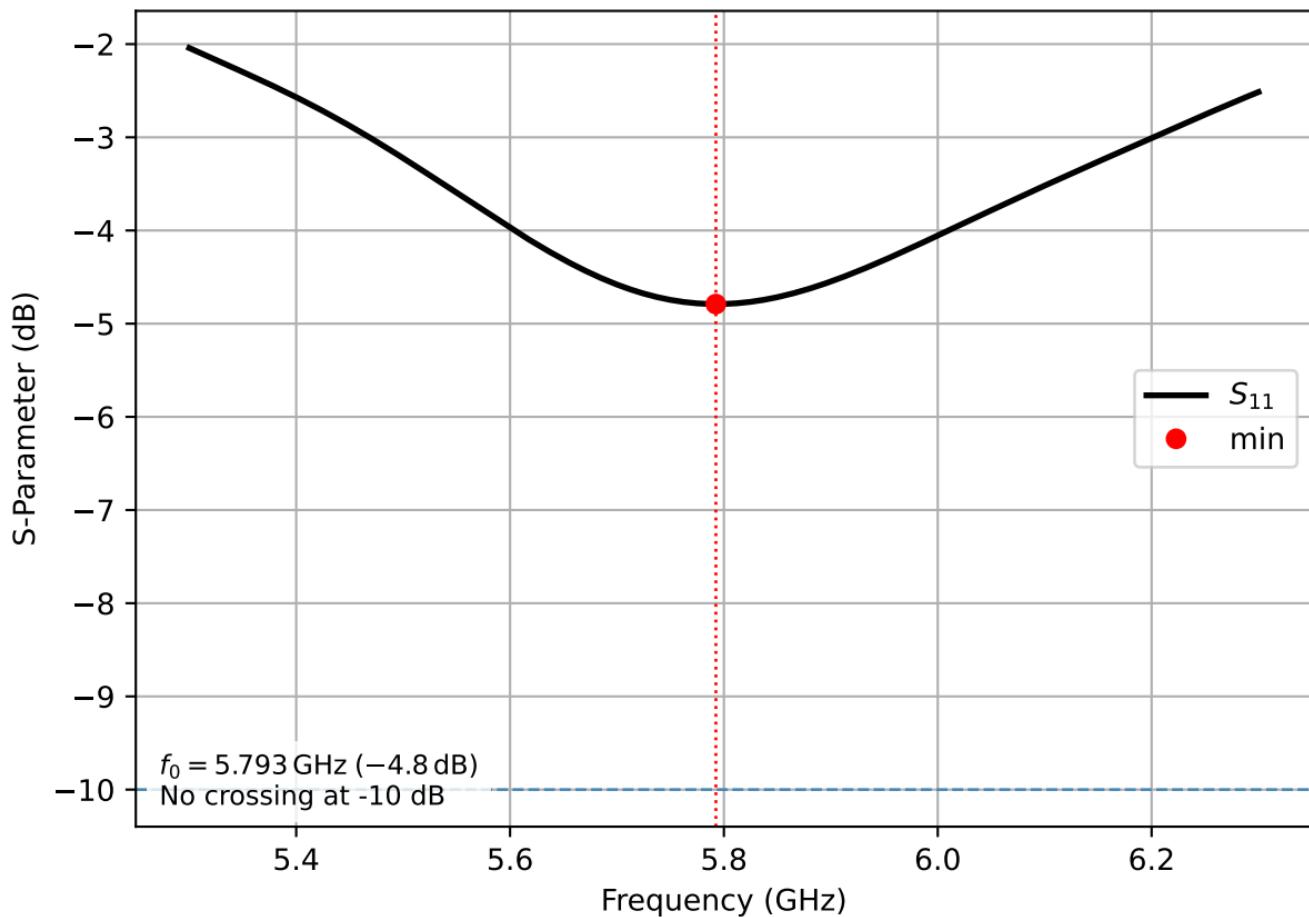
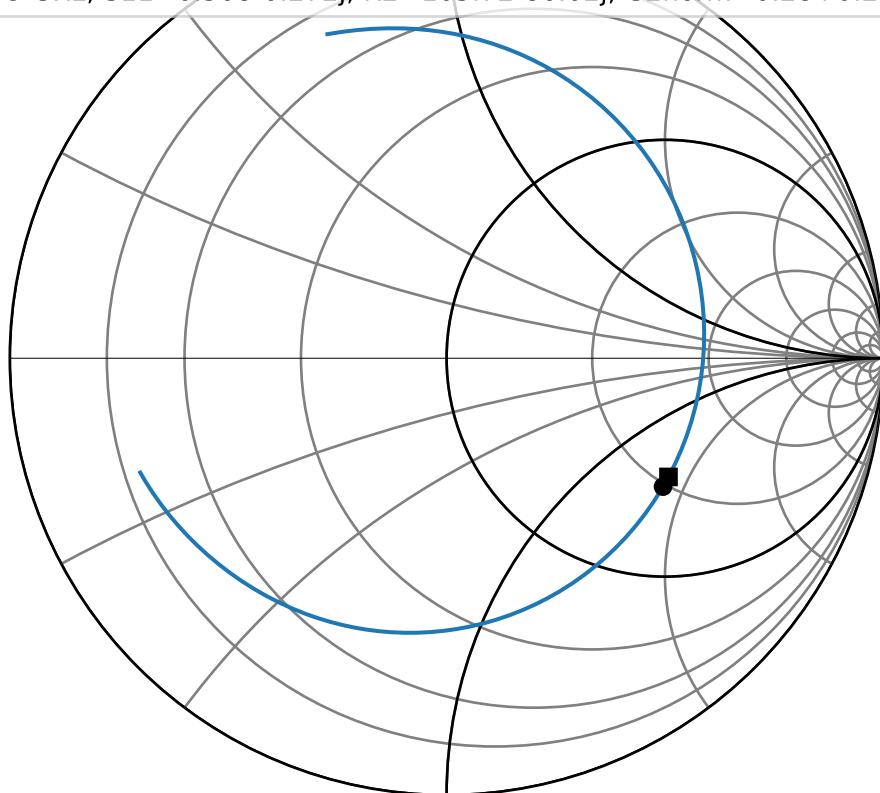


