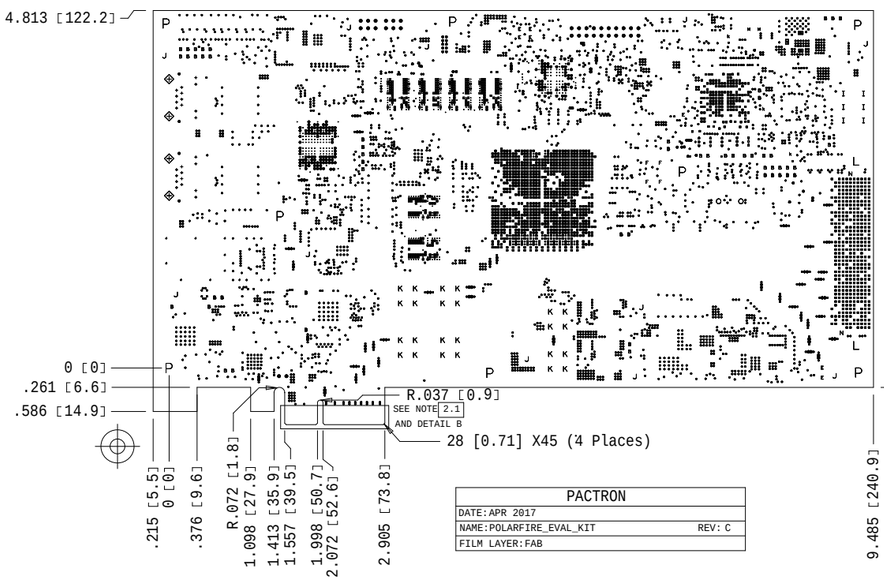
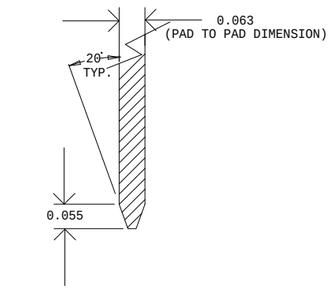
REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
A	INTIAL RELEASE	SEP 2016	
B	Rev B	JAN 2017	
C	Rev C	APR 2017	

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
·	8.0	+3.0/-3.0	PLATED	345
•	8.0	+3.0/-3.0	PLATED	459
•	8.0	+3.0/-3.0	PLATED	906
•	8.0	+3.0/-3.0	PLATED	180
·	8.01	DRILL WITH 10 MIL DRILL BIT ONLY	PLATED	44
·	10.0	+3.0/-3.0	PLATED	2294
•	10.0	+3.0/-3.0	PLATED	369
·	10.0	+3.0/-3.0	PLATED	642
·	10.0	+3.0/-3.0	PLATED	93
•	10.0	+3.0/-3.0	PLATED	34
•	10.01	DRILL WITH 12 MIL DRILL BIT ONLY	PLATED	56
•	28.0	+2.0/-2.0	PLATED	25
·	33.46	+2.0/-2.0	PLATED	1
·	35.0	+2.0/-2.0	PLATED	24
·	37.4	+2.0/-2.0	PLATED	9
B	40.0	+3.0/-3.0	PLATED	54
E	40.0	+3.0/-3.0	PLATED	7
A	40.0	+3.0/-3.0	PLATED	3
•	40.0	+3.0/-3.0	PLATED	34
·	41.34	+2.0/-2.0	PLATED	10
F	45.0	+3.0/-3.0	PLATED	4
•	62.0	+2.0/-2.0	PLATED	4
K	63.0	+3.0/-3.0	PLATED	24
J	65.0	+3.0/-3.0	PLATED	11
I	65.0	+4.0/-0.0	PLATED	6
L	106.0	+3.0/-3.0	PLATED	2
◈	128.0	+2.0/-2.0	PLATED	4
M	35.5	+2.0/-0.0	NON-PLATED	2
N	50.0	+2.0/-0.0	NON-PLATED	2
•	61.02	+2.0/-0.0	NON-PLATED	2
O	66.0	+2.0/-0.0	NON-PLATED	2
P	125.0	+2.0/-2.0	NON-PLATED	8
⊞	63.0x39.37	+3.0/-3.0	PLATED	1
⊞	63.0x39.37	+3.0/-3.0	PLATED	2

SEE NOTE 27.



PACTRON	
DATE:APR 2017	
NAME:POLARFIRE_EVAL_KIT	REV: C
FILM LAYER:FAB	



DETAIL B (EDGE BEVEL)

