| E115WB C Band | 1M40G7W | Clear Sky | Rain Down |
|---|---|---|---|
| **Uplink (Cold Bay, AK)** | Transmit power, dBW | -3.6 | -3.6 |
| | Transmit losses, dB | -0.3 | -0.3 |
| | Ground antenna gain, dB | 45.8 | 45.8 |
| | Antenna pointing loss, dB | -0.2 | -0.2 |
| | Uplink EIRP | 41.7 | 41.7 |
| | Free space loss, dB | -200.1 | -200.1 |
| | Atmospheric loss, dB | -0.1 | -0.1 |
| | Uplink rain loss, dB | 0.0 | 0.0 |
| | Satellite G/T, dB/K | 3.8 | 3.8 |
| | Bandwidth, dB-Hz | -60.7 | -60.7 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Uplink C/N (thermal)** | | **13.2** | **13.2** |
| | | | |
| | **Downlink** | | |
| **Downlink (Los Angeles)** | Satellite EIRP, dBW | 11.9 | 11.9 |
| | Free space loss, dB | -195.5 | -195.5 |
| | Gaseous | | -0.05 |
| | Cloud | | -0.01 |
| | Scintillation | | -0.14 |
| | Downlink rain loss, dB | 0.0 | -0.04 |
| | Rain temp increase, dB | 0.0 | -0.1 |
| | Rain + Atmos Loss, dB | -0.1 | -0.2 |
| | Rcv. antenna pointing loss, dB | 0.0 | 0.0 |
| | Ground G/T, dB/K | 25.9 | 25.9 |
| | Bandwidth, dB-Hz | -60.7 | -60.7 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Downlink C/N (thermal)** | | **10.1** | **9.9** |
| | | | |
| | | **Clear Sky** | **Rain Down** |
| **Totals** | Uplink C/N (thermal), dB | 13.2 | 13.2 |
| | Downlink C/N (thermal), dB | 10.1 | 9.9 |
| | X-pol interference, dB | 26.0 | 26.0 |
| | C/I (ASI, Adj Ch, co-freq, IM) | 15.0 | 15.0 |
| | | | |
| | **Total C/(N+I), dB** | **7.5** | **7.4** |
| | **Required C/(N+I), dB** | **6.2** | **6.2** |
| | **Margin, dB** | **1.3** | **1.2** |

| E115WB C Band | 4M16G7W | Clear Sky | Rain Down |
|---|---|---|---|
| **Uplink (Cold Bay, AK)** | Transmit power, dBW | 5.8 | 5.8 |
| | Transmit losses, dB | -0.3 | -0.3 |
| | Ground antenna gain, dB | 45.8 | 45.8 |
| | Antenna pointing loss, dB | -0.2 | -0.2 |
| | Uplink EIRP | 51.1 | 51.1 |
| | Free space loss, dB | -200.1 | -200.1 |
| | Atmospheric loss, dB | -0.1 | -0.1 |
| | Uplink rain loss, dB | 0.0 | 0.0 |
| | Satellite G/T, dB/K | 3.8 | 3.8 |
| | Bandwidth, dB-Hz | -65.4 | -65.4 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Uplink C/N (thermal)** | | **17.9** | **17.9** |
| | | | |
| | **Downlink** | | |
| **Downlink (Los Angeles)** | Satellite EIRP, dBW | 21.4 | 21.4 |
| | Free space loss, dB | -195.5 | -195.5 |
| | Gaseous | | -0.05 |
| | Cloud | | -0.01 |
| | Scintillation | | -0.14 |
| | Downlink rain loss, dB | 0.0 | -0.04 |
| | Rain temp increase, dB | 0.0 | -0.1 |
| | Rain + Atmos Loss, dB | -0.1 | -0.2 |
| | Rcv. antenna pointing loss, dB | 0.0 | 0.0 |
| | Ground G/T, dB/K | 25.9 | 25.9 |
| | Bandwidth, dB-Hz | -65.4 | -65.4 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Downlink C/N (thermal)** | | **14.9** | **14.7** |
