

Class Work:

Design Of Antenna:

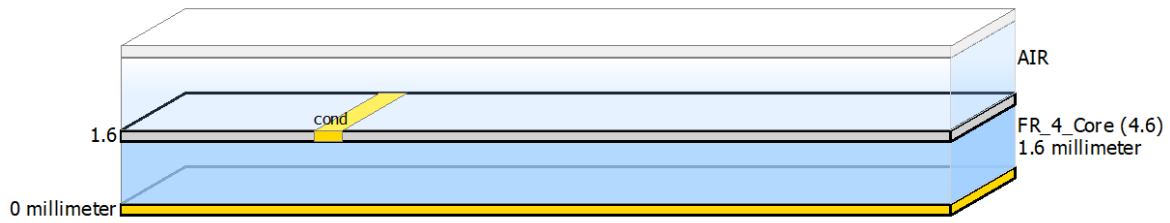


Fig 01: Substrate Design of patch antenna.

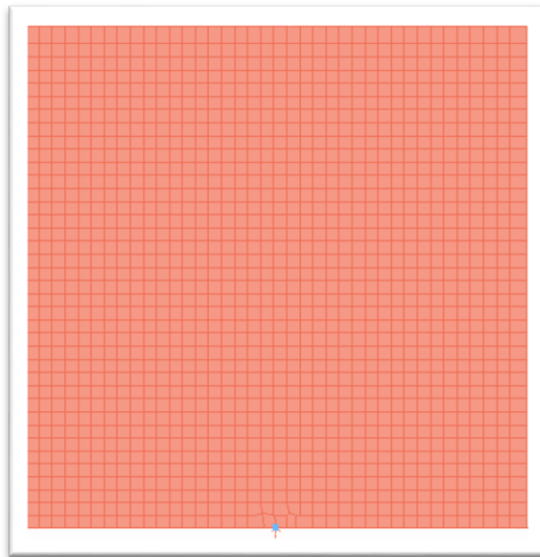


Fig 02: Patch antenna with pin

Simulation Results For Patch

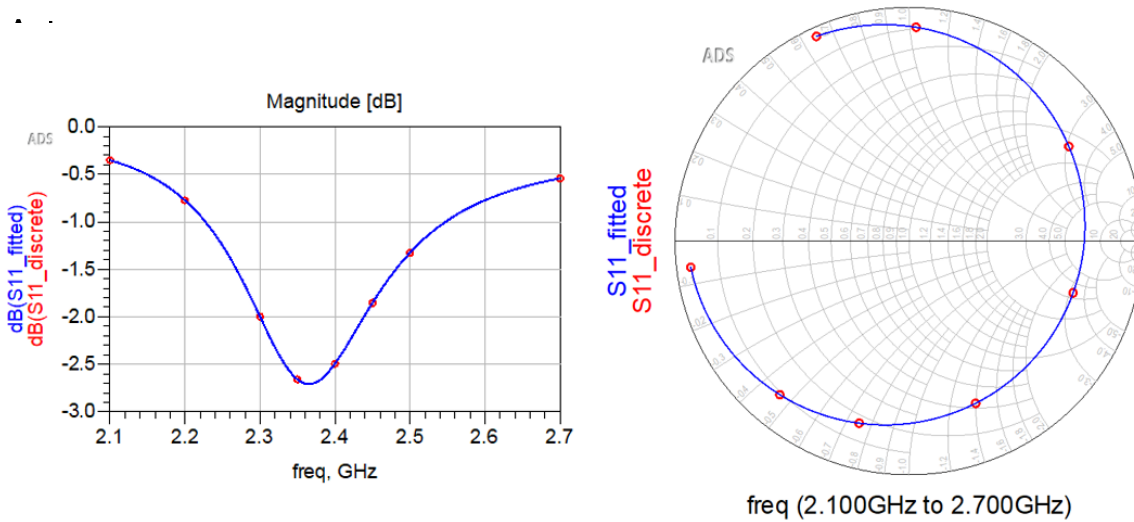


Fig 03: S parameter graph and Smith Chart for pin position $y=0$

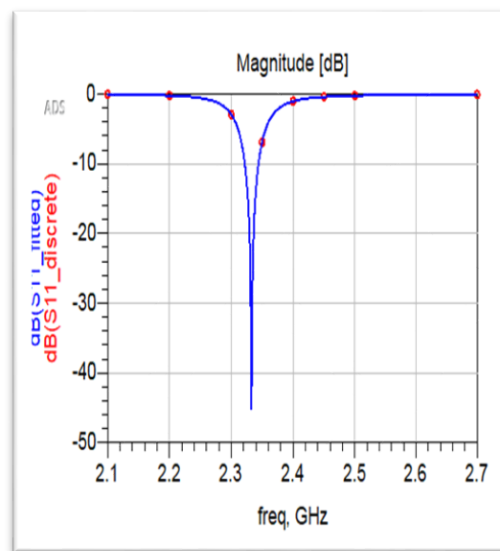


