

Test report 20082932301 - rev. 1

based on:
FCC Part 15 Subpart C, section 15.209
FCC Part 15 Subpart B, section 15.109

Game / Toy
Swinxs
Swinxs

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This report comprises of three modules. The total number of pages is: 15

Main module

1 Introduction

This report contains the result of tests performed by:

Telefication bv
Edisonstraat 12a
6902 PK Zevenaar
The Netherlands

Telefication complies with the accreditation criteria for test laboratories as laid down in ISO/IEC 17025:2005. The accreditation covers the quality system of the laboratory as well as the specific activities as described in the authorized annex bearing the accreditation number L021 and is granted on 30 November 1990 by the Dutch Council For Accreditation (RvA: Raad voor Accreditatie). The contents of this test report, if reproduced, shall be copied in full, unless special consent in writing for reproduction in part is granted by Telefication. Copyright of this test report is reserved to Telefication.

Ordering party:

Company name	:	CPS Europe B.V.
Address	:	Boxtelseweg 26
Zipcode	:	5261 NE
City/town	:	Vught
Country	:	The Netherlands
Date of order	:	9 July 2008

2 Product

A sample of the following product was submitted for testing:

Product name	: Game / Toy
Product category	: Intentional radiators
Manufacturer	: CPS Europe B.V.
Trade mark	: Swinxs
Type designation	: Swinxs
FCC ID	: WLNSWINXS
Emission designator	: None
Hardware version	: 1.0
Software version	: 1.0
Serial number	: 7

3 Test schedule

Tests are carried out in accordance with the specification detailed in chapter 6 "Summary" of this report.

Tests are carried out at the following locations:

- Telefication, Zevenaar

Telefication is designated by the FCC as an Accredited Test Firm for compliance testing of equipment subject to Certification under Parts 15 & 18.
The Registration Number is: 282250.

The sample of the product was received on:

- 11 August 2008

Tests are carried out between:

- 11 and 21 August 2008
-

4 Product documentation

For production of this report the following product documentation has been used:

Description:	Date:	Identification:
User manual	--	SWINXS short manual
Circuit diagram	04-07-08	11600-31, 5 sheets
Bill Of Materials	30-07-08	Swinxs2 main bom V1.03 300708_ECO.xls
PCB layout	--	swinx_Assy_bottom V1.03
PCB layout	--	swinx_Assy_top V1.03.pdf
PCB layout	--	swinx_layer1 V1.03.pdf
PCB layout	--	swinx_layer2 V1.03.pdf
PCB layout	--	swinx_layout V1.03.pdf

5 Observations and comments

The USB connector on the Swinxs is used for charging the rechargeable batteries which are located inside the Swinxs. According to the user manual the Swinxs can not be used for playing games or listening to music when it is connected to the USB connector of a personal computer.

6 Modifications

During the first test period the level of unwanted emissions was too high. The manufacturer CPS Europe B.V. has solved this non-compliance. Two ferrite clamps were added around the USB-cable inside the Swinxs. Part number of both clamps is 747 7117, the brand is Würth Elektronik. After this modification all unwanted emissions were below the limit.

7 Summary

The product is intended for use in the following application area:

Short Range Device

The sample is tested according to the following specification:

FCC Part 15 Subpart C, section 15.209 (10-1-07 Edition)

FCC Part 15 Subpart B, section 15.109 (10-1-07 Edition)

8 Conclusions

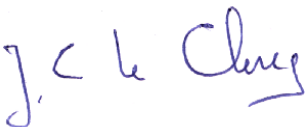
The sample of the product showed **NO NON-COMPLIANCES** to the specification stated in chapter 6 of this report.

The results of the tests as stated in this report, are exclusively applicable to the product item as identified in this report. Telefication accepts no responsibility for any stated properties of product items in this test report, which are not supported by the tests as specified in chapter 7 "Summary".

All tests are performed by:

name : ing. J.C. le Clercq


function : Test Engineer

signature : 

Review of test methods and report by:

name : ing. P.A. Suringa

function : Senior Engineer Radio/EMC

signature : 

The above conclusions have been verified by the following signatory:

date : 29 April 2009

name : J.P. van de Poll

function : Co-ordinator Test Group

signature : p.p. 

