

**Student: NG KA KI**

**Programme: BEngECE**

**Supervisor: Prof. Leung Kwok Wa**

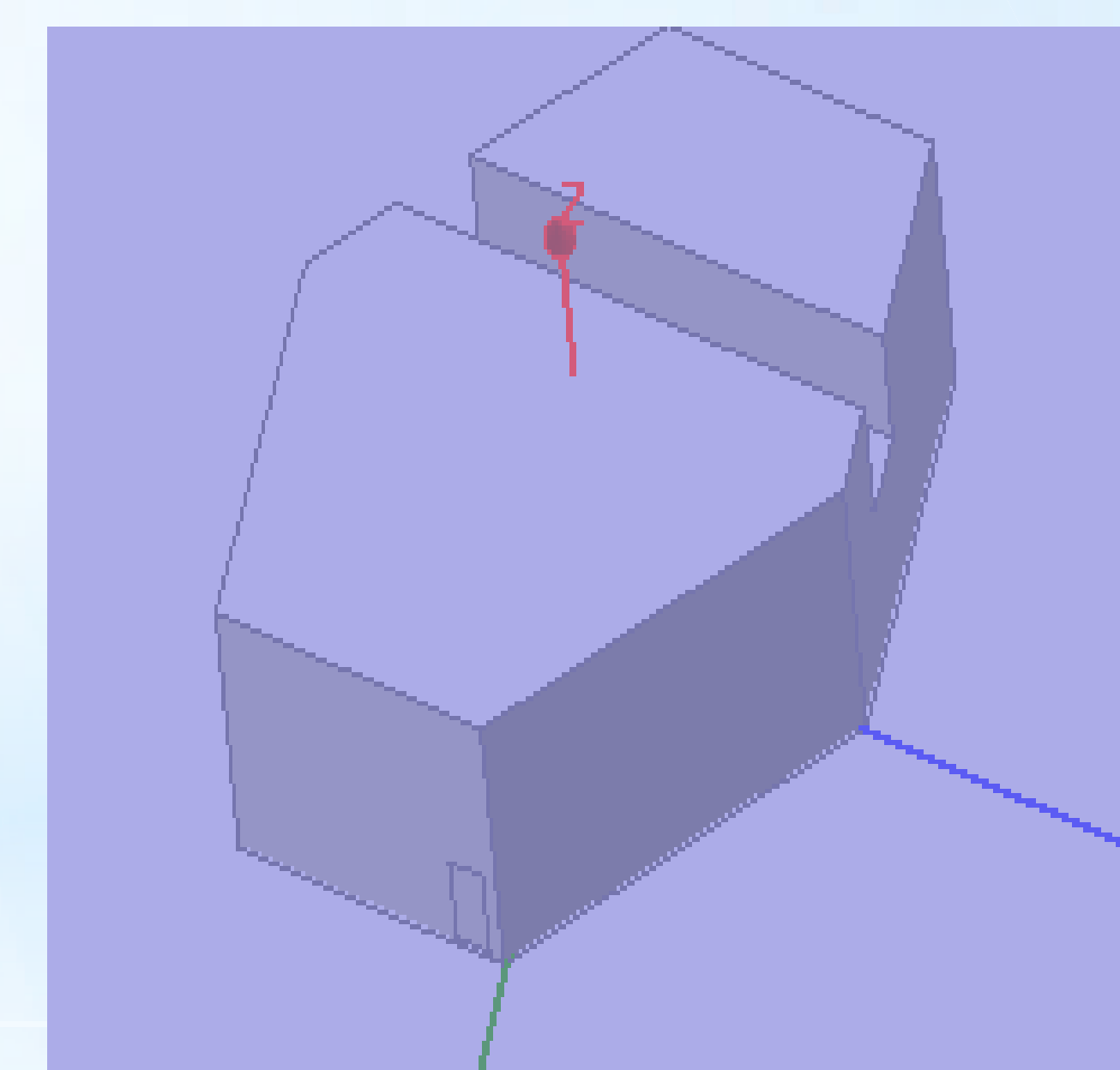
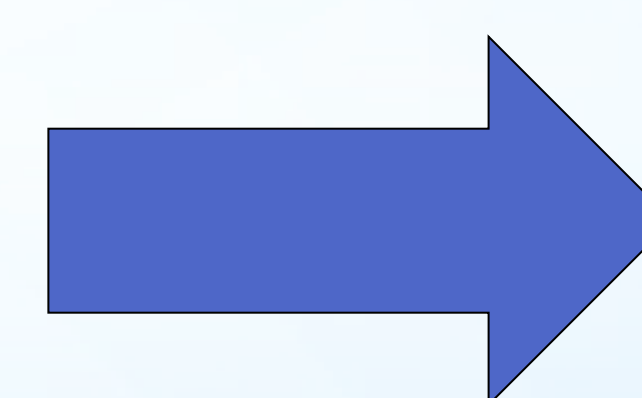
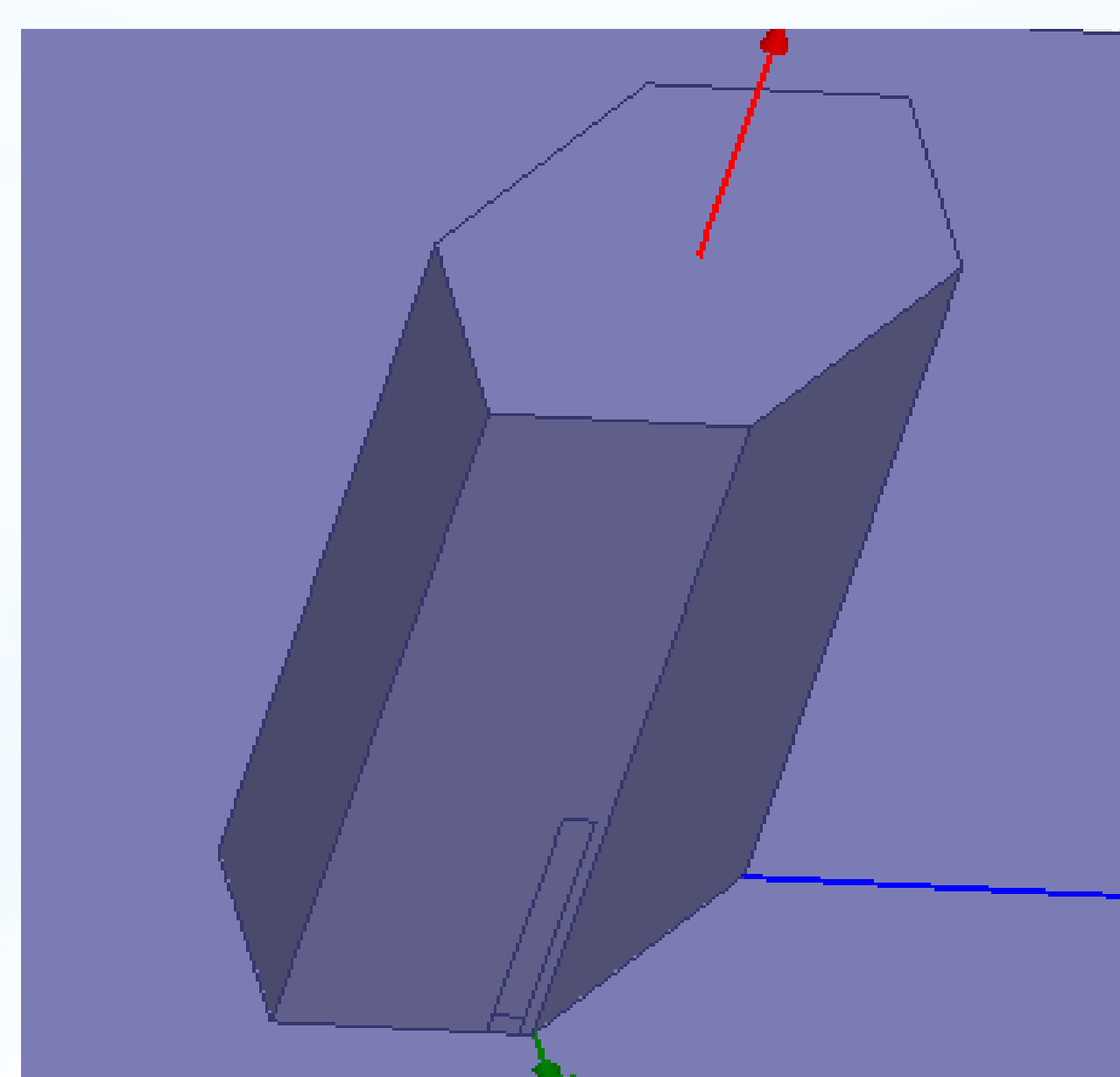
