



Accurate
positioning

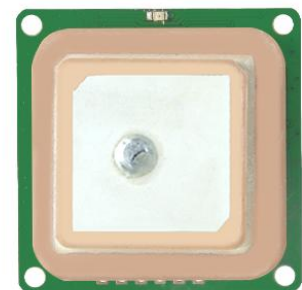
22°39'48.37"N 114°02'10.91"E



JS-ATP30-M

PRODUCT SPECIFICATION

Data Sheet



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1 Product Description

1.1 Overview

JS-ATP30-M adopts a multi-mode solution, low power consumption, and low cost. It is a multi-mode dual-frequency (GPS, BDS, GLONASS, Galileo, QZSS, and SBAS) positioning module to meet the requirements of various applications and terminal products. 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
- 135 channels (L1:75, L5:60)*
- Cold start acquisition sensitivity is -148dBm, tracking sensitivity is -165dBm
- Navigation update rate up to 10Hz
- Supports GPS, BDS, GLONASS, Galileo, QZSS and SBAS
- 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 12.5mm±0.3mm) for space-sensitive applications
- Support standard NMEA 0183 V3.01/V4.10
- Support 1PPS output

* The number of channels in wear mode is L1:42, L5:30

1.3 Performance

Parameters	Specifications	
Satellite frequency	■GPS L1CA L5 ■BDS B1I B2a ■Galileo E1B E1C E5a	
	■GLONASS L1OF ■QZSS L1CA L1SAIF L5	
	■SBAS WAAS EGNOS MSAS GAGAN	
Sensitivity	Tracking and Navigation	-165dBm
	Cold Start	-148dBm
Time-To-First-Fix ¹	Cold Start	24s
	Hot Start	1s
GNSS Position accuracy ²	Horizontal 3G+B	1.0m (L1+L5); 2.5m (L1)
	Vertical	2.25m
Time pulse signal accuracy	1PPS	10ns
Speed accuracy ³	GNSS	0.1m/s
	SBAS	0.05m/s
Operational restrictions ⁴	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

1.5 Antenna

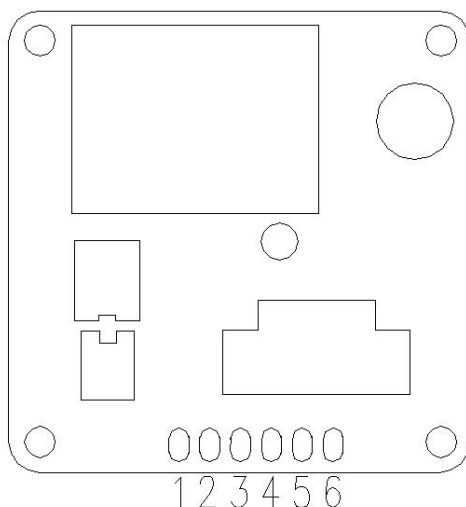
parameter	Specification
Passive antenna type	25.0*25.0*4.0mm (L5) + 18.0*18.0*4.0mm (L1)

1.6 Product Application

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

2 Pin definitions

2.1 Pin assignment



PIN	Name	I/O	Description
1	RXD/DP	I	Data Input
2	TXD/DM	O	Data Output
3	GND	G	GND
4	VCC	P	Main power
5	1PPS	O	Time pulse signal output
6	EN	I	Module power control switch

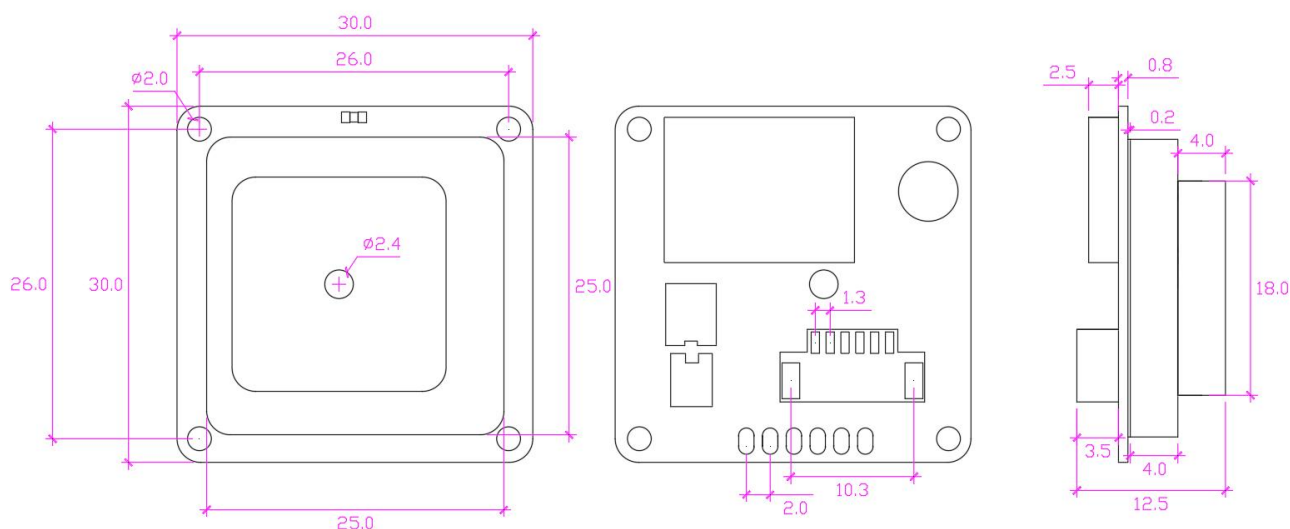
3 Electrical Specifications

Parameter	Symbol	Min	Type	Max	Units
Supply Power voltage	VCC	2.8	5.0	5.5	V
Average supply current	Acquisition	32@5.0V	34@5.0V	38@5.0V	mA
	Tracking	32@5.0V	33@5.0V	36@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°C or higher than 60°C, this module cannot be hot-started

