CERTIFICADO DE CONFORMIDAD

con los requisitos de la norma FCC 47 CFR Parte 15, Subparte C (Ed. 22/07/2003)

Certificate of Conformity

with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart C (2003/07/22 Ed.)

Nº.: 22615CAB.003

Certificado solicitado por **Holder of Certificate**	:	**LOGITECH EUROPE, S.A.**
Fabricante **Manufacturer**	:	**LOGITECH TECHNOLOGY (SUZHOU) CO., LTD.**
Informe(s) técnico(s), fecha **Technical report(s), date**	:	**Informe de ensayo de EMC / EMC Test Report: 22615REM.003 (2005/08/29)**
Identificación del producto **Product identification**	:	**LOGITECH IO2 DIGITAL PEN WITH BLUETOOTH** **Model / Model: P – RUE9**

Este Certificado de Conformidad se ha emitido de acuerdo con la decisión Nº 3/2000 de la Comisión Mixta establecida bajo los Acuerdos de Reconocimiento Mutuo entre la Unión Europea y Estados Unidos de América. Mediante esta decisión, CETECOM puede actuar como Organismo de Aseguramiento de la Conformidad (CAB) en materia de Compatibilidad Electromagnética. Este certificado se aplica a las muestras referidas en los informes técnicos mencionados.

This certificate of conformity was issued in accordance with the decision Nº 3/2000 of the Joint Committee established under the Agreement on Mutual Recognition between the European Community and the United States of America. By this decision, CETECOM can act as Conformity Assessment Body (CAB) on Electromagnetic Compatibility. This Certificate applies to the samples listed at technical reports.

Málaga, 29.08.2005

.PD

Fdo. / Signed:
Antonio Rojas
Director Técnico/ Technical Director

CENTRO DE
TECNOLOGÍA DE LAS
COMUNICACIONES, S.A.
Parque Tecnológico de Andalucía,
c/Severo Ochoa nº 2
29590 Campanillas/ Málaga/ España
Tel. 952 61 91 00 - Fax 952 61 91 13
MÁLAGA, C.I.F. A29 507 456
Registro Mercantil Tomo 1169 Libro 82 Folio
133 Hoja MA3729

TEST REPORT

Report No.: 22615REM.003

TEST NAME: ELECTROMAGNETIC COMPATIBILITY TESTS

Product	**: LOGITECH IO2 DIGITAL PEN WITH BLUETOOTH**
Trade Mark	**: LOGITECH**
Model/ type Ref.	**: P – RUE9**
Manufacturer	**: LOGITECH TECHNOLOGY (SUZHOU) CO., LTD.**
Requested by	**: LOGITECH EUROPE, S.A.**
Other identification of the product	**: A digital pen allowing to write on specific paper, encode written information, store this information in an internal memory and transfer it later to a host system either via a charging station cradle plugged in a USB port or via Bluetooth**
Standard(s)	**: On the sample S/01:** **ELECTROMAGNETIC EMISSION.** **- FCC Rules and Regulations 47 CFR Part 15, Subpart C (2003/07/22 Ed.);** - Continuous Conducted Emission. **On the sample S/02:** **ELECTROMAGNETIC EMISSION.** **- FCC Rules and Regulations 47 CFR Part 15, Subpart C (2003/07/22 Ed.);** - Continuous Conducted Emission. **On the sample S/03:** **ELECTROMAGNETIC EMISSION.** **- FCC Rules and Regulations 47 CFR Part 15, Subpart C (2003/07/22 Ed.);** - Continuous Conducted Emission. **On the sample S/04:** **ELECTROMAGNETIC EMISSION.** **- FCC Rules and Regulations 47 CFR Part 15, Subpart C (2003/07/22 Ed.);** - Continuous Conducted Emission.

This test report includes 1 annex and therefore, the total number of pages is 19.

Date: 2005-08-29	Test operator: Domingo Gálvez	Revised by: Juan C. Soler Consultant Date: [illegible]	Approved by: Antonio Rojas Technical Director Date: 27 AGO. 2005
			Page: 1 of 7 Logitech AGY-736115-0000.A0

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1. COMPETENCE AND GUARANTEES

This certificate of conformity was issued in accordance with the decision Nº 3/2000 of the Joint Committee established under the Agreement on Mutual Recognition between the European Community and the United States of America. By this decision, CETECOM can act as Conformity Assessment Body (CAB) on Electromagnetic Compatibility. This Certificate applies to the samples listed at technical reports.

CETECOM is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, CETECOM has a calibration and maintenance programme for its measurement equipment.

CETECOM guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at CETECOM at the time of performance of the test.

CETECOM is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

2. GENERAL CONDITIONS

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of CETECOM.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of CETECOM and the Accreditation Bodies.