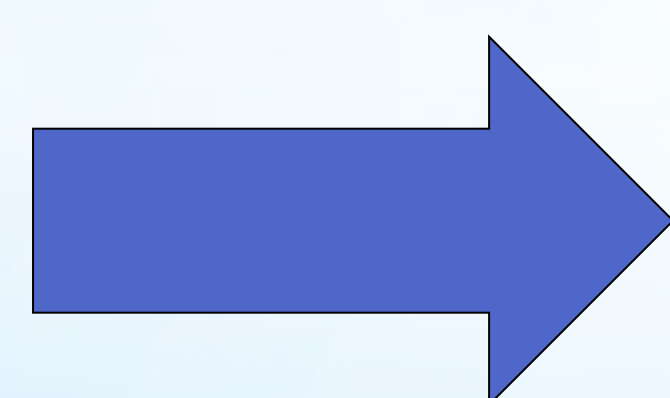
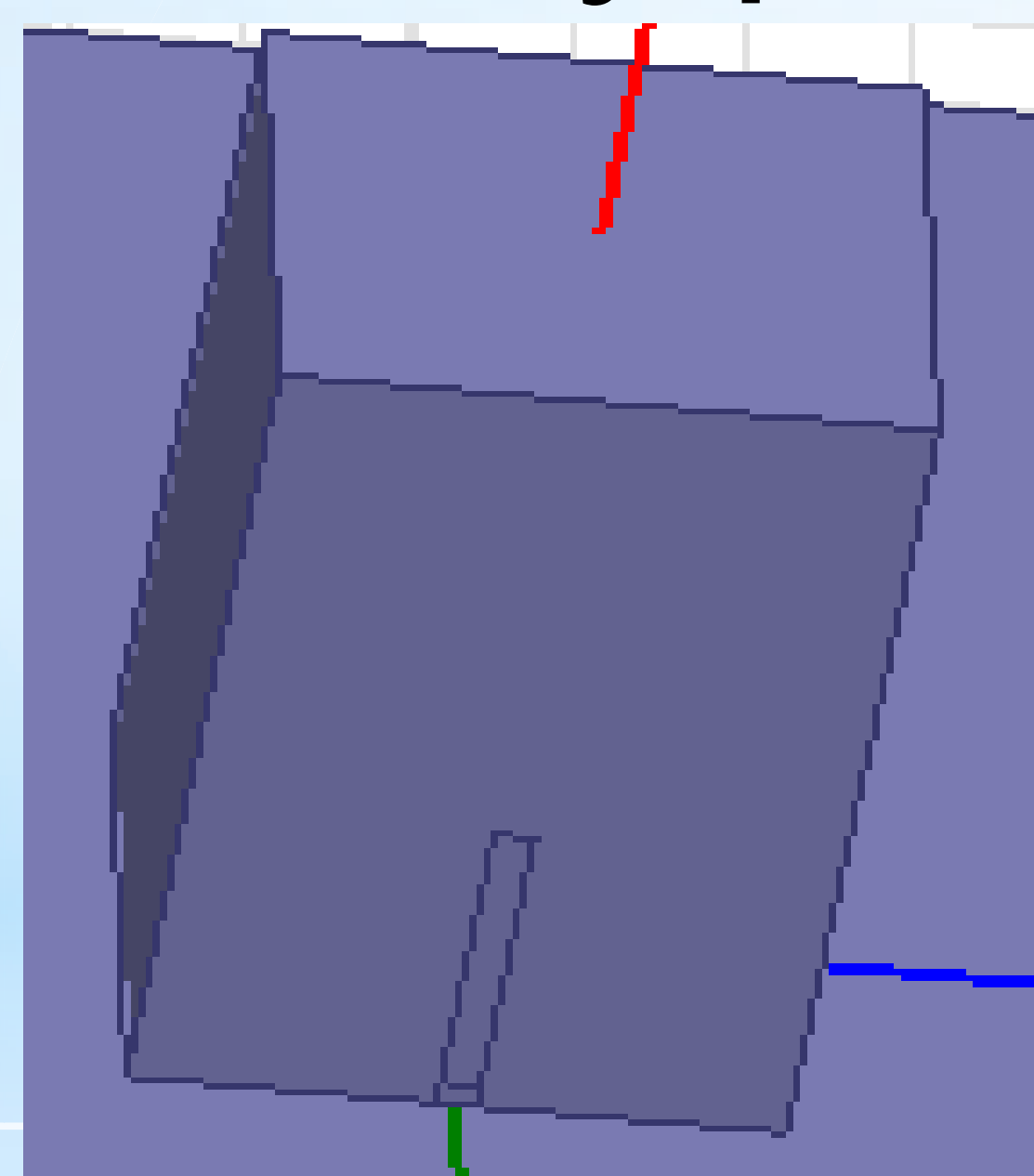
## Objective

