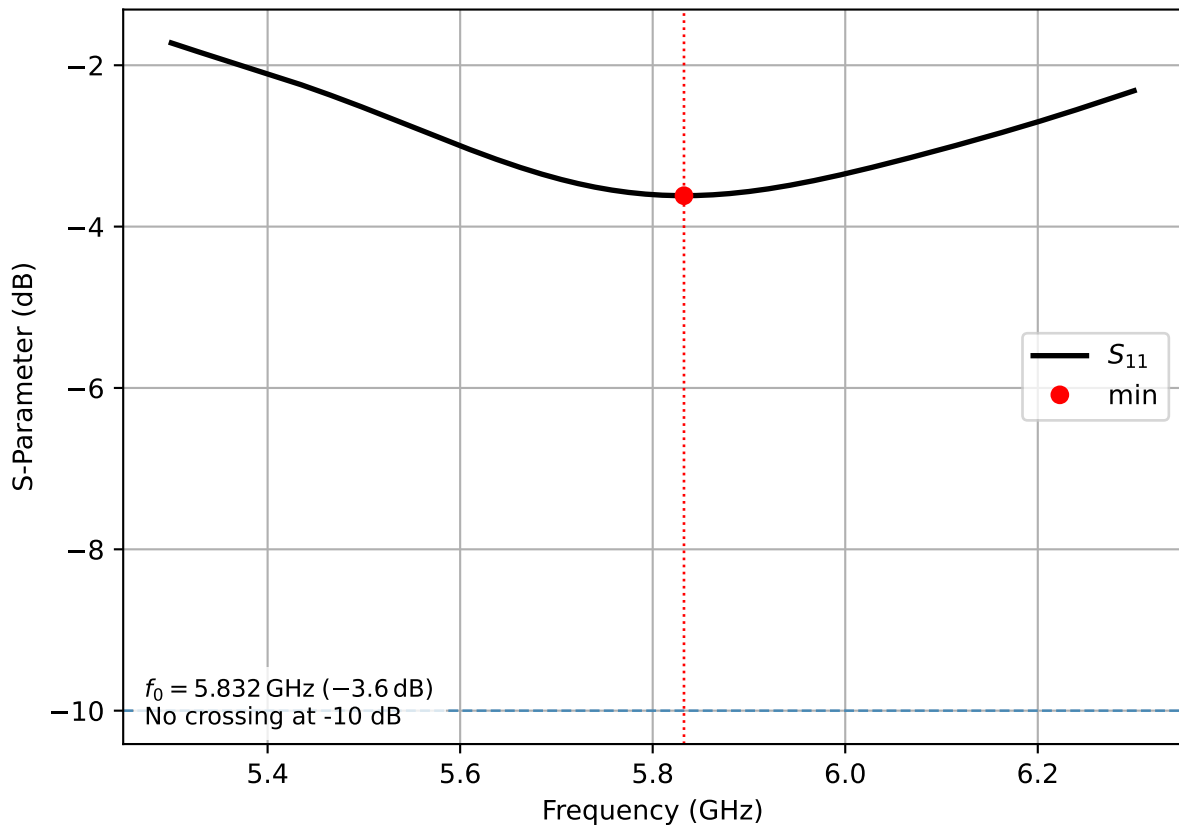


# Reflection Coefficient $S_{11}$

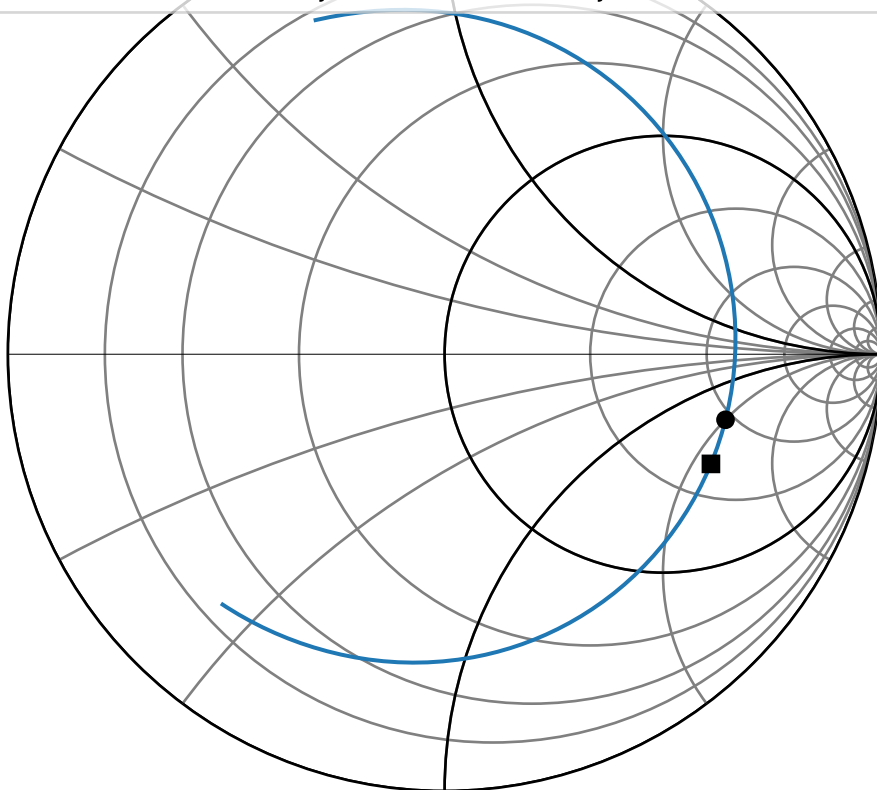


