RF EXPOSURE REPORT

REPORT NO.: SA120517E03

MODEL NO.: WS-AP3705i

FCC ID: QXO-WSAP3705I

RECEIVED: May 17, 2012

TESTED: June 16 to 21, 2012

ISSUED: July 04, 2012

APPLICANT: Enterasys Networks, Inc.

ADDRESS: 50 Minuterman Road Andover, MA 01810

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

LAB ADDRESS: No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA120517E03	Original release	July 04, 2012

1. CERTIFICATION

PRODUCT:	Wireless Access Point
BRAND NAME:	Enterasys Networks
MODEL NO.:	WS-AP3705i
TEST SAMPLE:	MASS-PRODUCTION
APPLICANT:	Enterasys Networks, Inc.
TESTED DATE:	June 16 to 21, 2012
STANDARDS:	FCC Part 2 (Section 2.1091)
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (Model: WS-AP3705i) 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 : Phoenix Huang , **DATE:** July 04, 2012
(Phoenix Huang, Specialist)

APPROVED BY : , **DATE:** July 04, 2012
(May Chen, Deputy Manager)

2. RF EXPOSURE LIMIT

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

3. 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

4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 22cm away from the body of the user. So, this device is classified as **Mobile Device**.

5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

For 2.4GHz					
Transmitter Circuit	Manufacture	Model name	Antenna Gain Gain (dBi)	Antenna Type	Connector
Chain (0)	WHA YU GROUP	C037-511135-A (SSR-13314)	3.97	PIFA	I-PEX
Chain (1)	WHA YU GROUP	C037-511135-A (SSR-13314)	3.91	PIFA	I-PEX
For 5GHz					
Transmitter Circuit	Manufacture	Model name	Antenna Gain Gain (dBi)	Antenna Type	Connector
Chain (0)	WHA YU GROUP	C037-511135-A (SSR-13314)	5G Band1: 3.74 5G Band2: 3.92 5G Band3: 3.95 5G Band4: 3.87	PIFA	I-PEX
Chain (1)	WHA YU GROUP	C037-511135-A (SSR-13314)	5G Band1: 3.87 5G Band2: 3.84 5G Band3: 3.72 5G Band4: 3.98	PIFA	I-PEX

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For 15.247(2.4GHz):

802.11b:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	368.764	6.95	22	0.30039	1

Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2]
Effective Legacy Gain (dBi) = 6.95

802.11g:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	626.252	6.95	22	0.51014	1

Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2]
Effective Legacy Gain (dBi) = 6.95

802.11n(20MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	611.997	3.97	22	0.25101	1

802.11n(40MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2422-2452	300.855	3.97	22	0.12340	1

For 15.247(5GHz):

802.11a:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	499.576	6.94	22	0.40602	1

Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$)^2 / 2]
Effective Legacy Gain (dBi) = 6.94

802.11n(20MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	538.306	3.98	22	0.22130	1

802.11n(40MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5755 ~ 5795	496.923	3.98	22	0.20428	1

For 15.407(5GHz):

802.11a:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5180 ~ 5240	30.086	6.82	22	0.02379	1

Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$)^2 / 2]
Effective Legacy Gain (dBi) = 6.82

802.11n(20MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5180 ~ 5240	29.942	3.87	22	0.01200	1

802.11n(40MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5190 ~ 5230	44.289	3.87	22	0.01775	1

CONCLUSION:

Both of the 2.4GHz and 5GHz WLAN can transmit simultaneously, the formula of calculated the MPE is:

$CPD_1 / LPD_1 + CPD_2 / LPD_2$ + ……etc. < 1
CPD = Calculation power density
LPD = Limit of power density

Therefore, the worst-case situation is 0.51014 / 1 + 0.40602 / 1 = 0.91616, which is less than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

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