RF Exposure Report

Report No.: SABDQY-WTW-P21030412B

FCC ID: 2ACTO-APX120

Test Model: APX 120

Received Date: Apr. 22, 2022

Issued Date: Oct. 05, 2022

Applicant: Sophos Ltd

Address: The Pentagon, Abingdon Science Park, Abingdon, OX14 3YP, United Kingdom

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

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Release Control Record

Issue No.	Description	Date Issued
SABDQY-WTW-P21030412B	Original release	Oct. 05, 2022

1   Certificate of Conformity

Product: Sophos Access Point

Brand: Sophos

Test Model: APX 120

Sample Status: Engineering sample

Applicant: Sophos Ltd

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:** _Oct. 05, 2022_
Celine Chou / Senior Specialist

Approved by : _Jeremy . Lin_ , **Date:** _Oct. 05, 2022_
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 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 Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm²)	Limit (mW/cm²)
CDD Mode					
2412-2462	25.18	3.70	20	0.154	1.00
5180-5240	25.01	4.20	20	0.166	1.00
5260-5320	23.91	4.20	20	0.129	1.00
5500-5700	23.74	4.20	20	0.124	1.00
5745-5825	23.57	4.20	20	0.119	1.00
Beamforming Mode					
2412-2462	25.15	6.71	20	0.305	1.00
5180-5240	25.01	6.92	20	0.310	1.00
5260-5320	22.69	6.92	20	0.182	1.00
5500-5700	22.74	6.92	20	0.184	1.00
5745-5825	23.57	6.92	20	0.223	1.00

Note:

1. The Max Power = Max tune up power.

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

3. Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2.4GHz: Directional gain = 3.70dBi + 10log(2) = 6.71dBi.

5GHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2]$ = 6.92dBi.

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

2.4G + 5G = 0.305 + 0.310 = 0.615

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

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