

June 28, 2021

Federal Communications Commission 445 12th Street SW Washington, DC 20554

Title: Textron Systems Coordination Request A5000 Flight Test – STA – Yuma, AZ

Appendix A: Yuma Proving Ground Airspace

Appendix B: Approval from Spectrum Management Office at Yuma Proving Ground

Dear FCC,

This request for Special Temporary Authority (STA) is submitted pursuant to 47 CFR 5.61 to request authorization to perform a series of flight tests for evaluation of the A5000 Unmanned Air System (UAS). The proposed operations are planned to run from July 12 through August 20, 2021, at Yuma Proving Ground (YPG) in Yuma, Arizona.

A5000 Summary:

The A5000 System is a system under development that utilizes a hybrid architecture of proven technology from three of Textron Systems UAS platforms: Shadow M2, Shadow 200 and Aerosonde. The hybrid technology includes the M2 airframe, Shadow 200 flight controller and the Aerosonde datalinks and ground control system. This program is completing the integration efforts necessary to qualify the hybrid system utilizing an iterative approach to ensure flight safety and system performance.

The STA is to allow for the normal operations of the UAS, which includes but is not limited to:

- Evaluate engine performance
- Evaluate taxi and brake performance
- Evaluate the Air Data System (ADS)
- Evaluate automated takeoff and landing performance
- Verify the Air Vehicle's flight ceiling
- Verify the endurance of the AV

Location:

Yuma Proving Ground

Yuma, AZ 85365

301 C Street

Test Area Center Point: 33° 21' 11.4" N, 114° 16' 37.6" W (33.353159N -114.277104E)

Requested Operation Radius: 50 km

Reference Composite Map Below

Expected Dates of Operation: 07/12/2021 to 08/20/2021

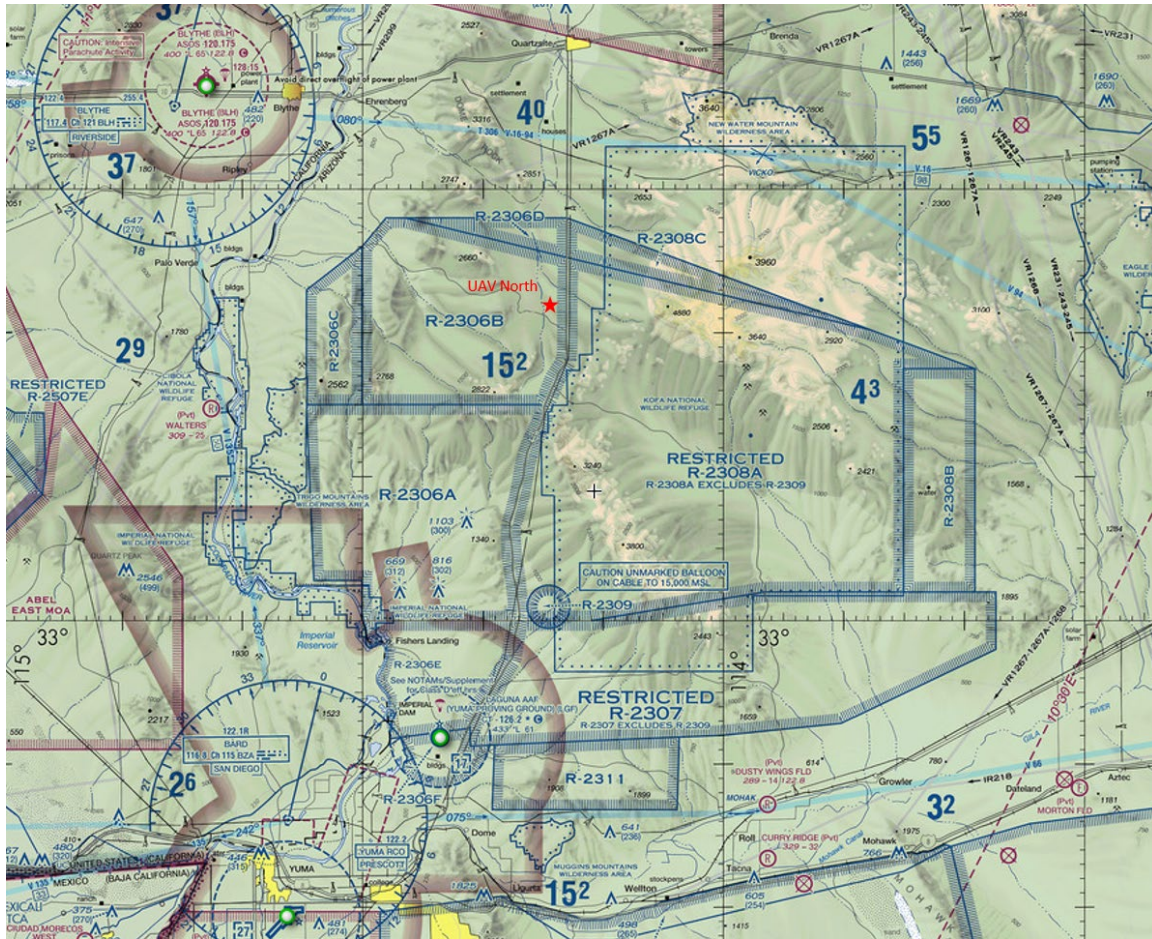
Maximum Height Above Ground of Air Vehicle: 18,000 ft MSL

The composite map below depicts the range of operations at YPG and the surrounding area. Operations will be confined to the YPG Restricted airspace that will be assigned at the time of testing. This will keep all frequencies being used inside of the controlled and restricted airspace under authority of YPG who will be managing all deconflictions of frequencies and airspace for the period of this test event. For this Engineering Test, the A5000 AV will utilize Shadow 200 GCE and (Tactical Common Datalink) TCDL datalinks and perform the following flight cards:

- High Speed Taxi
- Shakedown
- All Modes
- ADS Evaluation with Air Data Boom
- Airspeed Calibration Data Collection
- Airspeed Calibration Verification
- Automated Takeoff/Landing
- Flight Ceiling Test
- Endurance Flight – High Weight
- Endurance Flight – Low Weight

The entirety of flight testing is expected to take no more than a cumulative 60. The frequencies and range (50 km) requested by this STA are required for the normal operation and execution of these flights. All antennas marked as “Mobile” in the STA application will be part of the air vehicle under test and will have an altitude during operation varying from 0 ft AGL up to 18,000 ft MSL.

Appendix A



Appendix B



RE_ [Non-DoD
Source] Textron Syste