

## Representative Forward Link Budget

UT Type Carrier Type	Handheld Terminal DVB-SH	
<b><u>General Parameters</u></b>		
Gateway elevation angle	deg	42.0
Minimum user elevation angle	deg	20.0
Uplink frequency	GHz	29.625
Downlink frequency	GHz	2.200
Bandwidth/carrier	kHz	8000.00
<b><u>Uplink</u></b>		
Uplink E/S antenna diameter	m	13.2
Uplink E/S antenna peak gain	dBi	69.6
E/S antenna pointing error	dB	0.5
Clear-sky uplink EIRP	dBW	63.0
Rain-faded uplink EIRP	dBW	80.0
Free space loss	dB	213.4
Atmospheric loss	dB	0.3
Rain attenuation	dB	17.0
Satellite antenna pointing error	dB	0.3
Satellite antenna receive system noise temp.	dB-K	32.1
Satellite receive antenna G/T	dB/K	17.0
Uplink C/N <sub>0</sub>	dBHz	94.7
Uplink C/IM <sub>0</sub>	dBHz	88.9
Uplink C/I <sub>0ASI</sub>	dBHz	101.7
Uplink C/I <sub>0 Intra-system</sub>	dBHz	91.9
<b><u>Downlink</u></b>		
Effective Satellite EIRP/carrier (-3 dB contour)	dBW	66.5
Free space loss	dB	191.2
Atmospheric loss	dB	0.1
User terminal antenna gain	dB	0.0
User terminal system noise temperature	dB-K	27.0
User terminal G/T	dB/K	-27.0
Downlink propagation margin	dB	2.6
Downlink C/N <sub>0</sub>	dBHz	74.2
Downlink C/IM <sub>0</sub>	dBHz	79.5
Downlink C/I <sub>0 Intra-system</sub>	dBHz	82.5
Downlink C/I <sub>0 External Interference</sub>	dBHz	84.2
<b><u>End-to-End Performance</u></b>		
End-to-end C/N <sub>0</sub>	dBHz	74.1
End-to-end aggregate C/I <sub>0</sub>	dBHz	79.9
End-to-end C/IM <sub>0</sub>	dBHz	79.0
Total aggregate C/(N <sub>0</sub> +I <sub>0</sub> +IM <sub>0</sub> )	dBHz	72.1
Total aggregate C/(N+I+IM)	dB	3.1
Required C/N	dB	3.1
System Margin	dB	0.0