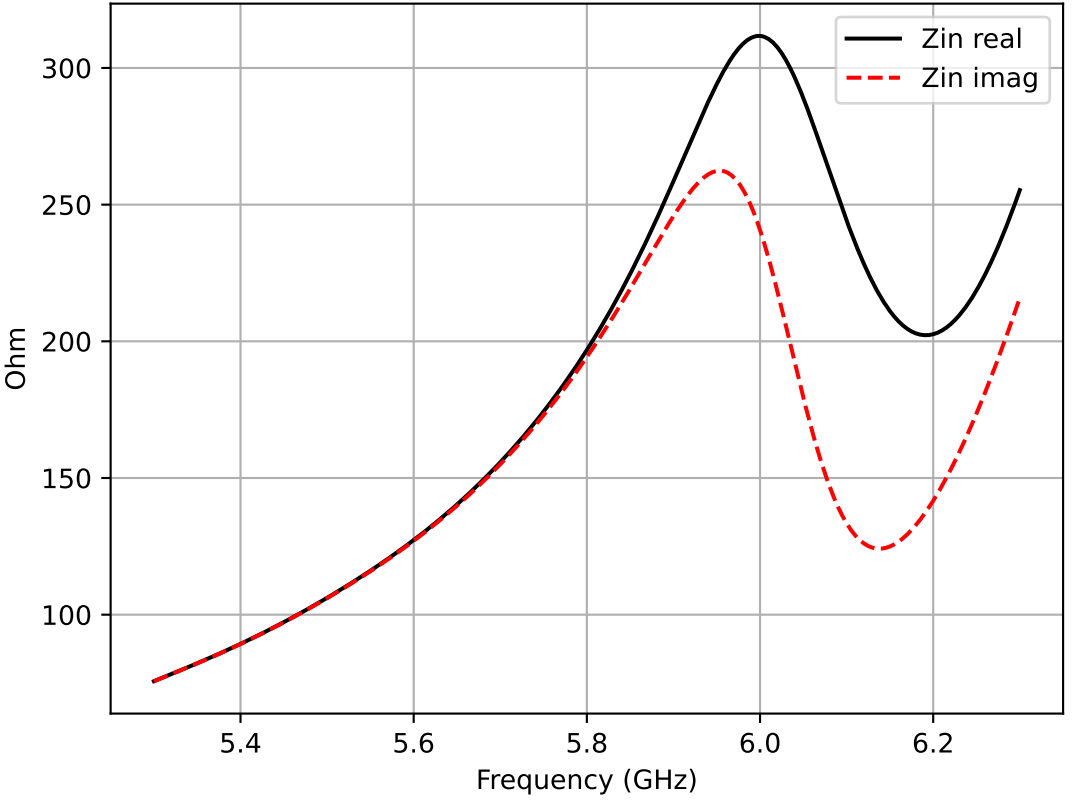
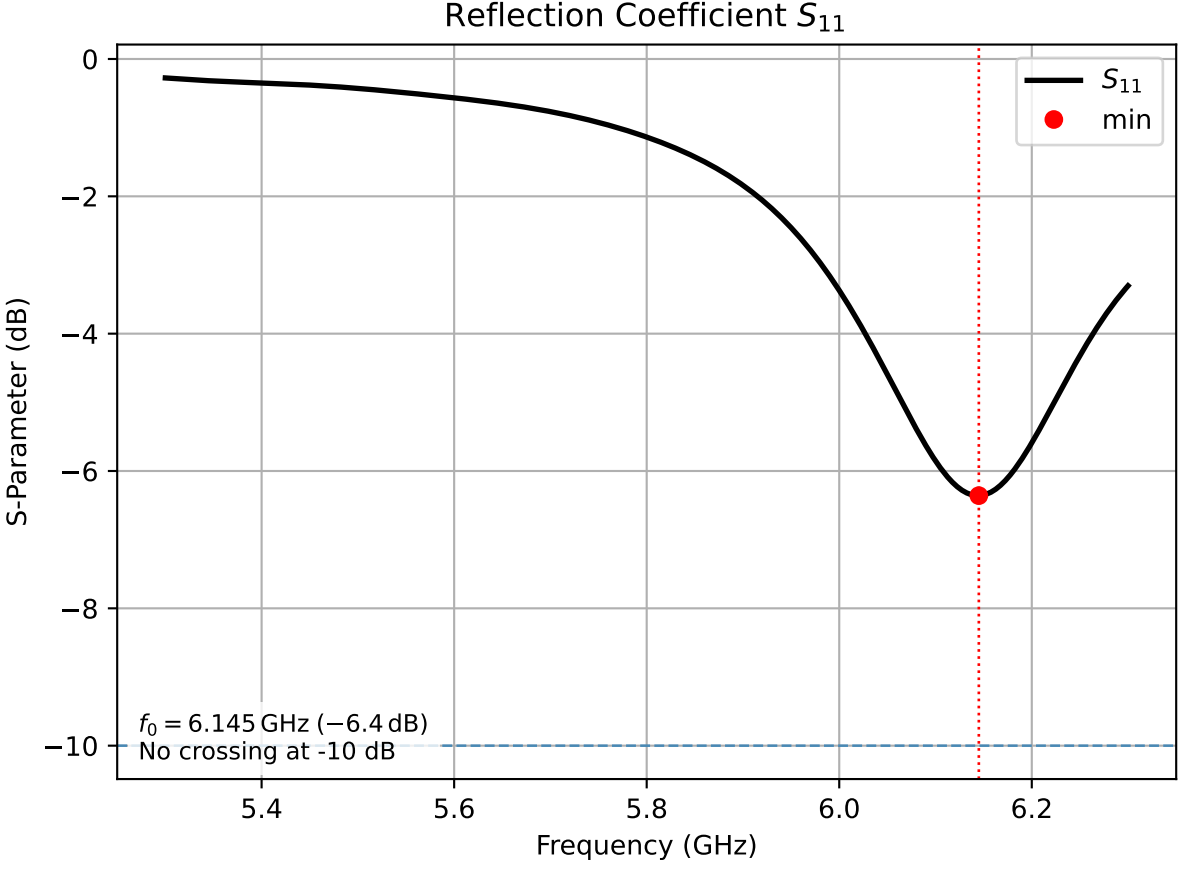
