RF EXPOSURE EVALUATION REPORT

FCC ID	:	2AIMRRD13
Equipment	:	Xiaomi Mesh System AC1200
Brand Name	:	Xiaomi
Model Name	:	RD13
Applicant	:	Beijing Xiaomi Electronics Co., Ltd. Room 802, Floor 8, Building 5, No.15 KeChuang 10th Road, Beijing Economic and Technological Development Zone, Beijing City, China.
Manufacturer	:	Beijing Xiaomi Electronics Co., Ltd. Room 802, Floor 8, Building 5, No.15 KeChuang 10th Road, Beijing Economic and Technological Development Zone, Beijing City, China.
Standard	:	47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full

Cona Huang

Approved by: Cona Huang / Deputy Manager

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History of this test report

Report No.	Version	Description	Issued Date
FA450101	Rev. 01	Initial issue of report	Jul. 16, 2024

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Xiaomi Mesh System AC1200
Brand Name	Xiaomi
Model Name	RD13
FCC ID	2AIMRRD13
Wireless Technology and Frequency Range	WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz
Mode	WLAN: 802.11a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80

Reviewed by: Jason Wang

Report Producer: Daisy Peng

2. Maximum RF average output power among production units

	Mode	Channel	Frequency (MHz)	Tune-up Limit
2.4GHz WLAN	11b	1	2412	19.5
		6	2437	20.5
		11	2462	21.5
	11g	1	2412	20.5
		6	2437	21
		11	2462	20.5
	HT20	1	2412	21.5
		6	2437	20.5
		11	2462	20
	HT40	3	2422	20
		6	2437	18.5
		9	2452	17

	Mode	Channel	Frequency (MHz)	Tune-up Limit
5GHz WLAN	11a	36	5180	22.5
		44	5220	25.5
		48	5240	26.5
	HT20	36	5180	21
		44	5220	28.5
		48	5240	28
	HT40	38	5190	19
		46	5230	26.5
	VHT20	36	5180	28
		44	5220	27.5
		48	5240	28
	VHT40	38	5190	28
		46	5230	27.5
	VHT80	42	5210	21.5

3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

4. Radio Frequency Radiation Exposure Evaluation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)	Power Density / Limit
WLAN2.4GHz Band	2.64	21.50	24.1	0.26	259.42	0.052	1.000	0.052
WLAN5GHz Band	2.52	28.50	31.0	1.26	1264.74	0.252	1.000	0.252

WLAN 2.4 GHz Power Density / Limit	WLAN 5 GHz Power Density / Limit	∑(Power Density / Limit) of WLAN 2.4 GHz + WLAN 5 GHz
0.052	0.252	0.304

Note:

1. ∑(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WLAN 2.4GHz + WLAN 5GHz.
2. Considering the WLAN 2.4GHz collocation with the WLAN 5GHz transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.