Fig 04: S Parameter Graph and Smith Chart for Best Output (When pin Impedance)

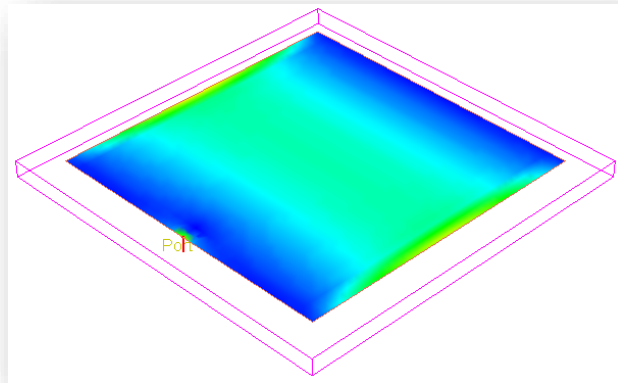


Figure 5: Current Distribution

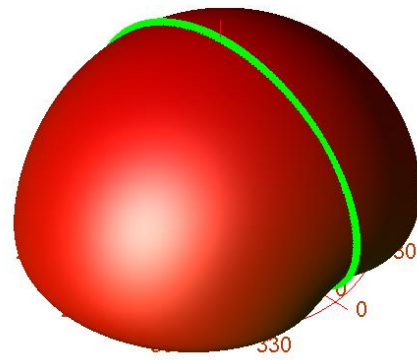


Figure 6: 3D Radiation pattern

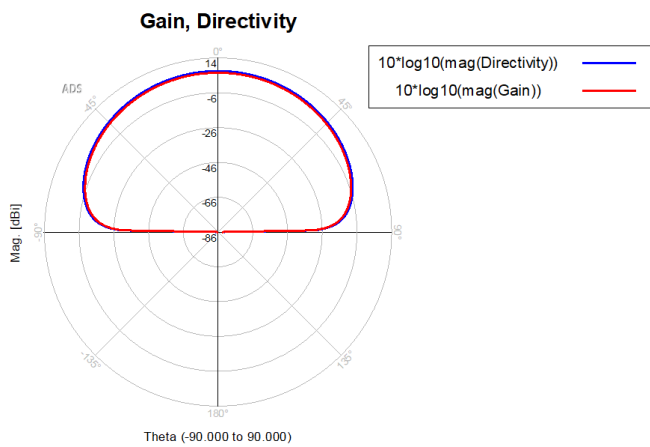


Figure 7: 2D radiation pattern of the antenna.

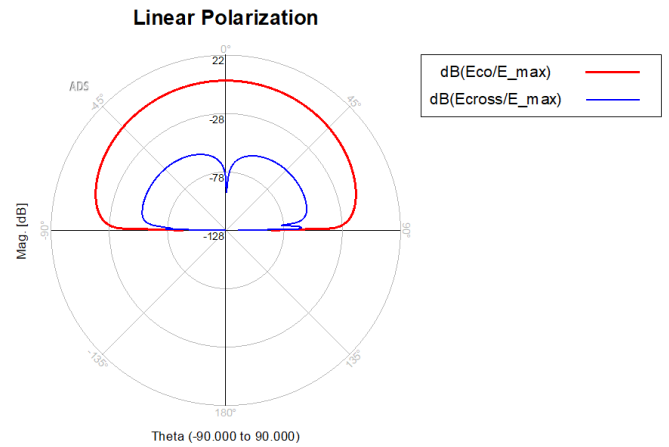


Figure 8: Gain pattern of the antenna.