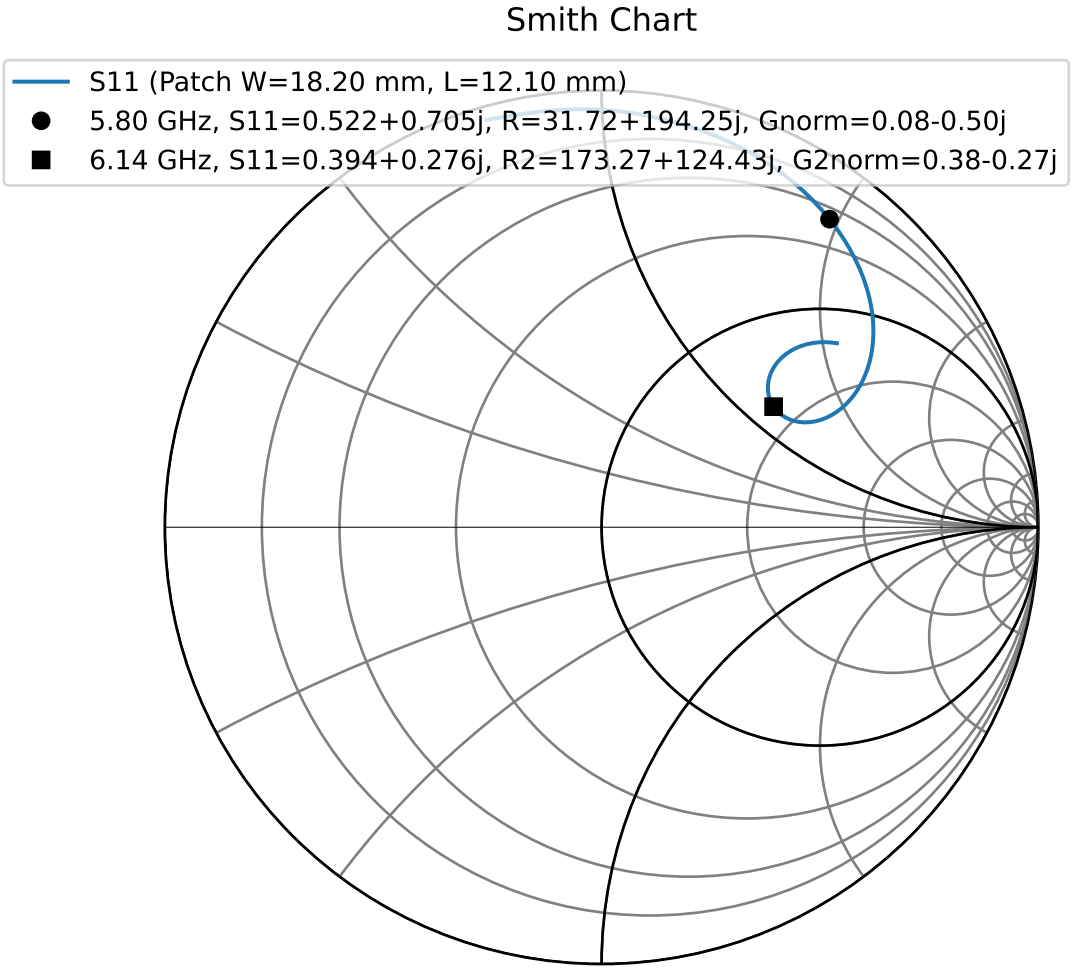