3. CHARACTERISTICS OF THE TEST

3.1. SERVICES REQUESTED

The ordered services were to carry out the following tests:

1. Continuous conducted emission, power leads:

   Standard: FCC Rules and Regulations 47 CFR Part 15

   Limit: Section 15.207

   Method: FCC Rules and Regulations 47 CFR Part 15, Subpart C

3.2. REQUIREMENTS AND METHOD

The test has been carried out according to the following documents and standards:

1. FCC Rules and Regulations 47 CFR Part 15, Subpart C: Limits and methods of measurements for radio frequency devices. Intentional radiators.

The testing procedures used are:

1. PEEM001: Medida de la tensión perturbadora en bornes de alimentación según EN 55022.

Uncertainty (factor k=2) was calculated according to the following CETECOM's internal documents:

1. PODT000: Procedimiento para el cálculo de incertidumbres de medida
2. FEM12_07: Formato de cálculo de incertidumbre a aplicar en la medida de la tensión perturbadora en bornes de alimentación según EN 55022.

4. IDENTIFICATION DATA SUPPLIED BY THE APPLICANT

Identification data included in this section has been supplied by the client.

4.1. APPLICANT

Name / Company: Logitech Europe, S.A.

V.A.T. Registration number / Passport number: N/A

Address: Z.I. Moulin du Choc D **P.C.:** 1122 **City:** Romanel sur Morges

Country: Switzerland **Telephone:** +41 21 863 50 67 **Fax:** +41 21 863 51 11

Contact person: Pascal Bornel

4.2. TEST SAMPLES SUPPLIER

The same as the applicant.

Samples undergoing test have been selected by: **Logitech Europe, S.A.**

4.3. IDENTIFICATION OF ITEM/ITEMS TESTED

Product: Logitech io2 Digital Pen with Bluetooth

Trade mark: Logitech **Model:** P – RUE9

Manufacturer: Logitech Technology (Suzhou) Co., Ltd.

Address: No. 3 Songshan Road, Suzhou New District, P. R. China **P.C.:** 215129

City: Suzhou New District **Country:** PRC

Other identification remarks : Prototype.

Description: A digital pen allowing to write on specific paper, encode written information, store this information in an internal memory and transfer it later to a host system either via a charging station cradle plugged in a USB port or via Bluetooth.

5. USAGE OF SAMPLES, TESTING PERIOD AND ENVIRONMENTAL CONDITIONS

5.1. USAGE OF SAMPLES

Sample S/01 is composed of the following elements:

Control No.	Description	Model	Serial No.	Date of reception
22615/01	Cradle	P/N: 866143-1XXX*	---	12/07/05
21893/09	USB line	---	---	07/04/05
21893/14	Charger	PSC03R-050	I42502927A3	07/04/05
21893/18	Digital pen	P-RUE9	Prototype	13/04/05

* will change according with the colour of the plastic.

The sample **S/02** is the S/01 without the element /14 but with the auxiliary PC.

During the tests were used next ancillary equipments:

Internal Control Nr.	Description	Model	Serial number	Date of arrival
22615/-	Portable PC property of CETECOM	ACER	---	---

The sample **S/03** is the S/01 without elements /01 and /09 but with the following element:

Control No.	Description	Model	Serial No.	Date of reception
21893/05	Desktop cradle	P-UD9	Retail: 866097-AXXX Commercial: 866108-AXXX or 866143-1XXX*	07/04/05

* will change according with the colour of the plastic.

The sample **S/04** is the S/03 without the element /14.

Different samples were used in the following way:

1. Sample S/**01** has undergone to the following test(s):
    1. Continuous conducted emission, power leads.
2. Sample S/**02** has undergone to the following test(s):
    1. Continuous conducted emission, power leads.
3. Sample S/**03** has undergone to the following test(s):
    2. Continuous conducted emission, power leads.
4. Sample S/**04** has undergone to the following test(s):
    1. Continuous conducted emission, power leads.

5.2. TESTING PERIOD

The performed test started on 21/07/2005 and finished on 22/07/2005.

The tests have been performed at CETECOM.

5.3. ENVIROMENTAL CONDITIONS

Environmental conditions:

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 80 %
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω

In the semianechoic chamber (21 meters x 11 meters x 8 meters), the following limits were not exceeded during the test.

Temperature	Min. = 15 ºC Max. = 30 ºC
Relative humidity	Min. = 45 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω
Normal site attenuation (NSA)	< ±4 dB at 10 m distance between item under test and receiver antenna, (30 MHz to 1000 MHz)
Field homogeneity	More than 75% of illuminated surface is between 0 and 6 dB (26 MHz to 1000 MHz).

