

RF Exposure Report

Report No.: SA180918C26

FCC ID: 2AAWQ-CAPRICA5

Test Model: Caprica5

Received Date: Sep. 18, 2018

Date of Evaluation: Oct. 03, 2019

Issued Date: Oct. 18, 2019

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FCC Registration /
Designation Number: 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
SA180918C26	Original Release	Oct. 18, 2019

1 Certificate of Conformity

Product: Wireless module

Brand: XPERI

Test Model: Caprica5

Sample Status: Engineering Sample

Applicant: Phorus, Inc.

Date of Evaluation: Oct. 03, 2019

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.3 -2002

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 :



Date:

Oct. 18, 2019

Gina Liu / Specialist

Approved by :



Date:

Oct. 18, 2019

Dylan Chiou / 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/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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Calculation Result of Maximum Conducted Power

Band	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WLAN	2412-2462	25.94	5	20	0.247	1.00
	5180-5240	21.98	6.06	20	0.127	1.00
	5260-5320	21.97	6.06	20	0.126	1.00
	5500-5700	21.62	6.06	20	0.117	1.00
	5745-5825	21.22	6.06	20	0.106	1.00
BT	2402-2480	6.46	5	20	0.003	1.00

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

Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

$WLAN\ 2.4GHz + WLAN\ 5GHz = 0.247/1 + 0.127/1 = 0.374$

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

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