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FCC PART 15 B SUBPART B

RECEIVER TEST REPORT

Applicant	SUNCON TOYS INDUSTRY LTD.
Address	11/F, KAI TAK FACTORY BUILDING 99 KING FUK STREET SANPOKONG, KOWLOON HONG KONG
FCC ID	GLE60402R
Product Description	49.82-49.90 MHZ WIRELESS R/C TOY-RX
Date Sample Received	9/11/2008
Date Tested	9/12/2008
Tested By	Joe Scoglio
Approved By	Mario de Aranzeta
Report Number	2129UT8TestReport.doc
Test Results	☒ PASS ☐ FAIL

ACCREDITED
Certificate # 0955-01

TABLE OF CONTENTS

GENERAL REMARKS 3
REPORT SUMMARY 4
TEST ENVIRONMENT 4
TEST SETUP SUMMARY 4
DUT SPECIFICATION 5
TEST EQUIPMENT LIST 6
TEST PROCEDURES 7
RADIATED SPURIOUS EMISSIONS 8
POWER LINE CONDUCTED INTERFERENCE 9
RADIATED EMISSIONS TEST SETUP PHOTO 10

GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

The test results relate only to the items tested.

Summary

The device under test does:
☒ fulfill the general approval requirements as identified in this test report
☐ not fulfill the general approval requirements as identified in this test report

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.

ACCREDITED

Testing Certificate # 0955-01

I attest that the necessary measurements were made, under my supervision, at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, Fl 32669

Authorized Signatory Name:

Mario de Aranzeta C.E.T.
Compliance Engineer/ Lab. Supervisor

Date: 09/12/2008

REPORT SUMMARY

Disclaimer	The test results only relate to the item tested.
Applicable Rule(s)	Pt 15.109, Pt 15.107, ANSI C63.4: 2003
Related Report	None

TEST ENVIRONMENT

Test Facility	Timco Engineering, Inc. 849 NW State Road 45 Newberry, FL 32669 USA.
Test Condition in the laboratory	Temperature: 26°C Relative humidity: 50%

TEST SETUP SUMMARY

Test Setup Diagram/ Description	The DUT was placed on the turntable per setup per ANSI C63.4: 2003. A test set up photo is provided for clarification.
Deviation from the standard/procedure	No deviation
Modification of DUT	No modification

DUT SPECIFICATION

DUT Description	49.82-49.90 MHZ WIRELESS R/C TOY-RX
FCC ID	GLE60402R
DUT Power Source	☐ 110–120Vac/50– 60Hz
	☐ DC Power
	☒ Battery Operated Exclusively
Test Item	☐ Prototype
	☒ Pre-Production
	☐ Production
Type of Equipment	☐ Fixed
	☐ Mobile
	☒ Portable
Laboratory Test Conditions	Temperature: 26ºC Humidity: 55%
Modifications to DUT:	☒ No ☐ Yes (explanation below)

TEST EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3/10-Meter OATS	TEI	N/A	N/A	Listed 3/20/07	3/19/10
3-Meter OATS	TEI	N/A	N/A	Listed 1/11/06	1/10/09
3-Meter Semi-Anechoic Chamber	Panashield	N/A	N/A	Listed 5/11/07	5/10/10
Antenna: Biconnical	Eaton	94455-1	1057	CAL 1/15/2008	1/15/10
Antenna: Biconnical	Eaton	94455-1	1096	CAL 10/11/06	10/11/08
Antenna: Biconnical	Electro-Metrics	BIA-25	1171	CAL 7/18/07	7/18/09
Analyzer Blue Tower Quasi-Peak Adapter	HP	85650A	2811A01279	CAL 5/17/07	5/17/09
Analyzer Blue Tower RF Preselector	HP	85685A	2926A00983	CAL 5/17/07	5/17/09
Analyzer Blue Tower Spectrum Analyzer	HP	8568B	2928A04729 2848A18049	CAL 5/17/07	5/17/09
LISN	Electro-Metrics	ANS-25/2	2604	CAL 10/5/06	10/5/08
LISN	Electro-Metrics	EM-7820	2682	CAL 7/23/07	7/23/09
Antenna: Log-Periodic	Eaton	96005	1243	CAL 12/13/07	12/13/09

TEST PROCEDURES

Power line conducted Emission: The test procedure used was ANSI C63.4-2003. The spectrum was scanned from 0.15 to 30 MHz.

