LASER MICRO VIA

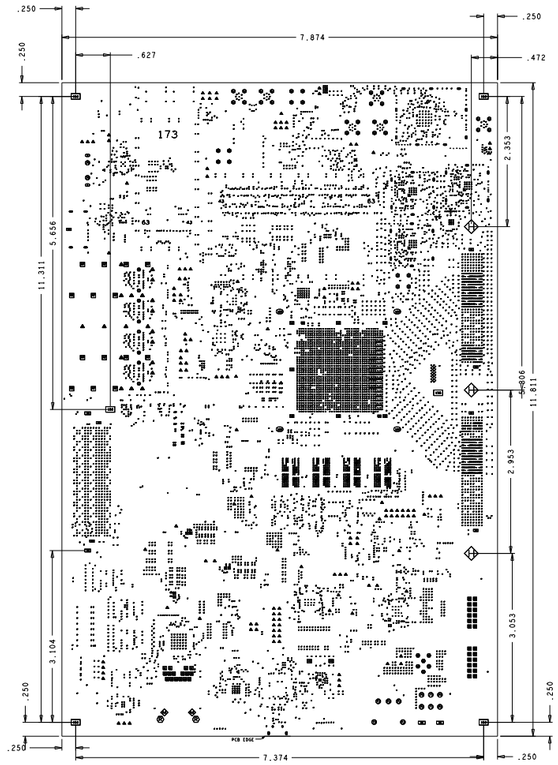
DRILL CHART: TOP to L02_GND/RF-SIG					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
✱	5.0	+0.0/-5.0	PLATED	LASER	170
✪	6.0	+0.0/-6.0	PLATED	-	8
				TOTAL HOLES:	178

BACKDRILL: BOTTOM to L06_GND					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
✱	9.839	+0.0/-9.839	PLATED	-	1
				TOTAL HOLES:	1

NOTES:
- DRILL SIZES LISTED IN LEGEND ARE CONSIDERED FINISHED.
- VENDOR IS REQUIRED TO SELECT TOOLING FOR OVERDRILLING.
- LEGEND DOES NOT SPECIFY DEPTH INTO ADJACENT DIELECTRIC LAYER.

BACKDRILL: BOTTOM to L10_PWR					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
○	9.839	+0.0/-9.839	PLATED	-	4
✱	9.839	+0.0/-9.839	PLATED	-	86
✱	11.811	+0.0/-11.811	PLATED	-	25
				TOTAL HOLES:	115

NOTES:
- DRILL SIZES LISTED IN LEGEND ARE CONSIDERED FINISHED.
- VENDOR IS REQUIRED TO SELECT TOOLING FOR OVERDRILLING.
- LEGEND DOES NOT SPECIFY DEPTH INTO ADJACENT DIELECTRIC LAYER.



1. FABRICATE TO IPC-6012 CLASS 2,CURRENT REVISION.
2. BOARD SHALL MEET THE INSPECTION CRITERIA OF IPC-A-600,CLASS 2,CURRENT REVISION.
3. MATERIAL: ISPEED LOW DK VLP COPPER. SEE STACK UP FOR MORE INFO.
4. WEIGHT OF ALL COPPER LAYERS SHALL NOT BE LESS 0.5 OZ. PER SQUARE FOOT.
5. 2um SMOOTHNESS IS REQUIRED FOR ALL HVLP COPPER USED ON THE INTERNAL LAYERS.
6. IMPEDANCE TOLERANCE+/- 10%
7. SOLDERMASK BOTH SIDES,USING TAIYO PSSR-LDI COLOR GREEN.
8. FINISH - PLATE SELECTIVE HARD GOLD FLASH OF 2-10 MICRO INCHES OVER BOTH SURFACES OF FAB WITH OVER 200 MICRO INCHES MINIMUM OF NICKEL. SELECTIVE HARD GOLD PLATE 30 MICRO INCHES JUST IN THE BULLSEYE CONNECTOR AREAS.
9. SILKSCREEN TOP SIDE/BOTH SIDES WITH NON-CONDUCTIVE EPOXY BASED INK. COLOR SHALL BE WHITE A CONTRASTING INK WITH RESPECT TO SOLDER MASK COLOR. DISTORTION OF SILKSCREEN IS ACCEPTABLE OVER TRACES. EPOXY INK ON PLATED LANDS IS NOT ACCEPTABLE.
10. VENDOR LOGO AND DATE CODE TO BE MARKED FAR SIDE MAXIMUM HEIGHT .12 INCHES.
11. 100% ELECTRICAL TEST REQUIRED FOR CONTINUITY. BOARD SHALL HAVE A UL RATING OF 94V-0. UL SYMBOL AND RATING SHAL BE MARKED FARSIDE.
12. REMOVE ALL UNUSED PADS FROM INTERNAL LAYERS.
13. SOLDER MASK REGISTRATION TO BE WITHIN DIAMETRICAL TRUE POSITION OF + / - 0.002 WITH APPLICABLE HOLE / PAD.
14. 274X GERBERS/ODB++ USED FOR FAB MUST BE VERIFIED AGAINST THE PROVIDED IPC356 NETLIST.
15. USE ARTMASTER # 1280967 REVISION-1.0
16. THIEVING: DO NOT ADD COPPER THIEVING ON TOP LAYER IN THE FBGA AREA, NO THIEVING ALLOWED UNDER TEXT. THIEVING PATTERN IS TO BE 30 MILS SQUARE PADS, 50 MILS SPACING. THIEVING TO BE ADDED ON INTERNAL LAYERS TO ACHIEVE BALANCED COPPER DENSITY, MAINTAIN 150 MIL CLEARANCE TO COPPER FEATURES.
17. ALL VIA-IN-PADS (5.0 THROUGH 12.0 DRILLS) TO BE COMPLETELY FILLED, PLANARIZED SMOOTH AND PLATED OVER ON SURFACE. USE SanEI NON-CONDUCTIVE EPOXY OR EQUIVALENT FILL MATERIALS MINIMUM OF .0007 TO BE PLATED ON SURFACE. VIA-IN-PAD MUST INCLUDE WRAP REQUIREMENTS PER IPC 6012B.
18. DRILL SIZES LISTED IN LEGEND ARE CONSIDERED FINISHED.
19. VENDOR IS REQUIRED TO SELECT TOOLING FOR OVERDRILLING.
20. LEGEND DOES NOT SPECIFY DEPTH INTO ADJACENT DIELECTRIC LAYER.
21. BAKE AT 225 DEGREES FOR 4 HOURS TO REMOVE ANY MOISTURE AFTER FABRICATION.
22. THERE SHOULD BE NO OPEN NETS ON THIS DESIGN.
23. PLEASE KEEP THE FINAL BOARD THICKNESS 100.8 MIL .
24. INTENTIONAL SHORT: SEE 1280967_SHORTS

