

TEST REPORT

Applicant: TARRAN INNOVATION LIMITED
Address: 19H Maxgrand plaza, No.3 Tai Yau Street, San Po Kong, Kowloon, Hong Kong
Equipment Type: Radar
Model Name: TRD01
Brand Name: TARRAN
FCC ID: 2BTMKTRD01
Test Standard: 47 CFR Part 2.1091
KDB 447498 D04 v01
Sample Arrival Date: Nov. 26, 2025
Test Date: Jan. 28, 2026
Date of Issue: Apr. 29, 2026

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>Feb. 28, 2026</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Apr. 29, 2026</u>	<u>Updated the assessment results of Chapter 5.</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
	☐ Building 2, Intelligent Connected Vehicle Industrial Park, No. 55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an 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.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	TARRAN INNOVATION LIMITED
Address	19H Maxgrand plaza, No.3 Tai Yau Street, San Po Kong, Kowloon, Hong Kong

2.2 Manufacturer Information

Manufacturer	TARRAN INNOVATION LIMITED
Address	19H Maxgrand plaza, No.3 Tai Yau Street, San Po Kong, Kowloon, Hong Kong

2.3 General Description for Equipment under Test (EUT)

EUT Name	Radar
Model Name Under Test	TRD01
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	FMCW
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	FMCW	
Frequency Range	FMCW	76 ~ 81 GHz
Antenna Type	FMCW	Encapsulated 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	47 CFR Part 2.1091	Radiofrequency radiation exposure evaluation: mobile devices
2	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01

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

For 6000MHz to 10000Mhz

Frequencies above 300 kHz but at distances $R > \lambda/2\pi$, R is the antenna-person separation distance.

λ =wavelength of transmitted signal.

Can calculate from the frequency of operation using $v=f*\lambda$

v =speed of light= $3*10^8$ m/s

f =frequency(Hz)

Primarily an MPE-based exclusion but also SAR-based where $\lambda/2\pi$ is < 20 cm.

TABLE B.1—THRESHOLDS FOR SINGLE RF SOURCES
SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

RF Source Frequency			Minimum Distance			Threshold ERP
f_L MHz		f_H MHz	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W
0.3	–	1.34	159 m	–	35.6 m	1,920 R ²
1.34	–	30	35.6 m	–	1.6 m	3,450 R ³ /f ²
30	–	300	1.6 m	–	159 mm	3.83 R ²
300	–	1,500	159 mm	–	31.8 mm	0.0128 R ² /f
1,500	–	100,000 0	31.8 mm	–	0.5 mm	19.2R ²

Subscripts L and H are low and high; λ is wavelength.
From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns.

5 ASSESSMENT RESULT

5.1 Output Power

Mode	FMCW
Conducted Power (dBm)	5.96
Antenna Gain (dBi)	5.00
EIRP (dBm)	10.96
Note: This report listed the maximal case power value derived from Average Power, please refer to BL-SZ25B1336-601 test report for more details.	

5.2 Tune-up power

Mode	Conducted Power Range (dBm)	EIRP Range (dBm)	ERP Range (dBm)
FMCW	[4.00, 6.00]	[9.00, 11.00]	[6.85, 8.85]
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

For 6000MHz to 100000MHz

Evolution Mode	Distance (cm)	$\lambda / 2 \pi$ (m)	$\lambda / 2 \pi$ (mm)	R> $\lambda / 2 \pi$
FMCW	20	0.001	1.000	Yes

Evolution Mode	Threshold ERP (W)	ERP (dBm)	ERP (W)	Verdict
FMCW	0.768	8.85	0.008	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

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--END OF REPORT--