REVISIONS		
REV #	DESCRIPTION	DATE
REV #	CCN #	150922

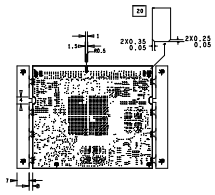
FABRICATION NOTES:

1. FABRICATE PCB IN ACCORDANCE WITH IPC-6012C, CLASS 2; PER IPC-4011.
   PCB SHALL BE MANUFACTURED USING NT-40 OR EQUIVALENT.
2. MATERIALS:
   1. LAMINATE AND PREPREG (B-STAGE) TO BE IN ACCORDANCE WITH IPC-4101/126.
      (MIN.TG 180)
   2. COPPER FOIL TO BE IN ACCORDANCE WITH IPC-MF-150. UNLESS OTHERWISE SPECIFIED.
      ALL COPPER WEIGHT FOR INNER SIGNAL LAYERS AND INNER PLANE LAYERS TO BE 35UM (1 OZ.).
      FOR OUTER LAYERS 1;31 OZ. COPPER WEIGHT IS TO BE CONSIDERED "FINISHED".
      THE COPPER FOIL THICKNESS TOLERANCES SHALL BE AS PER IPC 6012B TABLE NO.3-7 AND 3-8.
3. ALL HOLES SHALL BE LOCATED WITHIN 0.15MM DIAMETER OF TRUE POSITION.
   LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.100MM.
4. BOW AND TWIST SHALL NOT EXCEED MORE THAN 0.75% OF THE DESIGN LENGTH.
5. CONDUCTOR WIDTH SHALL NOT BE LESS THAN 20% FROM ITS ORIGINAL DATA. INCASE FOR MATCHING
   IMPEDANCE MISTRAL SHALL APPROVE THE MODIFIED WIDTHS AND SPACING.
   TRACE WIDTH SHALL BE MEASURED ON THE SURFACE IN CONTACT WITH THE LAMINATE.
6. AUTOMATED OPTICAL INSPECTION OF ALL THE LAYERS IS REQUIRED.
7. FINISH:
   1. ALL EXPOSED CONDUCTIVE PATTERN AREAS NOT COVERED WITH SOLDER MASK OR OTHER PLATING SHALL BE ENIG.
      ELECTROLESS NICKEL/IMMERSION GOLD. ELECTROLESS NICKEL SHALL BE 3.0 MICRONS.TYPICAL IMMERSION GOLD
      THICKNESS SHALL BE 0.04-0.06 MICRONS OF SOLDERABLE IMMERSION GOLD SURFACE.
   2. APPLY LIQUID PHOTO IMAGEABLE SOLDER MASK PER IPC-SM-840, CLASS H, TO BOTH SIDES OF THE BOARD OVER BARE COPPER.
      VIA HOLES THAT HAVE MASK OPEN SHALL BE FILLED WITH NON CONDUCTIVE INK AND CAP PLATED.
      ALL OTHER VIA HOLES SHALL BE FILLED WITH NON CONDUCTIVE INK AND COVERED WITH SOLDER MASK.
      ONLY SOLDERMASK IMAGES THAT ARE 0.2M(0.003") PER SIDE SHALL BE REDUCED IF REQUIRED.
      ALL OTHER SOLDER MASK IMAGES SHALL NOT BE ENLARGED. DEFAULT COLOUR OF SOLDER MASK SHALL BE BLUE.
   3. SILKSCREEN SHALL BE WHITE. PERMANENT. ORGANIC. NON-CONDUCTIVE INK. THERE SHALL BE
      NO SILKSCREEN ON ANY SOLDERABLE COMPONENT PAD. CLIPPING OF SILK SCREEN SHALL BE ALLOWED
      IF THE SILK SCREEN FALLS ON SOLDERABLE AREAS.
   4. SURFACE AND VIA HOLES FINISH SHALL NOT BE LESS THAN 20UM [0.0007"]. INCASE OF LASER
      VIA'S, BLIND VIA'S SHALL NOT BE LESS THAN 12UM [0.0004"] AND BURIED VIA'S SHALL NOT BE LESS THAN 15UM [0.0006"].
   5. ALL HOLES SURROUNDED BY LAND <=0.010" SHALL BE COMPLAIN TO IPC6012, CLASS 2.
8. MARKING:
   1. BOARD SHALL MEET THE REQUIREMENTS OF UL-796E WITH FLAMMABILITY RATING OF MINIMUM 94V-0, UL LOGO.UL FILE NUMBER,
      MANUFACTURER'S IDENTIFICATION AND DATE CODE LETTER SHALL BE RENDERED IN SILKSCREEN.
9. TEST REQUIREMENTS:
   1. 100% NET LIST ELECTRICAL VERIFICATION USING WISTRAL SUPPLIED IPC-D-356 NET LIST FOR OPENS AND SHORTS.
10. THIEVING IS ALLOWED ONLY IN THE PANEL FRAME. NOT IN THE CIRCUIT AREA.
11. TEAR DROPS SHALL BE ADDED ON INTERNAL AND EXTERNAL LAYER FOR ALL THE VIA'S AND THROUGH HOLE PADS.
12. FINISHED PCB THICKNESS SHALL BE 0.0606" +/-10%.
13. MIN TRACE WIDTH/SPACING ON BOARD IS 0.003"/0.0032".
14. ALL THE IMPEDANCE SHALL BE MATCHED AS PER IMPEDANCE TABLE WITH +/-10% TOLERANCE.
15. ENSURE THAT UL REGISTERED E-FILE NUMBER SHALL BE PRINTED ON PCB SILKSCREEN
16. ALL UNCONNECTED VIA'S SHALL BE SUPPRESSED IN INTERNAL LAYERS.
17. BACKDRILLING TO BE DONE FROM L12 TO L04.
18. FOR DETAILED STACKUP, PROC131_STACKUP.PDF SHALL BE REFERRED
19. RECOMMENDED PLATING FOR CONTACT PADS ARE:
    1) VARIATION xxAx/GOLD PLATING 0.76 MICROMETERS MINIMUM OVER 2.00 MICROMETERS MINIMUM NICKEL.
20. THE ADDITION OF THIS BEVEL IS A FABRICTION OPTION AND IS NOT REQUIERED.THE BEVEL IS NOT HIT THE PLATED CONTACTS.

