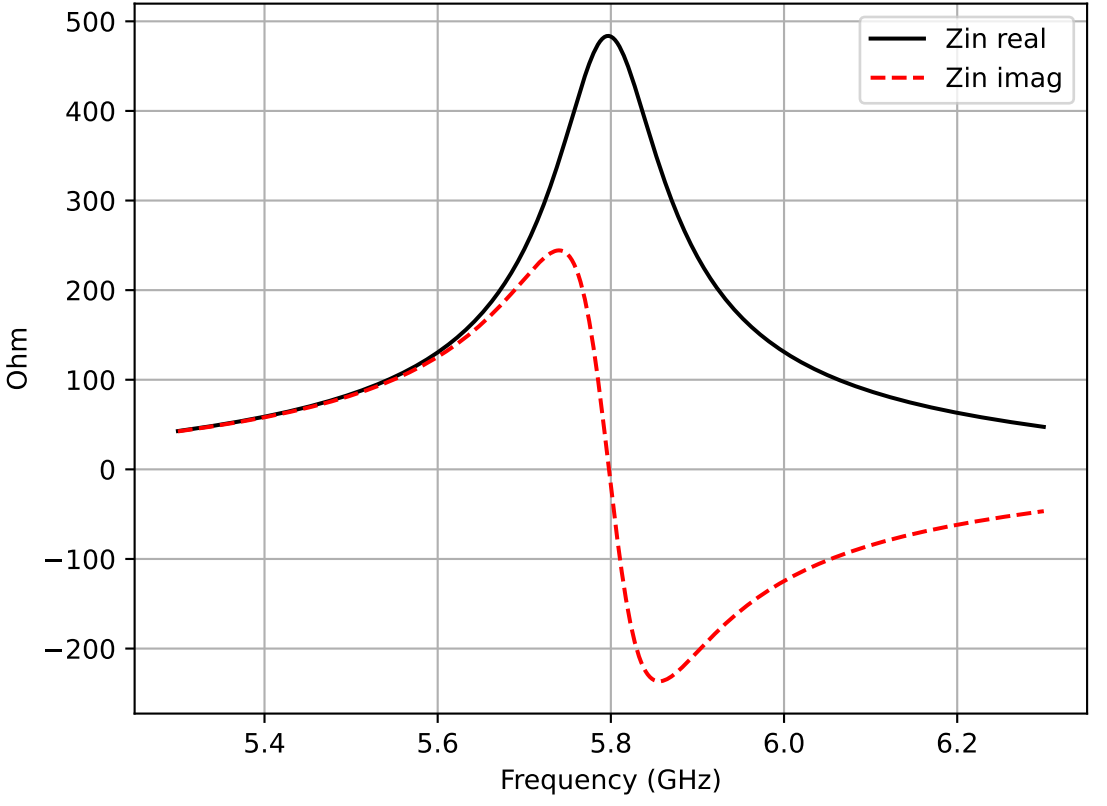
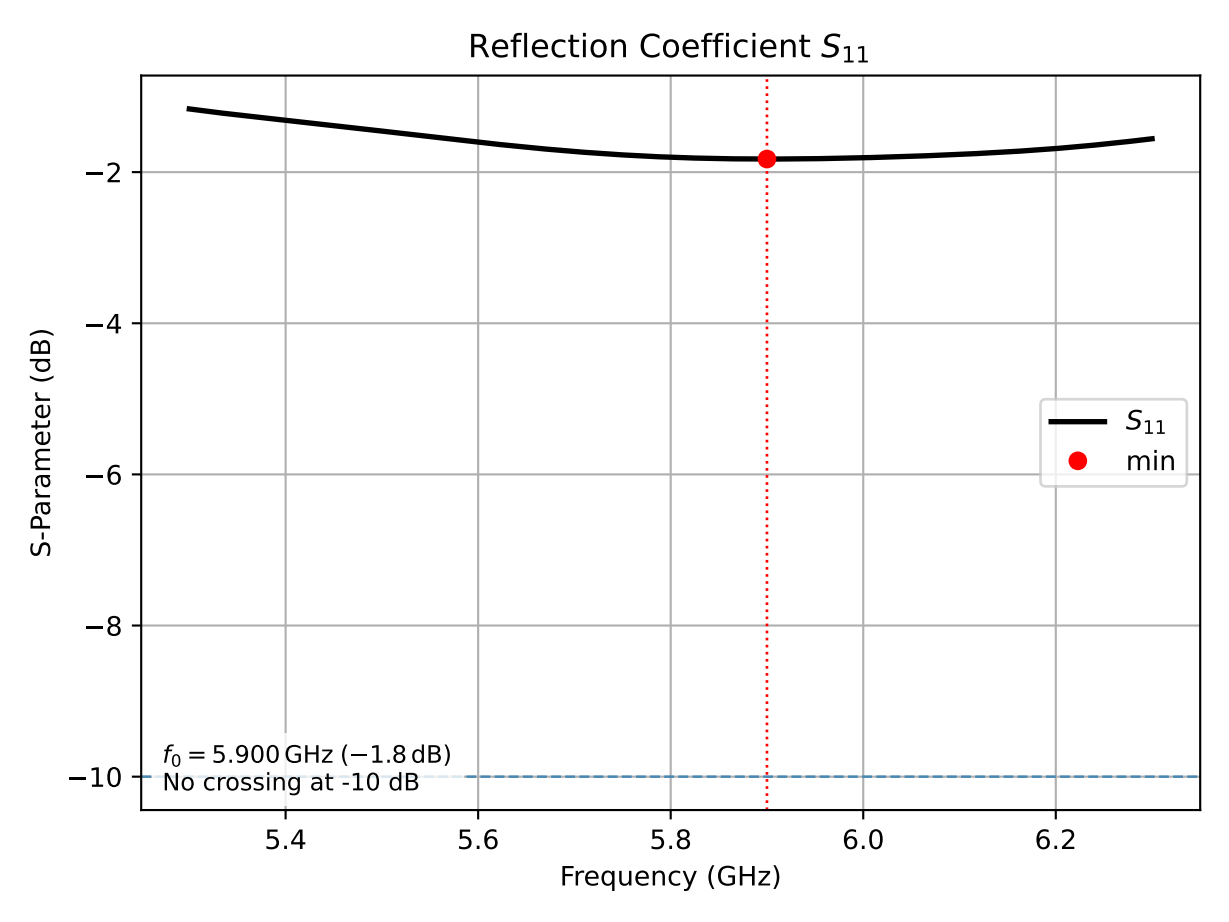
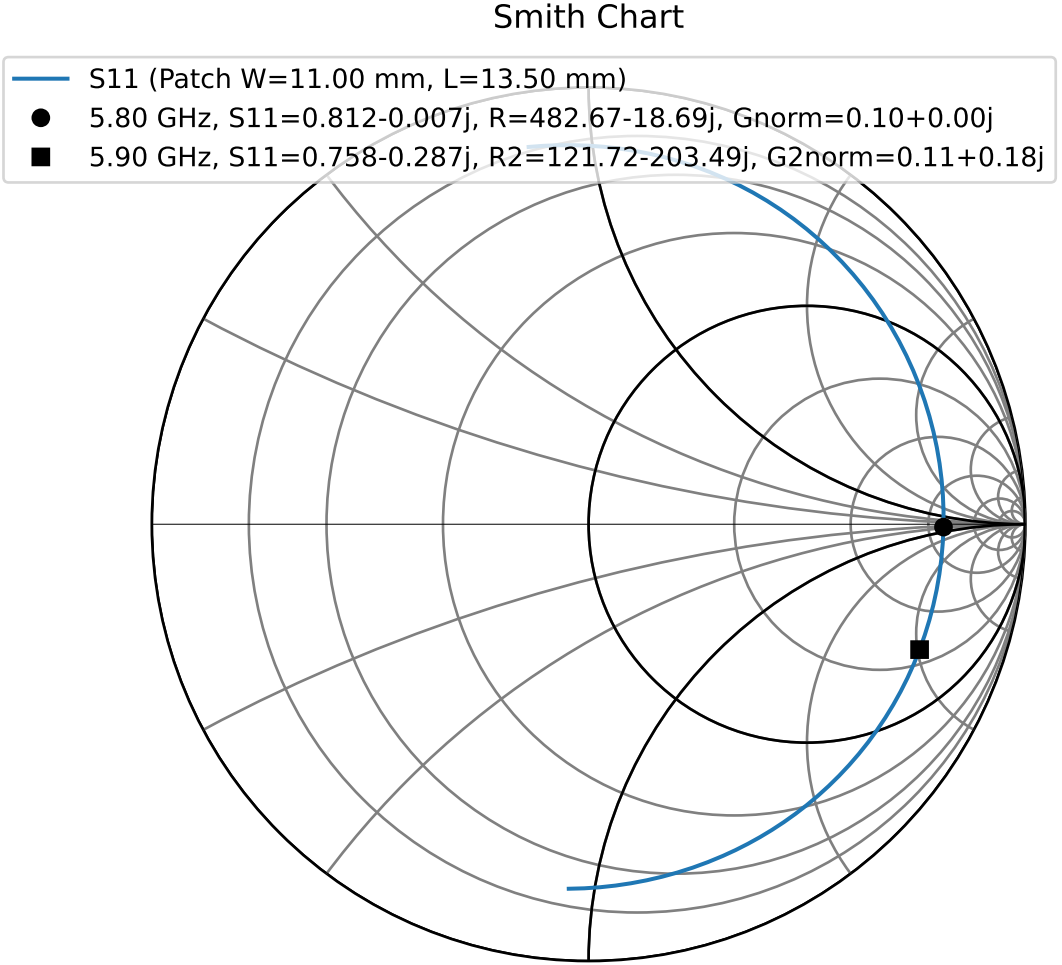
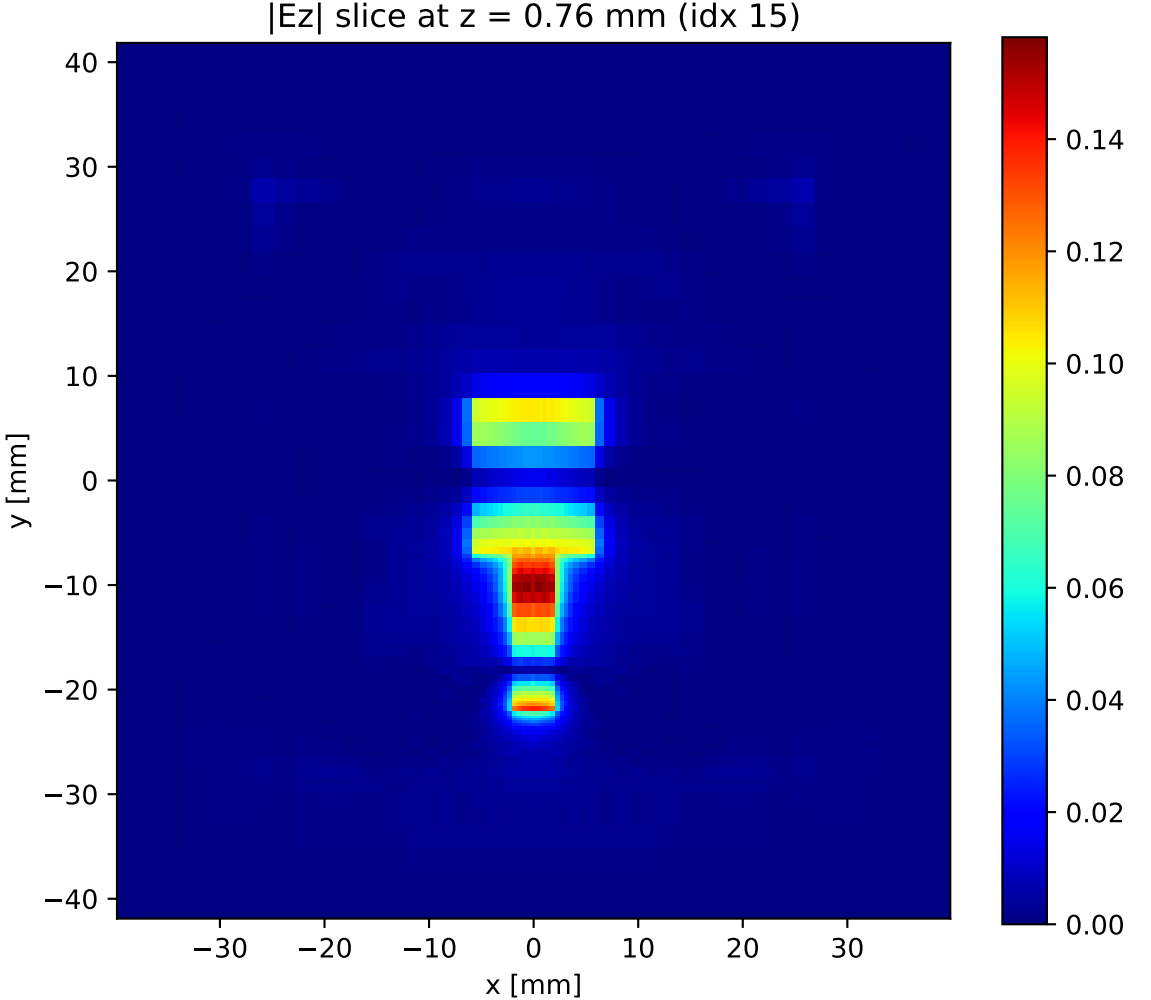
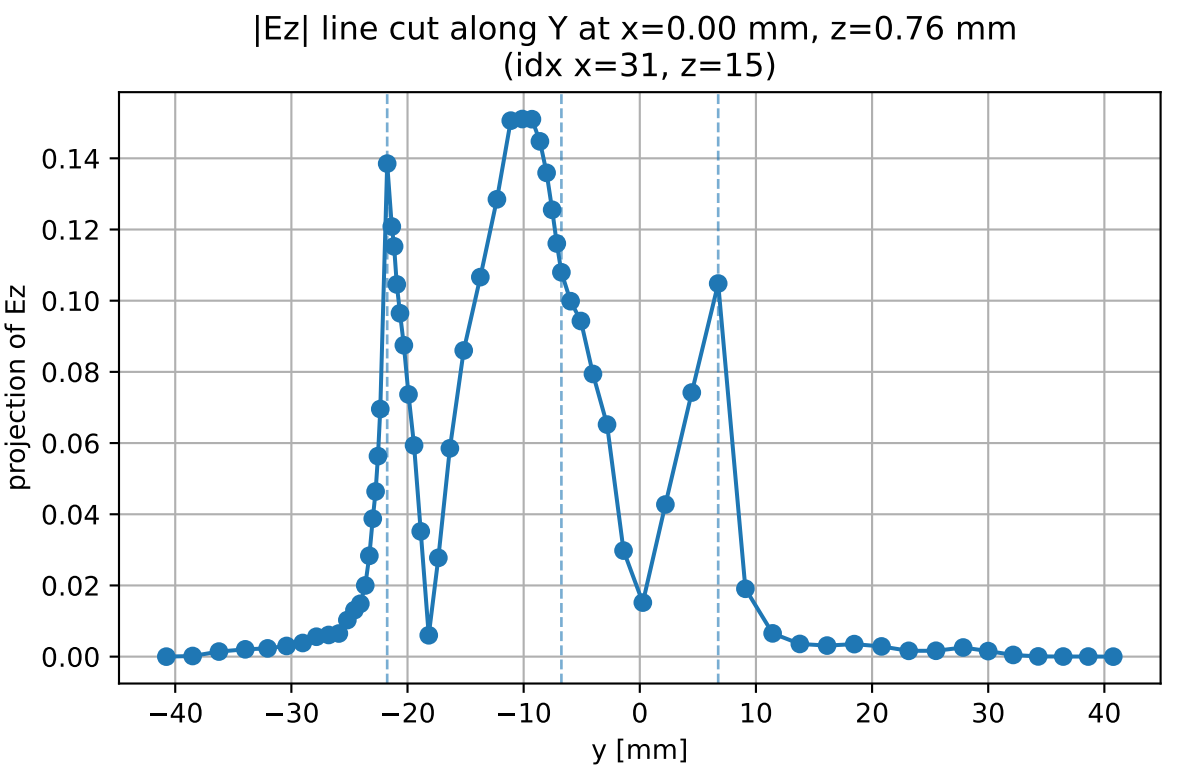
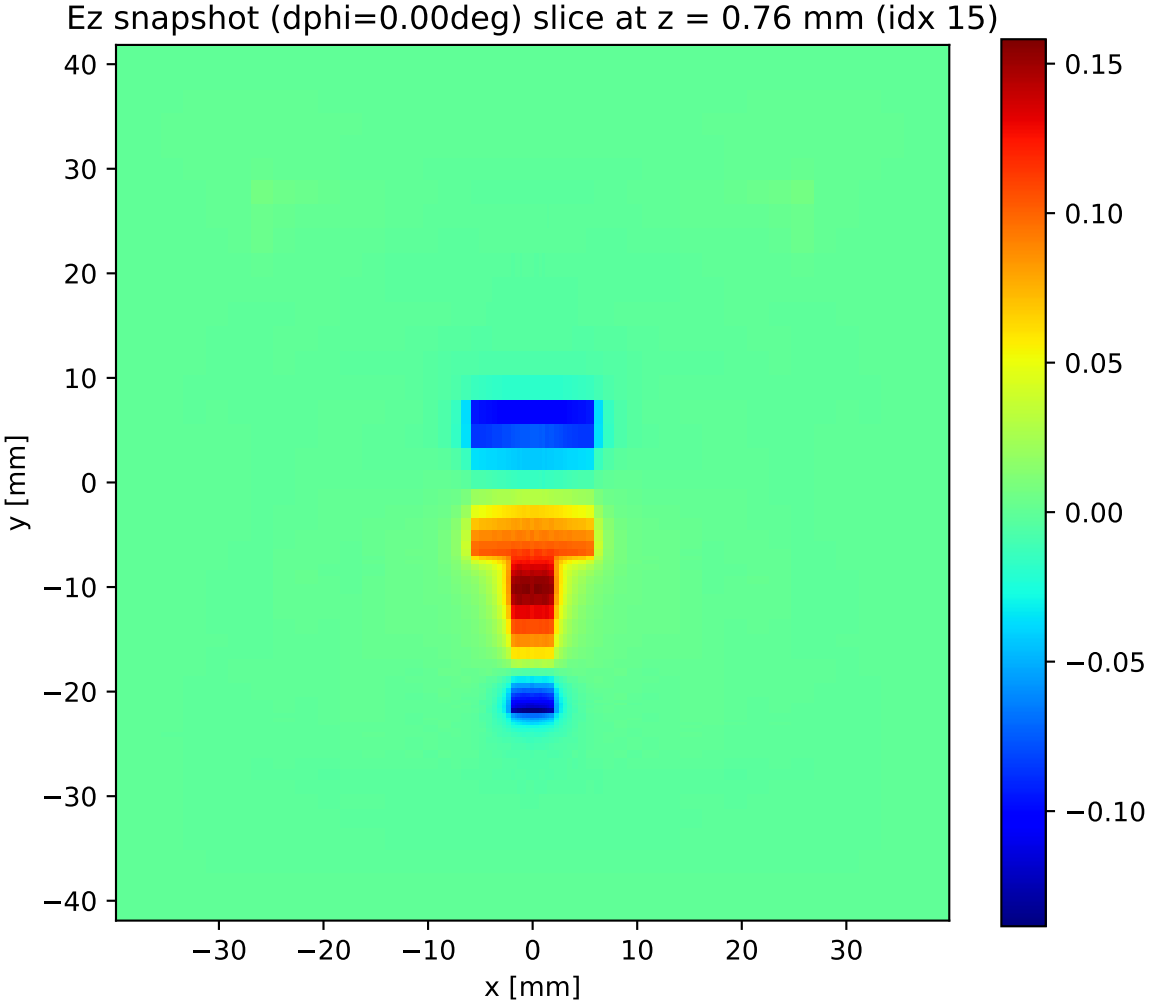

