

**Table 4. Command, Telemetry and Beacon Link Parameters For GEO and Transfer Orbit.**

|                                   | Command     |             | Telemetry   |             | Beacon      |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|
|                                   | Xfer        | GEO         | Xfer        | GEO         | GEO         |
| <b>Polarization</b>               | <b>LHCP</b> | <b>LHCP</b> | <b>LHCP</b> | <b>LHCP</b> | <b>LHCP</b> |
| Power into Antenna, dBW           | 27          | 27          | 14          | 0           | -20.4       |
| Power Density, dBW/m <sup>2</sup> | -33         | -33         | -34.6       | -51.6       | n/a         |
| Tx Antenna Gain (7 m), dBw        | 60.2        | 60.2        | -3          | 16 (horn)   | 45.4        |
| Eirp, dBW                         | 87.1        | 87.1        | 11          | 16          | 25.0        |
| Eirp Density, dBW/Hz              | 27.1        | 27.1        | -37.6       | -35.6       | n/a         |
| PFD, dBW/m <sup>2</sup>           | -75.3       | -75.3       | -140        | -146.3      | n/a         |
| Required PFD, dBW/m <sup>2</sup>  | -105        | -105        | n/a         | n/a         | n/a         |
| Space Loss, dB                    | -209.1      | -209.1      | -206.1      | -206.1      | -206.1      |
| <br>                              |             |             |             |             |             |
| Rx Antenna Gain, dBi              | -3          | 19 (horn)   | 57.2        | 57.2        | 33.5        |
| Bandwidth, dB                     | 60          | 60          | 48.6        | 51.6        | 40          |
| CNR, dB                           | 15.0        | 37.9 (1)    | 21.3        | 23.3        | 18.5        |
| Data Rate, bps                    | 250         | 250         | 2,400       | 4,800       | n/a         |

(1) Power can be reduced during normal operations.