Antenna Parameters vs Frequency

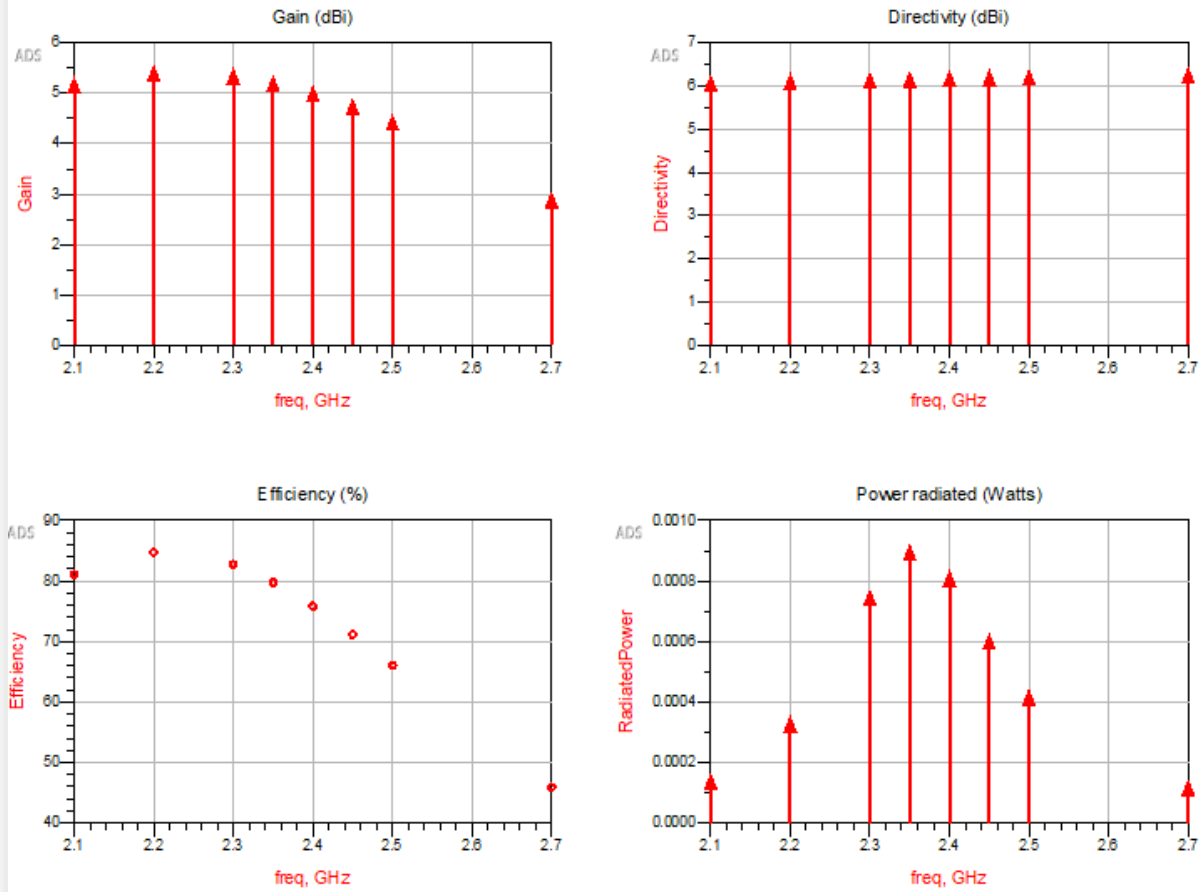


Fig 9: Antenna Parameters vs Frequency graphs

Task:1 Changing the position of the input pin (port impedance: 50 ohms) along the positive y-axis.

