

RF EVALUATION TEST REPORT

Applicant..... : Chongqing Jingranyouxu Technology Co., Ltd.

Address..... : 5-6-1, Huangshan Avenue, High-tech Park, Dazhulin Street, Liangjiang New Area, Chongqing, China.

Manufacturer..... : Chongqing Jingranyouxu Technology Co., Ltd.

Address..... : 5-6-1, Huangshan Avenue, High-tech Park, Dazhulin Street, Liangjiang New Area, Chongqing, China.

Factory : Chongqing Pinsheng Technology Co., Ltd. DaTiejiang branch office

Address : NO.368, BOE Avenue, Beibei District, Chongqing

Product Name..... : Label Printer

Brand Name..... : MakelD

P31, P31A, P31B, P31C, P31S, P31T, GT310, GT310A, GT310B, GT310C,

Model No. : GT310S, GT310T, W110, W110A, W110B, W110C, W110S, W110T (For model difference refer to section 2)

FCC ID..... : 2AUMQ-P31

Measurement Standard..... : 47 CFR PART 2, Section 2.1093

Receipt Date of Samples.... : March 23, 2024

Date of Tested..... : March 26, 2024 to April 01, 2024

Date of Report..... : April 13, 2024

This report shows that above equipment is technically compliant with the requirements of the standards above.

All test results in this report apply only to the tested sample(s). Without prior written approval of Dongguan Nore Testing Center Co., Ltd, this report shall not be reproduced except in full.

Prepared by

Julie Xiao / Project Engineer



Approved by
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Table of Contents

1. General Description of EUT	4
2. Test Facility and Location	6
3. Applicable Standards and References.....	7
4. Maximum Permissible Exposure Limit.....	8
5. RF Exposure Evaluation Results	11

Revision History

1. General Description of EUT

Product Information	
Product name:	Label Printer
Main Model Name:	P31
Additional Model Name:	P31A, P31B, P31C, P31S, P31T, GT310, GT310A, GT310B, GT310C, GT310S, GT310T, W110, W110A, W110B, W110C, W110S, W110T
Model Difference:	These models have the same circuit schematic, construction, PCB Layout and critical components. The differences are model number and appearance color due to trading purpose.
S/N:	2403-1313
Brand Name:	MakelD
Hardware version:	23L1_MAIN
Software version:	P31_V2.0_V3.0_240306.1002
Rating:	DC 5V come from adapter DC 7.4V come from internal lithium battery
Typical Arrangement:	Table-top
I/O Port:	N/A
Accessories Information	
Adapter:	Model: KA1803A-US Input: AC 100-240V, 50/60Hz, 0.5A Max Output: DC 5V/3A, DC 9V/2A, DC 12V/1.5A
Cable:	USB cable: 0.5m, unshielded, detachable
Other:	N/A
Additional Information	
Note:	According to these model differences and the requirements of manufacturer, all tests were performed on model P31.
Remark:	All the information above are provided by the manufacturer. More detailed feature of the EUT please refers to the user manual.

Technical Specification (BLE)	
Bluetooth Version:	V4.2
Frequency Range:	2402-2480MHz
Modulation Type:	GFSK
Number of Channel:	40
Channel Space:	2MHz
Antenna Type:	PCB antenna
Number of Antenna	1
Antenna Gain:	2dBi (Declared by the manufacturer)
RF PHY Support:	1Mbps
Technical Specification (BT)	
Bluetooth Version:	V4.2
Frequency Range:	2402-2480MHz
Modulation Type:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Number of Channel:	79
Channel Space:	1MHz
Antenna Type:	PCB antenna
Number of Antenna	1
Antenna Gain:	2dBi (Declared by the manufacturer)

2. Test Facility and Location

Test Site	:	Dongguan Nore Testing Center Co., Ltd. (Dongguan NTC Co., Ltd.)
Accreditations and Authorizations	:	<p>The Laboratory has been assessed and proved to be in compliance with CNAS/CL01</p> <p>Listed by CNAS, August 13, 2018</p> <p>The Certificate Registration Number is L5795.</p> <p>The Certificate is valid until August 13, 2024</p> <p>The Laboratory has been assessed and proved to be in compliance with ISO17025</p> <p>Listed by A2LA, November 01, 2017</p> <p>The Certificate Registration Number is 4429.01</p> <p>Listed by FCC, November 06, 2017</p> <p>Test Firm Registration Number: 907417</p> <p>Listed by Industry Canada, June 08, 2017</p> <p>The Certificate Registration Number. Is 46405-9743A</p>
Test Site Location	:	Building D, Gaosheng Science and Technology Park, Hongtu Road, Nancheng District, Dongguan City, Guangdong Province, China

3. Applicable Standards and References

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

Test Standards:

47 CFR Part 1, 1.1307

47 CFR Part 2, 2.1093

KDB 447498 D04 v01

4. Maximum Permissible Exposure Limit

According to 47 CFR Part 1, 1.1307, for single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if: 47 CFR Part 1, 1.1307

(A) The available maximum time- averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

(B) Or the available maximum time- averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where,

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

And,

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the minimum separation distance (cm) in any direction from any part of the device antenna(s) or radiating structure(s) to the body of the device user.

For multiple RF sources: Multiple RF sources are exempt if:

(A) The available maximum time- averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).

(B) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

Where,

a = number of fixed, mobile, or portable RF sources claiming exemption using para-graph (b)(3)(i)(B) of this section for P_{th} , including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using para-graph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or port-able RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

P_i = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

$P_{th,i}$ = the exemption threshold power (P_{th}) ac-cording to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i .

ERP_j = the ERP of fixed, mobile, or portable RF source j .

$ERP_{th,j}$ = exemption threshold ERP for fixed, mobile, or portable RF source j , at a distance of at least $\lambda/2\pi$ according to the applicable formula of paragraph (b)(3)(i)(C) of this section.

Evaluated_k= the maximum reported SAR or MPE of fixed, mobile, or portable RF source k either in the device or at the transmitter site from an existing evaluation at the location of exposure.

Exposure Limit_k= either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source k, as applicable from §1.1310 of this chapter.

5. RF Exposure Evaluation Results

Single RF Source					
Mode	Frequency (MHz)	Max. EIRP (dBm)	Max. EIRP (mW)	Separation Distance (cm)	Part 1.1307 Option (B) P_{th} (mW)
BDR+EDR	2402	2.55	1.80	0.5	2.79
BLE	2402	-0.075	0.98	0.5	2.79

Conclusion:

According to 47 CFR §1.1307 option A and 47 CFR §2.1093, the RF exposure analysis concludes that the product is compliant with the FCC RF exposure requirements in portable environment without distance restrictions.

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