

Pyramidal horn and coordinate system.

Optimum gain antenna 04-Nov-2021 19:54:15

Gain = 14.00 dB F_{\min} = 18.00 GHz

a = 10.700 [mm]

b = 4.300 [mm]

a_1 = 38.478 [mm]

b_1 = 28.163 [mm]

ρ_h = 92.179 [mm]

ρ_e = 78.087 [mm]

ρ_1 = 76.807 [mm]

ρ_2 = 90.149 [mm]

ψ_h = 12.047 [deg]

ψ_e = 10.389 [deg]

p_h = 65.080 [mm]

p_e = 65.080 [mm]

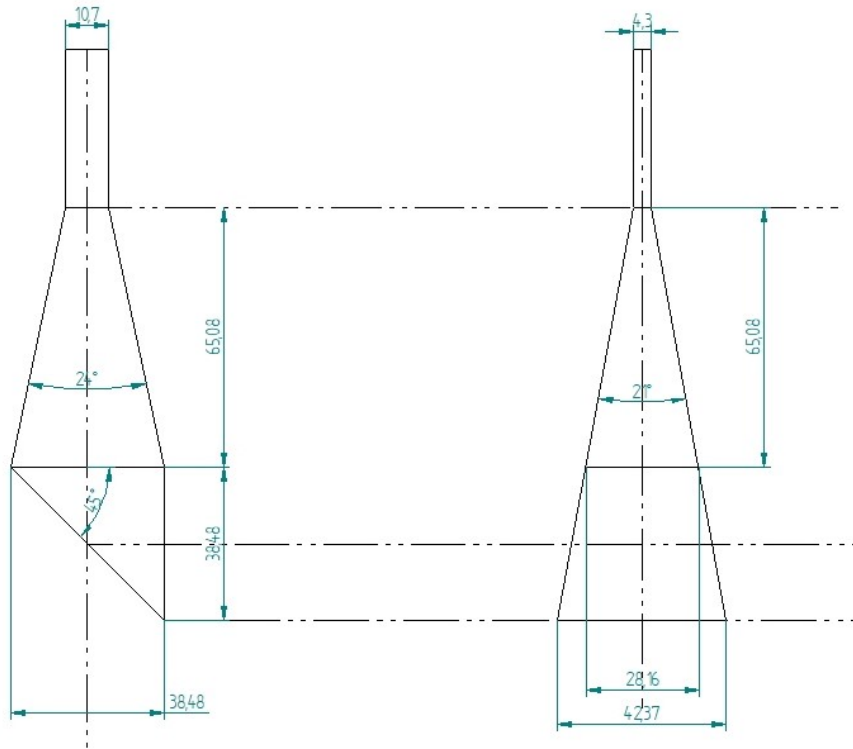


Figure 1 – Antenna inner dimensions. 1 mm thick wall should add 2 mm to the antenna body.

