

Processed Payload Uplink Link Budget

Item	Value	Unit
Information Data Rate		38 kbit/s
Symbol Rate		19 ksps
BER Required	10^{-4}	
E_b/N_0 Required		8.8 dB
Broadcast station losses		0.4 dB
Satellite HW losses		2.2 dB
Total implementation loss		2.6 dB
$C/(N_0+I_0)$ Required		57.2 dB(Hz)
$C/(N+I)$ Required		14.4 dB
C/N Required		15.2 dB
Uplink		
HPA output power in W		1.00 W
HPA output power in dBW		0.0 dBW
Output losses		1.0 dB
TX power density		-45.0 dBW/Hz
Tx Antenna gain		48.6 dBi
Uplink e.i.r.p.		47.6 dBW
Elevation angle		90 °
Uplink path loss		200.5 dB
Atmospheric absorption		0.1 dB
Receive G/T @ Contour		-8.3 dB/K
Intermodulation eirp density		15 dBW/4kHz
Intermodulation received eirp density		-201.6 dBW/Hz
Noise plus Intermodulation Floor		-197.9 dBW/Hz
Uplink C/N_0		64.9 dB(Hz)
Uplink C/N		22.1 dB
Uplink $C/(N_0+I_0)$		64.1 dB(Hz)
Uplink Margin		6.9 dB