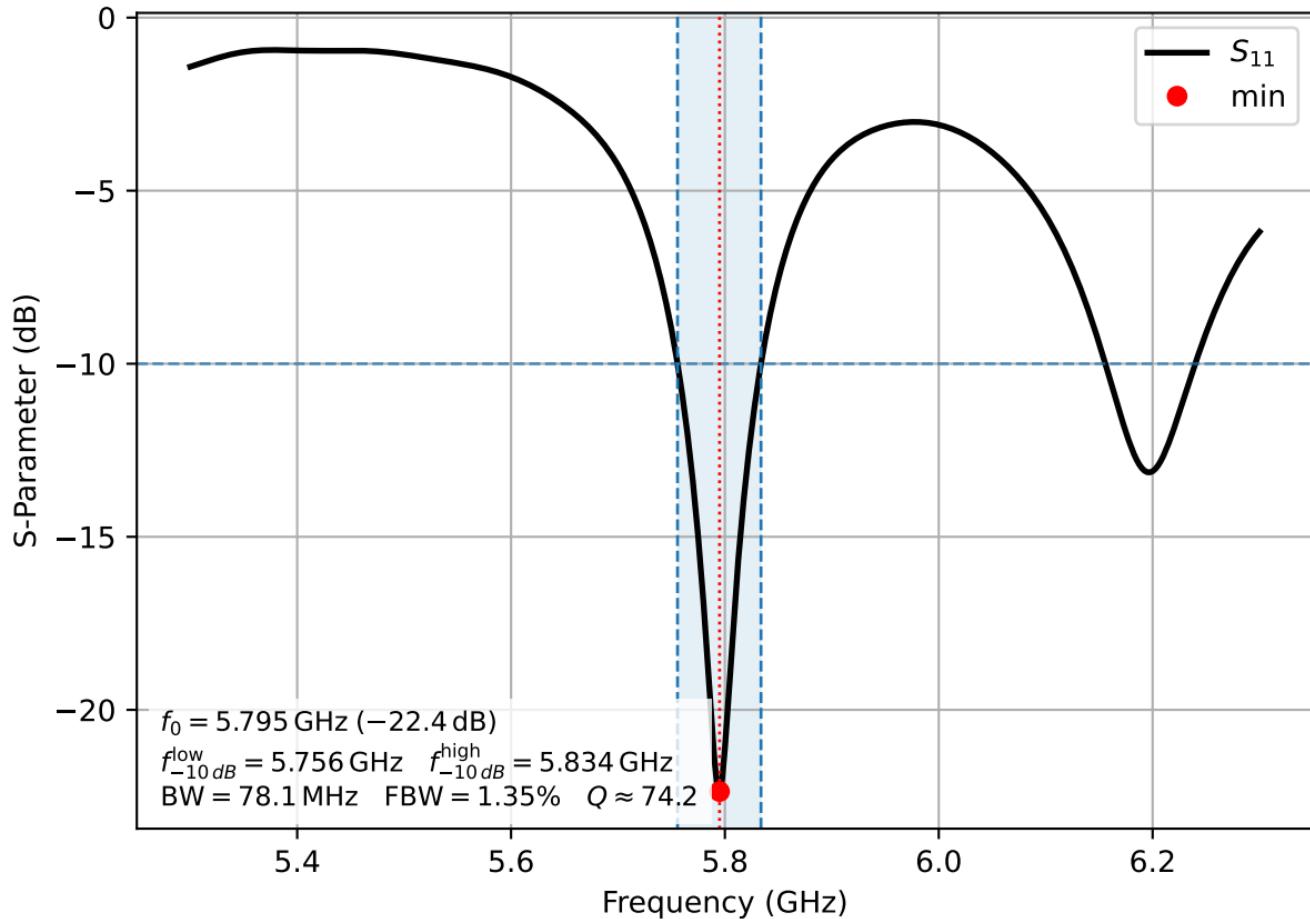
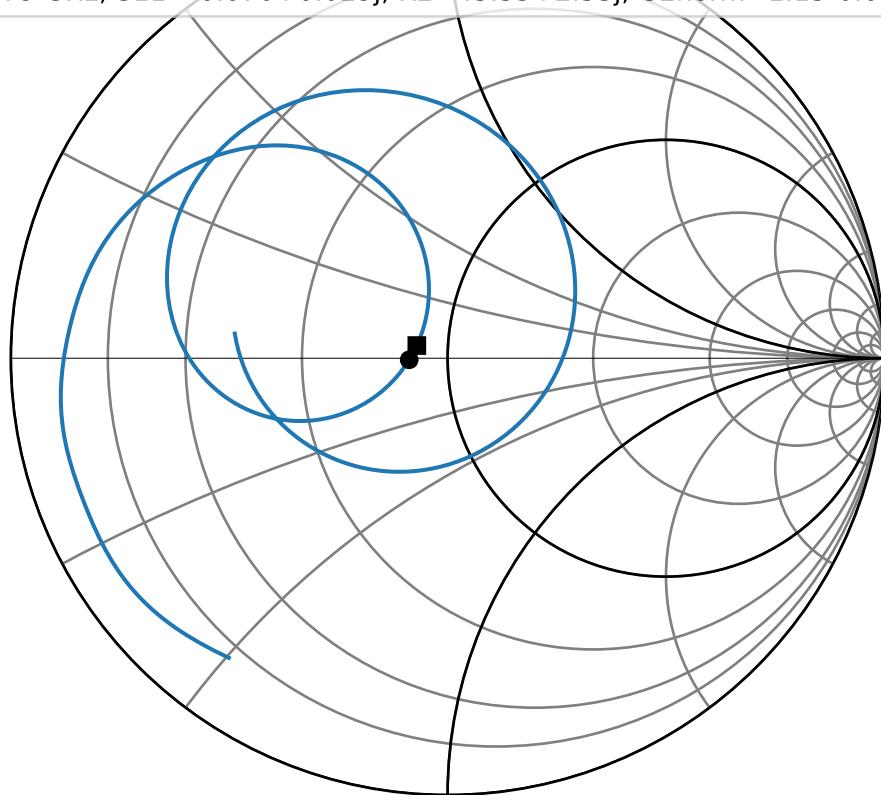


# Reflection Coefficient $S_{11}$

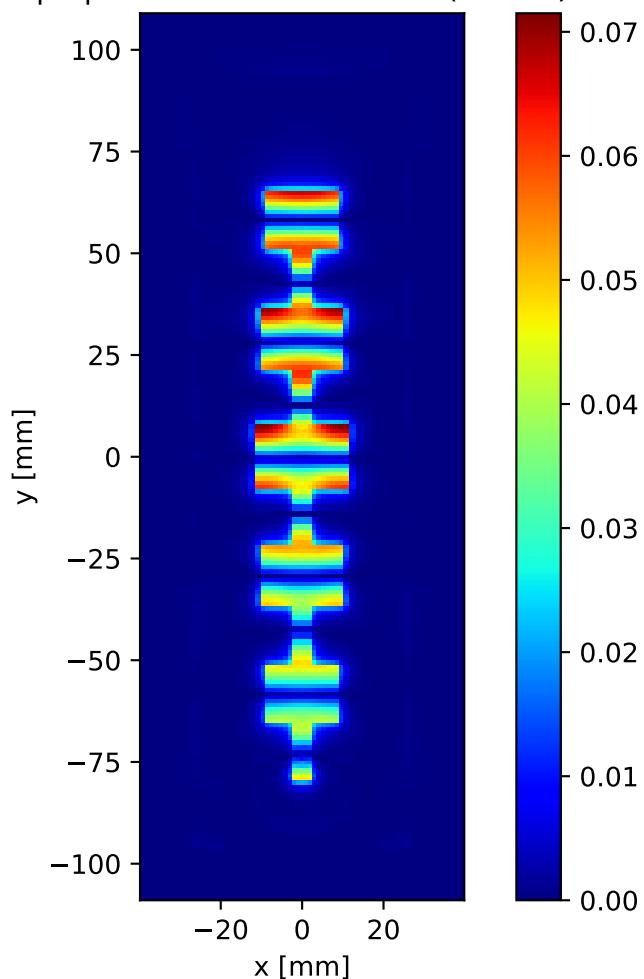


