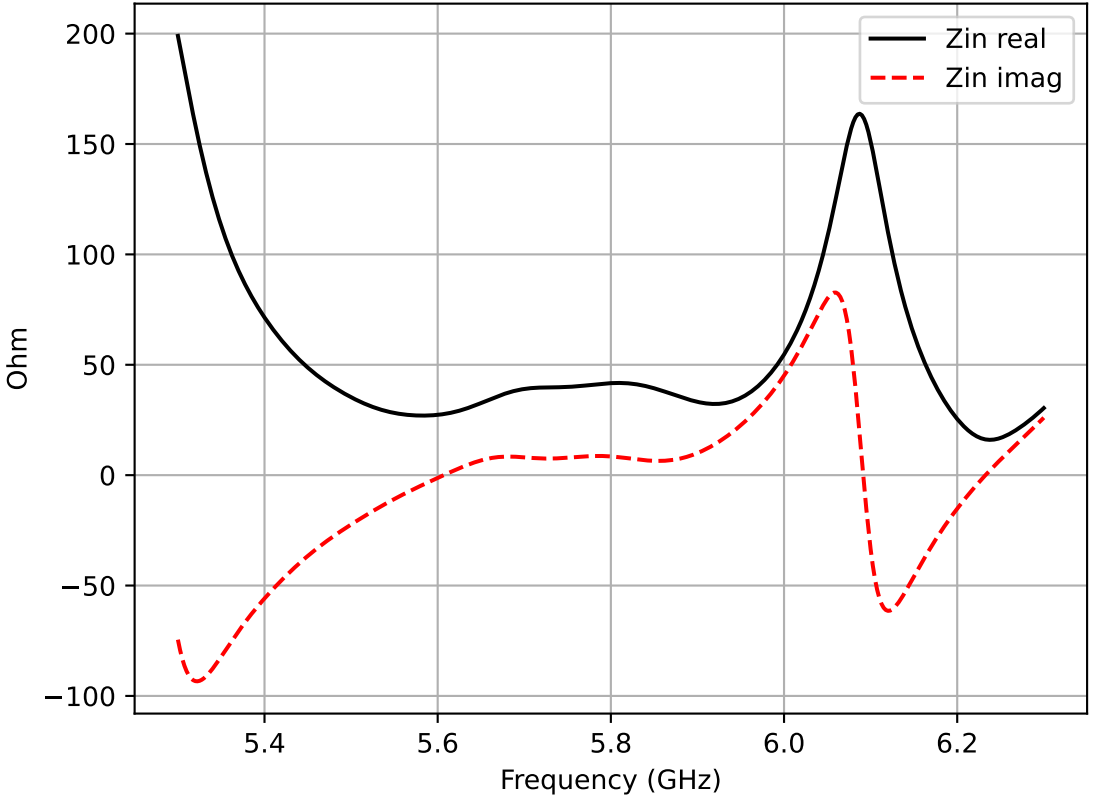
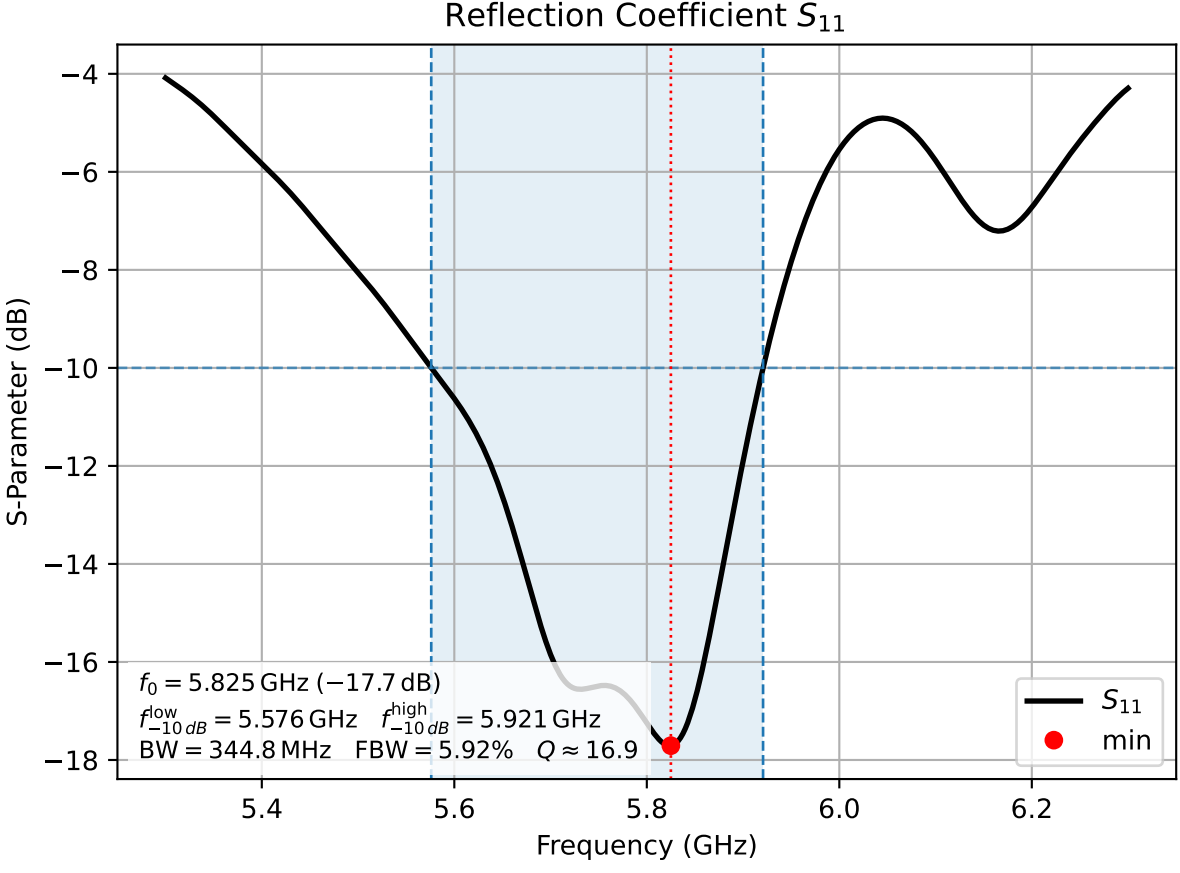