- To design a dual mode circularly polarized Dielectric resonator antenna (DRA)

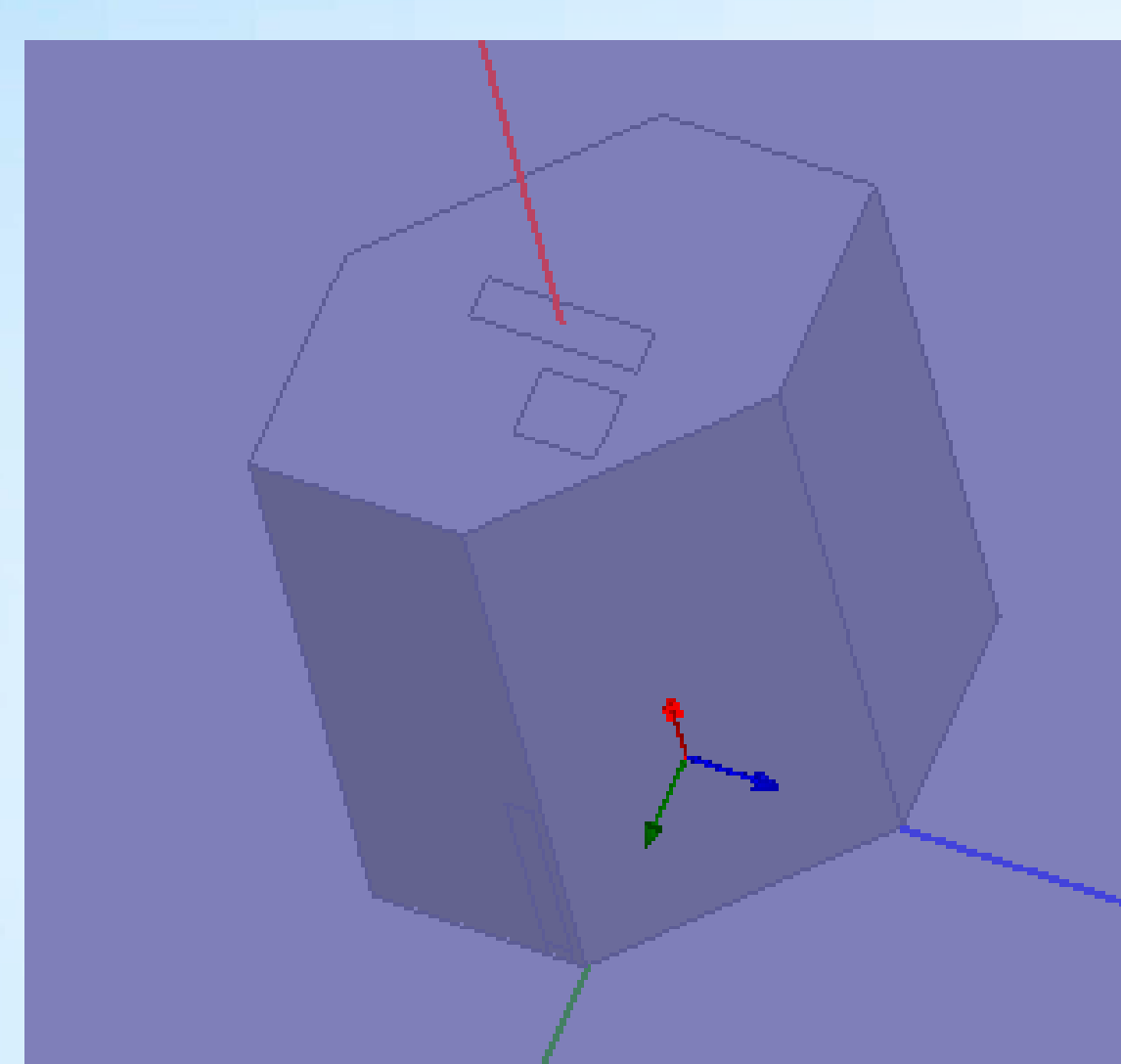


