

Vaibhav Baid
Founder & MD
Berylline® Labs Pvt Ltd

What we do

FPGA based product design

High speed PCB design and development

Electronic Manufacturing Services and Turnkey services

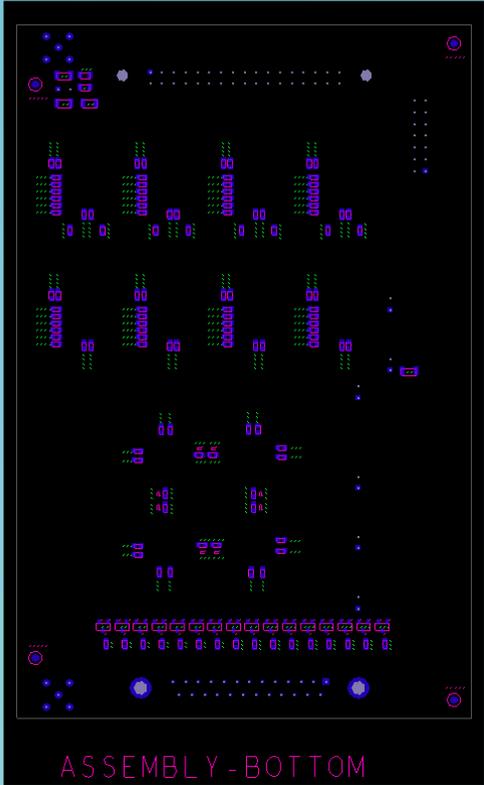
Dedicated for Make in India initiatives



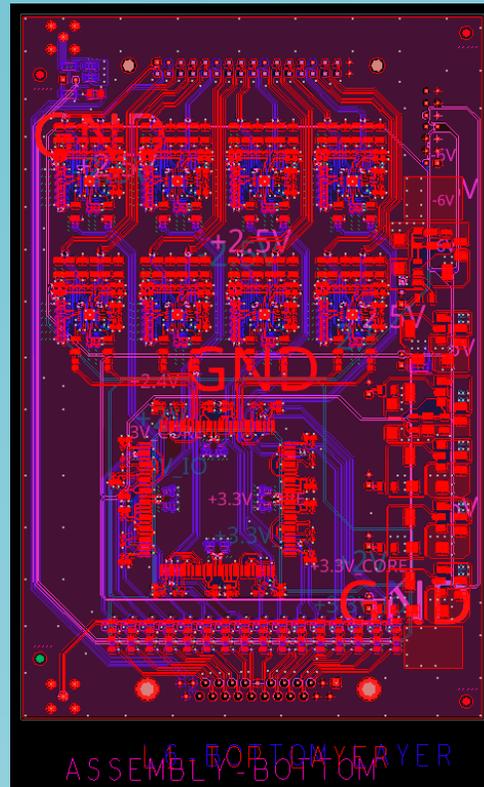
Some Facts

- The fastest growing FPGA company in East India
- Top 3 FPGA vendors on the GEM platform of Government of India

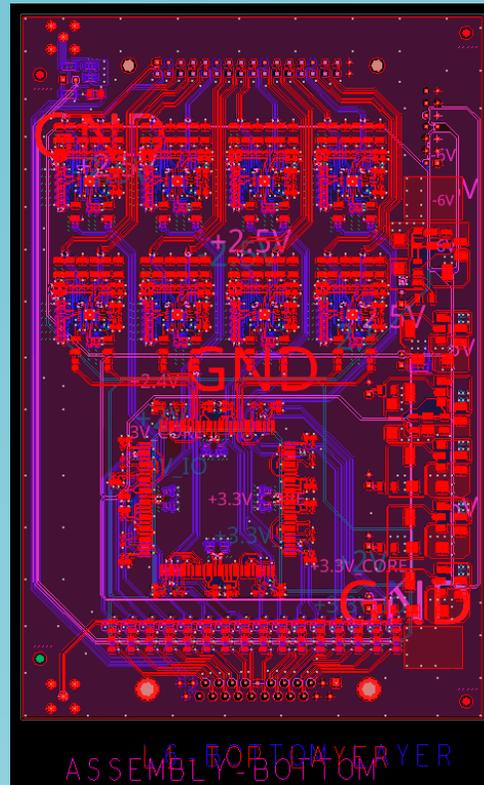
BOTTOM side of the PCB



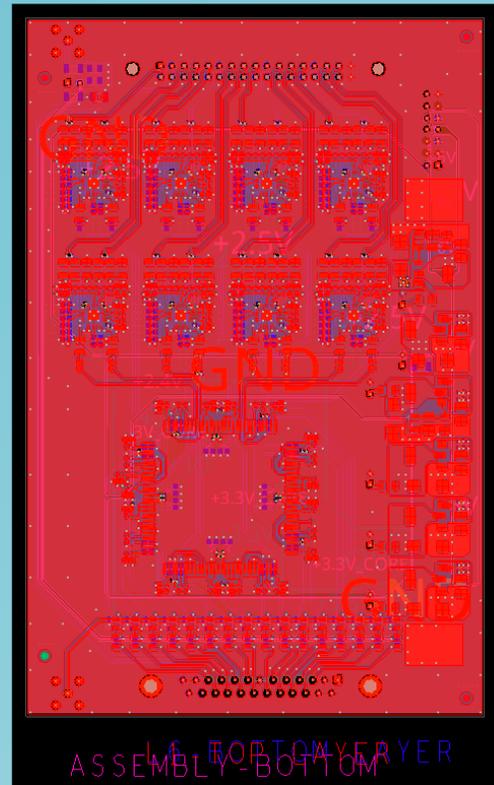
3 Routing Layers (1 Internal & 2 Outer Layers)



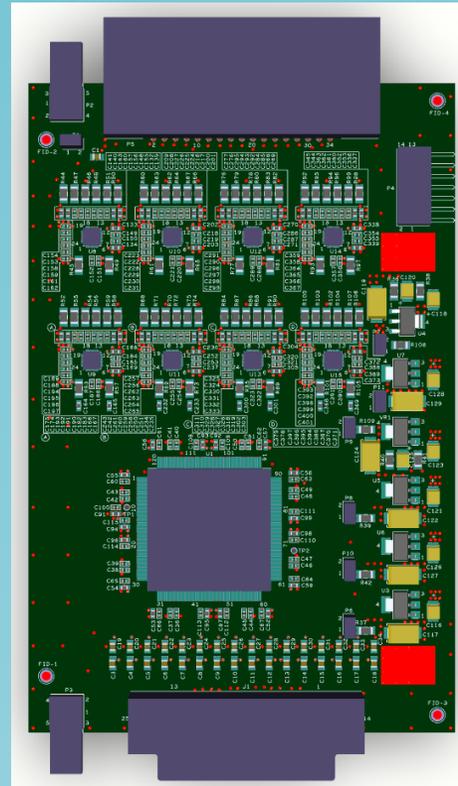
Routing Complexity



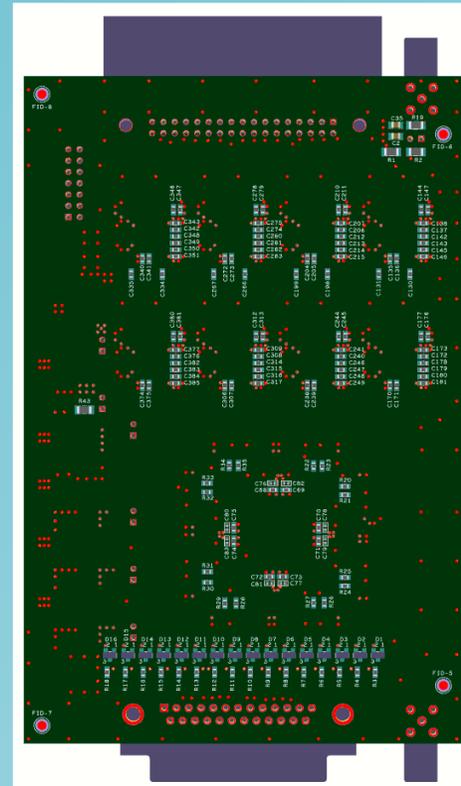
All Routing Layers



PCB TOP Side 3D View



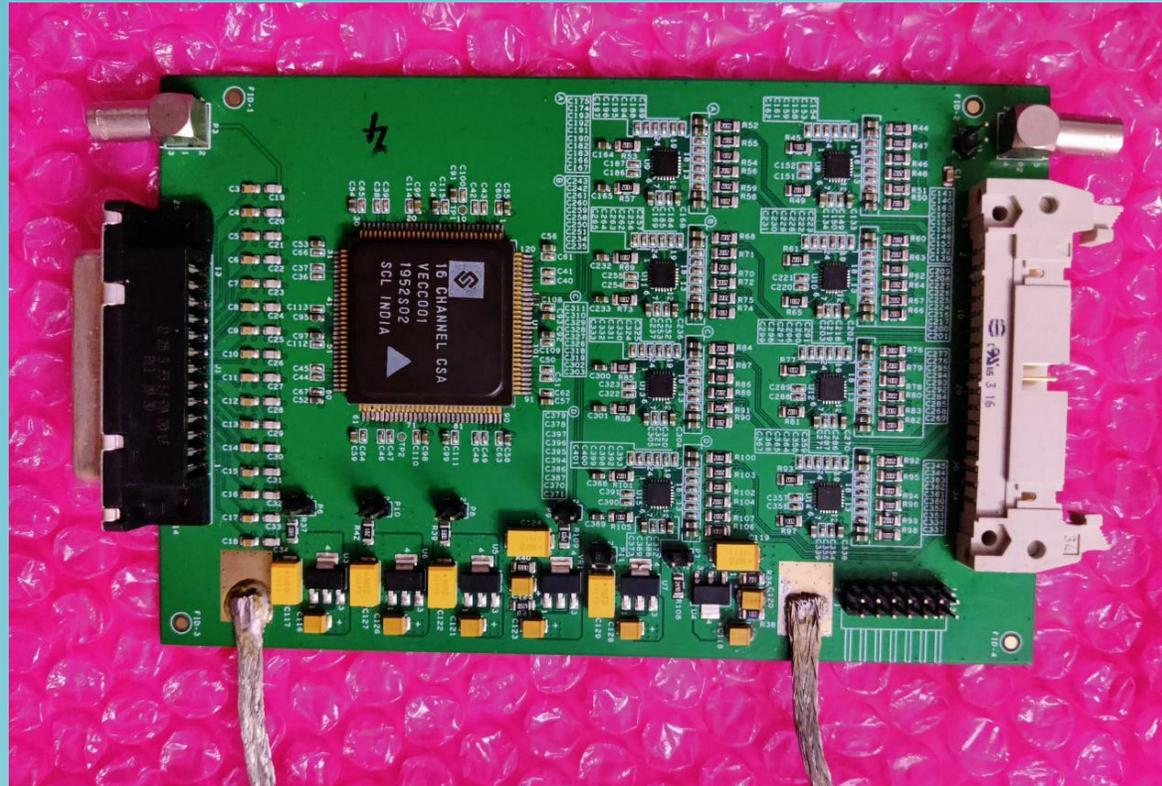
PCB BOTTOM Side 3D View



PCB Spec:

- PCB Size : 157 X 131 mm
- Layer Count : 6
- Singal Layers : 3
- Plane Layers : 3
- Total Number of Components : 541
- Total Number of nets : 321
- Total Number of Connections : 1400
- Impedance followed : 50 and 100ohm
- Minimum trace width : 0.1524mm
- Minimum space : 0.1524mm
- Minimum Drill size : 0.2032mm