## Reflection Coefficient $S_{11}$

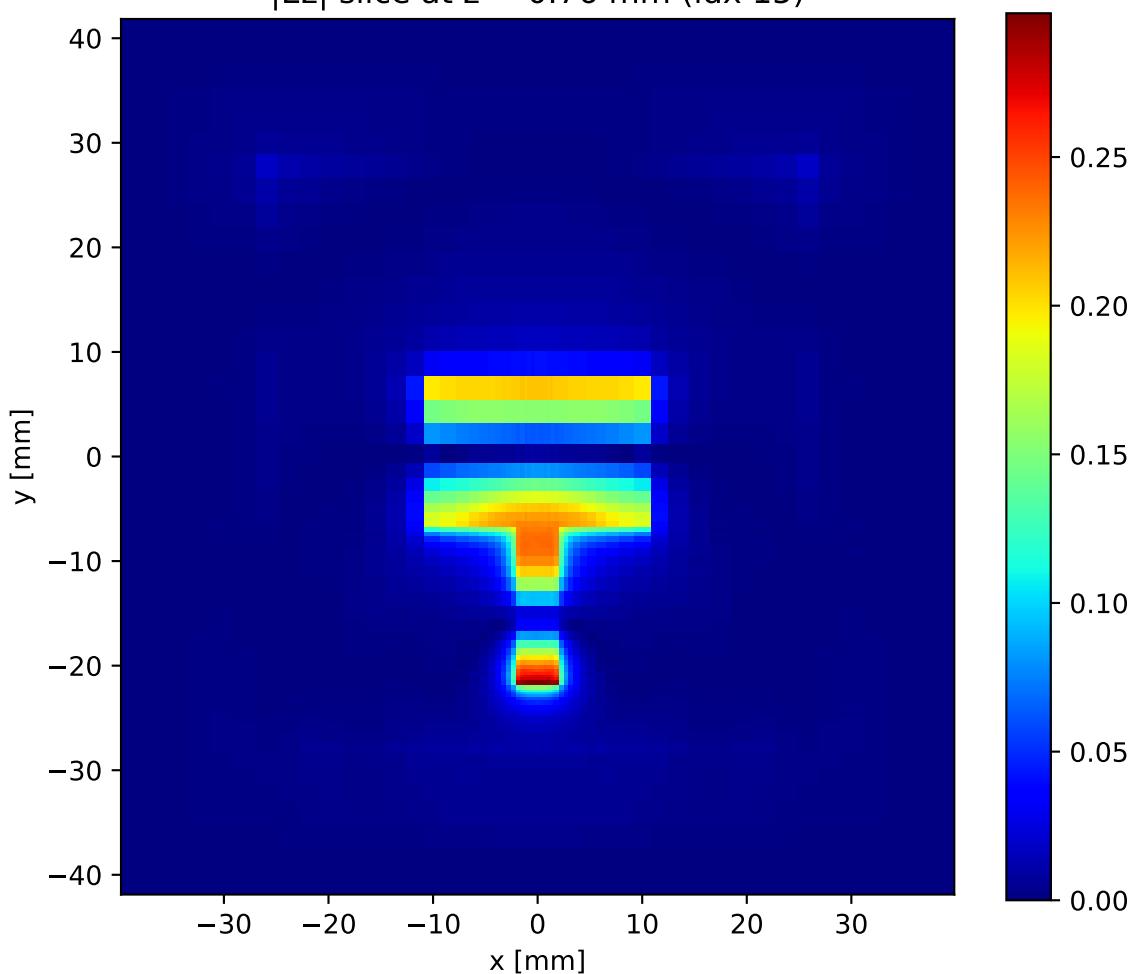


## Smith Chart

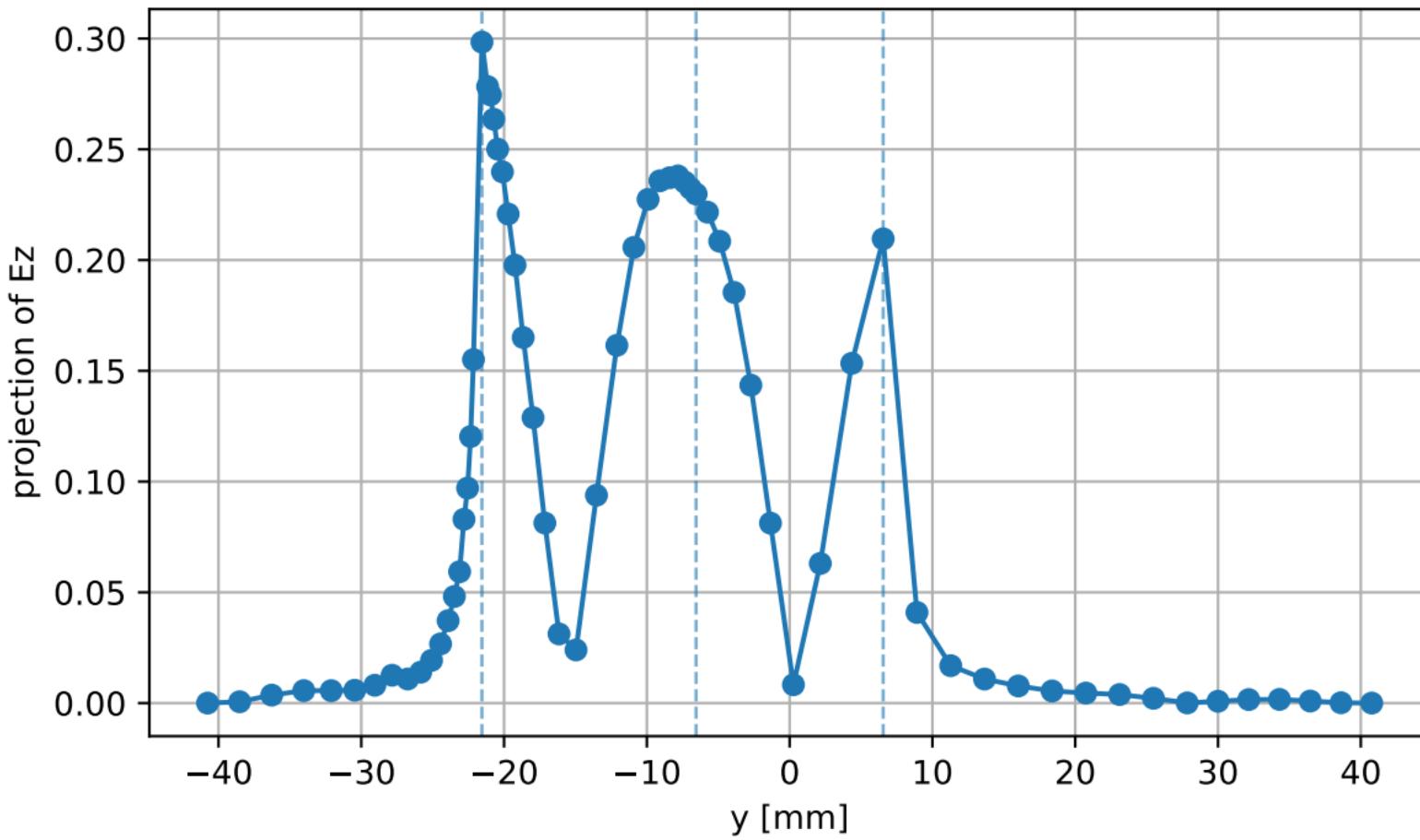
- S11 (Patch W=20.10 mm, L=13.10 mm)
- 5.80 GHz,  $S_{11}=0.496-0.294j$ ,  $R=97.98-86.24j$ ,  $G_{norm}=0.29+0.25j$
- 5.79 GHz,  $S_{11}=0.508-0.272j$ ,  $R_2=105.72-86.02j$ ,  $G_{2norm}=0.28+0.23j$