Radiation Interference: The test procedure used was ANSI C63.4-2003 using a spectrum analyzer with a preselector. The bandwidth of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a micro volt at the output of the antenna. The video bandwidth was always greater than or equal to the RBW.

The frequency was scanned from 30 MHz to 1.0 GHz. When an emission was found, the table was rotated to produce the maximum signal strength. The DUT was measured in three (3) orthogonal planes when necessary.

Formula Of Conversion Factors: The field strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBµV) to the antenna correction factor supplied by the antenna manufacturer plus the coax loss. The antenna correction factors are stated in terms of dB. The gain of the preselector was accounted for in the spectrum analyzer meter reading.

Example:

Freq (MHz)	Meter Reading	+ ACF	+CL	= FS
33	20 dBµV	+ 10.36 dB/m	+0.40 dB	=30.36 dBµV/m @ 3m

ANSI C63.4-2003 Measurement Procedures: The unit under test was placed on a table 80 cm high and with dimensions of 1mby 1.5m. The table used for radiated measurements is capable of continuous rotation. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and verticals planes.

ANSI STANDARD C63.4-2003 12.1.1.1 SUPERREGENERATIVE RECEIVER: A Signal Generator was set to the unit under test operating frequency. An un-Modulated continuous wave (CW) signal was radiated at the super regenerative receiver operating frequency to cohere the characteristic broadband emissions from the receiver.

RADIATED SPURIOUS EMISSIONS

Rules Part No.: 15.109

Requirements:

Frequency MHz	Limits
30 – 88	40.0 dBµV/m measured @ 3 meters
80 – 216	43.5 dBµV/m measured @ 3 meters
216 – 960	46.0 dBµV/m measured @ 3 meters
Above 960	54.0 dBµV/m measured @ 3 meters

Test Data:

Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBµV	Ant. Pol	Coax Loss dB	Correction Factor dB/m	Field Strength dBµV/m	Margin dB
49.8	**48.50**	**19.6**	**V**	**0.96**	**10.90**	**31.46**	**8.54**
49.8	**48.50**	**20.3**	**H**	**0.96**	**11.86**	**33.12**	**6.88**
49.8	**51.90**	**18.7**	**V**	**0.99**	**10.11**	**29.80**	**10.20**
49.8	**51.90**	**21.1**	**H**	**0.99**	**10.85**	**32.94**	**7.06**
49.8	**120.10**	**16.1**	**V**	**1.54**	**11.13**	**28.77**	**14.73**
49.8	**120.10**	**16.4**	**H**	**1.54**	**10.52**	**28.46**	**15.04**
49.8	**125.80**	**14.2**	**V**	**1.58**	**12.58**	**28.36**	**15.14**
49.8	**125.80**	**16.9**	**H**	**1.58**	**11.81**	**30.29**	**13.21**
49.8	**129.90**	**14.1**	**V**	**1.61**	**13.48**	**29.19**	**14.31**
49.8	**129.90**	**15.7**	**H**	**1.61**	**12.87**	**30.18**	**13.32**
49.8	**157.90**	**13.6**	**V**	**1.81**	**17.32**	**32.73**	**10.77**
49.8	**157.90**	**15.9**	**H**	**1.81**	**16.60**	**34.31**	**9.19**
49.8	**200.60**	**13.2**	**H**	**2.10**	**12.38**	**27.68**	**15.82**
49.8	**200.60**	**15.0**	**V**	**2.10**	**12.08**	**29.18**	**14.32**
49.8	**238.80**	**16.7**	**H**	**2.29**	**12.03**	**31.02**	**14.98**
49.8	**238.80**	**17.7**	**V**	**2.29**	**12.02**	**32.01**	**13.99**
49.8	**246.40**	**13.3**	**H**	**2.33**	**12.42**	**28.05**	**17.95**
49.8	**246.40**	**14.7**	**V**	**2.33**	**12.48**	**29.51**	**16.49**

POWER LINE CONDUCTED INTERFERENCE

Rules Part No.: Part 15.107

Requirements:

Frequency (MHz)	Quasi Peak Limits (dBµV)	Average Limits (dBµV)
0.15 – 0.5	66 – 56 *	56 – 46 *
0.5 – 5.0	56	46
5.0 – 30	60	50
* Decrease with logarithm of frequency		

Test Data: Not applicable. Battery operated device.

RADIATED EMISSIONS TEST SETUP PHOTO