# RF Exposure Report

**Report No.:** SA180613C24B

**FCC ID:** PY317300397

**Model:** Leopard

**Received Date:** Jun. 13, 2018

**Test Date:** Jun. 07 ~ Oct. 18, 2018

**Issued Date:** Oct. 24, 2018

**Applicant:** NETGEAR, INC.

**Address:** 350 East Plumeria Drive San Jose, CA 95134

**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.)

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

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**Release Control Record**

| Issue No. | Description | Date Issued |
|-----------|-------------|-------------|
| SA180613C24B | Original release. | Oct. 24, 2018 |

## 1   Certificate of Conformity

**Product:**   Leopard

**Brand:**   NETGEAR

**Model:**   Leopard

**Sample Status:**   Engineering sample

**Applicant:**   NETGEAR, INC.

**Test Date:**   Jun. 07 ~ Oct. 18, 2018

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

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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:** _____ Oct. 24, 2018 _____

Suntee Liu / Specialist

**Approved by :** _____ , **Date:** _____ Oct. 24, 2018 _____

Bruce Chen / 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$^2$) | 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 22cm 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) | Mode | Max Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm²) | Limit (mW/cm²) |
|---|---|---|---|---|---|---|
| WLAN 2412~2462 | CDD 4TX | 29.98 | 3.29 | 22 | 0.349 | 1 |
| WLAN 5180~5240 | CDD 8TX | 29.46 | 3.22 | 22 | 0.305 | 1 |
| | Beamforming_NSS1 8TX | 24.31 | 11.37 | 22 | 0.608 | 1 |
| | Beamforming_NSS2 8TX | 26.87 | 8.76 | 22 | 0.601 | 1 |
| | CDD 4TX | 24.08 | 3.22 | 22 | 0.088 | 1 |
| WLAN 5260~5320 | CDD 8TX | 23.72 | 3.25 | 22 | 0.082 | 1 |
| | Beamforming_NSS1 8TX | 18.18 | 11.72 | 22 | 0.161 | 1 |
| | Beamforming_NSS2 8TX | 21.12 | 8.81 | 22 | 0.162 | 1 |
| | CDD 4TX | 23.50 | 3.25 | 22 | 0.078 | 1 |
| WLAN 5500~5700 | CDD 8TX | 23.65 | 3.32 | 22 | 0.082 | 1 |
| | Beamforming_NSS1 8TX | 18.54 | 11.38 | 22 | 0.161 | 1 |
| | Beamforming_NSS2 8TX | 21.38 | 8.40 | 22 | 0.156 | 1 |
| | CDD 4TX | 23.46 | 3.32 | 22 | 0.078 | 1 |
| WLAN 5745~5825 | CDD | 29.98 | 3.10 | 22 | 0.334 | 1 |
| | Beamforming_NSS1 8TX | 24.33 | 11.55 | 22 | 0.637 | 1 |
| | Beamforming_NSS2 8TX | 27.34 | 8.32 | 22 | 0.605 | 1 |
| | CDD 4TX | 24.06 | 3.10 | 22 | 0.085 | 1 |

Note:

CDD Mode 8TX
2412~2462MHz Directional Gain = 3.29dBi
5180~5240MHz Directional Gain = 3.22dBi
5260~5320MHz Directional Gain = 3.25dBi
5500~5700MHz Directional Gain = 3.32dBi
5745~5825MHz Directional Gain = 3.10dBi

Beamforming_NSS1 Mode 8TX
5180~5240MHz Directional Gain = 11.37dBi
5260~5320MHz Directional Gain = 11.72dBi
5500~5700MHz Directional Gain = 11.38dBi
5745~5825MHz Directional Gain = 11.55dBi

Beamforming_NSS2 Mode 8TX
5180~5240MHz Directional Gain = 8.76dBi
5260~5320MHz Directional Gain = 8.81dBi
5500~5700MHz Directional Gain = 8.40dBi
5745~5825MHz Directional Gain = 8.32dBi

CDD Mode 4TX
5180~5240MHz Directional Gain = 3.22dBi
5260~5320MHz Directional Gain = 3.25dBi
5500~5700MHz Directional Gain = 3.32dBi
5745~5825MHz Directional Gain = 3.10dBi

Conclusion:
The formula of calculated the MPE is:
CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1
CPD = Calculation power density
LPD = Limit of power density

Worst case: WLAN 2.4GHz + WLAN 5GHz band 4 (8TX) = 0.349 + 0.637 = 0.986 < 1
Worst case: WLAN 2.4GHz + WLAN 5GHz band 1 (4TX) + WLAN 5GHz band 4 (4TX) = 0.349 + 0.088 + 0.085 = 0.522 < 1

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