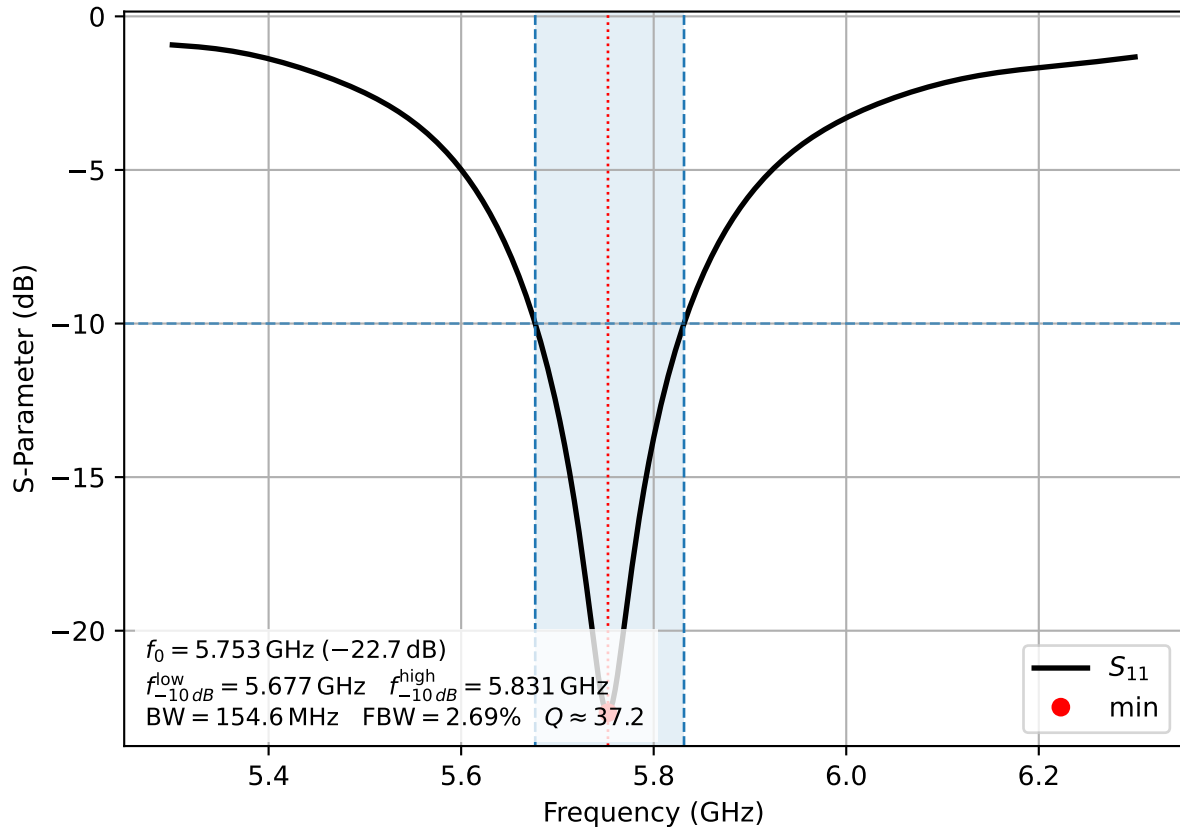
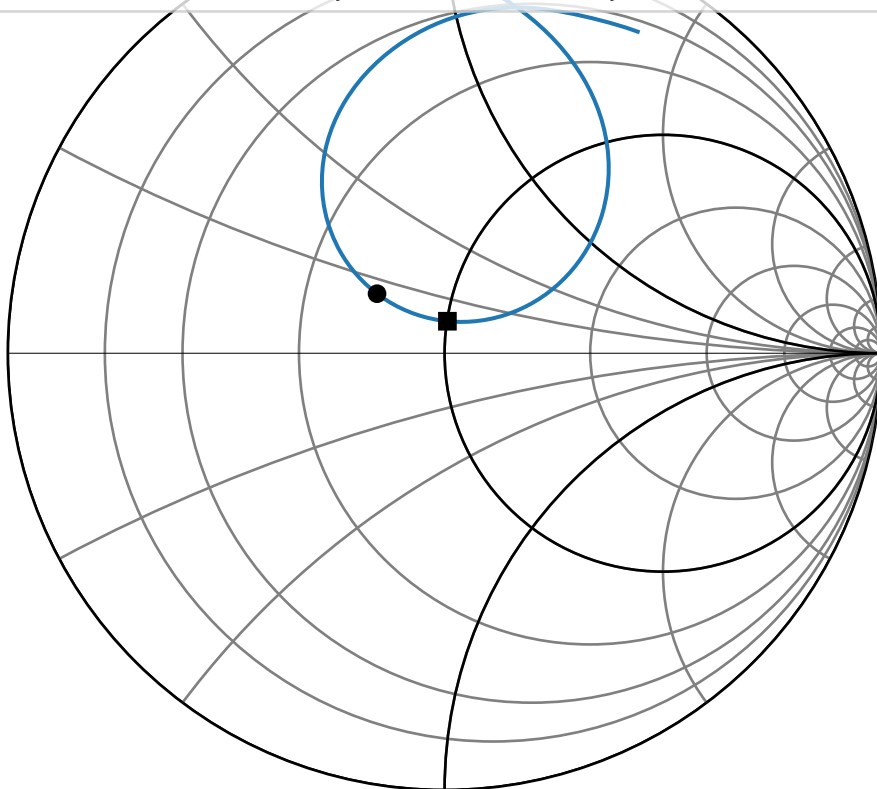


# Reflection Coefficient $S_{11}$

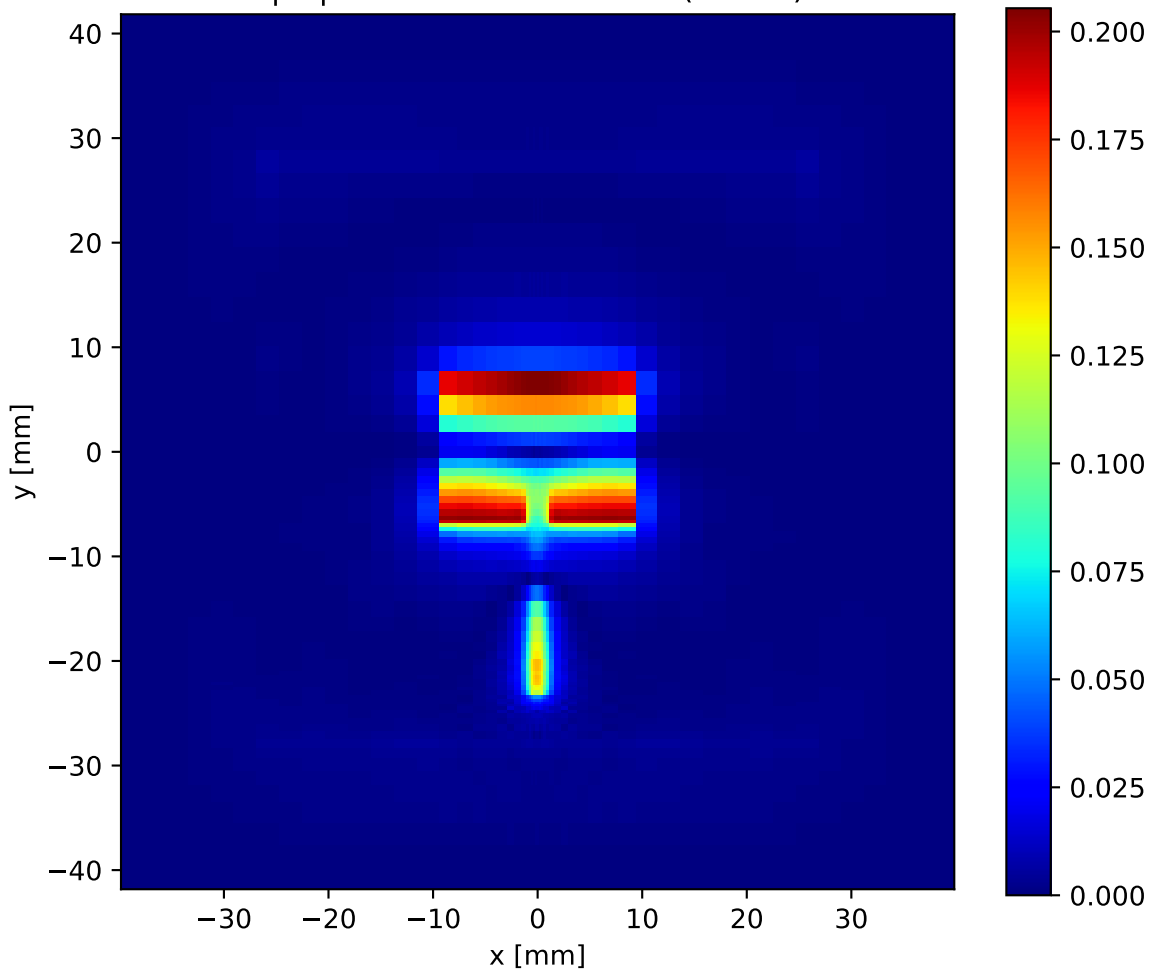


