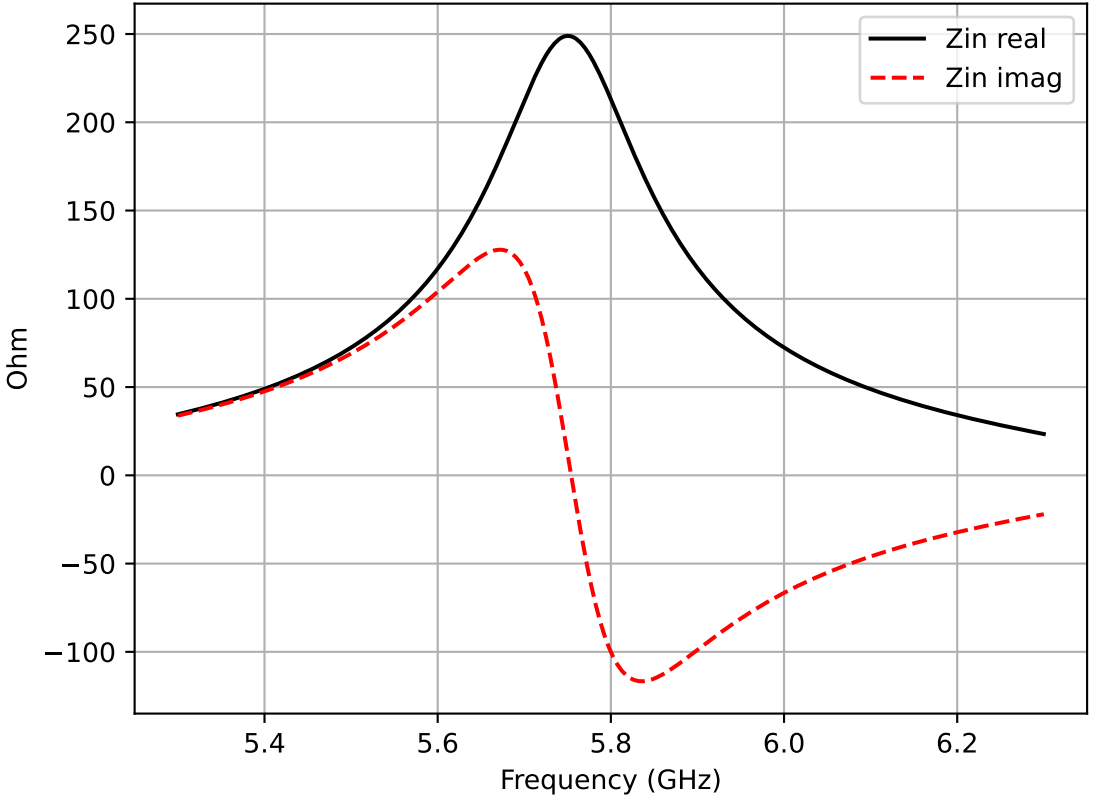
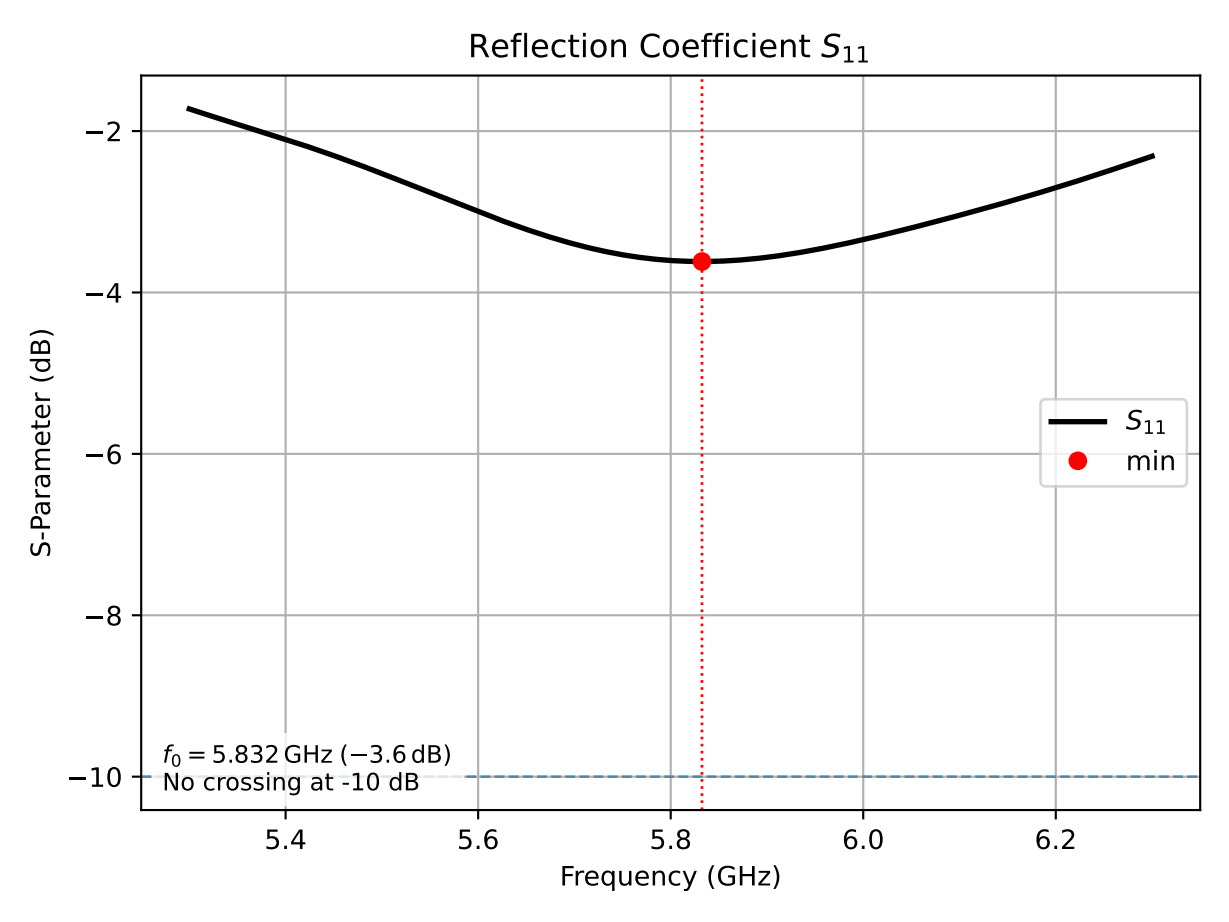
