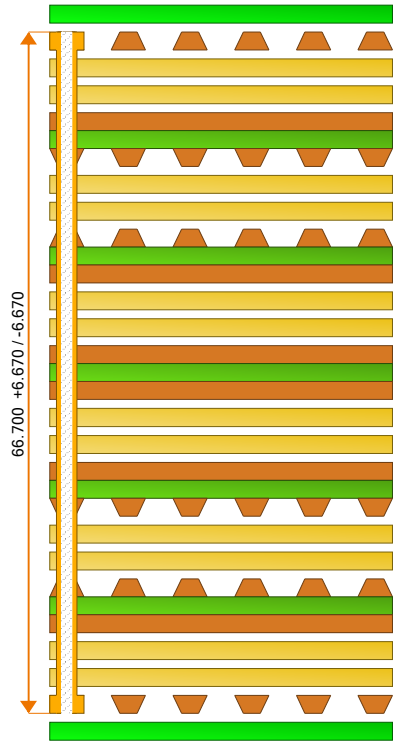

Layer	Stack up	Supplier	Description	Type	Base Thickness	εr	Processed Thickness	Impedance ID	Mask Thickness
		Taiyo	PSR-4000BN (semi gloss)	soldermask		4.500	0.800		0.800
1		Isola	1/2 oz copper foil	foil	0.600		1.600	1, 2	
		Isola	FR408HR 106(75) pre-preg	pre-preg	2.300	3.230	2.060		
		Isola	FR408HR 106(75) pre-preg	pre-preg	2.300	3.230	2.060		
2					1.200		1.200		
		Isola	FR408HR .006 (1080/3313-56) 1/1 core*	core	6.000	3.640	6.000		
3					1.200		1.200	3	
		Isola	FR408HR 1080(65) pre-preg	pre-preg	3.200	3.440	2.480		
		Isola	FR408HR 1080(65) pre-preg	pre-preg	3.200	3.440	2.480		
4					1.200		1.200	4, 5	
		Isola	FR408HR .005 (1/2116-54) 1/1 core*	core	5.000	3.690	5.000		
5					1.200		1.200		
		Isola	FR408HR 106(75) pre-preg	pre-preg	2.300	3.230	1.820		
		Isola	FR408HR 106(75) pre-preg	pre-preg	2.300	3.230	1.820		
6					1.200		1.200		
		Isola	FR408HR .004 (106/1080-59) 1/1 core*	core	4.000	3.570	4.000		
7					1.200		1.200		
		Isola	FR408HR 106(75) pre-preg	pre-preg	2.300	3.230	1.820		
		Isola	FR408HR 106(75) pre-preg	pre-preg	2.300	3.230	1.820		
8					1.200		1.200		
		Isola	FR408HR .005 (1/2116-54) 1/1 core*	core	5.000	3.690	5.000		
9					1.200		1.200	6	
		Isola	FR408HR 1080(65) pre-preg	pre-preg	3.200	3.440	2.480		
		Isola	FR408HR 1080(65) pre-preg	pre-preg	3.200	3.440	2.480		
10					1.200		1.200	7	
		Isola	FR408HR .006 (1080/3313-56) 1/1 core*	core	6.000	3.640	6.000		
11					1.200		1.200		
		Isola	FR408HR 106(75) pre-preg	pre-preg	2.300	3.230	2.060		
		Isola	FR408HR 106(75) pre-preg	pre-preg	2.300	3.230	2.060		
12		Isola	1/2 oz copper foil	foil	0.600		1.600	8, 9	
		Taiyo	PSR-4000BN (semi gloss)	soldermask		4.500	0.800		0.800

Copper Thickness = 15.200 | Dielectric Thickness = 51.440 | Solder Mask Thickness = 1.600 | Stack Up Thickness = 66.640 | Stack Up Thickness with Soldermask = 68.240