Discrete Frequencies vs. Fitted (AFS or Linear)

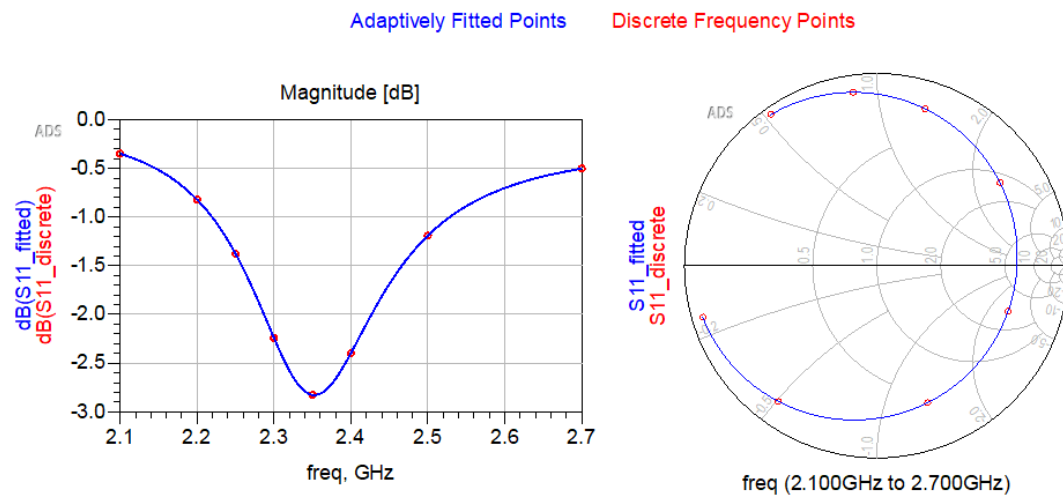


Figure 10: S-parameter and Smith Chart at y=2mm

Discrete Frequencies vs. Fitted (AFS or Linear)

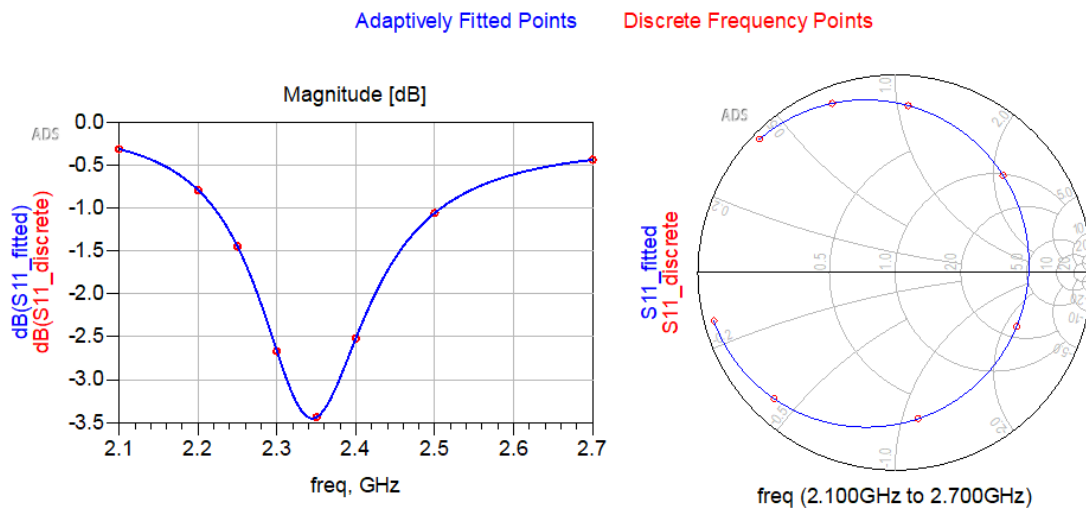


Figure 11: S-parameter and Smith Chart at y=4mm

Discrete Frequencies vs. Fitted (AFS or Linear)