BACKDRILL: BOTTOM to L4-GND2				
ALL UNITS ARE IN MILS				
	FIGURE	SIZE	TOLERANCE	PLATED	QTY
17	-	7.98	+3.0/-3.0	PLATED	32
	START	TARGET	MUST CUT	MUST NOT CUT	
	L12	L04	L03	L03	

NOTES:
- DRILL SIZES LISTED IN LEGEND ARE CONSIDERED FINISHED.
- VENDOR IS REQUIRED TO SELECT DRILL SIZE BASED ON DEPTH.
- LEGEND DOES NOT SPECIFY DEPTH INTO ADJACENT DIELECTRIC LAYER.

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
-	7.98	+3.0/-3.0	PLATED	98
-	7.97	+3.0/-3.0	PLATED	32
-	7.98	+3.0/-3.0	PLATED	32
-	7.99	+3.0/-3.0	PLATED	98
-	8.0	+3.0/-3.0	PLATED	109
-	8.0	+3.0/-3.0	PLATED	1141
-	12.0	+3.0/-3.0	PLATED	293
-	49.0	+3.0/-3.0	PLATED	1
⊕	32.0	+3.0/-3.0	NON-PLATED	24
⊕	79.0	+3.0/-3.0	NON-PLATED	2
⊕	84.5	+3.0/-3.0	NON-PLATED	2
⊕	106.0	+3.0/-3.0	NON-PLATED	4



IMPEDANCE SPECIFICATIONS

SL#	TYPE	LAYER	TRACEWIDTH(Mils)	SPACING(Mils)	IMPEDANCE(Ohms)	REF LAYER
01	EDGE COUPLED MICROSTRIP	L1/L12	4.8	7	100	L2/L11
02	EDGE COUPLED MICROSTRIP	L1/L12	5.1	5	90	L2/L11
03	EDGE COUPLED MICROSTRIP	L1/L12	6	5	85	L2/L11
04	EDGE COUPLED MICROSTRIP	L1/L12	7	5	80	L2/L11
05	EDGE COUPLED MICROSTRIP	L1/L12	11	6	66	L2/L11
06	MICROSTRIP	L1/L12	14	-	33	L2/L11
07	MICROSTRIP	L1/L12	10	-	40	L2/L11
08	MICROSTRIP	L1/L12	6.5	-	50	L2/L11
09	EDGE COUPLED STRIPLINE	L3	3	6.5	66	L2/L4
10.	EDGE COUPLED STRIPLINE	L3,L5,	4.6	5	80	L2/L4,L4/L6
11.	EDGE COUPLED STRIPLINE	L10	4.2	5	85	L9/L11
12.	EDGE COUPLED STRIPLINE	L3,L10	4	8	90	L2/L4,L9/L11
13.	EDGE COUPLED STRIPLINE	L3,L5,L10	3	5	100	L2/L4,L4/L6,L9/L11
14.	STRIPLINE	L3	3	-	33	L2/L4
15.	STRIPLINE	L3,L5	5	-	40	L2/L4,L4/L6
16.	STRIPLINE	L3,L5,L8, L10	3.2	-	50	L2/L4,L4/L6,L7/L9, L9/L11
17.	STRIPLINE	L8	6.5	-	33	L7/L9

LAYER STACKUP

LAYER NAME	FINISHED Cu	X-SECTION	DIELECTRIC THICKNESS [INCHES]
PRIMARY SIDE SILKSCREEN			
PRIMARY SIDE SOLDERMASK			
L01 — PRIMARY SIDE	1.45oz.		0.0037
L02 — GROUND-PLANE-1	1oz.		0.0030
L03 — INNER-SIGNAL-1	0.5oz.		0.0032
L04 — GROUND-PLANE-2	1oz.		0.0030
L05 — INNER-SIGNAL-2	0.5oz.		0.0032
L06 — POWER-PLANE-1	1oz.		0.0030
L07 — POWER-PLANE-2	1oz.		0.0032
L08 — INNER-SIGNAL-3	0.5oz.		0.0030
L09 — GROUND-PLANE-3	1oz.		0.0032
L10 — INNER-SIGNAL-4	0.5oz.		0.0030
L11 — GROUND-PLANE-4	1oz.		0.0037
L12 — SECONDARY SIDE	1.45oz.		
SECONDARY SIDE SOLDERMASK			
SECONDARY SIDE SILKSCREEN			

SIGNATURES		DATE
LAYOUT BY	SK	150922
REVIEWED BY	ZA	150922
APPROVED BY	AMB	150922

TEXAS INSTRUMENTS — PROC131E1

JTAEP SK SOM BOARD

SIZE D — Rev E1

SCALE: NONE — SHEET 1 OF 19