Zin real
Zin imag
Ohm
500
400
300
200
100
0
−100
−200
5.4
5.6
5.8
6.0
6.2
Frequency (GHz)

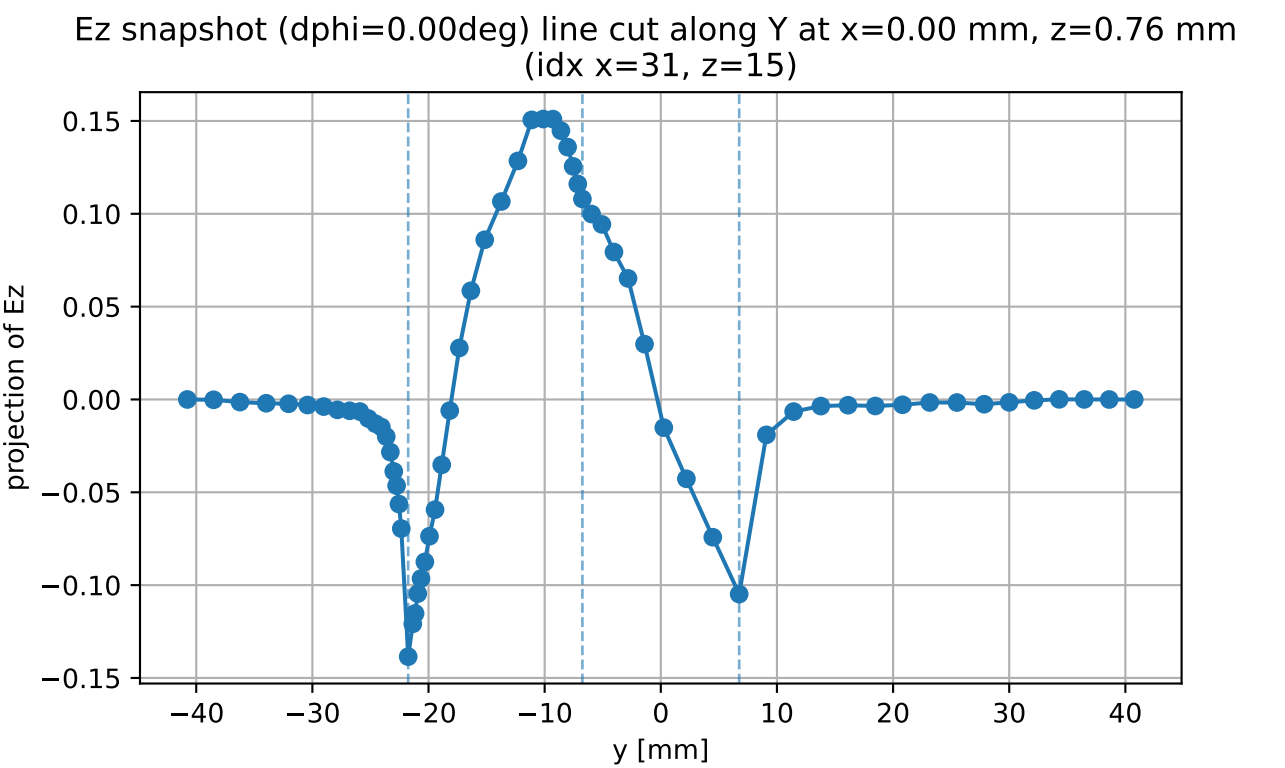

Reflection Coefficient $S_{11}$
S-Parameter (dB)
−2
−4
−6
−8
−10
5.4
5.6
5.8
6.0
6.2