Test results module

Summary

According to FCC Part 15 subpart C, section 15.209 and FCC Part 15 subpart B, section 15.109, the following tests have been performed:

Port	Reference	Phenomena	Result
Enclosure	Section 15.209	Radiated emissions	P
Enclosure	Section 15.109	Radiated emissions	P

Results:

P = pass
F = fail

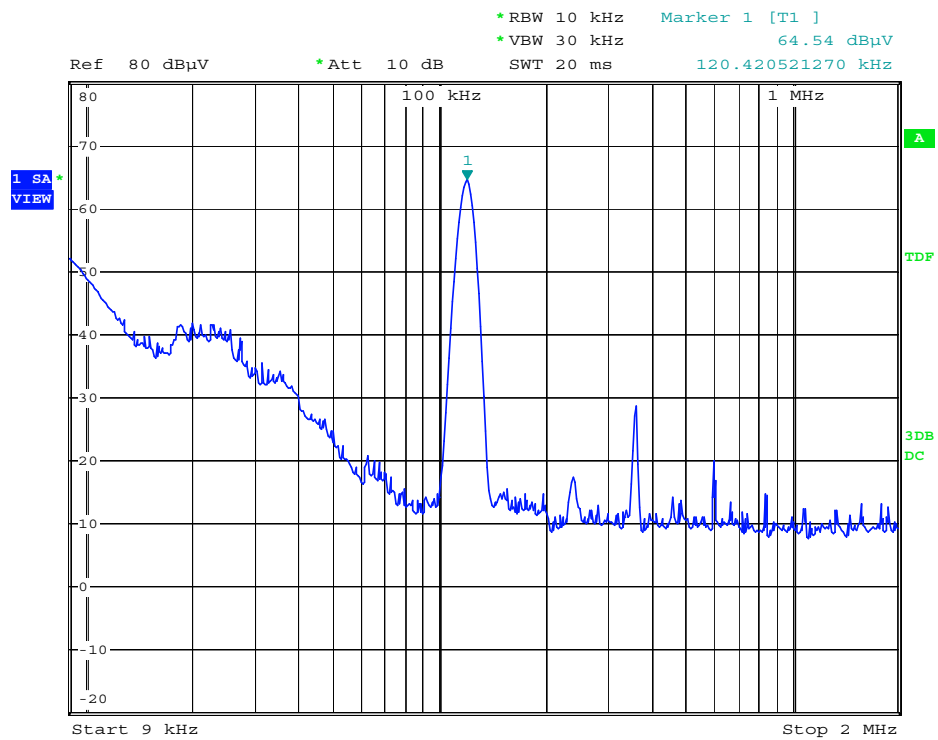
NA = not applicable
NP = not performed

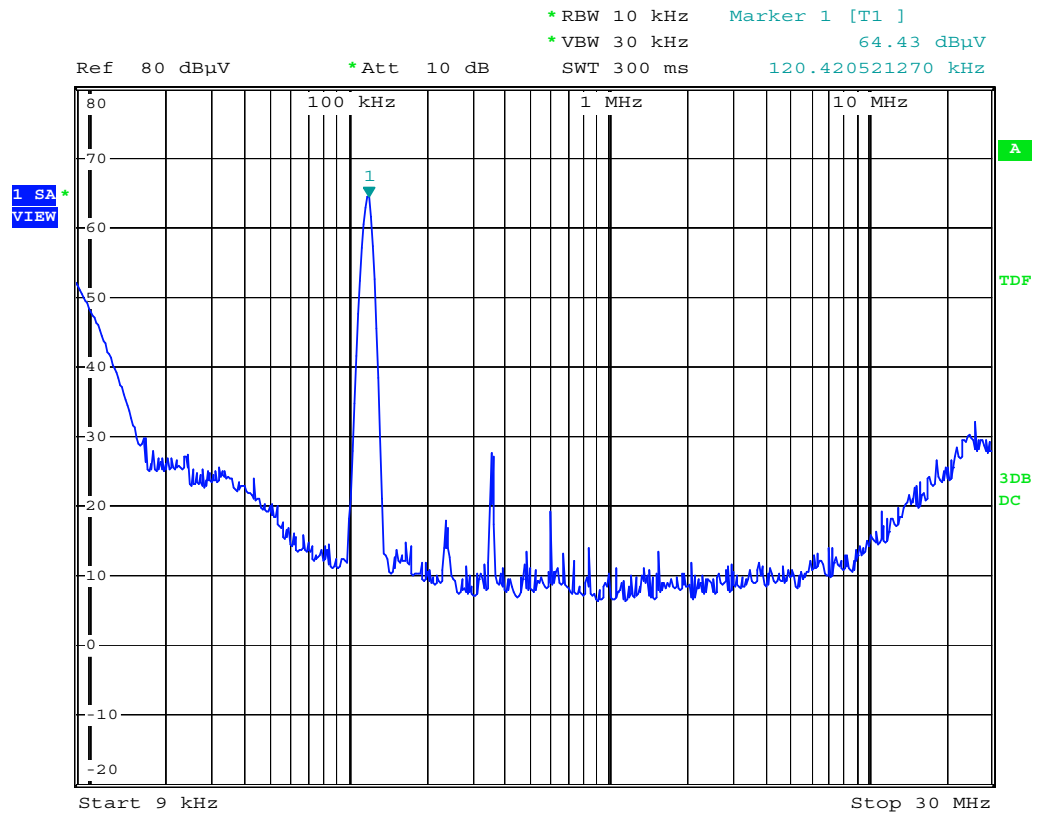
Emission tests

1.1 Field strength of emissions (< 30 MHz)

Compliance standard : FCC part 15, subpart C, section 15.209.
Method of test : Exploratory measurements have been carried out in a large triple loop antenna
Test results :

(dB μ V/m, exploratory)





Test results :

(dB μ V/m, exploratory)

Orientation of EUT: plane of EUT's loop parallel to plane of receive loop antenna			
Frequency (kHz)	Test result (dB μ V/m) QP	Extrapolation (dB μ V/m) QP	Limit (dB μ V/m)
121	64.49 @ 10 m	4.49 @ 300 m	25.95 @ 300 m
242	18.25 @ 10 m	-41.75 @ 300 m	19.93 @ 300 m
363	28.77 @ 10 m	-31.23 @ 300 m	15.92 @ 300 m
484			
605	20.19 @ 10 m	-39.81 @ 30 m	33.42 @ 30 m
726			31.48 @ 30 m
847	15.58 @ 10 m	-44.42 @ 30 m	29.90 @ 30 m
968	--	--	28.56 @ 30 m
1089	14.00 @ 10 m	-46.00 @ 30 m	27.40 @ 30 m
1210			26.38 @ 30 m
1331	--	--	25.46 @ 30 m
1452	--	--	24.63 @ 30 m
1573	--	--	23.88 @ 30 m
1694	--	--	23.18 @ 30 m

Remark: results due to other EUT orientations proved to be considerably lower than the results above.

