

# **EXHIBIT 5**

TECHNICAL TEST REPORT



#### FCC SUBPART C TEST REPORT

for

#### MY FUNNY REMOTE CONTROL CAR

Model: 868

# Prepared for:

POTEX TOYS MANUFACTURER LTD. 14-15/F, SO TAO CENTRE 11-15 KWAI SAU RD. HWAI CHUNG, HONG KONG

Prepared by: Kole June

**KYLE FUJIMOTO** 

Approved by: 🦯

SCOTT McCUTCHAN

COMPATIBLE ELECTRONICS INC. 114 OLINDA DRIVE BREA, CALIFORNIA 92823 (714) 579-0500

DATE: July 11, 1998

	REPORT	<b>A</b> P	TOTAL		
	BODY	A	В	С	
PAGES	18	4	4	3	29

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#### GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced in any form unless done so in full.

This report must not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Device Tested:

My Funny Remote Control Car

Model: 868 S/N: N/A

Device Description:

The EUT is a 27 MHz radio transmitter for a toy remote control car.

Modifications:

The EUT was modified in order to meet the specifications. Please see list in

Appendix C.

Manufacturer:

Potex Toys Manufacturer Ltd.

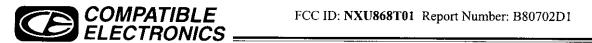
14-15/F, So Tao Centre 11-15 Kwai Sau Rd. Hwai Chung, Hong Kong

Test Dates:

June 26 and July 2, 1998.

Test Deviations:

The test procedure was not deviated from during the testing.



# **SUMMARY OF TEST RESULTS**

TEST	DESCRIPTION	RESULTS
1	Radiated RF Emissions, 10 kHz - 272 MHz.	Complies with the limits of sections 15.205, 15.209 and 15.227 of FCC Title 47, Part 15, Subpart C
2	Conducted RF emissions, 450 kHz - 30 MHz	This test is not applicable. The EUT is powered by a 9 volt battery.

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#### 1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the My Funny Remote Control Car Model: 868. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 1992. The tests were performed in order to determine whether the electromagnetic emissions from the My Funny Remote Control Car, referred to as EUT hereafter, are within the specification limits defined by FCC Title 47, Part 15, Subpart C, sections 15,205, 15,209, and 15,227,

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#### 2. ADMINISTRATIVE DATA

#### 2.1 Location of Testing

The EMI/EMC tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California.

#### 2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

# 2.3 Cognizant Personnel

Potex Toys Manufacturer Ltd.

F. H. Cho

Engineering

Compatible Electronics, Inc.

Kirit Ramani

**Test Engineer** 

Kyle Fujimoto

Test Engineer

Scott McCutchan

Lab Manager

#### 2.4 Date Test Sample was Received

The test sample was received on June 24, 1998.

#### 2.5 Disposition of the Test Sample

The test sample has not yet been returned to Potex Toys Manufacturer Ltd.

#### 2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

HP Hewlett Packard RF Radio Frequency

P/N Part Number EMI Electromagnetic Interference

LISN Line Impedance Stabilization Network S/N Serial Number

ITE Information Technology Equipment EUT Equipment Under Test





# 3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
FCC Title 47, Part 15 1997	FCC Rules - Radio frequency devices (including digital devices).
ANSI C63.4 1992	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.



#### 4. DESCRIPTION OF TEST CONFIGURATION

#### 4.1 Description of Test Configuration - EMI

Specifics of the EUT being tested:

The EUT was placed in the center of the test table. It was transmitting constantly during all tests, and was tested in three orthogonal axis. The EUT is a stand-alone device with no cables.

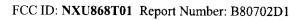
All initial investigations were performed with the EMI receiver in manual mode scanning the frequency range continuously.



#### 4.1.1 Cable Construction and Termination

#### **HANDSET BEING TESTED**

There are no cables on the device.



