

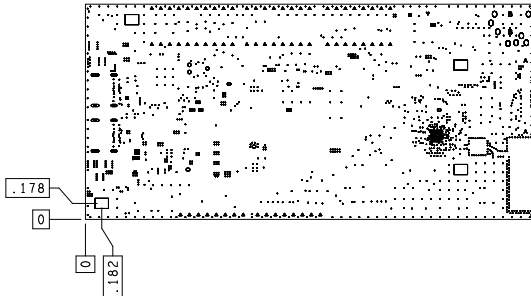
REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
1	AMBRD-0088 APOLLO 4 BLUE PLUS EVB	14FEB2022	CCROSSBY

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, 6-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 4 MIL TRACES ON EXTERNAL LAYERS, 3.5 MIL TRACES ON INTERNAL LAYERS. VENDOR MAY ADJUST DIELECTRIC THICKNESS AND/OR CONDUCTOR WIDTHS AS REQUIRED.
13. 4 MILS TRACES REQUIRE 50 OHM SINGLE ENDED IMPEDANCE CONTROL
14. DIFF PAIR NETS MUST BE FABRICATED WITH 90 OHM DIFF IMPEDANCE:  
EXTERNAL 4.0 MIL TRACES WITH 6 MIL AIRGAP  
INTERNAL 3.5 MIL TRACES WITH 6 MIL AIRGAP
15. DIFF PAIR NETS MUST BE FABRICATED WITH 100 OHM DIFF IMPEDANCE:  
EXTERNAL 3.0 MIL TRACES WITH 6 MIL AIRGAP  
INTERNAL 3.0 MIL TRACES WITH 7 MIL AIRGAP
16. BOARD THICKNESS = 62 MILS

4	SURFACE - 100% 8 MIL
1.1	TOP CONDUCTOR - COPPER 1.1 MIL
1.2	1.2 CONDUCTOR - FR-4 0.2 MIL
1.3	1.3 CONDUCTOR - COPPER 0.8 MIL
1.4	1.4 CONDUCTOR - FR-4 0.2 MIL
1.5	1.5 CONDUCTOR - COPPER 0.8 MIL
1.6	1.6 CONDUCTOR - FR-4 0.2 MIL
1.7	1.7 CONDUCTOR - COPPER 0.8 MIL
1.8	1.8 CONDUCTOR - FR-4 0.2 MIL
1.9	1.9 CONDUCTOR - COPPER 0.8 MIL
2	2 CONDUCTOR - FR-4 0.2 MIL
3	3 CONDUCTOR - COPPER 0.8 MIL
4	4 CONDUCTOR - FR-4 0.2 MIL
5	5 CONDUCTOR - COPPER 0.8 MIL
6	6 CONDUCTOR - FR-4 0.2 MIL
7	7 CONDUCTOR - COPPER 0.8 MIL
8	8 CONDUCTOR - FR-4 0.2 MIL
9	9 CONDUCTOR - COPPER 0.8 MIL
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98	98 CONDUCTOR - FR-4 0.2 MIL
99	99 CONDUCTOR - COPPER 0.8 MIL
100	100 CONDUCTOR - FR-4 0.2 MIL

DESIGN CHECK SECTION CHART  
TOTAL THICKNESS 62.0 MIL



DRILL CHART: TOP to LY2 - GND				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
.	4.0	+0.0/-3.0	PLATED	36
DRILL CHART: TOP to LY3 - SIG				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
.	4.0	+0.0/-3.0	PLATED	52
DRILL CHART: TOP to LY4 - GND				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
.	4.0	+0.0/-3.0	PLATED	35
DRILL CHART: LY3 - SIG to LY6 - SIG				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
.	8.0	+0.0/-3.0	PLATED	17
DRILL CHART: LY6 - SIG to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
.	4.0	+0.0/-3.0	PLATED	10
DRILL CHART: LY7 - GND to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
.	4.0	+0.0/-3.0	PLATED	11

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
.	6.0	+2.0/-3.0	PLATED	5
.	8.0	+3.0/-3.0	PLATED	1324
.	35.0	+3.0/-3.0	PLATED	68
.	40.0	+3.0/-3.0	PLATED	4
.	64.0	+3.0/-3.0	PLATED	8
.	150.0	+3.0/-3.0	PLATED	4
.	39.0	+3.0/-3.0	NON-PLATED	3
.	40.0	+3.0/-3.0	NON-PLATED	2
.	47.0	+2.0/-2.0	NON-PLATED	2
.	63.0x23.6	+2.0/-2.0	PLATED	4
.	82.7x23.6	+2.0/-2.0	PLATED	4

BOARD PARAMETERS			
LAYER COUNT:	8	X DIMENSION:	5.00"
ARRAY:	NO	TAB-ROUT:	NO
MATERIAL TYPE:	FR4	FINISH THICKNESS:	0.0608"
GOLD FINGERS:	NO	COPPER WT (OUTER):	1.0 OZ
MIN TRACE/SPACE:	0.003"	SOLDERMASK:	BOTH
SMALLEST HOLE SIZE:	0.004"	SILKSCREEN:	BOTH
TOP SMD PADS:	YES	BOTTOM SMD PADS:	YES
PLATED SLOTS:	YES	PLATED EDGES:	NO
COUNTER BORE:	NO	COUNTERSINK:	NO
ITAR:	NO	VIA IN PAD:	YES
		Y DIMENSION:	2.40"
		SCORING:	NO
		FINISH PLATING:	ENIG
		COPPER WEIGHT (INNER):	1.0 OZ
		SOLDERMASK COLOR:	BLUE
		SILKSCREEN COLOR:	WHITE
		MIN PITCH:	0.01378"
		CONTROLLED DIELECTRIC:	NO
		CONTROLLED IMPEDANCE:	YES, 4 MIL ± 50 OHM
		NON-PLATED HOLES:	YES

APPROVAL		DATE	
DRAWN	CCROSSBY	14FEB2022	
CHECKED	DLANZONE	5FEB2021	
RELEASED	DLANZONE	5FEB2021	
AMBIQ MICRO		FABRICATION DRAWING, PWB, APOLLO4 BLUE PLUS EVB	
SIZE	A	DWG NO	AMBRD-0088-FAB
SCALE	1:1	CUST.	
SHEET		1 OF 1	