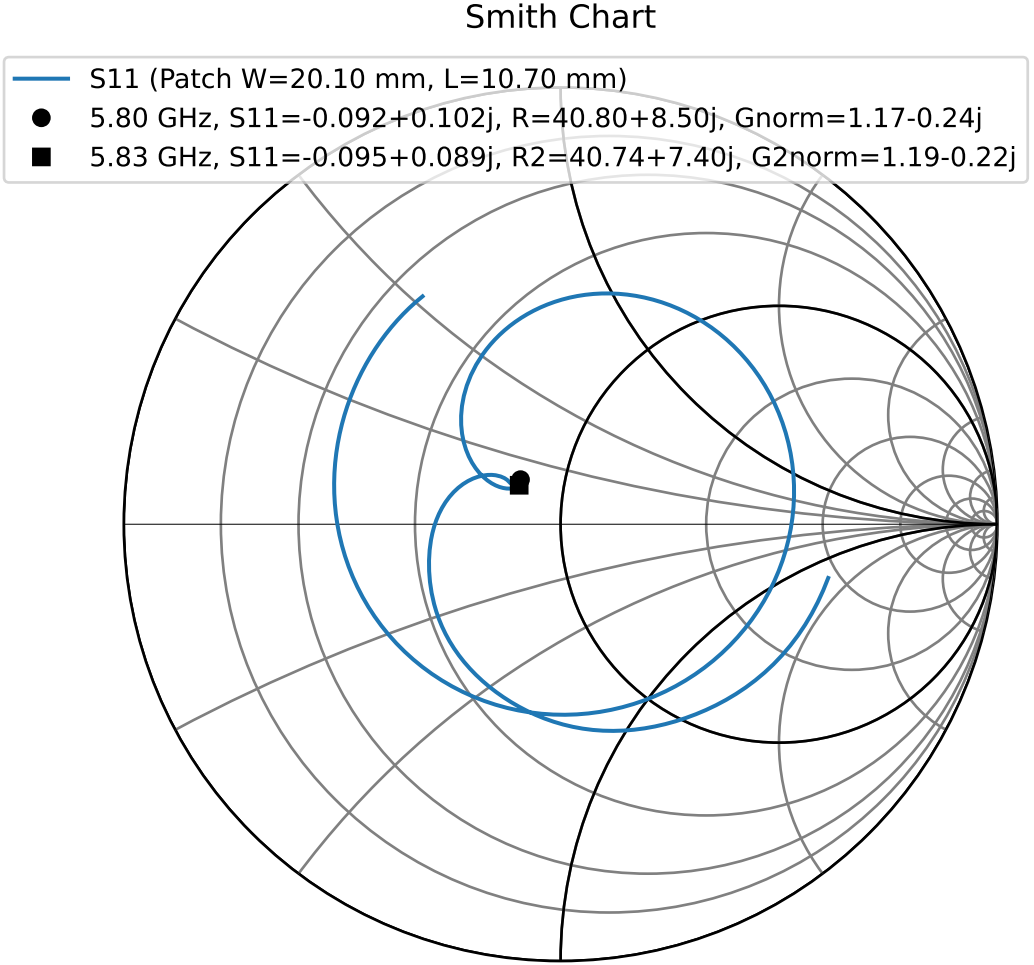
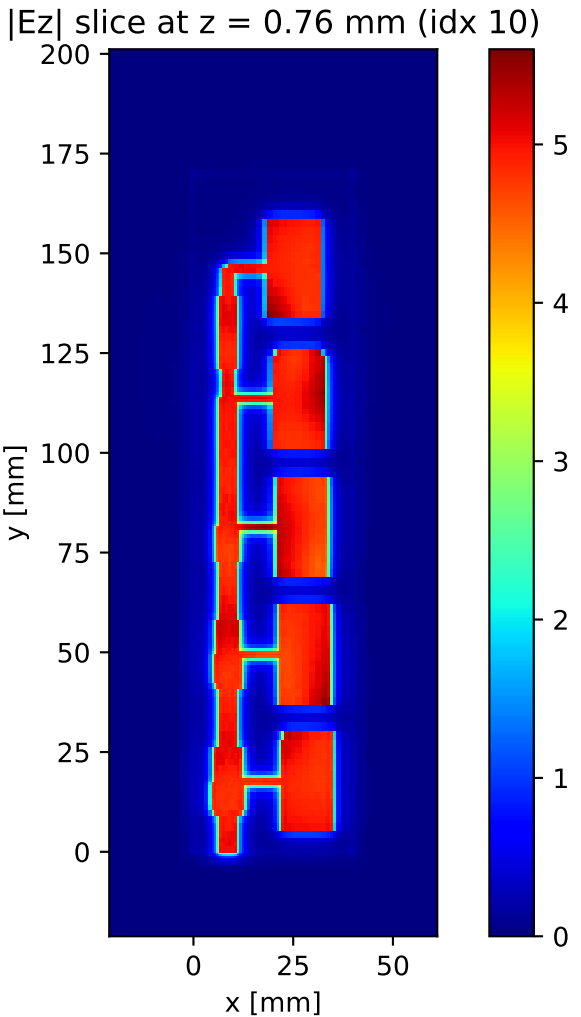
