RF EXPOSURE Test Report

Report No.:	MTi221209012-01E3
Date of issue:	2023-03-02
Applicant:	Zhuhai Quin Technology Co., Ltd.
Product:	Label Printer
Model:	6XL
Series Model:	Please refer to the Series model remark
FCC ID:	2ASRB-6XL

Shenzhen Microtest Co., Ltd.

http://www.mtitest.com

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Series model Remark:

D520B, D520BT, D520B Turbo, D520BT Turbo, D520B Plus, D520BT Plus, D520B Pro, D520BT Pro, D520B Pro Max, D520BT Pro Max, D530B, D530BT, D530B Turbo, D530BT Turbo, D530B Plus, D530BT Plus, D530B Pro, D530BT Pro, D530B Pro Max, D530BT Pro Max, D550B, D550BT, D550B Turbo, D550BT Turbo, D550B Plus, D550BT Plus, D550B Pro, D550BT Pro, D550B Pro Max, D550BT Pro Max, 6XL Turbo, 6XL Plus, 6XL Pro, 6XL Pro Max, PM-6XL-BT, AM-6XL-BT, 6XL-BT, 6XLB, 6XLBT, 6XLB Turbo, 6XLBT Turbo, 6XLB Plus, 6XLBT Plus, 6XLB Pro, 6XLBT Pro, 6XLB Pro Max, 6XLBT Pro Max, T200BT, T200Pro, T300BT, T240BT, T260BT, T240Pro, T260Pro, T340BT, T350BT, T360BT, D520, D520 Turbo, D520 Plus, D520 Pro, D520 Pro Max, D530, D530 Turbo, D530 Plus, D530 Pro, D530 Pro Max, D550, D550 Turbo, D550 Plus, D550 Pro, D550 Pro Max, PM-6XL, AM-6XL, T200, T200Pro, T300, T240, T240Pro, T260, T260Pro, T340, T350, T360

Instructions

1. The report shall not be partially reproduced without the written consent of the laboratory;
2. The test results of this report are only responsible for the samples submitted;
3. This report is invalid without the seal and signature of the laboratory;
4. This report is invalid if transferred, altered or tampered with in any form without authorization;
5. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

Test Result Certification	
Applicant:	**Zhuhai Quin Technology Co., Ltd.**
Address:	ROOM 103-029(CENTRALIZED OFFICE AREA), 1F, BUILDING 1, NO. 18 FUTIAN ROAD, XIANGZHOU DISTRICT, ZHUHAI CITY, CHINA
Manufacturer:	**Zhuhai Quin Technology Co., Ltd.**
Address:	ROOM 103-029(CENTRALIZED OFFICE AREA), 1F, BUILDING 1, NO. 18 FUTIAN ROAD, XIANGZHOU DISTRICT, ZHUHAI CITY, CHINA
Product description	
Product name:	Label Printer
Trademark:	N/A
Model name:	6XL
Serial Model:	Please refer to the Series model remark
Standards:	N/A
Test procedure:	KDB 447498 D01 v06
Date of Test	
Date of test:	2023-02-08 ~ 2023-02-21
Test result:	Pass

Test Engineer : Letter. Lan.

(Letter Lan)

Reviewed By: : Leon chen

(Leon Chen)

Approved By: : Tom Xue

(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^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
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
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
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
300-1,500			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: $Pd= (Pout*G)\ (4*pi*R^2)$

Where

Pd= Power density in mW/cm^2

Pout=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)

Pd the limit of MPE, $1mW/cm^2$. 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^2

Antenna Type: PCB Antenna;

Antenna gain: 2dBi

R=20cm

mW=10^(dBm/10)

antenna gain Numeric=10^(dBi/10)= 10^(2/10)=1.58

BR+EDR:

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm^2)	Power density Limits (mW/cm^2)
				tune-up power		Gain			
				(dBm)	(mW)	(dBi)	Numeric		
2402	GFSK	4.1	4±1	5	3.162	2	1.58	0.0010	1
2441		3	4±1	5	3.162	2	1.58	0.0010	1
2480		3.22	4±1	5	3.162	2	1.58	0.0010	1
2402	π/4-DQPSK	4.08	4±1	5	3.162	2	1.58	0.0010	1
2441		2.97	2±1	3	1.995	2	1.58	0.0006	1
2480		3.18	4±1	5	3.162	2	1.58	0.0010	1
2402	8DPSK	4.08	4±1	5	3.162	2	1.58	0.0010	1
2441		3.09	4±1	5	3.162	2	1.58	0.0010	1
2480		3.34	4±1	5	3.162	2	1.58	0.0010	1

BLE:

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm^2)	Power density Limits (mW/cm^2)
				tune-up power		Gain			
				(dBm)	(mW)	(dBi)	Numeric		
2402	BLE-1M	4.26	4±1	5	3.162	2	1.58	0.0010	1
2440		3.72	4±1	5	3.162	2	1.58	0.0010	1
2480		3.38	4±1	5	3.162	2	1.58	0.0010	1

Conclusion:
For the max result: 0.0010≤ 1.0 SAR, No SAR is required.

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