| | | | |
| | | Clear Sky | Rain Down |
| **Totals** | Uplink C/N (thermal), dB | 17.9 | 17.9 |
| | Downlink C/N (thermal), dB | 14.9 | 14.7 |
| | X-pol interference, dB | 26.0 | 26.0 |
| | C/I (ASI, Adj Ch, co-freq, IM) | 17.0 | 17.0 |
| | | | |
| | **Total C/(N+I), dB** | **11.5** | **11.4** |
| | **Required C/(N+I), dB** | **10.3** | **10.3** |
| | **Margin, dB** | **1.2** | **1.1** |

| E115WB C Band | 36M0G7W | Clear Sky | Rain Down |
|---|---|---|---|
| **Uplink (Steele Valley, US)** | Transmit power, dBW | 15.6 | 15.6 |
| | Transmit losses, dB | -0.3 | -0.3 |
| | Ground antenna gain, dB | 53.4 | 53.4 |
| | Antenna pointing loss, dB | -0.2 | -0.2 |
| | Uplink EIRP | 68.5 | 68.5 |
| | Free space loss, dB | -199.5 | -199.5 |
| | Atmospheric loss, dB | -0.1 | -0.1 |
| | Uplink rain loss, dB | 0.0 | 0.0 |
| | Satellite G/T, dB/K | 1.0 | 1.0 |
| | Bandwidth, dB-Hz | -74.0 | -74.0 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Uplink C/N (thermal)** | | **24.6** | **24.6** |
| | | | |
| | **Downlink** | | |
| **Downlink (Barbados)** | Satellite EIRP, dBW | 35.0 | 35.0 |
| | Free space loss, dB | -195.9 | -195.9 |
| | Gaseous | | -0.05 |
| | Cloud | | -0.03 |
| | Scintillation | | -0.29 |
| | Downlink rain loss, dB | 0.0 | -1.7 |
| | Rain temp increase, dB | 0.0 | -2.0 |
| | Rain + Atmos Loss, dB | -0.1 | -1.8 |
| | Rcv. antenna pointing loss, dB | 0.0 | 0.0 |
| | Ground G/T, dB/K | 18.7 | 18.7 |
| | Bandwidth, dB-Hz | -74.0 | -74.0 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Downlink C/N (thermal)** | | **12.3** | **8.6** |
| | | | |
| | | **Clear Sky** | **Rain Down** |
| **Totals** | Uplink C/N (thermal), dB | 24.6 | 24.6 |
| | Downlink C/N (thermal), dB | 12.3 | 8.6 |
| | X-pol interference, dB | 26.0 | 26.0 |
| | C/I (ASI, Adj Ch, co-freq, IM) | 21.9 | 21.9 |
| | | | |
| | **Total C/(N+I), dB** | **11.5** | **8.2** |
| | **Required C/(N+I), dB** | **6.6** | **6.6** |
| | **Margin, dB** | **4.9** | **1.6** |

| E115WB KU1 | 1M34G7W | Clear Sky | Rain Down |
|---|---|---|---|
| | | | |
| **Uplink (Tijuana)** | Transmit power, dBW | -4.4 | -4.4 |
| | Transmit losses, dB | -0.5 | -0.5 |
| | Ground antenna gain, dB | 54.5 | 54.5 |
| | Antenna pointing loss, dB | -0.2 | -0.2 |
| | Uplink EIRP | 49.4 | 49.4 |
| | Free space loss, dB | -206.8 | -206.8 |
| | Atmospheric loss, dB | -0.2 | -0.2 |
| | Uplink rain loss, dB | 0.0 | 0.0 |
| | Satellite G/T, dB/K | 6.8 | 6.8 |
| | Bandwidth, dB-Hz | -60.5 | -60.5 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Uplink C/N (thermal)** | | **17.3** | **17.3** |
| | | | |
| | **Downlink** | | |
| **Downlink (Acapulco)** | Satellite EIRP, dBW | 34.0 | 34.0 |
| | Free space loss, dB | -205.2 | -205.2 |