In the chamber for conducted measurements, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 30 ºC
Relative humidity	Min. = 45 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω

6. TEST RESULTS

Abbreviations used in the VERDICT column of the following tables are:

P Pass

F Fail

NA not applicable

NM not measured

6.1. RESULTS FOR ELECTROMAGNETIC EMISSION

See Annex: A

MEASURING RESULTS FOR ELECTROMAGNETIC EMISSION	VERDICT			
	NA	P	F	NM
Continuous conducted emission, power leads. (On samples S/01, S/02, S/03 and S/04)		P		

7. REMARKS AND COMMENTS

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 150 kHz to 30 MHz is I = ± 3 dB for quasi-peak measurements, I = ± 2,8 dB for peak measurements (k = 2).

8. SUMMARY

Considering the results of the performed test, stated in annex A, the item under test is **IN COMPLIANCE** with the specifications listed in section 3.1 “TEST REQUESTED”.

NOTE: The results presented in this Test Report apply only to the particular item under test established in section “4.3. IDENTIFICATION OF ITEM/ITEMS TESTED” of this document, as presented for test on the date(s) shown in section 5, “USAGE OF SAMPLES, TESTING PERIOD AND ENVIRONMENTAL CONDITIONS”.

ANNEX A

MEASURING RESULTS FOR

ELECTROMAGNETIC EMISSION

For samples under test, named S/01, S/02, S/03 and S/04, and that were formed by the elements described in the clause "Identification of the tested item/items" of this test report.

ANNEX A CONTENTS:

* * *

1. - CONTINUOUS CONDUCTED EMISSION, POWER LEADS ON SAMPLES S/01, S/02, S/03 AND S/04

LIMITS OF INTERFERENCE

The applied limit for continuous conducted emissions in power leads, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart C (2003/07/22 Ed.) in the frequency range 0,15 to 30 MHz, was:

Frequency range (MHz)	Limit (dBµV)	
	Quasi-peak	Average
0,15 to 0,5	66-56	56-46
0,5 to 5	56	46
5 to 30	60	50

TEST METHOD

According to Part 15, Subpart C of FCC Rules (2003/07/22 Ed.)

OPERATING MODES OF EUT

Different tested operating modes (OM)

- OM#02: EUT ON. Transmission mode.

TEST RESULTS

CCmmnnxx: CC, Conduction condition°; mm: sample number; nn: operation mode; xx: wire.

Sample S/01:

- OM#02.

CDmmnnxx	Description	Result
CC01020N	Interference voltage on Neutral wire	PASS
CC0102L1	Interference voltage on phase wire	PASS

Sample S/02:

- OM#02.

CDmmnnxx	Description	Result
CC02020N	Interference voltage on Neutral wire	PASS
CC0202L1	Interference voltage on phase wire	PASS

Sample S/03:

- OM#02.

CDmmnnxx	Description	Result
CC03020N	Interference voltage on Neutral wire	PASS
CC0302L1	Interference voltage on phase wire	PASS

Sample S/04:

- OM#02.

CDmmnnxx	Description	Result
CC04020N	Interference voltage on Neutral wire	PASS
CC0402L1	Interference voltage on phase wire	PASS

2. - GRAPH RESULTS

See next pages.

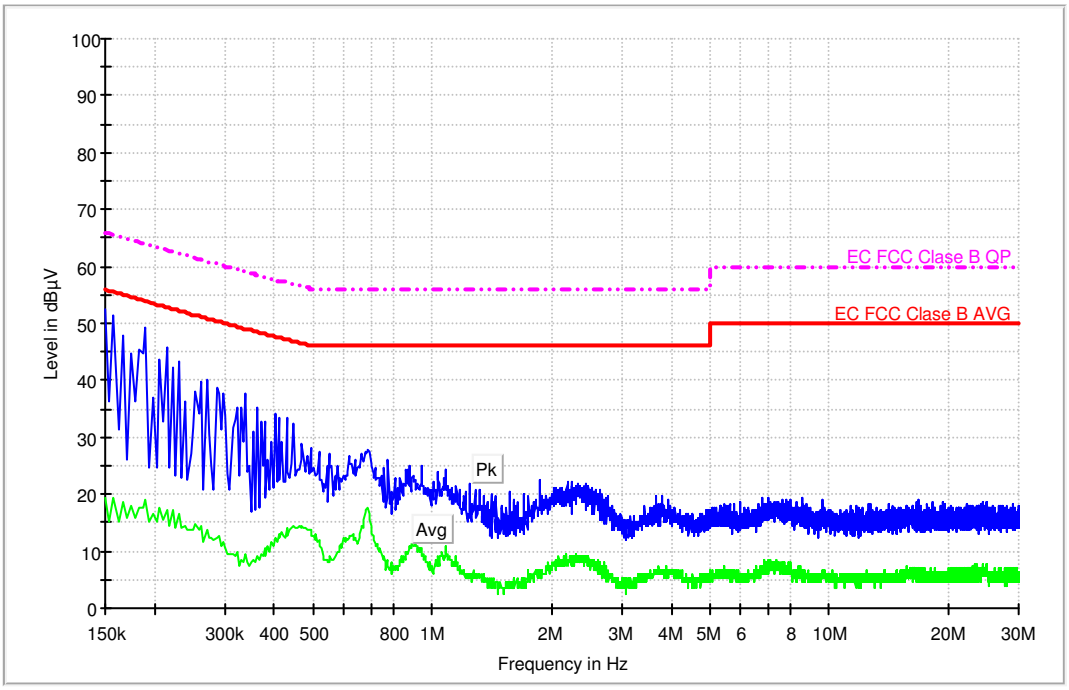
Continuous conducted emission: CC01020N (Peak and average)