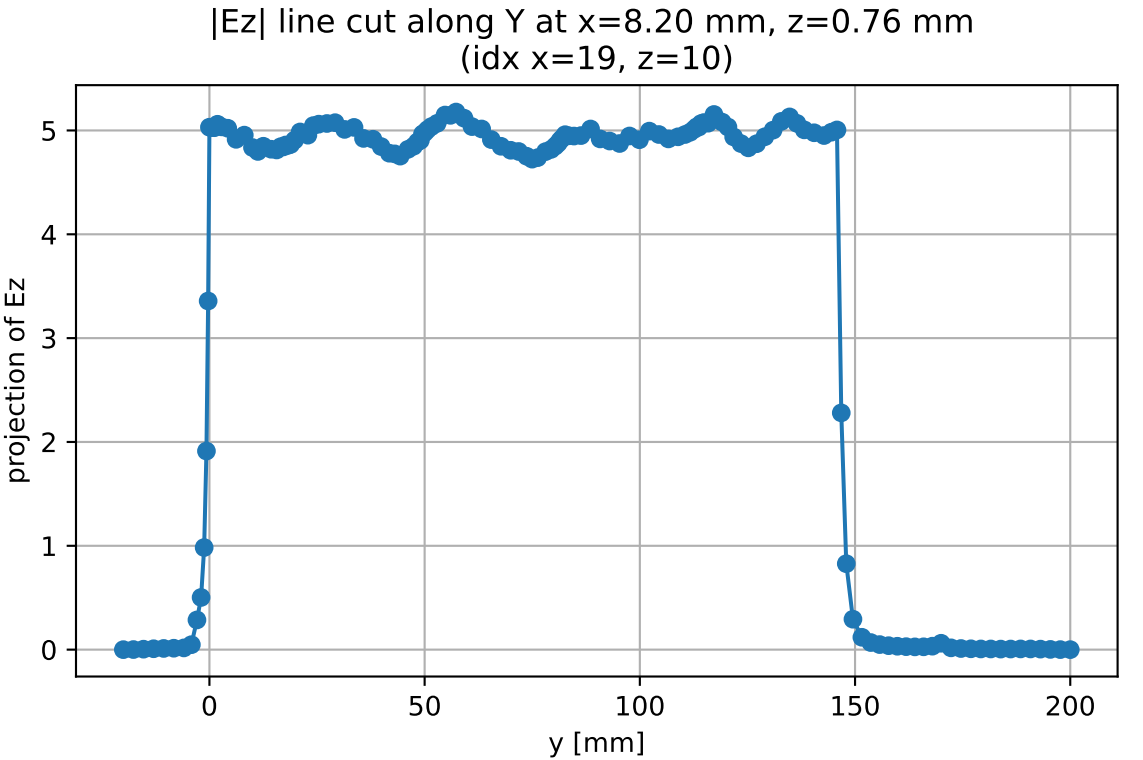
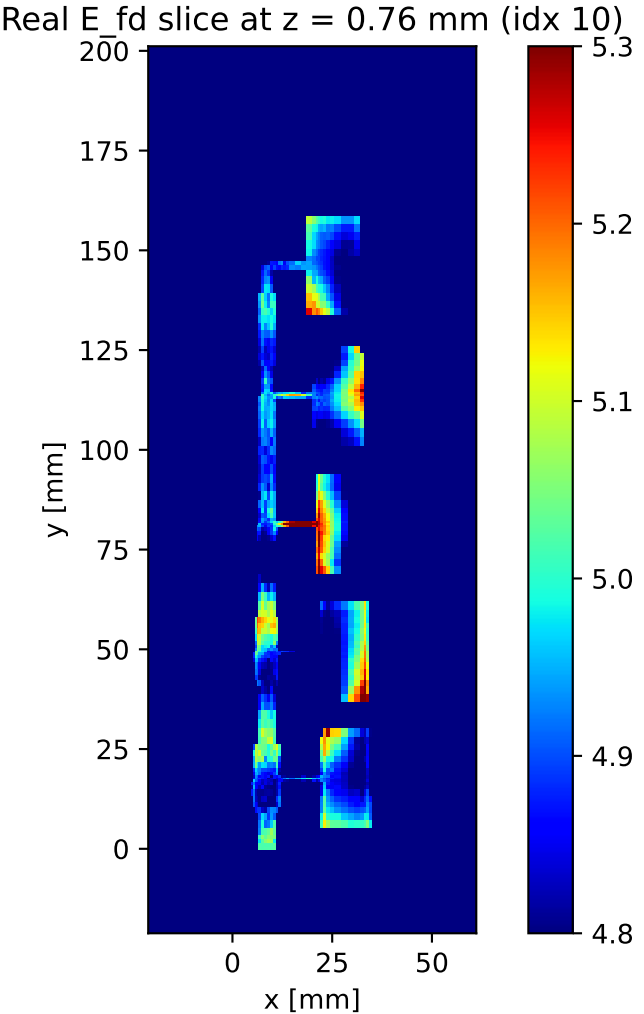

