

Compliance Test Report for FCC

Report Number		ESTF150308-004			
Applicant	Company name	HUMUS MOG CO., LTD.			
	Address	130-7 Chungdam-dong Gangnam-gu Seoul 135-100 Korea			
	Telephone	82-2-514-9245			
Product	Product name	MOG JOYSTICK			
	Model No.	MOG JOYSTICK	Manufacturer	HUMUS MOG CO., LTD.	
	Serial No.	NONE	Country of origin	KOREA	
Test date	2003-08-18	~	2003-08-19	Date of issue	2003-08-20
Test location	ESTECH. Co., Ltd. 97-1 Hoiuk-Ri Majang-Myon, Icheon-city, KyungKi-Do, Korea				
Standard	FCC PART 15 2002 , ANSI C 63.4 2001				
Test item	<input checked="" type="checkbox"/> Conducted Emission	<input type="checkbox"/> Class A	<input checked="" type="checkbox"/> Class B	Test result	OK
	<input checked="" type="checkbox"/> Radiated Emission	<input type="checkbox"/> Class A	<input checked="" type="checkbox"/> Class B	Test result	OK
Measurement facility registration number		94696			
Tested by	Senior Engineer J.M. Yang		(Signature) 		
Reviewed by	Director T.K. Lee		(Signature) 		
Abbreviation	OK, Pass = Passed, Fail = Failed, N/A = not applicable				
<p>* Note</p> <ul style="list-style-type: none"> - This is certified that the above mentioned products have been tested for the sample provided by client - No part of this document may be duplicated or reproduced by any means without the express written permission of the Estech Co., Ltd. 					

Contents

1. Laboratory Information	3
2. Description of EUT	4
3. Test Standards	5
4. Measurement condition	6
5. Measurement of radiated emission	8
5.1 Measurement equipment	8
5.2 Environmental conditions	8
5.3 Test data	9
6. Measurement of conducted emission	10
6.1 Measurement equipment	10
6.2 Environmental conditions	10
6.3 Test data	11
7. Photographs of test setup	13
8. Photographs of EUT	16

Appendix 1. Spectral diagram

Appendix 2. Block diagram of EUT

Appendix 3. Circuit Diagram



1. Laboratory Information

1.1 General

This EUT (Equipment Under Test) has been shown to be capable of compliance with the applicable technical standards and is tested in accordance with the measurement procedures as indicated in this report.

ESTECH attests to accuracy of test data. All measurement reported herein were performed by ESTECH Co., Ltd.

ESTECH assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

1.2 Test Lab.

Corporation Name : ESTECH Co. Ltd

Head Office : 3 rd Fl., Chungdam Bldg., 119-1 Chungdam-dong Kangnam-gu , Seoul, Korea
(Safety & Telecom. Test Lab)

EMC Test Lab : 58-1 Osan-Ri, GaNam-Myon, YeoJoo-Gun, KyungKi-Do, Korea
97-1 Hoiuk-Ri Majang-Myon, Icheon-city, KyungKi-Do, Korea

1.3 Official Qualification(s)

FCC : Filed Laboratory at Federal Communications Commission

2. Description of EUT

2.1 Summary of Equipment Under Test

Product : MOG JOYSTICK
Model Number : MOG JOYSTICK
Serial Number : NONE
Manufacturer : HUMUS MOG CO., LTD.
Country of origin : KOREA
Rating : DC 12V or PC Power using
Receipt Date : 2003-08-18

2.2 General descriptions of EUT

The MOG JOYSTICK is a brand-new piece of fitness equipment that allows users to enjoy exercising and games at the same time.

The MOG JOYSTICK is designed to enable users to share the exercise experience with others in cyberspace by using game and voice-communication functions. At the same time, the Health Manager constantly checks users' health condition.

One of the primary characteristics of the MOG JOYSTICK is the ability to make users feel that they are actually riding a bike outdoors, as a result of using game functions. Unlike other exercise equipment, the MOG JOYSTICK handle is adjustable for game control. Its two-way handle shock absorber gives users the sensation that they are holding actually bike handlebars. In addition, its built-in magnetic wheel maximizes exercise effects.



3. Test Standards

Test Standard : FCC PART 15 (2002)

This Standard sets out the regulations under which an intentional, unintentional, or incidental radiator may be operated without an individual license. It also contains the technical specifications, administrative requirements and other conditions relating to the marketing of Part 15 devices.

Test Method : ANSI C 63.4 (2001)