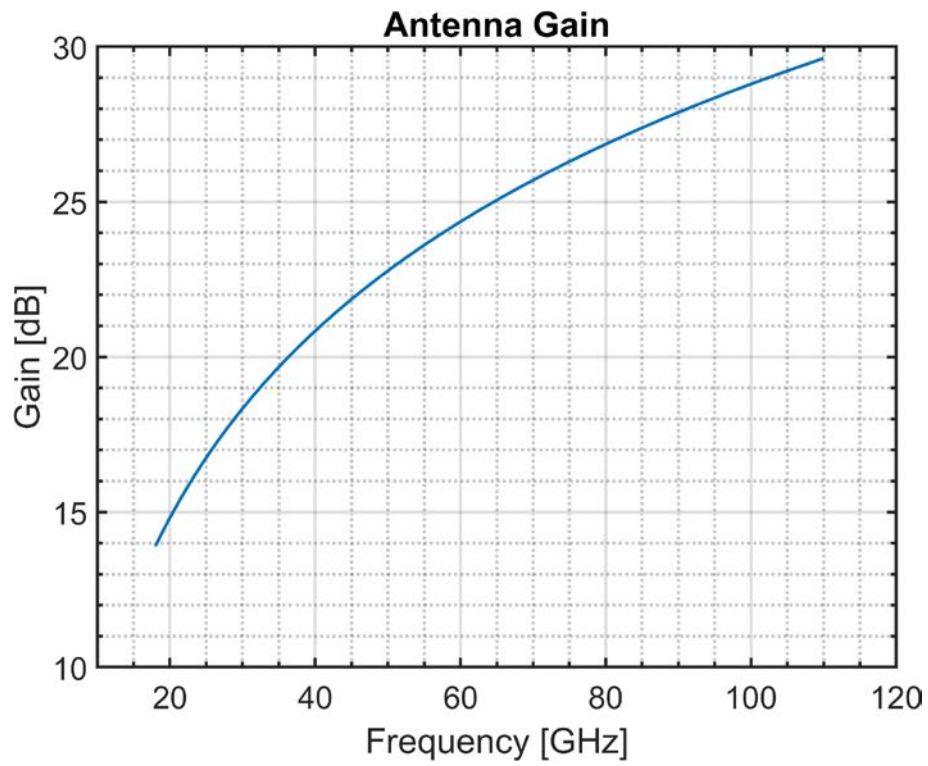


Figure 2 – Antenna gain versus frequency.

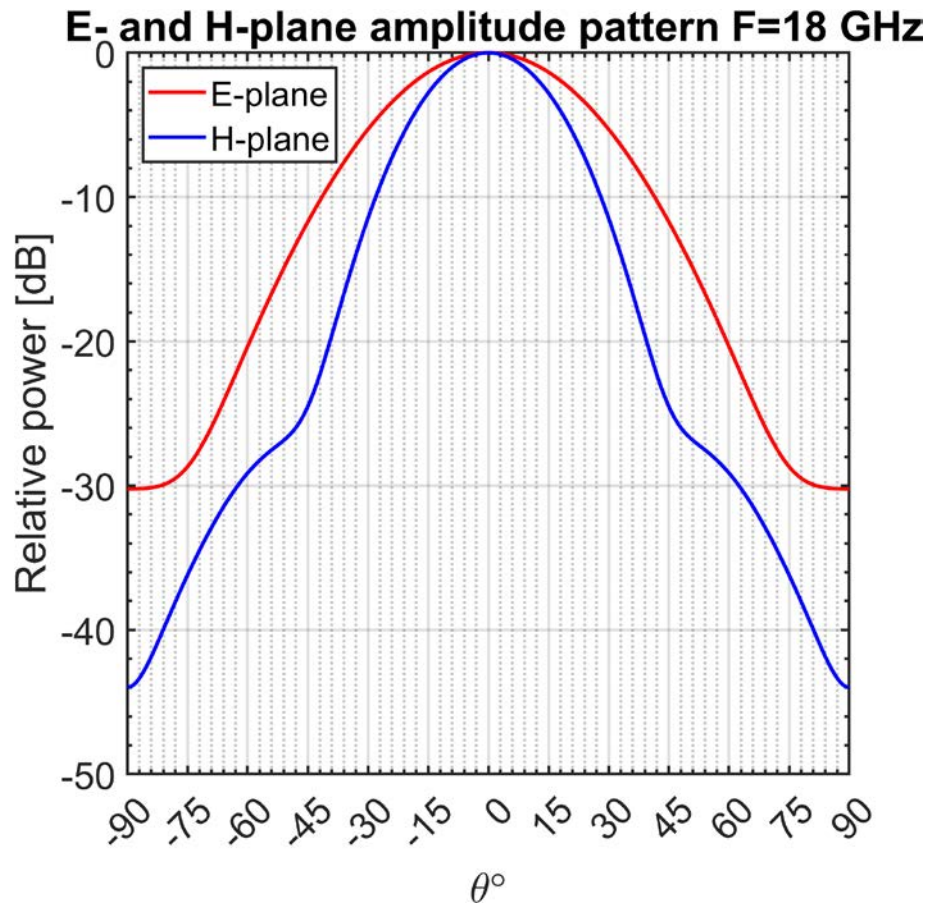


Figure 3 – E and H plane radiation pattern at 18 GHz.