Zin real
Zin imag
200
150
100
50
0
−50
−100
Ohm
5.4
5.6
5.8
6.0
6.2
Frequency (GHz)

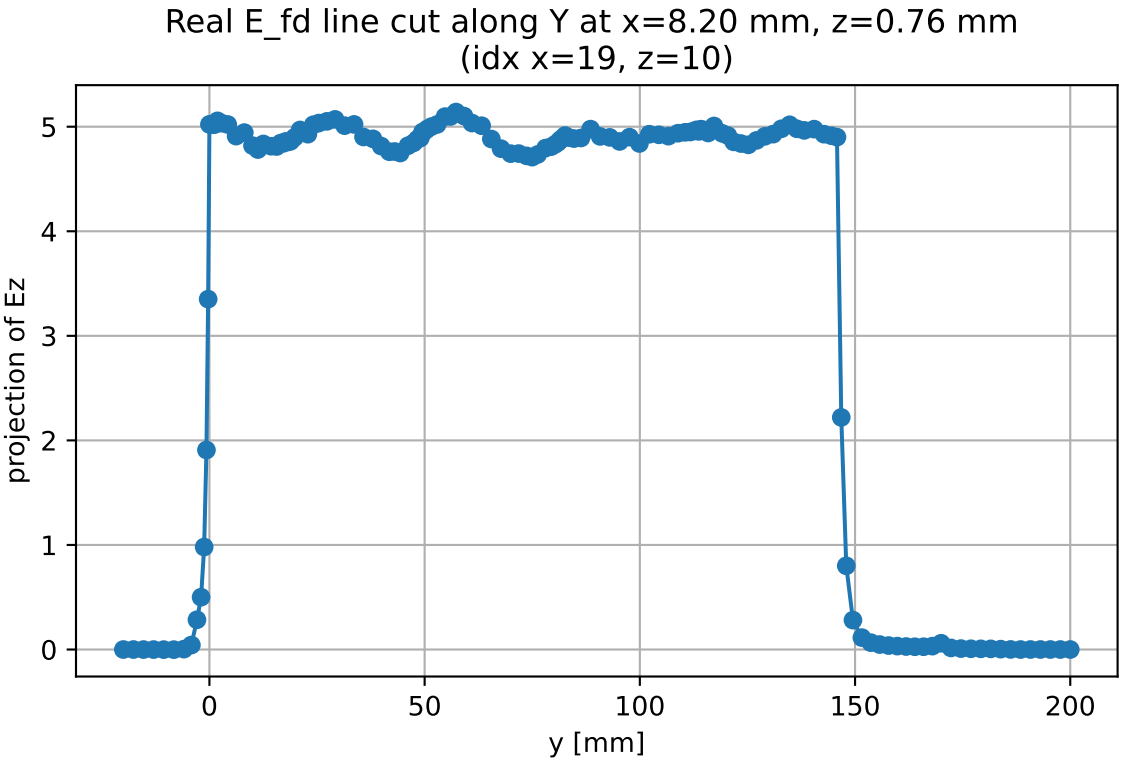

Reflection Coefficient S_{11}
S-Parameter (dB)
Frequency (GHz)
−4
−6
−8
−10
−12
−14
−16
−18
5.4
5.6
5.8
6.0
6.2
$f_0 = 5.825\,\text{GHz}\ (-17.7\,\text{dB})$
$f^{\text{low}}_{-10\,dB} = 5.576\,\text{GHz}$ $f^{\text{high}}_{-10\,dB} = 5.921\,\text{GHz}$
$\text{BW} = 344.8\,\text{MHz}$ $\text{FBW} = 5.92\%$ $Q \approx 16.9$
S_{11}
min

