

TEST REPORT

Applicant: TENG INTERNACIONAL TRADING LIMITED
Address: 4f 299 QRC NOS 287 299 QUEENS RD CENTRAL,
HONG KONG
Equipment Type: Pos Terminal
Model Name: P8
Brand Name: TENG INTERNACIONAL
FCC ID: 2BTGQ-P8
Test Standard: 47 CFR Part 2.1091
KDB 447498 D04 v01
Sample Arrival Date: May 06, 2026
Test Date: Jun. 05, 2026
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ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

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

Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Jul. 02, 2026</u>	<u>Initial Issue</u>

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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	TENG INTERNACIONAL TRADING LIMITED
Address	4f 299 QRC NOS 287 299 QUEENS RD CENTRAL, HONG KONG

2.2 Manufacturer Information

Manufacturer	TENG INTERNACIONAL TRADING LIMITED
Address	4f 299 QRC NOS 287 299 QUEENS RD CENTRAL, HONG KONG

2.3 General Description for Equipment under Test (EUT)

EUT Name	Pos Terminal
Model Name Under Test	P8
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	2G Network GPRS/EDGE 850/1900 3G Network WCDMA/HSDPA/HSUPA Band 2/5 4G Network LTE FDD Band 5/7 Bluetooth (BR+EDR+BLE) WIFI 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac NFC
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	GSM, WCDMA, LTE, WIFI, Bluetooth, NFC		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850~1910 MHz	RX: 1930~1990 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	802.11b/g	2412 ~ 2462 MHz	
	802.11n(HT20/HT40)	2412 ~ 2462 MHz	
	802.11a	5150 ~ 5250 MHz	
		5250 ~ 5350 MHz	
		5470 ~ 5725 MHz	
		5725 ~ 5850 MHz	
	802.11n(HT20/HT40)	5150 ~ 5250 MHz	
		5250 ~ 5350 MHz	
		5470 ~ 5725 MHz	
		5725 ~ 5850 MHz	
	802.11ac (VHT20/VHT40/VHT80)	5150 ~ 5250 MHz	
		5250 ~ 5350 MHz	
		5470 ~ 5725 MHz	
		5725 ~ 5850 MHz	
	Bluetooth	2402 ~ 2480 MHz	
	NFC	13.56 MHz	
Antenna Type	WWAN	PIFA Antenna	
	WIFI	PIFA Antenna	
	Bluetooth	PIFA Antenna	
	NFC	Loop 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)

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

Mode	NFC
Field Strength (dB μ V/m)	72.36
Conducted Power (dBm)	-14.75
Antenna Gain (dBi)	0
ERP (dBm)	-16.90

Note 1: This report listed the worst case conducted power value, please refer to Ti-EE26050241-402 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 dB μ V/m

EIRP =equivalent isotropic radiated power in dBm

ERP = effective radiated power in dBm

D=specified measurement distance in meters

Mode	GPRS 850		GPRS 1800	
	Burst Average Power (dBm)	Frame-Averaged power (dBm)	Burst Average Power (dBm)	Frame-Averaged power (dBm)
GPRS (GMSK, 1-Slot)	32.58	23.39	29.54	20.35
GPRS (GMSK, 2-Slots)	31.82	25.69	28.79	22.66
GPRS (GMSK, 3-Slots)	30.09	25.67	27.09	22.67
GPRS (GMSK, 4-Slots)	29.01	25.83	26.03	22.85

Note 1: This report listed the worst case conducted power value, please refer to Ti-EE26050241-501 report for more details.

Note 2: The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:

Frame-averaged power = Burst averaged power (1 Tx Slot) - 9.19 dB

Frame-averaged power = Burst averaged power (2 Tx Slots) - 6.13 dB

Frame-averaged power = Burst averaged power (3 Tx Slots) - 4.42 dB

Frame-averaged power = Burst averaged power (4 Tx Slots) - 3.18 dB

Mode	GPRS 850	GPRS 1900	WCDMA Band 2	WCDMA Band 5	LTE Band 5	LTE Band 7
Conducted Power (dBm)	25.83	22.85	27.23	25.92	23.55	22.70
Antenna Gain (dBi)	-4.1	-0.16	-0.16	-4.1	-4.1	2.74
EIRP/ERP (dBm)	19.58	22.69	27.07	19.67	17.30	25.44
Note: This report listed the worst case conducted power value, please refer to Ti-EE26050241-501 report for more details.						