Measurement uncertainty	n.a.
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Test equipment used: (Item numbers)	3, 5
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Item numbers refer to the used test equipment module.

Compliance standard : FCC part 15, subpart C, section 15.209.
 Method of test : ANSI C63.4-2003, sections 5.3 & 8.2.1; FCC part 15, subpart A, section 15.31 (f)(2), 15.33, 15.35.
 Remark : Compliance measurements have been carried out at 3 m distance on an Open Area Test Site (OATS) without ground plane.
 Test results :

Orientation of EUT: plane of EUT's loop parallel to plane of receive loop antenna			
Frequency (kHz)	Test result (dB μ V/m) QP	Extrapolation (dB μ V/m) QP	Limit (dB μ V/m)
121	90.83 @ 3 m	10.83 @ 300 m	25.95 @ 300 m
242	--	--	19.93 @ 300 m
363	57.20 @ 3 m	-22.80 @ 300 m	15.92 @ 300 m
484	--	--	33.42 @ 30 m
605			33.42 @ 30 m
726	--	--	31.48 @ 30 m
847	--	--	29.90 @ 30 m
968	--	--	28.56 @ 30 m
1089	--	--	27.40 @ 30 m
1210	--	--	26.38 @ 30 m
1331	--	--	25.46 @ 30 m
1452	--	--	24.63 @ 30 m
1573	--	--	23.88 @ 30 m
1694	--	--	23.18 @ 30 m

Measurement uncertainty	+1.5 / -1.6 dB
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Test equipment used: (Item numbers)	1, 2
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Item numbers refer to the used test equipment module

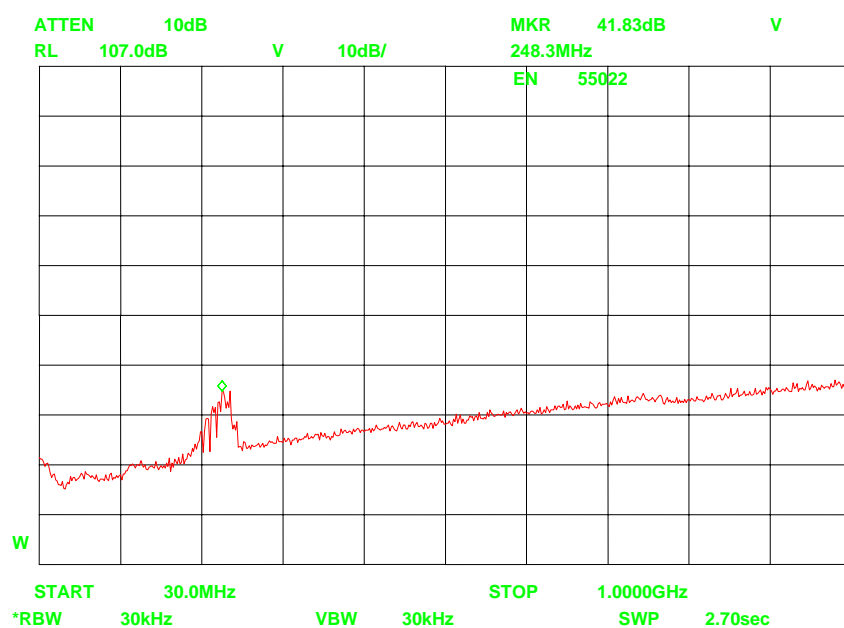
1.2 Field strength of unwanted emissions (> 30 MHz)

