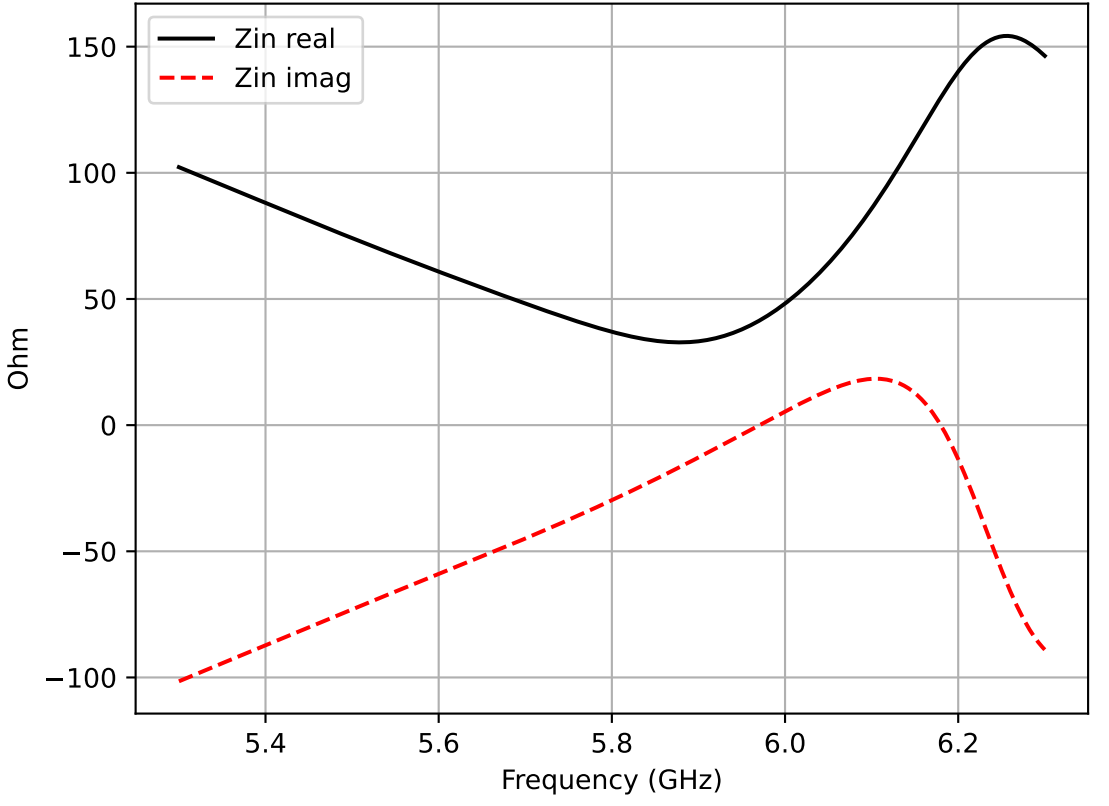
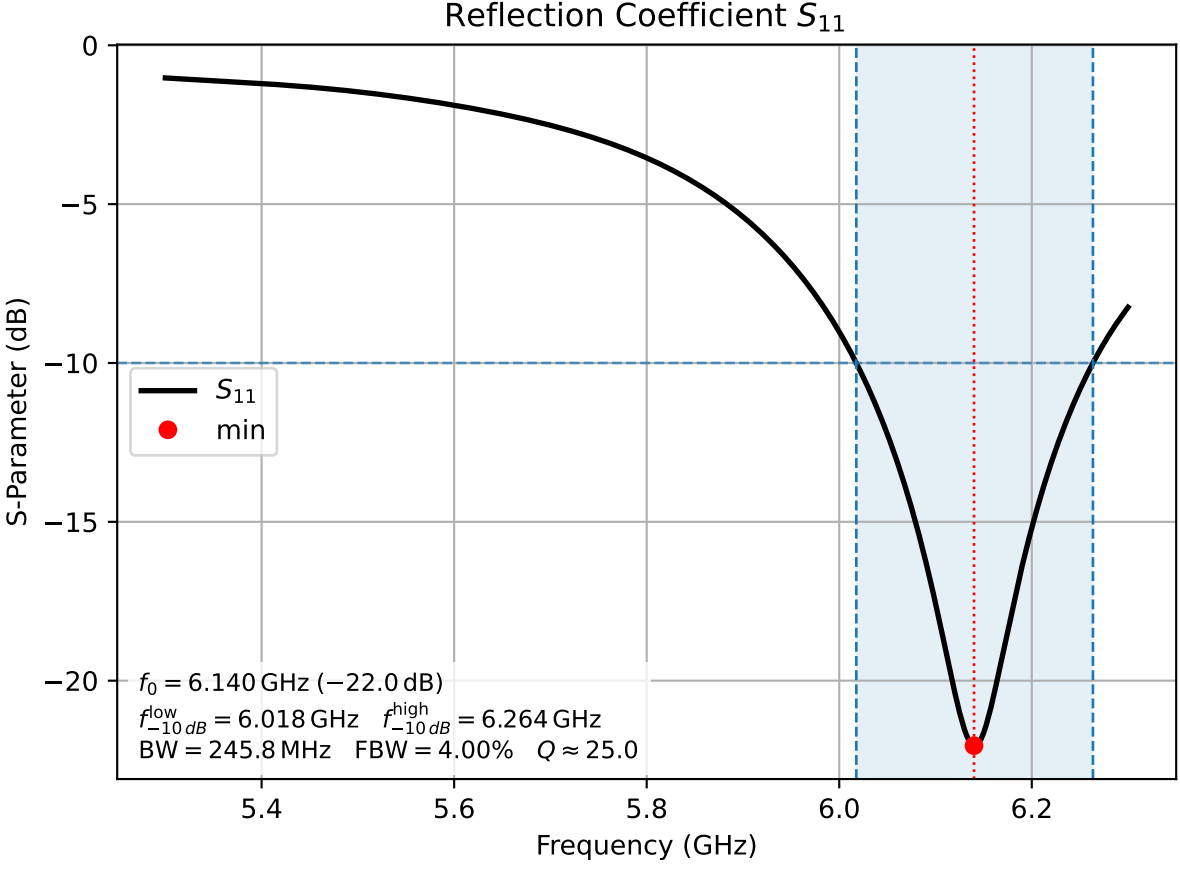