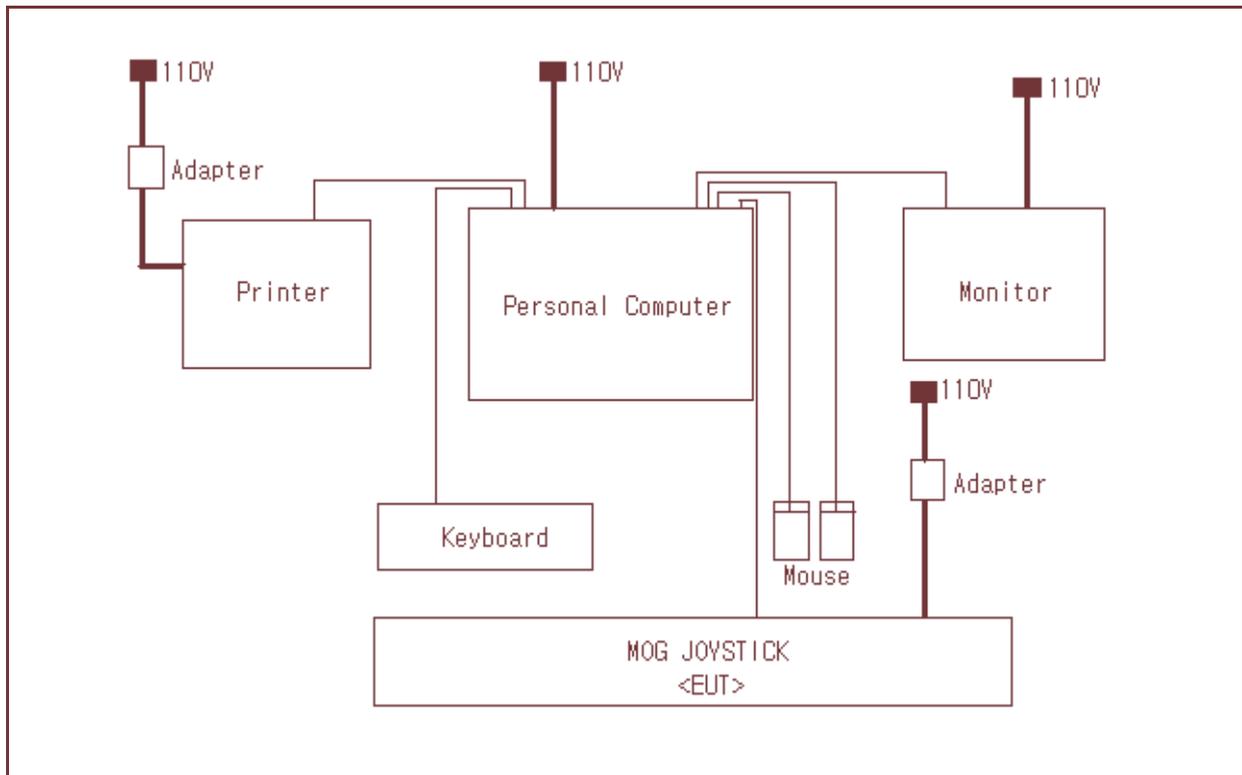
This standard sets forth uniform methods of measurement of radio-frequency (RF) signals and noise emitted from both unintentional and intentional emitters of RF energy in the frequency range 9 kHz to 40 GHz. Methods for the measurement of radiated and AC power-line conducted radio noise are covered and may be applied to any such equipment unless otherwise specified by individual equipment requirements. These methods cover measurement of certain devices that deliberately radiate energy, such as intentional emitters, but does not cover licensed transmitters. This standard is not intended for certification/approval of avionic equipment or for industrial, scientific, and medical (ISM) equipment. These methods apply to the measurement of individual units or systems comprised of multiple units.

4. Measurement Condition

4.1 EUT Operation.

- * The EUT was in the following operation mode during all testing
- * The operational conditions of the EUT was determined by the manufacturer according to the typical use of the EUT with respect to the expected highest level of emission
- * The test using the self test program

4.2 Configuration and Peripherals



4.3 EUT and Support equipment

Equipment Name	Model Name	S/N	Manufacturer	Remark (FCC ID)
MOG JOYSTICK	MOG JOYSTICK	NONE	HUMUS MOG CO., LTD.	EUT
Mouse	MSW-5	-	A4TECH	-
Mouse	MSW-5	-	A4TECH	-
Keyboard	AQ6-7D0080C08	TH-025PGG-37171-0941-1415	DELL	-
Printer	C6414J	TH18M149P2	HP	-
Monitor	D8897	CN11104168	HP	-
Adapter	66409-60152	NONE	YOKOGAWA	-
Adapter	HASU05F	301026A0457	DREAM ELECTRONIC CO., LTD.	-
Personal Computer	NONE	NONE	NONE	-

4.4 Cable Connecting

Start Equipment		End Equipment		Cable Standard		Remark
Name	I/O port	Name	I/O port	Length	Shielded	
MOG JOYSTICK	USB	Personal Computer	USB	2.0	Y	-
MOG JOYSTICK	Power	Adapter	-	2.0	N	-
Personal Computer	Video	Monitor	Video	2.0	Y	-
Personal Computer	PS/2 Mouse	Mouse	PS/2 Mouse	2.0	N	-
Personal Computer	PS/2 Keyboard	Keyboard	PS/2 Keyboard	2.0	N	-
Personal Computer	Parallel	Printer	Parallel	2.0	Y	-
Personal Computer	Serial	Mouse	Serial	2.0	N	-
Printer	Power	Adapter	-	2.0	N	-

5. Measurement of radiated disturbance

Above 30 MHz Electric Field strength was measured in accordance with FCC Part 15 (2002) & ANSI C 63.4 (2001). The test setup was made according to FCC Part 15 (2002) & ANSI C 63.4 (2001) on an open test site, which allows a 3m distance measurement. The EUT was placed in the center of wooden turntable. The height of this table was 0.8m. The measurement was conducted with both horizontal and vertical antenna polarization. The turntable has fully rotated. For further description of the configuration refer to the picture of the test set-up.

