



November 19, 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: XJN-DV288).

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,

A handwritten signature in black ink, appearing to read "Shawn Xing", with a long horizontal stroke extending to the right.

Shawn Xing
Manager

Enclosure



SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

Application
For
Certification
(FCC ID: XJN-DV288)
Computer Peripheral

SZ11100239-1
Billy Li
November 19, 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: XJN-DV288

Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch
6F, D Block, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China
Tel: (86 755) 8601 6288 Fax: (86 755) 8601 6751 Website: www.china.intertek-etlsemko.com

INTERTEK TESTING SERVICES

LIST OF EXHIBITS

INTRODUCTION

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INTERTEK TESTING SERVICES

MEASUREMENT / TECHNICAL REPORT

**SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD. – MODEL:
DV288/HDV102**

FCC ID: XJN-DV288

November 19, 2011

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

Equipment Type: JBP-Class B Computing Device Peripheral

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 [10-1-10 Edition] provision.

Report prepared by:

Shawn Xing
Intertek Testing Services Shenzhen Ltd.
Kejiyuan Branch
6F, D Block, Huahan Building, Langshan Road
Nanshan District, Shenzhen, P. R. China
Phone: (86 755) 8601 6288
Fax: (86 755) 8601 6751

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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

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1.0 **General Description**

1.1 Product Description

The Equipment Under Test (EUT) is a digital video camera. The device can be used to transfer data connecting PC by USB cable (with SD Card). The EUT is powered by DC 6.0V (4 x 1.5V"AAA") batteries.

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-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 DC 6.0 V(4 x 1.5V"AAA") new batteries during the test. 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 1GHz 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

Shielded USB Cable must be used.

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:

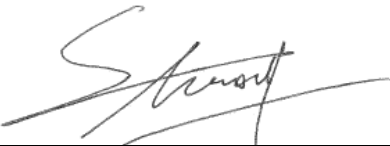
Refer List:

Description	Manufacturer	Model No.
Laptop	HP	2510P
Laptop	Lenovo	T61
Hard Disk	Smart.drive	HD-003
USB Cable	Smart.drive	Unshielded, Length 155cm
1394 Cable	Smart.drive	Unshielded, Length 180cm
SD Card	Sandisk	1G/ BB0723011986D
AV Cable	Shuoying	Unshielded, Length 120cm
USB Cable	Shuoying	shielded, Length 80cm
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.



November 19, 2011

Signature
Date

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EXHIBIT 3

EMISSION RESULTS

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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 μ V/m

RA = Receiver Amplitude (including preamplifier) in dB μ 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 μ 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 μ V/m. This value in dB μ V/m was converted to its corresponding level in μ 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

432.011MHz (PC Download with SD Card Mode)

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

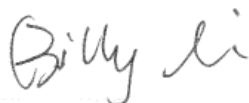
INTERTEK TESTING SERVICES

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 1.9dB margin (PC Download with SD Card Mode)

TEST PERSONNEL:



Signature

Billy Li, Team Leader
Typed / Printed Name

November 19, 2011
Date

INTERTEK TESTING SERVICES

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

Date of Test: November 15, 2011

Model: DV288/HDV102

Operating Mode: Playback with AV Out

Table 1

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	269.993	45.1	20.0	15.7	40.8	46.0	-5.2
Horizontal	432.019	41.7	20.0	20.8	42.5	46.0	-3.5
Horizontal	527.993	41.1	20.0	22.1	43.2	46.0	-2.8
Vertical	172.213	30.0	20.0	18.3	28.3	43.5	-15.2
Vertical	278.632	33.5	20.0	19.2	32.7	46.0	-13.3
Vertical	624.017	40.1	20.0	20.3	40.4	46.0	-5.6

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 are below the QP limit.

Test Engineer: Billy Li

INTERTEK TESTING SERVICES

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

Date of Test: November 15, 2011

Model: DV288/HDV102

Worst Case Operating Mode: PC Download with SD Card

Table 2

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	169.432	41.5	20.0	6.0	27.5	43.5	-16.0
Horizontal	327.545	42.7	20.0	8.5	31.2	46.0	-14.8
Horizontal	432.011	48.0	20.0	16.1	44.1	46.0	-1.9
Vertical	178.340	28.2	20.0	15.9	24.1	43.5	-19.4
Vertical	421.025	45.6	20.0	6.0	31.6	46.0	-14.4
Vertical	515.371	38.9	20.0	16.3	35.2	46.0	-10.8

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 are below the QP limit.