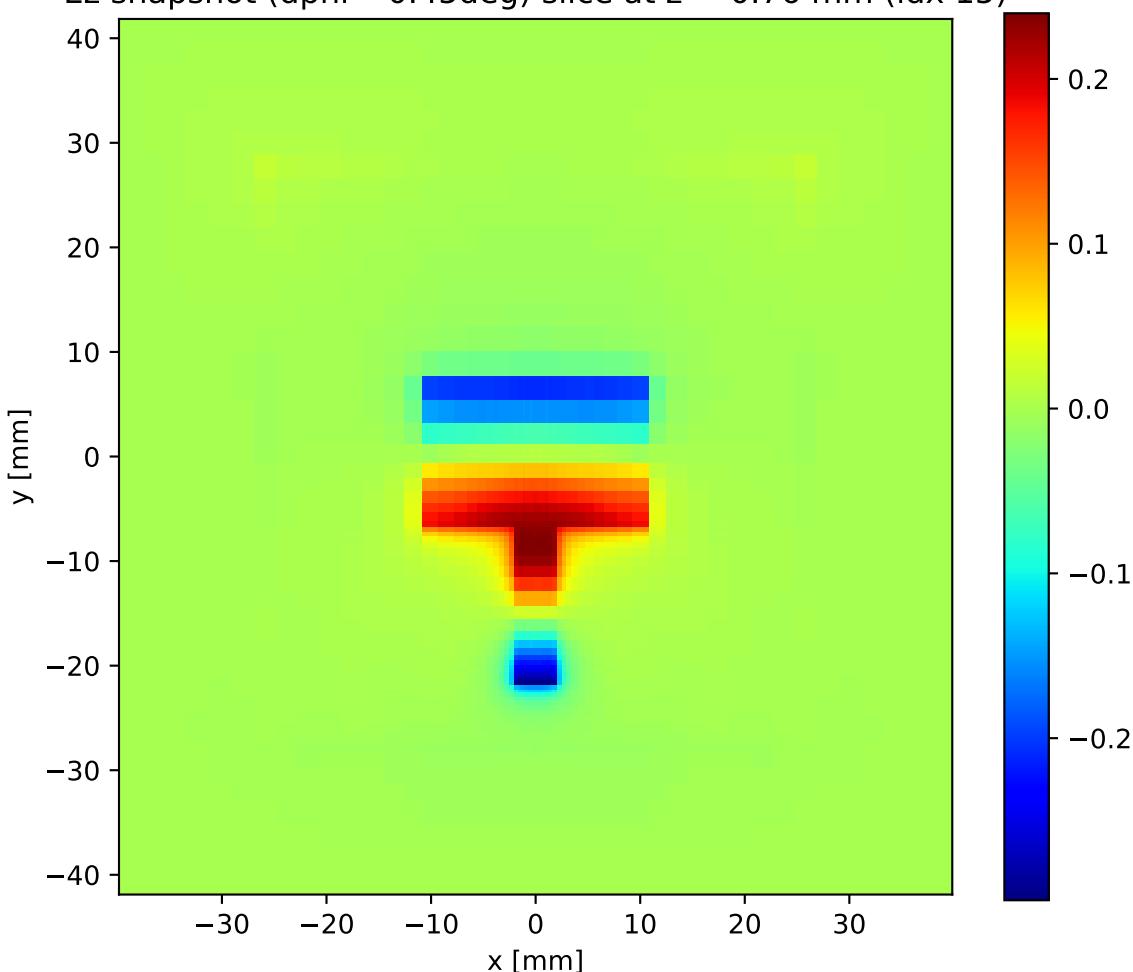
$|E_z|$  slice at  $z = 0.76$  mm (idx 15)



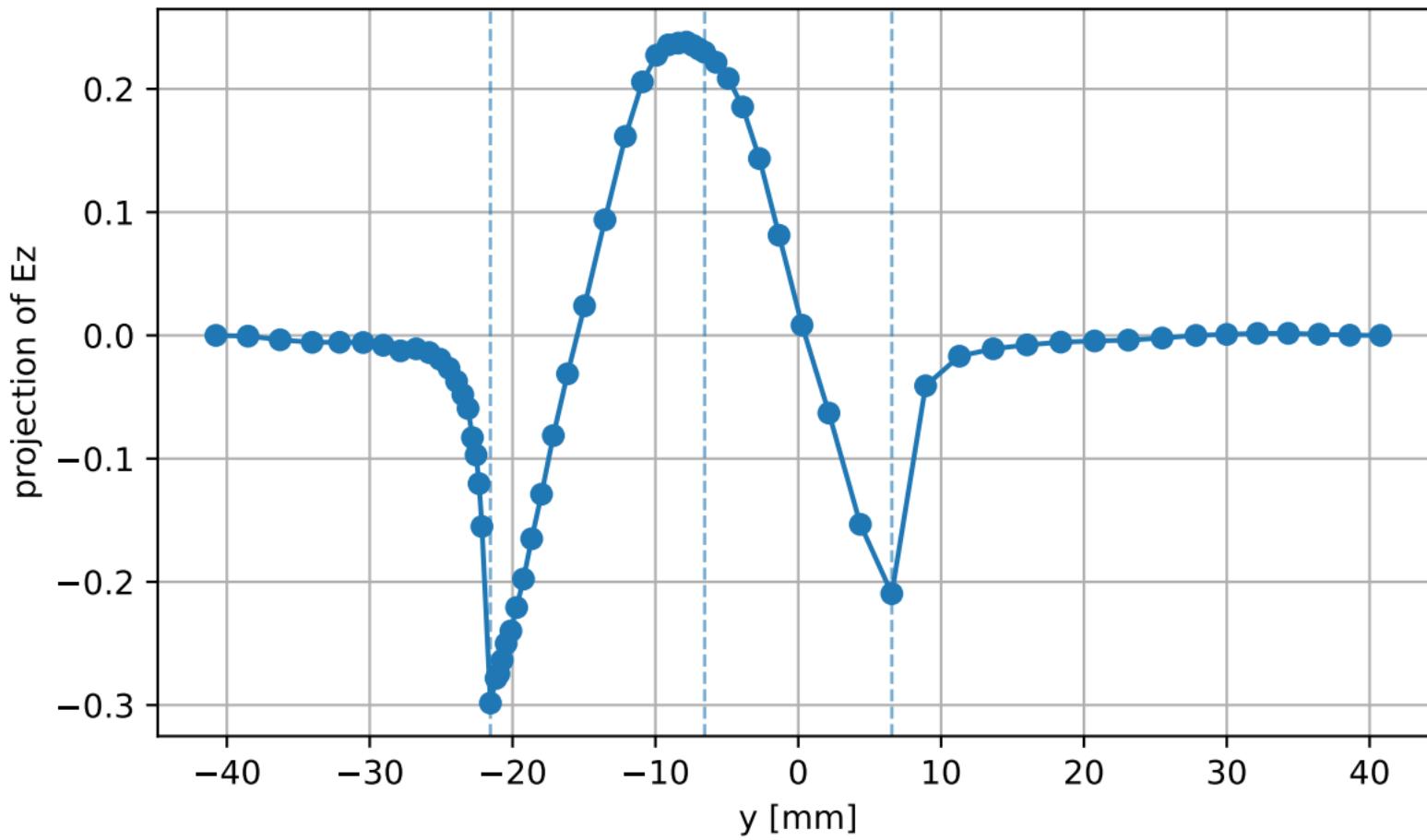
$|E_z|$  line cut along Y at  $x=0.00$  mm,  $z=0.76$  mm  
(idx  $x=30$ ,  $z=15$ )



