

EMI Test Report

On Model Name : Webcam

Model Number : SW1000

Brand Name : Broadxent

FCC ID : GX5-SW1000

Prepared for

Broadxent pte Ltd.

According to

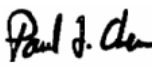
FCC Part 15 Subpart B -- Unintentional Radiators

Test Report #: SHE-1227-5177-FCC

Prepared by : Ivan Wen

QC Manager: Paul Chen

Test Report Released by:



Paul Chen

2006, Dec. 27

Date

List of Attached Files

Exhibit Type	File Description	File Name
<i>731 Form</i>	<i>731 Form</i>	<i>GX5-SW1000_731 form.pdf</i>
<i>Test Report</i>	<i>Test Report</i>	<i>GX5-SW1000_Test report.pdf</i>
<i>Operational Description</i>	<i>Technical Description</i>	<i>GX5-SW1000_operational description.pdf</i>
<i>External Photos</i>	<i>External Photos</i>	<i>GX5-SW1000_External Photos.pdf</i>
<i>Internal Photos</i>	<i>Internal Photos</i>	<i>GX5-SW1000_Internal Photos.pdf</i>
<i>Block Diagram</i>	<i>Block Diagram</i>	<i>GX5-SW1000_Block Diagram.pdf</i>
<i>Schematics</i>	<i>Circuit Diagram</i>	<i>GX5-SW1000_Schematics.pdf</i>
<i>ID Label&Location</i>	<i>Label Artwork and Location</i>	<i>GX5-SW1000_Label & Location.pdf</i>
<i>User Manual</i>	<i>User Manual</i>	<i>GX5-SW1000_User Manual.pdf</i>
<i>Test setup photos</i>	<i>Test setup photos</i>	<i>GX5-SW1000_Test Setup Photos.pdf</i>

Test Location

Tests performed at Shenzhen Electronic Product Quality Testing Center in a Certified ANSI Semi-Anechoic Chamber and Shielded Room performed testing.

Test Site Location: Electronic Testing Building
Shahe Road, Xili, Nanshan
District Shenzhen 518055, P.R.
China.
Tel: 86-755-26703698
Fax: 86-755-26627238
Registration Number : 261302

Accreditation Bodies

EMC Compliance Management Group is a fully accredited Test Laboratory for ITE, ISM, MIL-STD and Telecommunications Products.



In compliance with the site registration requirements of Section 2.948 of the FCC Rules to perform EMI measurements for the general public. FCC Registration #: 894293.



Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code # 200068-0.

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Opinions and Interpretations

This test report relates to the abovementioned equipment under test (EUT). Without the permission of EMC Compliance Management Group Test Lab this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark on this or similar products. The manufacturer has sole responsibility of continued compliance of the device.

Statement of Measurement Uncertainty

The data and results referenced in the document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities that can account for a nominal measurement error. Furthermore, component and process variability of devices similar to that tested may result in additional deviation.

Administrative Data

Test Sample : Webcam

Model Numbers : SW1000

Model Tested : SW1000

Brand Name : Broadxent

FCC ID : GX5-SW1000

Date Tested : 2006, Dec. 24

Applicant : Broadxent Pte Ltd.

31 international business park

Creative resource, Singapore 60992

Telephone : (65) 6890 5255

Fax : (65) 6890 5269

Manufacturer : Broadxent Pte Ltd.

31 international business park

Creative resource, Singapore 609921

EUT Description

Broadxent Pte Ltd. model tested SW1000(referred to as

The EUT in this report) is a Webcam.

Test Summary

The Electromagnetic Compatibility requirements on model SW1000 for this test are stated below. All results listed in this report relate exclusively to this above-mentioned model as the Equipment Under Test. This report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

<i>Emission Tests</i>				
<i>Specifications</i>	<i>Description</i>	<i>Test Results</i>	<i>Test Point</i>	<i>Remark</i>
<i>FCC Part 15.107 ANSI 63.4 2003</i>	<i>Conducted Emission</i>	<i>Passed by 20.20dB of QP</i>	<i>AC Input Port</i>	<i>Attachment 1</i>
<i>FCC Part 15.109 ANSI 63.4 2003</i>	<i>Radiated Emission</i>	<i>Passed by 11.10dB of QP</i>	<i>Enclosure</i>	<i>Attachment 2</i>

Test Mode Justification

This device complies with Part 15 of the FCC rules. Operations is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Equipment Modification

Any modifications installed previous to testing by Broadxent Pte Ltd. will be incorporated in each production model sold or leased in United States.

