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

I have listed the installed equipment as one 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 right- hand corner of the drawing listing each item. The exhibit Avwatch_Facility_Drawing.pdf shows the LAT, LONG location of the receive antennas of each Metro which are located on the building occupied by Avwatch, Inc.

b. 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 Avwatch_Facility_Drawing.pdf shows the LAT, LONG location of the receive antennas of each Metro which are located on the buildings occupied by Avwatch, Inc. The Facility_Radiation_Pattern.pdf exibit shows resulting radiation patterns overlaid on the buildings occupied by Avwtch at 58 feet (- 130dBm equivalent to the level outdoors from the constellation) and 158 feet where the -140dBm requirement is met.

c. 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 90 feet. This results in a signal strength of -140dBm at the distance 68 feet on either side of the buildings which is below the 100 foot specified distance.

The Facility_Radiation_Pattern.pdf exhibit 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 42 feet under the 100' requirement. Exhibit Link_Budget_Calculator.pdf is the results of a free space calculator showing these results.

d. 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 Facility_Radiation_Pattern.pdf shows the radiation patterns overlaid on the buildings occupied by Avwatch, Inc. Only Avwatch employees or authorized visitors are allowed access to these areas.

e. The use is limited to activity for the purpose of testing RNSS equipment/systems.
The exhibit Avwatch_Experimental_License_Explanation.pdf explains the necessity for the equipment to be tested by the re-radiation systems.

f. 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
Craig O'Hearn
CTO Avwatch, Inc
612-599-2785 Cell
774-701-1666 Office
cgo@avwatch.us
If for any reason Craig O'Hearn is unavailable a secondary POC for stop buzzer authorization is Trevor Laue
Director of Maintenance, Avwatch, Inc.
774-238-8587 Cell
774-247-0001 Office
tel@avwatch.us