



Accurate
positioning

22°43'59.57617"N 114°03'03.61546"E



JS-168UP30B-1

PRODUCT SPECIFICATION

Data Sheet



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Change History of Revision

Revision	Date	Contents of Revision Change	Remark
V1.0	2024-11-21	First release	WYZ

1 Functional description

1.1 Overview

The JS-168UP30B-1 uses multi mode solution, low power consumption, low cost, the JS-168UP30B-1 are multi-GNSS (BDS , GPS, GLONASS, Galileo ,QZSS and SBAS) positioning module developed to meet the requirements of an extensive range of applications and end-products. Based on the high performance SOC position engine ,these receivers provide exceptional sensitivity and acquisition times and interference suppression measures enable reliable positioning even in difficult signal conditions.

1.2 Product Features

- Build on high-performance GNSS AUP30B-1
- Over 2 million effective correlators
- Cold start acquisition sensitivity of -148dBm and -166dBm tracking sensitivity
- Up to 10 Hz navigation update rate
- Supports GPS, BDS, GLONASS, Galileo, QZSS, SBAS
- Supports A-GNSS
- Integrated TCXO, LNA, SAW, RTC
- Compact size (50.2mm x 39.2mm x 19.2mm±0.3mm)
- Support standard NMEA 0183, UBX

1.3 Performance

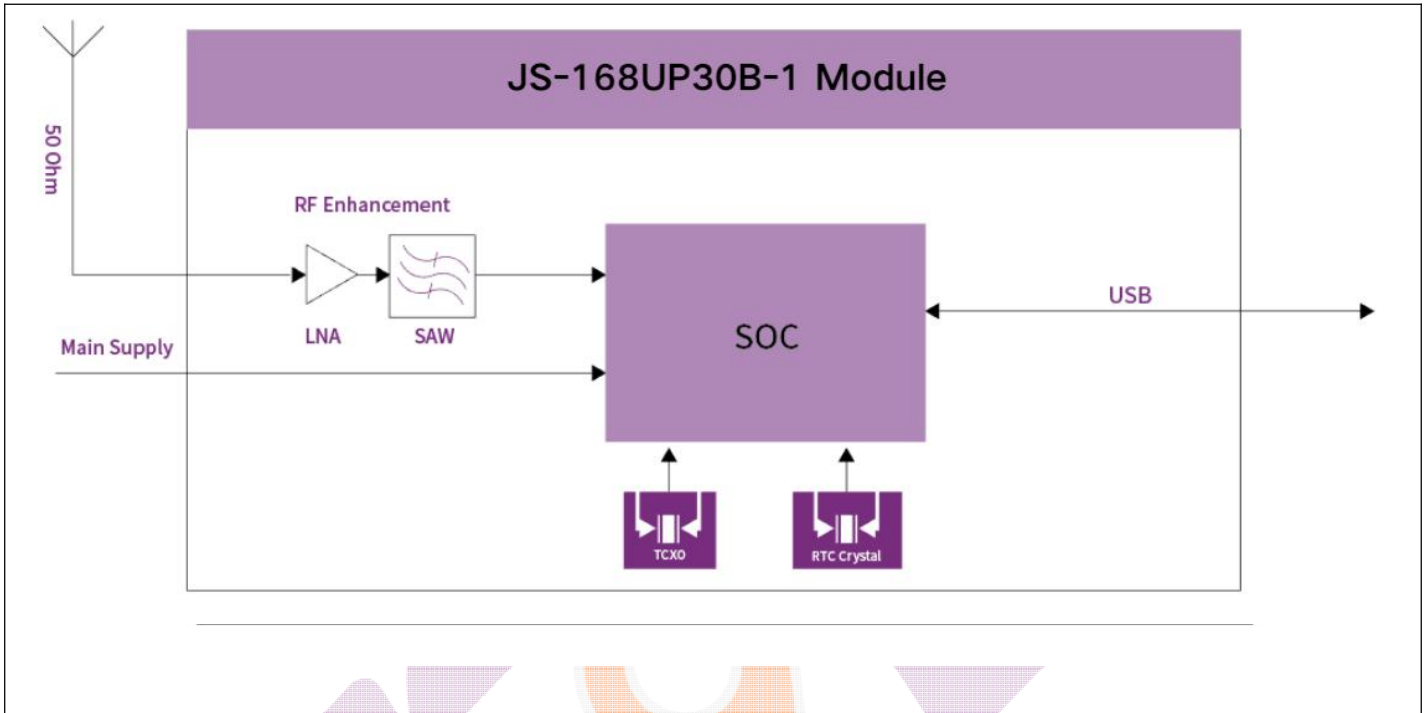
Parameter	Specification
Receiver type*	■GPS/QZSS L1C/A ■SBAS EGNOS, GAGAN, MSAS and WAAS ■GLONASS L1OF ■BDS B1I, B1C ■Galileo E1 B/C
Sensitivity ¹	Tracking & Navigation -166dBm Reacquisition -160dBm Hot Start -160dBm Cold Start -148dBm
Time-To-First-Fix ²	Cold Start 29 s Hot Start 1 s
Horizontal Position accuracy ³	Autonomous 2.0 m CEP SBAS 1.5 m CEP
Accuracy of time pulse signal	RMS 30 ns 99% 60 ns
Velocity accuracy ⁴	0.05 m/s
Operational limits ⁵	Dynamics ≤ 4 g Altitude 80000 m Velocity 500 m/s
Frequency of time pulse signal	Default 1PPS (0.25 Hz to 10 MHz configurable)
Baud Rate	4800 -- 921600 bps (Default 38400 bps)
Max navigation update rate	10 Hz (Default 1Hz, configurable)

