REVISIONS		
REV	DESCRIPTION	DATE
2.0	AP510DLEVB	12/3/2025

Symbol	Count	Hole Size	Plated	Hole Type	Drill Layer Pair	Via/Pad	Pad Shape	Template	Description	Hole Tolerance (+)	Hole Tolerance (-)	Hole Length	Routed Path Length
□	2	40.16mil (1.020mm)	NPTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c102h102m0mx0				-	-
◇	3	39.02mil (0.991mm)	NPTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c99hn99m99p0				-	-
○	4	23.62mil (0.600mm)	PTH	Slot	Top Layer - Bottom Layer	Pad	Rounded	r210_110h60_160r55m220_120(Tol5-5)		1.97mil (0.050mm)	1.97mil (0.050mm)	63.00mil (1.600mm)	39.38mil (1.000mm)
▽	4	23.62mil (0.600mm)	PTH	Slot	Top Layer - Bottom Layer	Pad	Rounded	r260_110h60_210r55m270_120(Tol5-5)		1.97mil (0.050mm)	1.97mil (0.050mm)	82.68mil (2.100mm)	59.06mil (1.500mm)
⊠	4	125.98mil (3.200mm)	PTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c650h320m670p0(Tol20)		7.87mil (0.200mm)		-	-
A	5	4.00mil (0.102mm)	PTH	Round	Layer 8 - PWR - Bottom Layer	Via	Rounded	v20h10mx0(Tol1-5)		0.50mil (0.013mm)	2.00mil (0.051mm)	-	-
M	5	8.00mil (0.203mm)	PTH	Round	Layer 5 - Layer 8 - PWR	Via	Rounded	v41h20m0mx0(Tol0-13)		0.00mil (0.000mm)	5.00mil (0.127mm)	-	-
✪	6	40.16mil (1.020mm)	PTH	Round	Top Layer - Bottom Layer	Pad	Rounded	c153h102m173p0(Tol10)		3.94mil (0.100mm)		-	-
✖	9	4.00mil (0.102mm)	PTH	Round	[uVia] Layer 11 - GND - Bottom Layer	Via	Rounded	v20h10mx0(Tol1-5)		0.50mil (0.013mm)	2.00mil (0.051mm)	-	-
☼	16	40.95mil (1.040mm)	PTH	Round	Top Layer - Bottom Layer	Pad	(Mixed)	(Mixed)				-	-
⊠	19	4.00mil (0.102mm)	PTH	Round	Top Layer - Layer 6 - GND	Via	Rounded	v20h10m0(Tol1-5)		0.50mil (0.013mm)	2.00mil (0.051mm)	-	-
⌘	22	40.16mil (1.020mm)	PTH	Round	Top Layer - Bottom Layer	Pad	(Mixed)	(Mixed)				-	-
◎	27	4.00mil (0.102mm)	PTH	Round	Top Layer - Layer 5	Via	Rounded	(Mixed)		0.50mil (0.013mm)	2.00mil (0.051mm)	-	-
▼	54	4.00mil (0.102mm)	PTH	Round	[uVia] Top Layer - Layer2 - GND	Via	Rounded	v20h10m0(Tol1-5)		0.50mil (0.013mm)	2.00mil (0.051mm)	-	-
B	61	4.00mil (0.102mm)	PTH	Round	Top Layer - Layer 4 - GND	Via	Rounded	v20h10m0(Tol1-5)		0.50mil (0.013mm)	2.00mil (0.051mm)	-	-
✱	74	4.00mil (0.102mm)	PTH	Round	Top Layer - Layer3	Via	Rounded	v20h10m0(Tol1-5)		0.50mil (0.013mm)	2.00mil (0.051mm)	-	-
L	888	8.00mil (0.203mm)	PTH	Round	Top Layer - Bottom Layer	Via	Rounded	v41h20m0mx0(Tol0-13)		0.00mil (0.000mm)	5.00mil (0.127mm)	-	-
	1203 Total												

Slot definitions : Routed Path Length = Calculated from tool start centre position to tool end centre position.
Hole Length = Routed Path Length + Tool Size = Slot length as defined in the PCB layout

LAYER SCHEDULE
SCALE: NONE

Layer	Name	Material	Thickness	Constant	Gerber
	Top Overlay				GTO
	Top Solder	Solder Resist	1.70mil	3.5	GTS
1	Top Layer	CF-004	0.47mil		GTL
	Dielectric 2	FR-4	2.40mil	4.1	
2	Layer2 - GND	CF-003	1.01mil		G1
	Dielectric 3	FR-4	3.26mil	4.1	
3	Layer3	CF-003	0.75mil		G2
	Dielectric 4	FR-4	3.24mil	4.6	
4	Layer 4 - GND	CF-003	1.01mil		G3
	Dielectric 5	FR-4	3.28mil	4.1	
5	Layer 5	CF-004	0.71mil		G4
	Dielectric 6	FR-4	2.47mil	4.8	
6	Layer 6 - GND	CF-004	1.55mil		G5
	Dielectric 1	Core-009	17.23mil	4.5	
7	Layer 7 - PWR	CF-004	1.55mil		G6
	Dielectric 7	FR-4	2.47mil	4.8	
8	Layer 8 - PWR	CF-004	0.71mil		G7
	Dielectric 8	FR-4	3.28mil	4.1	
9	Layer 9 - GND	CF-003	1.01mil		G8
	Dielectric 9	FR-4	3.24mil	4.6	
10	Layer 10 - PWR	CF-003	0.75mil		G9
	Dielectric 10	FR-4	3.26mil	4.1	
11	Layer 11 - GND	CF-003	1.01mil		G10
	Dielectric 11	FR-4	2.40mil	4.1	
12	Bottom Layer	CF-004	0.47mil		GBL
	Bottom Solder	Solder Resist	1.70mil	3.5	GBS
	Bottom Overlay				GBO