## Methodology

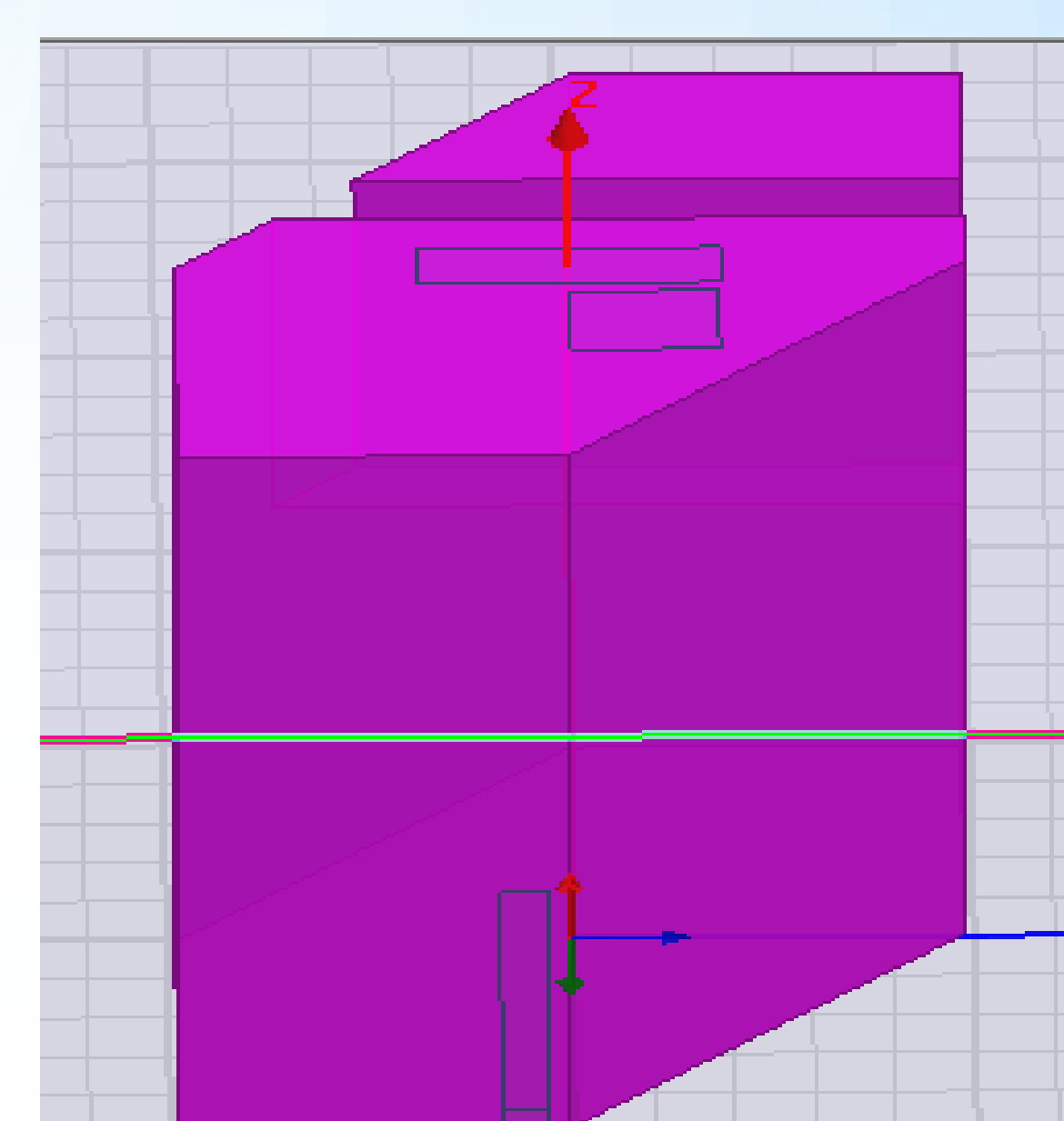
Linearly polarized → Cut two diagonal corners → Add the air gap



