REVISIONS		
REV #	DESCRIPTION	DATE
REV 1	CCN #	010923

FABRICATION NOTES:

1. FABRICATE PCB IN ACCORDANCE WITH IPC-6012C, CLASS 2; PER IPC-6011.
   PCB SHALL BE MANUFACTURED USING IT180A 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, 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 0.125MM.
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. 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 3-6 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 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 0.08(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 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"].
   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 MISTRAL 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 0.069" +/-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 AND L12 TO L06
18. FOR DETAILED STACKUP, PROC170_STACKUP.PDF SHALL BE REFERRED
20. V SCORE TO BE DONE AS PER DETAIL A

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START	TARGET	MUST CUT	MUST NOT CUT
L12	L06	L07	L05

BACKDRILL: BOTTOM to L6-PWR1

ALL UNITS ARE IN MILS

FIGURE	BD SIZE	MNC LAYER	MAX DEPTH	MFG STUB	QTY
-	21.96	L5-SIGNAL1	62.5	-	4

NOTES:
- MNC_LAYER: MUST-NOT-CUT-LAYER
- MAX_DEPTH: DEPTH FROM START LAYER TO THE SURFACE OF MUST-NOT-CUT-LAYER
- MFG_STUB : MANUFACTURING STUB LENGTH

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START	TARGET	MUST CUT	MUST NOT CUT
L12	L04	L05	L03

BACKDRILL: BOTTOM to L4-GND2

ALL UNITS ARE IN MILS

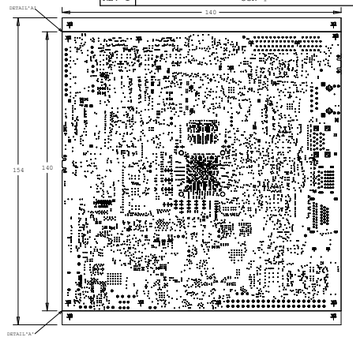
FIGURE	BD SIZE	MNC LAYER	MAX DEPTH	MFG STUB	QTY
-	21.96	L3-SIGNAL1	54.86	-	29

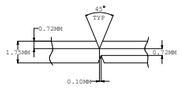
NOTES:
- MNC_LAYER: MUST-NOT-CUT-LAYER
- MAX_DEPTH: DEPTH FROM START LAYER TO THE SURFACE OF MUST-NOT-CUT-LAYER
- MFG_STUB : MANUFACTURING STUB LENGTH

DRILL CHART: TOP to BOTTOM

ALL UNITS ARE IN MILS

FIGURE	FINISHED SIZE	TOLERANCE DRILL	PLATED	QTY
•	7.96	+3.0/-3.0	PLATED	33
•	8.0	+3.0/-3.0	PLATED	133
•	8.0	+3.0/-3.0	PLATED	5334
•	10.0	+0.0/-10.0	PLATED	52
•	16.0	+3.0/-3.0	PLATED	14
•	24.0	+3.0/-3.0	PLATED	20
•	28.0	+3.0/-3.0	PLATED	115
•	32.0	+2.0/-2.0	PLATED	2
•	32.0	+3.0/-3.0	PLATED	22
•	36.0	+3.0/-3.0	PLATED	16
•	40.0	+0.0/-0.0	PLATED	11
•	40.0	+3.0/-3.0	PLATED	23
•	44.0	+2.0/-2.0	PLATED	12
•	44.0	+3.0/-3.0	PLATED	60
•	48.0	+3.0/-3.0	PLATED	2
■	66.0	+3.0/-3.0	PLATED	2
■	90.0	+3.0/-3.0	PLATED	6
•	34.0	+2.0/-2.0	NON-PLATED	2
•	34.0	+3.0/-3.0	NON-PLATED	2
■	40.0	+1.97/-1.97	NON-PLATED	2
■	40.0	+3.0/-3.0	NON-PLATED	6
■	66.0	+3.0/-3.0	NON-PLATED	2
○	66.93	+2.0/-2.0	NON-PLATED	6
■	92.0	+2.0/-2.0	NON-PLATED	2
■	108.0	+3.0/-3.0	NON-PLATED	13
■	126.0	+3.0/-3.0	NON-PLATED	2
▬	48.0x24.0	+3.0/-3.0	PLATED	4
▬	52.0x24.0	+3.0/-3.0	PLATED	6
▬	62.0x24.0	+3.0/-3.0	PLATED	2
▬	66.0x32.0	+3.0/-3.0	PLATED	2
▬	82.0x24.0	+3.0/-3.0	PLATED	2
▬	86.0x32.0	+3.0/-3.0	PLATED	2





DETAIL-A(V-GROOVE DETAILS)
SCALE:NTS

IMPEDANCE SPECIFICATIONS

SL#	TYPE	LAYER	TRACEWIDTH(Mils)	SPACING(Mils)	IMPEDANCE(Ohms)	REF LAYER
01.	EDGE COUPLED MICROSTRIP	L1/L12	4	5.5	120	L2/L11
02.	EDGE COUPLED MICROSTRIP	L1/L12	4.1	6.2	100	L2/L11
03.	EDGE COUPLED MICROSTRIP	L1/L12	4.5	4.5	90	L2/L11
04.	EDGE COUPLED MICROSTRIP	L1/L12	5.2	4.5	85	L2/L11
05.	EDGE COUPLED MICROSTRIP	L1/L12	6	4.5	80	L2/L11
06.	EDGE COUPLED MICROSTRIP	L1/L12	9.1	4.5	66	L2/L11
07.	MICROSTRIP	L1/L12	12.5	-	33	L2/L11
08.	MICROSTRIP	L1/L12	9	-	40	L2/L11
09.	MICROSTRIP	L1/L12	5.9	-	50	L2/L11
10.	EDGE COUPLED STRIPLINE	L3	6.6	4.5	66	L2/L4
11.	EDGE COUPLED STRIPLINE	L3,L5,	4.3	4.5	80	L2/L4,L4/L6
12.	EDGE COUPLED STRIPLINE	L10	3.7	4.5	85	L9/L11
13.	EDGE COUPLED STRIPLINE	L3,L10,L8	3.6	5.8	90	L2/L4,L9/L11,L7/L9
14.	EDGE COUPLED STRIPLINE	L3,L5,L8, L10	3.2	8	100	L2/L4,L4/L6,L7/L9,L9/L11
15.	STRIPLINE	L3	8	-	33	L2/L4
16.	STRIPLINE	L3,L5	5.7	-	40	L2/L4,L4/L6
17.	STRIPLINE	L3,L5,L8, L10	3.5	-	50	L2/L4,L4/L6,L7/L9, L9/L11
18.	STRIPLINE	L8	8	-	33	L7/L9
19.	STRIPLINE	L3	3.2	16	133	L2/L4

SIGNATURES	DATE
LAYOUT BY JAL	020224
REVIEWED BY ZA	020224
APPROVED BY AMB	020224

TEXAS INSTRUMENTS | PROC170E3

J722S TDA4VEN TDA4AEN AM67
EVALUATION MODULE

SIZE D | Rev E3

SCALE:NONE | SHEET 1 OF 19