## Smith Chart

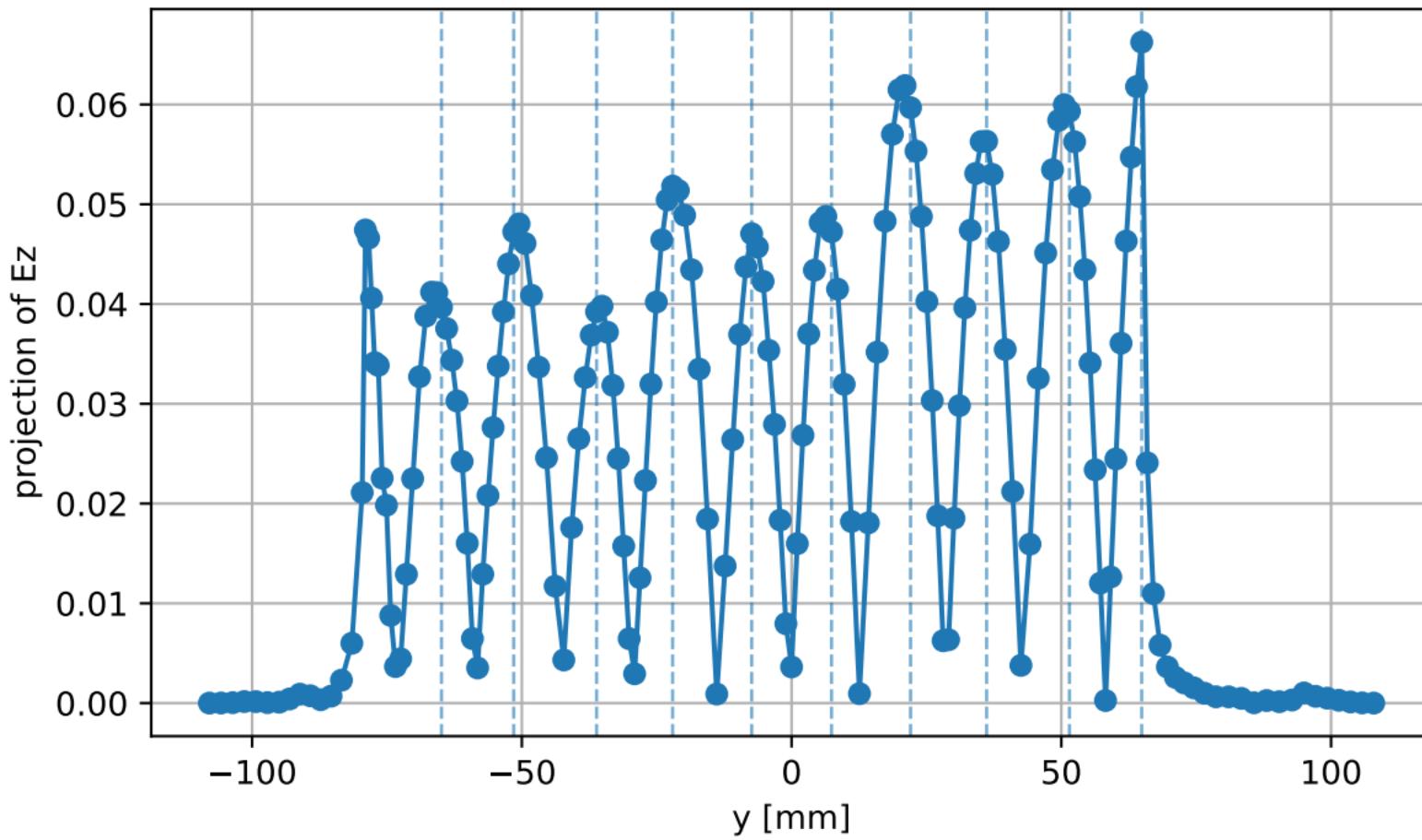
- S11 (Patch W=19.10 mm, L=14.10 mm)
- 5.80 GHz,  $S_{11}=-0.088-0.004j$ ,  $R=41.92-0.30j$ ,  $G_{norm}=1.19+0.01j$