LINE WIDTH and IMPEDANCE:

REFER TO THE LINE-WIDTH_IMPEDANCE CHART EXCEL FILE

BACKDRILL: TOP to L06_GND					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
✱	9.839	+0.0/-9.839	PLATED	-	6
				TOTAL HOLES:	6

BACKDRILL: TOP to L13_GND					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
✱	9.839	+0.0/-9.839	PLATED	-	14
				TOTAL HOLES:	14

BACKDRILL: BOTTOM to L05_SIG					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
✱	9.839	+0.0/-9.839	PLATED	-	24
				TOTAL HOLES:	24

BACKDRILL: BOTTOM to L15_GND					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
✱	9.839	+0.0/-9.839	PLATED	-	90
				TOTAL HOLES:	90

BACKDRILL: BOTTOM to L17_GND					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
✱	9.839	+0.0/-9.839	PLATED	-	71
✱	12.0	+0.0/-12.0	PLATED	-	16
				TOTAL HOLES:	87

BACKDRILL: BOTTOM to L08_GND					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
✱	9.839	+0.0/-9.839	PLATED	-	6
				TOTAL HOLES:	6

BACKDRILL: BOTTOM to L13_GND					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
✱	9.839	+0.0/-9.839	PLATED	-	8
				TOTAL HOLES:	8

NOTES:
- DRILL SIZES LISTED IN LEGEND ARE CONSIDERED FINISHED.
- VENDOR IS REQUIRED TO SELECT TOOLING FOR OVERDRILLING.
- LEGEND DOES NOT SPECIFY DEPTH INTO ADJACENT DIELECTRIC LAYER.