# Smith Chart

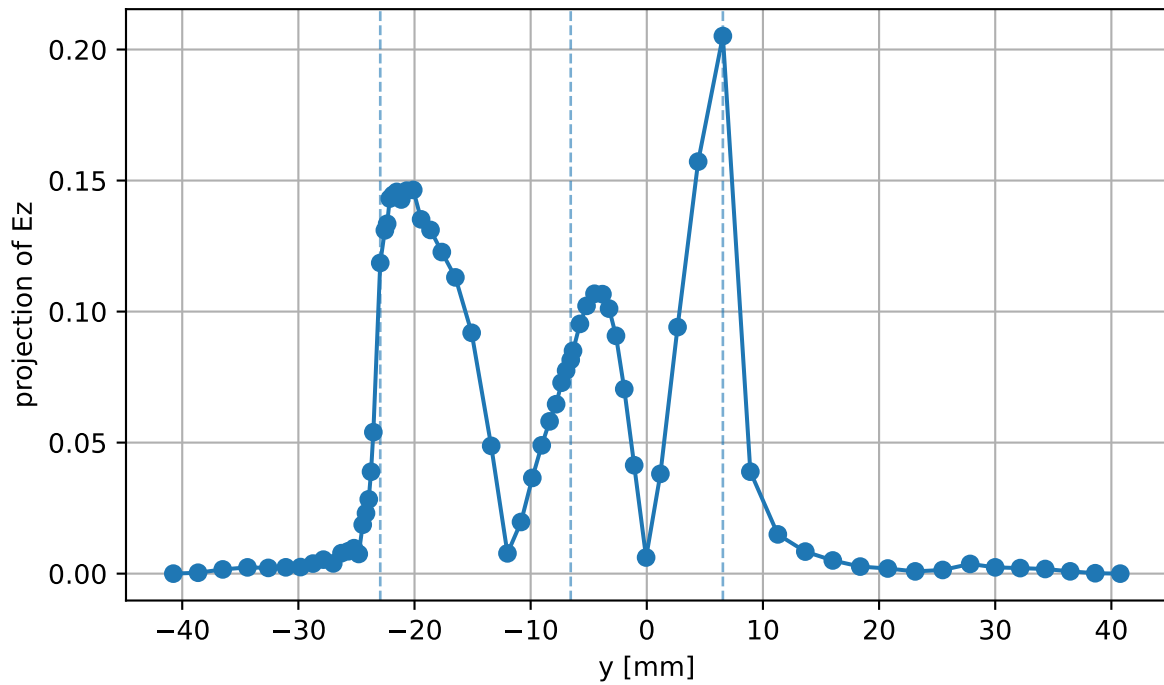
- S11 (Patch W=17.00 mm, L=13.10 mm)
- 5.80 GHz,  $S_{11} = -0.155 + 0.136j$ ,  $R = 70.83 + 20.17j$ ,  $G_{\text{norm}} = 1.31 - 0.37j$
