

LINK BUDGETS

| | | | | | | |
|---------------------------------------------------|------------|-------------|-------------|------------|------------|------------|
| UPLINK BEAM INFORMATION | | | | | | |
| Uplink Beam Name | KHUL | KHUL | KHUL | KHUL | KHUL | KHUL |
| Uplink Frequency (GHz) | 14.0-14.5 | 14.0-14.5 | 14.0-14.5 | 14.0-14.5 | 14.0-14.5 | 14.0-14.5 |
| Uplink Beam Polarization | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal |
| Uplink Relative Contour Level (dB) | -6.3 | -6.3 | -6.3 | -6.3 | -6.3 | -6.3 |
| Uplink Contour G/T (dB/K) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Uplink Contour SFD (dBW/m2) | -78.5 | -78.5 | -80.5 | -80.5 | -80.5 | -80.5 |
| DOWNLINK BEAM INFORMATION | | | | | | |
| Downlink Beam Name | KVDL | KVDL | KVDL | KVDL | KVDL | KVDL |
| Downlink Frequency (GHz) | 11.7-12.2 | 11.7-12.2 | 11.7-12.2 | 11.7-12.2 | 11.7-12.2 | 11.7-12.2 |
| Downlink Beam Polarization | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Downlink Relative Contour Level (dB) | -6.4 | -6.4 | -6.4 | -6.4 | -6.4 | -6.4 |
| Downlink Contour EIRP (dBW) | 43.3 | 43.3 | 43.3 | 43.3 | 43.3 | 43.3 |
| ADJACENT SATELLITE 1 | | | | | | |
| Satellite 1 Orbital Location | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.4 | -26.4 | -26.4 | -26.4 | -26.4 | -26.4 |
| ADJACENT SATELLITE 2 | | | | | | |
| Satellite 1 Orbital Location | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.4 | -26.4 | -26.4 | -26.4 | -26.4 | -26.4 |
| CARRIER INFORMATION | | | | | | |
| Carrier ID | 36M0F3F | 36M0G7W | 8M25G7W | 1M43G7W | 717KG7W | 111KG7W |
| Carrier Modulation | TV/FM | QPSK | QPSK | BPSK | BPSK | QPSK |
| Peak to Peak Bandwidth of EDS (MHz) | 4 | N/A | N/A | N/A | N/A | N/A |
| Information Rate(kbps) | N/A | 36860 | 8448 | 512 | 256 | 128 |
| Code Rate | N/A | 3/4x188/204 | 3/4x188/204 | 1/2 | 1/2 | 3/4 |
| Occupied Bandwidth(kHz) | 32400 | 26664.7 | 6111.3 | 1024.0 | 512.0 | 85.3 |
| Allocated Bandwidth(kHz) | 36000 | 35997.5 | 8250.5 | 1434.0 | 717.0 | 111.0 |
| Minimum C/N, Clear Sky (dB) | 16.4 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Minimum C/N, Rain (dB) | 16.4 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| UPLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 6.5 | 4.0 | 4.0 | 4.0 | 2.4 |
| Earth Station Gain (dBi) | 57.4 | 57.4 | 53.1 | 53.1 | 53.1 | 48.7 |
| Earth Station Elevation Angle | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 |
| Rain Rate (mm/yr) | 394 | 394 | 394 | 394 | 394 | 394 |
| DOWNLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 2.4 | 4.0 | 1.8 | 1.8 | 4.0 |
| Earth Station Gain (dBi) | 55.6 | 47.0 | 51.4 | 44.5 | 44.5 | 51.4 |
| Earth Station G/T (dB/K) | 34.0 | 25.0 | 29.0 | 23.3 | 23.3 | 29.0 |
| Earth Station Elevation Angle | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Rain Rate (mm/yr) | 214 | 214 | 214 | 214 | 214 | 214 |
| LINK FADE TYPE | | | | | | |
| | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky |
| UPLINK PERFORMANCE | | | | | | |
| Uplink Earth Station EIRP (dBW) | 80.9 | 79.7 | 67.5 | 59.1 | 56.2 | 48.0 |
| Uplink Path Loss, Clear Sky (dB) | -208.1 | -208.1 | -208.1 | -208.1 | -208.1 | -208.1 |
| Satellite G/T(dB/K) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 32.4 | 26.7 | 6.1 | 1.0 | 0.5 | 0.1 |
| Uplink C/N(dB) | 26.3 | 25.9 | 20.1 | 19.5 | 19.6 | 19.2 |
| DOWNLINK PERFORMANCE | | | | | | |
| Downlink EIRP per Carrier (dBW) | 42.5 | 41.9 | 32.3 | 23.8 | 20.8 | 12.6 |
| Downlink Path Loss, Clear Sky (dB) | -206.5 | -206.5 | -206.5 | -206.5 | -206.5 | -206.5 |
| Downlink Earth Station G/T (dB/K) | 34.0 | 25.0 | 29.0 | 23.3 | 23.3 | 29.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 32.4 | 26.7 | 6.1 | 1.0 | 0.5 | 0.1 |
| Transponder Correction Factor | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Downlink C / N(dB) | 23.5 | 15.0 | 15.5 | 9.1 | 9.1 | 14.4 |
| COMPOSITE LINK PERFORMANCE | | | | | | |
| Uplink Earth Station HPA Intermodulation C/N (dB) | 35.7 | 35.4 | 29.6 | 29.0 | 29.0 | 28.6 |
| C/N Uplink (dB) | 26.3 | 25.9 | 20.1 | 19.5 | 19.6 | 19.2 |
| Uplink Interference C/I (dB) | 48.1 | 38.7 | 31.7 | 38.4 | 31.0 | 31.5 |
| Uplink Adjacent Satellite C/I (dB) | 26.7 | 26.4 | 20.6 | 20.0 | 20.1 | 19.7 |
| Intermodulation C/IM (dB) | 124.9 | 200.0 | 21.0 | 18.6 | 18.2 | 17.7 |
| Downlink C/N (dB) | 23.5 | 15.0 | 15.5 | 9.1 | 9.1 | 14.4 |
| Downlink Interference C/I (dB) | 46.9 | 35.4 | 29.2 | 23.4 | 22.1 | 21.6 |
| Downlink Adjacent Satellite C/I (dB) | 18.7 | 10.2 | 11.5 | 3.7 | 3.7 | 10.3 |
| Subtotal C/N (dB) | 16.5 | 8.8 | 9.0 | 2.3 | 2.3 | 7.5 |
| Margin - Other Losses (dB) | 0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Total C/N (dB) | 16.5 | 7.3 | 7.5 | 0.8 | 0.8 | 6.0 |
| Minimum Required C/N (dB) | 16.4 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Number of Carriers | 1 | 1 | 4 | 25 | 50 | 324 |
| CARRIER DENSITY LEVELS | | | | | | |
| Uplink Power Density (dBW/Hz) | -42.5 | -52.0 | -53.5 | -54.1 | -54.0 | -50.0 |
| Downlink EIRP Density At Beam Peak (dBW/Hz) | -17.1 | -26.0 | -29.2 | -29.9 | -29.9 | -30.3 |

| | | | | | | |
|---------------------------------------------------|------------|-------------|-------------|------------|------------|------------|
| UPLINK BEAM INFORMATION | | | | | | |
| Uplink Beam Name | EHUL | EHUL | EHUL | EHUL | EHUL | EHUL |
| Uplink Frequency (GHz) | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 |
| Uplink Beam Polarization | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal |
| Uplink Relative Contour Level (dB) | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 |
| Uplink Contour G/T (dB/K) | -0.8 | -0.8 | -0.8 | -0.8 | -0.8 | -0.8 |
| Uplink Contour SFD (dBW/m2) | -82.3 | -83.3 | -80.3 | -80.3 | -80.3 | -80.3 |
| DOWNLINK BEAM INFORMATION | | | | | | |
| Downlink Beam Name | EVDL | EVDL | EVDL | EVDL | EVDL | EVDL |
| Downlink Frequency (GHz) | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 |
| Downlink Beam Polarization | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Downlink Relative Contour Level (dB) | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 |
| Downlink Contour EIRP (dBW) | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 |
| ADJACENT SATELLITE 1 | | | | | | |