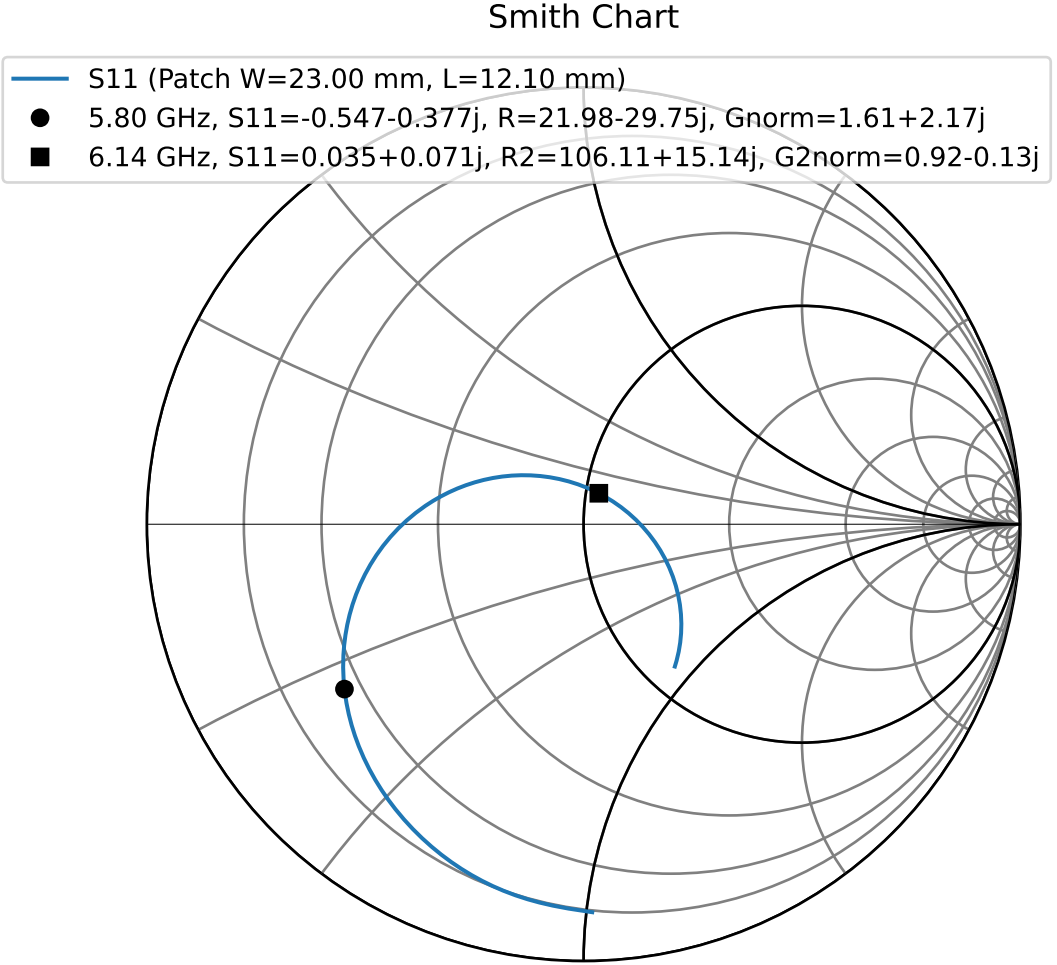