PCB Board With Component Assembled

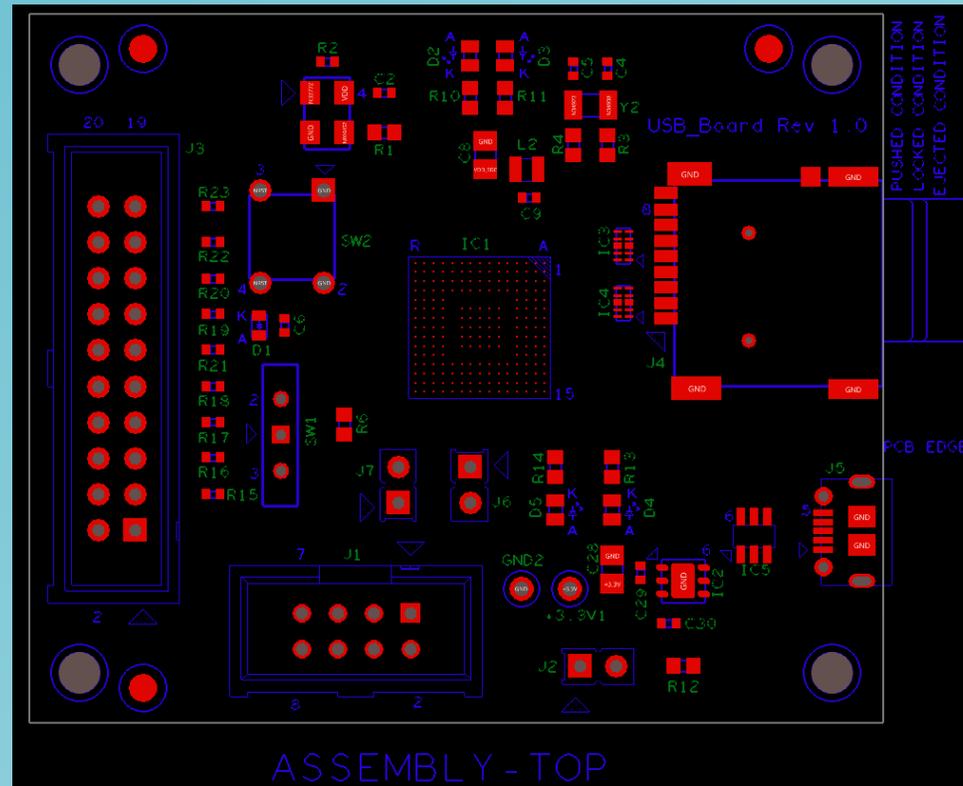


Final Product

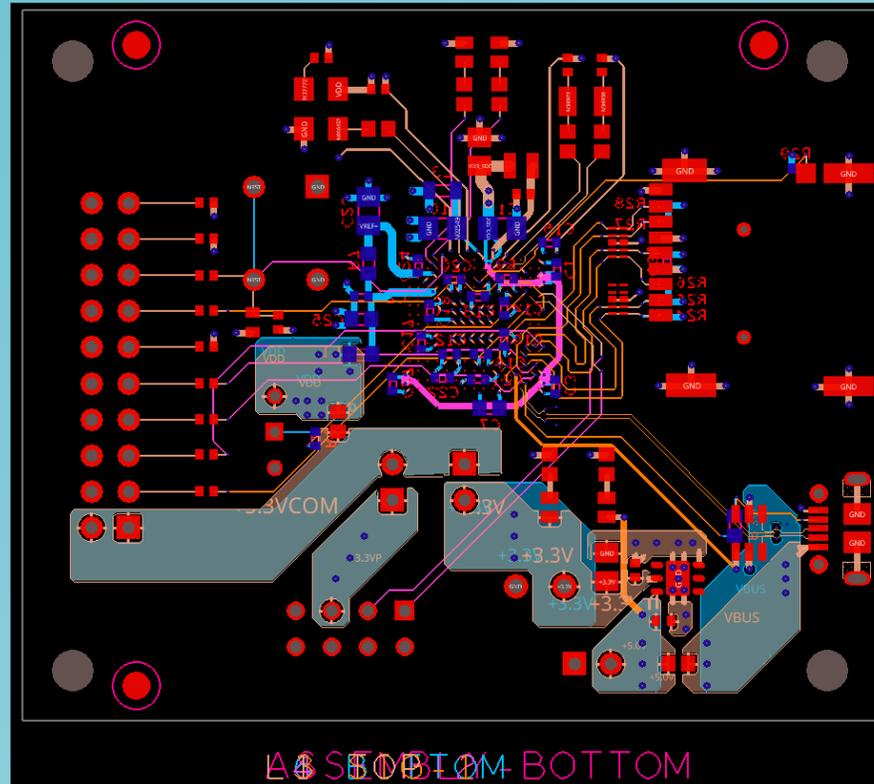


Beam Line Monitoring

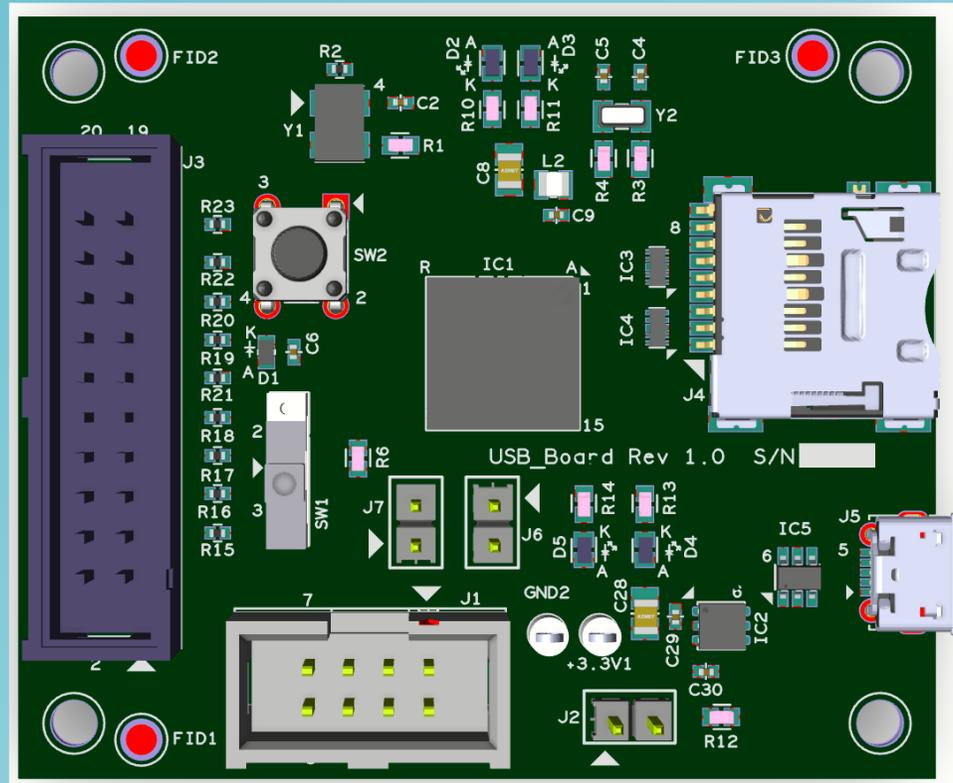
TOP side of the PCB



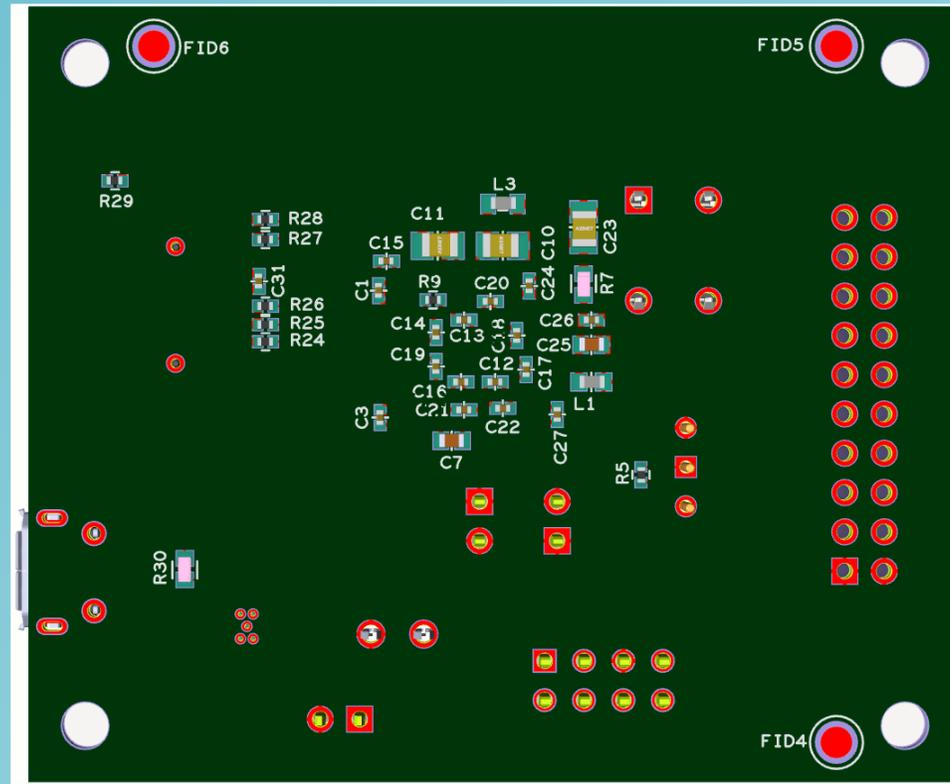
4 Routing Layers (2 Internal & 2 Outer Layers)



PCB TOP Side 3D View



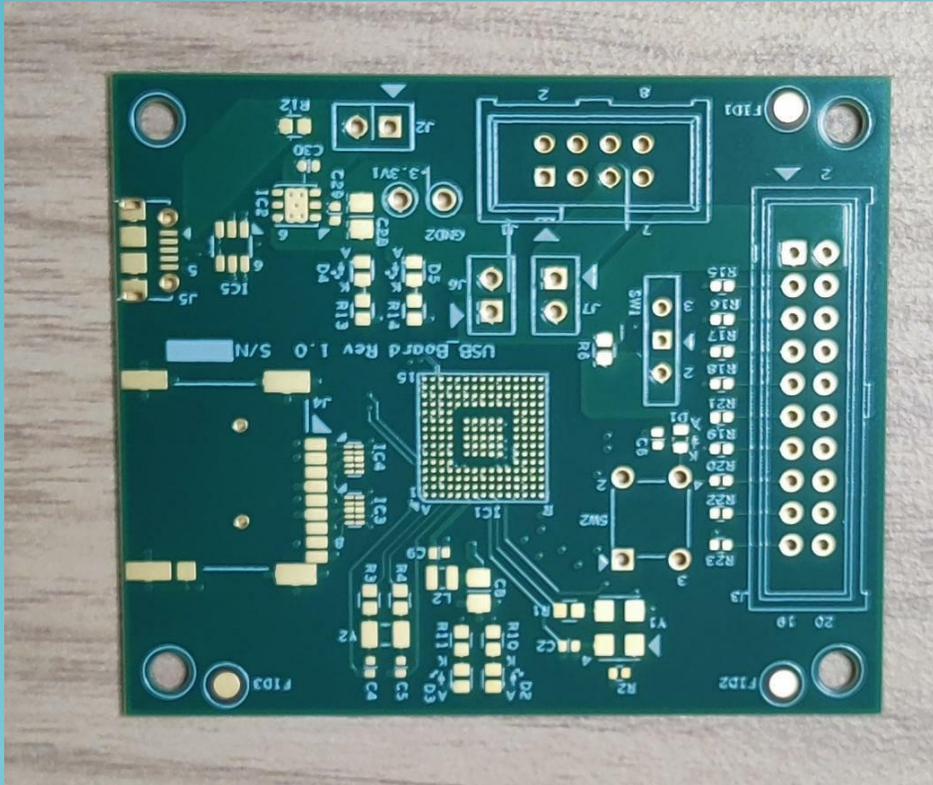
PCB BOTTOM Side 3D View



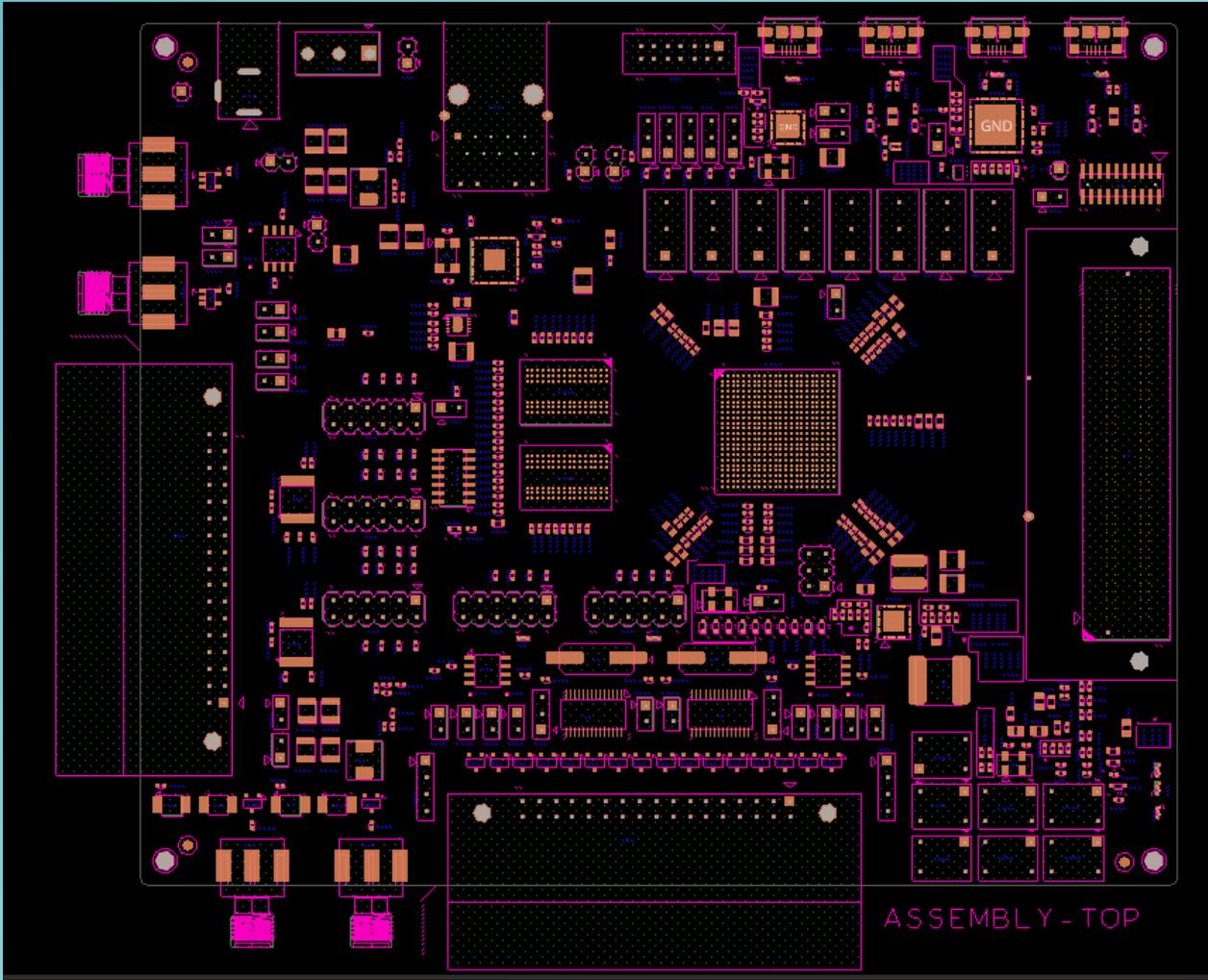
PCB Spec:

- PCB Size : 60 X 50 mm
- Layer Count : 6
- Singal Layers : 4
- Plane Layers : 2
- Total Number of Components : 90
- Total Number of nets : 56
- Total Number of Connections : 270
- Impedance followed : 50 and 100ohm
- Minimum trace width : 0.1143mm
- Minimum space : 0.1143mm
- Minimum Drill size : 0.2032mm

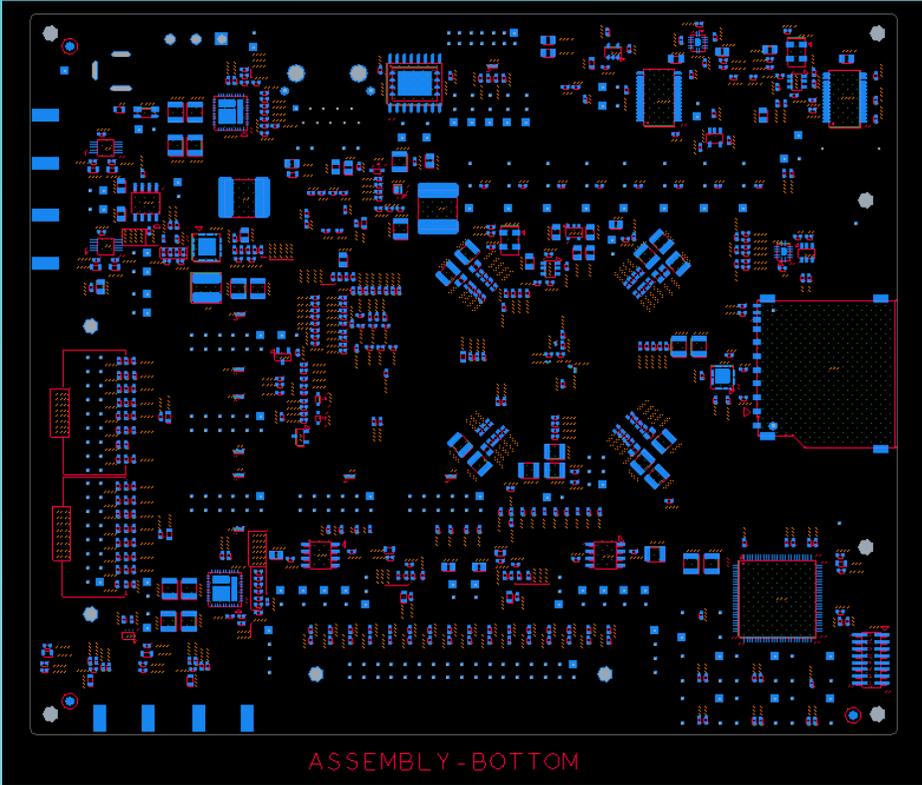
PCB Board



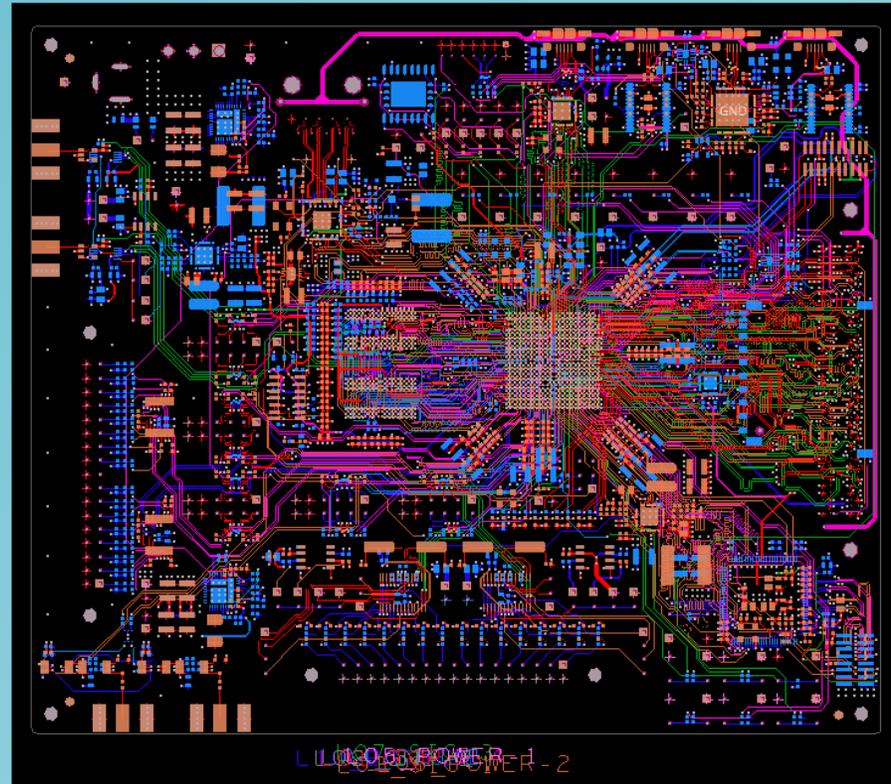
Zynq FPGA based DAQ made in India



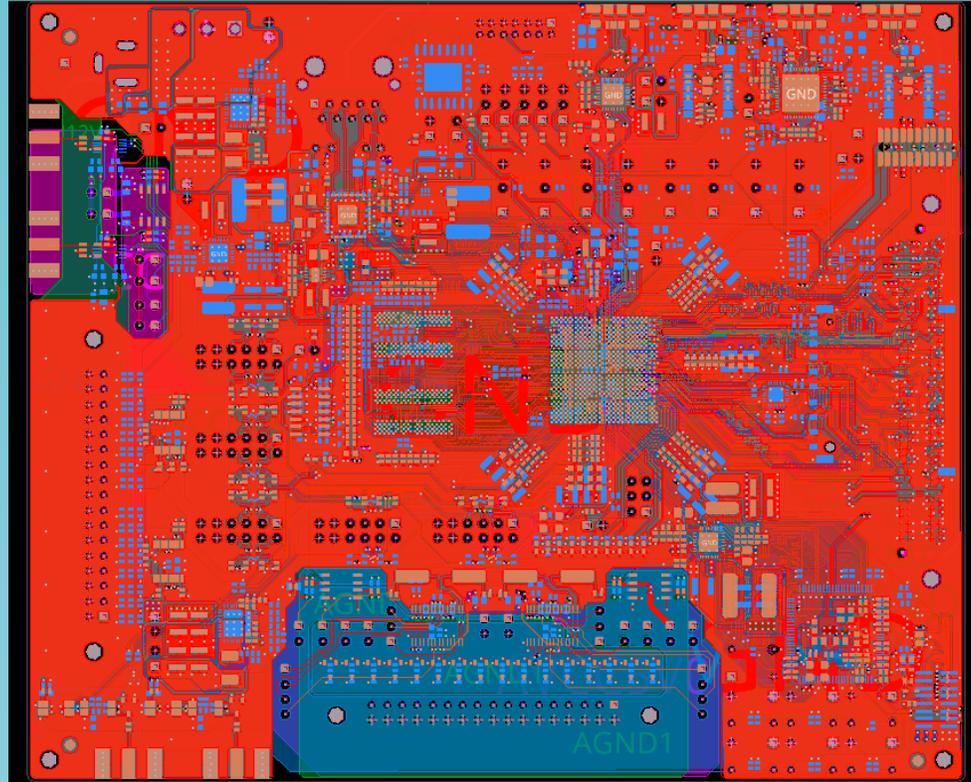
BOTTOM side of the PCB



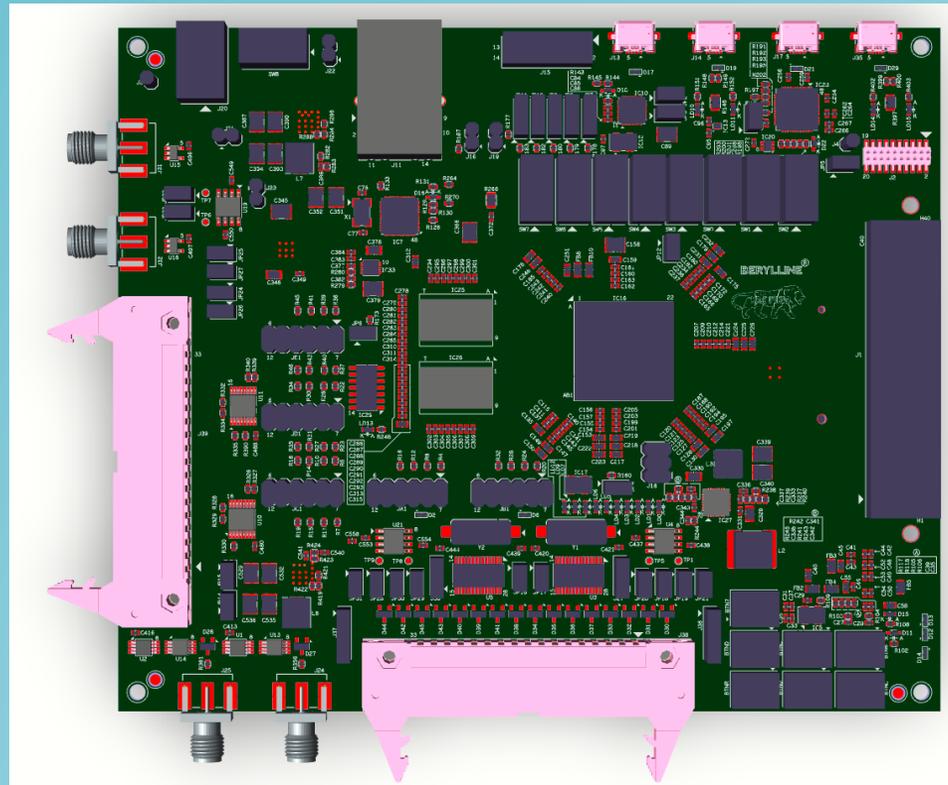
6 Routing Layers (4 Internal & 2 Outer Layers)