4 Mechanical Specifications

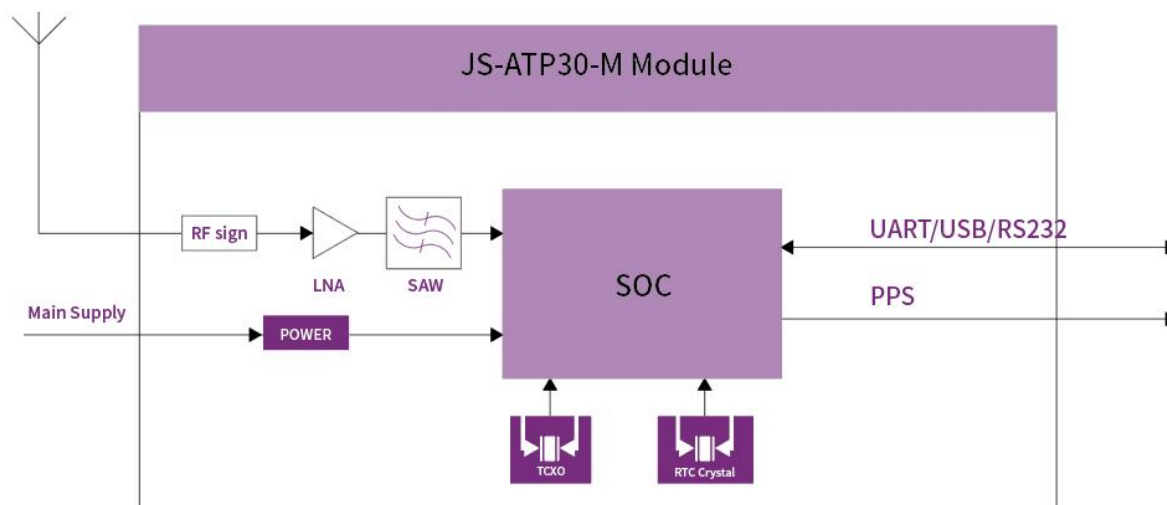


Units: mm. Dimension error: $\pm 0.3\text{mm}$.

5 Interface configuration Optional

5.1Interface Description

5.1.1Block Diagram

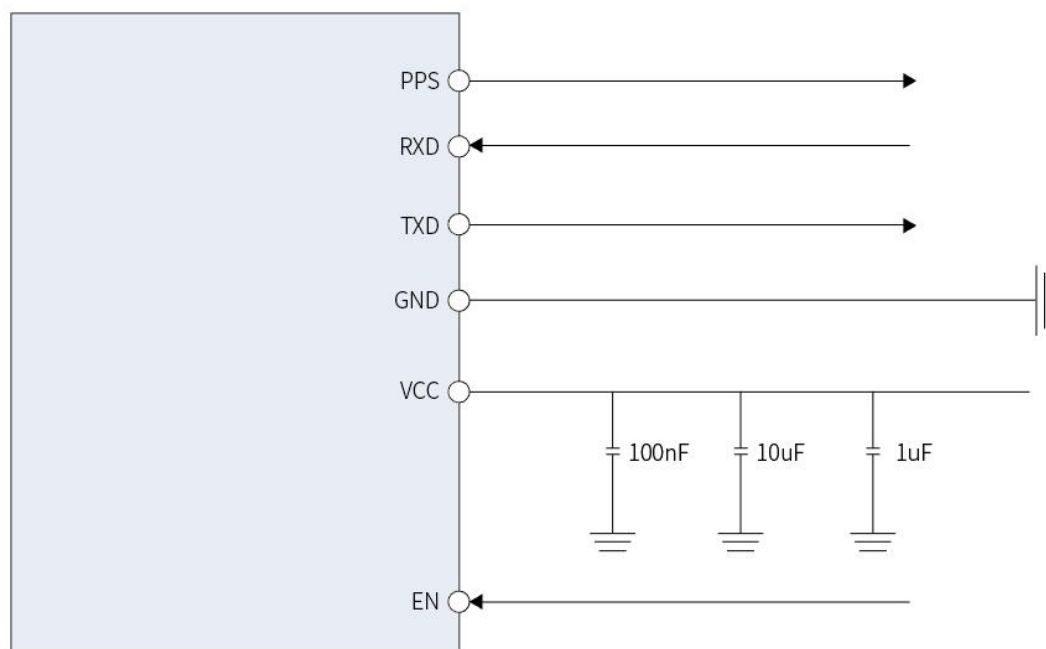


5.1.2 Interface description

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

Name	UART	USB	RS232
JS-ATP30-M	√	NC	NC
JS-ATP30B-M	NC	√	NC
JS-ATP30R-M	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 is RoHS compliance.