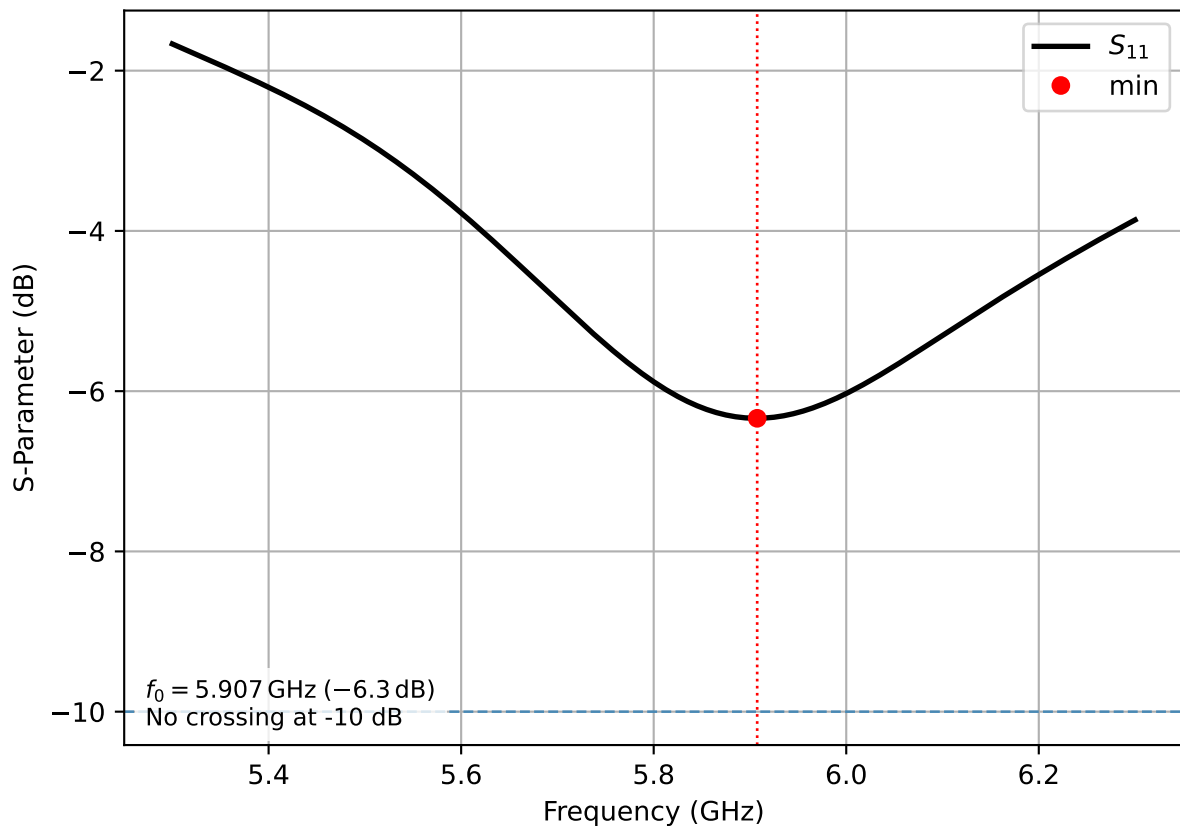


Reflection Coefficient  $S_{11}$

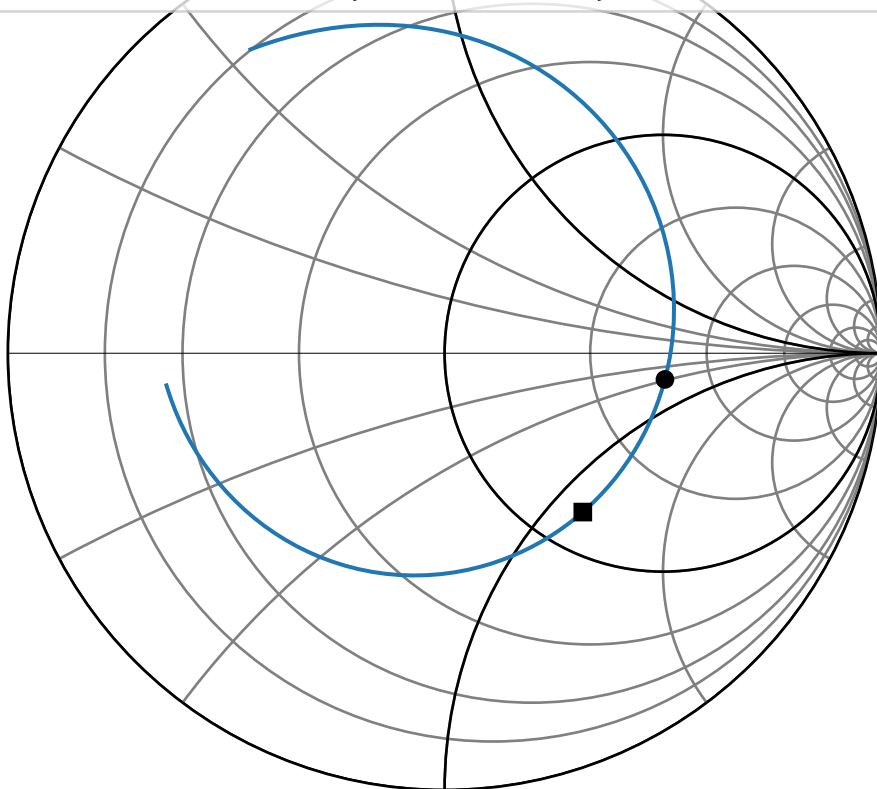


