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Bellaterra : **October 15, 2009**

File number: **09/34608936**

Petitioner's reference: **TECNITOYS JUGUETES, S.A.**

Avda diagonal, nº 545 7ª planta
08029 BARCELONA
BARCELONA - SPAIN

On its behalf:
Lluis M. Arnau

ENAC ENSAYOS Nº 9/LE900

TEST REPORT

TEST REQUESTED

Electromagnetic compatibility, directive 2004/108/CE
Standard conformity to:
UNE-EN 55014-1:2008 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus — Part 1: Emission
UNE-EN 55014-2:1998+A1:2002+A2:2009 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus — Part 2: Immunity - Product family standard 2
UNE-EN 61000-3-2:2006 Electromagnetic compatibility (EMC) – Part 3-2. Limits.-- Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
UNE-EN 61000-3-3:1997+A1:2002+A2:2006 Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection

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1.0 EQUIPMENT RECEIVED AND TESTED

Slot circuit, brand Tecnitoys, model Scalextric/SCX C3 new connection track, s/n: ---;Id:001

Test product reception:	2009-07-31
Test initial date:	2009-09-09
Test final date:	2009-10-06

The equipment is composed by:
1 AC/DC Adaptor, Brand: Tecnitoys Juguetes, S.A., model: SME1400210T, s/n: ---;Id:001
1 new connection track, 8 standard curves, 8 standard 350mm. straights, 10 fences, 2 throttle, ,2 cars SCX.

1.1 Test configuration

Power supply: AC 230V 50Hz
Set-up: Tabletop equipment
Test exercise: Circuit disposition following manufacturer's specifications, 2 cars running in free race mode

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2.0 TESTING PROCEDURE

EMISSIONS TESTS APPLICABLE STANDARDS		
Standard: UNE-EN 55014-1:2008 based on standards:		
Basic Standard: UNE-EN 55014-1:2008		
① ☐ Radio-frequency radiated emissions (30 -1000 MHz)		Class: B
② ☒ Continuous conducted emissions (0,15-30 MHz)		Class: B
Basic Standard: UNE-EN 55014-1:2008		
③ ☒ Radiated power emissions		
Basic Standard: UNE-EN 55014-1:2008		
④ ☒ Discontinuous conducted emissions (150kHz-30 MHz)		
Standard: UNE-EN 61000-3-3:1997+A1:2002+A2 :2006		
⑤ ☒ Voltage fluctuations emissions		
Standard: UNE-EN 61000-3-2:2006		
⑥ ☒ Harmonic current emissions		

IMMUNITY TEST APPLICABLE STANDARDS		
Standard: UNE-EN 55014-2:1998+A1:2002+A2:2009 based on standards:		
Basic Standard: UNE-EN 61000-4-2:1997+A1:1999+A2:2001		
① ☒ **Electrostatic discharges**	level AC: 8kV	level DC: 4kV
Basic Standard: UNE-EN 61000-4-4:2005		
② ☒ **Fast transients in burst immunity**		
☐ Severity level in signal and control ports ,and by ground terminal	Severity: kV	
☒ Severity level in I/O ports of DC and AC power supply.	Severity: 1 kV	

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Basic Standard: UNE-EN 61000-4-5:2007	
④ ☒ **Surge transients immunity**	
☐ Signal and control ports	Common mode Severity: kV Differential mode Severity: kV
☐ DC supply ports	Common mode Severity: kV Differential mode Severity: kV
☒ AC supply ports	Common mode Severity: 2 kV Differential mode Severity: 1 kV
Basic Standard: UNE-EN 61000-4-6:2008	
⑤ ☒ **Current injections** 150kHz-230MHz	
☐ Signal and control ports	Severity: rms
☒ AC/DC supply, and access by ground terminal	Severity: 3 V rms
Basic Standard: UNE-EN 61000-4-11:2005	
⑥ ☒ **Voltage variations**	
☒ Short interruptions	
☒ Voltage dips	
Basic Standard: UNE-EN 61000-4-8:1996+A1:2001	
⑦ ☐ **Low frequency magnetic field immunity**	Intensity:
Note: Test not applicable. Applicable only to equipment containing devices susceptible to magnetic fields.	

2.1 Acceptance criteria for the immunity test

According to standard **UNE-EN 55014-2:1998+A1:2002+A2:2009** section 6.

A-The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used.

B-The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description

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and documentation, and from what the user may reasonably expect from the apparatus if used as intended.
C-Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

2.2 Test procedures

Continuous conducted emissions: C5400276.
Discontinuous conducted emissions: C5400278.
Radiated power: C5400279.
Harmonic current and flickers: C5400281.
Electrostatic discharges: C5400282.
Radiated immunity: C5400285.
Fast transients/burst: C5400283.
Surge transients: C5400286.
Current injection: C5400284.
Voltage dips, short interruptions and voltage variations immunity: C5400288.

2.3 Measuring equipment used

Conducted emissions
- Lisn 4x32A/2x16A 50µH 50 ohm Rohde & Schwarz model ESH2-Z5 s/n: 860014/021.
- EMI receiver (9kHz-30MHz) Rohde & Schwarz model ESHS-30 s/n: 830289/004.
- Transient Limiter Transitorios (Cond. Emi.) Hewlett Packard model 11947A s/n: 2820A00427.
- Faraday Chamber FAC1 Euroshield (NC) model RFSD-100 s/n: 1427/97.
- RF Way Nº1 COND.EMI.FAC1 Suhner model RG-223 s/n: 001FAC1.
- Conducted Emissions Software EMC s/n: 051399021LGAI.
- Outside section FAC1 conducted Suhner model RG-223.

Radiated power
- Absorbing Clamp (30MHz-1GHz) Rohde & Schwarz model MDS-21 s/n: 301404/027.
- Faraday Chamber FAC1 Euroshield (NC) model RFSD-100 s/n: 1427/97.
- Computer System FAC1 Hewlett Packard model D4776N D2836 s/n: FR74350477.
- RF Way Nº5 RAD.POT.FAC1 Suhner model RG-223 s/n: 005FAC1.
- Traction System RAD.POT.FAC1 EMC model CP01-01 s/n: AL11961.
- System Interface Controller Clamp Position SI-200 EMC model SI-200 s/n: SI129728.
- EMI receiver 9kHz to 6.5GHz Hewlett Packard model 85460A s/n: 3704A00356.
- Outside section FAC1 conducted Suhner model RG-223.

Discontinuous conducted emissions
- Lisn 2x10A 50µH 50 ohm Rohde & Schwarz model ESH3-Z5 s/n: 843012/001.
- Faraday Chamber FAC1 Euroshield (NC) model RFSD-100 s/n: 1427/97.
- RF Way Nº2 COND.EMI.FAC1 Suhner model RG-223 s/n: 002FAC1.
- Outside section FAC1 conducted Suhner model RG-223
- EMI Test reciver ESCI 9KHz-3GHz ESHS-30 s/n: 830289/004

Harmonics, Flickers, Voltage Dips and interruptions
- Harmonics & Flickers & Voltage Dips & Interrup. Test System Spitzenberger model ARS 16/3 s/n: A303407/00902.

Electrostatic discharges
- Vertical Plan coupling LGAI model PVA.
- ESD simulator (NSG 438) Schaffner model NSG-438 s/n: 601.

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Fast Transient
- Fast Transient Generator (NSG 2025-8) Schaffner (NC) model NSG 2025-8 s/n: 8.
- Monophasic Plug to FT Schaffner model: Monophasic 16A 230V s/n: 69529/02A.
- Software NSG 2025 Firmware Schaffner s/n: 592-0012.

Surge transients
- Impulse surge platform, HAEFELY, model Psurge 8000+, s/n: 151589/151413
- Coupling CDN surge, HAEFELY, model PDC 130, s/n: 151576
- Computer system HP model D4776N D2836 s/n: FR74350478.

Current injection
- Signal Generator (9kHz-2GHz) (VARIS) Hewlett Packard model HP8648B s/n: 3642U01234.
- RF Power meter Boonton model 4300 s/n: 94105EF.
- RF Power Sensor (100kHz-18GHz) Boonton model 51013(4E) s/n: 30073.
- RF Power Sensor (100kHz-18GHz) Boonton model 51013(4E) s/n: 30074.
- Amplifier Interface EMC model AI1000 s/n: AI019804.
- Signal Generator wave form arbitrary Hewlett Packard model HP33120A s/n: US36011966.
- RF Way Conducted Immunity Suhner model N-N Mascle.
- Load 50 ohms Suhner model s/n: C1.
- Attenuattor 75W (6dB) brand BIRD model 75-A-MFN-06 n/s: 3331
- Coupling / Decoupling Network M3 Schaffner model CDN M325 s/n: 22560.

2.4 Measuring uncertainties

Conducted Emissions: ± 2,1 dB.
Discontinuous Conducted emissions: ± 0,9 dB.
Radiated Power: ± 2,2 dB.
Harmonics & Flickers: ± 0,8 dB.
Electrostatic Discharges: ± 1,65 dB.
Radiated immunity: ± 2,45 dB.
Fast Transients: ± 1,3 dB.
Surge Transients: ± 1,3 dB.
Current injection: ± 1,7 dB.
Voltage dips: ± 0,8 dB.