- 5.79 GHz,  $S_{11}=-0.070+0.029j$ ,  $R=43.35+2.53j$ ,  $G2_{norm}=1.15-0.07j$



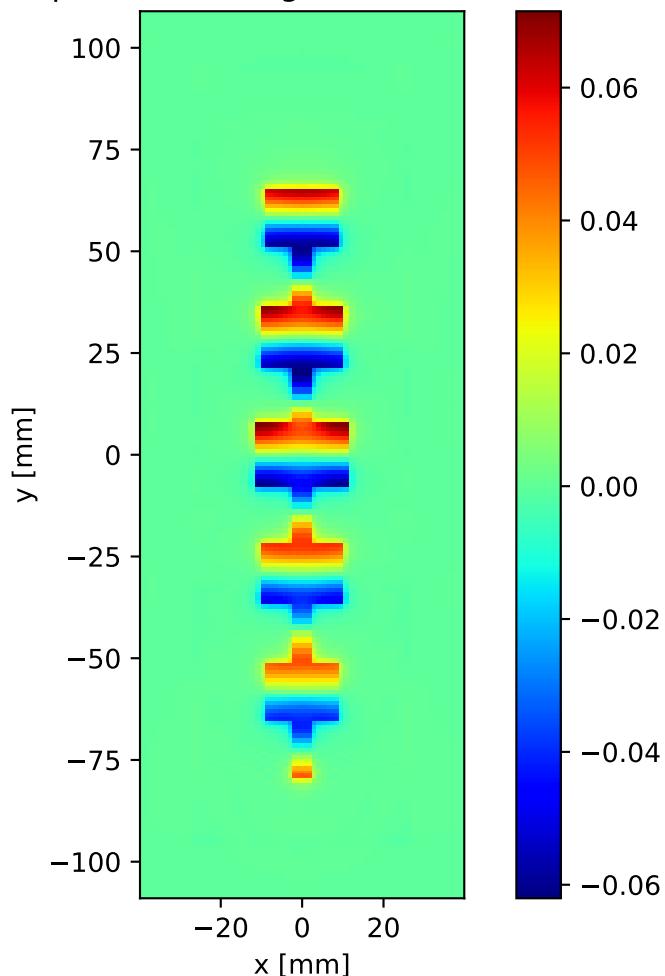
$|E_z|$  slice at  $z = 0.76$  mm (idx 20)



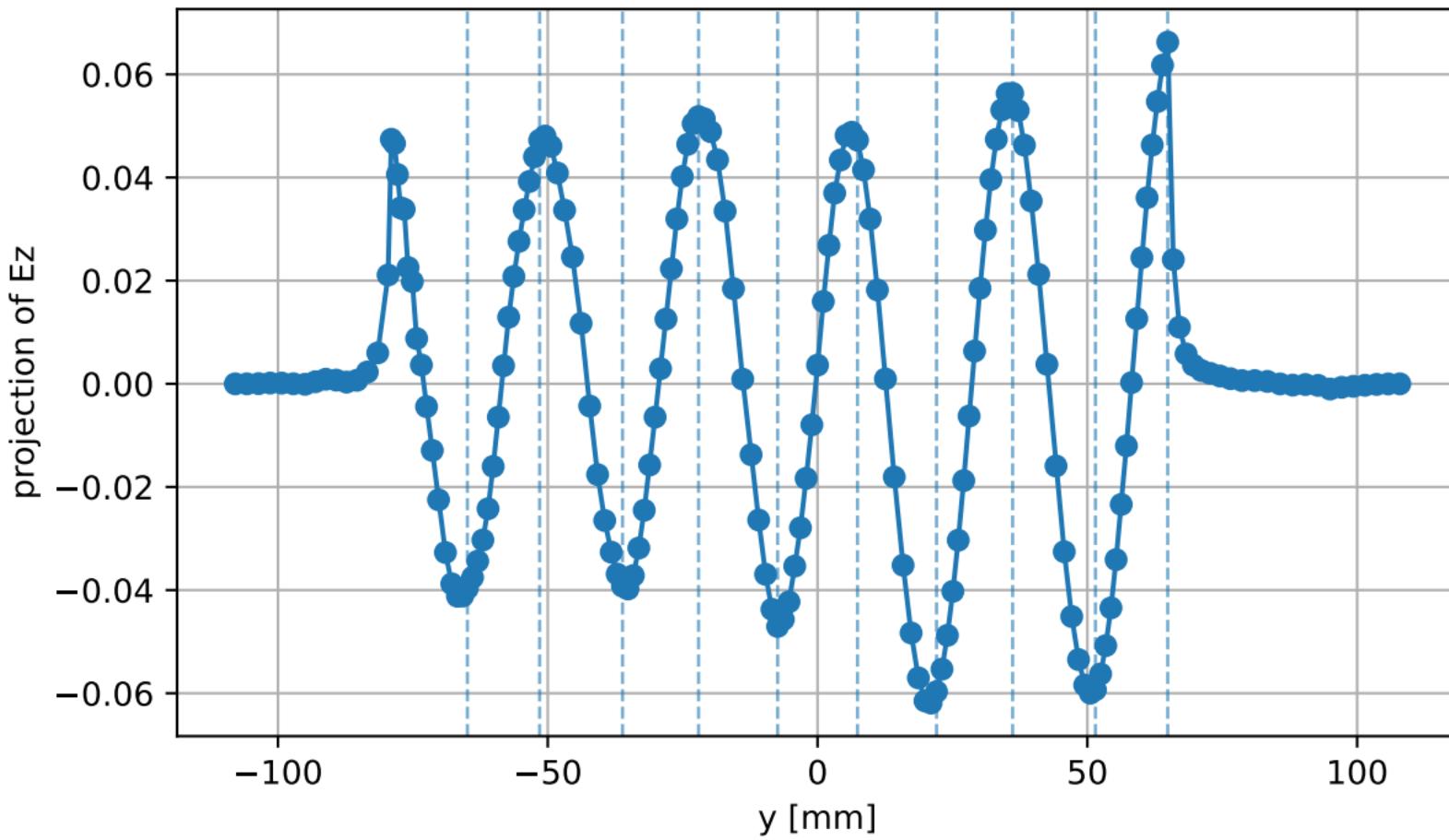