# Smith Chart

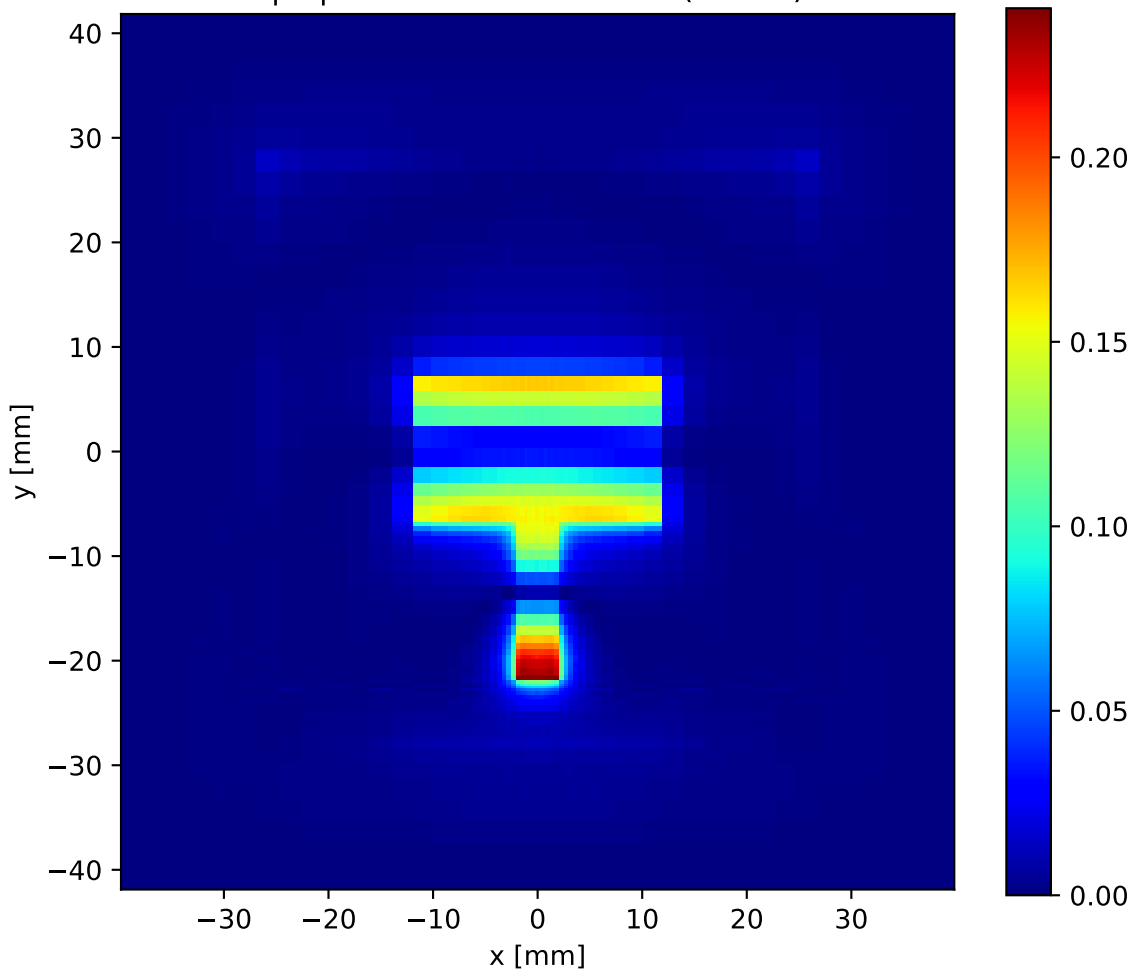
— S11 (Patch W=22.00 mm, L=13.00 mm)

