

| Table C-1. Link budget, Telecommand Carrier, 800KF9D | | |
|--|-----------------|----------------|
| Link Parameters | Units | 800KF9D |
| Uplink Frequency | GHz | 6.1737, 6.1763 |
| Carrier Allocated Bandwidth | kHz | 800 |
| Uplink: | | |
| Nominal E/S e.i.r.p. per carrier | dBW | 75.5 |
| Earth Station Diameter | m | 12 |
| Earth Station Gain | dB _i | 55.8 |
| Uplink Input Power per Carrier | dBW | 19.7 |
| Free Space Loss | dB | 199.9 |
| G/T Satellite | dB/K | -25.2 |
| CNR uplink | dB | 20 |
| C/I* | dB | 31 |
| C/(N+I) | dB | 19.7 |
| CNR required | dB | 10 |
| Margin | dB | 9.7 |

Table C-2. Link budget, Telemetry Carriers

| | | C-band, Telemetry |
|-------------------------------------|-------|-------------------|
| Link Parameters | Units | 300KF9D |
| Downlink Frequency | GHz | 3.9525 |
| | | 3.952 |
| | | 3.948 |
| | | 3.9475 |
| Carrier Allocated Bandwidth | kHz | 300 |
| Downlink: | | |
| Downlink e.i.r.p. (EOC)* | dBW | 3 |
| Free Space Loss | dB | 196.9 |
| Atmospheric and Polarization Losses | dB | 0.4 |
| Rain Fade | dB | 0.2 |
| Receive E/S Pointing Loss | dB | 0.1 |
| Receive E/S G/T | dB/K | 32.6 |
| G/T degradation (due to rain) | dB | 0.4 |
| Downlink C/No | dB | 66.2 |
| C/Io(aggregate)* | dB | 75.4 |
| C/(No+Io) | dB | 65.7 |
| Required C/No | dB | 53.1 |
| Margin | dB | 12.6 |

***Two interference entries, each of the same power as that of the wanted carrier, but at**

| C-band beacon | Ku-beacon | Ku-beacon |
|------------------|----------------|----------------|
| 25K0N0N | 25K0N0N | 25K0N0N |
| | | |
| | 11.701 | |
| | 11.452 | |
| 3.95 | 11.198 | 12.501 |
| 25 | 25 | 25 |
| | | |
| 4 | 6 | 6 |
| 196.9 | 205.6 | 205.9 |
| 0.4 | 0.6 | 0.7 |
| 0.2 | 4.1 | 4.5 |
| 0.1 | 0.1 | 0.1 |
| 27.1 | 29.4 | 29.4 |
| 0.4 | 2.6 | 2.8 |
| 61.7 | 51 | 50 |
| 73.9 | 63.2 | 62.2 |
| 61.2 | 50.5 | 49.5 |
| 47 | 47 | 47 |
| 14.2 | 3.5 | 2.5 |

: ± 2 degrees