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CNAS L6791

TEST REPORT

Applicant: Zhongshan Polono Electronic Technology Co., Ltd.
Address: No. 132, Tanlong North Road, Tanzhou Town, Zhongshan City, 4th and 5th floors, Building 2, 4th and 5th floors, Building 3, Zhongshan, China
Equipment Type: Mini Thermal Printer
Model Name: PM270
Brand Name: N/A
FCC ID: 2BQIW-PM270
Test Standard: 47 CFR Part 2.1093
KDB 447498 D04 v01
Sample Arrival Date: Jul. 30, 2026
Test Date: Sep. 07, 2026
Date of Issue: Sep. 07, 2026

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** Xiong Lining**Checked by:** Xu Rui**Approved by:** Liao Jianming
(Technical Director)

Revision History

<u>Version</u>	<u>Issue Date</u>	<u>Revisions Content</u>
<u>Rev. 01</u>	<u>Sep. 07, 2026</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	GENERAL INFORMATION.....	3
1.1	Test Laboratory	3
1.2	Test Location	3
2	PRODUCT INFORMATION	4
2.1	Applicant Information	4
2.2	Manufacturer Information.....	4
2.3	General Description for Equipment under Test (EUT).....	4
2.4	Technical Information	4
3	SUMMARY OF TEST RESULT	5
3.1	Test Standards	5
4	DEVICE CATEGORY AND LEVELS LIMITS	6
5	ASSESSMENT RESULT	8
5.1	Output Power	8
5.2	Tune-up power	8
5.3	RF Exposure Evaluation Result	9
5.4	Collocated Power Calculation	9
5.5	Conclusion.....	9

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	601, Building 2, Intelligent Connected Vehicle Industrial Park, No.55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☐ Building 2, Intelligent Connected Vehicle Industrial Park, No.55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen, Guangdong
	☒ 1/F., Building B, Ganghongji High-Tech Intelligent Industrial Park, No.1008, Songbai Road, Yangguang Community, Xili Subdistrict, Nanshan District, Shenzhen, Guangdong
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Zhongshan Polono Electronic Technology Co., Ltd.
Address	No. 132, Tanlong North Road, Tanzhou Town, Zhongshan City, 4th and 5th floors, Building 2, 4th and 5th floors, Building 3, Zhongshan, China

2.2 Manufacturer Information

Manufacturer	Zhongshan Polono Electronic Technology Co., Ltd.
Address	No. 132, Tanlong North Road, Tanzhou Town, Zhongshan City, 4th and 5th floors, Building 2, 4th and 5th floors, Building 3, Zhongshan, China

2.3 General Description for Equipment under Test (EUT)

EUT Name	Mini Thermal Printer
Model Name Under Test	PM270
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	PM270_V3.0
Software Version	0.0.2 2026-07-10
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	Bluetooth (BR+EDR+BLE), NFC
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	Bluetooth, NFC	
Frequency Range	Bluetooth	2402 ~ 2480 MHz
	NFC	13.56 MHz
Antenna Type	Bluetooth	PCB Antenna
	NFC	Coil Antenna
Exposure Category	General Population/Uncontrolled Exposure	
Product Type	Portable Device	

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	KDB 447498 D04 v01	KDB 447498 D04 Interim General RF Exposure Guidance v01

4 DEVICE CATEGORY AND LEVELS LIMITS

Portable Devices:

CFR Title 47 §2.1093(b)

(b) For purposes of this section, a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

FCC KDB 447498 Devices:

According with FCC KDB 447498 D04, Appendix B, The SAR-based exemption formula 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 Pth (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). The following table shows the power threshold from 5mm to 50mm.

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

Note:

1. Maximum power is the source-based time-average power and represents the maximum RF output power including tune-up tolerance among production units
2. Per KDB 447498 D04, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. Per KDB 447498 D04, standalone SAR test exclusion threshold is applied; If the distance of the antenna to the user is < 5mm, 5mm is used to determine SAR exclusion threshold
4. Per KDB 447498 D04, for separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive), the threshold Pth (mW) is given by Following:

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

where

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

- a. f(GHz) is the RF channel transmit frequency in GHz
- b. d is the separation distance (cm), The result is rounded to one decimal place for comparison
- c. ERP_{20cm} are determined by:

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

5 ASSESSMENT RESULT

5.1 Output Power

Mode	Bluetooth
Conducted Power (dBm)	1.160
Antenna Gain (dBi)	2.499
EIRP (dBm)	3.659

Note: This report listed the worst case conducted power value, please refer to Ti-EE26070802-601& Ti-EE26070802-602 report for more details.

Mode	NFC
Field Strength (dBuV/m)	63.84
Conducted Power (dBm)	-23.27
Antenna Gain (dBi)	0.00
ERP (dBm)	-25.42

Note 1: This table listed the worst case power value, please refer to Ti-EE26070802-402 report for more details.

Note 2: Add the appropriate maximum ground reflection factor to the EIRP level (6dB for frequencies ≤ 30 MHz, 4.7dB for frequencies between 30MHz and 1000MHz, inclusive and 0dB for frequencies > 1000 MHz).

Note 3: Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:

$$E = \text{EIRP} - 20 \log D + 104.8 - \text{maximum ground reflection factor}$$

Note 4: For frequencies below 1000 MHz, only ERP (Effective Radiated Power) is used. Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:

$$E = \text{ERP} - 20 \log D + 104.8 - \text{maximum ground reflection factor}$$

where:

E=electric field strength in dBuV/m

EIRP =equivalent isotropic radiated power in dBm

ERP = effective radiated power in dBm

D=specified measurement distance in meters

5.2 Tune-up power

Mode	Conducted Power Range (dBm)	EIRP Range (dBm)	ERP Range (dBm)
Bluetooth	[0.00, 2.00]	[2.50, 4.50]	[0.35, 2.35]
NFC	[-25.00, -23.00]	/	[-27.15, -25.15]

Note1: ERP= EIRP -2.15dB.

Note2: According KDB 447498 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	Distance (mm)	Tune-up limit power (dBm)	Tune-up limit power (mW)	Threshold Value (mW)	Power / Limit	Verdict
Bluetooth	5	2.35	1.72	2.72	0.6330	Pass
NFC	5	-23.00	0.01	39.00	0.0003	Pass

Note: The power threshold of NFC refers to the power threshold that the frequency is 300MHz and the separation distance is less than 5mm.

5.4 Collocated Power Calculation

Evolution Mode	Power / Limit	$\Sigma(\text{Power / Limit})$ of Bluetooth + NFC	Verdict
Bluetooth	0.6330	0.6333	Pass
NFC	0.0003		

Note:

1. $\Sigma(\text{Power / Limit})$: This is a summation of [(power for each transmitter/ antenna included in the simultaneous transmission)/ (corresponding Power limit)], for Bluetooth + NFC.
2. Both of the BT/NFC can transmit simultaneously, the formula of calculated the Power is $CP1 / LP1 + CP2 / LP2 + \dots \text{etc.} < 1$
 CP = Calculation power
 LP = Limit of power
3. The worst-case situation is 0.6333, which is less than "1". This confirmed that the device comply with FCC KDB 447498 D04 Power limit.
4. The DUT work frequency range used is 2402 MHz ~ 2480 MHz and 13.56 MHz the result close to the limit by the above formula, so we select worst case power to calculate the exclusion power threshold.

5.5 Conclusion

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

Statement

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--END OF REPORT--