

FABRICATION NOTES:

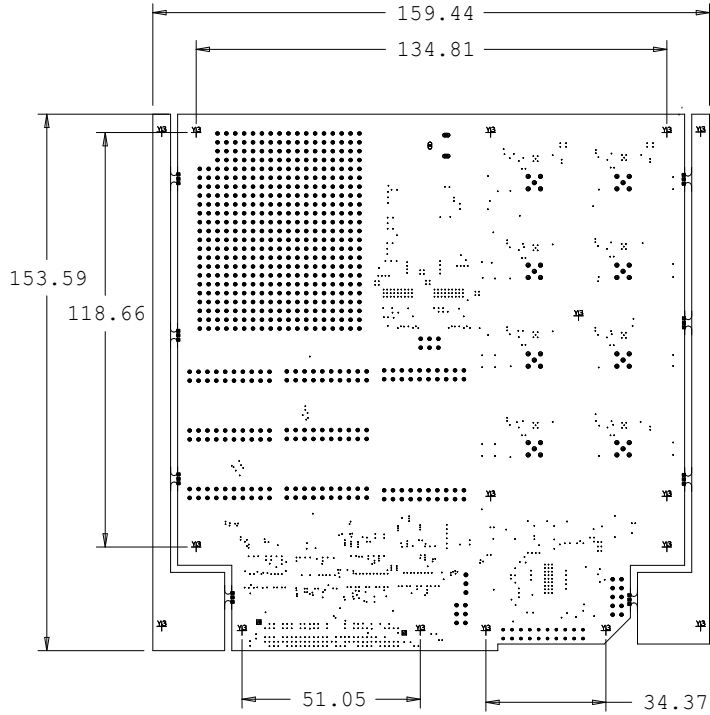
- FABRICATE PCB IN ACCORDANCE WITH IPC-6012D, CLASS 2; PER IPC-6011. PCB SHALL BE MANUFACTURED USING ITEQ IT 180A OR EQUIVALENT
- MATERIALS:
  - LAMINATE AND PREPREG SHALL BE ISOLA 370HR.
  - COPPER FOIL TO BE IN ACCORDANCE WITH IPC-MF-150. UNLESS OTHERWISE SPECIFIED, ALL COPPER WEIGHT FOR INNER SIGNAL 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 6012B TABLE NO.3-7 AND 3-8.
- ALL HOLES SHALL BE LOCATED WITHIN 0.15MM DIAMETER OF TRUE POSITION. LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.125MM.
- BOW AND TWIST SHALL NOT EXCEED MORE THAN 0.75% OF THE DESIGN LENGTH.
- 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.
- BOARD FINISHED SHALL BE ACCORDING TO IPC-6012D CLASS 2.
- AUTOMATED OPTICAL INSPECTION OF ALL THE LAYERS IS REQUIRED.
- FINISH:
  - 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.
  - 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 (NON CONDUCTIVE INK) TO "TYPE VI " AND TENTED 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.
  - 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.
  - SURFACE AND VIA HOLES FINISH SHALL NOT BE LESS THAN 20UM [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"].
  - ALL HOLES SURROUNDED BY LAND <=0.010" SHALL BE COMPLIANCE TO IPC6012, CLASS 2.
- MARKING:
  - BOARD SHALL MEET THE REQUIREMENTS OF UL-796E WITH FLAMMABILITY RATING OF MINIMOM 94V-0. UL LOGO, MANUFACTURER'S IDENTIFICATION AND DATE CODE LETTER SHALL BE RENDERED IN SILKSCREEN.
- TEST REQUIREMENTS:
  - 100% NET LIST ELECTRICAL VERIFICATION USING MISTRAL SUPPLIED IPC-D-356 NET LIST FOR OPENS AND SHORTS.
- THEIVING IS ALLOWED ONLY IN THE PANEL FRAME, NOT IN THE CIRCUIT AREA.
- TEAR DROPS SHALL BE ADDED ON VIA'S AND THROUGH HOLE PADS IN ALL INTERNAL AND OUTER LAYERS.
- ALL UNCONNECTED VIA'S SHALL BE SUPPRESSED IF REQUIRED.
- FINISHED PCB THICKNESS SHALL BE 0.061" +/-10%.
- MIN TRACE WIDTH/SPACING ON BOARD IS 0.006"/0.006".
- ENSURE THAT UL REGISTERED E-FILE NUMBER IS ON THE PCB SILKSCREEN

IMPEDANCE SPECIFICATIONS

SL#	TYPE	LAYER	TRACEWIDTH(Mils)	SPACING(Mils)	IMPEDANCE(Ohms)	REF LAYER
01	STRIPLINE	L3	6	NA	50	L2/L4
02	MICROSTRIP	L1/L6	6	NA	50	L2/L5

LAYER STACKUP

LAYER NAME	FINISHED Cu	X-SECTION	DIELECTRIC THICKNESS
PRIMARY SIDE SILKSCREEN			[INCHES]
PRIMARY SIDE SOLDERMASK			
L01 — PRIMARY SIDE	1oz. —		0.0042
L02 — INNER-SIGNAL-1	1oz. —		0.005
L03 — INNER-SIGNAL-2	1oz. —		0.032
L04 — INNER-SIGNAL-3	1oz. —		0.005
L05 — INNER-SIGNAL-4	1oz. —		0.0042
L06 — SECONDARY SIDE	1oz. —		
SECONDARY SIDE SOLDERMASK			
SECONDARY SIDE SILKSCREEN			



DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
•	8.0	+3.0/-3.0	PLATED	834
•	30.0	+3.0/-3.0	PLATED	20
•	40.0	+2.0/-2.0	PLATED	6
•	40.0	+3.0/-3.0	PLATED	605
•	44.0	+2.0/-2.0	PLATED	3
•	48.0	+3.0/-3.0	PLATED	40
•	32.0	+3.0/-3.0	NON-PLATED	24
•	50.0	+3.0/-3.0	NON-PLATED	2
•	108.0	+3.0/-3.0	NON-PLATED	16
•	80.0x40.0	+3.0/-3.0	PLATED	1
•	80.0x40.0	+3.0/-3.0	PLATED	2

SIGNATURES		DATE	TEXAS INSTRUMENTS		PROC102
LAYOUT BY	VU	221020	IO Link/Breakout Board		
REVIEWED BY	ZA	221020			
APPROVED BY	AMB	221020			
			SIZE D	Rev A	
		SCALE: NONE	SHEET 1 OF 13		