

September 05, 2008

Datel Design & Development, Inc.  
33 N. Garden Avenue, Suite 900,  
Clearwater, FL 33755,  
U.S.A.

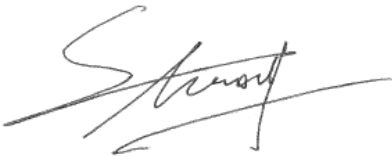
Dear Ken,

Enclosed you will find your file copy of a Part 15 report (FCC ID: WLE-DUS0269RM0001).

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,



Shawn Xing  
Assistant Manager

Enclosure

**Datel Design & Development, Inc.**

Application  
For  
Certification  
**(FCC ID: WLE-DUS0269RM0001)**

Computer Peripheral



SZ08070300-2  
Sam Dong  
September 05, 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 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: WLE-DUS0269RM0001

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# INTERTEK TESTING SERVICES

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## LIST OF EXHIBITS

*INTRODUCTION*

<i>EXHIBIT 1:</i>	General Description
<i>EXHIBIT 2:</i>	System Test Configuration
<i>EXHIBIT 3:</i>	Emission Results
<i>EXHIBIT 4:</i>	Equipment Photographs
<i>EXHIBIT 5:</i>	Product Labeling
<i>EXHIBIT 6:</i>	Technical Specifications
<i>EXHIBIT 7:</i>	Instruction Manual
<i>EXHIBIT 8:</i>	Miscellaneous Information

# INTERTEK TESTING SERVICES

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## MEASUREMENT / TECHNICAL REPORT

Datel Design & Development, Inc. – MODEL: DUS0269

FCC ID: WLE-DUS0269RM0001

September 05, 2008

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

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

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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.

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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.

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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  
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# INTERTEK TESTING SERVICES

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## Table of Contents

<b>1.0</b>	<b><u>General Description</u></b> .....	2
1.1	Product Description.....	2
1.2	Related Submittal(s) Grants.....	2
1.3	Test Methodology.....	3
1.4	Test Facility.....	3
<b>2.0</b>	<b><u>System Test Configuration</u></b> .....	5
2.1	Justification.....	5
2.2	EUT Exercising Software.....	5
2.3	Special Accessories.....	5
2.4	Equipment Modification.....	5
2.5	Measurement Uncertainty.....	6
2.6	Support Equipment List and Description.....	6
<b>3.0</b>	<b><u>Emission Results</u></b> .....	8
3.1	Field Strength Calculation.....	9
3.2	Radiated Emission Configuration Photograph.....	11
3.3	Radiated Emission Data.....	12
3.4	Conducted Emission Configuration Photograph.....	14
3.5	Conducted Emission Data.....	15
<b>4.0</b>	<b><u>Equipment Photographs</u></b> .....	18
<b>5.0</b>	<b><u>Product Labelling</u></b> .....	20
<b>6.0</b>	<b><u>Technical Specifications</u></b> .....	22
<b>7.0</b>	<b><u>Instruction Manual</u></b> .....	24
<b>8.0</b>	<b><u>Miscellaneous Information</u></b> .....	26
8.1	Emissions Test Procedures.....	27

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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	letter.pdf
Cover Letter	Confidentiality Letter	Request.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 2.4GHz USB Dongle Receiver, model: DUS0269, this device is powered from PC USB port. The main function of this EUT is to receive RF signal from the keyboard sold together and demodulate to transmit to the host unit (e.g. computer). This USB Dongle is receiving only without transmit function.

#### **1.2 Related Submittal(s) Grants**

This is an application for certification of a computer peripheral. The receiver portion is exempted from Part 15 technical rules per 15.101(b), the transmitter associated with this USB dongle is subjected to certification procedure with FCC ID: WLE-DUS0269M0001.



## INTERTEK TESTING SERVICES

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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 **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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**INTERTEK TESTING SERVICES**

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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 from PC USB port.

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

There was no special software to exercise the device.

#### 2.3 Special Accessories

No special accessories used.