| | Gaseous | | -0.11 |
| | Cloud | | -0.17 |
| | Scintillation | | -0.47 |
| | Downlink rain loss, dB | 0.0 | -3.2 |
| | Rain temp increase, dB | 0.0 | -3.0 |
| | Rain + Atmos Loss, dB | -0.2 | -3.5 |
| | Rcv. antenna pointing loss, dB | -0.5 | -0.5 |
| | Ground G/T, dB/K | 27.3 | 27.3 |
| | Bandwidth, dB-Hz | -60.5 | -60.5 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Downlink C/N (thermal)** | | **23.6** | **17.3** |
| | | | |
| | | **Clear Sky** | **Rain Down** |
| **Totals** | Uplink C/N (thermal), dB | 17.3 | 17.3 |
| | Downlink C/N (thermal), dB | 23.6 | 17.3 |
| | C/I (ASI, Adj Ch, co-freq, IM) | 14.8 | 14.8 |
| | | | |
| | **Total C/(N+I), dB** | **12.5** | **12.3** |
| | **Required C/(N+I), dB** | **9.2** | **9.2** |
| | **Margin, dB** | **3.3** | **3.1** |

| E115WB KU4 | 6M33G7W | Clear Sky | Rain Down |
|---|---|---|---|
| **Uplink (Hamilton, ONT)** | Transmit power, dBW | 2.7 | 2.7 |
| | Transmit losses, dB | -0.5 | -0.5 |
| | Ground antenna gain, dB | 57.3 | 57.3 |
| | Antenna pointing loss, dB | -0.2 | -0.2 |
| | Uplink EIRP | 59.3 | 59.3 |
| | Free space loss, dB | -207.4 | -207.4 |
| | Atmospheric loss, dB | -0.2 | -0.2 |
| | Uplink rain loss, dB | 0.0 | 0.0 |
| | Satellite G/T, dB/K | 6.6 | 6.6 |
| | Bandwidth, dB-Hz | -67.2 | -67.2 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Uplink C/N (thermal)** | | **19.7** | **19.7** |
| | | | |
| | **Downlink** | | |
| **Downlink (Los Angeles)** | Satellite EIRP, dBW | 39.4 | 39.4 |
| | Free space loss, dB | -205.5 | -205.5 |
| | Gaseous | | -0.11 |
| | Cloud | | -0.06 |
| | Scintillation | | -0.14 |
| | Downlink rain loss, dB | 0.0 | -0.78 |
| | Rain temp increase, dB | 0.0 | -1.4 |
| | Rain + Atmos Loss, dB | -0.2 | -1.0 |
| | Rcv. antenna pointing loss, dB | -0.5 | -0.5 |
| | Ground G/T, dB/K | 34.2 | 34.2 |
| | Bandwidth, dB-Hz | -67.2 | -67.2 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Downlink C/N (thermal)** | | **28.8** | **26.7** |
| | | | |
| | | Clear Sky | Rain Down |
| **Totals** | Uplink C/N (thermal), dB | 19.7 | 19.7 |
| | Downlink C/N (thermal), dB | 28.8 | 26.7 |
| | X-pol interference, dB | 22.0 | 22.0 |
| | C/I (ASI, Adj Ch, co-freq, IM) | 16.2 | 16.2 |
| | | | |
| | **Total C/(N+I), dB** | **13.7** | **13.7** |
| | **Required C/(N+I), dB** | **9.2** | **9.2** |
| | **Margin, dB** | **4.5** | **4.5** |

| E115WB KU4 | 36M0G7W | Clear Sky | Rain Down |
|---|---|---|---|
| **Uplink (Hamilton, ONT)** | Transmit power, dBW | 12.9 | 12.9 |
| | Transmit losses, dB | -0.5 | -0.5 |
| | Ground antenna gain, dB | 57.4 | 57.4 |
| | Antenna pointing loss, dB | -0.2 | -0.2 |
| | Uplink EIRP | 69.6 | 69.6 |
| | Free space loss, dB | -207.4 | -207.4 |
| | Atmospheric loss, dB | -0.2 | -0.2 |