EMC32 Report

Test Information

Proyecto:	22615iem.001
Empresa:	LOGITECH
Muestra:	M/01
Modo operacion:	MO#02
Fecha:	2005-07-22 09:14
Setup:	EMI conducted
Mode:	EUT ON. Tx mode.
Description	Neutral noise.

EC FCC Clase B ESIB26 CC



Acceptance Analysis

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	52.5	19.5
0.158000	51.2	19.4
0.166000	47.9	18.6
0.174000	44.6	18.0
0.190000	49.3	18.9
0.206000	43.6	17.5
0.214000	45.6	17.3
0.222000	42.4	17.1
0.230000	43.5	16.7
0.262000	39.6	14.5
0.270000	40.2	13.7
0.286000	38.7	12.4
0.338000	37.7	9.5

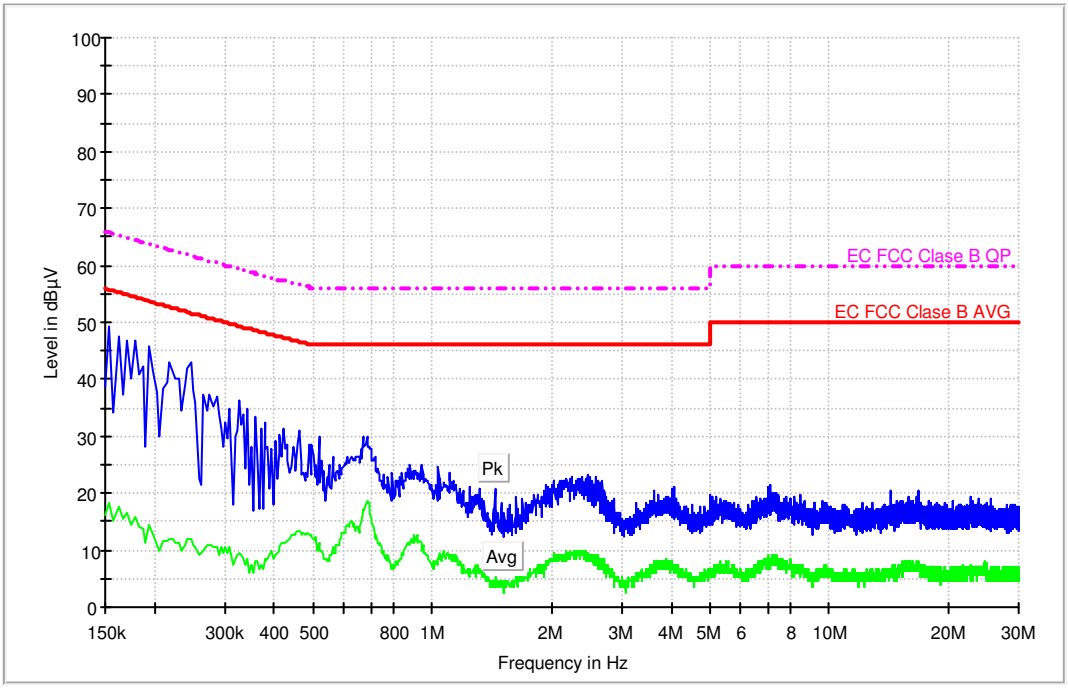
Continuous conducted emission: CC01020N (Peak and average)

EMC32 Report

Test Information

Proyecto:	22615iem.001
Empresa:	LOGITECH
Muestra:	M/01
Modo operacion:	MO#02
Fecha:	2005-07-22 09:20
Setup:	EMI conducted
Mode:	EUT ON. Tx mode.
Description	Phase noise.

