

| GENERAL DATA | | ENLACE EARTH STATION 1 - EARTH STATION 2 | | |
|--|--------|--|----------------------|------------------|
| ASSIGNED SATELLITE | | ARSAT-2 | | |
| Satellite Longitude | ° West | 81.0 | | |
| Assigned Transponder | | To be designated | | |
| Uplink Carrier Frequency | GHz | To be designated | | |
| Downlink Carrier Frequency | GHz | To be designated | | |
| | | <u>Uplink Rain</u> | <u>Downlink Rain</u> | <u>Clear Sky</u> |
| Information Rate | Kbps | 11250.0 | 11250.0 | 11250.0 |
| Threshold Eb/No | dB-Hz | 5.0 | 5.0 | 5.0 |
| Threshold BER (Bit Error Rate) | | 1*10E-8 | 1*10E-8 | 1*10E-8 |
| FEC | | 0.75 | 0.75 | 0.75 |
| Reed-Solomon | | 1.00 | 1.00 | 1.00 |
| Roll-Off | % | 20.00 | 20.00 | 20.00 |
| Occupied Bandwidth / Modulation | MHz | 9.000 | 9.000 | 9.000 |
| Assigned Bandwidth | MHz | 9.000 | 9.000 | 9.000 |
| Assigned Satellite SFD | dBW/m2 | -101.0 | -101.0 | -101.0 |
| ATP (Attenuator Setting) | dB | 12.0 | 12.0 | 12.0 |
| Assigned Satellite G/T | dB/°K | 8.0 | 8.0 | 8.0 |
| Transponder Input Back-Off | dB | | | |
| Transponder Output Back-Off | dB | | | |
| Transponder Intermodulation Density | dB | | | |
| Link Availability | % | 99.64 | 99.64 | 99.64 |
| Eb/No | dB | 5.0 | 5.1 | 8.3 |
| Implementation Margin | dB | 1.0 | 1.0 | 1.0 |
| Link Margin | dB | 0.03 | 0.06 | 3.33 |
| UPLINK FROM: | | EARTH STATION 1 | | |
| Uplink EIRP | dBW | 59.00 | 59.00 | 59.00 |
| Transmit Antenna Diameter | m | 2.44 | 2.44 | 2.44 |
| Transmit Antenna Efficiency | % | 70.0 | 70.0 | 70.0 |
| Transmit Antenna Gain | dB | 49.5 | 49.5 | 49.5 |
| Free Space Path Loss | dB | 206.9 | 206.9 | 206.9 |
| Atmospheric Absorption Loss | dB | 0.2 | 0.2 | 0.2 |
| Antenna Pointing Error Loss / AutoTracking | dB | 0.5 | 0.5 | 0.5 |
| Uplink Rain Fade | dB | 3.30 | 0.0 | 0.0 |
| Carrier Flux Density | dBW/m2 | -104.1 | -104.1 | -104.1 |
| Carrier Input Back-Off | dB | 18.4 | 15.1 | 15.1 |
| Thermal C/N | dB | 15.1 | 18.4 | 18.4 |
| TOTAL C/N (UPLINK) | dB | 15.1 | 18.4 | 18.4 |

QPSK / QPSK

6.0
3.0
21.0

No

| | | | | |
|--|-------|------------------------|-------|-------|
| DOWNLINK IN: | | EARTH STATION 2 | | |
| Earth Station Longitude | ° | 74.0 | | |
| Earth Station Latitude | ° | 40.8 | | |
| Antenna Elevation | ° | 42.34 | | |
| Antenna Azimuth | ° CW | 190.65 | | |
| Receive Antenna Diameter | m | 1.20 | 1.20 | 1.20 |
| Receive Antenna Efficiency | % | 63.0 | 63.0 | 63.0 |
| Receive antenna Gain | dB | 41.3 | 41.3 | 41.3 |
| LNA/LNB/LNC Noise Temperature | °K | 75.0 | 75.0 | 75.0 |
| Receive Antenna Noise Temperature | °K | 45.0 | 45.0 | 45.0 |
| IFL/OMT Reception loss | dB | 0.5 | 0.5 | 0.5 |
| System Noise Temperature | dBK | 21.9 | 21.9 | 21.9 |
| Earth Station G/T | dB/°K | 18.9 | 18.9 | 18.9 |
| Satellite Saturation EIRP | dBW | 51.9 | 51.9 | 51.9 |
| Carrier Output Back-Off | dB | 15.4 | 12.1 | 12.1 |
| Carrier EIRP | dBW | 36.5 | 39.8 | 39.8 |
| Free Space Path Loss | dB | 205.7 | 205.7 | 205.7 |
| Atmospheric Absorption Loss | dB | 0.1 | 0.1 | 0.1 |
| Antenna Pointing Error Loss / AutoTracking | dB | 0.5 | 0.5 | 0.5 |
| Downlink Rain Fade | dB | 0.0 | 2.01 | 0.0 |
| Downlink Rain Fade Noise Enhancement | dB | 0.0 | 1.9 | 0.0 |
| Thermal C/N | dB | 8.2 | 7.5 | 11.5 |
| Transponder Intermodulation C/I | dB | 17.7 | 21.0 | 21.0 |
| TOTAL C/N (DOWNLINK) | dB | 7.7 | 7.4 | 11.0 |
| TOTAL C/N (UPLINK + DOWNLINK) | dB | 7.0 | 7.0 | 10.3 |
| Threshold C/N | dB | 7.0 | 7.0 | 7.0 |
| Voice Activation Factor (DAMA Only) | % | 100 | | |
| Number of Carrier (VSAT Only) | | 1 | | |
| Required Power Percentage | % | 12.35 | | 12.35 |
| Required Bandwidth Percentage | % | 12.50 | | 12.50 |
| Usable Transponder Power (Back-Off) | dB | | | 3.00 |
| Usable Transponder Bandwidth | MHz | | | 72 |
| Minimum HPA Required: | | | | |
| Assumed IFL (Inter-Facility Losses) | dB | 0.0 | | |
| Uplink Power Control (UPC) | dB | 0.0 | | |
| Satellite Automatic Level Control | dB | 0.0 | | |
| Power, HPA Output in dBW | dBW | 9.48 | | |
| Power, HPA Output in Watts | W | 8.87 | | |
| HPA Back Off (single carrier = 1) | dB | 1.0 | | |
| Minimum HPA Power | W | 11.2 | | |

* Value applicable only for multiple carriers.