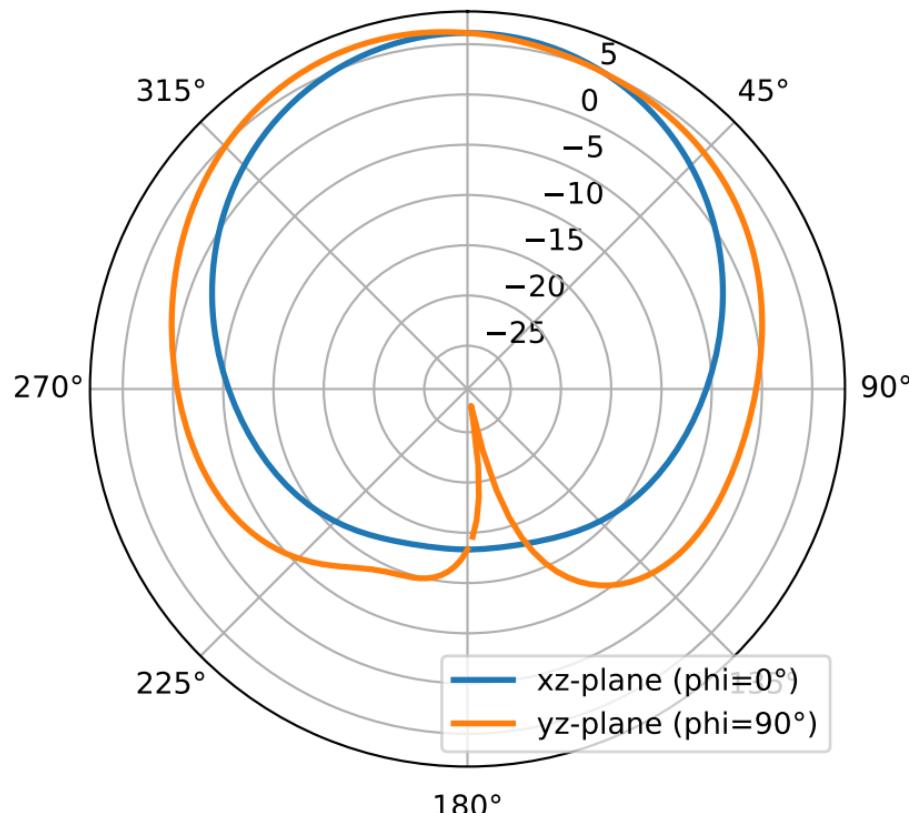
Ez snapshot ( $d\phi = -0.45 \text{deg}$ ) slice at  $z = 0.76 \text{ mm}$  (idx 15)