5.1 Measurement equipments

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
Receiver	ESPC	Rohde & Schwarz	845296/021	2004.6.17
Spectrum Analyzer	R3261B	ADVANTEST	1720302	2004.2.7
LogBicon Antenna	VULB 9160	S/B	3107	2004.6.13
Turn Table	2087	EMCO	2129	-
Antenna Mast	2070-01	EMCO	9702-203	-
ANT Mast Controller	2090	EMCO	1535	-
Turn Table Controller	2090	EMCO	1535	-

5.2 Environmental Condition

Test Place : Open site(3m)
 Temperature (°C) :26 °C
 Humidity (%) :56 %

6. Measurement of conducted disturbance

The continuous disturbance voltage of AC Mains in the frequency from 0.15 to 30 MHz was measured in accordance to FCC Part 15 (2002) & ANSI C 63.4 (2001) The test setup was made according to FCC Part 15 (2002) & ANSI C 63.4 (2001) in a shielded. The EUT was placed on a non-conductive table at least 80 above the ground plan. A grounded vertical reference plane was positioned in a distance of 40cm from the EUT. The distance from the EUT to other metal surfaces was at least 0.8m. The EUT was only earthen by its power cord through the line impedance stabilizing network. The power cord has been bundled to a length of 1.0m.. The test receiver with Quasi Peak detector complies with CISPR 16.

6.1 Measurement equipments

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
LISN	ESH3-Z5	Rohde & Schwarz	838979/010	2004. 2. 7
LISN	NNLA8120A	Schwarzbeck	NONE	2004. 2. 7
TEST Receiver	ESPC	Rohde & Schwarz	845296/021	2004. 6. 17
Pulse Limiter	ESH3Z2	Rohde & Schwarz	NONE	2004. 6. 17

6.2 Environmental Condition

Test Place : Shield Room
 Temperature (°C) : 22 °C
 Humidity (%) : 50 %

7. Photographs of test setup

7.1 Setup for Radiated Test : 30 ~ 1000 MHz

[Front]



[Rear]



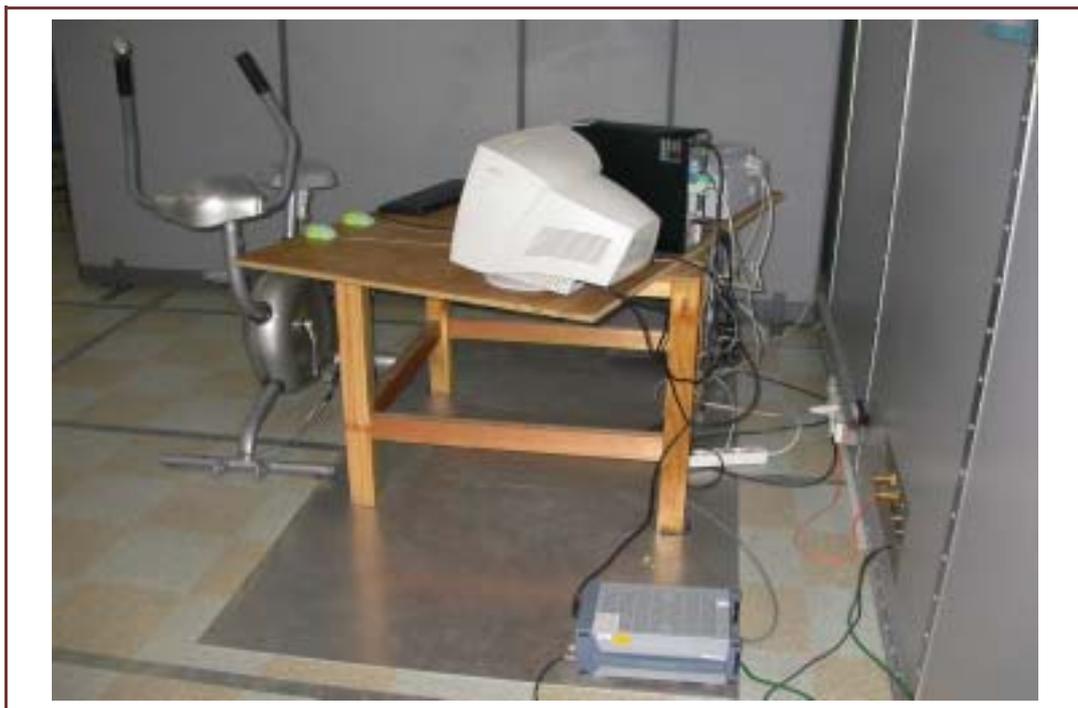
7.2 Setup for Conducted Test : 0.15 ~ 30 MHz

- PC Power using

[Front]

