

RF Exposure Evaluation Report

Product : Automotive Radar
Trade mark : N/A
Model/Type reference : S3CF
Serial Number : N/A
Report Number : EED32R80178202
FCC ID : 2BFO8D9IECMN85ZT6NS
Date of Issue : Mar. 21, 2025
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB 447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

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1 Version

Version No.	Date	Description
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2 Contents

	Page
1 VERSION	2
2 CONTENTS	3
3 GENERAL INFORMATION	4
3.1 CLIENT INFORMATION	4
3.2 GENERAL DESCRIPTION OF EUT	4
3.3 TEST LOCATION	5
3.4 DEVIATION FROM STANDARDS	5
3.5 ABNORMALITIES FROM STANDARD CONDITIONS	5
3.6 OTHER INFORMATION REQUESTED BY THE CUSTOMER	5
4 SAR EVALUATION	6
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT	6
4.1.1 Limits	6
4.1.2 Test Mode	6
4.1.3 EUT RF Exposure Evaluation	7

3 General Information

3.1 Client Information

Applicant:	Mindcruise Technology Co., Ltd
Address of Applicant:	Room 502-503, Building 1, Hongqiao International Exhibition Hall, 2377 Shenkun Road, Minhang District, Shanghai
Manufacturer:	Mindcruise Technology Co., Ltd
Address of Manufacturer:	Room 502-503, Building 1, Hongqiao International Exhibition Hall, 2377 Shenkun Road, Minhang District, Shanghai
Factory:	Jiangsu Mindcruise Technology Co., Ltd
Address of Factory:	Floors 1-4, North Side of Building 3, Gaochuang Park, Yandu District, Yancheng City, Jiangsu Province (D)

3.2 General Description of EUT

Product Name:	Automotive Radar
Model No.:	S3CF
Trade mark:	N/A
Product Type:	<input type="checkbox"/> Mobile <input type="checkbox"/> Portable <input checked="" type="checkbox"/> Fix Location
Operating Frequency:	76GHz to 81GHz
Center frequency:	76.35GHz
Number of channel:	1
Type of Modulation:	FMCW(Frequency Modulated Continuous Wave)
Test Power Grade:	Default (manufacturer declare)
Test Software of EUT:	Faaastseer_Installer_Ver_2.0.08.exe (manufacturer declare)
Antenna Type:	Microstrip antenna
Antenna Gain:	16.1dBi
Power Supply:	DC 9V to DC 36V
Test Voltage:	DC 12V
Sample Received Date:	Feb. 17, 2025
Sample tested Date:	Feb. 17, 2025 to Mar. 19, 2025

3.3 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

3.4 Deviation from Standards

None.

3.5 Abnormalities from Standard Conditions

None.

3.6 Other Information Requested by the Customer

None.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

According to KDB 447498 D04 Interim General RF Exposure Guidance v01, for all devices, MPE limits in § 1.1310(e)(1) - Table 1. The SAR-based exemption formula of § 1.1310(e)(1), Table 1 to § 1.1310(e)(1) sets forth limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields.

Table 1 to § 1.1310(e)(1)—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3–3.0	614	1.63	*(100)	≤6
3.0–30	1842/f	4.89/f	*(900/f ²)	<6
30–300	61.4	0.163	1.0	<6
300–1,500			f/300	<6
1,500–100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	<30
1.34–30	824/f	2.19/f	*(180/f ²)	<30
30–300	27.5	0.073	0.2	<30
300–1,500			f/1500	<30
1,500–100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

Friis Formula,

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$;

Where,

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW G = gain of antenna in linear scale $\pi = 3.1416$;

R = distance between observation point and center of the radiator in cm .

General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure. For example, RF sources intended for consumer use shall be subject to the limits for general population/uncontrolled exposure in this section.

4.1.2 Test Mode

TX mode_Make EUT continuously emit radar signals.

4.1.3 EUT RF Exposure Evaluation

For Stand alone:

Frequency (GHz)	R (cm)	Corrected EIRP (dBm/MHz)	Tune-up EIRP (dBm)	Tune-up EIRP (mW)	Power density (mW/cm ²)	Limit (mW/cm ²)	Result
76.35	20	23.25	24.00	251.1886	0.05	1	PASS

Note:

① $EIRP(mW) = 10^{(EIRP(dBm)/10)}$;

② The estimation distance is 20cm;

③ Tune-up EIRP was declared by manufacturer;

④ $Power\ density(mW/cm^2) = \frac{Tune-up\ EIRP(mW)}{4 * \pi * R^2}$;

⑤ The test data of Corrected EIRP please refer to the report of EED32R80178201 and only the worst case data was recorded in the report.

Statement

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
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*** End of Report ***