| Satellite 1 Orbital Location | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 |
| ADJACENT SATELLITE 2 | | | | | | |
| Satellite 1 Orbital Location | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 |
| CARRIER INFORMATION | | | | | | |
| Carrier ID | 25M0F3F | 27M0G7W | 8M25G7W | 1M43G7W | 717KG7W | 111KG7W |
| Carrier Modulation | TV/FM | QPSK | QPSK | BPSK | BPSK | QPSK |
| Peak to Peak Bandwidth of EDS (MHz) | 4 | N/A | N/A | N/A | N/A | N/A |
| Information Rate(kbps) | N/A | 27650 | 8448 | 512 | 256 | 128 |
| Code Rate | N/A | 3/4x188/204 | 3/4x188/204 | 1/2 | 1/2 | 3/4 |
| Occupied Bandwidth(kHz) | 20700 | 20002.1 | 6111.3 | 1024.0 | 512.0 | 85.3 |
| Allocated Bandwidth(kHz) | 25000 | 27003 | 8250.5 | 1434.0 | 717.0 | 111.0 |
| Minimum C/N, Clear Sky (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Minimum C/N, Rain (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| UPLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 4.0 | 2.4 | 4.0 | 2.4 | 2.4 | 4.0 |
| Earth Station Gain (dBi) | 53.1 | 48.7 | 53.1 | 48.7 | 48.7 | 53.1 |
| Earth Station Elevation Angle | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 |
| Rain Rate (mm/yr) | 3479 | 3479 | 3479 | 3479 | 3479 | 3479 |
| DOWNLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 2.4 | 2.4 | 1.8 | 1.8 | 2.4 |
| Earth Station Gain (dBi) | 55.6 | 47.0 | 47.0 | 44.5 | 44.5 | 47.0 |
| Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 23.3 | 23.3 | 25.0 |
| Earth Station Elevation Angle | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 |
| Rain Rate (mm/yr) | 2098 | 2098 | 2098 | 2098 | 2098 | 2098 |
| LINK FADE TYPE | | | | | | |
| | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky |
| UPLINK PERFORMANCE | | | | | | |
| Uplink Earth Station EIRP (dBW) | 72.3 | 71.2 | 68.8 | 57.0 | 53.9 | 49.2 |
| Uplink Path Loss, Clear Sky (dB) | -208.3 | -208.3 | -208.3 | -208.3 | -208.3 | -208.3 |
| Satellite G/T(dB/K) | -0.8 | -0.8 | -0.8 | -0.8 | -0.8 | -0.8 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Uplink C/N(dB) | 18.6 | 17.7 | 20.4 | 16.4 | 16.3 | 19.4 |
| DOWNLINK PERFORMANCE | | | | | | |
| Downlink EIRP per Carrier (dBW) | 50.0 | 40.8 | 35.4 | 23.4 | 20.3 | 15.6 |
| Downlink Path Loss, Clear Sky (dB) | -206.0 | -206.0 | -206.0 | -206.0 | -206.0 | -206.0 |
| Downlink Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 23.3 | 23.3 | 25.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Transponder Correction Factor | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Downlink C / N(dB) | 33.4 | 16.0 | 15.1 | 9.2 | 9.1 | 13.9 |
| COMPOSITE LINK PERFORMANCE | | | | | | |
| Uplink Earth Station HPA Intermodulation C/N (dB) | 34.3 | 33.3 | 36.1 | 32.1 | 32.0 | 35.1 |
| C/N Uplink (dB) | 18.6 | 17.7 | 20.4 | 16.4 | 16.3 | 19.4 |
| Uplink Interference C/I (dB) | 32.6 | 30.9 | 200.0 | 200.0 | 96.4 | 85.5 |
| Uplink Adjacent Satellite C/I (dB) | 20.1 | 19.2 | 22.0 | 17.9 | 17.8 | 20.9 |
| Intermodulation C/IM (dB) | 126.8 | 200.0 | 25.7 | 19.2 | 18.7 | 21.7 |
| Downlink C/N (dB) | 33.4 | 16.0 | 15.1 | 9.2 | 9.1 | 13.9 |
| Downlink Interference C/I (dB) | 42.4 | 30.6 | 31.7 | 19.6 | 21.8 | 24.7 |
| Downlink Adjacent Satellite C/I (dB) | 19.8 | 11.2 | 10.9 | 4.0 | 3.9 | 9.6 |
| Subtotal C/N (dB) | 14.6 | 8.8 | 8.8 | 2.4 | 2.3 | 7.4 |
| Margin - Other Losses (dB) | 0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Total C/N (dB) | 14.6 | 7.3 | 7.3 | 0.9 | 0.8 | 5.9 |
| Minimum Required C/N (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Number of Carriers | 1 | 1 | 3 | 19 | 38 | 243 |
| CARRIER DENSITY LEVELS | | | | | | |
| Uplink Power Density (dBW/Hz) | -46.8 | -50.5 | -52.2 | -51.8 | -51.9 | -53.2 |
| Downlink EIRP Density At Beam Peak (dBW/Hz) | -10.0 | -26.2 | -26.5 | -30.7 | -30.8 | -27.7 |

| UPLINK BEAM INFORMATION | | | | | | |
|---------------------------------------------------|------------|-------------|-------------|------------|------------|------------|
| Uplink Beam Name | KVUL | KVUL | KVUL | KVUL | KVUL | KVUL |
| Uplink Frequency (GHz) | 14.0-14.5 | 14.0-14.5 | 14.0-14.5 | 14.0-14.5 | 14.0-14.5 | 14.0-14.5 |
| Uplink Beam Polarization | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Uplink Relative Contour Level (dB) | -6.3 | -6.3 | -6.3 | -6.3 | -6.3 | -6.3 |
| Uplink Contour G/T (dB/K) | -1.5 | -1.5 | -1.5 | -1.5 | -1.5 | -1.5 |
| Uplink Contour SFD (dBW/m2) | -79.0 | -81.0 | -81.0 | -81.0 | -81.0 | -81.0 |
| DOWNLINK BEAM INFORMATION | | | | | | |
| Downlink Beam Name | KHDL | KHDL | KHDL | KHDL | KHDL | KHDL |
| Downlink Frequency (GHz) | 11.7-12.2 | 11.7-12.2 | 11.7-12.2 | 11.7-12.2 | 11.7-12.2 | 11.7-12.2 |
| Downlink Beam Polarization | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal |
| Downlink Relative Contour Level (dB) | -6.2 | -6.2 | -6.2 | -6.2 | -6.2 | -6.2 |
| Downlink Contour EIRP (dBW) | 43.5 | 43.5 | 43.5 | 43.5 | 43.5 | 43.5 |
| ADJACENT SATELLITE 1 | | | | | | |
| Satellite 1 Orbital Location | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.2 | -26.2 | -26.2 | -26.2 | -26.2 | -26.2 |
| ADJACENT SATELLITE 2 | | | | | | |
| Satellite 1 Orbital Location | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.2 | -26.2 | -26.2 | -26.2 | -26.2 | -26.2 |
| CARRIER INFORMATION | | | | | | |
| Carrier ID | 36M0F3F | 36M0G7W | 8M25G7W | 1M43G7W | 717KG7W | 111KG7W |
| Carrier Modulation | TV/FM | QPSK | QPSK | BPSK | BPSK | QPSK |
| Peak to Peak Bandwidth of EDS (MHz) | 4 | N/A | N/A | N/A | N/A | N/A |
| Information Rate(kbps) | N/A | 36860 | 8448 | 512 | 256 | 128 |
| Code Rate | N/A | 3/4x188/204 | 3/4x188/204 | 1/2 | 1/2 | 3/4 |
| Occupied Bandwidth(kHz) | 32400 | 26664.7 | 6111.3 | 1024.0 | 512.0 | 85.3 |
| Allocated Bandwidth(kHz) | 36000 | 35997.5 | 8250.5 | 1434.0 | 717.0 | 111.0 |
| Minimum C/N, Clear Sky (dB) | 16.4 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Minimum C/N, Rain (dB) | 16.4 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| UPLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Earth Station Gain (dBi) | 57.4 | 53.1 | 53.1 | 53.1 | 53.1 | 53.1 |
| Earth Station Elevation Angle | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Rain Rate (mm/yr) | 285 | 285 | 285 | 285 | 285 | 285 |
| DOWNLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 2.4 | 4.0 | 1.8 | 1.8 | 4.0 |
| Earth Station Gain (dBi) | 55.6 | 47 | 51.4 | 44.5 | 44.5 | 51.4 |
| Earth Station G/T (dB/K) | 34.0 | 25.0 | 29.0 | 23.3 | 23.3 | 29.0 |
| Earth Station Elevation Angle | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Rain Rate (mm/yr) | 320 | 320 | 320 | 320 | 320 | 320 |
| LINK FADE TYPE | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky |
| UPLINK PERFORMANCE | | | | | | |
| Uplink Earth Station EIRP (dBW) | 80.5 | 77.2 | 66.9 | 58.3 | 55.4 | 47.4 |
| Uplink Path Loss, Clear Sky (dB) | -208.1 | -208.1 | -208.1 | -208.1 | -208.1 | -208.1 |
| Satellite G/T(dB/K) | -1.5 | -1.5 | -1.5 | -1.5 | -1.5 | -1.5 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 32.4 | 26.7 | 6.1 | 1.0 | 0.5 | 0.1 |
| Uplink C/N(dB) | 24.4 | 21.9 | 18.0 | 17.2 | 17.3 | 17.1 |
| DOWNLINK PERFORMANCE | | | | | | |
| Downlink EIRP per Carrier (dBW) | 42.8 | 42.1 | 32.5 | 23.8 | 20.8 | 12.8 |
| Downlink Path Loss, Clear Sky (dB) | -206.5 | -206.5 | -206.5 | -206.5 | -206.5 | -206.5 |
| Downlink Earth Station G/T (dB/K) | 34.0 | 25.0 | 29.0 | 23.3 | 23.3 | 29.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 32.4 | 26.7 | 6.1 | 1.0 | 0.5 | 0.1 |
| Transponder Correction Factor | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Downlink C / N(dB) | 23.8 | 15.2 | 15.7 | 9.1 | 9.1 | 14.6 |
| COMPOSITE LINK PERFORMANCE | | | | | | |
| Uplink Earth Station HPA Intermodulation C/N (dB) | 33.9 | 31.4 | 27.5 | 26.8 | 26.8 | 26.6 |
| C/N Uplink (dB) | 24.4 | 21.9 | 18.0 | 17.2 | 17.3 | 17.1 |
| Uplink Interference C/I (dB) | 43.1 | 29.3 | 200.0 | 200.0 | 200.0 | 200.0 |
| Uplink Adjacent Satellite C/I (dB) | 26.4 | 23.9 | 20.0 | 19.2 | 19.3 | 19.1 |
| Intermodulation C/IM (dB) | 124.9 | 200.0 | 21.1 | 18.5 | 18.2 | 17.9 |
| Downlink C/N (dB) | 23.8 | 15.2 | 15.7 | 9.1 | 9.1 | 14.6 |
| Downlink Interference C/I (dB) | 44.9 | 33.2 | 36.0 | 23.7 | 23.8 | 22.5 |
| Downlink Adjacent Satellite C/I (dB) | 19.0 | 10.5 | 11.7 | 3.8 | 3.8 | 10.6 |
| Subtotal C/N (dB) | 16.4 | 8.8 | 8.9 | 2.3 | 2.3 | 7.6 |
| Margin - Other Losses (dB) | 0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Total C/N (dB) | 16.4 | 7.3 | 7.4 | 0.8 | 0.8 | 6.1 |
| Minimum Required C/N (dB) | 16.4 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Number of Carriers | 1 | 1 | 4 | 25 | 50 | 324 |
| CARRIER DENSITY LEVELS | | | | | | |
| Uplink Power Density (dBW/Hz) | -42.9 | -50.2 | -54.1 | -54.9 | -54.8 | -55.0 |
| Downlink EIRP Density At Beam Peak (dBW/Hz) | -17.0 | -26.0 | -29.2 | -30.1 | -30.1 | -30.3 |

| UPLINK BEAM INFORMATION | | | | | | |
|---------------------------------------------------|------------|-------------|-------------|------------|------------|------------|
| Uplink Beam Name | EVUL | EVUL | EVUL | EVUL | EVUL | EVUL |
| Uplink Frequency (GHz) | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 |
| Uplink Beam Polarization | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Uplink Relative Contour Level (dB) | -4.4 | -4.4 | -4.4 | -4.4 | -4.4 | -4.4 |
| Uplink Contour G/T (dB/K) | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Uplink Contour SFD (dBW/m2) | -74.8 | -84.8 | -79.8 | -79.8 | -79.8 | -79.8 |
| DOWNLINK BEAM INFORMATION | | | | | | |
| Downlink Beam Name | EHDL | EHDL | EHDL | EHDL | EHDL | EHDL |
| Downlink Frequency (GHz) | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 |
| Downlink Beam Polarization | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal |
| Downlink Relative Contour Level (dB) | -6.1 | -6.1 | -6.1 | -6.1 | -6.1 | -6.1 |
| Downlink Contour EIRP (dBW) | 44.8 | 44.8 | 44.8 | 44.8 | 44.8 | 44.8 |
| ADJACENT SATELLITE 1 | | | | | | |
| Satellite 1 Orbital Location | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.1 | -26.1 | -26.1 | -26.1 | -26.1 | -26.1 |
| ADJACENT SATELLITE 2 | | | | | | |
| Satellite 1 Orbital Location | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.1 | -26.1 | -26.1 | -26.1 | -26.1 | -26.1 |
| CARRIER INFORMATION | | | | | | |
| Carrier ID | 25M0F3F | 27M0G7W | 8M25G7W | 1M43G7W | 717KG7W | 111KG7W |
| Carrier Modulation | TV/FM | QPSK | QPSK | BPSK | BPSK | QPSK |
| Peak to Peak Bandwidth of EDS (MHz) | 4 | N/A | N/A | N/A | N/A | N/A |
| Information Rate(kbps) | N/A | 27650 | 8448 | 512 | 256 | 128 |
| Code Rate | N/A | 3/4x188/204 | 3/4x188/204 | 1/2 | 1/2 | 3/4 |
| Occupied Bandwidth(kHz) | 20700 | 20002.1 | 6111.3 | 1024.0 | 512.0 | 85.3 |
| Allocated Bandwidth(kHz) | 25000 | 27003 | 8250.5 | 1434.0 | 717.0 | 111.0 |
| Minimum C/N, Clear Sky (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Minimum C/N, Rain (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| UPLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 2.4 | 4.0 | 2.4 | 2.4 | 4.0 |
| Earth Station Gain (dBi) | 57.4 | 48.7 | 53.1 | 48.7 | 48.7 | 53.1 |
| Earth Station Elevation Angle | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 |
| Rain Rate (mm/yr) | 771 | 771 | 771 | 771 | 771 | 771 |
| DOWNLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 4.0 | 2.4 | 2.4 | 1.8 | 1.8 | 2.4 |
| Earth Station Gain (dBi) | 51.4 | 47.0 | 47.0 | 44.5 | 44.5 | 47.0 |
| Earth Station G/T (dB/K) | 29.0 | 25.0 | 25.0 | 23.3 | 23.3 | 25.0 |
| Earth Station Elevation Angle | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 |
| Rain Rate (mm/yr) | 3131 | 3131 | 3131 | 3131 | 3131 | 3131 |
| LINK FADE TYPE | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky |
| UPLINK PERFORMANCE | | | | | | |
| Uplink Earth Station EIRP (dBW) | 79.8 | 69.3 | 68.6 | 56.8 | 53.8 | 49.1 |
| Uplink Path Loss, Clear Sky (dB) | -207.6 | -207.6 | -207.6 | -207.6 | -207.6 | -207.6 |
| Satellite G/T(dB/K) | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Uplink C/N(dB) | 28.4 | 18.1 | 22.5 | 18.5 | 18.5 | 21.6 |
| DOWNLINK PERFORMANCE | | | | | | |
| Downlink EIRP per Carrier (dBW) | 41.2 | 40.8 | 35.0 | 22.9 | 19.9 | 15.2 |
| Downlink Path Loss, Clear Sky (dB) | -206.0 | -206.0 | -206.0 | -206.0 | -206.0 | -206.0 |
| Downlink Earth Station G/T (dB/K) | 29.0 | 25.0 | 25.0 | 23.3 | 23.3 | 25.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Transponder Correction Factor | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Downlink C / N(dB) | 19.6 | 16.0 | 14.7 | 8.7 | 8.7 | 13.5 |
