

87654321

UNLESS OTHERWISE SPECIFIED, ALL NOTES ARE APPLICABLE.  
NOTES PRECEDED BY AN UNMARKED "□" ARE NOT APPLICABLE.

1. APPLICATION DESIGN MANUFACTURING AND INSPECTION DOCUMENTS.  
IPC-2221A & IPC-2222 / DESIGN STANDARD FOR RIGID PRINTED CIRCUIT BOARDS AND RIGID PRINTED BOARD ASSEMBLIES.  
IPC-6012B / QUALIFICATION AND PERFORMANCE SPECIFICATION FOR RIGID PRINTED BOARD.  
IPC-A-600G / ACCEPTABILITY OF PRINTED BOARDS.

2. HOLE SIZE APPLIES AFTER PLATING. TOLERANCE TO BE +/--.003.

3. REGISTRATION TOLERANCE: ARTWORK +/--.002  
ALL HOLE CENTERS +/--.005 FROM DIMENSION DATUM.

4. MINIMUM COPPER WALL THICKNESS SHALL BE .001 INCH.  
FOR ALL PLATED THROUGH HOLES, BREAKOUT NOT ALLOWED.

5. PROCESS AND MATERIAL MUST CONFORM TO UL 796. MATERIAL MUST MEET OR EXCEED UL FLAMMABILITY RATING 94V-0.  
MATERIAL: □ SINGLE SIDED, □ DOUBLE SIDED, ☒ MULTI-LAYER (SEE DETAIL 'A')  
SEE LAYER STACKUP FOR ALL PRE-PREG & CORE THICKNESSES. COPPER OZ AND MATERIAL, FINISHED BOARD THICKNESS: 0.031 +/-10%.

6. MANUFACTURE'S UL MARKING, FLAMMABILITY RATING, LOGO AND DATE CODE TO BE PLACED IN SILKSCREEN ON BOTTOM SIDE OF THE BOARD.

7. SOLDERMASK BOTH SIDES USING TAIYO (OR EQUIVALENT).  
COLOR=RED (0.001 TO 0.002" THICK OVER METAL).

8. SILKSCREEN □ TOP SIDE, ☒ BOTH SIDES, USING □ YELLOW ☒ WHITE NPI LEADFREE.  
REGISTRATION TOLERANCE TO BE +/--.005. INK IS NOT ALLOWED ON EXPOSED PLATED AREA.

9. P.C. BOARD TO BE FREE OF DIRT, OIL, FINGER PRINTS, ETC.

10. BOARD WARPAGE: WARP AND TWIST SHALL NOT EXCEED .007 INCH PER INCH.  
MEASURED AT ANY LOCATION OR DIRECTION ON THE BOARD.

11. BOARD MUST BE 100% ELECTRICALLY TESTED TO ENSURE NO SHORTS OR OPEN CIRCUITS AT 20V.

12. ALL INNER LAYER UNCONNECTED PADS SHALL BE REMOVED.

13. □ ALL OUTER LAYERS USING A   X.XX   mil TRACE WIDTH SHALL BE 50ohms SINGLE ENDED, +/- 5% TOLERANCE.  
□ ALL OUTER LAYERS USING A   X.XX   mil TRACE WIDTH SHALL BE 100ohms SINGLE ENDED, +/- 5% TOLERANCE.  
□ ALL INNER LAYERS USING A   X.XX   mil TRACE WIDTH SHALL BE 50ohms SINGLE ENDED, +/- 5% TOLERANCE.  
□ ALL INNER LAYERS USING A   X.XX   mil TRACE WIDTH SHALL BE 100ohms SINGLE ENDED, +/- 5% TOLERANCE.  
☒ ALL OUTER LAYERS USING A   6.00   mil TRACE WIDTH AND   5.00   mil SPACING SHALL BE 100 ohms DIFFERENTIAL, +/-10% TOLERANCE.  
□ ALL INNER LAYERS USING A   X.XX   mil TRACE WIDTH AND   X.XX   mil SPACING SHALL BE 100 ohms DIFFERENTIAL, +/-10% TOLERANCE.

14. MINIMUM COPPER CONDUCTOR WIDTH IS:    MIL.  
MINIMUM COPPER SPACING IS:    MIL.

15. SMOBC/IMMERSON GOLD: 3-8 uIN OVER 100-200 uIN NICKEL PLATING.

16. □ ALL THRU HOLE VIAS TO BE PLATED AND FILLED WITH NON-CONDUCTIVE EPOXY.  
FILLED VIAS SHALL BE PLATED AFTER FILLING AND COPLANAR.

17. GROUND ETCH TO BOARD EDGE IS INTENTIONAL. DO NOT PULL BACK.

18. NO CHANGES TO ANY ARTWORK ARE PERMITTED WITHOUT WRITTEN AUTHORIZATION.

19. FINISHED BOARD MUST BE RoHS COMPLIANT AND SURVIVE A LEAD FREE ASSEMBLY.  
MAXIMUM REFLOW OF 260 DEGREES C (6 PASSES).

20. □ BOARD TO BE PANELIZED FOR ASSEMBLY.

☒ HOLE SIZE APPLIES AFTER PLATING. TOLERANCE TO +/--.003/--.010.

REVISIONS

ZONE LTR DESCRIPTION DATE APPROVED

DETAIL 'A'

3.200

2.250

1.950

TEXAS INSTRUMENTS, INC.  
TSW1405EVM  
REV A

DRILL CHART: TOP to BOTTOM

ALL UNITS ARE IN MILS

FIGURE	SIZE	PLATED	QTY
•	10.0	PLATED	490
•	12.0	PLATED	277
•	13.0	PLATED	145
•	36.0	PLATED	8
•	38.0	PLATED	6
•	55.0	PLATED	4
•	62.0	PLATED	2
•	40.0	NON-PLATED	2
•	45.0	NON-PLATED	2
Y	125.0	NON-PLATED	2

LAYER 1

TOP

Copper Foil 0.5oz / Plate to 1.0oz min Layer 1

FR-4

Pre-preg X.XXX" (material)

LAYER 2

FR-4

Core X.XXX" 1.0oz / 1.0oz Layer 2 & 3

LAYER 3

FR-4

Pre-preg X.XXX" (material)

LAYER 4

BOTTOM

Copper Foil 0.5oz / Plate to 1.0oz min Layer 4

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
TOLERANCES ARE:  
FRACTIONS DECIMALS ANGLES  
+/- .XX +/--.01 +/-  
.XXX +/--.005 +/-

CONTRACT NO.

APPROVALS DATE  
DRAWN L. NGUYEN 04-29-11  
ENGR R. PRENTICE

MATERIAL  
SEE NOTE 5

FINISH  
SEE NOTES 7, 8, 9

DO NOT SCALE DRAWING

TEXAS INSTRUMENTS INC.

FABRICATION DRAWING  
TSW1405EVM

SIZE CODE IDENT NO DRAWING NO. REV.  
B A

SCALE NONE SHEET 1 OF 1