EC FCC Clase B ESIB26 CC



Acceptance Analysis

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.154000	49.4	18.4
0.162000	47.5	17.5
0.170000	46.8	16.5
0.178000	46.8	16.0
0.194000	45.9	14.5
0.218000	42.8	12.0
0.246000	42.8	12.0

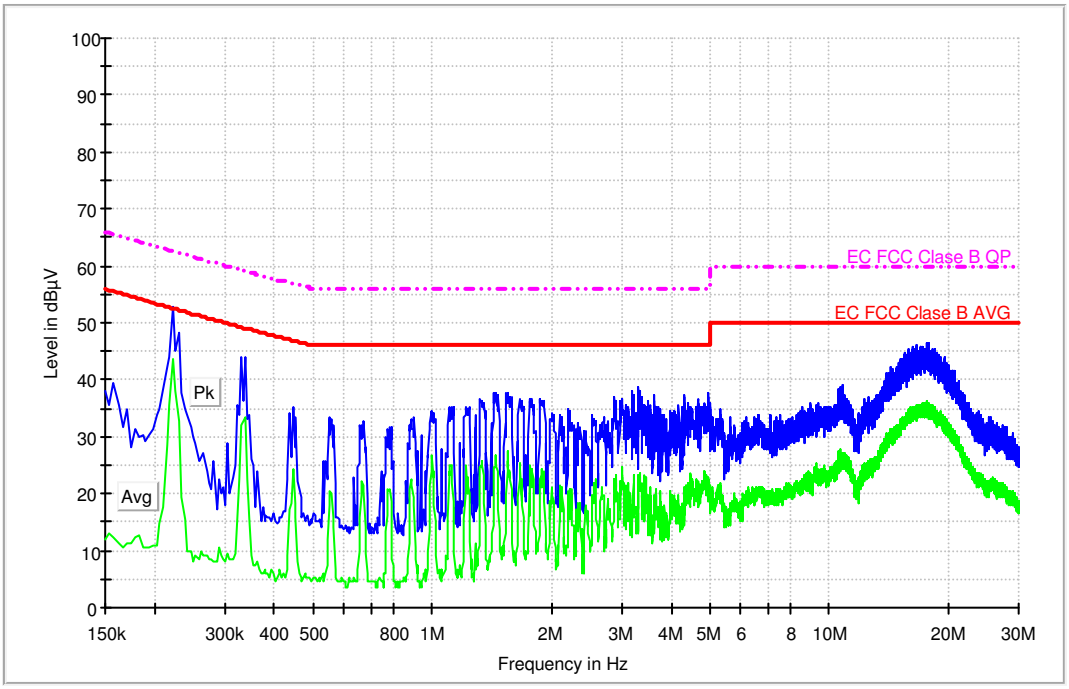
Continuous conducted emission: CC02020N (Peak and average)

EMC32 Report

Test Information

Proyecto:	22615iem.001
Empresa:	LOGITECH
Muestra:	M/02
Modo operacion:	MO#02
Fecha:	2005-07-22 10:14
Setup:	EMI conducted
Mode:	EUT ON. Tx mode.
Description	Neutral noise.

EC FCC Clase B ESIB26 CC



Acceptance Analysis

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.222000	52.9	43.7
0.330000	43.9	32.1
0.338000	44.1	33.4
15.510000	44.6	32.0
15.810000	45.3	33.7
16.182000	45.3	34.7
16.646000	46.1	35.6
17.866000	46.3	35.1
18.478000	45.6	34.7
19.498000	44.1	32.2

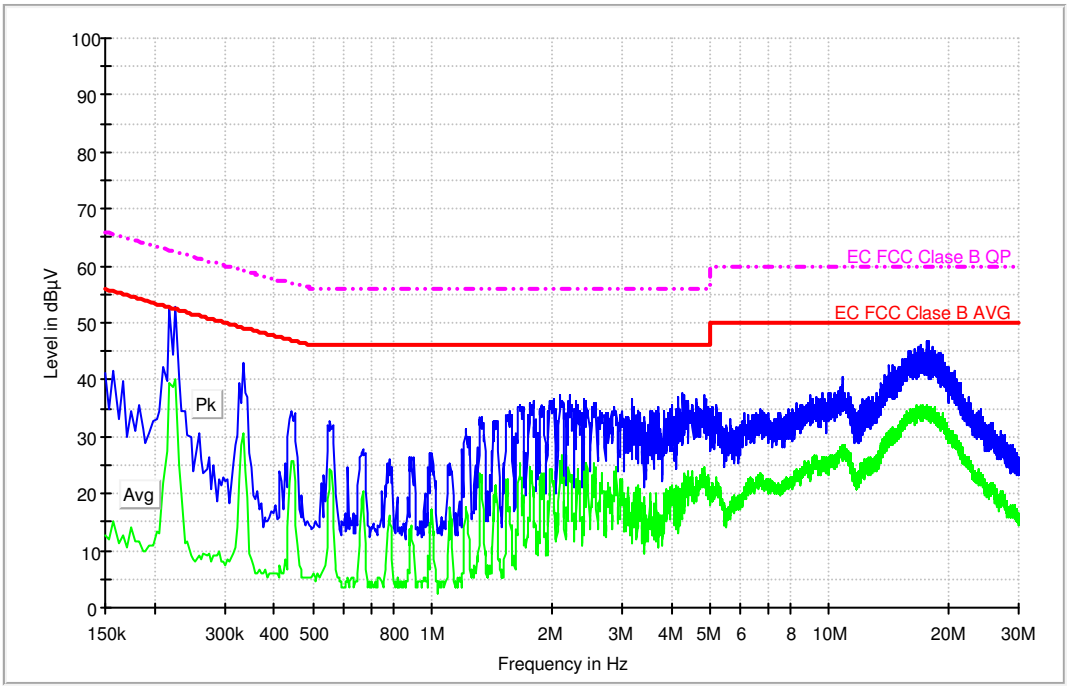
Continuous conducted emission: CC0202L1 (Peak and average)

