

Typical Link Budgets - CONUS and Alaska

| Parameter | KA_1 | KA_2 |
|-------------------------------------------|---------|---------|
| Carrier designation | 1M20G1W | 5M50G1W |
| Throughput rate, Mbps | 1.43 | 4.75 |
| Required bandwidth, MHz | 1.20 | 5.50 |
| Allocated bandwidth, MHz | 1.20 | 5.50 |
| FEC code rate | 0.50 | 0.50 |
| C/N required, dB | 4.70 | 1.28 |
| Faded system margin, dB | 0.50 | 0.50 |
| | | |
| Uplink | | |
| Transmit Power (dBW) | 4.00 | 10.50 |
| Antenna diameter | 9.00 | 9.00 |
| Antenna Gain (dBi) | 65.00 | 65.00 |
| TxES antenna input power density, dBW/MHz | 3.21 | 3.10 |
| Ground Station EIRP (dBW) | 77.50 | 75.50 |
| Uplink Rain Loss (dB) | 0.00 | 0.00 |
| Satellite G/T (dB/K) | -9.00 | -8.00 |
| C/N, dB | 25.23 | 17.24 |
| C/I(X-pol uplink), dB | 30.00 | 30.00 |
| | | |
| Downlinks: | | |
| Satellite Carrier EIRP (dBW) | 34.00 | 34.00 |
| Ground station antenna dia, m | 0.95 | 1.50 |
| Ground Station G/T (dB/K) | 20.90 | 24.87 |
| C/N(clear weather), dB | 14.74 | 11.72 |
| Min C/N down, dB | 7.06 | 2.65 |
| C/I(ASI), dB | 10.00 | 10.00 |
| C/I(total), dB | 9.91 | 9.91 |
| Rain margin to min C/N down, dB | 7.69 | 9.07 |
| Availability, % | | |
| BIRMINGHAM AL | 99.21% | 99.71% |
| LITTLE ROCK AR | 99.27% | 99.75% |
| DENVER CO | 99.90% | 99.97% |
| WASHINGTON DC | 99.50% | 99.83% |
| MIAMI FL | 99.36% | 99.55% |
| LOS ANGELES CA | 99.98% | 99.99% |
| MOBILE AL | 99.07% | 99.63% |