

RF EXPOSURE REPORT

OF

Applicant: Cisco Systems
125 West Tasman Drive San Jose California United States
95134-1706

Manufacturer: Cisco Systems
125 West Tasman Drive San Jose California United States
95134-1706

Product Name: FM3200

Brand Name: Fluidmesh FM3200

Model No.: FM3200, FM4200

Model Difference:

1. Some passive components of the DCIN circuit are mounted on PCB in FM4200 model.
2. Antenna connectors are different: RP-SMA on FM3200, QMA on FM4200.
3. Bottom part of FM4200 enclosure has M12 connectors instead of RJ45 ports: M12 DCIN port is added on FM4200.

Report Number: ER/2020/30134

FCC ID: R5SX200

FCC Rule Part Part 2.1091

Issue Date: December 17, 2020

We hereby certify that:

The above equipment was verified by SGS Taiwan Ltd. The evaluation in this report is in compliance with the above rule(s).

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

Approved By:

John Teh

John Yeh / Asst. Manager

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
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Revision History

Report Number	Revision	Description	Issue Date	Remark
ER/2020/30134	Rev.00	Original.	December 17, 2020	Revised By: Violetta Tang

Note:

- 1、Multiple Model numbers or Trademarks
The variant model numbers are assessed as identical in hardware and software to each other, hence all variants are fully covered by the test results in this test report without further verification test.
- 2、Disclaimer
Variant information between model numbers is provided by the applicant, test results of this report are applicable to the sample EUT received.
- 3、Disclaimer
Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

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1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

1.1 General:

Product Name:	FM3200
Brand Name:	Fluidmesh FM3200
Model No.:	FM3200, FM4200
Model Difference:	<ol style="list-style-type: none"> 1. Some passive components of the DCIN circuit are mounted on PCB in FM4200 model. 2. Antenna connectors are different: RP-SMA on FM3200, QMA on FM4200. 3. Bottom part of FM4200 enclosure has M12 connectors instead of RJ45 ports: M12 DCIN port is added on FM4200.
Hardware Version:	N/A
Software Version:	N/A
Power Supply:	48V from AC/DC Adapter
Modulation type	64QAM, 16QAM, QPSK, BPSK for OFDM
Transition Rate:	802.11 n_20MHz: 6.5 – 144.4Mbps 802.11 n_40MHz: 13.5 – 300.0Mbps

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1.2 Antenna Information:

Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
Sector	N/A	JHS-5159-16D90A	5470~5725	16	V
			5725~5850	16	V
Bidirectional	Fluidmesh	FM-SHARK-DUAL	5470~5725	13	
			5725~5850	13	

MIMO

	Antenna Gain (dBi)
U-NII-2C	13.01
U-NII-3	13.01

1.3 Rated Power

Wi-Fi 802.11	Frequency Range	Channels	Rated Power (Avg.) (dBm) (Worst case)	Modulation Technology
n_HT20M	5470~5725	12	10.95	OFDM
	5725~5850	5	16.53	
n_HT40M	5470~5725	6	10.56	
	5725~5850	2	16.94	

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2 FCC 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 (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (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	/	/	f/1500	30
1500-15000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equipment power density

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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2.2 Power Density Calculation (Worst Case)

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. output Power (dBm)	Antenna Gain (dBi)	Max. output Power EIRP (mW)	Power Density (PD) (mW/cm ²)	Limit (mW/cm ²)	Pass / Fail	Power Density / Limit
WLAN 5G	5795.00	20	16.94	13.01	988.55	0.197	1.000	Pass	0.197

~ End of Report ~

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