FCC Test Report

Report No: FCS202409351H01

Issued for

Applicant:	OBDSPACE TECHNOLOGY CO.,LTD
Address:	D03, Block A, No.973 Minzhi Ave, Longhua District, Shenzhen,Guangdong, China
Product Name:	Auto diagnostic scanner
Brand Name:	Ancel
Model Name:	FX3000
Series Model:	FX3000 Elite, FX3000 Pro, FX3000 Plus, FX3100, FX3200, FX3300, FX3400, FX3500, FX3600, FX3700, FX3800, FX3900
FCC ID:	2BLAD-FX3000
Test Standard:	FCC 47CFR §2.1091
Issued By: Flux Compliance Service Laboratory Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan Tel: 769-27280901 Fax:769-27280901 http://www.FCS-lab.com	

TEST RESULT CERTIFICATION

Applicant's Name...................	:	OBDSPACE TECHNOLOGY CO.,LTD
Address	:	D03, Block A, No.973 Minzhi Ave, Longhua District, Shenzhen,Guangdong, China
Manufacture's Name.............	:	OBDSPACE TECHNOLOGY CO.,LTD
Address	:	D03, Block A, No.973 Minzhi Ave, Longhua District, Shenzhen,Guangdong, China

Product Description

Product Name	:	Auto diagnostic scanner
Brand Name	:	Ancel
Model Name	:	FX3000
Series Model	:	FX3000 Elite, FX3000 Pro, FX3000 Plus, FX3100, FX3200, FX3300, FX3400, FX3500, FX3600, FX3700, FX3800, FX3900
Test Standards	:	FCC 47CFR §2.1091 447498 D01 Interim General RF Exposure Guidance v06

This device described above has been tested by Flux Compliance Service Laboratory, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test...............................:

Date (s) of performance of tests.:		Sep.18, 2024 ~ Sep. 25, 2024
Date of Issue............................:		Sep. 26, 2024
Test Result ....:		Pass

Tested by   :   *Scott Shen*

(Scott Shen)

Reviewed by   :   *Duke Qian*

(Duke Qian)

Approved by   :   *Jack Wang*

(Jack Wang)

TABLE OF CONTENTS

Revision History

Rev.	Issue Date	Contents
00	Sep. 26, 2024	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Auto diagnostic scanner
Brand	Ancel
Model Number	FX3000
Series Model(s)	FX3000 Elite, FX3000 Pro, FX3000 Plus, FX3100, FX3200, FX3300, FX3400, FX3500, FX3600, FX3700, FX3800, FX3900
Model Difference	Only different of model name.
Product Description	The EUT is Auto diagnostic scanner

	Operation Frequency:	802.11b/g/n 20: 2412~2462 MHz
	Modulation Type:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM
	Antenna gain:	-0.58 dBi
	Antenna Designation:	PCB antenna

Power Supply	Input: DC 12V from adapter
Battery	N/A
Hardware version number	V1.0
Software version number	V1.0

1.2 TEST FACTORY

Company Name:	Flux Compliance Service Laboratory
Address:	Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan
Telephone:	+86-769-27280901
Fax:	+86-769-27280901

FCC Test Firm Registration Number: 514908
Designation number: CN0127
A2LA accreditation number：5545.01
ISED Number：25801
CAB ID ：CN0097

Organization	CAB identifier	Scope / Recognition Date (yyyy-mm-dd)	Expiration (yyyy-mm-dd)
FLUX COMPLIANCE SERVICE LABORATORY Baohao Technology Building 1 No. 15 Gongye West Road Hi-Tech Industrial Park Songsham Lake Dongguan, Guangdong. 523808 PRC. ISED#： 25801 Contact: Andy Yue andy-yue@fcs-lab.com	CN0097	RSS-102(RFExp) (2020-01-09) RSS-GEN (2020-01-09) RSS-210 (2020-01-09) RSS-247 (2020-01-09)	RECOGNIZED UNTIL: 2023-12-31 A2LA ISO/IEC 17025: 2017 Expires: 2023-12-31

2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.
According to §1.1310 and §2.1091 RF exposure requirement
KDB447498 D01v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies
The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.
Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

Friss Formula

Friss Transmission Formula: $Pd = (Pout * G) / (4*pi*r^2)$

Where

Pd = power density in mW/cm² aaa

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.

Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.

2.3 TEST RESULT

Turn up

Frequency	802.11b(Peak)		
(MHz)	2412	2437	2462
Target (dBm)	7	7	7
Tolerance ± (dB)	1	1	1
Frequency	802.11g(Peak)		
(MHz)	2412	2437	2462
Target (dBm)	7	7	7
Tolerance ± (dB)	1	1	1
Frequency	802.11n(HT20) (Peak)		
(MHz)	2412	2437	2462
Target (dBm)	5	7	7
Tolerance ± (dB)	1	1	1

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
2.4G WLAN	8	6.31	-0.58	0.875	0.00110	1

Results: PASS

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