● 5.80 GHz,  $S_{11}=0.504-0.060j$ ,  $R=148.88-24.06j$ ,  $G_{\text{norm}}=0.33+0.05j$

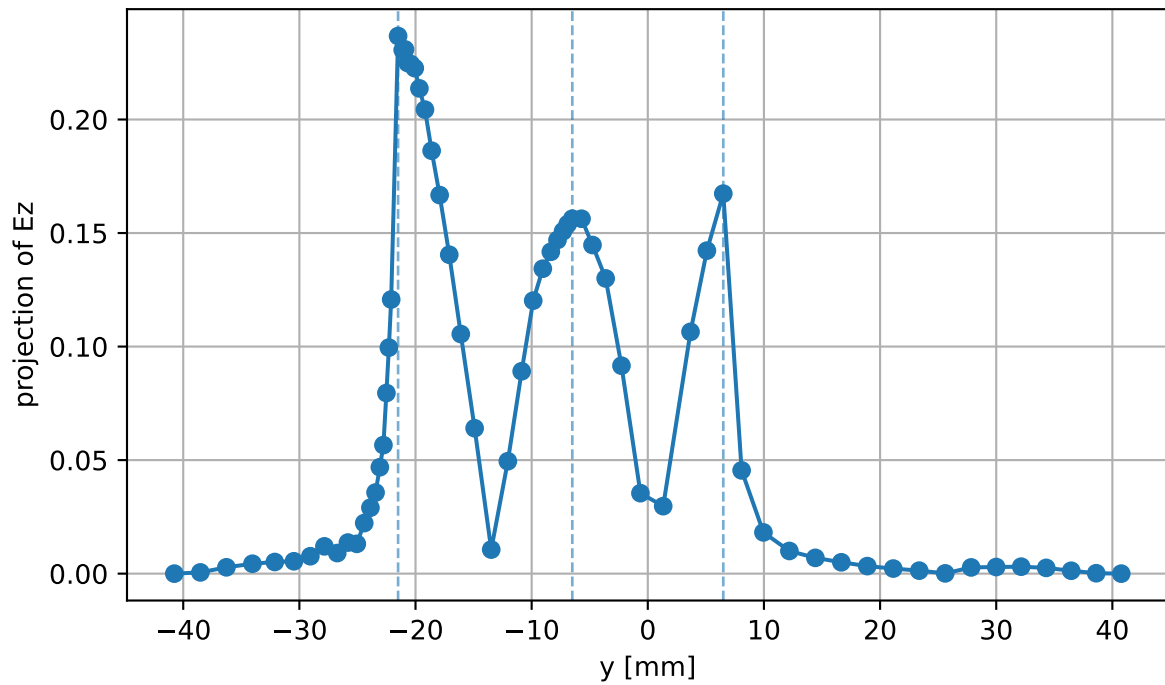
■ 5.91 GHz,  $S_{11}=0.316-0.364j$ ,  $R_2=64.03-60.65j$ ,  $G_{2\text{norm}}=0.41+0.39j$



