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Report No.: GLEMO060300521ITC  
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## TEST REPORT

**Application No.:** GLEMO060300521IT  
**Applicant:** ISS MANUFACTURING LTD.  
**Manufacturer:** NTL ELECTRONICS FACTORY

**Equipment Under Test (EUT):**

**EUT Name:** USB HEADSET WITH MICROPHONE  
**Item No.:** SPRO5004, SPRO5005 ♣  
**Serial No.:** Not supplied by client

♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.

**Standards:** AS/NZS CISPR 22:2003  
**Date of Receipt:** 16 March 2006  
**Date of Test:** 21 and 23 March 2006  
**Date of Issue:** 14 April 2006

<b>Test Result :</b>	<b>PASS*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

*Jeff Zhao*  
*April 06*

Jeff Zhao  
Manager



This report refers to the General Conditions for Inspection and Testing Services, printed overleaf.

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

All test results in this report can be traceable to National or International Standards.

## 2 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission, 30MHz to 1GHz	AS/NZS CISPR 22:2003	AS/NZS CISPR 22:2003	Class B	PASS①
Conducted Emission (150KHz to 30MHz)	AS/NZS CISPR 22:2003	AS/NZS CISPR 22:2003	Class B	PASS

Remark:

- ① The EUT passed the Radiated Emission test after modification. Please refer to the following information and this report for further details.

Added one core for the USB cable as the following photo shown:



Core model No.: RC 25\*12\*15

Manufacturer: KING CORE Electronics Co., Ltd.

Item No.: SPRO5004, SPRO5005

Only the Item SPRO5005 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above items, only the outer decoration was difference.



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## 4 General Information

### 4.1 Client Information

Applicant: ISS MANUFACTURING LTD.  
Address of Applicant: UNIT 604-606, 6/F., PHASE II, CHAI WAN INDUSTRIAL CITY, 70 WING TAI ROAD, CHAI WAN, HONGKONG  
Manufacturer: NTL ELECTRONICS FACTORY  
Address of Manufacturer: BUILDING B22, THE FIRST INDUSTRY DISTRICT, FENG HUANG VILLAGE, FU YONG, SHENZHEN, CHINA

### 4.2 General Description of E.U.T.

EUT Name: USB HEADSET WITH MICROPHONE  
Item No.: SPRO5004, SPRO5005♣  
Serial No.: Not supplied by client

### 4.3 Details of E.U.T.

Power Supply: Supplied by PC USB Port  
Signal cable: 2.0m USB Cable

### 4.4 Description of Support Units

The EUT has been tested with PC system as following:

Description	Manufacturer	Model No.	Serial No.
Personal Computer	Hewlett-Packard	P7314A	CN21003501
NoteBook	IBM	2374-14N	99-FBAF9
17" Monitor	Philips	107P20/29H	BZ000144445038
Mouse	Hewlett-Packard	M-S480	LZE20353501 FCC ID: JNZ201213
ROM Programmer	DASI Electronics	EMP-100A	J007
Printer	Epson	P310B	DLRE134863
Personal Computer	IBM	M/T 3126-KCH	99F6434
Personal Computer	IBM	M/T 8189-39C	99FX366
15" Monitor	IBM	6331-4CN	23-NTYF6
17" Monitor	IBM	6737-66N/A	23-NG949



#### 4.5 Standards Applicable for Testing

The customer requested C-tick tests for USB headset with microphone.

The standards used were AS/NZS CISPR 22 :2003

**Table 1 : Tests Carried Out Under AS/NZS CISPR 22 :2003**

Standard		Status
AS/NZS CISPR 22 :2003	Radiated Emissions	√
AS/NZS CISPR 22 :2003	Conducted Emissions on AC	√
AS/NZS CISPR 22 :2003	Conducted Emissions on Telecommunication Ports	×

× Indicates that the test is not applicable

√ Indicates that the test is applicable



#### 4.6 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town Economic & Technology Development District Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

#### 4.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP – Lab Code: 200611-0**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0. Effective through December 31, 2006.

- **ACA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

- **VCCI**

The 3m Semi-anechoic chamber and Shielded Room (11.5m x 4m x 4m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1599 and C-1706 respectively.

Date of Registration: June 01, 2005. Valid until February 22, 2008

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAL – LAB Code: L0141**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of Testing Laboratories.

- **FCC – Registration No.: 282399**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002. With the above and NVLAP's accreditation, SGS-CSTC is an authorised test laboratory for the DoC process.

- **Industry Canada (IC)**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5169.