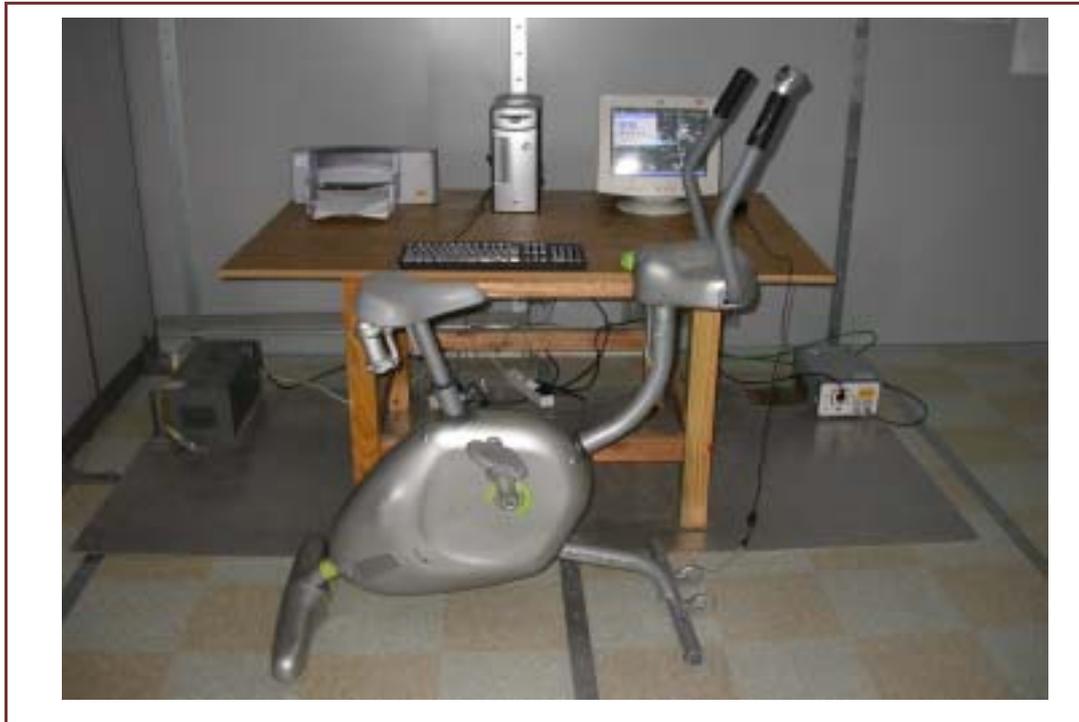


[Rear]

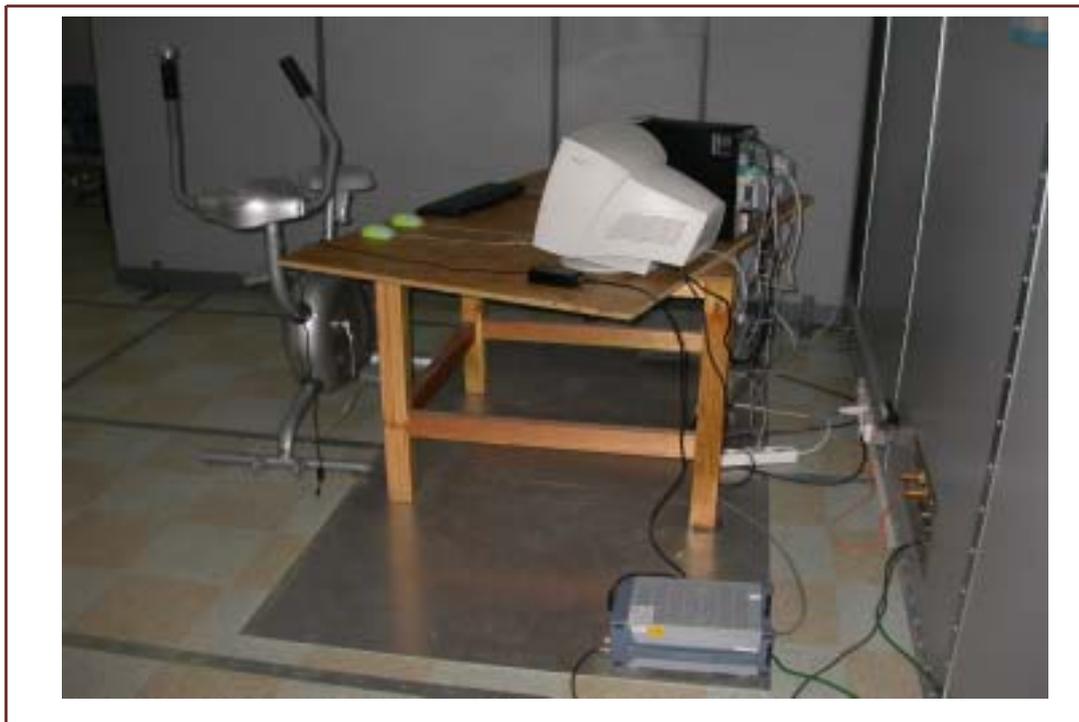


- DC Power using

[Front]

