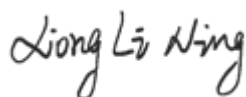


TEST REPORT

Applicant: Jiangmen Dascom Computer Peripherals Co., Ltd.
Address: No 399, Jin Xing Road, Jiang Hai District, Jiangmen
City Guang Dong Province, China
Equipment Type: Card Printer
Model Name: DC-8600 (refer to section 2.3)
Brand Name: 
FCC ID: Z7ODC8600PRO
Test Standard: 47 CFR Part 2.1091
KDB 447498 D04 v01
Sample Arrival Date: Jan. 20, 2025
Test Date: Feb. 05, 2025 - Apr. 10, 2025
Date of Issue: May 20, 2025

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xiong Lining**Checked by:** Xu Rui**Approved by:** Tolan Tu

(Testing Director)



Revision History

<u>Version</u>	<u>Issue Date</u>	<u>Revisions Content</u>
<u>Rev. 01</u>	<u>May 20, 2025</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☐ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☒ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
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	Jiangmen Dascom Computer Peripherals Co., Ltd.
Address	No 399, Jin Xing Road, Jiang Hai District, Jiangmen City Guang Dong Province, China

2.2 Manufacturer Information

Manufacturer	Jiangmen Dascom Computer Peripherals Co., Ltd.
Address	No 399, Jin Xing Road, Jiang Hai District, Jiangmen City Guang Dong Province, China

2.3 General Description for Equipment under Test (EUT)

EUT Name	Card Printer
Model Name Under Test	DC-8600
Series Model Name	DC-8650, DC-8600Pro, DC-700, DC-730
Description of Model name differentiation	All models are same with electrical parameters and internal circuit structure, but only differ in model name. (this information provided by the applicant)
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	Bluetooth (BR+EDR+BLE), RFID WIFI 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac and 802.11ax
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	Bluetooth; WLAN; RFID	
Frequency Range	802.11b/g/n(HT20)/ax(HE20)	2412 ~ 2462 MHz
	802.11a/n(HT20/HT40)/ac(VHT20/VHT40/VHT80)/ax(HE20/HE40/HE80)	5150 ~ 5250 MHz
		5250 ~ 5350 MHz
		5470 ~ 5725 MHz
		5725 ~ 5850 MHz
	Bluetooth	2402 ~ 2480 MHz
	RFID	13.56 MHz
Antenna Type	WLAN	Dipole Antenna
	Bluetooth	Dipole Antenna
	RFID	Coil Antenna
Exposure Category	General Population/Uncontrolled Exposure	
Product Type	Mobile Device	

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01

3.2 Limit Standards

No.	Identity	Document Title
1	47 CFR Part 2.1091	Radiofrequency radiation exposure evaluation: mobile devices

4 DEVICE CATEGORY AND LEVELS LIMITS

Mobile Devices:

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).

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

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

Mode	Bluetooth
Conducted Power (dBm)	12.19
Antenna Gain (dBi)	2.67
EIRP (dBm)	14.86
Note: This report listed the maximal case power value, please refer to BL-SZ2510988-601 report for more details.	

Mode	2.4G WIFI				
	SISO-Antenna 0	SISO-Antenna 1	MIMO-Antenna 0	MIMO-Antenna 1	MIMO
Conducted Power (dBm)	17.25	17.15	14.25	13.95	17.11
Antenna Gain (dBi)	2.67	2.67	2.67	2.67	5.68
EIRP (dBm)	19.92	19.82	16.92	16.62	22.79
Note: This report listed the maximal case power value, please refer to BL-SZ2510988-602 report for more details.					

Mode	5.2G WIFI				
	SISO-Antenna 0	SISO-Antenna 1	MIMO-Antenna 0	MIMO-Antenna 1	MIMO
Conducted Power (dBm)	16.12	16.52	12.97	12.94	16.14
Antenna Gain (dBi)	3.37	3.37	3.37	3.37	6.38
EIRP (dBm)	19.49	19.89	16.34	16.31	22.52
Mode	5.3G WIFI				
	SISO-Antenna 0	SISO-Antenna 1	MIMO-Antenna 0	MIMO-Antenna 1	MIMO
Conducted Power (dBm)	17.43	17.39	14.33	14.10	17.19
Antenna Gain (dBi)	3.75	3.75	3.75	3.75	6.76
EIRP (dBm)	21.18	21.14	18.08	17.85	23.95
Mode	5.6G WIFI				
	SISO-Antenna 0	SISO-Antenna 1	MIMO-Antenna 0	MIMO-Antenna 1	MIMO
Conducted Power (dBm)	15.40	15.58	12.56	12.58	15.47
Antenna Gain (dBi)	2.52	2.52	2.52	2.52	5.53
EIRP (dBm)	17.92	18.10	15.08	15.10	21.00
Mode	5.8G WIFI				
	SISO-Antenna 0	SISO-Antenna 1	MIMO-Antenna 0	MIMO-Antenna 1	MIMO
Conducted Power (dBm)	15.67	15.57	12.87	12.41	15.59
Antenna Gain (dBi)	2.67	2.67	2.67	2.67	5.68
EIRP (dBm)	18.34	18.24	15.54	15.08	21.27
Note: This report listed the maximal case power value, please refer to BL-SZ2510988-603 report for more details.					

