

NOTES (UNLESS OTHERWISE SPECIFIED):

GENERAL

- 1) PCB IS 10-LAYER, .062" THICK.
- 2) CONSTRUCTION IS SOLDER-MASK-OVER-BARE-COPPER (SMOBC).
- 3) ACCEPTABILITY SHALL BE BASED ON IPC-A-600, CLASS 2.
- 4) THE FOLLOWING GERBER RS274X PHOTO TOOL FILES SHALL BE USED TO DEFINE ALL CIRCUIT FEATURES:

\*GTL -- TOP LAYER GERBER DATA  
\*G1 -- MID LAYER 1 GERBER DATA  
\*GP1-- INTERNAL PLANE LAYER 1 GERBER DATA  
\*GP2 -- INTERNAL PLANE LAYER 2 GERBER DATA  
\*GP3-- INTERNAL PLANE LAYER 3 GERBER DATA  
\*GP4 -- INTERNAL PLANE LAYER 4 GERBER DATA  
\*GP5 -- INTERNAL PLANE LAYER 5 GERBER DATA  
\*G2 -- MID LAYER 2 GERBER DATA  
\*G3 -- MID LAYER 3 GERBER DATA  
\*GBL -- BOTTOM LAYER GERBER DATA  
\*GBO -- BOTTOM OVERLAY GERBER DATA  
\*GBP -- BOTTOM-SIDE SOLDER PASTE MASK  
\*GBS -- BOTTOM SOLDER MASK GERBER DATA  
\*GTO -- TOP OVERLAY GERBER DATA  
\*GTP -- TOP-SIDE SOLDER PASTE MASK  
\*GTS -- TOP SOLDER MASK GERBER DATA

- 5) THE PHOTO TOOL SHALL NOT BE COMPENSATED WITHOUT PRIOR ENGINEERING APPROVAL  
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FABRICATION TOLERANCES

- 6) END PRODUCT CONDUCTOR WIDTHS AND PAD DIAMETERS SHALL NOT VARY MORE THAN 0.002" FROM THE 1:1 DIMENSIONS OF THE MASTER ARTWORK.
- 7) THE CONDUCTIVE PATTERN SHALL BE POSITIONED SO THAT THE LOCATION OF ANY PAD OR LAND SHALL BE WITHIN 0.005" DIAMETER TO THE TRUE POSITION OF THE HOLE IT CIRCUMSCRIBES.
- 8.1) DRILL TOLERANCES +/- 0.003"
- 8.2) ALL DRILL HOLE SIZES AND TOLERANCES APPLY AFTER PLATING.
- 9) THE MINIMUM ANNULAR RING SHALL BE 0.005".
- 10) BOW AND TWIST SHALL NOT EXCEED 0.010" PER INCH.
- 11) FOR PCB ROUTING DIMENSIONS: .XXX = +/--.005" .XX = +/--.020"

MATERIAL

- 12) BASE MATERIAL IS FR4 EPOXY FIBERGLASS
- 13) SEE STACK-UP LEGEND FOR COPPER CLADDING CALL OUTS

PLATING

- 14) ALL HOLES AND CONDUCTIVE SURFACES SHALL BE PLATED WITH A MINIMUM OF 0.001" COPPER.
- 15) AFTER SOLDERMASK, ALL EXPOSED HOLES AND CONDUCTIVE SURFACES SHALL BE COATED WITH A GOLD IMMERSION PLATING TO PRESERVE SOLDERABILITY.