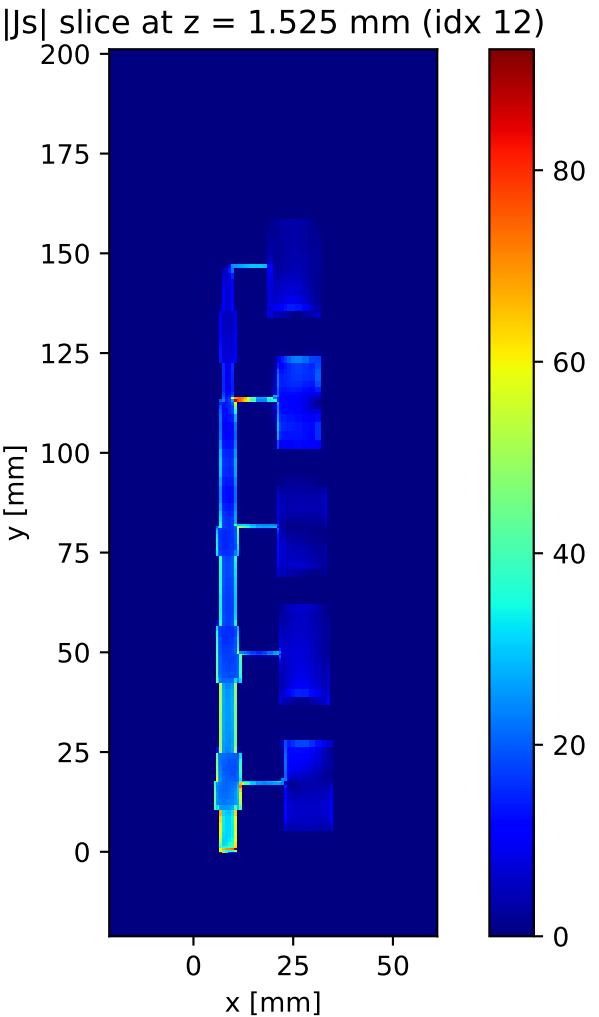

Smith Chart
S11 (Patch W=20.10 mm, L=10.70 mm)
5.80 GHz, S11=-0.092+0.102j, R=40.80+8.50j, Gnorm=1.17-0.24j
5.83 GHz, S11=-0.095+0.089j, R2=40.74+7.40j, G2norm=1.19-0.22j

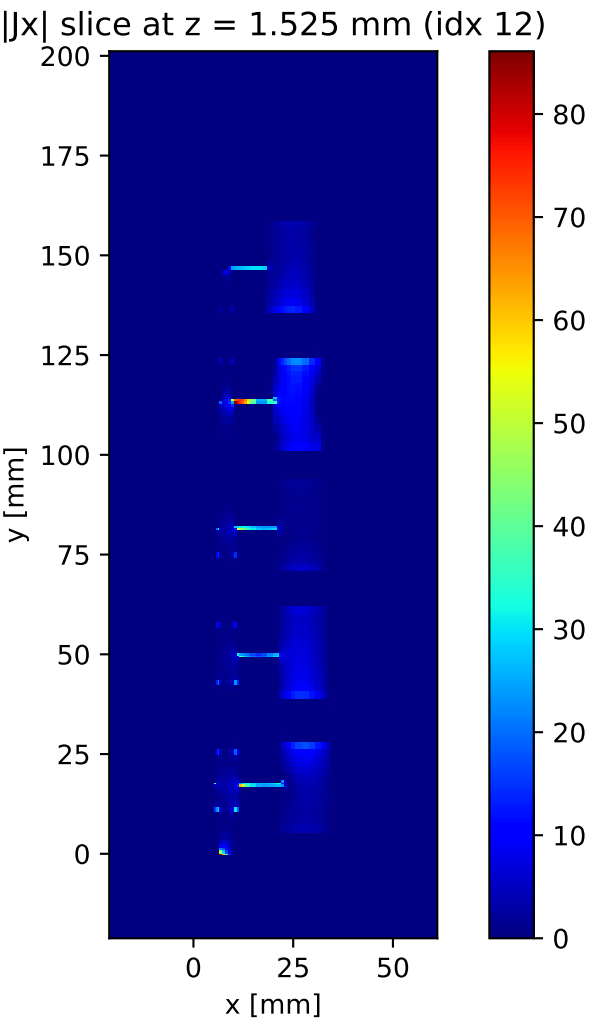

|Ez| slice at z = 0.76 mm (idx 10)
200
175
150
125
100
75
50
25
0
y [mm]
0
25
50
x [mm]
5
4
3
2
1
0

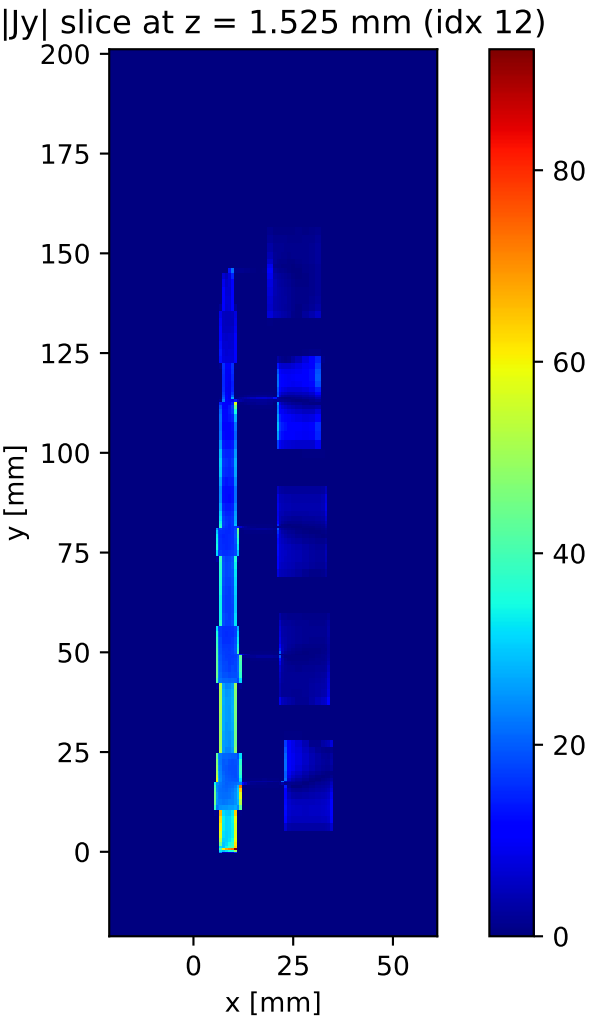

|Ez| line cut along Y at x=8.20 mm, z=0.76 mm
(idx x=19, z=10)
projection of Ez
y [mm]
0
1
2
3
4
5
0
50
100
150
200