Test Engineer: Billy Li

INTERTEK TESTING SERVICES

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

Date of Test: November 15, 2011

Model: DV288/HDV102

Operating Mode: video record

Table 3

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	288.014	47.5	20.0	13.2	40.7	46.0	-5.3
Horizontal	384.050	47.6	20.0	15.3	42.9	46.0	-3.1
Horizontal	432.016	45.7	20.0	17.9	43.6	46.0	-2.4
Vertical	432.022	36.6	20.0	19.0	35.6	46.0	-10.4
Vertical	528.008	39.4	20.0	19.8	39.2	46.0	-6.8
Vertical	624.008	39.9	20.0	22.3	42.2	46.0	-3.8

- 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 are below the QP limit.

Test Engineer: Billy Li

INTERTEK TESTING SERVICES

3.4 Conducted Emission Configuration Photograph

Worst Case Conducted Configuration
at
0.530 MHz

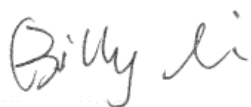
For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

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3.5 Conducted Emission Data

Judgement: Passed by 15.9 dB margin

TEST PERSONNEL:



Signature

Billy Li, Team Leader

Typed/Printed Name

November 19, 2011

Date

INTERTEK TESTING SERVICES

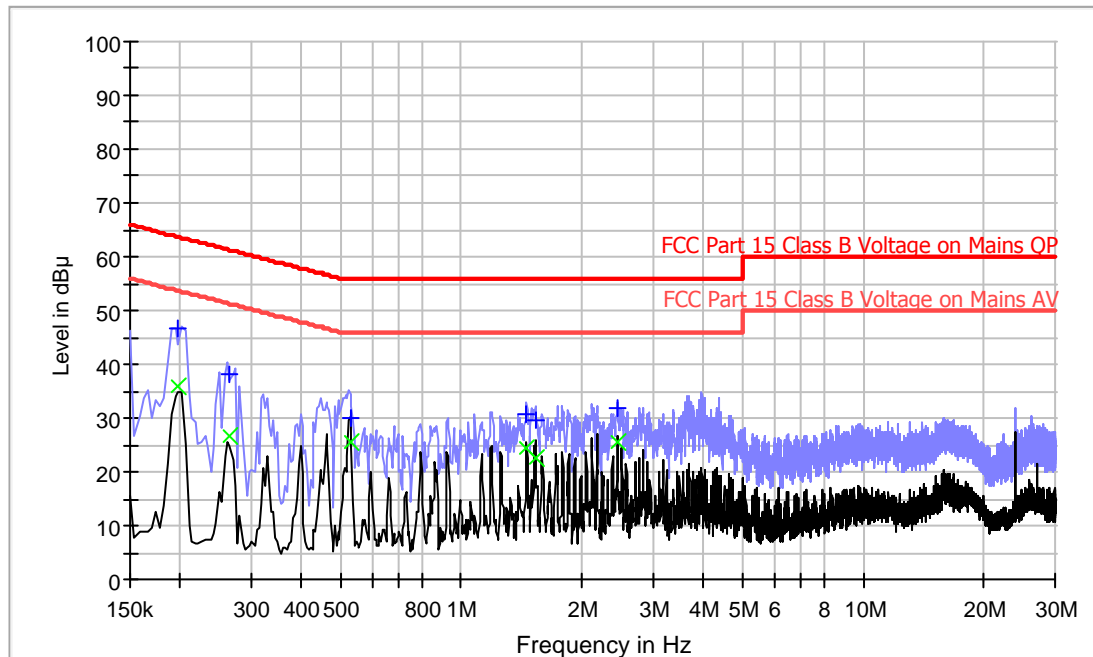
Company: SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

Date of Test: November 19, 2011

Model: DV288/HDV102

Worst Case Operating Mode: PC Download with SD Card

Conducted Emission Test - FCC



Result Table QP

Frequency (MHz)	QuasiPeak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.198000	46.8	L1	9.6	16.9	63.7
0.266000	38.2	L1	9.6	23.0	61.2
0.534000	30.1	L1	9.6	25.9	56.0
1.450000	30.7	L1	9.8	25.3	56.0
1.526000	29.8	L1	9.8	26.2	56.0
2.442000	31.7	L1	9.8	24.3	56.0

Result Table AV

Frequency (MHz)	CAverage (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.198000	36.0	L1	9.6	17.7	53.7
0.266000	26.7	L1	9.6	24.5	51.2
0.534000	25.6	L1	9.6	20.4	46.0
1.450000	24.5	L1	9.8	21.5	46.0
1.526000	22.7	L1	9.8	23.3	46.0
2.442000	25.6	L1	9.8	20.4	46.0

