No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057
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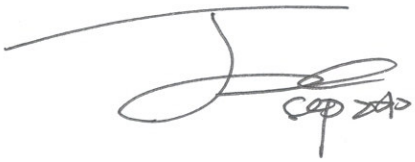
FCC REPORT

Application No. :	SZEMO100906098ET (SGS SZ No.: SZTYR100901355EM)
Applicant:	Elenco Electronics,Inc
Item NO.	SCROV-10
Product Name:	Snap Rover
Operation Frequency:	**27.145MHz**
FCC ID:	YVISCROV-10
Standards:	FCC PART 15, SUBPART-C : 2009 Section 15.227
Date of Receipt	2010-09-21
Date of Test	2010-09-22 to 2010-09-29
Date of Issue	2010-09-30
Test Result :	**PASS ***

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Jack Zhang
Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.
The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

2 Contents

3 Test Summary

Test Item	Section in CFR 47	Result
Radiated Emission (25MHz to 1GHz)	Section 15.227	Passed
Occupied Bandwidth	Section 15.215	Passed

Remark: Passed: The EUT complies with the essential requirements in the standard.

Failed: The EUT does not comply with the essential requirements in the standard.

4 General Information

4.1 Client Information

Applicant:	Elenco Electronics,Inc
Address of Applicant:	150 Carpenter Avenue, Wheeling,IL 60090,USA

4.2 General Description of E.U.T.

Product Name:	Snap Rover
Trade Name:	N/A
Item No.:	SCROV-10
Operation Frequency:	27.145MHz
Request Age Grading:	8+
Country of Origin:	China
Country of Destination:	USA
Power supply:	DC9.0V(1*9.0V" 6F22"Size Battery) for Tx

4.3 E.U.T. Environment and test modes

Operating Environment:	
Temperature:	25.0 °C
Humidity:	50 % RH
Atmospheric Pressure:	1010 mBar
Test mode:	
Tx mode:	Keep the EUT in transmitting mode

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.5 Other Information Requested by the Customer

None.

4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations

- **CNAS (No. CNAS L2929)**

  CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **VCCI**

  The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.

  Date of Registration: September 29, 2008. Valid until September 28, 2011.

- **FCC – Registration No.: 556682**

  SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 556682, June 27, 2008.

- **Industry Canada (IC)**

  The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

4.7 Test Instruments List

RE in Chamber						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (yyyy-mm-dd)**	**Cal.Due date (yyyy-mm-dd)**
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2010-06-17	2011-06-17
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2009-11-05	2010-11-05
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	2008-06-18	2011-06-18
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2009-11-05	2010-11-05
6	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2009-11-10	2011-11-10
7	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2010-06-02	2011-06-02

5 Test Result & Measurement Data

5.1 Antenna requirment

Standard requirement:	FCC Part15 C Section 15.203

15.203 requirement:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

5.2 Radiated Emissions

Test Requirement:	FCC Part15 C Section 15.227
Test Method:	ANSI C63.10: 2009
Measurement Distance:	3m (Semi-Anechoic Chamber)
Requirements:	Carrier Power below 80dBuV/m at 3m (Average).
	Out of band emissions shall not exceed:
	40.0 dBμV/m between 30MHz & 88MHz
	43.5 dBμV/m between 88MHz & 216MHz
	46.0 dBμV/m between 216MHz & 960MHz
	54.0 dBμV/m above 960MHz
Detector:	QP: for frequency range: 25MHz to 30MHz (RBW=9kHz, VBW=30KHz QP: for frequency range:30MHz to 1000MHz (RBW=120kHz, VBW=300kHz) Peak: for frequency range above 1000MHz (RBW=1MHz, VBW=3MHz)
Test Procedure:	The equipment under test (EUT) was placed at the middle of the 80 cm height turntable, and the turntable is 3 meters far from the measuring antenna. During the testing, the EUT was operated standalone and arranged for maximum emissions. The EUT was tested in three orthogonal planes. The measurement was performed with the EUT rotated 360 °, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained.
Test Result:	The EUT complies with FCC Part 15-C Section 15.227 requirements.