There were no modifications installed by EMC Compliance Management Group (China) test personnel.

EUT Sample Photos



Front View

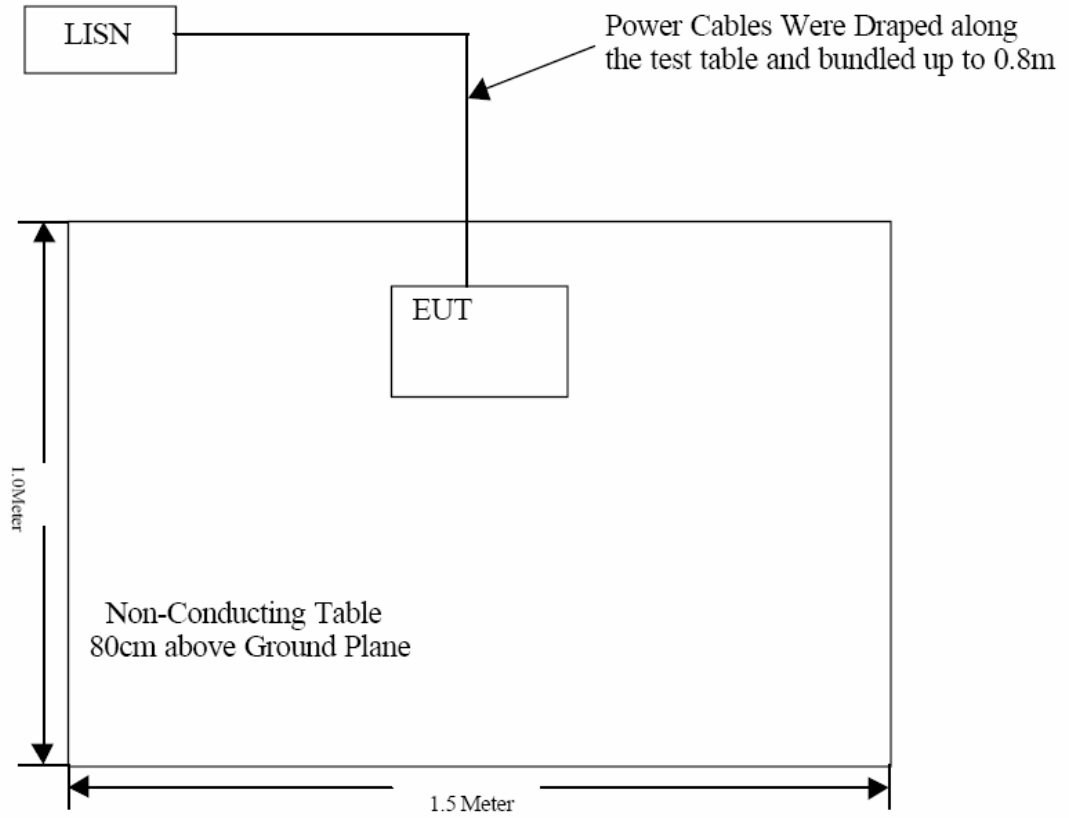


Back View

Test System Details

<i>EUT</i>					
Model Number:	SW1000				
Brand Name:	Broadxent				
Description:	Webcam				
Manufacturer:	Broadxent Pte Ltd.				
<i>Support Equipment</i>					
Description	Model Number	Serial Number	Manufacturer		
Host PC	SY2	SA04326341	IBM		
Mouse	M-UV55a	LNA41502650	Lenovo		
Keyboard	JME7053	4B009515	Lenovo		
Monitor	900	335449780	proview		
Printer	1000	0721915	Lexmark		
earphone	N/A	N/A	Lenovo		
<i>Cable Description</i>					
Description	From	To	Length (Meters)	Shielded (Y/N)	Ferrite (Y/N)
USB Cable	EUT	PC	2.0	N	N