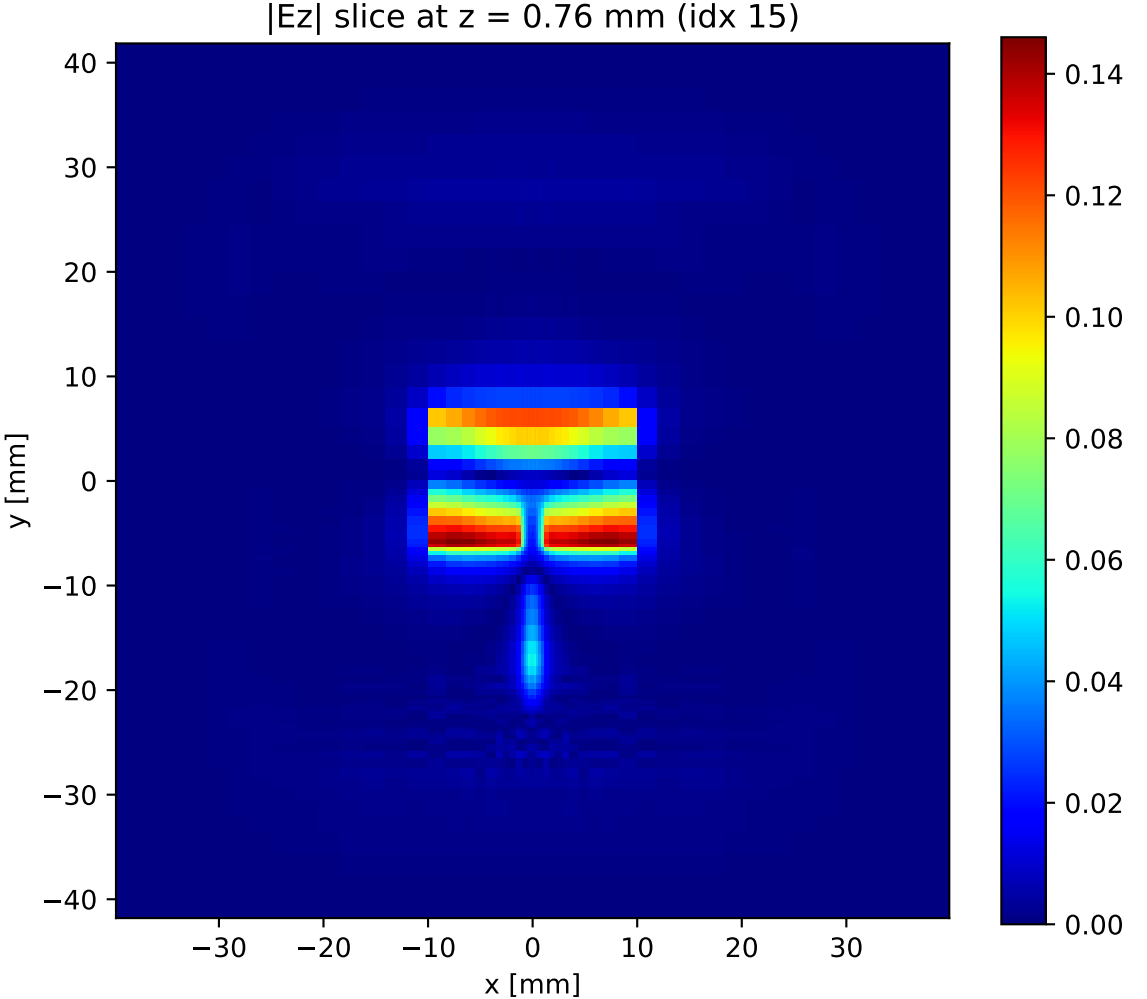
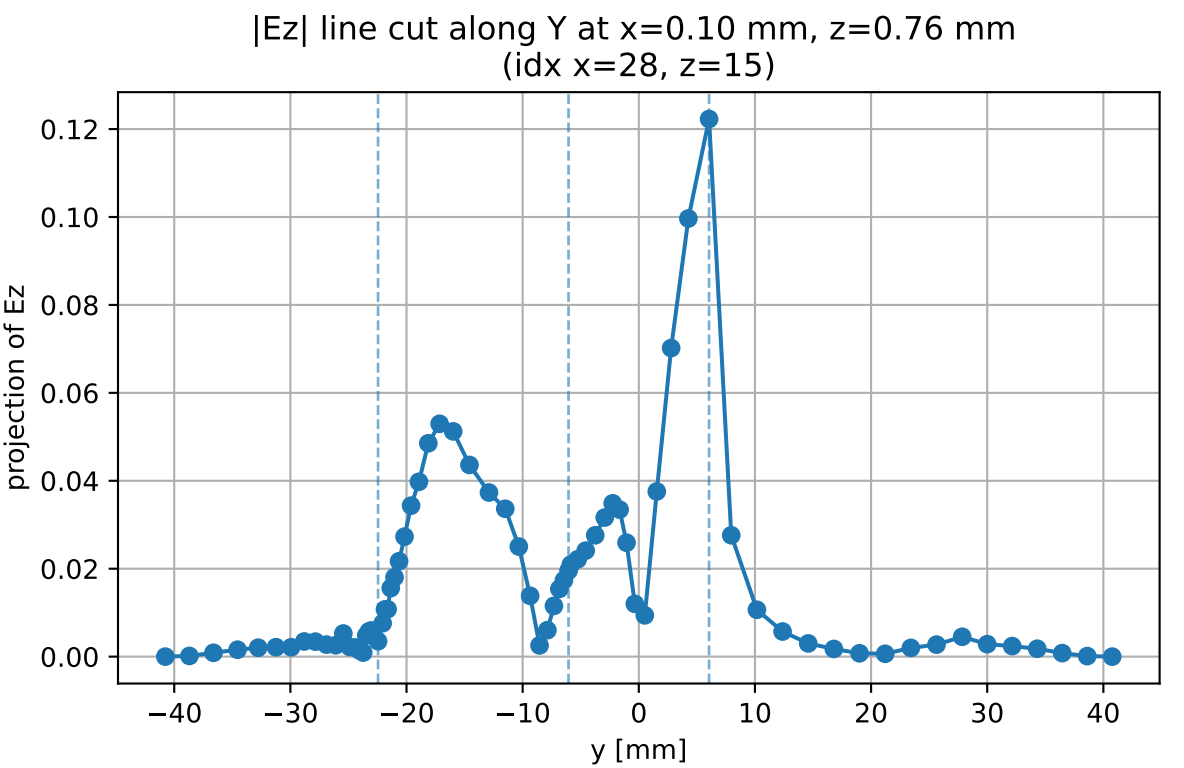
