Name: APEUAE234V01

Type: Earth station, Receiving

Description:

Earth station antenna pattern submitted by UAE for receiving 13 dB earth station.

Required Input Parameters:

gain

Validation Warnings/Errors:

Type	Message
Error	Gmax () is less than G1 (). Square root of negative value.

Co-Polar Component:

$G = G_{max}$ for $0° \le \varphi < \varphi_1$

$G = G_{max} * (1 - ((\varphi - \varphi_1)/\varphi_2)^2)$ for $\varphi_1 \le \varphi < \varphi_m$

$G = G_1 = CoefA - CoefB * \log \varphi_r$ for $\varphi_m \le \varphi < \varphi_r$

$G = CoefA - CoefB * \log \varphi$ for $\varphi_r \le \varphi < \varphi_b$

$G = G_{min} = CoefA - CoefB * \log \varphi_b$ for $\varphi_b \le \varphi \le 180°$

where

CoefA = 44.887

CoefB = 25.514

$\varphi_1 = 8°$

$\varphi_m = 19°$

$\varphi_r = 30°$

$\varphi_b = 76°$

$G_1 = coefA - coefB * \log \varphi_r = 7.2$

$$\varphi_2 = \frac{\varphi_m - \varphi_1}{\sqrt{1 - \frac{G_1}{G_{max}}}} = 16.468°$$

$G_{min} = -3.1$