

|                                                             |         |
|-------------------------------------------------------------|---------|
| <b>Digital Modulation ID</b>                                | ALG1    |
| Emission Designator                                         | 36M0F9F |
| Emission BW [kHz]                                           | 36000   |
| Modulation type                                             | FM      |
| Uplink Frequency [GHz]                                      | 14      |
| Uplink ES antenna diameter [m]                              | 9.1     |
| Uplink ES antenna gain [dBi]                                | 60.6    |
| Uplink Antenna feed flange power [dBW]                      | 15.6    |
| Uplink ES to Satellite Distance [km]                        | 38000   |
| Uplink Free-Space Loss [dB]                                 | 207.0   |
| Satellite RX antenna gain [dBi]                             | 32.9    |
| Satellite Rx system noise temperature [K]                   | 400     |
| Uplink Rain Atten. [dB]                                     | 5       |
| Uplink Cloud Atten. [dB]                                    | 0.5     |
| Uplink Noise temp. increase due to rain and cloud [K]       | 208.3   |
| Uplink Thermal C/N [dB]                                     | 21.8    |
| Uplink C/I (ASI) [dB]                                       | 22.3    |
| Uplink C/I (Xpol) [dB]                                      | 30      |
| Uplink C/I (IM) [dB]                                        | 27      |
| Uplink C/(N+I) [dB]                                         | 18.1    |
| Downlink Frequency (GHz)                                    | 11.7    |
| Downlink EIRP [dBW]                                         | 49.0    |
| Downlink ES to Satellite Distance [km]                      | 38000   |
| Downlink Free-Space Loss [dB]                               | 205.4   |
| RX ES antenna diameter [m]                                  | 2.4     |
| RX ES antenna gain [dBi]                                    | 47.5    |
| RX ES system noise temperature [K]                          | 200     |
| Downlink Rain Atten. [dB]                                   | 3.6     |
| Downlink Cloud Atten. [dB]                                  | 0.4     |
| Downlink Noise temp. increase due to rain and cloud [deg K] | 174.5   |
| Downlink Thermal C/N [dB]                                   | 14.4    |
| Downlink C/I (ASI) [dB]                                     | 22.3    |
| Downlink C/I (Xpol) [dB]                                    | 30      |
| Downlink C/I (IM) [dB]                                      | 27      |
| Downlink C/(N+I) [dB]                                       | 13.4    |
| Total C/(N+I) [dB]                                          | 12.2    |
| Required C/(N+I) [dB]                                       | 12      |
| Margin [dB]                                                 | 0.17    |