

COMMAND

UPLINK SYSTEM:

Frequency: 437.50 MHz

Eb/No Method: Eb/No = 35.4 dB

S/N Method: S/N = 37.2 dB

Link Margin: 24.9 dB LINK CLOSES

Link Margin: 22.8 dB LINK CLOSES

NOTE:

S/C

R = 100000 bps

Data FEC Decoder

Data Demodulator

Data Bandpass Filter

Downconverters Mixers IF Amplification

2nd Amplifier

LNA

Receiver Front End Bandpass Filter

Other In-Line Device

Receive Antenna

Transmit Antenna

Other In-Line Device

Transmit Bandpass Filter

HPA

Transmitter Exciter/Modulator/FEC Encoder

R = 100000 bps

F.E.C. Decoder Type: None

Spec. B.E.R.: 1.00E-06

Demodulator Type: QPSK

Eb/No Threshold: 10.5 dB

BRbpf = 50000 Hz

(Used Only in S/N Calc.)

G/T = -21.0 dB/K

Tsys = 198 K

T2nd Amp = 279 K

GLNA = 14.0 dB

TLNA = 164 K

Ltotal line = 0.14 dB

LA = 0.04 dB

LRbpf = 0.0 dB

LB = 0.00 dB

LTother = 0.0 dB

0

LC= 0.00 dB

GR = 2.2 dBi

Polarization: RHCP

Lp = 151.0 dB

Total Link Losses: 155.3 dB

EIRPgs = 31.9 dBW

GT = 15.7 dBi

Polarization: RHCP

Ltotal line = 0.88 dB

LC = 0.500 dB

LTother = 0.0 dBi

0

LB = 0.000 dB

LTbpf = 0.0 dB

LA = 0.000 dB

PTx = 50.0 watts

Modulation Method: QPSK

F.E.C. Encoder Type: None

TELEMETRY

DOWNLINK SYSTEM:

Frequency: 1269.90 MHz

R = 500000 bps

Transmitter Exciter/Modulator/FEC Encoder

HPA

Transmit Bandpass Filter

Other In-Line Device

Transmit Antenna

Radio Link

Receive Antenna

Other In-Line Device

Receiver Front End Bandpass Filter

LNA

2nd Amp.

Downconverters Mixers IF Amplification

Data Bandpass Filter

Data Demodulator

Data FEC Decoder

R = 500000 Hz

Eb/No Method: Eb/No = 10.6 dB

S/N Method: S/N = 13.6 dB

Link Margin: 0.1 dB MARGINAL LINK

Link Margin: 3.1 dB MARGINAL LINK

Ground Station

Modulation Method: QPSK

F.E.C. Encoder Type: None

ηTx = 40.0%

Tx DC Pwr: 2.5 watts

Tx Dissipation: 1.5 watts

PTx = 1.0 watts

LA = 0.0 dB

LTXbpf = 0.0 dB

LB = 0.0 dB

LTother = 0.0 dB

0

LC = 0.1 dB

Ltotal line = 0.3 dB

GT = 10.0 dBi

Polarization: RHCP

EIRPs/c = 9.7 dBW

Total Link Losses: 163.7 dB

LP = 160.3 dB

GR = 20.5 dBi

Polarization: RHCP

LC = 0.00 dB

LRoher = 0.0 dB

none

LB = 0.00 dB

LRbpf = 0.0 dB

LA = 0.0 dB

Ltotal = 0.1 dB

TLNA = 60 K

GLNA = 18.0 dB

T2nd amp = 270 K

BRbpf = 250000 Hz

(Used only in S/N Calc.)

Spec. B.E.R.: 1.00E-06

Demodulator Type: QPSK

Eb/No Threshold: 10.5 dB

F.E.C. Decoder Type: None