#### 4.8 Deviation from Standards

None.

#### 4.9 Abnormalities from Standard Conditions

The EUT passed the Radiated Emission test after modification.

## 5 Equipments Used during Test

RE in Chamber/OATS						
No:	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
EMC0525	Impact Semi-Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	06-03-2006	06-03-2007
EMC0525	Compact chamber	ZhongYu	N/A	N/A	20-12-2005	20-12-2006
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100249	05-12-2005	05-12-2006
N/A	EMI Test Software	Audix	E3	N/A	N/A	N/A
EMC0514	Coaxial cable	SGS	N/A	N/A	04-12-2005	04-12-2006
EMC0519	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	16-01-2006	16-01-2007
EMC0518	Horn Antenna	Rohde & Schwarz	HF906	100096	10-05-2005	09-05-2006
EMC0040	Spectrum Analyzer	Rohde & Schwarz	FSP30	100324	05-12-2005	05-12-2006
EMC0520	0.1-1300 MHz Pre-Amplifier	HP	8447D OPT 010	2944A06252	06-03-2006	06-03-2007
EMC0521	1-26.5 GHz Pre-Amplifier	Agilent	8449B	3008A01649	06-03-2006	06-03-2007
EMC0523	Active Loop Antenna	EMCO	6502	00042963	14-01-2006	14-01-2007
EMC0529	10m Open Site	ZhongYu	N/A	N/A	26-12-2005	26-12-2006

Conducted Emission						
No:	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
EMC0306	Shielding Room	Zhong Yu	8 x 3 x 3.8 m <sup>3</sup>	N/A	N/A	N/A
EMC0102	LISN	Schaffner Chase	MNZ050D/1	1421	05-12-2005	05-12-2006
EMC0506	EMI Test Receiver	Rohde & Schwarz	ESCS30	100085	05-12-2005	05-12-2006
EMC0107	Coaxial Cable	SGS	2m	N/A	25-11-2005	25-11-2006

General used equipment						
No:	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
EMC0050 to EMC0053	Temperature, & Humidity	ZHENGZHOU BO YANG	WSB	N/A	05-12-2005	05-12-2006
EMC0054	Temperature, & Humidity	Shenzhen Tai Kong	THG-1	N/A	04-01-2006	04-01-2007
EMC0006	DMM	Fluke	73	70681569	28-09-2005	28-09-2006
EMC0007	DMM	Fluke	73	70671122	12-09-2005	12-09-2006

## 6 Emission Test Results

### 6.1 Radiated Emissions, 30MHz to 1GHz

Test Requirement:	AS/NZS CISPR 22
Test Method:	AS/NZS CISPR 22
Test Date:	21 March 2006 (Initial test) 21 March 2006 (Test after modification)
Frequency Range:	30MHz to 1GHz
Measurement Distance:	3m
Class:	Class B
Detector:	Peak for pre-scan (120kHz resolution bandwidth) Quasi-Peak if maximised peak within 6dB of limit

#### 6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 25.0 °C      Humidity: 48% RH      Atmospheric Pressure: 1008 mbar

EUT Operation: Test the EUT in PC Connection Mode with test program running.