- 5.75 GHz,  $S_{11} = 0.006 + 0.073j$ ,  $R_2 = 100.21 + 14.76j$ ,  $G_{2\text{norm}} = 0.98 - 0.14j$



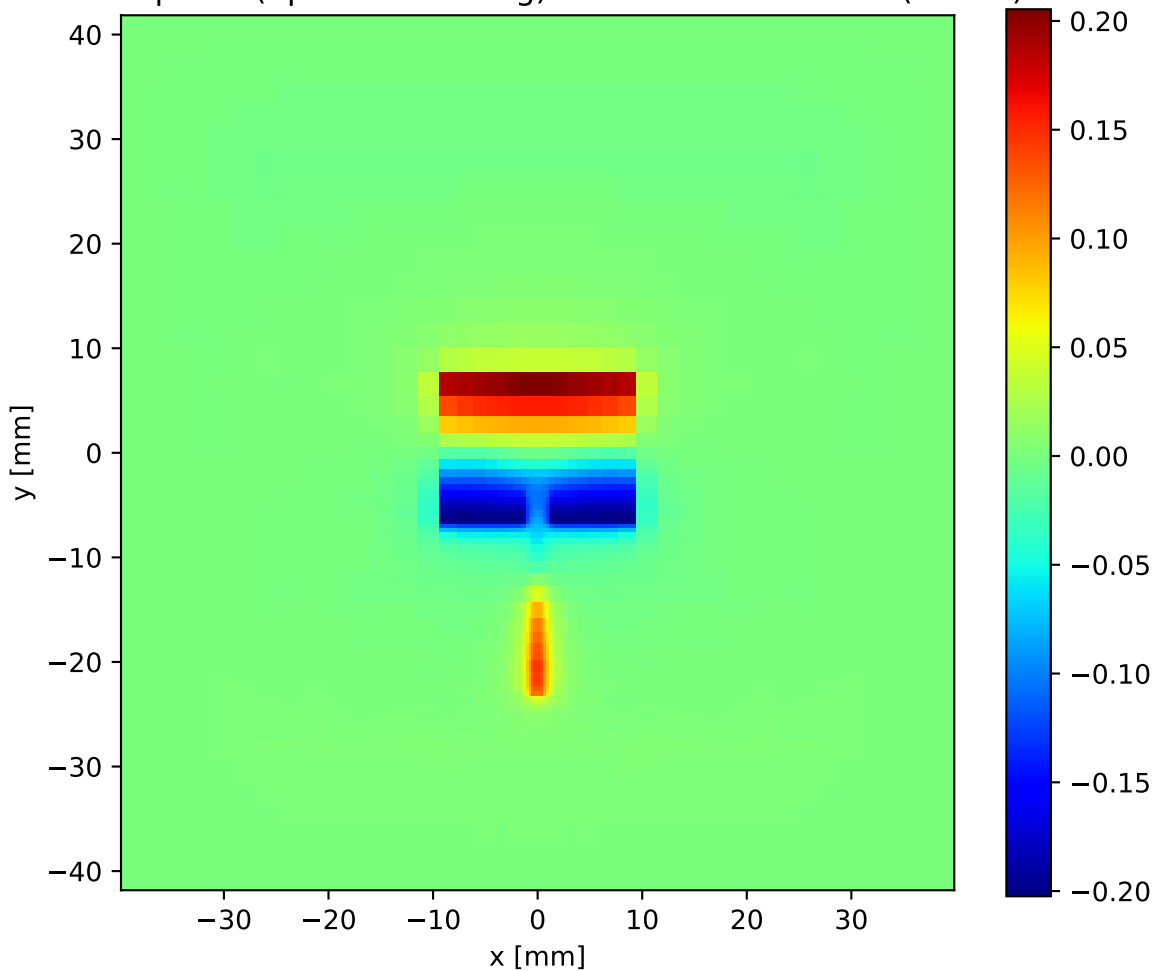
$|E_z|$  slice at  $z = 0.76$  mm (idx 15)



