TX2504-3T7A21C-WG-DT

Mini-7-element multi-system satellite navigation

Anti-jamming ALL-IN-ONE

Product Specification

Proposed title/date: _____

Review / Date: _____

Ratification/Date: _____

Catalogue

■ Product presentation

The miniaturized 7-element multi-system satellite navigation anti-jamming integrated device is a compact satellite navigation anti-jamming integrated device designed for civilian drones and industry users. It supports BDS + GPS + GLONASS + GALILEO, with anti-broadband jamming capability and a maximum interference resistance of 6. The device integrates an antenna array, anti-jamming components, and a satellite navigation receiver, featuring miniaturization, lightweight design, and low cost.

■ Product function

1. This product has 7 arrays and can resist up to 6 interferences

2.RNSS signal reception

1) It has the function of receiving signals from Beidou, GPS, GLONASS and GALILEO navigation satellites RNSS

2) Civil codes: BDS-B1i, BDS-B1c, GPS-L1, GLO-G1, GAL-E1

3. Anti-interference function

It has anti-jamming functions with BDS-B1, GPS-L1, GLO-G1 and GAL-E1 frequency points, which can suppress narrowband jamming, broadband jamming, pulse jamming, sweep frequency jamming, Gaussian jamming and other suppression jamming

4. Built-in full frequency navigation and positioning module, output information according to NMEA0183 protocol.

5. Serial port output or RF port output can be used.

6. Software upgrade

It has the function of software upgrade, and can be upgraded through the serial port to the interference module and receiver module

7. System self-test

It has self-inspection and status inspection functions

8. Fire resistance function

The anti-continuous wave power is not less than 10W

9. Security

Overvoltage protection is available

■ Behaviour of electricity

1. Working frequency

BDS-B1：1561.098MHz

GPS-L1、GAL-E1：1575.42MHz

GLO-G1：1602MHz

2. Anti-interference performance

Single interference dry signal ratio: ≥110dB, three interference dry signal ratio: ≥100dB, six interference dry signal ratio: ≥90dB

3. Positioning accuracy

Level <1.5 m

4. Speed measurement accuracy

≤ 0.2 m/s (95%)

5. Timing accuracy

≤100ns（95%）

6. Working voltage

Input voltage 6~33V

7. Power consumption

≤25W

■ Interface definition

1. Power/data interface

The J30J-9ZK core connector is selected, and the pin definition is as follows:

No.	name	direction	electrical level	remarks
1	Positive pole	import	6~33V	
2	Positive pole	import	6~33V	
3	Negative pole	import		
4	Negative pole	import		
5	TXD0	import	TTL	Upgrade to serial port
6	RXD0	output	TTL	
7	RXD1	output	TTL	Anti-interference serial port
8	TXD1	import	TTL	
9	GND	import	TTL	

2. RF interface

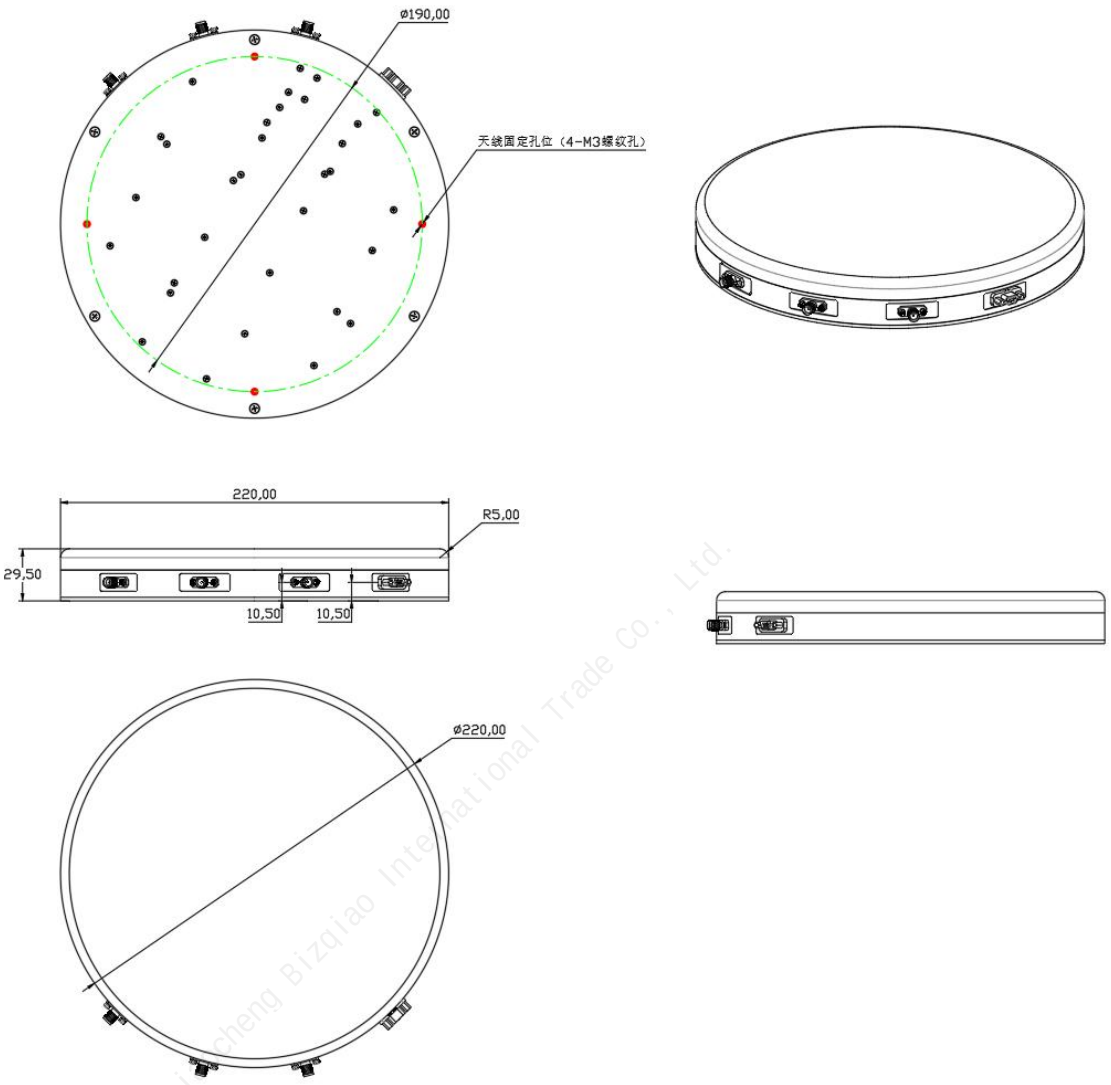
1) Anti-interference signal output interface, using SMA connector, and in the form of a single line