Mode	RFID (Module 1)	RFID (Module 2)	RFID (Module 3)
Field Strength (dB μ V/m)	60.68	60.78	63.75
Conducted Power (dBm)	-15.97	-15.87	-12.90
Antenna Gain (dBm)	0	0	0
ERP (dBm)	-18.12	-18.02	-15.05

Note 1: This table listed the worst case power value, please refer to BL-SZ2510988-402&BL-SZ2510988-403&BL-SZ2510988-404 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 30 MHz and 1000 MHz, inclusive and 0dB for frequencies > 1000 MHz).

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

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

where:

E=electric field strength in dB μ V/m

EIRP =equivalent isotropic radiated power dBm

D=specified measurement distance in meters

Note 4: When frequencies ≤ 1000 MHz, radiated power is ERP.

Mode	FSC-BT986 Bluetooth
Conducted Power (dBm)	0.93
Antenna Gain (dBi)	2.00
EIRP (dBm)	2.93

Note: This report listed the maximal case power value, please refer to FSC-BT986_FCC RF Exposure report for more details.

5.2 Tune-up power

Mode	Conducted Power Range (dBm)	EIRP Range (dBm)	ERP Range (dBm)
Bluetooth	[11.00, 13.00]	[13.67, 15.67]	[11.52, 13.52]
2.4G WIFI	[16.00, 18.00]	[21.68, 23.68]	[19.53, 21.53]
5.2G WIFI	[15.00, 17.00]	[21.38, 23.38]	[19.23, 21.23]
5.3G WIFI	[16.00, 18.00]	[21.76, 23.76]	[19.61, 21.61]
5.6G WIFI	[14.00, 16.00]	[19.53, 21.53]	[17.38, 19.38]
5.8G WIFI	[14.00, 16.00]	[19.68, 21.68]	[17.53, 19.53]
RFID	[-14.00, -12.00]	/	[-16.15, -14.15]
FSC-BT986 Bluetooth	[-1.00, 1.00]	[1.00, 3.00]	[-1.15, 0.85]

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	Frequency (GHz)	Maximum Power (dBm)	Maximum Power (mw)	Distance (mm)	Threshold Power (mW)	Power / Limit	Verdict
Bluetooth	2.480	13.52	22.49	200	3060.00	0.0073	Pass
2.4G WIFI	2.462	21.53	142.23	200	3060.00	0.0465	Pass
5.2G WIFI	5.250	21.23	132.74	200	3060.00	0.0434	Pass
5.3G WIFI	5.350	21.61	144.88	200	3060.00	0.0473	Pass
5.6G WIFI	5.725	19.38	86.70	200	3060.00	0.0283	Pass
5.8G WIFI	5.850	19.53	89.74	200	3060.00	0.0293	Pass
FSC-BT986 Bluetooth	2.480	1.00	1.26	200	3060.00	0.0004	Pass

Mode	Frequency (GHz)	Maximum Power (dBm)	Maximum Power (mw)	Distance (mm)	Threshold Value (mW)	Power / Limit	Verdict
RFID	0.01356	200	12.00	200	738.00	0.0010	Pass

Note: According to the table in Appendix C of KDB 447498 D01v06, the higher the frequency, the lower the threshold power when the interval distance is less than or equal to 50mm. The frequency of this product is 13.56MHz. We use the more conservative 50MHz power threshold to evaluate the test exemption of this product.

5.4 Collocated Power Calculation

Evolution mode	Frequency (GHz)	Power /Limit	$\Sigma(\text{Power} / \text{Limit})$ of RFID + 2.4G WIFI + 5G WIFI + FSC-BT986 Bluetooth	Verdict
Max. RFID	0.01356	0.0010	0.0952	Pass
Max. 2.4G WIFI	2.462	0.0465		
Max. 5G WIFI	5.350	0.0473		
FSC-BT986 Bluetooth	2.480	0.0004		
Evolution mode	Frequency (GHz)	Power /Limit	$\Sigma(\text{Power} / \text{Limit})$ of RFID + Bluetooth + 5G WIFI + FSC-BT986 Bluetooth	Verdict
Max. RFID	0.01356	0.0010	0.0560	Pass
Bluetooth	2.480	0.0073		
Max. 5G WIFI	5.350	0.0473		
FSC-BT986 Bluetooth	2.480	0.0004		

Note:

- $\Sigma(\text{Power} / \text{Limit})$: This is a summation of [(power for each transmitter/ antenna included in the simultaneous transmission)/ (corresponding Power limit)], for RFID + 2.4G WIFI + 5G WIFI+ FSC-BT986 Bluetooth & RFIDI + Bluetooth + 5G WIF + FSC-BT986 Bluetooth.
- Both of the RFID + 2.4G WIFI + 5G WIFI+ FSC-BT986 Bluetooth & RFIDI + Bluetooth + 5G WIF + FSC-BT986 Bluetooth 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
- Both of the Bluetooth and 2.4GHz WIFI can't transmit simultaneously at same time.
- The worst-case situation is 0.0952, which is less than "1". This confirmed that the device comply with FCC KDB 447498 D04 Power limit.
- The DUT work frequency range used is 13.56 MHz, 2402 MHz ~ 2480 MHz, 2412 MHz ~ 2462 MHz and 5250 MHz~ 5350 MHz the result close to the limit by the above formula, so we select worst case power to calculate the exclusion power threshold.
- More power list please refer to RF test report.

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--