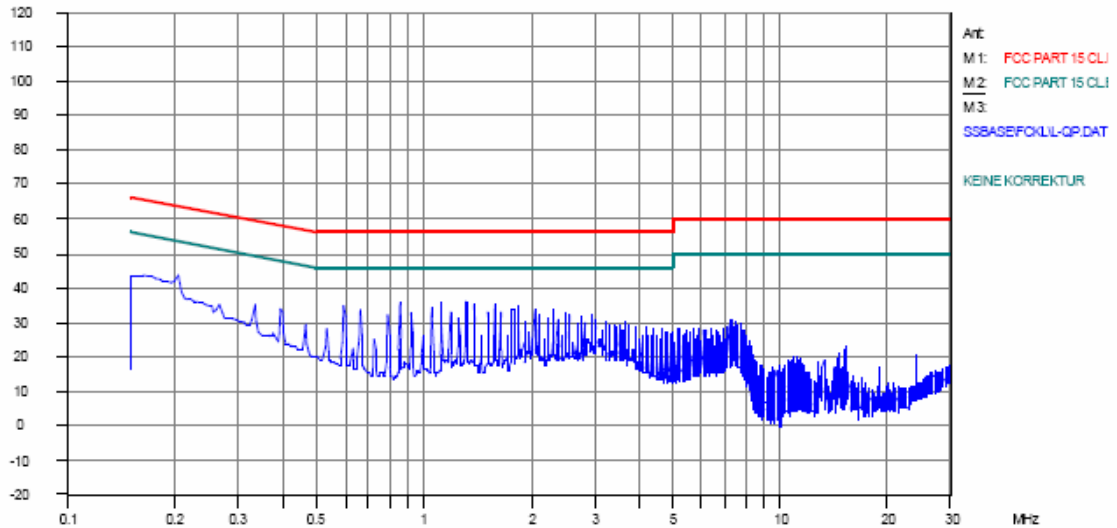
Configuration of Tested System



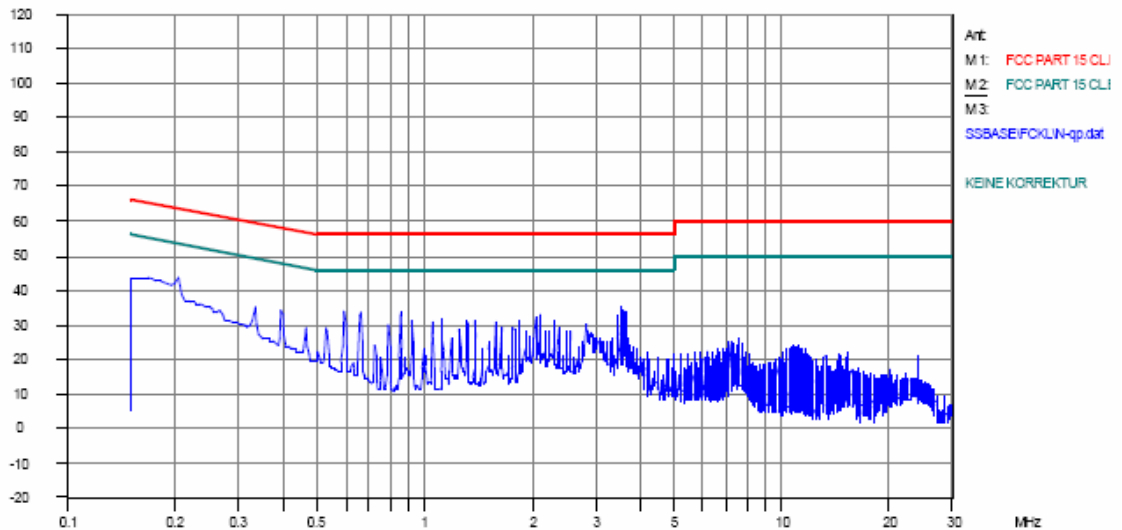
ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS

CLIENT:	Broadxent Pte Ltd.	TEST STANDERD:	FCC Part 15
MODEL NUMBERS:	SW1000	PRODUCT:	Webcam
MODEL TESTED:	SW1000	EUT DESIGNATION:	Home or Office
TEMPERATURE:	21°C	HUMIDITY:	56%
ATM PRESSURE:	101kPa	GROUNDING:	None
TESTED BY:	Ivan Wen	DATE OF TEST:	2006, Dec 24
TEST REFERENCE:	ANSI C63.4: 2003, CISPR 16-1:2002		
TEST PROCEDURE:	The EUT was set up according to the guideline of ANSI C63.4: 2003 for conducted emissions. The measurement was using a AMN on each line and an EMI receiver peak scan was made at the frequency measurement range. The six highest significant peaks were then marked, and these signals were then quasi-peaked and averaged. The frequency range investigated was from 150KHz to 30MHz.		
TESTED RANGE:	150kHz to 30MHz		
TEST VOLTAGE:	120VAC / 60Hz		
RESULTS:	The EUT meets the requirements of test reference for Conducted Emissions on line N by 20.20 dB of Quasi-Peak detector. The test results relate only to the equipment under test provided by client.		
Changes or Modifications:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.		
M. UNCERTAINTY:	Freq. $\pm 2 \times 10^{-7}$ x Center Freq., Amp ± 2.6 dB		