27.145MHz Mode

Test Procedure: For testing performed with the loop antenna, testing was performed in accordance to ANSI C63.10: 2009, section 8.2.1. The center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane.

Fundamental Signal Emission:

Test Frequency (MHz)	Peak (dBμV/m)		Limit (dBμV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
27.145	78.14	67.40	100.00	21.86	32.60

Test Frequency (MHz)	Average (dBμV/m)		Limit (dBμV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
27.145	74.14	63.40	80.00	5.86	16.60

Spurious Emission Test:

Vertical Antenna Polarisation:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)
54.250	0.80	7.64	28.08	51.18	31.54	40.00	-8.46
109.825	1.23	8.62	27.78	38.72	20.79	43.50	-22.71
297.025	1.88	13.76	26.73	34.49	23.40	46.00	-22.60
429.625	2.33	16.49	27.50	34.11	25.43	46.00	-20.57
686.050	2.87	21.50	27.32	33.97	31.02	46.00	-14.98
803.050	3.21	22.14	26.92	33.98	32.41	46.00	-13.59

Horizontal Antenna Polarisation:

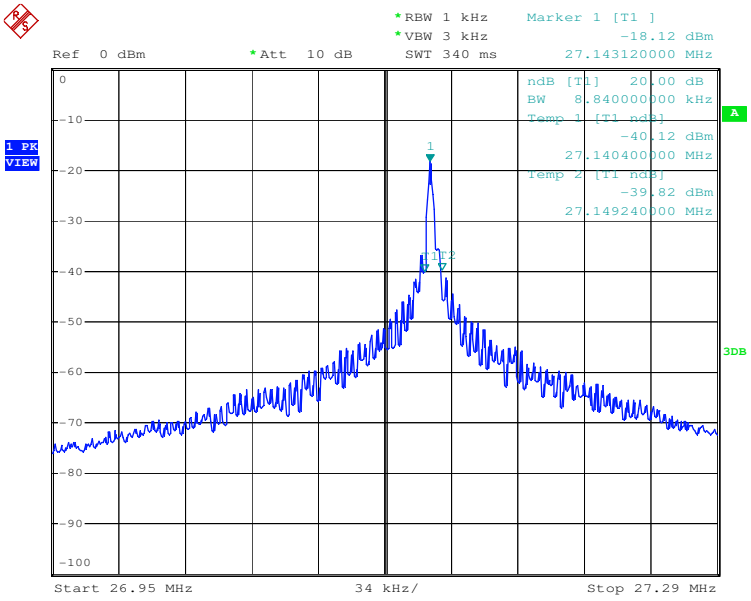
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)
242.425	1.64	12.07	26.95	33.59	20.35	46.00	-25.65
410.125	2.24	16.34	27.44	33.78	24.92	46.00	-21.08
534.925	2.64	18.65	27.68	32.80	26.41	46.00	-19.59
714.325	2.95	21.60	27.23	32.61	29.93	46.00	-16.07
771.850	3.12	21.97	27.03	33.21	31.27	46.00	-14.73
873.250	3.50	22.92	26.57	32.81	32.66	46.00	-13.34

Remark:
According to 15.35 (b) When average radiated emission measurements are specified in the regulations, including emission measurements below 1000 MHz, there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules, e.g., see Section 15.255.

5.3 Occupied Bandwidth

Test Requirement:	FCC Part 15 C Section 15.215 (C)
Test Method:	ANSI C63.10: 2009
Frequency range:	Operation within the band 26.960 – 27.280 MHz
Requirements:	Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the 20 dB bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.
Method of measurement:	The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector. The vertical Scale is set to 10dB per division. The horizontal scale is set to 34KHz per division.
Test Result:	The unit does meet the FCC Part 15 C Section 15.215 requirements.

The graph as below: represents the emissions take for this device.



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