



April 25, 2008

China Great-Wall Computer Shenzhen Co., Ltd.  
Greatwall Building, Science Park,  
Nanshan District, Shenzhen, China.

Dear Lin Yu:

Enclosed you will find your file copy of a Part 15 report (FCC ID: KXYPFAX0XX).

For your reference, TCB will normally take another 15-20 days for reviewing the report. Approval will then be granted when no query is sorted.

Please contact me if you have any questions regarding the enclosed material.

Sincerely,

A handwritten signature in black ink, appearing to read "Shawn Xing".

Shawn Xing  
Assistant Manager

Enclosure



**China Great-Wall Computer Shenzhen Co., Ltd.**

Application  
For  
Certification  
**(FCC ID: KXYPFAX0XX)**

Computer Peripheral

*Billy Li*

GZ08040227-2  
Billy Li  
April 25, 2008

- The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
- This report shall not be reproduced except in full without prior authorization from Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
- For Terms And Conditions of the services, it can be provided upon request.
- The evaluation data of the report will be kept for 3 years from the date of issuance.

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# INTERTEK TESTING SERVICES

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*INTRODUCTION*

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# INTERTEK TESTING SERVICES

## MEASUREMENT / TECHNICAL REPORT

China Great-Wall Computer Shenzhen Co., Ltd. – MODEL: PF A100  
ADDITIONAL MODEL: PF A\* 0\*\*(The first and second \* can from 0 to 9, the  
third \* can form A to Z)

FCC ID: KXYPFAX0XX

April 25, 2008

This report concerns (check one:) Original Grant  Class II Change

Equipment Type: Class B Computing Device Peripheral (example: computer, printer,  
modem, etc.)

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes  No

If yes, defer until: \_\_\_\_\_  
date

Company Name agrees to notify the Commission by: \_\_\_\_\_  
date

of the intended date of announcement of the product so that the grant can be issued on  
that date.

Transition Rules Request per 15.37? Yes  No

If no, assumed Part 15, Subpart C for intentional radiator – the new 47 CFR [09-20-07  
Edition] provision.

Report prepared by:

Shawn Xing  
Intertek Testing Services Shenzhen Ltd.  
Guangzhou Branch  
1~8th floor, Block E2, 11 Cai Pin Road,  
Sciencecity, Guangzhou Economic  
Development Zone, Guangzhou, P. R.China.  
Phone: (8620) 8213 9688  
Fax: (8620) 3205 7538

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# INTERTEK TESTING SERVICES

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## INTERTEK TESTING SERVICES

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### List of attached file

Exhibit Type	File Description	Filename
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
Test Setup Photo	Conducted Emission	conducted photos.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
ID Label / Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Letter of Agency	agency.pdf

# **INTERTEK TESTING SERVICES**

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## **EXHIBIT 1**

### **GENERAL DESCRIPTION**

## INTERTEK TESTING SERVICES

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### 1.0 General Description

#### 1.1 Product Description

The Equipment Under Test (EUT) is a Digital Photo Frame with 128MB memory size, model: PF A100. The main function of the EUT is to store and download audio and video files from a PC and play. Besides, the EUT can play audio and video files from USB Memory, SD/MS/MMC and CF cards. The device is powered by an Input AC 120-240V, 50/ 60Hz, 0.6A, Output DC 12.0V,1.5A adapter.

#### 1.2 Related Submittal(s) Grants

This is an application for certification of a computer peripheral.



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### 1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application.

### 1.4 Test Facility

The Semi-chamber facility used to collect the radiated data is **SHENZHEN ACADEMY OF METROLOGY AND QUALITY INSPECTION** and located at Bldg. of Metrology & Quality Inspection, Longzhu Road, Shenzhen, Guangdong, China. This test facility and site measurement data have been fully placed on file with the FCC.

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**EXHIBIT 2**  
**SYSTEM TEST CONFIGURATION**

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## INTERTEK TESTING SERVICES

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### 2.0 System Test Configuration

#### 2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2003).

The EUT was powered by an Input AC 120-240V, 50/ 60Hz, 0.6A, Output DC 12.0V,1.5A adapter.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. The step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

The rear of unit shall be flushed with the rear of the table.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was placed on turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

The frequency range from 30MHz to 2GHz was searched for spurious emissions from the device. Only those emissions reported were detected. All other emissions were at least 20 dB below the applicable limits.