The plot(s) of conducted emission test:



Line L Conducted Emission Graph



Line N Conducted Emission Graph

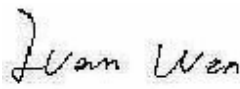
Data of conducted emission test:


Line	Frequency [MHz]	Corrected QP Reading [dB μ V]	Delta QP [dB]	Limit [dB μ V/m]
L	0.1500	43.60	-22.40	66
L	0.3345	35.32	-24.68	60
L	0.8565	35.50	-20.50	56
N	1.1120	35.80	-20.20	56
N	1.3830	35.06	-20.94	56
N	0.7920	35.13	-20.87	56

Test Equipment List:

Test Equipment	Manufacturer/ Model	Serial No.	Last Cal.	Cal. Due
EMI Receiver	SCHWARZBECK	FCKL1528	06/10/06	06/09/07
AMN	SCHWARZBECK	NALK8127	06/10/06	06/09/07

Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).

SIGNED BY: 
ENGINEER

REVIEWED BY: 
QC

Test Set-up Photo of Conducted Emission test:



EUT Model: SW1000

ATTACHMENT 2 - RADIATED EMISSION TEST RESULTS

CLIENT:	Broadxent Pte Ltd.	TEST STANDERD:	FCC Part 15
MODEL NUMBERS:	SW1000	PRODUCT:	Webcam
MODEL TESTED:	SW1000	EUT DESIGNATION:	Home or Office
TEMPERATURE:	21°C	HUMIDITY:	56%
ATM PRESSURE:	101kPa	GROUNDING:	None
TESTED BY:	Ivan Wen	DATE OF TEST:	2006, Dec 24
TEST REFERENCE:	ANSI C63.4: 2003, CISPR 16-1: 2002		
TEST PROCEDURE:	<p>The EUT was set up according to the guidelines of ANSI C63.4: 2003 for radiated emissions. An EMI receiver peak scan was made at the frequency measurement range (pre-scan) in an Anechoic chamber. Signal discrimination was then performed and the significant peaks marked. These peaks were then quasi-peaked in the frequency range of 30 MHz to 1GHz at an Anechoic chamber.</p> <p>The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected readings against the limits. Explanation of the Correction Factor are given as follows:</p> <p>FS= RA + AF + CF - AG</p> <p>Where: FS = Field Strength</p> <p>RA = Receiver Amplitude</p> <p>AF = Antenna Factor</p> <p>CF = Cable Attenuation Factor</p> <p>AG = Amplifier Gain</p>		
TESTED RANGE:	30MHz to 1,000MHz		
TEST VOLTAGE:	120VAC / 60Hz		
RESULTS:	<p>The EUT meets the requirements of test reference for Radiated Emissions on Horizontal polarization by 11.1 dB at 496.94MHz. Vertical polarization by 14.4 dB at 644.42MHz.</p> <p>The test results relate only to the equipment under test provided by client.</p>		
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.		
M. UNCERTAINTY:	Freq. $\pm 2 \times 10^{-7}$ x Center Freq., Amp ± 2.6 dB		