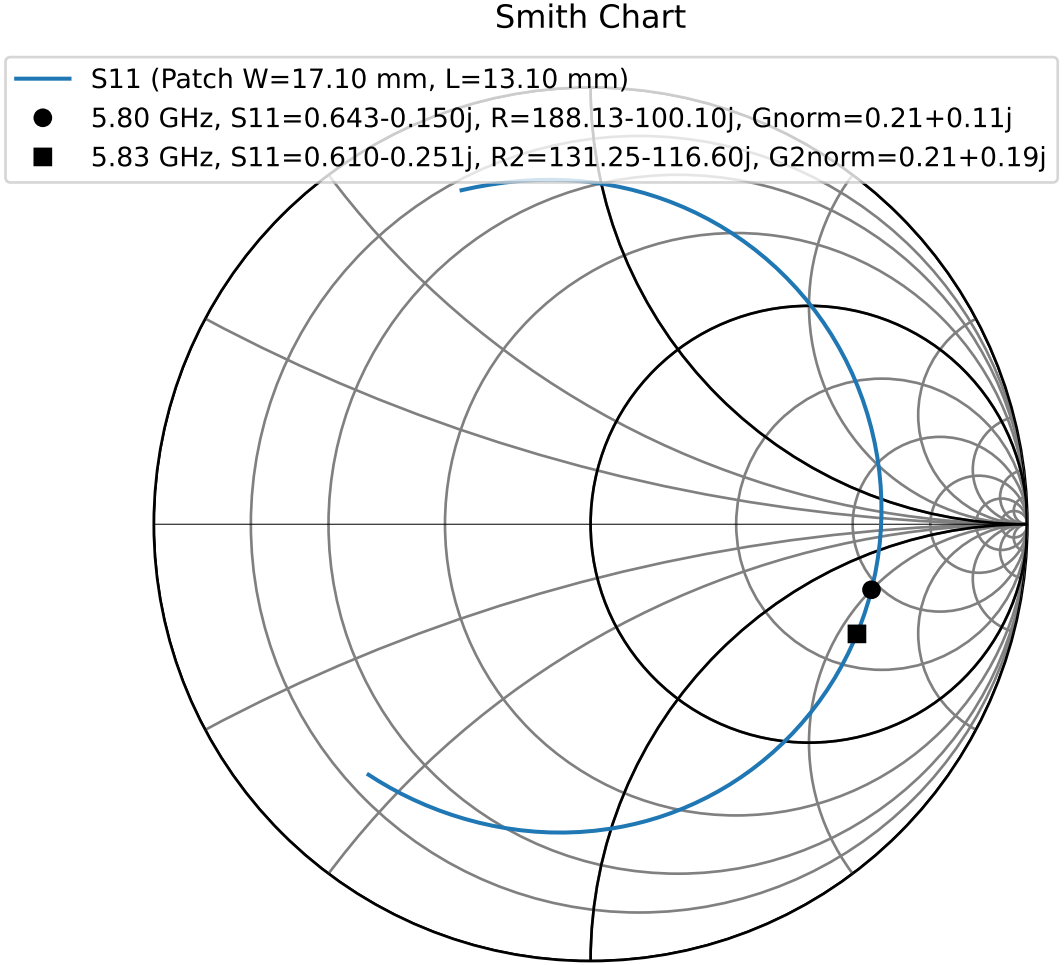
