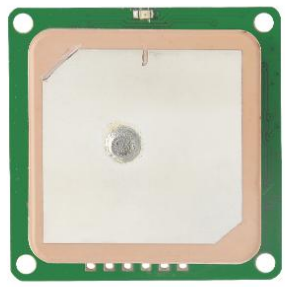
Accurate positioning

22°39'48.37"N 114°02'10.91"E

JS-ATP30-2

PRODUCT SPECIFICATION

Data Sheet



Shenzhen Jumpstar Technology Co., Ltd
Ph: +0086 158 147 26298

www.jumpstar-tech.com
Email: Sherry@jumpstar-tech.com

Contents

Updating History of Revision 4
1 Product Description 4
1.1 Overview 4
1.2 Product Features 4
1.3 performance 5
1.4 protocol 5
1.5 Antenna 6
1.6 Product Application 6
2 Pin Definitions 6
2.1 Pin Assignment 6
3 Electrical Specifications 7
4 Mechanical Specifications 7
5 Interface configuration Optional 8
5.1 Interface Description 8
5.1.1 Block Diagram 8
5.1.2 Application circuit 8
6 USB Driver acquisition guide 9
7 ROHS 9

Updating History of Revision

Revision	Date	Contents of Revision Update	Remark
V1.0	2022-06-20	First release	汪伟

1 Product Description

1.1 Overview

JS-ATP30-2 adopts a multi-mode solution, low power consumption, and low cost. It is a multi-mode single frequency (GPS, BDS, GLONASS, Galileo, QZSS, and SBAS) positioning module to meet the requirements of various applications and terminal products. It was developed based on requirements. Based on a high-performance SOC position engine, this receiver provides excellent sensitivity and acquisition time with interference suppression measures to achieve reliable positioning even under difficult signal conditions.

1.2 Product Features

- Based on high-performance GNSS SOC series
- 47 tracking channels
- Cold start acquisition sensitivity is -148dBm, tracking sensitivity is -165dBm
- Navigation update rate up to 10Hz
- Can support GPS, BDS, GLONASS, Galileo, QZSS and SBAS simultaneously
- Support AGPS
- Indoor and outdoor multipath detection and compensation
- Integrated 12 multi-tone active interference cancellers
- Integrated TCXO, LNA, SAW and RTC
- Compact size (30.0mm x 30.0mm x 8.5mm±0.3mm) for space-sensitive applications
- Support standard NMEA 0183 V3.01/V4.10
- Support 1PPS output

1.3 Performance

Parameters	Specifications
Satellite frequency	■GPS/QZSS L1C L1C/A ■GLONASS L1 ■BDS B1I B1C ■Galileo E1 ■SBAS WAAS/EGNOS/MSAS/GAGAN
Sensitivity	Tracking and Navigation -165dBm Cold Start -148dBm
Time-To-First-Fix1	Cold Start 24s Hot Start 1s
GNSS Position accuracy[2]	horizontal 2m vertical 3.75m
Time pulse signal accuracy	1PPS 10ns
Speed accuracy3	GNSS 0.1m/s SBAS 0.05m/s
Operational restrictions4	Acceleration 4g Altitude 10000m speed limit 100m/s
Frequency of time pulse signal	1Hz
Baud Rate	4800-921600 bps（Default 115200 bps）5
Maximum navigation update rate	10Hz（ Default 1Hz）

1 All satellites at: -130dBm

2 Open sky, 24 hours static，-130dBm，>6SVs，CEP 50%

3 50%@30m/s dynamic operation

4 Assuming Airborne≤4g platform

5 To open the debug log, need to be able to support a higher baud rate of 230400bps or above.

1.4 Protocols

Protocols	Type
NMEA 0183 V3.01/V4.10	Input/Output，ASCII

1.5Antenna

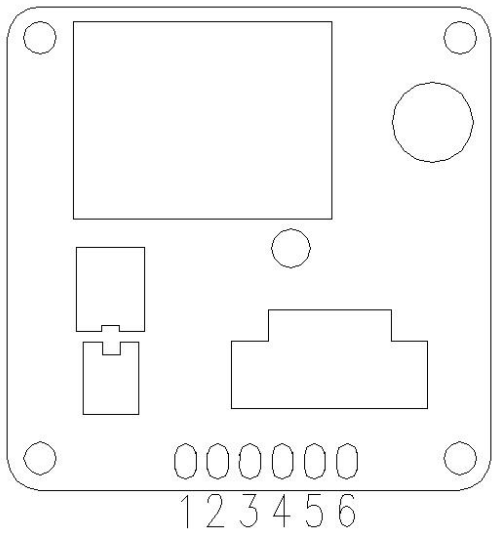
parameter	Specification
Passive antenna type	25.0*25.0*4.0mm