SCALE = NONE

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: NELCO 4000-13SI & FR4
2. GENERAL PLATING - ENIG
   FOR SELECTIVE PLATING SEE BELOW
   2.1. SELECTIVE HARD GOLD PLATING TO BE FLAT &
   PLATED 30uIN(MINIMUM) OF Au OVER 150-200uIN OF Ni.
   GOLD PLATING ON PAD SHOULD BE THE SAME LEVEL OR
   ABOVE THE SOLDER RESIST SURFACE ON TOP AND BOTTOM
3. ALL HOLES ARE PLATED THRU UNLESS OTHERWISE SPECIFIED
   MINIMUM PLATING FOR ALL THRU HOLE SHOULD BE O.OO1" Cu
4. HOLES LESS THAN 12 MIL ARE DRILL SIZES AND NOT FINISHED HOLE SIZES
   ALL HOLES TO BE +/- .003 FROM TRUE POSITION UNLESS OTHERWISE SPECIFIED
5. SILKSCREEN BOTH SIDES WITH NON-CONDUCTIVE WHITE INK
6. FABRICATE PER DIMENSIONS SHOWN.
7. SOLDER MASK TOP AND BOTTOM SIDES WITH
   LIQUID PHOTO IMAGABLE OR DRY FILM
   SOLDER MASK. COLOR GREEN.
8. TOTAL BOARD THICKNESS: 63 mil+/- 6 mil
   14 LAYER CONSTRUCTION. REFER STACKUP
9. THEIVING IS OPTIONAL. IF ADDED IT NEED TO BE KEPT AWAY FROM ANY CONDUCTORS BY 300 MIL
   AFTER APPROVAL FROM PACTRON.
10. THIS IS A ROHS COMPLIANT BOARD
11. BOARD MUST BE UL 94V-1 APPROVED.
12. FABRICATE BOARD PER IPC-A-600D STANDARD.
13. CLIP SILKSCREEN ON NO MASK AREA.
14. IMPEDANCE TOLERANCE SHOULD BE +/- 5% ON L1, L14.REST OF THE LAYRES CAN HAVE 10% TOLERANCE
15. NO VENDOR LOGO, ART WORKS SHOULD NOT BE
    CHANGED WITHOUT PRIOR APPROVAL FROM PACTRON
16. DEBURR ALL SHARP EDGES
17. REMOVE UNUSED PADS IN ALL INNER LAYERS.
18. BOARD DIMENSIONS ARE IN INCHES[MM].
19. WARP & TWIST: SHALL NOT EXCEED 0.005 INCHES PER INCH
20. EDGE FINGER- CHAMFER EDGES MUST BE FREE OF CUTTING BURRS
21. PROVIDE SOFT COPY OF TDR REPORT FOR OUTER LAYERS.
22. ALL THE TRACE WIDTH MENTIONED IN IMPEDANCE TABLE ARE FINISHED TRACE WIDTH
    THERE SHOULD NOT BE ANY DEVIATIONS IN TRACE WIDTH AFTER MANUFACTURING
23. NICKEL CONTENT ON OUTER LAYERS SHOULD BE VERY MINIMAL POSSIBLE
    TRY TO ACHIEVE THICKNESS IN OUTER LAYER METAL WITH MORE COPPER INSTEAD OF MORE NICKEL
24. TEARDROPS SHOULD NOT BE ADDED ON ANY AREA WITHOUT PRIOR APPROVAL FROM PACTRON.
25. IF REQUIRED CAN IGNORE THE TRACES THAT ARE <0.5 INCH FOR TDR MEASUREMENT. BUT SETUP
    NEED TO BE DONE TO MEET IMPEDANCE REQUIREMENT
26. THROUGH HOLES PLATING THICKNESS SHOULD BE CONTROLLED BETWEEN 1.0 TO 1.5 MILS PER SIDE.
27. NEED RECTANGLE SLOT AS MENTIONED DIMENSION IN THE DRILL TABLE.

CONTROLLED IMPEDANCE REQUIRED

DIELECTRIC GLASS STYLE	STACKUP - 14 LAYERS	40 OHM SINGLE	50 OHM SINGLE	80 OHM DIFFERENTIAL	90 OHM DIFFERENTIAL	100 OHM DIFFERENTIAL
2116	TOP (0.5 oz + PLATING)	13.0 MILS	8.0 MILS	7.9/4.6/7.9 MILS	6/4.5/6 MILS	4.5/4.5 MILS 7.5/13.0 MILS
	N4000-13SI DIELECTRIC (4.50 mils)					
	L2_GND1 (0.5 oz)					
	FR-4 DIELECTRIC (4.50 mils)					
	L3_SIG1 (0.5 oz)	5.0 MILS	4.0 MILS	4.9/6.6/4.9 MILS		3.5/8.0 MILS
	FR-4 DIELECTRIC (4.00 mils)					
	L4_GND2 (0.5 oz)					
	FR-4 DIELECTRIC (4.50 mils)					
	L5_SIG2 (0.5 oz)	5.0 MILS	4.0 MILS	4.9/6.6/4.9 MILS		3.5/8.0 MILS
	FR-4 DIELECTRIC (4.00 mils)					
	L6_GND3 (0.5 oz)					
	FR-4 DIELECTRIC (2.00 mils)					
	L7_PWR1 (1.0 oz)					
	FR-4 DIELECTRIC (4.00 mils)					
	L8_PWR2 (1.0 oz)					
	FR-4 DIELECTRIC (2.00 mils)					
	L9_GND4 (0.5 oz)					
	FR-4 DIELECTRIC (4.00 mils)					
	L10_SIG3 (0.5 oz)	5.0 MILS	4.0 MILS	4.9/6.6/4.9 MILS		3.5/8.0 MILS
	FR-4 DIELECTRIC (4.50 mils)					
	L11_GND5 (0.5 oz)					
	FR-4 DIELECTRIC (4.00 mils)					
	L12_SIG4 (0.5 oz)	5.0 MILS	4.0 MILS	4.9/6.6/4.9 MILS		3.5/8.0 MILS
	FR-4 DIELECTRIC (4.50 mils)					
	L13_GND6 (0.5 oz)					
2116	N4000-13SI DIELECTRIC (4.50 mils)					
	BOTTOM (0.5 oz + PLATING)	13.0 MILS	8.0 MILS			4.5/4.5 MILS 7.5/13.0 MILS

NOTE: DIELECTRIC GLASS STYLE SHOULD NOT BE CHANGED WITHOUT PRIOR APPROVAL FROM PACTRON.
FINISHED TRACE WIDTH,AIR GAP OF 100 OHM DIFFERENTIAL AND 50 OHM SIGNLE ENDED
SHOULD NOT BE CHANGED FROM ABOVE STATED VALUES.

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PROJECT NAME	POLARFIRE_EVAL_KIT	REV :C
PART NUMBER	DVP-101-000481-001	
DATE	APR 2017	
ORIGINATOR	LALITH KUMAR T	
PACTRON PART NUMBER	305-PD-17-0215	