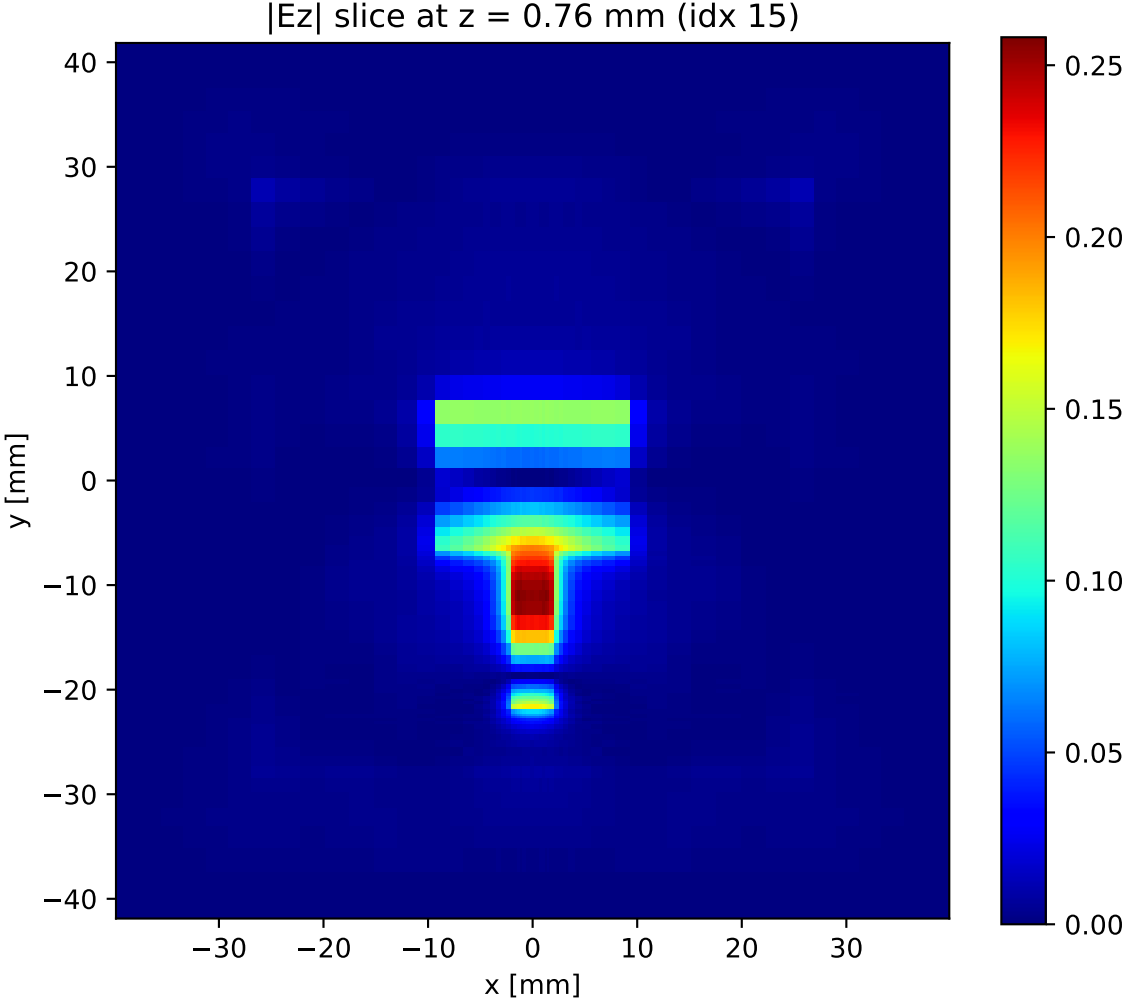
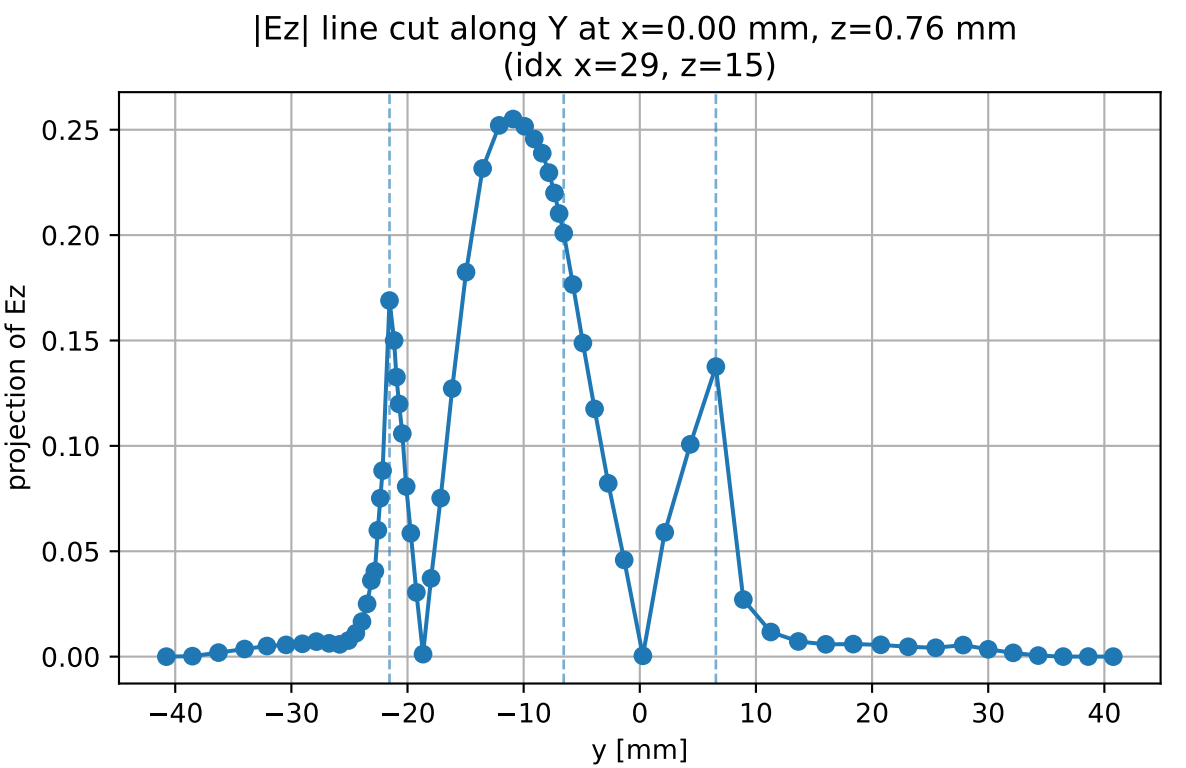
