



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



RF EXPOSURE EVALUATION REPORT

Applicant: Qianxun Spatial Intelligence (Zhejiang) Inc.

Address: No.1,Building12,Area C,Deqing Geographic Info Town, Wuyang
Street,Deqing County, Huzhou City,Zhejiang Province, China

FCC ID: 2A33X-Q600

Product Name: GNSS Receiver

Standard(s): 47 CFR §1.1310

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

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Reviewed By: Sun Zhong

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Title: Manager

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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	CR230311381-00f	Original Report	2023/5/6

1. RF EXPOSURE EVALUATION

1.1 Applicable Standard

According to 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/f ²)	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/cm²);

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:

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

1.2 Measurement Result

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)			
WiFi	2412-2462	0	1	24	251.19	30	0.0222	1
BLE	2402-2480	0	1	6	3.98	30	0.00035	1
BDR/EDR	2402-2480	0	1	6	3.98	30	0.00035	1
UHF	410-470	0	1	32	1584.89	30	0.1401	0.273

Note:

The BDR/EDR, UHF ,WiFi and BLE can transmit simultaneously.

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

$$= P_{BDR/EDR} / P_{th} + P_{BLE} / P_{th} + P_{WiFi} / P_{th} + P_{UHF} / P_{th}$$

$$= 0.00035/1 + 0.00035/1 + 0.0222/1 + 0.1401/0.273$$

$$= 0.536$$

$$< 1.0$$

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

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