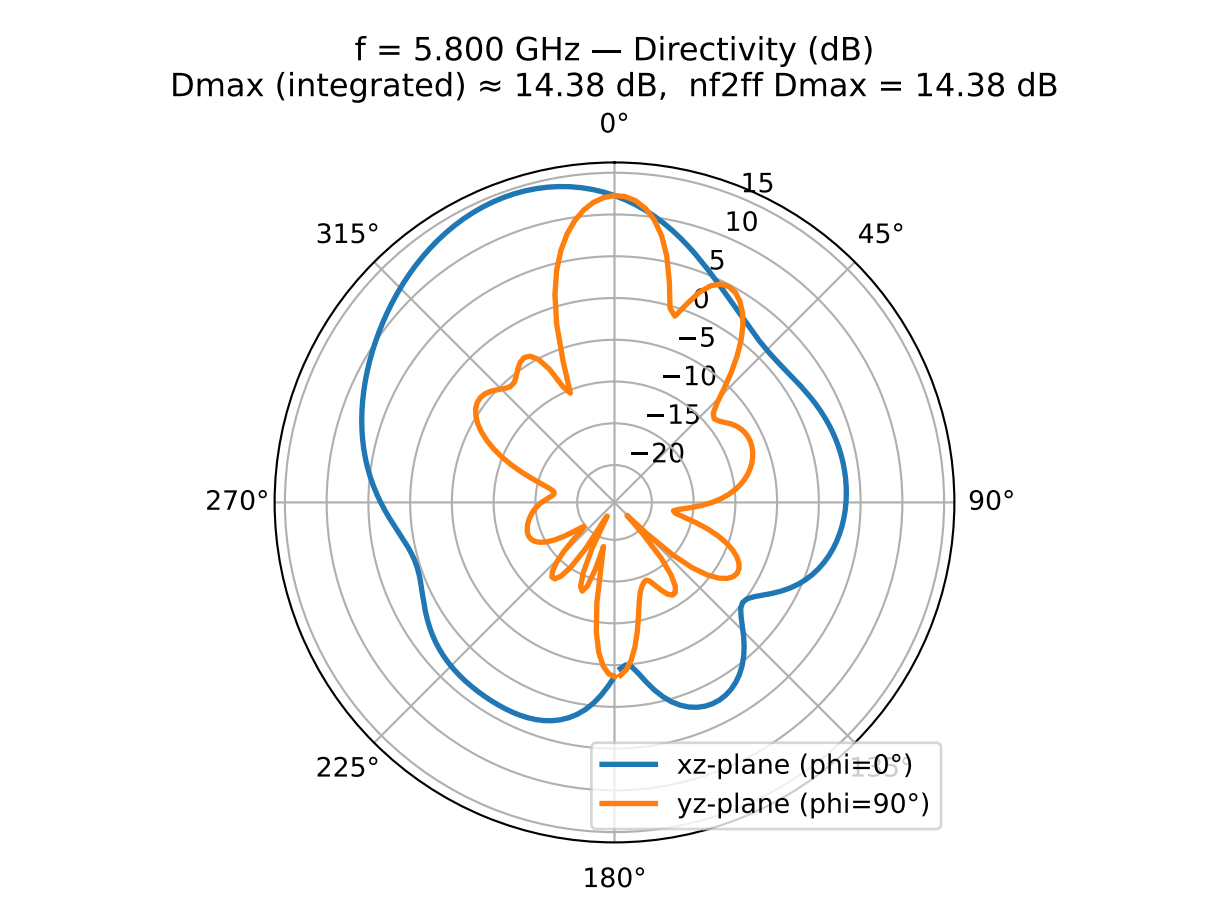

Real E_fd slice at z = 0.76 mm (idx 10)
y [mm]
x [mm]
200
175
150
125
100
75
50
25
0
0
25
50
5.3
5.2
5.1
5.0
4.9
4.8

