ASSIGNMENT

AIM: To design and simulate patch antenna

Frequency: 2.4Ghz

Permittivity : 2

Height: 2MM

Calculation:

Using formula :

W(width of patch)=c*(2^(1/2))/2*F*(er+1)

L(length of patch)=Leff - 2del(l)

Observation:

By changing the h i.e. thickness of the dielectric Medium the Bandwidth of the antenna Will decrease.

Patch_Antenna_2.4

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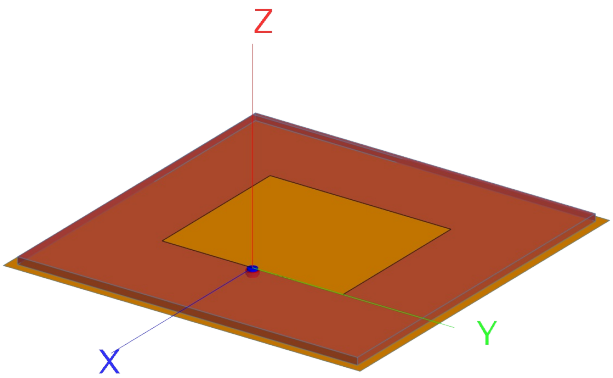
patch_antenna_2.41



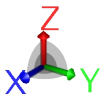


Figure 1: 3D View

Excitation

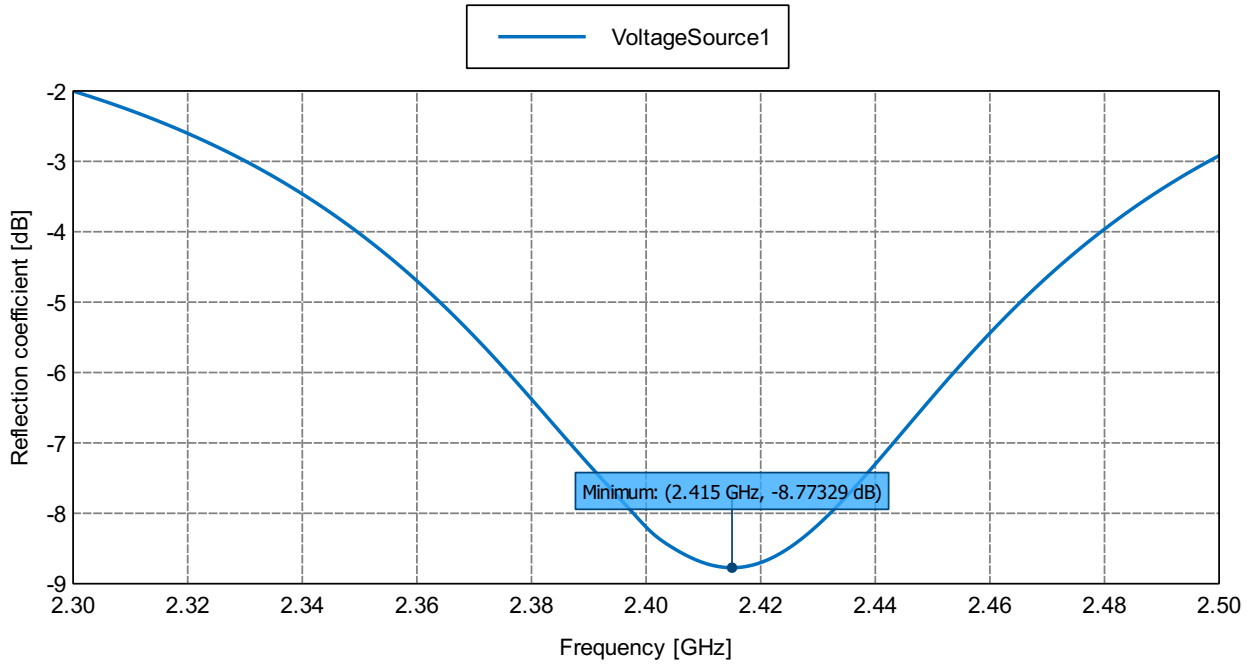


Figure 2: Reflection coefficient Magnitude [dB] - patch_antenna_2.4

Far field

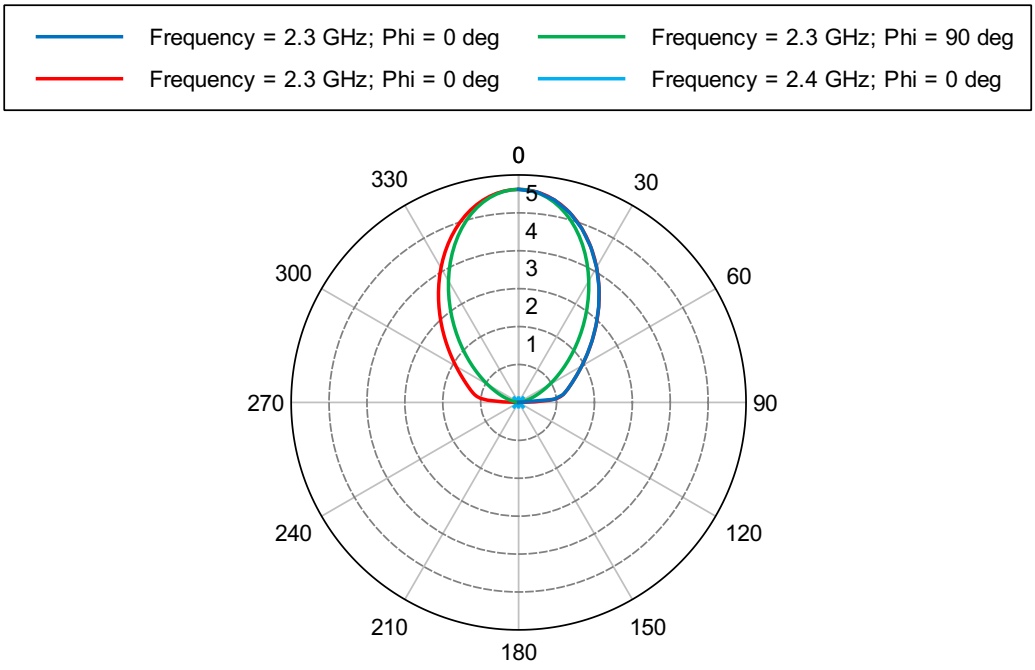


Figure 3: Total Gain - patch_antenna_2.4

patch_antenna_2.42

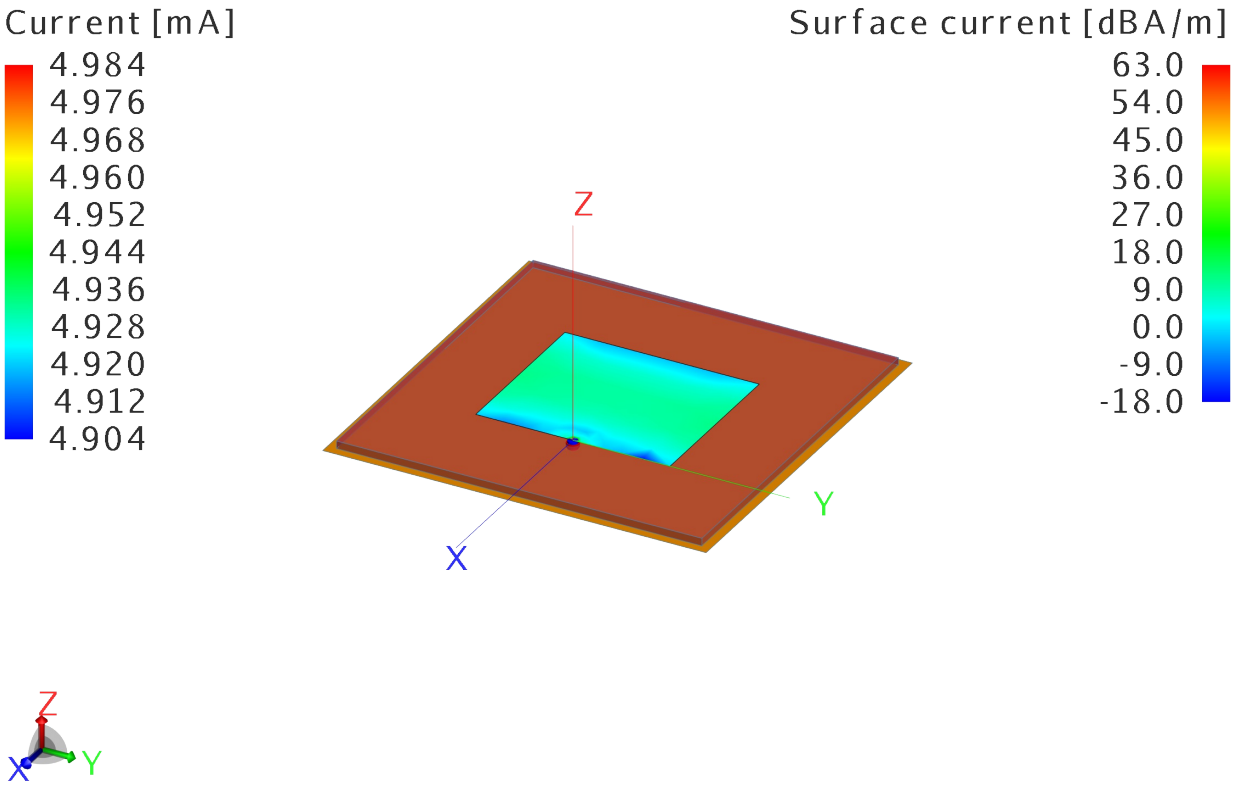