Add the metal strip

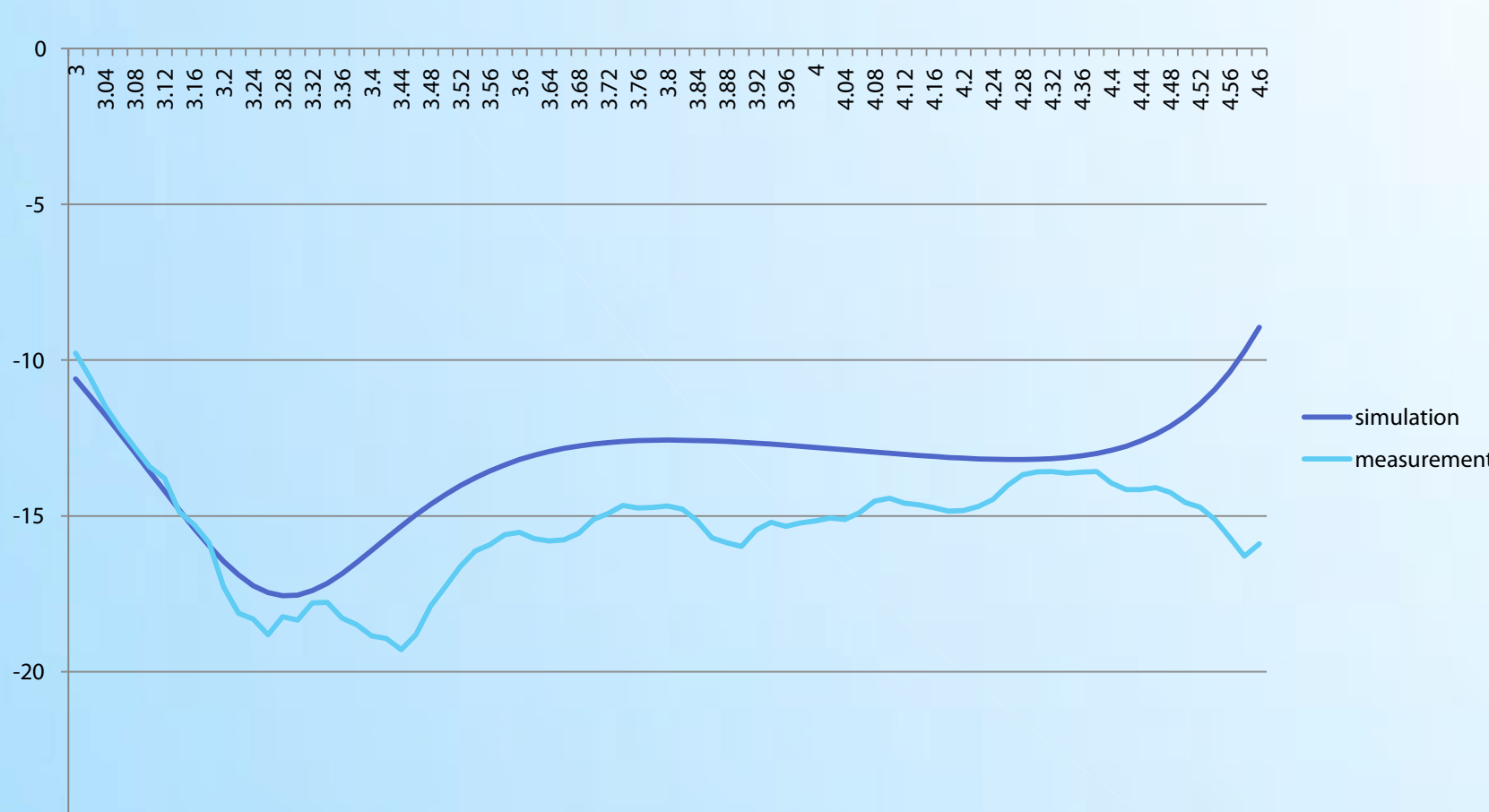


Final design

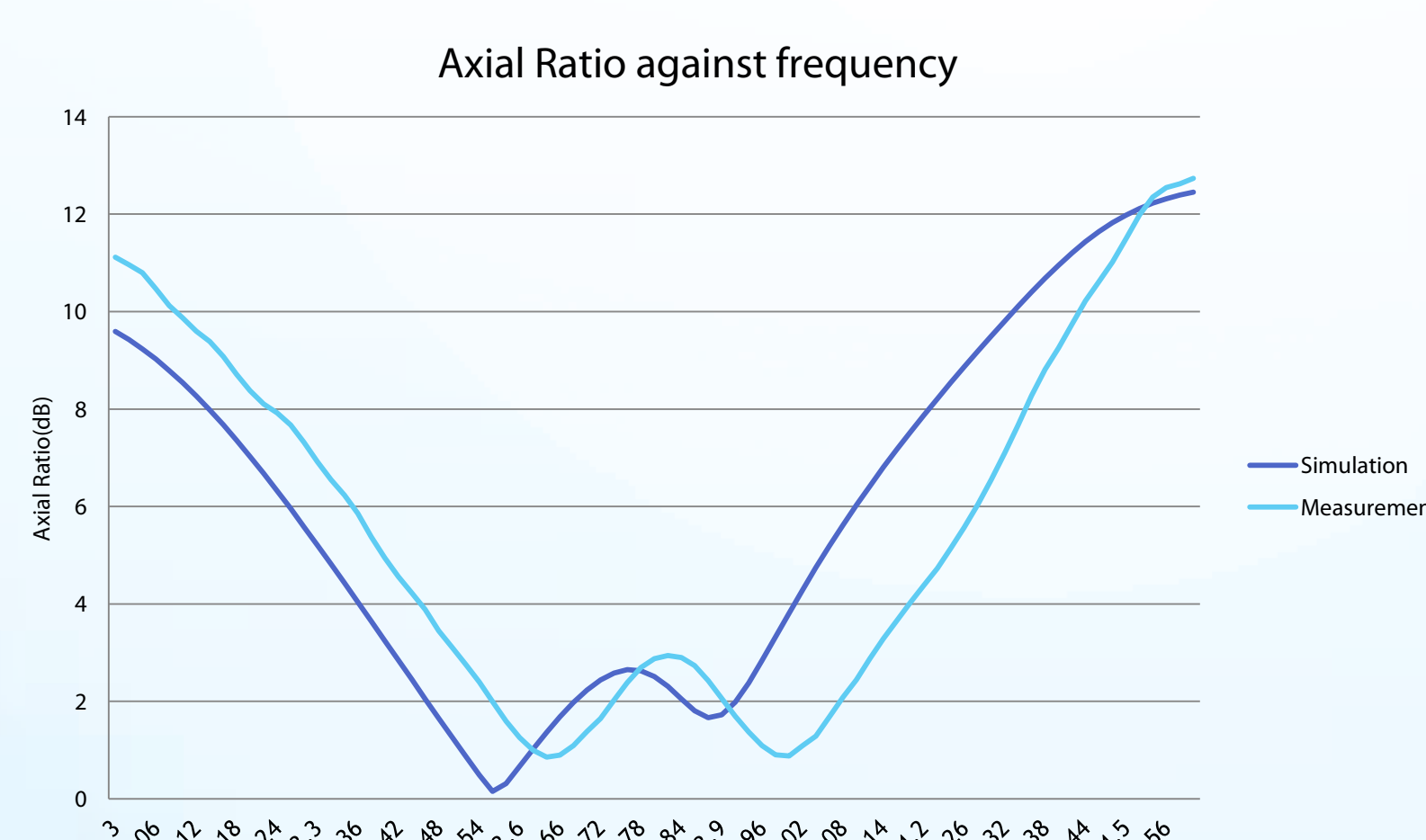


## Results

Return loss



Axial Ratio



TE<sub>111</sub> mode and TE<sub>113</sub> mode  
Return loss bandwidth=46%  
Axial Ratio Bandwidth =16.5%  
Gain=6.5dBi  
Efficiency =90%

**Application : Satellite Communication**