

**International Quartz Limited**

**Application  
For  
Certification**

**VoIP Phone with Caller ID and Speakerphone**

**(FCC ID: WFB9339)**

07292591

KS/ ac

September 18, 2008

- The test report only allows to be revised within the retention period unless further standard or the requirement was noticed.
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# INTERTEK TESTING SERVICES

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## LIST OF EXHIBITS

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## INTERTEK TESTING SERVICES

## MEASUREMENT/TECHNICAL REPORT

**International Quartz Limited - Model: 9339, 9339HS  
FCC ID: WFB9339**

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

Equipment Type : JBP - Pt 15 Class B Computer 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 B for un-intentional radiator - the new 47 CFR [09-20-07 Edition] Provision.

Report prepared by:

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### List of attached file

Exhibit type	File Description	filename
Test Report	Test Report	report.pdf
Test Setup Photos	Radiated & Conducted Emission for VoIP Phone	config photos.pdf
Test Report	Conducted Emission Test Result	conduct.pdf
External Photos	External Photo	external photos.pdf
Internal Photos	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
ID Label/Location Info	Label Artwork and Location	label.pdf
Users Manual	User Manual	manual.pdf
Cover Letter	Letter of Agency	letter of 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 VoIP Phone and powered by AC adaptor, 100-240VAC to 6VDC. It provides small business/ home users an their telecommunication needs with the built in LCD. The user can easily configure the VoIP phone for first time installation in a few minutes. Besides, the advanced VoIP also provides rich telephone features such as the phone book, speed dial, call history, last number redial, call forward, transfer, volume adjustment and speakerphone etc. It can establish a call when connecting to internet or computer.

Tested sample is a prototype.

The Model: 9339HS is the same as the Model: 9339 in hardware aspect. Model: 9339 has deleted headset function by using plastic material to shield the headset port. There are no PCB layout and circuit changes. The difference in model number serves as marketing strategy.

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### 1.2 Related Submittal(s) Grants

This is an Application for Certification of a JBP – Part 15 Class B Computing Device Peripheral.

### 1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). All measurements were performed in Open Area Test Sites. Preliminary scans were performed in the Open Area Test Sites only to determine 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 open area test site and conducted measurement facility used to collect the radiated data and conducted data are located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. 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

For emissions testing, the equipment under test (EUT) was setup to normal mode to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. The EUT was powered by 100-240VAC to 6VDC 1500mA AC adaptor.

For the measurements, the EUT is attached to a plastic stand if necessary and placed on the wooden turntable.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement was performed from the frequency 30MHz to 1000MHz.

### 2.2 EUT Exercising Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

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### 2.3 Details of EUT and Description of Peripherals

#### Details of EUT:

An AC adaptor and/or a battery (provided with the unit) were used to power the device. Their description are listed below.

- (1) Base Unit: An AC adaptor with ferrite core (100-240VAC to 6VDC 1500mA, Model: KSS10-060-1500) (Supplied by Client)

#### Description of Peripherals:

- (1) 1 x VoIP, Model: 9339 (Supplied by Client)
- (2) 1 x termination for headset port (Supplied by Client)
- (3) 2 x CAT5 LAN unshielded cable with 2 meter long (Supplied by Intertek)

For Radiated Emission: (Supplied by Intertek)

- (1) HP Notebook, Model: NX6320, S/N: CNU6370FWN, DoC Product
- (2) LogiTech Mouse, Model: M-UV94, S/N: LZ639AB, DoC Product
- (3) Hayes Modem, Model: 6800CN, S/N: A00900153317, FCC ID: BFJ9D907-00038
- (4) HP Notebook adaptor, (110-240VAC to 18.5VDC 6.5A, Model : Series PPP017L PA-1121-12HC) (Supplied by Intertek)

For Conducted Emission: (Supplied by Intertek)

- (1) HP Notebook, Model: NX6320, S/N: CNU6370FWN, DoC Product
- (2) Kingston USB flash memory, Model: DataTraveler 8GB, S/N: 04236-348, DoC Product
- (3) Genius Modem, Model: GM56EX, S/N: ZT5505000355, DoC Product
- (4) HP Notebook adaptor, (110-240VAC to 18.5VDC 6.5A, Model : Series PPP017L PA-1121-12HC) (Supplied by Intertek)

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### 2.4 Measurement Uncertainty

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

Uncertainty and Compliance - Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

### 2.5 Equipment Modification

Any modifications installed previous to testing by International Quartz Limited will be incorporated in each production model sold/leased in the United States.

