

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

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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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.

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Date:

Feb. 24, 2017

Approved by :


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Date:

Feb. 24, 2017

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

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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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