#### 2.4 Equipment Modification

Any modifications installed previous to testing by Datel Design & Development, Inc. 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:

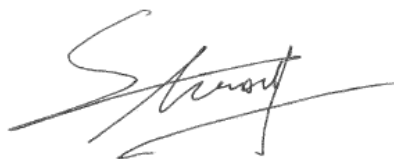
Refer List:

Description	Manufacturer	Model No.
Test PC`	Lenovo	T61
Hard Disk	Smart.drive	HD3-SU2FW

All the items listed under section 2.0 of this report are

*Confirmed by:*

*Shawn Xing  
Assistant Manager  
Intertek Testing Services Shenzhen Ltd.  
Kejiyuan Branch  
Agent for Datel Design & Development, Inc.*



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

\_\_\_\_\_  
*September 05, 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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## INTERTEK TESTING SERVICES

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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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## INTERTEK TESTING SERVICES

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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.

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

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

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

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

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

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

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

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



## INTERTEK TESTING SERVICES

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### 3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission  
At  
31.237MHz

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

## INTERTEK TESTING SERVICES

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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 9.5dB margin

#### **TEST PERSONNEL:**



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*Signature*

Sam Dong, Engineer

*Typed / Printed Name*

September 05, 2008

*Date*

## INTERTEK TESTING SERVICES

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Company: Datel Design & Development, Inc.

Date of Test: September 05, 2008

Model: DUS0269

Worst Case Operating Mode: Operation

**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	30.246	37.6	20.0	11.0	28.6	40.0	-11.4
Horizontal	31.237	38.2	20.0	12.3	30.5	40.0	-9.5
Horizontal	41.259	34.0	20.0	13.4	27.4	40.0	-12.6
Horizontal	65.394	32.7	20.0	14.6	27.3	40.0	-12.7
Horizontal	92.465	32.6	20.0	15.9	28.5	43.5	-15.0
Horizontal	121.356	31.8	20.0	16.3	28.1	43.5	-15.4
Vertical	122.012	31.6	20.0	16.4	28.0	43.5	-15.5

- 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 are below the QP limit.

Test Engineer: Sam Dong

## INTERTEK TESTING SERVICES

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### 3.4 Conducted Emission Configuration Photograph

Worst Case Neutral-Conducted Configuration  
at  
0.382 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 9.1 dB margin

#### **TEST PERSONNEL:**



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

Sam Dong, Engineer  
*Typed/Printed Name*

September 05, 2008  
*Date*

## INTERTEK TESTING SERVICES

Company: Datel Design & Development, Inc.

Date of Test: September 05, 2008

Model: DUS0269

Worst Case Operating Mode: Operation

**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)
0.194	45.5	63.9	39.1	53.9
0.302	44.4	60.2	35.7	50.2
0.382	49.1	58.2	37.1	48.2
3.923	32.3	56.0	18.3	46.0
13.392	36.4	60.0	23.1	50.0
16.452	36.2	60.0	21.5	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)
0.186	41.7	64.2	32.0	54.2
0.302	45.0	60.2	36.0	50.2
0.374	46.9	58.4	34.9	48.4
0.706	36.4	56.0	21.3	46.0
8.651	37.3	60.0	21.8	50.0
22.247	37.6	60.0	29.2	50.0

Test Engineer: Sam Dong

**INTERTEK TESTING SERVICES**

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**EXHIBIT 4**  
**EQUIPMENT PHOTOGRAPHS**

## INTERTEK TESTING SERVICES

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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**

## INTERTEK TESTING SERVICES

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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.

**INTERTEK TESTING SERVICES**

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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 is saved with filename: block.pdf.

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**INTERTEK TESTING SERVICES**

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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 U.S.A..

**INTERTEK TESTING SERVICES**

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**EXHIBIT 8**

**MISCELLANEOUS INFORMATION**

## INTERTEK TESTING SERVICES

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### 8.0 Miscellaneous Information

This miscellaneous information includes emission measuring procedure.



## **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 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.

## **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.