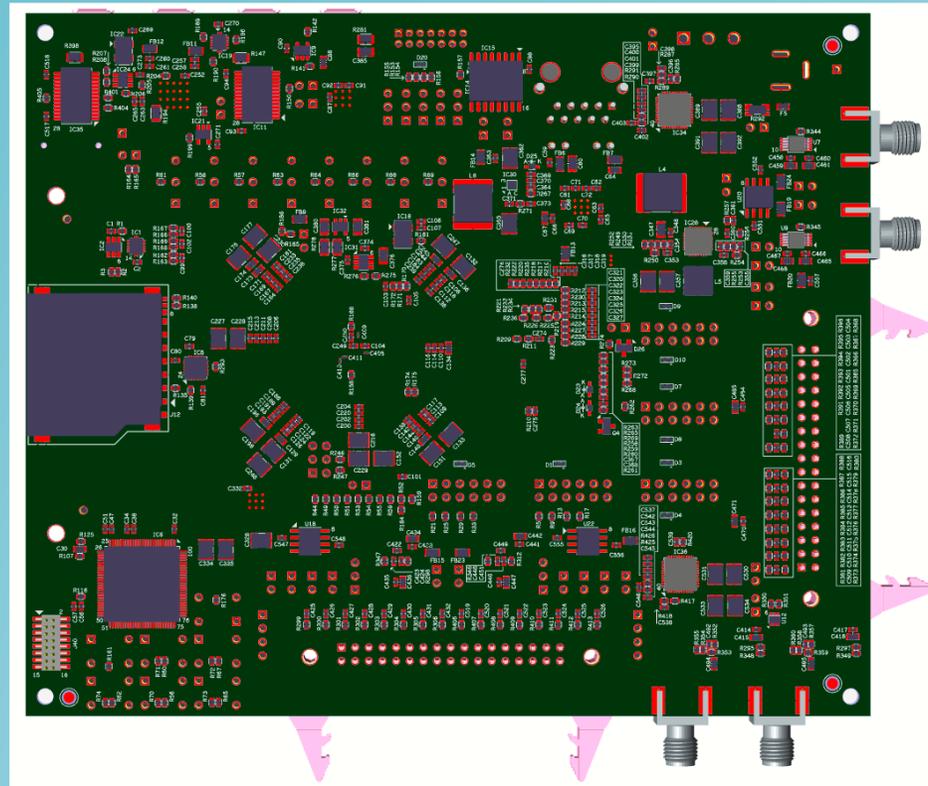
All Routing Layers



PCB TOP Side 3D View



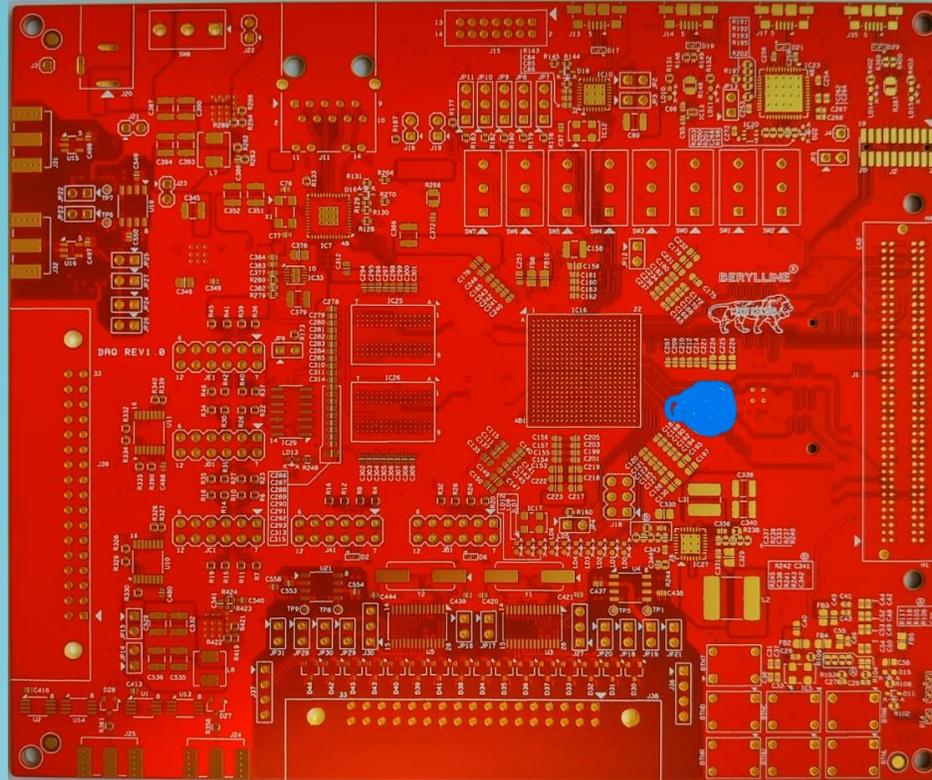
PCB BOTTOM Side 3D View



PCB Spec:

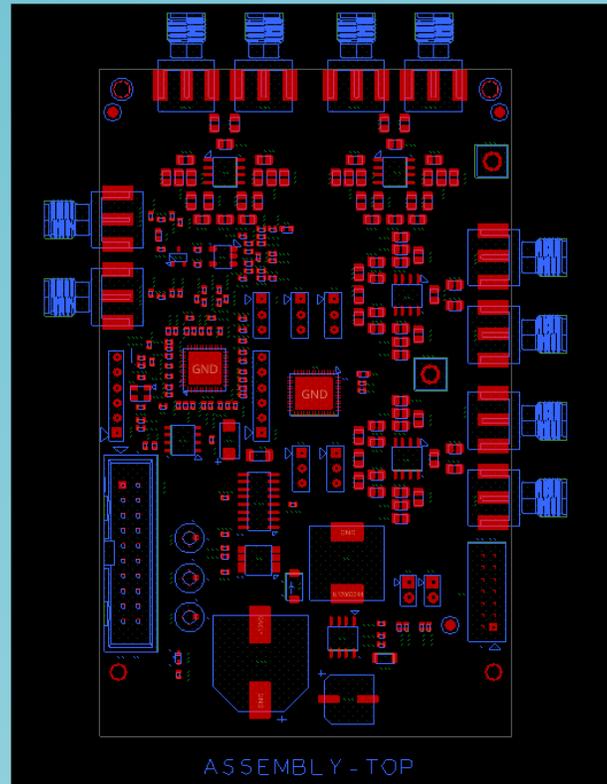
- PCB Size : 157 X 131 mm
- Layer Count : 10
- Singal Layers : 4
- Plane Layers : 4
- Total Number of Components : 1060
- Total Number of nets : 787
- Total Number of Connections : 3057
- Impedance followed : 50 , 90 and 100ohm
- Minimum trace width : 0.127mm
- Minimum space : 0.127mm
- Minimum Drill size : 0.22mm

PCB Board

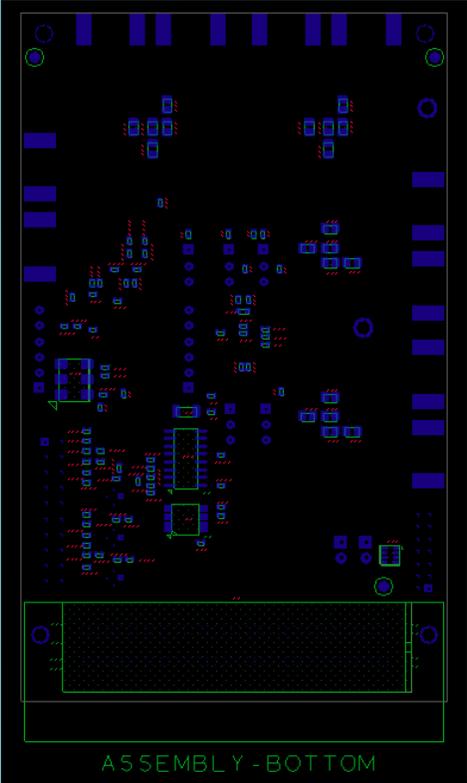


Card for head up display for fighter aircraft

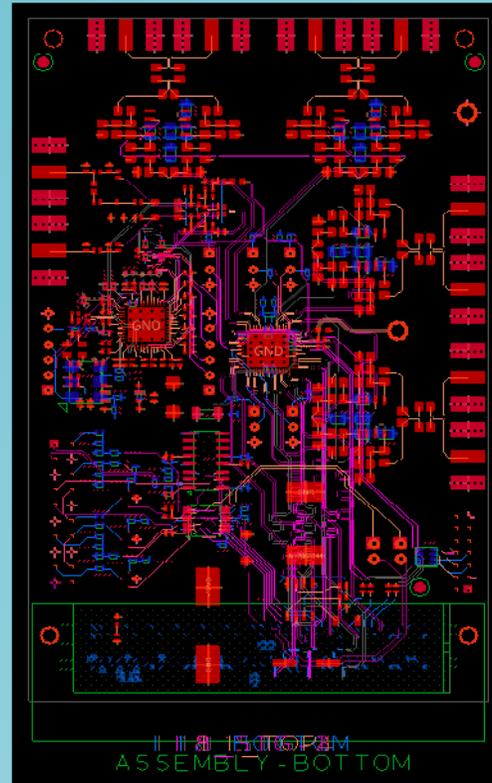
TOP side of the PCB



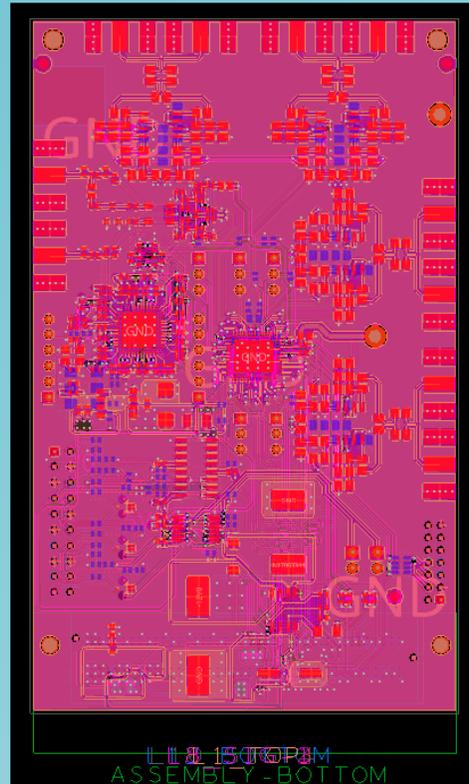
BOTTOM side of the PCB



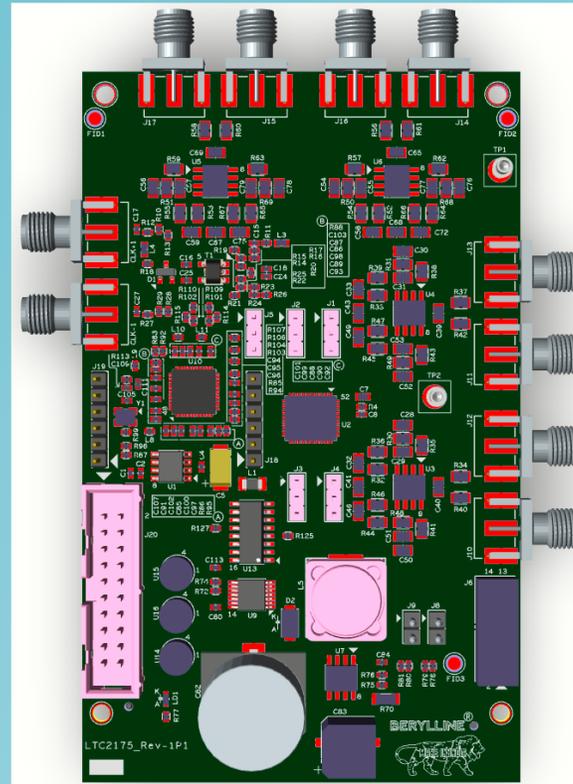
6 Routing Layers (4 Internal & 2 Outer Layers)



