

## RF Exposure Report

**Report No.:** SABDYS-WTW-P20100843

**FCC ID:** Q6G-AP330

**Test Model:** AP330

**Received Date:** Nov. 01, 2020

**Test Date:** Nov. 12 ~ Apr. 01, 2021

**Issued Date:** Apr. 08, 2021

**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-P20100843	Original release	Apr. 08, 2021

## 1 Certificate of Conformity

**Product:** Wireless Access Point

**Brand:** WatchGuard

**Test Model:** AP330

**Sample Status:** Engineering sample

**Applicant:** WatchGuard Technologies, Inc.

**Test Date:** Nov. 12 ~ Apr. 01, 2021

**Standards:** FCC Part 2 (Section 2.1091)

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

**Guidance:** IEEE C95.3 -2002

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 :**  , **Date:** Apr. 08, 2021  
Polly Chien / Specialist

**Approved by :**  , **Date:** Apr. 08, 2021  
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

$$Pd = (Pout * G) / (4 * pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

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 21 cm 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 Average Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
<b>WLAN</b>					
2G traffic radio (Radio 1): CDD Mode					
2412-2462	24.59	6.68	21	0.242	1
5G traffic radio (Radio 2): CDD Mode					
5180-5240	24.24	7.94	21	0.298	1
5745-5825	23.14	7.97	21	0.233	1
2G traffic radio (Radio 1): Beamforming Mode					
2412-2462	21.27	6.68	21	0.113	1
5G traffic radio (Radio 2): Beamforming Mode					
5180-5240	20.19	7.94	21	0.117	1
5745-5825	20.13	7.97	21	0.117	1
Scanning radio (Radio 3): CDD Mode					
2412-2462	23.91	7.84	21	0.270	1
5180-5240	23.29	8.68	21	0.284	1
5745-5825	23.91	9.16	21	0.366	1
<b>BT LE</b>					
2402-2480	4.28	2.41	21	0.001	1
<b>Zigbee</b>					
2405-2480	4.38	2.41	21	0.001	1

**Note:**

1. Directional gain:

2G traffic radio: Directional gain = 3.67dBi + 10log(2) = 6.68dBi

5G traffic radio: 5180-5240MHz: Directional gain = 4.93dBi + 10log(2) = 7.94dBi

5G traffic radio: 5745-5825MHz: Directional gain = 4.96dBi + 10log(2) = 7.97dBi

2G Scanning radio: Directional gain = 4.83dBi + 10log(2) = 7.84dBi

5G Scanning radio: 5180-5240MHz: Directional gain = 5.67dBi + 10log(2) = 8.68dBi

5G Scanning radio: 5745-5825MHz: Directional gain = 6.15dBi + 10log(2) = 9.16dBi

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.

3. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

4. 2G traffic radio, 5G traffic radio, Scanning radio (5G) and BT LE technologies can transmit at same time.

\*2G traffic radio, 5G traffic radio, Scanning radio (5G) and Zigbee technologies can transmit at same time.

\*5GHz traffic radio and Scanning radio (5G) cannot transmit in the same band at same time.

\* BT LE and Zigbee cannot transmit in the same band at same time.

**Conclusion:**

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

1. 2G traffic radio + 5GHz traffic radio + Scanning radio (5G) + BT  
 $= 0.242 / 1 + 0.298 / 1 + 0.366 / 1 + 0.001 / 1 = 0.907 < 1$

2. 2G traffic radio + 5GHz traffic radio + Scanning radio (5G) + Zigbee  
 $= 0.242 / 1 + 0.298 / 1 + 0.366 / 1 + 0.001 / 1 = 0.907 < 1$

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

**---END---**