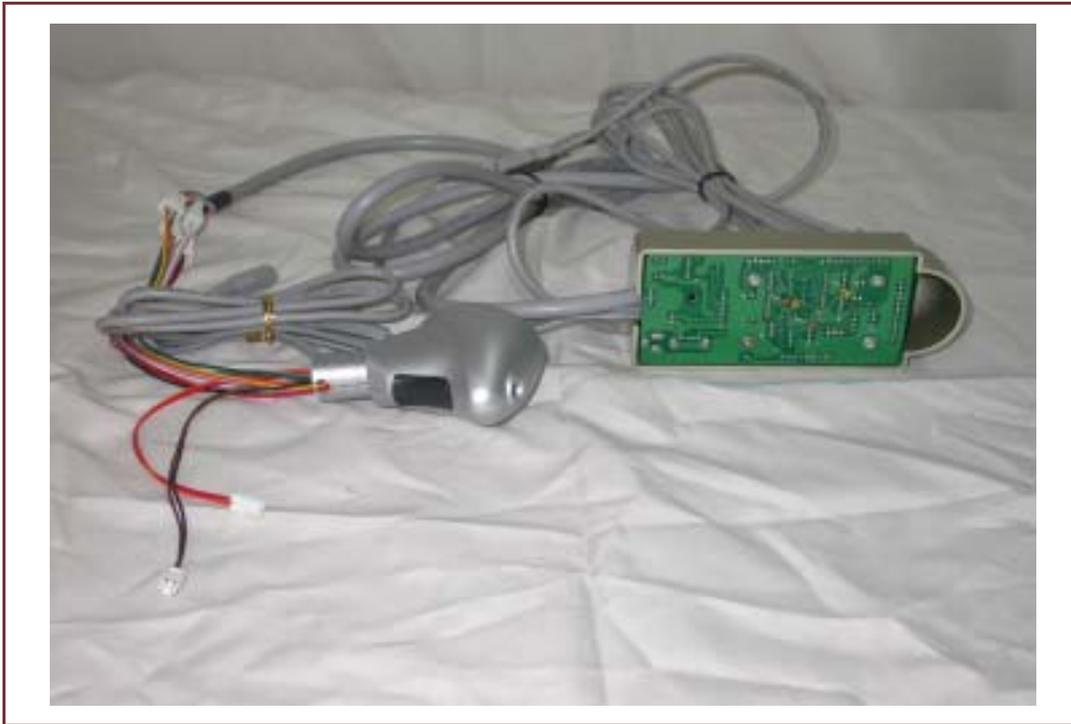


[Rear]



8. Photographs of EUT

[Front]

