RF EXPOSURE REPORT

REPORT NO.:	SA120618C25
MODEL NO.:	CAP4200AG, CAP4201AG, CAP4202AG
FCC ID:	U2M-CAP4200AG
RECEIVED:	Jun. 18, 2012
TESTED:	Aug. 11 ~ Aug. 17, 2012
	Sep. 05 ~ Oct. 11, 2012
ISSUED:	Oct. 22, 2012

APPLICANT:	Senao Networks, Inc.
ADDRESS:	3F, No. 529, Chung Cheng Rd., Hsintien, Taipei, Taiwan, R.O.C.

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47, 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
SA120618C25	Original release	Oct. 22, 2012

1. CERTIFICATION

PRODUCT:	Wireless 802.11abgn Access Point
MODEL NO.:	CAP4200AG, CAP4201AG, CAP4202AG
BRAND:	Senao Networks
APPLICANT:	Senao Networks, Inc.
TESTED:	Aug. 11 ~ Aug. 17, 2012
	Sep. 05 ~ Oct. 11, 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: CAP4200AG) 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 : Pettie Chen / Senior Specialist , **DATE :** Oct. 22, 2012

APPROVED BY : Ken Liu / Manager , **DATE :** Oct. 22, 2012

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

For Model: CAP4200AG (Embedded antenna)

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	20.80	3	20	0.048	1
	802.11g	26.69	3	20	0.185	1
	802.11n (20MHz)	26.65	3	20	0.184	1
	802.11n (40MHz)	26.66	3	20	0.184	1
5180-5240	802.11a	13.72	4	20	0.012	1
	802.11n (20MHz)	14.60	4	20	0.014	1
	802.11n (40MHz)	16.68	4	20	0.023	1
5745-5825	802.11a	27.35	4	20	0.271	1
	802.11n (20MHz)	26.98	4	20	0.249	1
	802.11n (40MHz)	26.83	4	20	0.241	1

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

1. WLAN 2.4G + WLAN 5.0G = 0.185 + 0.271 = 0.456

Therefore, the maximum calculation of this situation is 0.456, which is less than the “1” limit.

For Model: CAP4201AG (Dipole antenna)

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	21.41	3	20	0.055	1
	802.11g	25.77	3	20	0.150	1
	802.11n (20MHz)	27.48	3	20	0.222	1
	802.11n (40MHz)	24.61	3	20	0.115	1
5180-5240	802.11a	13.83	3	20	0.010	1
	802.11n (20MHz)	14.28	3	20	0.011	1
	802.11n (40MHz)	14.24	3	20	0.011	1
5745-5825	802.11a	26.44	3	20	0.175	1
	802.11n (20MHz)	26.33	3	20	0.171	1
	802.11n (40MHz)	25.92	3	20	0.155	1

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

1. WLAN 2.4G + WLAN 5.0G = 0.222 + 0.175 = 0.397

Therefore, the maximum calculation of this situation is 0.397, which is less than the “1” limit.