

The Local Positioning System shall:

1. Provide a geo-referenced three-dimensional position estimate onboard a mobile aerial platform at a minimum rate of 1 Hz.
2. Operate completely independent of any global navigation satellite system (GNSS). A GNSS may be required for initialization, but not during operations.
3. Be portable and easily reconfigurable to allow for use at varying locations, and on varying mobile platforms
4. Require a maximum 1 hour for one person to setup and configure.
5. Provide a statement certifying that all RF components, if any, are FCC compliant.
6. Be permitted to employ ground-based infrastructure (e.g. beacons) if needed.
7. Provide coverage and continuous operation over an area no less than 10km x 10km x200m with a nominal accuracy of at least 5 meters in the vertical channel and 1 meter in the horizontal channel. If ground based infrastructure is used, no greater than 5 stations can be used to meet this requirement. (line-of-sight(LOS) to all beacons, if any, can be assumed for all operations in this requirement)
8. Be a commercial off-the-shelf (COTS) product with an extensive documented history of success at fulfilling the needs of other projects with similar requirements.
9. Ensure any payload required onboard the mobile platform does not exceed 1.5kg.
10. Allow for continuous operation during missions of at least 3 hours in length.
11. Ensure all components are capable of operating off of a DC battery power source.
12. Include a printed user's guide in English
13. Include a minimum 1-year Return to Service Center Warranty