

## RF Exposure Report

**Report No.:** SA181219C02C

**FCC ID:** Q5A-SMAC3

**Regulatory Model:** SMAC3

**Marketing Model:** API-18-5G-AC2x2-W2, APX-EX-5G-AC2x2-W2, SUI-23-5G-AC2x2-W2, SUI-18-5G-AC2x2-W2 (refer to item 3.1 for more details)

**Received Date:** Jun. 12, 2019

**Test Date:** Jun. 22 ~ Jun. 28, 2019

**Issued Date:** Jul. 10, 2019

**Applicant:** Sify Technologies Limited

**Address:** II floor, TIDEL Park, 4, Rajiv Gandhi Salai, Tharamani

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)



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The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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### Release Control Record

Issue No.	Description	Date Issued
SA181219C02C	Original release.	Jul. 10, 2019

## 1 Certificate of Conformity

**Product:** Outdoor Wireless Radios

**Brand:** Sify

**Regulatory model:** SMAC3

**Marketing Model:** API-18-5G-AC2x2-W2, APX-EX-5G-AC2x2-W2, SUI-23-5G-AC2x2-W2,  
SUI-18-5G-AC2x2-W2

**Sample Status:** Engineering sample

**Applicant:** Sify Technologies Limited

**Test Date:** Jun. 22 ~ Jun. 28, 2019

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1

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:** Jul. 10, 2019

Pettie Chen / Senior Specialist

**Approved by :** Bruce Chen, **Date:** Jul. 10, 2019

Bruce Chen / 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 <sup>2</sup> )	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 <sup>2</sup> )*	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<sup>2</sup>

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 165cm 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/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	22.80	6	165	0.002	1
EUT with Sector antenna					
5180-5240	17.44	21.01	165	0.020	1
5745-5825	17.72	21.01	165	0.022	1
EUT with Omni antenna					
5180-5240	24.62	13.01	165	0.017	1
5745-5825	25.74	13.01	165	0.022	1
EUT with Panel antenna					
5180-5240	15.06	26.01	165	0.037	1
5745-5825	28.81	26.01	165	0.887	1

Note:

5GHz Band:

EUT with Sector antenna: Directional gain =  $G_{ANT\ MAX} + 10 \log(N_{ANT}) = 18\text{dBi} + 10\log(2) = 21.01\text{dBi}$

EUT with Omni antenna: Directional gain =  $G_{ANT\ MAX} + 10 \log(N_{ANT}) = 10\text{dBi} + 10\log(2) = 13.01\text{dBi}$

EUT with Panel antenna: Directional gain =  $G_{ANT\ MAX} + 10 \log(N_{ANT}) = 23\text{dBi} + 10\log(2) = 26.01\text{dBi}$

#### Conclusion:

2.4GHz & 5GHz can transmit at same time.

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz =  $0.002/1 + 0.887/1 = 0.889$

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

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