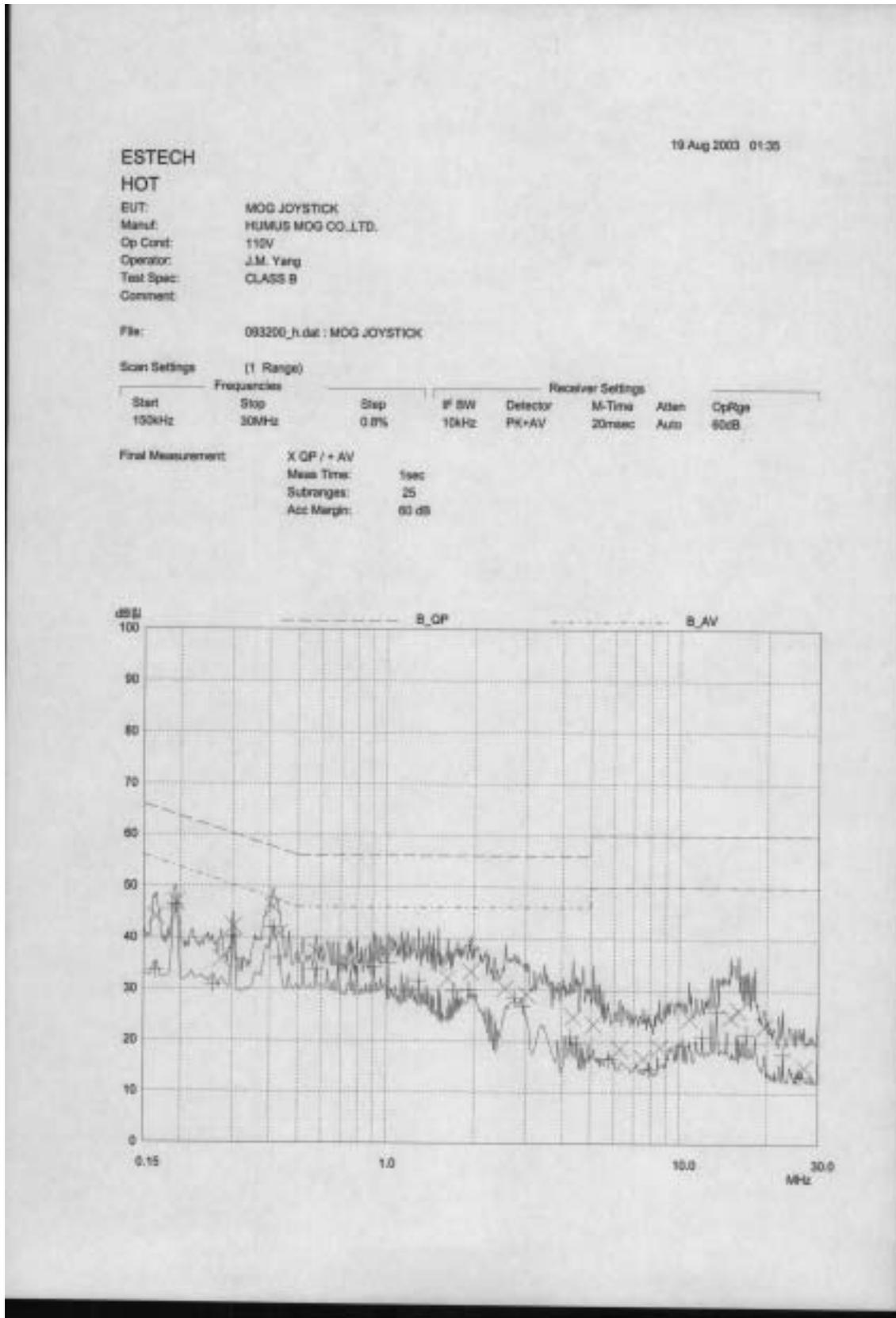


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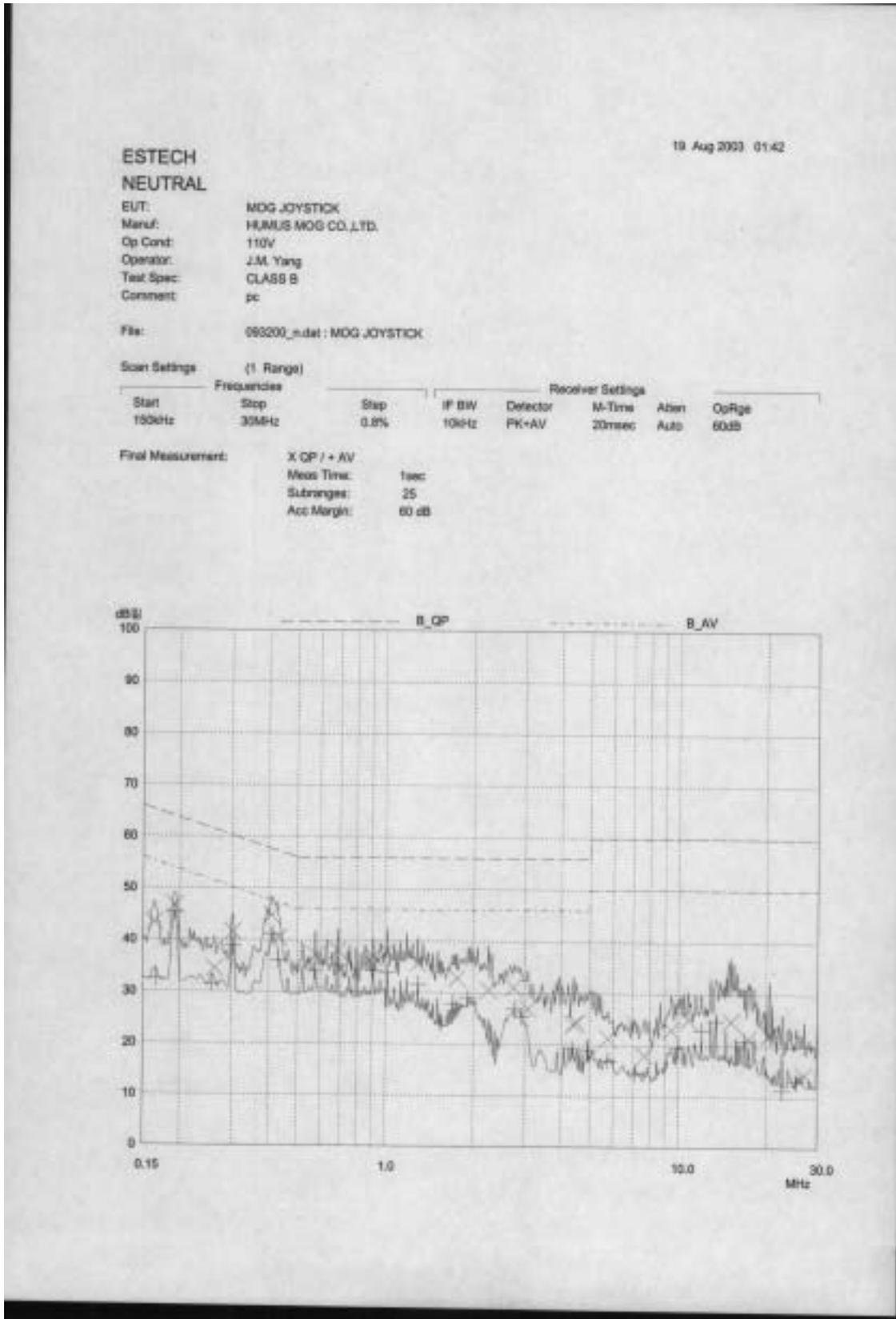