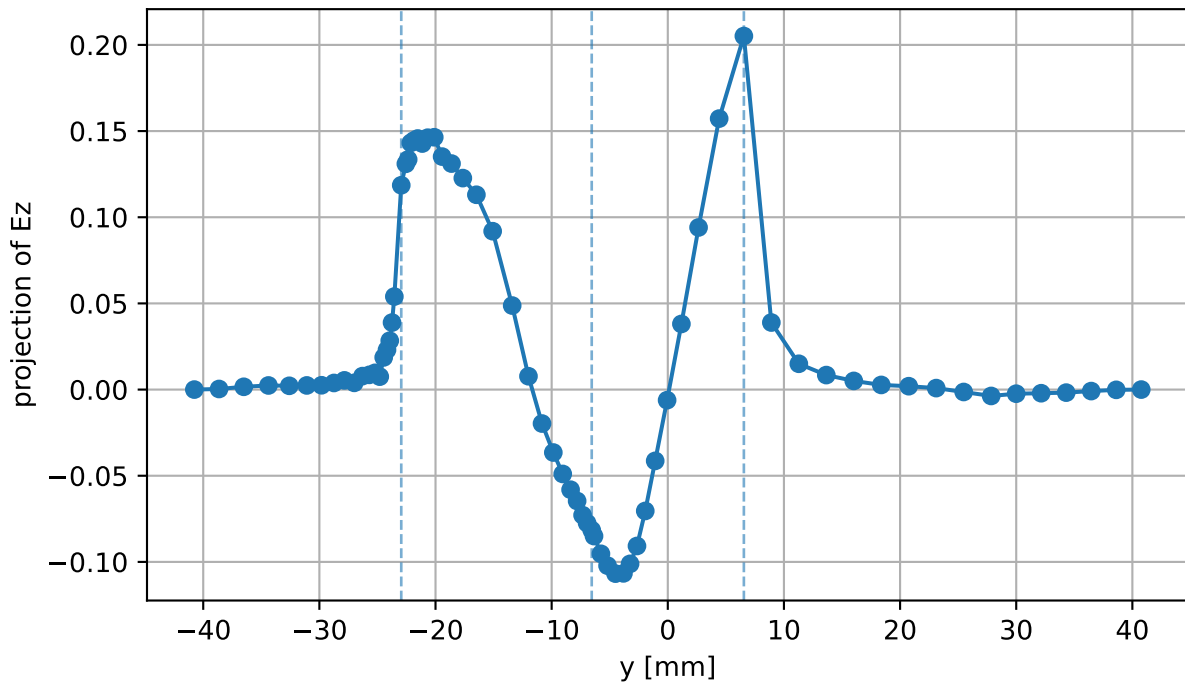
$|E_z|$  line cut along Y at  $x=0.10$  mm,  $z=0.76$  mm  
(idx  $x=27$ ,  $z=15$ )



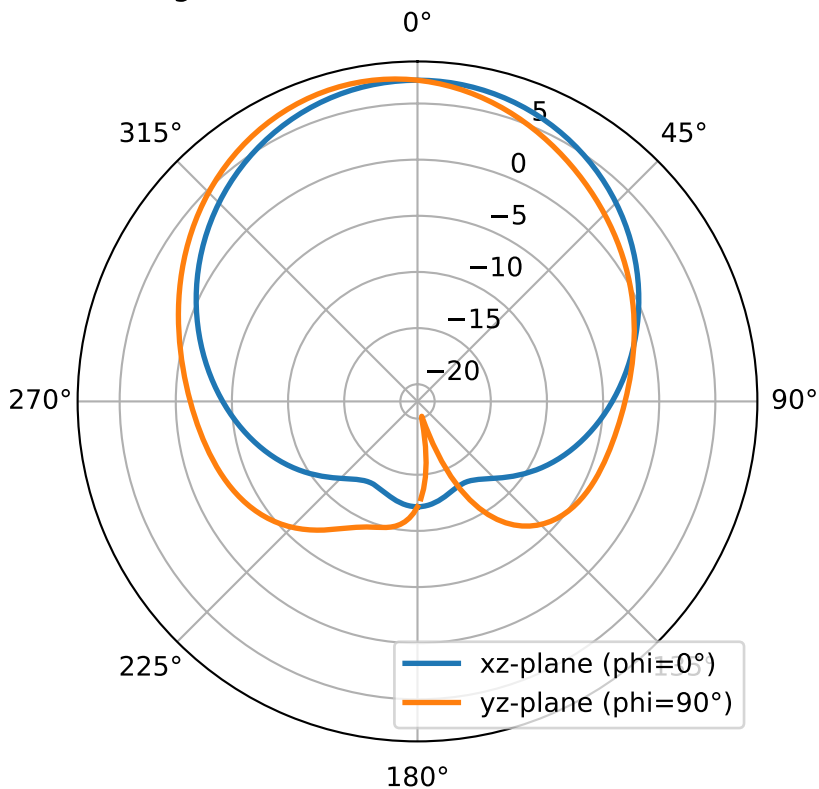
