

## RF Exposure Report

**Report No.:** SABDYS-WTW-P20090115

**FCC ID:** Q6G-AP130

**Test Model:** AP130

**Received Date:** Sep. 02, 2020

**Test Date:** Sep. 02 ~ Sep. 13, 2020

**Issued Date:** Oct. 19, 2020

**Applicant:** WatchGuard Technologies, Inc.

**Address:** 505 Fifth Avenue South, Suite 500 Seattle WA United States 98104

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, TAIWAN

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
SABDYS-WTW-P20090115	Original release	Oct. 19, 2020

## 1 Certificate of Conformity

**Product:** Wireless Access Point

**Brand:** WatchGuard

**Test Model:** AP130

**Sample Status:** Engineering sample

**Applicant:** WatchGuard Technologies, Inc.

**Test Date:** Sep. 02 ~ Sep. 13, 2020

**Standards:** FCC Part 2 (Section 2.1091)  
IEEE C95.3 -2002

**References Test Guidance:** KDB 447498 D01 General RF Exposure Guidance v06

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 RF characteristics under the conditions specified in this report.

**Prepared by :** Celine Chou , **Date:** Oct. 19, 2020  
Celine Chou / Senior Specialist

**Approved by :** Bruce Chen , **Date:** Oct. 19, 2020  
Bruce Chen / Senior Project Engineer

## 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 <sup>2</sup> )	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

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

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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 AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
CDD Mode					
2412-2462	24.30	6.44	20	0.236	1
5180-5240	25.19	7.23	20	0.347	1
5260-5320	23.88	7.23	20	0.257	1
5500-5700	23.71	7.70	20	0.275	1
5745-5825	24.54	7.28	20	0.303	1
Beamforming Mode					
2412-2462	19.92	6.44	20	0.086	1
5180-5240	22.18	7.23	20	0.174	1
5260-5320	20.87	7.23	20	0.128	1
5500-5700	20.70	7.70	20	0.138	1
5745-5825	21.53	7.28	20	0.151	1

**Note:**

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

2412-2462MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.44\text{dBi}$ .

5180-5240MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 7.23\text{dBi}$ .

5260-5320MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 7.23\text{dBi}$ .

5500-5700MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 7.70\text{dBi}$ .

5745-5825MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 7.28\text{dBi}$ .

**Conclusion:**

Both of the WLAN 2.4G & WLAN 5G can transmit simultaneously, the formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$2.4G + 5G = 0.236 / 1 + 0.347 / 1 = 0.583$$

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

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