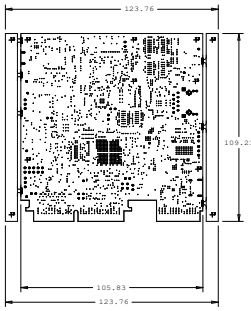
REVISIONS		
REV #	DESCRIPTION	DATE
REV #	CCN #	DDMMYY

FABRICATION NOTES:

1. FABRICATE PCB IN ACCORDANCE WITH IPC-6012D, CLASS 2; PER IPC-6011. PCB SHALL BE MANUFACTURED USING ITEQ IT 180A OR EQUIVALENT
2. MATERIALS:
   1. LAMINATE AND PREPREG (B-STAGE) TO BE IN ACCORDANCE WITH IPC-4101/126.
      "(MIN.TG 170) FR4 HIGH Tg for Core and Prepreg.
   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 35UM (1 OZ). COPPER WEIGHT IS TO BE CONSIDERED "FINISHED".
      THE COPPER FOIL THICKNESS TOLERANCES SHALL BE AS PER IPC 4012B TABLE NO.3-7 AND 3-8.
3. ALL HOLES SHALL BE LOCATED WITHIN 0.150MM DIAMETER OF TRUE POSITION.
   LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.125MM.
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. BOARD FINISHED SHALL BE ACCORDING TO IPC-6012D CLASS 2.
7. AUTOMATED OPTICAL INSPECTION OF ALL THE LAYERS IS REQUIRED.
8. 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 3-6 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 SHALL BE RESIN FILLED AND COVERED WITH SOLDER MASK. ONLY SOLDER MASK IMAGES
      THAT ARE 0.08(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 GREEN.
   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 25UM (0.00079"). INCASE OF LASER
      VIA'S, BLIND VIA'S SHALL NOT BE LESS THAN 12UM (0.00047") AND BURIED VIA'S SHALL NOT BE LESS THAN 15UM (0.0006").
   5. ALL HOLES SURROUNDED BY LAND <=0.010" SHALL BE COMPLIANCE TO IPC6012, CLASS 2.
9. MARKING:
   1. BOARD SHALL MEET THE REQUIREMENTS OF UL-796E WITH FLAMMABILITY RATING OF MINIMUM 94V-0. UL LOGO,
      MANUFACTURER'S IDENTIFICATION AND DATE CODE LETTER SHALL BE RENDERED IN SILKSCREEN.
10. TEST REQUIREMENTS:
   1. 100% NET LIST ELECTRICAL VERIFICATION USING MISTRAL SUPPLIED IPC-D-356 NET LIST FOR OPENS AND SHORTS.
11. TESTPINS IS ALLOWED ONLY IN THE PANEL FRAME, NOT IN THE CIRCUIT AREA.
12. TEAR DROPS SHALL BE ADDED ON VIA'S AND THROUGH HOLE PADS IN ALL INTERNAL AND OUTER LAYERS.
13. ALL UNCONNECTED VIA'S SHALL BE SUPPRESSED IF REQUIRED.
14. FINISHED PCB THICKNESS SHALL BE 0.064" +/-10%.
15. MIN TRACE WIDTH/SPACING ON BOARD IS 0.0032"/0.0037".
16. ENSURE UL RECOGNISED E-FILE NUMBER SHALL BE PRINTED ON THE PCB SILKSCREEN.
17. VIA ON PAD SHALL BE RESIN FILLED AND CAP-PLATED.
18. EDGE FINGERS SHALL HAVE HARD GOLD FINISH.
19. ALL BOARD OUTLINE INNER ANGLES THAT ARE NOT EXPLICITY DIMENTIONED SHALL BE WITH TOOL PATH 1.0MM DIA OR SMALLER.



IMPEDANCE SPECIFICATIONS

SL#	TYPE	LAYER	TRACEWIDTH(Mils)	SPACING(Mils)	IMPEDANCE(Ohms)	REF LAYER
01	EDGE COUPLED MICROSTRIP	L1,L10	4.25	7.15	100	L2,L9
02	EDGE COUPLED MICROSTRIP	L1	4.5	5.25	100	L2
03	SINGLEND	L3,L8	5.5	NA	50	L2,L4,L7,L9
04	DIFFERENTIAL	L3,L8	5.5	NA	90	L2,L4,L7,L9
05	EDGE COUPLED MICROSTRIP	L1,L10	4.5	4.5	85	L2,L9
06	EDGE COUPLED STRIPLINE	L4	3.5	6	90	L3,L5

DRILL CHART: TOP to BOTTOM

ALL UNITS ARE IN MILS

FIGURE	SIZE	TOLERANCE	PLATED	QTY
•	8.0	+3.0/-3.0	PLATED	2196
•	36.0	+3.0/-3.0	PLATED	14
•	40.0	+2.0/-2.0	PLATED	18
•	40.0	+3.0/-3.0	PLATED	12
•	44.0	+2.0/-2.0	PLATED	22
■	66.0	+3.0/-3.0	PLATED	2
•	32.0	+3.0/-3.0	NON-PLATED	21
✣	108.0	+3.0/-3.0	NON-PLATED	11
✣	126.0	+3.0/-3.0	NON-PLATED	2
▪	62.0x24.0	+2.0/-2.0	PLATED	2
▬	76.0x28.0	+2.0/-2.0	PLATED	2
▬	82.0x24.0	+2.0/-2.0	PLATED	2

LAYER STACKUP

LAYER NAME	FINISHED Cu	X-SECTION	DIELECTRIC THICKNESS [INCHES]
PRIMARY SIDE SILKSCREEN			
PRIMARY SIDE SOLDERMASK			
L01 PRIMARY SIDE	1.5oz.		0.00355
L02 GROUND-PLANE-1	1oz.		0.004
L03 INNER-SIGNAL-1	1oz.		0.0066
L04 GROUND-PLANE-2	1oz.		0.005
L05 POWER-PLANE-1	1oz.		0.0098
L06 POWER-PLANE-2	1oz.		0.005
L07 GROUND-PLANE-3	1oz.		0.00662
L08 INNER-SIGNAL-2	1oz.		0.004
L09 GROUND-PLANE-4	1oz.		0.00355
L10 SECONDARY SIDE	1.5oz.		
SECONDARY SIDE SOLDERMASK			
SECONDARY SIDE SILKSCREEN			

SIGNATURES	DATE
LAYOUT BY KK	280923
REVIEWED BY ZA	280923
APPROVED BY AMB	280923

TEXAS INSTRUMENTS

PROC159E2

SIZE		Rev
D		E2
SCALE:NONE		SHEET 1 OF 17