TX ES Location	
RX ES Location	
Information (bit) rate [kbps]	
Modulation type	
FEC Rate	
Emission BW [kHz]	
Number of carriers per transponder	
Uplink Frequency [GHz]	
Uplink ES antenna diameter [m]	
Uplink ES antenna gain [dBi]	
Uplink Antenna feed flange power [dBW]	
Uplink ES to Satellite Distance [km]	
Uplink Free-Space Loss [dB]	
Satellite RX antenna gain towards the TX ES [dBi]	
Satellite Rx system noise temperature [K]	
Uplink Atten. due to Rain, Cloud, and Atmospheric Gases [dB]	
Uplink Noise Temp. Increase due to Rain, Cloud, and Atmospheric Gases [K]	
Uplink Thermal C/N [dB]	
Uplink C/I (ASI) [dB]	
Uplink C/I (Xpol) [dB]	
Uplink C/I (IM) [dB]	
Uplink C/(N+I) [dB]	
Downlink Frequency (GHz)	
Satellite TX antenna gain towards the RX ES [dBi]	
Downlink Antenna feed flange power [dBW]	
Downlink ES to Satellite Distance [km]	
Downlink Free-Space Loss [dB]	
RX ES antenna diameter [m]	
RX ES antenna gain [dBi]	
RX ES system noise temperature [K]	
Downlink Atten. due to Rain, Cloud, and Atmospheric Gases [dB]	
Downlink Noise Temp. Increase due to Rain, Cloud, and Atmospheric Gases [K]	
Downlink Thermal C/N [dB]	
Downlink C/I (ASI) [dB]	
Downlink C/I (Xpol) [dB]	
Downlink C/I (IM) [dB]	
Downlink C/(N+I) [dB]	
Overall Link C/(N+I) [dB]	
Required C/(N+I) [dB]	
Margin [dB]	

Buffalo (42.9N, 78.9W)
Portland, OR (45.53N, 122.68W)
15000
QPSK
0.250
37500
13
29.65
8
66.0
17.2
38925.5
213.7
31.1
690.2
9.1
254.3
14.7
41.4
30.0
30.0
14.4
19.95
32.99
7.4
37971.6
210.0
1
44.5
250.0
2.6
130.6
-0.7
19.9
30.0
30.0
-0.7
-0.87
-1.55
0.68