

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.

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Test Report Certification

Issued Date : Feb. 18, 2011

Report No. : 112S015R-RF-US



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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 (Engineering Supervisor: Marlin Chen)

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 : <http://www.quietek.com/tw/ctg/cts/accreditations.htm>
The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory :

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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/cm ²)	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: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d is 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°C and 78% 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/cm ²)
802.11b/g	2412~2462	141.9058	0.056329
802.11a	5180~5825	160.3245	0.063640