Subpart C, Section 15.231(b)

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 49%

Temperature: 23

Radiated Emissions			Ant	Correction Factors		Total	FCC Limit	
Carrier Freq. (MHz)	Amp. (dBuV/m)	Detect Mode	Pol.	Ant. (dB/m)	Cable (dB)	Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
315.08	69.0	Peak	H	15.73	2.26	86.99	95.62	8.63
315.08	53.4	Average	H	15.73	2.26	71.39	75.62	4.23

Test Equipment Used

EQUIPMENT	MANUFACTURER	MODEL	CAL DUE.
Spectrum analyzer	H/P	8593E	Aug. 2005
Test Receiver	Rohde & Schwarz	ESVS 10	Jun. 2005
Log-periodic	Rohde & Schwarz	UHALP9107	Jan. 2005

6. Spurious Emission FCC Part 15, Subpart C, Section 15.231(b)

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 49%

Temperature: 23

Radiated Emissions			Ant	Correction Factors		Total	FCC Limit	
Freq. (MHz)	Amp. (dBuV/m)	Detect Mode	Pol.	Ant. (dB/m)	Cable (dB)	Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
630.16	39.8	Peak	H	21.20	3.02	64.02	75.62	11.60
630.16	26.4	Average	H	21.20	3.02	50.62	55.62	5.00
945.24	28.1	Peak	H	25.67	3.61	57.38	75.62	18.24
945.24	19.3	Average	H	25.67	3.61	48.58	55.62	7.04
1260.32	12.10	Peak	H	25.48	3.90	41.48	75.62	34.14
1575.40	8.40	Peak	H	25.66	4.50	34.56	74.00	39.44
1990.48	7.22	Peak	H	25.89	5.00	38.11	75.62	37.51

Remark: Other spurious frequencies were not found up to 4000MHz

Notes :

1. H: Horizontal polarization, V: Vertical polarization
2. Emission Level = Reading + Antenna Factor + Cable Loss

Test Equipment Used

EQUIPMENT	MANUFACTURER	MODEL	CAL DUE.
Spectrum analyzer	H/P	8593E	Aug. 2005
Test Receiver	Rohde & Schwarz	ESVS 10	Jun. 2005
Log-periodic Antenna	Rohde & Schwarz	UHALP9107	Jan. 2005
Horn Antenna	Schwarzbeck	BBHA9120D(0600)	Jul. 2006