Ez snapshot (dphi=180.00deg) slice at z = 0.76 mm (idx 15)



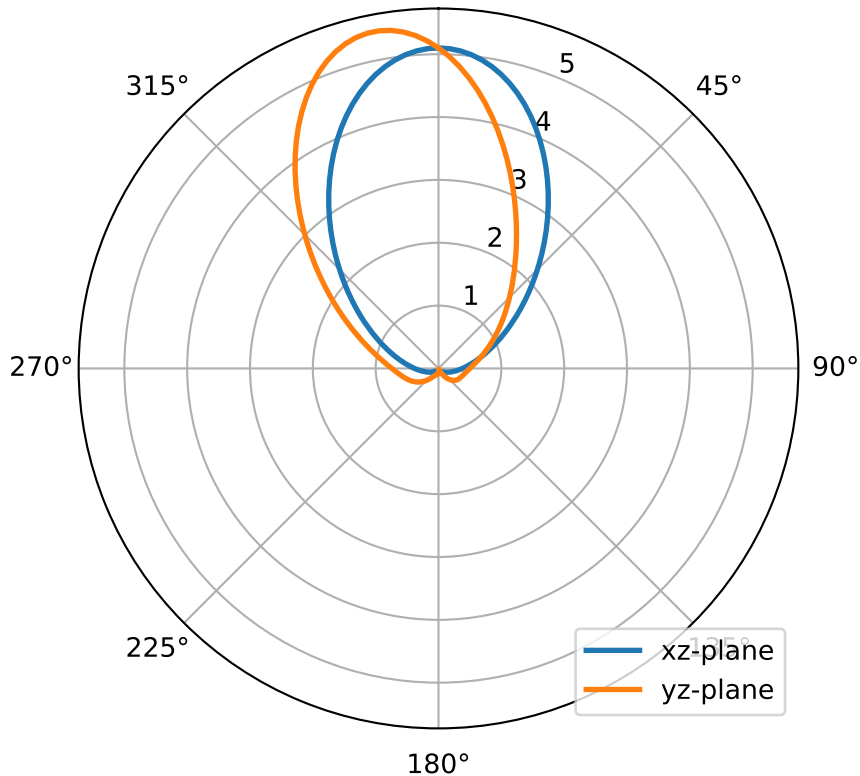
Ez snapshot (dphi=180.00deg) line cut along Y at x=0.10 mm, z=0.76 mm  
(idx x=27, z=15)