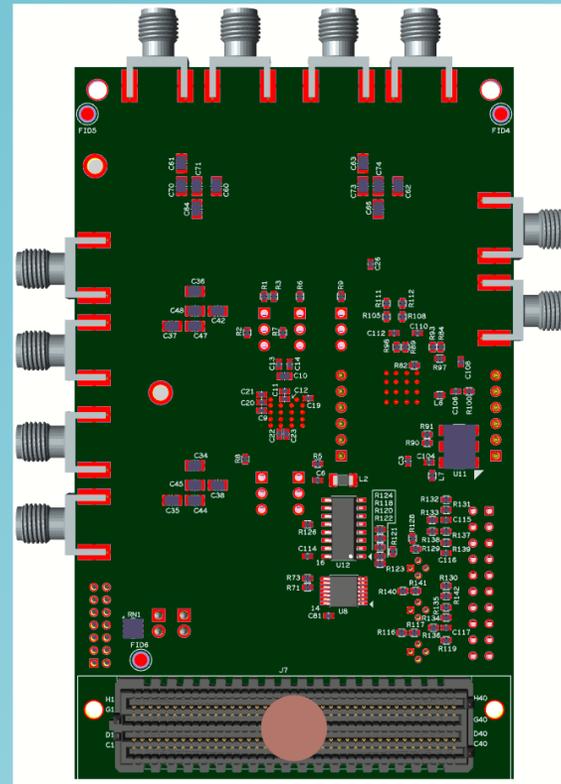
All Routing Layers



PCB TOP Side 3D View



PCB BOTTOM Side 3D View

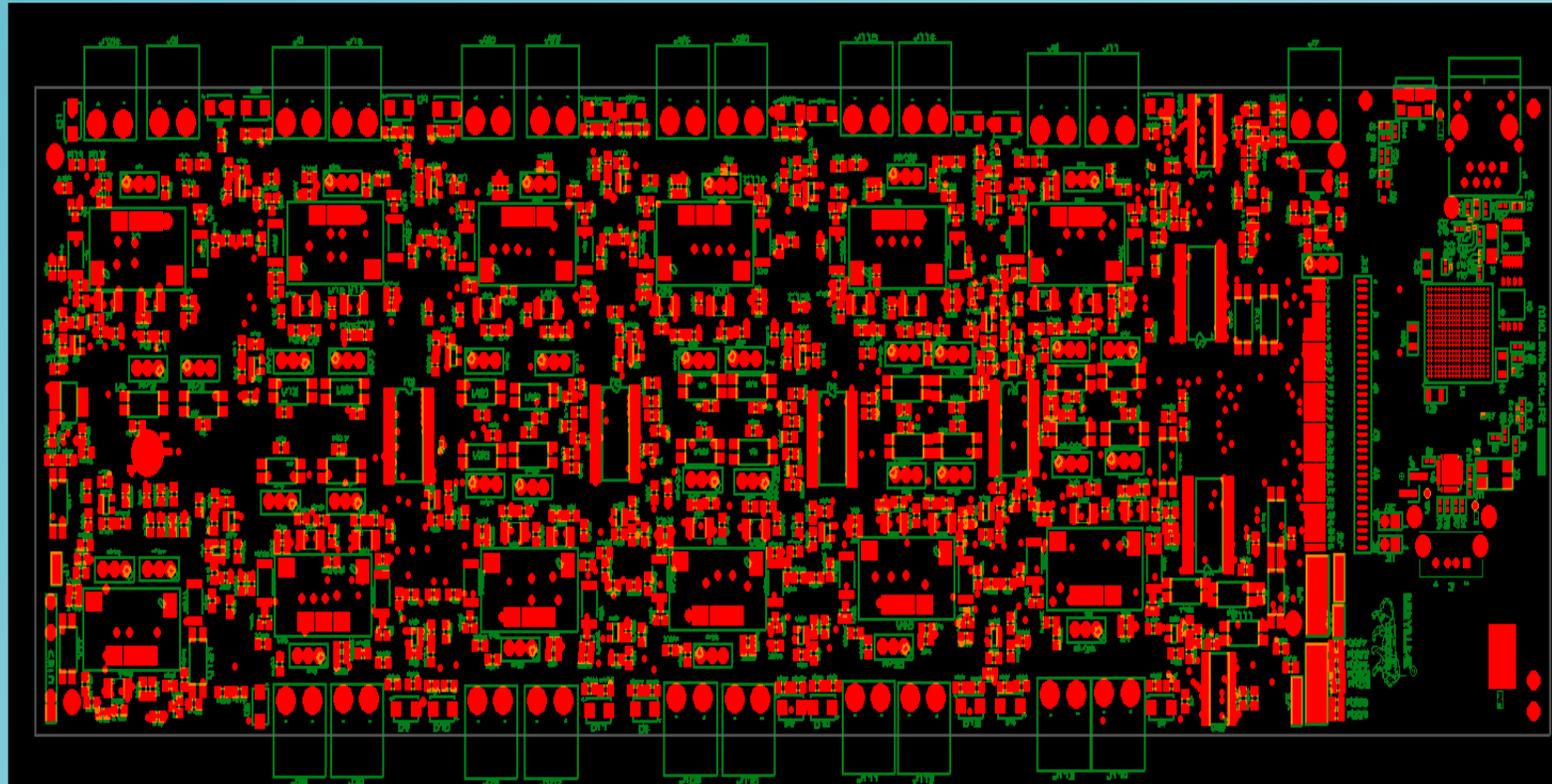


PCB Spec:

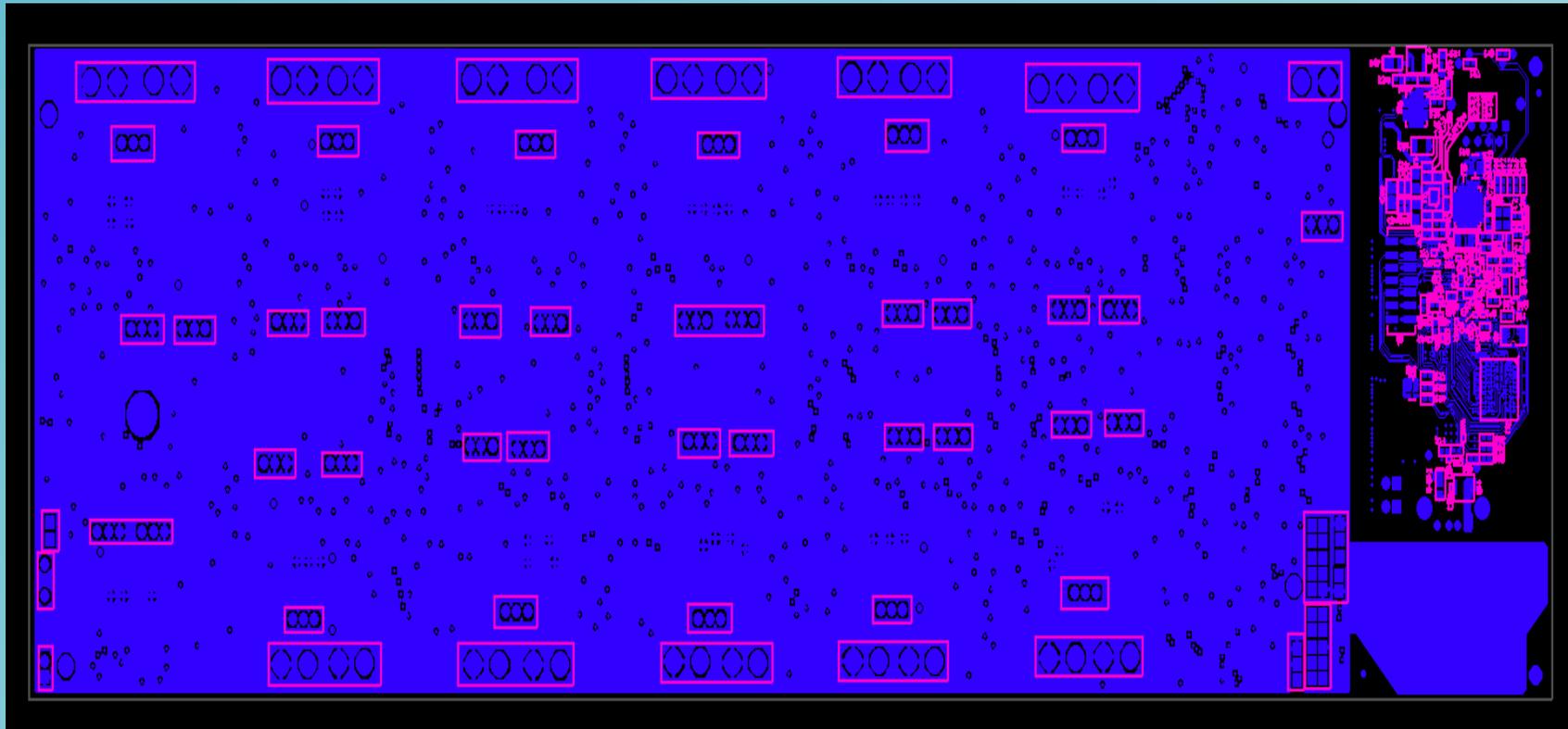
- PCB Size : 69 X 112.4 mm
- Layer Count : 12
- Singal Layers : 6
- Plane Layers : 6
- Total Number of Components : 316
- Total Number of nets : 211
- Total Number of Connections : 775
- Impedance followed : 50 and 100ohm
- Minimum trace width : 0.1016mm
- Minimum space : 0.1524mm
- Minimum Drill size : 0.2032mm

