

**Table A.12-1 – Link Budget for Communication Forward Link to  
Class-1 User Terminal (200 kHz carrier; Spot Beam)**

| <b>General</b>                             | Unit       |               |
|--|------------|---------------|
| User terminal type                         | -          | Class1        |
| Modulation ID / Designator                 | -          | C1F2/ 200KD7W |
| Data rate (kbps)                           | (kbps)     | 492           |
| Coding rate                                | -          | 0.822         |
| Modulation                                 | -          | 16-QAM        |
| Carrier bandwidth                          | (kHz)      | 189           |
| Allocated bandwidth                        | (kHz)      | 200           |
| <b>Uplink</b>                              |            |               |
| Frequency                                  | (GHz)      | 6.5           |
| SAS elevation angle                        | (deg)      | 5.0           |
| SAS EIRP towards satellite                 | (dBW)      | 57.3          |
| Path loss                                  | (dB)       | 200.9         |
| Mean Atmospheric loss                      | (dB)       | 0.4           |
| Satellite G/T                              | (dB/K)     | -10.4         |
| Boltzmann Constant                         | (dBW/K/Hz) | -228.6        |
| Up-path C/No                               | (dBHz)     | 74.2          |
| <b>Downlink</b>                            |            |               |
| Frequency                                  | (GHz)      | 1.5           |
| User terminal elevation angle              | (deg)      | 90.0          |
| Satellite EIRP                             | (dBW)      | 44.5          |
| Path loss                                  | (dB)       | 188.4         |
| Mean Atmospheric loss                      | (dB)       | 0.1           |
| User terminal G/T                          | (dB/K)     | -9.7          |
| Boltzmann Constant                         | (dBW/K/Hz) | -228.6        |
| Down-path C/No                             | (dBHz)     | 74.9          |
| <b>Total</b>                               |            |               |
| Mean satellite C/IMo                       | (dBHz)     | 71.9          |
| Co-Channel Interference                    | (dBHz)     | 74.0          |
| Adjacent satellite interference allocation | (dB)       | 1.0           |
| Mean Overall C/No                          | (dBHz)     | 66.6          |
| Mean Overall C/N                           | (dB)       | 13.8          |
| <b>Margin</b>                              |            |               |
| C/N objective                              | (dB)       | 12.3          |
| C/N margin                                 | (dB)       | 1.5           |