



# RF EXPOSURE REPORT

Applicant	BenQ Corporation
Address	16 Jihu Road, Neihu, Taipei 114, Taiwan

Manufacturer or Supplier	BenQ Corporation
Address	16 Jihu Road, Neihu, Taipei 114, Taiwan
Product	Wi-Fi BT Module
Brand Name	N/A
Model	WXT2AM2101
Additional Model & Model Difference	N/A
Date of tests	Jul. 31, 2024 ~ Sep. 11, 2024

- ☒ FCC Part 2 (Section 2.1091)
- ☒ KDB 447498 D01 V06
- ☒ IEEE C95.1

**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**

Tested by Andy Zhu Supervisor / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	 Date: Oct. 21, 2024

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Test Report No.: FM2407WDG0195

## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2407WDG0195	Original release	Oct. 21, 2024



Test Report No.: FM2407WDG0195

## 1. CERTIFICATION

**PRODUCT:** Wi-Fi BT Module

**BRAND NAME:** N/A

**MODEL NO.:** WXT2AM2101

**ADDITIONAL MODEL:** N/A

**FCC ID:** JVPWXT2AM2101

**TEST SAMPLE:** ENGINEERING SAMPLE

**APPLICANT:** BenQ Corporation

**TESTED DATES:** Jul. 31, 2024 ~ Sep. 11, 2024

**STANDARDS:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 V06

IEEE C95.1

## 2. RF EXPOSURE LIMIT

### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm <sup>2</sup> )	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

## 3. MPE CALCULATION FORMULA

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$R$  = distance between observation point and center of the radiator in cm

## 4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

Mode/ Frequency Band	Antenna Gain (dBi)	Antenna Type
BR/EDR	4.22	FPC Antenna
BT-LE	4.22	FPC Antenna

Mode/ Frequency Band	Antenna Gain (dBi)		Antenna Type
	Chain 0	Chain 1	
2.4GHz Wi-Fi	3.72	4.20	FPC Antenna
5GHz Wi-Fi (U-NII-1)	4.46	5.13	FPC Antenna
5GHz Wi-Fi (U-NII-2A)	4.38	5.13	FPC Antenna
5GHz Wi-Fi (U-NII-2C)	5.69	6.57	FPC Antenna
5GHz Wi-Fi (U-NII-3)	4.96	6.43	FPC Antenna

## 6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

The tuned conducted Average Power (declared by client)

Mode	Frequency Band (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
BR/DER	2402 ~ 2480	2	+1	1	3
BT-LE	2402 ~ 2480	4	+1	3	5
2.4GHz Wi-Fi	2412 ~ 2472	17	+2	15	19
5GHz Wi-Fi (U-NII-1)	5150 ~ 5250	13.5	+2	11.5	15.5
5GHz Wi-Fi (U-NII-2A)	5250 ~ 5350	17	+2	15	19
5GHz Wi-Fi (U-NII-2C)	5470 ~ 5725	17	+2	15	19
5GHz Wi-Fi (U-NII-3)	5725 ~ 5850	16	+2	14	18

The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
BR/DER	2441	2.06
BT-LE	2402	3.74
2.4GHz Wi-Fi	2452	18.23
5GHz Wi-Fi (U-NII-1)	5210	15.09
5GHz Wi-Fi (U-NII-2A)	5320	18.48
5GHz Wi-Fi (U-NII-2C)	5580	18.69
5GHz Wi-Fi (U-NII-3)	5745	17.72

FREQUENCY BAND (MHz)	MAX POWER (dBm)	DIRECTIONAL GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
BT	5	4.22	20	0.00166	1.0
2.4GHz Wi-Fi	19	7.81	20	0.09544	1.0
Wi-Fi 5GHz	19	9.15	20	0.12994	1.0

### CONCLUSION:

The BT and Wi-Fi can transmit simultaneously, but Wi-Fi 2.4G and Wi-Fi 5G can not transmit simultaneously, the formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

**CPD = Calculation power density**

**LPD = Limit of power density**

Worst situation is  $(0.00166/1) + (0.12994/1) = 0.123 < 1$ , which is less than the "1" limit.

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