RF EXPOSURE REPORT

REPORT NO.: SA130511C01B

MODEL NO.: EMG2926-Q10A

FCC ID: I88EMG2926Q10A

RECEIVED: May 09, 2013

TESTED: May 23, 2013 ~ Jun. 21, 2013

ISSUED: Feb. 14, 2014

APPLICANT: ZyXEL Communications Corporation

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA130511C01B	Original release	Feb. 14, 2014

1. CERTIFICATION

PRODUCT:	Dual-Band Wirless AC/N Gigabit Ethernet Gateway
MODEL NO.:	EMG2926-Q10A
BRAND:	ZyXEL
APPLICANT:	ZyXEL Communications Corporation
TESTED:	May 23, 2013 ~ Jun. 21, 2013
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: EMG2926-Q10A) 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 : _____ **, DATE :** Feb. 14, 2014

Ivy Lin / Specialist

APPROVED BY : _____ **, DATE :** Feb. 14, 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 23cm 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)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412-2462	29.19	6.77	23	0.593	1
5180-5240	16.93	6.77	23	0.035	1
5745-5825	27.00	6.77	23	0.358	1

NOTE: Directional gain = 2dBi + 10log(3) = 6.77dBi

CONCULSION:

Both of the WLAN 2.4G & WLAN 5G 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 = 0.593 + 0.358 = 0.951

Therefore, the maximum calculation of this situation is 0.951, which is less than the “1” limit.

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