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5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

# 5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEU NUMBER	SERIAL NUMBER	FCC ID
MY FUNNY	POTEX TOYS	868	N/A	NXU868T01
REMOTE	MANUFACTURER			
CONTROL CAR	LTD.			
(EUT)				



# 5.2 Test Equipment

EQUIPMENT TYPE	MANU- FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
Spectrum Analyzer	Hewlett Packard	8566B	2729A04566	July 2, 1997	1 Year
Preamplifier	Com Power	PA-102	1017	February 16, 1998	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2521A00924	June 16, 1998	1 Year
Biconical Antenna	Com Power	AB-100	1548	March 24, 1998	1 Year
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
Turntable	Com Power	TT-100	N/A	N/A	N/A
Loop Antenna	Com Power	AL-100	25309	February 5, 1998	1 Year



# 6. TEST SITE DESCRIPTION

# 6.1 Test Facility Description

Please refer to section 2.1 of this report for EMI test location.

# 6.2 EUT Mounting, Bonding and Grounding

For all tests, the EUT was mounted on a 1.0 by 1.5 by 0.8 meter high non-conductive table, which was placed on the ground plane.

The EUT was not grounded.

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#### 7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

#### 7.1 Emissions Tests

#### 7.1.1 Radiated Emissions Test

The spectrum analyzer was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies above 30 MHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps. The quasi-peak adapter was used only for those readings which are marked accordingly on the data sheets. The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 1992. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and for frequencies above 30 MHz, the antenna height was varied from 1 to 4 meters (for E field radiated field strength). For measurements with the loop antenna, the loop was mounted with its center one meter above the ground plane, and was rotated along its axis in an effort to maximize the emissions.

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain final test data.



# **SECTION 7.1.1.1**

# RADIATED EMISSIONS DATA



	1		,
PAGE		of	

COMPANY NAME: FOTEX TOYS MANUFACTURER DATE: 7-2-98
EUT: MY FUNNY REMOTE CONTROL CAR EUT SIN: N/A
EUT MODEL: \$68 LOCATION: \( \text{D BREA} \) SILVERADO \( \text{A GOURA} \)
SPECIFICATION: FCC-B CLASS: B TEST DISTANCE: 32. LAB: D
ANTENNA: # LOOP □ BICONICAL □ LOG □ HORN POLARIZATION: □ VERT □ HORIZ
QUALIFICATION DENGINEERING DMFG. AUDIT DENGINEER: KIRIT RAMANI
NOTES:

Frequency	Peak Reading (dBuV)	Avg. [] Q.P. [] (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Distance Factor (dB)	Antenna Gain (dB)	* Corrected Reading (dBuV)	Delta ** (dB)	Spec Limit (dBuV)
27.147m	50.3		1.0	90°		10.2	60.5	-195	80.0
									-
_	-					·· <del>-</del> -			
				<u> </u>					
			·						
						· · · · · · · · · · · · · · · · · · ·			

\* CORRECTED READING = METER READING - DISTANCE FACTOR + ANTENNA GAIN

\*\* DELTA = CORRECTED READING - SPECIFICATION LIMIT

BREA (714) 579-0500

SILVERADO (714) 589-0700

AGOURA (818) 597-0600

# FCC ID: NXU868T01

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Test location: Compatible Electronics

Customer : ETS (HK) Ltd. Date : 7/ 2/1998 Time : 11.45

Manufacturer: POTEX TOYS MANUFACTURER Ltd. EUT name : MY FUNNY REMOTE CONTROL CAR Model: 868 Specification: Fcc B Test distance: 3.0 mtrs Lab: D Distance correction factor(20\*log(test/spec)) : 0.00

Test Mode

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	limit = L dBuV/m	Delta R-L dB
two in	ductor 4	.7 uH in	sereis	between	pcb and	antenna		
1V	54.40	51.90	0.64	11.15	38.96	24.74	40.00	-15.26
2V	81.54	52.80	0.72	8.77	38.32	23.97	40.00	-16.03
3 V	108.65	57.20	0.93	10.22	38.67	29.68	43.50	-13.82
4 V	135.79	64.00	1.09	12.32	38.83	38.58	43.50	-4.92
5V	190.14	53.60	1.40	15.33	38.84	31.48	43.50	-12.02
6V	271.54	51.50	1.69	19.00	38.69	33.50	46.00	-12.50
7H	108.65	47.20	0.93	10.22	38.67	19.68	43.50	-23.82
8H	135.84	54.10	1.09	12.33	38.83	28.69	43.50	-14.81
9H	190.11	50.30	1.40	15.33	38.84	28.18	43.50	-15.32
10H	271.53	56.20	1.69	18.99	38.69	38.19	46.00	-7.81



