Certificate #5505.02

MPE REPORT

Report No.:	SRTC2024-9004(F)-24022710(I)
Product Name:	2.4G WIFI+Bluetooth dual-mode module
Model Name:	MHCWB5S-IB
Applicant:	Xiaomi Communications Co.,Ltd.
Manufacturer:	Xiaomi Communications Co.,Ltd.

Reference Specification
FCC Part §1.1310

The State Radio_monitoring_center Testing Center (SRTC)

15th Building, No.30, Shixing Street, Shijingshan District,

Beijing, P.R.China

Tel: 86-10-57996183 Fax: 86-10-57996388

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1 GENERAL INFORMATION

1.1 Notes of the test report

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1.2 Information about the testing laboratory

Company:	The State Radio_monitoring_center Testing Center (SRTC)
Test Site 1:	15th Building, No.30 Shixing Street, Shijingshan District
Test Site 2:	No.80, Zhaojiachang, Beizang, Daxing District
City:	Beijing
Country or Region:	P.R.China
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Designation Number:	CN1267
Registration number:	239125

1.3 Applicant’s details

Company:	Xiaomi Communications Co.,Ltd.
Address:	#019, 9th Floor, Building 6, 33Xi′ erqi Middle Road, Haidian District, Beijing, China

1.4 Manufacturer’s details

Company:	Xiaomi Communications Co.,Ltd.
Address:	#019, 9th Floor, Building 6, 33Xi′ erqi Middle Road, Haidian District, Beijing, China

1.5 Test Environment

Date of Receipt of test sample at SRTC:	2024-03-08
Testing Start Date:	2024-03-09
Testing End Date:	2024-03-22

Environmental Data:	Temperature (°C)	Humidity (%)
Ambient	25	40

Normal Supply Voltage (V d.c.):	3.3

2 DESCRIPTION OF THE DEVICE UNDER TEST

2.1 Final Equipment Build Status

BLE

Frequency Range:	2.402GHz~2.480GHz
Number of Channel:	40
Modulation Type:	GFSK
Equipment Class:	DTS
Channel Spacing:	2MHz
Data Rate:	LE 1Mbps
Power Supply:	DC supply
Antenna gain:	2.5dBi(max)
Software Revision:	V1.0.1
Hardware Revision:	V1.0
SN:	#1
Antenna type:	PCB Antenna

Wi-Fi 2.4G

Frequency Band:	2.412GHz~2.462GHz
Number of Channel For 20MHz:	11
Number of Channel For 40MHz:	7
Modulation Type:	802.11b 802.11g 802.11n (HT20)
Power Supply:	DC supply
Antenna gain:	2.5dBi(max)
Software Revision:	V1.0.1
Hardware Revision:	V1.0
SN:	#1
Antenna type:	PCB Antenna

3 REFERENCE SPECIFICATION

Specification	Version	Title
Part 1.1310	Latest	Radio frequency radiation exposure limits.

4 RESULT SUMMARY

Case	Verdict
MPE	Pass

This Test Report Is Issued by: Mr. Peng Zhen	Checked by: Mr. Li Bin
Tested by: Mr. Huang Yubin	Issued date: 20240423

5.CALCULATION RESULT

5.1 Maximum permissible exposure (MPE)

Limit:

(A) Limits for Occupational/Controlled Exposure ☐

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm2)	Averaging Time |E|2, |H|2 or S (minutes)
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f^2	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 ☑

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm2)	Averaging Time |E|2, |H|2 or S (minutes)
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

Result:

According to §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

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:

The $S = PG / (4\pi R^2)$

Where S = power density in mW/cm^2

P = transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

Standalone Transmission Result

Band	Freq. (MHz)	Maximum Power (dBm)	ANT Gain (dBi)	Maximum EIRP (dBm)	Maximum EIRP(mW)	Power Density (mW/cm^2)	Power Density/ Limit
BLE	2440	8.43	2.5	10.93	12.388	0.002	0.002
WIFI 2.4G	2437	15.82	2.5	18.32	67.920	0.014	0.014

---End of Test Report---