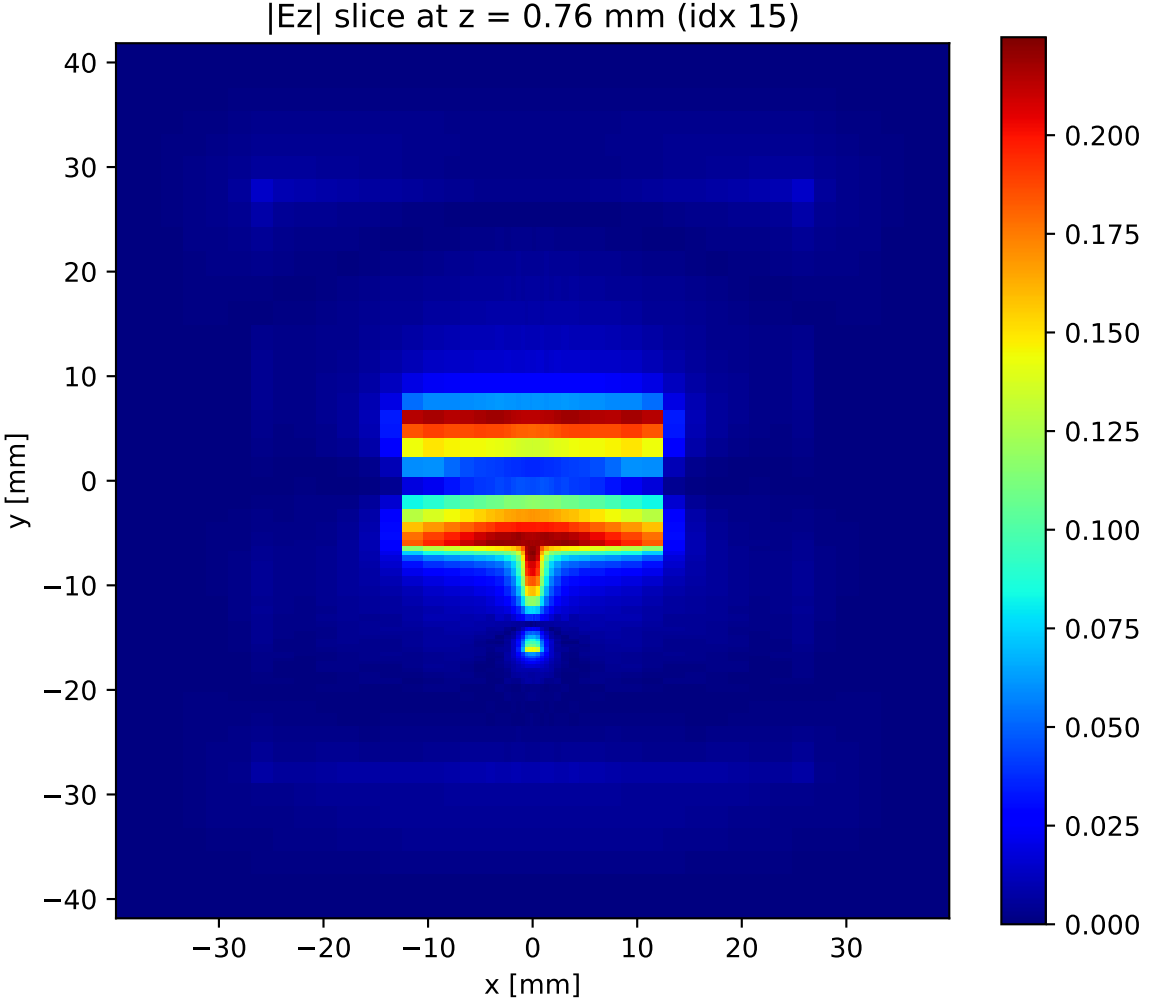
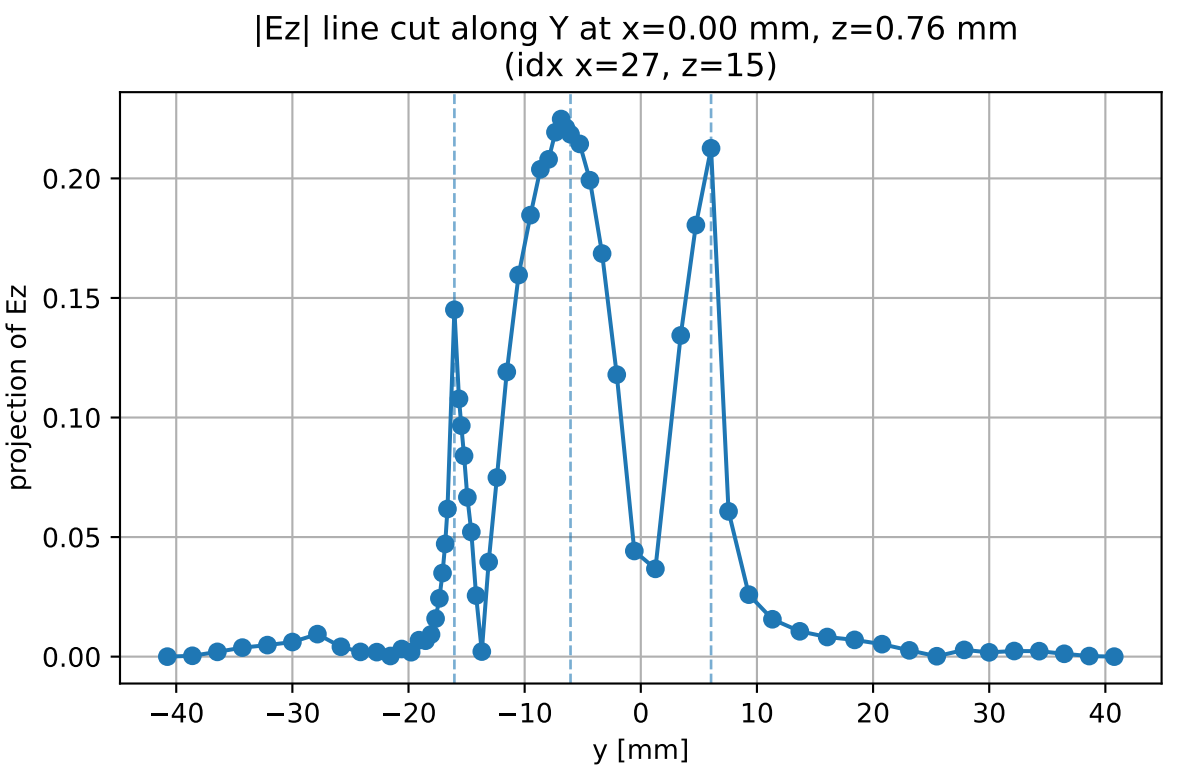