| COMPOSITE LINK PERFORMANCE | | | | | | |
| Uplink Earth Station HPA Intermodulation C/N (dB) | 45.7 | 35.3 | 39.8 | 35.7 | 35.7 | 38.8 |
| C/N Uplink (dB) | 28.4 | 18.1 | 22.5 | 18.5 | 18.5 | 21.6 |
| Uplink Interference C/I (dB) | 55.2 | 33.5 | 33.1 | 37.0 | 32.6 | 46.2 |
| Uplink Adjacent Satellite C/I (dB) | 27.6 | 17.3 | 21.8 | 17.6 | 17.7 | 20.8 |
| Intermodulation C/IM (dB) | 126.8 | 200.0 | 25.8 | 19.1 | 18.8 | 21.8 |
| Downlink C/N (dB) | 19.6 | 16.0 | 14.7 | 8.7 | 8.7 | 13.5 |
| Downlink Interference C/I (dB) | 44.8 | 32.9 | 29.4 | 20.2 | 20.6 | 24.7 |
| Downlink Adjacent Satellite C/I (dB) | 16.2 | 11.5 | 10.9 | 4.0 | 4.0 | 9.6 |
| Subtotal C/N (dB) | 14.2 | 8.8 | 8.8 | 2.3 | 2.3 | 7.5 |
| Margin - Other Losses (dB) | 0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Total C/N (dB) | 14.2 | 7.3 | 7.3 | 0.8 | 0.8 | 6.0 |
| Minimum Required C/N (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Number of Carriers | 1 | 1 | 3 | 19 | 38 | 243 |
| CARRIER DENSITY LEVELS | | | | | | |
| Uplink Power Density (dBW/Hz) | -43.6 | -52.4 | -52.4 | -52.0 | -52.0 | -53.3 |
| Downlink EIRP Density At Beam Peak (dBW/Hz) | -18.7 | -26.1 | -26.8 | -31.1 | -31.1 | -28.0 |

| UPLINK BEAM INFORMATION | | | | | | |
|---------------------------------------------------|------------|-------------|-------------|------------|------------|------------|
| Uplink Beam Name | EHUL | EHUL | EHUL | EHUL | EHUL | EHUL |
| Uplink Frequency (GHz) | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 |
| Uplink Beam Polarization | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal |
| Uplink Relative Contour Level (dB) | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 |
| Uplink Contour G/T (dB/K) | -0.8 | -0.8 | -0.8 | -0.8 | -0.8 | -0.8 |
| Uplink Contour SFD (dBW/m2) | -81.3 | -82.3 | -78.3 | -78.3 | -78.3 | -78.3 |
| DOWNLINK BEAM INFORMATION | | | | | | |
| Downlink Beam Name | BVDL | BVDL | BVDL | BVDL | BVDL | BVDL |
| Downlink Frequency (GHz) | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 |
| Downlink Beam Polarization | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Downlink Relative Contour Level (dB) | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 |
| Downlink Contour EIRP (dBW) | 45.9 | 45.9 | 45.9 | 45.9 | 45.9 | 45.9 |
| ADJACENT SATELLITE 1 | | | | | | |
| Satellite 1 Orbital Location | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 |
| ADJACENT SATELLITE 2 | | | | | | |
| Satellite 1 Orbital Location | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 |
| CARRIER INFORMATION | | | | | | |
| Carrier ID | 25M0F3F | 27M0G7W | 8M25G7W | 1M43G7W | 717KG7W | 111KG7W |
| Carrier Modulation | TV/FM | QPSK | QPSK | BPSK | BPSK | QPSK |
| Peak to Peak Bandwidth of EDS (MHz) | 4 | N/A | N/A | N/A | N/A | N/A |
| Information Rate(kbps) | N/A | 27650 | 8448 | 512 | 256 | 128 |
| Code Rate | N/A | 3/4x188/204 | 3/4x188/204 | 1/2 | 1/2 | 3/4 |
| Occupied Bandwidth(kHz) | 20700 | 20002.1 | 6111.3 | 1024.0 | 512.0 | 85.3 |
| Allocated Bandwidth(kHz) | 25000 | 27003 | 8250.5 | 1434.0 | 717.0 | 111.0 |
| Minimum C/N, Clear Sky (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Minimum C/N, Rain (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| UPLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 4.0 | 2.4 | 4.0 | 4.0 | 4.0 | 4.0 |
| Earth Station Gain (dBi) | 53.1 | 48.7 | 53.1 | 53.1 | 53.1 | 53.1 |
| Earth Station Elevation Angle | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 |
| Rain Rate (mm/yr) | 3479 | 3479 | 3479 | 3479 | 3479 | 3479 |
| DOWNLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 2.4 | 2.4 | 1.2 | 1.8 | 2.4 |
| Earth Station Gain (dBi) | 55.6 | 47.0 | 47.0 | 40.9 | 44.5 | 47.0 |
| Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 19.8 | 23.3 | 25.0 |
| Earth Station Elevation Angle | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 |
| Rain Rate (mm/yr) | 851 | 851 | 851 | 851 | 851 | 851 |
| LINK FADE TYPE | | | | | | |
| | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky |
| UPLINK PERFORMANCE | | | | | | |
| Uplink Earth Station EIRP (dBW) | 72.3 | 71.3 | 70.3 | 62.5 | 59.2 | 50.7 |
| Uplink Path Loss, Clear Sky (dB) | -208.3 | -208.3 | -208.3 | -208.3 | -208.3 | -208.3 |
| Satellite G/T(dB/K) | -0.8 | -0.8 | -0.8 | -0.8 | -0.8 | -0.8 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Uplink C/N(dB) | 18.6 | 17.8 | 21.9 | 21.9 | 21.6 | 20.9 |
| DOWNLINK PERFORMANCE | | | | | | |
| Downlink EIRP per Carrier (dBW) | 41.1 | 41.0 | 35.6 | 27.6 | 24.3 | 15.8 |
| Downlink Path Loss, Clear Sky (dB) | -204.9 | -204.9 | -204.9 | -204.9 | -204.9 | -204.9 |
| Downlink Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 19.8 | 23.3 | 25.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Transponder Correction Factor | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| Downlink C / N(dB) | 25.6 | 17.4 | 16.4 | 11.0 | 14.2 | 15.2 |
| COMPOSITE LINK PERFORMANCE | | | | | | |
| Uplink Earth Station HPA Intermodulation C/N (dB) | 34.3 | 33.5 | 37.6 | 37.6 | 37.3 | 36.6 |
| C/N Uplink (dB) | 18.6 | 17.8 | 21.9 | 21.9 | 21.6 | 20.9 |
| Uplink Interference C/I (dB) | 34.2 | 27.3 | 31.3 | 32.1 | 105.9 | 91.2 |
| Uplink Adjacent Satellite C/I (dB) | 20.2 | 19.3 | 23.4 | 23.4 | 23.1 | 22.4 |
| Intermodulation C/IM (dB) | 126.8 | 200.0 | 21.8 | 20.5 | 20.0 | 19.2 |
| Downlink C/N (dB) | 25.6 | 17.4 | 16.4 | 11.0 | 14.2 | 15.2 |
| Downlink Interference C/I (dB) | 42.9 | 31.7 | 33.7 | 24.2 | 23.9 | 22.1 |
| Downlink Adjacent Satellite C/I (dB) | 19.4 | 10.9 | 10.6 | 3.1 | 2.9 | 9.3 |
| Subtotal C/N (dB) | 14.2 | 8.8 | 8.9 | 2.3 | 2.4 | 7.4 |
| Margin - Other Losses (dB) | 0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Total C/N (dB) | 14.2 | 7.3 | 7.4 | 0.8 | 0.9 | 5.9 |
| Minimum Required C/N (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Number of Carriers | 1 | 1 | 3 | 19 | 38 | 243 |
| CARRIER DENSITY LEVELS | | | | | | |
| Uplink Power Density (dBW/Hz) | -46.8 | -50.4 | -50.7 | -50.7 | -51.0 | -51.7 |
| Downlink EIRP Density At Beam Peak (dBW/Hz) | -18.9 | -26.0 | -26.3 | -26.5 | -26.8 | -27.5 |

| UPLINK BEAM INFORMATION | | | | | | |
