

Nov 28, 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: XJNPI799).

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: XJNPI799)

MID

Billy li

SZ11110013-2

Billy Li Nov 28. 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.

TRF No.: FCC 15C_PC_a FCC ID: XJNPI799

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MEASUREMENT / TECHNICAL REPORT

SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD. – MODEL: PI799 FCC ID: XJNPI799

Nov 28, 2011

This report concerns (check one:)	Original Grant	Class II Ch	nange
Equipment Type: JBC-Class B Computing	ng Device / Personal (<u>Computer</u>	
Deferred grant requested per 47 CFR 0.	457(d)(1)(ii)?	Yes	No <u>X</u>
	If yes, defer u	until:d	ate
Company Name agrees to notify the Cor	nmission by:		
of the intended date of announcement of that date.	of the product so that	date t the grant can b	e issued on
Transition Rules Request per 15.37?		Yes	No <u>X</u>
If no, assumed Part 15, Subpart C for Edition] provision.	intentional radiator -	- the new 47 C	FR [10-1-10
•	intentional radiator -	- the new 47 C	FR [10-1-10

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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

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EXHIBIT 1 GENERAL DESCRIPTION

TRF No.: FCC 15C_PC_a

1.0 **General Description**

1.1 Product Description

The Equipment Under Test (EUT) is a MID with internal WiFi module operating at 2.412-2.462GHz for 802.11b/g/n-20MHz, 11 channels with 5MHz channel spacing and 2.422-2.452GHz for 802.11n-40MHz, 7 channels with 5MHz channel spacing. The EUT has a resistive touch screen and can be operated by stylus (not provided) 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.

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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.

TRF No.: FCC 15C_PC_a

EXHIBIT 2 SYSTEM TEST CONFIGURATION

TRF No.: FCC 15C_PC_a

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, 0.65A; 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 is one ferrite core attached with the adapter.

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
USB Disk	Sandisk	2G
120cm Earphone	ShuoYing	N/A
Adapter with one ferrite core	ShuoYing	THX-005250KB (INPUT: 100-240, 50/60Hz, 0.65A; OUTPUT: DC 5V-2.5A)
60cm unshielded USB Cable	ShuoYing	N/A

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

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Nov 28, 2011 Date

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EXHIBIT 3

EMISSION RESULTS

TRF No.: FCC 15C_PC_a

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.

TRF No.: FCC 15C_PC_a

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:

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

TRF No.: FCC 15C_PC_a

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 = 29.0dB

PD = 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 $\mu V/m$

TRF No.: FCC 15C PC a

3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission At 4924.700MHz (Data Transfer Mode)

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

TRF No.: FCC 15C_PC_a

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 2.8dB margin (Data Transfer Mode)

TEST PERSONNEL:
Billy li
Signature
Billy Li, Team Leader
Typed / Printed Name
Nov 28, 2011
Date

TRF No.: FCC 15C_PC_a

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

Date of Test: Nov 28, 2011

Model: PI799

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	93.400	43.8	20.0	9.8	33.6	43.5	-9.9
Horizontal	152.725	46.0	20.0	9.1	35.1	43.5	-8.4
Horizontal	500.648	39.7	20.0	20.9	40.6	46.0	-5.4
Vertical	32.910	35.6	20.0	16.9	32.5	40.0	-7.5
Vertical	53.790	41.3	20.0	9.5	30.8	40.0	-9.2
Vertical	95.810	43.6	20.0	9.8	33.4	43.5	-10.1
Vertical	1604.500	34.2	20.0	28.3	42.5	54.0	-11.5
Vertical	4924.700	53.2	36.1	34.1	51.2	54.0	-2.8

- 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

TRF No.: FCC 15C PC a

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

Date of Test: Nov 28, 2011

Model: PI799

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	108.002	47.7	20.0	8.4	36.1	43.5	-7.4
Horizontal	496.823	39.9	20.0	19.0	38.9	46.0	-7.1
Horizontal	777.602	35.9	20.0	24.1	40.0	46.0	-6.0
Vertical	54.735	42.3	20.0	7.0	29.3	40.0	-10.7
Vertical	160.384	46.3	20.0	8.4	34.7	43.5	-8.8
Vertical	224.705	43.4	20.0	11.9	35.3	46.0	-10.7
Vertical	1624.338	33.6	20.0	28.3	41.9	54.0	-12.1
Vertical	4824.630	52.8	36.1	33.9	50.6	54.0	-3.4

- 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

TRF No.: FCC 15C PC a

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.

