



DEPARTMENT OF THE AIR FORCE  
AIR FORCE RESEARCH LABORATORY  
KIRTLAND AIR FORCE BASE NEW MEXICO

02 October 2020

MEMORANDUM FOR RECORD

FROM: AFRL/RVEN

SUBJECT: Ascent Mission Commercial Ground

1. **BACKGROUND:** The Ascent program is a CubeSat flight experiment, owned and operated by the Air Force Research Laboratory Space Vehicles Directorate (AFRL/RV). Ascent is currently manifested as a secondary payload on the STP-3 launch, scheduled for February 2021. The primary mission objective of Ascent is to mature COTS technology for use in GEO. AFRL/RV does not expect the mission length to exceed 12 months in duration.

2. **PURPOSE:** This memorandum provides background on the Ascent mission for entities supporting the frequency filing of any US-based commercial ground stations baselined for Ascent. Currently, this includes the PAM-S20 aperture in Paumalu, Hawaii, owned by Intelsat, in partnership with Kongsberg Satellite Services (KSAT). The Ascent mission has baselined the use of commercial ground stations, as opposed to the use of traditional government owned ground stations. Most of these commercial ground stations are located outside of the United States. Frequency filings for foreign ground stations will be coordinated with the ITU.

3. **SPACECRAFT DESCRIPTION:** The Ascent spacecraft will be deployed in a near-geostationary circular orbit. The satellite will use a space-ground link for TT&C, transmitting at 2233.0 MHz for downlink (emission designators 20K0G1D and 180K0G1D) and receiving at 2037.5 MHz for uplink (emission designators 4K0G1D and 40K0G1D).

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