Job Name : TI_J7VCL 8L 370HR 102519
Customer : Texas Instruments
Part Num : J7VCL
Part Rev : TIDEP-01022
Engineer : David Gorden

Layer	Calc Thickness	Primary Stack	Description	Dk / Df
	0.0010		Taiyo 4000-BN	3.90 / 0.0270
Layer - 1	0.0020		**1/2oz Mix (Std Plt)**	
	0.0049	106 - 76%	370H	3.79 / 0.0247
		1080 - 66%		
Layer - 2	0.0006		**1/2oz Mix**	
	0.0040	0.0040 (1-3313)	370H	4.10 / 0.0201
Layer - 3	0.0012		**1oz P/G**	
	0.0045	1080 - 66%	370H	3.79 / 0.0247
		106 - 76%		
Layer - 4	0.0006		**1/2oz Mix**	
	0.0250	0.0250 (3-7628/1-2113)	370H	4.64 / 0.0210
Layer - 5	0.0006		**1/2oz Mix**	
	0.0045	106 - 76%	370H	3.79 / 0.0247
		1080 - 66%		
Layer - 6	0.0012		**1oz P/G**	
	0.0040	0.0040 (1-3313)	370H	4.10 / 0.0201
Layer - 7	0.0006		**1/2oz Mix**	
	0.0049	1080 - 66%	370H	3.79 / 0.0247
		106 - 76%		
Layer - 8	0.0020		**1/2oz Mix (Std Plt)**	
	0.0010		Taiyo 4000-BN	3.90 / 0.0270

Materials: Isola 370H High-Tg FR4

Requirement	Req. Thickness	Tol +	Tol -	Calc Thick
Incl. Plating & Mask	0.0630	0.0063	0.0063	0.0626
Incl. Mask over Laminate	0.0590	0.0059	0.0059	0.0586
Incl. Plating	0.0610	0.0061	0.0061	0.0606
After Lamination	0.0582	0.0029	0.0029	0.0578
Over Laminate	0.0570	0.0057	0.0057	0.0566

Note

IPC-6012 has a minimum dielectric requirement of .003543" and any nominal dielectric .0045" or less may violate this requirement based on vendor tolerances and actual lamination yields. Accepting TTM`s stackup will be taken as a waiver against this requirement. With this exception, minimum dielectric thickness shall be .000984". If this is not acceptable please advise immediately so options can be reviewed and discussed. If we do not get a response within 24 hours, we will proceed with this stackup. Please also be advised that accepting this stackup has no impact on TTM meeting IPC-6012 Class 2 or Class 3 requirements. Please also note that nominal targeted dielectric gaps of .0046" or greater shall have a minimum tolerance of +- .001" after lamination.

Impedance Type	Layer	Design	Actual	Pitch	Plane	Target	Tol (ohms)	Predict
1 Surface MS	L1	-	0.0080	-	-	50	5.0	49.93
	-	-	-	-	L2			
2 Surface MS	L1	0.00750	0.0075	-	-	51.5	5.2	51.48
	-	-	-	-	L2			

Impedance Type	Layer	Design	Actual	Pitch	Plane	Target	Tol (ohms)	Predict
3 EC Microstrip	L1	-	0.0062	0.0120	-	90	9.0	89.40
	-	-	0.0062	-	L2			
4 EC Microstrip	L1	-	0.0048	0.0110	-	100	10.0	99.10
	-	-	0.0048	-	L2			
5 Stripline	L2	-	0.0040	-	L1	50	5.0	49.81
	-	-	-	-	L3			
6 Stripline	L2	0.00420	0.0042	-	L1	48.5	4.9	48.59
	-	-	-	-	L3			
7 EC Stripline	L2	-	0.0045	0.0100	L1	90	9.0	88.25
	-	-	0.0045	-	L3			
8 EC Stripline	L2	0.0040	0.0039	0.0130	L1	100	10.0	99.03
	-	0.0040	0.0039	-	L3			
9 Stripline	L4	0.00640	0.0064	-	L3	50	5.0	50.26
	-	-	-	-	L6			
10 EC Stripline	L4	-	0.0058	0.0120	L3	90	9.0	89.71
	-	-	0.0058	-	L6			
11 EC Stripline	L4	-	0.0048	0.0120	L3	100	10.0	99.94
	-	-	0.0048	-	L6			
12 Stripline	L5	0.00640	0.0064	-	L3	50	5.0	50.26
	-	-	-	-	L6			
13 EC Stripline	L5	-	0.0058	0.0120	L3	90	9.0	89.71
	-	-	0.0058	-	L6			
14 EC Stripline	L5	-	0.0048	0.0120	L3	100	10.0	99.94
	-	-	0.0048	-	L6			
15 Stripline	L7	-	0.0040	-	L6	50	5.0	49.81
	-	-	-	-	L8			
16 Stripline	L7	0.00420	0.0042	-	L6	48.5	4.9	48.59
	-	-	-	-	L8			
17 EC Stripline	L7	-	0.0045	0.0100	L6	90	9.0	88.25
	-	-	0.0045	-	L8			
18 EC Stripline	L7	0.0040	0.0039	0.0130	L6	100	10.0	99.03
	-	0.0040	0.0039	-	L8			
19 Surface MS	L8	-	0.0080	-	L7	50	5.0	49.93
	-	-	-	-	-			
20 Surface MS	L8	0.00750	0.0075	-	L7	51.5	5.2	51.48
	-	-	-	-	-			
21 EC Microstrip	L8	-	0.0062	0.0120	L7	90	9.0	89.40
	-	-	0.0062	-	-			

Impedance Type	Layer	Design	Actual	Pitch	Plane	Target	Tol (ohms)	Predict
22  EC Microstrip	L8	-	0.0048	0.0110	L7	100	10.0	99.10
	-	-	0.0048	-	-			

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