

TEST REPORT

Applicant: Shanghai O-Film Tech. Co., Ltd.
Address: Room 101, Building 6, No.2222 Huangcheng Road, Juyuan New District, Jiading District, Shanghai, P.R. China
Equipment Type: Digital key
Model Name: NISSAN P20 KEY
Brand Name: O-film
FCC ID: 2BWZX-NISSANP20KEY
Test Standard: 47 CFR Part 2.1093
KDB 447498 D04 v01
Sample Arrival Date: Jul. 02, 2026
Test Date: Jul. 05, 2026
Date of Issue: Jul. 08, 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>Jul. 08, 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	Shanghai O-Film Tech. Co., Ltd.
Address	Room 101, Building 6, No.2222 Huangcheng Road.juyuan New District.Jiading District,shanghai,P.R.China

2.2 Manufacturer Information

Manufacturer	Shanghai O-Film Tech. Co., Ltd.
Address	Room 101, Building 6, No.2222 Huangcheng Road.juyuan New District.Jiading District,shanghai,P.R.China

2.3 General Description for Equipment under Test (EUT)

EUT Name	Digital key
Model Name Under Test	NISSAN P20 KEY
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	YC010800654600-003
Software Version	1.00.01
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	433.42MHz / 433.92MHz / 434.42MHz(only TX),125kHz(only RX)
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	UHF ISM	
Frequency Range	UHF ISM	433.42MHz / 433.92MHz / 434.42MHz(only TX)
Antenna Type	UHF ISM	Loop 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 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). 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	UHF ISM
Field Strength (dBuV/m)	75.24
Conducted Power (dBm)	-6.17
Antenna Gain (dBi)	-7
ERP(dBm)	-15.32

Note 1: This report listed the worst case power value, please refer to Ti-AT26070068-601 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)
UHF ISM	[-7.00, -5.00]	/	[-16.15, -14.15]

Note 1: ERP= EIRP -2.15dB

Note 2: According KDB 447498 D04, used the greater of maximum conducted power or ERP to compare with the threshold value Pth.

5.3 RF Exposure Evaluation Result

Mode	Distance (mm)	Tune-up limit power (dBm)	Tune-up limit power (mW)	Threshold Value (mW)	Verdict
UHF ISM	5	-5.00	0.32	23.17	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--