Appendix 1. Spectral diagram

- PC Power using *HOT

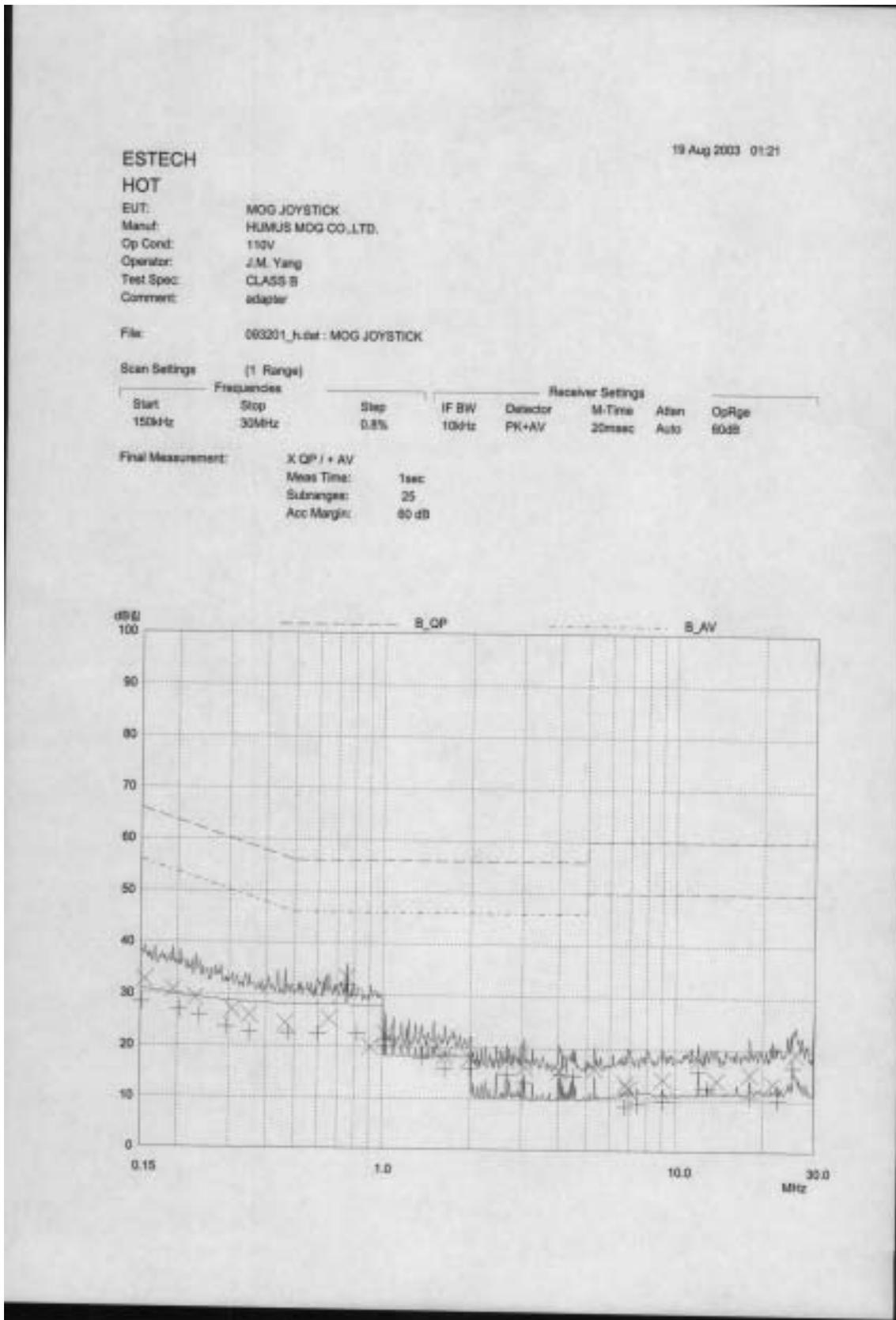


- PC Power using *NETRUL

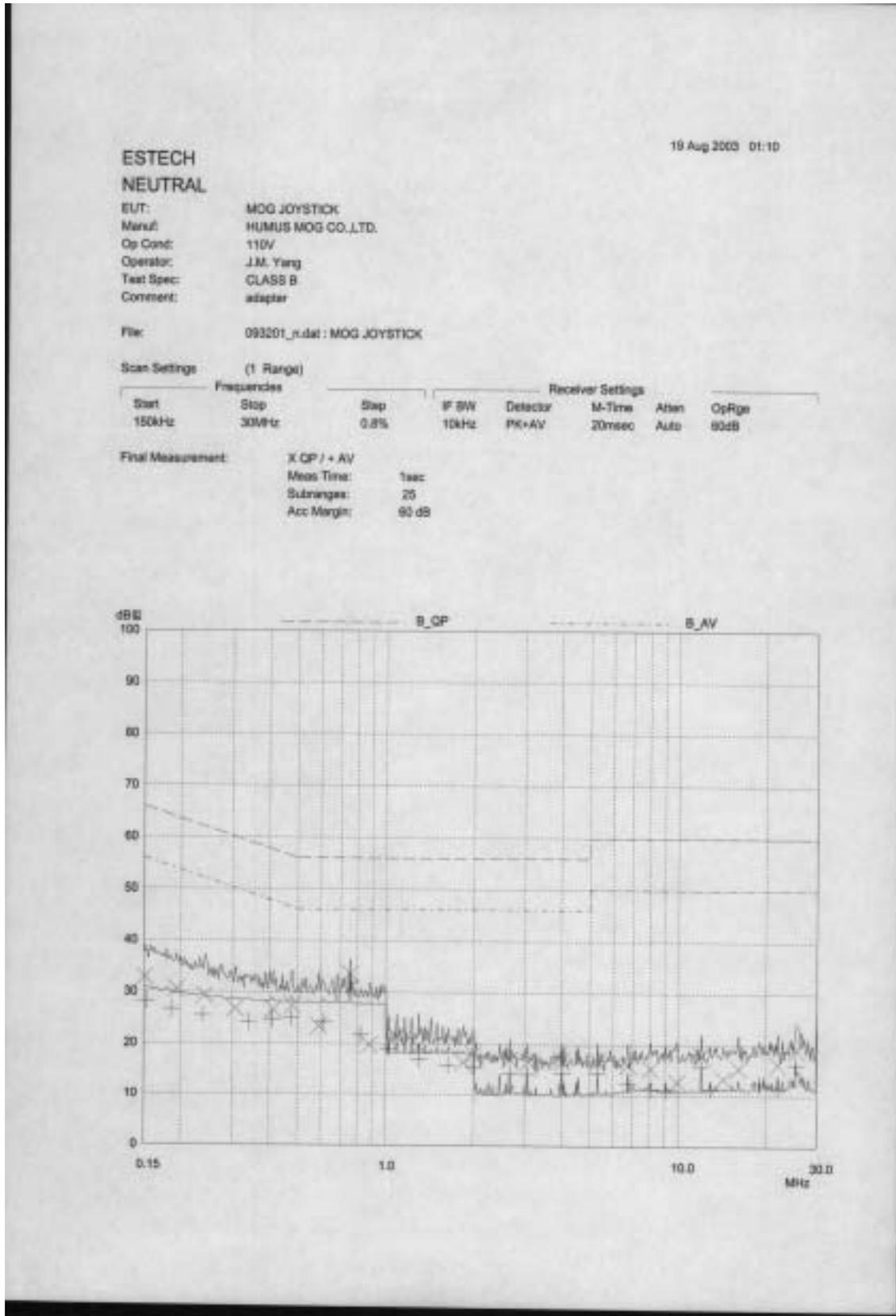