In all cases, with a confidence level of 95%, k=2

2.5 Environmental conditions

See result sheets.

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3.0 RESULTS

PRODUCT	Test reference												
	Emissions						Immunity						
Device Slot circuit, brand Tecnitoys, model Scalextric/SCX C3 new connection track, s/n: ---;Id:001	①	②	③	④	⑤	⑥	①	②	③	④	⑤	⑥	⑦
	NA	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**N.A.**

P - PASS
F - FAIL
N.A. – Not Applicable

Detail of results in annex

3.1 Conformity to emissions standards

②.- Continuous conducted emissions
The measured results are within the limits, including the uncertainty interval.
③.- Radiated power emissions
The measured results are within the limits, including the uncertainty interval.
④.- Discontinuous conducted emissions
The measured results are within the limits, including the uncertainty interval.
⑤.- Fluctuations voltage emissions
The measured results are within the limits, including the uncertainty interval.
⑥.- Harmonic current emissions
The measured results are within the limits, including the uncertainty interval.

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3.2 Conformity to immunity standards

①.- Electrostatic discharges
Normal performance during interference, A criteria, According to specification.
②.- RF Electromagnetic fields immunity
Normal performance during interference, A criteria, According to specification.
③.- Fast transients/burst immunity
Normal performance during interference, B criteria, According to specification.
④.- Surge transients immunity
Normal performance during interference, A criteria, According to specification.
⑤.- Current injection
Normal performance during interference, A criteria, According to specification.
⑥.- Voltage variations
Normal performance during interference, A criteria, According to specification.

LGAI Technological Center, S.A.

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LGAI Technological Center, S.A.

Manuel López Martín
Project Responsible
IT & Telecom BU
LGAI Technological Center S.A.

The results refer only and exclusively to the sample, product or material delivered for testing in "Received Material" section above. The equipment has been tested under conditions stipulated by standard(s) quoted in this document.

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3.2 Conformity to immunity standards

①.- **Electrostatic discharges**

Normal performance during interference, A criteria, According to specification.

②.- **RF Electromagnetic fields immunity**

Normal performance during interference, A criteria, According to specification.

③.- **Fast transients/burst immunity**

Normal performance during interference, B criteria, According to specification.

④.- **Surge transients immunity**

Normal performance during interference, A criteria, According to specification.

⑤.- **Current injection**

Normal performance during interference, A criteria, According to specification.

⑥.- **Voltage variations**

Normal performance during interference, A criteria, According to specification.

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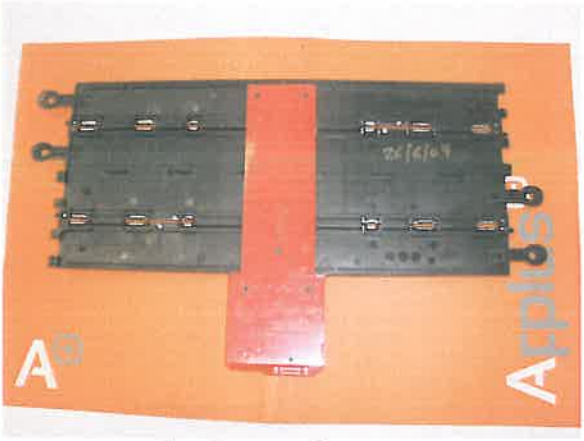
4.0 IDENTIFICATION PICTURES

Connection track front view



Connection track rear view

AC adapter

AC adapter

AC adapter

Throttle

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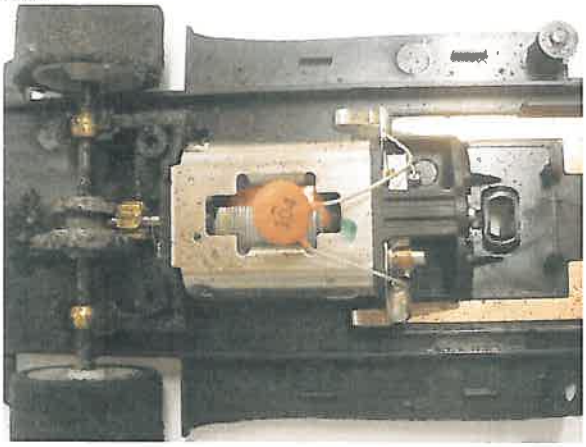
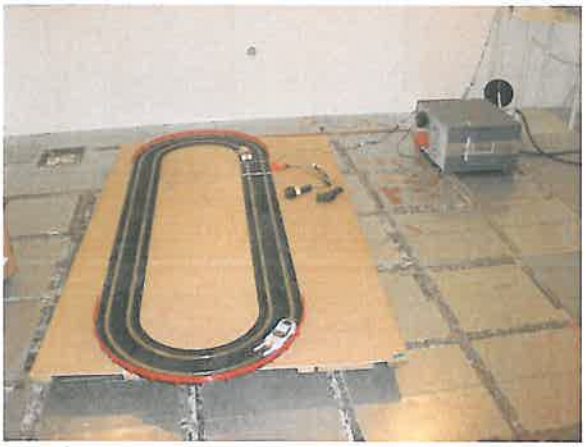
Car

Car

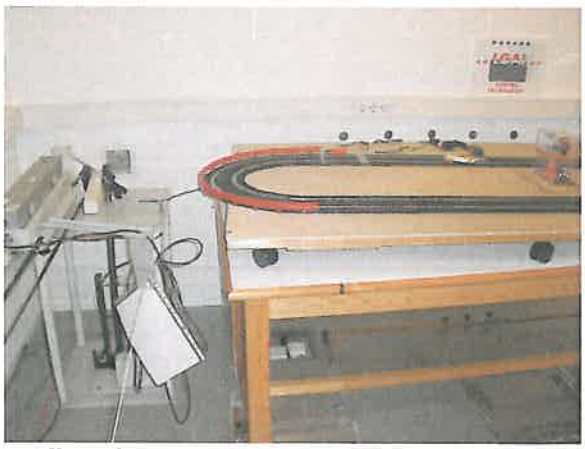


Car motor detail

4.1 Test configuration



Conducted Emissions



Radiated Power

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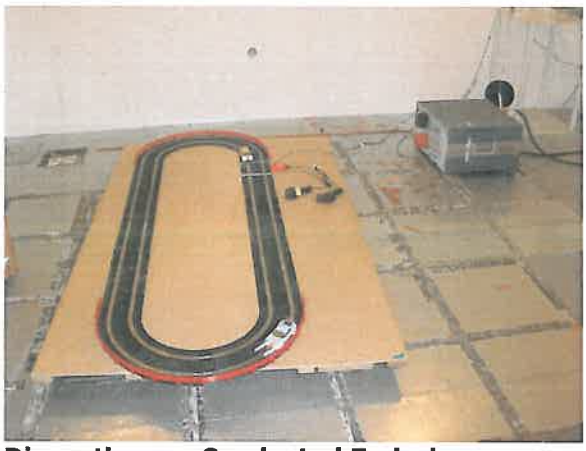
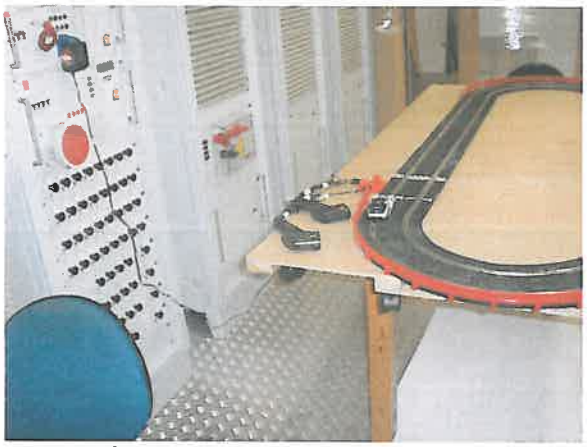


Discontinuous Conducted Emissions



Harmonic Current Emissions and Flicker Voltage Emissions

Electrostatic discharges

Fast transients/burst

Surge transients

Current injection

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5.0 ANNEX: DETAIL OF RESULTS

CONDUCTED EMISSIONS			
Petitioner: TECNITOYS JUGUETES, S.A.	**Device under test:** Slot circuit		
File Nº: 09/34608936	**Brand:** Tecnitoys		
Procedure: C5400276	**Model:** Scalextric/SCX C3 new connection track		
Standard: UNE-EN 55014-1:2008 **Class:** B	**Serial number:** ---;Id:001		
	Reception date: 2009-07-31		
Performance criteria according to: UNE-EN 55014-1:2008	**Test type:** Conformity	**Temperature:** 24,1 ºC **Humidity:** 53,2 % **Atm. Pressure:** 1001 hPa	
Technician: Xavier Hernan / Manolo López			
Supervised:	**DUT exercise:** Circuit disposition following manufacturer's specifications, 2 cars running in free race mode **Supply:** AC 230V 50Hz		
Test date: 2009-09-23			
Equipment: RS ESHS30 EMI receiver RS ESH3-Z5 LISN	**Test area:** Faraday chamber, FAC-1		
	Test disposition : Tabletop equipment		
Auxiliary equipment:	**Communication cables entry/exit:**		
CONTINUOUS CONDUCTED EMISSIONS			
Supply			
Mains supply			
V. in power supply (dBµV)	PASS Vqp< lim QP + Vavg< lim AVG		
Source and type of the most important emissions			
Source: Device under test	**Type:** Broad Band		
RESULT: PASS			
Comments:			

