Test Report No.:
FCCSZ2025-0019-H

RF Test Report

FCC ID	:	**2BB34INR10**
NAME OF SAMPLE	:	**SENSOR-INTERIOR RADAR**
APPLICANT	:	**Freetech Intelligent Systems Co., Ltd.**
CLASSIFICATION OF TEST	:	**N/A**

CVC Testing Technology (Shenzhen) Co., Ltd.

Applicant	**Name: Freetech Intelligent Systems Co., Ltd.** **Address: 16 Xingfa Road, Tongxiang City, Jiaxing City, Zhejiang Province, China**
Manufacturer	**Name: Freetech Intelligent Systems Co., Ltd.** **Address: 16 Xingfa Road, Tongxiang City, Jiaxing City, Zhejiang Province, China**
Equipment Under Test	**Name: SENSOR-INTERIOR RADAR** **Model/Type: INR10** **Additional Model: N/A** **Serial NO.: N/A** **Sample NO.: 2-1**

Date of Receipt.	**2025-02-14**	Date of Testing	**2025.02-14 ~ 2025-03-20**

Test Specification	**Test Result**
FCC Part 2 (Section 2.1091) **KDB 447498 D04v01**	PASS

Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC **Issue Date: 2025-03-21**

Compiled by:	Reviewed by:	Approved by:
Liang Jiatong	Mo Xianbiao	Dong Sanbi
Name Signature	Name Signature	Name Signature

Other Aspects: NONE.

Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested

TABLE OF CONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2025-0019-H	Original release	2025-03-21

1 GENERAL PRODUCT INFORMATION

PRODUCT	SENSOR-INTERIOR RADAR
BRAND	N/A
TEST MODEL	INR10
ADDITIONAL MODEL	N/A
POWER SUPPLY	DC 9V ~ 16V
STANDARDS	FCC Part 2 (Section 2.1091)
	KDB 447498 D04v01

Note:

1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2 RF EXPOSURE LIMITGENERAL INFORMATION

2.1 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.2 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (FCC)

(Option B) According to FCC Part2.1091 and FCC Part1.1307b, the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold Pth (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P is given by:

$$P_{\text{th}}\,(\text{mW}) = \begin{cases} ERP_{20\text{ cm}}(d/20\text{ cm})^{x} & d \le 20\text{ cm} \\ ERP_{20\text{ cm}} & 20\text{ cm} < d \le 40\text{ cm} \end{cases}$$

Where：

$$x = -\log_{10}\left(\frac{60}{ERP_{20\text{ cm}}\sqrt{f}}\right)$$

and f is in GHz;
and

$$P_{\text{th}}\,(\text{mW}) = ERP_{20\text{ cm}}\,(\text{mW}) = \begin{cases} 2040f & 0.3\text{ GHz} \le f < 1.5\text{ GHz} \\ 3060 & 1.5\text{ GHz} \le f \le 6\text{ GHz} \end{cases}$$

(Option C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$ where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP 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 (1.64 linear value).

RF SOURCE FREQUENCY (MHZ)	THRESHOLD ERP(W)
0.3 -1.34	$1{,}920\ R^2$
1.34 - 30	$3{,}450\ R^2F^2$
30 -300	$3.83\ R^2$
300-1500	$0.0128\ R^2F$
1500-100,000	$19.2R^2$

For multiple RF sources: Multiple RF sources are exempt if:

a) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those is paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).

b) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^{a} \frac{P_i}{P_{th,i}} + \sum_{j=1}^{b} \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^{c} \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of this section for Pth, including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

Pi = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

Pth,i = the exemption threshold power (Pth) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i.

ERPj = the ERP of fixed, mobile, or portable RF source j.

ERPth,j = exemption threshold ERP for fixed, mobile, or portable RF source j, at a distance of at least λ/2π according to the applicable formula of paragraph (b)(3)(i)(C) of this section.

Evaluatedk = the maximum reported SAR or MPE of fixed, mobile, or portable RF source *k* either in the device or at the transmitter site from an existing evaluation at the location of exposure.

Exposure Limitk = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source *k,* as applicable from § 1.1310 of this chapter.

2.3 CALCULATION RESULT OF MAXIMUM POWER (Option B)

The measured conducted PEAK Power

Mode	EIRP Power (dBm)
62GHz	9.98

The tuned power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
62GHz	60-64GHz	10	±1	9	11

MAXIMUM PERMISSIBLE EXPOSURE (FCC)

Mode	Frequency (GHz)	Max EIRP Power(dBm)	R (cm)	ERP (dBm)	ERP (W)	Threshold ERP(W)
62GHz	60-64	11	20	8.85	0.0077	0.77

Note: ERP=EIRP-2.15dB

Conclusion:

Therefore, confirmed that the device compliance with FCC RF exposure requirements..

------ End of the Report ------

Important

(1) The test report is invalid without the official stamp of CVC;

(2) Any part photocopies of the test report are forbidden without the written permission from CVC;

(3) The test report is invalid without the signatures of Approval and Reviewer;

(4) The test report is invalid if altered;

(5) Objections to the test report must be submitted to CVC within 15 days.

(6) Generally, commission test is responsible for the tested samples only.

(7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

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