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RF Exposure Evaluation Report

Application No.:	KSCR2309001573AU
FCC ID:	2BB3403050102
Applicant:	Freetech Intelligent Systems Co., Ltd.
Address of Applicant:	16 Xingfa Road, Tongxiang City, Jiaxing City, Zhejiang Province, China
Manufacturer:	Freetech Intelligent Systems Co., Ltd.
Address of Manufacturer:	16 Xingfa Road, Tongxiang City, Jiaxing City, Zhejiang Province, China
Factory:	Freetech Intelligent Systems Co., Ltd.
Address of Factory:	No.70 Xingfa Road, Wuzhen Town, Tongxiang City, Zhejiang Province
Equipment Under Test (EUT):	
EUT Name:	Front view radar
Model No.:	FVR30
Trade Mark:	Freetech
Standard(s) :	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2023-09-07
Date of Test:	2023-09-15 to 2023-09-21
Date of Issue:	2023-09-22
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Revision Record			
Version	**Description**	***Date***	***Remark***
00	Original	2023-09-22	

Authorized for issue by:				
Tested By				
		Pawn Liu/Project Engineer		
Approved By				
		Terry Hou /Reviewer		

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3 General Information

Power supply:	DC 9-16V

3.1 Technical Specifications

77G

Operation Frequency Range：	76GHz to 77GHz
Modulation：	FMCW
Antenna type：	PCB Antenna

3.2 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1.SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc) is provided by the applicant. (if applicable).

2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).

3. Sample source: sent by customer.

3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• FCC

Compliance Certification Services Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

• ISED

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

• VCCI

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

According to§1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm^2)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSCR230900157301

Frequency (GHz)	dBuV/m @ 3m	E.I.R.P. Power (dBm)	Tune Up Power (dBm)	Tune Up Power (mW)
76.48	124.10	28.90	29	794.3

Remark:

E[dBμV/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77, where E = field strength and d = distance at which field strength limit is specified in the rules

EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77

5.2 MPE Calculation

According to the formula S=PG/4πR², we can calculate S which is MPE.

Note:

1) P (mW)
2) G (Antenna gain in numeric)
3) R = distance to the center of radiation of antenna (in meter) = 20cm
4) MPE limit = 1mW/cm²

S= $\frac{PG}{4R^2\pi}$ =794.3/ (4*3.1416*20*20) =0.158 mW/cm^2＜1mW/cm²

So the device is exclusion from SAR test.

--The End of Report--