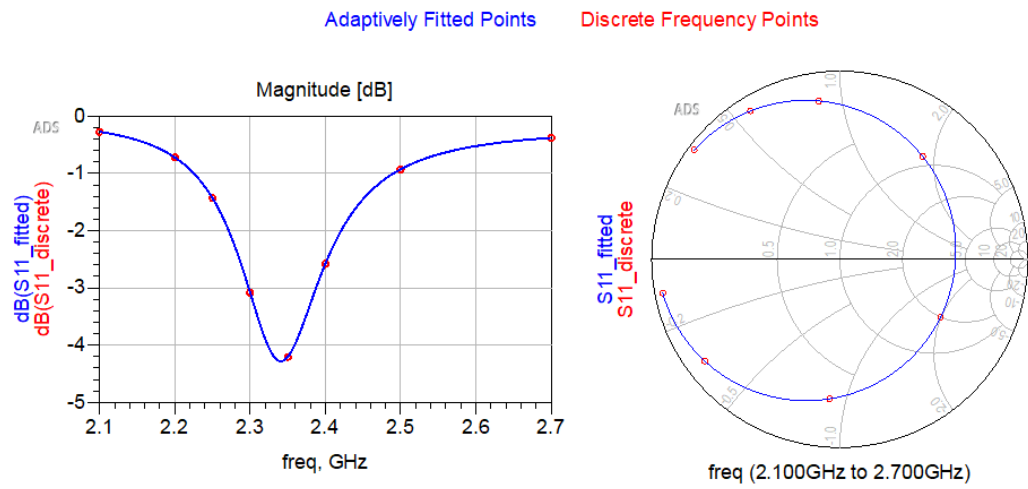


Figure 12: S-parameter and Smith Chart at y=6mm

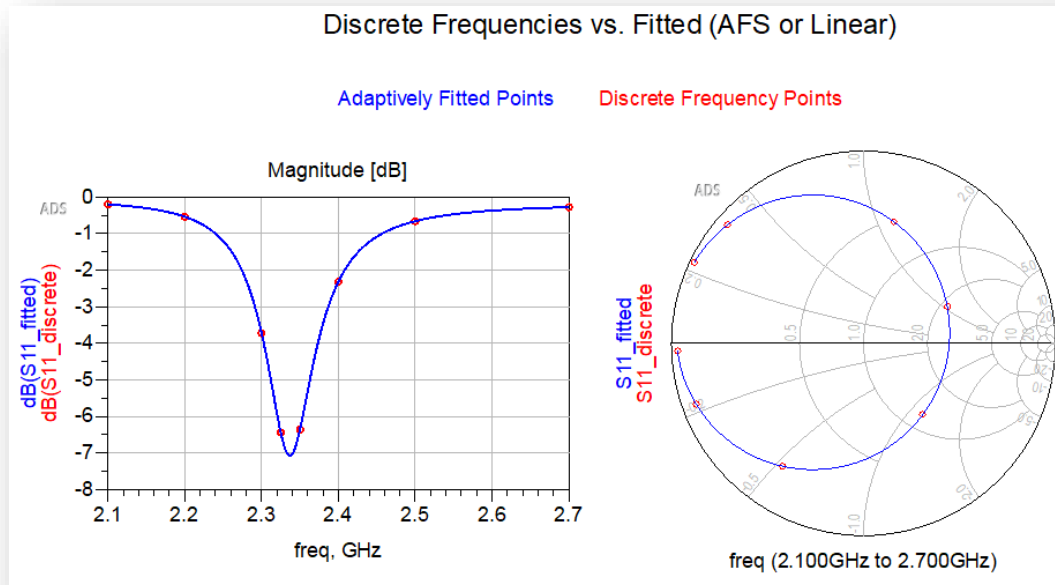


Figure 13: S-parameter and Smith Chart at y=8mm

Discrete Frequencies vs. Fitted (AFS or Linear)