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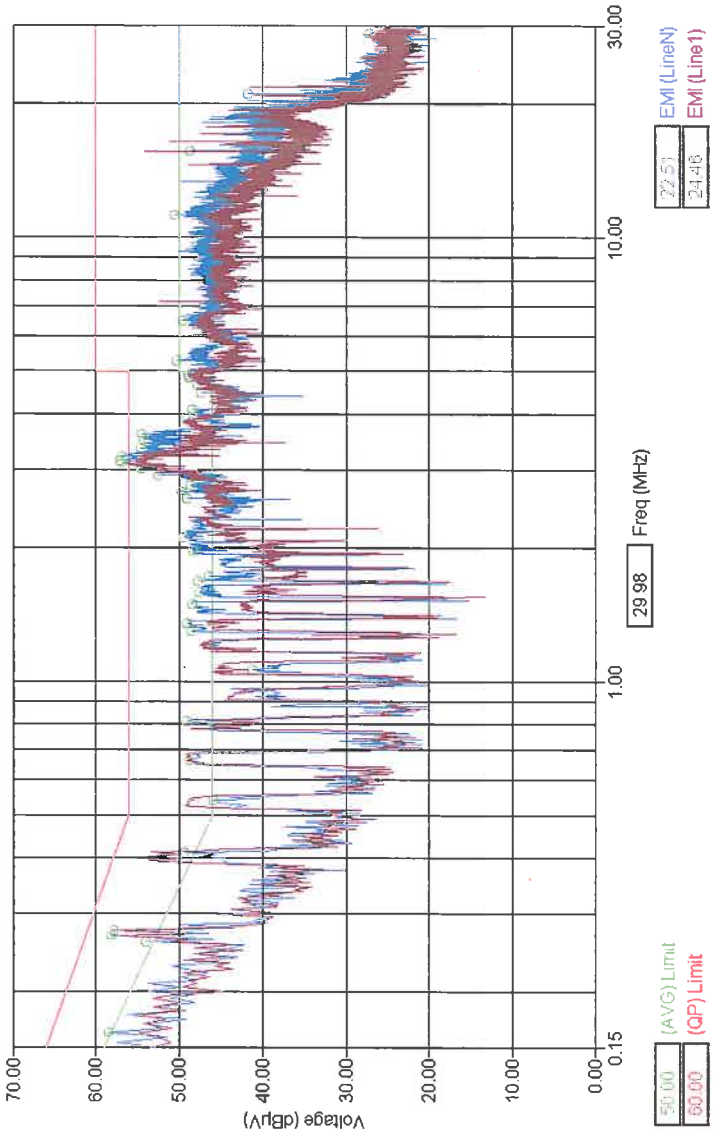
Prescan Conducted Emissions



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Final results Conducted Emissions

Freq (MHz)	(AVG) Limit (dBµV)	(AVG) EMI (dBµV)	(AVG) Margin AVL (dB)	(QP) Limit (dBµV)	(QP) EMI (dBµV)	(QP) Margin QPL (dB)	(PK) EMI (dBµV)
0.2672	52.77	41.41	-11.35	61.20	51.61	-9.59	57.07
0.2750	52.46	37.66	-14.79	60.97	50.67	-10.29	56.48
0.4117	48.10	36.62	-11.47	57.61	43.98	-13.63	49.87
0.5406	46.00	31.00	-15.00	56.00	43.85	-12.15	48.22
0.6656	46.00	35.96	-10.04	56.00	47.56	-8.44	50.11
0.8141	46.00	32.90	-13.10	56.00	45.81	-10.19	51.35
1.0641	46.00	22.92	-23.08	56.00	38.72	-17.28	46.13
1.2985	46.00	7.11	-38.89	56.00	28.29	-27.71	39.81
1.3531	46.00	31.25	-14.75	56.00	47.08	-8.92	50.11
1.4977	46.00	30.97	-15.03	56.00	47.16	-8.84	49.90
1.5914	46.00	28.32	-17.68	56.00	44.72	-11.28	48.39
1.6930	46.00	7.33	-38.67	56.00	25.73	-30.27	40.54
1.7321	46.00	23.89	-22.11	56.00	42.22	-13.78	48.71
1.9703	46.00	26.89	-19.11	56.00	45.32	-10.68	49.60
2.1188	46.00	25.75	-20.25	56.00	46.84	-9.16	51.54
2.5875	46.00	21.51	-24.49	56.00	41.27	-14.73	50.06
2.6774	46.00	22.00	-24.00	56.00	43.26	-12.74	51.62
2.7711	46.00	26.16	-19.84	56.00	46.01	-9.99	53.37
2.9235	46.00	29.16	-16.84	56.00	49.31	-6.69	55.80
3.0250	46.00	29.24	-16.76	56.00	50.82	-5.18	58.19
3.1149	46.00	30.25	-15.75	56.00	52.12	-3.88	58.60
3.1500	46.00	30.37	-15.63	56.00	51.93	-4.07	58.40
3.2282	46.00	28.72	-17.28	56.00	49.78	-6.22	56.29
3.3571	46.00	25.00	-21.00	56.00	43.93	-12.07	53.05
3.5250	46.00	19.74	-26.26	56.00	41.51	-14.49	50.57
3.6149	46.00	25.54	-20.46	56.00	43.79	-12.21	50.19
3.9391	46.00	22.48	-23.52	56.00	43.92	-12.08	49.26
4.1032	46.00	26.49	-19.51	56.00	43.76	-12.24	48.39
4.4782	46.00	23.16	-22.84	56.00	41.71	-14.29	48.64
4.7047	46.00	25.05	-20.95	56.00	43.93	-12.07	50.10
4.8532	46.00	27.18	-18.82	56.00	45.13	-10.87	50.29
4.9196	46.00	27.73	-18.27	56.00	45.29	-10.71	50.20
5.3102	50.00	25.17	-24.83	60.00	42.21	-17.79	48.20
6.5446	50.00	25.48	-24.52	60.00	42.50	-17.50	48.46
11.2869	50.00	29.31	-20.69	60.00	42.59	-17.41	49.97
15.7674	50.00	25.78	-24.22	60.00	37.98	-22.02	55.14
21.1698	50.00	19.79	-30.21	60.00	30.39	-29.61	43.34
28.9472	50.00	13.39	-36.61	60.00	20.95	-39.05	28.21

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RADIATED POWER				
Petitioner: TECNITOYS JUGUETES, S.A.		**Device under test:** Slot circuit		
File Nº: 09/34608936		**Brand:** Tecnitoys		
Procedure: C5400279		**Model:** Scalextric/SCX C3 new connection track		
Standard: UNE-EN 55014-1:2008		**Serial number:** ---;Id:001		
		Reception date: 2009-07-31		
Performance criteria according to: UNE-EN 55014-1:2008		**Test type:**	**Temperature:** 24 ºC	
Technician: Xavier Hernan / Manolo López		Conformity	**Humidity:** 54,6 %	
Supervised:			**Atm. Pressure:** 1003 hPa	
Test date: 2009-09-22		**DUT exercise:** Circuit disposition following manufacturer's specifications, 2 cars running in free race mode **Supply:** AC 230V 50Hz		
Equipment: HP 8542E EMI receiver RS MSD-21 Absorbing clamp		**Test area:** Faraday chamber, FAC-1		
		Test disposition : Tabletop equipment		
Auxiliary equipment:		**Communication cables entry/exit:**		

RADIATED POWER		
Limits for:		
Supply AC 230V 50Hz		
P. in Power supply (dBµW)	PASS Wqp< lim QP + Wavg< lim AVG	
Additional supply DC 18V		
P. in Power supply (dBµW)	PASS Wqp< lim QP + Wavg< lim AVG	
Throttle cable		
P. in Power supply (dBµW)	PASS Wqp< lim QP + Wavg< lim AVG	
Source and type of the most important emissions		
Source: Device under test		**Type:** Broad Band
RESULT: PASS		
Comments:		

