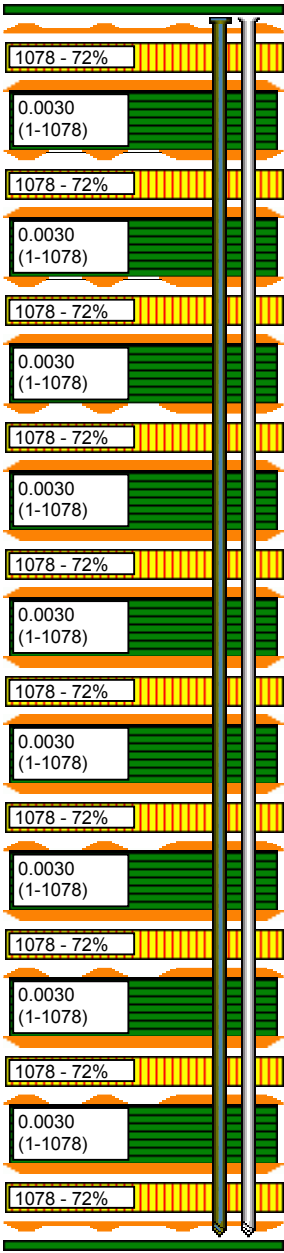
















Layer	Calc Thickness	Primary Stack	Description
Layer - 1	0.0005 0.0021		Taiyo 4000-HFX DI 1/4oz Sig (0.0018 Plt)
Layer - 2	0.0039 0.0006		R-5670K 1/2oz P/G
Layer - 3	0.0030 0.0006		R-5775K 1/2oz Mix
Layer - 4	0.0035 0.0006		R-5670K 1/2oz P/G
Layer - 5	0.0030 0.0006		R-5775K 1/2oz Mix
Layer - 6	0.0035 0.0006		R-5670K 1/2oz P/G
Layer - 7	0.0030 0.0006		R-5775K 1/2oz Mix
Layer - 8	0.0033 0.0012		R-5670K 1oz P/G
Layer - 9	0.0030 0.0012		R-5775K 1oz P/G
Layer - 10	0.0033 0.0012		R-5670K 1oz P/G
Layer - 11	0.0030 0.0012		R-5775K 1oz P/G
Layer - 12	0.0033 0.0012		R-5670K 1oz P/G
Layer - 13	0.0030 0.0012		R-5775K 1oz P/G
Layer - 14	0.0033 0.0006		R-5670K 1/2oz Mix
Layer - 15	0.0030 0.0006		R-5775K 1/2oz P/G
Layer - 16	0.0035 0.0006		R-5670K 1/2oz Mix
Layer - 17	0.0030 0.0006		R-5775K 1/2oz P/G
Layer - 18	0.0035 0.0006		R-5670K 1/2oz Mix
Layer - 19	0.0030 0.0006		R-5775K 1/2oz P/G
Layer - 20	0.0039 0.0021 0.0005		R-5670K 1/4oz Sig (0.0018 Plt) Taiyo 4000-HFX DI



Materials: Panasonic R-5670K Megtron 6 prepreg
Panasonic R-5775K Megtron 6

Requirement	Req. Thickness	Tol +	Tol -	Calc Thick
Incl. Plating & Mask	0.0800	0.0080	0.0080	0.0816
Incl. Mask over Laminate	0.0794	0.0079	0.0079	0.0774
Incl. Plating	0.0790	0.0079	0.0079	0.0806
After Lamination	0.0790	0.0040	0.0040	0.0770
Over Laminate	0.0784	0.0078	0.0078	0.0764

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
 EC Microstrip	L1	-	0.0050	0.0110	-	100	10.0	99.19
	-	-	0.0050	-	L2			
 Surface MS	L1	-	0.0075	-	-	50	5.0	49.15
	-	-	-	-	L2			
 EC Stripline	L3	-	0.0033	0.0120	L2	100	10.0	99.75
	-	-	0.0033	-	L4			
 Stripline	L3	-	0.0034	-	L2	50	5.0	49.48
	-	-	-	-	L4			
 EC Stripline	L5	-	0.0033	0.0120	L4	100	10.0	99.75
	-	-	0.0033	-	L6			
 Stripline	L5	-	0.0034	-	L4	50	5.0	49.48
	-	-	-	-	L6			
 EC Stripline	L7	-	0.0033	0.0120	L6	100	10.0	98.40
	-	-	0.0033	-	L8			
 Stripline	L7	-	0.0034	-	L6	50	5.0	48.76
	-	-	-	-	L8			
 EC Stripline	L14	-	0.0033	0.0120	L13	100	10.0	98.40
	-	-	0.0033	-	L15			
 Stripline	L14	-	0.0034	-	L13	50	5.0	48.76
	-	-	-	-	L15			
 EC Stripline	L16	-	0.0033	0.0120	L15	100	10.0	99.75
	-	-	0.0033	-	L17			
 Stripline	L16	-	0.0034	-	L15	50	5.0	49.48
	-	-	-	-	L17			
 EC Stripline	L18	-	0.0033	0.0120	L17	100	10.0	99.75
	-	-	0.0033	-	L19			
 Stripline	L18	-	0.0034	-	L17	50	5.0	49.48
	-	-	-	-	L19			

Impedance Type	Layer	Design	Actual	Pitch	Plane	Target	Tol (ohms)	Predict
15  EC Microstrip	L20	-	0.0050	0.0110	L19	100	10.0	99.19
	-	-	0.0050	-	-			
16  Surface MS	L20	-	0.0075	-	L19	50	5.0	49.15
	-	-	-	-	-			