COATINGS

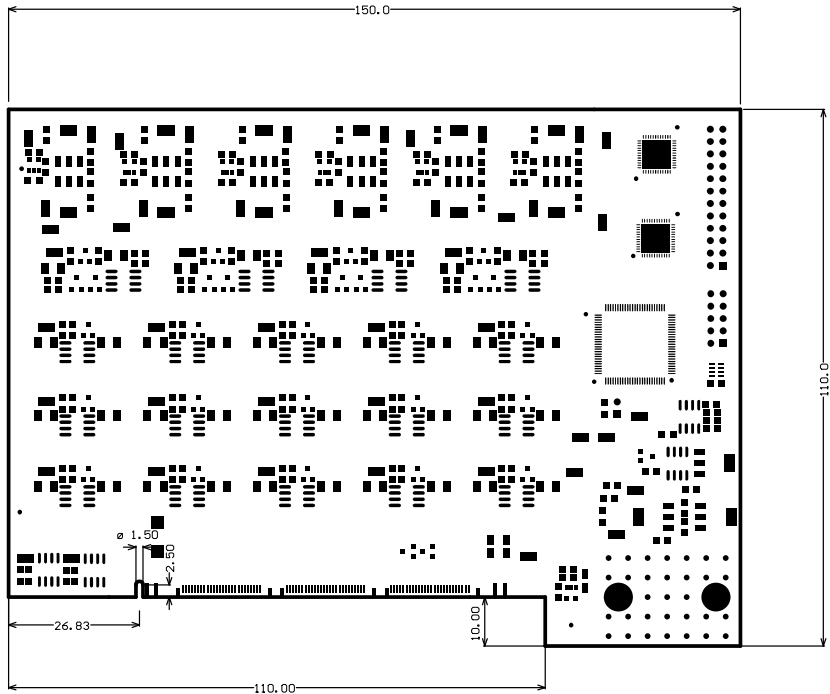
- 16) THE SOLDERMASK SHALL BE BLACK LIQUID PHOTO-IMAGEABLE PER IPC-SM-840, TYPE-B, CLASS 2.
- 17) THE SOLDERMASK REGISTRATION ALLOWANCE IS 0.003". THERE SHALL BE NO SOLDERMASK ON ANY SOLDER PAD OR LAND.

MARKING

- 18) THE LEGEND SHALL BE SCREEN-PRINTED USING PERMANENT YELLOW EPOXY INK.
- 19) THE SCREEN PRINTING REGISTRATION ALLOWANCE IS 0.007". THERE SHALL BE NO INK ON ANY SOLDER PAD OR LAND.
- 20) THE VENDOR CODE AND UL FLAMMABILITY RATING MAY BE ETCHED IN THE FOIL OR MARKED IN PERMANENT EPOXY INK (VENDOR'S OPTION).

ELECTRICAL TESTING

- 21) ALL BOARDS SHALL BE ELECTRICALLY TESTED TO THE SUPPLIED IPC-D-356A NET LIST FOR CONTINUITY, OPENS AND SHORTS.



Layer Stack Up Detail for: 780-00002 rev 4

Layer Name	Copper cladding
Top Layer (.GTL)	1/2 oz. (1 oz. Finished)
MidLayer1 (*.G1)	1/2 oz
+12V (*.GP1)	1/2 oz
-12V (*.GP2)	1/2 oz
A & GND (*.GP3)	1/2 oz
Chassis E (*.GP4)	2 oz.
+28V & VCC (*.GP5)	2 oz.
MidLayer2 (*.G2)	1/2 oz
MidLayer3 (*.G3)	1/2 oz
Bottom Layer (.GBL)	1/2 oz. (1 oz. Finished)

PRIMARY PCB SPECIFICATIONS

(REFER TO COMPLETE SPEC LISTING AT LEFT FOR FURTHER DETAILS)

NUMBER OF LAYERS -- 10  
FINISHED THICKNESS -- .062"  
BASE MATERIAL -- FR4  
PLATING TYPE -- GOLD IMMERSION  
SOLDER MASK COLOR -- BLACK

NOTICE

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DATE 1/2/2013	DESIGNED Rich Lobdill	DRAWN Rich Lobdill	SCALE 1 : 1
CHECKED/DATE	APPROVED/DATE		
TITLE 175-00002, CLOCK BOARD			
REV C	DOC NO. -- GPT	REV 4	SHEET 1 OF 20