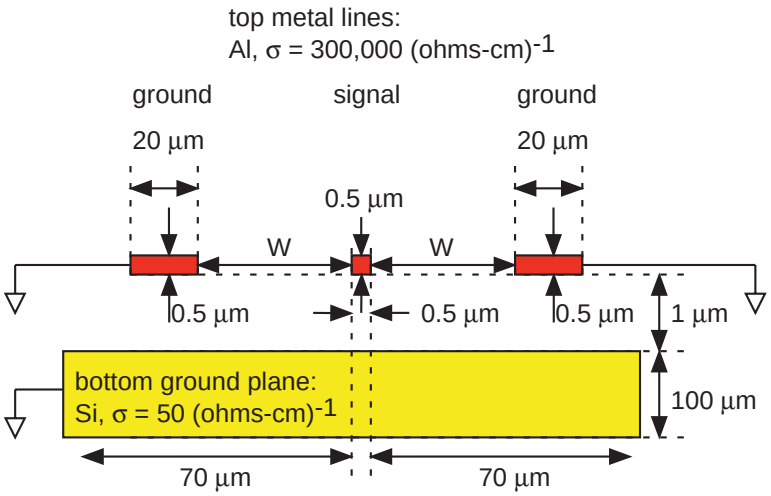
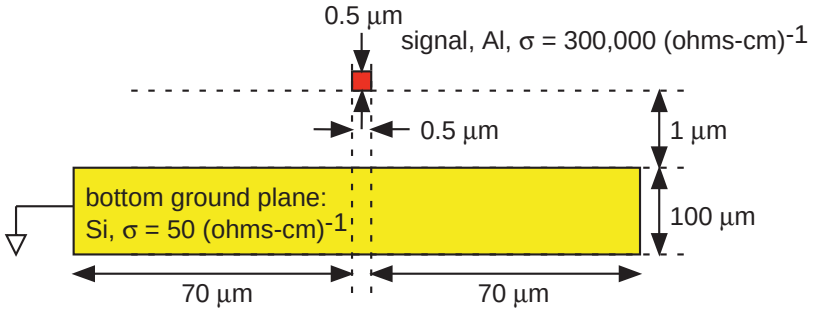
Cases: (this material is copyrighted, 1997, Dean Neikirk and Sangwoo Kim, The University of Texas at Austin)

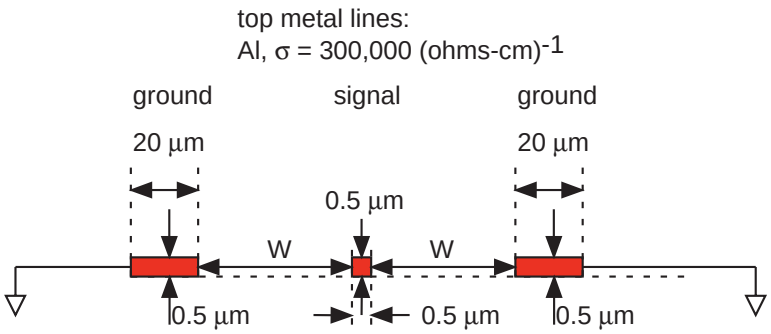
EX1: Center signal line over a grounded semiconducting substrate, with coplanar "ground straps," 50 μm separation (W = 50 μm).
EX2: Center signal line over a grounded semiconducting substrate, with coplanar "ground straps," 5 μm separation (W = 5 μm).



