

TEST REPORT

Applicant: Hannto Technology Co., Ltd.
Address: Room 704, Building 1, No. 88, Shengrong Road,
Pudong, Shanghai, China
Equipment Type: Photo Printer
Model Name: DHP513
Brand Name: Liene®
FCC ID: 2AZHDDHP513
Test Standard: 47 CFR Part 2.1091
KDB 447498 D04 v01
Test Date: Jul. 21, 2022 - Jul. 25, 2022
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ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Li Ganming

Checked by: Xiong Lining

Approved by: Wei Yanquan
(Chief Engineer)

Li Ganming

Xiong Lining

Wei Yanquan

Revision History		
Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Aug. 12, 2022</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China
Phone Number	+86 755 6685 0100

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.
Description	All measurement facilities used to collect the measurement data are located at Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Hannto Technology Co.,Ltd.
Address	Room 704, Building1, No. 88, Shengrong Road, Pudong, Shanghai, China

2.2 Manufacturer Information

Manufacturer	Hannto Technology Co.,Ltd.
Address	Room 704, Building1, No. 88, Shengrong Road, Pudong, Shanghai, China

2.3 Factory Information

Factory	Dongguan Kaifa Technology Co., Ltd.
Address	No. 2 Junma Road, Chigang Community, Humen Town, Dongguan City, Guangdong Province, China P.C.

2.4 General Description for Equipment under Test (EUT)

EUT Name	Photo Printer
Model Name Under Test	DHP513
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	205 mm(L) x 124.6 mm(L) x 85.4 mm(L)
Weight (Approx.)	1300g

2.5 Ancillary Equipment

Note: Not applicable.

2.6 Technical Information

Network and Wireless connectivity	WIFI 802.11b, 802.11g, 802.11n(HT20)
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	WIFI	
Frequency Range	WIFI	2412 ~ 2462 MHz
Antenna Type	WIFI	PCB Antenna
Exposure Category	General Population/Uncontrolled Exposure	
EUT Stage	Mobile Device	

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1091	Radiofrequency radiation exposure evaluation: mobile devices
2	KDB 447498 D04	447498 D04 Interim General RF Exposure Guidance v01

4 DEVICE CATEGORY AND LEVELS LIMITS

Mobile Device:

CFR Title 47 §2.1091(b)

(b) For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

FCC KDB 447498 D04 General RF Exposure Guidance v01 Limit

Evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP_{20cm} in Formula (B.1) [repeated from § 2.1091(c)(1) and § 1.1307(b)(1)(i)(B)].

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i. e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad \text{(B. 2)}$$

where

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

and f is in GHz, d is the separation distance (cm), and $ERP_{20\text{cm}}$ is per Formula (B.1). The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)									
	5	10	15	20	25	30	35	40	45	50
300	39	65	88	110	129	148	166	184	201	217
450	22	44	67	89	112	135	158	180	203	226
835	9	25	44	66	90	116	145	175	207	240
1900	3	12	26	44	66	92	122	157	195	236
2450	3	10	22	38	59	83	111	143	179	219
3600	2	8	18	32	49	71	96	125	158	195
5800	1	6	14	25	40	58	80	106	136	169

5 ASSESSMENT RESULT

5.1 Output Power

WIFI	
Mode	802.11b
Conducted Power (dBm)	18
Antenna Gain (dBi)	1.8
EIRP (dBm)	19.8
Note: This report listed the worst case power value, please refer to BTL-FCCP-2-2106H016(FCC RF EXPOSURE REPORT) report for more details.	

5.2 Turn-up power

Mode	Conducted Power Range (dBm)	EIRP Range (dBm)	ERP Range (dBm)
WIFI	18	19.8	17.65
Note1: ERP= EIRP -2.15dB.			
Note2: According KDB 447497 D04, used the greater of maximum conducted power and ERP to compare with the threshold value Pth.			

5.3 RF Exposure Evaluation Result

Evolution mode	Frequency (GHz)	Distance (mm)	Maximum Tune up(dB)	Maximum power (mW)	Threshold Power (mW)	Verdict
WIFI	2.412	200	18	63.10	3060.00	Pass

5.4 Conclusion

This EUT is deemed to comply with the reference level limits, therefore the basic restrictions are compliant with human exposure limits.

Statement

1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
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--END OF REPORT--