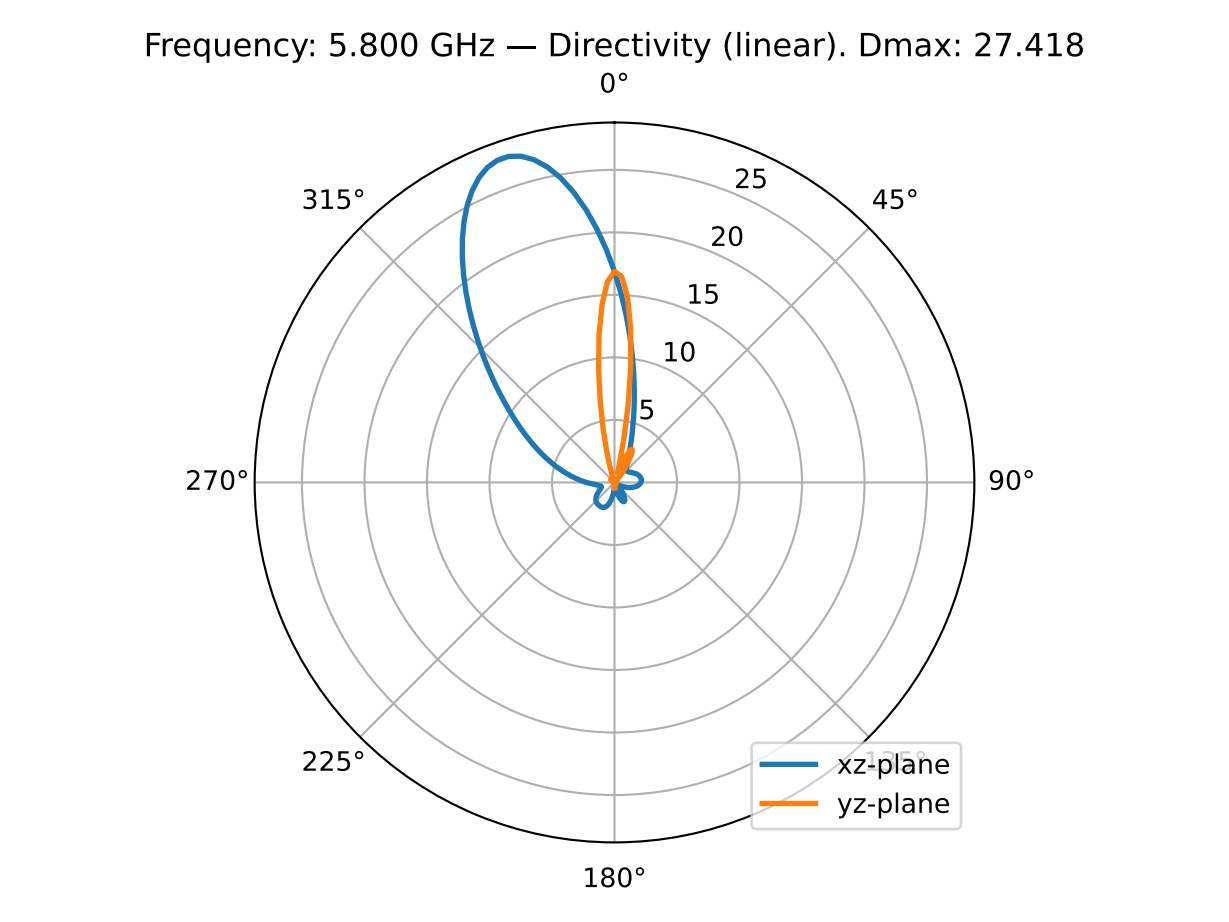

Real E_fd line cut along Y at x=8.20 mm, z=0.76 mm
(idx x=19, z=10)
projection of Ez
y [mm]
0
1
2
3
4
5
0
50
100
150
200

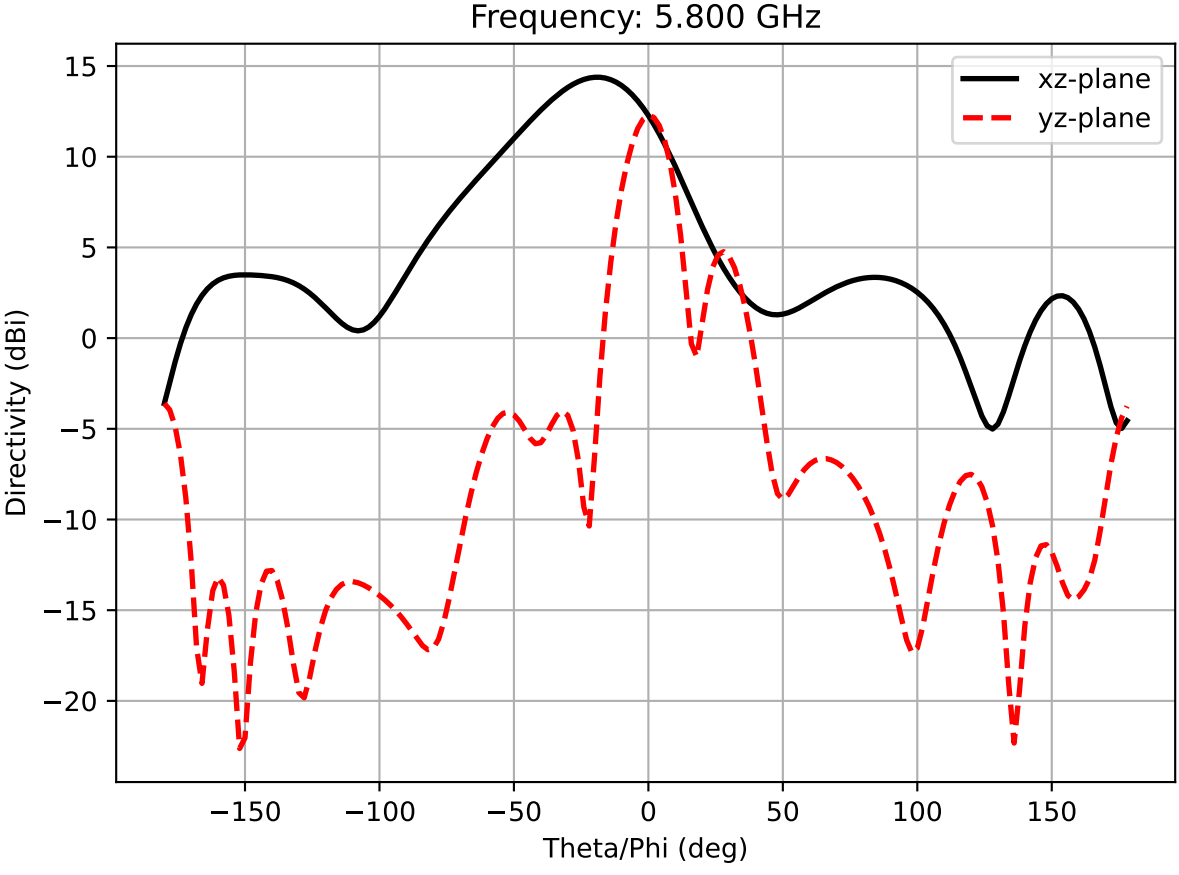

|Js| slice at z = 1.525 mm (idx 12)
200
175
150
125
100
75
50
25
0
y [mm]
0
25
50
x [mm]
80
60
40
20
0