Compliance standard : FCC part 15, subpart C, section 15.209;
FCC part 15, subpart B, section 15.109;

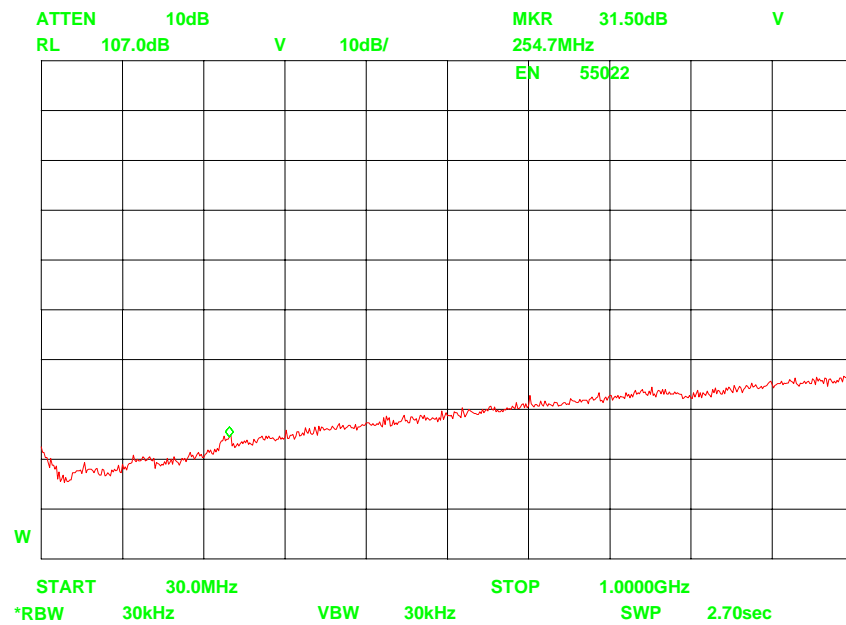
Method of test : Exploratory measurements have been performed in a compact full anechoic room.

Test results: :

Horizontal polarization



Vertical polarization



Measurement uncertainty

n.a.

Test equipment used: (Item numbers)

4, 5, 6,

Item numbers refer to the used test equipment module.

Compliance standard : FCC part 15, subpart C, section 15.209;
FCC part 15, subpart B, section 15.109;

Method of test : ANSI C63.4-2003, sections 5.4.2, 8.2.3 & 8.3.1.2; FCC part 15,
subpart A, section 15.31 (f)(2), 15.33, 15.35.

Remark : Compliance measurements have been performed in a semi
anechoic room.

Test results:

Orientation of EUT: plane: horizontal Orientation of test antenna: horizontal		
Frequency (MHz)	Test result @ 3 m distance (dB μ V/m)	Limit (dB μ V/m)
253.9	42.3 (Quasi Peak)	46.0

Measurement uncertainty	+3.6 / -3.6 dB
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Test equipment used: (Item numbers)	2, 7, 8
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Item numbers refer to the used test equipment module.

Used test equipment module

This module contains the list of test equipment used.

Ref	Description	ID	Manufacturer	Model
1	Active loop antenna	TE 00746	R & S	HFH 2-Z2
2	Test receiver	TE 00091	R & S	ESCI
3	Large triple loop antenna	TE 01066	Telefication	--
4	Logper/bow-tie antenna	TE 00700	EMCO	3143
5	Spectrum analyzer	TE 00359	HP	8563E
6	Compact anechoic chamber (CFAC)	TE 01064	Euroshield	RFD-F-100
7	Semi anechoic chamber (SAC)	TE 00861	Comtest	--
8	Bilog antenna	TE 00967	Chase	CBL6112A