#### 2.2 EUT Exercising Software

There was no special software to exercise the device.

#### 2.3 Special Accessories

The device is tested with an AC-DC adapter with ferrite bead attached on the output power cable and an USB extended cable with ferrite bead attached. They are marketed together with the device.

#### 2.4 Equipment Modification

Any modifications installed previous to testing by China Great-Wall Computer Shenzhen Co., Ltd. will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services.

## INTERTEK TESTING SERVICES

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### 2.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

### 2.6 Support Equipment List and Description

This product was tested in the following configuration:

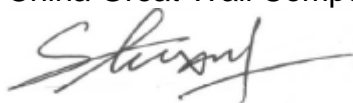
Refer List:

Description	Manufacturer	Model No.	Serial No.
Test PC`	Compaq	P9111A#AB2	CN31104346
LCD Monitor	Compaq	P4825	CN3087A026
Keyboard	Compaq	KB-0133	CT:B55930DGAN N3NU
Mouse	Compaq	M-S69	CT:F466BOMMSNS05J2
Printer	Canon	BJC-265SP	EVX81604
Modem	TP-Link	TM-EC5658V	03402406009
DSLAM	Harbour	Hammer 3300	---
Adaptor for LCD	Liteon	PA-1400-02	3101571101LN
Adaptor for Printer	Canon	AD-300	---
Adaptor for Modem	---	EI-41-AD901	---
SD card	Kingston	ELITE PRO (512MB)	---
USB flash memory	SanDisk	BE0803KCIB (2GB)	---
CF Card	Kingston	CF/512MB-S(512MB)	---

All the items listed under section 2.0 of this report are

*Confirmed by:*

*Shawn Xing*  
Assistant Manager  
Intertek Testing Services Shenzhen Ltd.  
Guangzhou Branch  
Agent for China Great-Wall Computer Shenzhen Co., Ltd.



\_\_\_\_\_  
Signature

\_\_\_\_\_  
April 25, 2008 Date

**INTERTEK TESTING SERVICES**

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**EXHIBIT 3**  
**EMISSION RESULTS**

## INTERTEK TESTING SERVICES

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### 3.0 Emission Results

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

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### 3.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

$$FS = RA + AF + CF - AG + PD + AV$$

where FS = Field Strength in dB $\mu$ V/m

RA = Receiver Amplitude (including preamplifier) in dB $\mu$ V

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB

AG = Amplifier Gain in dB

PD = Pulse Desensitization in dB

AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF + CF - AG + PD + AV$$

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### 3.1 Field Strength Calculation (cont'd)

#### Example

Assume a receiver reading of 62.0dB $\mu$ V is obtained. The antenna factor of 7.4dB and cable factor of 1.6dB is added. The amplifier gain of 29dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0dB, and the resultant average factor was -10dB. The net field strength for comparison to the appropriate emission limit is 32dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

$$RA = 62.0\text{dB}\mu\text{V}$$

$$AF = 7.4\text{dB}$$

$$CF = 1.6\text{dB}$$

$$AG = 29.0\text{dB}$$

$$PD = 0\text{dB}$$

$$AV = -10\text{dB}$$

$$FS = 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32\text{dB}\mu\text{V/m}$$

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(32\text{dB}\mu\text{V/m})/20] = 39.8\mu\text{V/m}$$



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### 3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission  
at  
764.779MHz

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos.pdf.

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### 3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 8.2dB margin

#### **TEST PERSONNEL:**



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*Signature*

Billy Li, Engineer

*Typed / Printed Name*

April 25, 2008

*Date*

## INTERTEK TESTING SERVICES

Company: China GreatWall Computer Shenzhen Co., Ltd. Date of Test: April 17, 2008  
Model: PF A100  
Worst Case Operating Mode: Download

**Table 1**

### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	200.000	44.8	20.0	8.3	33.1	43.5	-10.4
Horizontal	280.040	48.9	20.0	8.7	37.6	46.0	-8.4
Vertical	440.028	49.1	20.0	7.0	36.1	46.0	-9.9
Vertical	520.025	43.7	20.0	12.7	36.4	46.0	-9.6
Vertical	764.779	42.4	20.0	15.4	37.8	46.0	-8.2
Horizontal	764.780	47.5	20.0	8.3	35.8	46.0	-10.2
Horizontal	1236.200	37.5	20.0	21.6	39.1	74.0	-34.9
Vertical	1454.250	34.1	20.0	23.5	37.6	74.0	-36.4
Horizontal	1765.850	31.7	20.0	26.7	38.4	74.0	-35.6

- NOTES: 1. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
2. Negative value in the margin column shows emission below limit.
3. All emissions below 1000MHz are below the QP limit and all emissions above 1000MHz are below the AV limit.
4. Peak detector was used when the frequency above 1000MHz.

