

Table A.13-1 – Uplink Link Budget for 65 cm antenna (51K2G7W)

| Link Parameters | Clear Sky (- 3dB Contour) | Faded (-3 dB Contour) |
|--|------------------------------|--------------------------|
| Carrier: | | |
| Uncoded Data Rate (kbps) | 56.0 | 56.0 |
| Modulation | QPSK | QPSK |
| FEC | 0.69 | 0.69 |
| Carrier Bandwidth (kHz) | 51.2 | 51.2 |
| Link Geometry: | | |
| Elevation Angle (degrees) | 30.0 | 30.0 |
| Tx E/S Range to Satellite (km) | 38,612 | 38,612 |
| Uplink: | | |
| Carrier Frequency (MHz) | 29,800 | 29,800 |
| Tx E/S Antenna Diameter (m) | 0.65 | 0.65 |
| Tx E/S Power to Antenna (W) | 0.06 | 0.2 |
| Tx E/S Antenna Gain (dB) | 43.9 | 43.9 |
| Tx E/S EIRP per Carrier (dBW) | 31.7 | 36.9 |
| Atmospheric and Other Losses (dB) | 0.7 | 8.0 |
| Free Space Loss (dB) | 213.7 | 213.7 |
| G/T towards Tx E/S (dB/K) | 13.5 | 13.5 |
| (Eb/No) - Thermal Uplink (dB) | 10.4 | 8.3 |
| (Eb/lo) - (Adjacent satellite interference) (dB) | 16.0 | 16.0 |
| (Eb/No+lo) - Total Actual (dB) | 9.3 | 7.6 |
| (Eb/No+lo) - Total Required (dB) | 7.0 | 7.0 |
| Excess Margin (dB) | 2.3 | 0.6 |

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