Test Engineer: Billy Li

TRF No.: FCC 15C_PC_a

FCC ID: XJN-DV288

INTERTEK TESTING SERVICES

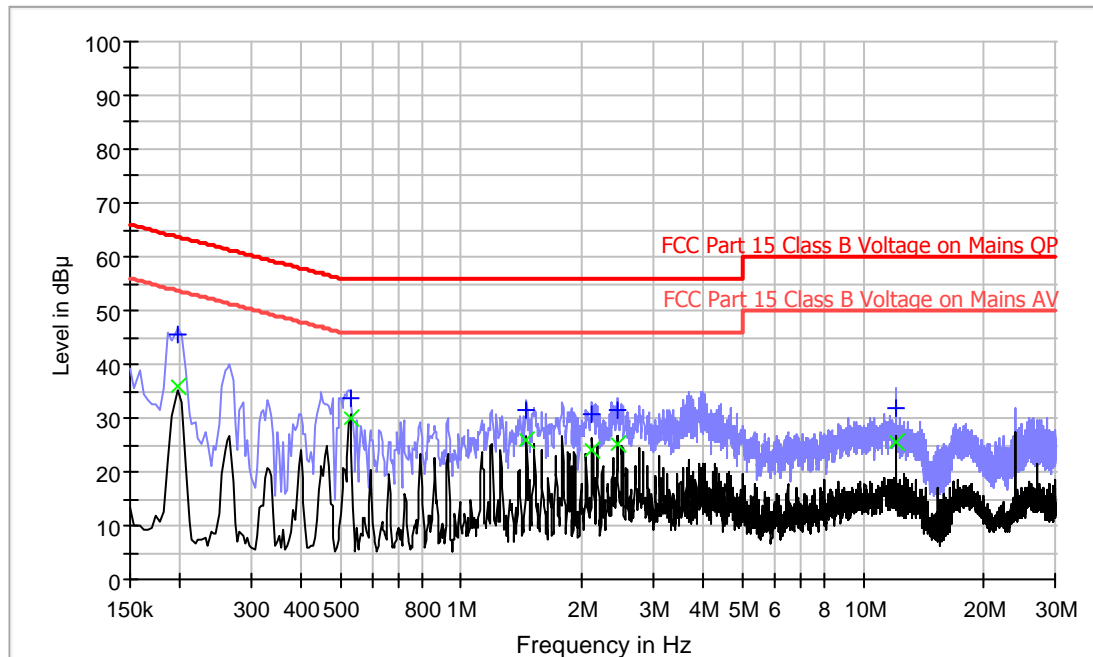
Company: SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

Date of Test: November 19, 2011

Model: DV288/HDV102

Worst Case Operating Mode: PC Download with SD Card

Conducted Emission Test - FCC



Result Table QP

Frequency (MHz)	QuasiPeak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.198000	45.6	N	9.6	18.1	63.7
0.530000	33.6	N	9.6	22.4	56.0
1.454000	31.5	N	9.8	24.5	56.0
2.110000	30.6	N	9.8	25.4	56.0
2.442000	31.6	N	9.8	24.4	56.0
11.998000	31.7	N	10.0	28.3	60.0

Result Table AV

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.198000	35.8	N	9.6	17.9	53.7
0.530000	30.1	N	9.6	15.9	46.0
1.454000	25.9	N	9.8	20.1	46.0
2.110000	24.1	N	9.8	21.9	46.0
2.442000	25.1	N	9.8	20.9	46.0
11.998000	25.5	N	10.0	24.6	50.0

Test Engineer: Billy Li

TRF No.: FCC 15C_PC_a

FCC ID: XJN-DV288

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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.

EXHIBIT 5
PRODUCT LABELLING

INTERTEK TESTING SERVICES

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

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6.0 **Technical Specifications**

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

EXHIBIT 7
INSTRUCTION MANUAL

INTERTEK TESTING SERVICES

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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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 is in QP mode from the frequency band 30MHz to 1GHz and RBW setting is 120kHz. 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 1GHz. 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
SZ061-05	Passive Loop Antenna	ETS	6509	00069080	24-Sep-11	24-Mar-12
SZ185-01	EMI Receiver	R&S	ESCI	100547	08-Mar-11	08-Mar-12
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	15-Jan-11	15-Jan-12
SZ062-04	RF Cable	RADIAL	RG 213U	--	30-Mar-11	30-Mar-12
SZ062-06	RF Cable	RADIAL	0.04-26.5GHz	083388	16-Sep-11	16-Sep-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
SZ188-03	Shielding Room	ETS	RFD-100	4100	16-Sep-11	16-Sep-12