|---------------------------------------------------|------------|-------------|-------------|------------|------------|------------|
| Uplink Beam Name | EVUL | EVUL | EVUL | EVUL | EVUL | EVUL |
| Uplink Frequency (GHz) | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 | 13.75-14.0 |
| Uplink Beam Polarization | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Uplink Relative Contour Level (dB) | -4.4 | -4.4 | -4.4 | -4.4 | -4.4 | -4.4 |
| Uplink Contour G/T (dB/K) | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Uplink Contour SFD (dBW/m2) | -74.8 | -83.8 | -79.8 | -79.8 | -79.8 | -79.8 |
| DOWNLINK BEAM INFORMATION | | | | | | |
| Downlink Beam Name | BHDL | BHDL | BHDL | BHDL | BHDL | BHDL |
| Downlink Frequency (GHz) | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 |
| Downlink Beam Polarization | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal |
| Downlink Relative Contour Level (dB) | -5.7 | -5.7 | -5.7 | -5.7 | -5.7 | -5.7 |
| Downlink Contour EIRP (dBW) | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 |
| ADJACENT SATELLITE 1 | | | | | | |
| Satellite 1 Orbital Location | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -25.7 | -25.7 | -25.7 | -25.7 | -25.7 | -25.7 |
| ADJACENT SATELLITE 2 | | | | | | |
| Satellite 1 Orbital Location | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -25.7 | -25.7 | -25.7 | -25.7 | -25.7 | -25.7 |
| CARRIER INFORMATION | | | | | | |
| Carrier ID | 25M0F3F | 27M0G7W | 8M25G7W | 1M43G7W | 717KG7W | 111KG7W |
| Carrier Modulation | TV/FM | QPSK | QPSK | BPSK | BPSK | QPSK |
| Peak to Peak Bandwidth of EDS (MHz) | 4 | N/A | N/A | N/A | N/A | N/A |
| Information Rate(kbps) | N/A | 27650 | 8448 | 512 | 256 | 128 |
| Code Rate | N/A | 3/4x188/204 | 3/4x188/204 | 1/2 | 1/2 | 3/4 |
| Occupied Bandwidth(kHz) | 20700 | 20002.1 | 6111.3 | 1024.0 | 512.0 | 85.3 |
| Allocated Bandwidth(kHz) | 25000 | 27003 | 8250.5 | 1434.0 | 717.0 | 111.0 |
| Minimum C/N, Clear Sky (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Minimum C/N, Rain (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| UPLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 1.8 | 2.4 | 2.4 | 1.8 | 2.4 |
| Earth Station Gain (dBi) | 57.4 | 46.2 | 48.7 | 48.7 | 46.2 | 48.7 |
| Earth Station Elevation Angle | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 |
| Rain Rate (mm/yr) | 771 | 771 | 771 | 771 | 771 | 771 |
| DOWNLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 4.0 | 2.4 | 2.4 | 1.2 | 1.2 | 2.4 |
| Earth Station Gain (dBi) | 51.4 | 47.0 | 47.0 | 40.9 | 40.9 | 47.0 |
| Earth Station G/T (dB/K) | 29.0 | 25.0 | 25.0 | 19.8 | 19.8 | 25.0 |
| Earth Station Elevation Angle | 43.5 | 43.5 | 43.5 | 43.5 | 43.5 | 43.5 |
| Rain Rate (mm/yr) | 976 | 976 | 976 | 976 | 976 | 976 |
| LINK FADE TYPE | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky |
| UPLINK PERFORMANCE | | | | | | |
| Uplink Earth Station EIRP (dBW) | 78.2 | 69.0 | 64.4 | 55.9 | 53.0 | 44.8 |
| Uplink Path Loss, Clear Sky (dB) | -207.6 | -207.6 | -207.6 | -207.6 | -207.6 | -207.6 |
| Satellite G/T(dB/K) | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Uplink C/N(dB) | 26.8 | 17.8 | 18.3 | 17.6 | 17.7 | 17.3 |
| DOWNLINK PERFORMANCE | | | | | | |
| Downlink EIRP per Carrier (dBW) | 41.5 | 41.3 | 36.2 | 27.5 | 24.6 | 16.4 |
| Downlink Path Loss, Clear Sky (dB) | -204.9 | -204.9 | -204.9 | -204.9 | -204.9 | -204.9 |
| Downlink Earth Station G/T (dB/K) | 29.0 | 25.0 | 25.0 | 19.8 | 19.8 | 25.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Transponder Correction Factor | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| Downlink C / N(dB) | 21.0 | 17.7 | 17.1 | 10.9 | 11.0 | 15.8 |
| COMPOSITE LINK PERFORMANCE | | | | | | |
| Uplink Earth Station HPA Intermodulation C/N (dB) | 44.1 | 35.0 | 35.6 | 34.9 | 35.0 | 34.6 |
| C/N Uplink (dB) | 26.8 | 17.8 | 18.3 | 17.6 | 17.7 | 17.3 |
| Uplink Interference C/I (dB) | 53.5 | 34.2 | 27.3 | 32.1 | 26.4 | 36.5 |
| Uplink Adjacent Satellite C/I (dB) | 26.1 | 17.0 | 17.6 | 16.8 | 16.9 | 16.5 |
| Intermodulation C/IM (dB) | 126.8 | 200.0 | 22.1 | 19.9 | 19.8 | 19.3 |
| Downlink C/N (dB) | 21.0 | 17.7 | 17.1 | 10.9 | 11.0 | 15.8 |
| Downlink Interference C/I (dB) | 44.7 | 32.3 | 29.4 | 23.1 | 22.0 | 22.2 |
| Downlink Adjacent Satellite C/I (dB) | 16.0 | 11.5 | 11.5 | 3.4 | 3.5 | 10.3 |
| Subtotal C/N (dB) | 14.3 | 9.0 | 8.8 | 2.3 | 2.4 | 7.5 |
| Margin - Other Losses (dB) | 0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Total C/N (dB) | 14.3 | 7.5 | 7.3 | 0.8 | 0.9 | 6.0 |
| Minimum Required C/N (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Number of Carriers | 1 | 1 | 3 | 19 | 38 | 243 |
| CARRIER DENSITY LEVELS | | | | | | |
| Uplink Power Density (dBW/Hz) | -45.2 | -50.2 | -52.2 | -52.9 | -50.3 | -53.2 |
| Downlink EIRP Density At Beam Peak (dBW/Hz) | -18.8 | -26.0 | -25.9 | -26.9 | -26.8 | -27.2 |

| UPLINK BEAM INFORMATION | | | | | | |
|---------------------------------------------------|------------|-------------|-------------|------------|------------|------------|
| Uplink Beam Name | BHUL | BHUL | BHUL | BHUL | BHUL | BHUL |
| Uplink Frequency (GHz) | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 |
| Uplink Beam Polarization | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal |
| Uplink Relative Contour Level (dB) | -5.7 | -5.7 | -5.7 | -5.7 | -5.7 | -5.7 |
| Uplink Contour G/T (dB/K) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Uplink Contour SFD (dBW/m2) | -80.6 | -81.6 | -80.6 | -80.6 | -80.6 | -80.6 |
| DOWNLINK BEAM INFORMATION | | | | | | |
| Downlink Beam Name | BVDL | BVDL | BVDL | BVDL | BVDL | BVDL |
| Downlink Frequency (GHz) | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 |
| Downlink Beam Polarization | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Downlink Relative Contour Level (dB) | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 |
| Downlink Contour EIRP (dBW) | 45.9 | 45.9 | 45.9 | 45.9 | 45.9 | 45.9 |
| ADJACENT SATELLITE 1 | | | | | | |
| Satellite 1 Orbital Location | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 |
| ADJACENT SATELLITE 2 | | | | | | |
| Satellite 1 Orbital Location | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 |
| CARRIER INFORMATION | | | | | | |