1.6 Product Application

•Automotive applications
•Maritime navigation, fleet management
•Intelligent logistics dispatching
•Ground vehicle tracking and urban intelligent traffic management
•Intelligent robots
•Wearable devices
•Personal travel and wilderness adventures
•emergency rescue

2 Pin definitions

2.1 Pin assignment



PIN	Name	I/O	Description
1	RXD/DP	I	TTL input/D+
2	TXD/DM	O	TTL output/D-
3	GND	G	GND
4	VCC	P	main power
5	1PPS	O	Time pulse signal output
6	EN	I	Module power control switch

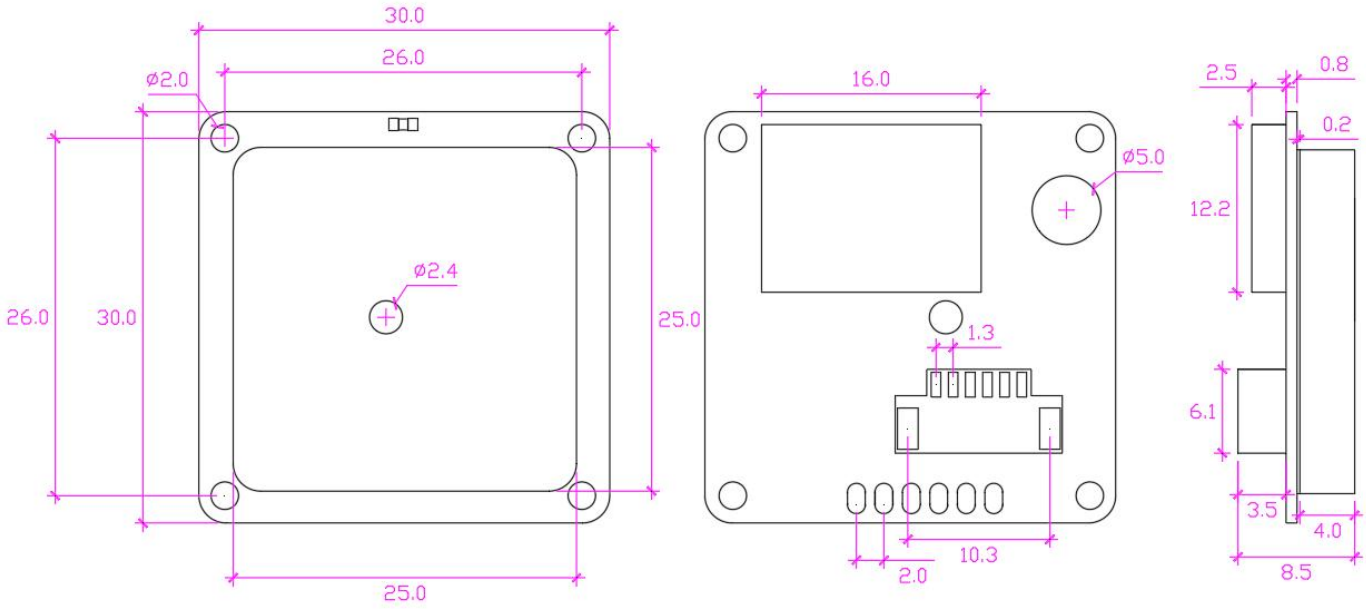
3 Electrical Specifications

Parameter	Symbol	Min	Type	Max	Units
Supply Power voltage	VCC	2.8	5.0	5.5	V
Average supply current	Acquisition	31@5.0V	34@5.0V	38@5.0V	mA
	Tracking	30@35.0V	32@5.0V	35@5.0V	mA
Backup battery			0.07		F
Backup battery current	I_BCKP		11@3.3V		uA
Digital IO voltage	Div	2.8	3.3	3.3	V
Storage temperature	Tstg	-40		85	°C
Operating temperature[1]	Topr	-40		85	°C
Farah capacitance[2]	Tstg	-25		60	°C
Humidity				95	%