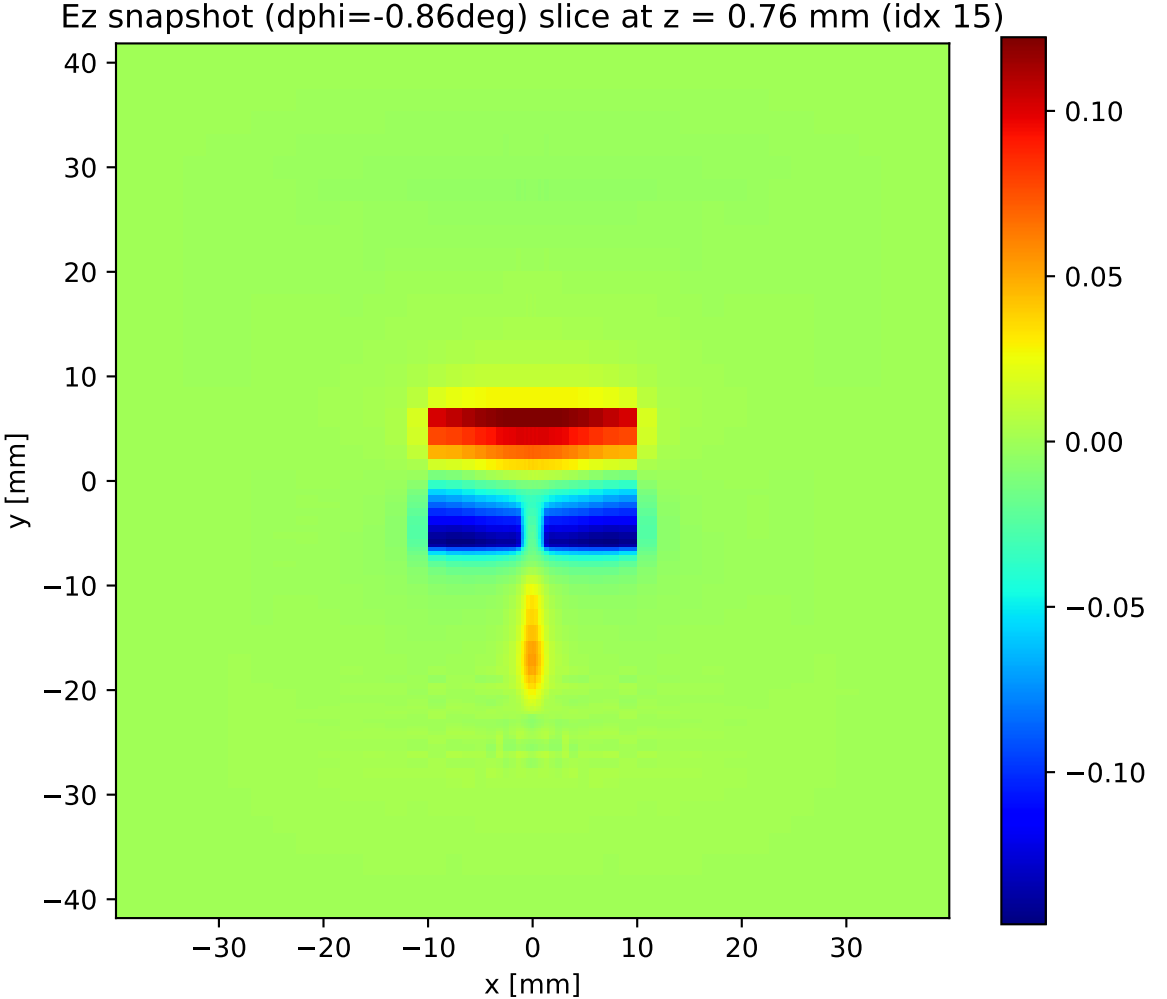

