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RF EXPOSURE REPORT





Applicant: Quanta Computer Inc.

No. 188, Wenhua 2nd Road, Guishan District, Taoyuan City

33377, Taiwan

Product Name: Clover Station Solo

Brand Name: clover Model No.: C501 N/A **Model Difference:**

Report Number: E2/2021/70044

FCC ID HFS-C501F

August 24, 2021 **Issue Date:**

Date of EUT Received: July 16, 2021

Approved By

We hereby certify that:

The above equipment was evaluate by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §2.1091.

The results of this report relate only to the sample identified in this report.

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Revision History								
Report Number	Revision	Description	Issue Date	Revised By				
E2/2021/70044	00	Original	August 24, 2021	Susan Lin				

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DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

Product Description

Product Name:	Clover Station Solo
Brand Name:	clover
Model No.:	C501
Model Difference:	N/A
Hardware Version:	N/A
Firmware Version:	N/A
EUT Series No.:	C051UQ12450327
Power Supply:	24V from AC/DC Adapter or 3.8V from Rechargeable Li-ion Polymer Battery

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1.2 **Antenna Information:**

1.2.1 BT / WLAN 2.4GHz

Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
DIEA	Overste	WIFI-1 antenna	2402~2480	-1.04	
PIFA	Quanta	WIFI-2/BT antenna	2402~2480	1.27	V

1.2.2 **WLAN 5GHz**

Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain	
			5150~5250	0.41		
	Ouente	WIFI-1 antenna	5250~5350	0.41		
	Quanta		5470~5725	0.43		
PIFA			5725~5850	0.54		
			5150~5250	3.96	V	
	Quanta	Quente	MICL 2 antanna	5250~5350	3.96	V
	Quanta	WIFI-2 antenna	5470~5725	3.86	V	
			5725~5850	3.95	V	

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1.2.3 WWAN

Type Modulation		Freque		Peak Antenna Gain (dBi)		
		(MHz)		Ant0		
	LTE-Band 2	1850	~ 1910	1.89		
	LTE-Band 4	1710	~ 1755	1.83		
PIFA	LTE-Band 12	699	~ 716	-0.63		
	LTE-Band 17	704	~ 716	-0.63		
	LTE-Band 66	1710	~ 1780	1.83		

Note: Antenna information is provided by the applicant.

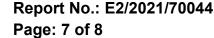
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MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1 **FCC Standard Applicable**

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range	Electric Field	Magnetic Field	Power Density	Averaging Time			
(MHz)	Strength (V/m)	Strength (A/m)	(mW/cm ²)	(minute)			
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	1	1	f/1500	30			
1500-100000	1	/	1.0	30			

f = frequency in MHz

Prediction of MPE limit at a given distance

 $S=PG/4\pi R^2$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

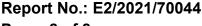
R = Distance to the center of radiation of the antenna

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^{* =} Plane-wave equipment power density



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2.2 **Power Density Calculation (Worst Case)**

FCC Standalone MPE

Operation Mode	Evaluation Frequency (MHz)		Max. output Power (dBm)	Antenna Gain (dBi)	Max. output Power EIRP (mW)	Power Density (PD) (mW/cm²)	(mW/cm ²)	Pass / Fail	Power Density / Limit	Collocated MPE
BT	2480.00	20	6.33	1.27	5.75	0.0011	1.000	Pass	0.001	V
WLAN 2.4G	2437.00	20	21.88	3.20	322.11	0.064	1.000	Pass	0.064	
WLAN 5G	5500.00	20	19.99	5.32	339.63	0.068	1.000	Pass	0.068	V
LTE-Band 2	1852.50	20	22.44	1.89	271.02	0.054	1.000	Pass	0.054	
LTE-Band 4	1754.30	20	22.66	1.83	281.19	0.056	1.000	Pass	0.056	
LTE-Band 12	704.00	20	22.48	-0.63	153.11	0.030	0.469	Pass	0.064	
LTE-Band 17	709.00	20	22.66	-0.63	159.59	0.032	0.473	Pass	0.068	
LTE-Band 66	1745.00	20	22.69	1.83	283.14	0.056	1.000	Pass	0.056	V

2.3 **Collocated Power Density Calculation**

FCC Collocated MPE

Max BT PD / Limit		Max WWAN PD / Limit	~ £
0.001	0.068	0.056	0.125

Note:

- 1. Σ (E- Power Density / Limit): This is a summation of [(E- Power Density for each transmitter/antenna included in the simultaneous transmission) / (corresponding MPE limit)].
- 2. Considering the collocated transmitters, the aggregated (E- Power Density /limit) is smaller than 1, and MPE of collocated transmitters is compliant

~ End of Report ~

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