

Mobile Counter Small Unmanned Aerial Systems (C-sUAS)

Section 1: Background

Technological advances of small Unidentified Aircraft Systems ("sUAS") are becoming a more realistic threat to Department of Defense operations. Traditional counter measures are becoming less useful with these sUAS advances. Currently the Air Force does not have a way to counter sUAS that utilizes the newest technologies and is resistant to traditional counter measures, and the Air Force Global Strike Command wants to explore innovative means to counter these sUAS threats. They seek to develop a Counter-sUAS ("C-sUAS") capability to defend mobile nuclear convoys. The desired solution should include defense against multiple sUAS or swarm sUAS activity.

Section 2: Scope

Honeywell will produce and test a prototype of a C-sUAS for mobile Air Force assets. Honeywell has designed a mobile prototype by integrating technology that encompasses Air Force-required command and control (C2") systems and secure communication/data exchange. The prototype will defeat sUAS with a layered approach that includes Radio Frequency ("RF") control. This prototype will utilize the technologies and functions above to detect and defeat sUAS while in motion on the back of a moving vehicle.

Section 3: Design Details

1. The Honeywell prototype will fit on the truck bed of a Ford F-350 pick-up truck. Our test will only include a test radius of 3-5 km as detailed in the FCC application.
2. The truck will carry a self-sustaining power supply consisting of a generator and a power management component that will contain a current limited 28VDC power supply. It will take in 115VAC and distribute both 28VDC and 115VAC power to other components in the system. The power supply doesn't include any emitters detailed in the FCC application.
3. The truck will carry a multi-layered detection system that incorporates the following technologies:
 - a. An EchoShield Radar from Echodyne that will be able to track up to 400 sUAS simultaneously and be able to differentiate drones from other airborne objects. This radar transmits between 15.7 GHz and 16.55 GHz. Echodyne has received equipment authorization from the FCC for the EchoShield radar (FCC ID 2ANLB-MESA00054). The EchoShield radar operates using pulsed linear frequency modulation. The primary emission designator is 57M6Q3N. The emissions will not extend beyond the frequency bands requested.
 - b. An Electro-Optical/Infra-Red ("EO/IR") detection technology that will allow real-time target identification, tracking, and surveillance. The EO/IR solution is a passive component and isn't detailed in the FCC application.
 - c. Electronic warfare technology (BlueHalo Titan-3) that can be used to control the nefarious drone. The technology is capable of disrupting communication signals from the 400 MHz to 6 GHz spectrum and sending the enemy drones back to their starting location.
 - d. C2 software that will integrate the inputs from the local airspace picture and the systems on the prototype to classify and identify the drones and determine possible engagement options. The software will include artificial intelligence and machine learning to assist in determining whether the prototype needs to take action.

Section 4: Test Details

Honeywell performed initial testing of the system operating under STA 0051-EX-ST-2025 and call sign WY9XPX. This testing occurred in middle Georgia, at the Blue Lake Turf Farms in Tennille, Washington County, Georgia during the week of February 24 – 28, 2025. Later, Honeywell performed testing of the system operating under STA 0413-EX-ST-2025 and STA 2185-EX-ST-2025. The purpose of these additional STA requests was to enable additional testing of the system at other locations around the suburbs of Atlanta, Georgia. All these requests were made with Honeywell using the DRS RADA RPS-42 radar to identify and track drones.

Honeywell recently transitioned from the DRS RADA RPS-42 radar to the Echodyne EchoShield radar. We received FCC approval to perform testing using the EchoShield radar under STA 1038-EX-ST-2026 at our facility in Norcross, Georgia. In addition, Honeywell received FCC approval to perform testing using the Echoshield radar under STA 1105-EX-ST-2026 at the Louisiana State Police Joint Emergency Services Training Center (JESTC) in conjunction with a Counter-UAS demo sponsored by the Louisiana Governor's Office of Homeland Security and Emergency Preparedness.

In conjunction with the same Counter-UAS demo sponsored by the Louisiana Governor's Office of Homeland Security and Emergency Preparedness, Honeywell received FCC approval to perform limited RF jamming using the BlueHalo Titan-3 under STA 1194-EX-ST-2026. Honeywell only performed RF jamming of red drones that Honeywell operated. These were at two frequencies, 2.4 GHz and 5.8 GHz, with drones being flown up to a maximum altitude of 400 feet.

This requested STA is to perform testing at the EXTIC Counter-UAS event scheduled in late July 2026 at the Playas Research and Training Center in Playas, New Mexico.