Mode	Bluetooth	2.4G WIFI	5.2G WIFI	5.3G WIFI	5.6G WIFI	5.8G WIFI
Conducted Power (dBm)	5.38	19.35	13.84	13.68	13.61	13.70
Antenna Gain (dBi)	-3.2	-3.2	-3.21	-3.42	-3.36	-3.35
EIRP (dBm)	2.18	16.15	10.63	10.26	10.25	10.35
Note: This report listed the worst case conducted power value, please refer to Ti-EE26050241-601, Ti-EE26050241-602, Ti-EE26050241-603, Ti-EE26050241-604 report for more details.						

5.2 Tune-up power

Mode	Conducted Power Range (dBm)	EIRP Range (dBm)	ERP Range (dBm)
NFC	[-16.50, -14.50]	/	[-18.65, -16.65]
GPRS 850	[24.00, 26.00]	/	[17.75, 19.75]
GPRS 1900	[21.00, 23.00]	[20.84, 22.84]	[18.69, 20.69]
WCDMA Band 2	[25.50, 27.50]	[25.34, 27.34]	[23.19, 25.19]
WCDMA Band 5	[24.00, 26.00]	/	[17.75, 19.75]
LTE Band 5	[22.00, 24.00]	/	[15.75, 17.75]
LTE Band 7	[21.00, 23.00]	[23.74, 25.74]	[21.59, 23.59]
Bluetooth	[3.50, 5.50]	[0.30, 2.30]	[-1.85, 0.15]
2.4G WIFI	[17.50, 19.50]	[14.30, 16.30]	[12.15, 14.15]
5.2G WIFI	[12.00, 14.00]	[8.79, 10.79]	[6.64, 8.64]
5.3G WIFI	[12.00, 14.00]	[8.58, 10.58]	[6.43, 8.43]
5.6G WIFI	[12.00, 14.00]	[8.64, 10.64]	[6.49, 8.49]
5.8G WIFI	[12.00, 14.00]	[8.65, 10.65]	[6.50, 8.50]
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	Maximum Power (dBm)	Maximum Power (mw)	Distance (mm)	Threshold Power (mW)	Power / Limit	Verdict
NFC	-14.50	0.040	200	39.000	0.001	Pass
GPRS 850	26.00	398.110	200	1680.960	0.237	Pass
GPRS 1900	23.00	199.530	200	3060.000	0.065	Pass
WCDMA Band 2	27.50	562.340	200	3060.000	0.184	Pass
WCDMA Band 5	26.00	398.110	200	1680.960	0.237	Pass
LTE Band 5	24.00	251.190	200	1680.960	0.149	Pass
LTE Band 7	23.59	228.560	200	3060.000	0.075	Pass
Bluetooth	5.50	3.550	200	3060.000	0.001	Pass
2.4G WIFI	19.50	89.130	200	3060.000	0.029	Pass
5.2G WIFI	14.00	25.120	200	3060.000	0.008	Pass
5.3G WIFI	14.00	25.120	200	3060.000	0.008	Pass
5.6G WIFI	14.00	25.120	200	3060.000	0.008	Pass
5.8G WIFI	14.00	25.120	200	3060.000	0.008	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 WWAN + Bluetooth + NFC	Verdict
WWAN	0.237	0.239	Pass
Bluetooth	0.001		
NFC	0.001		
Evolution Mode	Power / Limit	$\Sigma(\text{Power / Limit})$ of WWAN + 2.4G WIFI + NFC	Verdict
WWAN	0.237	0.267	Pass
2.4G WIFI	0.029		
NFC	0.001		
Evolution Mode	Power / Limit	$\Sigma(\text{Power / Limit})$ of WWAN + 5G WIFI + NFC	Verdict
WWAN	0.237	0.246	Pass
5G WIFI	0.008		
NFC	0.001		

Note:

1. $\Sigma(\text{Power} / \text{Limit})$: This is a summation of [(power for each transmitter/ antenna included in the simultaneous transmission)/ (corresponding Power limit)], for WWAN + 2.4G WIFI + NFC.
2. Both of the WWAN/2.4GHz/NFC can transmit simultaneously, the formula of calculated the Power is $\text{CP1} / \text{LP1} + \text{CP2} / \text{LP2} + \dots \text{etc.} < 1$
CP = Calculation power
LP = Limit of power
3. The worst-case situation is 0.267, 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 824 MHz ~ 849 MHz, 2412 MHz ~ 2462 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--