Name: APENST815V01

Type: Earth station, Receiving and Transmitting

Region(s): 123

Required Input Parameters:
gain, coefa, phi1

Validation Warnings/Errors:

<table>
<thead>
<tr>
<th>Type</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error</td>
<td>G(Phi1) () is less than Gmin (). G(Phi1) is too low or Phi1 is too high.</td>
</tr>
<tr>
<td>Error</td>
<td>Gmax () is less than G(Phi1) (). Gmax is too low.</td>
</tr>
<tr>
<td>Error</td>
<td>Phi1 () is out of limits [1:180].</td>
</tr>
<tr>
<td>Error</td>
<td>CoefA () is out of limits [18:47].</td>
</tr>
</tbody>
</table>

Pattern Information:
Pattern is equal to the maximum antenna gain in the main-lobe range (for off-axis angles less than Phi1).

Co-Polar Component:

\[
\begin{align*}
G &= G_{\text{max}} \quad \text{for } 0^\circ \leq \phi < \phi_1 \\
G &= \text{Max}(\text{CoefA} - \text{CoefB} \times \log \phi, G_{\text{min}}) \quad \text{for } \phi_1 \leq \phi \leq 180^\circ \\
\end{align*}
\]

where:

CoefB = 25

G_{\text{min}} = -2