

**Table A.12-13 – Link Budget for Communication Return Link to  
Class-1 User Terminal (200 kHz carrier; Spot Beam)**

<b>General</b>	Unit	
User terminal type	-	Class-1
Modulation ID / Designator	-	C1RT / 200KD7W
Data rate (kbps)	(kbps)	492.8
Coding rate	-	0.852
Modulation	-	16-QAM
Carrier bandwidth	(kHz)	189
Allocated bandwidth	(kHz)	200
<b>Uplink</b>		
Frequency	(GHz)	1.6
User terminal elevation angle	(deg)	90
User terminal EIRP towards satellite	(dBW)	21.0
Path loss	(dB)	188.9
Atmospheric loss	(dB)	0.1
Satellite G/T	(dB/K)	12.7
Boltzmann Constant	(dBW/K/Hz)	-228.6
Adjacent Channel Interference	(dB)	0.2
Up-path C/No	(dBHz)	73.1
<b>Downlink</b>		
Frequency	(GHz)	3.6
SAS elevation angle	(deg)	5
Satellite EIRP	(dBW)	14.5
Path loss	(dB)	195.7
Atmospheric loss	(dB)	0.4
SAS G/T	(dB/K)	32.3
Boltzmann Constant	(dBW/K/Hz)	-228.6
Random Loss (99%)	(dB)	0.5
Down-path C/No	(dBHz)	78.8
<b>Total</b>		
Mean satellite C/IMo	(dBHz)	83.0
Co-Channel Interference	(dBHz)	78.9
Adjacent satellite interference allocation	(dB)	1.0
Mean Overall C/No	(dBHz)	70.0
Mean Overall C/N	(dB)	17.2
<b>Margin</b>		
C/N objective	(dB)	12.7
C/N margin	(dB)	4.5