TRF No.: FCC 15C_PC_a

3.5 Conducted Emission Data

Judgement: Passed by 1.6 dB margin

TEST PERSONNEL:

Signature

Billy Li, Team Leader

Typed/Printed Name

Nov 28, 2011

Date

TRF No.: FCC 15C_PC_a

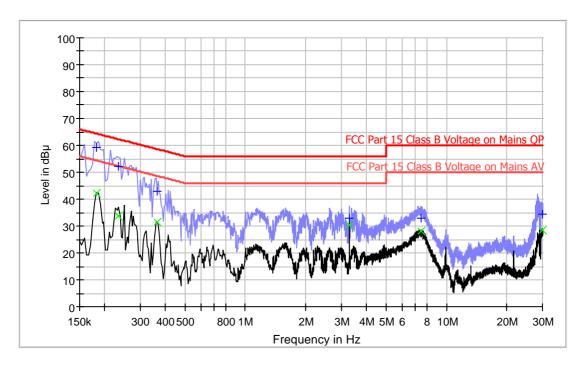
Company: SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

Date of Test: Nov 28, 2011

Model: PI799

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)
0.182000	59.4	L1	9.6	5.0	64.4
0.234000	52.1	L1	9.6	10.2	62.3
0.366000	43.0	L1	9.6	15.6	58.6
3.294000	32.9	L1	9.8	23.1	56.0
7.442000	33.0	L1	9.9	27.0	60.0
29.830000	34.5	L1	10.2	25.5	60.0

Result Table-AV

Frequency	Average	Line	Corr.	Margin	Limit
(MHz)	(dB µ V)		(dB)	(dB)	(dB µ V)
0.182000	42.3	L1	9.6	12.1	54.4
0.234000	33.7	L1	9.6	18.6	52.3
0.366000	31.6	L1	9.6	17.0	48.6
3.294000	30.3	L1	9.8	15.7	46.0
7.442000	28.1	L1	9.9	22.0	50.0
29.830000	28.5	L1	10.2	21.5	50.0

Test Engineer: Billy Li

TRF No.: FCC 15C_PC_a

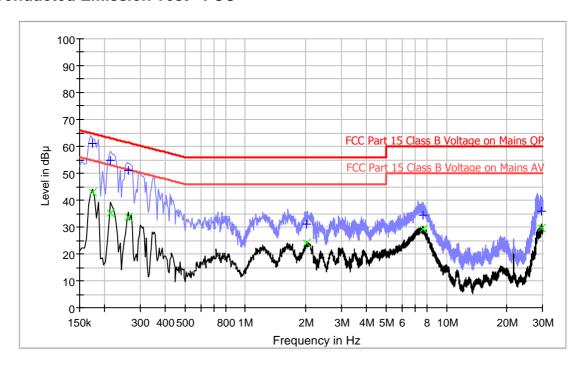
Company: SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

Date of Test: Nov 28, 2011

Model: PI799

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	61.2	N	9.6	3.6	64.8
0.214000	54.8	N	9.6	8.2	63.0
0.262000	51.0	N	9.6	10.4	61.4
2.022000	31.0	N	9.8	25.0	56.0
7.602000	34.3	N	10.0	25.7	60.0
29.722000	35.7	N	10.3	24.3	60.0

Result Table-AV

Frequency	Average	Line	Corr.	Margin	Limit
(MHz)	(dB µ V)		(dB)	(dB)	(dB µ V)
0.174000	42.8	N	9.6	12.0	54.8
0.214000	35.1	N	9.6	17.9	53.0
0.262000	33.8	N	9.6	17.6	51.4
2.022000	24.2	N	9.8	21.8	46.0
7.602000	29.1	N	10.0	20.9	50.0
29.722000	29.7	N	10.3	20.3	50.0

Test Engineer: Billy Li

TRF No.: FCC 15C_PC_a

EXHIBIT 4 EQUIPMENT PHOTOGRAPHS

TRF No.: FCC 15C_PC_a

4.0 **Equipment Photographs**

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

TRF No.: FCC 15C_PC_a

EXHIBIT 5

PRODUCT LABELLING

TRF No.: FCC 15C_PC_a

5.0 **Product Labelling**

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

TRF No.: FCC 15C_PC_a

EXHIBIT 6

TECHNICAL SPECIFICATIONS

TRF No.: FCC 15C_PC_a

FCC ID: XJNPI799

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6.0 <u>Technical Specifications</u>

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

TRF No.: FCC 15C_PC_a

EXHIBIT 7 INSTRUCTION MANUAL

TRF No.: FCC 15C_PC_a

FCC ID: XJNPI799

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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.

TRF No.: FCC 15C_PC_a

EXHIBIT 8

MISCELLANEOUS INFORMATION

TRF No.: FCC 15C_PC_a

8.0 <u>Miscellaneous Information</u>

This miscellaneous information includes emission measuring procedure.

TRF No.: FCC 15C_PC_a

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.

TRF No.: FCC 15C_PC_a

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.

TRF No.: FCC 15C_PC_a

EXHIBIT 9

TEST EQUIPMENT LIST

TRF No.: FCC 15C_PC_a

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-Oct-11	15-Oct-12
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		24-Sep-11	24-Mar-12
SZ062-06	RF Cable	RADIALL	0.04- 26.5GHz		03-Sep-11	03-Mar-12
SZ062-12	RF Cable	RADIALL	0.04- 26.5GHz	1	03-Sep-11	03-Mar-12
SZ067-04	Notch Filter	Micro-Tronics	BRM5070 2-02		15-Jul-11	15-Jul-12
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	05-Nov-11	05-Nov-12
SZ187-01	Two-Line V- Network	R&S	ENV216	100072	05-Nov-11	05-Nov-12
SZ187-02	Two-Line V- Network	R&S	ENV216	100073	05-Nov-11	05-Nov-12
SZ188-03	Shielding Room	ETS	RFD-100	4100	16-Sep-10	16-Sep-13

TRF No.: FCC 15C_PC_a