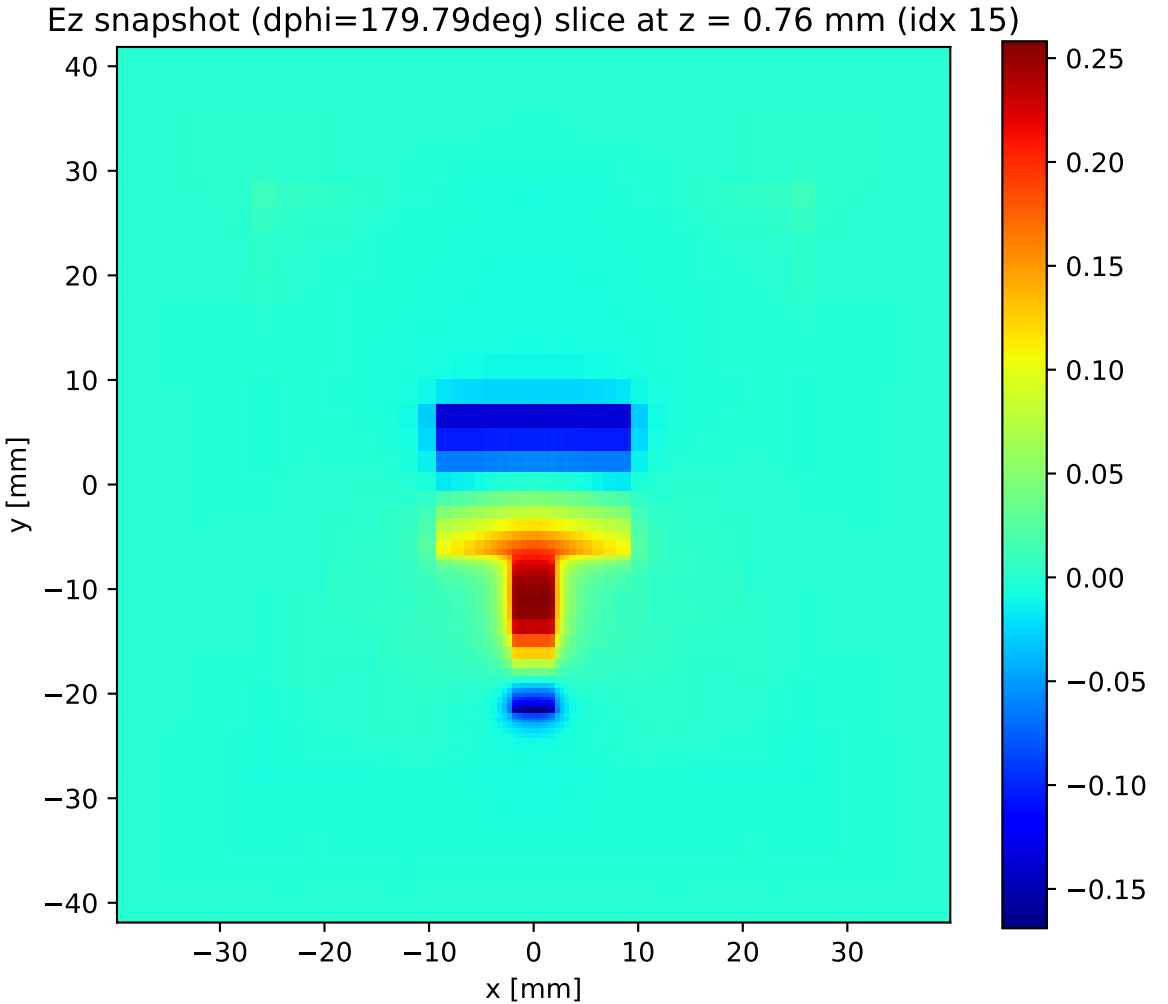