$|E_z|$  line cut along Y at  $x=0.00$  mm,  $z=0.76$  mm  
(idx  $x=24$ ,  $z=20$ )



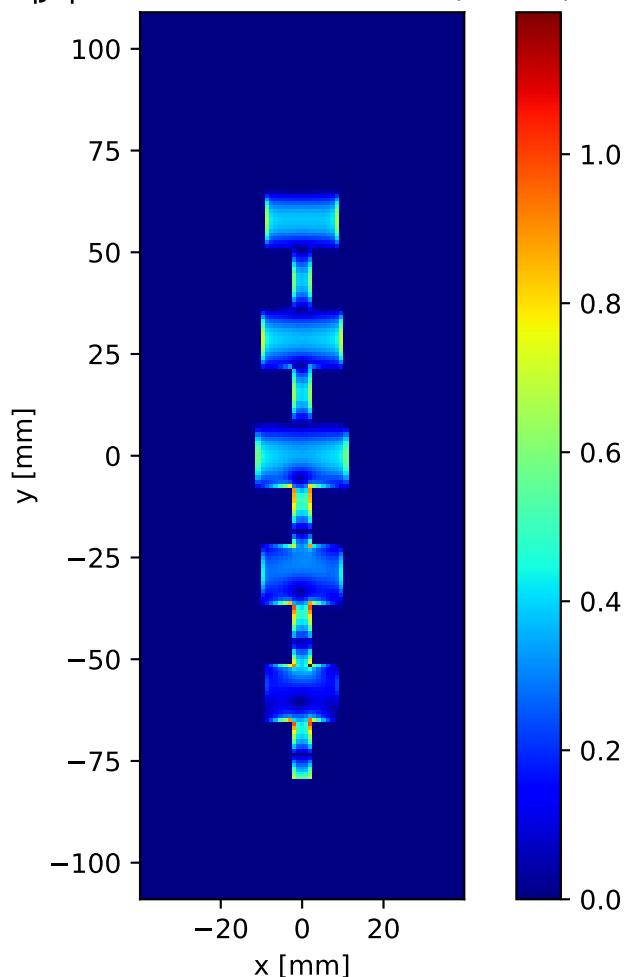
Ez snapshot (dphi=179.95deg) slice at z = 0.76 mm (idx 20)



