1014 North Geddes Street
Syracuse, NY 13204
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www.hiddenlevel.com

Hidden Level

Introduction

Hidden Level (HL) is seeking to re-establish call sign WO2XJK that expired in March 2026 and requests some additional frequency and waveform coverage.

Also, the answer to Form 442 Question 4 is no longer a Yes. Work continues in direct support of the previously referenced contract. However, in the new DOD paradigm of "COTS First", Hidden Level anticipates continuing to improve the state of the art in Passive/Multi-static Radar for DOD customers, but not all activity could be directly required under the referenced contract, or any contract for that matter. Therefore, Hidden Level is applying for this new license and answering No to Form 442, Question 4.

To address Form 442, Question 7:

a. Hidden Level conducts flight testing of small UAS in the Central New York region to enhance its UAS detection and location capabilities. Much of this is purely passive techniques (detecting and geolocation techniques of the UAS transmissions themselves, requiring no other transmitter beyond the UAS itself). However, in order to develop Passive Radar techniques (i.e. Bi-static or Multi-static Radar), equipment to simulate the "transmitter of opportunity" is required. The equipment in use remains the same as on the original license application.
b. Working with the Army customer and other DOD relationships, Hidden Level anticipates demand for developing additional Passive Radar capabilities using transmitters of opportunity not originally developed for the referenced contract. The objectives of this experimental license would be to support development and demonstration of Passive Radar capability for additional transmitters of opportunity beyond the work on the referenced contract.
c. Passive Radar is a highly sought after capability within the DOD. Due to its very nature, a capability that addresses a large number of different "transmitters of opportunity" (i.e. frequency, waveforms, etc.) is needed to maximize the geographic regions in which at least one transmitter is available. Hidden Level seeks to address this need, and the art of Passive Radar in general, by continually adding and demonstrating compatibility with a diverse set of "transmitters of opportunity" using its Syracuse, NY based testing.

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Experimental transmitter equipment

The experimental transmitter Hidden Level is applying to operate consists of an Ettus E310/E313/E320 SDR, an amplifier, and an antenna.

The Ettus E310/313/320 SDR is used to load and “play” I/Q data.

The amplifier is Mini-circuits ZHL-100W-272+, a 100W amplifier that operates from 700 MHz to 2700 MHz. The amplifier will be used linearly, with the peak output power at 50 dBm / 100W. Average power is waveform dependent.

The antenna is L-com HG72714P-090, a vertically polarized 90 degree Azimuth sector antenna with up to 14 dBi gain and 13 degree vertical beamwidth. The antenna, along with the SDR, power amplifier, and power supply will be pole mounted on a tripod.

Azimuth siting of the antenna will vary with each test/experiment. Nominal Elevation tiltback will be 6-7 degrees.

A conceptual diagram for the experimental transmitter is shown below.