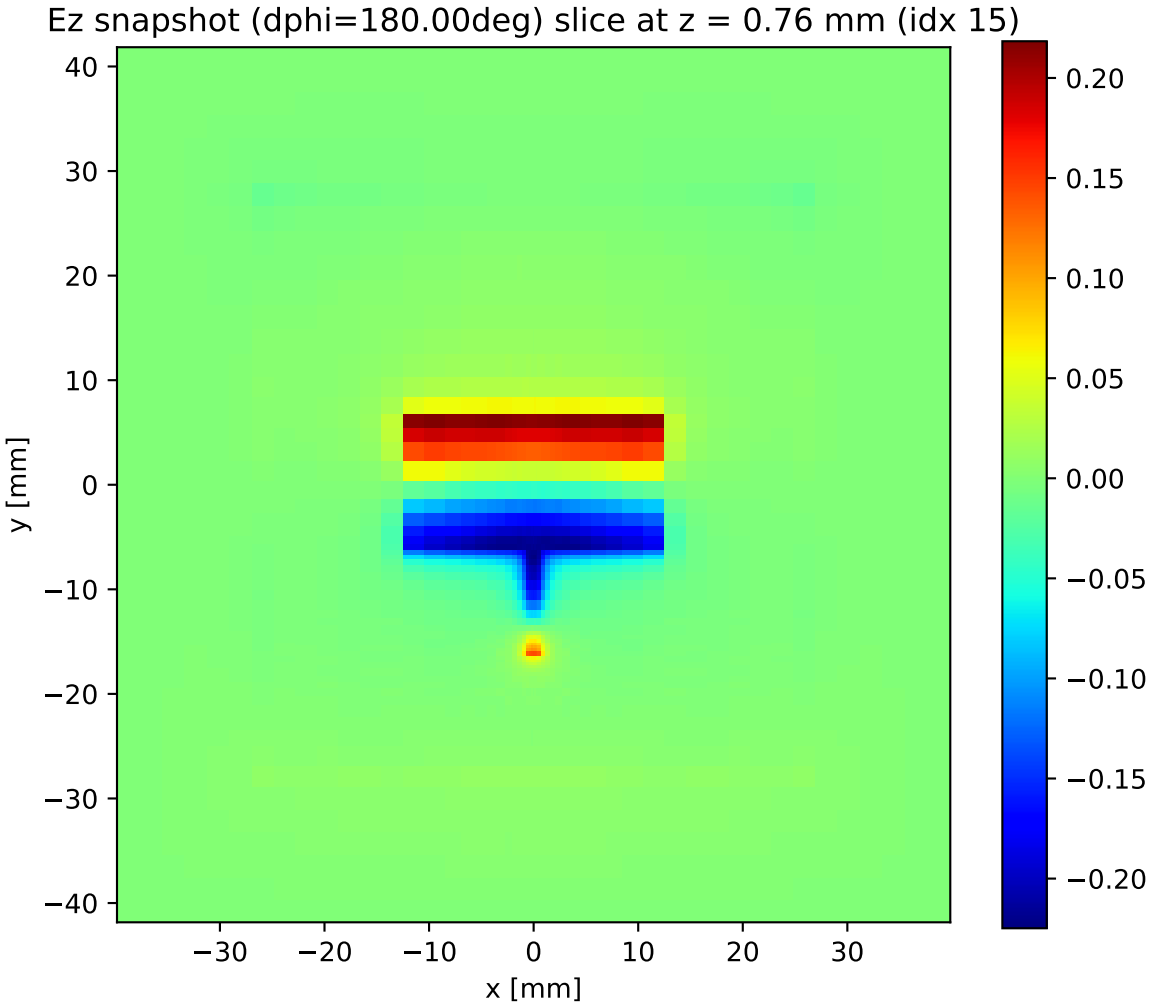

