

Project Marisat UHF 25 kHz
 TRANSMIT EARTH STATION
 Code/Standard Mobile
 Name/Location Mobile

File: Marisat 25K_B
 RECEIVE EARTH STATION
 Code/Standard Mobile
 Name/Location Mobile

SATELLITE

Type	Marisat F2	Transponder	B (25 kHz)
Location	326.1 E	Gain step	
Maximum Possible Allotment		0.025 MHz	
Actual Full Transponder Bandwidth		0.025 MHz	

CARRIER

Info data rate	2.4 kbit/s	Type	
FEC Inner	0.5760 (1=None)	Availability	%
FEC Outer R/S	1.0000 (1=None)	Modulation	BPSK
Overhead	0.0000 % (0 = None)		

Uplink satellite G/T b.e.	-18.0 dB/K	Full Transponder
Downlink satellite saturation EIRP b.e.	23.0 dBW	Full Transponder

Transponder operating point total IBO	0.0 dB
Transponder operating point OBO	0.0 dB
Number of Carriers at this point	Single Carriers
Xpndr IM Noise density b.e.	-99.00 dBW/Hz
Co-channel interference 'X' value	16.8 dB
Uplink Other UHF users Noise density b.e.	-31.80 dBW/Hz

Receive E/S actual G/T	-27.00 dB/K @ 257.55000 MHz
Uplink tracking error allowance	1.0 dB
Downlink tracking error allowance	1.0 dB

G/T Degradation due to Downlink Rain Fade	0.0 dB
Uplink margin allowance	0.0 dB
Downlink margin allowance	0.0 dB

BE Uplink Flux Pattern Advantage	0.00 dB
BE Uplink G/T Pattern Advantage	0.00 dB
BE Downlink Pattern Advantage	0.00 dB

Uplink path loss	174.54 dB @ 311.15000 MHz
Downlink path loss	172.87 dB @ 257.55000 MHz
Uplink carrier frequency	311.150 MHz
Downlink carrier frequency	257.550 MHz

Minimum Clear Sky Requirements

Nominal Info+OH Eb/No	13.5 dB
Nominal B.E.P.	1.00E-05 %

INTELSAT MARISAT F2 LINK BUDGET

Project Marisat UHF 25 kHz

Link Budget Details

Parameter		Units
Transmit EIRP	23.00	dBW
Transmit E/S tracking error	1.0	dB
Uplink margin	0.0	dB
Uplink path loss	174.5	dB
Uplink B.E. Flux Pattern Advantage	0.0	dB
Gain 1 m2	11.3	dB/m2
Uplink B.E. carrier flux density	-141.2	dBW/m2
Downlink saturated B.E. EIRP	23.0	dBW

C/T AND C/N CALCULATIONS:

Transmit EIRP	23.0	dBW
Transmit E/S tracking error	1.0	dB
Uplink margin	0.0	dB
Uplink path loss	174.5	dB
Uplink B.E. G/T Pattern Advantage	0.0	dB
Satellite B.E. G/T	-18.0	dB/K
C/T)up Thermal	-170.5	dBW/K
C/T) Uplink Other UHF users	-174.8	dBW/K
C/T)up	-176.2	dBW/K
Downlink B.E. EIRP .	23.0	dBW
Receive E/S tracking error	1.0	dB
Downlink margin	0.0	dB
Downlink path loss	172.9	dB
Downlink B.E. Pattern Advantage	0.0	dB
Receive E/S G/T	-27.0	dB/K
C/T)dn Thermal	-177.9	dBW/K
C/T) DownLink X-pol & ASI	-174.8	dBW/K
C/T)t Down Link	-179.6	dBW/K
C/T)t Link	-181.2	dBW/K
Boltzmann's constant	-228.6	dBW/Hz-K
C/No Link	47.4	dB/Hz
Tx Rate	4.2	
Symbol Rate	4.2	kbps
Occupied BW (1.2 Sym)	5.0	kHz
10 log (occupied BW)	37.0	dB-Hz
C/N	10.4	dB
Information rate Eb/No	13.6	dB
Transmission rate Eb/No	11.2	dB
Co/No	11.2	dB
Spectrum Analyser (Co+No)/No	11.5	dB