Low Voltage Distribution Board for CBM

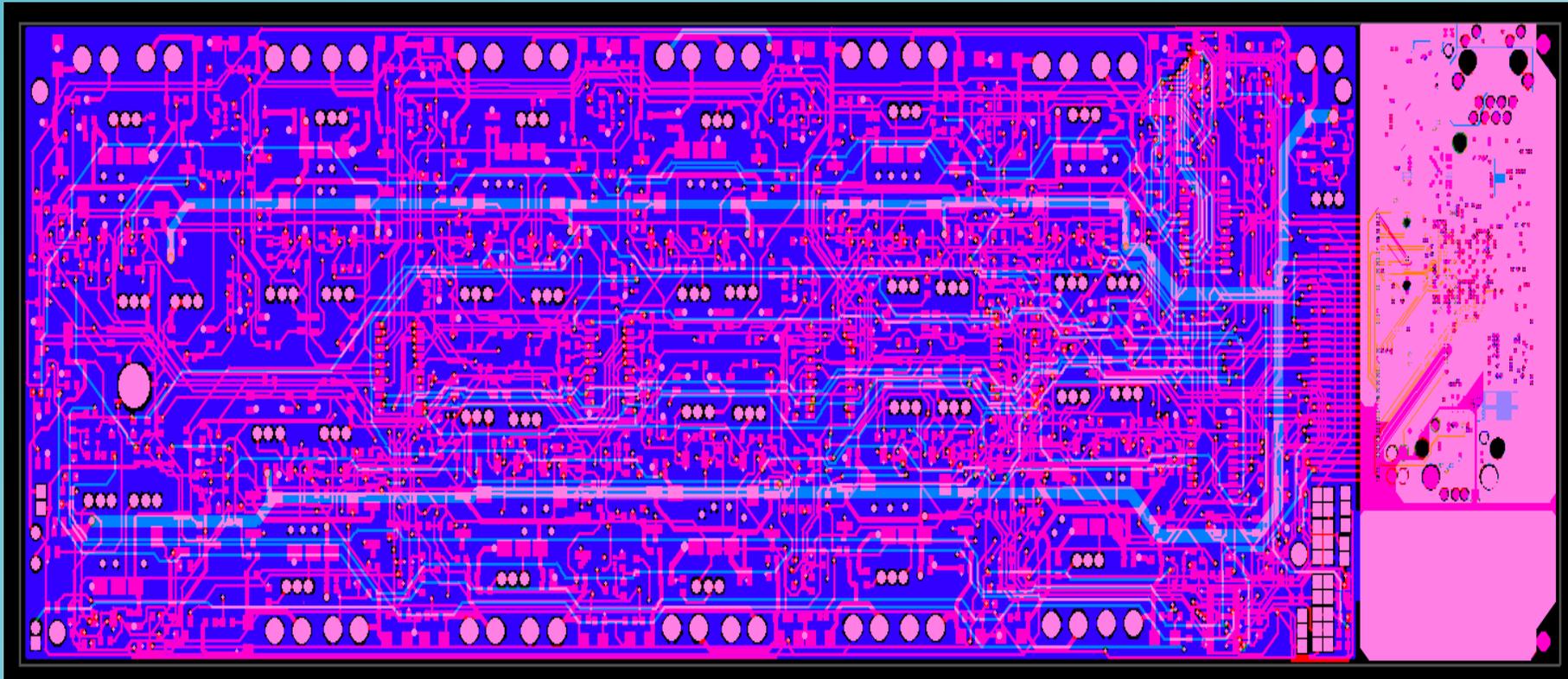
TOP side of the PCB



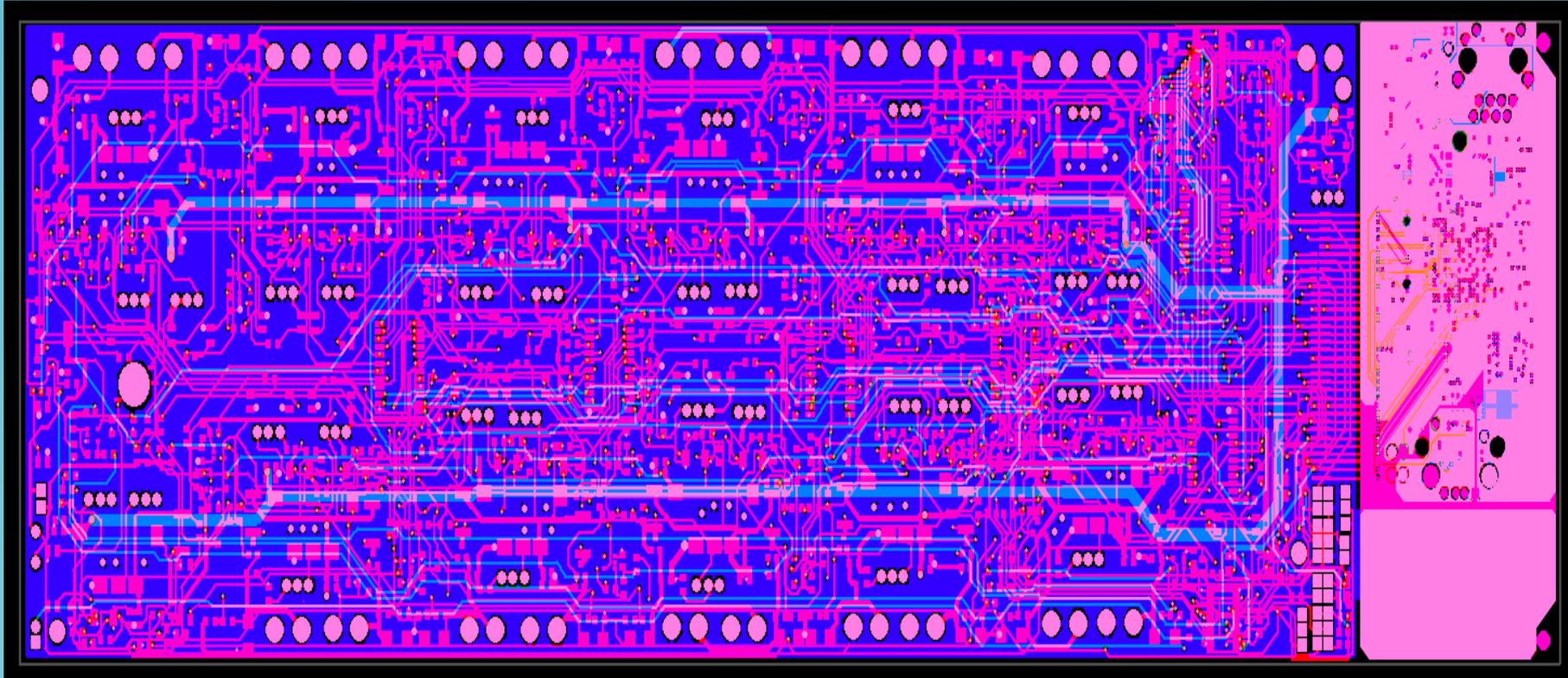
BOTTOM side of the PCB



4 Routing Layers (2 Internal & 2 Outer Layers)



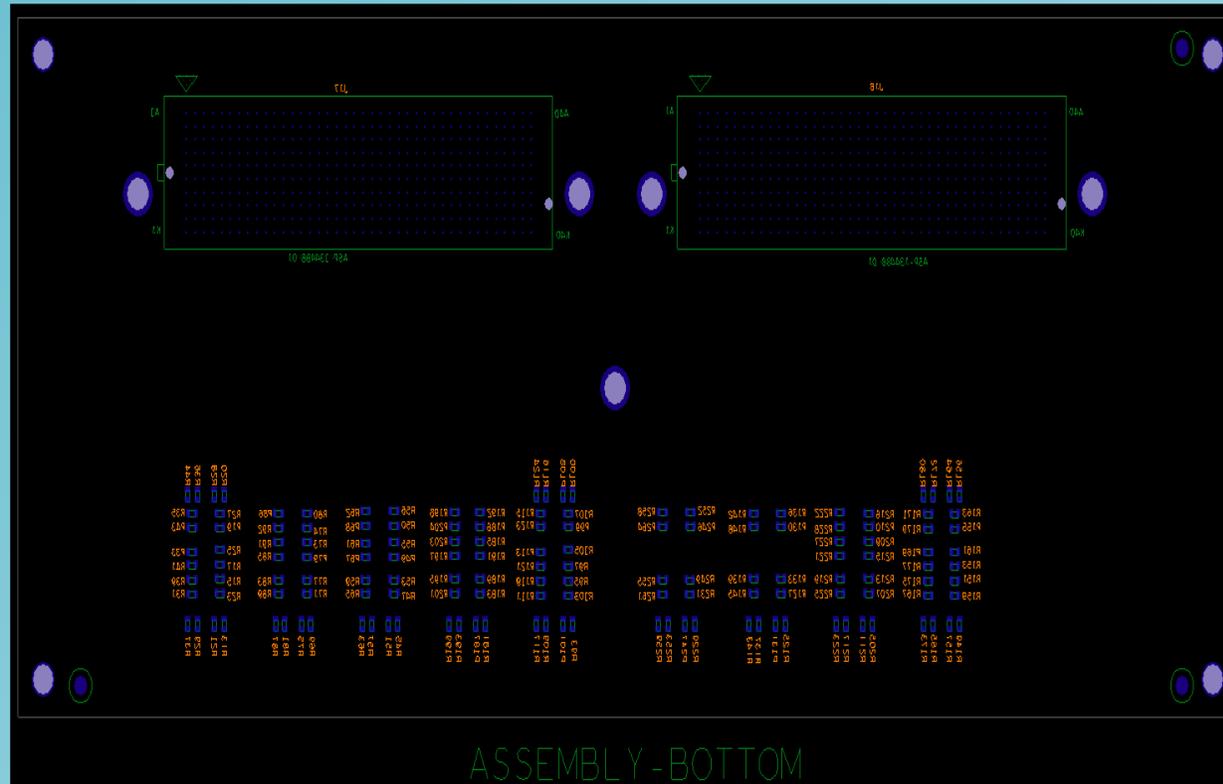
All Routing Layers



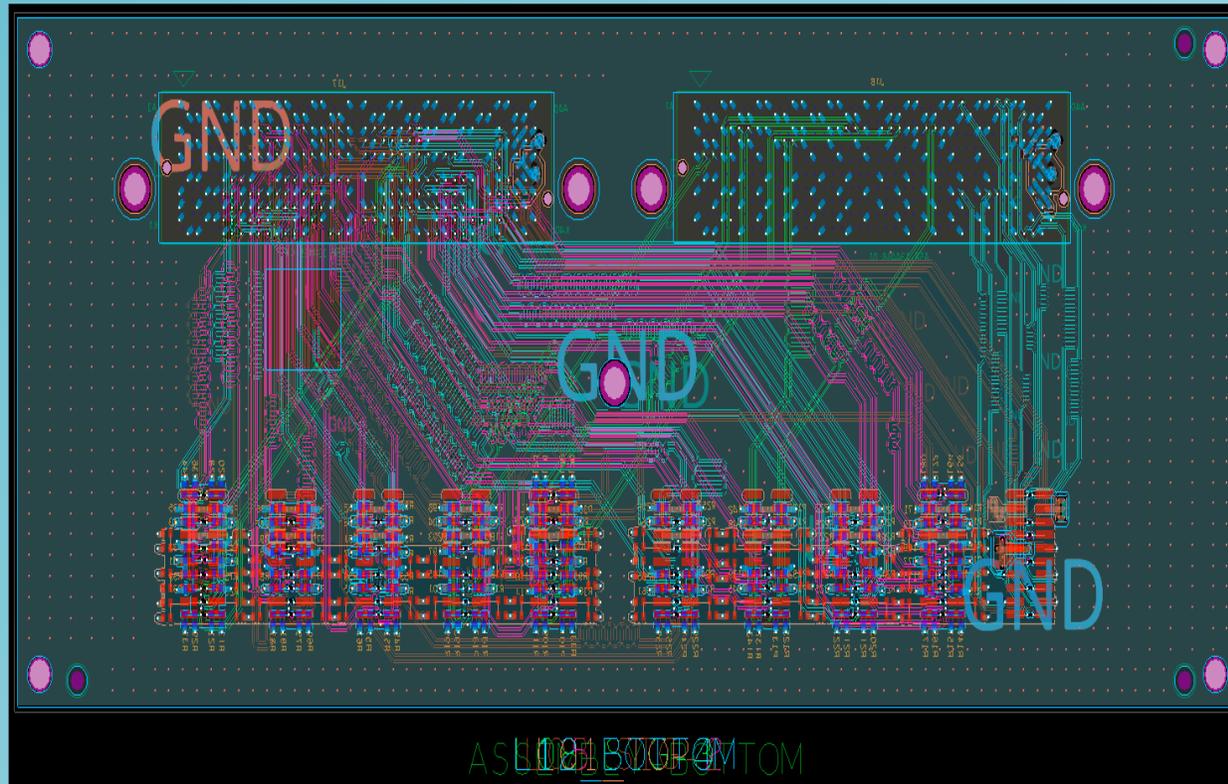
PCB Spec:

- PCB Size : 347 X 102.4mm
- Layer Count : 6
- Singal Layers : 4
- Plane Layers : 2
- Total Number of Components : 632
- Total Number of nets : 350
- Total Number of Connections : 956
- Impedance followed : 50 and 100ohm
- Minimum trace width : 0.102mm
- Minimum space : 0.1524mm
- Minimum Drill size : 0.2032mm

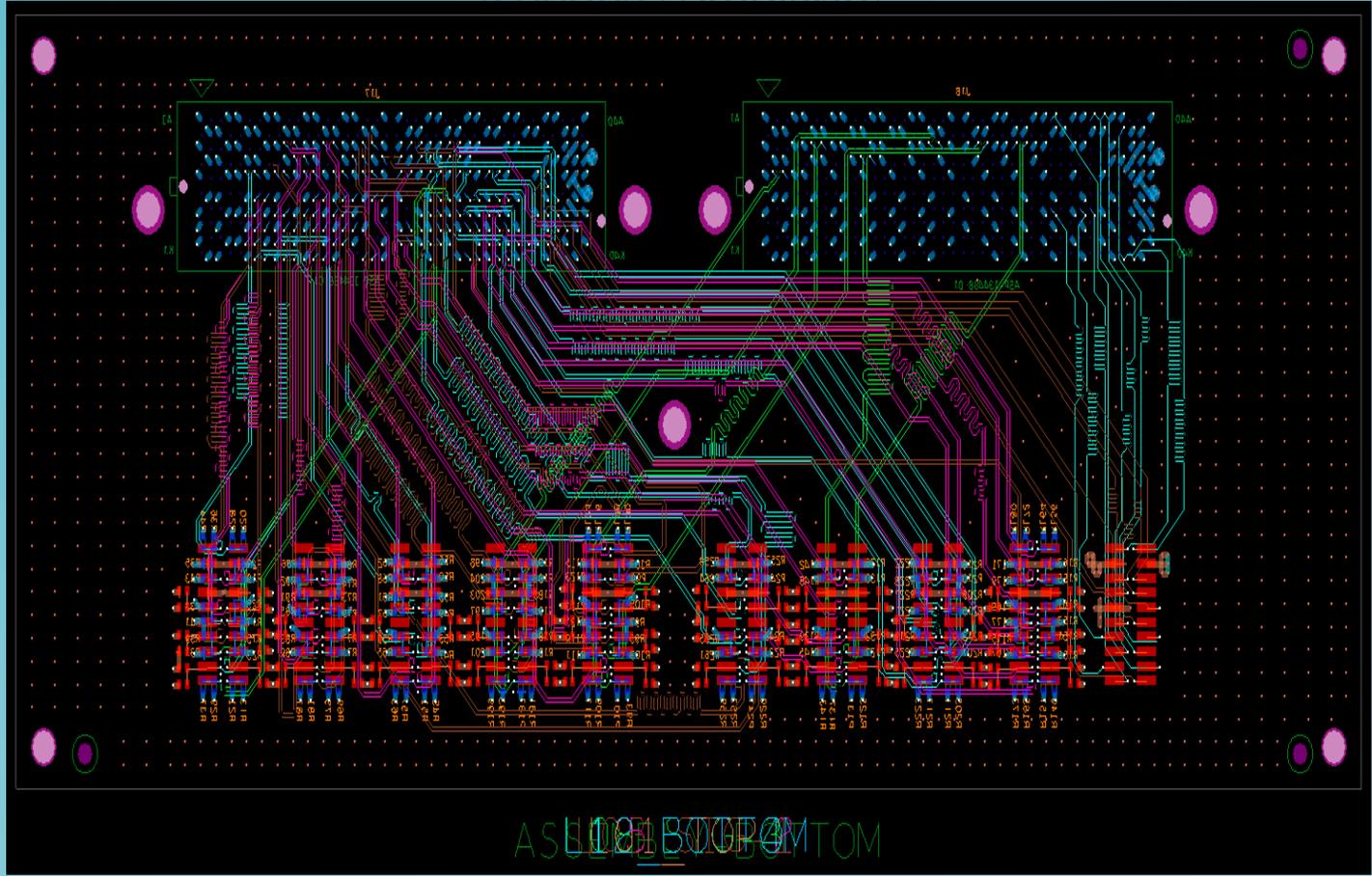
BOTTOM side of the PCB



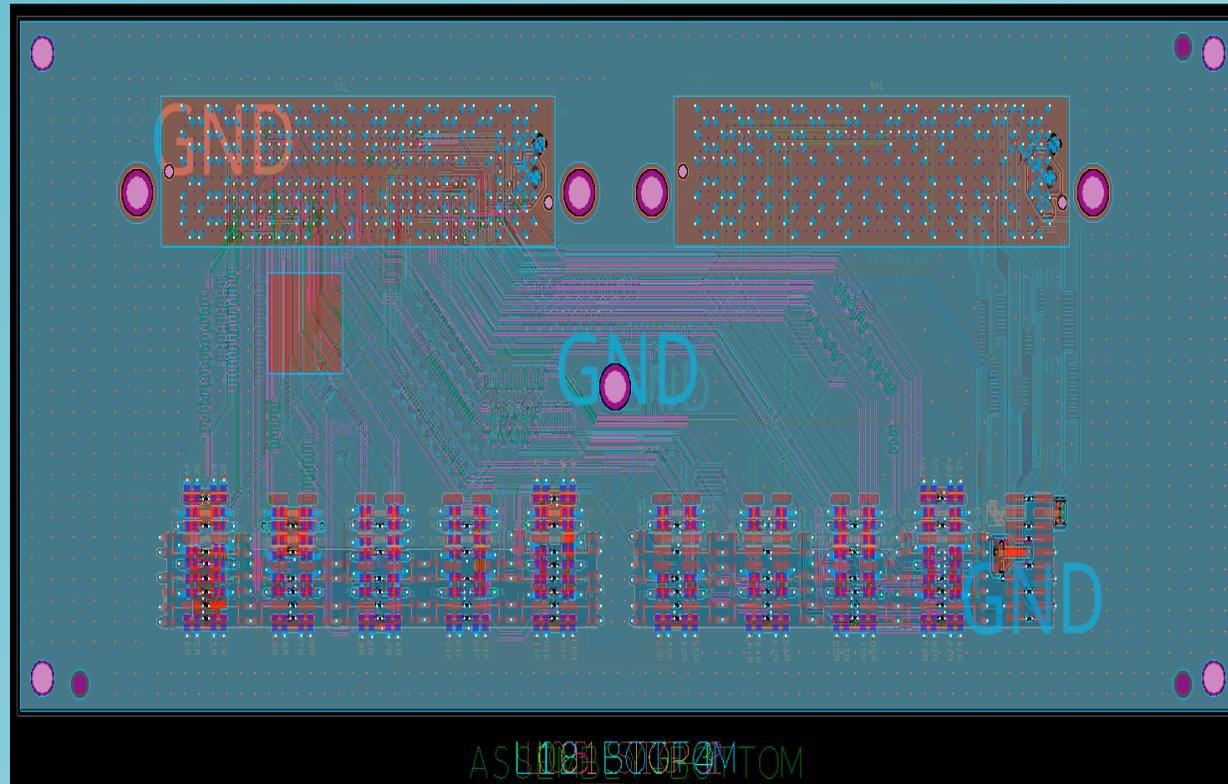
6 Routing Layers (4 Internal & 2 Outer Layers)



