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 / Designation Number:	788550 / TW0003
Test Location (2):	No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
FCC Registration / Designation Number:	281270 / TW0032

Table of Contents

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 Guidance:	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 : 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/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 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 = 2dBi + 10log(2) = 5.01dBi
5180-5240MHz: Directional gain = 3dBi + 10log(2) = 6.01dBi
5260-5320MHz: Directional gain = 3dBi + 10log(2) = 6.01dBi
5500-5720MHz: Directional gain = 3dBi + 10log(4) = 9.02dBi
5745-5825MHz: Directional gain = 3dBi + 10log(4) = 9.02dBi
5845-5885MHz: Directional gain = 3.3dBi + 10log(4) = 9.32dBi.

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

---END---