

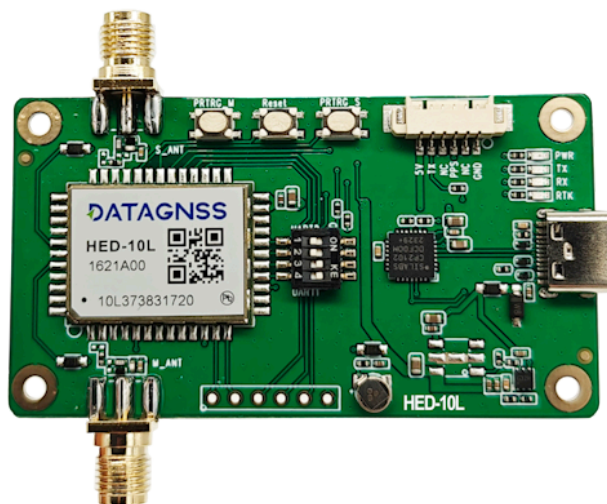
1. SYSTEM OVERVIEW

1.1 Overview

EVK-HED10L is a simple, friendly demo kit to evaluate the HED-10L Heading dual-antenna modules.

It integrates a USB interface to power the board and communicates with Host device.

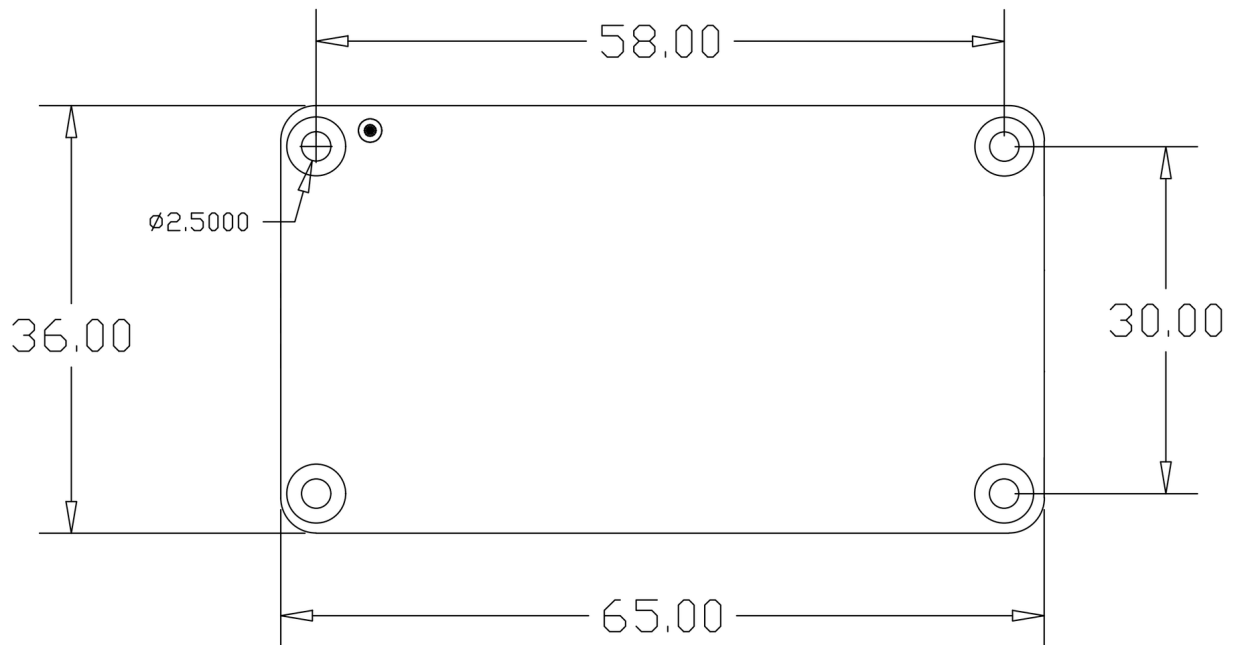
1.2 Product Photo



Order information

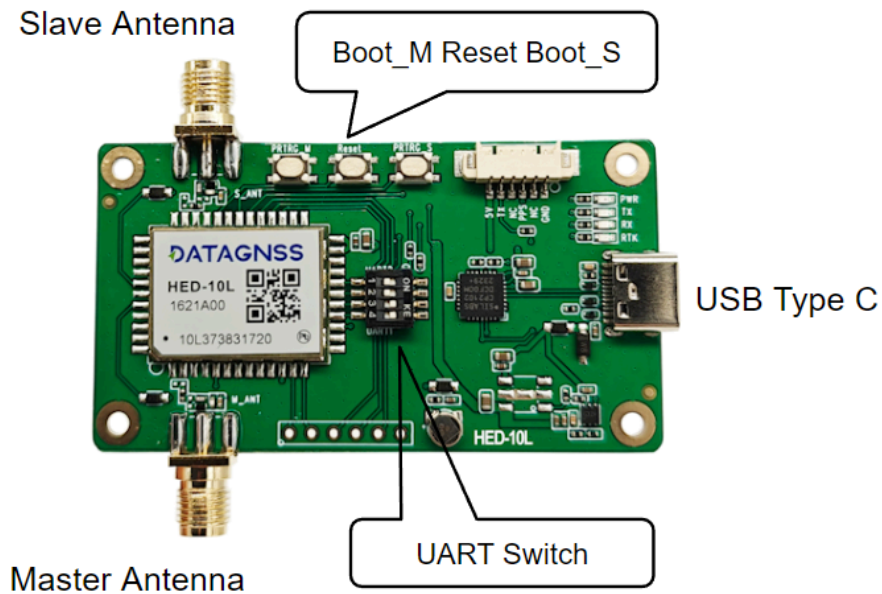
Item P/N	default configuration
EVK-HED10L-00	Dual Antenna, Heading RTK, L1+L5, 230400bps

1.3 Weight and dimensions



- Dimensions : 65 mm by 30 mm
- 4 mounting holes for M2.5 screws.
- SMA-K for Antenna *2 .
- USB Type C , support dual uart by switch.
- Mounting holes : 58mm x 23mm
- Weight: 13.4g