Zin real
Zin imag
250
200
150
100
50
0
−50
−100
Ohm
5.4
5.6
5.8
6.0
6.2
Frequency (GHz)

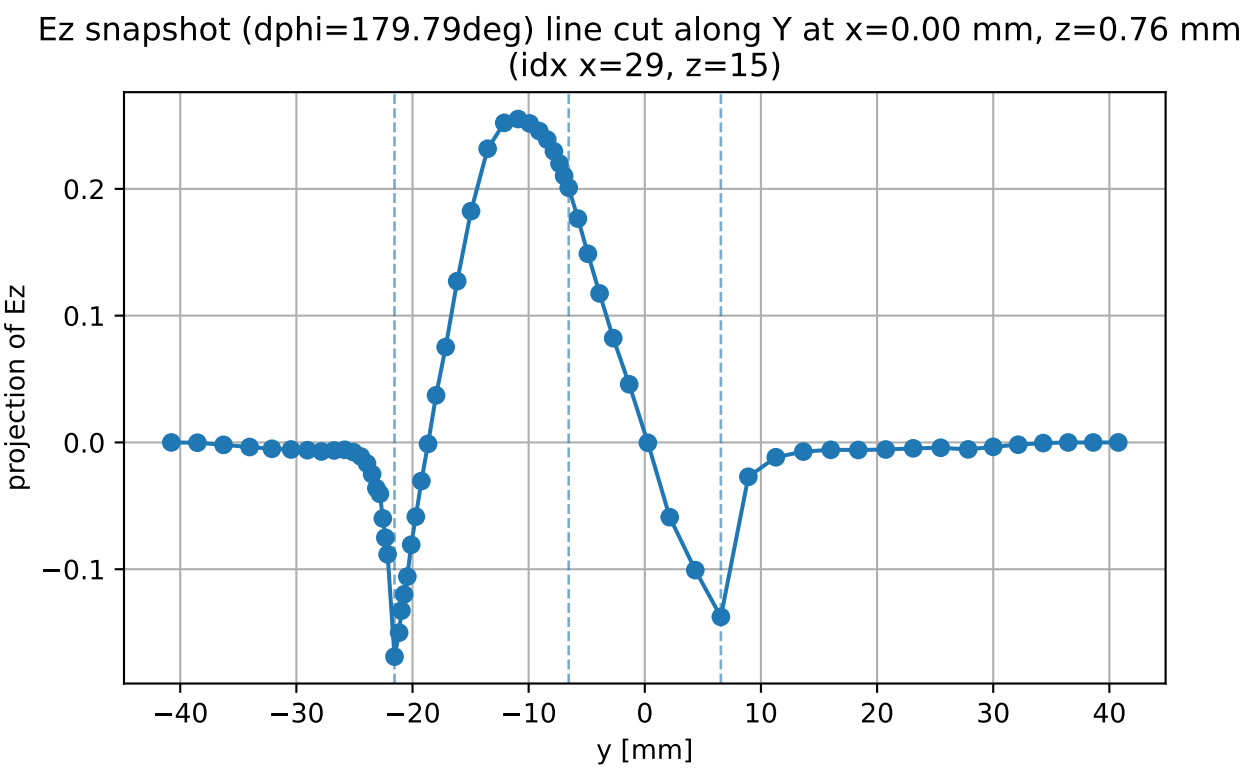

Reflection Coefficient S_{11}
S-Parameter (dB)
−2
−4
−6
−8
−10
5.4
5.6
5.8
6.0
6.2
Frequency (GHz)
S_{11}
min
$f_0 = 5.832$ GHz (−3.6 dB)
No crossing at -10 dB

