

NOTES (UNLESS OTHERWISE SPECIFIED):

1. THIS DRAWING SPECIFIES THE REQUIREMENTS FOR A PRINTED WIRING BOARD IN ACCORDANCE WITH SPECIFICATION IPC-A-600 CLASS 2 (LATEST REVISION).
2. THE PWB MUST BE LEAD FREE ASSEMBLY PROCESS COMPATIBLE AND MUST BE ABLE TO HANDLE A MINIMUM OF 5 CYCLES AT 260 DEGREES CELSIUS FOR 10 SECONDS.
3. BASE MATERIAL - LAMINATE AND PREPREG SHALL MEET IPC-4101B-26, 83 or 98  
Tg - MUST BE GREATER THAN OR EQUAL TO 150 DEGREES CELSIUS.  
Td - MUST BE GREATER THAN OR EQUAL TO 330 DEGREES CELSIUS.
4. COPPER FOIL WEIGHT - SEE STACKUP DETAIL 'A'
5. CHARACTERISTIC IMPEDANCE - SEE DETAIL 'B'
6. MINIMUM CONDUCTIVE WIDTH/SPACING TO BE .003"/.004"

7. PLATING FINISH - BOTH SIDES ENIG (ELECTROLESS NICKEL IMMERSION GOLD):  
.05080-.232 MICRON (2-8 MICROINCH) OF GOLD OVER  
2.540-6.350 MICRON (100-250 MICROINCH) OF NICKEL.

8. THE PCI CARD EDGE CONNECTOR GOLD FINGERS, PLATING REQUIREMENTS:  
30U OVER HARD GOLD OVER 100%200U NICKEL BOTH SIDES OF THE BOARD.

9. ALL THROUGH HOLE VIAS MAY BE PLATED SHUT.

10. SOLDERMASK - RED COLOR (TAIYO OR EQUIVALENT), BOTH SIDES.  
MODIFICATION OF SOLDERMASK IS NOT ALLOWED WITHOUT WRITTEN PERMISSION FROM FREESCALE.

11. SILKSCREEN - WHITE EPOXY INK, BOTH SIDES. NO SILK ON PADS.

12. ELECTRICAL TEST - 100% IPCD356.

13. PRINTED WIRING BOARD IS TO BE INDIVIDUALLY BAGGED.

14. DRC'S MUST BE RUN ON THE GERBER BEFORE BUILDING BOARDS,  
UNLESS PRIOR APPROVAL IS GIVEN IN WRITING BY FREESCALE.

15. TEARDROPS MAYBE ADDED AT THE FAB HOUSE TO ALL SIGNAL LAYERS.

16. TWO SOLDER SAMPLES TO BE PROVIDED.

17. BASIC GRID INCREMENT AT 1:1 IS .0001.

18. SUPPLIER MARKINGS - ON SOLDER SIDE ONLY, WHERE SHOWN.

19. THE PWB WILL BE MARKED AS LEAD FREE BY USE OF AN INK STAMP (P6)

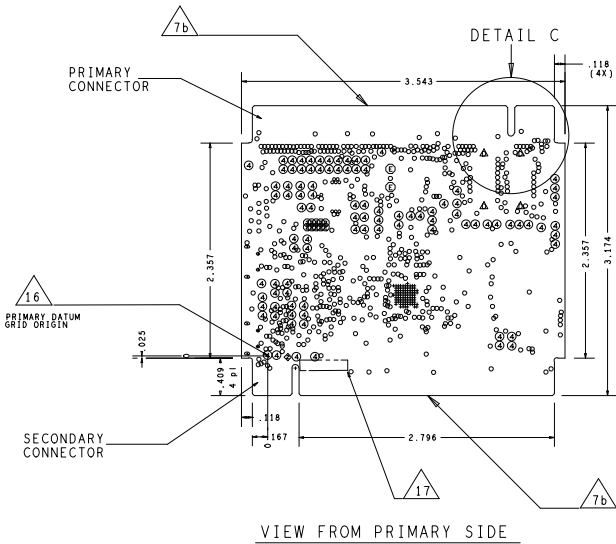
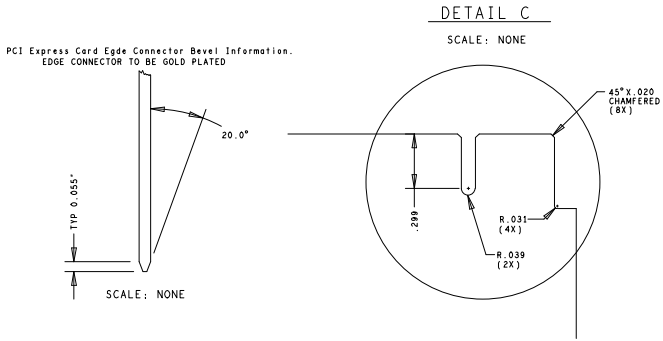
20. THE PWB WILL BE MARKED AS LEAD FREE PROCESS COMPATIBLE BY USE OF AN INK STAMP (260°C)  
- MUST BE UL RECOGNIZED AND MUST HAVE AN ID THAT CONFORMS TO UL94V-0

21. ALL PLATED AND NON-PLATED THROUGH HOLES ARE TO BE DRILLED AT PRIMARY DRILL STEP.  
ALL HOLE LOCATION TOLERANCES ARE TO BE +/- .002 IN REFERENCE TO THE PRIMARY DATUM.