7. Bandwidth of Operation Frequency FCC Part 15,Subpart C, Section15.231(c)

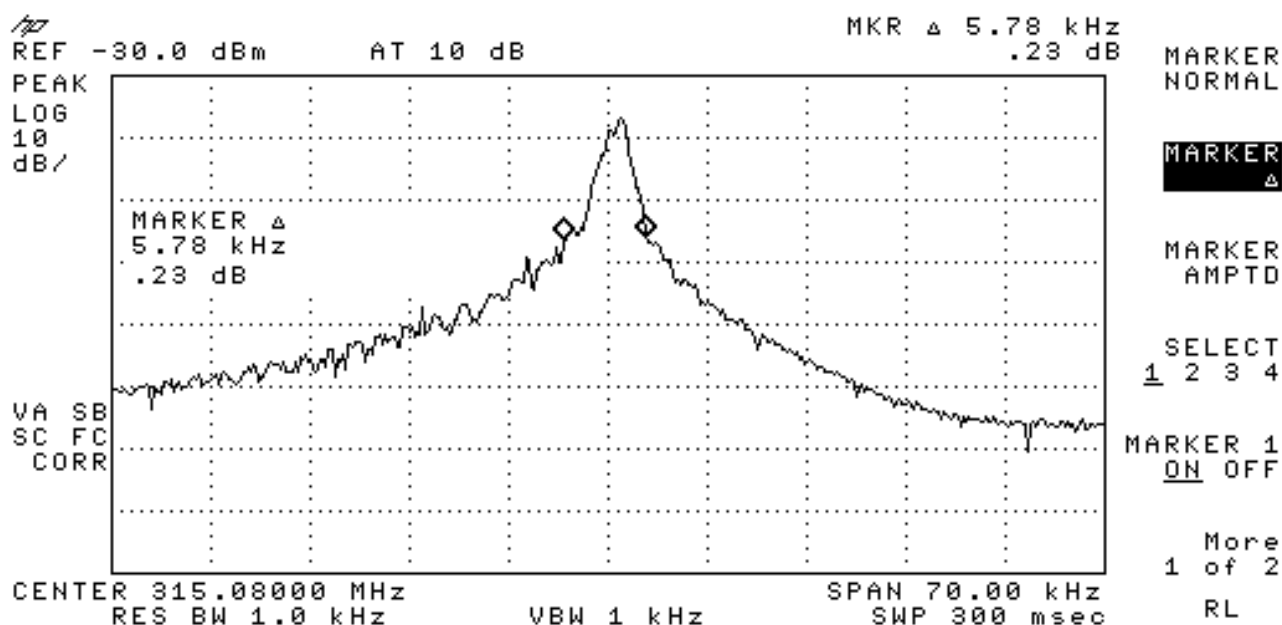
Humidity Level : 49%

Temperature: 23

Limit of 20dB Bandwidth : $315\text{MHz} \times 0.0025 = 787.5\text{kHz}$

Carrier Freq. (MHz)	Bandwidth of the emission. (kHz)	Limit (kHz)	Remark
315.08	5.78	787.5	The point 20dB down from the modulated carrier

The plot of test result is attached as below



Test Equipment Used

EQUIPMENT	MANUFACTURER	MODEL	CAL DUE.
Spectrum analyzer	H/P	8593E	Aug. 2005
Test Receiver	Rohde & Schwarz	ESVS 10	Jun. 2005
Log-periodic Antenna	Rohde & Schwarz	UHALP9107	Jan. 2005

8. Transmission Time FCC Part 15, Subpart C, Section 15.231(a) (1)

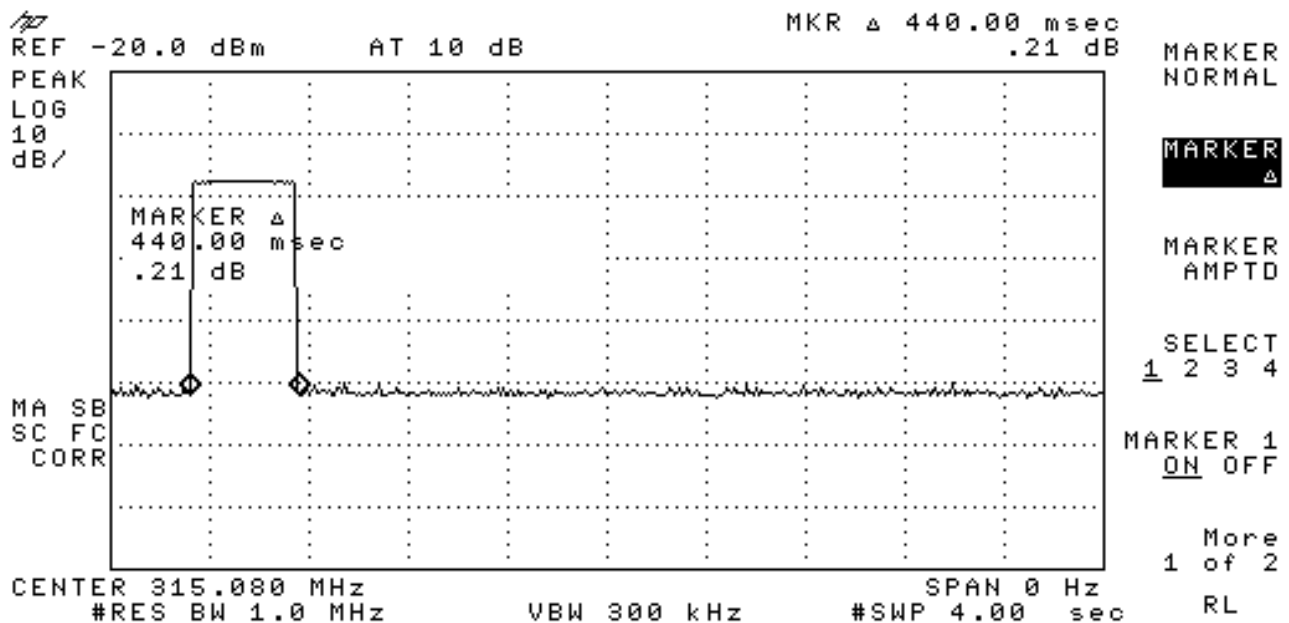
Humidity Level : 49%

Temperature: 24

Limit of Transmission Time : A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

Carrier Freq. (MHz)	Transmission Time (sec)	Limit (sec)	Pass/Fail
315.08	0.44	5	Pass

The plot of test result is attached as below



Test Equipment Used

EQUIPMENT	MANUFACTURER	MODEL	CAL DUE.
Spectrum analyzer	H/P	8593E	Aug. 2005
Test Receiver	Rohde & Schwarz	ESVS 10	Jun. 2005
Log-periodic Antenna	Rohde & Schwarz	UHALP9107	Jan. 2005

9. Attachment A – Photos of the test set up



10. Attachment B – Photos of the EUT**View of EUT****Rear View of Product**

Inner View of Product



Inner View of Product

