

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

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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 ²)	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/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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 ²)	LIMIT (mW/cm ²)
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.

--- END ---