Zin real
Zin imag
150
100
50
0
−50
−100
Ohm
5.4
5.6
5.8
6.0
6.2
Frequency (GHz)

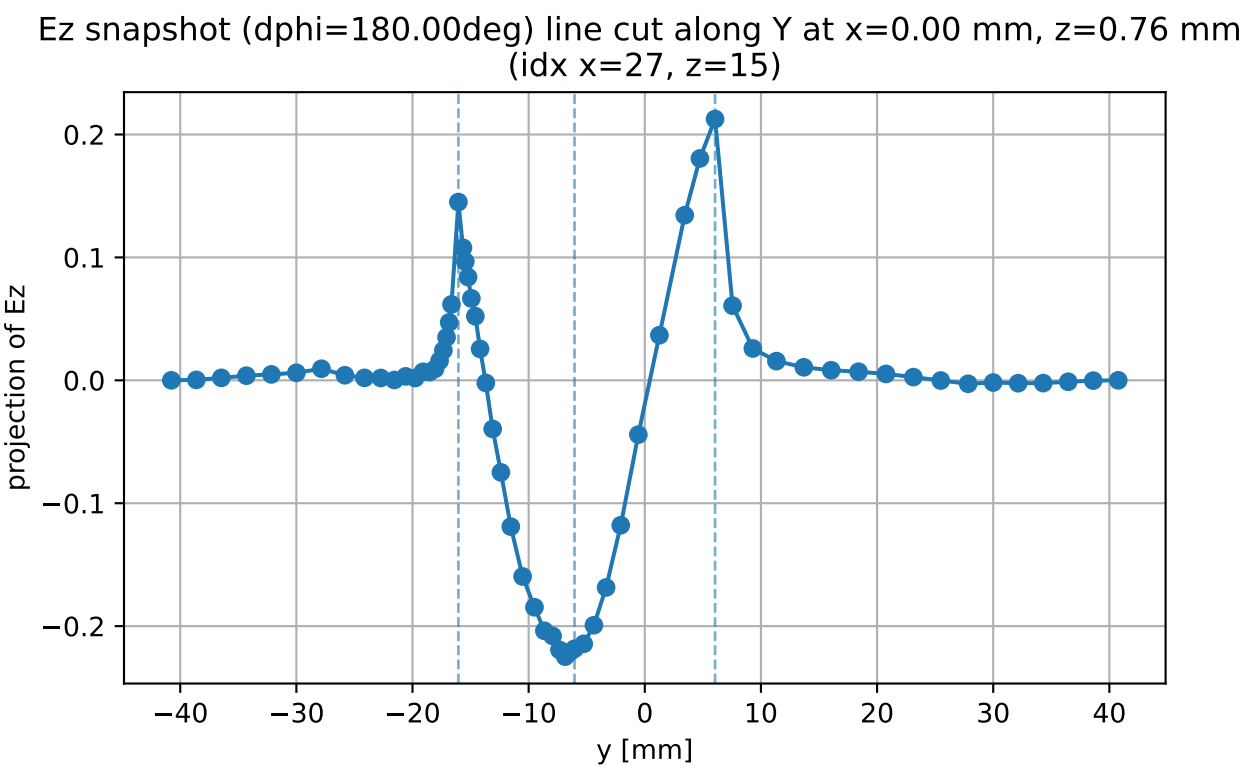

Reflection Coefficient S_{11}
S-Parameter (dB)
Frequency (GHz)
0
−5
−10
−15
−20
5.4
5.6
5.8
6.0
6.2
S_{11}
min
$f_0 = 6.140\,\text{GHz}\ (-22.0\,\text{dB})$
$f^{\text{low}}_{-10\,dB} = 6.018\,\text{GHz}$ $f^{\text{high}}_{-10\,dB} = 6.264\,\text{GHz}$
$\text{BW} = 245.8\,\text{MHz}$ $\text{FBW} = 4.00\%$ $Q \approx 25.0$