# Smith Chart

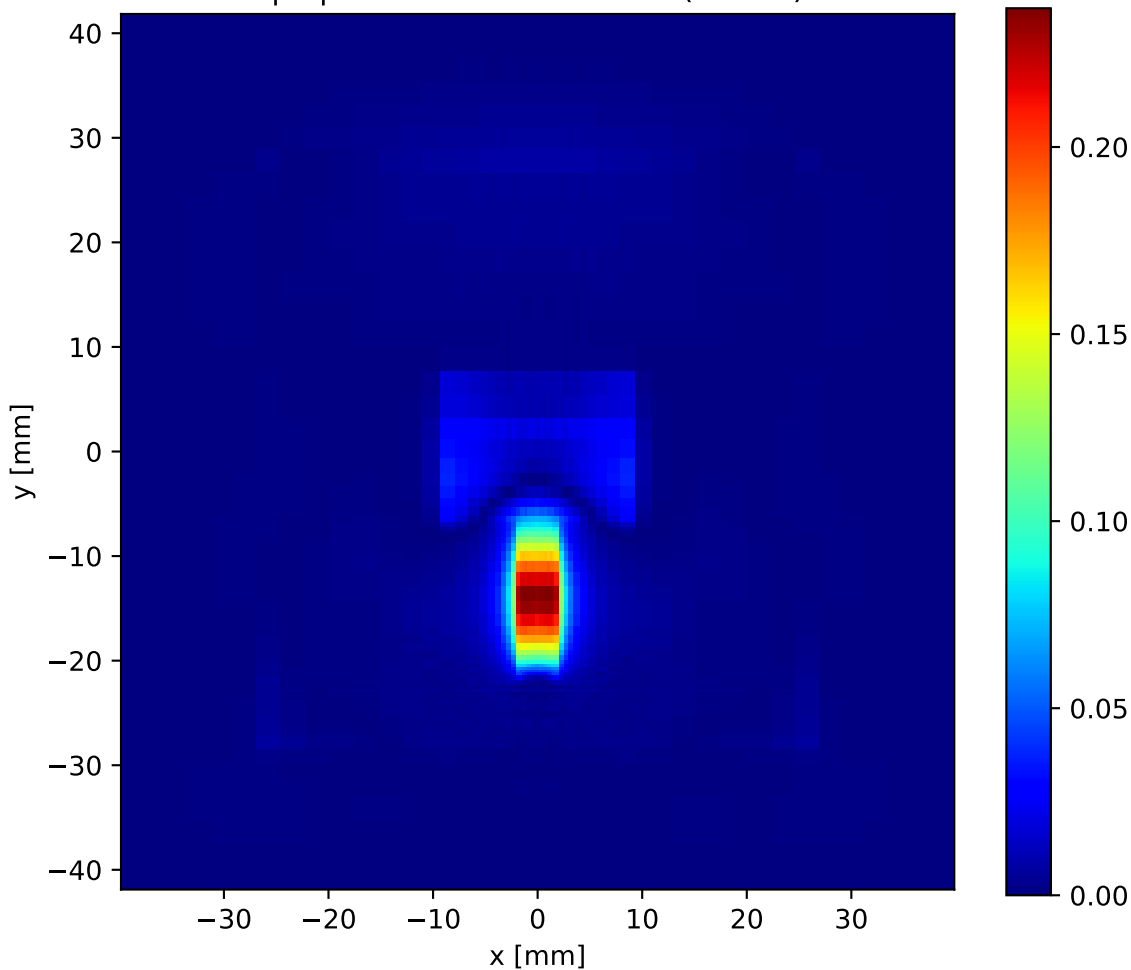
— S11 (Patch W=17.10 mm, L=13.10 mm)

