Attachment A

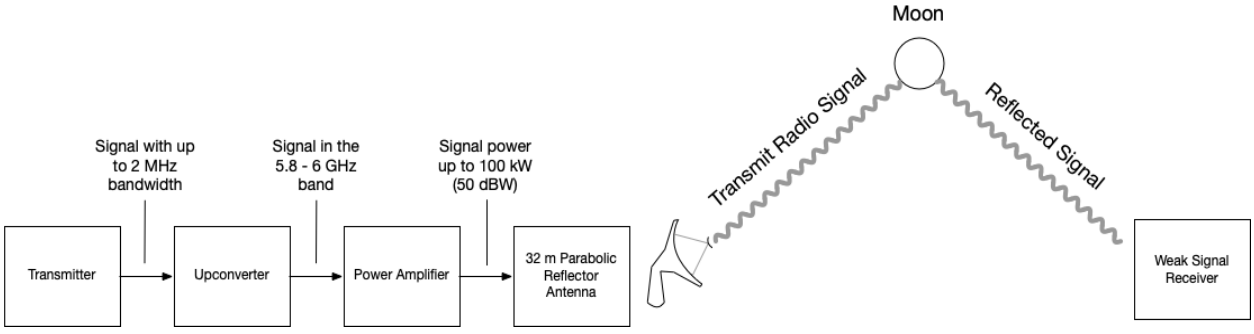
XCVR Corp. ("XCVR"), a provider of satellite-based communication services, submits this document as Attachment A to its Application for Earth Station Special Temporary Authority in accordance with Section 5.3(a) and (e) of CFR Title 47, for the purpose of experimenting with a moon-bounce communication channel. XCVR will test a moon-bounce communication channel to evaluate the feasibility of using the moon-bounce communication as a secure and reliable means of wireless communication. The experiment is expected to take place between May15, 2021 and October 31, 2021.

Using a large earth station antenna (approximately 32 meters in diameter) to transmit an RF power of up to 100KW, XCVR will direct a narrowband signal of up to 2 MHz in bandwidth with a frequency tolerance of +/- 1 MHz, in the 5.8 - 6.2 GHz range towards the surface of the Moon. The antenna is approximately 36 meters above the ground and located 17.5 kilometers away from the nearest aircraft landing area. The experiments will use a maximum amplifier power of 50 dBW, antenna gain at 6 GHz, 63.33 dB, and a maximum EIRP of 113.33. The width of the beam at the half power point will be 1.07º and the orientation in the horizontal and vertical planes will track lunar orbit. The radius of operation of the antenna is not applicable because the signal will be highly focused on the sky.

The experiments will reflect signals off the surface of the Moon similar to an Earth originated radar signal. The signal will be exceptionally weak when it returns to Earth, but XCVR's link analysis indicates that it can be received, demodulated, and decoded successfully. Many amateur/ham radio operators already transmit moon-bounce signals. However, XCVR wants to use more power than amateur radio operators are permitted to use.

XCVR has secured an earth station with the large antennas and amplifiers required to begin these moon-bounce experiments. Because the ground station antennas are so large, the beam width of the signal will be highly directional (less than one degree wide). Thus, it is highly unlikely that the uplink could interfere with other communications systems because of this exceptionally narrow beam. Additionally, the signal returning to Earth will be weak enough to be below the noise floor, which further decreases any likelihood of interference with other systems. The experiments will use a continuously modulated signal, which will be operational daily while the Moon is above the horizon.

The following diagram demonstrates the basic architecture of the moon-bounce experiments.



The transmitting equipment that will be used in connection with the experiment includes the following:

Transmitter + Upconverter: National Instruments / Ettus Research USRP N300
Power Amplifier: Multiple Maxtech PCD-6350 SSPA phase combined.
32m Parabolic Reflector Antenna: Energy Systems 32m parabolic antenna