

Description of the Area that Steerable Beams PAYD and PAYU are Expected to Serve

The transmitting beam PAYD and the receiving beam PAYU are “steerable” in the sense that the spacecraft will body steer the boresight of these beams towards gateway earth stations as they pass over. The spacecraft will body steer to any orientation that results in a ground station elevation angle of 5° or greater (translating to a maximum scan angle from nadir of 66.04° at 575km orbit altitude). From this maximum scan angle, the additional scan angle to the Earth’s limb is only 0.5° . The antenna pattern roll-off for both of these beams is negligible at 0.5° from antenna boresight. Therefore, it can be assumed that both antennas can direct maximum directivity to any location within the satellite footprint.