● 5.80 GHz,  $S_{11}=0.643-0.150j$ ,  $R=188.10-100.11j$ ,  $G_{\text{norm}}=0.21+0.11j$

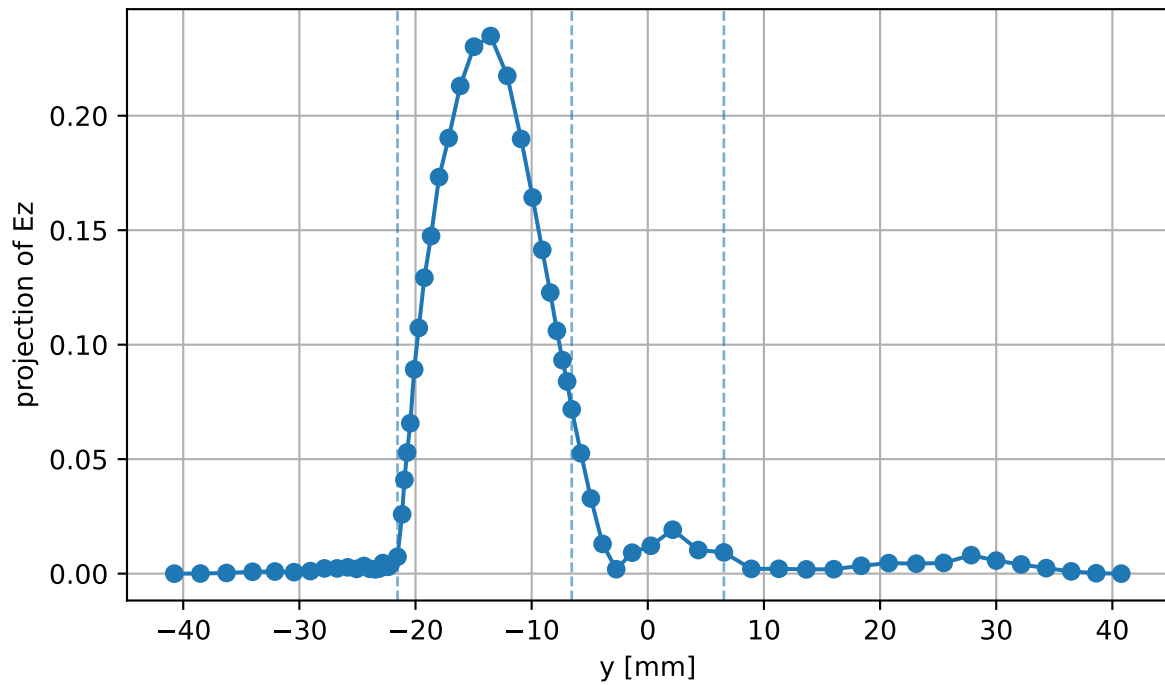
■ 5.83 GHz,  $S_{11}=0.610-0.251j$ ,  $R_2=131.24-116.59j$ ,  $G_{2\text{norm}}=0.21+0.19j$