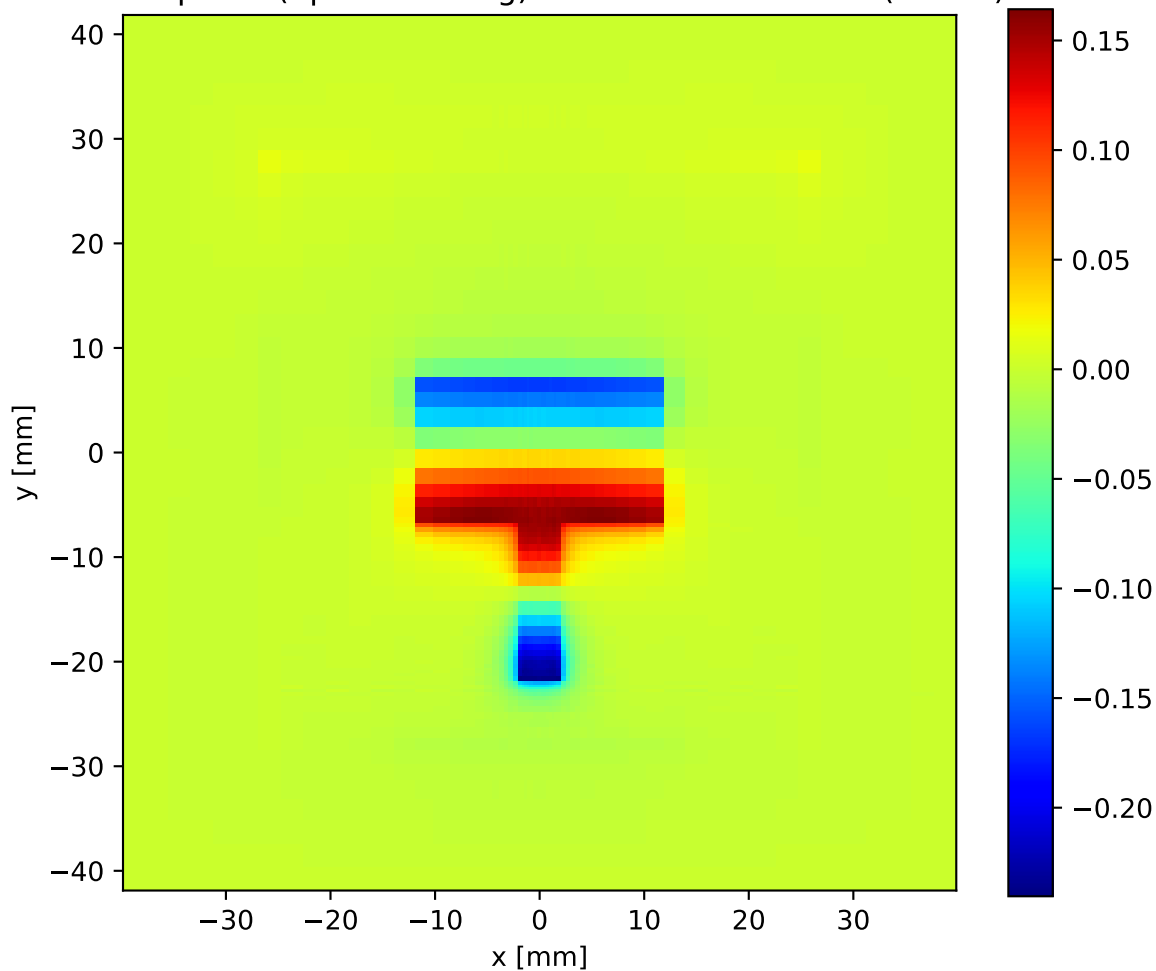
$|E_z|$  slice at  $z = 0.76$  mm (idx 15)