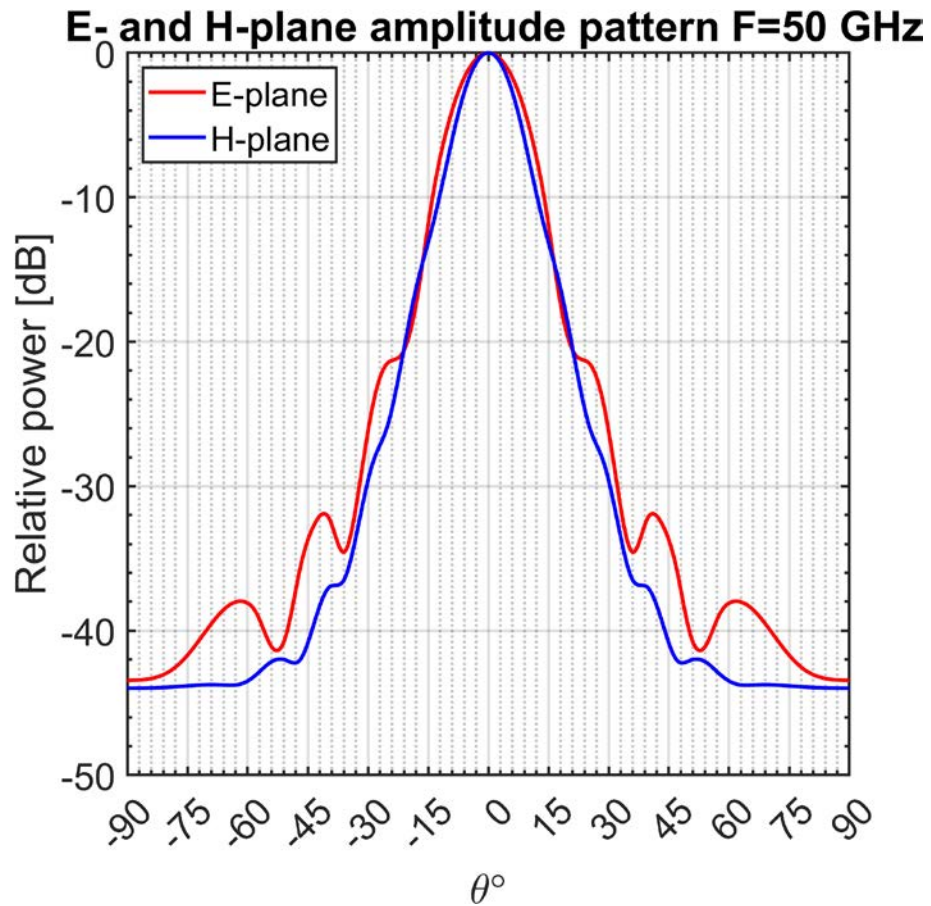


Figure 4 – E and H plane radiation pattern at 50 GHz.