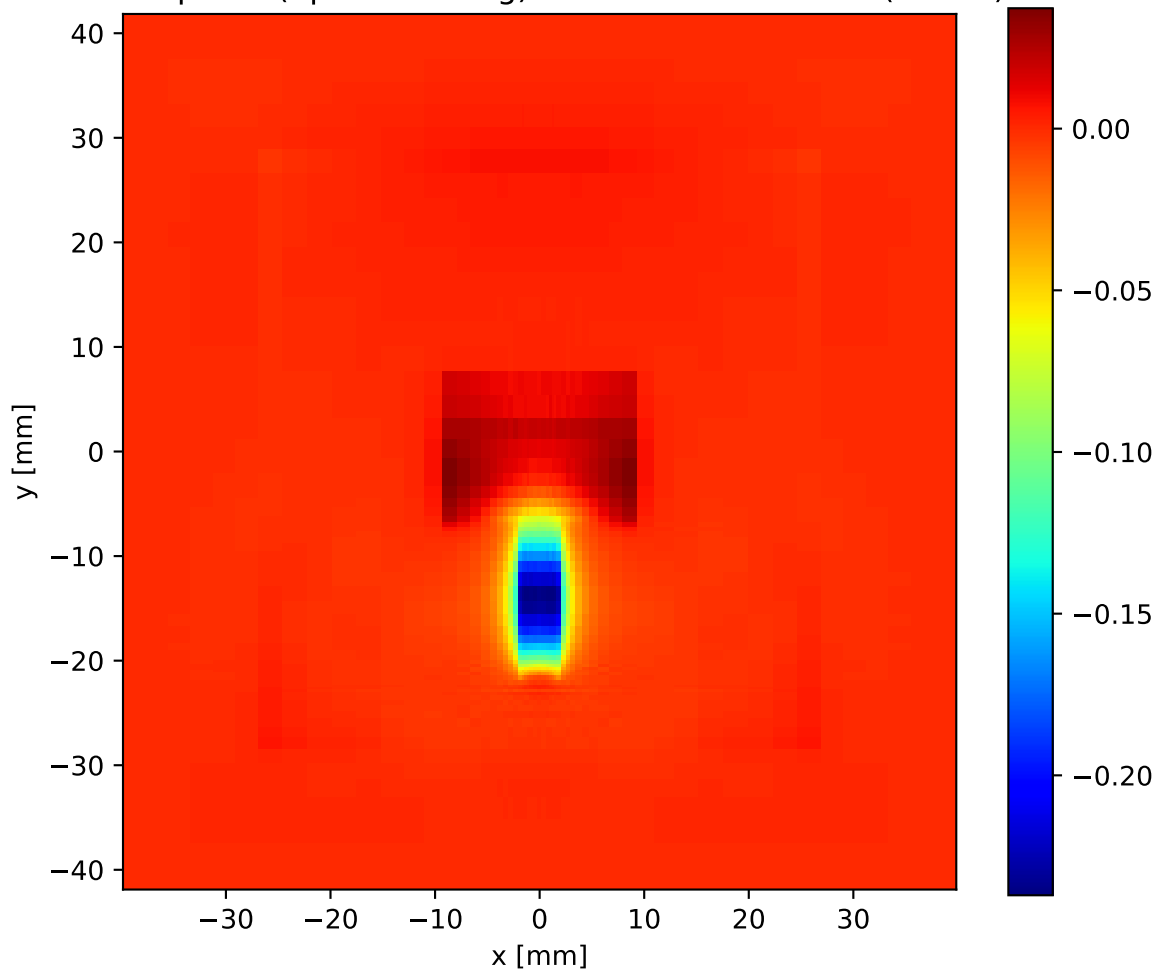
$|E_z|$  slice at  $z = 0.76$  mm (idx 15)



