Link Parameters	Units	17M9G7W
Uplink frequency	GHz	13.88
Downlink frequency	GHz	11.07
User data rate	kbit/s	19112
Modulation		QPSK
Total coding rate		0.641
Carrier bandwidth	kHz	17900
Uplink:		
Nominal E/S e.i.r.p. per carrier	dBW	65.8
Earth station diameter	m	4.5
Earth station gain	dBi	54.5
Uplink input power per carrier	dBW	11.3
Uplink input power density	dBW/Hz	-61.2
Atmospheric loss	dB	0.2
Free space path loss	dB	207.0
G/T satellite (-3dB contour)	dB/K	4.7
C/N thermal uplink	dB	19.4
C/I XPOL, ACI, IM, ASI	dB	20.1
C/(N+I) uplink	dB	16.7
Downlink:		
Satellite e.i.r.p. per carrier (-3dB contour)	dBW	40.7
Atmospheric loss	dB	0.1
Free space path loss	dB	205.0
Earth station diameter	m	1.2
Earth station gain	dBi	41.0
Noise temperature	K	105.0
Earth station G/T	dB/K	20.8
C/N thermal downlink	dB	12.4
C/I XPOL, ACI, IM, ASI	dB	10.8
C/(N+I) downlink	dB	6.6
Overall:		
C/(N+I) overall	dB	6.2
C/(N+I) required	dB	3.9
Margin	dB	2.3