

Representative Return Link Budget

UT Type Carrier Type		Handheld Terminal FDMA
<u>General Parameters</u>		
Gateway elevation angle	deg	42.0
Minimum user elevation angle	deg	20.0
Uplink frequency	GHz	2.020
Downlink frequency	GHz	19.700
Bandwidth/carrier	kHz	8.0
<u>Uplink</u>		
Uplink EIRP	dBW	0.0
Free space loss	dB	190.5
Atmospheric loss	dB	0.1
Uplink propagation margin	dB	10.1
Satellite receive antenna gain (-3 dB contour)	dBi	42.3
Satellite receive system noise temperature	dB-K	27.3
Satellite receive antenna G/T	dB/K	15.0
Uplink C/N ₀	dBHz	42.9
Uplink C/I ₀ Intra-system	dBHz	48.2
Uplink C/I ₀ External Interference	dBHz	52.9
<u>Downlink</u>		
Satellite EIRP (peak)	dBW	22.1
Free space loss	dB	209.8
Atmospheric loss	dB	0.4
Rain attenuation	dB	10.0
E/S antenna gain	dB	66.5
E/S antenna pointing error	dB	0.3
Nominal system noise temperature	dB-K	23.9
Nominal E/S G/T	dB/K	42.3
System noise temperature degradation in rain	dB	3.1
Rain-degraded system noise temperature	dB-K	27.0
Rain-degraded E/S G/T	dB/K	39.2
Downlink C/No	dBHz	69.4
Downlink C/IM ₀	dBHz	60.7
Downlink C/I ₀ Intra-system	dBHz	60.5
Downlink C/I ₀ ASI	dBHz	79.3
<u>End-to-End Performance</u>		
End-to-end C/N ₀	dBHz	42.9
End-to-end aggregate C/I ₀	dBHz	46.7
End-to-end C/IM ₀	dBHz	60.7
Total aggregate C/(N ₀ +I ₀ +IM ₀)	dBHz	41.3
Total aggregate C/(N+I+IM)	dB	2.3
Required C/N	dB	2.3
System Margin	dB	0.0