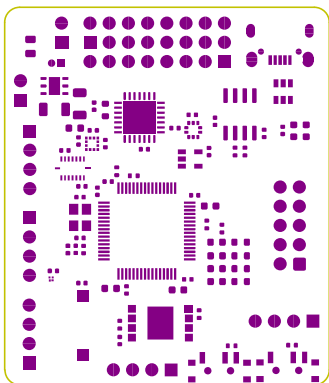
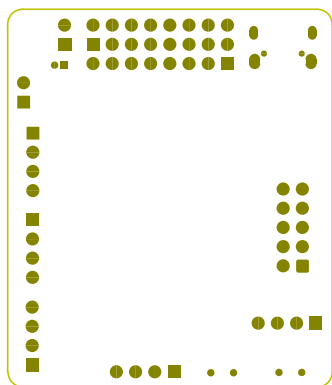




MAE
Flight Controller
v2.0

Designed by
Yaswanth
Chinnappaiah





1. FABRICATE PER ANSI/IPC-A-600,IPC-QE-605, IPC-4101,IPC-4552 AND IPC-SM-840 SPECIFICATIONS.

2. MATERIAL; BASE MATERIAL LAMINATED EPOXY GLASS NEMA GRADE FR-4, NOM .062", COLOR NATURAL. NOM 1 OZ COPPER WEIGHT, THICKNESS .070" MAX AFTER PLATING AND FINISHING. PREFER ROHS COMPLIANT PER IPC-4101 SLASH SHEETS #26 OR #83 OR #98 WITH MINIMUM TG 135 DEGREE C OR HIGHER, TD 300 DEGREE C OR HIGHER AND FLAME RATED UL 94V-0.

3. ALL DIMENTIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

4. DIMENSIONAL TOLERANCES ARE: .XX=+/- .01; .XXX=+/--.005;

5. TOTAL THICKNESS OF PCB AFTER PLATING SHALL BE 0.0618" +/- 0.005"

6. SOLDERMASK BOTH SIDES OF BOARD OVER BARE COPPER WITH MATERIAL PER ANSI/IPC-SM-840, COLOR SHALL BE GREEN AND SOLVENT FREE

7. APPLY SOLDER PLATING WITH HOT-AIR LEVELING TO EXPOSED COPPER BOTH SIDES. LEAD-FREE SOLDER PREFERRED; LEADED SOLDER ACCEPTABLE.

8. APPLY SILKSCREEN TO TOP SIDE OF BOARD USING NON-CONDUCTIVE WHITE EPOXY INK. NO INK SHALL BE ON EXPOSED PADS

9. SEE SEPARATE DRILL FILE FOR HOLE LOCATIONS.

10. HOLE LOCATIONS SPECIFIED IN SEPARATE DRILL FILE TAKE PRECEDENCE OVER THIS DWG AND ARTWORK. CONTACT IIT BHUBANESWAR TO RESOLVE DIMENSION CONFLICTS BETWEEN DWG AND ARTWORK. NO ALTERATIONS TO GERBER FILES WITHOUT PRIOR CONSENT FROM IIT BHUBANESWAR

11. HOLE SIZES ARE SPECIFIED AS FINAL DIMENSIONS AFTER PLATING AND FINISHING. UNLESS OTHERWISE SPECIFIED ALL HOLES TO BE PLATED.

12. VENDOR TO PLATE HOLES AND EXPOSED PADS. VENDOR TO SPECIFY TYPE OF PLATING MATERIAL TO BE USED WHEN ACCEPTING ORDER.

13. IT IS VENDOR'S RESPONSIBILITY TO SELECT THE BASE MATERIAL TO YIELD THE SPECIFIED IMPEDENCE CHARACTERISTICS TO WITHIN +/-10%

14. ALL HOLES SHALL BE LOCATED WITHIN 0.003" DIAMETER OF TRUE POSITION OR OTHER TRUE POSITION

15. WARP OR TWIST OF BOARD SHALL NOT EXCEED 0.01 INCH PER INCH

16. REMOVE ALL BURRS AND BREAK SHARP EDGES 0.015" MAX

17. PLATED THRU HOLES & EXPOSED PADS SHALL BE TIN/LEAD PLATED 0.0003" TO 0.0005" THICK

18. ONLY VENDOR IDENTIFICATION MARK & ORDER NUMBER CAN BE ADDED ONLY AT THE SPECIFIED LOCATION (UNDER THE IC). AFTER ASSEMBLY IT SHOULD NOT APPEAR OUTSIDE

