



# RF EXPOSURE Test Report

**Report No.:** MTi220818016-09E4  
**Date of issue:** 2023-01-30  
**Applicant:** Zhuhai Quin Technology Co., Ltd.  
**Product:** Label Printer  
**Model(s):** B246DW  
**Series Model:** Please refer to the Series model remark  
**FCC ID:** 2ASRB-B246DW

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

**Series model Remark:**

B246DWF, K1WF, K2WF, K3WF, K4WF, K5WF, K6WF, K7WF, K8WF, AM-246S-WF, AM-241-WF, AM-242-WF, AM-243-WF, AM-244-WF, PM-246S-WF, PM-241-WF, PM-242-WF, PM-243-WF, PM-244-WF, Q300WF, AM300WF, N300WF, M320WF, T300WF, D300WF, T300Turbo, D3-WIFI, ITPP129B, ITPP129BP, ITPP129S, ITPP129SP, D520W, D520WF, D520W Turbo, D530W, D530WF, D530W Turbo, D530WF Turbo, D530W Plus, D530WF Plus, D530W Pro, D530WF Pro, D530W Pro Max, D530WF Pro Max, D550W, D550WF, D550W Turbo, D550WF Turbo, D530W Plus, D530WF Plus, D550W Pro, D550WF Pro, 6XL, 6XL Turbo, 6XL Plus, 6XL Pro, 6XL Pro Max, PM-6XL-WF, AM-6XL-WF, 6XL-WF, 6XL-WIFI, 6XLW, 6XLWF, 6XLW Turbo, 6XLWF Turbo, 6XLW Plus, 6XLWF Plus, 6XLW Pro, 6XLWF Pro Max, T200W, T200PRO-W, T300W, T240W, T260W, T240Pro, T260Pro, T340W, T350W

# Instructions

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<b>Test Result Certification</b>	
<b>Applicant:</b>	<b>Zhuhai Quin Technology Co., Ltd.</b>
Address:	ROOM 103-029(CENTRALIZED OFFICE AREA) ,1F, BUILDING 1, NO. 18 FUTIAN ROAD, XIANGZHOU DISTRICT, ZHUHAI CITY, CHINA
<b>Manufacturer:</b>	<b>Zhuhai Quin Technology Co., Ltd.</b>
Address:	ROOM 103-029(CENTRALIZED OFFICE AREA) ,1F, BUILDING 1, NO. 18 FUTIAN ROAD, XIANGZHOU DISTRICT, ZHUHAI CITY, CHINA
<b>Factory:</b>	<b>Zhuhai Quin Technology Co., Ltd.</b>
Address:	BLOCK 1 FLOOR 4, 5, 6, 7, BLOCK 2 FLOOR 1, 2, 3, 4, 5, 6, NO.1 CUIZHU 4 STREET, QIANSHAN, XIANGZHOU DISCTRICT, ZHUHAI CITY
<b>Product description</b>	
Product name:	Label Printer
Trademark:	N/A
Model name:	B246DW
Serial Model:	Please refer to the Series model remark
Standards:	N/A
Test procedure:	KDB 447498 D01 v06
<b>Date of Test</b>	
Date of test:	2023-01-10 ~ 2023-01-16
Test result:	Pass

**Test Engineer :**

*Letter Lan.*

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(Letter Lan)

**Reviewed By: :**

*Leon Chen*

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(Leon Chen)

**Approved By: :**

*Tom Xue*

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(Tom Xue)

## RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

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> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density

### MPE Calculation Method

Friis transmission 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

$G$  = Numeric gain of the antenna relative to isotropic antenna

$\pi$  = 3.1415926

$R$  = distance between observation point and center of the radiator in cm (20cm)

$P_d$  the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

## Measurement Result

### BT/BLE:

Operation Frequency: 2402-2480MHz,

Power density limited: 1mW/ cm<sup>2</sup>

### 2.4GWiFi:

Operation Frequency: WIFI 802.11b/g/n HT20: 2412-2462MHz,

802.11n HT40: 2422-2452MHz,

Power density limited: 1mW/ cm<sup>2</sup>

Antenna Type: PCB Antenna;

antenna gain: -1.80dBi

R=20cm

$mW=10^{(dBm/10)}$

antenna gain Numeric= $10^{(dBi/10)}=10^{(-1.56/10)}=0.7$

### BR+EDR:

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
				tune-up power		Gain			
				(dBm)	(mW)	(dBi)	Numeric		
2402	GFSK	4.79	5±1	6	3.981	-1.80	0.66	0.0005	1
2441		5.16	5±1	6	3.981	-1.80	0.66	0.0005	1
2480		4.82	5±1	6	3.981	-1.80	0.66	0.0005	1
2402	π/4-DQPSK	6.82	7±1	8	6.310	-1.80	0.66	0.0008	1
2441		7.22	7±1	8	6.310	-1.80	0.66	0.0008	1
2480		6.72	7±1	8	6.310	-1.80	0.66	0.0008	1
2402	8DPSK	7.32	7±1	8	6.310	-1.80	0.66	0.0008	1
2441		7.59	7±1	8	6.310	-1.80	0.66	0.0008	1
2480		7.23	7±1	8	6.310	-1.80	0.66	0.0008	1



BLE:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
		(dBm)		tune-up power		Gain			
				(dBm)	(mW)	(dBi)	Numeric		
2402	BLE-1M	4.76	5±1	6	3.981	-1.80	0.66	0.0005	1
2440		5.16	5±1	6	3.981	-1.80	0.66	0.0005	1
2480		4.74	5±1	6	3.981	-1.80	0.66	0.0005	1

2.4GWiFi:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna	Evaluation result at 20cm Power density(mW/cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
		(dBm)		tune-up power		Gain		
				(dBm)	(mW)	Numeric		
2412	802.11b	15.65	15±1	16	39.811	0.66	0.00523	1
2437		15.27	15±1	16	39.811	0.66	0.00523	1
2462		15.67	15±1	16	39.811	0.66	0.00523	1
2412	802.11g	15.53	15±1	16	39.811	0.66	0.00523	1
2437		15.23	15±1	16	39.811	0.66	0.00523	1
2462		14.49	15±1	16	39.811	0.66	0.00523	1
2412	802.11n H20	15.58	15±1	16	39.811	0.66	0.00523	1
2437		15.11	15±1	16	39.811	0.66	0.00523	1
2462		14.59	15±1	16	39.811	0.66	0.00523	1
2412		15.61	15±1	16	39.811	0.66	0.00523	1
2437		15.32	15±1	16	39.811	0.66	0.00523	1
2462		15.32	15±1	16	39.811	0.66	0.00523	1

**Conclusion:**

For the max result: 0.00523 ≤ 1.0 SAR, No SAR is required.

BT and wiif cannot work together

----END OF REPORT----