Structure Image	Impedance ID	Structure Name	Impedance Signal Layer	Ref. Plane 1 in Layer	Ref. Plane 2 in Layer	Lower Trace Width (W1)	Upper Trace Width (W2)	Trace Separation (S1)	Ground Strip Separation (D1)	Target Impedance	Calculated Impedance	Tol (+/- %)	MIN Trace FAIL	MAX Trace FAIL	Measured Trace	OP Initial
	1	Coated Microstrip 1B	1	2	0	7.870	7.370	0.000	0.000	50.000	49.870	10.000				
	2	Edge Coupled Coated Microstrip 1B	1	2	0	5.000	4.500	5.000	0.000	100.000	98.240	10.000				
	3	Offset Stripline 1B2A	3	2	5	7.250	6.750	0.000	0.000	50.000	49.750	10.000				

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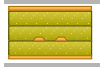
Date: 3/24/2020	Associated Documents: 17823cio					
Author: MS						
Department: CI Eng						
Site: Aurora						

Structure Image	Impedance ID	Structure Name	Impedance Signal Layer	Ref. Plane 1 in Layer	Ref. Plane 2 in Layer	Lower Trace Width (W1)	Upper Trace Width (W2)	Trace Separation (S1)	Ground Strip Separation (D1)	Target Impedance	Calculated Impedance	Tol (+/- %)	MIN Trace FAIL	MAX Trace FAIL	Measured Trace	OP Initial
	4	Offset Stripline 1B2A	4	2	5	6.125	6.125	0.000	0.000	50.000	49.810	10.000				
	5	Edge Coupled Offset Stripline 1B2A	4	2	5	4.000	4.000	6.000	0.000	100.000	99.900	10.000				
	6	Offset Stripline 1B2A	9	8	11	6.125	6.125	0.000	0.000	50.000	49.810	10.000				
	7	Offset Stripline 1B2A	10	8	11	6.875	6.875	0.000	0.000	50.000	50.300	10.000				
	8	Coated Microstrip 1B	12	11	0	7.870	7.370	0.000	0.000	50.000	49.870	10.000				
	9	Edge Coupled Coated Microstrip 1B	12	11	0	7.870	7.370	5.000	0.000	80.000	81.870	10.000				

Drill Image	1st Layer	2nd Layer	Column Position	Drill Type	Different Hole Sizes	Data Filenames	Minimum Size
	1	12	1	Mechanical PTH	0		20.000

Notes
Here's the requested stack up.

Dielectric Impedance Design Notes:

1) Impedance stack up is based on our current data review.
2) Production stack up may require adjustment and is subject to final review.
3) Your Design Line widths and spacing require adjustment to match dielectric impedance calculations.
Please review the provided Polar Speed Stack drawing and review the calculated impedance as compared to targeted results.
Line width adjustments will be greater than 1 mil.

Supplier	Supplier Description	Description	Type	Total Quantity
Taiyo	PSR-4000BN (semi gloss)	PSR-4000BN (semi gloss)	soldermask	2
Isola	1/2 oz copper foil	1/2 oz copper foil	foil	2

StackName: ACStack4292020 410ciq	Version:	Revision:	Modification:	Date of Revision:	Editor	Page 2/3
Date: 3/24/2020	Associated Documents: 17823cio					
Author: MS						
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Site: Aurora						

Supplier	Supplier Description	Description	Type	Total Quantity
Isola	FR408HR 106(75) pre-preg	FR408HR 106(75) pre-preg	pre-preg	8
Isola	FR408HR .006 (1080/3313-56) 1/1 core*	FR408HR .006 (1080/3313-56) 1/1 core*	core	2
Isola	FR408HR 1080(65) pre-preg	FR408HR 1080(65) pre-preg	pre-preg	4
Isola	FR408HR .005 (1/2116-54) 1/1 core*	FR408HR .005 (1/2116-54) 1/1 core*	core	2
Isola	FR408HR .004 (106/1080-59) 1/1 core*	FR408HR .004 (106/1080-59) 1/1 core*	core	1

No. of Panels = 1 | Circuits Per Panel = 1 | Price Per Circuit = 20.00 |