| Carrier ID | 25M0F3F | 27M0G7W | 8M25G7W | 1M43G7W | 717KG7W | 111KG7W |
| Carrier Modulation | TV/FM | QPSK | QPSK | BPSK | BPSK | QPSK |
| Peak to Peak Bandwidth of EDS (MHz) | 4 | N/A | N/A | N/A | N/A | N/A |
| Information Rate(kbps) | N/A | 27650 | 8448 | 512 | 256 | 128 |
| Code Rate | N/A | 3/4x188/204 | 3/4x188/204 | 1/2 | 1/2 | 3/4 |
| Occupied Bandwidth(kHz) | 20700 | 20002.1 | 6111.3 | 1024.0 | 512.0 | 85.3 |
| Allocated Bandwidth(kHz) | 25000 | 27003 | 8250.5 | 1434.0 | 717.0 | 111.0 |
| Minimum C/N, Clear Sky (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Minimum C/N, Rain (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| UPLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 4.0 | 2.4 | 4.0 | 4.0 | 4.0 | 2.4 |
| Earth Station Gain (dBi) | 53.1 | 48.7 | 53.1 | 53.1 | 53.1 | 48.7 |
| Earth Station Elevation Angle | 44.1 | 44.1 | 44.1 | 44.1 | 44.1 | 44.1 |
| Rain Rate (mm/yr) | 758 | 758 | 758 | 758 | 758 | 758 |
| DOWNLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 2.4 | 2.4 | 1.2 | 1.2 | 2.4 |
| Earth Station Gain (dBi) | 55.6 | 47.0 | 47.0 | 40.9 | 40.9 | 47.0 |
| Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 19.8 | 19.8 | 25.0 |
| Earth Station Elevation Angle | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 |
| Rain Rate (mm/yr) | 851 | 851 | 851 | 851 | 851 | 851 |
| LINK FADE TYPE | | | | | | |
| | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky |
| UPLINK PERFORMANCE | | | | | | |
| Uplink Earth Station EIRP (dBW) | 71.4 | 70.5 | 66.9 | 58.9 | 55.9 | 47.4 |
| Uplink Path Loss, Clear Sky (dB) | -207.1 | -207.1 | -207.1 | -207.1 | -207.1 | -207.1 |
| Satellite G/T(dB/K) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Uplink C/N(dB) | 19.7 | 19.0 | 20.5 | 20.3 | 20.3 | 19.6 |
| DOWNLINK PERFORMANCE | | | | | | |
| Downlink EIRP per Carrier (dBW) | 41.0 | 41.0 | 35.9 | 27.7 | 24.7 | 16.2 |
| Downlink Path Loss, Clear Sky (dB) | -204.9 | -204.9 | -204.9 | -204.9 | -204.9 | -204.9 |
| Downlink Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 19.8 | 19.8 | 25.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Transponder Correction Factor | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Downlink C / N(dB) | 25.5 | 17.3 | 16.7 | 11.1 | 11.1 | 15.6 |
| COMPOSITE LINK PERFORMANCE | | | | | | |
| Uplink Earth Station HPA Intermodulation C/N (dB) | 32.9 | 32.2 | 33.7 | 33.5 | 33.5 | 32.8 |
| C/N Uplink (dB) | 19.7 | 19.0 | 20.5 | 20.3 | 20.3 | 19.6 |
| Uplink Interference C/I (dB) | 43.1 | 31.6 | 200.0 | 200.0 | 102.7 | 88.1 |
| Uplink Adjacent Satellite C/I (dB) | 19.2 | 18.5 | 20.0 | 19.8 | 19.8 | 19.1 |
| Intermodulation C/IM (dB) | 126.8 | 200.0 | 21.5 | 20.0 | 19.8 | 19.0 |
| Downlink C/N (dB) | 25.5 | 17.3 | 16.7 | 11.1 | 11.1 | 15.6 |
| Downlink Interference C/I (dB) | 43.3 | 31.0 | 29.4 | 23.1 | 24.0 | 22.1 |
| Downlink Adjacent Satellite C/I (dB) | 19.2 | 10.8 | 10.8 | 3.2 | 3.2 | 9.6 |
| Subtotal C/N (dB) | 14.3 | 8.9 | 8.8 | 2.3 | 2.3 | 7.5 |
| Margin - Other Losses (dB) | 0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Total C/N (dB) | 14.3 | 7.4 | 7.3 | 0.8 | 0.8 | 6.0 |
| Minimum Required C/N (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Number of Carriers | 1 | 1 | 3 | 19 | 38 | 243 |
| CARRIER DENSITY LEVELS | | | | | | |
| Uplink Power Density (dBW/Hz) | -47.7 | -51.2 | -54.1 | -54.3 | -54.3 | -50.6 |
| Downlink EIRP Density At Beam Peak (dBW/Hz) | -19.0 | -26.0 | -26.0 | -26.4 | -26.4 | -27.1 |

| UPLINK BEAM INFORMATION | | | | | | |
|---------------------------------------------------|------------|-------------|-------------|------------|------------|------------|
| Uplink Beam Name | BVUL | BVUL | BVUL | BVUL | BVUL | BVUL |
| Uplink Frequency (GHz) | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 |
| Uplink Beam Polarization | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Uplink Relative Contour Level (dB) | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 |
| Uplink Contour G/T (dB/K) | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Uplink Contour SFD (dBW/m2) | -80.9 | -80.9 | -79.9 | -79.9 | -79.9 | -79.9 |
| DOWNLINK BEAM INFORMATION | | | | | | |
| Downlink Beam Name | BHDL | BHDL | BHDL | BHDL | BHDL | BHDL |
| Downlink Frequency (GHz) | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 |
| Downlink Beam Polarization | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal |
| Downlink Relative Contour Level (dB) | -5.8 | -5.8 | -5.8 | -5.8 | -5.8 | -5.8 |
| Downlink Contour EIRP (dBW) | 46.9 | 46.9 | 46.9 | 46.9 | 46.9 | 46.9 |
| ADJACENT SATELLITE 1 | | | | | | |
| Satellite 1 Orbital Location | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -25.8 | -25.8 | -25.8 | -25.8 | -25.8 | -25.8 |
| ADJACENT SATELLITE 2 | | | | | | |
| Satellite 1 Orbital Location | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -25.8 | -25.8 | -25.8 | -25.8 | -25.8 | -25.8 |
| CARRIER INFORMATION | | | | | | |
| Carrier ID | 25M0F3F | 27M0G7W | 8M25G7W | 1M43G7W | 717KG7W | 111KG7W |
| Carrier Modulation | TV/FM | QPSK | QPSK | BPSK | BPSK | QPSK |
| Peak to Peak Bandwidth of EDS (MHz) | 4 | N/A | N/A | N/A | N/A | N/A |
| Information Rate(kbps) | N/A | 27650 | 8448 | 512 | 256 | 128 |
| Code Rate | N/A | 3/4x188/204 | 3/4x188/204 | 1/2 | 1/2 | 3/4 |
| Occupied Bandwidth(kHz) | 20700 | 20002.1 | 6111.3 | 1024.0 | 512.0 | 85.3 |
| Allocated Bandwidth(kHz) | 25000 | 27003 | 8250.5 | 1434.0 | 717.0 | 111.0 |
| Minimum C/N, Clear Sky (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Minimum C/N, Rain (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| UPLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 2.4 | 2.4 | 4.0 | 2.4 | 2.4 | 2.4 |
| Earth Station Gain (dBi) | 48.7 | 48.7 | 53.1 | 48.7 | 48.7 | 48.7 |
| Earth Station Elevation Angle | 46.5 | 46.5 | 46.5 | 46.4 | 46.5 | 46.5 |
| Rain Rate (mm/yr) | 1007 | 1007 | 1007 | 1090 | 1007 | 1007 |
| DOWNLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 2.4 | 2.4 | 1.2 | 1.2 | 2.4 |
| Earth Station Gain (dBi) | 55.6 | 47.0 | 47.0 | 40.9 | 40.9 | 47.0 |
| Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 19.8 | 19.8 | 25.0 |
| Earth Station Elevation Angle | 43.5 | 43.5 | 43.5 | 43.5 | 43.5 | 43.5 |