Frequency (GHz)
$S_{11}$
min
$f_0 = 5.900\,\text{GHz}\ (-1.8\,\text{dB})$
No crossing at -10 dB

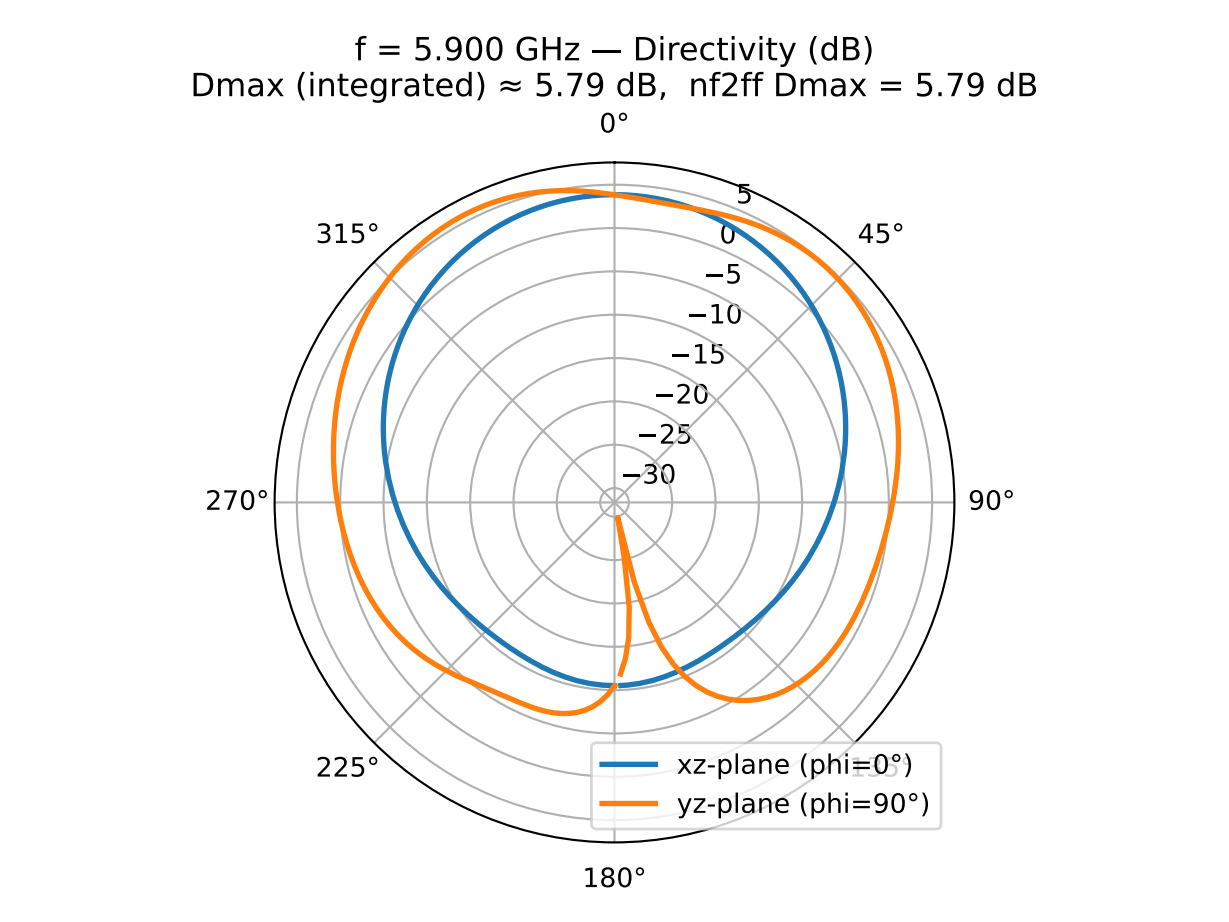

Smith Chart
S11 (Patch W=11.00 mm, L=13.50 mm)
5.80 GHz, S11=0.812-0.007j, R=482.67-18.69j, Gnorm=0.10+0.00j