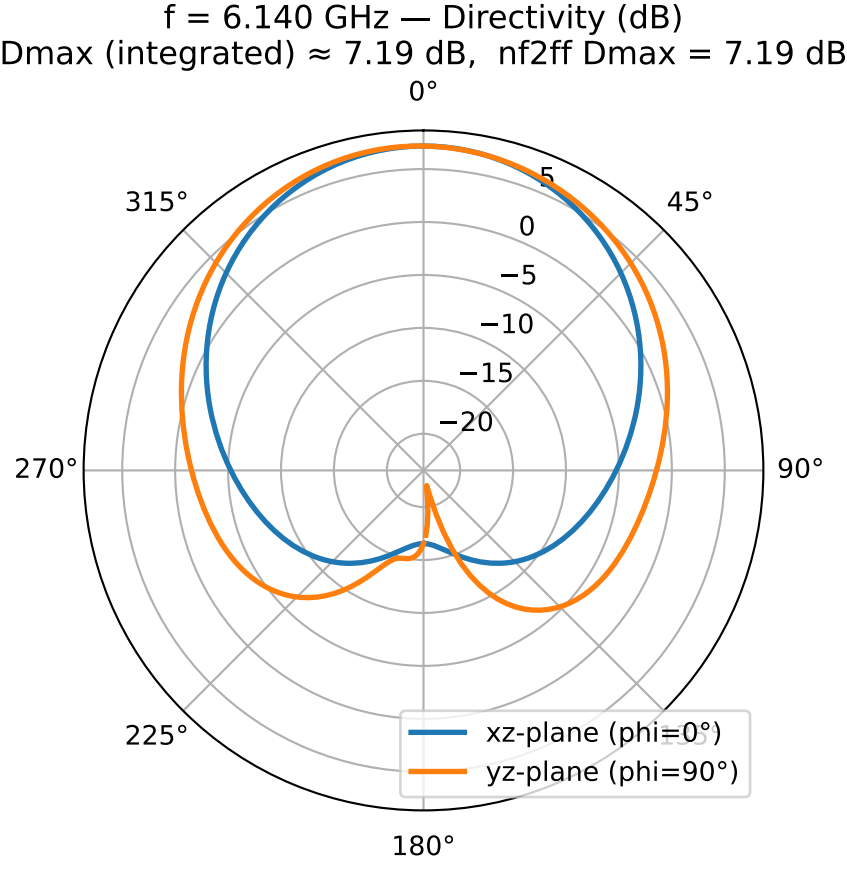

Smith Chart
S11 (Patch W=23.00 mm, L=12.10 mm)
5.80 GHz, S11=-0.547-0.377j, R=21.98-29.75j, Gnorm=1.61+2.17j
6.14 GHz, S11=0.035+0.071j, R2=106.11+15.14j, G2norm=0.92-0.13j

