

Table C-1. Link budget, Telecommand Carrier, 800KF9D		
Link Parameters	Units	800KF9D
Uplink Frequency	GHz	6.1737, 6.1763
Carrier Allocated Bandwidth	kHz	800
<b>Uplink:</b>		
Nominal E/S e.i.r.p. per carrier	dBW	75.5
Earth Station Diameter	m	12
Earth Station Gain	dB <sub>i</sub>	55.8
Uplink Input Power per Carrier	dBW	19.7
Free Space Loss	dB	199.9
G/T Satellite	dB/K	-25.2
CNR uplink	dB	20
C/I*	dB	31
C/(N+I)	dB	19.7
CNR required	dB	10
Margin	dB	9.7

Table C-2. Link budget, Telemetry Carriers

		C-band, Telemetry
Link Parameters	Units	300KF9D
Downlink Frequency	GHz	3.9525
		3.952
		3.948
		3.9475
Carrier Allocated Bandwidth	kHz	300
<b>Downlink:</b>		
Downlink e.i.r.p. (EOC)*	dBW	3
Free Space Loss	dB	196.9
Atmospheric and Polarization Losses	dB	0.4
Rain Fade	dB	0.2
Receive E/S Pointing Loss	dB	0.1
Receive E/S G/T	dB/K	32.6
G/T degradation (due to rain)	dB	0.4
Downlink C/No	dB	66.2
C/Io(aggregate)*	dB	75.4
C/(No+Io)	dB	65.7
Required C/No	dB	53.1
Margin	dB	12.6

**\*Two interference entries, each of the same power as that of the wanted carrier, but at**

C-band beacon	Ku-beacon	Ku-beacon
<b>25K0N0N</b>	<b>25K0N0N</b>	<b>25K0N0N</b>
	11.701	
	11.452	
3.95	11.198	12.501
25	25	25
4	6	6
196.9	205.6	205.9
0.4	0.6	0.7
0.2	4.1	4.5
0.1	0.1	0.1
27.1	29.4	29.4
0.4	2.6	2.8
61.7	51	50
73.9	63.2	62.2
61.2	50.5	49.5
47	47	47
14.2	3.5	2.5

:  $\pm 2$  degrees