5.90 GHz, S11=0.758-0.287j, R2=121.72-203.49j, G2norm=0.11+0.18j

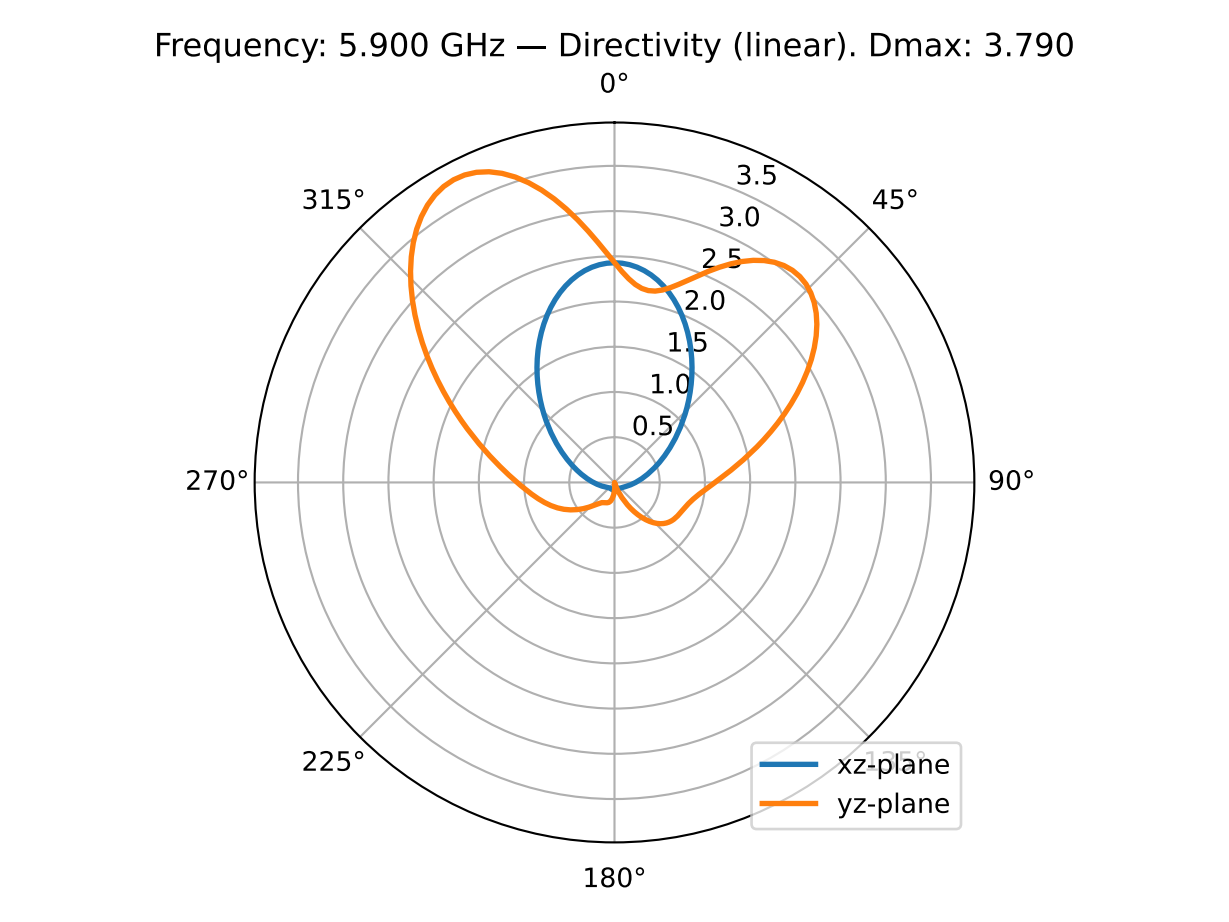

|Ez| slice at z = 0.76 mm (idx 15)
y [mm]
x [mm]
40
30
20
10
0
−10
−20
−30
−40
−30
−20
−10
0
10
20
30
