RF EXPOSURE REPORT

REPORT NO.:	SA130226C01A
MODEL NO.:	Cisco 860VAE-W
	(Refer to item 2.1 for more details)
FCC ID:	MXF-CISCO867VAE
RECEIVED:	Nov. 08, 2012
TESTED:	Nov. 08 ~ Dec. 07, 2012
ISSUED:	Mar. 04, 2013

APPLICANT:	Gemtek Technology Co., Ltd.
ADDRESS:	No.15-1, Zhonghua Rd, Hsinchu Industrial Park, Hsinchu County, Taiwan, R.O.C. 303

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
SA130226C01A	Original release	Mar. 04, 2013

1. CERTIFICATION

PRODUCT:	XDSL Router
MODEL NO.:	Cisco 860VAE-W (Refer to item 2.1 for more details)
BRAND:	Cisco
APPLICANT:	Gemtek Technology Co., Ltd.
TESTED:	Nov. 08 ~ Dec. 07, 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: Cisco867VAE-POE-W-A-K9) 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 :** Mar. 04, 2013

APPROVED BY : Ken Liu / Senior Manager **DATE :** Mar. 04, 2013

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

EUT	XDSL Router
MODEL NO.	Cisco 860VAE-W (Refer to NOTE for more details)
POWER SUPPLY	12Vdc (Adapter)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 270.0Mbps
OPERATING FREQUENCY	2412 ~ 2462MHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz)
OUTPUT POWER	383.765mW
ANTENNA TYPE	Antenna 1: PCBA antenna with 3.03dBi gain Antenna 2: PCBA antenna with 2.94dBi gain
ANTENNA CONNECTOR	I-PEX
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Adapter

NOTE:

1. The following models are provided to this EUT.

MODEL NO.	DESCRIPTION	
Cisco 860VAE-W	For marketing purpose	
Cisco867VAE-W-A-K9	SKU2	LAN: 2GE + 3FE WAN: 1GiE ADSL2+VDSL2: Over POTS DSL: Annex A
Cisco867VAE-POE-W-A-K9	SKU4	LAN: 2GE + 3FE WAN: 1GiE ADSL2+VDSL2: Over POTS DSL: Annex A Note: With 1 port PoE

2. The EUT provides two completed transmitters and two receivers.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11n (20MHz)	1TX / 2TX
802.11n (40MHz)	2TX

3. The EUT consumes power from the following adapters.

ADAPTER 1 (FOR MODEL: Cisco867VAE-W-A-K9)	
BRAND:	DELTA Electronics, INC.
MODEL:	EADP-30HB B
INPUT:	100-240Vac, 1A, 50-60Hz
OUTPUT:	12Vdc, 2.5A(2,5V)
POWER LINE:	DC 1.8m non-shielded cable with one core AC 1.2m non-shielded cable without core

ADAPTER 2 (FOR MODEL: Cisco867VAE-POE-W-A-K9)	
BRAND:	DELTA Electronics, INC.
MODEL:	EADP-60MB B
INPUT:	100-240Vac, 1.5A, 50-60Hz
OUTPUT:	12Vdc, 5A
POWER LINE:	DC 1.8m non-shielded cable without core AC 1.2m non-shielded cable without core

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3. RF EXPOSURE

3.1 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

3.2 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

3.3 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**.

3.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412-2462	25.84	6	20	0.304	1

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / N_{ANT}] = 6.00dBi$