#### 8. CONCLUSIONS

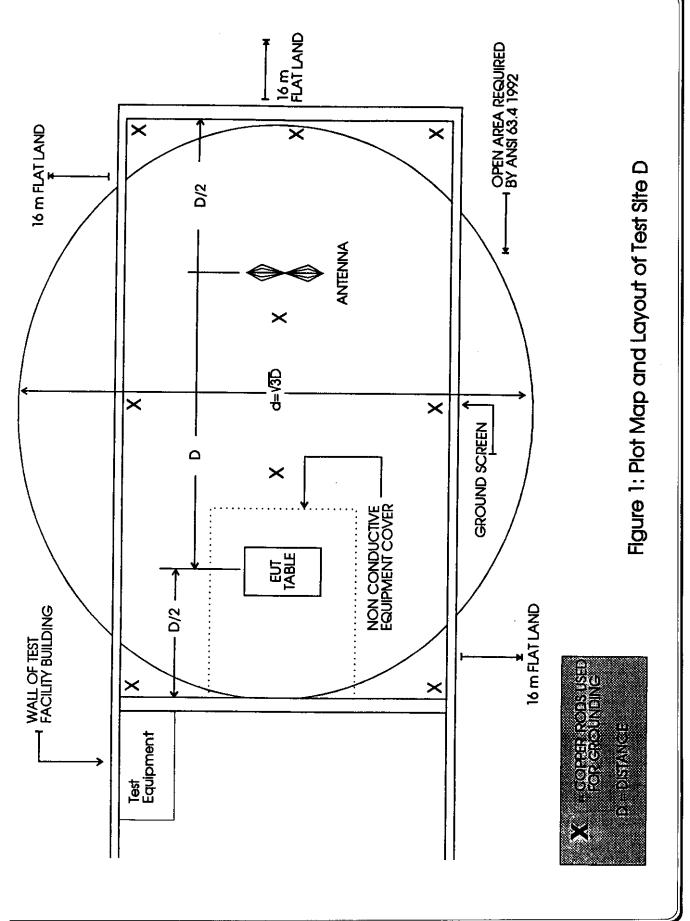
The My Funny Remote Control Car Model: 868 meets all of the <u>specification limits defined</u> in FCC Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.227 specification limits defined in FCC Title 47, Part 15, Subpart C.