Appendix 1. Spectral diagram

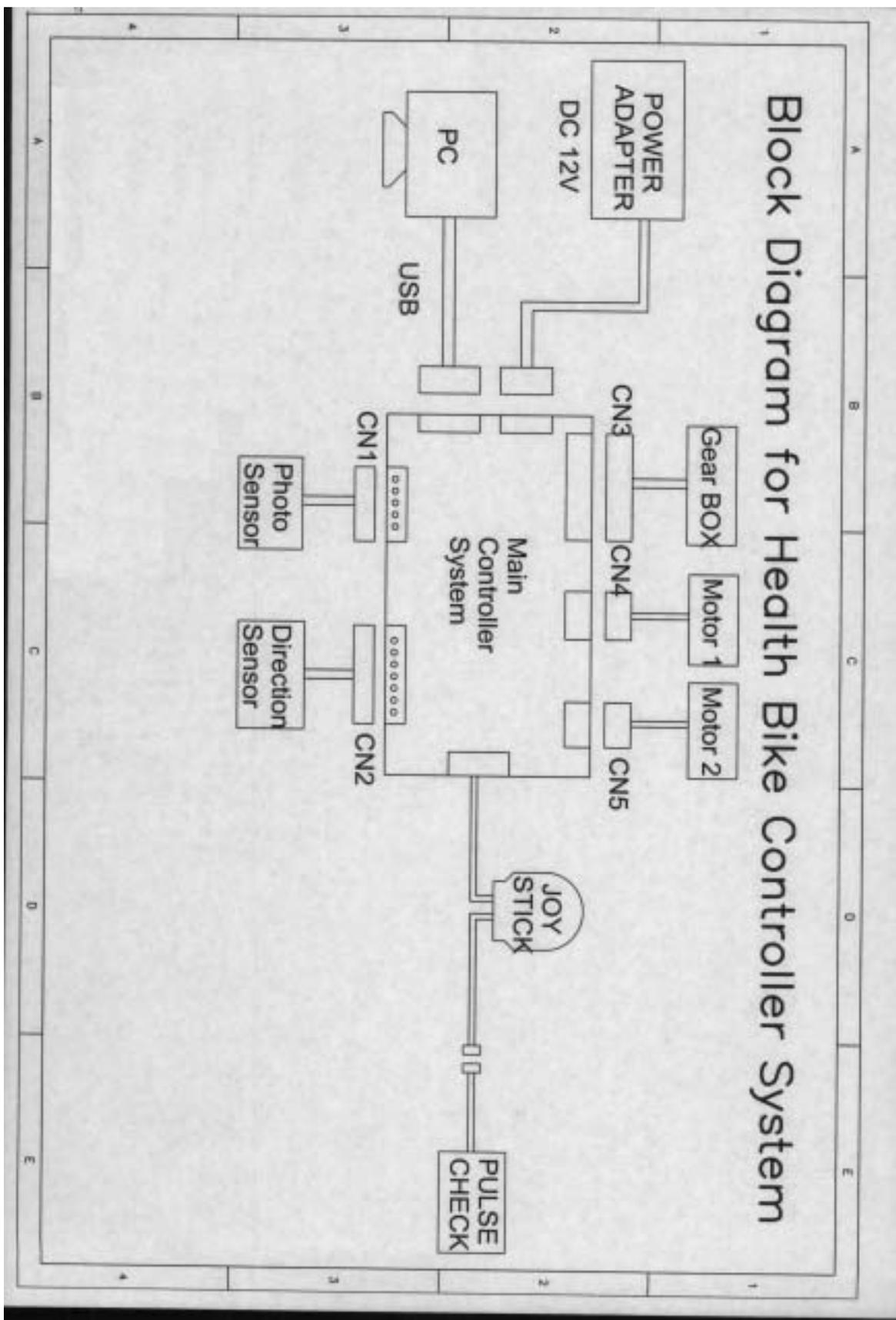
- DC Power using *HOT



- DC Power using *NETRUL



Appendix 2. Block diagram of EUT



Appendix 3. Circuit Diagram

