

PUBLIC INTEREST STATEMENT

By the instant application (“Application”), BAE Systems Information and Electronic Systems Integration Inc. (“BAE Systems”) requests that the Commission grant Special Temporary Authority to permit BAE Systems to operate the facilities specified in the instant application, for a very brief 39 day period from 5/18-6/26/2020.

The Commission previously granted STA for this experiment under call sign WP9XUZ for the period of 4/6-5/15/2020. However, the government customer has delayed the test, and the testing window is now May 18-June 26, 2020. The government customer has made arrangements with all relevant testing partners for the new dates. Accordingly, this STA is being requested to shift the testing period as required by the government.

1. Purpose of Operation

BAE Systems manufactures and tests RF systems as well as antennas for DOD as well as other governmental customers. The testing specified in this Application will be conducted by BAE Systems Information and Electronic Systems Integration Inc., which is a major producer of electronic warfare systems, protection systems, and tactical surveillance and intelligence systems for all branches of the armed forces. This unit's lines of business include Electronic Warfare/Electronic Protection, Electronic Warfare/Information Warfare, Integrated Defense Solutions, and Mission Electronics with products and services spanning the whole electromagnetic spectrum.

In this case, an STA is requested to authorize operations for two different “events”, to support US government contract activity:

Ground-Based Operations

Fixed ground-based UHF and VHF transmissions at 39°07’39” N; 108°32’09”W, from antennas mounted on grounded aircraft. These transmissions will help verify non-interference with the on-board avionic systems of host aircraft.

Airborne Operations

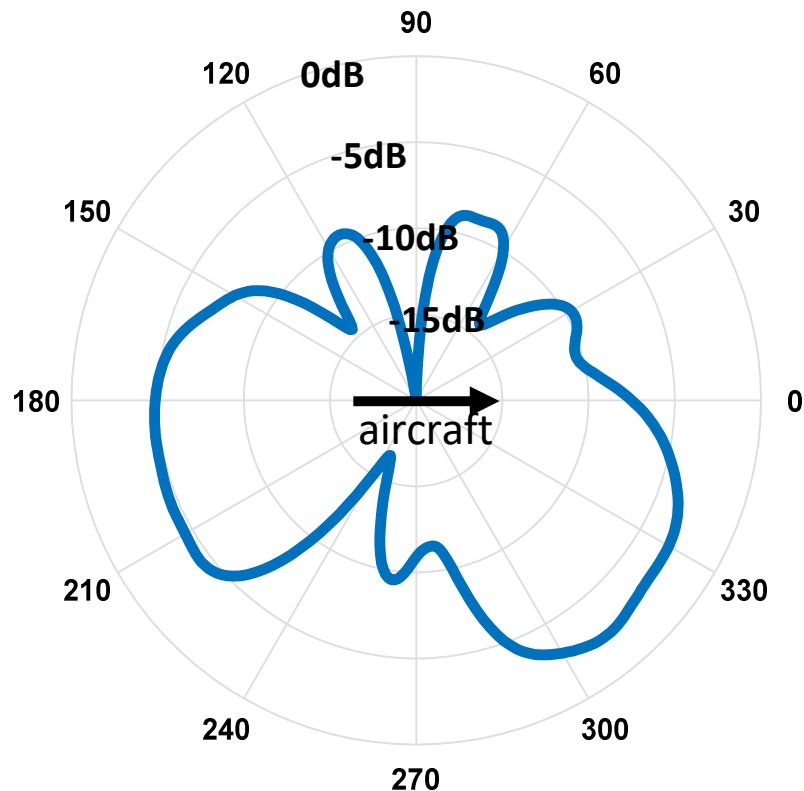
Mobile low-power airborne transmissions conducted within a flight pattern centered on the test area center point at 39°12’42” N; 108°35’14”W, with the furthest waypoints lying on a radius of 8km about the center point, for the purpose of measuring the isolation between the transmit and receive signals while in the air. These transmissions will help ensure that the front-end electronics of the payload are not damaged by these transmissions. The maximum flight ceiling planned is 2290m above ground level (AGL). Ground elevation above sea level at the center point coordinates is 1397m at this location. The nearest aircraft landing area is within 8km from the center point coordinates.

Waiver of the Station ID rules set forth at Section 5.115 is respectfully requested.

2. Directionality/Orientation

It is noted that a “Yes” answer has been provided for each antenna registration in reply to the question “Is a directional antenna (other than radar) used?” This “Yes” reply has been inserted because sometimes a directional antenna used, as noted below:

- UHF: No directional antenna. Antenna is isotropic with gain of -2dBi
- VHF: Directional antenna utilized (see ground illumination antenna pattern, below).
Beamwidth is 61°.
Orientation in Horizontal Plane: UHF and VHF – antenna is strictly in horizontal plane.
Orientation in Vertical Plane: UHF and VHF – antenna has no footprint in vertical plane.



3. Prevention of Interference/Stop Buzzers

BAE Systems is well aware of its obligations under Part 5 of the Commission’s rules to avoid interference to co-channel licensees in non-experimental services, and will take all steps to ensure compliance with this obligation. With respect to interference mitigation, BAE Systems notes as follows:

- Operation of the requested facilities will not be continuous. Rather, authority for only sporadic operation of the facilities within any single frequency band is requested during the authorized timeframe. The transmitters will issue highly intermittent transmissions of short duration, which will significantly limit the potential for interference to authorized users. Each transmission issued by the device will be no longer than 30 seconds in length, repeated every 10 minutes for 12 repetitions. Thus, the total cumulative duration for any single frequency band will be 7 minutes, occurring in 30 second bursts separated by 10 minutes over a total time period of 120 minutes (2 hours).
- In the off state, no measurable power will be radiated.

- BAE Systems has selected the test frequencies and bandwidths to avoid local FM and TV stations.
- BAE Systems understands that FAA (or other stakeholders) may require certain limited azimuth and/or elevation orientations in order to ensure that the proposed Facilities do not pose a threat of interference to adjacent emitters. Accordingly, this is to confirm that BAE Systems stands ready to work with FAA to identify any reasonably necessary restrictions for the system.

24/7 Stop buzzers:

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