EMC32 Report

Test Information

Proyecto:	22615iem.001
Empresa:	LOGITECH
Muestra:	M/02
Modo operacion:	MO#02
Fecha:	2005-07-22 10:18
Setup:	EMI conducted
Mode:	EUT ON. Tx mode.
Description	Phase noise.

EC FCC Clase B ESIB26 CC



Acceptance Analysis

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.218000	52.3	39.6
0.226000	52.9	40.2
16.434000	45.5	33.5
16.766000	45.8	34.2
16.954000	46.1	34.7
17.590000	46.7	34.0
17.750000	46.7	34.5
18.154000	45.8	34.1
19.134000	44.8	32.2
19.334000	44.2	32.3

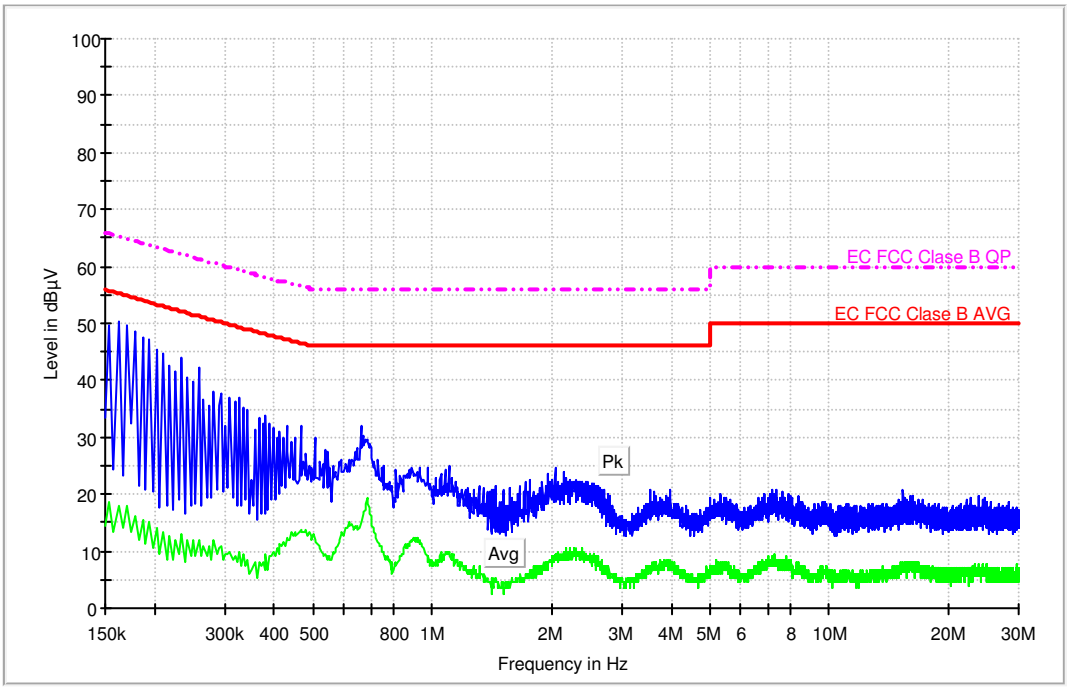
Continuous conducted emission: CC03020N (Peak and average)

EMC32 Report

Test Information

Proyecto:	22615iem.001
Empresa:	LOGITECH
Muestra:	M/03
Modo operacion:	MO#02
Fecha:	2005-07-22 09:43
Setup:	EMI conducted
Mode:	EUT ON. Tx mode.
Description	Neutral noise.

