

**Flightline Films**  
**STA Application 1628-EX-STA-2019**  
**Frequency Coordination and Explanation**  
**Baltic, South Dakota**  
**High Altitude Video, Data, Telemetry and Systems Control Testing.**  
**October 01, 2019 – November 15, 2019**

This application proposes the use of certain C and S Band spectrum for the testing of a high altitude airborne video and telemetry platform to determine optimal frequency ranges for both the air to ground (AtG) and ground to air (GtA) links, data throughput and video resolution capability under various operating conditions along with the telemetry of these systems. This system is intended for commercial, government and public safety sectors.

Ground station transmission (GtA) will utilize a very narrow azimuth and elevation beamwidth tracking antenna at ground level capable of 360° azimuth and 90° elevation tracking. Actual propagated beamwidth in C Band (4400-4500 MHz & 4800-4900) is 1.8° AZ x 2.9° EL with a gain of 29.5dB. Tracking is achieved via GPS & telemetry link with the airborne platform.

Airborne vehicle is an unmanned balloon with suspended equipment platform. (Appropriate and relative FAA compliances are under the purview of the airframe operations company.) Area of operation will be 150 mile (241.4km) radius about the ground station at a maximum altitude of 90,000' AGL. Airborne transmission (AtG) will be through an omnidirectional 4dB gain antenna mounted to the underside of the equipment platform. Due to the radius of operations, the airborne platform is quite low relative to the horizon and thus a directional antenna would not provide sufficient coverage at "0°" elevation under the equipment platform. Whereas the preferred AtG transmission band is the AFTRCC S Band 2360-2395 MHz, that coordination is still pending. At this time we are requesting 2200-2290 MHz, or any 35MHz segment thereof, in order to facilitate the STA application in a timely manner. Should the AFTRCC coordination request be granted in an appropriate timeframe, we will submit another STA request for that band.

Actual flight testing will occur on the following dates:

October 01 – 07, 2019

October 10 – 14, 2019

October 21 – 31, 2019

There will be continuous short range ground based testing from October 01, 2019 – November 15, 2019.

Checking the ULS database, no commercial co-channel users of the proposed C Band spectrum were found within 500km of the ground station..

**\*\* Stop-buzzer contact for the duration of these tests is:**

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