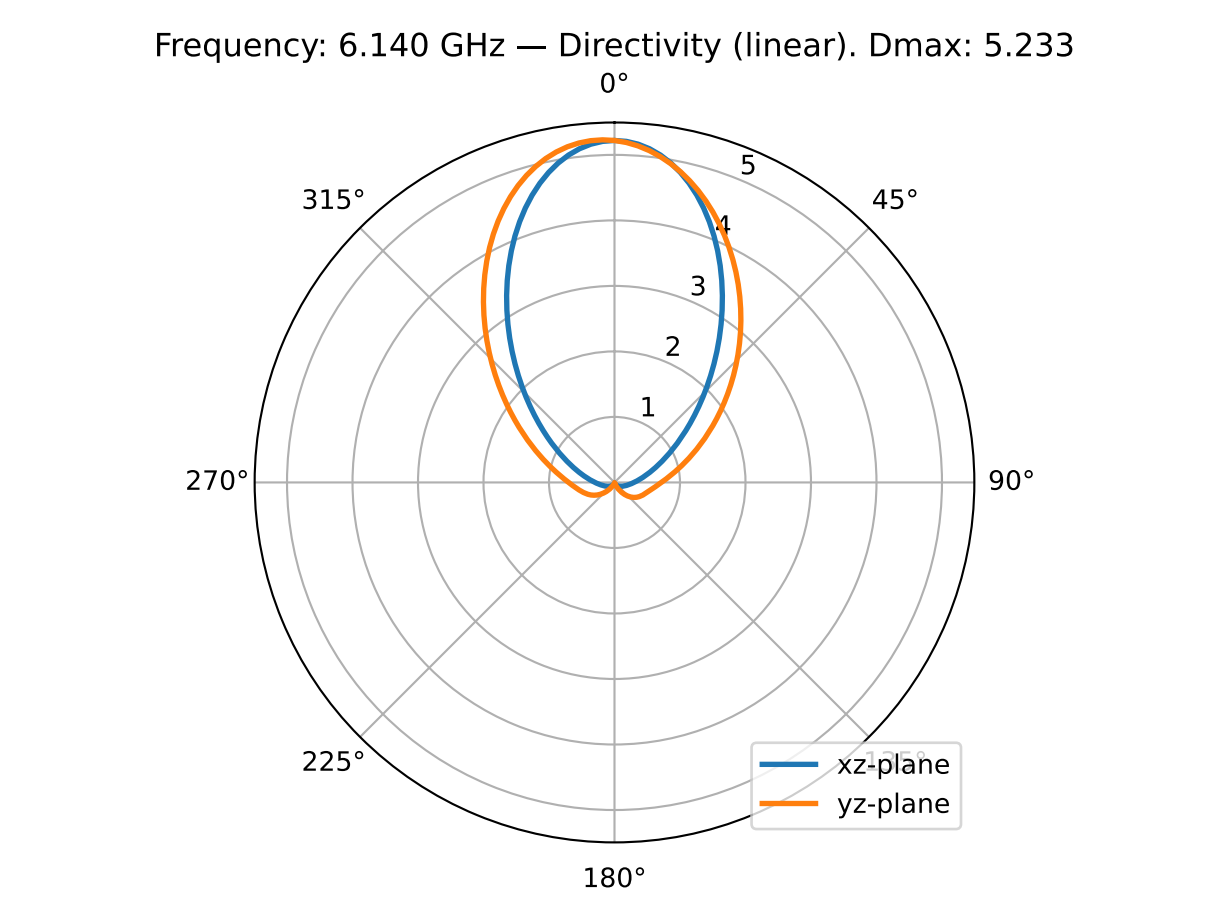

|Ez| slice at z = 0.76 mm (idx 15)
40
30
20
10
0
−10
−20
−30
−40
y [mm]
−30
−20
−10
0
10
20
30
x [mm]
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000

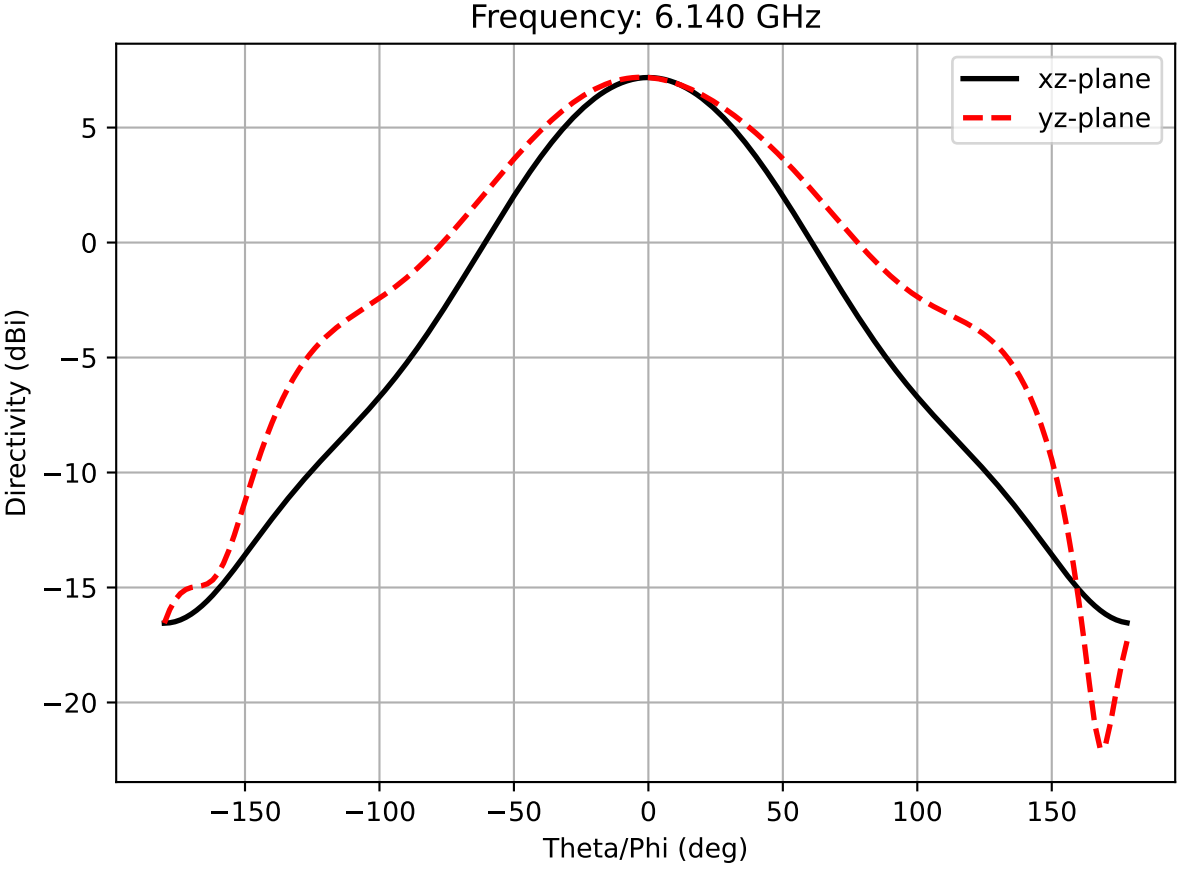

|Ez| line cut along Y at x=0.00 mm, z=0.76 mm
(idx x=27, z=15)
projection of Ez
0.00
0.05
0.10
0.15
0.20
−40
−30
−20
−10
0
10
20
30
40
y [mm]