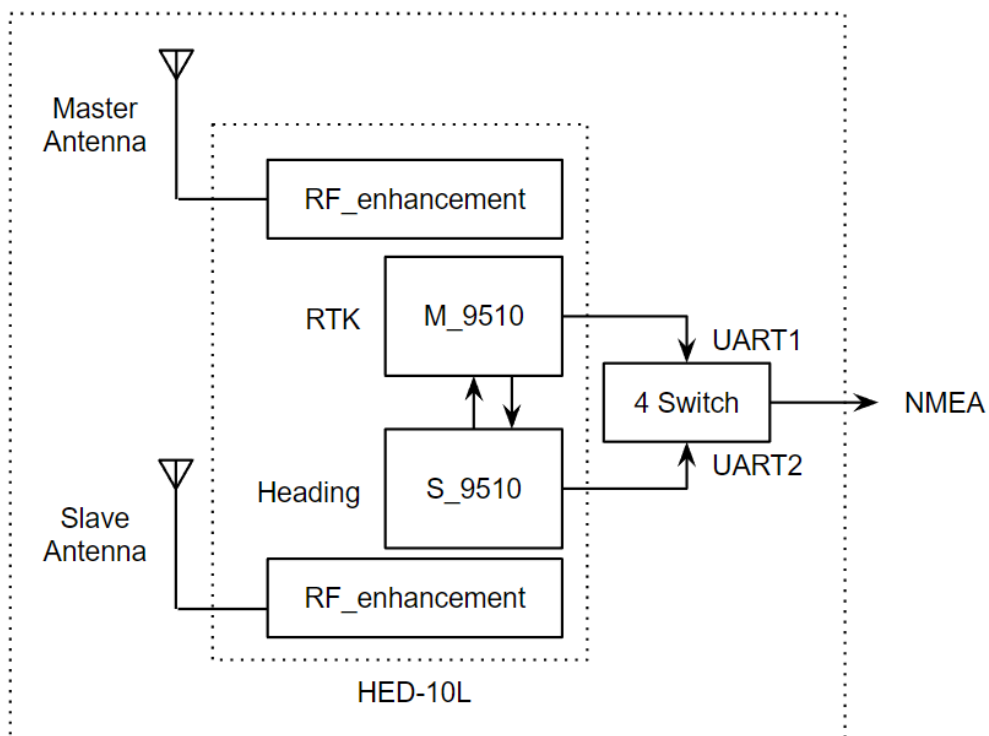
1.3 Features



Antenna

HED-10L support RTK Heading function, which need dual-antenna, one is Master antenna, another is Slave antenna.

M_ANT: Master Antenna S_ANT: Slave Antenna



The output of Type C serial port can be switched through DIP Switch, and it can output UART1 or UART2 of HED-10L module. By default, the output is UART1, which includes RTK positioning data and heading data(\$PALYSBLS). The purpose of outputting UART2 is mainly for firmware upgrade or other debugging purposes.



(DIP Switch)

As shown in the figure, 3 and 4 control UART1 below, while 1 and 2 control UART2 above. As indicated in the diagram, the right side represents the ON state.

