

# HG Robotics Co., Ltd. Thailand

*Applied BX316R GNSS PPK Receiver for UAVs*

HG Robotics Co., Ltd is based in Thailand. With rich experience in artificial intelligence, machine learning, robot localization, navigation, path planning and embedded system design and development, it has gained many awards in terms of small-sized soccer robot, rescue robot as well as autonomous vehicle.

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One of our projects is to integrate new GNSS hardware to our existing unmanned aerial vehicles. To faster lead time to market and improve the performance for UAV application, we have strong need to find a precise portable global positioning device. With BX316R GNSS PPK receivers and the compatible GNSS antennas, they fit well to our existing hardware (UAVs) and work well and robustly.

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**Mr. Sompol Suntharasantic**  
**Engineer of HG Robotics Co., Ltd.**



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*Applied BX316R GNSS PPK Receiver for UAVs*

## Test Setup

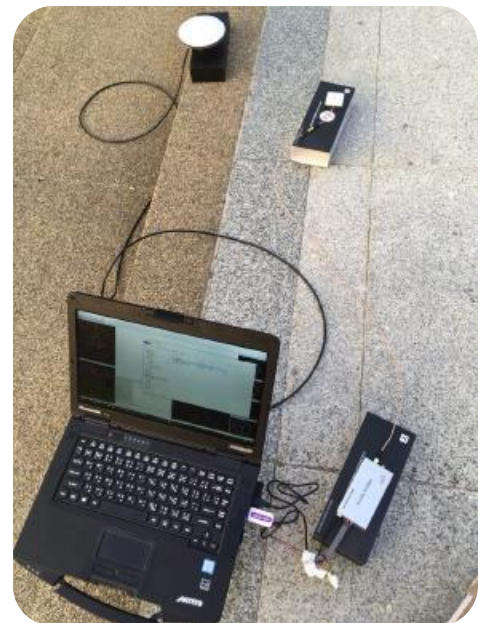
In this application, he used BX316R to acquire GNSS data from Tersus AX3702 antenna and custom antenna.

The antenna was connected to BX316R at primary SMA connector and record the data for 10 to 15 minutes. After that, he switched to another antenna and recorded again.

The data was recorded in a raw format by the following command:

```
LOG RANGE ONTIME 1
LOG GPSEPHMEMB ONTIME 30
LOG BDSEPHMEMERISB ONTIME 30
LOG GLOEPHEMERISB ONTIME 30
SAVECONFIG

LOG FILE RANGE ONTIME 1
LOG FILE GPSEPHMEMB ONTIME 30
LOG FILE BDSEPHMEMERISB ONTIME 30
LOG FILE GLOEPHEMERISB ONTIME 30
SAVECONFIG
```

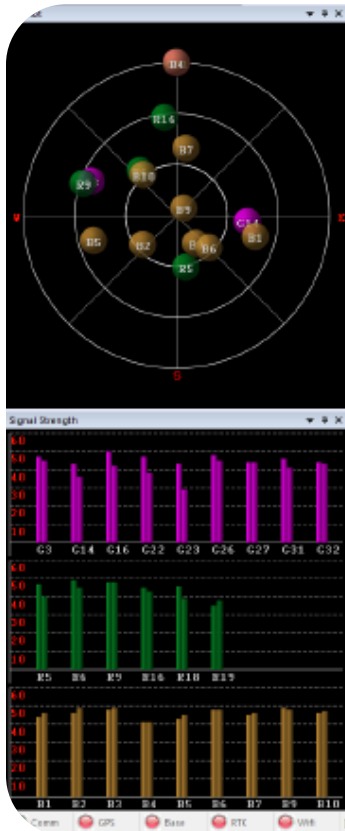


## Result

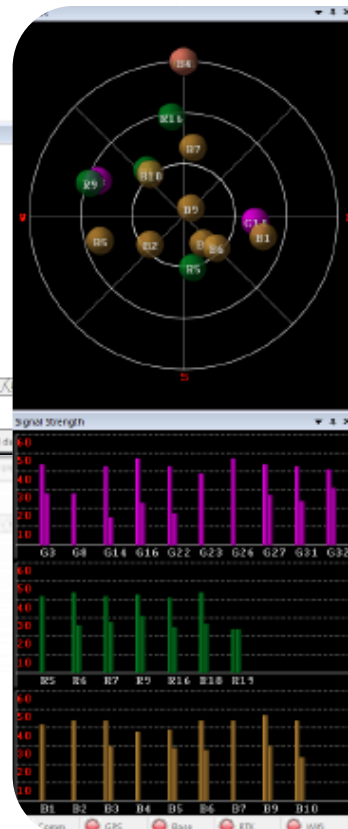
In this application, he used BX316R to acquire GNSS data from Tersus AX3702 antenna and custom antenna. The result showed that BX316R could retrieve GNSS data without any problems even at a high number of satellite present. The number of satellite detected were evaluated similar for both Tersus AX3702 antenna and custom antenna. While AX3702 antenna exhibited a strong GNSS signal strength for both L1 and L2, the custom antenna performed obviously inferior for L2.

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## Applied BX316R GNSS PPK Receiver for UAVs



Signal strength of BX36R with Tersus AX3702 GNSS antenna



Signal strength of BX36R with custom antenna

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