Default GPS+Galileo+QZSS+SBAS, BeiDou B1I cannot be enabled simultaneously with BeiDou B1C or GLONASS L1OF

¹ All satellites at ≥-130dBm

- 2 CEP 50%, 24 hours static, $\geq -130\text{dBm}$, $> 6\text{SVs}$
- 3 50%@30m/s dynamic operation
- 4 Assuming Airborne $< 4\text{ g}$ platform

1.4 Block Diagram



1.5 Protocols

Protocol	Type
NMEA versions 2.1, 2.3, 4.0, 4.10 and 4.11 (default)	Input/output, ASCII
UBX	Input/output, binary, u-blox proprietary

1.6 Antenna

The JS-168UP30B-1 module was designed for use with passive antennas.

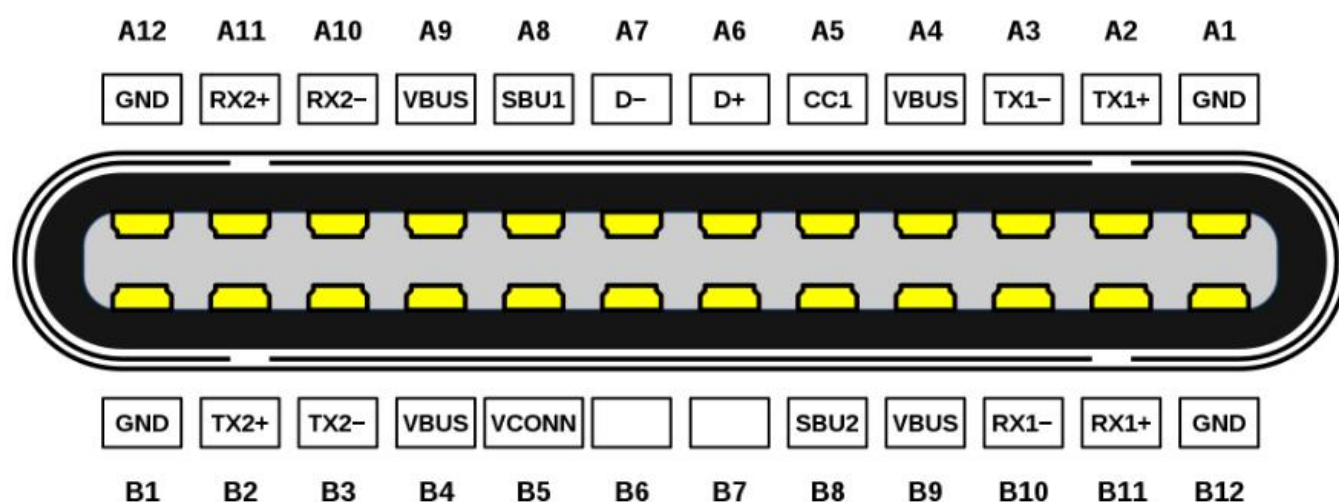
Parameter	Specification
Passive Antenna Type	25*25*4mm

1.7 Product Application

- Automotive application
- AVL and location-based services
- Marine navigation, fleet management
- Navigation, fleet management
- Intelligent logistics scheduling
- Personnel protective
- Car navigation and tracking
- Intelligent robot

2 Pin definitions

2.1 Definition of Pin Assignment



No.	Name	I/O	Description
A4/A9/B4/B9	VCC	P	Main supply
A6	D+	I/O	Data Positive
A7	D-	I/O	Data Minus
A1/A12/B1/B12	GND	G	Ground

