

NOISE BUDGET REFERENCE CALCULATION for Telemetry

Downlink parameters

	On Station	Emergency
Downlink Frequency (MHz)	11198.3	11198.3
Signal occupied bandwidth (KHz)	200.0	200.0
EIRP (dBW)	11.0	8.0
EIRP density (dBW/Hz)	-42.0	-45.0
Beam roll-off (dB)	4.0	0.0
EIRP at TT&C station (dBW)	7.0	8.0
Rx E/S Antenna Diameter (m)	4.8	11.0
Rx Antenna Efficiency	0.7	0.7
Rx Antenna Gain (dB)	53.1	60.3
Rx System Noise temp (K)	110.0	110.0
Rx E/S G/T (dB/K)	32.7	39.9
Antenna mispointing error (dB)	0.5	0.5
Downlink Rain Attenuation (dB)	0.0	0.0
Downlink Path loss (dB)	206.0	206.0
(C/N)_{Downlink Thermal} (dB)	8.813	17.016
(C/N)_{ASI} (dB)	30.0	30.0
(C/I)_{intrasystem} (dB)	30.0	30.0
C/(N+I)_{total} (dB)	8.7	16.6