No modifications were installed by ETL Division, Intertek Testing Services Hong Kong Ltd.

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

*Confirmed by:*

*Sit Kim Wai, Ken  
Assistant Manager  
Intertek Testing Services  
Agent for International Quartz Limited*



\_\_\_\_\_  
Signature

September 18, 2008

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Date

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

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### 3.0 Emission Results

Data is included of the 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 Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

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

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

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:-

$$FS = RR + LF$$

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

RR = RA - AG in dB $\mu$ V

LF = CF + AF in dB

Assume a receiver reading of 52.0 dB $\mu$ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

$$RA = 52.0 \text{ dB}\mu\text{V}$$

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

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

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

$$FS = RR + LF$$

$$FS = 23 + 9 = 32 \text{ dB}\mu\text{V/m}$$

$$RR = 23.0 \text{ dB}\mu\text{V}$$

$$LF = 9.0 \text{ dB}$$

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

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### **3.2 Radiated Emission Configuration Photograph**

**Worst Case Radiated Emission**

**at 368.880 MHz**

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: config photos.pdf

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### 3.3 Radiated Emission Data

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Judgement : Passed by 1.1 dB margin

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#### **TEST PERSONNEL:**



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*Tester Signature*

Melvin Nip, Senior Lead Engineer

*Typed/Printed Name*

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September 18, 2008

*Date*

# INTERTEK TESTING SERVICES

Company: International Quartz Limited  
Model: 9339  
Mode : VoIP (Handset Online, LAN)

Date of Test: March 18-March 28, 2008

Table 1

## Radiated Emissions Pursuant to FCC 15.109 Emission Requirement

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
V	58.116	42.4	16	11.0	37.4	40.0	-2.6
V	98.724	38.6	16	12.0	34.6	43.5	-8.9
V	122.236	38.5	16	14.0	36.5	43.5	-7.0
V	125.819	38.1	16	14.0	36.1	43.5	-7.4
H	196.928	33.2	16	16.0	33.2	43.5	-10.3
H	245.594	38.8	16	20.0	42.8	46.0	-3.2
H	250.716	37.3	16	20.0	41.3	46.0	-4.7
H	350.224	27.2	16	24.0	35.2	46.0	-10.8
H	368.880	36.9	16	24.0	44.9	46.0	-1.1
H	400.116	28.5	16	24.0	36.5	46.0	-9.5
H	450.024	24.0	16	26.0	34.0	46.0	-12.0

NOTES:

1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance 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 radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.

Test Engineer: Melvin Nip

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### **3.4 Line Conducted Configuration Photograph**

**Worst Case Line-Conducted Configuration**

**at 16.230 MHz**

For electronic filing, the worst case line conducted configuration photographs are saved with filename: config photos.pdf

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### 3.5 Line Conducted Emission Data

The data on the following pages list the significant emission frequencies, the limit, and the margin of compliance.

Judgement : Passed by 4.4 dB margin

For electronic filing, the conducted emission test result is saved with filename: conduct.pdf

#### **TEST PERSONNEL:**



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*Tester Signature*

Melvin Nip, Senior Lead Engineer

*Typed/Printed Name*

September 18, 2008

*Date*

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

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### 4.0 Equipment Photographs

For electronic filing, the photographs are saved with filename: external photos.pdf & internal photos.pdf

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

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### 5.0 Product Labelling

For electronic filing, the FCC ID label artwork and location is 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 is saved with filename: block.pdf

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

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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**  
**LETTER OF AGENCY**

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### 8.0 Letter of Agency

A copy of the Letter of Agency is saved as filename: letter of agency.pdf