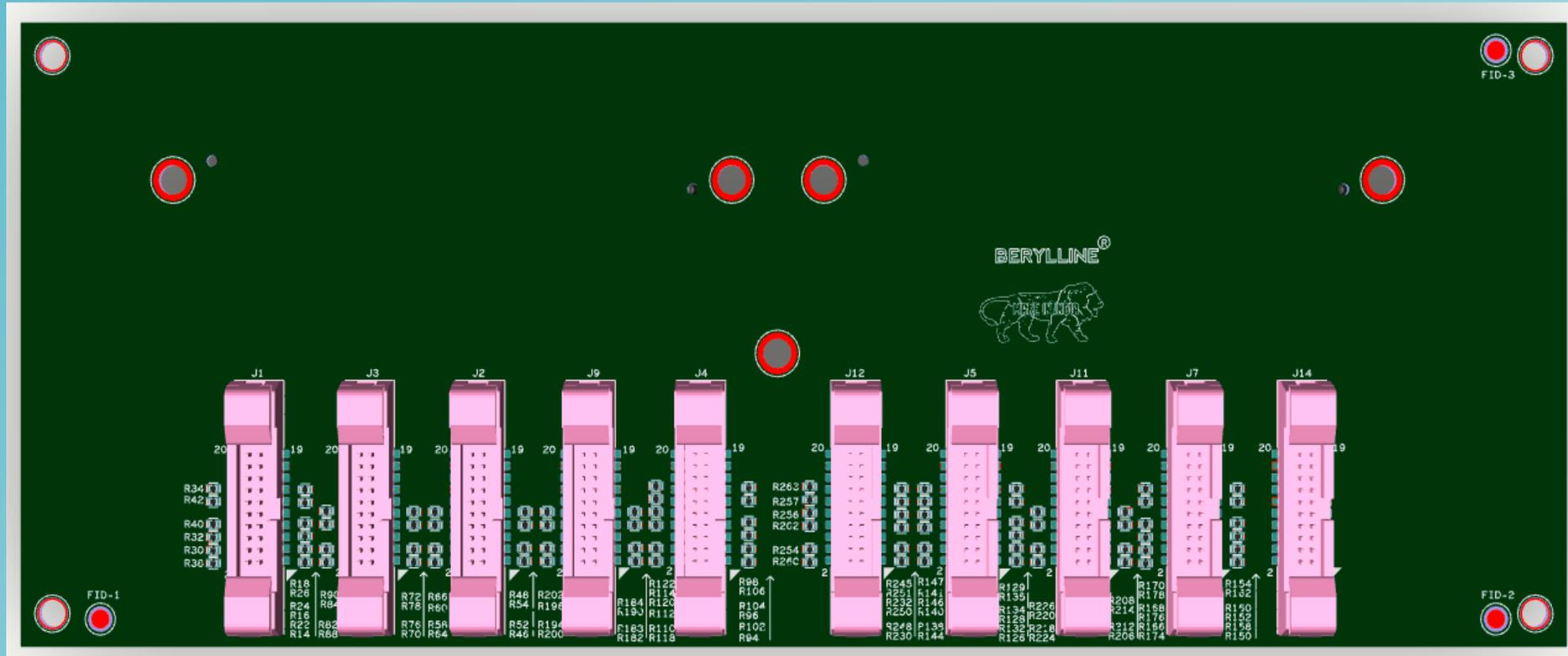
Routing complexity



All Routing Layers



PCB TOP Side 3D View



PCB Spec:

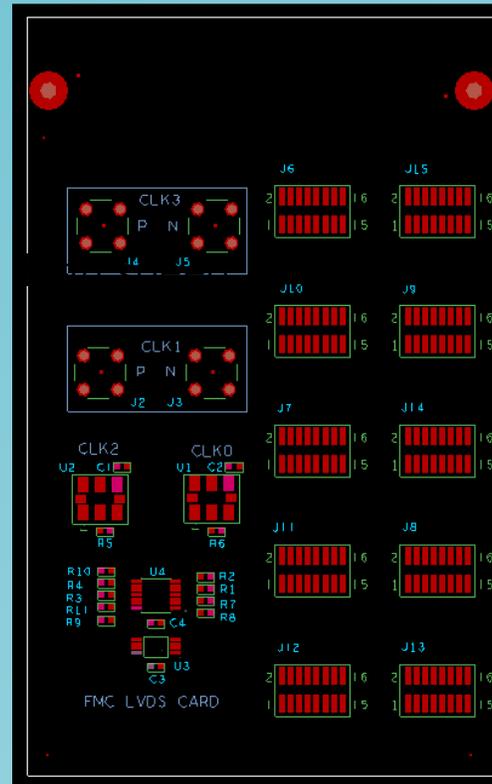
- PCB Size : 69 X 112.4 mm
- Layer Count : 12
- Singal Layers : 6
- Plane Layers : 6
- Total Number of Components : 252
- Total Number of nets : 237
- Total Number of Connections : 985
- Impedance followed : 50 and 100ohm
- Minimum trace width : 0.1016mm
- Minimum space : 0.150mm
- Minimum Drill size : 0.2032mm

FPGA based VME board

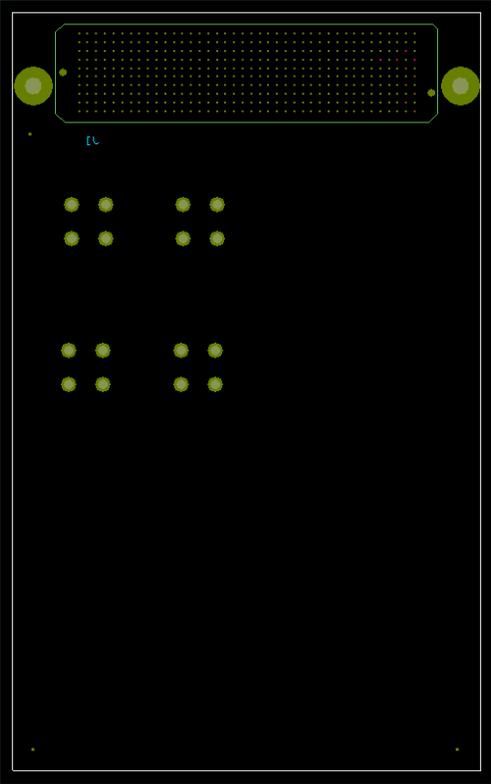


High Speed LVDS I/O card

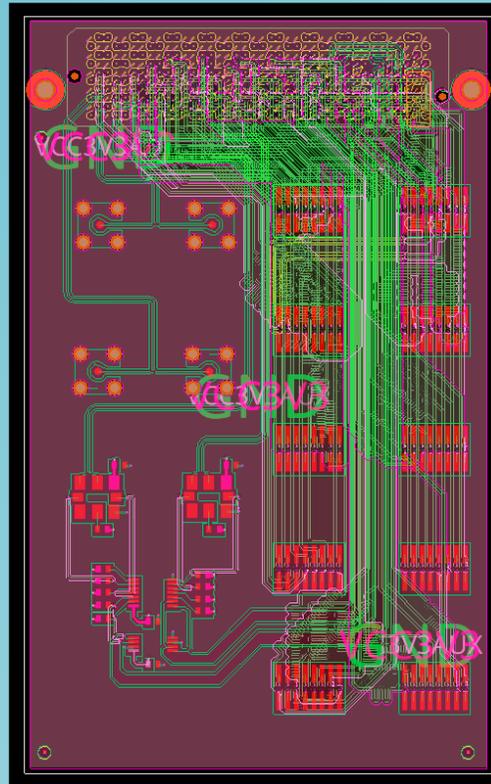
TOP side of the PCB



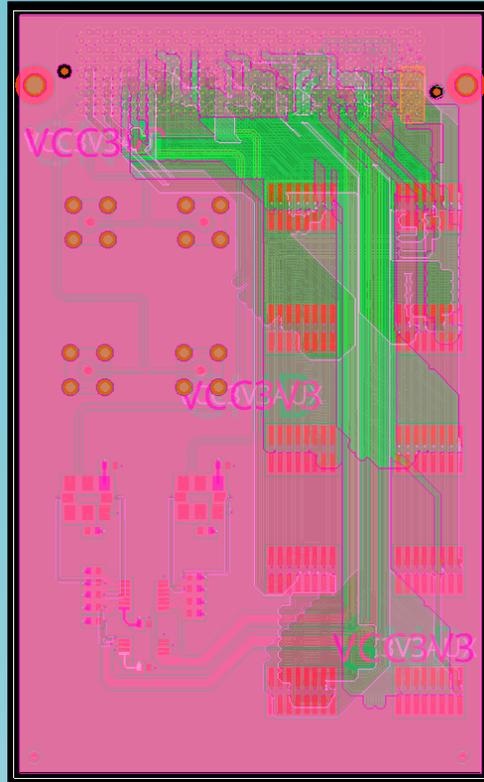
BOTTOM side of the PCB



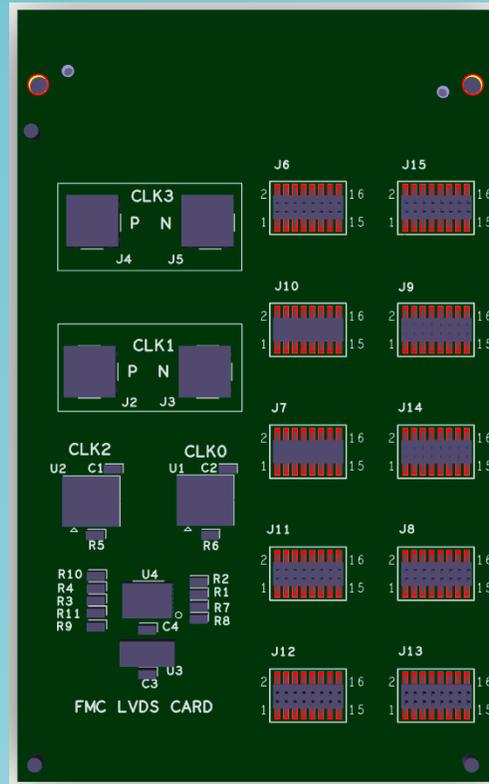
6 Routing Layers (4 Internal & 2 Outer Layers)



