

Plantronics Inc.

Application
For
Certification

VoIP Headset Adaptor

(FCC ID: AL8-IP40)

HK08120648-1
KS/ ac
January 29, 2009

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MEASUREMENT/TECHNICAL REPORT

Plantronics Inc. - Model: IP40
FCC ID: AL8-IP40

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 [10-01-07 Edition] Provision.

Report prepared by:

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EXHIBIT 1 GENERAL DESCRIPTION

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1.0 General Description

1.1 Product Description

The IP40 is a VoIP Headset Adaptor. The IP40 is connected to the data network via the Ethernet port and then managing calls throughout Ethernet network. The IP40 is powered by an adaptor 100-240VAC to 9VDC 500mA or by the Power over Ethernet (PoE) 100-240VAC to 48VDC 0.32A.

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1.2 Related Submittal(s) Grants

This is an Application for Certification of a JBP (computer peripheral portion) – Part 15 Class B Computing Peripheral.

The device complies with ICES-003 (Issue 4) requirements. The test results in FCC test report are deemed satisfactory evidence of compliance with Industry Canada Interference-Causing Equipment Standard ICES-003.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). Preliminary radiated 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 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

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 (if any) were manipulated to produce worst case emissions. The EUT was powered by 100-240VAC to 9VDC 500mA 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 were performed from the frequency 30MHz to 1000MHz.

2.2 EUT Exercising Software

The EUT exercise program (if any) 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 (provided with the unit) was used to power the device. This description is listed below.

- (1) VoIP Headset Adaptor: An AC adaptor (100-240VAC to 9VDC 500mA, Model: SSA-5W090050) (Supplied by Client)

Description of Peripherals:

- (1) Headset, Brand: Plantronics (Supplied by Client)
- (2) Power over Ethernet (POE), Model: PSA16U-480(POE), Brand: PHIHONG (100-240VAC to 48VDC 0.32A) (Supplied by Client)
- (3) 2 x Ethernet cable with 2 meters long (Supplied by Client)

For Radiated Emission: (Supplied by Intertek)

- (1) HP Compaq Notebook, Model: NX6320, S/N: CNU6370FWN, DoC Product
- (2) LogiTech Mouse, Model: M-UV94, S/N: LZ639AB, DoC Product
- (3) HP Printer, Model: C2642A, S/N: SG6121702C, FCC ID: B94C2642X
- (4) Hayes Modem, Model: 6800CN, S/N: A00900153317, FCC ID: BFJ9D907-00038

For Conducted Emission: (Supplied by Intertek)

- (1) HP Compaq Notebook, Model: NX6320, S/N: CNU6370FWN, DoC Product
- (2) HP Mouse, Model: M-UV96, S/N: F93A90AN3SY385Y, DoC Product
- (3) HP Printer, Model: C6431D, S/N: CN23B 680ZP, DoC Product
- (4) Genius Modem, Model: GM56EX, S/N: ZT5505000355, DoC Product

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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 Plantronics Inc. 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 Plantronics Inc.*



Signature

January 29, 2009 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 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

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 μ V/m
 RR = RA - AG in dB μ V
 LF = CF + AF in dB

Assume a receiver reading of 52.0 dB μ 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 μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

RA = 52.0 dB μ V
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
FS = RR + LF
FS = 23 + 9 = 32 dB μ V/m

RR = 23.0 dB μ V
LF = 9.0 dB

Level in μ V/m = Common Antilogarithm [(32 dB μ V/m)/20] = 39.8 μ V/m

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3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission

at 203.719 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 7.5 dB margin

TEST ENGINEER:



Tester Signature

Melvin Nip, Senior Lead Engineer
Typed/Printed Name

January 29, 2009
Date

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Company: Plantronics Inc.

Date of Test: December 30-31, 2008

Model: IP40

Mode : VoIP Talk with PC Online (with POE)

Table 1

**Radiated Emissions
Pursuant to FCC 15.109 Emission Requirement**

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
V	66.688	38.1	16	9.0	31.1	40.0	-8.9
H	145.488	33.1	16	14.0	31.1	43.5	-12.4
H	151.552	33.5	16	15.0	32.5	43.5	-11.0
H	157.616	32.3	16	16.0	32.3	43.5	-11.2
H	169.740	31.0	16	18.0	33.0	43.5	-10.5
H	175.800	30.7	16	19.0	33.7	43.5	-9.8
H	203.719	36.0	16	16.0	36.0	43.5	-7.5
H	249.911	30.0	16	20.0	34.0	46.0	-12.0
H	284.860	26.0	16	22.0	32.0	46.0	-14.0

- 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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Company: Plantronics Inc.

Date of Test: December 30-31, 2008

Model: IP40

Mode : VoIP Talk with PC Online (without POE)

Table 2

**Radiated Emissions
Pursuant to FCC 15.109 Emission Requirement**

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
V	66.688	37.8	16	9.0	30.8	40.0	-9.2
H	145.488	32.9	16	14.0	30.9	43.5	-12.6
H	151.552	33.5	16	15.0	32.5	43.5	-11.0
H	157.616	32.3	16	16.0	32.3	43.5	-11.2
H	169.740	30.7	16	18.0	32.7	43.5	-10.8
H	175.800	30.3	16	19.0	33.3	43.5	-10.2
H	203.719	35.5	16	16.0	35.5	43.5	-8.0
H	249.911	30.0	16	20.0	34.0	46.0	-12.0
H	284.860	26.0	16	22.0	32.0	46.0	-14.0

- 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 0.39300 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 2.3 dB margin

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

TEST ENGINEER:



Tester Signature

Melvin Nip, Senior Lead Engineer
Typed/Printed Name

January 29, 2009
Date