

22 layers Class 2			GND			POSSIBLE VIAS 1808 (.018 PAD .008 HOLE) 2010 (.020 PAD .010 HOLE)	
1	copper	0.0005	.008 hole 1-2 u .018 pad	.008 hole 1 thru 9 .018 pad	.010 hole 1 thru 22 .020pad	1	SURFACE
	dielectric	0.003					
2	copper	0.0007				2	GND /PWR PLANE
	dielectric	0.004					
3	copper	0.0007				3	Pair Layer 1 (3.5trace---5.5 space)
	dielectric	0.0045					
4	copper	0.0007				4	PLANE
	dielectric	0.004					
5	copper	0.0007				5	Pair Layer 2 (3.5trace---5.5 space)
	dielectric	0.0045					
6	copper	0.0007				6	PLANE
	dielectric	0.004					
7	copper	0.0007				7	Pair Layer 3 (3.5trace---5.5 space)
	dielectric	0.0045					
8	copper	0.0007				8	PLANE
	dielectric	0.004					
9	copper	0.0007				9	Pair Layer 4 (3.5trace---5.5 space)
	dielectric	0.0045					
10	copper	0.0007				10	PLANE
	dielectric	0.004					
11	copper	0.0007				11	Pair Layer 5 (3.5trace---5.5 space)
	dielectric	0.0045					
12	copper	0.0007				12	GND /PWR PLANE
	dielectric	0.004					
13	copper	0.0007	13	Pair Layer 6 (3.5trace---5.5 space)			
	dielectric	0.0045					
14	copper	0.0007	14	PLANE			
	dielectric	0.004					
15	copper	0.0007	15	Pair Layer 7 (3.5trace---5.5 space)			
	dielectric	0.0045					
16	copper	0.0007	16	PLANE			
	dielectric	0.004					
17	copper	0.0007	17	Pair Layer 8 (3.5trace---5.5 space)			
	dielectric	0.0045					
18	copper	0.0007	18	PLANE			
	dielectric	0.004					
19	copper	0.0007	19	Pair Layer 9 (3.5trace---5.5 space)			
	dielectric	0.0045					
20	copper	0.0007	20	PLANE			
	dielectric	0.004					
21	copper	0.0007	21	other layer			
	dielectric	0.003					
22	copper	0.0005		22	SURFACE/GND		
0.004 ***plus plating (.001)x4 places on lyrs 2, 6, 7, 11							
thk	0.1055		0.0327				

20 layers Class 2			GND					POSSIBLE VIAS (.018 PAD .008 HOLE) (.020 PAD .010 HOLE)		1808 2010		
1	copper	0.0005	.008 hole 1-2 u .018 pad			.008 hole 1 thru 7 .018 pad	.008 hole 1 thru 9 .018 pad	.008 hole 1 thru 20 .018 pad	1	SURFACE		
	dielectric	0.003							2	GND /PWR PLANE		
2	copper	0.0007										
	dielectric	0.005							3	Pair Layer 1 (3.5trace---5.5 space)		
3	copper	0.0007									4	PLANE
	dielectric	0.005							5	Pair Layer 2 (3.5trace---5.5 space)		
4	copper	0.0007									6	PLANE
	dielectric	0.005							7	Pair Layer 3 (3.5trace---5.5 space)		
5	copper	0.0007									8	PLANE
	dielectric	0.005							9	Pair Layer 4 (3.5trace---5.5 space)		
6	copper	0.0007									10	PLANE
	dielectric	0.005							11	Pair Layer 5 (3.5trace---5.5 space)		
7	copper	0.0007									12	GND /PWR PLANE
	dielectric	0.005							13	Pair Layer 6 (3.5trace---5.5 space)		
8	copper	0.0007									14	PLANE
	dielectric	0.005							15	Pair Layer 7 (3.5trace---5.5 space)		
9	copper	0.0007									16	PLANE
	dielectric	0.005							17	Pair Layer 8 (3.5trace---5.5 space)		
10	copper	0.0007									18	PLANE
	dielectric	0.005							19	other layer		
11	copper	0.0007									20	SURFACE/GND
	dielectric	0.005										
12	copper	0.0007										
	dielectric	0.005										
13	copper	0.0007										
	dielectric	0.005										
14	copper	0.0007										
	dielectric	0.005										
15	copper	0.0007										
	dielectric	0.005										
16	copper	0.0007										
	dielectric	0.005										
17	copper	0.0007										
	dielectric	0.005										
18	copper	0.0007										
	dielectric	0.004										
19	copper	0.0007										
	dielectric	0.003										
20	copper	0.0005										
0.004 ***plus plating (.001)x4 places on lyrs 2, 6, 7, 11												
thk	0.1076		0.0357		0.0471							

Notes: 6=99.5 diff 5=93 diff
Maximum number of lamination cycle for any set of laminate to experience is 4 times.
we can do up to three on two halves and the final will be the fourth for both halves and we can split it anywhere
4 mil drill requires 12 mil pad size (minimum); can drill and plate through a maximum 0.040" total board/copper thickness.
6 mil drill requires 14 mil pad size (minimum); can drill and plate through a maximum 0.060" total board/copper thickness.
8 mil drill requires 18 mil pad size (minimum); can drill and plate through a maximum 0.080" total board/copper thickness.
10 mil drill requires 20 mil pad size (minimum); can drill and plate through a maximum 0.110" total board/copper thickness.
You will have to use 12 mil or larger drill if you need make the board thick than the proposed 20-layer, 0.107" thick board.
Diff pair to pair should be three times dielectric (15)
PART # TLK2711JR-ZQE) VIA IN PADS .006 HOLE .011 PADS (CELL=BGA80) .01969 PITCH 1/2 MM (16 TIMES)
45 vs radial

copper	0.0007
dielectric	0.005

every layer we add requires one copper and one dielectric for a totalof .0057" thicker
0.0057