| Rain Rate (mm/yr) | 976 | 976 | 976 | 976 | 976 | 976 |
| LINK FADE TYPE | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky |
| UPLINK PERFORMANCE | | | | | | |
| Uplink Earth Station EIRP (dBW) | 71.7 | 70.4 | 66.7 | 58.8 | 55.7 | 47.1 |
| Uplink Path Loss, Clear Sky (dB) | -207.1 | -207.1 | -207.1 | -207.1 | -207.1 | -207.1 |
| Satellite G/T(dB/K) | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Uplink C/N(dB) | 20.3 | 19.2 | 20.6 | 20.5 | 20.4 | 19.6 |
| DOWNLINK PERFORMANCE | | | | | | |
| Downlink EIRP per Carrier (dBW) | 40.5 | 41.1 | 36.0 | 27.8 | 24.8 | 16.2 |
| Downlink Path Loss, Clear Sky (dB) | -205.0 | -205.0 | -205.0 | -205.0 | -205.0 | -205.0 |
| Downlink Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 19.8 | 19.8 | 25.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Transponder Correction Factor | 0.0 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| Downlink C / N(dB) | 24.9 | 17.5 | 16.8 | 11.0 | 11.1 | 15.5 |
| COMPOSITE LINK PERFORMANCE | | | | | | |
| Uplink Earth Station HPA Intermodulation C/N (dB) | 33.6 | 32.5 | 34.0 | 33.6 | 33.7 | 32.9 |
| C/N Uplink (dB) | 20.3 | 19.2 | 20.6 | 20.5 | 20.4 | 19.6 |
| Uplink Interference C/I (dB) | 45.2 | 33.7 | 30.4 | 35.7 | 30.0 | 39.7 |
| Uplink Adjacent Satellite C/I (dB) | 19.5 | 18.4 | 19.9 | 19.6 | 19.6 | 18.8 |
| Intermodulation C/IM (dB) | 126.8 | 200.0 | 22.7 | 21.1 | 21.0 | 20.1 |
| Downlink C/N (dB) | 24.9 | 17.5 | 16.8 | 11.0 | 11.1 | 15.5 |
| Downlink Interference C/I (dB) | 43.8 | 33.2 | 28.9 | 23.4 | 22.2 | 21.9 |
| Downlink Adjacent Satellite C/I (dB) | 18.6 | 10.7 | 10.7 | 3.1 | 3.2 | 9.4 |
| Subtotal C/N (dB) | 14.3 | 8.8 | 8.8 | 2.2 | 2.3 | 7.4 |
| Margin - Other Losses (dB) | 0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Total C/N (dB) | 14.3 | 7.3 | 7.3 | 0.7 | 0.8 | 5.9 |
| Minimum Required C/N (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Number of Carriers | 1 | 1 | 3 | 19 | 38 | 243 |
| CARRIER DENSITY LEVELS | | | | | | |
| Uplink Power Density (dBW/Hz) | -43.0 | -51.3 | -54.3 | -50.0 | -50.1 | -50.9 |
| Downlink EIRP Density At Beam Peak (dBW/Hz) | -19.7 | -26.1 | -26.0 | -26.6 | -26.5 | -27.3 |

| UPLINK BEAM INFORMATION | | | | | | |
|---------------------------------------------------|------------|-------------|-------------|------------|------------|------------|
| Uplink Beam Name | BHUL | BHUL | BHUL | BHUL | BHUL | BHUL |
| Uplink Frequency (GHz) | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 |
| Uplink Beam Polarization | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal |
| Uplink Relative Contour Level (dB) | -5.7 | -5.7 | -5.7 | -5.7 | -5.7 | -5.7 |
| Uplink Contour G/T (dB/K) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Uplink Contour SFD (dBW/m2) | -81.6 | -82.6 | -80.6 | -80.6 | -80.6 | -80.6 |
| DOWNLINK BEAM INFORMATION | | | | | | |
| Downlink Beam Name | EVDL | EVDL | EVDL | EVDL | EVDL | EVDL |
| Downlink Frequency (GHz) | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 |
| Downlink Beam Polarization | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Downlink Relative Contour Level (dB) | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 | -6.0 |
| Downlink Contour EIRP (dBW) | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 | 45.2 |
| ADJACENT SATELLITE 1 | | | | | | |
| Satellite 1 Orbital Location | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 |
| ADJACENT SATELLITE 2 | | | | | | |
| Satellite 1 Orbital Location | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 | -26.0 |
| CARRIER INFORMATION | | | | | | |
| Carrier ID | 25M0F3F | 27M0G7W | 8M25G7W | 1M43G7W | 717KG7W | 111KG7W |
| Carrier Modulation | TV/FM | QPSK | QPSK | BPSK | BPSK | QPSK |
| Peak to Peak Bandwidth of EDS (MHz) | 4 | N/A | N/A | N/A | N/A | N/A |
| Information Rate(kbps) | N/A | 27650 | 8448 | 512 | 256 | 128 |
| Code Rate | N/A | 3/4x188/204 | 3/4x188/204 | 1/2 | 1/2 | 3/4 |
| Occupied Bandwidth(kHz) | 20700 | 20002.1 | 6111.3 | 1024.0 | 512.0 | 85.3 |
| Allocated Bandwidth(kHz) | 25000 | 27003 | 8250.5 | 1434.0 | 717.0 | 111.0 |
| Minimum C/N, Clear Sky (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Minimum C/N, Rain (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| UPLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 4.0 | 2.4 | 4.0 | 1.8 | 1.8 | 2.4 |
| Earth Station Gain (dBi) | 53.1 | 48.7 | 53.1 | 46.2 | 46.2 | 48.7 |
| Earth Station Elevation Angle | 44.1 | 44.1 | 44.1 | 44.1 | 44.1 | 44.1 |
| Rain Rate (mm/yr) | 758 | 758 | 758 | 758 | 758 | 758 |
| DOWNLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 2.4 | 2.4 | 1.8 | 1.8 | 2.4 |
| Earth Station Gain (dBi) | 55.6 | 47.0 | 47.0 | 44.5 | 44.5 | 47.0 |
| Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 23.3 | 23.3 | 25.0 |
| Earth Station Elevation Angle | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 |
| Rain Rate (mm/yr) | 2098 | 2098 | 2098 | 2098 | 2098 | 2098 |
| LINK FADE TYPE | | | | | | |
| | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky |
| UPLINK PERFORMANCE | | | | | | |
| Uplink Earth Station EIRP (dBW) | 71.3 | 70.5 | 67.2 | 55.4 | 52.4 | 47.7 |
| Uplink Path Loss, Clear Sky (dB) | -207.0 | -207.0 | -207.0 | -207.0 | -207.0 | -207.0 |
| Satellite G/T(dB/K) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Uplink C/N(dB) | 19.7 | 19.1 | 20.9 | 16.9 | 16.9 | 20.0 |
| DOWNLINK PERFORMANCE | | | | | | |
| Downlink EIRP per Carrier (dBW) | 40.7 | 40.8 | 35.4 | 23.4 | 20.4 | 15.7 |
| Downlink Path Loss, Clear Sky (dB) | -206.0 | -206.0 | -206.0 | -206.0 | -206.0 | -206.0 |
| Downlink Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 23.3 | 23.3 | 25.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Transponder Correction Factor | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Downlink C / N(dB) | 24.1 | 16.0 | 15.1 | 9.2 | 9.2 | 14.0 |
| COMPOSITE LINK PERFORMANCE | | | | | | |
| Uplink Earth Station HPA Intermodulation C/N (dB) | 32.8 | 32.2 | 34.0 | 29.9 | 30.0 | 33.1 |
| C/N Uplink (dB) | 19.7 | 19.1 | 20.9 | 16.9 | 16.9 | 20.0 |
| Uplink Interference C/I (dB) | 43.0 | 32.5 | 200.0 | 200.0 | 97.1 | 86.3 |
| Uplink Adjacent Satellite C/I (dB) | 19.1 | 18.5 | 20.3 | 16.2 | 16.3 | 19.4 |
