

**Table A.12-12 – Link Budget for Signaling Return Link from Class-3 User Terminal  
(25 kHz bandwidth; Regional Beam)**

| <b>General</b>                             | Unit       |                |
|--|------------|----------------|
| User terminal type                         | -          | Class-3        |
| Modulation ID / Designator                 | -          | C3R3 / 25K0G7W |
| Data rate (kbps)                           | (kbps)     | 20             |
| Coding rate                                | -          | 0.73           |
| Modulation                                 | -          | pi/4 QPSK      |
| Carrier bandwidth                          | (kHz)      | 21             |
| Allocated bandwidth                        | (kHz)      | 25             |
| <b>Uplink</b>                              |            |                |
| Frequency                                  | (GHz)      | 1.6            |
| User terminal elevation angle              | (deg)      | 90             |
| User terminal EIRP towards satellite       | (dBW)      | 11.0           |
| Path loss                                  | (dB)       | 188.9          |
| Atmospheric loss                           | (dB)       | 0.1            |
| Satellite G/T                              | (dB/K)     | 2.2            |
| Boltzmann Constant                         | (dBW/K/Hz) | -228.6         |
| Adjacent Channel Interference              | (dB)       | 0.2            |
| Up-path C/No                               | (dBHz)     | 52.6           |
| <b>Downlink</b>                            |            |                |
| Frequency                                  | (GHz)      | 3.6            |
| SAS elevation angle                        | (deg)      | 5              |
| Satellite EIRP                             | (dBW)      | -3.5           |
| Path loss                                  | (dB)       | 195.7          |
| Atmospheric loss                           | (dB)       | 0.4            |
| SAS G/T                                    | (dB/K)     | 32.3           |
| Boltzmann Constant                         | (dBW/K/Hz) | -228.6         |
| Random Loss (99%)                          | (dB)       | 0.5            |
| Down-path C/No                             | (dBHz)     | 60.8           |
| <b>Total</b>                               |            |                |
| Mean satellite C/IMo                       | (dBHz)     | 65.0           |
| Co-Channel Interference                    | (dBHz)     | 63.2           |
| Adjacent satellite interference allocation | (dB)       | 1.0            |
| Mean Overall C/No                          | (dBHz)     | 50.5           |
| Mean Overall C/N                           | (dB)       | 7.3            |
| <b>Margin</b>                              |            |                |
| C/N objective                              | (dB)       | 4.4            |
| C/N margin                                 | (dB)       | 2.8            |