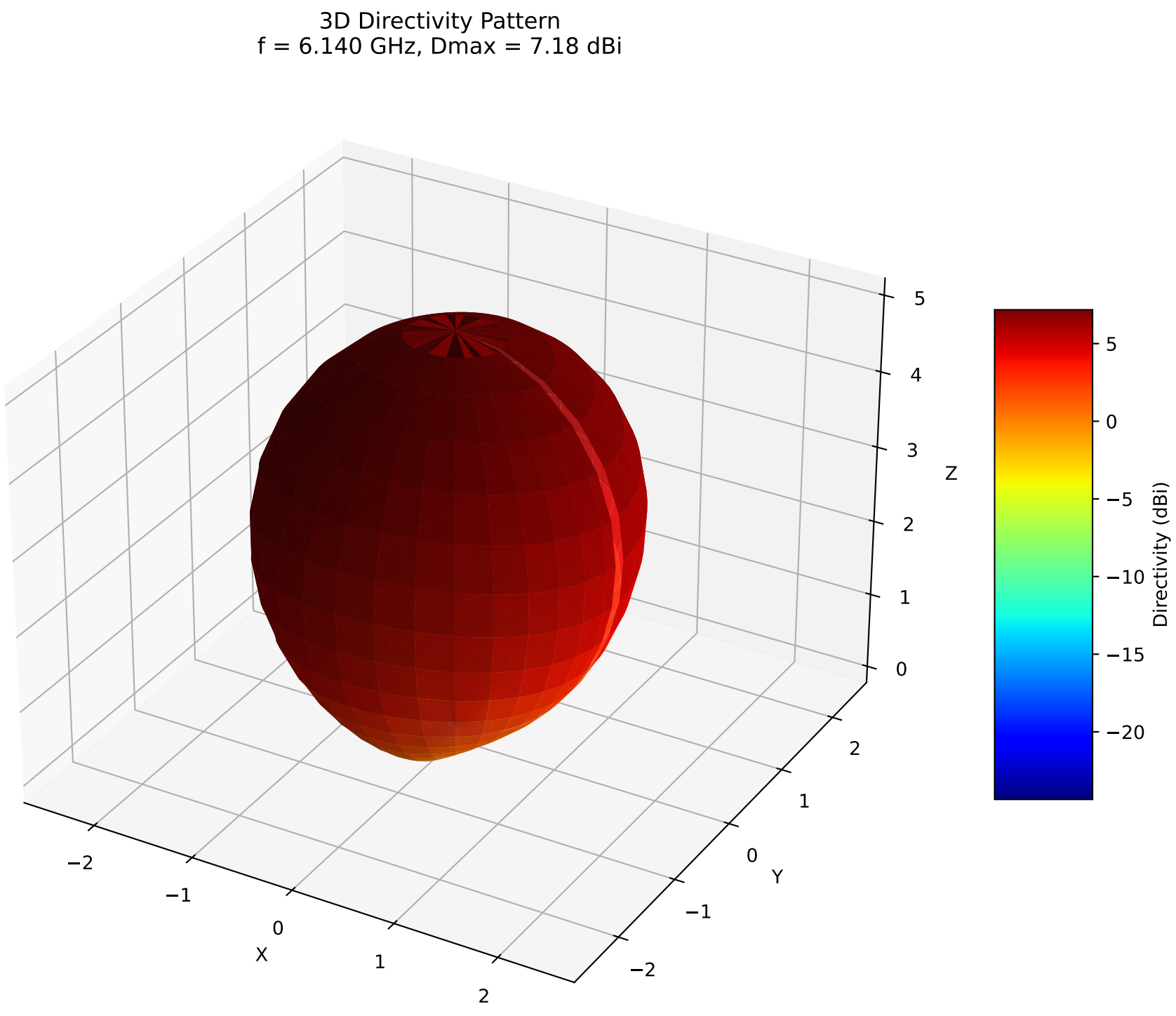

Ez snapshot (dphi=180.00deg) slice at z = 0.76 mm (idx 15)
y [mm]
x [mm]
40
30
20
10
0
−10
−20
−30
−40
−30
−20
−10
0
10
20
30
0.20
0.15
0.10
0.05
0.00
−0.05
−0.10
−0.15
−0.20


Ez snapshot (dphi=180.00deg) line cut along Y at x=0.00 mm, z=0.76 mm
(idx x=27, z=15)
projection of Ez
y [mm]
0.2
0.1
0.0
−0.1
−0.2
−40
−30
−20
−10
0
10
20
30
40


f = 6.140 GHz — Directivity (dB)
Dmax (integrated) ≈ 7.19 dB, nf2ff Dmax = 7.19 dB
0°
45°
90°
180°
225°
270°
315°
5
0
−5
−10
−15
−20
xz-plane (phi=0°)
yz-plane (phi=90°)


Frequency: 6.140 GHz — Directivity (linear). Dmax: 5.233
0°
45°
90°
180°
225°
270°
315°
1
2
3
4
5
xz-plane
yz-plane


Frequency: 6.140 GHz
xz-plane
yz-plane
Directivity (dBi)
5
0
−5
−10
−15
−20
−150
−100
−50
0
50
100
150
Theta/Phi (deg)


3D Directivity Pattern
f = 6.140 GHz, Dmax = 7.18 dBi
X
Y
Z
Directivity (dBi)