

Base Station Installation and Phase Center Coordination

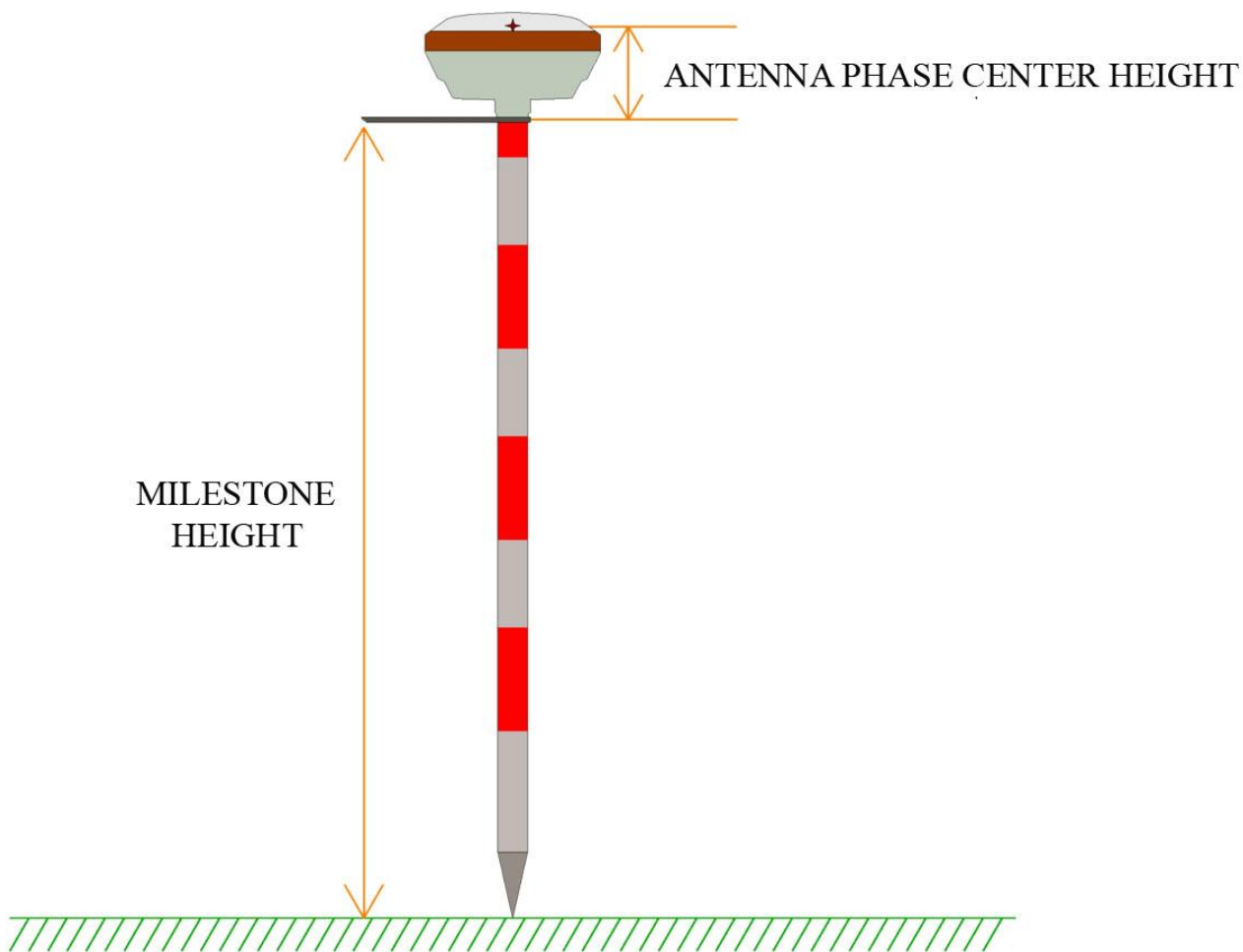
To post process data from the TOPODRONE DJI AIR 2 PPK using the PPK method, a working base station is required. The base station operating time should fully include the drone's operating time intervals. The base station is a GNSS receiver that performs static measurements while stationary.



Reach RS2 receiver operating in base station mode.

To perform correct data postprocessing, the following requirements apply to the base station:

1. The base station operation time should include the drone operation time
2. The maximum distance between the base station and the furthest point of the drone's route should be less than 25 km. To achieve the best accuracy and data quality, it is recommended to install the base station no further than 10 km from the flight location.
3. The frequency of GNSS measurements data recording is 1 Hz.
4. Base station output file format: RINEX
5. Satellite groups: GPS / GLONASS. Optional: GALILEO, BEIDOU.
6. The base station should not move during operation, optimally use a tripod or a milestone with a bipod.
7. The base station should be located in a place with the maximum GNSS signal reception, in an open, elevated space, away from houses, hills, power lines, roads and railway tracks.
8. Coordinates of the GNSS antenna base station phase center must be in the project coordinate system.



The difference in the height of the milestone and the height of the phase center

When coordinating the GNSS antenna base station phase center, the height of the milestone and the height of the Phase Center itself should be taken into account,, which is also offset from the lower plane of the GNSS receiver body, should be taken into account.

During the post processing of the moving objects data, using the PPK method - application of Galileo and Beidou satellite groups may decrease an accuracy of the project.

If the solutions accuracy for the photo centers coordinates is not high enough, only GPS should be used.

If you place an identification mark under the base station, then it can be used as a ground control point, with a height less than the base station phase center high accuracy coordinate at the height of the milestone and the phase center height.

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