RF EXPOSURE EVALUATION REPORT

FCC ID	:	2AFZZRC04
Equipment	:	Xiaomi WiFi Range Extender AC1200
Brand Name	:	xiaomi
Model Name	:	RC04
Applicant	:	Xiaomi Communications Co., Ltd #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
Manufacturer	:	Xiaomi Communications Co., Ltd #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
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

Approved by: Cona Huang / Deputy Manager

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan

Table of Contents

1. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT) 4
2. MAXIMUM RF AVERAGE OUTPUT POWER AMONG PRODUCTION UNITS 4
3. RF EXPOSURE LIMIT INTRODUCTION 5
4. RADIO FREQUENCY RADIATION EXPOSURE EVALUATION 6
4.1. Standalone Power Density Calculation 6
4.2. Collocated Power Density Calculation 6

History of this test report

Report No.	Version	Description	Issued Date
FA441123	Rev. 01	Initial issue of report	Jun. 24, 2024

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Xiaomi WiFi Range Extender AC1200
Brand Name	xiaomi
Model Name	RC04
FCC ID	2AFZZRC04
Wireless Technology and Frequency Range	WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz
Mode	WLAN: 802.11a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80

Reviewed by: Jason Wang

Report Producer: Paula Chen

2. Maximum RF average output power among production units

Band	Maximum Average Power (dBm)
2.4GHz WLAN	20.5
5GHz WLAN	22

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

4.1. Standalone Power Density Calculation

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	3.36	20.5	23.9	0.24	243.22	0.048	1.000	0.048
WLAN5GHz Band	4.4	22.0	26.4	0.44	436.52	0.087	1.000	0.087

4.2. Collocated Power Density Calculation

WLAN 2.4GHz Power Density / Limit	WLAN 5GHz Power Density / Limit	∑(Power Density / Limit) of WLAN2.4GHz + WLAN 5GHz
0.048	0.087	0.135

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 WLAN2.4GHz + WLAN 5GHz.
2. Considering the WLAN 2.4GHz and 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.