

Reference data

Below are the geometries and material properties used to create the article. Surface roughness was not considered in any of the media.

Table 1. Material properties and geometries of various interconnect systems used in the article.

	DK	DF	Metal	Critical dimensions in microns			
				Thickness	Height	Width	Gap
Nelco N4000 CPW "7 mil"	3.3	0.007	[1]	T=29	H=175	W=277	G=90
MEGTRON 6 CPW "7 mil"	3.7	0.002	[1]	T=29	H=175	W=280	G=100
Dupont 9K7 stripline "8 mil" "16 mil" "24 mil"	7.1	0.001	[2]	T=10 " "	H=216 H=432 H=648	W=44 W=103 W=162	
Semi-rigid coax "020" "034" "047"	2.04	0.00015	[3]		Do=381 Do=660 Do=940	Di=115 Di=203 Di=287	
Alumina microstrip "5 mil" "10 mil" "15mil" "20 mil" "25 mil"	9.6	0.00014	[4]	T=2 " " " "	H=127 H=254 H=381 H=568 H=635	W=124 W=252 W=380 W=500 W=625	
GaAs "2 mil" "4 mil"	12.9	0.0016	[4]	T=3 T=3	H=50 H=100	W=34.5 W=71	
GaN on SiC "2 mil" "4 mil"	10.2	0.001	[4]	T=3 T=3	H=50 H=100	W=45 W=93	
PolyStrata coax "half height" "full height"	1.05	0.001	[5]		Di=150 Di=300	Do=352 Do=705	

[1] Gold-plated copper, modeled as gold, $\rho=2.44\text{E-}9$ ohm-meter

[2] Silver paste, $\rho=5\text{E-}9$ ohm-meter

[3] Copper jacket, silver plated copper-clad steel center-conductor, both modeled as copper, $\rho=1.68\text{E-}9$ ohm-meter

[4] Gold, $\rho=2.44\text{E-}9$ ohm-meter

[5] Copper, $\rho=1.68\text{E-}9$ ohm-meter