EC FCC Clase B ESIB26 CC



Acceptance Analysis

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.154000	49.7	18.6
0.162000	50.3	18.0
0.170000	49.5	17.9
0.178000	48.5	16.2
0.186000	47.5	15.5
0.194000	47.2	15.3
0.202000	45.4	14.2
0.210000	44.7	13.4
0.218000	42.5	12.7
0.226000	41.5	12.0
0.234000	44.0	13.0
0.242000	40.6	12.0
0.250000	39.9	12.0
0.258000	42.3	12.0

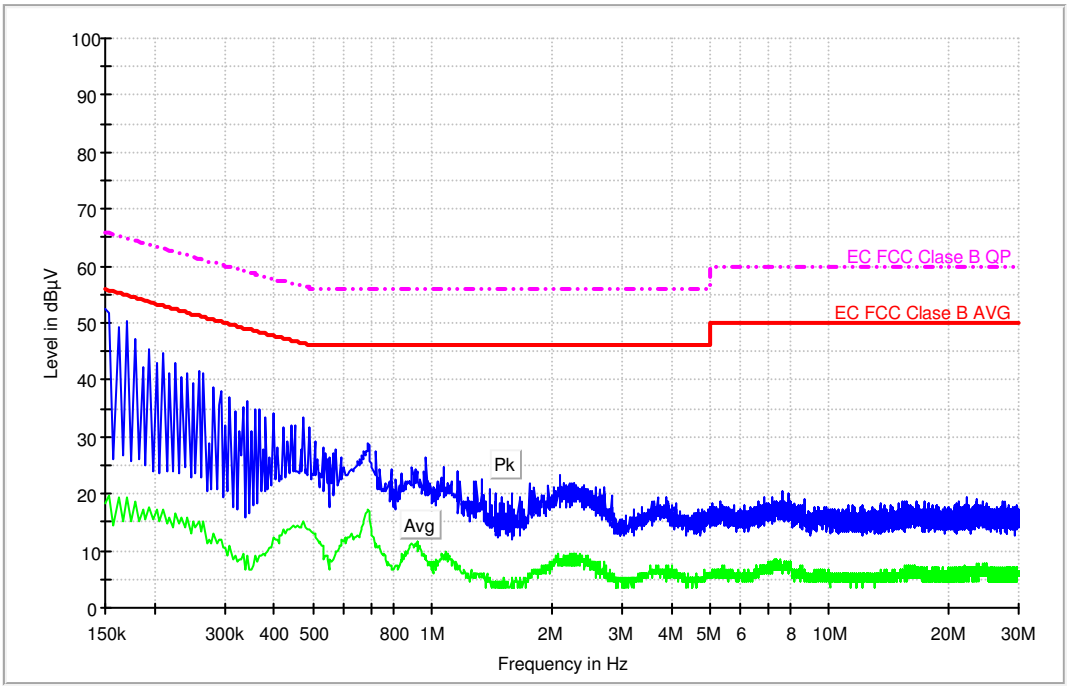
Continuous conducted emission: CC0302L1 (Peak and average)

EMC32 Report

Test Information

Proyecto:	22615iem.001
Empresa:	LOGITECH
Muestra:	M/01
Modo operacion:	MO#02
Fecha:	2005-07-22 09:49
Setup:	EMI conducted
Mode:	EUT ON. Tx mode.
Description	Phase noise.

EC FCC Clase B ESIB26 CC



Acceptance Analysis

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	52.5	18.2
0.162000	49.3	19.4
0.170000	50.3	19.4
0.178000	47.2	18.7
0.186000	42.4	17.3
0.194000	45.3	17.5
0.202000	42.8	17.1
0.210000	44.9	17.3
0.218000	41.3	15.8
0.226000	42.9	16.7
0.234000	40.6	16.0
0.242000	41.3	15.8
0.258000	41.6	15.3
0.266000	41.2	15.0

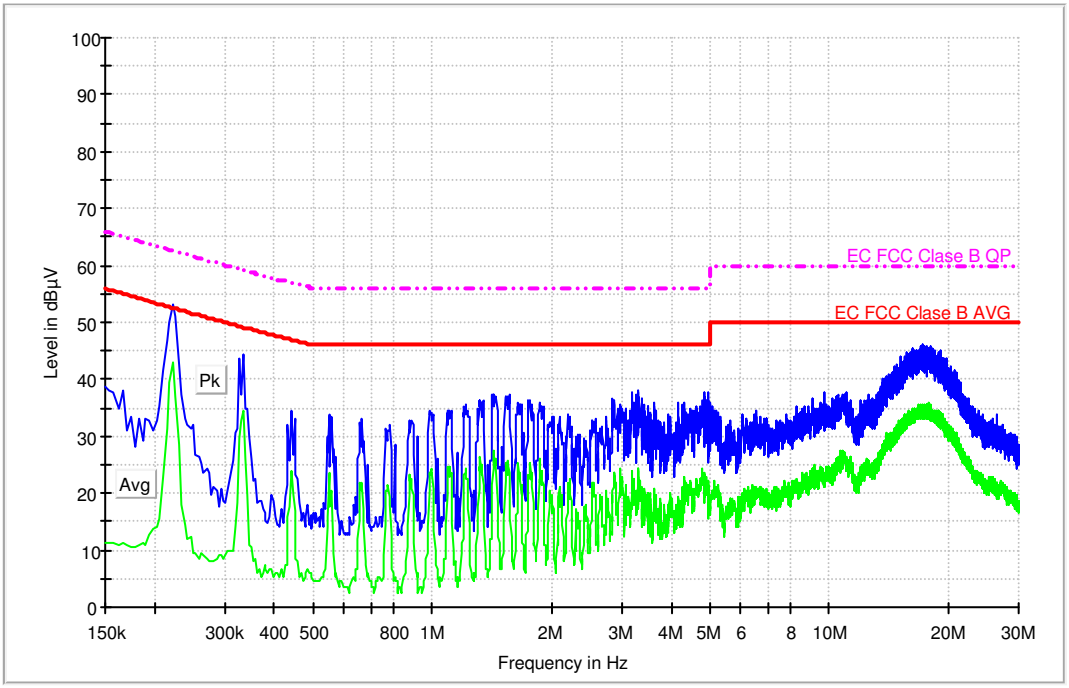
Continuous conducted emission: CC04020N (Peak and average)