2) The signal level of output B1\L1\G1\E1 is-60~-40dBm

■ Shape and structure

1. External dimensions

Φ220*29.5mm



2. Weight

≤1200g

3. Color

French grey

■ Product identification

product name:
product model:
serial number:
date of manufacture:
manufacturer:

■ Environmental suitability

1. Working temperature:

-40℃～+55℃

2. Storage temperature:

-55℃～+70℃

3. Relative humidity:

Temperature 40℃; humidity: 96%

4. Rain:

Meet the rain test requirements of GJB150A

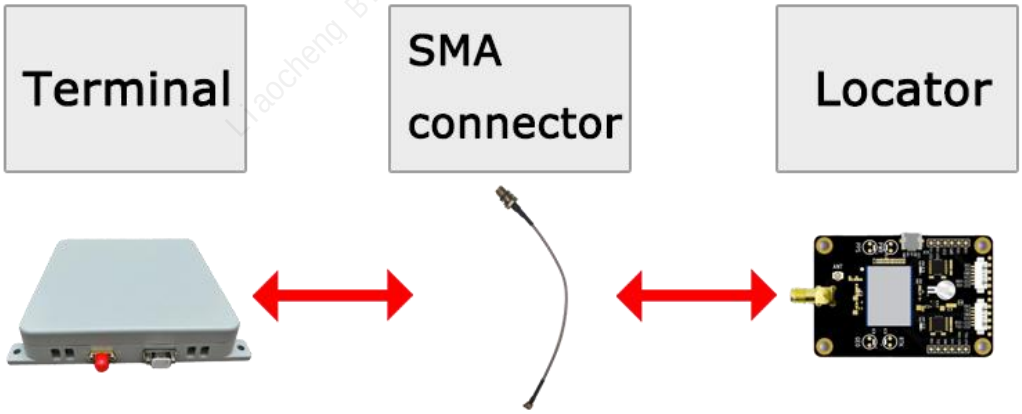
■ Typical application scenarios

1. Time synchronization security in power, communications and finance
2. Navigation safety for drones, unmanned cars and unmanned ships
3. Vehicle defense navigation safety
4. High-end logistics navigation safety

■ High-end logistics navigation safetyDescription of the relationship

1. The telecommunication signal connection between the product and the platform carrier is connected by low frequency data method.
2. The product has a built-in locator that can replace the conventional positioning terminal and antenna. As shown in the figure below:

3. In RF signal access mode, this product replaces the conventional active antenna. When connecting using the RF interface of this product, please ensure that the interface of the connected party does not provide a power supply exceeding 5V to this product to avoid possible power conflicts or damage. As shown in the following diagram.



4. When using the USB to TTL tool to connect with the computer, do not plug or unplug the USB with power to avoid damaging the serial port.

■ Installation and use

1. Fixed

Install and fix with M3 screws.

2. Supply electricity

Powered by XT30, the power supply voltage is 6-33V, and the maximum is not more than 33V.

3. Location data connection

1) Connect the DuPont line TTL serial port of this product to the GNSS serial port of the flight control.

Use the accompanying data cable provided with this product to connect to the GNSS serial port of the flight controller. Connect one end of the data cable labeled TX to the RX interface of the flight controller, one end of the data cable labeled RX to the TX interface of the flight controller, and the other end of the data cable labeled GND to the GND interface of the flight controller.

2) Use the SMA cable to connect the products RF port to the drone locators antenna port.

Note: Either serial port or RF port is sufficient.

■ Connect with the flight control protocol

This product outputs the nmea 0183 protocol.

■ Disclaimer

This product is designed to enhance the safety of satellite navigation. Please comply with relevant laws and regulations when using this product. Any illegal activities carried out using this roduct are not related to this product.