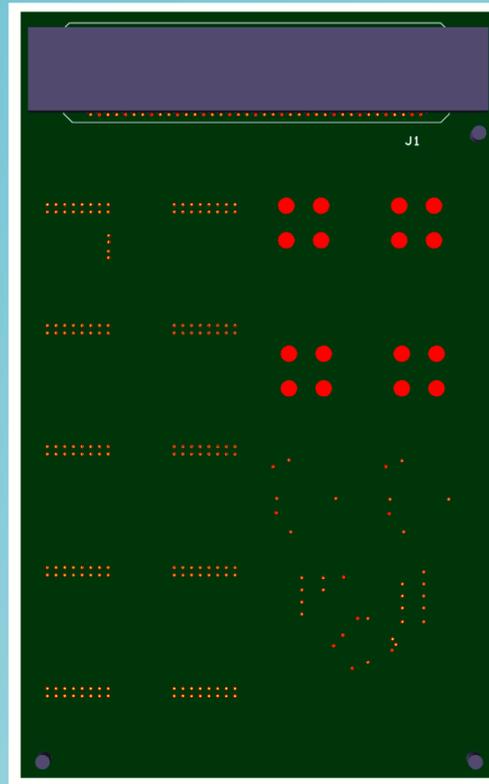
All Routing Layers



PCB TOP Side 3D View



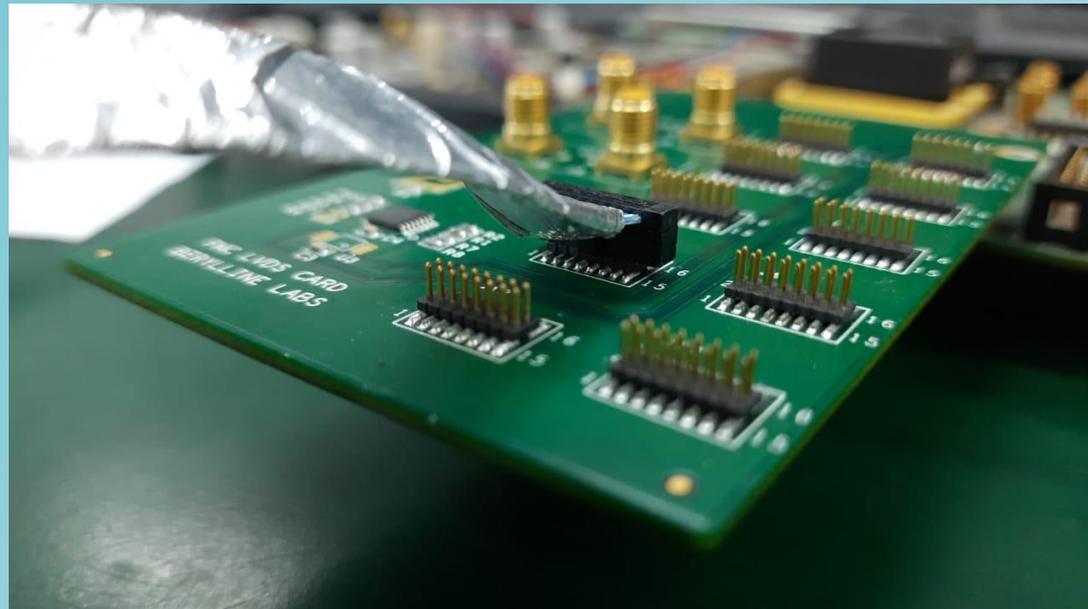
PCB BOTTOM Side 3D View



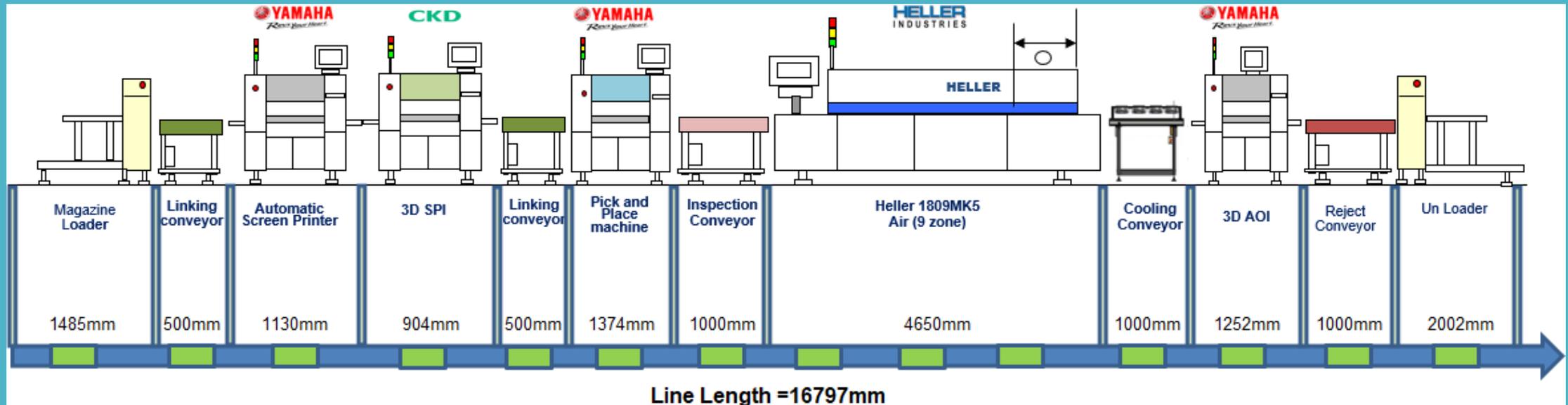
PCB Spec:

- PCB Size : 69 X 112.4 mm
- Layer Count : 12
- Singal Layers : 6
- Plane Layers : 6
- Total Number of Components : 40
- Total Number of nets : 186
- Total Number of Connections : 404
- Impedance followed : 50 and 100ohm
- Minimum trace width : 0.1016mm
- Minimum space : 0.1524mm
- Minimum Drill size : 0.254mm

PCB Board with component Assembled



SMT Line Layout



Key features in Solder paste printer Model : YCP10



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- Cycle time: 8 Sec (Excluding printing time) .
- Applicable stencil size: L750 x W750mm, L736 x W736mm, L750 x W650mm,
- Optional Stencil size: L650 x W550mm, L600 x W550mm, L550 x W650mm, L584 x W584mm
- Printing head: 3S head (3S : Swing Single Squeegee).
- Squeegee attack angle is programmable between 45° to 60°
- Vacuum suction option to hold Mask while printing.
- PCB Size: L510 x W460mm.

Key features in Solder paste printer Model : YCP10

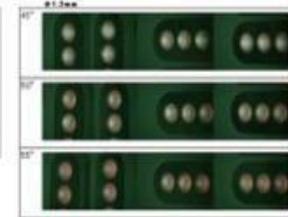
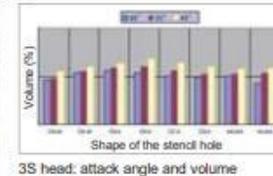
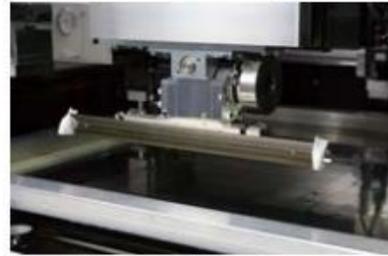


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Feature ① Built-in Features from High-end Machine Models Deliver High Print Accuracy and Quality!

YAMAHA's original 3S head [3S:Swing Single Squeegee]

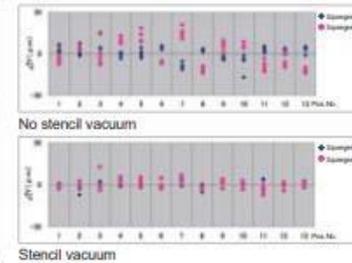
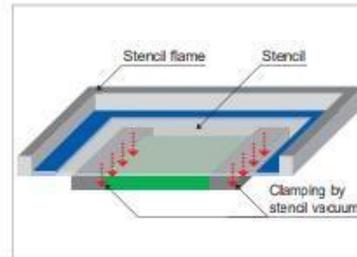
Program change squeegee attack angle (1 degree units between 45 to 65°) and speed to an ideal setting to provide optimal printing conditions that match the solder being used.



Also solder prints the thru-holes (view from rear side)

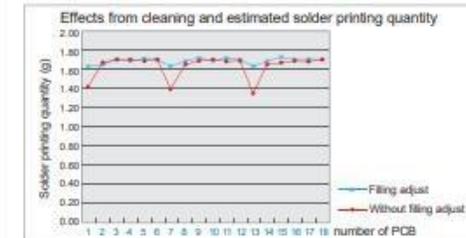
Stencil vacuum

A stencil vacuum mechanism delivers consistent high accuracy printing with no effects from stencil droop. Also drastically cuts the setup time since no offset entry is needed during back and forth printing movement.



Filling adjust

Handy function corrects solder fill amount for the PCBs which have just finished cleanings and in this way cuts down on solder print irregularities.



Better solder printing via filling adjust function

**Key features in 3D SPI
Model : VP5200-L-V-C**



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CTION

- Inspection Method : Phase Shift Method
- PCB size : 50 x 50 ~ 510 x 460 (mm)
- PCB thickness : 0.3 ~ 5.0 (mm)
- PCB Warping : ± 5.0 (mm)
- Camera Moves in Z axis for Warpage compensation & better focus.
- A program is can be created by about 3 minutes.
- SPC Data for detailed analysis / generate inspection report to customer.

YSM20R-1(PV)



TOTAL
FEEDER
CAPACITY –
140 SLOTS



NUMBER OF
HEADS
/NOZZLES (HM
HEAD) - 10



TOTAL RATED
SPEED 42,000
CPH



ONE HEAD
SOLUTION – NO
REPLACEMENT
OF HEADS
REQUIRED



HIGH SPEED
SMART
RECOGNITION



OFF-LINE
PROGRAMING &
INTELLIGENT
FACTORY
OPTIONS



QUICK
CHANGEOVER



Component
range:
0201MM-W 55
x L 100mm





HELLER REFLOW OVEN



MAX PCB WIDTH:
560MM



NO. OF HEATING
ZONES: 9 TOP &
BOTTOM.



MAX TEMP: 350°C



LEAD FREE CAPABLE



LIFETIME
WARRANTY FOR
BLOWER MOTOR &
HEATER COIL



T/C PROFILING
WITH KICAUTO-
FOCUS
POWER™
SOFTWARE



ALARM LOGGING
+
DATA LOGGING



SUPPORT HIGH MIX
/ MEDIUM VOLUME
THROUGHPUT

Key features in 3D AOI
Model : Ysi-V 12M camera



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- PCB Size: L610 x W560.
- Camera Pixel: 12 megapixels
- Resolution : 12 μ m
- 2D+3D inspection.
- Camera mounted on Z axis for warpage compensation.

Feature ② **3D** Height, and sloped surface 3-dimensional inspections (option)

High-speed measurement achieved by raising all viewing field heights.
2-D imaging reliably detects floating or unseated parts etc. even in tough, hard-to-find cases.
The 7 μ m lens capable of high-definition inspection includes inspection function for ultra-tiny 0201 chips that employs a newly designed high magnification projector.

	Components with leads	Chip components
3-dimensional inspection		
2-dimensional inspection		

The 4-direction projector ensures 3D inspections with no dead points

Z-axis control deals with PCB warpage

Enhanced inspection functions for mirror-surface parts

Key features in Summit 750i Semi-Automatic Rework System.



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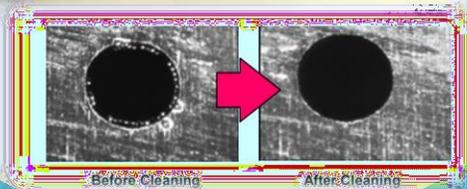
- Placement Capability: 0.0020" (50 μ) mean + 3 σ
- Top Heater: 1.6kW Focused Convection
- Bottom Heater: 4.0kW Convection Plenum
- Z-Axis Motion: Independent & Programmable Z-Height Pickup

Tube Independent & Micrometer Adjust Z-Height Top Heater

- Theta Motion: Manual Adjust Theta - 360°
- Field of View: 2.0" (50mm) Square
- Max Board Size: 18x22" (455x560mm)
- Component Range: 0.010" (0.24mm) to 8" (200mm) Connectors
- Temperature Control: K-Type Thermocouple (Closed-Loop)
- Thermocouple Jacks: 6
- Compliance: CE, CAN/CSA, UL 61010-1
- Special Features: Programmable Placement Force Control
Automatic Component Height Sensing & Alignment Height

Key features in SAWA Semi-AUTOMATIC ULTRASONIC CLEANER SC-5000GBS

SAWA_SC-5000GBS



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Operating Merit

- Simple operation with Timer and Button
- Effective working time while cleaning

Technical Merit

- Low consumption of solvent
- Environmental protection in working without touch the solvent

Usage

- Metal stencil cleaning
- Mesh screen cleaning
- Test printed PCB cleaning

Key features in Feeder Finger



- Attaches easily to your existing feeder
- Handles cut-tape as short as 3" /76.2mm
- Eliminates splicing
- Loads in less than 5 seconds
- Eliminates cover tape jams
- Reduces setup time by eighty-percent

Cut Tape Feeder
Finger

Specification

Typical components

0201 / 1206

Tape Width

8 mm

Tape depth (feeder
type)

2.5 mm (8 mm)

Tape material

Paper Tape

Full Reel & Cut Tape

Yes

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Key features in AUO 3000 PCB Separator Depaneling System (Stand Alone)



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- * **Working Area:** 330mm x 350mm dual table
- * 4 Axes servo motors (X, YL, YR, Z)
- * Positioning Accuracy $\pm 0.01\text{mm}$, Positioning Repeatability $\pm 0.01\text{mm}$, Precision of Cutting $\pm 0.08\text{mm}$
- * Industrial PC with **Windows 10** operating system
- * Multiple vision function for the fiducial marks positioning correction
- * Broken routing bit & routing bit sliding detection
- * Routing bit sectioning
- * Direct coordinate input or manual guiding with $\times 10$ CCD camera(**1.3M Pixel**)
- * Dust flow control system
- * Air ionizer system
- * Driving Speed (Max): X, YL, YR : 1000mm/sec, Z: 750mm/sec
- * Cutting Speed (Max): X, Y, Z: 100mm/sec
- * Cutting Ability: Linear, Circular, U-curve, Arc, L-curve
- * Safety area sensor system

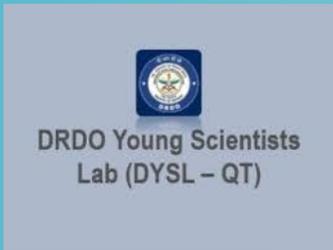
Key features in KIC X5 Profiler



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	X5 (Mid Range)	
		
Number of Channels	7, 9 or 12	
Total Data Points	224,640	
Accuracy	+/- 0.5° C	
Max Sampling Rate	10 Reading / Sec	
Profile Transfer Mode	<ul style="list-style-type: none"> • Datalogger Only • Datalogger + RF Transmission 	
Dimensions (mm) (Including ThermalShield)	7 CH - (L)302 x (W)75 x (H)23 9 CH - (L)312 x (W)90 x (H)23 12 CH - (L)323 x (W)113 x (H)23	
Thermal Shield	Cool Touch Laminated Metal Shield For Durability & No Glove Needed	
PC Connection	USB 2.0 (Std-A/Mini-B)	Shield For eeded
Battery	3 x AAA Alkaline	-B)
Upgradeable to KIC Automatic Systems	√	
Profile Prediction	Auto Prediction PWI, Conveyor Speed, Energy Saving	
SPC Charting	√	gy Saving
Warranty	2 Years	
Compatibility	Compatible with 24/7, RPI, Probot, Vision 2	
Compatibility	Compatible with 24/7, RPI, Probot, Vision 2	





Contact us:-

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Thank You!