Figure 4: 3D View

Far field

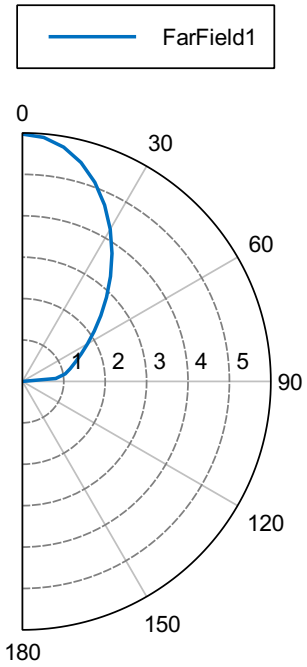


Figure 5: Total Gain (Frequency = 2.4 GHz; Phi = 0 deg) - patch_antenna_2.4

Far field

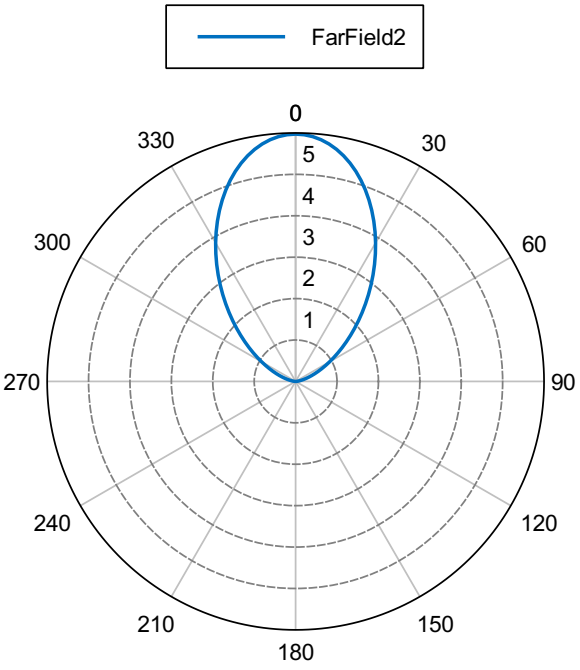


Figure 6: Total Gain (Frequency = 2.4 GHz; Phi = 90 deg) - patch_antenna_2.4

Far field

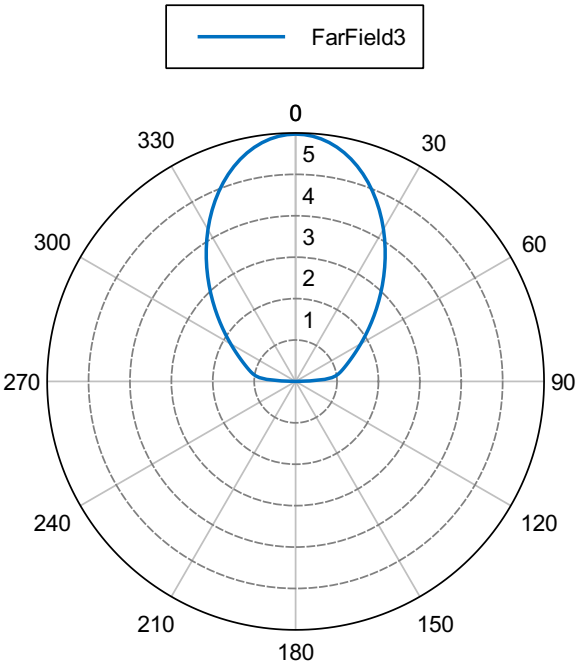


Figure 7: Total Gain (Frequency = 2.4 GHz; Phi = 0 deg) - patch_antenna_2.4