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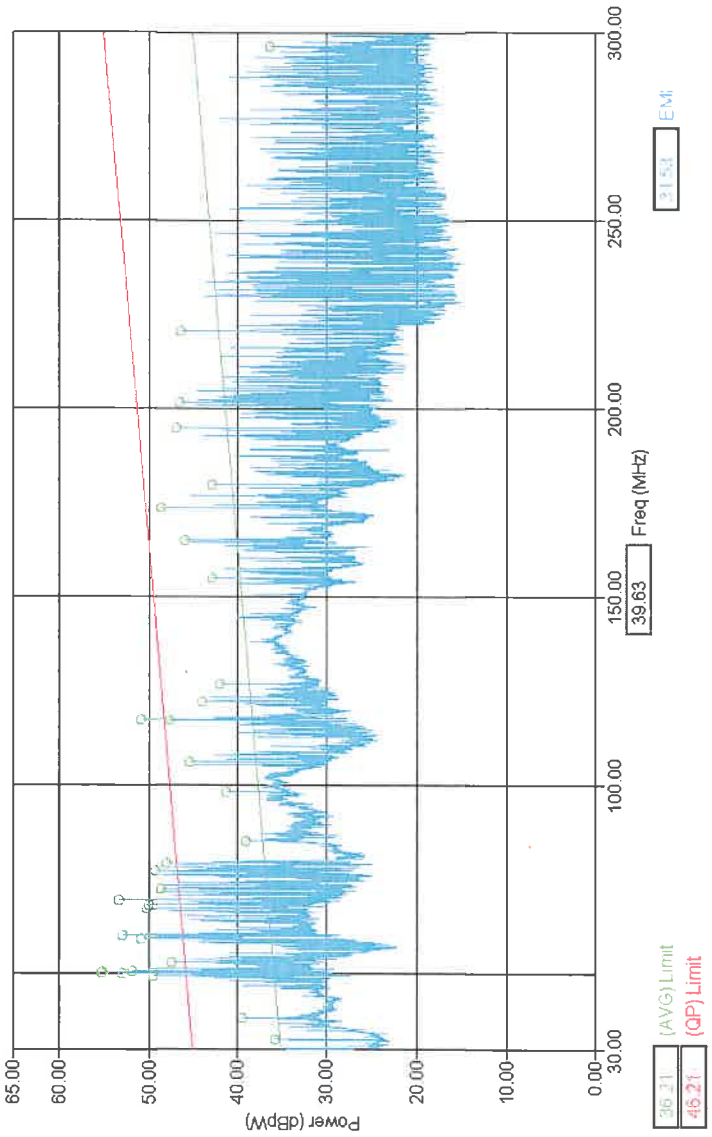
Prescan Radiated Power (AC)



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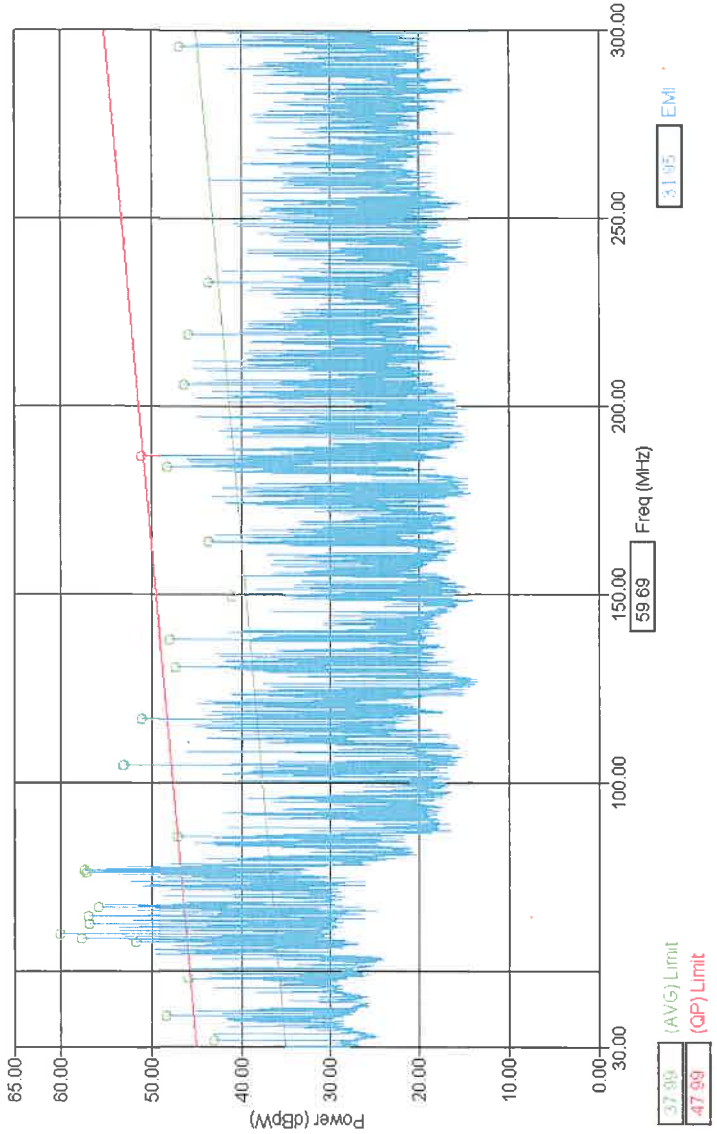
Final Results Radiated Power (AC)

Freq (MHz)	(AVG) Limit (dBpW)	(AVG) EMI (dBpW)	(AVG) Margin AVL (dB)	(QP) Limit (dBpW)	(QP) EMI (dBpW)	(QP) Margin QPL (dB)	(PK) EMI (dBpW)
32.5625	35.36	11.18	-24.17	45.36	18.49	-26.86	32.82
38.1875	36.05	21.19	-14.86	46.05	27.39	-18.66	44.28
49.4375	37.17	14.44	-22.73	47.17	26.09	-21.08	48.21
50.2500	37.24	19.23	-18.01	47.24	35.32	-11.92	55.50
50.3750	37.25	19.50	-17.75	47.25	34.44	-12.81	56.92
50.7500	37.28	20.00	-17.29	47.28	33.14	-14.15	55.47
53.0000	37.47	22.39	-15.08	47.47	35.26	-12.21	56.29
59.2500	37.96	13.14	-24.82	47.96	30.44	-17.52	52.66
60.2500	38.03	20.31	-17.71	48.03	34.49	-13.53	59.07
67.1875	38.50	21.13	-17.37	48.50	31.74	-16.76	54.71
68.5625	38.59	19.98	-18.61	48.59	32.51	-16.08	51.97
69.6250	38.66	17.21	-21.45	48.66	35.54	-13.12	55.60
72.6875	38.84	11.06	-27.78	48.84	29.15	-19.69	52.23
77.3125	39.11	11.67	-27.44	49.11	24.96	-24.15	46.22
79.3125	39.22	16.97	-22.25	49.22	28.81	-20.41	52.53
85.1875	39.53	19.63	-19.90	49.53	28.98	-20.55	41.32
98.3750	40.16	22.97	-17.19	50.16	32.21	-17.95	42.49
106.3750	40.50	16.48	-24.01	50.50	25.11	-25.38	38.34
117.1875	40.92	17.58	-23.34	50.92	26.95	-23.97	51.27
117.6250	40.93	16.84	-24.10	50.93	26.66	-24.28	49.06
122.2500	41.10	20.36	-20.74	51.10	28.37	-22.73	47.66
126.9375	41.26	19.87	-21.39	51.26	28.64	-22.62	48.57
155.0000	42.13	19.93	-22.20	52.13	25.92	-26.21	40.30
165.0000	42.40	15.80	-26.61	52.40	23.64	-28.77	42.06
173.7500	42.63	18.89	-23.74	52.63	28.03	-24.60	48.00
179.0750	42.78	14.15	-28.63	52.78	25.23	-27.55	48.40
195.0000	43.13	18.36	-24.77	53.13	24.45	-28.68	39.26
201.0750	43.28	14.38	-28.90	53.28	21.27	-32.01	45.85
220.6875	43.67	13.88	-29.79	53.67	22.74	-30.93	43.11
296.5625	44.95	14.54	-30.41	54.95	20.86	-34.09	41.35

JOY

Prescan Radiated Power (DC)