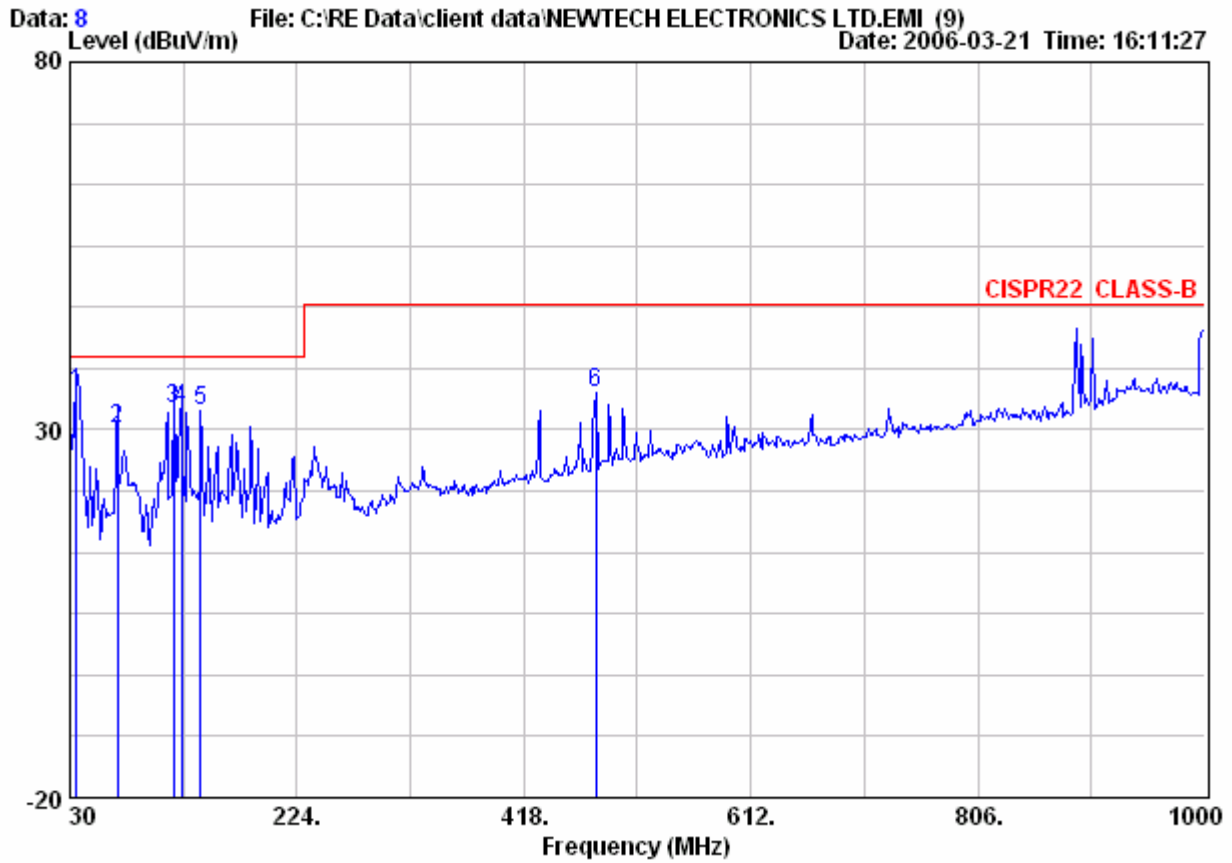
#### 6.1.2 Measurement Data

An initial pre-scan was performed in the 3m chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bilog antenna with 2 orthogonal polarities.

The following quasi-peak measurements were performed on the EUT on 21 March 2006:



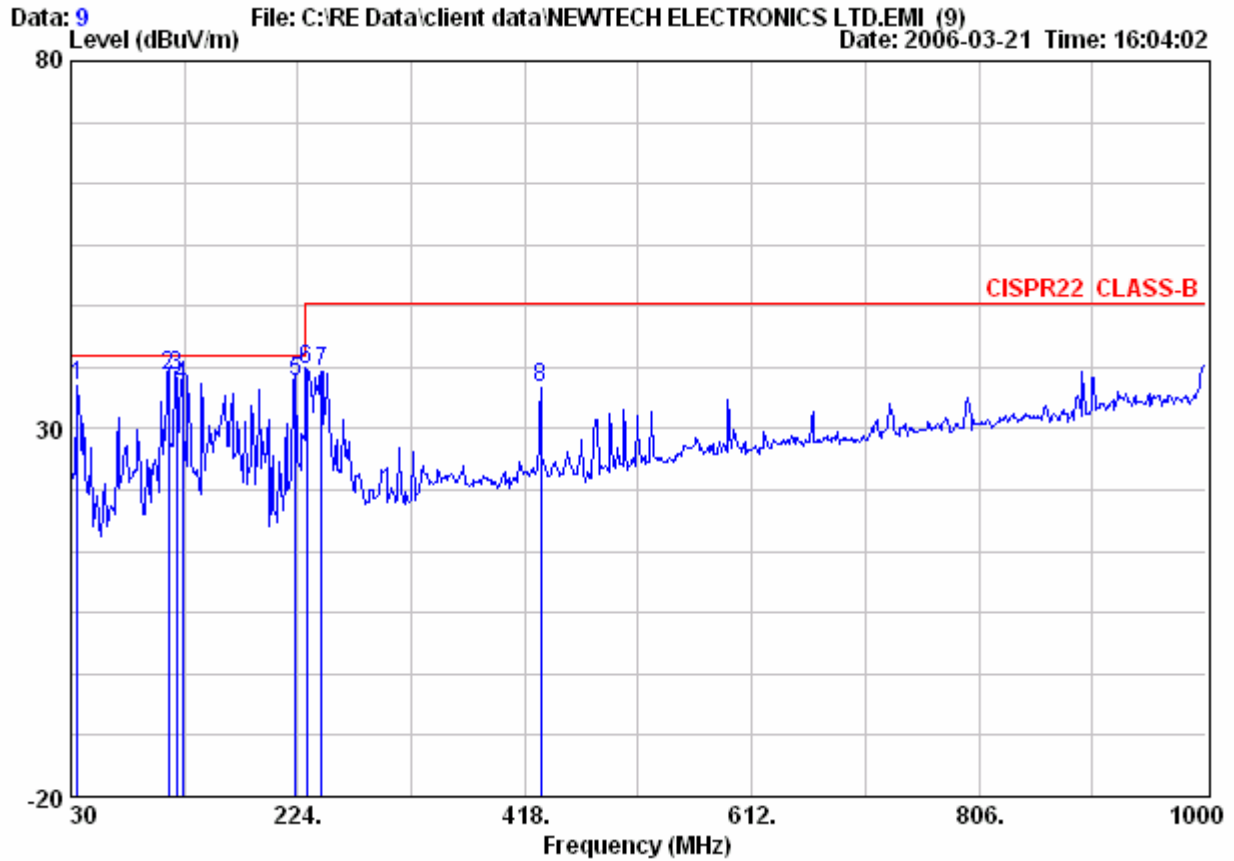
Vertical:



	Read	Antenna	Cable	Preamp	Limit	Over		
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1 Max.	35.820	43.84	15.97	0.56	25.30	35.07	40.00	-4.93 QP
2	70.740	47.26	7.21	0.71	25.10	30.08	40.00	-9.92 QP
3	118.270	45.71	11.26	0.98	25.10	32.85	40.00	-7.15 QP
4	125.060	46.11	10.94	1.01	25.10	32.96	40.00	-7.04 QP
5	141.550	46.20	10.30	1.07	25.07	32.51	40.00	-7.49 QP
6	479.110	40.16	18.35	2.14	25.73	34.93	47.00	-12.07 QP



Horizontal:



	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 Max.	35.820	40.87	19.67	0.56	25.30	35.80	40.00	-4.20	QP
2 Max.	113.420	48.99	12.49	0.96	25.10	37.34	40.00	-2.66	QP
3 Max.	120.048	48.27	13.19	0.99	25.10	37.35	40.00	-2.65	QP
4 Max.	125.060	47.36	12.72	1.01	25.10	35.99	40.00	-4.01	QP
5 Max.	222.060	47.86	11.69	1.39	24.51	36.44	40.00	-3.56	QP
6	231.760	48.87	12.20	1.43	24.47	38.03	47.00	-8.97	QP
7	244.370	48.28	12.35	1.48	24.42	37.68	47.00	-9.32	QP
8	431.580	41.21	17.62	2.00	25.30	35.52	47.00	-11.48	QP

1. Level = Read Level + Antenna Factor + Cable Loss – Preamp Factor.
2. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

## **6.2 Conducted Emissions Mains Terminals, 150kHz to 30MHz**

Test Requirement: AS/NZS CISPR 22  
Test Method: AS/NZS CISPR 22  
Test Date: 23 March 2006  
Frequency Range: 150KHz to 30MHz  
Class / Severity: Class B  
Detector: Peak for pre-scan (9kHz Resolution Bandwidth)  
Quasi-Peak if maximised peak within 6dB of Quasi-Peak limit

### **6.2.1 E.U.T. Operation**

Operating Environment:

Temperature: 27.0 °C      Humidity: 62% RH      Atmospheric Pressure: 1014 Mbar

EUT Operation: A pre-test was performed on the EUT in On Mode power supplied by PC USB Port in order to find the worst case.