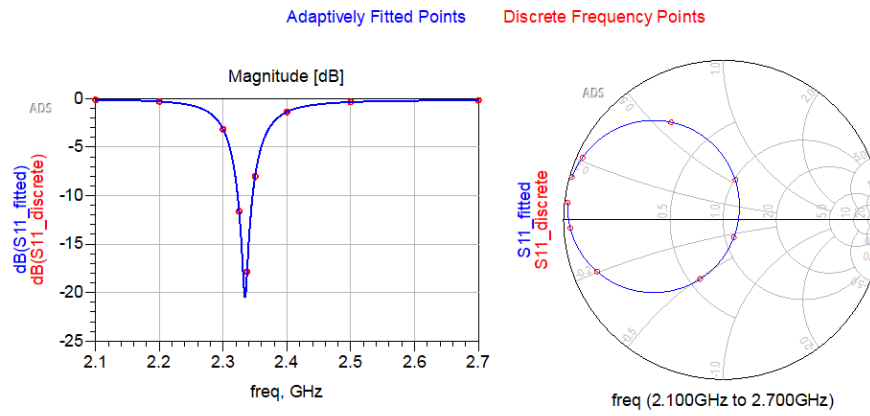


Figure 14: S-parameter and Smith Chart at y=10mm

Discrete Frequencies vs. Fitted (AFS or Linear)

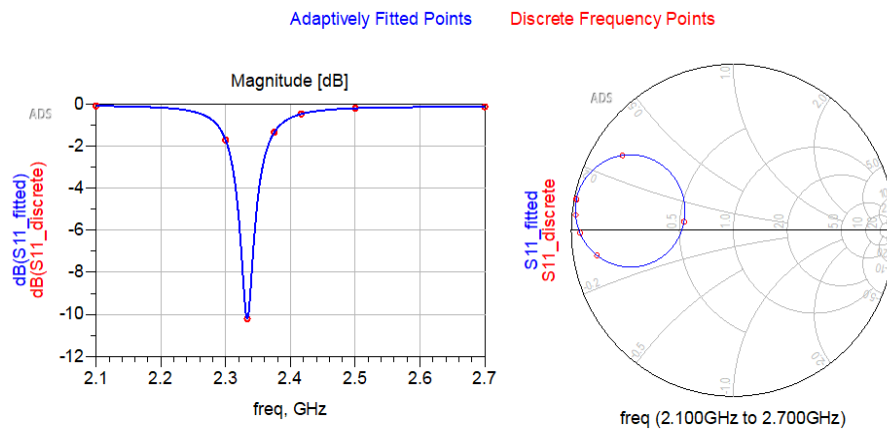


Figure 15: S-parameter and Smith Chart at y=12mm

Discrete Frequencies vs. Fitted (AFS or Linear)