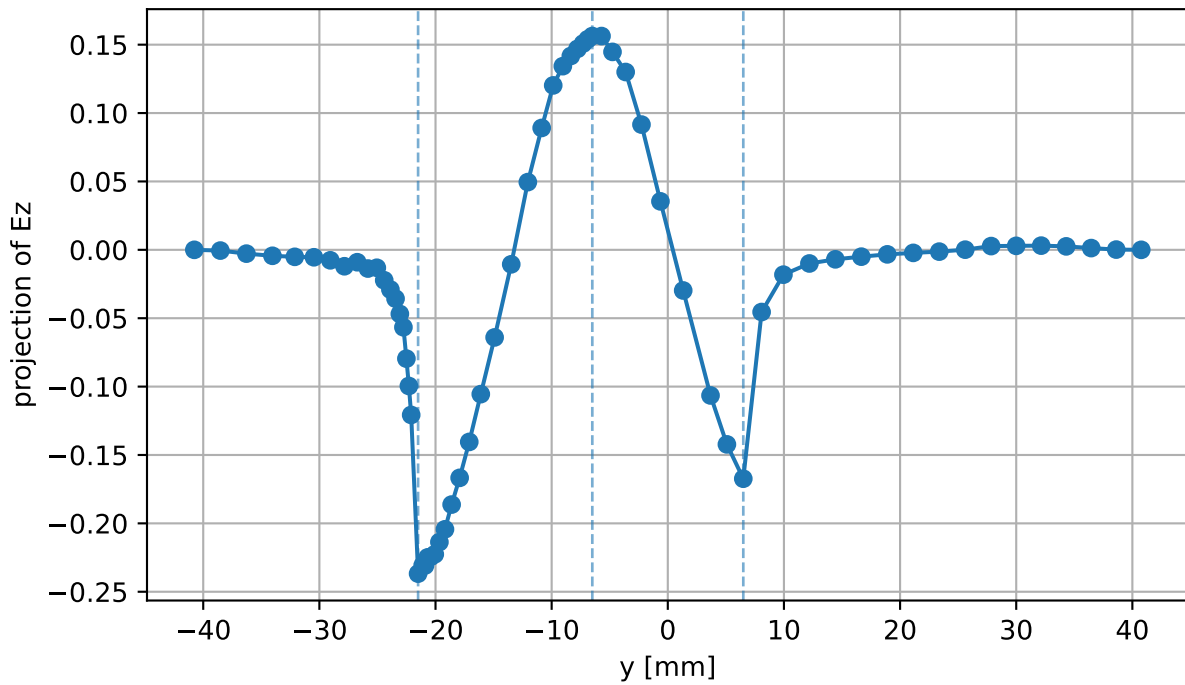
$|E_z|$  line cut along Y at  $x=0.00$  mm,  $z=0.76$  mm  
(idx x=30, z=15)



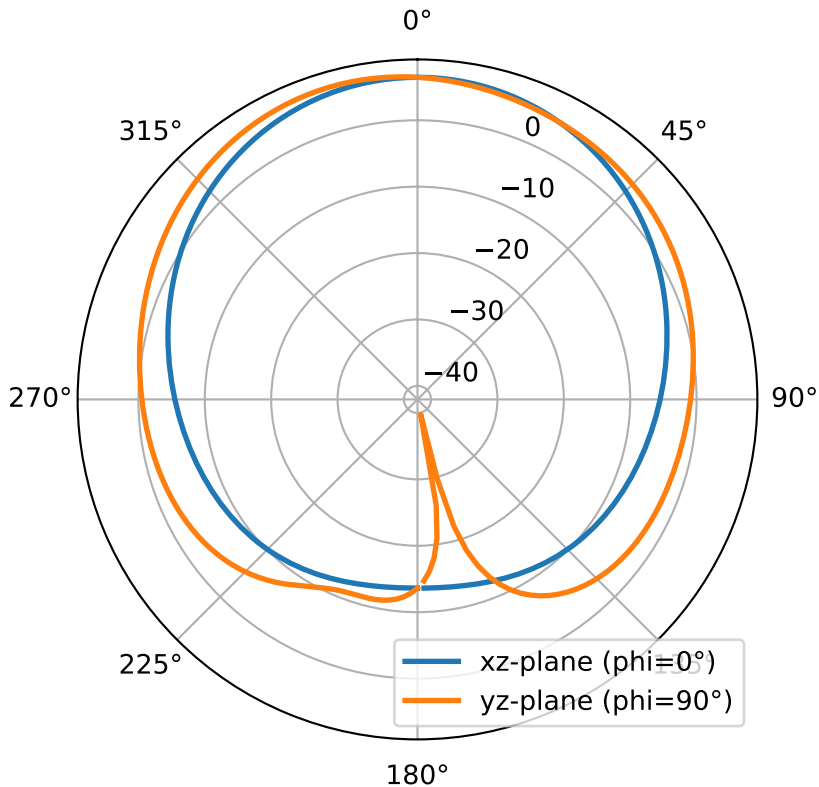
Ez snapshot (dphi=0.00deg) slice at  $z = 0.76$  mm (idx 15)