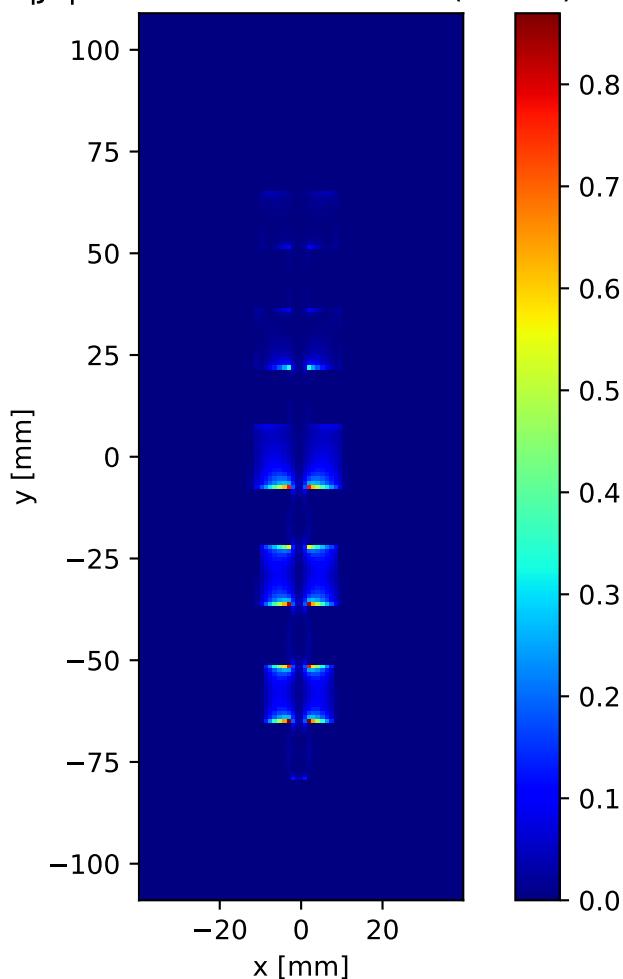
Ez snapshot (dphi=179.95deg) line cut along Y at x=0.00 mm, z=0.76 mm  
(idx x=24, z=20)



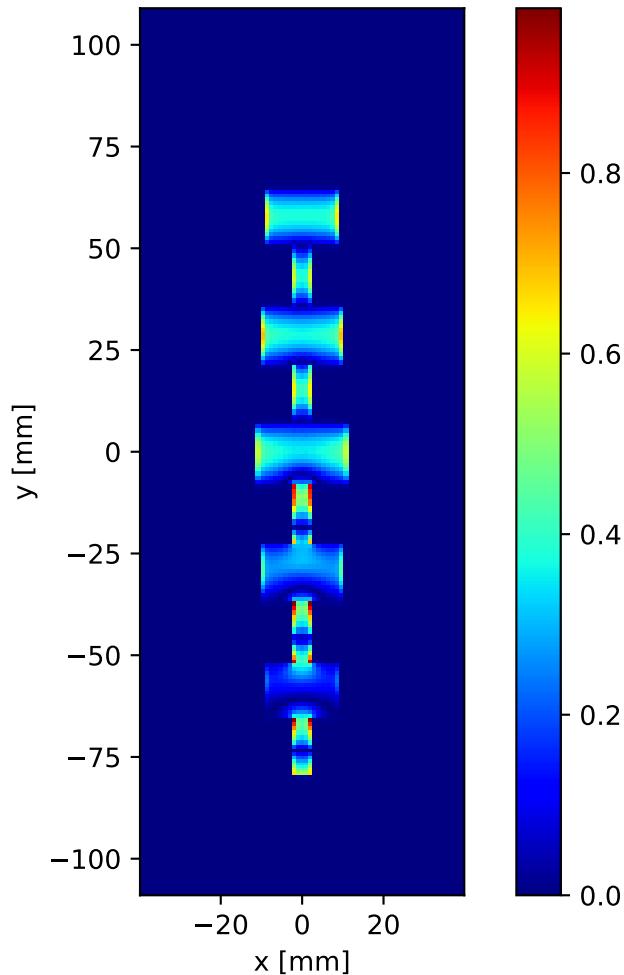