Zin real
Zin imag
300
250
200
150
100
Ohm
5.4
5.6
5.8
6.0
6.2
Frequency (GHz)

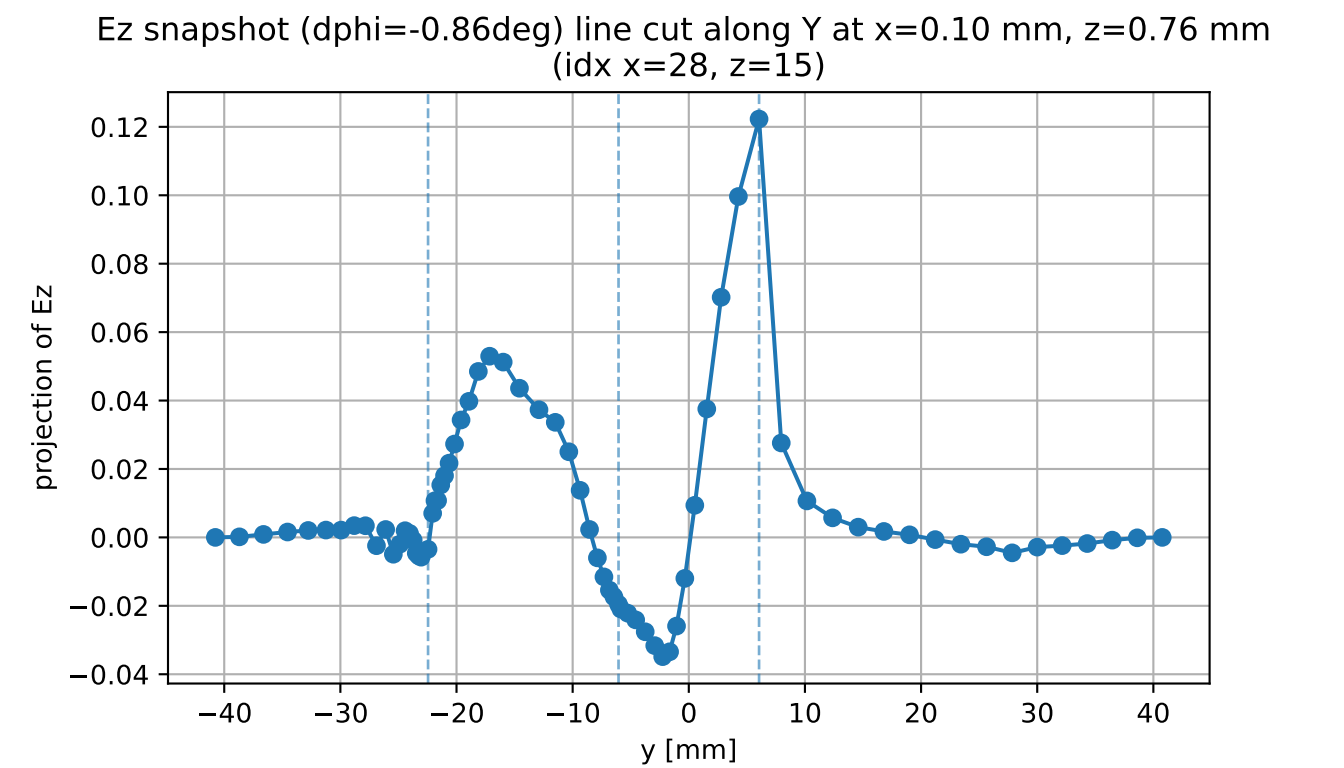

Reflection Coefficient S_{11}
S-Parameter (dB)
Frequency (GHz)
S_{11}
min
$f_0 = 6.145\,\text{GHz}\ (-6.4\,\text{dB})$
No crossing at -10 dB
0
−2
−4
−6
−8
−10
5.4
5.6
5.8
6.0
6.2

