

Exhibit: Question 4, Directional Antenna Information

Three transmitters will be utilized as part of a federal research contract; one mounted on a high altitude balloon and two mounted on Mobile Ground Stations (MGS). One MGS will be stationary close to the launchpoint of the balloon. The other MGS will 'chase' the balloon on the ground with a small directional antenna mounted on a vehicle. The directional antenna will track the balloon payload and thus Azimuth and Elevation angles of the ground system will be constantly changing as the geometry between the MGSs and Balloon changes throughout the flight. The MGSs are primarily intended for receive only applications, except in the case of suspected payload malfunction. Should such a malfunction occur, override and/or reset commands will be transmitted from the MGS via the directional antenna. Maximum power of the balloon radio is +33 dBm, into a 3.5dBi omni antenna, for a maximum Effective Isotropic Radiated Power (EIRP) level of +36.5 dBm.

Maximum Power of the MGS radios are +33 dBm, into a 13.5 dBi crossed yagi antenna, for a maximum Effective Isotropic Radiated Power (EIRP) level of +46.5 dBm. The MGSs will utilize M2 Antennas Inc. 436CP14 antennas. These antennas shall be Right Hand Circularly Polarized. The half power beamwidth (aka -3dB beamwidth or Full-Width Half Maximum beamwidth) is approximately 42 degrees. Below is the E and H plane data from the antenna manufacturer (M2 Antennas Inc.).