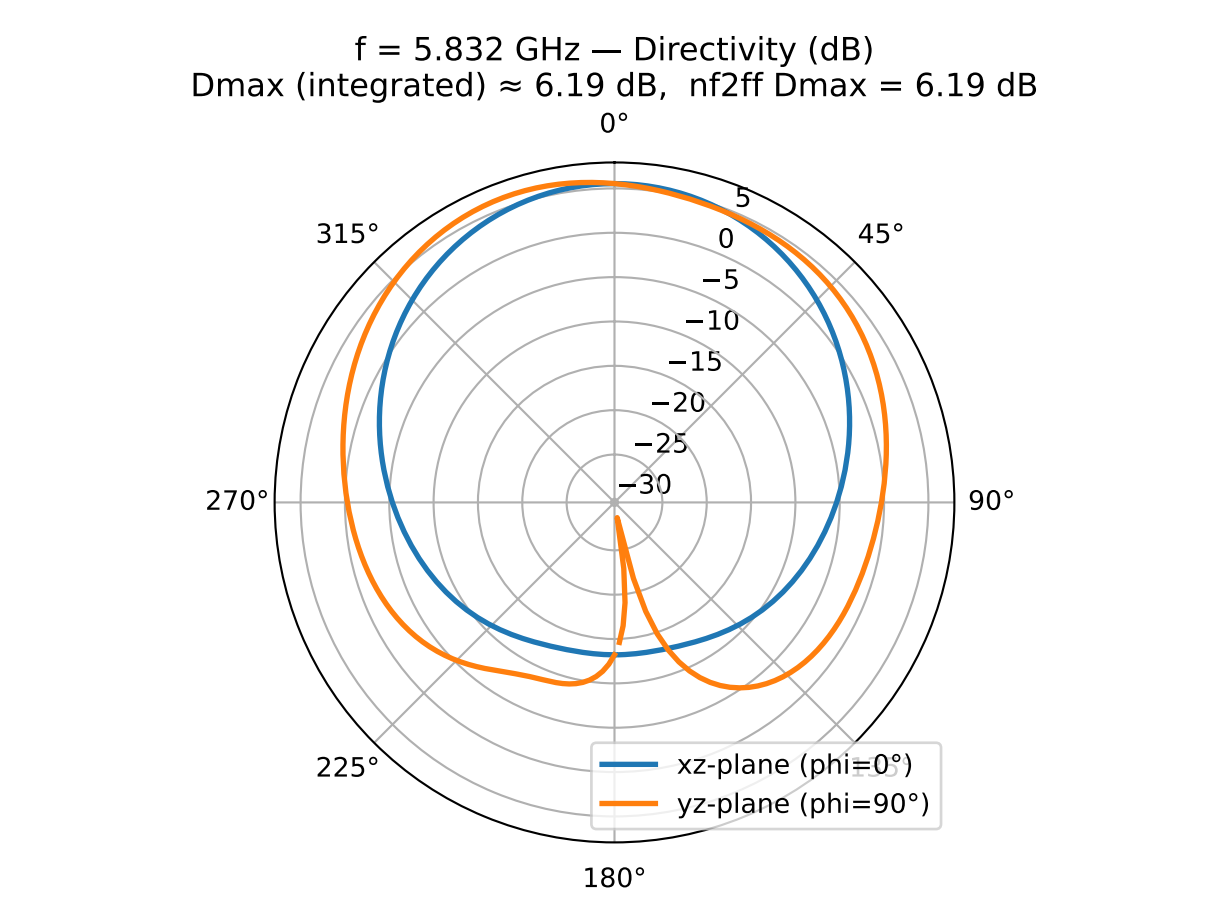

Smith Chart
S11 (Patch W=17.10 mm, L=13.10 mm)
5.80 GHz, S11=0.643-0.150j, R=188.13-100.10j, Gnorm=0.21+0.11j
5.83 GHz, S11=0.610-0.251j, R2=131.25-116.60j, G2norm=0.21+0.19j

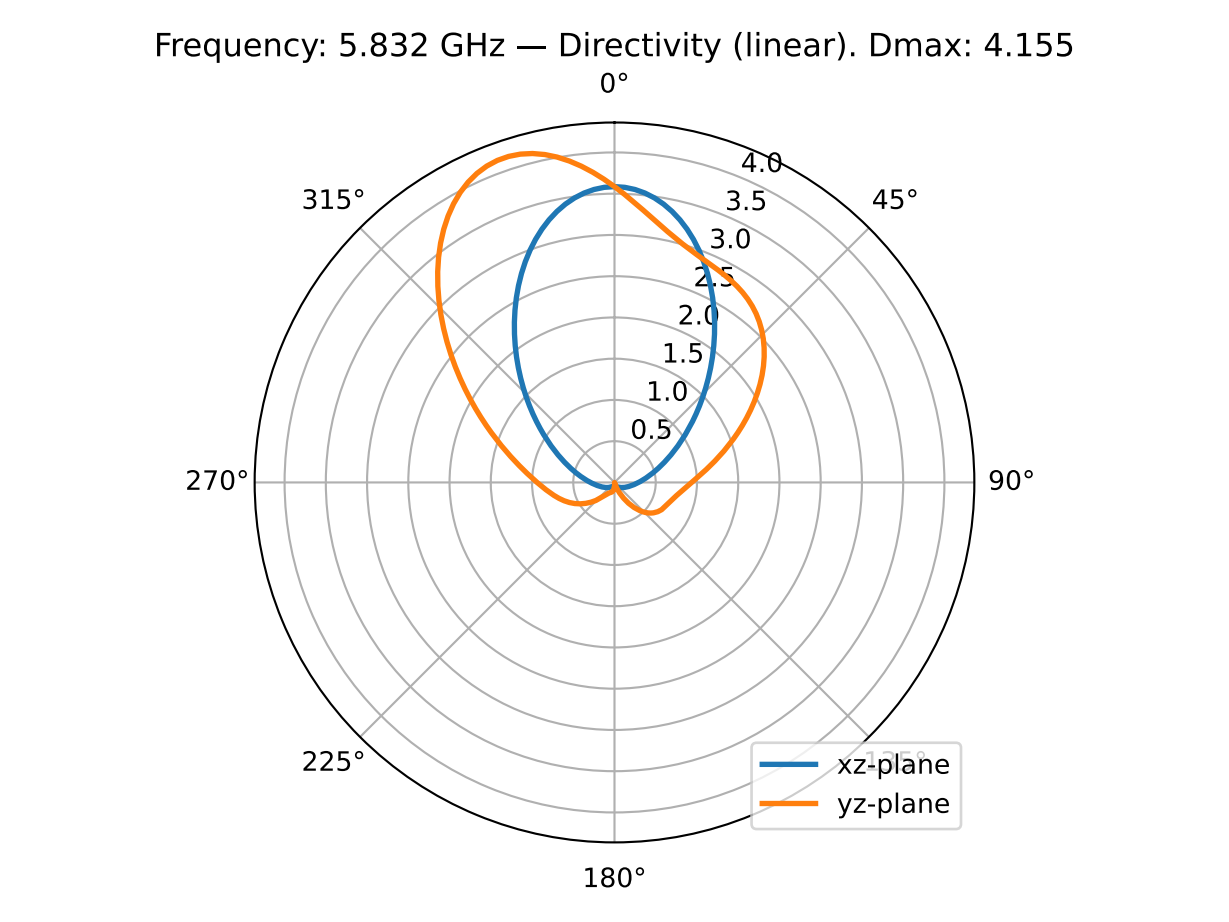

|Ez| slice at z = 0.76 mm (idx 15)
y [mm]
x [mm]
40
30
20
10
0
−10
−20
−30
−40
−30
−20
−10
0
10
20
30
0.25
0.20
0.15
0.10
0.05
0.00