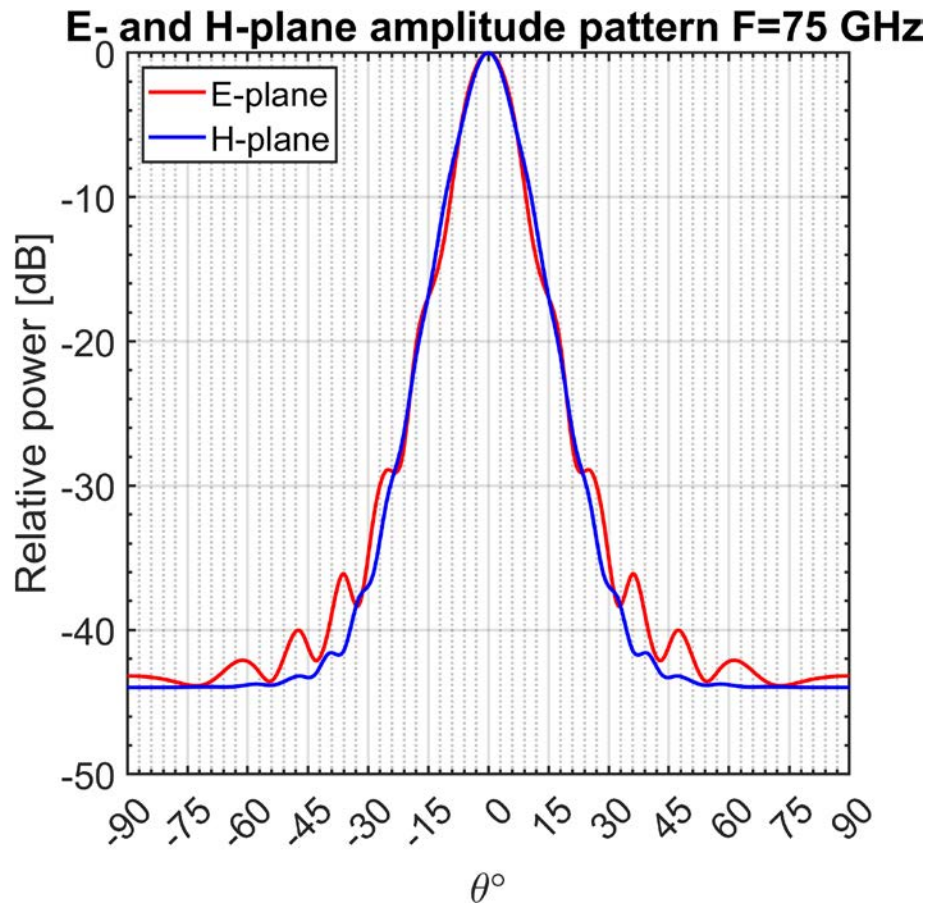


Figure 5 – E and H plane radiation pattern at 75 GHz.

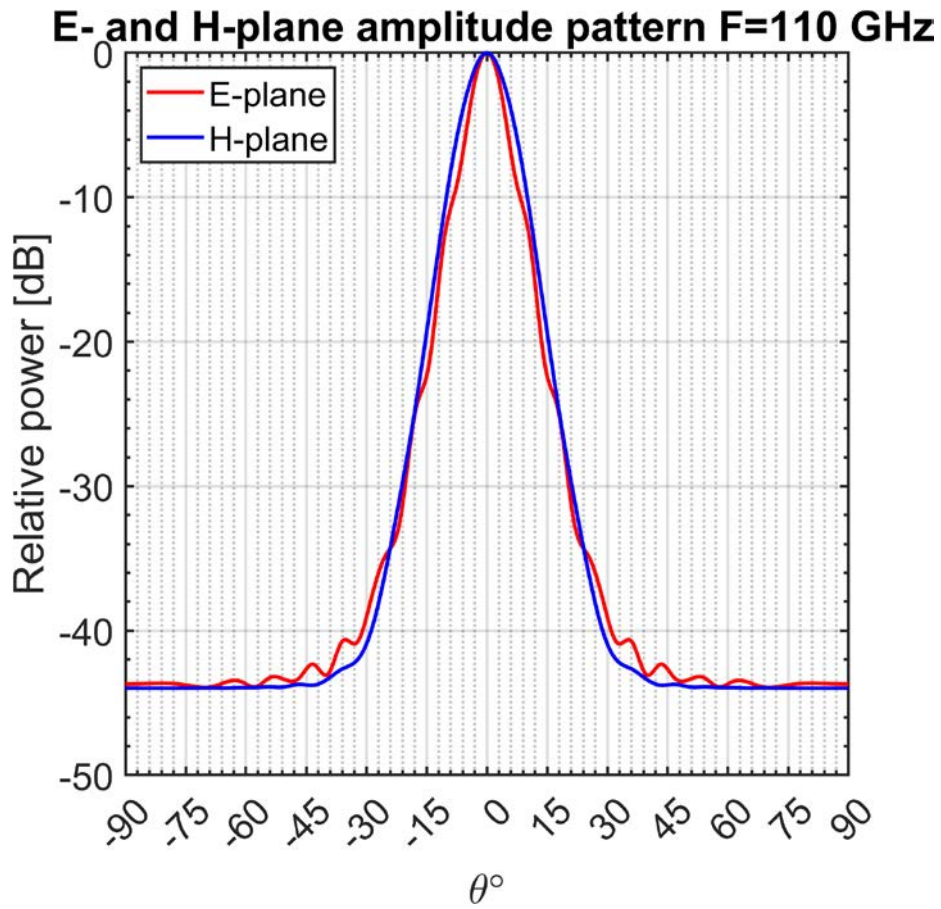


Figure 6 – E and H plane radiation pattern at 110 GHz.