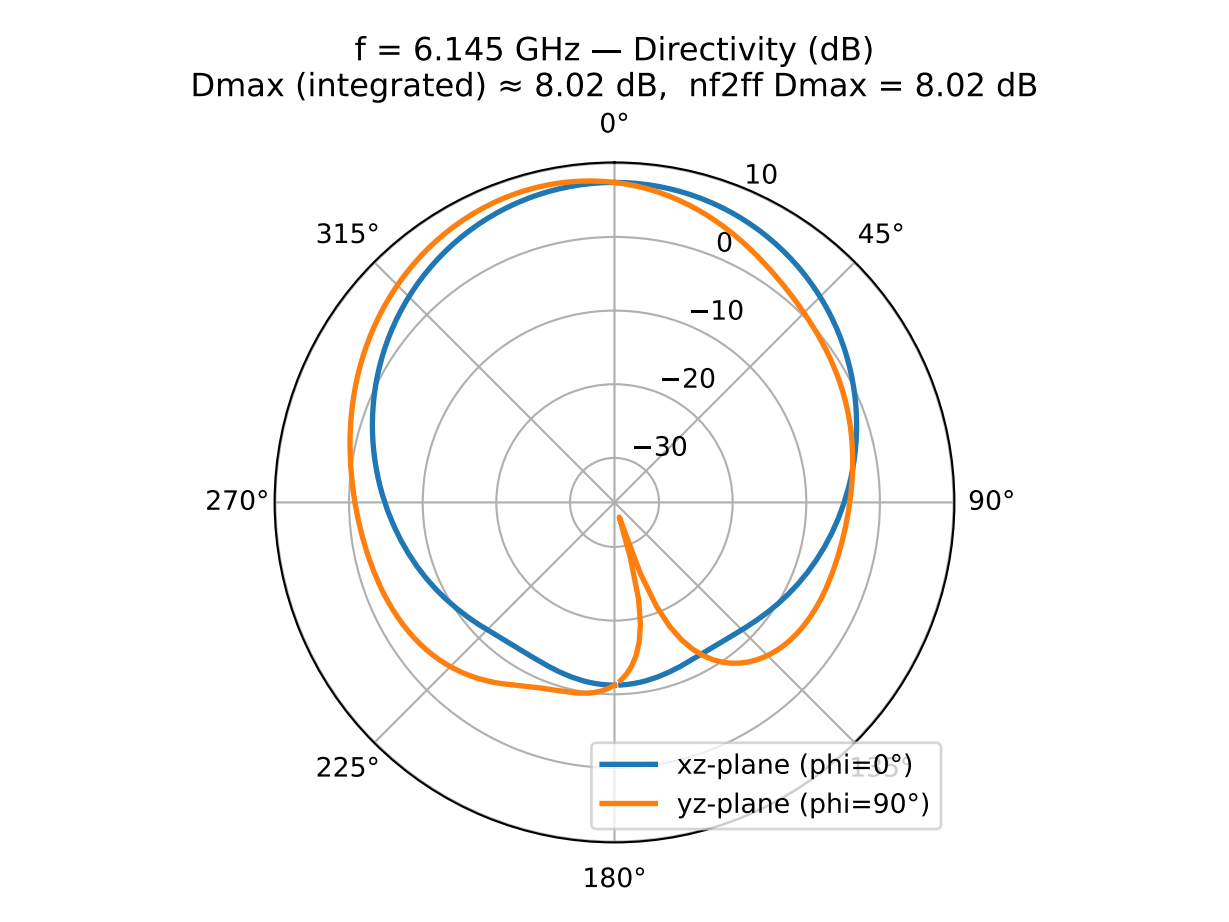

Smith Chart
S11 (Patch W=18.20 mm, L=12.10 mm)
5.80 GHz, S11=0.522+0.705j, R=31.72+194.25j, Gnorm=0.08-0.50j
6.14 GHz, S11=0.394+0.276j, R2=173.27+124.43j, G2norm=0.38-0.27j

