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

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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

$Pd = (Pout*G) / (4*pi*r^2)$
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 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 + ……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.

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