RF Exposure Report

Report No.:	SA170110C39
FCC ID:	I88WAP7205
Model:	WAP7205
Series Model:	WAP6606
Received Date:	Jan. 10, 2017
Test Date:	Jan. 13 ~ Feb. 15, 2017
Issued Date:	Feb. 24, 2017
Applicant:	Zyxel Communications Corporation
Address:	No. 2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 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 Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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Release Control Record

Issue No.	Description	Date Issued
SA170110C39	Original release	Feb. 24, 2017

1 Certificate of Conformity

Product:	AC1300 Gigabit Ethernet MoCA Extender
Brand:	ZYXEL
Model:	WAP7205
Series Model:	WAP6606
Sample Status:	Engineering sample
Applicant:	Zyxel Communications Corporation
Test Date:	Jan. 13 ~ Feb. 15, 2017
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D03 (January 17, 2014) IEEE C95.1

The above equipment 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. 24, 2017

Pettie Chen / Senior Specialist

Approved by : _____ , **Date:** Feb. 24, 2017

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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 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)
WLAN 2.4GHz: CDD mode					
2412-2462	25.19	5.11	20	0.213	1
WLAN 2.4GHz: Beamforming mode					
2412-2462	25.07	5.11	20	0.207	1
WLAN 5GHz: CDD mode					
5180-5240	24.92	6.21	20	0.258	1
5745-5825	25.78	6.21	20	0.315	1
WLAN 5GHz: Beamforming mode					
5180-5240	24.91	6.21	20	0.257	1
5745-5825	25.78	6.21	20	0.315	1

Note:
2.4GHz Band: Directional gain = 2.1dBi + 10log(2) = 5.11dBi
5GHz Band: Directional gain = 3.2dBi + 10log(2) = 6.21dBi

Conclusion:

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

WALN 2.4GHz + WALN 5GHz = 0.213 + 0.315 = 0.528

Therefore the maximum calculations of above situations are less than the “1” limit.

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