## RF Exposure Evaluation Declaration

Product Name: WIRELESS-AG NETWORK MINI PCI

ADAPTER

Model No. : IWAVEPORT WLM54AG

IC : 7849A-WLM54AG

Applicant: Compex Systems Pte Ltd

Address: 135 Joo Seng Road, #08-01 PM Industrial Building

Singapore 368363

Date of Receipt: Feb. 17, 2011

Issued Date : Feb. 18, 2011

Report No. : 112S015R-RF-CA

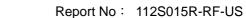
Report Version: V2.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, NVLAP, NIST or any agency of the Government.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.





### **Test Report Certification**

Issued Date: Feb. 18, 2011 Report No.: 112S015R-RF-US

# QuieTek

Product Name : WIRELESS-AG NETWORK MINI PCI ADAPTER

Applicant : Compex Systems Pte Ltd

Address : 135 Joo Seng Road, #08-01 PM Industrial Building

Singapore 368363

Manufacturer : Compex Systems Pte Ltd
Model No. : IWAVEPORT WLM54AG

IC : 7849A-WLM54AG Rated Voltage : AC 120 V / 60 Hz

EUT Voltage : AC 100-240 V / 50-60 Hz

Trade Name : COMPEX

Applicable Standard : FCC OET 65/ RSS-102

Test Result : Complied

Performed Location : Suzhou EMC Laboratory

No.99 Hongye Rd., Suzhou Industrial Park Loufeng

Hi-Tech Development Zone., Suzhou, China

TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098

FCC Registration Number: 800392; IC Lab Code: 4075B

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Approved By : Marlinchen

(Engineering Supervisor: Marlin Chen)



Report No: 112S015R-RF-US

#### **Laboratory Information**

We, **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C. : BSMI, NCC, TAF

Germany : TUV Rheinland

Norway : Nemko, DNV

USA : FCC, NVLAP

Japan : VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site: <a href="http://www.quietek.com/tw/ctg/cts/accreditations.htm">http://www.quietek.com/tw/ctg/cts/accreditations.htm</a>
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site: <a href="http://www.quietek.com/">http://www.quietek.com/</a>

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

#### **HsinChu Testing Laboratory:**







#### **LinKou Testing Laboratory:**







#### Suzhou (China) Testing Laboratory:



NVLAP Lab Code: 200743-0







#### 1. RF Exposure Evaluation

#### 1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm2)	Average Time (Minutes)			
(A) Limits for Occupational/ Control Exposures							
300-1500	-		F/300	6			
1500-100,000	-		5	6			
(B) Limits for General Population/ Uncontrolled Exposures							
300-1500			F/1500	6			
1500-100,000			1	30			

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout\*G)/(4\*pi\*r2)

Where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.



#### 1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity:  $18^{\circ}$ C and  $78^{\circ}$ M RH.

#### 1.3. Test Result of RF Exposure Evaluation

Product	:	WIRELESS-AG NETWORK MINI PCI ADAPTER	
Test Item	:	RF Exposure Evaluation	
Test Site	:	AC-4	

#### **Antenna Gain:**

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 3dBi or 2 in linear scale.

#### **Output Power into Antenna & RF Exposure Evaluation Distance:**

Test Mode	Frequency Band (MHz)	Maximum Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
802.11b/g	2412~2462	141.9058	0.056329
802.11a	5180~5825	160.3245	0.063640