

RF Exposure Report

Report No.: MFBBQZ-WTW-P24030292

FCC ID: PY324100618

Test Model: MR7400

Received Date: 2024/3/18

Date of Evaluation: 2024/4/22 ~ 2024/4/25

Issued Date: 2024/7/1

Applicant and Manufacturer: NETGEAR, INC.

Address: 350 East Plumeria Drive San Jose CA 95134

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



This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Table of Contents

Release Control Record	3
1 Certificate of Conformity	4
2 RF Exposure	5
2.1 Limits for Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
3 Calculation Result of Maximum Conducted Power	6

Release Control Record

Issue No.	Description	Date Issued
MFBBQZ-WTW-P24030292	Original Release	2024/7/1

1 Certificate of Conformity

Product: Nighthawk 5G Mobile Router

Brand: NETGEAR

Test Model: MR7400

Sample Status: Engineering sample

Applicant and Manufacturer: NETGEAR, INC.

Date of Evaluation: 2024/4/22 ~ 2024/4/25

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:** 2024/7/1
Pettie Chen / Senior Specialist

Approved by : Jeremy Lin , **Date:** 2024/7/1
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 ²)	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 ²)*	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

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

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 AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WLAN					
2412-2462	13	1.17	20	0.005	1
5180-5240	13	2.52	20	0.007	1
5260-5320	13	2.52	20	0.007	1
5500-5720	13	1.55	20	0.006	1
5745-5825	13	1.89	20	0.006	1
5815-5885	13	1.89	20	0.009	1
5955-6415	13	2.98	20	0.008	1
6425-6525	13	2.98	20	0.008	1
6535-6865	13	3.48	20	0.009	1
6875-7115	13	3.85	20	0.010	1

Function	Frequency Band (MHz)	Max AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
LTE Band 2	1850.7-1909.3	24	3.25	27.25	20	0.106	1
LTE Band 4	1710.7-1754.3	22.5	3.09	25.59	20	0.072	1
LTE Band 5	824.7-848.3	24	-0.58	23.42	20	0.044	0.550
LTE Band 7	2502.5-2567.5	22	3.8	25.8	20	0.076	1
LTE Band 12	699.7-715.3	24	0.47	24.47	20	0.056	0.466
LTE Band 14	790.5-795.5	24	0.88	24.88	20	0.061	0.527
LTE Band 30	2307.5-2312.5	22	3.01	25.01	20	0.063	1
LTE Band 40	2307.5-2312.5	20.5	3.01	23.51	20	0.045	1
LTE Band 40	2352.5-2357.5	20.5	3.01	23.51	20	0.045	1
LTE Band 48	3552.5-3697.5	22	2.31	24.31	20	0.054	1
LTE Band 66	1710.7-1779.3	24	3.09	27.09	20	0.102	1

Function	Frequency Band (MHz)	Max AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
NR n2	1852.5-1907.5	24	3.25	27.25	20	0.106	1
NR n5	826.5-846.5	24	-0.58	23.42	20	0.044	0.551
NR n12	701.5-707.5	24	0.47	24.47	20	0.056	0.468
NR n14	790.5-795.5	24	0.88	24.88	20	0.061	0.527
NR n30	2307.5-2312.5	21.5	3.01	24.51	20	0.056	1
NR n48 (MIMO)	3555-3694.98	22.5	2.31	24.81	20	0.060	1
NR n66	1712.5-1777.5	24	3.09	27.09	20	0.102	1
NR n77 (MIMO)	3455.01-3544.98	22.5	3.22	25.72	20	0.074	1
NR n77 (MIMO)	3705-3975	22.5	3.22	25.72	20	0.074	1
NR n78 (MIMO)	3455.01-3544.98	22.5	3.22	25.72	20	0.074	1
CA 66B	1715-1775	24	3.09	27.09	20	0.102	1
CA 66C	1720-1770	24	3.09	27.09	20	0.102	1

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. EIRP = ERP + 2.15dB
3. Detail antenna specification please refer to antenna datasheet or an antenna gain measurement report.
4. The max. power is the declared max. tune up power.
5. Select the maximum gain from WWAN internal and external antennas for MPE evaluation

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

$$WLAN 2.4G + WLAN 5G + WLAN 6G + WWAN = 0.005 / 1 + 0.007 / 1 + 0.010 / 1 + 0.056/0.466 = 0.142$$

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

---END---