

Product name	Description	Version
RTK-15D	L1+L5 RTK device for OTG on Android system	0.2



## 1. Introduction

LOCOSYS RTK-15D product is L1 + L5 Dual-frequency and multi-constellation RTK positioning solution which provides 1cm high precision positioning accuracy. The positioning accuracy specification is "cm level" which is directly connected to the USB and allows every Android device to be immediately upgraded and quickly implement to (RTK) high-precision positioning accuracy. The receiver support GPS, GLONASS, BeiDou, GALILEO, QZSS, SBAS and other global multi-constellations, even in harsh environments, it can improve the continuity and reliability of positioning.

RTK-15D product via Type-C cable easy with any Android smart phone or tablet which targets for river channel exploration, collect waypoints, construction site mapping system, highway mapping, pipeline mapping and other geographic mapping system.

Besides, LOCOSYS provide unique "RTKFox-15D" App SW has a user-friendly operation interface, which is convenient for users to set to "Base Station mode" or "Rover mode" by themselves. This is an extreme convenient product. It features powerful compatibility with other GNSS receivers in the market by flexible USB interfaces can quickly equip on Android system with centimeter accurate RTK.

## 2. Features

- Support GPS, GLONASS, GALILEO, BEIDOU, QZSS
- Support Android OS system
- RTK Positioning Accuracy 1cm CEP
- Low power Consumption
- Use USB type C connector to connect with
- LOCOSYS IATF 16949 Taiwan certified production sites.
- Small form factor 27.5 x 37.85 x 13 mm
- SMD type with stamp holes; RoHS compliant

## 3. Application

- Personal positioning and navigation
- Agricultural surveying
- Cadastral surveying
- Geographic mapping
- Hand-Held Device

## 4. GNSS receiver

Frequency	GPS/QZSS: L1 C/A, L5C GLONASS: L1OF GALILEO: E1, E5a BEIDOU: B1I, B2a	
Channels	Support 135 channels	
Update rate	1Hz default, up to 10Hz (option)	
Acquisition Time	Hot start (Open Sky)	1s (typical)
	Cold Start (Open Sky)	28s (typical) without AGPS
		< 15s (typical) with AGPS (ephemeris prediction)
Position Accuracy <sup>(1)</sup>	Single Fixed	Autonomous:<1.5m (CEP)
	RTK Fixed <sup>(2)</sup>	0.01m + 1ppm CEP (Horizontal)
		0.015m + 1ppm CEP (Vertical)
Max. Altitude	< 18,000 m	
Max. Velocity	< 500m/s	

Protocol Support	NMEA 0183 ver. 4.1	115200 bps <sup>(3)</sup> , 8 data bits, no parity, 1 stop bits (default) 1Hz : GGA, GLL, RMC 0.2Hz : GSA, GSV
	Raw data	115200 bps, RTCM V3.3, message type 1005, 1074, 1084, 1094, 1114, 1124

Note 1: Open sky, dual band, demonstrated with a good external LNA.

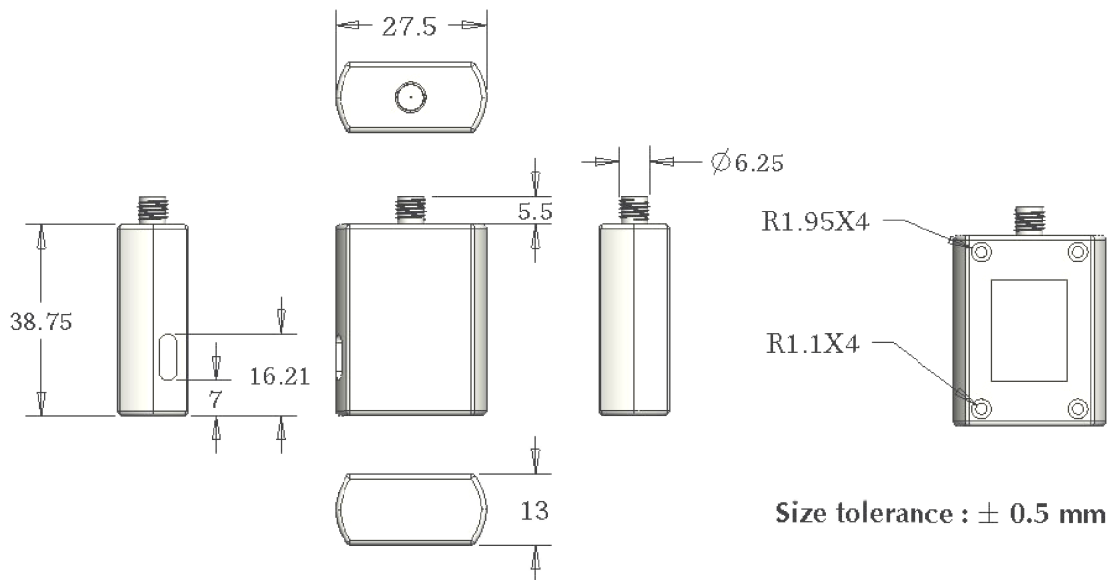
Note 2: ppm limited to baselines up to 10 km

Note 3: Both baud rate output message rate are configurable to be factory default.

## 5. Temperature characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units
Operating Temperature	Topr	-30	-	70	°C
Storage Temperature	Tstg	-40	25	85	°C

## 6. Mechanical specification



Symbol	Min. (mm)	Typ. (mm)	Max. (mm)
W	27.00	27.50	28.00
L	37.35	37.85	38.35
H	12.50	13.00	13.50

## 7. USB Driver and Test Software Download

*Please link to LOCOSYS company website and click RTK-15D product icon*

<https://www.locosystech.com/en/page/Evaluation-Kit-Testing-Software-Manual/support-evk.html>

## 8. Packing Material Information

The RTK-15D is sealed in a moisture barrier ESD bag with USB Type C cable.



## 9. Recommended to Accessories

Customer can purchase either Helix antenna or Survey antenna combine with LOCOSYS RTK-15D to get high precision positioning accuracy. If customers want to order it, please contact us in advance.



*Package (A) : RTK-15D + Helix Antenna (LH-105A2-B)*



*Package (B) : RTK-15D + Survey antenna*

## 10. Label on RTK-15D

**LOCOSYS**

Model:RTK-15D

Made in Taiwan



SN. 2113500007

- *Brand name*
- *Model name*
- *Manufacturing place*
- *Bar code*
- *Serial number*

## Document change list

### Revision 0.1

- Draft release on July 23, 2021

### Revision 0.2 (October 11, 2021)

- Revised the GSA default output from 1Hz to 0.2Hz in the section 4.
- Removed the VTG default output in the section 4.