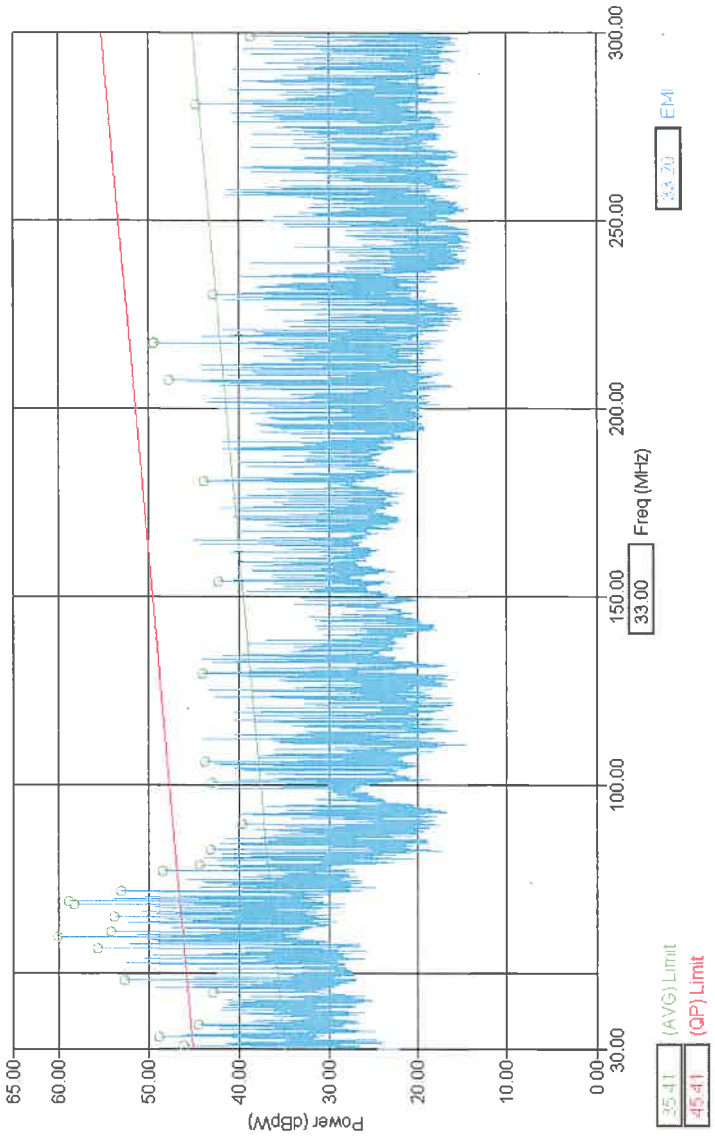
JOY

Final Results Radiated Power (DC)

Freq (MHz)	(AVG) Limit (dBpW)	(AVG) EMI (dBpW)	(AVG) Margin AVL (dB)	(QP) Limit (dBpW)	(QP) EMI (dBpW)	(QP) Margin QPL (dB)	(PK) EMI (dBpW)
31.8125	35.25	20.06	-15.20	45.25	29.44	-15.82	47.72
38.1875	36.05	17.95	-18.10	46.05	25.81	-20.24	46.85
47.9375	37.04	17.76	-19.27	47.04	27.77	-19.26	50.64
57.6875	37.84	14.02	-23.82	47.84	35.30	-12.54	50.53
58.8125	37.92	14.19	-23.74	47.92	40.19	-7.74	59.42
59.8750	38.00	20.64	-17.36	48.00	38.02	-9.98	57.75
62.4375	38.18	10.03	-28.15	48.18	36.53	-11.65	60.61
64.6875	38.34	12.02	-26.32	48.34	36.99	-11.35	60.30
67.0625	38.49	13.49	-25.00	48.49	32.39	-16.10	59.39
76.2500	39.05	9.57	-29.48	49.05	39.84	-9.21	60.54
76.6875	39.08	7.38	-31.69	49.08	35.37	-13.70	54.43
85.9375	39.57	6.95	-32.63	49.57	27.08	-22.50	45.81
104.9375	40.44	4.44	-36.00	50.44	22.01	-28.43	43.29
116.8750	40.91	4.57	-36.33	50.91	26.40	-24.50	47.81
130.8125	41.40	4.25	-37.15	51.40	28.22	-23.18	45.92
130.1250	41.63	6.35	-35.28	51.63	21.03	-30.60	43.18
149.8750	41.99	5.27	-36.71	51.99	20.05	-31.13	45.15
164.3125	42.39	5.07	-37.32	52.39	22.83	-29.56	46.05
183.9375	42.88	5.30	-37.58	52.88	30.07	-22.81	50.24
187.0000	42.95	6.37	-36.58	52.95	29.54	-23.41	50.97
206.0000	43.37	4.63	-38.73	53.37	27.75	-25.61	50.61
219.1250	43.64	4.70	-38.94	53.64	27.47	-26.17	49.36
233.1875	43.91	4.83	-39.08	53.91	17.73	-36.18	37.90
296.0000	44.94	6.22	-38.72	54.94	24.99	-29.95	45.36

JOY

Prescan Radiated Power (Throttle)



JoY

Final Results Radiated Power (Throttle)

Freq (MHz)	[AVG] Limit (dBpW)	[AVG] EMI (dBpW)	[AVG] Margin AVL (dB)	[QP] Limit (dBpW)	[QP] EMI (dBpW)	[QP] Margin QPL (dB)	[PK] EMI (dBpW)
30.9375	35.13	9.30	-25.84	45.13	27.56	-17.58	51.39
33.3750	35.46	16.07	-19.39	45.46	34.36	-11.10	57.40
36.6250	35.87	19.39	-16.48	45.87	33.00	-12.87	57.38
45.0625	36.77	19.15	-17.61	46.77	30.15	-16.61	58.99
48.2500	37.06	22.33	-14.74	47.06	36.21	-10.86	59.21
56.5625	37.75	12.43	-25.32	47.75	32.77	-14.98	55.05
59.6875	37.99	12.90	-25.08	47.99	36.62	-11.36	57.47
61.0625	38.09	11.39	-26.70	48.09	26.97	-21.12	55.42
64.8750	38.35	13.55	-24.80	48.35	27.10	-21.25	54.37
68.1875	38.57	17.58	-20.99	48.57	27.55	-21.02	52.25
68.9375	38.61	13.55	-25.07	48.61	30.89	-17.73	62.55
71.7500	38.79	10.35	-28.44	48.79	27.40	-21.39	56.51
77.3125	39.11	8.15	-30.96	49.11	28.68	-20.43	57.00
78.9375	39.20	8.49	-30.72	49.20	25.10	-24.11	51.70
82.9375	39.42	6.69	-32.72	49.42	18.89	-30.52	42.60
89.7500	39.76	7.80	-31.95	49.76	20.37	-29.38	49.34
100.6875	40.26	15.20	-25.05	50.26	23.12	-27.13	46.16
106.4375	40.50	4.04	-36.46	50.50	26.56	-23.94	52.04
129.7500	41.36	3.99	-37.37	51.36	15.77	-35.59	45.26
154.2500	42.11	12.05	-30.06	52.11	22.08	-30.03	46.76
180.6875	42.80	11.49	-31.31	52.80	17.80	-35.00	41.04
207.6250	43.40	5.12	-38.29	53.40	18.13	-35.28	45.28
217.5625	43.60	5.69	-37.92	53.60	21.62	-31.99	50.35
230.4375	43.85	5.11	-38.74	53.85	19.54	-34.31	41.91
281.1875	44.72	5.72	-38.99	54.72	19.72	-34.99	46.68
299.1250	44.99	6.33	-38.65	54.99	18.48	-36.50	41.39

JOY

DISCONTINUOUS CONDUCTED EMISSIONS					
Petitioner: TECNITOYS JUGUETES, S.A.	**Device under test:** Slot circuit				
File Nº: 09/34608936	**Brand:** Tecnitoys				
Procedure: C5400278	**Model:** Scalextric/SCX C3 new connection track; 8103				
Standard: UNE-EN 55014-1:2008	**Serial number:** ---;Id:001				
	Reception date: 2009-07-31				
Performance criteria according to: UNE-EN 55014-1:2008	**Test type:**	**Temperature:**	22.7	ºC	
Technician: Andreu Tey	Conformity	**Humidity:**	49.9	%	
		Atm. Pressure:	998	hPa	
Supervised:	**DUT exercise:** Circuit disposition following manufacturer's specifications, 2 cars running in free race mode **Supply:** AC 230V 50Hz				
Test date: 2009-09-17					
Equipment: RS ESHS30 EMI receiver RS ESH3-Z5 LISN	**Test area:** Faraday chamber, FAC-1				
	Test disposition : Tabletop equipment				
Auxiliary equipment:	**Communication cables entry/exit:**				

DISCONTINUOUS CONDUCTED EMISSIONS

N determination 120 min.

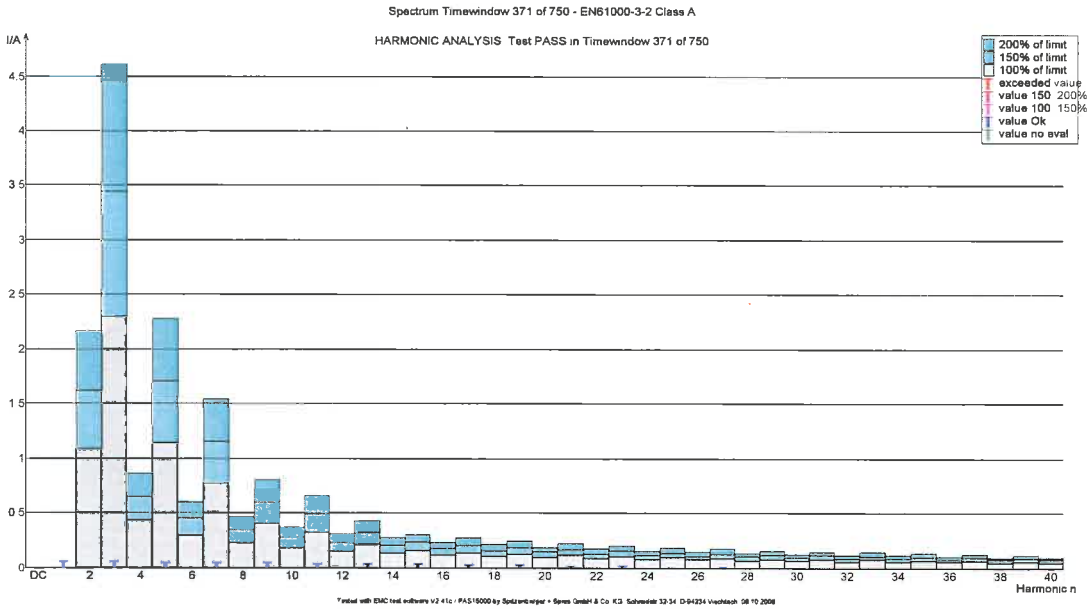
Clicks read in:

Frequency sensor	limit (dBµV)	clicks	limits increased in	clicks remeasured
0,15 MHz	66	0	+44 dB	0
0,5 MHz	56	0	+44 dB	0
1,4 MHz	56	0	+44 dB	0
30 MHz	60	0	+44 dB	0

RESULT: PASS

Comments:

HARMONIC CURRENT EMISSION TEST	
Petitioner: TECNITOYS JUGUETES, S.A.	**Device under test:** Slot circuit
File Nº: 09/34608936	**Brand:** Tecnitoys
Procedure: C5400281	**Model:** Scalextric/SCX C3 new connection track; 8103
Standard: UNE-EN 61000-3-2:2006	**Serial number:** ---;Id:001
	Reception date: 2009-07-31
Performance criteria according to: UNE-EN 61000-3-2:2006	**Test type:** Conformity — **Temperature:** 23,4 ºC; **Humidity:** 59 %; **Atm. Pressure:** 1006 hPa
Criteria: PASS	
Technician: Pedro Fernández	
Supervised:	**DUT exercise:** Circuit disposition following manufacturer's specifications, 2 cars running in free race mode
Test date: 2009-10-06	**Supply:** AC 230V 50Hz
Equipment: Spitzenberger+Spies EMV E 10000/PAS	
Auxiliary equipment:	**Test disposition:** Tabletop equipment
	Communication cables entry/exit:
RESULT: PASS	



Comments:

HARMONIC CURRENT EMISSION TEST

Petitioner: TECNITOYS JUGUETES, S.A.	**Device under test:** Slot circuit
File Nº: 09/34608936	**Brand:** Tecnitoys
Procedure: C5400281	**Model:** Scalextric/SCX C3 new connection track; 8103
Standard: UNE-EN 61000-3-2:2006	**Serial number:** ---;Id:001
	Reception date: 2009-07-31
RESULT: PASS	

Maximum RMS current and corresponding values in timewindow 371:

Voltage: 230.85 Vrms THD=0.01 % THV=0.020 V POHV=0.007 V PWHD=0.02 %
Current: 0.162 Arms THD=232.41 %THC=0.149 A POHC=0.044 A PWHD=537.24
Power: 13.8 W P1=13.9 W 37.4 VA
Powerfactor: 0.370 CosPhi1: 0.978

Testconditions: EN 61000-3-2:2006, f=50 Hz, Phase=L1, Range=0.80 A, No Ztest selected
Time window cycles=10/12 (200ms), Grouping of harmonics=on

HARMONIC ANALYSIS: Test PASS
Tobs = worst 2.5 min: tw 1..750; POHC: avg=0.04 A, limits=0.25 A

Ha	Entire measurement (2.5 min = 750 time windows)							Worst 2.5 min		Worst 2.5 min avg		PASS	FAIL
	Maximum	Window	EN61000-3-2 Class A	Margin in MaxWin	100 to 150%	150 to 200%	Ex-ceeded	100 to 150%	Ex-ceeded	Value	Ex-ceeded		
DC	0.0039 A	351	-.----	---.-	0	0	0	0	0	0.0028 A	0	X	
1	0.0613 A	371	-.----	---.-	0	0	0	0	0	0.0564 A	0	X	
2	0.0026 A	3	1.0800 A	-99.8 %	0	0	0	0	0	0.0011 A	0	X	
3	0.0594 A	371	2.3000 A	-97.4 %	0	0	0	0	0	0.0547 A	0	X	
4	0.0025 A	3	0.4300 A	-99.4 %	0	0	0	0	0	0.0011 A	0	X	
5	0.0576 A	371	1.1400 A	-94.9 %	0	0	0	0	0	0.0531 A	0	X	
6	0.0025 A	3	0.3000 A	-99.2 %	0	0	0	0	0	0.0011 A	0	X	
7	0.0551 A	371	0.7700 A	-92.8 %	0	0	0	0	0	0.0509 A	0	X	
8	0.0024 A	3	0.2300 A	-98.9 %	0	0	0	0	0	0.0011 A	0	X	
9	0.0518 A	371	0.4000 A	-87.1 %	0	0	0	0	0	0.0481 A	0	X	
10	0.0024 A	3	0.1840 A	-98.7 %	0	0	0	0	0	0.0011 A	0	X	
11	0.0479 A	371	0.3300 A	-85.5 %	0	0	0	0	0	0.0447 A	0	X	
12	0.0023 A	3	0.1533 A	-98.5 %	0	0	0	0	0	0.0011 A	0	X	
13	0.0436 A	371	0.2100 A	-79.2 %	0	0	0	0	0	0.0409 A	0	X	
14	0.0022 A	3	0.1314 A	-98.3 %	0	0	0	0	0	0.0011 A	0	X	
15	0.0389 A	371	0.1500 A	-74.0 %	0	0	0	0	0	0.0368 A	0	X	
16	0.0022 A	3	0.1150 A	-98.1 %	0	0	0	0	0	0.0010 A	0	X	
17	0.0342 A	371	0.1324 A	-74.2 %	0	0	0	0	0	0.0326 A	0	X	
18	0.0021 A	3	0.1022 A	-98.0 %	0	0	0	0	0	0.0010 A	0	X	
19	0.0294 A	371	0.1184 A	-75.2 %	0	0	0	0	0	0.0283 A	0	X	
20	0.0020 A	3	0.0920 A	-97.8 %	0	0	0	0	0	0.0010 A	0	X	
21	0.0247 A	371	0.1071 A	-76.9 %	0	0	0	0	0	0.0241 A	0	X	
22	0.0019 A	3	0.0836 A	-97.7 %	0	0	0	0	0	0.0009 A	0	X	
23	0.0205 A	288	0.0978 A	-79.1 %	0	0	0	0	0	0.0202 A	0	X	
24	0.0018 A	3	0.0767 A	-97.6 %	0	0	0	0	0	0.0009 A	0	X	
25	0.0168 A	664	0.0900 A	-81.4 %	0	0	0	0	0	0.0166 A	0	X	
26	0.0018 A	3	0.0708 A	-97.5 %	0	0	0	0	0	0.0008 A	0	X	
27	0.0136 A	516	0.0833 A	-83.6 %	0	0	0	0	0	0.0135 A	0	X	
28	0.0017 A	3	0.0657 A	-97.5 %	0	0	0	0	0	0.0008 A	0	X	
29	0.0110 A	456	0.0776 A	-85.8 %	0	0	0	0	0	0.0109 A	0	X	
30	0.0016 A	3	0.0613 A	-97.4 %	0	0	0	0	0	0.0007 A	0	X	
31	0.0093 A	349	0.0726 A	-87.2 %	0	0	0	0	0	0.0091 A	0	X	
32	0.0015 A	3	0.0575 A	-97.4 %	0	0	0	0	0	0.0007 A	0	X	
33	0.0084 A	371	0.0682 A	-87.7 %	0	0	0	0	0	0.0079 A	0	X	
34	0.0014 A	3	0.0541 A	-97.3 %	0	0	0	0	0	0.0006 A	0	X	
35	0.0079 A	371	0.0643 A	-87.7 %	0	0	0	0	0	0.0073 A	0	X	
36	0.0013 A	3	0.0511 A	-97.4 %	0	0	0	0	0	0.0006 A	0	X	
37	0.0077 A	371	0.0608 A	-87.4 %	0	0	0	0	0	0.0069 A	0	X	
38	0.0012 A	3	0.0484 A	-97.4 %	0	0	0	0	0	0.0005 A	0	X	
39	0.0074 A	371	0.0577 A	-87.1 %	0	0	0	0	0	0.0067 A	0	X	
40	0.0012 A	3	0.0460 A	-97.5 %	0	0	0	0	0	0.0005 A	0	X	

JOY

FLICKER VOLTAGE EMISSION TEST

Petitioner: TECNITOYS JUGUETES, S.A.	**Device under test:** Slot circuit
File Nº: 09/34608936	**Brand:** Tecnitoys
Procedure: C5400281	**Model:** Scalextric/SCX C3 new connection track
Standard: UNE-EN 61000-3-3:1997+A1:2002+A2 :2006	**Serial number:** ---;Id:001
	Reception date: 2009-07-31
Performance criteria according to: UNE-EN 61000-3-3:1997+A1:2002+A2:2006	**Tipo de ensayo:** Conformidad — **Temperature:** 23,4 ºC; **Humidity:** 59 %; **Atm. Pressure:** 1006 hPa
Criteria: PASS	
Technician: Pedro Fernández	**DUT exercise:** Circuit disposition following manufacturer's specifications, 2 cars running in free race mode
Supervised:	**Supply:** AC 230V 50Hz
Test date: 2009-10-06	
Equipment: Spitzenberger+Spies EMV E 10000/PAS	
Auxiliary equipment:	**Test disposition:** Tabletop equipment
	Communication cables entry/exit:

RESULT: PASS

Testconditions EN 61000-3-3 1995+A1+A2 / 230 V / 50 Hz / Phase L1 / Obs 24 x 1 m

FLICKER Test PASS!

