Table A.13-6 – Link Budget for High-Power Notification Forward Link to Personal Accessory User Terminal (SCPC)

Representative Forward Link Budget		
UT Type		Personal Accessory
Carrier Type		High Power Notification
General Parameters	**Unit**	
E/S elevation angle	deg	28.0
Minimum user elevation angle	deg	20.0
Uplink range	km	38792
Downlink range	km	39554
Uplink frequency	GHz	29.625
Downlink frequency	GHz	2.200
Bandwidth/carrier	kHz	8.0
Uplink		
Uplink E/S antenna diameter	m	11.0
Uplink E/S antenna peak gain	dBi	68.1
E/S antenna pointing error	dB	0.5
Clear-sky uplink EIRP	dBW	57.2
Rain faded uplink EIRP	dBW	74.0
Free space loss	dB	213.7
Rain attenuation	dB	16.8
Effective satellite antenna peak gain	dBi	58.0
Satellite antenna pointing error	dB	0.3
Satellite antenna receive system noise temp.	dB-K	32.9
Effective satellite antenna G/T	dB/K	24.8
Uplink C/N_o	dBHz	96.4
Uplink C/IM_o	dBHz	104.6
Uplink C/I_{oASI}	dBHz	95.3
Uplink $C/I_{o\ Intra\text{-}system}$	dBHz	199.0
Aggregate uplink C/I_o	dBHz	95.3
Downlink		
Satellite EIRP/carrier	dBW	60.4
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_o	dBHz	43.1
Downlink C/IM_o	dBHz	54.8
Downlink $C/I_{o\ Intra\text{-}system}$	dBHz	199.0
Downlink $C/I_{o\ ext}$	dBHz	53.1
Aggregate downlink C/I_o	dBHz	53.1
End-to-End Performance		
End-to-end C/N_o	dBHz	43.1
End-to-end aggregate C/I_o	dBHz	53.1
End-to-end C/IM_o	dBHz	54.8
Total aggregate $C/(N_o+I_o+IM_o)$	dBHz	42.5
Total aggregate C/(N+I+IM)	dB	3.4
Required C/N	dB	3.4
System Margin	dB	0.0