

## Sample Cost Analysis - Engr 1202 ECE lab Project Minature Wireless Antenna

Operation	Maximum Lot Size	Tooling Cost/Hr	Tooling Hours	Total Tooling Cost	Labor Cost/Hr	Labor Hours	Total Labor Cost	Cost	Manufacturing Cost/Wafer
Cleaning	25	\$21.00	1.0	\$21.00	\$10.00	0.25	\$ 2.50	\$23.50	\$0.94
Oxidation	50	\$23.00	1.0	\$23.00	\$10.00	0.25	\$ 2.50	\$25.50	\$0.51
Metal Deposition	15	\$52.00	5.0	\$260.00	\$10.00	0.25	\$ 2.50	\$262.50	\$17.50
Mask creation	20	\$25.00	1.0	\$25.00	\$10.00	2.00	\$ 20.00	\$45.00	\$2.25
Photolithography	1	\$86.00	0.3	\$25.80	\$10.00	0.50	\$ 5.00	\$30.80	\$30.80
Metal Etch	1	\$21.00	0.2	\$4.20	\$10.00	0.25	\$ 2.50	\$6.70	\$6.70
Dicing	1	\$21.00	0.5	\$10.50	\$10.00	0.50	\$ 5.00	\$15.50	\$15.50
<b>Total</b>			9.0	\$369.50	\$70.00	4.00	\$ 40.00	\$409.50	\$74.20
Manufacturing Cost/wafer				\$ 74.20					
Material cost-wafer				\$ 10.00					
Material cost-metal (1gm/wafer)				\$ 17.00	for gold				
Material cost-mask				\$ 0.50					
Finished wafer cost				\$ 101.70					
Wafer Yield				0.90					
Yielded wafer cost				\$113.00					
Antenna/wafer				200					
Antenna Yield				0.98					
Yielded antenna				196					
<b>Cost/antenna</b>				<b>\$0.58</b>					