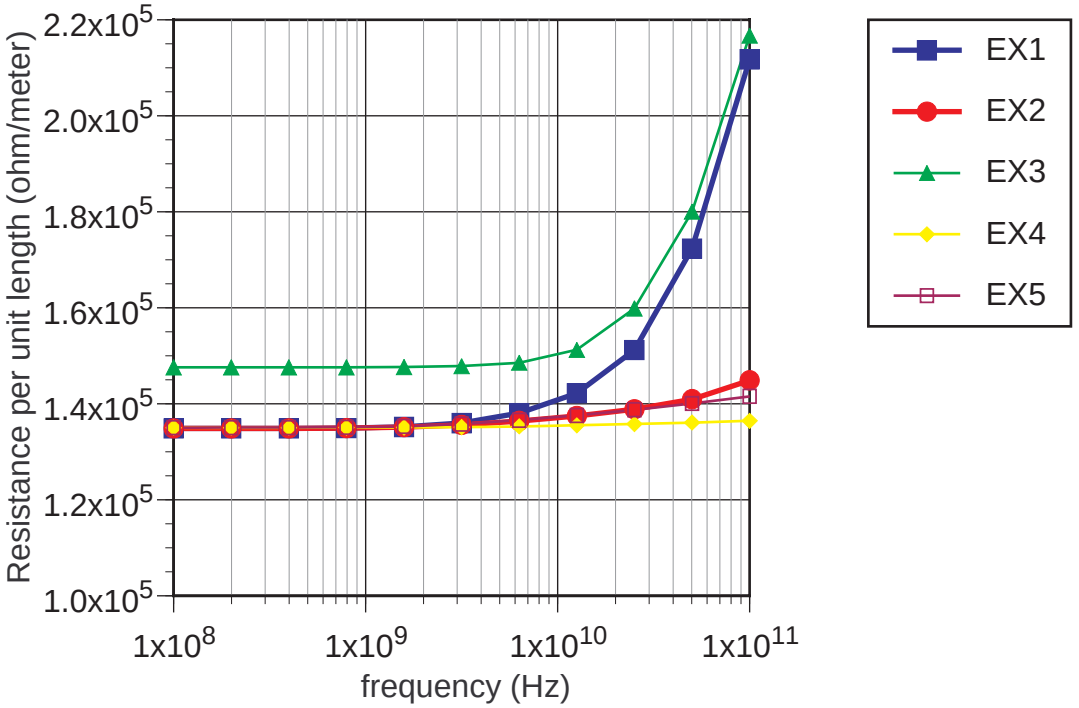
EX3: "Microstrip" signal line over a grounded semiconducting substrate:

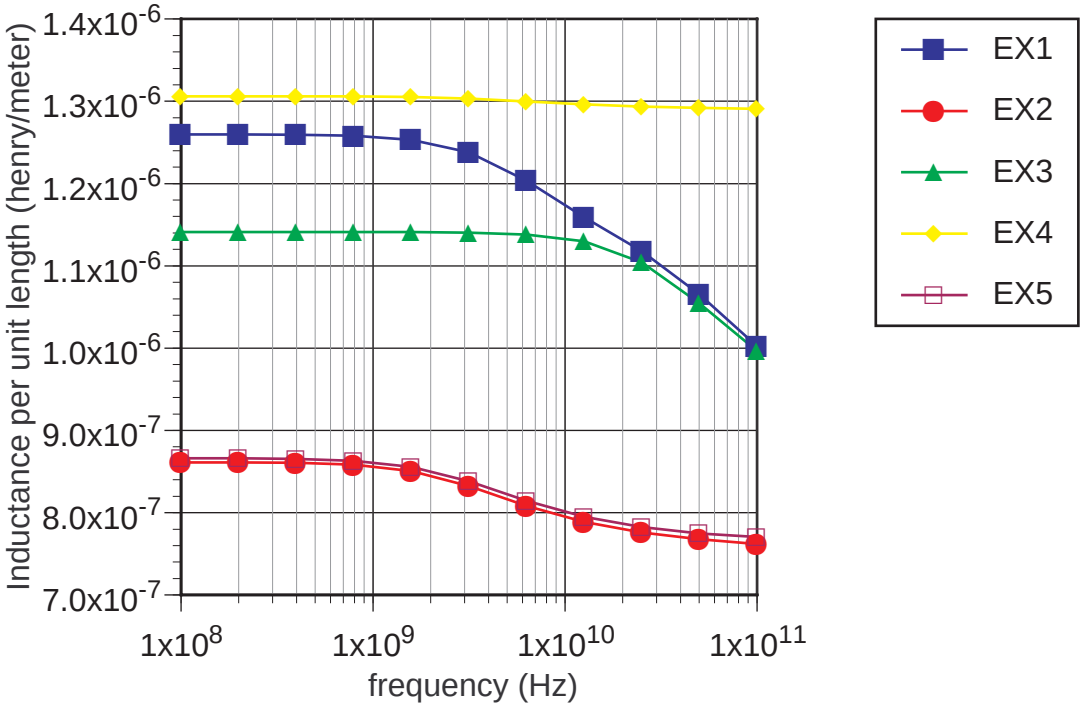


EX4: Signal line with coplanar "ground straps," 50 μm separation, no lossy substrate (W = 50 μm).
EX5: Signal line with coplanar "ground straps," 5 μm separation, no lossy substrate (W = 5 μm):



Simulation Results: (copyright1997, D. Neikirk and S. Kim, The University of Texas at Austin)





EX1: Signal line over semiconducting substrate, coplanar "ground straps," W = 50 μm.
EX2: Signal line over a semiconducting substrate, coplanar "ground straps," W = 5 μm.
EX3: "Microstrip" signal line over a grounded semiconducting substrate.
EX4: Signal line with coplanar grounds, W = 50 μm, no lossy substrate.
EX5: Signal line with coplanar grounds, W = 5 μm, no lossy substrate.