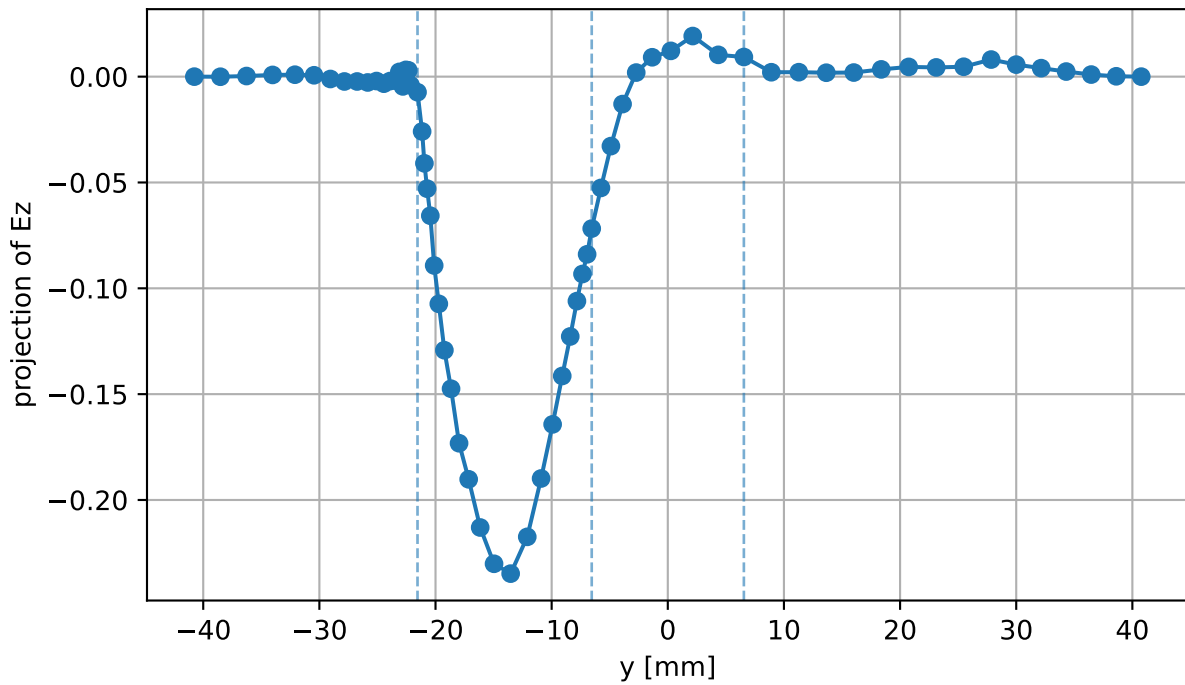
$|E_z|$  line cut along Y at  $x=0.00$  mm,  $z=0.76$  mm  
(idx x=29, z=15)



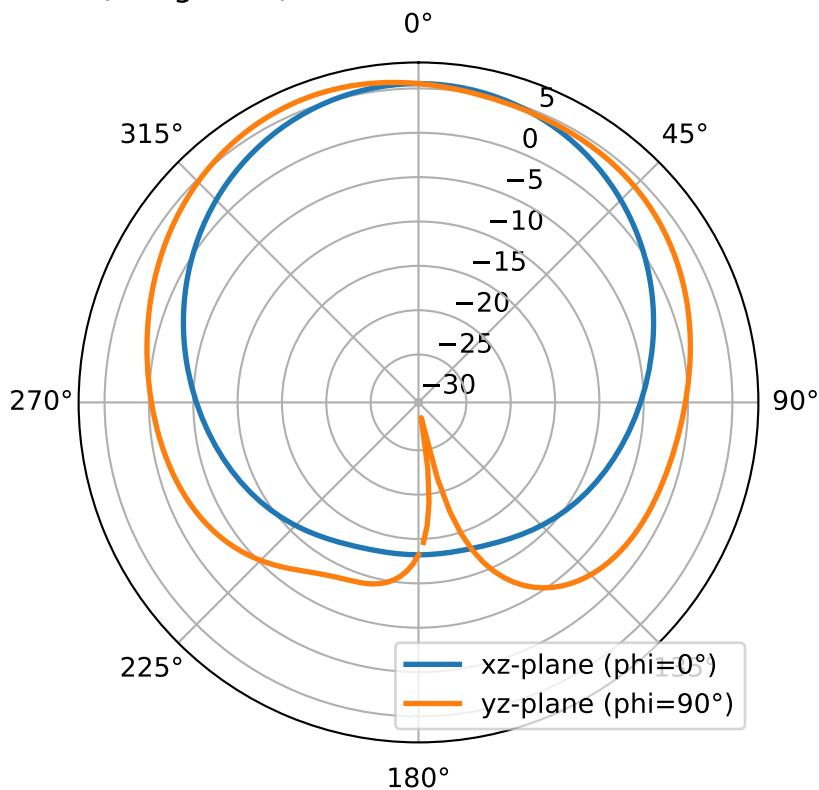
Ez snapshot (dphi=0.00deg) slice at  $z = 0.76$  mm (idx 15)