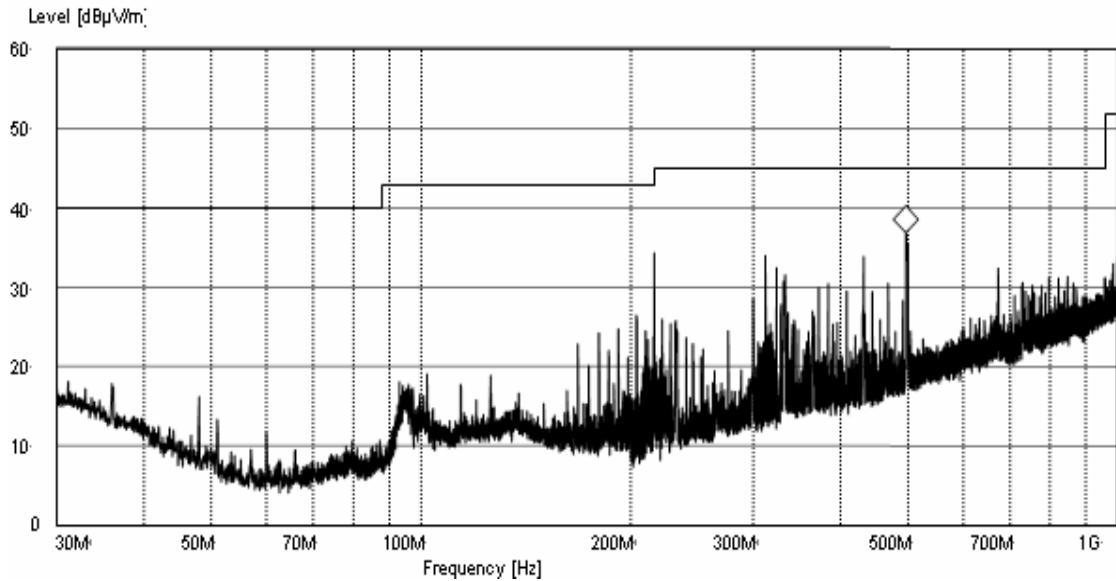
The test plots of Radiated emission:

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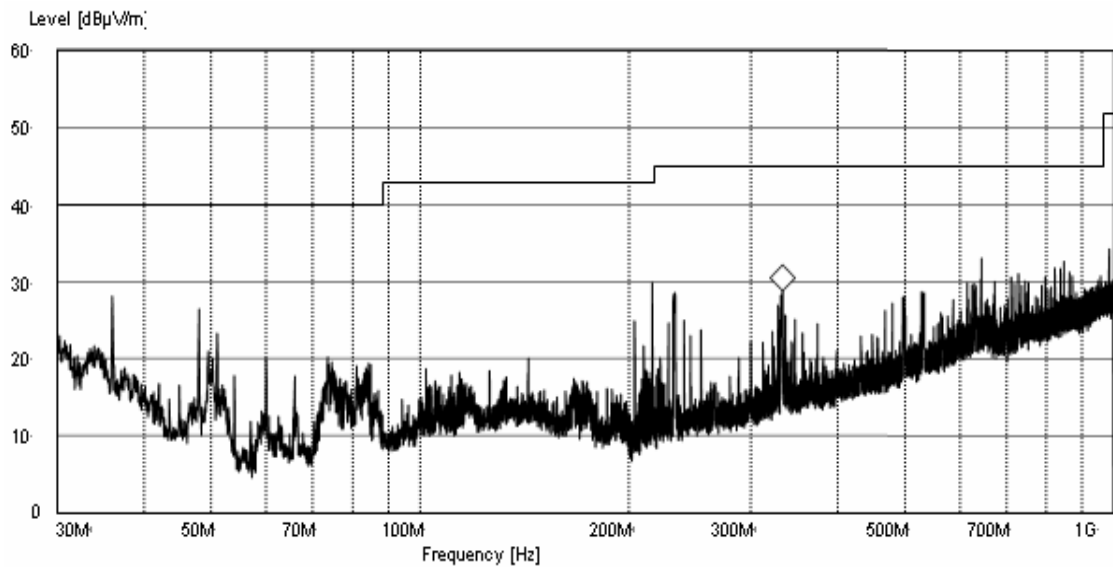
Prepared for Broadxent Pte Ltd.

Prepared by EMC Compliance Management Group

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Radiated Emission Plot-Horizontal



Radiated Emission Plot-Vertical

Data of radiated emission test:

Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dB μ V/m]	Delta, QP [dB]	3 Meters Limits [dB μ V/m]
216.0200	H	29.4	-14.1	43.50
496.9400	H	34.9	-11.1	46.00
312.0800	H	29.4	-16.6	46.00
333.1400	V	27.2	-18.8	46.00
216.0200	V	28.2	-15.3	43.50
644.4200	V	31.6	-14.4	46.00

Comments: None

Note: All readings are quasi-peak unless stated otherwise, using a QPA bandwidth of 120kHz, with a 30 ms sweep time. A video filter was not used.

Test Equipment list :

Test Equipment	Manufacturer/ Model	Serial No.	Last Cal.	Cal. Due
EMI Receiver	RS ESCS30	100188	06/17/05	06/16/06
Antenna	CBL6111A	A9704202	06/08/05	06/07/06

Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).

SIGNED BY: Juan Wan
ENGINEER

REVIEWED BY: [Signature]
QC

Test Set-up Photo of Radiated Emission test:



EUT Model : SW1000