Time	Pmax	Pst	Sliding Plt	d(t)>3.30% [s]	dmax [%]	dc [%]	PASS	FAIL
09:48:42	0.006	0.0570	- ----	0.000	0.089	- ---	X	
09:49:42	0.003	0.0400	- ----	0.000	0.089	- ---	X	
09:50:42	0.026	0.1160	- ----	0.000	0.276	- ---	X	
09:51:42	0.004	0.0420	- ----	0.000	0.276	- ---	X	
09:52:42	0.061	0.1590	- ----	0.000	0.377	0.013	X	
09:54:42	0.006	0.0550	- ----	0.000	0.137	- ---	X	
09:55:42	0.049	0.1570	- ----	0.000	0.354	0.013	X	
09:56:42	0.000	0.0140	- ----	0.000	0.132	- ---	X	
09:57:42	0.082	0.1610	- ----	0.000	0.409	0.003	X	
09:58:42	0.005	0.0510	- ----	0.000	0.091	- ---	X	
09:59:42	0.004	0.0430	0.1061	0.000	0.143	- ---	X	
10:00:42	0.013	0.0820	0.1070	0.000	0.198	- ---	X	
10:01:42	0.001	0.0160	0.1069	0.000	0.198	- ---	X	
10:02:42	0.001	0.0170	0.1030	0.000	0.209	- ---	X	
10:03:42	0.007	0.0580	0.1033	0.000	0.209	- ---	X	
10:04:42	0.006	0.0560	0.0921	0.000	0.209	- ---	X	
10:05:42	0.013	0.0800	0.0937	0.000	0.219	- ---	X	
10:07:42	0.038	0.1390	0.1017	0.000	0.247	0.007	X	
10:08:42	0.009	0.0680	0.1024	0.000	0.080	- ---	X	
10:09:42	0.005	0.0480	0.0903	0.000	0.182	- ---	X	
10:10:42	0.009	0.0680	0.0909	0.000	0.189	- ---	X	
10:11:42	0.003	0.0380	0.0908	0.000	0.189	- ---	X	
Limits:		1.000	0.650	0.500	4.000	3.300		
Plt 0.099072							X	

Evaluated: PST, PLT, Sliding PLT, dc, dmax average (0.205 %), d(t)

FLICKER Source test PASS!

Time	Pmax	Pst	Sliding Plt	d(t)>3.30% [s]	dmax [%]	dc [%]	PASS	FAIL
09:48:42	0.001	0.0180	- ----	0.000	0.019	- ---	X	
09:49:42	0.000	0.0130	- ----	0.000	0.022	- ---	X	
09:50:42	0.001	0.0180	- ----	0.000	0.023	- ---	X	
09:51:42	0.001	0.0210	- ----	0.000	0.023	- ---	X	
09:52:42	0.001	0.0160	- ----	0.000	0.026	- ---	X	
09:53:42	0.000	0.0110	- ----	0.000	0.026	- ---	X	
09:54:42	0.000	0.0150	- ----	0.000	0.026	- ---	X	
09:55:42	0.000	0.0130	- ----	0.000	0.026	- ---	X	
09:56:42	0.000	0.0130	- ----	0.000	0.027	- ---	X	
09:57:42	0.000	0.0150	- ----	0.000	0.028	- ---	X	
09:58:42	0.001	0.0210	- ----	0.000	0.028	- ---	X	
09:59:42	0.000	0.0120	- ----	0.000	0.028	- ---	X	
10:00:42	0.001	0.0230	- ----	0.000	0.033	- ---	X	
10:01:42	0.000	0.0110	- ----	0.000	0.034	- ---	X	
10:02:42	0.001	0.0240	- ----	0.000	0.034	- ---	X	
10:03:42	0.001	0.0160	- ----	0.000	0.035	- ---	X	
10:04:42	0.002	0.0280	- ----	0.000	0.035	- ---	X	
10:05:42	0.000	0.0130	- ----	0.000	0.035	- ---	X	
10:06:42	0.000	0.0110	- ----	0.000	0.035	- ---	X	
10:07:42	0.001	0.0260	- ----	0.000	0.035	- ---	X	
10:08:42	0.000	0.0130	- ----	0.000	0.035	- ---	X	
10:09:42	0.001	0.0260	- ----	0.000	0.037	- ---	X	
10:10:42	0.000	0.0130	- ----	0.000	0.037	- ---	X	
10:11:42	0.000	0.0110	- ----	0.000	0.037	- ---	X	
Plt 0.018357								

Evaluated: PST <= 0.4 dmax < 20% dmax1

Comments:

JOY

ELECTROSTATIC DISCHARGE IMMUNITY TEST							
Petitioner: TECNITOYS JUGUETES, S.A.					**Device under test:** Slot circuit		
File Nº: 09/34608936					**Brand:** Tecnitoys		
Procedure: C5400282					**Model:** Scalextric/SCX C3 new connection track		
Standard: UNE-EN 61000-4-2:1997+A1:1999+A2:2001					**Serial number:** ---;Id:001		
					Reception date: 2009-07-31		
Performance criteria according to: UNE-EN 55014-2:1998+A1:2002+A2:2009					**Test type:** Conformity	**Temperature:** 56,3 ºC **Humidity:** 25,3 % **Atm. Preas:** 1006 hPa	
Criteria: B							
Technician: Pedro Fernández					**DUT exercise:** Circuit disposition following manufacturer's specifications, 2 cars running in free race mode **Supply:** AC 230V 50Hz		
Supervised:							
Test date: 2009-10-06							
Equipment: Schaffner NSG 438							
Auxiliary equipment:					**Test Disposition:** Tabletop equipment **Communication cables input/output:**		
DC – Contact Discharge, Sharp tip.					**IH** – Horizontal coupling, Sharp tip.		
AC - Air Discharge, Round tip.					**IV** - Vertical coupling, Sharp tip.		

1	4kV	25	IV	+ / -	FRONT 0º POWER SUPPLY	A / A	
2	4kV	25	IV	+ / -	LEFT 90º POWER SUPPLY	A / A	
3	4kV	25	IV	+ / -	REAR 180º POWER SUPPLY	A / A	
4	4kV	25	IV	+ / -	RIGHT 270º POWER SUPPLY	A / A	
5	4kV	25	IH	+ / -	FRONT 0º POWER SUPPLY	A / A	
6	4kV	25	IH	+ / -	LEFT 90º POWER SUPPLY	A / A	
7	4kV	25	IH	+ / -	REAR 180º POWER SUPPLY	A / A	
8	4kV	25	IH	+ / -	RIGHT 270º POWER SUPPLY	A / A	
9	4kV	25	IV	+ / -	FRONT 0º THROTTLE	A / A	
10	4kV	25	IV	+ / -	RIGHT 90º THROTTLE	A / A	
11	4kV	25	IV	+ / -	REAR 180º THROTTLE	A / A	
12	4kV	25	IV	+ / -	LEFT 270º THROTTLE	A / A	

Comments:

JOY

ELECTROSTATIC DISCHARGES IMMUNITY TEST II	
Petitioner: TECNITOYS JUGUETES, S.A.	**Device under test:** Slot circuit
File Nº: 09/34608936	**Brand:** Tecnitoys
Procedure: C5400282	**Model:** Scalextric/SCX C3 new connection track
Standard: UNE-EN 61000-4-2:1997+A1:1999+A2:2001	**Serial number:** ---;Id:001
	Reception date: 2009-07-31
DC – Contact Discharge, Sharp tip.	**IH** – Horizontal coupling, Sharp tip.
AC - Air Discharge, Round tip.	**IV** - Vertical coupling, Sharp tip.