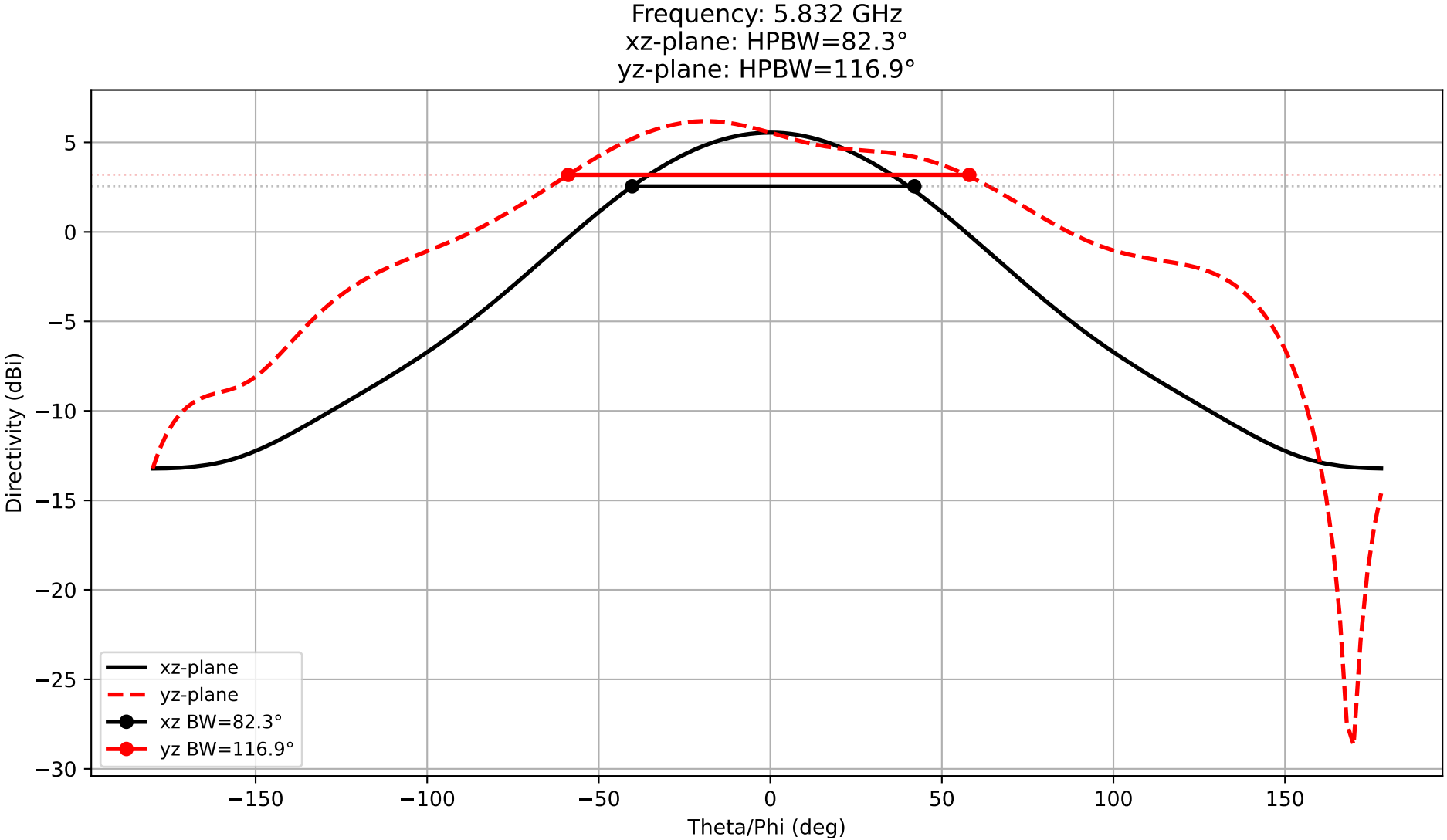

|Ez| line cut along Y at x=0.00 mm, z=0.76 mm
(idx x=29, z=15)
projection of Ez
0.25
0.20
0.15
0.10
0.05
0.00
−40
−30
−20
−10
0
10
20
30
40
y [mm]