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00

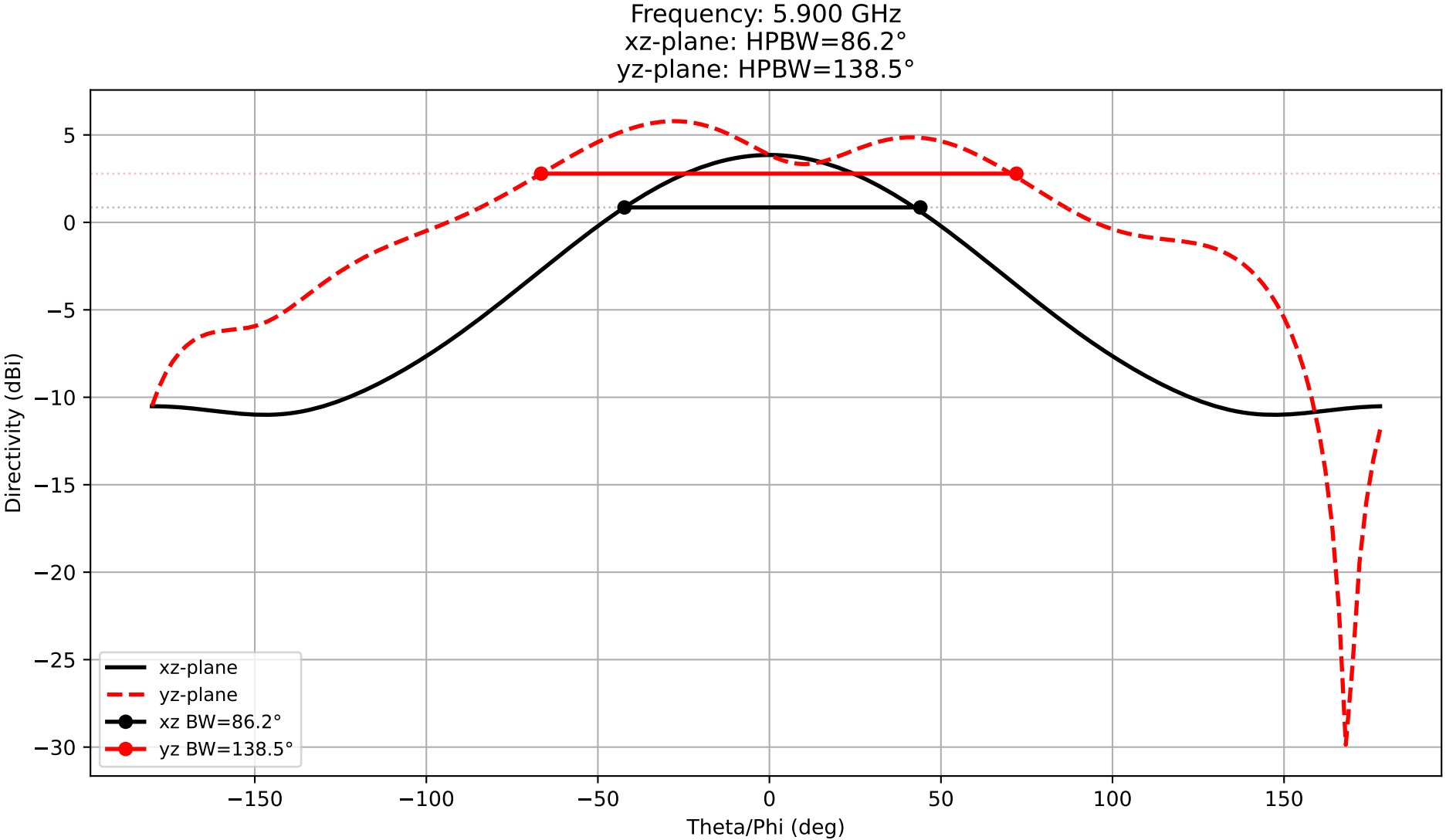

|Ez| line cut along Y at x=0.00 mm, z=0.76 mm
(idx x=31, z=15)
projection of Ez
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
−40
−30
−20
−10
0
10
20
30
40
y [mm]


Ez snapshot (dphi=0.00deg) 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
0.15
0.10
0.05
0.00
−0.05
−0.10


Ez snapshot (dphi=0.00deg) line cut along Y at x=0.00 mm, z=0.76 mm
(idx x=31, z=15)
projection of Ez
y [mm]
0.15
0.10
0.05
0.00
−0.05
−0.10
−0.15
−40
−30
−20
−10
0
10
20
30
40


f = 5.900 GHz — Directivity (dB)
Dmax (integrated) ≈ 5.79 dB,  nf2ff Dmax = 5.79 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: 5.900 GHz — Directivity (linear). Dmax: 3.790
0°
45°
90°
135°
180°
225°
270°
315°
0.5
1.0
1.5
2.0
2.5
3.0
3.5
xz-plane
yz-plane


Frequency: 5.900 GHz
xz-plane: HPBW=86.2°
yz-plane: HPBW=138.5°
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=86.2°
yz BW=138.5°