$|J_s|$  slice at  $z = 1.524$  mm (idx 22)



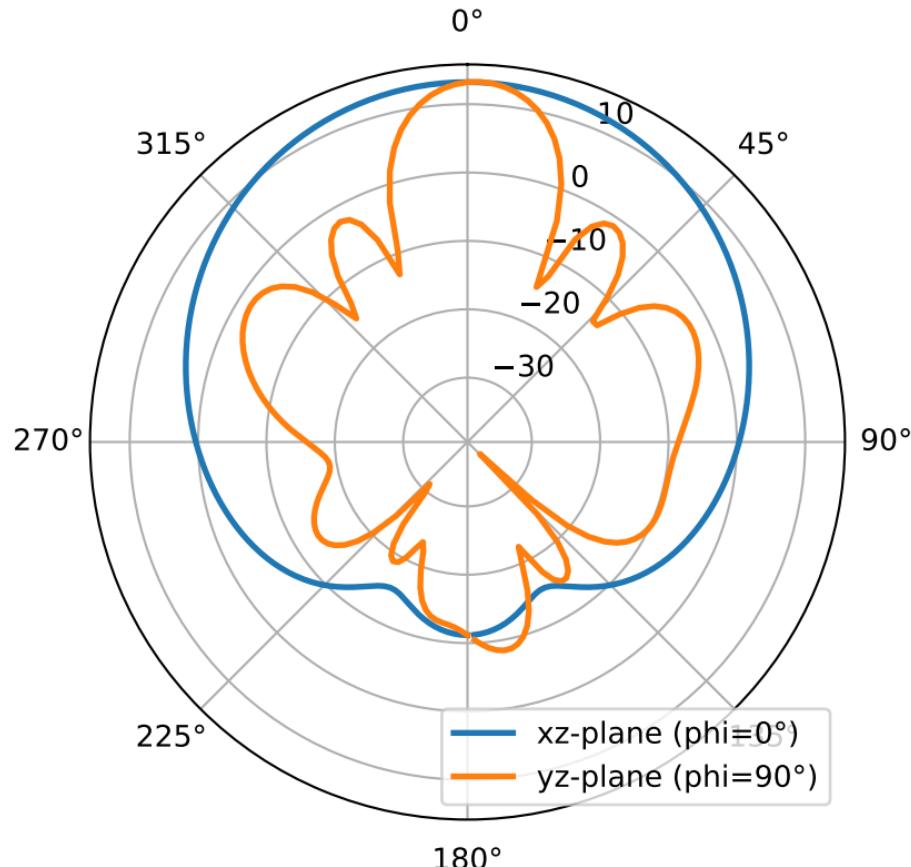
$|J_x|$  slice at  $z = 1.524$  mm (idx 22)



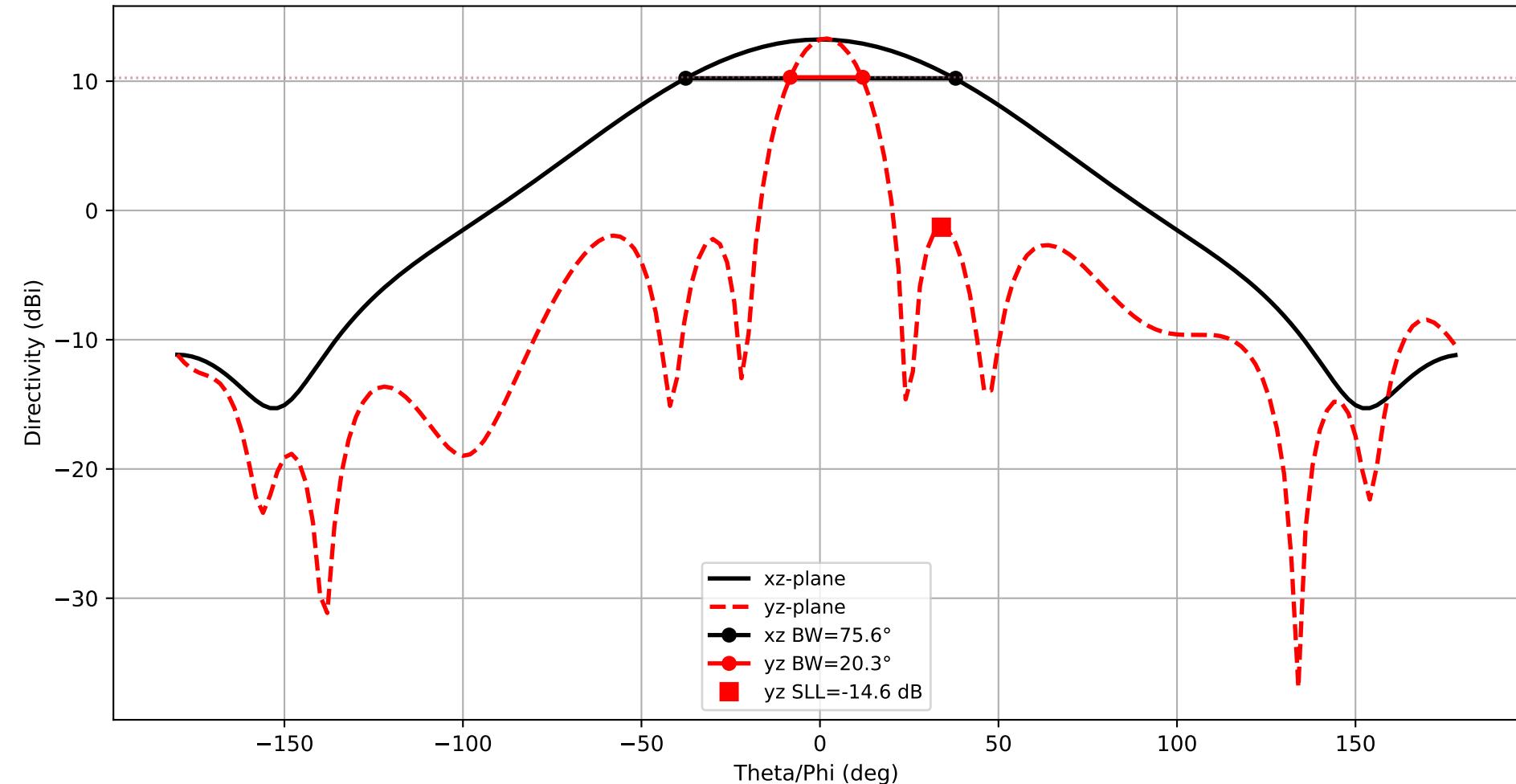
$|j_y|$  slice at  $z = 1.524$  mm (idx 22)



$f = 5.800 \text{ GHz}$  — Directivity (dB)  
 $D_{\max} (\text{integrated}) \approx 13.30 \text{ dB}$ , nf2ff  $D_{\max} = 13.30 \text{ dB}$



Frequency: 5.800 GHz  
xz-plane: HPBW=75.6°  
yz-plane: HPBW=20.3°



3D Directivity Pattern  
 $f = 5.800 \text{ GHz}$ ,  $D_{\max} = 13.26 \text{ dBi}$

