

September 14, 2011

SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD. NO.1 Shuoying Rd., Hebei Industry Area, Dalang, Longhua Town, Baoan, Shenzhen, China

Dear Tony Pan,

Enclosed you will find your file copy of a Part 15 report (FCC ID: XJNP0702001).

For your reference, TCB will normally take another one week 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,

Shawn Xing Manager

Enclosure



SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

Application
For
Certification
(FCC ID: XJNP0702001)

Mini PC

Billy li

SZ11040267-2 Billy Li September 14, 2011

- 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 is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results referenced from this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.
- 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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MEASUREMENT / TECHNICAL REPORT

SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD. – MODEL: P0702/WS700 FCC ID: XJNP0702001

September 14, 2011

This was at a consequence (about and a								
This report concerns (check one:)	Original Grant _	X Class	II Change	_				
Equipment Type: JBC-Class B Computing Device / Personal Computer								
Deferred grant requested per 47 CFR 0.	457(d)(1)(ii)?	Yes	No	<u>X</u>				
	If yes, de	fer until:	date					
Company Name agrees to notify the Cor	mmission by:							
of the intended date of announcement of that date.	of the product so	date that the grant c	an be issued c	n				
Transition Rules Request per 15.37?		Yes	No	V				
		. 00		<u>^</u>				
If no, assumed Part 15, Subpart C for Edition] provision.	intentional radia							
If no, assumed Part 15, Subpart C for	intentional radia							

TRF No.: FCC 15C_PC_a
FCC ID: XJNP0702001 ii

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List of attached file

Exhibit Type	File Description	Filename
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated photos	radiated photos.pdf
Test Setup Photo	Conducted photos	conducted photos.pdf
External Photo	External Photos	external photos.pdf
Internal Photo	Internal Photos	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

EXHIBIT 1 GENERAL DESCRIPTION

1.0 **General Description**

1.1 Product Description

The Equipment Under Test (EUT) is a Mini PC with data transfer function. The EUT has a resistive touch screen and can be operated by stylus or your nail tapping the screen. The device is powered by 1 X 3.7V rechargeable battery or an AC/DC Adapter (INPUT: AC100-240, 50/60Hz; OUTPUT: DC 5V, 2.5A). For more detailed features description, please refer to the user's manual.

1.2 Related Submittal(s) Grants

This is an application for certification of a Personal Computer.

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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-anechoic chamber and shielding room used to collect the radiated data and conducted data are **Interterk Testing Services Shenzhen Ltd. Kejiyuan Branch** and located at 6F, D Block, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. 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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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 device is powered by AC/DC Adapter (INPUT: AC100-240, 50/60Hz, 0.5A; OUTPUT: DC 5V, 2.5A) and 1 X 3.7V fully charged battery. The worst case data was reported in this report.

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 5GHz 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

N/A

2.3 Special Accessories

There are one shielded USB cable and one shielded HDMI cable attached.

2.4 Equipment Modification

Any modifications installed previous to testing by SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD. will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch.

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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.
Laptop	Lenovo	T61
Hard Disk	Smart.drive	HD-003
USB Cable	Smart.drive	Unshielded, Length 155cm
1394 Cable	Smart.drive	Unshielded, Length 180cm
Micro sd Card	Sandisk	1G
Mouse	HP	M-UAE96
110cm Earphone	ShuoYing	N/A
Adapter	ShuoYing	JD-05025 (INPUT: 100-240, 50/60Hz, 0.5A; OUTPUT: DC 9V-2.5A)
60cm shielded USB Cable	ShuoYing	N/A
100cm shielded HDMI Cable	ShuoYing	N/A
Load Terminal	MTC	TL-01

All the items listed under section 2.0 of this report are *Confirmed by:*

Shawn Xing Manager

Intertek Testing Services Shenzhen Ltd.

Kejiyuan Branch

Agent for SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

_____ Signature

September 14, 2011 Date

EXHIBIT 3

EMISSION RESULTS

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.

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 dBμV

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:

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

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 $\mu V/m$.

