

**Appendix 2 to
Attachment A (Technical Information to Supplement Schedule S)
(ECHOSTAR-10)**

**Analysis of ANNEX 1 of Appendix 30A
for USABSS-26 at 110° W.L**

1 (SUP - WRC-2000)

2 (SUP - WRC-2000)

3 **Limits to the change in the overall equivalent protection margin with respect to frequency assignments in conformity with the Region 2 feeder-link Plan³³** (WRC-2000)

With respect to the modification to the Region 2 feeder-link Plan and when it is necessary under this Appendix to seek the agreement of any other administration of Region 2, except in cases covered by Resolution 42 (Rev.WRC-03), an administration is considered as being affected if the overall equivalent protection margin³⁴ corresponding to a test point of its entry in that Plan, including the cumulative effect of any previous modification to that Plan or any previous agreement, falls more than 0.25 dB below 0 dB, or, if already negative, more than 0.25 dB below the value resulting from:

- the feeder-link Plan as established by the 1983 Conference; or*
- a modification of the assignment in accordance with this Appendix; or*
- a new entry in the feeder-link Plan under Article 4; or*
- any agreement reached in accordance with this Appendix except for Resolution 42 (Rev.WRC-03). (WRC-03)*

See the Results described under Section 2 of Appendix 30 Annex 1 Analysis.

³³ With respect to § 3 the limit specified relates to the overall equivalent protection margin calculated in accordance with § 1.12 of Annex 3.

³⁴ For the definition of the overall equivalent protection margin, see § 1.11 of Annex 5 to Appendix 30.

4 Limits to the interference into frequency assignments in conformity with the Regions 1 and 3 feeder-link Plan or with the Regions 1 and 3 feeder-link List or proposed new or modified assignments in the Regions 1 and 3 feeder-link List (WRC-03)

Does not apply to the Region 2 Plan.

5 Limits applicable to protect a frequency assignment in the bands 17.3-18.1 GHz (Regions 1 and 3) and 17.3-17.8 GHz (Region 2) to a receiving space station in the fixed-satellite service (Earth-to-space)

An administration in Region 1 or 3 is considered as being affected by a proposed modification in Region 2, with respect to § 4.2.2 a) or 4.2.2 b) of Article 4, or an administration in Region 2 is considered as being affected by a proposed new or modified assignment in the Regions 1 and 3 feeder-link List, with respect to § 4.1.1 c) of Article 4, when the power flux-density arriving at the receiving space station of a broadcasting-satellite feeder-link would cause an increase in the noise temperature of the feeder-link space station which exceeds the threshold value of $\Delta T/T$ corresponding to 6%, where $\Delta T/T$ is calculated in accordance with the method given in Appendix 8, except that the maximum power densities per hertz averaged over the worst 1 MHz are replaced by power densities per hertz averaged over the necessary bandwidth of the feeder-link carriers. (WRC-03)

The following Table calculates the $\Delta T/T$ for the closest Regions 1 and 3 feeder link space stations. As shown the $\Delta T/T$ is well below the allowed 6% level. Therefore USABSS-26 is in conformity with this Section.

| Closest Region 1 or 3 Feeder Link Space Station | | | E/S Lat (°N) | E/S Long (°E) | Range (km) | E/S Gain towards Victim Satellite (dBi) | Victim Satellite Rx System Noise Temp (K) | Calculated $\Delta T / T$ (%) |
|---|------------------|---------------------------------|--------------|---------------|------------|---|---|-------------------------------|
| Beam Name | Orbital Position | Peak Receive Antenna Gain (dBi) | | | | | | |
| F – OCE10100 | -160 | 32.58 | 33.35 | -111.80 | 38,975 | -10 | 900 | 0.001% |
| FJI – FJI19300 | -178 | 44.16 | 33.35 | -111.80 | 40,462 | -10 | 900 | 0.017% |
| SMO – SMO05700 | -178 | 48.88 | 33.35 | -111.80 | 40,462 | -10 | 900 | 0.051% |
| KIR – KIR_100 | 176 | 42.6 | 33.35 | -111.80 | 41,002 | -10 | 900 | 0.012% |
| TUV – TUV00000 | 176 | 46.93 | 33.35 | -111.80 | 41,002 | -10 | 900 | 0.032% |
| TON – TON21500 | 170.25 | 44.64 | 33.35 | -111.80 | 41,530 | -10 | 900 | 0.018% |
| IRL – IRL21100 | -37.2 | 48.08 | 33.35 | -111.80 | 41,221 | -10 | 900 | 0.041% |
| NGR – NGR11500 | -37.2 | 38.47 | 33.35 | -111.80 | 41,221 | -10 | 900 | 0.004% |
| AND – AND34100 | -37 | 48.88 | 33.35 | -111.80 | 41,240 | -10 | 900 | 0.049% |
| GMB – GMB30200 | -37 | 47.69 | 33.35 | -111.80 | 41,240 | -10 | 900 | 0.037% |
| GUI – GUI19200 | -37 | 42.29 | 33.35 | -111.80 | 41,240 | -10 | 900 | 0.011% |
| POR – POR_100 | -37 | 47.17 | 33.35 | -111.80 | 41,240 | -10 | 900 | 0.033% |
| MTN – MTN_100 | -36.8 | 37.55 | 33.35 | -111.80 | 41,258 | -10 | 900 | 0.004% |
| SMR – SMR31100 | -36.8 | 48.88 | 33.35 | -111.80 | 41,258 | -10 | 900 | 0.049% |
| CPV – CPV30100 | -33.5 | 47.56 | 33.35 | -111.80 | 41,562 | -10 | 900 | 0.036% |
| DNK – DNK090XR | -33.5 | 43.48 | 33.35 | -111.80 | 41,562 | -10 | 900 | 0.014% |
| DNK – DNK091XR | -33.5 | 44.73 | 33.35 | -111.80 | 41,562 | -10 | 900 | 0.019% |
| G – G02700 | -33.5 | 43.23 | 33.35 | -111.80 | 41,562 | -10 | 900 | 0.013% |
| ISL – ISL04900 | -33.5 | 46.67 | 33.35 | -111.80 | 41,562 | -10 | 900 | 0.029% |
| ISL – ISL05000 | -33.5 | 44.67 | 33.35 | -111.80 | 41,562 | -10 | 900 | 0.018% |
| LBR – LBR24400 | -33.5 | 45.13 | 33.35 | -111.80 | 41,562 | -10 | 900 | 0.020% |
| SRL – SRL25900 | -33.5 | 47.2 | 33.35 | -111.80 | 41,562 | -10 | 900 | 0.033% |

6 Limits applicable to protect a frequency assignment in the band 17.8-8.1 GHz (Region 2) to a receiving feeder-link space station in the fixed-satellite service (Earth-to-space) (WRC-03)

Does not apply to Region 2 Plan.