

RF Exposure Report

Report No.: SABDQY-WTW-P21070082

FCC ID: YOR-RT6600AX

Test Model: RT6600ax

Received Date: Jul. 01, 2021

Test Date: Oct. 19 ~ Nov. 22, 2021

Issued Date: Dec. 17, 2021

Applicant: Synology Incorporated

Address: 9F., No. 1, Yuandong Rd., Banqiao Dist., New Taipei City 220632

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 (1): No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City
33383, TAIWAN

FCC Registration / 788550 / TW0003

Designation Number:

Test Location (2): No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

FCC Registration / 281270 / TW0032

Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
SABDQY-WTW-P21070082	Original release	Dec. 17, 2021

1 Certificate of Conformity

Product: 802.11ax Wireless Router

Brand: Synology

Test Model: RT6600ax

Sample Status: Engineering sample

Applicant: Synology Incorporated

Test Date: Oct. 19 ~ Nov. 22, 2021

Standards: FCC Part 2 (Section 2.1091)

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

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 : Celine Chou, **Date:** Dec. 17, 2021
Celine Chou / Senior Specialist

Approved by : Jeremy Lin, **Date:** Dec. 17, 2021
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				
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/cm²

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 ²)	Limit (mW/cm ²)
CDD Mode					
2412-2462	29.36	2.00	21	0.247	1.00
5180-5240	29.97	3.00	21	0.358	1.00
5745-5825	29.75	3.00	21	0.340	1.00
Beamforming Mode					
2412-2462	25.30	5.01	21	0.194	1.00
5180-5240	25.65	6.01	21	0.264	1.00
5745-5825	23.73	9.02	21	0.340	1.00

Note:

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

2412-2462MHz: Directional gain = 2dB_i + 10log(2) = 5.01dB_i

5180-5240MHz: Directional gain = 3dB_i + 10log(2) = 6.01dB_i

5260-5320MHz: Directional gain = 3dB_i + 10log(2) = 6.01dB_i

5500-5720MHz: Directional gain = 3dB_i + 10log(4) = 9.02dB_i

5745-5825MHz: Directional gain = 3dB_i + 10log(4) = 9.02dB_i

5845-5885MHz: Directional gain = 3.3dB_i + 10log(4) = 9.32dB_i.

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1

CPD = Calculation power density

LPD = Limit of power density

2412-2462MHz Band + 5180-5240MHz or 5260-5320MHz Band + 5500-5720MHz or 5745-5825MHz or

5845-5885MHz Band = 0.247 / 1 + 0.358 / 1 + 0.340 / 1 = 0.945 < 1

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