

## Representative Forward Link Budget

UT Type Carrier Type	Personal Accessory High Power Notification	
<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	8.0
<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	57.0
Rain-faded uplink EIRP	dBW	74.0
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	88.7
Uplink C/IM <sub>0</sub>	dBHz	104.7
Uplink C/I <sub>0ASI</sub>	dBHz	95.7
Uplink C/I <sub>0 Intra-system</sub>	dBHz	199.0
<b><u>Downlink</u></b>		
Effective Satellite EIRP/carrier (-3 dB contour)	dBW	60.5
Free space loss	dB	191.2
Atmospheric loss	dB	0.1
User terminal antenna gain	dB	3.0
User terminal system noise temperature	dB-K	25.0
User terminal G/T	dB/K	-22.0
Downlink propagation margin	dB	32.6
Downlink C/N <sub>0</sub>	dBHz	43.1
Downlink C/IM <sub>0</sub>	dBHz	54.6
Downlink C/I <sub>0 Intra-system</sub>	dBHz	199.0
Downlink C/I <sub>0 External Interference</sub>	dBHz	53.1
<b><u>End-to-End Performance</u></b>		
End-to-end C/N <sub>0</sub>	dBHz	43.1
End-to-end aggregate C/I <sub>0</sub>	dBHz	53.1
End-to-end C/IM <sub>0</sub>	dBHz	54.6
Total aggregate C/(N <sub>0</sub> +I <sub>0</sub> +IM <sub>0</sub> )	dBHz	42.4
Total aggregate C/(N+I+IM)	dB	3.4
Required C/N	dB	3.4
System Margin	dB	0.0