

TEST REPORT

Applicant: Freetech Intelligent Systems Co., Ltd.
Address: 16 Xingfa Road, Tongxiang City, Jiaxing City,
Zhejiang Province, China
Equipment Type: Corner Radar
Model Name: CVR20
Brand Name: Freetech
FCC ID: 2BB34-CVR20
Test Standard: 47 CFR Part 2.1091
KDB 447498 D04 v01
Sample Arrival Date: Jul. 06, 2026
Test Date: Jul. 09, 2026
Date of Issue: Jul. 15, 2026

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** Xu Rui*Xu Rui***Checked by:** Zong Liyao*Zong Liyao***Approved by:** Tolan Tu
(Testing Director)*Tolan Tu*

Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Jul. 15, 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	Freotech Intelligent Systems Co., Ltd.
Address	16 Xingfa Road, Tongxiang City, Jiaxing City, Zhejiang Province, China

2.2 Manufacturer Information

Manufacturer	Freotech Intelligent Systems Co., Ltd.
Address	16 Xingfa Road, Tongxiang City, Jiaxing City, Zhejiang Province, China

2.3 General Description for Equipment under Test (EUT)

EUT Name	Corner Radar
Model Name Under Test	CVR20
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	28438 2HH1A
Software Version	S05.02.01. 260208
Dimensions (Approx.)	91*78.4*20.4mm
Weight (Approx.)	100g

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 GHz – 77 GHz
Antenna Type	FMCW	PCB microstrip 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

For 6000MHz to 100000Mhz

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
EIRP (dBm)	20.84
Note: This report listed the worst case power value, please refer to Ti-AT26070108-601 test report for more details.	

5.2 Tune-up power

Mode	EIRP Range (dBm)	ERP Range (dBm)
FMCW	[19.00, 21.00]	[16.85, 18.85]
Note1: ERP= EIRP -2.15dB. Note2: According KDB 447498 D04, The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.		

5.3 RF Exposure Evaluation Result

For 6000MHz to 100000MHz

Evolution Mode	Distance (cm)	$\lambda / 2 \pi$ (m)	$\lambda / 2 \pi$ (cm)	R> $\lambda / 2 \pi$
FMCW	20	0.001	0.1	Yes

Evolution Mode	Threshold ERP (W)	ERP (dBm)	ERP (W)	Verdict
FMCW	0.768	18.85	0.077	Pass

Note: Since the power of unwanted emissions is far lower than that of fundamental emissions, and the fundamental emissions power meet regulatory requirements, the unwanted emissions are compliant with regulatory standards.

5.4 Collocated Power Calculation

Note: This product has only one antenna for FMCW, so simultaneous transmission evaluation is not required in this 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--