1 This temperature range is the operating temperature range without farad capacitors

2 When the temperature is lower than -25℃ or higher than 60℃, this module cannot be hot-started

4 Mechanical specifications

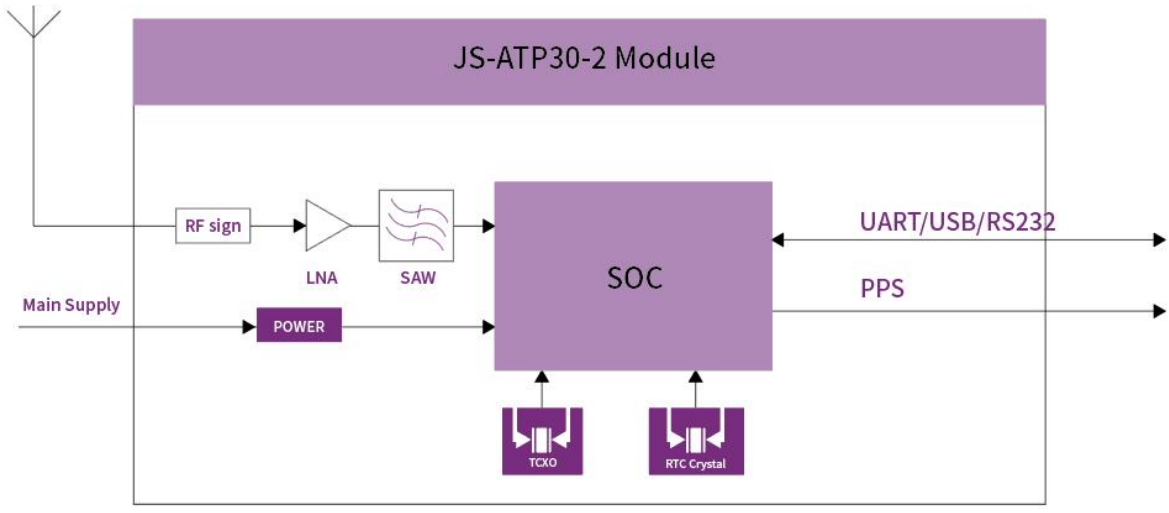


Units: mm. Dimension error: ±0.3mm.

5 Interface configuration Optional

5.1 Interface Description

5.1.1 Block Diagram

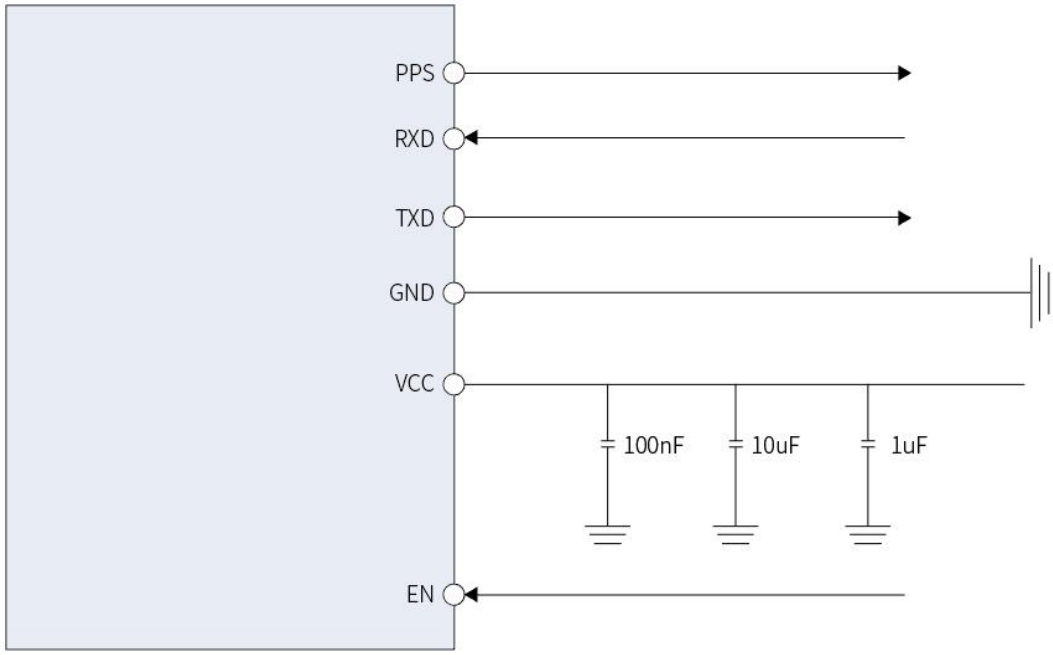


5.1.2 Interface description

JS-ATP30-2 series modules can be selected according to the corresponding interface output. There are mainly the following options.

NAME	UART	USB	RS232
JS-ATP30-2	√	NC	NC
JS-ATP30B-2	NC	√	NC
JS-ATP30R-2	NC	NC	√

5.1.3 Application Circuit



6 USB Driver Obtaining Guide

When using the USB interface of this product, you need to install the PL2303 driver, which can be downloaded from the website or obtained from our official website (Windows driver)

7 ROHS

This product complies with RoHS standards