DRILL CHART: TOP to BOTTOM					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	NONSTANDARD	QTY
✱	7.87	+0.0/-9.839	PLATED	-	32
✱	8.0	+0.0/-8.0	PLATED	-	483
○	9.839	+0.0/-9.839	PLATED	-	38
✱	9.839	+0.0/-9.839	PLATED	-	8000
○	10.0	+0.0/-10.0	PLATED	-	24
✪	10.0	+0.0/-10.0	PLATED	-	1
✱	11.811	+0.0/-11.811	PLATED	-	327
+	11.811	+0.0/-11.811	PLATED	-	9
✱	12.0	+0.0/-12.0	PLATED	-	32
+	12.0	+0.0/-12.0	PLATED	-	36
⊠	35.831	+1.969/-3.941	PLATED	-	12
▲	37.402	+1.969/-1.969	PLATED	-	20
▣	40.161	+3.15/-3.15	PLATED	-	24
▲	40.161	+3.15/-3.15	PLATED	-	135
⊠	40.161	+3.941/-1.969	PLATED	-	4
▣	41.339	+1.969/-1.969	PLATED	-	14
✱	48.031	+3.15/-3.15	PLATED	-	5
✱	48.031	+3.15/-3.15	PLATED	-	1
✱	61.811	+3.15/-3.15	PLATED	-	2
✱	62.988	+3.15/-3.15	PLATED	-	36
✱	70.87	+3.15/-3.15	PLATED	-	6
✱	72.831	+3.15/-3.15	PLATED	-	5
▣	105.909	+3.15/-3.15	PLATED	-	2
▣	125.201	+3.15/-3.15	PLATED	-	2
▣	155.909	+3.15/-3.15	PLATED	-	6
◆	250.0	+3.0/-3.0	PLATED	-	3
▣	33.071	+1.969/-1.969	NON-PLATED	-	2
▣	40.161	+1.969/-1.969	NON-PLATED	-	2
43	42.909	+1.969/-1.969	NON-PLATED	-	2
▣	51.969	+1.969/-1.969	NON-PLATED	-	2
▣	55.909	+1.969/-1.969	NON-PLATED	-	1
▣	57.09	+1.969/-1.969	NON-PLATED	-	4
✱	61.02	+1.969/-1.969	NON-PLATED	-	8
63	62.988	+1.969/-1.969	NON-PLATED	-	2
▣	62.988	+1.969/-1.969	NON-PLATED	-	7
✱	79.13	+1.969/-1.969	NON-PLATED	-	2
◎	126.0	+2.0/-2.0	NON-PLATED	-	4
◆	127.169	+1.969/-3.941	NON-PLATED	-	2
173	172.831	+1.969/-1.969	NON-PLATED	-	1
✱	33.071x25.98	+0.0/-9.059	PLATED	-	2
▮	59.839x31.89	+1.969/-1.969	PLATED	-	2
▮	60.0x30.0	+3.0/-3.0	PLATED	-	16
⊂⊃	60.0x30.0	+3.0/-3.0	PLATED	-	11
⊂⊃	62.988x24.02	+1.969/-1.969	PLATED	-	4
⊂⊃	78.74x44.091	+3.15/-3.15	PLATED	-	2
				TOTAL HOLES:	9335

✱ SURFACE - AIR 0 MIL
✱ DIELECTRIC - CONFORMAL_COAT 0.5 MIL
L1: TOP CONDUCTOR - 05OZ_COPPER 2 MIL
✱ DIELECTRIC - C_2X1067-SPLDK[745] 5 MIL
L2: L02_GND/RF-SIG PLANE - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
L3: L03_SIG/RF-GND CONDUCTOR - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - C_2X1067-SPLDK[745] 5 MIL
L4: L04_GND PLANE - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
L5: L05_SIG CONDUCTOR - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - C_2X1067-SPLDK[745] 5 MIL
L6: L06_GND PLANE - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
L7: L07_SIG CONDUCTOR - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - C_2X1067-SPLDK[745] 5 MIL
L8: L08_GND PLANE - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
L9: L09_PWR PLANE - 1OZ_HVLP_CU 1.2 MIL
✱ DIELECTRIC - C_2X1067-SPLDK[745] 5 MIL
L10: L10_PWR PLANE - 1OZ_HVLP_CU 1.2 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
L11: L11_GND PLANE - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - C_2X1067-SPLDK[745] 5 MIL
L12: L12_SIG CONDUCTOR - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
L13: L13_GND PLANE - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - C_2X1067-SPLDK[745] 5 MIL
L14: L14_SIG CONDUCTOR - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
L15: L15_GND PLANE - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - C_2X1067-SPLDK[745] 5 MIL
L16: L16_SIG CONDUCTOR - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
✱ DIELECTRIC - P_1067-SPLDK[745]2H 2.5 MIL
L17: L17_GND PLANE - 05OZ_HVLP_CU 0.6 MIL
✱ DIELECTRIC - C_2X1067-SPLDK[745] 5 MIL
L18: BOTTOM CONDUCTOR - 05OZ_COPPER 2 MIL
✱ DIELECTRIC - CONFORMAL_COAT 0.5 MIL
✱ SURFACE - AIR 0 MIL

DESIGN CROSS SECTION CHART
TOTAL THICKNESS 100.8 MIL

REVISIONS			
VER	DESCRIPTION	DATE	APPROVED

UNLESS OTHERWISE SPECIFIED	SIGNATURES	DATE
DIMENSIONS ARE IN INCHES	DRAWN GREG I.	05/30/18
TOLERANCES ON;	CHECKED	
2 PL DECIMALS +/- .010	ENGRG BRIAN FORSSE	01/22/18
3 PL DECIMALS +/- .005	ISSUED	
ANGLES +		
FRACTIONS +		

XILINX®
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FABRICATION DRAWING
PCB,ROHS COMPLIANT
HW_Z1_ZCU111

SIZE	FSCM NO	DWG NO	VER	REV
D		1280976	1.0	01

SCALE NONE | SHEET