19. MANUFACTURER SHOULD NOT ADD ANY OTHER DATA EXCEPT ABOVE MENTIONED LIKE NAME, LOGO, DATE CODE, UL LISTING OR ANY OTHER MARKING TO ANY VISIBLE LAYER

20. AFTER ASSEMBLY TRIM SOLDER FILLETS AND COMPONENT LEADS TO 0.06" (MAX) BEYOND BOARD SURFACE ON BOTTOM SIDE.

21. BOARDS MUST PASS VISUAL INSPECTION PER IPC-A-600 CLASS 2

22. FINISHED BOARD MUST MEET UL94V-0 RATING AND ROHS COMPLIANCE

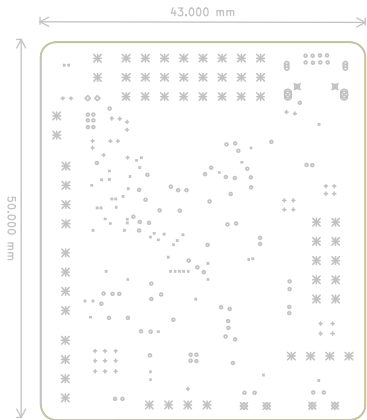
23. DOCUMENTATION THAT MUST BE DELIVERED WITH BOARDS:

- CROSS SECTION REPORT (SPACING BETWEEN COPPER LAYERS AND COPPER THICKNESS)

- ELECTRICAL TEST CERTIFICATION OF COMPLIANCE (ACC. TO IPC-ET-652 CLASS 2)

- CERTIFICATION OF COMPLIANCE (BOARD HAS BEEN MANUFACTURED TO DRAWING REQUIREMENTS)

- ROHS CERTIFICATION OF COMPLIANCE



Drill Map:

- 0.20mm / 0.008"

• 0.30mm / 0.012"

• 0.40mm / 0.016"

▪ 0.55mm / 0.022"

◊ 0.65mm / 0.026"

◊ 0.85mm / 0.033"

◊ 1.00mm / 0.039"

▪ 0.80mm / 0.031"

◊ 0.90mm / 0.035"
- (55 holes)

(86 holes)

(36 holes)

(0 holes + 2 slots)

(2 holes)

(0 holes + 2 slots)

(58 holes)

(2 holes) (not plated)

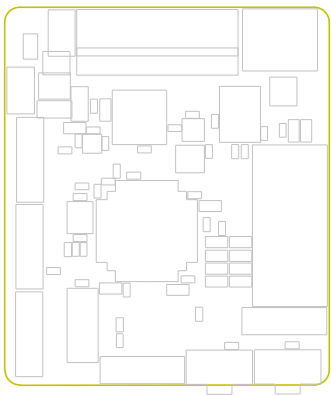
(4 holes) (not plated)

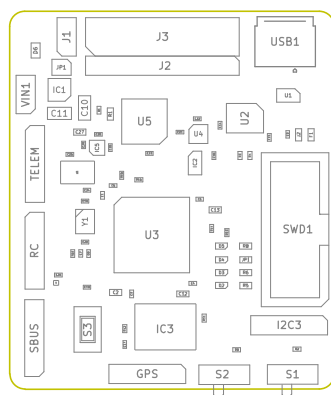
Notes:

- 1.) Hole locations are Indicated in separate .drl file, Included with the gerber package, That file takes precedence over this drawing.
- 2.) Board outline Indicated in separate Edge.Cuts file, Included with the gerber package. That file takes precedence over this drawing.
- 3.) Vendor to plate holes and exposed copper pads
- 4.) Board shall be

PCB dimentions: 43 mm x 50 mm x 1.57 mm

Layer (Material) Type	Layer (File) Name	Thickness (mm)	Dielectric Constant	Notes
Silkscreen	F.Silk	0.00762		
Soldermask	F.Mask	0.0127	3.8	
Copper	F.Cu	0.035		[USB] 90 OHM DIFFERENTIAL IMPEDENCE: Layer 1: 10.28 mil trace width with 8 mil spacing are to be 90 ohm differential +/-10%
2-2313 (Prepreg)	-----	0.1	4.05	
Copper	GND	0.0175		
FR4 (Core)	-----	1.265		
Copper	PWR	0.0175		
2-2313 (Prepreg)	-----	0.1	4.05	
Copper	B.Cu	0.035		
Soldermask	B.Mask	0.0127	3.8	
Silkscreen	B.Silk	0.00762		



[illegible]