 $RA = 62.0dB\mu V$ AF = 7.4dB CF = 1.6dB AG = 29.0dBPD = 0dB

AV = -10dB

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

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

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3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission At 4924.015MHz (Data Transfer Mode)

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 3.5dB margin (Data Transfer Mode)

TEST PERSONNEL:
Billy li
Signature
Billy Li, Team Leader
Typed / Printed Name
<u>September 14, 2011</u>
Date

Company: SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

Date of Test: September 14, 2011

Model: P0702/WS700

Worst Case Operating Mode: Data Transfer

Table 2
Radiated Emissions

Polarization	Frequency	Reading	Pre-	Antenna	Net	Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(dB)				
Horizontal	92.600	43.4	20.0	9.8	33.2	43.5	-10.3
Horizontal	151.735	45.5	20.0	9.1	34.6	43.5	-8.9
Horizontal	479.989	41.3	20.0	20.9	42.2	46.0	-3.8
Vertical	31.540	34.5	20.0	17.6	32.1	40.0	-7.9
Vertical	52.645	40.6	20.0	9.5	30.1	40.0	-9.9
Vertical	93.785	43.6	20.0	9.8	33.4	43.5	-10.1
Vertical	1608.250	36.4	20.0	28.3	44.7	54.0	-9.3
Vertical	4924.015	52.5	36.1	34.1	50.5	54.0	-3.5

- 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 and QP detector was used when the frequency below 1000MHz.

Test Engineer: Billy Li

Company: SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

Date of Test: September 14, 2011

Model: P0702/WS700

Worst Case Operating Mode: Playing Video

Table 3
Radiated Emissions

Polarization	Frequency	Reading	Pre-	Antenna	Net	Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(dB)				
Horizontal	92.323	48.2	20.0	9.0	37.2	43.5	-6.3
Horizontal	172.600	48.5	20.0	9.9	38.4	43.5	-5.1
Horizontal	205.706	48.2	20.0	11.1	39.3	43.5	-4.2
Vertical	92.514	47.9	20.0	9.0	36.9	43.5	-6.6
Vertical	162.543	46.4	20.0	8.4	34.8	43.5	-8.7
Vertical	225.438	43.3	20.0	11.9	35.2	46.0	-10.8
Vertical	1625.400	35.9	20.0	28.3	44.2	54.0	-9.8
Vertical	4824.500	52.3	36.1	33.9	50.1	54.0	-3.9

- 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 and QP detector was used when the frequency below 1000MHz.

Test Engineer: Billy Li

3.4 Conducted Emission Configuration Photograph

Worst Case Line-Conducted Configuration at 0.166 MHz

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

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3.5 Conducted Emission Data

Judgement: Passed by 1.6 dB margin

TEST PERSONNEL:

Signature

Billy Li, Team Leader

Typed/Printed Name

September 14, 2011

Date

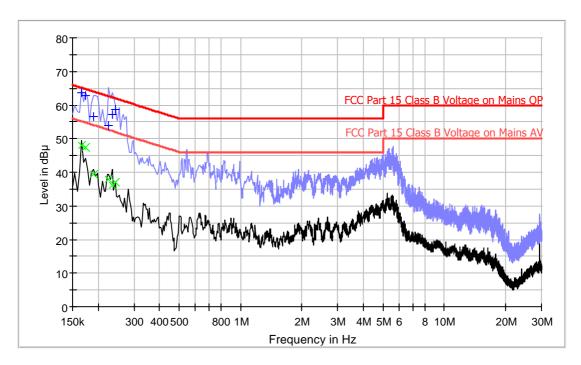
Company: SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

Date of Test: September 14, 2011

Model: P0702/WS700

Worst Case Operating Mode: Data Transfer

Conducted Emission Test - FCC



Result Table-QP

Frequency (MHz)	QuasiPeak (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.166000	63.6	L1	9.6	1.6	65.2
0.174000	62.7	L1	9.6	2.1	64.8
0.190000	56.7	L1	9.6	7.3	64.0
0.226000	53.9	L1	9.6	8.7	62.6
0.234000	57.1	L1	9.6	5.2	62.3
0.242000	58.6	L1	9.6	3.4	62.0

Result Table-AV

Frequency	Average	Line	Corr.	Margin	Limit
(MHz)	(dB µ V)		(dB)	(dB)	(dB µ V)
0.166000	48.1	L1	9.6	7.1	55.2
0.174000	47.6	L1	9.6	7.2	54.8
0.190000	39.4	L1	9.6	14.6	54.0
0.226000	37.8	L1	9.6	14.8	52.6
0.234000	36.2	L1	9.6	16.1	52.3
0.242000	37.1	L1	9.6	14.9	52.0