Test Engineer: Billy Li

## INTERTEK TESTING SERVICES

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### 3.4 Conducted Emission Configuration Photograph

Worst Case Line-Conducted Configuration  
at  
0.191 MHz

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

## INTERTEK TESTING SERVICES

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### 3.5 Conducted Emission Data

Judgement: Passed by 7.2 dB margin

#### **TEST PERSONNEL:**



\_\_\_\_\_  
*Signature*

Billy Li, Engineer  
*Typed/Printed Name*

April 25, 2008  
*Date*

## INTERTEK TESTING SERVICES

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Company: China GreatWall Computer Shenzhen Co., Ltd. Date of Test: April 19, 2008

Model: PF A100

Worst Case Operating Mode: Download (adapter terminal)

**Table 2**

### Conducted Emissions

Live Line data:

Frequency (MHz)	Quasi-Peak		Average	
	Disturbance level dB( $\mu$ V)	Permitted limit dB( $\mu$ V)	Disturbance level dB( $\mu$ V)	Permitted limit dB( $\mu$ V)
0.191	55.9	64.0	44.5	54.0
0.273	42.9	61.0	35.3	51.0
0.321	42.7	59.7	34.9	49.7
0.587	38.5	56.0	29.3	46.0
3.585	42.3	56.0	29.5	46.0
5.230	41.6	60.0	30.2	50.0

Neutral Line data:

Frequency (MHz)	Quasi-Peak		Average	
	Disturbance level dB( $\mu$ V)	Permitted limit dB( $\mu$ V)	Disturbance level dB( $\mu$ V)	Permitted limit dB( $\mu$ V)
0.191	55.5	64.0	46.8	54.0
0.273	45.8	61.0	35.1	51.0
0.321	47.1	59.7	38.2	49.7
0.586	37.6	56.0	30.2	46.0
3.584	42.9	56.0	32.4	46.0
5.210	40.7	60.0	27.4	50.0

Test Engineer: Billy Li

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**EXHIBIT 4**

**EQUIPMENT PHOTOGRAPHS**

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### 4.0 Equipment Photographs

For electronic filing, photographs of the tested EUT are saved with filename: external photos.pdf and internal photos.pdf.



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**EXHIBIT 5**  
**PRODUCT LABELLING**

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### 5.0 **Product Labelling**

For electronics filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

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**EXHIBIT 6**  
**TECHNICAL SPECIFICATIONS**

## INTERTEK TESTING SERVICES

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### 6.0 Technical Specifications

For electronic filing, the block diagram of the tested EUT are saved with filename: block.pdf.

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**EXHIBIT 7**  
**INSTRUCTION MANUAL**

## INTERTEK TESTING SERVICES

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### 7.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold / leased in the United States.

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**EXHIBIT 8**

**MISCELLANEOUS INFORMATION**

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### 8.0 **Miscellaneous Information**

This miscellaneous information includes emission measuring procedure.



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## INTERTEK TESTING SERVICES

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### 8.1 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of computer peripheral operating under Part 15, Subpart B rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 – 2003.

The computer peripheral equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The antenna height and polarization are varied during the testing to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions from the frequency band 30MHz to 1GHz is in QP mode and RBW setting is 120kHz. Detector function for radiated emissions for frequency band above 1GHz, both peak and AV detectors shall be used to measure the emissions and the peak limit is 20dB above the maximum permitted average emission limit and RBW setting is 1MHz. Detector function for conducted emissions are in QP & AV mode and IFBW setting is 9kHz from the frequency band 150kHz to 30MHz.

For radiated emission, the frequency range scanned is 30MHz to 2GHz. For line-conducted emissions, the range scanned is 150kHz to 30MHz.

## **INTERTEK TESTING SERVICES**

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### 8.1 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

Conducted measurements are made as described in ANSI C63.4 – 2003.