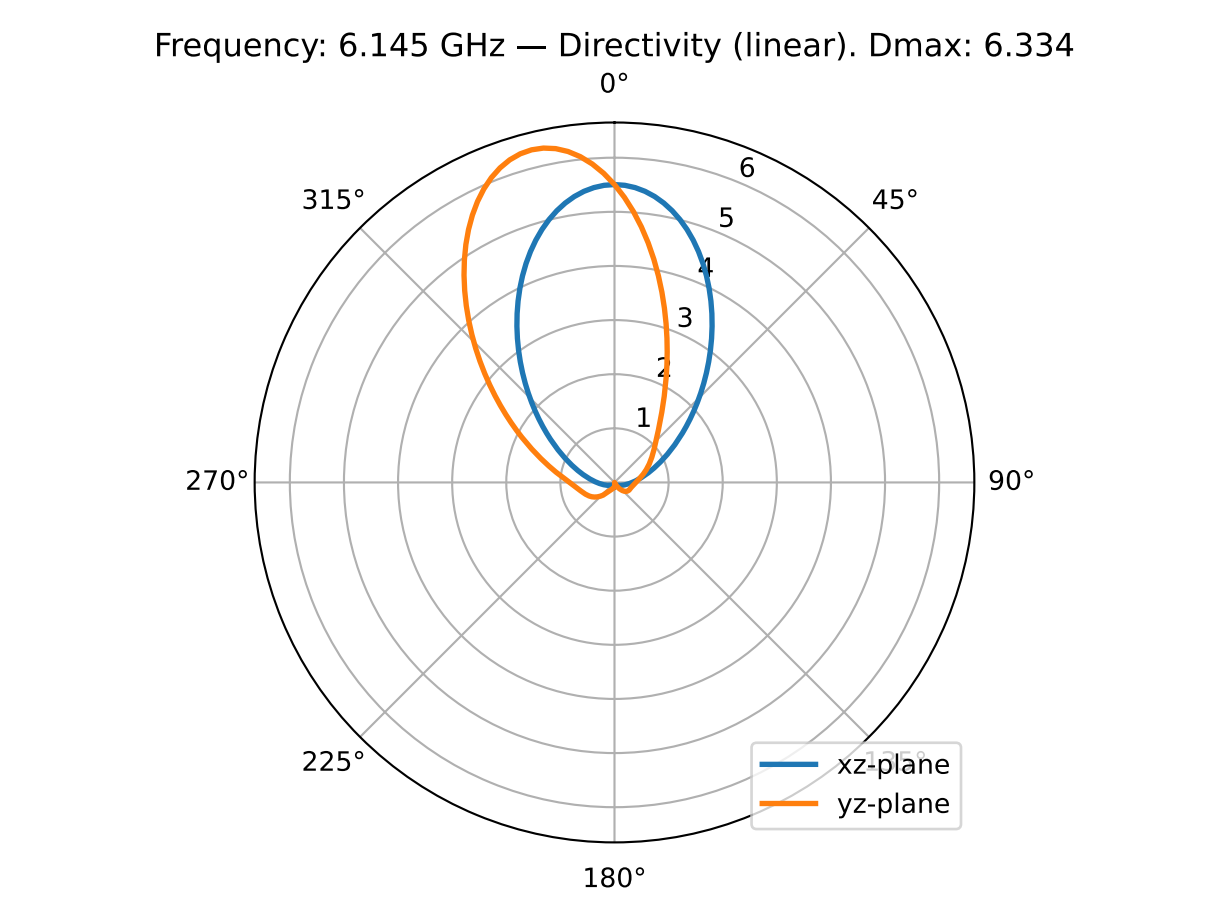

|Ez| slice at z = 0.76 mm (idx 15)
y [mm]
x [mm]
40
30
20
10
0
−10
−20
−30
−40
−30
−20
−10
0
10
20
30
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00

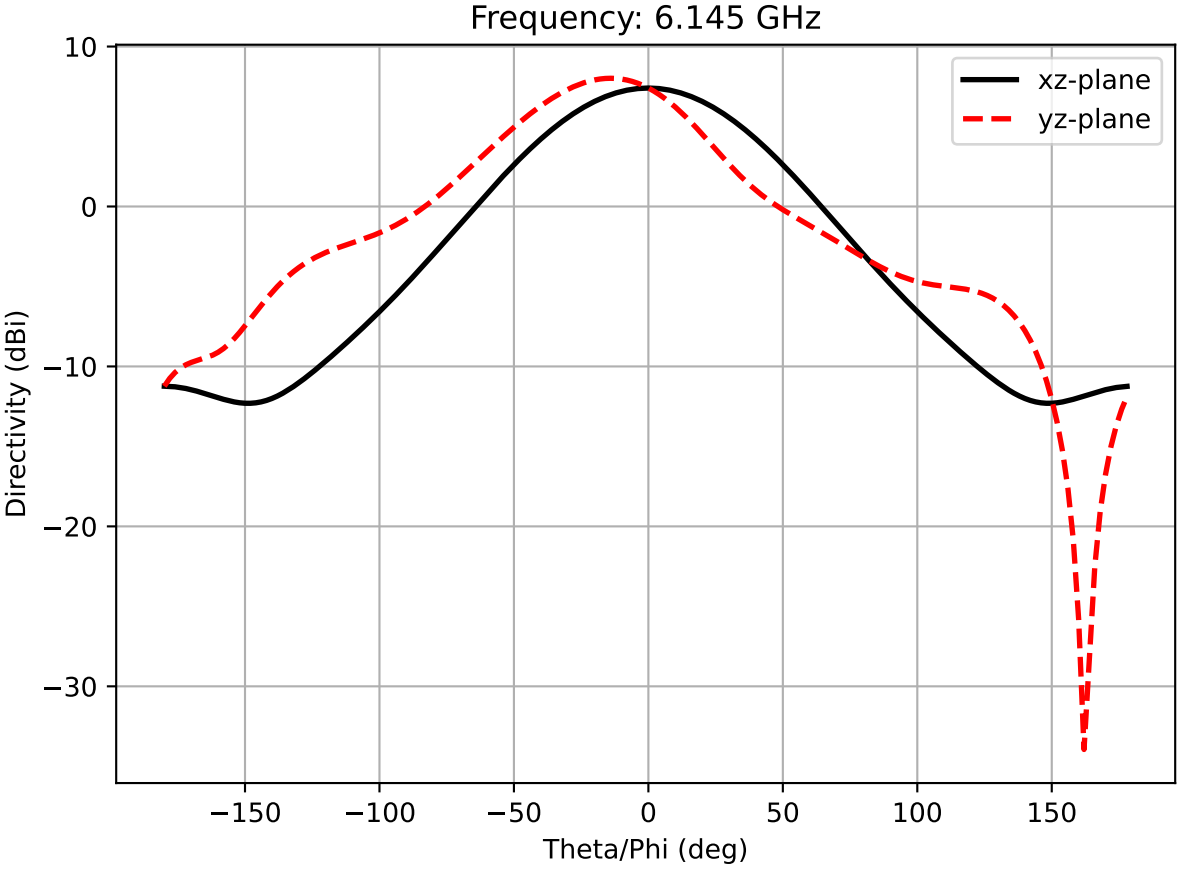

|Ez| line cut along Y at x=0.10 mm, z=0.76 mm
(idx x=28, z=15)
projection of Ez
0.12
0.10
0.08
0.06
0.04
0.02
0.00
−40
−30
−20
−10
0
10
20
30
40
y [mm]