# **APPENDIX A**

TEST SETUP DIAGRAMS AND PHOTOS







# APPENDIX B

# ANTENNA FACTORS AND EFFECTIVE GAIN FACTORS

# FCC ID: NXU868T01

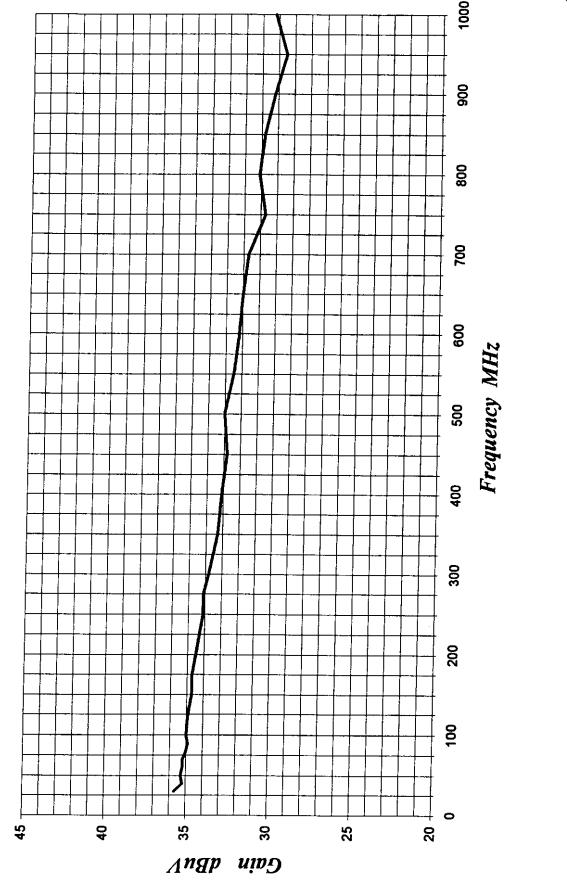
Com-Power Corporation (714) 587-9800						
	Antenna Calibration					
Antenna Type: Model: Serial Number: Calibration Date:		Loop Antenn. AL-130 25309 2/5/98				
Frequency MHz	Magnetic (dB/m)	Electric dB/m				
0.01	-40.5	11.0				
0.02	-41.6	9,9				
0.03	-40.0	11.5				
0.04	-40.3	11.2				
0.05	-41.6	9.9				
0.06	-41.1	10.4				
0.07	-41.3	10.2				
0.08	-41.6	9.9				
0.09	-41.7	9.8				
0.1	-41.8	9.7				
0.2	-44.0	7.5				
0.3	-41.6	9.9				
0.4	41.7	9.8				
0.5	-41.7	9.8				
0.6	-41.5	10.0				
0.7	-41.5	10.0				
0.8	-41.6	9.9				
0.9	-41.6	9.9				
1	-41.1	10.4				
2	-40.7	10.8				
3	-40.7	10.8				
4	-40.9	10.6				
5	-40.1	11.4				
7	-40.0	11.5				
8	-40.3	11.2				
9	-39.8	11.7 12.7				
10	-38.8 -40.8					
12	-40.6	10.7				
14	-41.4	10.1 10.1				
15	40.9	10.1				
16	40.8	10.6				
18	-41.5	10.7				
20	-41.5	10.0				
25	-41.2	10.3				
30	-41.4	10.1				
ans. Antenna Height		meter				



300 250 LAB "D" BICONICAL ANTENNA AB-100 S/N 01548 200 Frequency MHz 150 9 50 20.0 25.0 15.0 10.0 ZEBE



# PREAMPLIFIER EFFECTIVE GAIN AT 10 METERS PA-102 S/N: 1017





# **APPENDIX C**

# **MODIFICATIONS TO THE EUT**



# MODIFICATIONS TO THE EUT

The modification listed below were made to the EUT to pass FCC Subpart C specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

#### Modifications:

- 1) Changed C3 from 27 pF to 33 pF.
- 2) Added two 4.7 µH inductors in series with C10 and the antenna. (Coilcraft P/N: 70-21).

#### FCC ID: NXU868T01



# 實 徳 玩 具 製 造 有 限 公 司 POTEX TOYS MANUFACTURER LTD.

東京行戦: 香港九龍美術教務所計-15駅蘇羅門市514 水15場 Office: 14-15/F , So Tao Centre, 11-15 Kwal Sau Rd., Kwal Chung, N.T., Hong Kong では:(853) 2422 2226 FAN(852) 2489 1,966 登楽部: 香港九龍大河川東摩地道67號中部中京1212室 Showroom: 12/F, Rm +212, Peninsula Centre, 67 Mody Rd., T.S. I. Last, Kowloon, Hong Kong (13) 1852) 2260089 6AN(852) 2360092 E-Mail Address: potexionetrigator.com

Date: July 13, 1998.

From: F.H. Cho (Engineering)

Federal Communications Commission Common Carrier Domestic Services, P.O. Box 358145 Pittsburgh, PA 15251 - 5145

Dear Commission:

We, Potex Toys Manufacturer Ltd., will implement the modifications listed below into all devices manufactured under this approval.

These changes were implemented to meet the requirements of FCC Part 15.

For the model of 868 --- My funny Remote Control Car, C3 is changed from 27pF to 33 pF.

Added 2 pcs. 4.7aH inductors in series with C10 and the antenna.

Thanks for your attention.

With b. regards'

ENGENERALLY MANAGER.