中认信通
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

RF EXPOSURE

EVALUATION REPORT

Applicant: **Shanghai AllyNav Technology Co.,Ltd.**

Address: Room 201, Buliding 1,No 215, Gaoguang RD, Qingpu District, Shanghai, China, 201702

FCC ID: **2AT4H-T101PRO**

Product Name: **Rugged high-precision vehicle-mounted tablet**

Standard(s): **47 CFR §1.1307**

The above device has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: **CR230744003-00G**

Date Of Issue: **2023/9/21**

Reviewed By: **Calvin Chen**

Title: RF Engineer

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Title: Manager

Test Laboratory: **China Certification ICT Co., Ltd (Dongguan)**
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Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "▲". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR230744003-00G	Original Report	2023/9/21

1. RF EXPOSURE EVALUATION

Applicable Standard

According to subpart 15.247(i)and subpart §1.1310, 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.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

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

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Calculated Data:

Operation Modes	Frequency (MHz)	Antenna Gain		Conducted output power including Tune-up Tolerance		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
2.4G WLAN	2412-2462	4.36	2.73	25	316.23	30	0.0763	1
BDR/EDR	2402-2480	4.36	2.73	12.5	17.78	30	0.0043	1
BLE	2402-2480	4.36	2.73	-2	0.63	30	0.0002	1
5.2G WLAN	5180-5240	4.36	2.73	11	12.59	30	0.0030	1
5.8G WLAN	5745-5825	4.36	2.73	11.5	14.13	30	0.0034	1
GSM850	824-849	3.02	2	32	1584.89	30	0.2803	0.549
GSM1900	1850-1910	2.82	1.91	29	794.33	30	0.1341	1
WCDMA B2	1850-1910	2.82	1.91	22	158.49	30	0.0268	1
WCDMA B4	1710-1755	3.49	2.23	23	199.53	30	0.0393	1
WCDMA B5	824-849	3.02	2	22.5	177.83	30	0.0314	0.549
LTE B2	1850-1910	2.82	1.91	22	158.49	30	0.0268	1
LTE B4	1710-1755	3.49	2.23	23.5	223.87	30	0.0441	1
LTE B5	824-849	3.02	2	24.5	281.84	30	0.0498	0.549
LTE B7	2500-2570	2.37	1.73	18.5	70.79	30	0.0108	1
LTE B12	699-716	5.25	3.35	25.5	354.81	30	0.1051	0.466
LTE B17	704-716	5.25	3.35	25.5	354.81	30	0.1051	0.469
LTE B25	1850-1915	2.97	1.98	22	158.49	30	0.0277	1
LTE B38	2570-2620	2.16	1.64	18.5	70.79	30	0.0103	1
LTE B40 Lower	2305-2315	1	1.26	19.5	89.13	30	0.0099	1
LTE B40 Upper	2350-2360	2.36	1.72	19.5	89.13	30	0.0136	1
LTE B41	2555-2655	2.16	1.64	18	63.10	30	0.0091	1

The WWAN, WiFi or Bluetooth can transmit simultaneously.

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

$= S_{2.4}/S_{limit-2.4} + S_5/S_{limit-5} + S_{wwan}/S_{limit-wwan}$

$=0.0763/1+0.0034/1+0.2803/0.549$

$=0.5903$

< 1.0

Result: The device meet FCC MPE at 30 cm distance.

===== END OF REPORT =====