EXPOSURE REPORT

REPORT NO.: SA141108C01

MODEL NO.: AP 100X

FCC ID: 2ACTO-AP100X

RECEIVED: Nov. 08, 2014

TESTED: Nov. 17 ~ Nov. 26, 2014

ISSUED: Dec. 02, 2014

APPLICANT: Sophos Ltd

ADDRESS: The Pentagon,Abingdon,OX14 3YP,United Kingdom

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA141108C01	Original release	Dec. 02, 2014

1. CERTIFICATION

PRODUCT:	Sophos wireless Access Point AP 100X
MODEL NO.:	AP 100X
BRAND:	Sophos
APPLICANT:	Sophos Ltd
TESTED:	Nov. 17 ~ Nov. 26, 2014
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 2 (Section 2.1091)**
	KDB 447498 D03
	IEEE C95.1

The above equipment (model: AP 100X) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Celine Chou **, DATE :** Dec. 02, 2014

Celine Chou / Specialist

APPROVED BY : Ken Liu **, DATE :** Dec. 02, 2014

Ken Liu / Senior Manager

2. RF EXPOSURE

2.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm^2)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

2.2 MPE CALCULATION FORMULA

$Pd = (Pout*G) / (4*pi*r^2)$
where
Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416
R = distance between observation point and center of the radiator in cm

2.3 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 28cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MODULATION MODE	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412-2462	802.11g	28.78	4	28	0.193	1
	802.11n (20MHz)	29.61	8.77	28	0.699	1
	802.11n (40MHz)	29.48	8.77	28	0.678	1
5180-5240	802.11a	14.93	6	28	0.013	1
	802.11n (20MHz)	14.60	10.77	28	0.035	1
	802.11n (40MHz)	14.69	10.77	28	0.036	1
	802.11ac (20MHz)	14.69	10.77	28	0.036	1
	802.11ac (40MHz)	14.57	10.77	28	0.035	1
	802.11ac (80MHz)	14.59	10.77	28	0.035	1
5745-5825	802.11a	25.74	6	28	0.152	1
	802.11n (20MHz)	23.44	10.77	28	0.268	1
	802.11n (40MHz)	22.94	10.77	28	0.238	1
	802.11ac (20MHz)	23.49	10.77	28	0.271	1
	802.11ac (40MHz)	22.93	10.77	28	0.238	1
	802.11ac (80MHz)	18.37	10.77	28	0.083	1

NOTE:

1. 2.4GHz: Directional gain = 4dBi + 10log(3) = 8.77dBi
2. 5GHz: Directional gain = 6dBi + 10log(3) = 10.77dBi.

CONCLUSION:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

2.4GHz + 5GHz = 0.699 + 0.271 = 0.970

Therefore the maximum calculations of above situations are less than the “1” limit.