| Intermodulation C/IM (dB) | 126.8 | 200.0 | 25.7 | 19.1 | 18.7 | 21.7 |
| Downlink C/N (dB) | 24.1 | 16.0 | 15.1 | 9.2 | 9.2 | 14.0 |
| Downlink Interference C/I (dB) | 42.3 | 31.6 | 39.4 | 20.7 | 21.9 | 24.7 |
| Downlink Adjacent Satellite C/I (dB) | 19.6 | 11.2 | 10.9 | 4.0 | 4.0 | 9.7 |
| Subtotal C/N (dB) | 14.2 | 8.9 | 8.8 | 2.3 | 2.3 | 7.5 |
| Margin - Other Losses (dB) | 0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Total C/N (dB) | 14.2 | 7.4 | 7.3 | 0.8 | 0.8 | 6.0 |
| Minimum Required C/N (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Number of Carriers | 1 | 1 | 3 | 19 | 38 | 243 |
| CARRIER DENSITY LEVELS | | | | | | |
| Uplink Power Density (dBW/Hz) | -47.8 | -51.2 | -53.8 | -50.9 | -50.9 | -50.3 |
| Downlink EIRP Density At Beam Peak (dBW/Hz) | -19.3 | -26.2 | -26.5 | -30.7 | -30.7 | -27.6 |

| UPLINK BEAM INFORMATION | | | | | | |
|---------------------------------------------------|------------|-------------|-------------|------------|------------|------------|
| Uplink Beam Name | BVUL | BVUL | BVUL | BVUL | BVUL | BVUL |
| Uplink Frequency (GHz) | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 | 14.0-14.25 |
| Uplink Beam Polarization | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Uplink Relative Contour Level (dB) | -6.0 | -6.0 | -6.0 | -6.1 | -6.0 | -6.0 |
| Uplink Contour G/T (dB/K) | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 |
| Uplink Contour SFD (dBW/m2) | -82.9 | -83.9 | -78.9 | -78.8 | -78.9 | -78.9 |
| DOWNLINK BEAM INFORMATION | | | | | | |
| Downlink Beam Name | EHDL | EHDL | EHDL | EHDL | EHDL | EHDL |
| Downlink Frequency (GHz) | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 | 10.95-11.2 |
| Downlink Beam Polarization | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal | Horizontal |
| Downlink Relative Contour Level (dB) | -6.1 | -6.1 | -6.1 | -6.1 | -6.1 | -6.1 |
| Downlink Contour EIRP (dBW) | 44.8 | 44.8 | 44.8 | 44.8 | 44.8 | 44.8 |
| ADJACENT SATELLITE 1 | | | | | | |
| Satellite 1 Orbital Location | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W | 53.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.1 | -26.1 | -26.1 | -26.1 | -26.1 | -26.1 |
| ADJACENT SATELLITE 2 | | | | | | |
| Satellite 1 Orbital Location | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W | 57.6W |
| Uplink Power Density (dBW/Hz) | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 | -45.0 |
| Beam Peak Downlink EIRP Density (dBW/Hz) | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| Downlink EIRP Density at ES (dBW/Hz) | -26.1 | -26.1 | -26.1 | -26.1 | -26.1 | -26.1 |
| CARRIER INFORMATION | | | | | | |
| Carrier ID | 25M0F3F | 27M0G7W | 8M25G7W | 1M43G7W | 717KG7W | 111KG7W |
| Carrier Modulation | TV/FM | QPSK | QPSK | BPSK | BPSK | QPSK |
| Peak to Peak Bandwidth of EDS (MHz) | 4 | N/A | N/A | N/A | N/A | N/A |
| Information Rate(kbps) | N/A | 27650 | 8448 | 512 | 256 | 128 |
| Code Rate | N/A | 3/4x188/204 | 3/4x188/204 | 1/2 | 1/2 | 3/4 |
| Occupied Bandwidth(kHz) | 20700 | 20002.1 | 6111.3 | 1024.0 | 512.0 | 85.3 |
| Allocated Bandwidth(kHz) | 25000 | 27003 | 8250.5 | 1434.0 | 717.0 | 111.0 |
| Minimum C/N, Clear Sky (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Minimum C/N, Rain (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| UPLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 2.4 | 2.4 | 4.0 | 2.4 | 2.4 | 4.0 |
| Earth Station Gain (dBi) | 48.7 | 48.7 | 53.1 | 48.7 | 48.7 | 53.1 |
| Earth Station Elevation Angle | 46.5 | 46.5 | 46.5 | 46.4 | 46.5 | 46.5 |
| Rain Rate (mm/yr) | 1007 | 1007 | 1007 | 1090 | 1007 | 1007 |
| DOWNLINK EARTH STATION | | | | | | |
| Earth Station Diameter (meters) | 6.5 | 2.4 | 2.4 | 1.8 | 1.8 | 2.4 |
| Earth Station Gain (dBi) | 55.6 | 47.0 | 47.0 | 44.5 | 44.5 | 47.0 |
| Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 23.3 | 23.3 | 25.0 |
| Earth Station Elevation Angle | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 |
| Rain Rate (mm/yr) | 3131 | 3131 | 3131 | 3131 | 3131 | 3131 |
| LINK FADE TYPE | | | | | | |
| | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky | Clear Sky |
| UPLINK PERFORMANCE | | | | | | |
| Uplink Earth Station EIRP (dBW) | 70.9 | 69.5 | 68.8 | 56.9 | 53.9 | 49.1 |
| Uplink Path Loss, Clear Sky (dB) | -207.0 | -207.0 | -207.0 | -207.0 | -207.0 | -207.0 |
| Satellite G/T(dB/K) | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Uplink C/N(dB) | 19.6 | 18.4 | 22.8 | 18.6 | 18.7 | 21.7 |
| DOWNLINK PERFORMANCE | | | | | | |
| Downlink EIRP per Carrier (dBW) | 41.1 | 40.8 | 35.0 | 22.9 | 19.9 | 15.1 |
| Downlink Path Loss, Clear Sky (dB) | -206.0 | -206.0 | -206.0 | -206.0 | -206.0 | -206.0 |
| Downlink Earth Station G/T (dB/K) | 34.0 | 25.0 | 25.0 | 23.3 | 23.3 | 25.0 |
| Boltzman Constant(dBW/K-Hz) | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 | 228.6 |
| Carrier Noise Bandwidth (MHz) | 20.7 | 20.0 | 6.1 | 1.0 | 0.5 | 0.1 |
| Transponder Correction Factor | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Downlink C / N(dB) | 24.5 | 16.0 | 14.7 | 8.7 | 8.7 | 13.4 |
| COMPOSITE LINK PERFORMANCE | | | | | | |
| Uplink Earth Station HPA Intermodulation C/N (dB) | 32.8 | 31.6 | 36.0 | 31.9 | 31.9 | 34.9 |
| C/N Uplink (dB) | 19.6 | 18.4 | 22.8 | 18.6 | 18.7 | 21.7 |
| Uplink Interference C/I (dB) | 44.5 | 32.8 | 32.2 | 34.3 | 28.8 | 42.4 |
| Uplink Adjacent Satellite C/I (dB) | 18.7 | 17.5 | 21.9 | 17.8 | 17.8 | 20.8 |
| Intermodulation C/IM (dB) | 126.8 | 200.0 | 25.8 | 19.1 | 18.8 | 21.7 |
| Downlink C/N (dB) | 24.5 | 16.0 | 14.7 | 8.7 | 8.7 | 13.4 |
| Downlink Interference C/I (dB) | 45.0 | 32.4 | 29.4 | 20.2 | 20.6 | 24.6 |
| Downlink Adjacent Satellite C/I (dB) | 20.4 | 11.5 | 10.9 | 4.0 | 4.0 | 9.5 |
| Subtotal C/N (dB) | 14.3 | 8.9 | 8.8 | 2.3 | 2.3 | 7.4 |
| Margin - Other Losses (dB) | 0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Total C/N (dB) | 14.3 | 7.4 | 7.3 | 0.8 | 0.8 | 5.9 |
| Minimum Required C/N (dB) | 14.2 | 7.3 | 7.3 | -0.2 | -0.2 | 5.9 |
| Number of Carriers | 1 | 1 | 3 | 19 | 38 | 243 |
| CARRIER DENSITY LEVELS | | | | | | |
| Uplink Power Density (dBW/Hz) | -43.8 | -52.2 | -52.2 | -51.9 | -51.9 | -53.3 |
| Downlink EIRP Density At Beam Peak (dBW/Hz) | -18.8 | -26.1 | -26.8 | -31.1 | -31.1 | -28.1 |