| | Uplink rain loss, dB | 0.0 | 0.0 |
| | Satellite G/T, dB/K | 6.6 | 6.6 |
| | Bandwidth, dB-Hz | -74.0 | -74.0 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Uplink C/N (thermal)** | | **23.3** | **23.3** |
| | | | |
| | **Downlink** | | |
| **Downlink (Los Angeles)** | Satellite EIRP, dBW | 45.2 | 45.2 |
| | Free space loss, dB | -205.5 | -205.5 |
| | Gaseous | | -0.11 |
| | Cloud | | -0.06 |
| | Scintillation | | -0.14 |
| | Downlink rain loss, dB | 0.0 | -0.78 |
| | Rain temp increase, dB | 0.0 | -1.2 |
| | Rain + Atmos Loss, dB | -0.2 | -1.0 |
| | Rcv. antenna pointing loss, dB | -0.5 | -0.5 |
| | Ground G/T, dB/K | 27.3 | 27.3 |
| | Bandwidth, dB-Hz | -74.0 | -74.0 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Downlink C/N (thermal)** | | **21.0** | **19.0** |
| | | | |
| | | **Clear Sky** | **Rain Down** |
| **Totals** | Uplink C/N (thermal), dB | 23.3 | 23.3 |
| | Downlink C/N (thermal), dB | 21.0 | 19.0 |
| | X-pol interference, dB | 22.0 | 22.0 |
| | C/I (ASI, Adj Ch, co-freq, IM) | 21.9 | 21.9 |
| | | | |
| | **Total C/(N+I), dB** | **15.9** | **15.2** |
| | **Required C/(N+I), dB** | **12.4** | **12.4** |
| | **Margin, dB** | **3.5** | **2.8** |

| E115WB KU1 | 48K6G7W | Clear Sky | Rain Down |
|---|---|---|---|
| | | | |
| **Uplink (Tijuana)** | Transmit power, dBW | -7.4 | -7.4 |
| | Transmit losses, dB | -0.5 | -0.5 |
| | Ground antenna gain, dB | 46.3 | 46.3 |
| | Antenna pointing loss, dB | -0.2 | -0.2 |
| | Uplink EIRP | 38.2 | 38.2 |
| | Free space loss, dB | -206.8 | -206.8 |
| | Atmospheric loss, dB | -0.2 | -0.2 |
| | Uplink rain loss, dB | 0.0 | 0.0 |
| | Satellite G/T, dB/K | 6.8 | 6.8 |
| | Bandwidth, dB-Hz | -46.1 | -46.1 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Uplink C/N (thermal)** | | **20.5** | **20.5** |
| | | | |
| | **Downlink** | | |
| **Downlink (Acapulco)** | Satellite EIRP, dBW | 22.8 | 22.8 |
| | Free space loss, dB | -205.2 | -205.2 |
| | Gaseous | | -0.11 |
| | Cloud | | -0.17 |
| | Scintillation | | -0.47 |
| | Downlink rain loss, dB | 0.0 | -3.2 |
| | Rain temp increase, dB | 0.0 | -3.0 |
| | Rain + Atmos Loss, dB | -0.2 | -3.5 |
| | Rcv. antenna pointing loss, dB | -0.5 | -0.5 |
| | Ground G/T, dB/K | 34.0 | 34.0 |
| | Bandwidth, dB-Hz | -46.1 | -46.1 |
| | Boltzmann's constant, dBW/Hz K | 228.6 | 228.6 |
| | | | |
| **Downlink C/N (thermal)** | | **33.5** | **27.2** |
| | | | |
| | | **Clear Sky** | **Rain Down** |
| **Totals** | Uplink C/N (thermal), dB | 20.5 | 20.5 |
| | Downlink C/N (thermal), dB | 33.5 | 27.2 |
| | C/I (ASI, Adj Ch, co-freq, IM) | 19.5 | 19.5 |
| | | | |
| | **Total C/(N+I), dB** | **16.9** | **14.9** |
| | **Required C/(N+I), dB** | **9.2** | **9.2** |
| | **Margin, dB** | **7.7** | **5.7** |