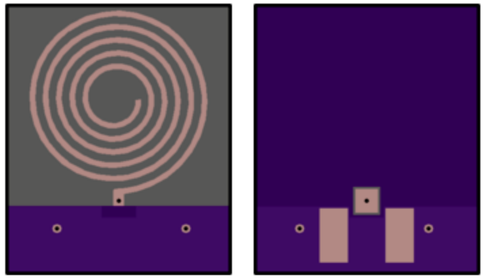
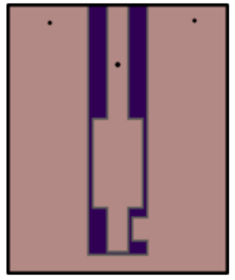
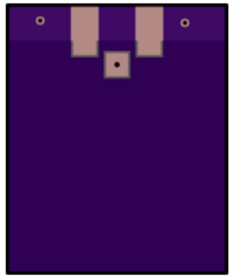


Top

Bottom



Top



Bottom

One of the most complex boards I've worked on wasn't a dense multilayer design, but a high-frequency PCB for 900 MHz applications with very tight area constraints, about 20 mm by 10 mm. The challenge was optimizing antenna performance. I went through a lot of antenna simulations and prototype boards with different combinations of transmission lines. Ultimately, I found that using a coplanar waveguide gave me the best trade-off, because it let me maximize ground plane area without the ground interfering with antenna radiation. That process taught me a lot about how high-frequency effects dominate over traditional low frequency PCB concerns, and how important careful iteration and testing is in RF design.