RF EXPOSURE REPORT

REPORT NO.:	SA120913C10
MODEL NO.:	WBR4200AGN, CR5000
FCC ID:	U2M-WBR4200AGN
RECEIVED:	Sep. 13, 2012
TESTED:	Aug. 22 ~ Oct. 04, 2012
ISSUED:	Oct. 11, 2012

APPLICANT:	Senao Networks, Inc.
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ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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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
SA120913C10	Original release	Oct. 11, 2012

1. CERTIFICATION

PRODUCT:	802.11 abgn Router
MODEL NO.:	WBR4200AGN, CR5000
BRAND:	Senao Networks
APPLICANT:	Senao Networks, Inc.
TESTED:	Aug. 22 ~ Oct. 04, 2012
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 2 (Section 2.1091)**
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (model: WBR4200AGN) 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 : Jemma Yang , DATE : Oct. 11, 2012

Jemma Yang / Specialist

APPROVED BY : Ken Lin , DATE : Oct. 11, 2012

Ken Lin / 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 20cm 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	802.11b	18.04	2.00	20	0.0201	1
	802.11g	24.32	5.01	20	0.1706	1
	802.11n (20MHz)	24.42	5.01	20	0.1743	1
	802.11n (40MHz)	20.61	5.01	20	0.0725	1
5180-5240	802.11a	21.65	5.01	20	0.0922	1
	802.11n (20MHz)	21.14	5.01	20	0.0820	1
	802.11n (40MHz)	21.64	5.01	20	0.0920	1
5745-5825	802.11a	15.56	5.01	20	0.0227	1
	802.11n (20MHz)	13.55	5.01	20	0.0143	1
	802.11n (40MHz)	13.80	5.01	20	0.0151	1

NOTE:

2.4GHz:

802.11g/n: Directional gain = 2dBi + 10log(2) = 5.01dBi

5.0GHz:

802.11a/n: Directional gain = 2dBi + 10log(2) = 5.01dBi

CONCULSION:

Both of the WLAN 2.4G & 5.0G can transmit simultaneously, the formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4G + WLAN 5.0G = 0.1743 + 0.0922 = 0.2665

Therefore, the maximum calculation of this situation is 0.2665, which is less than the "1" limit.