EMC32 Report

Test Information

Proyecto:	22615iem.001
Empresa:	LOGITECH
Muestra:	M/04
Modo operacion:	MO#02
Fecha:	2005-07-22 09:59
Setup:	EMI conducted
Mode:	EUT ON. Tx mode.
Description	Neutral noise.

EC FCC Clase B ESIB26 CC



Acceptance Analysis

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.222000	53.1	42.8
0.326000	43.7	29.7
0.334000	44.4	34.5
16.146000	45.4	33.5
17.146000	46.2	34.8
18.062000	45.8	34.4
18.986000	44.5	33.4
19.118000	44.9	33.7

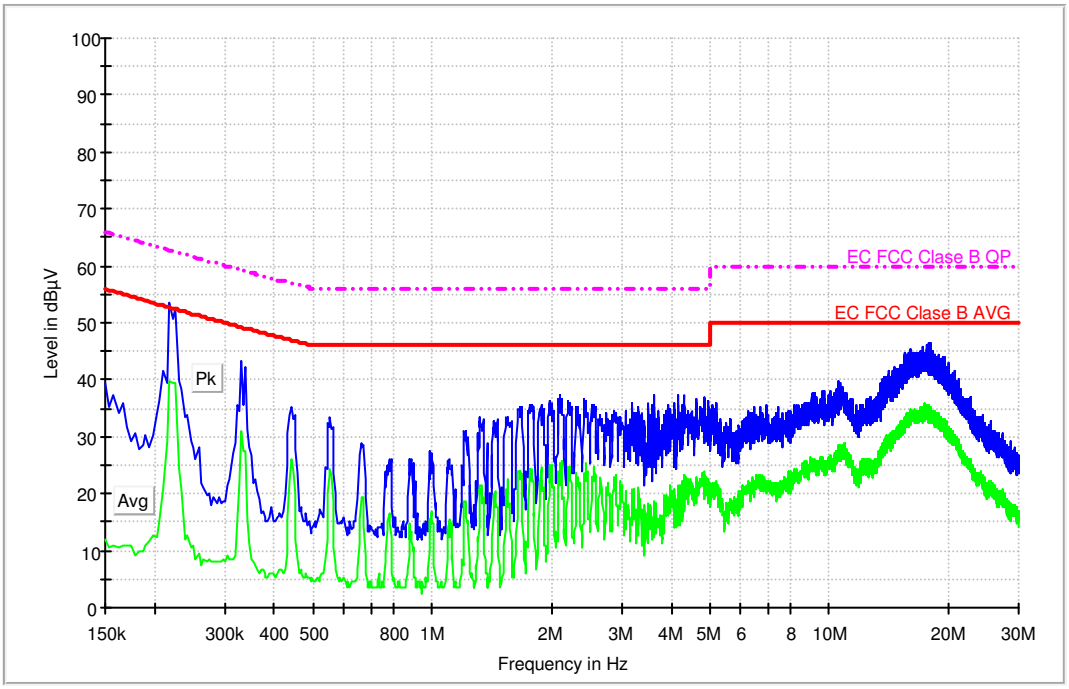
Continuous conducted emission: CC0402L1 (Peak and average)

EMC32 Report

Test Information

Proyecto:	22615iem.001
Empresa:	LOGITECH
Muestra:	M/04
Modo operacion:	MO#02
Fecha:	2005-07-22 10:07
Setup:	EMI conducted
Mode:	EUT ON. Tx mode.
Description	Phase noise.

EC FCC Clase B ESIB26 CC



Acceptance Analysis

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.218000	53.4	39.7
15.534000	44.7	32.9
17.850000	46.3	34.6
17.982000	46.3	33.1

3. - EQUIPMENT UNDER TEST PICTURES