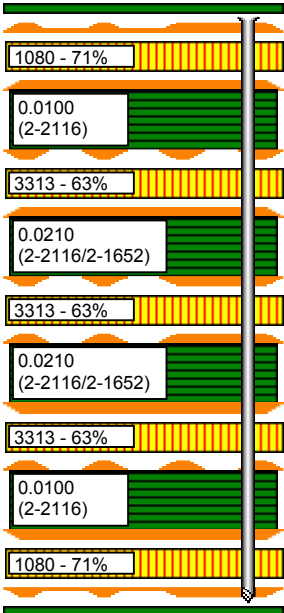


Layer	Cust Thickness	Calc Thickness	Primary Stack	Description	Dk / Df
Layer - 1		0.0005 0.0020		Taiyo 4000-HFX DI 1/2oz Mix (Std Plt)	3.50 / 0.0190
Layer - 2		0.0038 0.0006		FR408HR 1/2oz P/G	3.42 / 0.0098
Layer - 3		0.0100 0.0006		FR408HR 1/2oz Sig	3.69 / 0.0089
Layer - 4		0.0040 0.0006		FR408HR 1/2oz P/G	3.48 / 0.0096
Layer - 5		0.0210 0.0012		FR408HR 1oz Mix	3.79 / 0.0086
Layer - 6		0.0034 0.0012		FR408HR 1oz Mix	3.48 / 0.0096
Layer - 7		0.0210 0.0006		FR408HR 1/2oz P/G	3.79 / 0.0086
Layer - 8		0.0040 0.0006		FR408HR 1/2oz Sig	3.48 / 0.0096
Layer - 9		0.0100 0.0006		FR408HR 1/2oz P/G	3.69 / 0.0089
Layer - 10		0.0038 0.0020 0.0005		FR408HR 1/2oz Mix (Std Plt) Taiyo 4000-HFX DI	3.42 / 0.0098 3.50 / 0.0190

Materials: Isola FR408HR High Speed High-Tg FR4


Requirement	Req. Thickness	Tol +	Tol -	Calc Thick
Incl. Plating & Mask	0.0940	0.0094	0.0094	0.0920
Incl. Mask over Laminate	0.0900	0.0090	0.0090	0.0880
Incl. Plating	0.0930	0.0093	0.0093	0.0910
After Lamination	0.0902	0.0045	0.0045	0.0882
Over Laminate	0.0890	0.0089	0.0089	0.0870



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.

Job Comment

6 different back drills required.

Impedance Type	Layer	Design	Actual	Pitch	Plane	Target	Tol (ohms)	Predict
 EC Microstrip	L1	0.00550	0.0055	0.0157	-	100	10	101.98
	-	0.00550	0.0055	-	L2			

Impedance Type	Layer	Design	Actual	Pitch	Plane	Target	Tol (ohms)	Predict
2  EC Stripline	L3	0.00550	0.0053	0.0157	L2	100	10	100.85
	-	0.00550	0.0053	-	L4			
3  EC Stripline	L8	0.00550	0.0053	0.0157	L7	100	10	100.85
	-	0.00550	0.0053	-	L9			
4  EC Microstrip	L10	0.00550	0.0055	0.0157	L9	100	10	101.98
	-	0.00550	0.0055	-	-			