

RF EXPOSURE Test Report

Report No. : MTi251105007-0101E3

Date of issue : 2025-12-01

Applicant : Zhuhai Quin Technology Co., Ltd.

Product : Label Printer

Model(s) : D420D, D423BT, D425BT, D426BT, D427BT, D428BT, D429BT, D423D, D425D, D426D, D427D, D428D, D429D, D423Air, D425Air, D426Air, D427Air, D428Air, D429Air, A641M, A64M, A642M, A643M, A645M, A646M, A647M, A649M, A64MD, A641MD, A642MD, A643MD, A645MD, A646MD, A647MD, A649MD, A64Plus, A641Plus, A642Plus, A643Plus, A645Plus, A646Plus, A647Plus, A648Plus, A649Plus, A64Pro, A641Pro, A642Pro, A643Pro, A645Pro, A646Pro, A647Pro, A648Pro, A649Pro, D421R, D422S, D420Air

FCC ID : 2ASRB-D420D

Shenzhen Microtest Co., Ltd.

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Test Result Certification		
Applicant	Zhuhai Quin Technology Co., Ltd.	
Applicant Address	1ST FLOOR, BUILDING 1, NO. 456 CHUANGYUAN ROAD, XIANGZHOU DISTRICT, ZHUHAI CITY	
Manufacturer	Zhuhai Quin Technology Co., Ltd.	
Manufacturer Address	1ST FLOOR, BUILDING 1, NO. 456 CHUANGYUAN ROAD, XIANGZHOU DISTRICT, ZHUHAI CITY	
Product description		
Product name	Label Printer	
Trademark	N/A	
Model name	D420D	
Series Model(s)	D423BT, D425BT, D426BT, D427BT, D428BT, D429BT, D423D, D425D, D426D, D427D, D428D, D429D, D423Air, D425Air, D426Air, D427Air, D428Air, D429Air, A641M, A64M, A642M, A643M, A645M, A646M, A647M, A649M, A64MD, A641MD, A642MD, A643MD, A645MD, A646MD, A647MD, A649MD, A64Plus, A641Plus, A642Plus, A643Plus, A645Plus, A646Plus, A647Plus, A648Plus, A649Plus, A64Pro, A641Pro, A642Pro, A643Pro, A645Pro, A646Pro, A647Pro, A648Pro, A649Pro, D421R, D422S, D420Air	
Standards	47 CFR Part 2.1091	
Test method	KDB 447498 D01 v06	
Testing Information		
Date of test	2025-11-20 to 2025-12-01	
Test Result	Pass	
Prepared by:	Letter Lan	<i>Letter Lan</i>
Reviewed by:	David Lee	<i>David Lee</i>
Approved by:	Lewis Lian	<i>Lewis Lian</i>

1 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: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

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

P_d the limit of MPE, 1mW/cm². 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.

2 Measurement Result

BT&BLE:

Operation Frequency: 2402-2480MHz,

Power density limited: 1mW/ cm²

Antenna Type: PCB Antenna

Antenna gain: -0.58dBi

R=20cm

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

Antenna gain Numeric= $10^{(dBi/10)}=10^{(-0.58/10)}=0.87$

BT:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
		(dBm)		tune-up power (dBm)	(mW)	Gain (dBi)	Numeric		
2402	GFSK	0.65	0±1	1	1.259	-0.58	0.87	0.0002	1
2441		0.58	0±1	1	1.259	-0.58	0.87	0.0002	1
2480		1.25	1±1	2	1.585	-0.58	0.87	0.0003	1
2402	π/4-DQPSK	1.49	1±1	2	1.585	-0.58	0.87	0.0003	1
2441		1.38	1±1	2	1.585	-0.58	0.87	0.0003	1
2480		1.99	1±1	2	1.585	-0.58	0.87	0.0003	1

BLE:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
		(dBm)		tune-up power (dBm)	(mW)	Gain (dBi)	Numeric		
2402	GFSK-1M	0.60	0±1	1	1.259	-0.58	0.87	0.0002	1
2440		1.08	1±1	2	1.585	-0.58	0.87	0.0003	1
2480		1.20	1±1	2	1.585	-0.58	0.87	0.0003	1
2402	GFSK-2M	0.77	0±1	1	1.259	-0.58	0.87	0.0002	1
2440		1.16	1±1	2	1.585	-0.58	0.87	0.0003	1
2480		1.31	1±1	2	1.585	-0.58	0.87	0.0003	1

Conclusion:

For the max result: $0.003 \leq 1.0$ test exclusion threshold, No SAR is required.

Statement

1. This report is invalid without the seal and signature of the laboratory.
2. The test results of this report are only responsible for the samples submitted. Client shall be responsible for representativeness of the sample and authenticity of the material.
3. The report shall not be partially reproduced without the written consent of the Laboratory.
4. This report is invalid if transferred, altered or tampered with in any form without authorization.
5. The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.
6. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

***** END OF REPORT *****