

RF Exposure Report

CATEGORY : Portable

PRODUCT NAME : Hi-Gain Wireless-G USB Dish Adapter

BRAND NAME : Hawking Technologies

MODEL NAME : HWU8DD

APPLICANT : **Hawking Technologies Inc.**
15281A Barranca Pkwy, Irvine, CA 92604 USA

MANUFACTURER : **Edimax Technology Co., Ltd.**
No. 3, WU CHUAN 3rd Road, Wu-Ku Industrial Park, Taipei
Hsien, Taiwan

ISSUED BY : **SPORTON INTERNATIONAL INC.**
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Taiwan, R.O.C.

Statements

The test result refers exclusively to the test presented test model / sample.

Without written approval of SPORTON, the test report shall not be reproduced except in full.

This test report is only applicable to European Community.



Table of Contents

HISTORY OF THIS TEST REPORT	II
CERTIFICATE OF COMPLIANCE.....	1
1. RF EXPOSURE	2
1.1. Limit For Maximum Permissible Exposure (MPE)	2
1.2. MPE Calculation Method	3
1.3. MPE Calculated	4

HISTORY OF THIS TEST REPORT

Original Report Issue Date: Jan. 24, 2005

- No additional attachment.
 additional attachment were issued as following record :

Attachment No.	Issue Date	Description



Report No. : 4D2015

Certificate No. : 4D2015

CERTIFICATE OF COMPLIANCE

PRODUCT NAME : Hi-Gain Wireless-G USB Dish Adapter

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I **HEREBY** CERTIFY THAT:

The measurements shown in this test report were made in accordance with the procedures given in ANSI C63.4-2003 and all test are performed according to 47 CFR FCC Part 15 Subpart C. Testing was carried out on Jan. 24, 2005 at SPORTON International Inc. LAB.

1. RF Exposure

1.1. Limit For Maximum Permissible Exposure (MPE)

This product can be classified as mobile device, so the 20cm separation distance warning is required. In this section, the power density at 20cm location is calculated to examine if it is lower than the limit.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

F = frequency in MHz

*Plane-wave equivalent power density

1.2. MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (mW/cm}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (mW)

G =

E = Electric field (V/m)

P = Peak RF output power (mW)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, $d=20\text{cm}$, as well as the gain of the used antenna, the RF power density can be obtained.

1.3. MPE Calculated

- Modulation Type: DSSS
- Temperature: 24°C
- Relative Humidity: 51%
- Duty Cycle of the Equipment During the Test: 100%
- Test Engineer: Bunny Yao

Channel No.	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)
01	8.00	6.31	17.33	54.08	0.0679	1
06	8.00	6.31	17.53	56.62	0.0711	1
11	8.00	6.31	17.64	58.08	0.0729	1

- Modulation Type: OFDM
- Temperature: 24°C
- Relative Humidity: 51%
- Duty Cycle of the Equipment During the Test: 100%
- Test Engineer: Bunny Yao

Channel No.	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)
01	8.00	6.31	14.71	29.58	0.0372	1
06	8.00	6.31	15.21	33.19	0.0417	1
11	8.00	6.31	15.31	33.96	0.0427	1