22. FINISHED PCB MUST BE PANELIZED FOR ASSEMBLY ACCORDING TO CONTRACT MANUFACTURERS REQUIREMENTS.  
THE ADDITION OF RAILS AND .125" NON-PLATED TOOLING HOLES ARE AT THE DISCRETION OF  
CONTRACT MANUFACTURER. PANELIZATION MUST BE APPROVED BY CONTRACT MANUFACTURER.

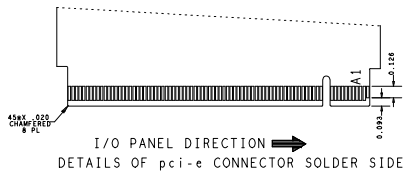
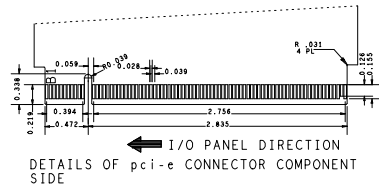
23. INTENTIONAL SHORTS AT:

J8 SWD CLK K22 & SWD CLK TGTMCU  
J23 SDA\_RST TGTMCU\_J\_B & SDA\_RST TGTMCU\_B  
J39 P3V3\_SDA & SDA\_VOUT33  
SH11 V\_BRD & MCU\_PWR  
SH50 VDDA\_HDR & VDDA  
SH51 GND\_AND\_VSSA  
SH25 VSSA & VREFL  
SH26 VDDA & VREFH  
SH54 V TGTMCU & V\_BRD  
SH506 P3V3\_ELEV & P3V3\_REG



DETAIL B  
IMPEDANCE REQUIREMENTS  
IMPEDANCE TOLERANCE IS 10%

Layers	Single Ended		Differential			Differential		
	Trace Width (Mils)	Impedance (Ohms)	Trace Width (Mils)	Trace Spacing "Airgap" (Mils)	Impedance (Ohms)	Trace Width (Mils)	Trace Spacing "Airgap" (Mils)	Impedance (Ohms)
L1_PS	14.0	50	6.62	5.38	100	7.75	4.25	90
L2_INT_1	4.5	50	X.XX	X.XX	XXX	X.XX	X.XX	XXX
L4_INT_2	6.0	50	X.XX	X.XX	XXX	X.X	X.XX	XX
L5_INT_3	6.0	50	4.5	7.5	100	5.5	6.50	90
L7_INT_4	4.5	50	X.XX	X.XX	XXX	4.75	7.25	90
L8_SS	14.0	50	6.62	5.38	100	7.5	4.5	90



DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
8	8.0	+0.0/-8.0	PLATED	92
8	10.0	+0.0/-10.0	PLATED	599
8	12.0	+0.0/-12.0	PLATED	11
@	28.0	+2.0/-2.0	PLATED	10
@	40.0	+3.0/-3.0	PLATED	94
+	25.0	+2.0/-2.0	NON-PLATED	1
Δ	53.0	+3.0/-0.0	NON-PLATED	4
@	68.0	+2.0/-2.0	NON-PLATED	2
•	34.0x30.0	+2.0/-2.0	PLATED	4
•	59.0x33.0	+2.0/-2.0	PLATED	4

FINISHED Cu WEIGHT		
LAYER 1	COMPONENT SIDE	1/2 to 1 oz.
LAYER 2	INTERNAL 1	1/2 oz.
LAYER 3	GROUND PLANE 1	1 oz.
LAYER 4	INTERNAL 2	1/2 oz.
LAYER 5	INTERNAL 3	1/2 oz.
LAYER 6	GROUND PLANE 2	1 oz.
LAYER 7	INTERNAL 4	1/2 oz.
LAYER 8	SOLDER SIDE	1/2 to 1 oz.

DETAIL A  
LAYER STACKUP  
SCALE: NONE

PART NO. 170-27957		FREESCALE	
THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO FREESCALE AND SHALL NOT BE USED FOR ENGINEERING DESIGN PROCUREMENT OR MANUFACTURE IN WHOLE OR IN PART WITHOUT THE CONSENT OF FREESCALE.		6501 WILLIAM CANNON DRIVE WEST AUSTIN, TEXAS 78735 USA	
APPROVALS		TITLE: PRINTED WIRING BOARD TWR-K22F120M	
DRAWN MARIO V.		DATE 12-16-13	
CHECKED RAMON V.		DATE 12-16-13	
DESIGN ENGINEER RAFAEL D. R.		DATE 12-16-13	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES (MM) TOLERANCES ARE: DECIMALS ANGLES .XX .01 .0-30° .XXX .005 ✓ RMS ALL MACHINED SURFACES BREAK ALL SHARP EDGES AND CORNERS. REMOVE BURRS. UNDERLINED DIM. NOT TO SCALE. THIRD ANGLE ORTHOGRAPHIC PROJECTION IS USED.		SIZE D LAY-27957	
SCALE		DO NOT SCALE DRAWING	
DWG. NO. FAB-27957		REV C	
SHEET 1 OF 1			