NOTES (UNLESS OTHERWISE SPECIFIED):

1. THE FINISHED PRINTED CIRCUIT BOARD SHALL MEET THE REQUIREMENTS OF IPC-A-6012.

2. CONFIGURATION OF THE PRINTED CIRCUIT BOARD NOT SPECIFICALLY DIMENSIONED ON THE DRAWING SHALL BE CONTROLLED BY THE GERBER DATA.

3. MATERIAL: GLASS EPOXY, NATURAL COLOR. LAMINATED NEMA GRADE FR4. SEE LAYER STACKUP FOR COPPER WEIGHT AND LAYER ORIENTATION. CORE AND PREPREG COMBINATIONS ARE OPTIONAL TO THE MANUFACTURER UNLESS OTHERWISE SPECIFIED IN THE LAYER STACKUP.

FINISHED PRINTED CIRCUIT BOARD SHALL MEET UL 94V-0 FLAMMABILITY RATING AND BE MARKED WITH THE REQUIRED UL CODE NUMBER.

4. PLATING: ALL HOLES AND CONDUCTIVE SURFACES SHALL BE PLATED WITH .001" COPPER MINIMUM.

5. ALL HOLE DIAMETERS ARE STATED AS FINISHED HOLE SIZES.

6. FABRICATION TOLERANCES: END PRODUCT TRACE WIDTHS AND LANDS SHALL NOT VARY MORE THAN THE SMALLER OF .002" OR 20% OF THE TRACE WIDTH FROM THE GERBER DATA.

7. SOLDER MASK. PHOTO-IMAGED LIQUID POLYMER IN ACCORDANCE WITH IPC-SM-840, TYPE B, CLASS 2, OVER BARE COPPER

8. COMPONENT MARKING: SILKSCREEN WITH NON-CONDUCTIVE EPOXY INK. LANDS AND EXPOSED PLATED AREAS TO BE FREE OF INK.

9. BOW AND TWIST: SHALL NOT EXCEED .007" PER INCH.

10. FINISHED BOARD SHALL MATCH SUPPLIED IPC-356 NET LIST.

11. 4-MIL AND 8-MIL VIAS ARE ALLOWED TO BE PLATED SHUT OR FILLED WITH SOLDER MASK.

12. THIS IS A CONTROLLED-IMPEDANCE BOARD. 50 OHM CONTROLLED IMPEDANCE ON 3.7 MIL TRACES ON EXTERNAL LAYERS UNDER SOLDER MASK, 2.6 MIL TRACES ON LAYER 3 AND 2.3 MIL TRACES ON LAYER 5. VENDOR MAY ADJUST DIELECTRIC THICKNESS AND/OR CONDUCTOR WIDTHS AS REQUIRED.

13. 3.8 MIL DIFF PAIR NET MUST BE FABRICATED WITH 90 OHM DIFF IMPEDANCE: EXTERNAL 3.8 MIL TRACES WITH 6.2 MIL AIRGAP.

14. 3.2 MIL DIFF PAIR NET MUST BE FABRICATED WITH 100 OHM DIFF IMPEDANCE: EXTERNAL 3.2 MIL TRACES WITH 6.1 MIL AIRGAP.

15. BOARD THICKNESS = 63 MILS

BOARD PARAMETERS

LAYER COUNT:	12	X DIMENSION:	5.000"	Y DIMENSION:	3.400"
ARRAY:	NO	TAB-ROUT:	NO	SCORING:	NO
MATERIAL TYPE:	FR4	FINISH THICKNESS:	0.0630"	FINISH PLATING:	ENIG
GOLD FINGERS:	NO	COPPER WT (OUTER):	1.0 OZ	COPPER WEIGHT (INNER):	0.5 OZ
MIN TRACE/SPACE:	0.003"	SOLDERMASK:	BOTH	SOLDERMASK COLOR:	BLUE
SMALLEST HOLE SIZE:	0.004"	SILKSCREEN:	BOTH	SILKSCREEN COLOR:	WHITE
TOP SMD PADS:	YES	BOTTOM SMD PADS:	YES	MIN PITCH:	0.003"
PLATED SLOTS:	YES	PLATED EDGES:	NO	CONTROLLED DIELECTRIC:	NO
COUNTER BORE:	NO	COUNTERSINK:	NO	CONTROLLED IMPEDANCE:	YES, SEE FABRICATION NOTES
ITAR:	NO	VIA IN PAD:	YES	NON-PLATED HOLES:	YES

XXXXXX	
NEXT ASSY	USED ON
APPLICATION	

Ambiq

FABRICATION DRAWING,
PWB, Apollo510 Lite Series EVB

SIZE A | DWG NO AP510DLEVB-FAB | REV 2.0

SCALE 1:1 | CUST: | SHEET 1 OF 1