a. Individual authorization is for indoor use only, and is required for each device at a specific site

If form 422 section 10 I listed the installed equipment as four Metro-RK-F12 GPS re-radiators.

The exhibit Equipment_Drawing_&_BOM_Exhibit_00.pdf is a drawing of the equipment to be installed and operated there is a bill of materials in the lower left hand corner of the drawing listing each item.

The exhibit GPS_Receive_Antenna_LAT_LONG_Exhibit.pdf shows the LAT, LONG location of the receive antennas of each Metro which are located on the buildings occupied by GPS Source.

e. The area of potential interference to GPS reception (e.g., military or contractor facility) has to be under the control of the user.

The exhibit GPS_Receive_Antenna_LAT_LONG_Exhibit.pdf shows the LAT, LONG location of the receive antennas of each Metro which are located on the buildings occupied by GPS Source.

The exhibit Reapeater_Radiation_Patterns_GPS_Source_003.pdf shows resulting radiation patterns overlaid on the buildings occupied by GPS Source at 58 feet (-130dBm equivalent to the level outdoors from the constellation) and 158 feet where the -140dBm requirement is met.

f. The maximum equivalent isotropically radiated power (EIRP) must be such that the calculated emissions are no greater than -140 dBm/24 MHz as received by an isotropic antenna at a distance of 100 feet (30 meters) from the building where the test is being conducted. The calculations showing compliance with this requirement must be provided with the application for frequency assignment and should be based on free space propagation with no allowance for additional attenuation (e.g., building attenuation.)

The Metro shall be configured via a front panel setting to output -70dBm in a 24MHz bandwidth.

Using the formula $$FSPL\ (dB) = 20 \log_{10}(d) + 20 \log_{10}(f) + 32.44$$ to calculate a free space loss of 70dB for 158 feet and given a cardioid radiation pattern and a minimum building width of 50 feet. This results in a signal strength of -140dBm at the distance 54 feet on either side of the buildings which is below the 100 foot specified distance.

The exhibit Reapeater_Radiation_Patterns_GPS_Source_004.pdf shows resulting radiation patterns overlaid on the buildings occupied by GPS Source at 58 feet (-130dBm equivalent to the level outdoors from the constellation) and 158 feet where the -140dBm requirement is met. This is 46 feet under the 100' requirement. Also not I have attached a copy of the results of a free space calculator showing these results.

g. GPS users in the area of potential interference to GPS reception must be notified that GPS information may be impacted for periods of time.
The exhibit Reapeater_Radiation_Patterns_GPS_Source_003.pdf shows the radiation patterns overlaid on the buildings occupied by GPS Source. Only GPS Source employees or authorized visitors are allowed access to these areas.

h. The use is limited to activity for the purpose of testing RNSS equipment/systems.
The exhibit Government_Contract_Exhibit_.pdf shows the contact for the equipment to be tested by the re-radiation systems.

i. A "Stop Buzzer" point of contact for the authorized device must be identified and available at all times during GPS re-radiator operations.

The Stop Buzzer POC is
Phillip Coiner
CTO GPS Source
719-510-4552 Cell
719-561-9520 ext. 3102 Office.
pcoiner@gpssource.com
If for any reason Phillip coiner is unavailable a secondary POC for stop buzzer authorization is
Lachelle Davis
Security Officer GPS Source
719-595-9741 cell
719-561-9520 ext. 3503 Office
ldavis@gpssource.com