Ez snapshot (dphi=-0.45deg) line cut along Y at x=0.00 mm, z=0.76 mm  
(idx x=30, z=15)

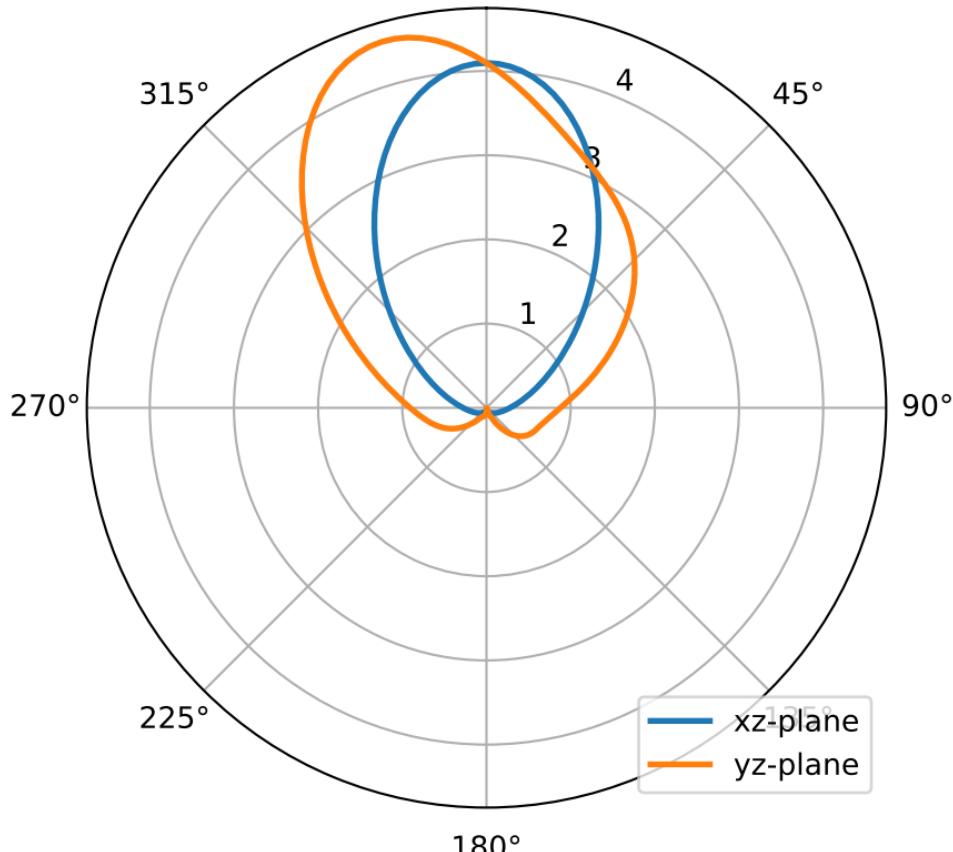


$f = 5.793 \text{ GHz}$  — Directivity (dB)  
 $D_{\max} (\text{integrated}) \approx 6.55 \text{ dB}$ , nf2ff  $D_{\max} = 6.55 \text{ dB}$



Frequency: 5.793 GHz — Directivity (linear). Dmax: 4.522

0°



Frequency: 5.793 GHz  
xz-plane: HPBW=78.5°  
yz-plane: HPBW=107.7°