Test Engineer: Billy Li

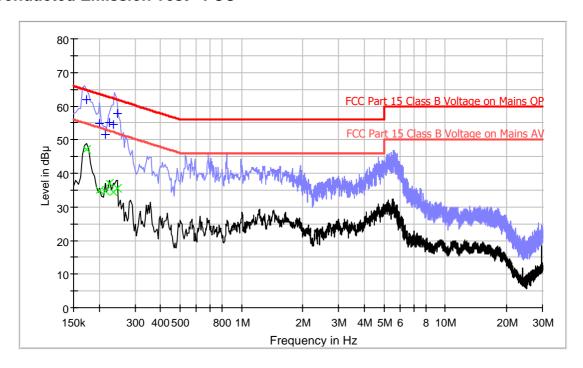
Company: SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

Date of Test: September 14, 2011

Model: P0702/WS700

Worst Case Operating Mode: Data Transfer

Conducted Emission Test - FCC



Result Table-QP

Frequency (MHz)	QuasiPeak (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.174000	61.8	N	9.6	3.0	64.8
0.202000	54.9	N	9.6	8.6	63.5
0.214000	51.6	N	9.6	11.4	63.0
0.226000	55.1	N	9.6	7.5	62.6
0.234000	54.5	N	9.6	7.8	62.3
0.246000	57.6	N	9.6	4.3	61.9

Result Table-AV

Frequency	Average	Line	Corr.	Margin	Limit
(MHz)	(dB μ V)		(dB)	(dB)	(dB µ V)
0.174000	47.1	N	9.6	7.7	54.8
0.202000	34.8	N	9.6	18.7	53.5
0.214000	34.8	N	9.6	18.2	53.0
0.226000	36.9	N	9.6	15.7	52.6
0.234000	34.3	N	9.6	18.0	52.3
0.246000	35.5	N	9.6	16.4	51.9

Test Engineer: Billy Li

EXHIBIT 4 EQUIPMENT PHOTOGRAPHS

TRF No.: FCC 15C_PC_a FCC ID: XJNP0702001

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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

5.0 **Product Labelling**

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

EXHIBIT 6 TECHNICAL SPECIFICATIONS

6.0 <u>Technical Specifications</u>

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

EXHIBIT 7 INSTRUCTION MANUAL

TRF No.: FCC 15C_PC_a FCC ID: XJNP0702001

ID: XJNP0702001 25

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 <u>Miscellaneous Information</u>

This miscellaneous information includes emission measuring procedure.

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 are in QP mode from the frequency band 30MHz to 1GHz with RBW setting 120kHz and in PK & AV mode from frequency band 1GHz to 5GHz with RBW setting 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 5GHz. For line-conducted emissions, the range scanned is 150kHz to 30MHz.

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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.

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EXHIBIT 9

TEST EQUIPMENT LIST

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9.0 **Test Equipment List**

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ061-03	BiConiLog Antenna	ETS	3142C	00066460	02-Jul-11	02-Jan-13
SZ185-01	EMI Receiver	R&S	ESCI	100547	08-Mar-11	08-Mar-12
SZ061-08	Horn Antenna	ETS	3115	00092346	15-Mar-10	15-Sep-11
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	08-Mar-11	08-Mar-12
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	08-Mar-11	08-Mar-12
SZ188-01	Anechoic Chamber	ETS	RFD-F/A- 100	4102	15-Jan-11	15-Jan-12
SZ062-02	RF Cable	RADIALL	RG 213U		25-Mar-11	25-Sep-11
SZ062-06	RF Cable	RADIALL	0.04- 26.5GHz		16-Sep-10	16-Sep-11
SZ062-12	RF Cable	RADIALL	0.04- 26.5GHz		16-Sep-10	16-Sep-11
SZ067-04	Notch Filter	Micro-Tronics	BRM5070 2-02		15-Jul-11	15-Jul-12
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	12-Nov-10	12-Nov-11
SZ187-01	Two-Line V- Network	R&S	ENV216	100072	12-Nov-10	12-Nov-11
SZ187-02	Two-Line V- Network	R&S	ENV216	100073	12-Nov-10	12-Nov-11
SZ188-03	Shielding Room	ETS	RFD-100	4100	16-Sep-10	16-Sep-13

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