

<b>General</b>	Unit	
User terminal type	-	Typ-100cm-1
Carrier designator	-	32M0G7W
Data rate (kbps)	(kbps)	49248
Coding rate	-	5/6
Modulation	-	QPSK
Occupied bandwidth	(kHz)	32000
Allocated bandwidth	(kHz)	32000
<b>Uplink</b>		
Beam		Feeder
Frequency	(GHz)	28.5
Earth Station EIRP	(dBW)	77.0
Antenna tx gain	dBi	68.9
Uplink power	(dBW)	8.1
<i>Uplink p.s.d.</i>	<i>(dBW/Hz)</i>	<i>-67.0</i>
Path loss	(dB)	213.2
Rain loss	(dB)	7.0
Mean Atmospheric loss	(dB)	1.2
Satellite G/T (EOC)	(dB/K)	8.1
Up-path C/No	(dBHz)	92.3
Up-path C/N	(dB)	17.2
<b>Downlink</b>		
Beam		User-Spot (GP)
Frequency	(GHz)	19.95
Beam Peak to Edge of Coverage	(dB)	3.0
<i>Max pfd per crx @ earth surface(EOC)</i>	<i>(dBW/m2/1MHz)</i>	<i>-124.1</i>
Satellite EIRP (EOC)	(dBW)	53.1
Satellite EIRP density (EOC)	(dBW/Hz)	-22.0
Path loss	(dB)	210.1
Rain loss	(dB)	5.6
Mean Atmospheric loss	(dB)	0.7
User terminal G/T	(dB/K)	18.5
G/T degradation due to rain	(dB)	1.7
User terminal Pointing loss	(dB)	0.2
Co-Channel / adj . beam interf. (dn)	(dBHz)	94.1
Down-path C/No	(dBHz)	81.6
Down-path C/N	(dB)	6.5
<b>Total</b>		
Mean satellite C/Imo	(dBHz)	999.0
Mean Overall C/No	(dBHz)	81.2
Total C/I (adjacent satellite interference)	(dB)	20.5
Mean Overall C/N (incl. a.s.i)	(dB)	6.0
<b>Margin</b>		
C/N required	(dB)	5.5
C/N margin	(dB)	0.5

## **C/I calculations**

Orbital separation (interferor 1)	degree	2.0
<i>Worst case topocentric angle (1)</i>	<i>degree</i>	<i>2.09</i>

### **Uplink C/I**

Interferor 1		
Max. uplink p.s.d	(dBW/Hz)	-56.5
Interferor's Tx Sidelobe gain at 2 deg sep	dBi	21.0
<i>Inm-Ka C/I up1</i>	<i>dB</i>	<i>37.5</i>

### **Downlink C/I**

Interferor 1		
Max. ground PFD	(dBW/m2/MHz)	-121.1
Max. downlink EIRP s.d	(dBW/Hz)	-19.0
Inm Rx sidelobe gain at 2 deg sep	dBi	21.0
Inm-Ka C/I dn1	dB	20.6
<b>Total C/I (adjacent satellite interference)</b>	<b>dB</b>	<b>20.5</b>