

RF Exposure Report

Report No.: SABCIB-WTW-P22020171

FCC ID: HFS-WAVE1

Test Model: Emerge Wave-1

Received Date: Feb. 11, 2022

Date of Evaluation: Mar. 28, 2022

Issued Date: Apr. 20, 2022

Applicant: Quanta Computer Inc.

Address: No. 188, Wenhua 2nd Road, Guishan District, Taoyuan City 33377, Taiwan

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

FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
SABCIB-WTW-P22020171	Original Release	Apr. 20, 2022

1 Certificate of Conformity

Product: Emerge Wave-1

Brand: Emerge

Test Model: Emerge Wave-1

Sample Status: Engineering Sample

Applicant: Quanta Computer Inc.

Date of Evaluation: Mar. 28, 2022

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 : Vera Huang , Date: Apr. 20, 2022
Vera Huang / Specialist

Approved by : Jeremy Lin , Date: Apr. 20, 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				
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

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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

Band	Max AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WLAN 2.4G	17.39	3.8	20	0.026	1
WLAN 5G (5180-5240 MHz)	14.31	2.5	20	0.010	1
WLAN 5G (5260-5320 MHz)	14.29	2.5	20	0.010	1
WLAN 5G (5500-5700 MHz)	14.38	2.3	20	0.009	1
WLAN 5G (5745-5825 MHz)	14.48	3.7	20	0.013	1
BT	8.90	3.8	20	0.004	1

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The antenna information is listed as below.

Ant. Type	Dipole Antenna					
Frequency (MHz)	2400	2440	2480	5150	5550	5850
Peak Gain (dBi) Main Ant	3.7	3.8	3.8	1.3	2.2	3.7
Peak Gain (dBi) Aux. Ant.	3.2	3.1	2.5	2.5	2.3	2.5

3. 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.
4. WLAN and BT cannot transmit at same time.

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