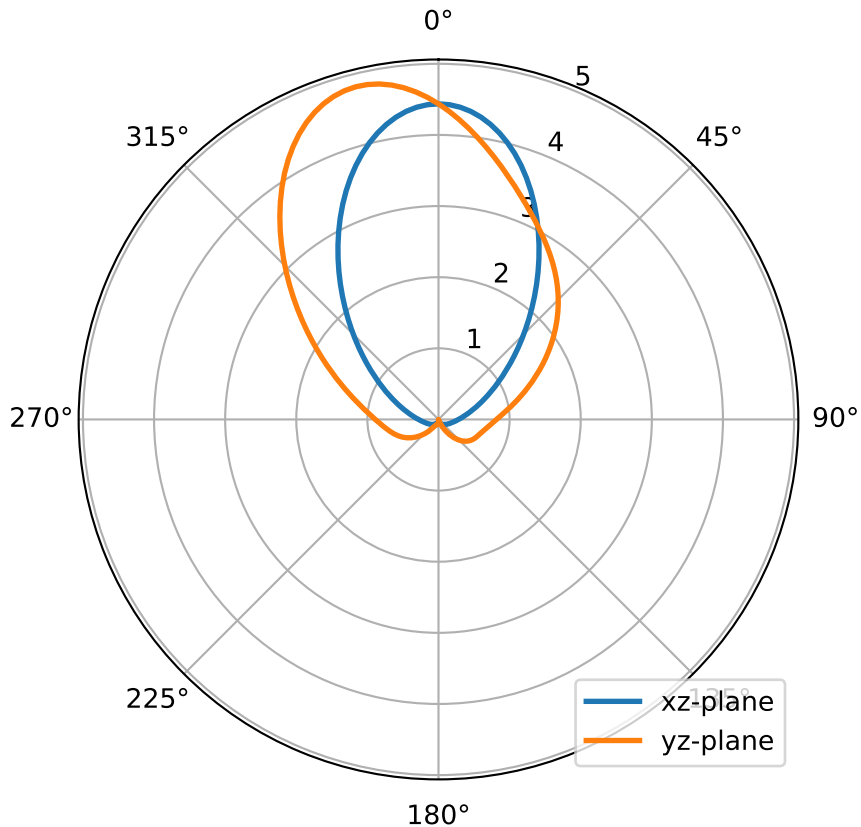
Ez snapshot (dphi=0.00deg) line cut along Y at x=0.00 mm, z=0.76 mm  
(idx x=30, z=15)



$f = 5.907 \text{ GHz}$  — Directivity (dB)  
 $D_{\text{max}} (\text{integrated}) \approx 6.83 \text{ dB}$ ,  $\text{nf2ff } D_{\text{max}} = 6.83 \text{ dB}$



Frequency: 5.907 GHz — Directivity (linear). Dmax: 4.820



Frequency: 5.907 GHz  
xz-plane: HPBW=75.6°  
yz-plane: HPBW=99.4°

