

## RF Exposure Report

**Report No.:** MFBDYS-WTW-P22050651

**FCC ID:** Q6G-AP332CR

**Test Model:** AP332CR

**Received Date:** May 20, 2022

**Issued Date:** Sep. 02, 2022

**Applicant:** WatchGuard Technologies, Inc.

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

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

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



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### Release Control Record

Issue No.	Description	Date Issued
MFBDYS-WTW-P22050651	Original release	Sep. 02, 2022

## 1 Certificate of Conformity

**Product:** Wireless Access Point

**Brand:** WatchGuard

**Test Model:** AP332CR

**Sample Status:** Engineering sample

**Applicant:** WatchGuard Technologies, Inc.

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

**Standards:** 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 :** Pettie Chen, **Date:** Sep. 02, 2022  
Pettie Chen / Senior Specialist

**Approved by :** Jeremy Lin, **Date:** Sep. 02, 2022  
Jeremy Lin / 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				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

f = Frequency in MHz; \*Plane-wave equivalent power density

### 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 21cm 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> )
WLAN, CDD Mode					
2412-2462	25.73	5.17	21	0.222	1.00
5180-5240	16.51	5.12	21	0.026	1.00
5260-5320	23.70	5.12	21	0.138	1.00
5500-5720	23.70	5.17	21	0.139	1.00
5745-5825	26.79	5.17	21	0.283	1.00
WLAN, Beamforming Mode					
2412-2462	25.29	8.18	21	0.401	1.00
5180-5240	13.41	8.13	21	0.026	1.00
5260-5320	21.69	8.13	21	0.173	1.00
5500-5720	21.68	8.18	21	0.175	1.00
5745-5825	26.78	8.18	21	0.565	1.00

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2.4GHz: Directional gain = 5.17dBi + 10log(2) = 8.18dBi

5180-5240MHz, 5260-5320MHz: Directional gain = 5.12dBi + 10log(2) = 8.13dBi

5500-5720MHz, 5745-5825MHz: Directional gain = 5.17dBi + 10log(2) = 8.18dBi

#### Conclusion:

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

$2.4G + 5G = 0.401 / 1 + 0.565 / 1 = 0.966$

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

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