

Product Name: Wireless Access Point	Report No: FCC022022-5923RF14
Product Model: AP3220L	Security Classification: Open
Version: V1.0	Total Page: 7

TIRT Testing Report



Prepared By:	Checked By:	Approved By:	A circular blue stamp with the text "TIRT Technology Service Co., Ltd." around the perimeter and "TIRT Shenzhen" in the center.
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FCC RF EXPOSURE REPORT

FCC ID: 2A9M7AP3220L

Project No. : 022022-5923
Equipment : Wireless LAN Access Point
Brand Name : 
Test Model : AP3220L
Series Model : N/A
Applicant : MuXi Technology Co., Ltd.
Address : Tecsun Technology Building, 6/F, No.21 , Huashen Avenue, Yuhuatai District, Nanjing., Nanjing, JiangSu, 210012, China
Manufacturer : MuXi Technology Co., Ltd.
Address : Tecsun Technology Building, 6/F, No.21 , Huashen Avenue, Yuhuatai District, Nanjing., Nanjing, JiangSu, 210012, China
Date of Receipt : Aug. 24, 2022
Date of Test : Aug. 25, 2022 ~ Nov. 01, 2022
Issued Date : Nov. 15, 2022
Report Version : V1.0
Test Sample : Engineering Sample No.: 20220814019907
Standard(s) : FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091
FCC Title 47 Part 2.1091

- The test result referred exclusively to the presented test model /sample.
- Without written approval of TIRT Inc. the test report shall not reproduced except in full.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
FCC022022-5923RF14	V1.0	Original Report	Nov. 11, 2022	Valid

1. TEST FACILITY

Company:	Beijing TIRT Technology Service Co.,Ltd Shenzhen
Address:	101, 3 # Factory Building, Gongjin Electronics Shatin Community, Kengzi Street, Pingshan District, Shenzhen, China
CNAS Registration Number:	CNAS L14158
A2LA Registration Number:	6049.01
FCC Accredited Lab. Designation Number:	CN1309
FCC Test Firm Registration Number:	825524
Telephone:	+86-0755-27087573

2. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

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

where:

S = power density

P = power input to the 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

For BLE:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1		P244001-T4-120G13U1	PCB	N/A	4.7

Note: The antenna gain is provided by the manufacturer.

For WIFI 2.4GHz:

Antenna Specification:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1		126-002-382	PCB	Domestic 137 terminal	4.00
2		126-002-383	PCB	Domestic 137 terminal	4.05

Note:

- This EUT supports CDD, and all antenna gains are not equal, Directional gain = $G_{ANT} + \text{Array Gain}$.
For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=4.05.
For power spectral density measurements, $N_{ANT}=2$, $N_{SS} = 1$.
So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 4.05 + 10\log(2/1)\text{dBi} = 7.06$.
Then, the power spectral density limit is $8 - (7.06 - 6) = 6.94$.
- The antenna gain is provided by the manufacturer.

Table for Antenna Configuration:

Operating Mode	TX Mode	2TX
IEEE 802.11b		V(Ant. 1 + Ant. 2)
IEEE 802.11g		V(Ant. 1 + Ant. 2)
IEEE 802.11n(HT20)		V(Ant. 1 + Ant. 2)
IEEE 802.11n(HT40)		V(Ant. 1 + Ant. 2)
IEEE 802.11ax(HE20)		V(Ant. 1 + Ant. 2)
IEEE 802.11ax(HE40)		V(Ant. 1 + Ant. 2)

For WIFI 5GHz:

Antenna Specification:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1		126-002-382	PCB	Domestic 137 terminal	5.24
2		126-002-383	PCB	Domestic 137 terminal	5.12

Note:

- 1) This EUT supports CDD, and all antenna gains are not equal, Directional gain = $G_{ANT} + \text{Array Gain}$.
For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=5.24.
For power spectral density measurements, $N_{ANT}=2$, $N_{SS} = 1$.
So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 5.24 + 10\log(2/1)\text{dBi} = 8.25$.
Then, the UNII-1 power spectral density limit is $17 - (8.25 - 6) = 14.75$, the UNII-2A, UNII-2C power spectral density limit is $11 - (8.25 - 6) = 8.75$, the UNII-3 power spectral density limit is $30 - (8.25 - 6) = 27.75$.
- 2) The antenna gain is provided by the manufacturer.

Table for Antenna Configuration:

Operating Mode	TX Mode	2TX
IEEE 802.11a		V (Ant. 1 + Ant. 2)
IEEE 802.11n(HT20)		V (Ant. 1 + Ant. 2)
IEEE 802.11n(HT40)		V (Ant. 1 + Ant. 2)
IEEE 802.11ac(VHT20)		V (Ant. 1 + Ant. 2)
IEEE 802.11ac(VHT40)		V (Ant. 1 + Ant. 2)
IEEE 802.11ac(VHT80)		V (Ant. 1 + Ant. 2)
IEEE 802.11ac(VHT160)		V (Ant. 1 + Ant. 2)
IEEE 802.11ax(HE20)		V (Ant. 1 + Ant. 2)
IEEE 802.11ax(HE40)		V (Ant. 1 + Ant. 2)
IEEE 802.11ax(HE80)		V (Ant. 1 + Ant. 2)
IEEE 802.11ax(HE160)		V (Ant. 1 + Ant. 2)

3. TEST RESULTS

For BT (BLE):

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Tune up Power (dBm)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
4.7	2.9513	7.42	8.00	0.0037	1	Complies

For 2.4GHz:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Tune up Power (dBm)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
4.05	2.5410	26.35	27.00	0.2534	1	Complies

For 5GHz:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Tune up Power (dBm)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
5.24	3.3420	23.74	24.00	0.1670	1	Complies

For the max simultaneous transmission MPE:

Ratio			Total	Limit of Ratio	Test Result
BT	2.4GHz	5GHz			
0.0037	0.2534	0.167	0.4241	1	Complies

Note: 1. The calculated distance is 20 cm.
2. Max. Tune up Power is declared by the manufacturer.
3. WIFI 2.4GHz and 5GHz can be simultaneously transmitted.

End of Test Report