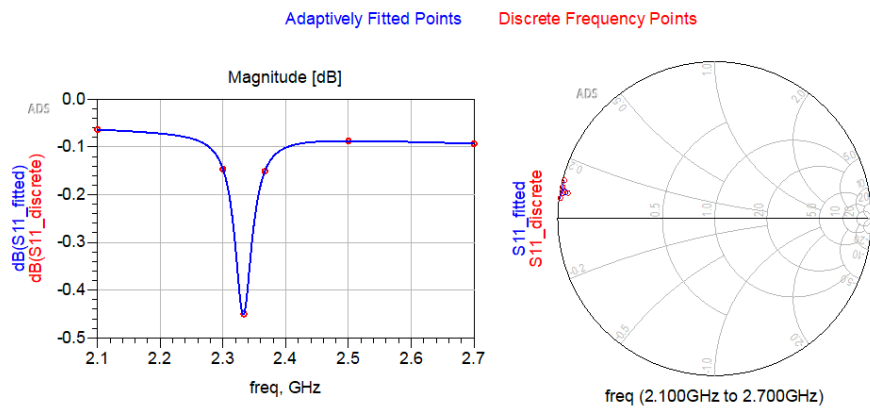


Figure 16: S-parameter and Smith Chart at y=14mm

Task:2: Designing a 10 GHz horizontally linearly polarized patch antenna

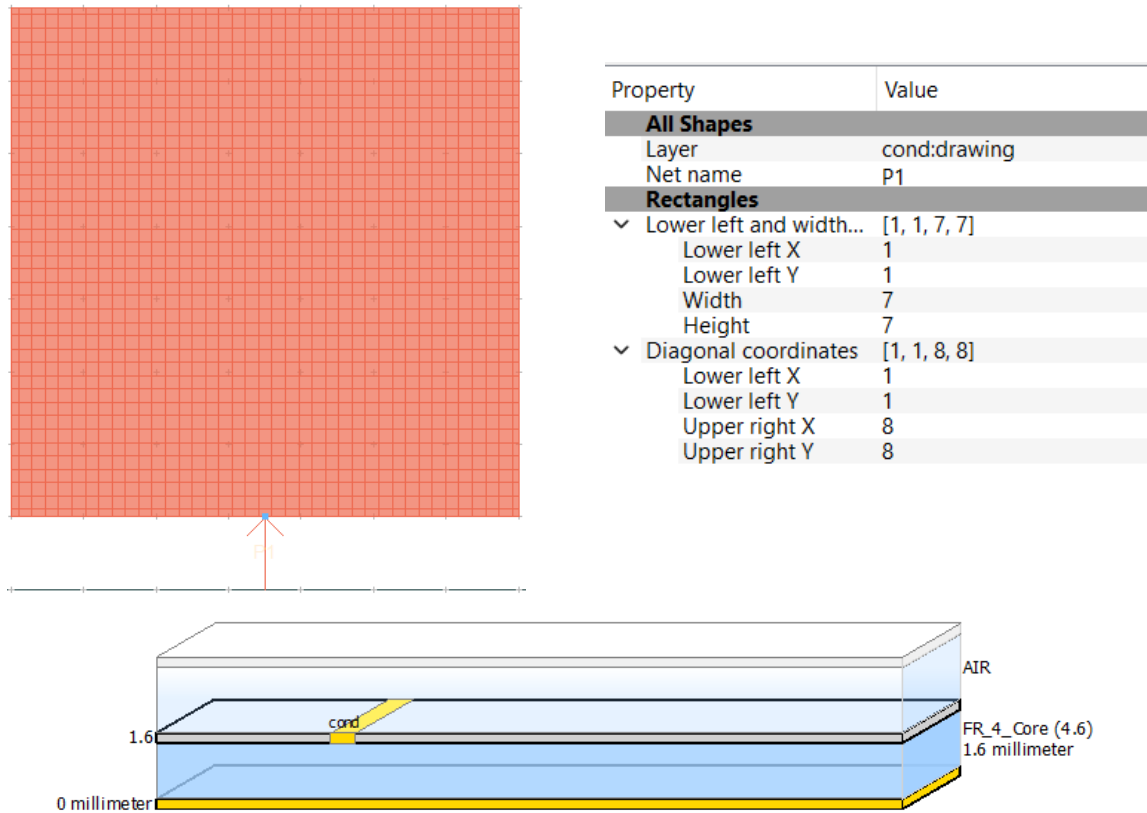


Figure 18: Substrate of patch antenna.

Discrete Frequencies vs. Fitted (AFS or Linear)

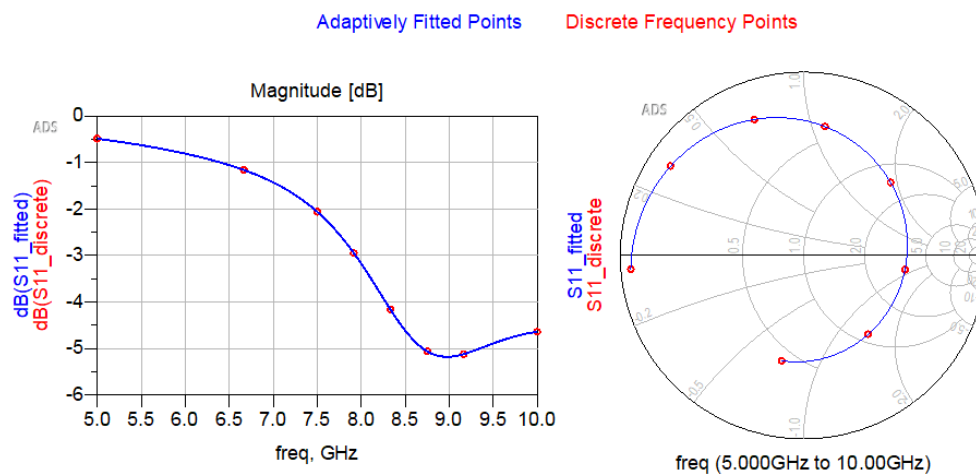


Figure 19: S parameter graph and Smith Chart for pin position y=0