

**Primatronix Ltd.**

Application  
For  
Certification  
**(FCC ID: DYFC18)**

Professional Webcam

0606266  
BC/ Sandy Lee  
May 23, 2007

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## INTERTEK TESTING SERVICES

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# INTERTEK TESTING SERVICES

## MEASUREMENT/TECHNICAL REPORT

Primatronix Ltd. - MODEL: VOIP VOICE C18  
VOIP VOICE PCW01  
HP HP Premium Camera

FCC ID: DYFC18

May 23, 2007

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

Equipment Type: Computer Peripheral (example: computer, printer, modem, etc.)

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes \_\_\_\_\_ No X

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 X

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [04-05-05 Edition] provision.

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### List of attached file

Exhibit type	File Description	filename
Test Report	Test Report	report.pdf
Operation Description	Technical Description	descri.pdf
Test Setup Photo	Radiated Emission	radiated photos.doc
Test Setup Photo	Conducted Emission	conducted photos.doc
Test Report	Conducted Emission Test Result	conducted.pdf
External Photo	External Photo	external photos.doc
Internal Photo	Internal Photo	internal photos.doc
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf

# **INTERTEK TESTING SERVICES**

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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 Webcam. The EUT is connected to USB port of computer when use. It can take videos and store them into digital format inside the computer.

The Model: VOIP VOICE PCW01 and HP HP Premium Camera are the same as the Model: VOIP VOICE C18 in hardware aspect. The difference in trade name and model number serves as marketing strategy.

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

#### 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). 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. For each scan, the procedure for maximizing emissions in Appendices D and E were followed. 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 emission data is 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

The system was configured for testing in typical fashions (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2003). The typical testing mode was selected i.e. video mode.

The EUT is connected to USB port of computer.

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. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

#### 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. The software, contained in a CD ROM, was inserted into CD Drive and was installed into the hard disk.

Once the program was loaded, the professional webcam will take video and the video will be recorded into digital format and will be stored in the hard disk.

#### 2.3 Special Accessories

There are no special accessories is necessary for compliance of this product.

#### 2.4 Equipment Modification

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

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

#### 2.5 Measurement Uncertainty

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

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### 2.6 Support Equipment List and Description

Refer List:	1. HP Computer Model: D530S S/N: CNG4110DX	1. HP Computer Model: D510SFF S/N: CNG3250508
	2. Philips LCD Monitor Model: 150B4CG S/N: CX000409301774	2. Samsung Monitor Model: SyncMaster152N S/N: NB15HMEWA08791
	3. HP Keyboard Model: SDM4700P S/N: 323686-B31	3. HP Keyboard Model: SK-2502 S/N: C0205303122
	4. HP Mouse Model: M-S69 S/N: 323614-001	4. Logitech Mouse Model: M-S48a
	5. HP Printer Model: C2642A S/N: SG67B131RY	5. HP Printer Model: C6431D S/N: CN23B 680ZP
	6. Hayes Modem Model: 6800CN S/N: A00900153317	6. Genius Modem Model: GM56EX S/N: ZT5505000355
	7. 2 x 1m telephone line with termination	
	8. 1 x serial cable with 1 meter long	
	9. 1 x parallel cable with 1 meter long	
	10. 1 x USB cable with length of 1.34 meter long (non-detachable)	
	11. Software: VOIP Voice camera driver	

Confirmed by:

*Chow Chi Ming, Billy*  
*Assistant Manager*  
*Intertek Testing Services Hong Kong Ltd.*  
*Agent for Primatronix Ltd.*



\_\_\_\_\_  
Signature

\_\_\_\_\_  
May 23, 2007

\_\_\_\_\_  
Date

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### **EXHIBIT 3**

### **EMISSION RESULTS**

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### 3.0 **Emission Results**

Data included were result from worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs, data tables and graphical representations 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 below:

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

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.

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

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

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

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

$$FS = RR + LF$$

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

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

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### 3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission  
at  
47.996 MHz

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

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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 9.8 dB

#### **TEST PERSONNEL:**



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*Signature*

Mark Cheung, Compliance Engineer  
*Typed/Printed Name*

May 23, 2007  
*Date*

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Applicant: Primatronix Ltd.  
Model: VOIP VOICE C18

Date of Test: March 10, 2006

Table 1

### Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
H	47.996	35.2	11.0	16	30.2	40.0	-9.8
H	53.996	32.8	11.0	16	27.8	40.0	-12.2
H	59.996	35.1	10.0	16	29.1	40.0	-10.9
H	66.001	36.6	9.0	16	29.6	40.0	-10.4
H	72.002	39.0	7.0	16	30.0	40.0	-10.0
H	78.002	39.8	6.0	16	29.8	40.0	-10.2

- Notes:
1. Peak Detector Data unless otherwise stated.
  2. All measurements were made at 3 meter. Harmonic 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 harmonic 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.
  4. Horn antenna is used for the emission over 1000MHz.

Test Engineer: Mark Cheung

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### **3.4 Conducted Emission Configuration Photograph**

Worst Case Line-Conducted Configuration  
at  
0.480 MHz

For electronic filing, the worst case line-conducted configuration photograph are saved with filename: conducted photos.doc.

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### 3.5 Conducted Emission Data

For electronic filing, the graph and data table of conducted emission is saved with filename: conducted.pdf.

Judgement: Passed by 7.9 dB

#### **TEST PERSONNEL:**



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*Signature*

Mark Cheung, Compliance Engineer  
*Typed/Printed Name*

May 23, 2007  
*Date*

## **INTERTEK TESTING SERVICES**

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### **EXHIBIT 4**

### **EQUIPMENT PHOTOGRAPHS**

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### 4.0 **Equipment Photographs**

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

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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 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 and schematics of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

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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.