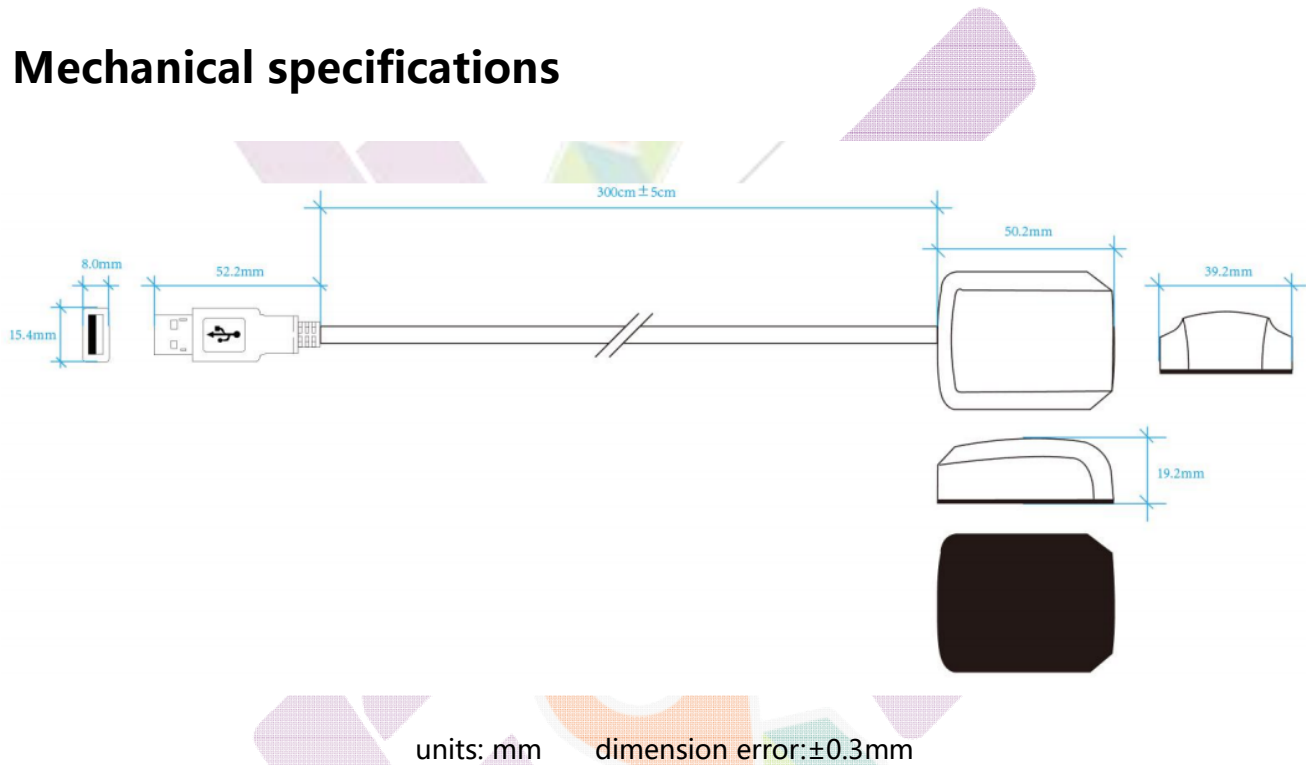
3 Electrical specifications

Parameter	Symbol	Min	Type	Max	Units
Power supply voltage	VCC	4.5	5.0	5.5	V
Average supply current	Acquisition	27@5.0V	35@5.0V	41@5.0V	mA
	Tracking	27@5.0V	32@5.0V	40@5.0V	mA
Backup battery			0.07		F
Backup battery current	I_BCKP		28@3.3V		uA
Digital IO voltage	Div	3.3		3.3	V
Storage temperature	Tstg	-40		85	°C
Operating temperature ¹	Topr	-40		85	°C

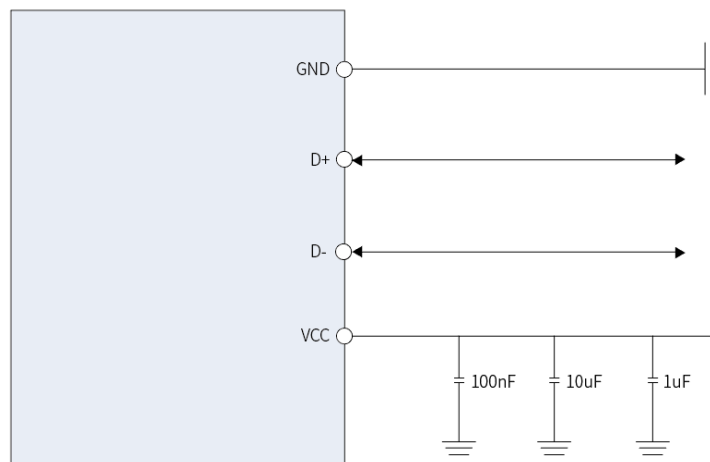
Farah capacitance ²	Tstg	-25	60	°C
Humidity			95	%

- ¹ The temperature range is the operating temperature range without the Farad capacitor
- ² Hot start cannot be carried out when the temperature is below -20°C or above 60°C

4 Mechanical specifications



5 Application Circuit



6 Driver Obtaining Guide

To use 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