As shown in the figure, currently 1 and 2 are in OFF state, so UART2 is disconnected. On the other hand, 3 and 4 are in ON state, so UART1 is connected. At this time, Type C serial port is connected to UART1.

Note: 1 and 2 form one group, while 3 and 4 form another group. Each time you adjust the DIP switch, such as operating on either group of switches (either on/off for both).

USB Type C connector

Support power supply and data.

Button and LED

1. Reset button(PRRSTX), Press the reset button to generate a hardware reset to the module.
2. Boot button(PRTRG), The boot button is used to set the module to enter BootROM command mode.

In this mode the module executes only the minimal functionality, such as updating new firmware.

3. Follow these steps to enter BootROM command mode:

- * Press and hold the BOOT button first, and then press RESET button. After that, release the RESET first, and then release the BOOT button.

4. The power LED indicates the power status. When the module is powered on, the LED is on.

2.QUICK GUIDE

1. To start using the Evaluation kit, please make the following prepared:

- EVK
- GNSS Antenna
- USB cable

2. Install the latest version of Satrack for Windows to the PC.

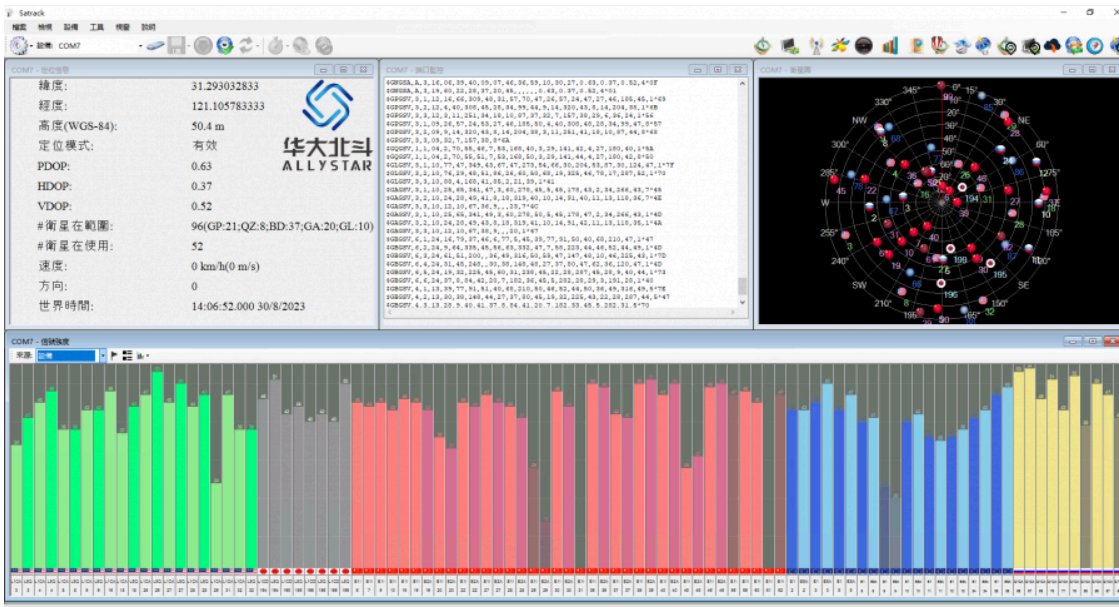
3. Connect the EVK with the antenna and PC.

4. Launch the Satrack application.

5. Select the corresponding COM port.

6. Set the baud rate if necessary by choosing “Device settings” on toolbar.

If the port is selected and the baud rate is set correctly, Satrack program will show the received EVK output on the screen, signal strength, as well as satellite constellation.



Heading Data (\$PALYSBLS)

\$PALYSBLS, 025217.000, -0.577, 1.030, 0.782, 1.416, 119.25, 33.55, F*4A

Table 3 \$PALYSBLS -- Yaw, Pitch and Base-line state

No.	Field	Format
1	\$	Start character (Code 24h)
2	PALYSBLS	Address field
3	hhmmss.s-s	Time of position (heading) fix
4	x.x	Latitude-projection of base-line, m
5		Longitude-projection of base-line, m
6		Height-projection of base-line, m
7		Base-line length (Rover-to-Base distance), m
8		Base-line yaw (angle between base-line vector and North direction), degrees
9		Base-line pitch (angle between base-line vector and horizon), degrees
10	a	Mode Indicator: A = Autonomous mode D = Differential mode F = Float RTK R = Real Time Kinematic E = Estimated (dead reckoning) mode N = Data not valid
11	*hh	Checksum indicator ("*", code 2Ah) and checksum
12	<CR><LF>	End of message indicator (codes 0Dh and 0Ah)