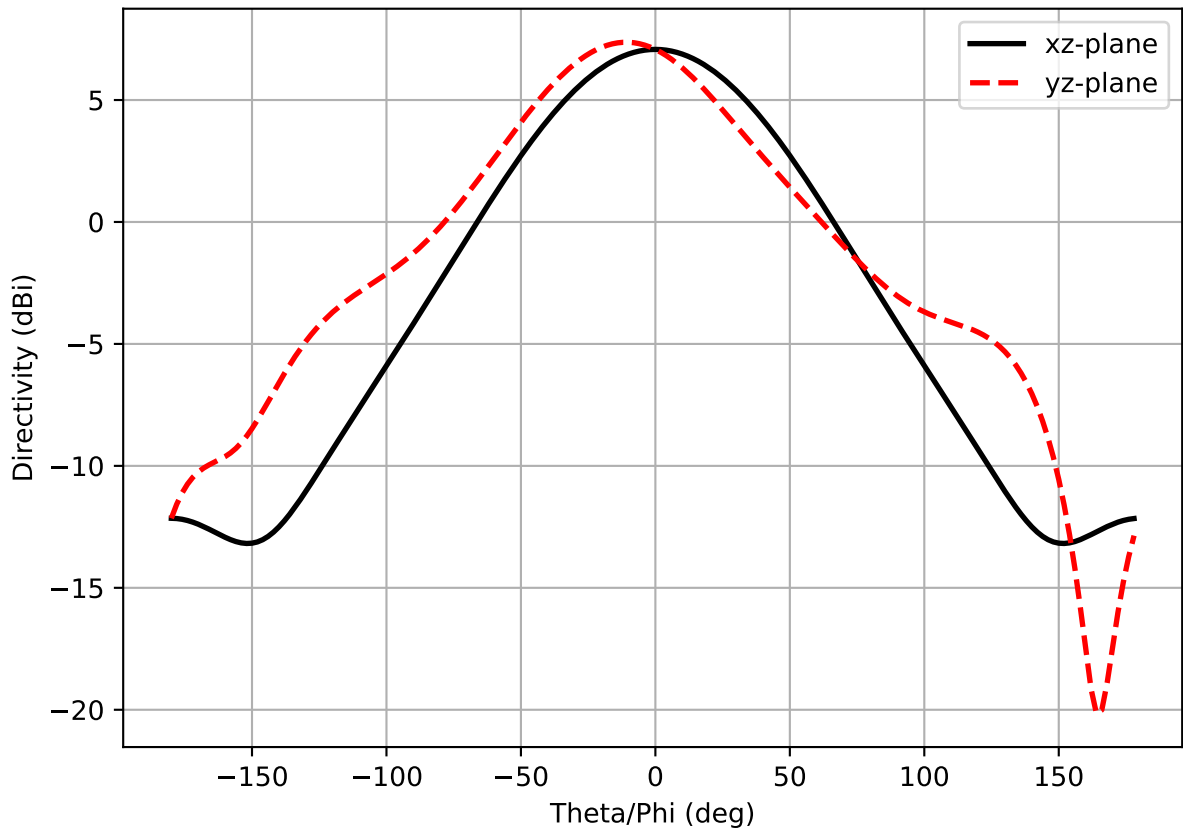
$f = 5.753 \text{ GHz}$  — Directivity (dB)  
 $D_{\text{max}} (\text{integrated}) \approx 7.37 \text{ dB}$ ,  $\text{nf2ff } D_{\text{max}} = 7.37 \text{ dB}$



Frequency: 5.753 GHz — Directivity (linear). Dmax: 5.455



Frequency: 5.753 GHz



3D Directivity Pattern  
 $f = 5.753 \text{ GHz}$ ,  $D_{\text{max}} = 7.37 \text{ dBi}$