Test N.	Level	Discharge		Pol +/-	Application Point	Results	Comments
		Nº	Type				
13	4kV	25	IH	+	FRONT 0º THROTTLE	A	
				-		A	
14	4kV	25	IH	+	RIGHT 90º THROTTLE	A	
				-		A	
15	4kV	25	IH	+	REAR 180º THROTTLE	A	
				-		A	
16	4kV	25	IH	+	LEFT 270º THROTTLE	A	
				-		A	
17	4kV	25	IV	+	FRONT 0º CIRCUIT	A	
				-		A	
18	4kV	25	IV	+	RIGHT 90º CIRCUIT	A	
				-		A	
19	4kV	25	IV	+	REAR 180º CIRCUIT	A	
				-		A	
20	4kV	25	IV	+	LEFT 270º CIRCUIT	A	
				-		A	
21	4kV	25	IH	+	FRONT 0º CIRCUIT	A	
				-		A	
22	4kV	25	IH	+	RIGHT 90º CIRCUIT	A	
				-		A	
23	4kV	25	IH	+	REAR 180º CIRCUIT	A	
				-		A	
24	4kV	25	IH	+	LEFT 270º CIRCUIT	A	
				-		A	
25	4kV	25	IV	+	FRONT 0º PITBOX	A	
				-		A	
26	4kV	25	IV	+	RIGHT 90º PITBOX	A	
				-		A	
27	4kV	25	IV	+	REAR 180º PITBOX	A	
				-		A	
28	4kV	25	IV	+	LEFT 270º PITBOX	A	
				-		A	

Comments:

JoY

ELECTROSTATIC DISCHARGES IMMUNITY TEST III	
Petitioner: TECNITOYS JUGUETES, S.A.	**Device under test:** Slot circuit
File Nº: 09/34608936	**Brand:** Tecnitoys
Procedure: C5400282	**Model:** Scalextric/SCX C3 new connection track
Standard: UNE-EN 61000-4-2:1997+A1:1999+A2:2001	**Serial number:** ---;Id:001
	Reception date: 2009-07-31
DC – Contact Discharge, Sharp tip.	**IH** – Horizontal coupling, Sharp tip.
AC - Air Discharge, Round tip.	**IV** - Vertical coupling, Sharp tip.

Test N.	Level	Discharge		Pol +/-	Application Point	Results	Comments
		Nº	Type				
29	4kV	25	IH	+	FRONT 0º PITBOX	A	
				-		A	
30	4kV	25	IH	+	RIGHT 90º PITBOX	A	
				-		A	
31	4kV	25	IH	+	REAR 180º PITBOX	A	
				-		A	
32	4kV	25	IH	+	LEFT 270º PITBOX	A	
				-		A	
33	4kV	25	IV	+	TRACK INNER SIDE LEFT	A	
				-		A	
34	4kV	25	IV	+	TRACK INNER SIDE RIGHT	A	
				-		A	
35	4kV	25	IV	+	TRACK OUT SIDE LEFT	A	
				-		A	
36	4kV	25	IV	+	TRACK OUT SIDE RIGHT	A	
				-		A	
37	4kV	25	DC	+	THROTTLE	A	
				-		A	
38	4kV	25	IH	+	POWER SUPPLY	A	
				-		A	
39	4kV	25	IH	+	THROTTLE CHASIS	A	
				-		A	
40	4kV	25	IV	+	POWER SUPPLY CONNECTION	A	
				-		A	
41	4kV	25	IV	+	THROTTLE CONNECTIONS	A	
				-		A	
42	4kV	25	IV	+	EXPANSION CONNECTION	A	
				-		A	

Comments:

JOY

FAST TRANSIENTS / BURST IMMUNITY TEST					
Petitioner: TECNITOYS JUGUETES, S.A.			**Device under test:** Slot circuit		
File Nº: 09/34608936			**Brand:** Tecnitoys		
Procedure: C5400283			**Model:** Scalextric/SCX C3 new connection track		
Standard: UNE-EN 61000-4-4:2005			**Serial number:** ---;Id:001		
			Reception date: 2009-07-31		
Performance criteria according to: UNE-EN 55014-2:1998+A1:2002+A2:2009			**Tipo de ensayo:** Conformidad	**Temperature:** 24,3 ºC **Humidity:** 44 % **Atm. Pressure:** 1006 hPa	
Criteria: B					
Technician: Andreu Tey / Eugenio Álvarez			**DUT exercise:** Circuit disposition following manufacturer's specifications, 2 cars running in free race mode **Supply:** AC 230V 50Hz		
Supervised:					
Test date: 2009-09-29					
Equipment: Schaffner Generator NSG 2025-8			**Test disposition :** Tabletop equipment		
Auxiliary equipment:			**Communication cables entry/exit:**		
Test	**Application**	**Severity (kV)**	**Lenght**	**Results**	**Comments**
Direct AC power	L1+	1	2 min	PASS	
	L1 -	1	2 min	PASS	
Direct AC power	N +	1	2 min	PASS	
	N -	1	2 min	PASS	
Comments:					

JoY

SURGE TRANSIENT IMMUNITY TEST (1,2/50)								
Petitioner: TECNITOYS JUGUETES, S.A.					**Device under test:** Slot circuit			
File Nº: 09/34608936					**Brand:** Tecnitoys			
Procedure: C5400286					**Model:** Scalextric/SCX C3 new connection track			
Standard: UNE-EN 61000-4-5:2007					**Serial number:** ---;Id:001			
					Reception date: 2009-07-31			
Performance criteria according to: UNE-EN 55014-2:1998+A1:2002+A2:2009					**Tipo de ensayo:** Conformidad	**Temperature:** 24,1 ºC **Humidity:** 51 % **Atm.Pressure:** 1002 hPa		
Criteria: B								
Technician: Andreu Tey					**DUT exercise:** Circuit disposition following manufacturer's specifications, 2 cars running in free race mode **Supply:** AC 230V 50Hz			
Supervised:								
Test date: 2009-09-30					**Test disposition :** Tabletop equipment			
Equipment: HAEFELEY PSURGE8000 HAEFELEY PIM100 HAEFELEY PCD130					**Communication cables entry/exit:**			
Auxiliary equipment:								
Application	**Zo**	**Line**	**Fhase**	**Severity kV**	**Number of Pulses min 5**	**Results**		**Application**
						Polarity+	**Polarity-**	
SUPPLY POWER								
Simetric	2	L1/N	0º	1	5	A	A	
			90º	1	5	A	A	
			180º	1	5	A	A	
			270º	1	5	A	A	
Asimetric	12	L1/E	0º	2	5	A	A	
			90º	2	5	A	A	
			180º	2	5	A	A	
			270º	2	5	A	A	
Asimetric	12	N/E	0º	2	5	A	A	
			90º	2	5	A	A	
			180º	2	5	A	A	
			270º	2	5	A	A	
Comments:								

JOY

IMMUNITY TO CONDUCTED DISTURBANCES, INDUCTED BY RADIO-FREQUENCY FIELD				
Petitioner: TECNITOYS JUGUETES, S.A.		**Device under test:** Slot circuit		
File Nº: 09/34608936		**Brand:** Tecnitoys		
Procedure: C5400284		**Model:** Scalextric/SCX C3 new connection track		
Standard: UNE-EN 61000-4-6:2008		**Serial number:** ---;Id:001		
		Reception date: 2009-07-31		
Performance criteria according to: UNE-EN 55014-2:1998+A1:2002+A2:2009		**Test type:** Conformity	**Temperature:** 24,3 ºC **Humidity:** 44 % **Atm. Pressure:** 1006 hPa	
Criteria: A				
Technician: Andreu Tey / Eugenio Álvarez		**DUT exercise:** Circuit disposition following manufacturer's specifications, 2 cars running in free race mode **Supply:** AC 230V 50Hz		
Supervised:				
Test date: 2009-09-29				
Auxiliary equipment:		**Test disposition :** Tabletop equipment **Communication cables entry/exit:**		
DUT Size: 300x100x100 cm				
Severity level: 3 V rms		**Part of a system?:** No		
Frequency Margin: 150kHz-230MHz		**Dwell time:** 3 s		
Modulation: 80% AM 1kHz		**Step:** 1%		

CDN	Severity (V)	Application point	Results	Comments
M2	3	Power Cord	A	

Comments:

At 70 MHz cars accelerate lightly

JoY

VOLTAGE DIPS, SHORT INTERRUPTIONS & VOLTAGE VARIATIONS IMMUNITY TEST			
Petitioner: TECNITOYS JUGUETES, S.A.	**Device under test:** Slot circuit		
File Nº: 09/34608936	**Brand:** Tecnitoys		
Procedure: C5400288	**Model:** Scalextric/SCX C3 new connection track		
Standard: UNE-EN 61000-4-11:2005	**Serial number:** ---;Id:001		
	Reception date: 2009-07-31		
Performance criteria according to: UNE-EN 55014-2:1998+A1:2002+A2:2009	**Test type:** Conformity	**Temperature:** 23,4 ºC **Humidity:** 59 % **Atm. Pressure:** 1006 hPa	
Criteria: According standard			
Technician: Pedro Fernández	**DUT exercise:** Circuit disposition following manufacturer's specifications, 2 cars running in free race mode **Supply:** AC 230V 50Hz		
Supervised:			
Test date: 2009-10-06			
Auxiliary equipment:	**Test disposition :** Tabletop equipment		
	Communication cables entry/exit:		

VOLTAGE DIPS AND SHORT INTERRUPTIONS

Nominal Voltage	U Var. %	Length in milliseconds	Results	Criteria	Comments
230V / 50 Hz	100	10	A	C	
230V / 50 Hz	60	200	A	C	
230V / 50 Hz	30	500	A	C	

Comments: