

Name: APERR_010V01**Description:****Type:** Earth station, Transmitting

Appendix 30A reference transmitting earth station antenna pattern for Regions 1 and 3 (WRC-97).

Region(s): 13**Required Input Parameters:**

gain

Validation Warnings/Errors: None**Pattern Information:**

The pattern was used for planning purposes at WRC-97 in the revision of the Appendix 30A Plan of the Radio Regulations at 14 GHz and 17 GHz in Regions 1 and 3 and specified in Recommendation ITU-R BO.1295-0.

The feeder-link Plan was based on an antenna diameter of 5 m for the band 17.3-18.1 GHz and 6 m for the band 14.5-14.8 GHz. The on-axis gain was taken as 57 dBi.

Co-Polar Component:**Cross-Polar Component:**

$$\begin{aligned}
 G &= G_{\max} & \text{for } 0^\circ \leq \varphi \leq 0.1^\circ \\
 G &= G_{\max} - 21 - 20 \log \varphi & \text{for } 0.1^\circ < \varphi \leq 0.32^\circ \\
 G &= G_{\max} - 5.7 - 53.2 \varphi^2 & \text{for } 0.32^\circ < \varphi \leq 0.54^\circ \\
 G &= G_{\max} - 28 - 25 \log \varphi & \text{for } 0.54^\circ < \varphi \leq 36.31^\circ \\
 G &= G_{\max} - 67 & \text{for } 36.31^\circ < \varphi \leq 180^\circ
 \end{aligned}$$

$$\begin{aligned}
 G_x &= G_{\max} - 35 \\
 \text{If } G_x > G: G_x &= G
 \end{aligned}$$