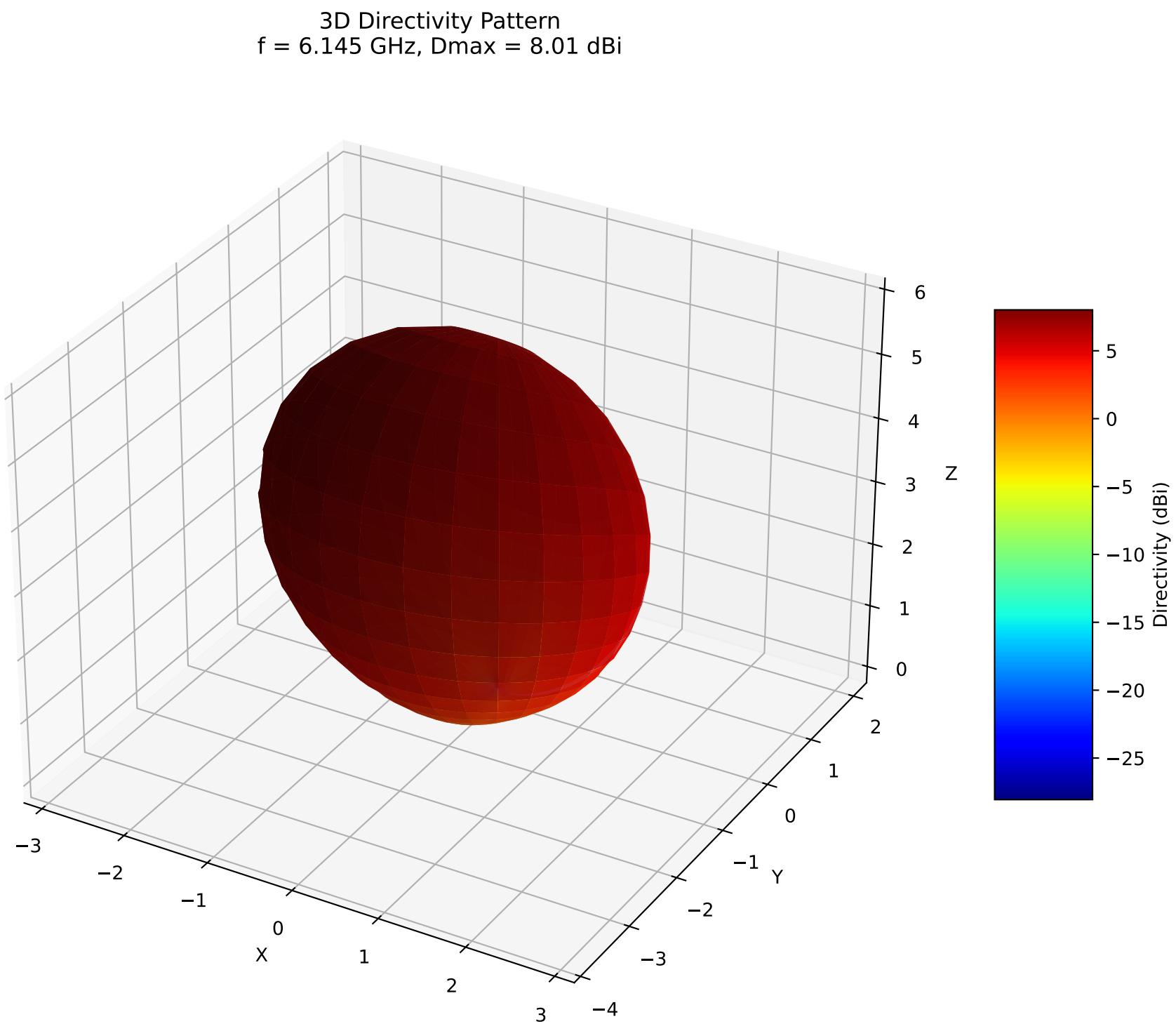

Ez snapshot (dphi=-0.86deg) slice at z = 0.76 mm (idx 15)
y [mm]
x [mm]
40
30
20
10
0
−10
−20
−30
−40
−30
−20
−10
0
10
20
30
0.10
0.05
0.00
−0.05
−0.10


Ez snapshot (dphi=-0.86deg) line cut along Y at x=0.10 mm, z=0.76 mm
(idx x=28, z=15)
projection of Ez
y [mm]
0.12
0.10
0.08
0.06
0.04
0.02
0.00
−0.02
−0.04
−40
−30
−20
−10
0
10
20
30
40


f = 6.145 GHz — Directivity (dB)
Dmax (integrated) ≈ 8.02 dB, nf2ff Dmax = 8.02 dB
0°
45°
90°
225°
270°
315°
180°
10
0
−10
−20
−30
xz-plane (phi=0°)
yz-plane (phi=90°)


Frequency: 6.145 GHz — Directivity (linear). Dmax: 6.334
0°
45°
90°
180°
225°
270°
315°
1
2
3
4
5
6
xz-plane
yz-plane


Frequency: 6.145 GHz
xz-plane
yz-plane
Directivity (dBi)
10
0
−10
−20
−30
−150
−100
−50
0
50
100
150
Theta/Phi (deg)


3D Directivity Pattern
f = 6.145 GHz, Dmax = 8.01 dBi
X
Y
Z
Directivity (dBi)
−3
−2
−1
0
1
2
3
−4
−3
−2
−1
0
1
2
0
1
2
3
4
5
6
5
0
−5
−10
−15
−20
−25