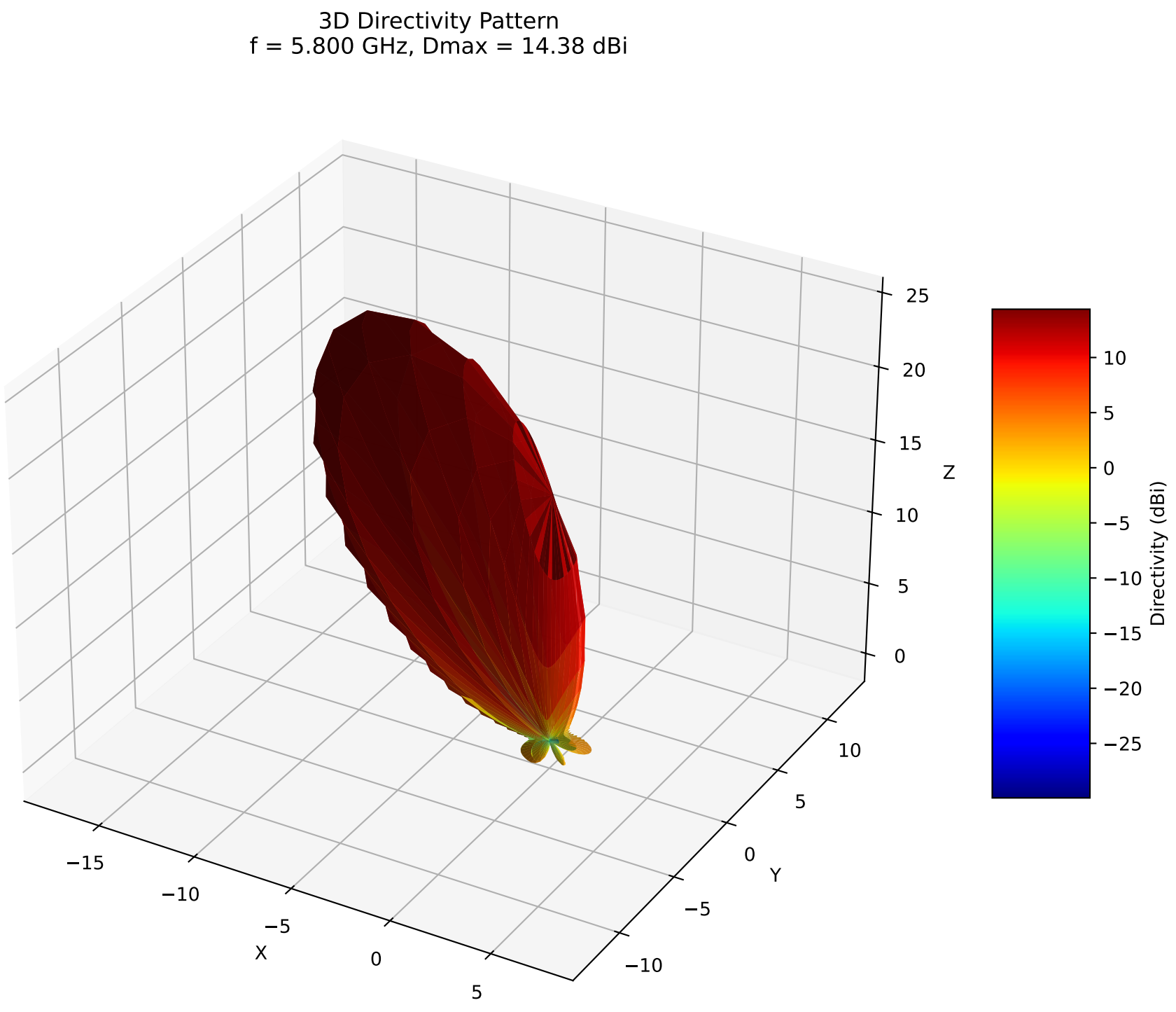

|Jx| slice at z = 1.525 mm (idx 12)
y [mm]
x [mm]
200
175
150
125
100
75
50
25
0
0
25
50
80
70
60
50
40
30
20
10
0


|Jy| slice at z = 1.525 mm (idx 12)
200
175
150
125
100
75
50
25
0
y [mm]
0
25
50
x [mm]
80
60
40
20
0


f = 5.800 GHz — Directivity (dB)
Dmax (integrated) ≈ 14.38 dB, nf2ff Dmax = 14.38 dB
0°
45°
90°
180°
225°
270°
315°
15
10
5
0
−5
−10
−15
−20
xz-plane (phi=0°)
yz-plane (phi=90°)


Frequency: 5.800 GHz — Directivity (linear). Dmax: 27.418
0°
45°
90°
180°
225°
270°
315°
5
10
15
20
25
xz-plane
yz-plane


Frequency: 5.800 GHz
xz-plane
yz-plane
Directivity (dBi)
15
10
5
0
−5
−10
−15
−20
−150
−100
−50
0
50
100
150
Theta/Phi (deg)


3D Directivity Pattern
f = 5.800 GHz, Dmax = 14.38 dBi
X
Y
Z
Directivity (dBi)