Ez snapshot (dphi=0.00deg) line cut along Y at x=0.00 mm, z=0.76 mm  
(idx x=29, z=15)

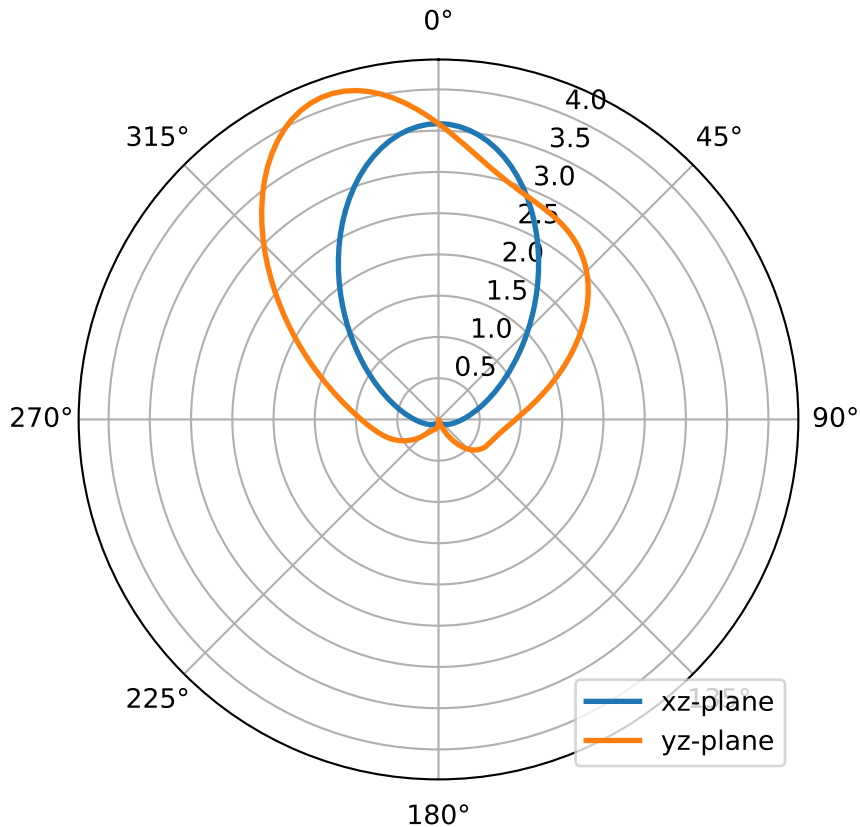


$f = 5.832 \text{ GHz}$  — Directivity (dB)  
 $D_{\text{max}} (\text{integrated}) \approx 6.19 \text{ dB}$ ,  $\text{nf2ff } D_{\text{max}} = 6.19 \text{ dB}$





Frequency: 5.832 GHz — Directivity (linear). Dmax: 4.155



Frequency: 5.832 GHz  
xz-plane: HPBW=82.3°  
yz-plane: HPBW=116.9°