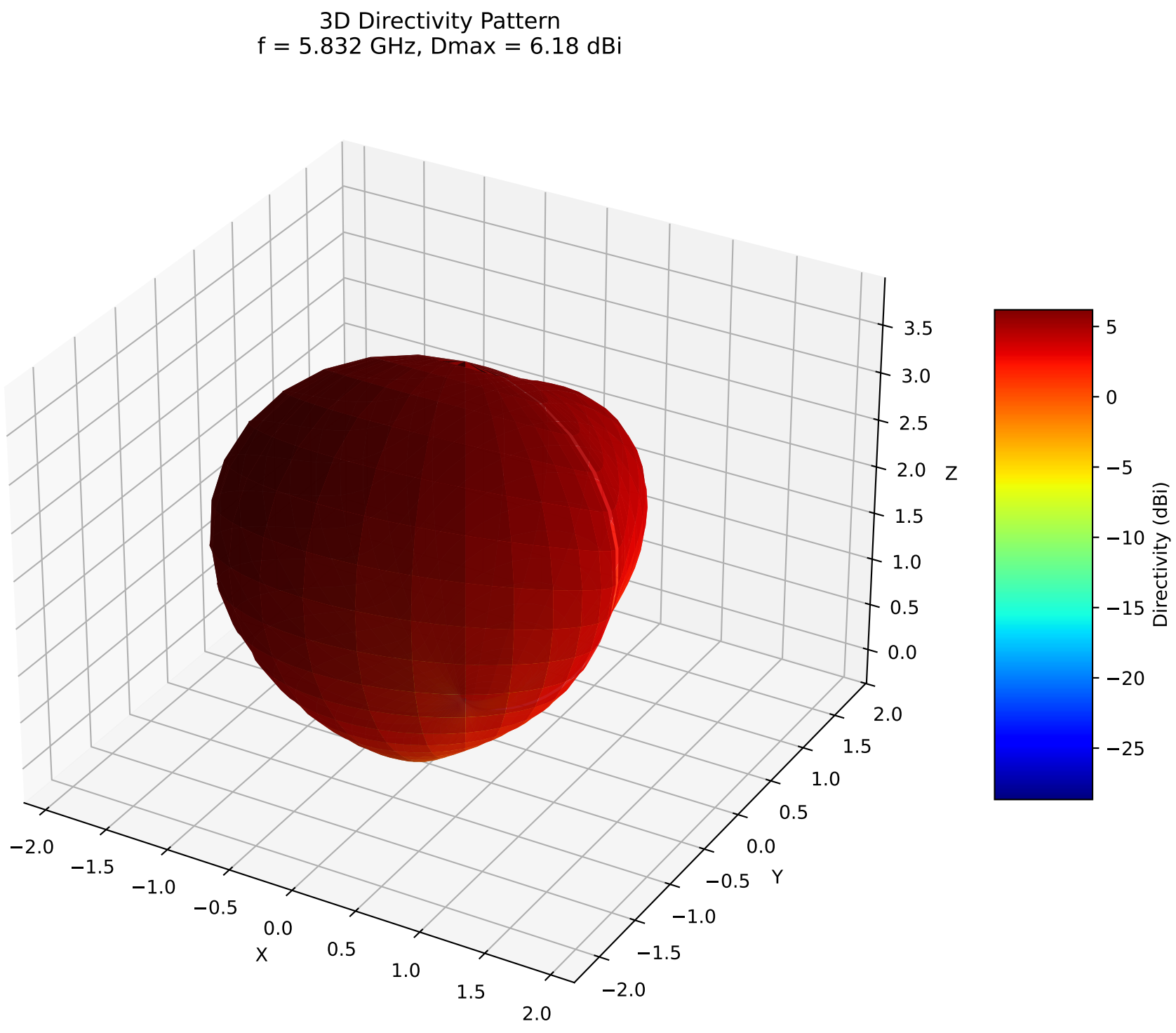

Ez snapshot (dphi=179.79deg) slice at z = 0.76 mm (idx 15)
y [mm]
x [mm]
40
30
20
10
0
−10
−20
−30
−40
−30
−20
−10
0
10
20
30
0.25
0.20
0.15
0.10
0.05
0.00
−0.05
−0.10
−0.15


Ez snapshot (dphi=179.79deg) line cut along Y at x=0.00 mm, z=0.76 mm
(idx x=29, z=15)
projection of Ez
0.2
0.1
0.0
−0.1
−40
−30
−20
−10
0
10
20
30
40
y [mm]


f = 5.832 GHz — Directivity (dB)
Dmax (integrated) ≈ 6.19 dB, nf2ff Dmax = 6.19 dB
0°
45°
90°
225°
180°
270°
315°
5
0
−5
−10
−15
−20
−25
−30
xz-plane (phi=0°)
yz-plane (phi=90°)


Frequency: 5.832 GHz — Directivity (linear). Dmax: 4.155
0°
45°
90°
180°
225°
270°
315°
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
xz-plane
yz-plane


Frequency: 5.832 GHz
xz-plane: HPBW=82.3°
yz-plane: HPBW=116.9°
Directivity (dBi)
Theta/Phi (deg)
5
0
−5
−10
−15
−20
−25
−30
−150
−100
−50
0
50
100
150
xz-plane
yz-plane
xz BW=82.3°
yz BW=116.9°


3D Directivity Pattern
f = 5.832 GHz, Dmax = 6.18 dBi
X
Y
Z
Directivity (dBi)