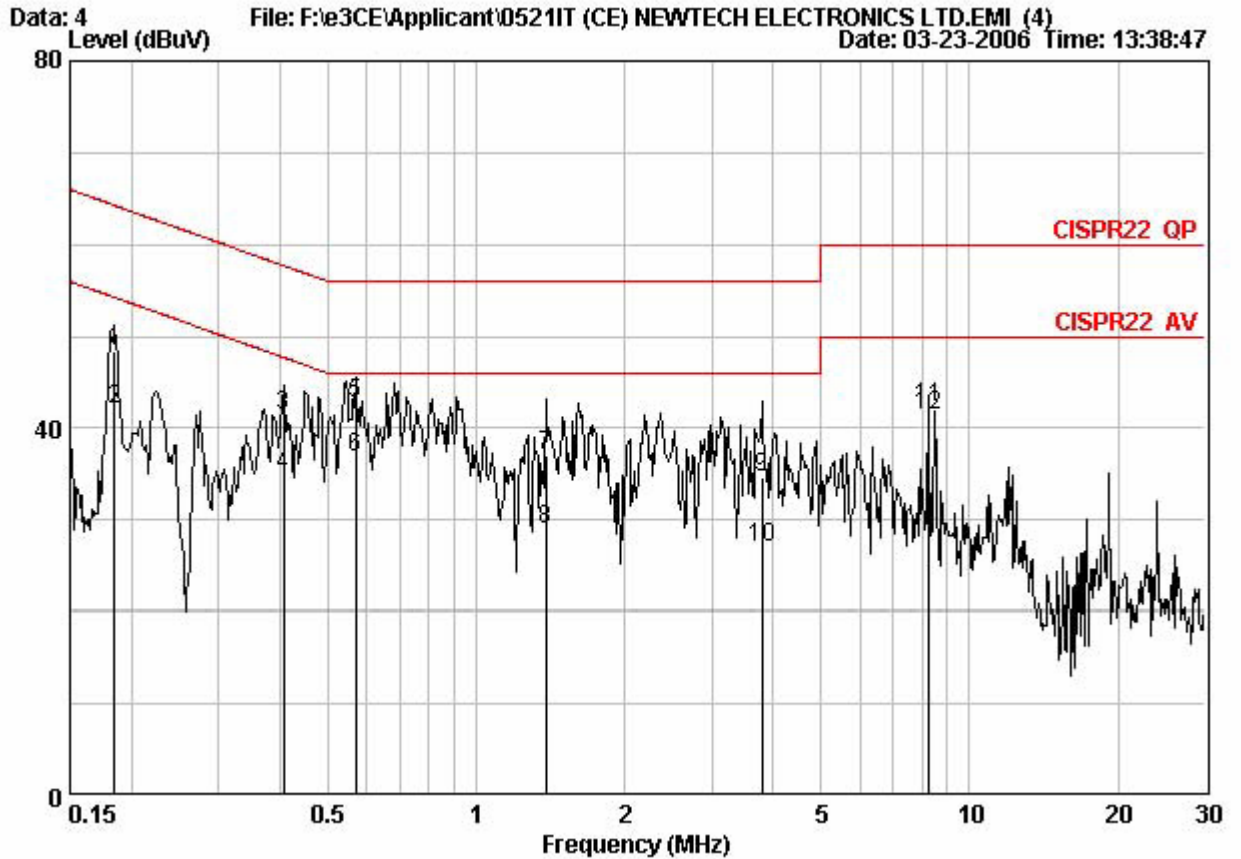
Test the EUT in PC connection Mode with test program running for the compliance test as no worst case was found.

### **6.2.2 Measurement Data**

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

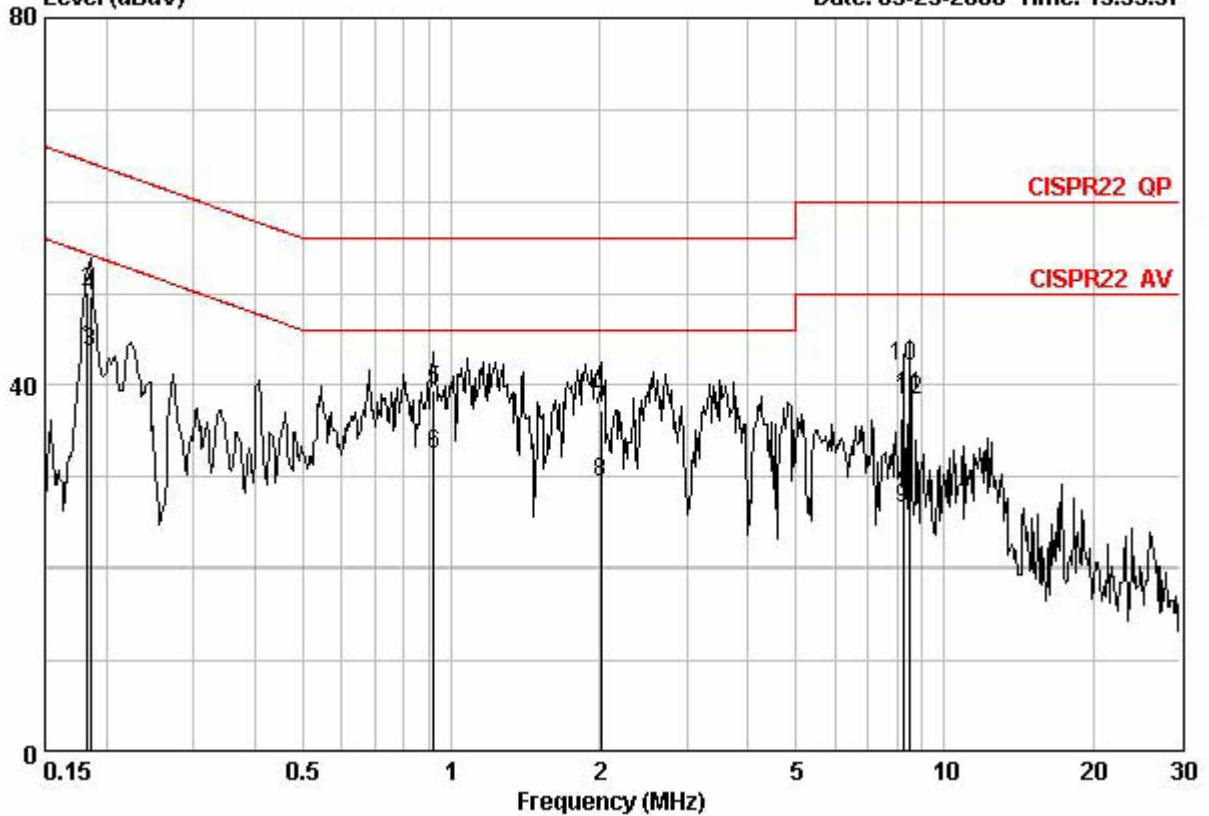
The following Quasi-Peak and Average measurements were performed on the EUT on 23 March 2006:  
Live Line:



	Read Freq	Read Level	Cable Loss	LISN Factor	Limit Level	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dB	
1	0.184	48.38	-0.09	0.06	48.35	64.28	-15.94 QP
2	0.184	42.17	-0.09	0.06	42.14	54.28	-12.15 AVERAGE
3	0.406	41.52	-0.05	0.05	41.52	57.73	-16.20 QP
4	0.406	34.95	-0.05	0.05	34.95	47.73	-12.77 AVERAGE
5	0.570	42.72	-0.03	0.06	42.75	56.00	-13.25 QP
6	0.570	36.82	-0.03	0.06	36.85	46.00	-9.15 AVERAGE
7	1.381	36.96	0.01	0.06	37.04	56.00	-18.96 QP
8	1.381	28.93	0.01	0.06	29.01	46.00	-16.99 AVERAGE
9	3.799	34.50	0.06	0.14	34.70	56.00	-21.30 QP
10	3.799	26.85	0.06	0.14	27.05	46.00	-18.95 AVERAGE
11	8.255	41.96	0.09	0.31	42.37	60.00	-17.63 QP
12 !	8.255	41.05	0.09	0.31	41.46	50.00	-8.54 AVERAGE

Neutral Line:

Data: 3 File: F:\e3CE\Applc\0521IT (CE) NEWTECH ELECTRONICS LTD.EMI (4) Date: 03-23-2006 Time: 13:33:37



	Read Freq	Read Level	Cable Loss	LISN Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.183	44.05	-0.09	0.00	43.96	54.34	-10.38	AVERAGE
2	0.183	50.32	-0.09	0.00	50.23	64.34	-14.11	QP
3	0.185	43.59	-0.09	0.00	43.50	54.24	-10.74	AVERAGE
4	0.185	49.74	-0.09	0.00	49.65	64.24	-14.59	QP
5	0.923	39.40	0.00	0.00	39.40	56.00	-16.60	QP
6	0.923	32.45	0.00	0.00	32.45	46.00	-13.55	AVERAGE
7	2.012	37.28	0.03	0.00	37.31	56.00	-18.69	QP
8	2.012	29.40	0.03	0.00	29.43	46.00	-16.57	AVERAGE
9	8.235	26.52	0.09	0.00	26.61	60.00	-33.39	QP
10 !	8.255	42.08	0.09	0.00	42.17	50.00	-7.83	AVERAGE
11	8.521	38.74	0.09	0.00	38.83	60.00	-21.17	QP
12	8.521	38.20	0.09	0.00	38.29	50.00	-11.71	AVERAGE

Remark:

\*: Average value was only measured if QP value was within 6dB of Average limit line.

## 7 Photographs

### 7.1 Radiated Emission Test Setup



### 7.2 Conducted Emission Test Setup



7.3 EUT Constructional Details



